Credentialing Achievement Record

Industrial Technology Maintenance
Basic Mechanical Systems
Level I

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ITM CREDENTIALING PROGRAM

Level I Credentialing Achievement Record (CAR)

Name:	Job Title / Student ID:
Duty Cluster Name: **Basic Mechanical Systems Level I** Date Completed: _____	

Directions

This Credentialing Achievement Record (**CAR**) is the official training and performance document for the above named NIMS credentialing candidate. The CAR is used by the trainer/supervisor and candidate as a record of individual performance. The CAR is the vehicle that will allow eligible candidates to take the NIMS online theory credentialing examination(s). Supervisors, trainers, and candidates 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**. The CAR is the property of the candidate and must be returned to the candidate when employment ends or at the completion of the training / school program.

Candidates may select as many credentialing areas as applicable to the facility or appropriate to the job. There are separate CAR booklets for each credentialing area. This CAR opens with a list of Critical Work Activities & Experiences (or experience statements) that must be acknowledged and documented. However, actual performance is assessed in two ways: 1) by fulfilling these general experience and historical statements and 2) by an examiner administering the *Skill Checks (or performance assessments)*. Three successful Skill Check attempts are required. Skill Checks are clearly marked with the title **"Skill Check."**

Candidate performance is documented by a checkmark on the *Examiner's Checklist.* All Skill Checks must be co-initialed and dated by the trainer/supervisor and candidate. Work activity sign-offs must be co-initiated by the trainer/supervisor and candidate then dated.

When the candidate has successfully demonstrated abilities in each of the critical work activities and experiences and skills checks to the satisfaction of the supervisor or trainer, he/she is eligible to take the online theory credentialing exam. The Affidavit of Successful Completion is completed and signed by the sponsor. It is co-signed by the trainer/ supervisor and the candidate, and then e-mailed to **support@nims-skills.org** to request access to the online theory exam. The candidate's sponsor will be notified when the online theory exam is made available on the NIMS testing system.

ITM CREDENTIALING PROGRAM

Level I Credentialing Achievement Record (CAR)

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Examiner's Checklist: Basic Mechanical Systems Level I

Critical Work Activities & Experiences All of the following statements must be completed prior to submission of the CAR	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Adhere to safety, health and environmental rules and regulations			
Describe use and selection of fire extinguishers			
Demonstrate use of fall protection safety in use of ladders and platforms			
Demonstrate use of common PPE for maintenance work to be performed			
Perform a job safety analysis of work to be performed			
1.2 Describe, locate, and interpret safety data sheets			
Describe, locate, and interpret the following for safety data sheets: • Locate current safety material data sheets for given machines or processes • Interpret information on SDS and apply • Determine appropriate PPE required • Describe uses of SDS			
1.3 Technical documentations			
Locate and Interpret function and operation using technical documents			
Identify symbols for duty area			
Demonstrate knowledge of how to locate and maintain maintenance documents			
1.4 Preventative Maintenance Logs			
Determine when to add lubricant to a bearing based on manufacturer's specifications and inspection			
Determine when to add lubricant to a bearing based on manufacturer's specifications and inspection			
Determine corrective action for a power transmission device using troubleshooting techniques appropriate for analyzing wear or malfunction of the device			
Select and identify correct lubricant for auto lubricator from manufacturer's specifications			
Determine when to add grease to a bearing based on manufacturer's specifications			

Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Measure parts to ensure correct parts			
Materials Required: • Calibrate and use Dial Caliper to measure part dimensions and compare to manufacturer's specifications • Use Micrometer to measure part dimensions and verify it meets specifications • Use Decimal Machinist's Rule to measure part dimensions and verify it meets specifications • Use Metric Machinist's Rule to measure part dimensions and verify it meets specifications • Use a dial indicator to measure run-out of a shaft and verify it meets specifications			
1.2 Install and align mechanical power transmission couplings			
Obtain components required, identifying couplings given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install the following coupling types: • Flexible coupling • Flange coupling • Gear coupling • Chain coupling			
Align couplings using one or more methods: • Straight edge and feeler gage • Dial indicator • Laser			
Install motor: • Verify prime mover is below the driven component • Install fasteners correctly • Level motor • Correct for soft foot			
Perform safety check and install guards			
Perform functional check			

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Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.3 Install and adjust a v-belt drive			
Obtain components required, identifying sheaves/belts, given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install sheave using one of three bushings (only one bushing type per belt type): • Taper Lock / QD • Split Taper			
Align with straight edge			
Install these belts: • Single v-belt • Multiple v-belt (matched) • Tension belt with tension tool to manufacturer's specification			
Perform safety check and install guards			
Perform functional check			

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Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.4 Install and adjust a chain drive			
Obtain components required, identifying sprockets/chains given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install chain sprocket using one of these bushings: • QD • Split Taper • Taper Lock			
Align with straight edge			
Install these chains: • Single chain • Multiple chain • Tension chain with straight edge and rule to manufacturer's specification			
Perform functional check/safety check and install guards: • Manually test rotation if possible • Install guards and assess guard requirements • Remove lockout/tagout • Test machine with assistance from operator			

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Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.5 Install and adjust pillow block bearings			
Obtain components required, identifying shafts and bearings given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install pillow block or a flange type pillow block bearings and shaft: • Attach shaft and two bearings without damage • Level shaft • Obtain coupling to shaft and prime mover • Align shaft with prime mover			
Perform functional check			
1.6 Align and adjust gears			
Obtain components required, identifying gears given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Align gears			
Measure and adjust gear backlash given manufacturer's specifications			
Perform functional check			

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Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.7 Manually lubricate bearings			
Identify correct lubrication points for a machine from manufacturer's manual			
Perform safety check			
Select and identify correct grease for bearings from manufacturer's specifications			
Handle and store lubricants in accordance with OSHA requirements			
Add grease to a grease gun			
Add grease to a bearing using a grease gun			
Perform functional check			
1.8 Maintain automatic lubrication systems			
Obtain PPE and tools required			
Perform safety check			
Add lubricant to auto lubricator based on manufacturer's specifications and inspection			
Perform functional check			

Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Measure parts to ensure correct parts			
Materials Required: • Calibrate and use Dial Caliper to measure part dimensions and compare to manufacturer's specifications • Use Micrometer to measure part dimensions and verify it meets specifications • Use Decimal Machinist's Rule to measure part dimensions and verify it meets specifications • Use Metric Machinist's Rule to measure part dimensions and verify it meets specifications • Use a dial indicator to measure run-out of a shaft and verify it meets specifications			
1.2 Install and align mechanical power transmission couplings			
Obtain components required, identifying couplings given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install the following coupling types: • Flexible coupling • Flange coupling • Gear coupling • Chain coupling			
Align couplings using one or more methods: • Straight edge and feeler gage • Dial indicator • Laser			
Install motor: • Verify prime mover is above the driven component • Install fasteners correctly • Level motor • Correct for soft foot			
Perform safety check and install guards			
Perform functional check			

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Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.3 Install and adjust a v-belt drive			
Obtain components required, identifying sheaves/belts given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install sheave using one of three bushings (only one bushing type per belt type): • Taper Lock / QD • Split Taper			
Align with straight edge			
Install these belts: • Single v-belt • Multiple v-belt (matched) • Tension belt with tension tool to manufacturer's specification			
Perform safety check and install guards			
Perform functional check			

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Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.4 Install and adjust a chain drive			
Obtain components required, identifying sprockets/chains given specifications			
Perform safety check • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install chain sprocket using one of these bushings: • QD • Split Taper • Taper Lock			
Align with straight edge			
Install these chains: • Single chain • Multiple chain • Tension chain with straight edge and rule to manufacturer's specification			
Perform functional check/safety check and install guards [same change later]: • Manually test rotation if possible • Install guards and assess guard requirements • Remove lockout/tagout • Test machine with assistance from operator			

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Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.5 Install and adjust pillow block bearings			
Obtain components required, identifying shafts and bearings given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install pillow block or a flange type pillow block bearings and shaft: • Attach shaft and two bearings without damage • Level shaft • Obtain coupling to shaft and prime mover • Align shaft with prime mover			
Perform functional check			
1.6 Align and adjust gears			
Obtain components required, identifying gears given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Align gears			
Measure and adjust gear backlash given manufacturer's specifications			
Perform functional check			

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Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.7 Manually lubricate bearings			
Identify correct lubrication points for a machine from manufacturer's manual			
Perform safety check			
Select and identify correct grease for bearings from manufacturer's specifications			
Handle and store lubricants in accordance with OSHA requirements			
Add grease to a grease gun			
Add grease to a bearing using a grease gun			
Perform functional check			
1.8 Maintain automatic lubrication systems			
Perform safety check			
Add lubricant to auto lubricator based on manufacturer's specifications and inspection			
Perform functional check			

Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Measure parts to ensure correct parts			
Materials Required: • Calibrate and use Dial Caliper to measure part dimensions and compare to manufacturer's specifications • Use Micrometer to measure part dimensions and verify it meets specifications • Use Decimal Machinist's Rule to measure part dimensions and verify it meets specifications • Use Metric Machinist's Rule to measure part dimensions and verify it meets specifications • Use a dial indicator to measure run-out of a shaft and verify it meets specifications			
1.2 Install and align mechanical power transmission couplings			
Obtain components required, identifying couplings given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install the following coupling types: • Flexible coupling • Flange coupling • Gear coupling • Chain coupling			
Align couplings using one or more methods: • Straight edge and feeler gage • Dial indicator • Laser			
Install motor: • Verify prime mover is above the driven component • Install fasteners correctly • Level motor • Correct for soft foot			
Perform safety check and install guards			
Perform functional check			

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Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.3 Install and adjust a v-belt drive			
Obtain components required, identifying sheaves/belts given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install sheave using one of three bushings (only one bushing type per belt type): • Taper Lock / QD • Split Taper			
Align with straight edge			
Install these belts: • Single v-belt • Multiple v-belt (matched) • Tension belt with tension tool to manufacturer's specification			
Perform safety check and install guards			
Perform functional check			

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Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.4 Install and adjust a chain drive			
Obtain components required, identifying sprockets/chains given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install chain sprocket using one of these bushings: • QD • Split Taper • Taper Lock			
Align with straight edge			
Install these chains: • Single chain • Multiple chain • Tension chain with straight edge and rule to manufacturer's specification			
Perform functional check/safety check and install guards [same change later]: • Manually test rotation if possible • Install guards and assess guard requirements • Remove lockout/tagout • Test machine with assistance from operator			

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Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.5 Install and adjust pillow block bearings			
Obtain components required, identifying shafts and bearings given specifications			
Perform safety check: • Install lockout/tagout • Check workplace cleanliness			
Install motor: • Install fasteners correctly • Level motor • Correct for soft foot			
Install pillow block or a flange type pillow block bearings and shaft: • Attach shaft and two bearings without damage • Level shaft • Obtain coupling to shaft and prime mover • Align shaft with prime mover			
Perform functional check			
1.6 Align and adjust gears			
Obtain PPE and tools required			
Obtain components required, identifying gears given specifications			
Perform safety check • Install lockout/tagout • Check workplace cleanliness			
Align gears			
Measure and adjust gear backlash given manufacturer's specifications			
Perform functional check			

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Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.7 Manually lubricate bearings			
Identify correct lubrication points for a machine from manufacturer's manual			
Perform safety check			
Select and identify correct grease for bearings from manufacturer's specifications			
Handle and store lubricants in accordance with OSHA requirements			
Add grease to a grease gun			
Add grease to a bearing using a grease gun			
Perform functional check			
1.8 Maintain automatic lubrication systems			
Obtain PPE and tools required			
Perform safety check			
Add lubricant to auto lubricator based on manufacturer's specifications and inspection			
Perform functional check			

Comments:

Affidavit of Successful Completion

NIMS ITM Basic Mechanical Systems Level I Credentialing Program
Credentialing Achievement Record (CAR)

The affidavit must be filled-out in its entirety in order to ensure timely processing.

Candidate Name:	**Date Completed:**

The credentialing candidate named above has completed all necessary CAR requirements for NIMS ITM Basic Mechanical Systems Level I Recognition.

Site Name and Address:

Indicate successful completion of Critical Work Activities & Experiences and Skills Checks, by checking either Yes or No.

Basic Mechanical Systems Level I		
	Yes	**No**
Successful completion of **Critical Work Activities & Experiences** statements have been completed, dated, and co-initialed.	☐	☐
Successful completion of **Skill Check #1, all components** have been completed, dated, and co-initialed.	☐	☐
Successful completion of **Skill Check #2, all components** have been completed, dated, and co-initialed.	☐	☐
Successful completion of **Skill Check #3, all components** have been completed, dated, and co-initialed.	☐	☐

Sponsor Signature Date

Trainer/Supervisor Signature Date

Candidate Signature Date

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

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