QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR AUTOMOTIVE INDUSTRY

Contents

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

Introduction

Quaifications Pack- - Machining and Quality Technician

SECTOR: AUTOMOTIVE

SUB-SECTOR: Manufacturing

OCCUPATION: Machining

REFERENCE ID: ASC/Q3509

ALIGNED TO:NCO-2015/7223.9900, 2149.10

Brief Job Description: Machining and Quality Technician may also be called Assistant Machinist, Junior Machinist, Lathe Operator, Apprentice Machinist, Junior CNC Operator. This role primarily involves supporting the machining operator in all pre-machining activities, machining of the actual part, ad hoc repair work on the shop floors and in auto service stations, gauging, de-burring and quality inspection activities.

Personal Attributes: The individual should be able to read basic drawings, identify various tools and equipments, observe gauges, dials etc. Maintaining arm steadiness, ability to quickly move hand to grasp and assemble objects (dexterity), reading, writing and communication skills and sensitivity towards safety for self, others and equipment.

Job Details

Qualifications Pack Code	**ASC/Q3509**		
Job Role	**- Machining and Quality Technician** (Applicable for national scenarios)		
Credits	**TBD**	**Version number**	**1.0**
Sector	**Automotive**	**Drafted on**	**18/10/16**
Sub-sector	**Manufacturing**	**Last reviewed on**	**18/10/16**
Occupation	**Machining**	**Next review date**	**20/10/18**
NSQC Clearance on			

Job Role	**Machining and Quality Technician**
Role Description	This role requires the person to understand Machining Process and Quality requirements and is expected to assist in machining/self -inspection process in conformance to required design and quality parameters.
NSQF level **Minimum Educational Qualifications** **Maximum Educational Qualifications**	3 10th Standard pass, preferably NA
Training (Suggested but not mandatory)	Training: to ASDC standards (ASC/Q 3502 Machining Assistant Level-2) • Identification of various machining tools,fixtures , inspection gauges and instruments etc. • 5S and Safety
Minimum Job Entry Age	ASDC recommends that candidates should seek full employment not before attaining an age of 18 years. However, as per Factories Act 1948 and Shops & Establishment Act 1953: – No one can be employed before attaining age of 14. – A person between the age of 15 – 18 (both inclusive) could be employed only with employers who follow safety and security systems & processes and also that the employee in this bracket will be working under supervision. Please note that under the Factories Act 1948, and Shops & Establishment Act 1953 different States may have slightly varying provision which need to be adhered to.
Experience	NIL if already certified to ASDC qualification : ASC/Q 3502 (Machining Assistant Level-2) OR 0 to 6 months or more in manufacurting environment

Applicable National Occupational Standards (NOS)	**Compulsory:** 1. ASC/N3504 Assist in Carrying out pre-machining activities 2. ASC/N3505 Support the operator in performing machining operations 3. ASC/N3506 Support the operator in conducting all post machining operations 4. ASC/N6301 Inspect and maintain the product quality 5. ASC/N0006 Maintain a safe and healthy working environment 6. ASC/N0021 Maintain 5S at the work premises **Optional:** NA
Performance Criteria	As described in the relevant OS units

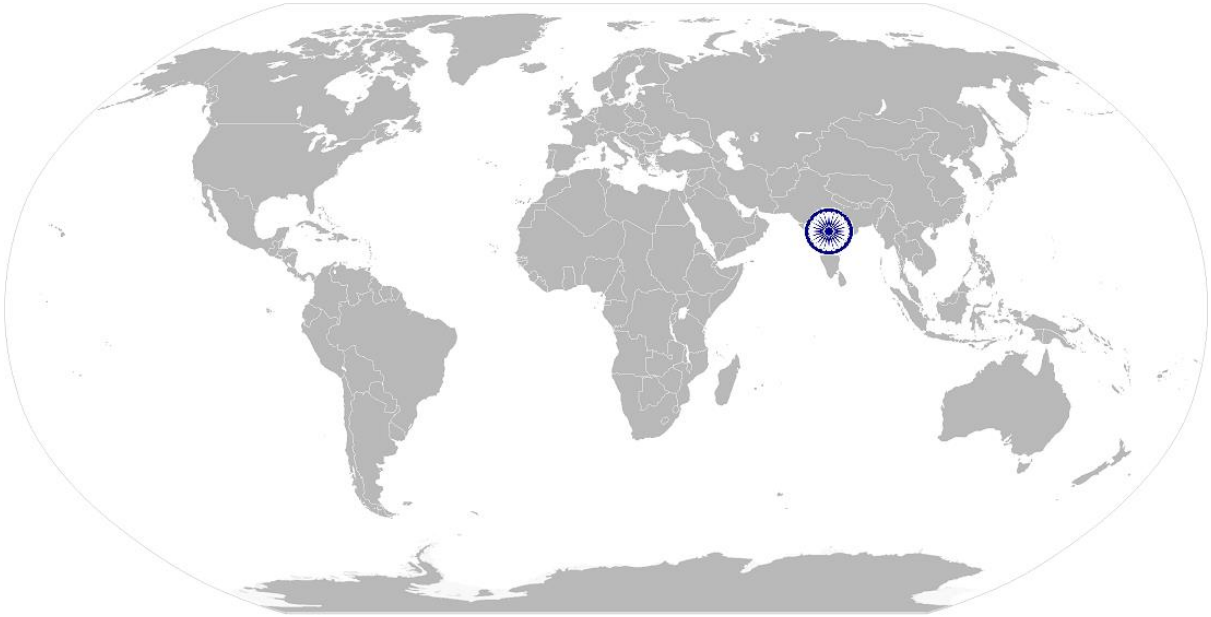
Definitions

Keywords/Terms	Description
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Unit Code	Unit Code is a unique identifier for a NOS unit, which can be denoted with an '**N**'
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.

Acronyms

Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
Keywords/ Terms	**mecDescription**
NOS	National Occupational Standard(s)
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework
NSQF	National Standards Qualifications Framework
OEM	Original Equipment Manufacturer
OS	Occupational Standard(s)
QP	Qualifications Pack
5 S	Technique of maintaining orderliness –Japanese terminology
CP	Control Plan
WI	Work Instructions

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of an individual to carry out general machining activities of not very precision nature e.g.pre-machining activities.

ASC/N3504 Assist in Carrying out pre-machining activities

National Occupational Standard

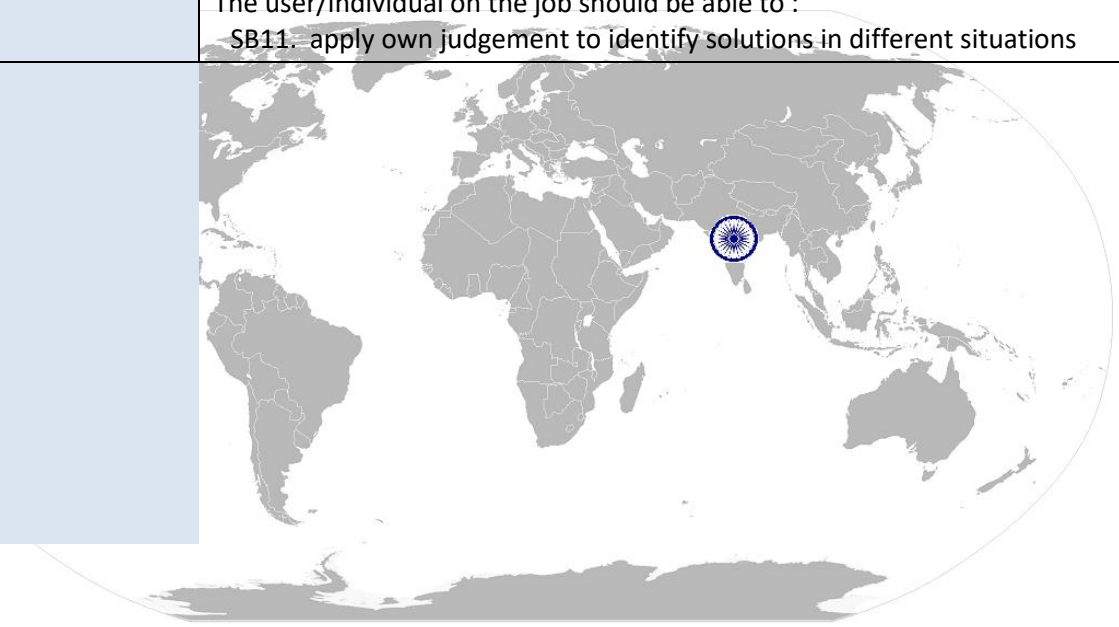
Unit Code	**ASC/N3504**
Unit Title (Task)	**Assist in Carrying out pre-machining activities**
Description	This NOS is about providing assistance in all pre-machining activities either manually or through specialized techniques as per the given drawing/ work order and the related standards specified by the organization.
Scope	This unit/ task covers the following: • understanding the machining and quality requirements and the tools/ equipment/ gauges to be used in the process • checking the component for material / dimensions as required • escalating issues and challenges regarding the job
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Understanding the component requirements	To be competent, the user/individual on the job must be able to: PC1. understand the output product requirement by reading the engineering drawing specified in the work instructions/ work order PC2. clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ work instructions or defined by supervisors PC3. reading the control panel instructions/ job orders to determine the correct output product specifications PC4. understanding the tooling instructions as specified in the Operating Manual/ work Instructions or Standard Operating Procedures PC5. selection of proper coolant and lubricant required for machining the required component
Checking the dimensions for the component	To be competent, the user/individual on the job must be able to: PC6. set the machine stops or guides as per the specified lengths indicated through scales or work instructions PC7. measure and mark reference points/ cutting lines on the work pieces, using compasses, calipers, rulers and other measuring tools
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. relevant standards and procedures followed in the company KA2. different types of products manufactured by the company
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. different types of machining processes

ASC/N3504 Assist in Carrying out pre-machining activities

	KB2. different types of tools used in the machining process with respect to type of process to be conducted KB3. basic principles of 5 S in manufacturing – Cleaning, sorting etc. KB4. the application of coolant and lubricants KB5. basic Arithmetic and calculation methods
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/individual on the job should be able to : SA1. read and interpret workplace related documentation SA2. read and interpret engineering drawings and sketches
	Writing Skills
	The user/individual on the job should be able to : SA3. write basic level notes and observations SA4. draw basic level drawings and charts
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job should have ability to: SA5. discuss task lists and job requirements with team members SA6. discuss with operator/ supervisor in order to understand the nature of the problem SA7. attentively listen and comprehend the information given by the technician/team members
B. Professional Skills	**Decision Making**
	The user/individual on the job should be able to : SB1. analyse a given situation and decide on an appropriate action for completing the task within resources
	Plan and Organize
	The user/individual on the job should be able to : SB2. plan work assigned on a daily basis and provide estimates of time required for each piece of work SB3. prioritize actions to achieve required outcomes SB4. follow instructions and work on areas of improvement identified SB5. complete the assigned tasks with minimum supervision SB6. complete the job defined by the supervisor within the timelines and quality norms
	CustomerCentricity
	The user/individual on the job should be able to : SB7. meet or exceed customer/team expectations

ASC/N3504 Assist in Carrying out pre-machining activities

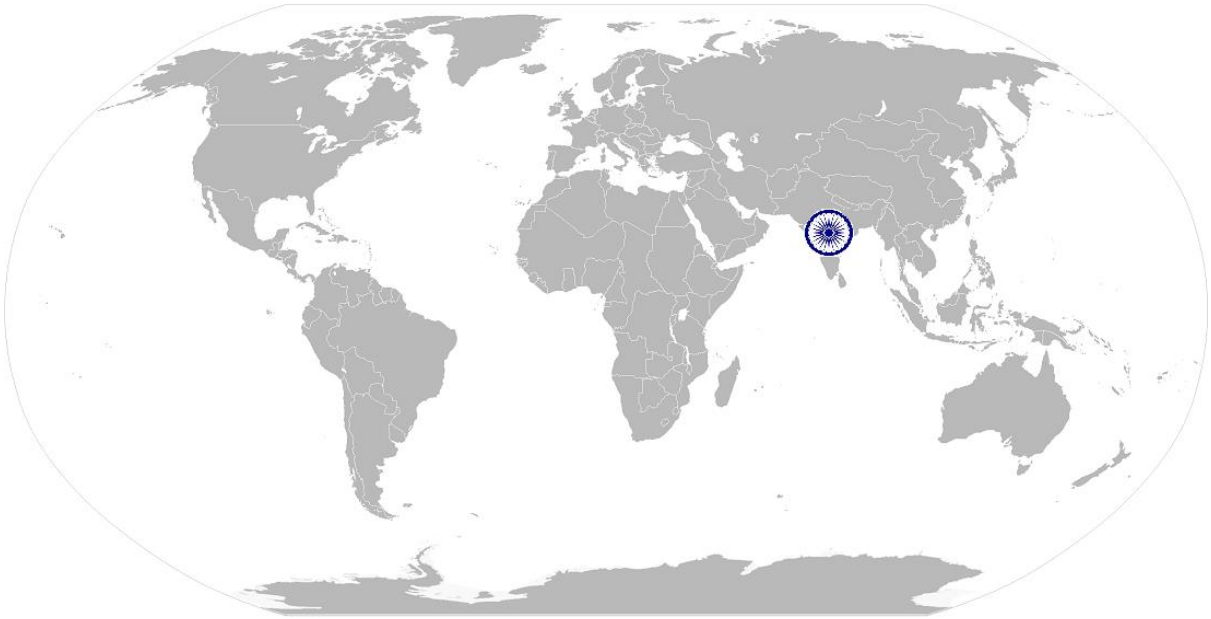
	Problem Solving
	The user/individual on the job should be able to : SB8. analyse a problem and attempt to find an acceptable solution and take help of concerned people if required
	Analytical Thinking
	The user/individual on the job should be able to : SB9. analyse the complexity of work to determine how it can be successfully carried out SB10. anticipate and analyse a given situation from all aspects
	Critical Thinking
	The user/individual on the job should be able to : SB11. apply own judgement to identify solutions in different situations



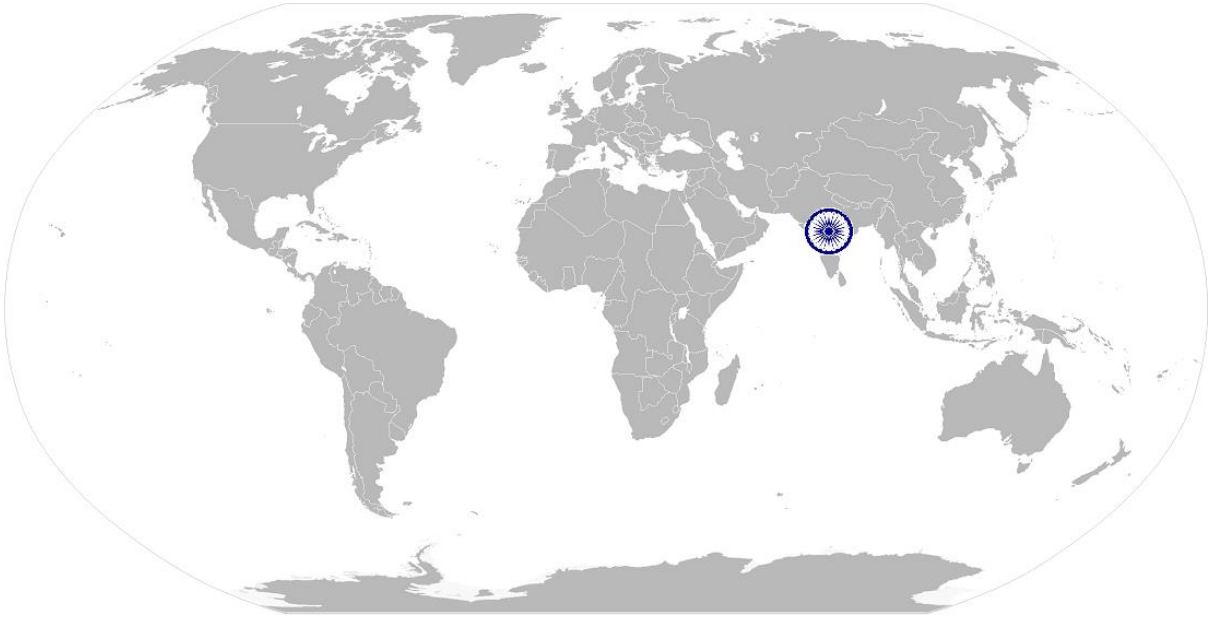
ASC/N3504 Assist in Carrying out pre-machining activities

NOS Version Control

NOS Code	ASC/N3504		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Machining	Next review date	20/10/18



National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of an Assistant Machinist in performing different machining activities.

Support the operator in performing machining operations

National Occupational Standard

Unit Code	**ASC/N3505**
Unit Title (Task)	**Support the operator in performing machining operations**
Description	This NOS is about supporting the operator and the manufacturing team in machining processes
Scope	This unit/ task covers the following: • individual in this role will be responsible for – Providing assistance in setting up the machine as per the work instructions/ guidance from superior – supporting the machinist/ operator in machining operations – recording the observations during the process – escalations of any queries regarding the job
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Setting up machine as per work instructions	To be competent, the user/individual on the job must be able to: PC1. assist in machine setting, adjusting machine tools in order to perform machining operations and for meeting dimensional and other parameters within the specified tolerance limit specified in the drawing/design standards PC2. support the operator in aligning and holding fixtures, cutting tools etc. onto the machine PC3. support in positioning / securing/ aligning cutting tools in tool holders of the machine,by using hand tools and by verify their positions with measuring instruments
Support the machinist/ operator in performing machining on the component	To be competent, the user/individual on the job must be able to: PC4. start lathe or turning/ drilling/ milling machine for operations PC5. support the machinist in selectingrequired cutting tools PC6. operate hand wheels or valves in order to feed the component and allow cooling and lubricating of the same as per the instructions given by the machinist/supervisor PC7. turn on the coolant valves and start their flow to maintain temperature in the lathe machine chamber PC8. move tool holders manually or by turning the hand wheels in order to feed tools along the machined component/ piece
Observe/ Record the machining operations	To be competent, the user/individual on the job must be able to: PC9. observe machine operations to detect defects in the component manufactured

Support the operator in performing machining operations

	PC10. observe the machine operations for any malfunctions and immediately inform the supervisor if observed so PC11. support the operator in recording operational data such as pressure readings, length of strokes, feed rates, speed etc in the formats specified by the supervisors
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. relevant standards and procedures followed in the company KA2. different types of products manufactured by the company
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. different types ofmachining processes and the related toolings,equipment and measuring instruments KB2. basic principles of 5 S in manufacturing – Cleaning, sorting etc. KB3. the application of coolant KB4. drawing, design standard and basic arithmetic
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job should have ability to: SA1. read documents and notes SA2. interpret/ comprehend the information given in the drawing and documents SA3. read and interpret symbols given on equipment's and work area
	Writing Skills
	The user/ individual on the job should have ability to: SA4. write basic level notes and observations SA5. draw basic level drawings and charts
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job should have ability to: SA6. discuss task lists and job requirements with team members SA7. discuss with operator/ supervisor in order to understand the nature of the problem SA8. attentively listen and comprehend the information given by the technician/team members
B. Professional Skills	**Decision Making**
	The user/individual on the job should be able to: SB1. judge when to ask for help from a supervisor

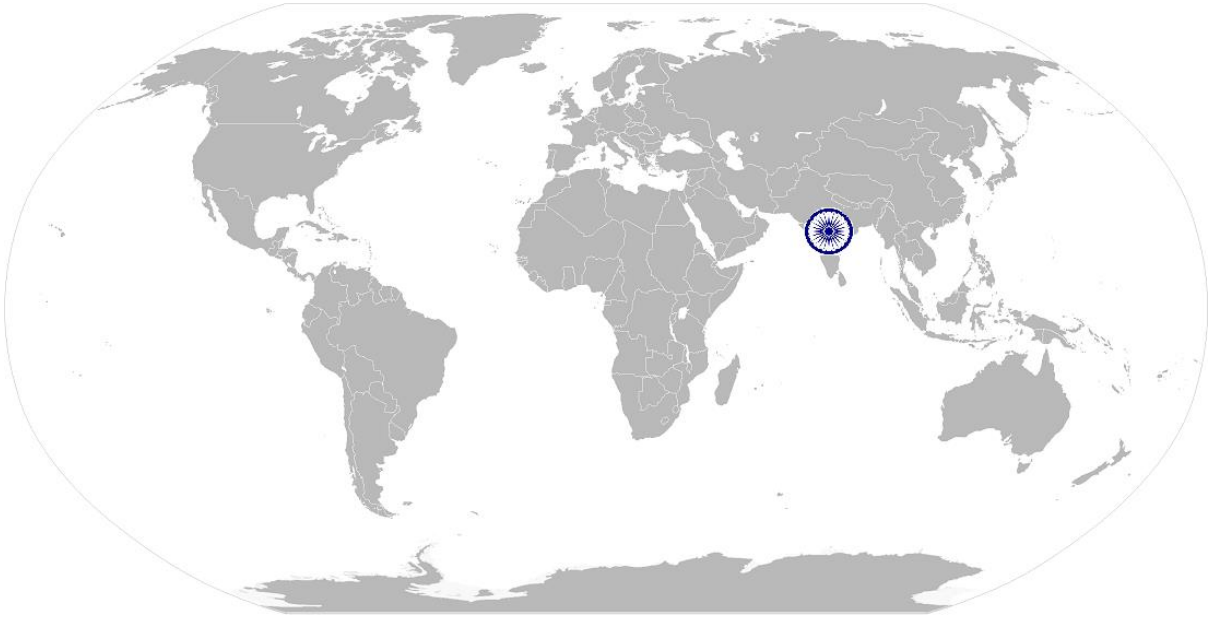
Support the operator in performing machining operations

	SB2. suggest options to operators in case any issue is observed during operations SB3. use reasoning skills to identify and resolve basic problems
	Plan and Organize
	The user/individual on the job should be able to: SB4. plan work assigned on a daily basis and provide estimates of time required for each piece of work SB5. follow instructions and work on areas of improvement identified SB6. complete the assigned tasks with minimal supervision SB7. complete the job defined by the supervisor within the time line and quality norms
	CustomerCentricity
	The user/individual on the job should be able to: SB8. meet or exceed internal/external customer/team expectations
	Problem Solving
	The user/individual on the job should be able to: SB9. recognise a workplace problem or a potential problem and take action SB10. determine problems needing priority action SB11. refer problems outside area of responsibility to appropriate person SB12. gather information and provide assistance as required to solve problems
	Analytical Thinking
	The user/individual on the job should be able to: SB13. anticipate and analyse a given situation from all aspects
	Critical Thinking
	The user/individual on the job should be able to: SB14. analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

Support the operator in performing machining operations

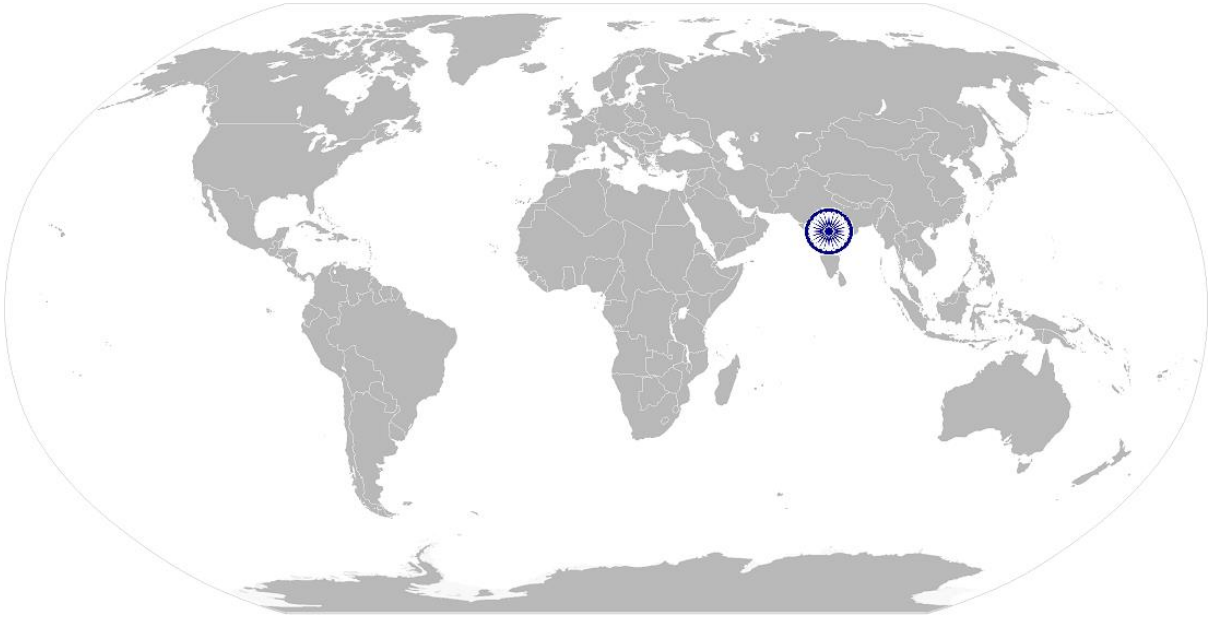
NOS Version Control

NOS Code	ASC/N3505		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Machining	Next review date	20/10/18



Support the operator in conducting all post machining operations

National Occupational Standard



Overview

This unit is about supporting the machine operator in completing all post machining activities.

ASC/N3506 Support the operator in conducting all post machining operations

National Occupational Standard

Unit Code	ASC/N3506
Unit Title (Task)	**Support the operator in conducting all post machining operations**
Description	This NOS is about conducting all post machining operations such performing minor maintenance, assisting in tool change operations, de burring and gauging activities.
Scope	This unit/ task covers the following: individual in this role will be responsible for – performing the minor machine maintenance activities – performing de-burring activity – inspection of completed work pieces – escalations of any queries regarding the job

Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Perform minor machine maintenance activities	To be competent, the user/individual on the job must be able to: PC1. maintain the machine in proper operational condition PC2. perform minor machine maintenance activities such as oiling or cleaning machine and its components as per schedules PC3. adding coolant and lubricant in machine reservoir
Perform de- burring activity on the machined components	To be competent, the user/individual on the job must be able to: PC4. Use correct tool for removing the extra burrs, sharp edges, rust and chips from the metal surface PC5. use files, hand grinders, wire brushes, or power tools for performing de burring operations. Ensure usage of Personal Protective equipment like eye glasses and hand gloves PC6. perform shot blasting/ vibro processes for completing de-burring operations for automated processes
Check quality of machined component (Gauging)	To be competent, the user/individual on the job must be able to: PC7. support the operator in inspection of the finished component and verify conformance as per Control Plan/ Work Instruction PC8. use devices like micrometers, vernier calipers, gauges, rulers and any other inspection equipment for measurement with valid calibration status PC9. support the operator in noting down the observations during inspection process and identify pieces which comply with the specified standards PC10. separate the defective pieces into two categories – pieces which can be repaired/ modified and pieces which are beyond repair and maintain records of each category

ASC/N3506 Support the operator in conducting all post machining operations

Assist the operator in the tool change process	To be competent, the user/individual on the job must be able to: PC11. assist the operator in changing different worn machine accessories, such as cutting tools (as per tool life listed, recommended) and brushes, other hand tools PC12. replace machine part as per work instructions, using hand tools or notify supervisor/ engineering personnel for taking corrective actions PC13. observe the tool change cycle in order to ensure that the selected tool is transferred to the spindle from magazine after the previous tool is transferred to the magazine from the spindlefor automated process
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. relevant standards and procedures followed in the company KA2. different types of products manufactured by the company
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. different types of equipments and tools used in the machining process and de-burringprocess KB2. basic principles of 5 S in manufacturing – Cleaning, sorting etc KB3. the application of coolant and lubricants KB4. drawing , design standard and basic arithmetic
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job should have ability to: SA1. read /interpret/ Comprehend the information given in the documents and notes SA2. read /interpret/ Comprehend symbols given on equipments and in work area
	Writing Skills
	The user/ individual on the job should have ability to: SA3. write basic level notes and observations SA4. draw basic level drawings and charts
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job should have ability to: SA5. discuss task lists and job requirements with team members SA6. discuss with operator/ supervisor in order to understand the nature of the problem SA7. attentively listen and comprehend the information given by the technician/team members

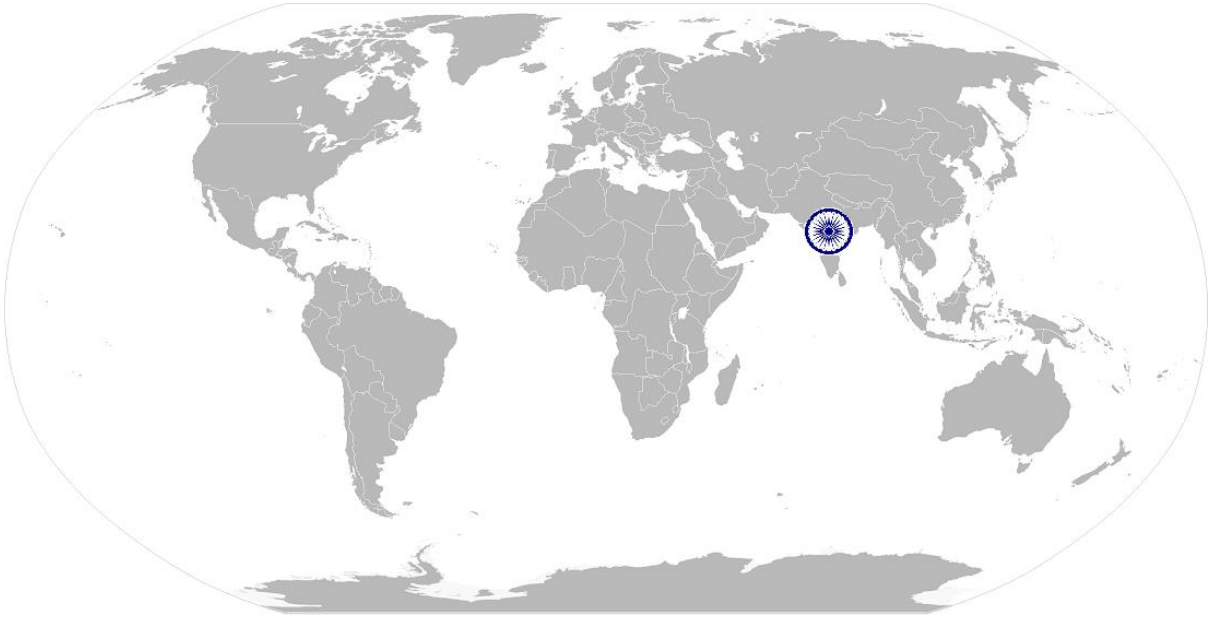
ASC/N3506 Support the operator in conducting all post machining operations

B. Professional Skills	**Decision Making**
	The user/individual on the job should be able to : SB1. analyse information and evaluate actions with the operator to solve problems e.g. inspection results, rework status SB2. use reasoning skills to identify and resolve basic problems SB3. escalate problem beyond individual's scope
	Plan and Organize
	The user/individual on the job should be able to : SB4. plan work assigned on a daily basis and provide estimates of time required for each piece of work SB5. prioritize actions to achieve required outcomes SB6. follow instructions and work on areas of improvement identified SB7. complete the assigned tasks with minimum supervision SB8. complete the job defined by the supervisor within the timelines and quality norms
	CustomerCentricity
	The user/individual on the job should be able to: SB9. meet or exceed internal/external customer/team expectations
	Problem Solving
	The user/individual on the job should be able to: SB10. recognise a workplace problem or a potential problem and take action SB11. determine problems needing priority action SB12. refer problems outside area of responsibility to appropriate person SB13. gather information and provide assistance as required to solve problems
	Analytical Thinking
	The user/individual on the job should be able to: SB14. anticipate and analyse a given situation from all aspects
	Critical Thinking
	The user/individual on the job should be able to: SB15. analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

ASC/N3506 Support the operator in conducting all post machining operations

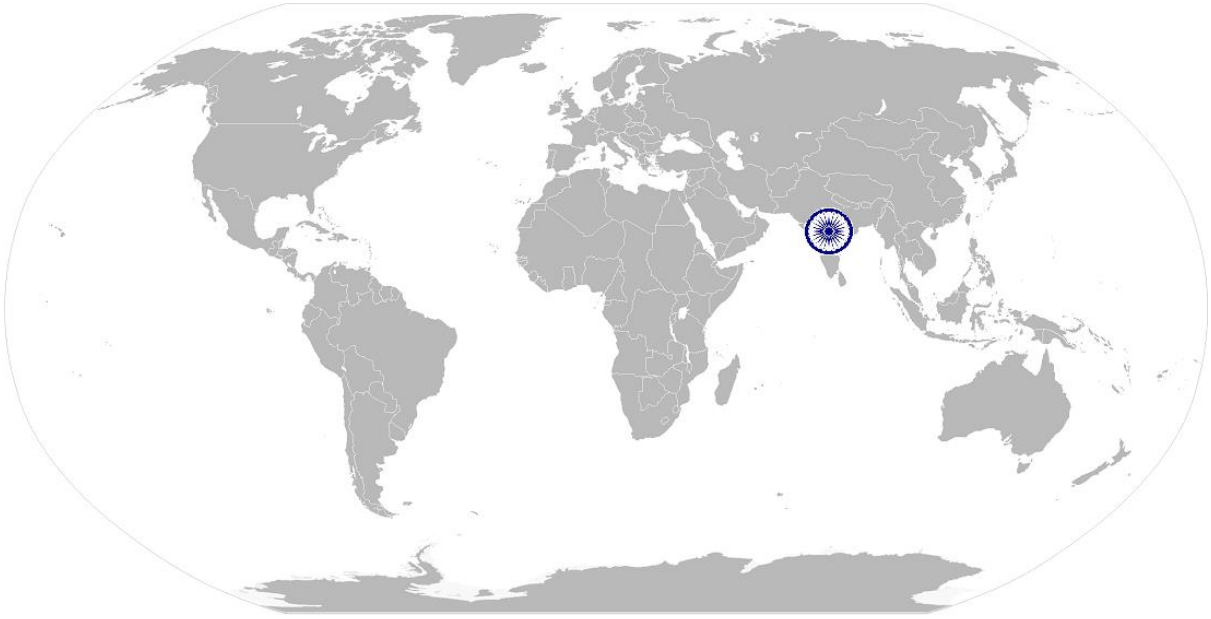
NOS Version Control

NOS Code	ASC/N3506		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Machining	Next review date	20/10/18



ASC/N6301 Inspect and maintain the product quality

National Occupational Standard



Overview

This unit is about inspection and maintenance of the quality standards for the products at various stages of Product Life.

ASC/N6301 **Inspect and maintain the product quality**

National Occupational Standard

Unit Code	ASC/N6301
Unit Title (Task)	**Inspect and maintain the product quality**
Description	This OS unit is about the skills relating to preliminary inspection/ quality control /audit of products/processes.
Scope	This unit/ task covers the following: • Receipt, In- Process and Final Inspection: – pre- delivery inspection of the product – dock audit/ Development batch of product – coordination with R&D, QA for failures, CAPA & CI issues
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Inspection of final product	To be competent, the user/individual on the job must be able to: PC1. as per instructions/under supervision , carry out process of Inspection at various stagesof manufacturing process: complete dimensional/Layout Inspection at development stage & later as per the periodicity such as annual for re- validation; in the Production phase, as per the CP/ Quality plan/ sampling plan/ stage inspection plans/ First off IR PC2. as per instructions/under supervision handle Inspection equipment and Instruments: vernier, micrometers, height Gauge & surface plate; acceptance/ Combination Gauges, simple gauges - bore, air, profile for safe storage, calibration at pre-decided frequency and have an acceptable level of R & R as per SOP of the organization PC3. as per instructions/under supervision conduct an inspection of the product covering the following checkpoints:visual Inspection of the part for scratches, dents, damages, packing as per the norms etc. forspecial inspection co-ordinate with other agencies e.g.: Material Lab, Standards Room, assembly/ performance trials etc.put identification sticker/number/label on the product for ok, rewokand rejected material PC4. coordinate with the respective process owners / seniors in QA and implement CAPA for discrepancies in the parameters identified in the report on immediate basis PC5. participate in checking the effectiveness of implementation and repeat the process till the discrepancies are resolved PC6. document the observations of the inspection and maintain records PC7. where applicable maintain ERP-System records and special process capability index calculation/charting as per the SOP. Raise a scrap note and dispose off

ASC/N6301 **Inspect and maintain the product quality**

	the scrapped product in the scrap yard as per the defined procedure maintaining the HSE compliance PC8. as is the case i.e. New product/ process development/ Production phase, the reports and Part Submission Warrant, PPAP are to be prepared PC9. based on the implementation of information flow system in organization like ERP/ SAP, upload the reports
Dock audit of the sample batch	To be competent, the user/individual on the job must be able to: PC10. as per instructions/under supervision carry out dock audit of a sample batch from the production lot of the ready to dispatch final products covering the following checkpoints: Product to be in good shape with no visible damage, no presence of sharp edges in the product, part to be with specification as the drawing, packaging of product according to specification, packaging boxes as per the requirement for preservation and customer PO Number on the shipping labels PC11. label the boxes correctly with packer name, count on the Bill of Lading match the count on the pallet, boxes stacked neatly in case of pallet arrangement. No damages of the pallet like nails sticking out, broken boards, etc should be there PC12. coordinate with the respective process owners/Stores and implement CAPA for discrepancies identified in the dock audit on immediate basis PC13. under instruction/in discussion with superiors to review the effectiveness of implementation and repeat the process till the discrepancies are resolved PC14. document the observations of dock audit and maintain records PC15. where applicable,upload data in systems like ERP/SAP
Coordination with R&D/ Quality Manager CAPA, CI	To be competent, the user/individual on the job must be able to: PC16. work as a Cross Functional Team member for solving a problem pertaining to the products handled. Collect data regarding the problem as decided in the team discussions PC17. participate for preparation of Fault tree, conducting simulation and implementation of actions PC18. participate for updating relevant documentation PC19. assist the concerned department in efficient development of the new product by sharing all the observed problems related to QCD (quality cost and delivery)
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its	The user/individual on the job needs to know and understand: KA1. product portfolio of organization KA2. the manufacturing processes of organization KA3. material classification criteria followed by organization

ASC/N6301 Inspect and maintain the product quality

processes)	KA4. policies and procedures for storage and preservation of materials KA5. policies, compliances and systems followed for HSE KA6. TS-16949/any other QMS system guidelines followed in the organization KA7. new process/ product development protocol and methodology
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. manufacturing process being followed for each product KB2. inspection checkpoints for Dock Audit etc. KB3. APQP (Advanced product quality planning) procedures KB4. problem solving &analysis tools like 8Ds, Five Why analysis etc. KB5. RCA (root cause analysis) techniques KB6. requirements for PPAP (Product planning and) -PFMEA, CP KB7. requirements for TS-16949/QMS system followed KB8. rejection / Inspection reports KB9. testing equipments operational knowledge KB10. resource &information systems like SAP, ERP etc.
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/individual on the job should have the ability to: SA1. readquality realted standards , sampling plans, drwaining /specification, reports and material/component identification sticker etc
	Writing Skills
	The user/individual on the job should have the ability to: SA2. write down and document observations in the inspection format using precise terms for description of defects, phenomenon etc. SA3. prepare reports/ excel sheet/ MIS for review by concerned officials
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job should have the ability to : SA4. the concerned departments for issues such as non-conformance, audit report and other important activities SA5. update the management for progress and seeking their support and guidance if required SA6. discuss with team members for reviewing the progress of day to day activities
B. Professional Skills	**Decision Making**
	The user/individual on the job should be able to: SB1. judge when to ask for help from a supervisor SB2. suggest options to operators in case any issue is observed during operations SB3. use reasoning skills to identify and resolve basic problems

ASC/N6301 **Inspect and maintain the product quality**

Plan and Organize

The user/individual on the job should be able to:

SB4. plan work assigned on a daily basis and provide estimates of time required for each piece of work

SB5. prioritize actions to achieve required outcomes

SB6. follow instructions and work on areas of improvement identified

SB7. complete the assigned tasks with minimum supervision

SB8. complete the job defined by the supervisor within the timelines and quality norms

CustomerCentricity

The user/individual on the job should be able to:

SB9. meet or exceed internal/external customer/team expectations

Problem Solving

The user/individual on the job should be able to:

SB10. think through and devise the countermeasure for resolution for any quality related issue observed

SB11. work on actions to be taken on immediate basis in case of frequent rejections

SB12. devise and implement interim/permanent countermeasures for the non-conformities observed in the field failures/warranty issues using analysis tools like 4Ds , 8Ds etc.

Analytical Thinking

The user/individual on the job should be able to:

SB13. analyze the interim countermeasures taken for the resolution of non-conformities observed in the production section /audit report and to accordingly devise permanent, preventive measures

Critical Thinking

The user/individual on the job should be able to:

SB14. coordinate with the process owners and devise countermeasures for effective handling of the non-conformities observed in IR and dock audit

SB15. understand and analyze the inspection report for providing inputs to NPD department for new product development

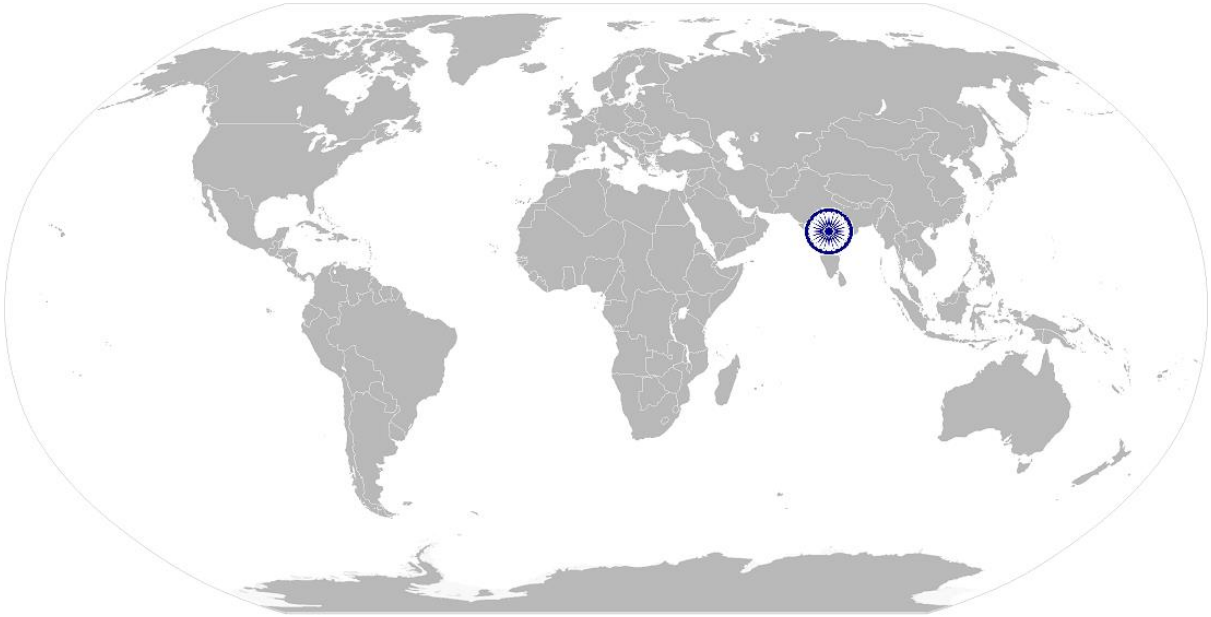
SB16. interpret the customer (Internal / external) feedback and translate it into the development of the new product in coordination with NPD department

SB17. identify problems (technical and non-technical), disruptions and delays

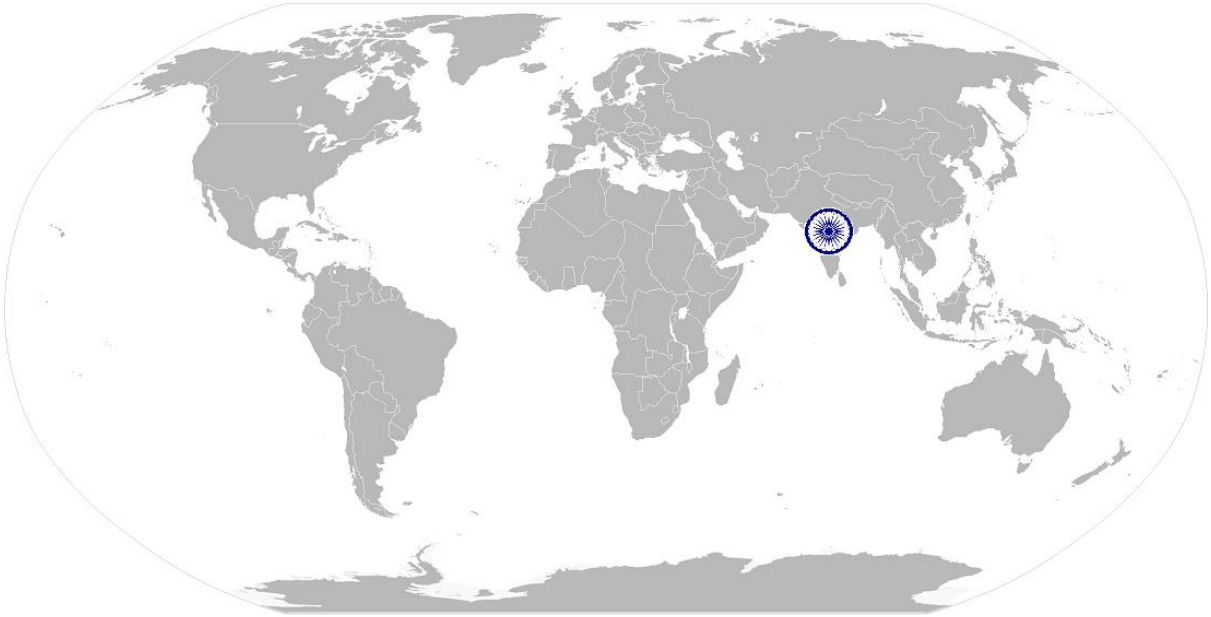
ASC/N6301 **Inspect and maintain the product quality**

NOS Version Control

NOS Code	ASC/N6301		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Machining	Next review date	20/10/18



National Occupational Standard



Overview

This unit is about establishing a Safe, Healthy and Environment friendly workplace.

ASC/N0006 Maintain a safe and healthy working environment

National Occupational Standard

Unit Code	ASC/N0006
Unit Title (Task)	**Maintain a safe and healthy working environment**
Description	This NOS is about creating a Safe and Healthy work place, adhering to the safety guidelines in the working area, following practices which are not impacting the environment in a negative manner.
Scope	This unit/ task covers the following: • role holder will be responsible for: – identifying , reporting of risks – creating and sustaining a safe, clean and environment friendly work place This NOS will be applicable to all Automotive sector manufacturing job roles.

Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
identifying , reporting of risks	To be competent, the user/individual on the job must be able to: PC1. identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise PC2. inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc. PC3. inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations PC4. create awareness amongst other by sharing information on the identified risks
Create and sustain a Safe, clean and environment friendly work place	To be competent, the user/individual on the job must be able to: PC5. follow the instructions given on the equipment manual describing the operating process of the equipment PC6. follow the Safety, Health and Environment related practices developed by the organization PC7. operate the machine using the recommended personal protective equipment (PPE) PC8. maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production Waste, oil, solvents etc. PC9. maintain high standards of personal hygiene at the work place PC10. ensure that the waste disposal is done in the designated area and manner as per organization SOP PC11. inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be

ASC/N0006 Maintain a safe and healthy working environment

	planned for others
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes	The user/individual on the job shuld have the ability to understand: KA1. relevant standards, procedures and policies related to health, safety and environment followed in the company KA2. emergency handling procedures & hierarchy for escalation
B. Technical Knowledge	The user/individual on the job needs to have basic knowledge: KB1. of Safety procedures(firefighting, first aid)within the organization KB2. of various types of PPEs and their usage KB3. of risks/hazards associated with each occupation in the organization KB4. of personal hygiene and how an individual an contribute towards creating a highly safe and clean working environment
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job should have the ability to: SA1. read safety instructions put up across the plant premises SA2. read safety precautions mentioned in equipment manuals and panels to understand the potential risks associated
	Writing Skills
	The user/ individual on the job should have the ability to: SA3. write basic level notes and observations
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job should have the ability to: SA4. effectively communicate information to team members SA5. inform employees in the plant and concerned functions about events, incidents & potential risks observed related to safety, health and environment SA6. question operator/ supervisor in order to understand the safety related issues SA7. attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs
B. Professional Skills	**Decision Making**
	The user/individual on the job should be able to SB1. use reasoning skills to identify and resolve basic problems using 5S
	Plan and Organize

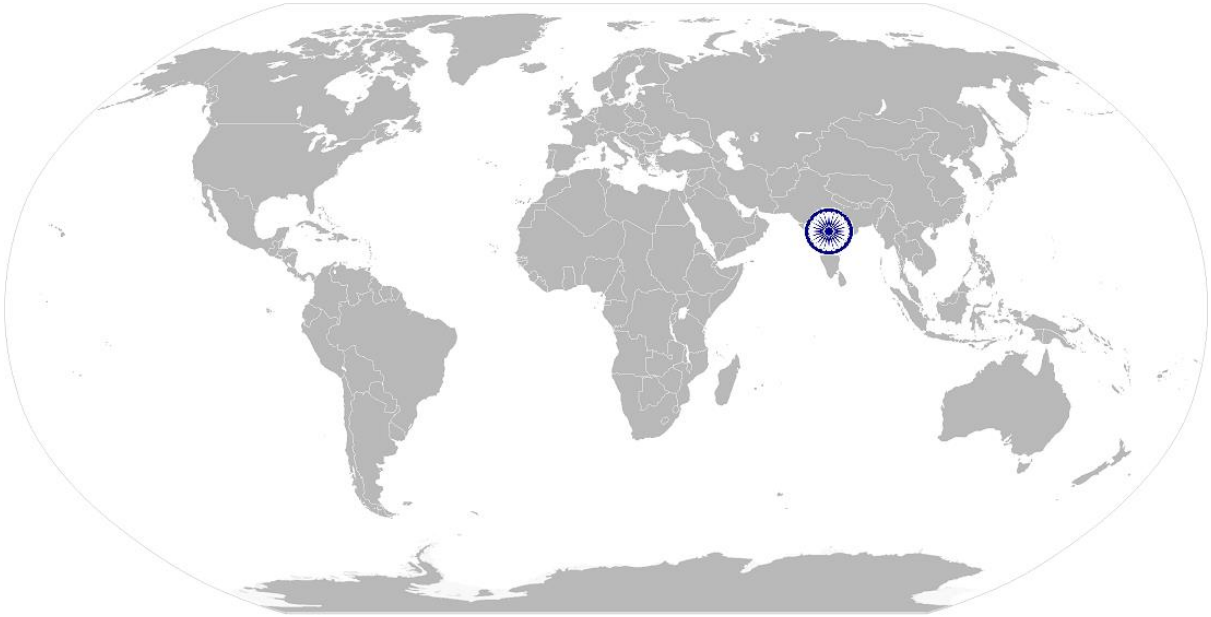
ASC/N0006 Maintain a safe and healthy working environment

	The user/individual on the job needs to know and understand how to: SB2. ensure that the core team members understand and follow the importance of using 5 S tool SB3. follow shop floor rules & regulations and avoid deviations; make 5S an integral way of life SB4. maintain self-hygineand work place cleanliness on a daily basis
	CustomerCentricity
	The user/individual on the job should be able to SB5. conform to organizational rules & regulations and also use innovative skills to ensure output and work place environment meets or exceeds expectations of colleagues
	Problem Solving
	The user/individual on the job should be able to : SB6. analyse a problem and attempt to find an acceptable solution and take help of concerned people if required
	Analytical Thinking
	The user/individual on the job should be able to SB7. exhibit inquisitive behavior to seek feedback and question on the existing set patterns of work
	Critical Thinking
	The user/individual on the job should be able to SB8. use reasoning skills to identify and resolve basic problems using 5S

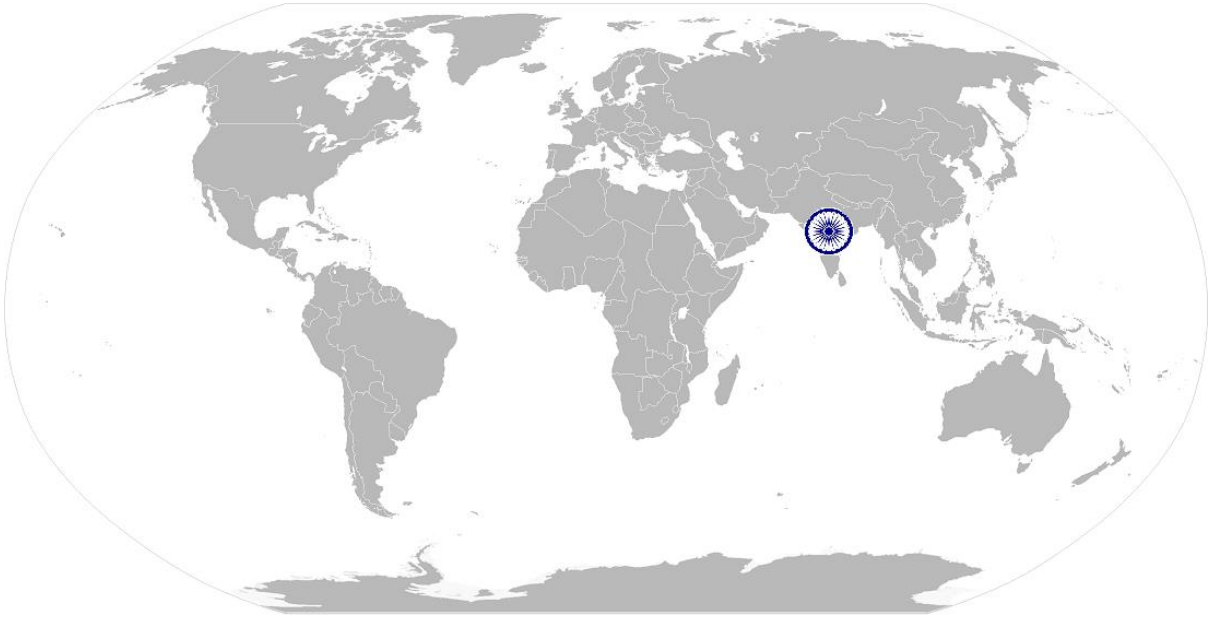
ASC/N0006 Maintain a safe and healthy working environment

NOS Version Control

NOS Code	ASC/N0006		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	18/10/16
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Machining	Next review date	20/10/18



National Occupational Standard



Overview

This unit is about the understanding all principles of 5S and follow the given guidelines to ensure a clean and efficient working environment in the organization.

ASC/N0021 **Maintain 5S at the work premises**

National Occupational Standard

Unit Code	ASC/N0021
Unit Title (Task)	**Maintain 5S at the work premises**
Description	This NOS is about ensuring all 5 S activities both at the shop floor and the office area to facilitate increase in work productivity.
Scope	This unit/ task covers the following: • Individual needs to – ensure sorting, streamlining & organizing; storage and documentation; cleaning, standardization and sustenance across the plant and office premises of the organization
Performance Criteria(PC) w.r.t. the Scope	
Element	**Performance Criteria**
Ensure sorting	To be competent, the user/individual on the job must be able to: PC1. follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un-necessary items are not cluttering the workbenches or work surfaces PC2. ensure segregation of waste in hazardous/ non-Hazardous waste as per the sorting work instructions PC3. follow the technique of waste disposal and waste storage in the proper bins as per SOP PC4. segregate the items which are labeled as red tag items for the process area and keep them in the correct places PC5. sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions PC6. ensure that areas of material storage areas are not overflowing PC7. properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required PC8. return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area PC9. follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards
Ensure proper documentation and storage (organizing, streamlining)	To be competent, the user/individual on the job must be able to: PC10. follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists PC11. check that the items in the respective areas have been identified as broken

ASC/N0021 **Maintain 5S at the work premises**

	or damaged PC12. follow the given instructions and check for labeling of fluids, oils. lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc. PC13. make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions
Ensure cleaning of self and the work place	To be competent, the user/individual on the job must be able to: PC14. check whether safety glasses are clean and in good condition PC15. keep all outside surfaces of recycling containers are clean PC16. ensure that the area has floors swept, machinery clean and generally clean. in case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards PC17. check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up PC18. ensure workbenches and work surfaces are clean and in good condition PC19. follow the cleaning schedule for the lighting system to ensure proper illumination PC20. store the cleaning material and equipment in the correct location and in good condition PC21. ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene
Ensure sustenance	To be competent, the user/individual on the job must be able to: PC22. follow the daily cleaning standards and schedules to create a clean working environment PC23. attend all training programs for employees on 5 S PC24. support the team during the audit of 5 S PC25. participate actively in employee work groups on 5S and encourage team members for active participation PC26. follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company/ organization and its processes	The user/individual on the job needs to know and understand: KA1. relevant standards, procedures and policies related to 5S followed in the company
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. have basic knowledge of 5S procedures KB2. know various types 5s practices followed in various areas

ASC/N0021 **Maintain 5S at the work premises**

	KB3. understand the 5S checklists provided in the department/ team KB4. have skills to identify useful & non useful items KB5. have knowledge of labels , signs & colors used as indicators KB6. have knowledge on how to sort and store various types of tools, equipment, material etc. KB7. know, how to identify various types of waste products KB8. understand the impact of waste/ dirt/ dust/ unwanted substances on the process/ environment/ machinery/ human body KB9. have knowledge of best ways of cleaning & waste disposal KB10. understand the importance of standardization in processes KB11. understand the importance of sustainability in 5S KB12. have knowledge of TQM process KB13. have knowledge of various materials and storage norms KB14. understand visual controls, symbols, graphs etc.
Skills (S)	
A. Core Skills/ Generic Skills	**Reading Skills**
	The user/ individual on the job should have ability to : SA1. read 5S instructions put up across the plant premises
	Writing Skills
	The user/ individual on the job should have ability to : SA2. Write simple sentances in local language and also preferably in Hindi/ English
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job should have ability to : SA3. effectively communicate information to team members inform employees in the plant and concerned functions about 5S SA4. listen effectively and orally communicate information SA5. attentively listen with full attention and comprehend the information given by the speaker during 5S training programs
B. Professional Skills	**Decision Making**
	The user/individual on the job should be able to : SB1. use reasoning skills to identify and resolve basic problems using 5S tools
	Plan and Organize
	The user/individual on the job should be able to : SB2. do what is right, not what is a popular practics SB3. follow shop floor rules & regulations and avoid deviations SB4. make 5S an integral way of life SB5. maintain self-hygine and work place cleanliness on a continuous basis SB6. persuade other colleagues also tofollow 5 S

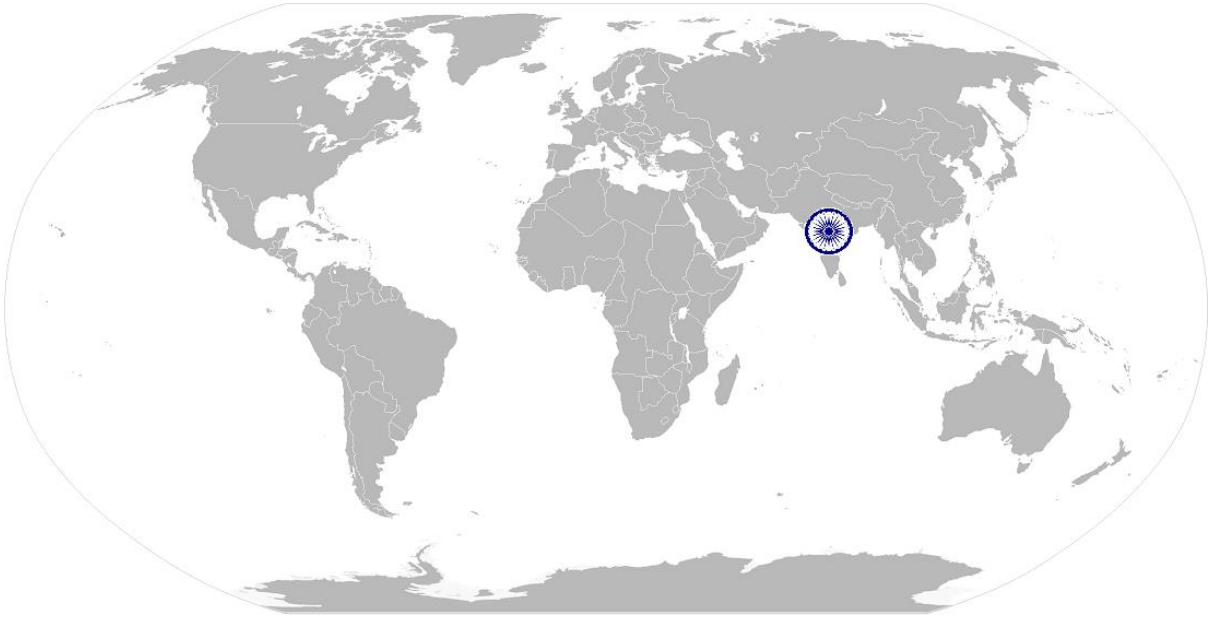
ASC/N0021 **Maintain 5S at the work premises**

	CustomerCentricity
	The user/individual on the job should be able to : SB7. conform to organizational rules & regulations and also use innovative skills to ensure output and work place environment meets or exceeds expectations of colleagues
	Problem Solving
	The user/individual on the job should be able to : SB8. analyse a problem and attempt to find an acceptable solution and take help of concerned people if required
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB9. exhibit inquisitive behavior to seek feedback and question on the existing set patterns of work
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB10. use reasoning skills to identify and resolve basic problems using 5S

ASC/N0021 **Maintain 5S at the work premises**

NOS Version Control

NOS Code	ASC/N0021		
Credits	TBD	Version number	1.0
Industry	Automotive	Drafted on	10/06/13
Industry Sub-sector	Manufacturing	Last reviewed on	18/10/16
Occupation	Machining	Next review date	20/10/17



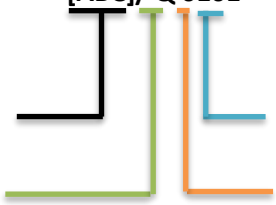
Annexure

Nomenclature for QP and NOS

Qualifications Pack

9 characters

[ABC]/ Q 0101



[Insert 3 letter codes for SSC]

Q denoting Qualifications Pack

QP number (2 numbers)

Occupation (2 numbers)

Occupational Standard

An example of NOS with 'N'

9 characters

[ABC] / N 0101

[Insert 3 letter codes for SSC]

N denoting National Occupational Standard

OS number (2 numbers)

Occupation (2 numbers)

The following acronyms/ codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Manufacturing	**31 - 45 & 61 - 68**
Research & Development	**81 - 84**
Sales & Service	**01 - 21**
Road Transportation	**96 - 97**

Sequence	Description	Example
Three letters	Automotive	ASC
Slash	/	/
Next letter	Whether **Q**P or **N**OS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Machining and Quality Technician

Qualification Pack: ASC/Q3509

Sector Skill Council: Automotive Skills Development Council

Guidelines for Assessment:

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria.
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
ASC/N3504 Assist in Carrying out pre-machining activities	PC1.understand the output product requirement by reading the engineering drawing specified in the work instructions/ work order	100			11
	PC2.clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors				11
	PC3.reading the control plan instructions/ job orders to determine the correct output product specifications				10
	PC4.understanding the tooling instructions as specified in the Operating Manual/ Work Instructions or Standard Operating Procedures				11
	PC5.selection of proper coolant and lubricant required for machining the required component				11
	PC6.set the machine stops or guides as per the specified lengths indicated through scales or work instructions				10
	PC7.measure and mark reference points/ cutting lines on the work pieces, using compasses, calipers, rulers and other measuring tools				11
	All KA, KB for the NOS			25	

		Total	**100**	**25**	**75**
ASC/N3505 Support the operator in performing machining operations	PC1.set-up, adjust machine tools in order to perform machining operations and keep dimension within the specified tolerance limit specified in the Standard Operating Procedures/ Operating manuals	100			7
	PC2.support the operator in aligning and securely hold fixtures, cutting tools etc. onto the machine				6
	PC3.position/ secure/ align cutting tools in tool holders of the machine, using hand tools and verify their positions with measuring instruments				6
	PC4.start lathe or turning/drilling/milling machine for operations				7
	PC5.support in select cutting tools and tooling instructions as per the work instructions / supervisor 's instructions				7
	PC6.operate hand wheels or valves in order to feed the component and allow cooling and lubricating of the same as per the instructions given by the machinist/supervisor				7
	PC7.turn on the coolant valves and start their flow to maintain temperature in the lathe machine chamber				7
	PC8.move tool holders manually or by turning the hand wheels in order to feed tools along the machined component/ piece				6
	PC9.observe machine operations to detect defects in the component manufactured				7
	PC10.observe the machine operations for any malfunctions and immediately inform the supervisor of any malfunction observed to prevent damage to the machining equipment/ output product				8
	PC11.support the operator in recording operational data such as pressure readings, length of strokes, feed rates, speed etc in the formats specified by the supervisors				7
	All KA, KB for the NOS			25	
		Total	**100**	**25**	**75**
ASC/N3506 Support the operator in conducting all post machining operations	PC1.maintain the machine as per proper operational condition	100			5
	PC2.perform minor machine maintenance activities such as oiling or cleaning machine and its components				6
	PC3.oiling or cleaning machines as per the schedules given in the maintenance plan				5
	PC4.adding coolant and lubricant in machine reservoir				5

	PC5.with the help of the correct tool remove the extra burrs, sharp edges, rust and chips from the metal surface				5
	PC6.use files, hand grinders, wire brushes, or power tools for performing de burring operations. Ensure usage of Personal Protective equipment like eye glasses and hand gloves.				5
	PC7.for automated processes perform shot blasting/ vibro processes for completing de-burring operations				6
	PC8.support the operator in measuring the specifications of the finished component and verify conformance as per CP/ WI				5
	PC9.use devices like micrometers, vernier calipers, gauges, rulers and any other inspection equipment for measuring specifications with valid calibration status				6
	PC10.support the operator in noting down the observations of the basic inspection process and identify pieces which comply with the specified standards				5
	PC11.separate the defective pieces into two categories – pieces which can be repaired/ modified and pieces which are beyond repair and maintain records of each category				5
	PC12.assist the operator in changing different worn machine accessories, such as cutting tools(as per tool life listed, recommended) and brushes, other hand tools				5
	PC13.replace machine part as per work instructions, using hand tools or notify supervisor/ engineering personnel for taking corrective actions				6
	PC14.for automated process observe the tool change cycle in order to ensure that the selected tool is transferred to the spindle from magazine after the previous tool is transferred to the magazine from the spindle				6
	All KA, KB for the NOS			25	
		Total	**100**	**25**	**75**
ASC/N6301 Inspect and maintain the product quality	PC1.conduct the process of Inspection at the stages	100			4
	PC2.handle Inspection equipment and Instruments				4
	PC3.conduct a inspection of the product covering the following checkpoints				4

	PC4.coordinate with the respective process owners/ seniors in QA and implement CAPA for discrepancies in the parameters identified in the report on immediate basis				4
	PC5.participate in checking the effectiveness of implementation and repeat the process till the discrepancies are resolved				4
	PC6.document the observations of the inspection and maintain records of				4
	PC7.IR, ERP-System record and special process capability index calculation/charting as per the SOP raise a scrap note and dispose off the scrapped product in the scrap yard as per the defined procedure maintaining the HSE compliance				5
	PC8.As is the case i.e. New product/process development / Production phase, the reports and Part Submission Warrant, PPAP are to be prepared.				4
	PC9.based on the implementation of information flow system in organization like ERP/SAP , upload the reports				5
	PC10.conduct a dock audit of a sample batch from the production lot of the ready to dispatch final products covering the following checkpoints				4
	PC11.coordinate with the respective process owners/Stores and implement CAPA for discrepancies identified in the dock audit on immediate basis				4
	PC12.review the effectiveness of implementation and repeat the process till the discrepancies are resolved				4
	PC13.document the observations of dock audit and maintain records				4
	PC14.based on the implementation of information flow system in organization like ERP/SAP , upload the reports				4
	PC15.work as a CFT member of the team formed for solving a problem pertaining to the products handled .Collect data regarding the problem as decided in the team discussions				5
	PC16.participate for preparation of Fault tree, conducting simulation and implementation of actions				4
	PC17.participate for updating relevant documentation				4
	PC18.assist the NPD department in efficient development of the new product by sharing all the				4

	problems related to QCD observed in the existing products				
	All KA, KB for the NOS			25	
		Total	**100**	**25**	**75**
ASC/N0006 Maintain a safe and healthy working environment	PC1.identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise	100			7
	PC2.inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc				7
	PC3.inform the concerned authorities about damages which can potentially harm man/ machine during operations				7
	PC4.create awareness amongst other by sharing information on the identified risks				7
	PC5.follow the instructions given on the equipment manual describing the operating process of the equipments				6
	PC6.follow the Safety, Health and Environment related practices developed by the organization				6
	PC7.operate the machine using the recommended Personal Protective Equipments (PPE)				6
	PC8.maintain a clean and safe working environment near the workplace and ensure there is no spillage of chemicals, production waste, oil, solvents etc				7
	PC9.maintain high standards of personal hygiene at the work place				5
	PC10.ensure that the waste disposal takes place in the designated area as per organization SOP				7
	PC11.inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be planned for others				5
	All KA, KB for the NOS			30	
		Total	**100**	**30**	**70**
ASC/N0021 Maintain 5S at the work premises	PC1.follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un-necessary items are not cluttering the workbenches or work surfaces	100			3
	PC2.ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions				3

	PC3.follow the technique of waste disposal and waste storage in the proper bins as per SOP				3
	PC4.segregate the items which are labeled as red tag items for the process area and keep them in the correct places				3
	PC5.sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions				3
	PC6.ensure that areas of material storage areas are not overflowing				2
	PC7.properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required				3
	PC8.return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area				3
	PC9.follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards				3
	PC10.follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists				3
	PC11.check that the items in the respective areas have been identified as broken or damaged				3
	PC12.follow the given instructions and check for labeling of fluids, oils. lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.				3
	PC13.make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions				3
	PC14.check whether safety glasses are clean and in good condition				2
	PC15.keep all outside surfaces of recycling containers are clean				2
	PC16.ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards				3

	PC17.check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up				3
	PC18.ensure workbenches and work surfaces are clean and in good condition				2
	PC19.follow the cleaning schedule for the lighting system to ensure proper illumination				3
	PC20.store the cleaning material and equipment in the correct location and in good condition				2
	PC21.ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene				3
	PC22.follow the daily cleaning standards and schedules to create a clean working environment				3
	PC23.attend all training programs for employees on 5 S				2
	PC24.support the team during the audit of 5 S				2
	PC25.participate actively in employee work groups on 5S and encourage team members for active participation				3
	PC26.follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions				2
	All KA, KB for the NOS			30	
		Total	**100**	**30**	**70**