



## Machining Assistant

### CURRICULUM/SYLLABUS

This program is aimed at training candidates for the job of a “assistant to the operator\_”, in the “Automotive Skill Development Council” Sector/Industry and aims at building the following key competencies amongst the learner

1. fetching and holding tools, loading work pieces, maintenance of machine part	2. 5. supporting the operator and the manufacturing team in post production process, Unload work pieces using various tools
3. helper supports peripheral activities/ non core activities in the manufacturing process	4. 6. basic quality checks of machined parts and count the good quality and bad qualities and help the assistant operator in maintaining records.
5. Ensure sorting, streamlining & organizing, storage and documentation,	6. cleaning, standardization and sustenance across the plant and office premises of the organization

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “Machining Assistant Or Helper L 2 ASC/Q3502” Qualification Pack issued by “Automotive Skill Development Council “.

S. No	Topic/Module	Duration (in Hours)	Key Learning Outcomes	Corresponding NOS Code
1	Support the operator in routine machining activities	30	<ul style="list-style-type: none"> <li>Bring right toolkits for the operator and check whether all required tools are available in the tool kit</li> <li>Hold the tools during operations in the correct manner as specified by the operator and the standard operating procedures so that the operator can easily complete the assigned job</li> <li>Support the assistant operator in arranging the work pieces in the specified manner as given in the setting document</li> <li>Ensure that there is no damage done to the work pieces while loading them on the machining apparatus using pulleys, chains and other hoisting mechanisms</li> <li>Use bench grinders and cutting grinder machines to replace the tools and dies</li> <li>Use templates , measuring instruments and hand tools for the process of installation and adjustment of drills,</li> </ul>	ASC/N 3501

			<p>cutters, dies and guides</p> <ul style="list-style-type: none"> <li>• Adjust tool positions and machine control mechanisms through the cranking (turning) process to ensure clearances and tolerances as specified in the operating manual</li> <li>• Extract the jammed pieces using fingers, wire hooks and lift bars</li> <li>• Store equipment auxiliaries and spare parts in proper designated areas</li> <li>• Regularly clean the equipments and process auxiliaries (cutting tools, dies) to remove any dust, moisture, waste material which would have got collected on the equipment and remove the metal chips and extra coolant</li> <li>• Regularly clean the working area in the weld shop and create a healthy, clean and safe working environment</li> </ul>	
2	Support the machining team in post machining process	10	<ul style="list-style-type: none"> <li>• Support the assistant operator in removing the output products from the machining apparatus in the specified manner as given in the setting document</li> <li>• Use lifting tools like lifts, pulleys, chains, hoists and ensure that there is no damage done to the machined pieces while un loading them</li> <li>• With the help of the correct tool remove the extra burrs and chips from the metal surface</li> <li>• Support the assistant operator in measuring the specifications of the finished product using devices like micrometers, vernier calipers, gauges, rulers, weighing scales and any other inspection equipment</li> <li>• Bring right inspection tools for the operator and check whether all required tools are available near the inspection platform</li> <li>• Support the operator/ asst. operator in noting down the observations of the basic inspection process and identify pieces which are ok and also not meeting the specified standards</li> <li>• Separate the defective pieces into two</li> </ul>	ASC/N 3502

			categories – pieces which can be repaired/ modified and pieces which are beyond repair and maintain records of each category	
3	Maintain a safe and healthy working environment	10	<ul style="list-style-type: none"> <li>Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, loud noise</li> <li>Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc</li> <li>Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations</li> <li>Create awareness amongst other by sharing information on the identified risks</li> <li>Follow the instructions given on the equipment manual describing the operating process of the equipments</li> <li>Follow the safety, health and environment related practices developed by the organization</li> <li>Operate the machine using the recommended personal protective equipments (ppe)</li> <li>Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc</li> <li>Maintain high standards of personal hygiene at the work place</li> <li>Ensure that the waste disposal happens in the designated area</li> </ul>	ASC/N0006
4	Maintaining 5S at the work premises	10	<ul style="list-style-type: none"> <li>Follow the sorting process and check that the tools, fixtures &amp; jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces.</li> <li>Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions</li> <li>Follow the technique of waste disposal</li> </ul>	ASC/N0021

			<p>and waste storage in the proper bins as per SOP</p> <ul style="list-style-type: none"> <li>• Segregate the items which are labelled as red tag items for the process area and keep them in the correct places</li> <li>• Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions</li> <li>• Ensure that areas of material storage areas are not overflowing</li> <li>• 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</li> <li>• Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area</li> <li>• Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards</li> <li>• Follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists</li> <li>• Check that the items in the respective areas have been identified as broken or damaged</li> <li>• Follow the given instructions and check for labelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.</li> <li>• Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions</li> <li>• Check whether safety glasses are clean and in good condition</li> <li>• Keep all outside surfaces of recycling containers are clean</li> <li>• 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</li> </ul>	
--	--	--	--	--



			<p>which indicate potential safety hazards</p> <ul style="list-style-type: none"><li>• Check whether all hoses, cabling &amp; wires are clean, in good condition and clamped to avoid any mishap or mix up</li><li>• Ensure workbenches and work surfaces are clean and in good condition</li><li>• Follow the cleaning schedule for the lighting system to ensure proper illumination</li><li>• Store the cleaning material and equipment in the correct location and in good condition</li><li>• Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</li></ul>	
--	--	--	--	--

Total Programme Duration: 60 **Hours**

*(This syllabus/ curriculum has been approved by Automotive Skill Development Council (name of relevant Sector Skill Council or NSDC designated authority)).*