



# Model Curriculum

**QP Name: Automotive Assembly Assistant**

**QP Code: ASC/Q3607**

**QP Version: 1.0**

**NSQF Level: 2**

**Model Curriculum Version: 1.0**

Automotive Skills Development Council | 153, Gr Floor, Okhla Industrial Area, Phase – III, Leela Building,  
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## Training Parameters

<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Assembly Operation
<b>Country</b>	India
<b>NSQF Level</b>	2
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/8211.1201
<b>Minimum Educational Qualification and Experience</b>	8th Class
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 years
<b>Last Reviewed On</b>	29/07/2021
<b>Next Review Date</b>	29/07/2026
<b>NSQC Approval Date</b>	29/07/2021
<b>QP Version</b>	1.0
<b>Model Curriculum Creation Date</b>	29/07/2021
<b>Model Curriculum Valid Up to Date</b>	29/07/2026
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	256 Hours 00 Minutes
<b>Maximum Duration of the Course</b>	256 Hours 00 Minutes

## Program Overview

This section summarizes the end objectives of the program along with its duration.

### Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Support assembly operator in pre-assembling activities such as lifting of workpiece, inspection of tools and equipment etc.
- Support assembly operator during assembling operations.
- Support assembly operator in post-assembly operations such as cleaning and inspection.
- Work effectively and efficiently as per schedules and timelines.
- Implement safety practices.
- Optimize the use of resources to ensure less wastage and maximum conservation.

### Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>Bridge Module</b>					
Module 1: Introduction to the role of an Automotive Assembly Assistant	8:00	0:00			8:00
<b>ASC/N9803 – Organize work and resources (Manufacturing) NOS Version No. – 1.0 NSQF Level – 3</b>	<b>16:00</b>	<b>24:00</b>			<b>40:00</b>
Module 2: Organize work and resources according to safety and conservation standards	16:00	24:00			40:00
<b>ASC/N9802 – Interact effectively with colleagues, customers and others NOS Version No. – 1.0 NSQF Level - 3</b>	<b>12:00</b>	<b>20:00</b>			<b>32:00</b>
Module 3: Communicate effectively and efficiently	12:00	20:00			32:00
<b>ASC/N3621 – Support the assembly operator in routine assembly activities NOS Version No. – 1.0 NSQF Level - 2</b>	<b>64:00</b>	<b>112:00</b>			<b>176:00</b>
Module 4: Prepare for assembly activities	28:00	52:00			80:00
Module 5: Support in assembly and post-assembly activities	36:00	60:00			96:00

<b>Total Duration</b>	<b>100:00</b>	<b>156:00</b>			<b>256:00</b>
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# Module Details

## Module 1: Introduction to the role of an Automotive Assembly Assistant

### *Bridge module*

#### Terminal Outcomes:

- Discuss the role and responsibilities of an Automotive Assembly Assistant.

<b>Duration: &lt;08:00&gt;</b>	<b>Duration: &lt;00:00&gt;</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the role and responsibilities of an Automotive Assembly Assistant.</li> <li>• Discuss the job opportunities of an Automotive Assembly Assistant.</li> <li>• Explain about Indian automotive manufacturing market.</li> <li>• List various automobile Original Equipment Manufacturers (OEMs) and different products/ models manufactured by them.</li> <li>• Discuss the standards and procedures involved in the different processes of assembly.</li> </ul>	
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector, standard checklists and schedules samples	
<b>Tools, Equipment and Other Requirements</b>	

## Module 2: Organize work and resources according to safety and conservation standards

### Mapped to ASC/N9803, v1.0

#### Terminal Outcomes:

- Employ appropriate ways to maintain safe and secure working environment.
- Perform work as per the quality standards.
- Apply conservation practices at the workplace.

Duration: <16:00>	Duration: <24:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List the potential workplace related risks and hazards, their causes and preventions.</li> <li>• Identify PPE to be used at workplace.</li> <li>• Identify various warning signs used at the workplace.</li> <li>• Describe appropriate strategies to deal with emergencies and accidents at the workplace.</li> <li>• Outline the organizational structure to be followed to report about health, safety and security breaches to the concerned authorities.</li> <li>• Discuss the importance of keeping work area clean and tidy.</li> <li>• Discuss the significance of conforming to basic hygiene practices such as washing hands, using alcohol based hand sanitizers or soap.</li> <li>• Discuss organizational hygiene and sanitation guidelines and ways of reporting breaches/gaps if any to the concerned authorities.</li> <li>• Discuss the ways of dealing with stress and anxiety.</li> <li>• Discuss how to complete the given work within the stipulated time period.</li> <li>• Explain how to maintain a proper balance between team and individual goals.</li> <li>• Explain 5S guidelines at workplace.</li> <li>• List the various materials used at the workplace.</li> <li>• Explain organisational recommended procedure for storage of tools, equipment and material after completion of work.</li> <li>• Explain the ways to optimize usage of resources.</li> <li>• Discuss various methods of waste management and its disposal.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply appropriate safety practices to ensure safety of people at the workplace</li> <li>• Display the correct way of wearing and removing PPE such as face masks, hand gloves, face shields, PPE suits, etc.</li> <li>• Demonstrate the use of fire extinguisher.</li> <li>• Apply basic first aid procedure in case of emergencies.</li> <li>• Perform routine cleaning of tools, equipment and machines.</li> <li>• Employ various techniques for checking malfunctions in the equipment as per Standard Operating Procedure (SOP).</li> <li>• Show how to sanitize and disinfect one's work area regularly.</li> <li>• Demonstrate the correct way of washing hands using soap and water.</li> <li>• Demonstrate the correct way of sanitizing hands using alcohol-based hand rubs.</li> <li>• Demonstrate how to evacuate the workplace in case of an emergency.</li> <li>• Demonstrate sorting of materials, tools and equipment and spare parts after completion of work.</li> <li>• Demonstrate the steps involved in storage of tools, equipment and material after completion of work.</li> <li>• Perform basic checks to identify any spills and leaks and that need to be plugged /stopped.</li> <li>• Demonstrate different disposal techniques depending upon types of waste.</li> <li>• Employ different ways to check if equipment/machines are functioning as per requirements and report malfunctioning, if observed.</li> <li>• Employ ways for efficient utilization of</li> </ul>

<ul style="list-style-type: none"> <li>• List the different categories of waste for the purpose of segregation</li> <li>• Differentiate between recyclable and non-recyclable waste</li> <li>• State the importance of using appropriate colour dustbins for different types of waste.</li> <li>• Discuss common practices for conserving electricity at workplace.</li> <li>• Discuss the common sources of pollution and ways to minimize it.</li> </ul>	<p>material and water.</p>
<p><b>Classroom Aids:</b></p>	
<p>Whiteboard, marker pen, projector</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<ul style="list-style-type: none"> <li>• Housekeeping material: Cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel, fire extinguisher</li> <li>• Safety gears: Safety shoes, ear plug, goggles, gloves, helmet, first-aid kit</li> </ul>	



## Module 3: Communicate Effectively and Efficiently

### Mapped to ASC/N9802, v1.0

#### Terminal Outcomes:

- Use effective communication and interpersonal skills.
- Apply sensitivity while interacting with different genders and people with disabilities.

<b>Duration: &lt;12:00&gt;</b>	<b>Duration: &lt;20:00&gt;</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the organizational structure for communicating with colleagues, seniors and others.</li> <li>• Discuss the ways to adjust the communication styles to reflect sensitivity towards gender and persons with disability (PwD).</li> <li>• Explain the importance of respecting personal space of colleagues.</li> <li>• State the procedure to receive work instructions and report problems to the supervisor.</li> <li>• List the various organizational policies and procedures to be followed at the workplace.</li> <li>• Describe different ways to rectify commonly occurring errors.</li> <li>• Explain the importance of complying with the instructions/guidelines and procedures while performing tasks related to the job specifications.</li> <li>• Discuss the importance of PwD and gender sensitization.</li> </ul>	<ul style="list-style-type: none"> <li>• Employ different means of communication depending upon the requirement while interacting with others.</li> <li>• Demonstrate using new ways to maintain good relationships with colleagues and supervisor.</li> <li>• Prepare a sample report to send the work status to the supervisor.</li> <li>• Demonstrate how to communicate with different genders and persons with disability (PwD) in a sensitive manner.</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	
Sample of escalation matrix, organisation structure.	

## Module 4: Prepare for assembly activities

### Mapped to ASC/N3621, v1.0

#### Terminal Outcomes:

- Identify tools and equipment required for assembly operations.
- Perform the steps to carry out pre-assembly activities such as lifting of vehicle components, inspection of tools and equipment, inspection of vehicle components for defects etc.

Duration: <28:00>	Duration: <52:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List various components and systems of a vehicle.</li> <li>• Explain various assembling operations such as bolting, tightening, riveting, fastening, adhesive clamping, crimping etc.</li> <li>• List tools, measuring instruments, equipment, auto components/parts and sub-assemblies required during assembling work.</li> <li>• Discuss the organisational process of collecting and arranging tools, measuring instruments, equipment, auto components/ parts and sub-assemblies from the store.</li> <li>• Summarise the steps to be performed for checking the tools and equipment before use.</li> <li>• Summarise the steps to be performed for setting of the equipment as per the requirements.</li> <li>• Discuss ways for safe handling and no damage of auto component and sub-assemblies during loading and unloading.</li> <li>• Discuss the necessary precautions to avoid any hazard and accident during assembly activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the standard operating procedure to use tools, equipment and measuring instruments required during assembly process.</li> <li>• Apply appropriate ways of checking the tools and equipment for defects before use.</li> <li>• Show how to clean the assembling equipment, auto components/ parts and sub-assemblies before use.</li> <li>• Demonstrate how to support the assembly operator in setting of the equipment as per the selected assembling method</li> <li>• Show how to load the auto component and sub-assemblies securely on the assembling equipment manually or by using lifting equipment.</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	
<ul style="list-style-type: none"> <li>• PPT's, teaching aids, torquing charts, assembly drawing / blue print, component assembly plan</li> <li>• <b>Measuring and marking tools:</b> Steel tape, steel rule, vernier calliper, micrometre, compass, divider, scribe, T Square, bevel protractor, pin set, torque meter etc.</li> <li>• <b>Assembly tools and equipment:</b> Riveting machine, drilling machine, riveting guns, pneumatic guns, fasteners, rubber seals, soldering iron, jigs, fixtures, adhesives</li> <li>• <b>Components:</b> Bolts, nuts, screws, wires, fasteners, connectors, sealants, adhesive bonding material etc.</li> <li>• <b>Lifting devices:</b> Hoists, cranes, bins, part trolleys, pallet trucks</li> </ul>	

- **Safety materials:** Fire extinguisher, portable welding curtains, leather safety gloves, leather aprons, safety glasses, helmet, safety shoe and first-aid kit
- **Cleaning material:** Tip cleaner, wire brush (M.S.), cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel

## Module 5: Support in assembly and post-assembly activities

### Mapped to ASC/N3621, v1.0

#### Terminal Outcomes:

- Demonstrate how to support assembly operator during assembly activities.
- Perform the steps to carry out post-assembly activities.

Duration: <36:00>	Duration: <60:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss correct way of holding tools during the assembly operations.</li> <li>• List consumables and accessories required during the assembly work.</li> <li>• Discuss the process of unloading and placing the assembled components on the designated place as per the work instructions.</li> <li>• Discuss the tasks to be performed post-assembly.</li> <li>• Summarise the commonly occurring defects in the assembled vehicle.</li> <li>• Discuss the impact of defects on the quality of assembled vehicle.</li> <li>• Explain the inspection methods for identifying the defects and checking the quality of assembled vehicle as per the control plan.</li> <li>• Discuss various cleaning methods to clean the tools, equipment, fixtures and work area.</li> <li>• Recall organisational recommended procedure for storage of the tools, equipment and fixtures after completion of work.</li> <li>• List different methods for disposing off waste material and scrap.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to hold the tools during assembly operations in the correct manner and safely.</li> <li>• Demonstrate how to support Assembly Operator during installation of the various components of oil and lube system in the vehicle.</li> <li>• Perform the steps of unloading assembled components equipment and placing them on the designated place by using lifting tools.</li> <li>• Show how to fill the water, diesel or petrol, brake oil, gear oil, engine oil etc. in the vehicle.</li> <li>• Demonstrate how to support the assembly operator in inspection for identifying the defects and checking the quality of assembled vehicle.</li> <li>• Apply appropriate cleaning methods to clean the tools, equipment and fixtures after completion of work.</li> <li>• Demonstrate the organisational procedure involved in storage of tools, equipment and fixtures after completion of work.</li> <li>• Apply appropriate ways to clean the work area.</li> <li>• Show how to dispose scrap or waste as per organisational guidelines.</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	
<ul style="list-style-type: none"> <li>• PPT's, teaching aids, torqueing charts, assembly drawing / blue print, component assembly plan</li> <li>• <b>Measuring and marking tools:</b> Steel tape, steel rule, vernier calliper, micrometre, compass, divider, scribe, T Square, bevel protractor, pin set, torque meter etc.</li> <li>• <b>Assembly tools and equipment:</b> Riveting machine, drilling machine, riveting guns, pneumatic guns, fasteners, rubber seals, soldering iron, jigs, fixtures, adhesives</li> <li>• <b>Components:</b> Bolts, nuts, screws, wires, fasteners, connectors, sealants, adhesive bonding material etc.</li> <li>• <b>Lifting devices:</b> Hoists, cranes, bins, part trolleys, pallet trucks</li> </ul>	

- **Safety materials:** Fire extinguisher, portable welding curtains, leather safety gloves, leather aprons, safety glasses, helmet, safety shoe and first-aid kit
- **Cleaning material:** Tip cleaner, wire brush (M.S.), cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel

# Annexure

## Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI	Turner/Fitter	2	Automotive Assembly	1	Automotive Assembly	NA
ITI	Turner/Fitter	3	Automotive Assembly	0	NA	NA
Certificate NSQF- Level 4	Automotive Assembly Technician	2	Automotive Assembly	1	Automotive Assembly	NA

Trainer Certification	
Domain Certification	Platform Certification
“Automotive Assembly Assistant, ASC/Q3607, version 1.0”. Minimum accepted score is 80%.	“Trainer, MEP/Q2601 v1.0” Minimum accepted score is 80%.

## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI	Turner/Fitter	3	Automotive Assembly	1	Automotive Assembly	NA
ITI	Turner/Fitter	4	Automotive Assembly	0	NA	NA
Certificate NSQF- Level 4	Automotive Assembly Technician	3	Automotive Assembly	1	Automotive Assembly	NA

Assessor Certification	
Domain Certification	Platform Certification
<p>“Automotive Assembly Assistant, ASC/Q3607, version 1.0”.</p> <p>Minimum accepted score is 80%.</p>	<p>“Assessor; MEP/Q2701 v1.0”</p> <p>Minimum accepted score is 80%.</p>

## Assessment Strategy

1. Assessment System Overview:
  - Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
  - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
  - Assessment agency deploys the ToA certified Assessor for executing the assessment
  - SSC monitors the assessment process & records
2. Testing Environment:
  - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
  - Check the duration of the training.
  - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
  - If the batch size is more than 30, then there should be 2 Assessors.
  - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
  - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
  - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
  - Check the availability of the Lab Equipment for the particular Job Role.
3. Assessment Quality Assurance levels / Framework:
  - Question papers created by the Subject Matter Experts (SME)
  - Question papers created by the SME verified by the other subject Matter Experts
  - Questions are mapped with NOS and PC
  - Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
  - Assessor must be ToA certified & trainer must be ToT Certified
  - Assessment agency must follow the assessment guidelines to conduct the assessment
4. Types of evidence or evidence-gathering protocol:
  - Time-stamped & geotagged reporting of the assessor from assessment location
  - Centre photographs with signboards and scheme specific branding
  - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
  - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos
5. Method of verification or validation:
  - Surprise visit to the assessment location
  - Random audit of the batch
  - Random audit of any candidate
6. Method for assessment documentation, archiving, and access
  - Hard copies of the documents are stored
  - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
  - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives



## References

## Glossary

Term	Description
<b>Declarative Knowledge</b>	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
<b>Key Learning Outcome</b>	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

## Acronyms and Abbreviations

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>SOP</b>	Standard Operating Procedure
<b>WI</b>	Work Instructions
<b>PPE</b>	Personal Protective equipment