

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

NSDA Reference

To be added by NSDA

Revised by NSDA 25 May, 2015

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Aerospace & Aviation Sector Skill Council (AASSC)

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List of documents submitted in support of the Qualifications File

1. Career Map/ Progression of **Composite Repair Technician** – Refer Career Paths – 8 MRO Job Roles : Annexure 1
<C:\Users\Chetan-AASSC\Desktop\8 MRO Job Roles>
2. QP - AAS/Q2003 – [Annexure 2](#)
3. Skill Reports within the Aviation sector – [Annexure 3](#)

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SUMMARY

Qualification Title	Composite Repair Technician
Qualification Code	AAS/Q2003
Nco code and occupation	NCO-2015/NIL
Industry as per NIC	NIL
Nature and purpose of the qualification	Composite Repair Technician is responsible for machining composite parts, foams, cores, epoxy/ metallic tools, NC fixtures, check templates, composite master models.
Body/bodies which will award the qualification	AASSC (Aerospace and Aviation Sector Skill Council)
Body which will accredit providers to offer courses leading to the qualification	AASSC (Aerospace and Aviation Sector Skill Council)
Body/bodies which will carry out assessment of learners	From the list of empanelled assessment bodies reviewed over a period of time. <ol style="list-style-type: none"> 1. Skills mantra edutech consulting India Pvt.Ltd 2. India Skills Pvt Ltd 3. Cocubes technologies Private Limited 4. Asipring Minds Assessments Pt.Ltd 5. Mettl India Pvt Ltd/Induslynk Training Services Pvt Ltd 6. Formac Software Services Pvt. Ltd.
Occupation(s) to which the qualification gives access	Composite Repair Technician -Base Maintenance
Licensing requirements	-
Level of the qualification in the NSQF	4
Anticipated volume of training/learning required to complete the qualification	384 Hours
Entry requirements and/or recommendations	Minimum Educational Qualifications: Class XII (Science) Minimum Job Entry Age- Above 18 years
Progression from the qualification	Shift In Charge - Base Maintenance (Level 5)
Planned arrangements for the Recognition of Prior learning (RPL)	RPL arrangements and policies are under development
International comparability where	International comparability and country specific studies will be done at a later stage

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known
Date of planned review March 2020
of the qualification.

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Formal structure of the qualification			
Title of component and identification code.	Mandatory/ Optional	Estimated size (learning hours)	Level
1. AAS/N0502 Follow safety and security procedures	Mandatory	48	3
2. AAS/N2006 Carrying out pre-machining activities for composites	Mandatory	101	4
3. AAS/N2007 Performing different composites machining operations	Mandatory	102	4
4. AAS/N2008 Performing post machining operations for composites	Mandatory	101	4
5. ASC/N0021 Maintain 5S at the work premises	Mandatory	32	3
Add boxes as required for alignment.			

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum Document or a Qualification Pack.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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SECTION 1 ASSESSMENT

Body/Bodies which will carry out assessment:

If there will be more than one assessment body for this qualification, give details.

- From the list of empanelled assessment bodies reviewed over a period of time.

How will RPL assessment be managed and who will carry it out?

- AASSC recognises that there may be candidates who have prior learning experience in the Aviation and Aerospace sector and are desirous of being certified. Such candidates can apply to AASSC for testing and certification of their skills, and they will be allotted a training provider/TC for being tested. Documentation for such candidates will be done by the Training provider / TC. Certificates of successful candidates will be despatched to the TP/TC for distribution to them.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.

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Assessment will be based on the concept of Independent Assessors empanelled with Assessment Agencies, identified, selected, trained and certified on Assessment techniques. The assessors would be aligned to assess as per the laid down criteria.

Assessment Agency would conduct assessment only at the training centres of the Training Partner or designated testing centers authorised by AASSC.

Ideally, the assessment will be a continuous process comprising of two assessments:

1. A Mid- term assessment
2. Final / Term assessment.

Each National Occupational Standard (NOS) in the respective QPs will be assigned weightage. Therein each Performance Criteria in the NOS will be assigned marks for theory and / or practical based on relative importance and criticality of function.

This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets / question bank so created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially with regard to the practical test and the defined tolerances, finish, accuracy etc.

The following tools are proposed to be used for final assessment:

i. **Written Test:** This will comprise of (i) True / False Statements (ii) Multiple Choice Questions (iii) Matching Type Questions. Online system for this will be preferred.

ii. **Practical Test:** This will comprise a test job to be prepared as per project briefing following appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc.

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The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of his skill achievements.

iii. **Structured Interview:** This tool will be used to assess the conceptual understanding and the behavioral aspects as regards the job role and the specific task at hand.

- The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria.
- The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessments papers are also checked for the various outcome based parameters such as quality, time taken, precision, tools & equipment requirement etc. The assessment sets will be then reviewed by AASSC official for consistency.
- The assessments are designed so as to assess maximum parts during the practical hands on work. The technical limitations at the training centres are taken care in theory and viva.
- The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. The assessment agencies are instructed to ideally have assessor with minimum 15 years industry experience as an ITI graduate / minimum 10 years' industry experience as diploma engineer and minimum 5 years' industry experience as graduate engineer.
- The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to AASSC Assessment Framework, competency based assessments, assessors guide etc.
- The assessors are provided with assessors guide developed by the Subject Matter Expert of the assessment agency as per the assessment framework. The assessment guides are developed to ensure the maximum possible consistency in the assessment by different assessors and elaborate on the following
 1. Qualification Pack Structure
 2. Guidance for the assessor to conduct theory, practical and viva assessments
 3. Guidance for trainees to be given by assessor before the start of the assessments.
 4. Guidance on assessments process, practical brief with steps of operations practical observation checklist and mark sheet
 5. Viva guidance for uniformity and consistency across the batch.
- The assessment by assessment agency will be completely based on the assessment criteria as mentioned in the Qualification Pack. Each NOS in the Qualification Pack (QP) will be assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Performance Criteria in the NOS will be assigned marks for or practical based on relative importance, criticality of function and training infrastructure.

Please attach any documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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ASSESSMENT EVIDENCE

Job Role: Composite Repair Technician

Qualification Pack: AAS/Q2003

Sector Skill Council: Aerospace and Aviation Sector Skill 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 aggregate
6. The marks are allocated PC wise, however, every NOS will carry a weightage in the total marks allocated to the specific QP

Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
1 . AAS/N0502 Follow safety and security procedures	PC 1. comply with the organisation's safety and security policies and procedures	100	10	5	5
	PC 2. comply with the regulatory guidelines on safe conduct of operations and maintenance of conditions to thwart any acts of unlawful interference		10	5	5
	PC 3. report any identification breaches of safety, and security policies and procedures to the designated person		10	5	5

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Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
	PC 4. coordinate with other resource at the workplace (within and outside the organisation) to achieve safe and secure environment		20	10	10
	PC 5. identify and mitigate any safety and security hazards like illness, accidents, fires or acts of unlawful interference if ti falls within the limit of individual's authority		10	5	5
	PC 6. report any hazards outside the individual's authority to the relevant person in line with organisational procedures and regulatory guidelines		20	10	10
	PC 7. follow organisation's emergency procedures for accidents, fires or acts of unlawful interference		5	2	3
	PC 8. identify and recommend opportunities for improving health, safety, and security to the designated person		10	8	2
	PC 9. complete all health and safety records are updates and procedures well defined		5	2	3
		Total	100	52	48
2. AAS/N2006 Carrying out machining activities for composites	PC1. collect NC program with CONTROLLED COPY from supervisor	100	5	2	3
	PC2. verify part no., NC program no., & NC machining fixture no. and related revision & issue as mentioned in the route book		5	2	3
	PC3. check for NC trimming fixtures are certified and measuring instruments are calibrated		5	2	3
	PC4. sand the burrs on the component if any so that it sits on the fixture properly. Carryout manual reaming to ensure that locating pins enter in tooling holes		5	2	3
	PC5. check raw condition of the material by referring inspection report		5	2	3
	PC6. skim cut using manual programming in case of foam/ core / composite master model machining cut the block as per NC setup sheet,		5	2	3

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Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
	PC7. carry out basic maintenance of machine		5	2	3
	PC8. clean the machine bed using vacuum cleaner and wipe with cloth		5	2	3
	PC9. load the trim fixture on the machine bed after cleaning the bottom resting surface using oil stone and wipe with cloth. Ensure that there are no foreign objects present		6	3	3
	PC10. load the cutting tools in tool holders and load the holders in the tool magazine as per NC set up sheet		6	3	3
	PC11. measure the tool length and tool run-out for all tools and record in Log book. Ensure that tool run out is within the tolerance		6	3	3
	PC12. clean the trim fixture with soft cloth and apply the grease (Molykote) on the seals and wipe gently. Ensure that seals are in proper condition & position		6	3	3
	PC13. load the composite component manually or through hoist and position the same securely over the machining fixture. In case of vacuum fixture apply the vacuum, tap test, check gap using feeler gauge. Ensure vacuum pressure is minimum 700mbar. For mechanical clamping use Allen screw/ nut bolt		6	3	3
	PC14. ensure the component is well supported (Apply rerelease agent on the component and apply quick setting adhesive to fill the gap between the component and fixture)in order to avoid exit delaminating in case of drilling		6	3	3
	PC15. check & ensure correct work offset & Tool offset/Tool compensation, Tool number		6	3	3
	PC16. check regularly for the tool bluntness, edge built up & chipping of tool cutting edges		6	3	3
	PC17. check the quality of compressed air supply to the machine in order to avoid moisture ingress in composite parts/		6	3	3

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Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
	cores/foams				
	PC18. clearly understand the Dos & Don'ts of the manufacturing process as defined in SOP/work instructions or defined by supervisors		6	3	3
		Total	100	46	54
3. AAS/N2007 Performing different composites machining operations	PC1. verify part no., NC program no., & NC machining fixture no. and related revision & issue as mentioned in the route book	100	4	2	2
	PC2. check & ensure correct work offset & Tool offset/Tool compensation in case of a CNC Machine		4	2	2
	PC3. record datum's before starting and after completion of part		4	2	2
	PC4. check the sharpness of the cutting tools visually		4	2	2
	PC5. dry run all the programs with close observation for the prove out of the part. Move axes to see whether spindle is colliding with the fixture/clamps/job & adjust accordingly. In case of any abnormality consult Supervisor/ NC Programmer		3	1	2
	PC6. ensure the component is well supported in order to avoid exit delaminating in case of drilling		3	1	2
	PC7. check regularly for the tool bluntness, edge built up & chipping of tool cutting edges		3	1	2
	PC8. clearly understand the Dos & Don'ts of the manufacturing process as defined in SOP/work instructions or defined by Supervisors		3	1	2
	PC9. start the Turning/ Milling/ boring/ drilling CNC Machine for operation		3	1	2
	PC10. select the right cutting tools as per tooling instructions and as per work/Supervisor's instruction		3	1	2
	PC11. for machining activities ensure the clear understanding of the properties of the composite parts		3	1	2

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		Total Marks	Out of	Theory	Skills Practical
	PC12. ensure that the right command and programme number are entered in the CNC Machine as defined machining parameter		3	1	2
	PC13. check machine Zero & work zero before start of the machine & after power failure		3	1	2
	PC14. operate hand wheels/ control knobs in order to feed the component in case of manual machining operation		3	1	2
	PC15. use dust extraction vacuum in order to evacuate composite debris and to cool the cutting tool		3	1	2
	PC16. brush or spray lubricate material on work pieces where required		3	1	2
	PC17. take appropriate action in case of any irregularities e.g.: Power failure, rejection. Tool breakage etc.		3	1	2
	PC18. deburr the machined composite parts using emery sheets		3	1	2
	PC19. execute radio probe programme in order to inspect the component in machine itself		3	1	2
	PC20. offload the machined composite parts from the fixture/bed by using proper material handing device or by hand for small parts		3	1	2
	PC21. use proper personal protective equipment's (PPE)- Gloves, nose mask, goggles, cap, apron etc. while machining composites to ensure safety from composite dust		3	1	2
	PC22. observe machine operations to detect defects if any in the component manufactured		3	1	2
	PC23. observe the machine operations for any malfunctions and immediately inform the Supervisor/Maintenance Team of any malfunction observed to prevent damage to the machine or component		3	1	2
	PC24. ensure recording of operational data such as pressure readings, length of strokes, feed rates, speed etc. in the		3	1	2

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Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
	format specified by the Supervisor				
	PC25. ensure tool replacement as per recommended tool life in number of pieces		3	1	2
	PC26. ensure reading of key dimensions on control charts/SPC record; provide required tool offsetting with the help of supervisor on correct side based on the reading		3	1	2
	PC27. ensure checking of the dimensions during the machining process considering the stock available		3	1	2
	PC28. record the measured dimensions in the log book/control charts		3	1	2
	PC29. check all dimensions after machining as per drawing & ensuring the correct dimensions		3	1	2
	PC30. carry out any rework on the parts in case of deviations		3	1	2
	PC31. ensure only calibrated instruments & gauges are used for inspection		3	1	2
	PC32. first off proving by offering the 1st off part to the Inspector & getting it accepted before taking up the batch production		3	1	2
		Total	100	32	68
4. AAS/N2008 Performing post machining operations for composites	PC1. compare datum's after completion of part with the previous value	100	5	2	3
	PC2. deburr the machined composite parts using emery sheets		5	2	3
	PC3. cut the lugs manually. Round off sharp corners wherever required		5	2	3
	PC4. execute radio probe programme in order to inspect the component before unloading		5	2	3
	PC5. measure cut-out dimension, thickness using Verniercalliper and micrometer		10	4	6
	PC6. offload the machined composite parts from the fixture/bed by using proper material handing device or by hand for small parts		10	4	6

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		Total Marks	Out of	Theory	Skills Practical
	PC7. cover the machined component using bubble sheet		10	4	6
	PC8. clean the machine bed using vacuum cleaner and wipe with cloth		10	4	6
	PC9. switch off dust extraction system and vacuum supply after completion of machining		10	4	6
	PC10. record the measured dimensions in the log book/control charts		10	4	6
	PC11. check all dimensions after machining as per drawing & ensuring the correct dimensions		10	4	6
	PC12. carry out any rework on the parts in case of deviations		10	4	6
		Total	100	40	60
5. 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	170	30	10	20
	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		30	10	20
	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				

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		Total Marks	Out of	Theory	Skills Practical
	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				
	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 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.		30	10	20
	PC13. make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions				
	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		50	10	40
	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				

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		Total Marks	Out of	Theory	Skills Practical
	PC21. ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene				
	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 5S				
	PC25. participate actively in employee work groups on 5S and encourage team members for active participation		30	10	20
	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				
		Total	170	30	120

Means of assessment 1

Written/ Viva Exam

Means of assessment 2

On the Job Observation/ work deliverables/ record sheets for practicals

Pass/Fail

Practical: 70%

Theory: 70%

Complete a grid for each component as listed in “Formal structure of the the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.

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Title of Component:

Outcomes to be assessed	Assessment criteria for the outcome
Means of assessment 1	
Means of assessment 2 Add boxes as required.	
Pass/Fail	

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SECTION 2

EVIDENCE OF LEVEL

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OPTION A

Title/Name of qualification/component: Composite Repair Technician		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process			
Professional knowledge			
Professional skill			
Core skill			
Responsibility			

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OPTION B

Title/Name of qualification/component: Composite Repair Technician		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Process	The Composite Repair Technician role entails carrying out various types of machining operations and will be responsible for machining composite parts, foams, cores, epoxy/ metallic tools, NC fixtures, templates, composite master models	<p>The job holder is responsible for carrying out activities such as various types of machining operations and will be responsible for machining composite parts, foams, cores, epoxy/ metallic tools, NC fixtures, templates, composite master models</p> <p>This involves working in some familiar, predictable and routine situations. He will be responsible for carrying out a range of jobs where some of them will require them to make choices about the approaches that must be adopted.</p> <p>Hence, it qualifies as a Level 4 Role.</p> <p>For ex: Carrying out pre-machining activities like collect NC program with Controlled Copy from supervisor, verify part no., NC program no., & NC machining fixture no. and related revision & issue as mentioned in the route book, ensure NC trimming fixtures are certified and measuring instruments are calibrated, etc.,</p> <p>However, the job holder does not perform problem solving or supervisory role. Therefore, it does not qualify for Level 5 role.</p> <p>At the same time, the job holder is not required to work in a limited to range of jobs under close supervision. He is also not a 'partly skilled' worker, the job role cannot be pegged at level 3. As the job role holder is expected to work in a familiar, predictable, routine situation of clear choice, for ex., sand the</p>	4

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Title/Name of qualification/component: Composite Repair Technician		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
		<p>burrs on the component if any so that it sits on the fixture properly, carry out manual reaming to ensure that locating pins enter in tooling holes, check raw condition of the material by referring inspection report, skim cut using manual programming in case of foam/core/composite master model machining cut the block as per NC setup sheet, carry out basic maintenance of machine, clean the machine bed using vacuum cleaner and wipe with cloth etc., as mentioned in the adjacent cell, the job role cannot be pegged at level 3.</p> <p>Hence NSQF level should be 4.</p>	
Professional knowledge	<p>The user/ individual on the job needs to know and understand how to:</p> <p>comprehend the organisation's safety and security policies and procedures, comprehend the regulatory guidelines on safe conduct of operations and maintenance of conditions to thwart any acts of unlawful interference, report any identified breaches of safety, and security policies and procedures to the designated person, coordinate with other resources at the workplace (within and outside the organisation) to achieve safe and secure environment, identify and mitigate any safety and security hazards like illness, accidents, fires or acts of unlawful interference if it falls within the limits of individual's authority, report any hazards outside the individual's authority to the relevant</p>	<p>The job holder is expected to have factual knowledge of the field of Composite Repair.</p> <p>For ex: Knowledge of composite materials, different types of machining processes, different types of cutting tools, NC machining fixtures, used in the machining process and their identification, reading of engineering drawings / setup sheets, Etc,</p> <p>Since all the above mentioned areas are commensurate to the level 4 professional knowledge, the role qualifies for Level 4.</p> <p>As the job holder required to possess professional knowledge higher than basic facts, processes in the field etc., therefore it cannot be pegged at level 3.</p>	4

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NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	person in line with organisational procedures and regulatory guidelines, follow organisation's emergency procedures for accidents, fires or acts of unlawful interference, identify and recommend opportunities for improving health, safety, and security to the designated person, complete all health and safety records are updates and procedures well defined etc.,	For ex: Knowledge in fundamentals of machines & mechanics, how to read machine drawing and machining the part to create the output as defined in the machine drawing, all functions of CNC Machine, safety features, preliminary checking of the CNC Machine, interpretation of CNC programmes, tool presenter, CNC Tool holders and CNC Controllers etc., Therefore, it cannot be pegged at level 3 and ideally fit as a level 4 Job Role.	
Professional skill	The user/individual on the job needs to know and understand how to: make decisions on a suitable course of action or response if permitted by the authority matrix, plan, organise & prioritise the job received from the Production Manager, validate all the process/equipment manuals so that the final process selection is correct, support the supervisor in scheduling tasks for timely completion of the job, , communicate with stakeholders in a courteous manner, maintain cordial working relationship with the customers, skilled in identifying the faults/ snags of Aircraft/ helicopter by using flowcharts/ drawings, skill in operating the aircraft/ helicopter ground support equipments, skilled in analyzing the faults using engineering tools, skill in using tools and instruments for airborne hardware and software, monitor efficient functioning of all activities, plan and organize work to achieve targets and deadlines, communicate with passengers and other stakeholders in a	The job holder is expected to carry out routine and repetitive activities in a narrow range of application, using appropriate rule and tool. For instance: The job holder has to make decisions on a suitable course of action or response if permitted by the authority matrix, plan, organise & prioritise the job received from the Production Manager, validate all the process/equipment manuals so that the final process selection is correct, support the supervisor in scheduling tasks for timely completion of the job, communicate with stakeholders in a courteous manner, etc., These activities are mostly repetitive and have a narrow range of application, hence qualifying the role for a Level 4. As the job does not require to recall and demonstrate practical skill, routine and repetitive in narrow range application.	4

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Title/Name of qualification/component: Composite Repair Technician		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>courteous manner, maintain cordial work relationship, identify trends/common causes for errors and suggest possible solutions to the supervisor / management, analyses best possible solutions (cost, time, effort, etc.) suited for operations, concentrate on task at hand and complete it without errors, apply balanced judgments to different situations, skill in using special test equipments, testing and troubleshooting and repair techniques acquired from experience or on training with necessary safety precaution, skill in calibration of various LRUs & flight sensors and make necessary corrections, analyse best possible solutions (cost, time, effort, etc.) suited for operations, analyse, evaluate and apply information gathered from observation, experience, reasoning or communication to act efficiently, use common sense and make judgments during day to day basis, use reasoning skills to identify and resolve basic problems using 5S, persuade co team members to follow 5 S, ensure that the co team members understand the importance of using 5 S tool, use innovative skills to perform and manage 5 S activities at the work desk and the shop floor, exhibit inquisitive behaviour to seek feedback and question on the existing set patterns of work, do what is right, not what is a popular practices, follow shop floor rules& regulations and avoid deviations; make 5S an integral way of life, ensure self-cleanliness on a daily basis, demonstrate the will to keep the work area in a clean and orderly manner</p>	<p>For ex: Recognise a work place problem or a potential problem and take action, determine problems needing priority action, gather information and provide assistance as required to solve problems, refer problems outside area of responsibility to approach person etc.,</p> <p>Here the job holder has to use appropriate rules and tools to perform his role, this role does not fit at level 3 but at level 4.</p>	

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Title/Name of qualification/component: Composite Repair Technician		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Core skill	<p>The user/individual on the job needs to know and understand how to:</p> <p>complete accurately well written report in English language detailing the situations of emergency with attention to detail, read instructions/guidelines/procedures/rules, listen to and orally communicate information with all concerned, document the available information, note down observations in the given format, write information documents to concerned departments/teams under guidance of supervisor, enter the information in Inspection record sheets, relevant registers etc, read and interpret engineering drawings, electrical wiring diagrams, flow charts, read and interpret engineering parameters, engineering data, engineering symbols, engineering specification, operation and maintenance manuals, effectively discuss and communicate regarding Targets, activities, processes etc with supervisor and co-workers, question Supervisor in order to understand the nature of problem, write basic level notes and observations, note down observations (if any) related to the process, write information documents to internal departments/ internal teams, read 5S instructions put up across the plant premises, effectively communicate information to team members inform employees in the plant and concerned functions about 5S, question the process head in order to understand the 5S related issues, attentively listen with full attention and comprehend the information given by the speaker during 5S training programs.</p>	<p>The job holder is expected to complete accurate, complete accurately well written report in English language detailing the situations of emergency with attention to detail, read instructions/ guidelines/ procedures/rules, listen to and orally communicate information with all concerned, document the available information, note down observations in the given format, write information documents to concerned departments/teams under guidance of supervisor, enter the information in Inspection record sheets, relevant registers etc., read and interpret engineering drawings, sketches and symbols used, read the organisation/manufacturer manuals and process documents. Hence, this role qualifies for Level 4.</p> <p>As the job holder requires core skills of language, written and oral to communicate with required clarity, read instructions/guidelines and communicate higher than requiring core skills of language, written and oral to communicate with minimum clarity, therefore it cannot be pegged at level 3.</p>	4
Responsibility	<p>The customer service executive is responsible for</p> <ul style="list-style-type: none"> Follow safety and security procedures Carrying out pre-machining activities for composites Performing different composites machining operations 	<p>The job holder is responsible for only own work and learning. S/he is a skilled worker who carries out work activities of</p> <p>Follow safety and security procedures, carrying out pre-</p>	4

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Title/Name of qualification/component: Composite Repair Technician			Level: 4
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> Performing post machining operations for composites Maintain 5S at the work premises 	<p>machining activities for composites, Performing different composites machining operations, performing post machining operations for composites and Maintain 5S at the work premises. Hence, this role qualifies for Level 4. It does not comprise of any supervisory activities.</p> <p>As this job is about having responsibility for own working and learning. For ex: Carrying out pre-machining activities for composites, performing different composites machining operations etc., Therefore it cannot be pegged at level 3.</p>	

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SECTION 3

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

- Feedback from the industry was collected with respect to the past and projected industry growth, projected employee growth and Industry requirement is 7.
- During the industry interactions carried out while creating occupational maps and prioritisation of job roles for QP development, the mentioned qualification was indicated as a key requirement by the industry. The expert group / Subcommittee of QP-NOS shared the final approval for the development of the role. The Qualification has been validated by leading associations and companies like such as MRO Association of India , Air India Engineering Services Ltd, Hindustan Aeronautics Ltd, GMR Aero Technic Ltd, Airworks, Aman Aviation , Varman Aviation, Haveus Aerotech
- In addition, various skill reports project the demand of the skilled workforce and the projected industry growth of the Aviation industry in India.
- Demand assessed through Industry – Stakeholder interaction.
- Evidence of the qualification is supported by validations. The complete list of validating companies has been enclosed as an annexure to the Q- File.

What is the estimated uptake of this qualification and what is the basis of this estimate?

- Occupation Map and Industry feedback for the skill gap between the industry demand and institutional supply provide the basis for estimated uptake. This is the basis for planning training with the industry and training providers.
- Estimated No. of people for this job role is 1836 until the year 2025

What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?

- The qualification discussed above is checked for any duplication across sectors. Given the qualification is niche to Airline sector, there is no duplication or pre-existing qualifications.
- The QP has been compiled keeping in mind the industry requirements and review existing QP-NOS

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

- Employee & employer feedback will be sought after placement.
- A review will happen after three-year period, the comments and feedback after which will be incorporated in the next/updated QP NOS.

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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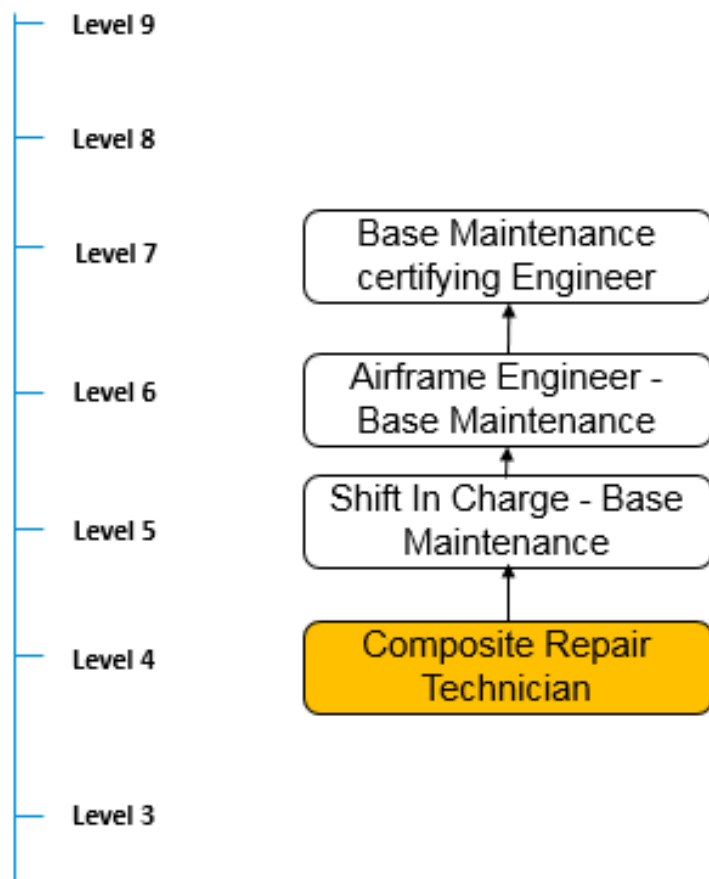
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SECTION 4

EVIDENCE OF PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

- While designing the National Occupational Standards, occupational mapping was done on a large sample size and validated across the country. The career progression for roles in each occupation was also analysed and decided, based on industry validation across the country. The current challenges faced by the industry, at large was also kept in mind.



Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

Annexure 1 : Career path of Composite Repair Technician in **AASSC_QRC presentation_final_MRO.ppt**

Annexure 2: QP- NOS: **AAS/Q2003_Composite Repair Technician**

Annexure 3 : Refer Folder- **Skill Demand Reports.**

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