



# Asst. Fitter - Levelling, Alignment & Balancing

QP Code:ISC/Q0905

Version: 2.0

NSQF Level: 3

Indian Iron and Steel Sector Skill Council || Karigari Bhawan 5th Floor, Room No-509  
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## Contents

ISC/Q0905: Asst. Fitter - Levelling, Alignment & Balancing.....	3
<i>Brief Job Description</i> .....	3
Applicable National Occupational Standards (NOS) .....	3
<i>Compulsory NOS</i> .....	3
<i>Qualification Pack (QP) Parameters</i> .....	3
ISC/N0008: Use basic health and safety practices at the work place .....	5
ISC/N0009: Work effectively with others .....	11
ISC/N0926: Prepare for levelling, alignment and balancing work .....	15
ISC/N0927: Carryout the operation of levelling, balancing and alignment.....	19
ISC/N0928: Perform post-repairing activities.....	23
Assessment Guidelines and Weightage.....	27
Assessment Guidelines .....	27
Assessment Weightage .....	27
Acronyms .....	28
Glossary .....	39

## ISC/Q0905: Fitter - Levelling, Alignment and Balancing

### Brief Job Description

The individual in this role performs checking and correction of levelling, alignment and balancing of rotary equipment.

### Personal Attributes

The person should be patient, organised, team-oriented and have the ability to work for long hours in adverse conditions. They must be able to plan and prioritise tasks effectively and have an eye for detail and quality.

### Applicable National Occupational Standards (NOS)

#### Compulsory NOS:

1. [ISC/N0008: Use basic health and safety practices at the work place](#)
2. [ISC/N0009: Work effectively with others](#)
3. [ISC/N0926: Prepare for levelling, alignment and balancing work](#)
4. [ISC/N0927: Carryout the operation of levelling, balancing and alignment](#)
5. [ISC/N0928: Perform post-repairing activities](#)

### Qualification Pack (QP) Parameters

<b>Sector</b>	Iron & Steel
<b>Sub-Sector</b>	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
<b>Occupation</b>	Mechanical Maintenance
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7233.0100
<b>Minimum Educational Qualification &amp; Experience</b>	8th Class Pass with 1 year of relevant experience Or 10th Class Pass OR Level 2 (Iron and Steel - Plant Assistant) with 1 year of relevant experience

<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	NA
<b>NSQC Approval Date</b>	
<b>Version</b>	2.0

## ISC/N0008: Use basic health and safety practices at the workplace

### Description

This OS unit is about following safety and adopting sustainable practices for optimising use of resources.

### Scope

The scope covers the following :

- Maintain safe and secure working environment
- Emergencies, rescue and first aid procedures
- Health and hygiene
- Housekeeping and waste management
- Material and energy conservation

### Elements and Performance Criteria

#### *Maintain safe and secure working environment*

To be competent, the user/individual on the job must be able to:

- PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace
- PC2. follow safe working practices while dealing with hazards to ensure safety of self and others
- PC3. use appropriate protective clothing/equipment for specific tasks and work
- PC4. follow appropriate safety practices while working in and around trenches, elevated places and confined areas
- PC5. lift heavy objects safely using correct procedures
- PC6. carry out routine check of the machine for identifying potential hazards
- PC7. report any identified breaches in health, safety and security policies and procedures to the designated person

#### *Emergencies, rescue and first aid procedures*

To be competent, the user/individual on the job must be able to:

- PC8. use appropriate type of fire extinguisher
- PC9. apply appropriate rescue techniques during fire hazard
- PC10. provide appropriate first aid procedure to victims wherever required eg.in case of bleeding, burns, choking, electric shock etc.
- PC11. follow emergency procedures such as raising alarm, safe evacuation etc.
- PC12. attend safety training and fire drills to respond promptly during an emergency

#### *Health and hygiene*

To be competent, the user/individual on the job must be able to:

- PC13. follow regular cleaning and disinfection practices at work place using appropriate techniques and materials

PC14. follow hand hygiene practices at work place using appropriate techniques and materials

PC15. report regarding the contagious illness of self or people in close contact

PC16. avoid contact with ill people and self-isolate in a similar situation

#### *Housekeeping and waste management*

To be competent, the user/individual on the job must be able to:

PC17. follow the fundamentals of 5S for housekeeping

PC18. ensure good housekeeping in order to prevent hazards and accidents

PC19. store the material, tools and equipment in the correct location and in good condition

PC20. segregate waste into different categories

PC21. identify recyclable, non-recyclable and hazardous waste

PC22. dispose non-recyclable, recyclable and reusable waste appropriately at identified location

#### *Material and energy conservation*

To be competent, the user/individual on the job must be able to:

PC23. identify ways to optimize usage of material in various tasks/activities/processes

PC24. check for spills/leakages in various tasks/activities/processes

PC25. plug spills/leakages and escalate to appropriate authority if unable to rectify

PC26. check if the equipment/machine is functioning normally before commencing work and rectify wherever required

PC27. ensure electrical equipment and appliances are properly connected and turned off when not in use

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

KU1. organisation procedures for health, safety and security, individual role and responsibilities in this context

KU2. the organisation's emergency procedures for different emergency situations and the importance of following the same

KU3. evacuation procedures for workers and visitors

KU4. how and when to report hazards

KU5. potential hazards, risks and threats based on the nature of work

KU6. preventative and remedial actions to be taken in case of exposure to toxic material

KU7. various types of fire extinguisher

KU8. various types of safety signs and their meaning

KU9. appropriate first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.

KU10. relevant standards, procedures and policies related to 5S followed in the company

KU11. the various materials used and their storage norms

KU12. efficient utilisation of material and water

- KU13. basics of electricity and prevalent energy efficient devices
- KU14. common practices of conserving electricity
- KU15. categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics
- KU16. usage of different colors of dustbins
- KU17. waste management techniques

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1. read safety instructions/guidelines
- GS2. modify work practices to improve them
- GS3. ask for clarifications from superior about the job requirement
- GS4. work with supervisors/team members to carry out work related tasks
- GS5. complete tasks efficiently and accurately within stipulated time
- GS6. inform/report to concerned person in case of any problem
- GS7. make timely decisions for efficient utilization of resources
- GS8. write reports such as accident report, in at least English/regional language
- GS9. be punctual and utilize time efficiently

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain safe and secure working environment</i>	<b>10</b>	<b>14</b>	-	<b>6</b>
PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace	2	2	-	1
PC2. follow safe working practices while dealing with hazards to ensure safety of self and others	2	3	-	1
PC3. use appropriate protective clothing/ equipment for specific tasks and work	1	2	-	1
PC4. follow appropriate safety practices while working in and around trenches, elevated places and confined areas	2	1	-	-
PC5. lift heavy objects safely using correct procedures	1	2	-	1
PC6. carry out routine check of the machine for identifying potential hazards	1	2	-	1
PC7. report any identified breaches in health, safety and security policies and procedures to the designated person	1	2	-	1
<i>Emergencies, rescue and first aid procedures</i>	<b>6</b>	<b>9</b>	-	<b>5</b>
PC8. use appropriate type of fire extinguisher	1	1	-	1
PC9. apply appropriate rescue techniques during fire hazard	1	2	-	1
PC10. provide appropriate first aid procedure to victims wherever required eg. in case of bleeding, burns, choking, electric shock etc.	2	2	-	1
PC11. follow emergency procedures such as raising alarm, safe evacuation etc.	1	2	-	1
PC12. attend safety training and fire drills to respond promptly during an emergency	1	2	-	1
<i>Health and hygiene</i>	<b>2</b>	<b>6</b>	-	<b>2</b>
PC13. follow regular cleaning and disinfection practices at work place using appropriate techniques and materials	1	2	-	1



PC14.follow hand hygiene practices at work place using appropriate techniques and materials	1	2	-	1
PC15.report regarding the contagious illness of self or people in close contact	-	1	-	-
PC16.avoid contact with ill people and self-isolate in a similar situation	-	1	-	-
<i>Housekeeping and waste management</i>	<b>7</b>	<b>12</b>	-	<b>5</b>
PC17.follow the fundamentals of 5S for housekeeping	2	3	-	2
PC18.ensure good housekeeping in order to prevent hazards and accidents	1	2	-	-
PC19.store the material, tools and equipment in the correct location and in good condition	1	2	-	-
PC20.segregate waste into different categories	1	2	-	1
PC21.identify recyclable, non-recyclable and hazardous waste	1	1	-	1
PC22.dispose non-recyclable, recyclable and reusable waste appropriately at identified location	1	2	-	1
<i>Material and energy conservation</i>	<b>5</b>	<b>9</b>	-	<b>2</b>
PC23.identify ways to optimize usage of material in various tasks/activities/processes	1	2	-	-
PC24.check for spills/leakages in various tasks/activities/processes	1	2	-	1
PC25.plugin spills/leakages and escalate to appropriate authority if unable to rectify	1	2	-	1
PC26.check if the equipment/machine is functioning normally before commencing work and rectify wherever required	1	2	-	-
PC27.ensure electrical equipment and appliances are properly connected and turned off when not in use	1	1	-	-
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ISC/N0008
<b>NOS Name</b>	Use basic health and safety practices at the work place
<b>Sector</b>	Iron & Steel
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	NA
<b>NSQC Clearance Date</b>	

## ISC/N0009: Work effectively with others

### Description

This OS unit is about communicating with colleagues/superiors and others, either in own work group or in other work groups within organisation.

### Scope

The scope covers the following :

- Communicate effectively with colleagues and others
- Interact with supervisor
- Follow appropriate behaviour at work place

### Elements and Performance Criteria

#### *Communicate effectively with colleagues and others*

To be competent, the user/individual on the job must be able to:

- PC1. coordinate with colleagues to share work, as per the workload in order to achieve team goals
- PC2. maintain clear communication with colleagues and others, wherever needed, through all means i.e. face-to-face, telephonic or written
- PC3. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity
- PC4. respect all colleagues and co-workers
- PC5. resolve conflicts by communicating with colleagues and other departments

#### *Interact with supervisor*

To be competent, the user/individual on the job must be able to:

- PC6. identify work requirements by receiving instructions from reporting supervisor
- PC7. escalate problems to supervisors that cannot be handled
- PC8. report the completed work
- PC9. interact with the reporting supervisor about any possible hazards and safety concerns

#### *Follow appropriate behaviour at work place*

To be competent, the user/individual on the job must be able to:

- PC10. extend help to people with Disability (PwD) at workplace, if required
- PC11. empathize with people with disability
- PC12. adopt a gender neutral behavior
- PC13. adopt responsible and disciplined behaviours at the workplace

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. the importance of effective communication and establishing good working relationships with colleagues and supervisor
- KU2. different methods of communication as per the circumstances
- KU3. importance of teamwork in organization and individual success
- KU4. various components of effective communication
- KU5. barriers to effective communication
- KU6. common reasons for interpersonal conflict
- KU7. what constitutes disciplined behaviour for a working professional
- KU8. gender concepts, issues & legislation
- KU9. organisational policies and procedures related to gender equality
- KU10. challenges faced by PWD and the ways to help them overcome the same

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1. read instructions/guidelines/procedures
- GS2. listen effectively and orally communicate information
- GS3. ask for clarification and advice from the concerned person
- GS4. maintain positive and effective relationships with colleagues
- GS5. evaluate the possible solution(s) to the problem
- GS6. spot and communicate potential areas of disruptions in the work process and report the same
- GS7. complete written work with attention to detail
- GS8. check that the work meets customer requirements

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Communicate effectively with colleagues and others</i>	<b>13</b>	<b>20</b>	-	<b>9</b>
PC1. coordinate with colleagues to share work, as per the workload in order to achieve team goals	3	5	-	2
PC2. maintain clear communication with colleagues and others, wherever needed, through all means i.e. face-to-face, telephonic or written	5	7	-	3
PC3. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity	3	4	-	2
PC4. respect all colleagues and co-workers	1	2	-	1
PC5. resolve conflicts by communicating with colleagues and other departments	1	2	-	1
<i>Interact with supervisor</i>	<b>8</b>	<b>14</b>	-	<b>6</b>
PC6. identify work requirements by receiving instructions from reporting supervisor	2	3	-	1
PC7. escalate problems to supervisors that cannot be handled	2	3	-	2
PC8. report the completed work	2	3	-	1
PC9. interact with the reporting supervisor about any possible hazards and safety concerns	2	5	-	2
<i>Follow appropriate behaviour at work place</i>	<b>9</b>	<b>16</b>	-	<b>5</b>
PC10. extend help to people with Disability (PwD) at workplace, if required	2	4	-	2
PC11. empathize with people with disability	2	4	-	1
PC12. adopt a gender neutral behavior	2	4	-	1
PC13. adopt responsible and disciplined behaviours at the workplace	3	4	-	1
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ISC/N0009
<b>NOS Name</b>	Work effectively with others
<b>Sector</b>	Iron & Steel
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	NA
<b>NSQC Clearance Date</b>	

## ISC/N0926: Prepare for levelling, alignment and balancing work

### Description

This unit is about understanding the requirements of the job of fitter – levelling, balancing & alignment in accordance with the checklist and identify the tools and tackles that would be needed to carry out the job.

### Scope

This unit/task covers the following:

- Identify work requirements
- Prepare for levelling, alignment and balancing work

### Elements and Performance Criteria

#### *Identify work requirements*

To be competent, the user/individual on the job must be able to:

- PC1. identify the work to be done by interpreting the checklist, engineering drawings, work order and SOPs etc.
- PC2. interpret information from sections, views and scale of measurement used in drawing of the equipment
- PC3. identify correct limits, tolerance and fits of rotating machine by interpreting the drawings properly
- PC4. identify the tools, measuring instruments, equipment and spares required for the job
- PC5. select and arrange the right tools, measuring instruments, equipment and spares as per the SOP and job requirements
- PC6. report to stores / supervisor in case of non-availability of tools, tackles and spares

#### *Prepare for levelling, alignment and balancing work*

To be competent, the user/individual on the job must be able to:

- PC7. use appropriate Personal Protective Equipment (PPE) for safe working in workshop
- PC8. plan sequence of activities need to perform to assemble the machine
- PC9. check the tools, measuring instruments and equipment for any defects and that they are as per the required quality standards
- PC10. calibrate the tools and measuring instruments before use
- PC11. prepare tools, tackles, spares, lifting equipment etc. as per SOP/WI
- PC12. report damaged / defective components of equipment and tools as per the escalation matrix

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant standards and procedures followed in the company
- KU2. limits, fits and tolerances of the rotating equipment
- KU3. how to read engineering drawing and sketches of the equipment
- KU4. Standard Operating Procedures (SOP) recommended by OEM for using tools, tackles, equipment (spanners, steel scale, torque wrench, laser alignment equipment etc.) and measuring instruments (Vernier, Micro meter, dial gauge, filler gauge, water level, spirit level etc.)
- KU5. normal running characteristics of rotating equipment e.g. blower fan, motor, pump and gear box etc.
- KU6. levelling, alignment, static and dynamic balancing of rotating equipment
- KU7. implications of not adhering to sequence of activities and operations

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1. read work instructions, equipment manuals and process documents
- GS2. communicate the process requirements to the supervisor and co-workers
- GS3. attentively listen and comprehend the information given by the supervisor/team members
- GS4. write work related information in English/regional language
- GS5. recognise a workplace problem and take suitable action
- GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7. plan and organise work according to the work requirements
- GS8. complete the assigned tasks with minimum supervision
- GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify work requirements</i>	<b>16</b>	<b>25</b>	-	<b>11</b>
PC1. identify the work to be done by interpreting the checklist, engineering drawings, work order and SOPs etc.	1	3		1
PC2. interpret information from sections, views and scale of measurement used in drawing of the equipment	3	5		3
PC3. identify correct limits, tolerance and fits of rotating machine by interpreting the drawings properly	3	5		2
PC4. identify the tools, measuring instruments, equipment and spares required for the job	5	5		3
PC5. select and arrange the right tools, measuring instruments, equipment and spares as per the SOP and job requirements	3	5		2
PC6. report to stores / supervisor in case of non-availability of tools, tackles and spares	1	2		
<i>Prepare for levelling, alignment and balancing work</i>	<b>14</b>	<b>25</b>	-	<b>9</b>
PC7. use appropriate Personal Protective Equipment (PPE) for safe working in workshop	1	2		1
PC8. plan sequence of activities need to perform to assemble the machine	2	4		2
PC9. check the tools, measuring instruments and equipment for any defects and that they are as per the required quality standards	4	7		2
PC10. calibrate the tools and measuring instruments before use	3	5		1
PC11. prepare tools, tackles, spares, lifting equipment etc. as per SOP/WI	3	5		2
PC12. report damaged / defective components of equipment and tools as per the escalation matrix	1	2		1
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ISC/N0926
<b>NOS Name</b>	Prepare for levelling, alignment and balancing work
<b>Sector</b>	Iron & Steel
<b>Sub-Sector</b>	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
<b>Occupation</b>	Mechanical Maintenance
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	
<b>Next Review Date</b>	
<b>NSQC Clearance Date</b>	

## ISC/N0927: Carryout the operation of levelling, balancing and alignment

### Description

This NOS is about carrying out the operations of levelling, balancing and alignment for rectifying the identified problem.

### Scope

This unit/task covers the following:

- Conduct routine maintenance of rotating equipment
- Monitor and record vibration and temperature in the equipment

### Elements and Performance Criteria

#### *Conduct routine maintenance of rotating equipment*

To be competent, the user/individual on the job must be able to:

- PC1. follow the checklist and ensure all assembly check points of equipment are inspected for defects and all the observations are noted properly
- PC2. dismantle the equipment as per the SOP/WI
- PC3. check the equipment for any levelling, alignment and balancing problems and rectify them as per SOP/WI
- PC4. carry out levelling of the equipment through dial gauge, spirit level, water level etc. as per SOP/WI
- PC5. carry out the alignment of equipment manually (by dial gauge) or by machine (laser driven shaft alignment) as per SOP/WI
- PC6. check static balancing by identification of heavy point (rest at the bottom) upon slow rotation of the equipment with low friction bearings
- PC7. carry out static and dynamic balancing process by using balancing machine as per SOP/WI
- PC8. assemble back the equipment as per the SOP/WI
- PC9. set and adjust the linkages, tensions and clearances of assembled components to specified specifications by using fixed gauges and hand tools
- PC10. fasten the mechanical components/ subassemblies together by using specified screws, bolts, and collars

#### *Monitor and record vibration and temperature in the equipment*

To be competent, the user/individual on the job must be able to:

- PC11. use appropriate vibration and temperature measuring instruments to monitor the vibration and temperature in the equipment
- PC12. read the gauges and record the observations at prescribed time intervals
- PC13. analyse the readings to identify any deviations and correct them if not within the desired levels
- PC14. report any deviations to supervisor so as to take necessary actions to rectify them

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant standards and procedures followed in the company
- KU2. quality and damage checks to be done and importance of the same
- KU3. records to be maintained and implications of non-maintenance of the same
- KU4. normal running characteristics of rotating equipment
- KU5. common problems in a rotating equipment and their causes and remedies
- KU6. dismantling and assembling procedure of equipment
- KU7. Standard Operating Procedures (SOP) recommended by OEM for using tools, tackles, equipment (spanners, steel scale, torque wrench, laser alignment equipment etc.) and measuring instruments (Vernier, Micro meter, dial gauge, filler gauge, water level, spirit level etc.)
- KU8. process of levelling, alignment, static and dynamic balancing of rotating equipment
- KU9. different types of balancing like vector method, stroboscope light method (dynamic balancing) etc.
- KU10. how to check levelling, alignment and balancing of a rotating equipment
- KU11. desirable limits of temperature and vibrations in the equipment
- KU12. use of instruments i.e. thermometer and vibration measuring meter for measurement of temperature and vibration
- KU13. documentation required regarding repair, maintenance and service performed

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read signals, work instructions, equipment manuals and process documents
- GS2. communicate the process requirements to the supervisor and co-workers
- GS3. attentively listen and comprehend the information given by the supervisor/team members
- GS4. write work related information in English/regional language
- GS5. recognise a workplace problem and take suitable action
- GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7. plan and organise work according to the work requirements
- GS8. complete the assigned tasks with minimum supervision
- GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Conduct routine maintenance of rotating equipment</i>	<b>25</b>	<b>40</b>	-	<b>16</b>
PC1. follow the checklist and ensure all assembly check points of equipment are inspected for defects and all the observations are noted properly	3	3		2
PC2. dismantle the equipment as per the SOP/WI	2	3		1
PC3. check the equipment for any levelling, alignment and balancing problems and rectify them as per SOP/WI	2	5		2
PC4. carry out levelling of the equipment through dial gauge, spirit level, water level etc. as per SOP/WI	3	5		2
PC5. carry out the alignment of equipment manually (by dial gauge) or by machine (laser driven shaft alignment) as per SOP/WI	3	5		2
PC6. check static balancing by identification of heavy point (rest at the bottom) upon slow rotation of the equipment with low friction bearings	3	5		2
PC7. carry out static and dynamic balancing process by using balancing machine as per SOP/WI	3	5		2
PC8. assemble back the equipment as per the SOP/WI	2	3		1
PC9. set and adjust the linkages, tensions and clearances of assembled components to specified specifications by using fixed gauges and hand tools	3	4		1
PC10. fasten the mechanical components/ subassemblies together by using specified screws, bolts, and collars	1	2		1
<i>Monitor and record vibration and temperature in the equipment</i>	<b>5</b>	<b>10</b>		<b>4</b>
PC11. use appropriate vibration and temperature measuring instruments to monitor the vibration and temperature in the equipment	2	4		2
PC12. read the gauges and record the observations at prescribed time intervals	1	2		1
PC13. analyse the readings to identify any deviations and correct them if not within the desired levels	1	2		1
PC14. report any deviations to supervisor so as to take necessary actions to rectify them	1	2		
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ISC/N0928
<b>NOS Name</b>	Carryout the operation of levelling, balancing and alignment
<b>Sector</b>	Iron & Steel
<b>Sub-Sector</b>	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
<b>Occupation</b>	Mechanical Maintenance
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	
<b>Next Review Date</b>	
<b>NSQC Clearance Date</b>	

## ISC/N0928: Perform post-repairing activities

### Description

This NOS is about performing post-maintenance activities such as quality check, cleaning and storing.

### Scope

This unit/task covers the following:

- Conduct tests to ensure fitness of equipment
- Perform post-testing activities

### Elements and Performance Criteria

#### *Conduct tests to ensure fitness of equipment*

To be competent, the user/individual on the job must be able to:

- PC1. check the machine/electrical panels component as per the control plan, WI for proper working
- PC2. check vibrations in the equipment to ensure they are within desired limits
- PC3. conduct trials of the equipment to ensure that specified parameters are attained with no abnormalities
- PC4. record the trial results as per the organisation guidelines
- PC5. ensure that all maintenance points are adequately considered and report the superiors about maintenance activity done on the bearing

#### *Perform post-testing activities*

To be competent, the user/individual on the job must be able to:

- PC6. add lubricants and coolants into moving parts of machine as per SOP/WI
- PC7. clean and store all the tools, machine and equipment after completion of work
- PC8. check the machine operations for any malfunctions/defects in the component and inform the supervisor/maintenance team for correction
- PC9. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations
- PC10. report to the supervisor about any problems faced or anticipated during the complete process

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant standards and procedures followed in the company
  - KU2. quality checks to be done and importance of the same
  - KU3. how to conduct trial of the equipment
  - KU4. post-maintenance processes like inspection, cleaning, storage etc.
  - KU5. methods of storage and cleaning tools and equipment
  - KU6. documentation required regarding repair, maintenance and service performed
- Indian Iron and Steel Sector Skill Council

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read work instructions, equipment manuals and process documents
- GS2. communicate the process requirements to the supervisor and co-workers
- GS3. attentively listen and comprehend the information given by the supervisor/team members
- GS4. write work related information in English/regional language
- GS5. recognise a workplace problem and take suitable action
- GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7. plan and organise work according to the work requirements
- GS8. complete the assigned tasks with minimum supervision
- GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Conduct tests to ensure fitness of equipment</i>	<b>17</b>	<b>28</b>	-	<b>11</b>
PC1. check vibrations in the equipment to ensure they are within desired limits	5	8		3
PC2. conduct trials of the equipment to ensure that specified parameters are attained with no abnormalities	5	8		3
PC3. record the trial results as per the organisation guidelines	3	6		2
PC4. ensure that all maintenance points are adequately considered and report the superiors about maintenance activity done on the bearing	4	6		3
<i>Perform post-testing activities</i>	<b>13</b>	<b>22</b>		<b>9</b>
PC5. clean and store all the tools, machine and equipment after completion of work	4	7		3
PC6. check the machine operations for any malfunctions/defects in the component and inform the supervisor/maintenance team for correction	4	6		3
PC7. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations	3	5		2
PC8. report to the supervisor about any problems faced or anticipated during the complete process	2	4		1
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ISC/N0928
<b>NOS Name</b>	Perform post-repairing activities
<b>Sector</b>	Iron & Steel
<b>Sub-Sector</b>	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
<b>Occupation</b>	Mechanical Maintenance
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	
<b>Next Review Date</b>	
<b>NSQC Clearance Date</b>	

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (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 these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

**Minimum Aggregate Passing % at QP Level : 70**

### Assessment Weightage

#### Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ISC/N0008. Use basic health and safety practices at the work place	30	50	0	20	100	10
ISC/N0009. Work effectively with others	30	50	0	20	100	10
ISC/N0926. Prepare for levelling, alignment and balancing work	30	50	0	20	100	25
ISC/N0927. Carryout the operation of levelling, balancing and alignment	30	50	0	20	100	25
ISC/N0928. Perform post-repairing activities	30	50	0	20	100	30
<b>Total</b>	<b>150</b>	<b>250</b>	<b>0</b>	<b>100</b>	<b>500</b>	<b>100</b>

## Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

## Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a 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 quality of performance required.
<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.