



More skills ... more opportunities

# Professional Skills Record

## Metal Fabricator

### NOC 7263

## **ACKNOWLEDGEMENTS**

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This project is the result of the collaboration of the following dedicated adult educational consultants in Prince Edward Island:

Ruth Rogerson  
Karen Chandler  
Gaelyne MacAulay  
Karen Dempsey.

Our sincere thanks to the *Trade Essentials Advisory Committee* for their suggestions, input and ongoing support.

We also recognize the valuable contribution made by the apprentices and challengers who volunteered to participate in this research project. It is our sincere hope that they have gained as much from their participation as we have. We also hope that their contributions will assist many more tradespeople to reach their goals.

We are grateful to the assessors, tutors and classroom instructors who patiently piloted our materials and who gave back invaluable insights and advice.

All Trade Essentials materials have been validated by teams of tradespeople who hold Certificates of Qualification, Red Seal Endorsement. We gratefully acknowledge the crucial contribution made by the following team members:

Glenn Ellsworth (Automotive Service Technician)  
Cecil Banks (Automotive Service Technician)  
Scott Bagnall (Automotive Service Technician)  
Darcy MacKenzie (Automotive Service Technician)  
Elmer MacDougall (Cabinet Maker)  
Graham Hicken (Cabinet Maker)  
Gerard Lund (Carpenter)  
Leo MacDonald (Carpenter)  
Ryan Rogerson (Carpenter)  
Darren Richards (Construction Electrician)  
Mark Seaman (Construction Electrician)  
Ken Zakem (Cook)  
Rod Lukeman (Cook)

Barry Strongman (Industrial Electrician)  
Gregg Francis (Industrial Electrician)  
Jake Shaw (Machinist)  
Sue LeFort (Machinist)  
John Hebert (Metal Fabricator / Welder)  
Joe Johnson (Metal Fabricator)  
Jim Arsenault (Metal Fabricator)  
Kent Mitchell (Oil Burner Mechanic / Steamfitter-Pipefitter)  
Rod Arsenault (Oil Burner Mechanic / Refrigeration & Air Conditioning  
Mechanic)  
Kent Mitchell (Plumber)  
Scott Carter (Plumber)  
Charlie Redmond (Refrigeration & Air Conditioning Mechanic)  
Scott Lacey (Steamfitter-Pipefitter)  
Vincent Jenkins (Welder)

Thanks to the Apprenticeship Section of the PEI Department of Innovation and Advanced Learning and to the government of Canada's Pan-Canadian Innovation Initiative for financial assistance and for continuing support to trades and apprentices in Canada.



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This handbook is designed to help skilled trades Journeypersons manage the skills and learning of their Apprentices who are using a Professional Skills Record.

## 1 Why Do I Need this Handbook?

Eighty percent of all learning in a trade happens on the job. This means the apprentice has the responsibility to learn and you, as their journeyperson, have the responsibility to mentor and teach.

Signing off for the learning an apprentice has completed under your supervision is a huge responsibility. With all the skills needed in a trade, it is important that both you and the apprentice have a tool to help you record and sign off on that learning.

## 2 But We Have Logbooks

When a tradesperson registers as an apprentice in most provinces or territories in Canada, they are given a Logbook.

A Logbook:

- is issued by the apprenticeship authority within a jurisdiction
- is created from the National Occupational Analysis (NOA) in a trade
- is a list of all the general skill areas (**Blocks and Tasks**) in a trade
- records an apprentice's progress in the general skill areas of a trade
- is signed off by a journeyperson to guarantee that an apprentice is performing these tasks to Industry Standard.

A Logbook lists the Blocks and Tasks from the NOA **but** the Interprovincial Red Seal exam and trades training courses in colleges and trade schools use **all** the information in the NOA. This includes the Blocks, Tasks, **Sub-tasks and the Knowledge and Abilities** listed in the NOA.

Each apprentice needs a tool that lists **all** the skills and learning they need in their trade career. Then, if they have one employer or several employers over their entire term of apprenticeship, both the apprentice and the journeyperson know what learning has been completed:

- the journeyperson knows what skills they are signing off to verify what has been taught; and
- the apprentice knows what they need to learn to be successful in their Red Seal exam.

### **3 What is a National Occupational Analysis (NOA)?**

The Canadian Council of Directors of Apprenticeship, which is made up of managers and directors of apprenticeship from every province and territory in Canada, guides a Human Resources and Skills Development Canada (HRSDC) sponsored program to develop NOAs.

Under this partnership, joint planning committees made up of tradespeople who have a Certificate of Qualification, Red Seal endorsement from each province and territory in Canada, come together in Ottawa every four to five years to review and revise the NOA in all of the 45 skilled trades.

Each NOA is accepted as the national standard in that trade. The NOA is then used to:

- identify and group tasks performed by skilled workers in each trade in every province and territory in Canada
- group these tasks by Blocks, Tasks, Sub-tasks, Knowledge, Skills and Abilities (also called "**competencies**") required in a trade
- give information on the breakdown of questions from all sections of the NOA in the Interprovincial Red Seal exam
- create all the questions for the Red Seal exam
- create curriculum for trade school programs and Block Release/Period/Level\* programs in a trade.

\* *The in-school portion of apprenticeship has several names across Canada. In some provinces and territories it is called Block Release, in others it is called Period Training or Level.*

## 4 If there is an NOA, why do we need a Professional Skills Record (PSR)?

The NOA is designed to be used for creating curriculum and for developing test questions for the Red Seal exam.

The PSR is designed to be used by an apprentice and a journeyperson in the workplace. The PSR provides a fair and objective assessment tool to record the apprentice's learning and skills.

The PSR has been developed **with** apprentices during a three-year research project on PEI called Trade Essentials. Recommendations made by the apprentices who tested the tool have been built into the document.

The PSR was then validated by teams of tradespeople who have a Certification of Qualification, Red Seal endorsement in each trade who came together and discussed what an apprentice is expected to learn from their journeyperson in the workplace.

The apprentice has the main responsibility for completing the PSR. It is designed as a self-assessment tool so the apprentice can keep track of his/her skills and learning and make plans to fill any technical skills training gaps.

The PSR takes information from the NOA and:

- lays it out in a chart
- lists the percentage and number of questions for the Red Seal exam from each task on every page
- takes the skills from the NOA and describes them in terms of what a tradesperson does on the job, for example:
  - In the **NOA**, the skill says – “knowledge of blueprints and drawings”
  - In the **PSR**, the skill says – “read and interpret blueprints and drawings”
- has a rating chart so the apprentice can judge his/her level of learning and have it all recorded for you to review
- provides you, the journeyperson, with a tool to discuss details of an apprentice's skill areas that are great and areas that may need to improve
- helps the apprentice make a plan so he/she can improve skills
- helps you know what skills you still have to teach the apprentice.



## 5 Am I expected to teach all the skills in a PSR?

No. A PSR contains **all** the skills and learning a tradesperson has to learn over all their years as an apprentice. You, as their journeyman, can help make this tool useful by completing the sign-off on the learning and skill you know they have. Some of the ways you can assess the skills your apprentice has are:

- **OBSERVATION** – you watch them use their knowledge, skills and abilities or competencies to perform a task or sub-task

For example, you ask them to select a tool for a specific job, then watch them use that tool to do a task.

- **INTERVIEW** – you have a discussion with your apprentice to find out if they can demonstrate an understanding of what they are doing

For example, you ask them to tell you about any safety precautions that have to be followed before they start a certain task.

- **DOCUMENTATION** – an apprentice may have a document that provides proof of skills they already have. You can use the PSR to sign-off on tasks the document covers. The document or certificate could be from:

- another employer,
- a trade school or college,
- an industry training course,
- another province or territory,
- or even from another country.

For example, you need all your employees to be trained in WHMIS. A new apprentice you just hired shows you a WHMIS certificate he/she have from a job they were working on a couple of months ago in northern Canada.

Apprentices will also tell you, through their self-assessments, the best way they think they can prove the skills they have. This can help guide you, as their mentor, to choose a way to assess your apprentice that works best for both of you.

## 6 Are there any tips on how to be a good mentor to my apprentice?

Mentoring has always been the foundation of apprenticeship. In trades, a mentor is a person who has a great deal of learning and skills from experience in a trade who helps a less experienced person by guiding, teaching and sharing their skills and learning.

Along with having learning and experience in their trade, the most successful mentors are:

- **Patient** - and understand the apprentice needs time to learn and practise their skills to become as good as their mentor.
- **Organized** - and set a schedule to meet regularly with their apprentice to track their learning and make plans for new learning.
- **Positive** - and supportive in helping an apprentice tackle new learning and encourage them to keep working on skills they find difficult to learn.
- **Respectful** - so that other employees in the workplace accept the apprentice and are willing to help and encourage the new apprentice.

As a mentor, you are a role model for your apprentice. To create a successful relationship between you and your apprentice you can:

- **Lead by example.** If you set safety and quality assurance as firsts on your list each and every day, so will your apprentice.
- **Build trust.** If you want your apprentice to trust and respect you, you can show trust in them by assigning them some responsibility as soon as you see an opportunity.
- **Communicate.** Communication is a two-way street. Be willing to listen as you give directions and be available to your apprentice when they need you. Always treat every question seriously. If your apprentice has the confidence to ask, it is important to give a respectful answer.
- **Be reliable.** Your apprentices need to know they can depend on you when they run into a problem. Create supportive relationships with other employees so if you are away from the workplace, your apprentice feels confident in approaching another employee for help.

## 6.1 Tips

- **Give clear instructions.** When assigning a task and giving direction, give step-by-step instructions, then ask your apprentice to repeat the instructions. This gives them the opportunity to ask questions on things that might not be clear to them.

### Checklist for giving instructions:

- ✓ **explain the task**
  - ✓ **show them how it is done**
  - ✓ **answer their questions**
  - ✓ **oversee the work**
  - ✓ **give them time to practise**
  - ✓ **give feedback on how they are doing**
  - ✓ **take time to show them how to do the task better**
- **Give feedback.** Giving feedback often helps your apprentice to have a clear understanding of what you want them to do and how you want them to perform. The PSR helps you to give feedback because each knowledge, skills and ability (competency) statement is clear.

There are three types of feedback that work best in the workplace:

**Positive** feedback means you want your apprentice to continue what they are doing. People are motivated by hearing they are doing a good job. They usually do more and try harder.

**Constructive** feedback means you want your apprentice to change how or what they are doing. Offering support and guidance to your apprentice to make the changes you need usually brings the best results.

**Direct** feedback focuses on what you have seen, not on secondhand information. Focus on how the apprentice is doing and what you have planned for them to do.

- **Give your apprentice experience in many skills.** Sometimes apprentices end up performing the same set of skills over and over again because they are really good at them. They are required to learn the scope of the entire trade during their apprenticeship. If you have the capability, it would be helpful to take advantage of the opportunity to cover a wide range of skills by moving your apprentice from one set of skills to another on a regular basis.
- **Track and Document learning.** Every employer cannot offer an apprentice training in every skill in a trade because each workplace is unique. Some workplaces are specialists in one area of a trade.

As a journeyperson, you have the responsibility to sign off on the skills your apprentice learns under your guidance in your workplace. A PSR can help you identify those skills.

Setting a regular review date once every month or two, and keeping that time just for you and your apprentice, can increase their scope in their trade and increase their knowledge which will be an asset in the workplace.

This meeting time gives you the best opportunity to:

- monitor your apprentice's progress,
- make a plan with him/her to learn more skills, and
- find out if there are any problem areas where he/she may need help.

Regular meeting dates also help your apprentice to be prepared and able to track his/her learning. This can be done by using a Professional Skills Record (PSR).

## 7 So how do I use a Professional Skills Record (PSR) with my apprentice?

The PSR is laid out in a chart. Each skill your apprentice has to learn has an action word to tell them how they are supposed to perform a skill. It gives you a level you can use to judge whether they are performing that skill properly. **Industry standard** is the term used to describe when your apprentice can complete a task to the level and quality of performance required by industry without assistance or supervision.

When you see the words "demonstrate an understanding of," you may find it easier to ask them questions about the skill to make sure they know what they are doing.

**PROFESSIONAL SKILLS RECORD (PSR)  
JOURNEYPerson'S HANDBOOK**

Your apprentice has the responsibility to complete the "Knowledge, Skills and Abilities – Competencies" section.

When you are sure your apprentice has proven to you they have completed the learning they say they have, you verify it by initialing the sub-task.

Trade Name  IP Exam – 125 Questions  BLOCK A 5% - 6 questions on the IP  <u>Learning Category</u> OCCUPATIONAL SKILLS
<b>Task 1 – A</b> 3 questions on the IP exam  <u>Learning Outcome</u> <b>Uses and maintains tools and equipment</b>
JourneyPerson Sign-off Task 1  Complete <input style="width: 30px; height: 15px;" type="checkbox"/>  Incomplete <input style="width: 30px; height: 15px;" type="checkbox"/>



Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 1.01</b>	<b>1.01.01</b> Identify boring tools	<b>1.01.02</b> Identify hand cutting tools
<u>Learning Objective</u> <b>Uses hand tools</b>	<b>Rating</b> ___ <b>Complete</b>	<b>Rating</b> ___ <b>Complete</b>
<b>JP Sign-off</b> ___	<b>Proof</b> ___ <input style="width: 20px; height: 15px;" type="checkbox"/>	<b>Proof</b> ___ <input style="width: 20px; height: 15px;" type="checkbox"/>
	<b>Use</b> ___ <input style="width: 20px; height: 15px;" type="checkbox"/>	<b>Use</b> ___ <input style="width: 20px; height: 15px;" type="checkbox"/>



When your apprentice proves to you that he/she has finished enough sub-tasks to have a good grasp of the task, you verify that learning by initialing "complete".



If your apprentice has not completed enough sub-tasks or you do not agree with the ratings they have given themselves, initial "incomplete".

<p><b>Task I</b> <b>Learning Needs</b></p> <p><b>Sub-Tasks</b> <u>Learning Objectives</u> to be completed Comments</p>
--



If you have any sub-tasks you want your apprentice to work on, list them in this section and add any comments you have.

You might

- set a timeframe when you want these skills to improve
- suggest some manuals they could read
- suggest they go to their local college or training school for technical skills help
- suggest they go for help to an adult education facility if they need any academic help, for example, help in math or help in using the code book.

You have now created a learning plan for your apprentice using a PSR.

Your apprentice can then begin working on these sub-tasks or follow up on suggestions you have made to help them be successful in their trade career. By using a PSR, you now have a documented, written performance review that you can use in later sessions with your apprentice.

The PSR can help you give a fair assessment of your apprentice's ability to perform each technical skill task. If you are assigned an apprentice from another employer, province, territory or country, you can use the PSR to review his/her skills so you do not waste your valuable time teaching them skills they already know and can do.



# PROFESSIONAL SKILLS RECORD

A tool for recording and recognizing skills and learning of trade apprentices

## Metal Fabricator

NOC 7263

A project of:  
The Province of PEI  
and  
Human Resources and Skills Development Canada



Human Resources and  
Skills Development Canada

Ressources humaines et  
Développement des compétences Canada



Metal Fabricator  
NOC 7263





The **Professional Skills Record (PSR)** is a technical skills assessment tool designed to be used in the workplace by an apprentice and a journeyperson. The PSR has taken the content from the National Occupational Analysis (NOA) and arranged it so apprentices can use it to measure their progress in their trade from the time they sign up for apprenticeship through to Red Seal certification.

This PSR has been through a validation process with a team of trade professionals with Certificate of Qualifications, Red Seal endorsement, who reached agreement on the wording of each and every knowledge and skill (*competency*) to make it measurable.

The PSR was originally designed as a tool to help apprentices move through a Recognition for Skills and Learning (RSL) process so they can receive recognition for skills they have, no matter where they learned them. Through completion of a PSR, they can avoid relearning what they already know and can do by entering the apprenticeship Block/Period/Level in-school process at a higher level. For example, move directly into Block/Period/Level three rather than relearning Block/Period/Level One and Two.

Feedback from testing and validation of the PSR has opened many new possibilities for using this tool. The PSR can be used:

- as a tool for valid assessment in a Recognition for Skills and Learning (RSL) process
- as a tool that new Canadians and people planning to emigrate can use, to assess their skills against Canadian standards, receive recognition for skills they already have and, if necessary, make a plan to fill any technical skill gaps they may still have
- in the secondary-school system and in post-secondary trades training so students can know the full scope of the trade they are entering
- as a tool to guide journeypersons while they are mentoring apprentices so they are aware of all the skills apprentices need to learn to be fully competent in their professional trade designation.

**INFORMATION SITES:**

PROJECT SITE CANADIAN  
[www.tradeessentials.ca](http://www.tradeessentials.ca)

RED SEAL SITE  
[www.red-seal.ca](http://www.red-seal.ca)

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## Metal Fabricator Trade Information

Name: \_\_\_\_\_ Full Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Phone: Home \_\_\_\_\_ Work \_\_\_\_\_ Cell \_\_\_\_\_

## Technical Skills Journeyman Assessor/s

Name: \_\_\_\_\_ Business Name: \_\_\_\_\_  
Phone: Home: \_\_\_\_\_ Work: \_\_\_\_\_ Cell: \_\_\_\_\_ Business Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_

Name: \_\_\_\_\_ Business Name: \_\_\_\_\_  
Phone: Home: \_\_\_\_\_ Work: \_\_\_\_\_ Cell: \_\_\_\_\_ Business Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_

Name: \_\_\_\_\_ Business Name: \_\_\_\_\_  
Phone: Home: \_\_\_\_\_ Work: \_\_\_\_\_ Cell: \_\_\_\_\_ Business Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_

Apprenticeship Program Start Date \_\_\_\_\_ Completion Date: \_\_\_\_\_ Red Seal Certification Date \_\_\_\_\_

Apprenticeship Training Officer:

Signature: \_\_\_\_\_

Provincial/Territorial Apprenticeship Manager:

Signature: \_\_\_\_\_

Province/Territory: \_\_\_\_\_

## Professional Skills Record (PSR) Development

### Professional Skills Record (PSR)

The Professional Skills Record (PSR) is designed as a tool of assessment. Learning and skills are validated through the PSR when they are signed-off by a journey person in the trade in which the apprenticeship is being served.

All skills and learning assessed in this PSR are measured against the standards listed in the National Occupational Analysis (NOA). The NOA is recognized by the Canadian Council of Directors of Apprenticeship (CCDA) as the national standard for the occupation of Metal Fabricator.

### PSR Metal Fabricator Document Validation

**To conduct a reliable assessment through a formal recognition process, skills and learning statements must be measurable. To assess skills and learning using a PSR in the trades, the Knowledge, Skills and Abilities listed in the NOA have been made into measurable competency statements by adding an “action word.” This action word describes the skill and learning level which must be reached by an apprentice on the job in order to meet industry standards. Each PSR has been validated by a trades team, all of whom hold a Certificate of Qualification with Red Seal endorsement, and who reached consensus on each action word used in every knowledge, skill and ability statement.**

## Where Technical Trade Learning Happens

This Professional Skills Record (PSR) records and recognizes directly related trade technical skills and knowledge learned through:

- **Formal Learning** – structured learning that occurs in formal education and training institutions (for example, high school, trades school, apprenticeship programs, registered union and industry training programs)
- **Non-formal Learning** – learning that happens through planned, structured training or education outside the formal education system (for example, workshops, seminars, community school)
- **Informal/Experiential Learning** – learning that results from experience, occurs outside a structured environment, and is controlled by the learner (for example, experience on-the-job, volunteer work, self-study and life experiences). Informal or experiential learning must be current and essential to the trade.

*Definitions: Adopted and/or interpreted from Work-related Informal Learning: Research and Practice in the Canadian Context, CAPLA 2008*

## Academic Trade Requirement

**Trade Designation: Metal Fabricator National Occupational Classification (NOC) 7263**

One of the following prerequisites must be met before writing the Interprovincial Red Seal exam: an academic Grade 12 certificate or a General Education Diploma (GED) or successful assessment in the following Essential Skills.

Essential Skills common to all trades are listed in Appendix B of this document. Specific Essential Skills for the Metal Fabricator trade are listed on the Red Seal website: [www.red-seal.ca](http://www.red-seal.ca). (Once on that site, you will find the Essential Skills Profiles under “National Occupational Analysis.”)



## Prior Learning Assessment and Recognition (PLAR). . . Recognition for Skills and Learning (RSL)

PLAR is a formal recognition process in which a variety of tools are used to help people identify, demonstrate and receive recognition for skills and learning they have from the workplace, educational institutions, credentialing organizations or regulatory bodies.

The **Professional Skills Record (PSR)** is a tool designed to assist a trades apprentice to record skills and learning, and then receive recognition for the skills and learning through a PLAR trades process called:

### RECOGNITION FOR SKILLS AND LEARNING (RSL)

Traditionally, 80% of learning in a trade happens in the workplace. Through a **Recognition for Skills and Learning (RSL)** process, an apprentice can advance in a trade when they prove they have the required hours, skills and learning for that trade. Proof of skills and learning is **recorded** by the apprentice in a **PSR** and **verified** when signed-off by a journeyman in that trade.

Through the completion of a **PSR**, an apprentice can avoid relearning what they already know and can do. Through an **RSL** process, a trade apprentice can submit a PSR for assessment to:

- advance in Block/Period/Level in-school training by not having to complete a Block/Period/Level in which proof is provided that skills and learning have already been achieved for that Block/Period/Level.
- transfer common skills from one trade to another - **Skills and learning must be transferred prior to writing the Interprovincial Red Seal exam. The same skills and learning cannot be recognized toward certification in two trades.**
- compare skills and learning in a trade from another country to Canadian standards (**as stated in the National Occupational Analysis**) and receive recognition for the skills and learning that meet Canadian standards.



The following assessment indicators (Rating, Proof, Use) have been developed to help record and then assess skills and learning in accordance with the standards of the trade outlined in the National Occupational Analysis (NOA).

<b>Assessment Standard ONE</b>		
<b>Rating: Self-assessment performance rating in the workplace</b>		
Workplace Performance	Rating	Examples of Workplace position/s
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> <li>- to meet or shorten task timelines</li> <li>- beyond the expected level and quality of performance required by industry</li> <li>- can <b>manage, lead and train others</b> to perform this task and series of sub-tasks</li> </ul>	<b>6</b>	<b>Journeyman with a Certificate of Qualification, Red Seal endorsement and/or Gold Seal tradesperson</b> who is an expert in their field <ul style="list-style-type: none"> <li>- Project Manager/Foreman</li> <li>- Highly skilled and experienced Manager/Supervisor</li> <li>- Expert who comes from industry to serve as an instructor in a trades training program</li> </ul>
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> <li>- to meet or shorten task timelines</li> <li>- to the highest level and quality of performance required by industry</li> <li>- take the initiative to <b>respond to unexpected situations when they arise and supervise others</b></li> </ul>	<b>5</b>	<b>Highly skilled and experienced journeyman with a Certificate of Qualification, Red Seal endorsement</b> to whom co-workers turn for <b>direction and help</b>
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> <li>- to meet task timelines</li> <li>- to the <b>highest level and quality required by industry without supervision</b></li> </ul>	<b>4</b>	<b>Experienced, skilled journeyman with a Certificate of Qualification, Red Seal endorsement</b>
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> <li>- to the level and quality required by industry <b>without assistance or supervision</b></li> </ul>	<b>3</b>	<b>Newly certified journeyman Certificate of Qualification, Red Seal endorsement</b>
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> <li>- to the required level and quality of performance <b>with direction, some assistance and supervision</b></li> </ul>	<b>2</b>	<b>Apprentice working under the direction of a journeyman with a Certificate of Qualification, Red Seal endorsement</b>
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> <li>- to the required level and quality of performance <b>with assistance and constant supervision</b></li> </ul>	<b>1</b>	<b>A helper or new apprentice who must work directly under the constant supervision of a journeyman with a Certificate of Qualification, Red Seal endorsement</b>

**Proof: Self-assessment options to prove skills and learning have been achieved**

### Type of Proof – Observation ... Interview ... Documentation

#### **Observation**

When you choose “Observation” to prove that you can perform a task, the person who verifies your work must be Red Seal Certified in the trade in which you are an apprentice.

#### **Interview**

When you choose “Interview” to prove that you can perform the task, the person who verifies your work must be Red Seal Certified in the trade in which you are an apprentice. In the case of a panel, at least one person on the panel must be Red Seal Certified in the trade in which you are an apprentice.

#### **Documentation**

When you choose “Documentation” to prove that you can perform a task, the document must be from a certified training school or from an industry training course. Course content must be part of the requirements of your trade. If the document is from another country, it must be verified as equivalent to Canadian requirements in the trade.

**NOTE: Gather all your documents and keep them with your PSR.**

## Assessment Standard THREE

**Use: Self-assessment rating to help make a plan for additional learning and skill updates needed to be successful in achieving goals in a trade**

**Use of Knowledge, Skills and Abilities – 1 Daily 2 Often 3 Seldom 4 Never**

Show how often you use a skill. This will help you to know:

- ◆ what skills you do well because you do them on a regular basis
- ◆ what skills you have to update if you want to transfer to another employer or move to another province or territory
- ◆ what skills you have to get from a training school, industry program or other employer

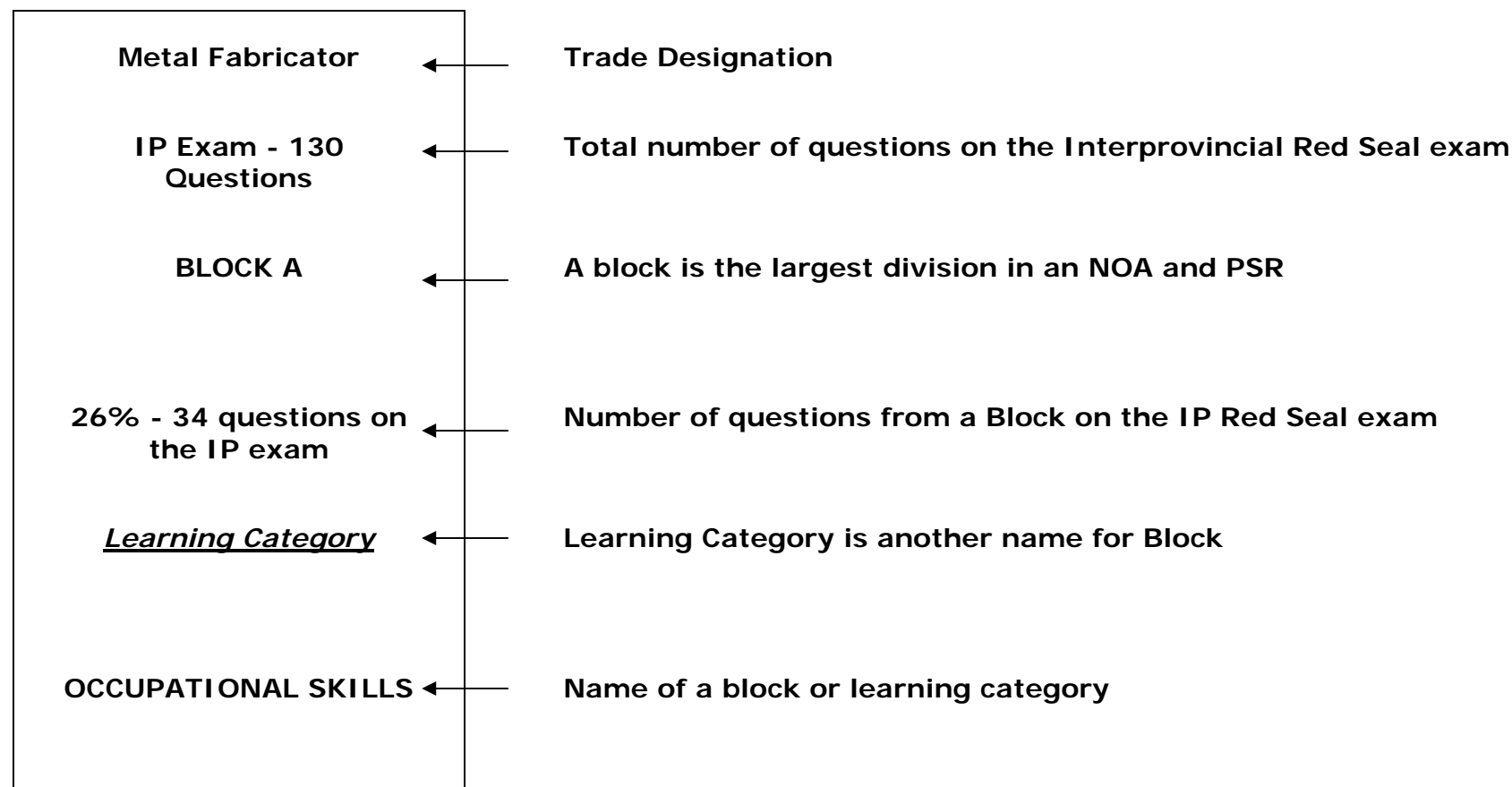
### Completing this PSR can help you:

- ◆ know the full scope of your trade by exploring all the technical skills in your trade
- ◆ highlight the skills you already have
- ◆ identify any gaps that you may have to fill so you can be successful in writing your Interprovincial Red Seal certification exam
- ◆ create a plan you can follow to fill these technical skills gaps

## Professional Skills Record (PSR) Components

Information from the National Occupational Analysis (NOA) is the foundation document for the Professional Skills Record (PSR). The PSR has been designed so that information is easily found to help a trade apprentice take control and direct his/her own individual skills and learning path.

Information in the PSR includes:



**Professional Skills Record (PSR) Components (cont'd)**

**Task 1 – A**

**8 questions on the IP exam**

*Learning Outcome*

**Maintains and uses tools and equipment**

- ← Task Number and Block/Category (letter number)
- ← Number of questions on the IP Red Seal exam from the task
- ← Learning Outcome is another name for a task
- ← Task or learning outcome description

**Journeyperson Sign-off Task 1**

Complete

Incomplete

- ← Journeyperson’s initials verify that an apprentice can perform the task to industry standards.
- ← Journeyperson’s initials indicate “incomplete” when the apprentice requires more work because the task is not being performed to industry standards.

**Professional Skills Record (PSR) Set-up (cont'd)**

**Task 1**  
**Learning Needs**

Sub-Tasks  
Learning Objectives

To be completed  
 Comments

Journeyman lists any Sub-Tasks (Learning Objectives that an apprentice must improve before they can have their Task (Learning Outcome) signed off).



**When completed, this column becomes a learning plan for the apprentice.**

**Sub-Task**  
**1.02**

Learning Objective

Maintains power tools

**JP Sign-off** \_\_\_\_\_

← Sub-Task      Number

← Learning Objective is another name for sub-task

← Sub-task or learning objective description

← Journeyman assesses and signs off when the apprentice can perform a sub-task or learning objective to industry standard

## How to Self-Assess Skills and Learning Using a PSR

For easier use, the self-assessment charts have been shortened into an assessment key which is located at the top of each two-page section in a PSR. The "3" rating is considered "Industry Standard."

- RATING:**
- 6 - Expert perform a task beyond expected level and quality of performance, lead and/or teach others
  - 5 - Highly skilled perform a task to the highest level and quality of performance, supervise others
  - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
  - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
  - 2 - Complete a task with some assistance and supervision
  - 1 - Complete task with assistance and constant supervision

**TYPE OF PROOF:**      O - Observation      I - Interview      D - Documentation

**USE:**                      1 - Daily                      2 - Often                      3 - Seldom                      4 - Never

## How to Record Skills and Learning Using a PSR

Self-assessment takes place where the learning of skills takes place in each of the Knowledge, Skills and Abilities. (Knowledge, Skills and Abilities can also be called Competencies).

### 1.02.01

Identify electric power tools such as grinders, drills and saws

← Skill and Learning that must meet industry standard.

Rating   5  

← Choose and insert a number from the RATING key that best describes your level of performance in the workplace.

Proof   I  

← Choose and insert a letter from the PROOF key that indicates your best choice to provide proof that you have this knowledge, skill and ability in the trade.

Use   2  

← Choose and insert a number from the USE key that indicates how often you use the knowledge, skills and ability (competency).

Complete



← Insert a check mark in the box to indicate completion of the competency to industry standard.

Tips to making sure you get recognition for all your skills and learning:

- take your **time** when you are working on your PSR
- do not try to complete **too much** at any one time
- be **fair and honest** with yourself; remember, this is a **self-assessment** tool
- **focus** on each task (*learning outcome*) and sub-task (*learning objective*)



**Metal Fabricator**  
**IP Exam - 130 Questions**

**BLOCK A**  
**26% - 34 Questions on the IP exam**

**Learning Category**  
**OCCUPATIONAL SKILLS**

**Task 1 - A**  
**8 questions on the IP exam**

**Learning Outcome**  
**Maintains and uses tools and equipment**

Journeyperson  
 Sign-off  
 Task 1

Complete

Incomplete

**Task 1**  
**Learning Needs**

**Sub-Tasks**  
 Learning Objectives  
 to be completed  
 Comments

**Rating:**

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

**Type of Proof:**

- O - Observation
- I - Interview
- D - Documentation

**Use:**

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> <b>1.01</b>  <u>Learning Objective</u> <b>Maintains hand tools</b>  <b>JP Sign-off</b> ____	<b>1.01.01</b> Identify types of hand tools such as hammers, files and clamps  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.01.02</b> Determine use of hand tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.01.03</b> Sharpen tools such as shipping hammers and centre punches  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.01.04</b> Remove mushroom heads from chisels  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.01.05</b> Handle and store hand tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>1.01.06</b> Recognize worn, damaged and defective hand tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
<b>SUB-TASK</b> <b>1.02</b>  <u>Learning Objective</u> <b>Maintains power tools</b>  <b>JP Sign-off</b> ____	<b>1.02.01</b> Identify electric power tools such as grinders, drills and saws  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.02</b> Identify pneumatic power tools such as grinders, needle de-scaler and drills  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.03</b> Identify hydraulic power tools such as punches and rams  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.04</b> Demonstrate an understanding of rpm rating of power tool and attachments  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.05</b> Demonstrate an understanding of and determine power tool and attachment required for use  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>1.02.06</b> Check fluids in hydraulic tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.07</b> Lubricate pneumatic tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.08</b> Check cords and switches on electric tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.09</b> Handle and store power tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.02.10</b> Recognize worn, damaged and defective power tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

**Task 1 - A  
(cont'd)**

Learning Outcome  
**Maintains and uses tools and equipment**

**Task 1  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK 1.03</b></p> <p><u>Learning Objective</u> <b>Maintains stationary machinery</b></p> <p>JP Sign-off _____</p>	<p><b>1.03.01</b> Demonstrate an understanding of and identify types of stationary machinery such as shears, drill presses, brakes and ironworkers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.02</b> Find the location of lubrication points</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.03</b> Demonstrate an understanding of and identify types of lubricants such as grease and gear oil</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.04</b> Demonstrate an understanding of and identify types of coolants</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.05</b> Demonstrate an understanding of and follow safe operating procedures (SOP) for stationary machinery</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>1.03.06</b> Clean machinery</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.07</b> Lubricate machinery</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.08</b> Check and top up coolant reservoir on drill presses and saws</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.09</b> Inspect dies and blades</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.03.10</b> Recognize worn, damaged and defective parts in stationary machinery</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>1.03.11</b> Lock out and tag out stationary machinery</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				
<p><b>SUB-TASK 1.04</b></p> <p><u>Learning Objective</u> <b>Maintains layout and measuring tools</b></p> <p>JP Sign-off _____</p>	<p><b>1.04.01</b> Identify and demonstrate an understanding of types of layout tools such as squares, dividers, levels and trammel points</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.04.02</b> Identify and demonstrate an understanding of types of measuring tools such as calipers, steel gauges and measuring tapes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.04.03</b> Check accuracy of layout and measuring tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.04.04</b> Recognize worn, damaged and defective layout and measuring tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>1.04.05</b> Handle and store layout and measuring tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>

**Task 1 - A  
(cont'd)**

Learning Outcome  
Demonstrates common trade practices

**Rating:**

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others  
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others  
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision  
**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**  
 2 - Complete a task with some assistance and supervision  
 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 1.05</b>  <u>Learning Objective</u> <b>Maintains cutting and welding equipment</b>  JP Sign-off ____	<b>1.05.01</b> Identify types of cutting equipment such as plasma and oxy-fuel  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.02</b> Identify types of welding equipment such as electrode holders, MIG gun and TIG torch  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.03</b> Identify components of cutting equipment such as regulators, tips and hoses  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.04</b> Replace lenses in welding helmets  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.05</b> Repair hoses  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>1.05.06</b> Clean and store cutting and welding equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.07</b> Change tips, diffusers and nozzles  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.08</b> Change plasma torch parts  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.05.09</b> Recognize worn, damaged and defective cutting and welding equipment and remove them from service  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
<b>SUB-TASK 1.06</b>  <u>Learning Objective</u> <b>Uses access equipment</b>  JP Sign-off ____	<b>1.06.01</b> Identify types of access equipment such as scissor lifts, scaffolding, ladders and man lifts  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.06.02</b> Obtain training and certification requirements for using access equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.06.03</b> Select PPE required for access equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.06.04</b> Demonstrate an understanding of and follow jurisdictional safety regulations regarding use of access equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.06.05</b> Inspect equipment and complete check list  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>1.06.06</b> Operate scissors lifts and man lifts  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.06.07</b> Recognize unsafe, worn, damaged and defective access equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

**Task 1 - A  
(cont'd)**

Learning Outcome  
Demonstrates common trade practices

**Task 1  
Learning Needs**

**Sub-Tasks  
Learning Objectives**  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 1.07</b>  <u>Learning Objective</u> <b>Uses personal protective equipment (PPE) and safety equipment</b> <b>JP Sign-off _____</b>	<b>1.07.01</b> Determine types of PPE such as respirators, face shields, safety boots and safety glasses  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.02</b> Determine safety equipment such as fire extinguishers and grinder guards  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.03</b> Site location of safety equipment such as first aid kits and eye wash stations  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.04</b> Demonstrate an understanding of and follow evacuation plans  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.05</b> Identify and demonstrate an understanding of shut down devices  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>1.07.06</b> Select PPE and safety equipment according to task  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.07</b> Maintain PPE and safety equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.08</b> Store PPE and safety equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>1.07.09</b> Recognize unsafe, worn, damaged and defective PPE and safety equipment and remove them from service  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	

**Task 2 - A**  
11 questions on the IP exam

Learning Outcome  
Organizes work

Journeyperson  
Sign-off  
Task 2

Complete

Incomplete

**Task 2**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Rating:**

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

**Type of Proof:**

- O - Observation
- I - Interview
- D - Documentation

**Use:**

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> 2.01  <u>Learning Objective</u> <b>Interprets plans, drawings and specifications</b>  JP Sign-off ____	<b>2.01.01</b> Identify, read and demonstrate an understanding of types of drawings such as detail, shop and blueprints  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.02</b> Differentiate between orthographic and isometric views  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.03</b> Verify types of specifications such as tolerances and material types  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.04</b> Recognize and calculate using imperial and metric systems of measurements  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.05</b> Interpret welding symbols and general notes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>2.01.06</b> Convert between imperial and metric measurements  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.07</b> Interpret types of lines such as broken, hidden, centre and section lines  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.08</b> Visualize in three dimensions  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.01.09</b> Reference piece marks on drawings and specifications  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
<b>SUB-TASK</b> 2.02  <u>Learning Objective</u> <b>Uses documentation and reference material</b>  JP Sign-off ____	<b>2.02.01</b> Demonstrate an understanding of and identify types of documents such as the quality assurance manual, word orders (job numbers), Workplace Hazardous Material Information Systems (WHMIS) materials, steel catalogues and confined space logs  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.02.02</b> Research information in the quality assurance manuals such as weld map, hydrostatic tests and pre-shipment quality checks  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.02.03</b> Locate documentation  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>2.02.04</b> Complete work documents such as time sheets, machinery checklists and progress report sheets  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	

**Task 2 - A  
(cont'd)**

Learning Outcome  
**Organizes work**

**Task 2  
Learning Needs**

**Sub-Tasks  
Learning Objectives  
to be completed  
Comments**

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK 2.03</b></p> <p><u>Learning Objective</u> <b>Communicates with others</b></p> <p>JP Sign-off _____</p>	<p><b>2.03.01</b> Demonstrate an understanding of and use trade terminology</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.02</b> Demonstrate an understanding of and use effective verbal and written communication</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.03</b> Use communication equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.04</b> Communicate with supervisors</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.05</b> Consult with colleagues</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>2.03.06</b> Communicate with other tradespeople such as electricians, industrial mechanics (millwrights) and welders</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.07</b> Use confined space communication methods</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.08</b> Use hand signals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.03.09</b> Mentor apprentices</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	
<p><b>SUB-TASK 2.04</b></p> <p><u>Learning Objective</u> <b>Organizes project tasks</b></p> <p>JP Sign-off _____</p>	<p><b>2.04.01</b> Determine task requirements such as work space, materials and supplies</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.04.02</b> Assess approximate time required to complete project tasks</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.04.03</b> Assess finished project restrictions such as the ability to remove project from the fabrication shop, crane limitations and transportation considerations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.04.04</b> Determine and organize required equipment and material</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.04.05</b> Coordinate tasks with coworkers and other trades</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>2.04.06</b> Prepare work area</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

**Task 2 - A  
(cont'd)**

Learning Outcome  
**Organizes work**

**Rating:**

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others

5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others

4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision

**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**

2 - Complete a task with some assistance and supervision

1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

**Task 2  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

<p><b>SUB-TASK 2.05</b></p> <p><u>Learning Objective</u> <b>Maintains safe work environment</b></p> <p>JP Sign-off _____</p>	<p><b>2.05.01</b> Read, demonstrate an understanding of and follow company safety policies and procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.02</b> Demonstrate an understanding of and recognize workers' rights and responsibilities</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.03</b> Obtain site-specific training requirements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.04</b> Follow housekeeping practices</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.05</b> Follow site-specific emergency procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>2.05.06</b> Identify on-site safety locations such as first aid stations, eye wash stations, muster points and fire extinguishers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.07</b> Follow disposal and recycling procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.08</b> Apply WHMIS procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.09</b> Recognize potential hazards such as heights, confined spaces, moving machinery, toxic fumes and hazardous substances</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.10</b> Prevent and report personal injury hazards</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>2.05.11</b> Participate in site orientation and safety training</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.12</b> Handle and store hazardous materials such as pickling paste, acetone and aerosols</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.13</b> Install temporary safety protection such as barriers and lockouts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.14</b> Inspect tools and equipment for damage</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>2.05.15</b> Report damaged machinery and accessories</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>

**Task 3 - A**  
**6 questions on the IP exam**

Learning Outcome  
**Performs quality assurance**

Journeyperson  
 Sign-off  
 Task 3

Complete

Incomplete

**Task 3**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
 to be completed  
 Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> <b>3.01</b>  <u>Learning Objective</u> <b>Performs visual inspections</b>  <b>JP Sign-off</b> ____	<b>3.01.01</b> Recognize types of materials such as mild steel, stainless steel and aluminium  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.01.02</b> Use tools and equipment such as squares and straight edges  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.01.03</b> Refer to drawings during visual inspection  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.01.04</b> Detect surface imperfections such as welding spatter, gouges and sharp edges  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.01.05</b> Detect material defects such as twists, deformities and scratches in stainless  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>3.01.06</b> Detect fabrication defects such as heat warpage, improper fit-up and piece alignment  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.01.07</b> Identify location of defect and recommend corrective measures  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____			
<b>SUB-TASK</b> <b>3.02</b>  <u>Learning Objective</u> <b>Verifies measurement</b>  <b>JP Sign-off</b> ____	<b>3.02.01</b> Determine measurements to be verified such as raw material, on-going dimensional checks and final product measurements  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.02.02</b> Demonstrate an understanding of the causes of changes in dimensions such as heating and cooling  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.02.03</b> Demonstrate an understanding of types of reference lines such as tangent lines, centre lines and work points  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.02.04</b> Check raw materials arriving at the shop  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.02.05</b> Select and use tools and equipment such as measuring tapes, levels, squares, protractors and dividers  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>3.02.06</b> Check dimensions of components such as stiffeners, gussets and clips  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.02.07</b> Check dimension and gauge of hold patterns  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>3.02.08</b> Check square of material using corner-to-corner dimensions and triangulation method  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____		



**Task 3 - A**  
(cont'd)

Learning Outcome  
Performs quality assurance

**Rating:**

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others  
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others  
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision  
**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**  
 2 - Complete a task with some assistance and supervision  
 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>3.03</b></p> <p><u>Learning Objective</u> <b>Performs post-welding checks</b></p> <p>JP Sign-off _____</p>	<p><b>3.03.01</b> Assess conditions to check for such as changes in dimensions, distortion, squareness and discoloration</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.03.02</b> Determine sequence of fabrication process</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.03.03</b> Identify materials such as stainless steel, aluminium and mild steel</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.03.04</b> Select and use tools and equipment such as fillet gauges, squares, measuring tapes, chalk lines and straight edges</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.03.05</b> Check for weld size and quality</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>3.03.06</b> Perform a trial fit of sub-assemblies</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.03.07</b> Identify location of defect and recommend corrective measures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			
<p><b>SUB-TASK</b> <b>3.04</b></p> <p><u>Learning Objective</u> <b>Marks materials and parts</b></p> <p>JP Sign-off _____</p>	<p><b>3.04.01</b> Demonstrate an understanding of reasons for marking material and parts such as traceability, and identification for fabrication and erection</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.04.02</b> Identify mill certifications and heat numbers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.04.03</b> Interpret company method of assigning piece marks</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.04.04</b> Refer to drawings to obtain piece marks</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>3.04.05</b> Transfer information from parent piece to cutoff and crop pieces</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>3.04.06</b> Use marking devices such as roller pens, crayon markers and stamps</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

**Task 3**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Task 3 - A**  
(cont'd)  
Learning Outcome  
**Performs quality assurance**

**Task 3**  
**Learning Needs**  
  
**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> <b>3.05</b>  <u>Learning Objective</u> <b>Verifies layout</b>  <b>JP Sign-off</b> ____	<b>3.05.01</b> Recognize layout method used  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____	<b>3.05.02</b> Implement company method of checking layout  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____	<b>3.05.03</b> Determine crucial work points to be verified  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____	<b>3.05.04</b> Check measurements, angles, orientation and slopes  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____	<b>3.05.05</b> Select and use layout equipment such as measuring tapes, dividers and protractors  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____
	<b>3.05.06</b> Refer to drawings when verifying layout  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____	<b>3.05.07</b> Use jigs and templates to verify layout  Rating ____ <b>Complete</b> Proof ____ <input type="checkbox"/> Use ____			

4 - A  
9 questions on the IP exam  
  
Learning Outcome  
Handles materials

Journeyman  
Sign-off  
Task 4  
  
Complete   
Incomplete

Task 4  
Learning Needs  
  
Sub-Tasks  
Learning Objectives  
to be completed  
Comments

**Rating:**  
6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others  
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others  
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision  
**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**  
2 - Complete a task with some assistance and supervision  
1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 4.01</b>  <u>Learning Objective</u> <b>Obtains materials</b>  JP Sign-off ____	<b>4.01.01</b> Recognize and determine types of material such as sheet and bar stock, pipe and tubing  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.01.02</b> Determine types of components such as cut-to-size pieces, flanges and elbows  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.01.03</b> Recognize grades of material  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.01.04</b> Assign storage location  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.01.05</b> Identify material required according to drawings and specifications  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>4.01.06</b> Select required amount of materials  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
<b>SUB-TASK 4.02</b>  <u>Learning Objective</u> <b>Verifies piece marks</b>  JP Sign-off ____	<b>4.02.01</b> Determine types of material  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.02.02</b> Implement company method of assigning piece marks  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.02.03</b> Cross-reference piece marks with drawings and specifications  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.02.04</b> Locate piece marks on material  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.02.05</b> Check for piece marks after painting and galvanizing  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

4 - A  
(cont'd)

Learning Outcome  
Handles materials

**Task 4**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> 4.03  <u>Learning Objective</u> <b>Determines weights</b>  JP Sign-off ____	<b>4.03.01</b> Apply mathematics as applicable to this trade  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.02</b> Identify material shapes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.03</b> Evaluate material characteristics  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.04</b> Select and use steel catalogues and calculators  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.05</b> Select and use tools and equipment such as plate gauges, load indicators, micrometers and measuring tapes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>4.03.06</b> Identify types of material  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.07</b> Visually estimate material dimensions  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.08</b> Use weight chart  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.03.09</b> Perform mathematical calculations  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
<b>SUB-TASK</b> 4.04  <u>Learning Objective</u> <b>Identifies lifting points</b>  JP Sign-off ____	<b>4.04.01</b> Identify types of material  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.04.02</b> Demonstrate an understanding of and determine types of lifting methods such as chokers and basket hitches  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.04.03</b> Assess types of rigging devices such as slings, chains and wire ropes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.04.04</b> Calculate safe lifting angles  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.04.05</b> Determine centre of gravity  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>4.04.06</b> Balance load  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>4.04.07</b> Identify weak points and potential hazards in the load  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

- Rating:**
- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
  - 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
  - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
  - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
  - 2 - Complete a task with some assistance and supervision
  - 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 4.05  <u>Learning Objective</u> <b>Operates material handling equipment</b>  JP Sign-off _____	4.05.01 Assess material weight, shape and dimension  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.02 Identify types of material handling equipment such as beam clamps, slings, forklifts, carts, conveyor rollers and dollies  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.03 Obtain certification requirements for operating material handling equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.04 Determine safe working load  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.05 Demonstrate an understanding of and follow refuelling procedures  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	4.05.06 Demonstrate an understanding of and recognize lifting device capacity  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.07 Record using log books for cranes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.08 Demonstrate an understanding of and interpret hand signals  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.09 Locate emergency stop buttons or switches  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.10 Select material handling equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	4.05.11 Transfer load using material handling equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.12 Place and use tag lines when required  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.13 Use dunnage and softeners to protect the rigging and load  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.14 Locate and interpret load charts  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	4.05.15 Recognize worn, damaged and defective material handling equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

**Task 4  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Metal Fabricator**

**BLOCK B**

**47% - 61 Questions on the IP exam**

**Learning Category**  
**FABRICATION OF COMPONENTS**

**5 - B**

**22 questions on the IP exam**

**Learning Outcome**  
**Identifies materials**

Journeyperson  
Sign-off  
Task 5

Complete

Incomplete

**Task 5 Learning Needs**

**Sub-Tasks Learning Objectives to be completed**

Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 5.01</b> <u>Learning Objective</u> <b>Performs layout</b>  JP Sign-off _____	<b>5.01.01</b> Determine types of layout methods such as parallel line development, radial line development and triangulation  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.01.02</b> Select applications for different layout methods  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.01.03</b> Interpret CAD produced layouts  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.01.04</b> Match layout method to job  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
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<b>SUB-TASK 5.02</b> <u>Learning Objective</u> <b>Performs pattern development</b>  JP Sign-off _____	<b>5.02.01</b> Determine shapes and patterns  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.02.02</b> Apply pattern development techniques  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.02.03</b> Use triangulation method of pattern development  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.02.04</b> Use radial line development  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.02.05</b> Use parallel line development  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>5.02.06</b> Use tools such as dividers, compasses and trammel points  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.02.07</b> Develop patterns to minimize waste  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

<b>SUB-TASK 5.03</b> <u>Learning Objective</u> <b>Calculates material allowances for various processes</b>  Continued next page	<b>5.03.01</b> Apply mathematics as applicable to this trade  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.02</b> Calculate bending, rolling and cutting allowances  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.03</b> Demonstrate an understanding of and determine machinery to be used and their limits  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.04</b> Read bill of materials  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.05</b> Perform mathematical calculations and use formulas to determine requirements such as stretch-out length, true length and angular measurements  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>5.03.06</b> Use charts and reference materials  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.07</b> Select and use tools and equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.08</b> Convert inside diameter (ID) or outside diameter (OD) to mean diameter (MD) in order to calculate stretch-out  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.09</b> Calculate total plate required based on stretch-out diameter and length  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>5.03.10</b> Pre-bend material before rolling  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

5 - B  
(cont'd)

Learning Outcome  
Identifies materials

Task 5  
Learning Needs

Sub-Tasks  
Learning Objectives  
to be completed  
Comments

Rating:

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

Type of Proof:

- O - Observation
- I - Interview
- D - Documentation

Use:

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>5.03</b> <b>Continued</b> <u>Learning Objective</u> <b>Calculates material allowances for various processes</b></p> <p>JP Sign-off _____</p>	<p><b>5.03.11</b> Allow for excess material necessary for rolling when pre-bending is not possible</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.03.12</b> Calculate true length of an incline based on rise and run such as used in hopper construction</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.03.13</b> Verify if plates are square</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		
<p><b>SUB-TASK</b> <b>5.04</b> <u>Learning Objective</u> <b>Determines dimensions</b></p> <p>JP Sign-off _____</p>	<p><b>5.04.01</b> Apply mathematics as applicable to this trade</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.02</b> Differentiate between running dimensions and incremental dimensions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.03</b> Demonstrate an understanding of angular dimensions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.04</b> Extract required information from drawings</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.05</b> Perform geometric calculations such as <math>a^2 + b^2 = c^2</math>, diameter of circles and areas</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>5.04.06</b> Calculate arc measurements from angular dimensions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.07</b> Use measuring and layout tools such as bevel squares and measuring tapes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.08</b> Convert between fractions and decimals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.04.09</b> Convert between imperial and metric measurements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	

5 - B  
(cont'd)

Learning Outcome  
Identifies materials

**Task 5**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>5.05</b></p> <p><u>Learning Objective</u> <b>Transfers dimensions</b></p> <p>JP Sign-off _____</p>	<p><b>5.05.01</b> Apply mathematics as applicable to this trade</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.05.02</b> Convert using both imperial and metric systems of measurements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.05.03</b> Use measuring and layout tools such as bevel squares, measuring tapes, plumb bobs and soapstones</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.05.04</b> Perform mathematical calculations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.05.05</b> Lay out incline using rise and run in both metric and imperial</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>5.05.06</b> Transfer top dead centre from one end of a cylinder to the other end using tools such as 2-foot square and 2-foot level</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.05.07</b> Determine chalk line locations such as centre lines and quarter marks</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.05.08</b> Locate work points</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		
<p><b>SUB-TASK</b> <b>5.06</b></p> <p><u>Learning Objective</u> <b>Makes templates</b></p> <p>JP Sign-off _____</p>	<p><b>5.06.01</b> Identify types of templates such as hole-punching templates, wrap-arounds, cutting templates and arc templates (sweeps)</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.06.02</b> Determine template materials such as wood, cardboard and metal</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.06.03</b> Lay out templates using manual drafting</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.06.04</b> Select and use tools to construct templates</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>5.06.05</b> Measure to required dimensions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>5.06.06</b> Mark template with information such as part numbers, layout information and material required</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				



5 - B  
(cont'd)

Learning Outcome  
Identifies materials

Task 5  
Learning Needs

Sub-Tasks  
Learning Objectives  
to be completed  
Comments

Rating:

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

Type of Proof:

- O - Observation
- I - Interview
- D - Documentation

Use:

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 5.07  <u>Learning Objective</u> <b>Assembles jigs</b>  JP Sign-off _____	5.07.01 Demonstrate an understanding of the purpose and applications of jigs  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.07.02 Apply jig construction methods  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.07.03 Determine and follow drawing specifications  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.07.04 Select material to construct jigs for specific purpose  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.07.05 Plan for release of material from jig  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	5.07.06 Select and use tools for assembling jigs  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.07.07 Fasten jig components together  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.07.08 Mark jigs with information such as part numbers, material required and previous work orders  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____		

**Task 6 - B**  
18 questions on the IP exam

Learning Outcome  
Cuts materials

Journeyperson  
Sign-off  
Task 6

Complete

Incomplete

**Task 6**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>6.01</b></p> <p><u>Learning Objective</u> <b>Cuts material using plasma cutting equipment</b></p> <p>JP Sign-off _____</p>	<p><b>6.01.01</b> Select plasma cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.02</b> Determine pressure settings</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.03</b> Determine materials that can be cut using plasma cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.04</b> Demonstrate an understanding of limitations of plasma cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.05</b> Set up plasma cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>6.01.06</b> Adjust settings on plasma cutting equipment according to material being cut</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.07</b> Select gas to be used for cutting different materials with plasma cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.08</b> Use jigs and guides during cutting operations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.01.09</b> Match tip size to thickness of plate</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	
<p><b>SUB-TASK</b> <b>6.02</b></p> <p><u>Learning Objective</u> <b>Cuts material using oxy-fuel cutting equipment</b></p> <p>JP Sign-off _____</p>	<p><b>6.02.01</b> Select oxy-fuel cutting equipment, components and consumables</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.02.02</b> Determine pressure settings</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.02.03</b> Demonstrate an understanding of and determine various gases and their properties</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.02.04</b> Determine materials that can and cannot be cut using oxy-fuel cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.02.05</b> Set up and take down oxy-fuel cutting equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>6.02.06</b> Match tip size to thickness of material</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.02.07</b> Use jigs and guides during cutting operations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.02.08</b> Recognize dangers of high pressure cylinders</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		

**Task 6 - B  
(cont'd)**

Learning Outcome  
Cuts materials

**Task 6  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Rating:**

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others  
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others  
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision  
**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**  
 2 - Complete a task with some assistance and supervision  
 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                    I - Interview                    D - Documentation

**Use:** 1 - Daily                    2 - Often                    3 - Seldom                    4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 6.03</b>  <u>Learning Objective</u> <b>Cuts material using shears</b>  JP Sign-off _____	<b>6.03.01</b> Select types of shears such as mechanical and hydraulic  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.02</b> Demonstrate an understanding of and determine capacity of shears  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.03</b> Determine types of materials that can and cannot be sheared  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.04</b> Identify and follow shear safety features  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.05</b> Select and use measuring tools  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>6.03.06</b> Place materials to be cut suing equipment such as magnets and suction cups  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.07</b> Use manual settings such as back gauges, rake angle and blade clearances  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.08</b> Operate shears using control panels  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.09</b> Set blade clearances  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.03.10</b> Utilize hold-down devices  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>6.03.11</b> Square plates  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				

**Task 6 - B  
(cont'd)**

Learning Outcome  
**Cuts materials**

**Task 6  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK 6.04</b></p> <p><u>Learning Objective</u> <b>Cuts material using saws</b></p> <p>JP Sign-off _____</p>	<p><b>6.04.01</b> Select types of saws such as band saws, chop saws and cold saws</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.04.02</b> Determine materials that can and cannot be cut with saws</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.04.03</b> Demonstrate an understanding of saw characteristics such as blade types, tooth pitch and blade thickness</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.04.04</b> Select blade types for material being cut</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.04.05</b> Select blade speed and feed rate</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>6.04.06</b> Use jigs, gauges and backstops during cutting operations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.04.07</b> Select and use coolants where applicable</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			
<p><b>SUB-TASK 6.05</b></p> <p><u>Learning Objective</u> <b>Cuts material using ironworkers</b></p> <p>JP Sign-off _____</p>	<p><b>6.05.01</b> Demonstrate an understanding of stations on ironworkers and their functions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.05.02</b> Demonstrate an understanding of and follow capacities and limitations of machine</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.05.03</b> Determine materials that can and cannot be cut, punched or notched using ironworkers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.05.04</b> Demonstrate an understanding of ironworker safety features</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.05.05</b> Select punch and die</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>6.05.06</b> Change punch and die</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.05.07</b> Set up ironworkers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>6.05.08</b> Use jigs, gauges and backstops during cutting operations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		

**Task 6 - B  
(cont'd)**

Learning Outcome  
**Cuts materials**

**Task 6  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Rating:**

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

**Type of Proof:**

- O - Observation
- I - Interview
- D - Documentation

**Use:**

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 6.06</b>  <u>Learning Objective</u> <b>Drills holes</b>  JP Sign-off ____	<b>6.06.01</b> Determine types of holes such as blind holes, countersunk holes and pilot holes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.06.02</b> Select and use drilling equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.06.03</b> Set up magnetic drill  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.06.04</b> Use templates  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.06.05</b> Select speed and feed rates  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>6.06.06</b> Select and use lubricants  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
<b>SUB-TASK 6.07</b>  <u>Learning Objective</u> <b>Cuts threads</b>  JP Sign-off ____	<b>6.07.01</b> Determine thread profiles such as national Pipe Tapered (NPT), National Coarse (NC) and National Fine (NF)  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.07.02</b> Identify internal and external threads  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.07.03</b> Recognize left- and right-handed threads  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.07.04</b> Determine drill sizes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.07.05</b> Differentiate between imperial and metric measurements  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>6.07.06</b> Select and use lubricants  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.07.07</b> Select and use threading tools and equipment such as taps, dies and pipe threaders  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.07.08</b> Select speed and feed rates  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____		

**Task 6 - B  
(cont'd)**

Learning Outcome  
Cuts materials

**Task 6  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 6.08</b>  <u>Learning Objective</u> <b>Prepares joints</b>  JP Sign-off _____	<b>6.08.01</b> Determine types of joints such as bevels, U-groove and V-groove  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.08.02</b> Identify the welding requirements of joint preparation  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.08.03</b> Interpret welding symbols  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.08.04</b> Select and use equipment for edge bevelling and grooving such as oxy-fuel cutting equipment, plasma cutters and nibblers  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>6.08.05</b> Maintain dimensional consistency throughout length  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

**Task 7 - B**  
21 questions on the IP exam

Learning Outcome  
Forms materials

Journeyperson  
Sign-off  
Task 7

Complete

Incomplete

**Task 7**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Rating:**

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

**Type of Proof:**

- O - Observation
- I - Interview
- D - Documentation

**Use:**

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>7.01</b></p> <p><u>Learning Objective</u> <b>Forms material using plate rollers</b></p> <p>JP Sign-off _____</p>	<p><b>7.01.01</b> Demonstrate an understanding of material's workability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.01.02</b> Determine types of plate rollers such as pyramid rollers and initial pinch rollers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.01.03</b> Demonstrate an understanding of limitations and capacities of plate rollers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.01.04</b> Select and use templates</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.01.05</b> Operate controls</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>7.01.06</b> Adjust machine settings such as roller spacing, parallelism and speed</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				
<p><b>SUB-TASK</b> <b>7.02</b></p> <p><u>Learning Objective</u> <b>Forms material using shape rollers</b></p> <p>JP Sign-off _____</p>	<p><b>7.02.01</b> Recognize material's workability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.02.02</b> Determine types of shape rollers such as angle rollers and tubing rollers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.02.03</b> Demonstrate an understanding of limitations and capacities of shape rollers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.02.04</b> Select and change dies</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.02.05</b> Select and use templates</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>7.02.06</b> Operate controls</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.02.07</b> Adjust machine settings such as roller spacing and speed</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

**Task 7 - B  
(cont'd)**

Learning Outcome  
**Forms materials**

**Task 7  
Learning Needs**

**Sub-Tasks  
Learning Objectives  
to be completed  
Comments**

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK 7.03</b></p> <p><u>Learning Objective</u> <b>Forms material using brake presses</b></p> <p>JP Sign-off _____</p>	<p><b>7.03.01</b> Determine types of brake presses such as hydraulic and mechanical</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.02</b> Demonstrate an understanding of capacities and limitations of brake presses</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.03</b> Demonstrate an understanding of material's workability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.04</b> Demonstrate an understanding of and calculate specific minimum bend radius for various materials</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.05</b> Demonstrate an understanding of the importance of grain direction in plate</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>7.03.06</b> Select and change dies</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.07</b> Operate controls</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.08</b> Set back gauges</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.03.09</b> Select and use templates</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	
<p><b>SUB-TASK 7.04</b></p> <p><u>Learning Objective</u> <b>Forms material using plate rollers</b></p> <p>JP Sign-off _____</p>	<p><b>7.04.01</b> Select types of benders such as manual benders, pipe benders and mandrel benders</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.04.02</b> Demonstrate an understanding of material's workability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.04.03</b> Demonstrate an understanding of capacities and limitations of benders</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.04.04</b> Set up machine</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>7.04.05</b> Select and change dies</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>7.04.06</b> Operate controls</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				



**Task 7 - B  
(cont'd)**

Learning Outcome  
**Forms materials**

**Task 7  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Rating:**

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others  
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others  
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision  
**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**  
 2 - Complete a task with some assistance and supervision  
 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 7.05</b>  <u>Learning Objective</u> <b>Applies heat for forming</b>  JP Sign-off _____	<b>7.05.01</b> Recognize materials being formed  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>7.05.02</b> Demonstrate an understanding of and follow heating requirements for forming various materials  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>7.05.03</b> Recognize indicators of temperature such as colour of heated materials  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>7.05.04</b> Identify and avoid fire hazards  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>7.05.05</b> Use jigs for forming  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>7.05.06</b> Select and use heating equipment such as induction heaters, oxy-fuel torches and ovens  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>7.05.07</b> Measure temperature of heated materials  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

**Metal Fabricator**

**BLOCK C**  
**27% - 35 Questions**  
**on the IP exam**

**Learning Category**  
**ASSEMBLY OF COMPONENTS**

**8 - C**  
**14 questions on the IP exam**

**Learning Outcome**  
**Fits and fastens sub-**  
**components and components**

Journeyperson  
 Sign-off  
 Task 8

Complete

Incomplete

**Task 8**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
 to be completed  
 Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> <b>8.01</b>  <u>Learning Objective</u> <b>Determine proper</b> <b>sequence of assembly</b>  <b>JP Sign-off</b> ____	<b>8.01.01</b> Demonstrate an understanding of and determine the importance of interpreting plans and specifications  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.01.02</b> Assess available equipment  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.01.03</b> Determine assembly constraints such as building size and equipment limits  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.01.04</b> Identify hold points  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.01.05</b> Demonstrate an understanding of and determine inspection requirements for the components  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>8.01.06</b> Visualize finished components prior to assembly  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.01.07</b> Define steps in the process  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.01.08</b> Coordinate in conjunction with others  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____		
<b>SUB-TASK</b> <b>8.02</b>  <u>Learning Objective</u> <b>Assembles sub-</b> <b>components and</b> <b>components</b>  <b>JP Sign-off</b> ____	<b>8.02.01</b> Determine and demonstrate an understanding of assembly process  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.02</b> Identify starting point  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.03</b> Work to tolerances  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.04</b> Demonstrate an understanding of materials and their characteristics  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.05</b> Determine and demonstrate an understanding of types of fastening devices such as pins, rivets bolts and slips, as well as their specifications  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>8.02.06</b> Demonstrate an understanding of and follow weld specifications and procedures  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.07</b> Select and use tools and equipment  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.08</b> Connect components together  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>8.02.09</b> Work within tolerance levels  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	

8 - C  
(cont'd)

Learning Outcome  
Fits and fastens sub-components and components

**Task 8  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

**Rating:**

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

**Type of Proof:**

- O - Observation
- I - Interview
- D - Documentation

**Use:**

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 8.03</b>  <u>Learning Objective</u> <b>Sets fabricated component in place</b>  JP Sign-off ____	<b>8.03.01</b> Interpret and follow site and company policies and procedures such as safety and orientation  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.02</b> Determine site accessibility and layout  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.03</b> Determine installation methods  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.04</b> Evaluate work to be accomplished  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.05</b> Identify existing components and vessels  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>8.03.06</b> Identify worksite hazards such as overhead wires and live units  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.07</b> Foresee possible difficulties and adapt to shifting worksite needs  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.08</b> Secure work area  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.09</b> Coordinate work with co-workers and with other trades  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.10</b> Select and use tools and equipment such as levels and plumb bobs  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>8.03.11</b> Fit, place and modify component  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.12</b> Level, plumb, orientate and shim component  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>8.03.13</b> Verify component placement  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____		

8 - C  
(cont'd)

Learning Outcome  
Fits and fastens sub-components and components

**Task 8**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>8.04</b></p> <p><u>Learning Objective</u> <b>Fastens components on site</b></p> <p>JP Sign-off _____</p>	<p><b>8.04.01</b> Evaluate work to be accomplished</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.02</b> Follow specifications and tolerances for welding and torque</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.03</b> Determine fastening methods such as bolting and welding</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.04</b> Demonstrate an understanding of and follow jurisdictional rules and certification requirements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.05</b> Determine types of bolts and pins</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>8.04.06</b> Determine and demonstrate an understanding of tools and equipment capabilities</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.07</b> Identify worksite hazards and adapt to shifting worksite needs</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.08</b> Secure work area</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.09</b> Coordinate work with co-workers and with other trades</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.10</b> Select and use tools and equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>8.04.11</b> Select and use fasteners</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.12</b> Torque bolts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>8.04.13</b> Ensure that components are welded in place</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		

9 - C  
12 questions on the IP exam

Learning Outcome  
Performs welding activities

Journeyperson  
Sign-off  
Task 9

Complete

Incomplete

Task 9  
Learning Needs

Sub-Tasks  
Learning Objectives  
to be completed  
Comments

Rating:

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

Type of Proof:

- O - Observation
- I - Interview
- D - Documentation

Use:

- 1 - Daily
- 2 - Often
- 3 - Seldom
- 4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK 9.01</b>  <u>Learning Objective</u> <b>Applies heat prior to tack welding</b>  JP Sign-off ____	<b>9.01.01</b> Determine heat sources  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.01.02</b> Calculate heat input required for task  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.01.03</b> Identify material to be heated and its characteristics  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.01.04</b> Recognize indicators of temperature such as colour of heated materials  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.01.05</b> Identify and avoid fire hazards  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>9.01.06</b> Select and use tools and equipment such as torches, blankets, temperature sticks and digital heat sensors  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.01.07</b> Measure temperature of heated materials  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____			
<b>SUB-TASK 9.02</b>  <u>Learning Objective</u> <b>Performs tack welding</b>  Continued next page	<b>9.02.01</b> Identify types of materials  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.02</b> Read and interpret drawings and specifications referring to the job at hand  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.03</b> Demonstrate an understanding of and apply jurisdictional rules and certification requirements which limit metal fabricators' tacking  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.04</b> Determine types and sizes of tacks  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.05</b> Determine sequence of tacks  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>9.02.06</b> Select welding processes used for tacking such as shielded metal arc welding (SMAW) and wire-feed processes  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.07</b> Determine welding processes to be used after tacking  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.08</b> Demonstrate an understanding of the impact of tack welding on the materials  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.09</b> Select and use welding tools and equipment  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>9.02.10</b> Understand the use of the welding process  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____

9 - C  
(cont'd)

Learning Outcome  
Performs welding activities

Task 9  
Learning Needs

Sub-Tasks  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> <b>9.02</b> <b>Continued</b> <u>Learning Objective</u> <b>Performs tack welding</b>  JP Sign-off ____	<b>9.02.11</b> Lay out tacks  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.02.12</b> Choose the welding process appropriate to the job  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.02.13</b> Recognize common defects in a tack such as cracks, porosity and slag inclusions  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.02.14</b> Remove tacks  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
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<b>SUB-TASK</b> <b>9.03</b> <u>Learning Objective</u> <b>Minimizes welding distortions</b>  JP Sign-off ____	<b>9.03.01</b> Determine and demonstrate an understanding of the causes and effects of welding distortions  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.02</b> Calculate heat input  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.03</b> Recognize types of metals and their characteristics  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.04</b> Demonstrate an understanding of latitudinal, longitudinal and transverse directions of pull  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.05</b> Determine joint design  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>9.03.06</b> Apply types of welding processes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.07</b> Recognize the impact of welding on metal  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.08</b> Demonstrate an understanding of and determine weld sizes  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.09</b> Demonstrate an understanding of , determine and apply back stepping  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.10</b> Determine allowances for distortions such as for socket welds  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>9.03.11</b> Use distortions to help achieve desired result  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.12</b> Predict how metals will react to the tacking and welding process  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.13</b> Select and use tools and equipment  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.14</b> Use restraints such as clamps and strongbacks  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.15</b> Manipulate welding processes to achieve desired result  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	<b>9.03.16</b> Apply stress removal methods such as penning, cooling and heating  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	<b>9.03.17</b> Compensate for future distortion  Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

**Task 9  
Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

- Rating:**
- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
  - 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
  - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
  - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
  - 2 - Complete a task with some assistance and supervision
  - 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                      I - Interview                      D - Documentation

**Use:** 1 - Daily                                      2 - Often                                      3 - Seldom                                      4 - Never

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK 9.04</b></p> <p><u>Learning Objective</u> <b>Welds using wire-feed processes</b></p> <p>JP Sign-off _____</p>	<p><b>9.04.01</b> Demonstrate an understanding of and follow jurisdictional rules and certification requirements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.02</b> Demonstrate an understanding of fundamentals of flux core arc welding (FCAW), gas metal arc welding (GMAW) and Metal Core Arc Welding (MCAW)</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.03</b> Determine type and thickness of base metal</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.04</b> Select power sources</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.05</b> Demonstrate an understanding of and determine direct current and polarity</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>9.04.06</b> Identify and avoid hazards such as toxic fumes associated with welding using wire-feed processes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.07</b> Identify and practice gas cylinder safety</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.08</b> Demonstrate an understanding of characteristics of shielding gases</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.09</b> Demonstrate an understanding of and identify electrodes and their characteristics</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.10</b> Demonstrate an understanding of filler metal transfer modes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>9.04.11</b> Demonstrate an understanding of amperage (wire feed speed) and voltage (wire stick out) characteristics</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.12</b> Determine and perform welding techniques</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.13</b> Determine and perform troubleshooting techniques</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.14</b> Select, set up and use welding equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.15</b> Make required adjustments to amperage, voltage and gas flow rates</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>9.04.16</b> Manipulate guns</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.17</b> Repair welding defects</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.18</b> Remove slag and spatter</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.04.19</b> Select and use ventilation equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	

9 - C  
(cont'd)

Learning Outcome  
Performs welding activities

**Task 9**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>9.05</b></p> <p><u>Learning Objective</u> <b>Corrects welding distortions</b></p> <p>JP Sign-off _____</p>	<p><b>9.05.01</b> Calculate heat input</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.02</b> Determine types of metals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.03</b> Recognize characteristics and properties of metal such as thermal, conductivity, expansion and contraction</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.04</b> Read and follow drawings and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.05</b> Determine mechanical forces required for correction</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>9.05.06</b> Identify types of distortions such as curved, twisted and peaked</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.07</b> Determine reaction</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.08</b> Recognize distortions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.09</b> Select and use tools and equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.10</b> Measure distortions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>9.05.11</b> Coordinate corrections with others</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.12</b> Recognize when problem cannot be corrected</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.13</b> Recognize when distortions do not need to be corrected</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.14</b> Improvise by selecting methods and material to help correct distortions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>9.05.15</b> Use thermal and mechanical processes to correct distortions</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>9.05.16</b> Work within tolerances</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				



**10 - C**  
**9 questions on the IP exam**

Learning Outcome  
**Prepares products for finishes**

Journeyperson  
 Sign-off  
 Task 10

Complete

Incomplete

**Task 10**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
 to be completed  
 Comments

**Rating:**

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others  
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others  
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision  
**3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**  
 2 - Complete a task with some assistance and supervision  
 1 - Complete task with assistance and constant supervision

**Type of Proof:** O - Observation                    I - Interview                    D - Documentation

**Use:** 1 - Daily                    2 - Often                    3 - Seldom                    4 - Never

Knowledge, Skills and Abilities - Competencies

<b>SUB-TASK</b> <b>10.01</b>  <u>Learning Objective</u> <b>Completes project</b>  <b>JP Sign-off</b> ____	<b>10.01.01</b> Inspect final product according to specified requirements for job  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.02</b> Determine types of finishes  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.03</b> Recognize types of material that do not require additional finishing such as stainless steel and aluminium  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.04</b> Ensure that welds are profiled as per specifications  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.05</b> Select and use tools and equipment  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	<b>10.01.06</b> Finish weldments and other pieces by removing burrs and sharp corners  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.07</b> Chemically or mechanically clean weldments and other pieces, removing oils and undesirable materials  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.08</b> Fill and blend surface blemishes such as plate clamp gouges, arc splashes and miscellaneous defects  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.09</b> Ensure that weld spatter and slag are removed  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	<b>10.01.10</b> Protect and secure project using methods such as installing protective covers, wrapping in bubble wrap and tarping  Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____

10 - C  
(cont'd)

Learning Outcome  
Prepares products for finishes

**Task 10**  
**Learning Needs**

**Sub-Tasks**  
Learning Objectives  
to be completed  
Comments

Knowledge, Skills and Abilities - Competencies

<p><b>SUB-TASK</b> <b>10.02</b></p> <p><u>Learning Objective</u> Prepares material for finishing</p> <p>JP Sign-off _____</p>	<p><b>10.02.01</b> Inspect final product according to specified requirements for job</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.02</b> Determine types of finishes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.03</b> Select finishing processes such as painting, galvanizing and pickling</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.04</b> Identify specifications for finishes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.05</b> Ensure that welds are profiled as per specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>10.02.06</b> Sort assemblies for specific finishes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.07</b> Select and use tools and equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.08</b> Prepare weldments and other pieces by removing burrs and sharp corners</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.09</b> Chemically or mechanically clean weldments and other pieces, removing oils and undesirable materials</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.10</b> Fill and blend surface blemishes such as plate clamp gouges, arc splashes and miscellaneous defects</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p><b>10.02.11</b> Ensure that weld spatter and slag are removed</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.12</b> Identify areas not to be finished</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.13</b> Protect tagging system to ensure traceability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p><b>10.02.14</b> Prepare weldments for galvanizing by providing air bleeds and drain holes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	

# APPENDIX A

## METAL FABRICATOR NATIONAL OCCUPATIONAL ANALYSIS GLOSSARY OF TERMS

Arc templates (sweep)	A template used for verifying the inside radius of material being rolled
Back stepping	A welding sequence designed to minimize distortion by welding short distances, from a forward point back to the previous weld
Base metal	The metal that is being welded
Bender	Equipment used to bend tube, pipe or rod; some types include mandrel benders, tube benders and manual benders
Brake press	Stationary equipment used to bend metal sheet plate
Computer Numerical Control (CNC)	A control system in which numerical values corresponding to a desired tool or control positions are generated by a computer/computer program
Detail drawings	The transferring of information from a customer supplied drawing into detailed drawings to simplify the manufacturing of custom steel fabricated components
Dunnage	Wood or other materials used to support or protect components
Ferrous	Containing iron
Filler metal	The metal that is added to the base metal through the welding process

Galvanizing	A metallurgical process done to coat steel with another metal (usually zinc) to prevent corrosion)
Heat numbers	Reference numbers applied to materials at time of manufacture; used for traceability
Induction heater	Type of heating equipment that generates heat by creating an electromagnetic field
Ironworker	Stationary equipment used to perform a number of tasks including plate and bar shearing, coping and mitring of structural shapes, punching, bending and notching operations
Jig	A device used to position and hold parts for assembly and repetitive assemblies
Layout	The process of transferring lines, centres, and other informative markings from the blueprint
Material allowance	Total overall amount of material required to fabricate the part including any extra material required for the process
Mean diameter	The inside diameter plus one material thickness or outside diameter minus one material thickness; also called neutral diameter
Metallurgy	Science of the chemistry and physical properties of metals
Notching	A shearing process done to remove a small notch of material (usually with an ironworker)
Oxy-fuel cutting	Cutting that uses the flame of an oxy-fuel torch and high pressure stream of oxygen
Piece marks	Numbers and letters that identify a sub-component or a component used to locate the piece on the assembly
Plasma cutting equipment	Equipment used to cut ferrous and non-ferrous metals by superheated gas; the heat is generated by an electrical arc, turning the gas into plasma
Plate roller	Stationary equipment used to roll metal sheet plate into cylinders or curved sections
Polarity	The direction in which the direct current is flowing through the arc; either straight or reverse

Quality assurance	System of verifications to ensure that manufactured items conform to standards and specifications
Shape roller	Stationary equipment used to roll metal shapes such as angle iron, tubing and channel
Shears	Stationary equipment used to cut metal sheet plate
Slag	The residue produced when welding or cutting
Softeners	Material used to protect rigging equipment and components from damage caused by contact with each other
Stretch-out	A length of a flat piece of metal prior to forming
Tack weld	A small weld used to hold parts in position prior to final welding
Template	A gauge or pattern used as a guide to replicate a piece being fabricated
Tolerance	A permissible deviation from a specified dimension
Traceability	Part of a quality assurance system that keeps track of the origin of materials by heat numbers or parts numbers
Weld distortion	Change in the shape of the welded material that is being caused by the expansion and contraction of the metals due to the heat input from the welding process
Weldment	A welded assembly or an assembly in the process of being welded
Wire-feed welding process	A family of welding processes including gas metal arc welding (GMAW), flux core arc welding (FCAW), metal core arc welding (MCAW); the common factor in these is that the filler metal is supplied from a wire spool

# Metal Fabricator National Occupational Analysis

## ACRONYMS

**CAD** Computer-assisted design

**CNC** Computer numerically controlled

**FCAW** Flux core arc welding

**GMAW** Gas metal arc welding

**ID** Inside diameter

**MCAW** Metal core arc welding

**MD** Mean diameter

**MIG** Metal inert gas

**NC** National Coarse

**NF** National Fine

**NPT** National Pipe Thread

**OD** Outside Diameter

**PPE** Personal Protective Equipment

**RPM** Revolutions per minute

**SMAW** Shielded metal arc welding

**SOP** Safe operating procedures

**TIG** Tungsten inert gas

**WHMIS** Workplace Hazardous Material Information  
Systems

## APPENDIX B

### REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
Technical Reading	<ul style="list-style-type: none"> <li>➤ Find and use information from one source - i.e., a book, internet, and work order</li> <li>➤ Find and use information from many parts of a single source - i.e., a code book</li> <li>➤ Recognize what is important from several sources of information</li> <li>➤ Interpret information using more than one source</li> <li>➤ Apply information to the task</li> </ul>
Document Use	<ul style="list-style-type: none"> <li>➤ Use large or difficult documents which are organized into units, headings chapters, or sub-headings -i.e., a code book</li> <li>➤ Find information in large or very specialized documents which may have many smaller documents - i.e., operations manuals, safety manuals</li> <li>➤ Find information from many sources - i.e., code books, blueprints, work manuals</li> <li>➤ Enter information into pre-set documents and forms - i.e., accident report forms, order forms</li> <li>➤ Combine information from several sources and use it – i.e., alter a work order using information from code books, manuals and blueprints</li> <li>➤ Create new documents using information from a variety of sources – i.e., create work orders, material lists, time logs sheets</li> </ul>

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
<b>Writing</b>	<ul style="list-style-type: none"> <li>➤ Write information into a pre-set form – i.e., contract, lease, building permit</li> <li>➤ Write short messages, explanations, requests or directions – i.e., write a work order, memo, written message for a foreman, supervisor or client</li> <li>➤ Write longer messages, explanations, requests or directions – i.e., write an accident report, a detailed message to a foreman, supervisor or client</li> <li>➤ Write a longer article which may need to be organized into headings with a table of contents, i.e. work report, section of a work manual</li> <li>➤ Write detailed, non-routine articles – i.e., make recommendations, use technical language to give directions to or ask for information from other tradespeople</li> </ul>
<b>Math</b>	<ul style="list-style-type: none"> <li>➤ Perform math calculations using formulas, fractions, decimals and percent</li> <li>➤ Combine one or more math operations to solve a problem</li> <li>➤ Estimate numbers</li> <li>➤ Convert between Imperial and Metric measurement systems</li> <li>➤ Solve equations</li> <li>➤ Use trigonometry to solve problems (not a requirement in every trade)</li> </ul>



ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
<b>Computer Use</b>	<ul style="list-style-type: none"> <li>➤ Perform basic computer operations needed to produce a document – i.e., a letter</li> <li>➤ Find information on the internet</li> <li>➤ Find information in workplace data bases</li> <li>➤ Send and receive email</li> <li>➤ Enter data into a set format – i.e., form, spreadsheet, chart</li> <li>➤ Manage electronic information – i.e., save files</li> <li>➤ Choose and use the best software program for the task</li> </ul>
<b>Oral Communication</b>	<ul style="list-style-type: none"> <li>➤ Take directions from a supervisor or co-workers on work related projects</li> <li>➤ Give directions to co-workers on work related projects</li> <li>➤ Exchange information using trade terminology</li> <li>➤ Provide details on facts</li> <li>➤ Provide opinions on work related projects</li> <li>➤ Organize, present and interpret ideas in a logical manner</li> <li>➤ Communicate one-on-one on or in a group on complex work related matters</li> </ul>

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
<b>Thinking Skills</b>	<ul style="list-style-type: none"> <li>➤ Identify problems</li> <li>➤ Apply learning from previous experiences to identify possible solutions to a problem</li> <li>➤ Find, evaluate, and choose appropriate information to solve a problem</li> <li>➤ Evaluate the best possible solution to a problem</li> <li>➤ Make decisions</li> <li>➤ Plan and organize job tasks to set time-lines</li> <li>➤ Ensure quality control standards are met</li> </ul>
<b>Working with Others</b>	<ul style="list-style-type: none"> <li>➤ Complete tasks to industry standard under supervision</li> <li>➤ Complete tasks to industry standard without supervision</li> <li>➤ Complete assigned tasks to meet time-lines that meet project deadlines</li> <li>➤ Accept feedback</li> <li>➤ Give feedback</li> <li>➤ Evaluate then apply recommendations from co-workers</li> <li>➤ Resolve conflict</li> <li>➤ Mentor an Apprentice</li> </ul>

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
<b>Continuous Learning</b>	<ul style="list-style-type: none"> <li>➤ Identify work/career strengths and areas for improvement</li> <li>➤ Develop a work/career learning plan</li> <li>➤ Set goals</li> <li>➤ Participate in learning opportunities to meet workplace goals</li> <li>➤ Apply new learning in the workplace environment</li> <li>➤ Revisit, reflect, and revise the learning plan regularly</li> <li>➤ Engage in learning opportunities to keep skills current and meet career goals</li> </ul>

