**BTEC Assignment Brief**

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| **Qualification** | Pearson BTEC Level 1/Level 2 Tech Award in Engineering |
| **Component number and title** | **2:** Investigating an Engineering Project |
| **Learning aim**  | **A**: Understand materials, components and processes for a given engineered product |
| **Assignment title** | **Materials, Components and Processes** |
| **Assessor** | Ockert Vermaak |
| **Issue date** | Monday, 4th March 2019 |
| **Hand in deadline** | Monday, 18th March 2019 |
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| **Vocational Scenario or Context** | You are working as part of a team on your schools ‘Green power’ project. The school used to participate in the competition but in recent years has not. The project is being revised as an extra-curricular activity at the Thomas Deacon Academy. The school has an old car and the leader of the engineering group has asked you to compile information about the old car. You have been asked to look at the steering wheel which includes the brake lever mechanisms. You will be provided with drawings and then will be required to carry out an analysis of the assembly.To help you do this you will need to understand engineering materials, components and processes, and how they interrelate. You have been asked to carry out the following tasks. |
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| **Task 1** | You will be given an assembly drawing along with separate detailed drawings of the component parts.1. Identify all of the components and annotate the drawings supplied and:
	1. make a list of the components
	2. list for each whether it is a proprietary component or a product specific component
	3. identify the materials that each component is made from.
2. Having identified the components and materials, carry out an investigation, using internet research, to find out and record information about:
	1. the availability of the proprietary components, what they do and how they work
	2. the properties of the materials used
	3. the making processes used to make each product specific component.

During your investigation, ensure you bring together all of your information and review it to form a conclusion that includes:* why each proprietary component is used
* why each material is used, and
* why each process is used to make the product specific components.

You should draw on the full range of information you have found, including, for example, the strengths/weaknesses of each and alternatives that could be used.From these activities you need to gather all of your work into a small portfolio containing notes and images to present to your teacher which will be used by the Greenpower team.  |
| **Checklist of evidence required**  | Your small portfolio should contain:* annotated assembly and detailed drawings
* a list of components, materials and processes used
* research notes
* notes to evaluate the materials, components and processes you have researched
* images in support of your work.
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| **Criteria covered by this task:** |
| Criteria reference | To achieve the criteria you must show that you are able to: |
| **A.2D1** | Evaluate engineering materials, proprietary components and processes used when making given engineered products. |
| **A.2M2** | Explain why engineering processes are used to make given engineered products. |
| **A.2M1** | Explain why engineering materials and proprietary components are used in given engineered products. |
| **A.2P2** | Describe engineering processes used to make given engineered products. |
| **A.2P1** | Describe engineering materials and proprietary components used in given engineered products. |
| **A.1M2** | Describe an engineering process from each type. |
| **A.1M1** | Describe engineering materials from each category and proprietary components. |
| **A.1P2** | Identify an engineering process from each type. |
| **A.1P1** | Identify engineering materials from each category and proprietary components. |

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| **Sources of information to support you with this Assignment** |  |
| **Other assessment materials attached to this Assignment Brief** | An assembly drawing and series of detailed drawings to support the range of materials, components and processes found in the content of the specification Topic areas A1, A2 and A3 respectively. |