## Stage 5 – Assessment Task Notification

**Subject:** INDUSTRIAL TECHNOLOGY ENGINEERING YR 10

**Task Number:** 1

<table>
<thead>
<tr>
<th>Task Title/Type:</th>
<th>CONTROL SYSTEMS ENGINEERING PROBLEM-SOLVING</th>
<th>Year:</th>
<th>10</th>
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</thead>
</table>

### Date Due / Date of Task:
- TERM 1 WEEK 6
- PRACTICAL DEMONSTRATION

### Time Allowed:
4 WEEKS

### Class Teacher:
- **Name:** MR. TRIMMER
- **Email:** russell.trimmer@det.nsw.edu.au

### Weighting:
10 marks

### Synopsis:
Developing, constructing and running control systems are important in engineering for efficiency and safety.

### Task description:

**Explosive Ordnance Disposal**

Many shells, bombs and munitions fail to explode, leaving them around the battlefield after the fighting is over. Bomb Disposal Engineers in peacetime provide the expertise necessary to clear areas, often to permit the civilian population to return home.

Bomb Disposal Engineers use remote control techniques; small remote vehicles are sent into the bomb zone to survey the situation and remotely set charges for safe disposal. It is a simple decision to send a unit in rather than a human.

**Brief**

You are a member of a special research team. Your team plays a major role in the design of remote control techniques for bomb disposal.

Your team is to design, construct and test an innovative LEGO prototype device that will run in the field. It will be required to be:

- sent from base in a safe distance
- safely navigate a scenario developed from the teacher
- return back to base
References / Background Reading / Attachments:

Google search engine: LEGO Mindstorms, Army engineers.
Class work

Marking Criteria Control Systems Engineering	100 marks	Weighting 10 marks

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>AWARD</th>
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<tbody>
<tr>
<td>Constructs with accurate detail and exacting practical methods to produce</td>
<td></td>
</tr>
<tr>
<td>the remote control assembly</td>
<td></td>
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<tr>
<td>Employs an highly organised approach when designing parts and setting up</td>
<td></td>
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<tr>
<td>structures</td>
<td></td>
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<tr>
<td>Translates all ideas from the group to complete the assembly</td>
<td>A</td>
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<tr>
<td>Assembles the remote control assembly using a strong level of problem</td>
<td>90 - 100</td>
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