2. Safe work procedure title and basic description of activity

Title: Pan Brake

Description of activity:

Using a pan brake for bending sheet metal.

3. List hazards and risk controls as per risk assessment

<table>
<thead>
<tr>
<th>Associated risk assessment number and location: There is no separate Risk Assessment, or HIRAC performed for this SWP. All hazards have been identified, with control mechanisms listed. Provided all controls are followed, the likelihood of injury is low.</th>
<th>Potential hazards</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sharp edges and burrs.</td>
<td>Be mindful of possibility of sharp edges and burrs, using appropriate cautionary actions to avoid cuts</td>
</tr>
<tr>
<td></td>
<td>Squash/crush and pinch points.</td>
<td>Take extreme care when positioning sheet metal in the machine to ensure operator’s fingers are kept clear of the drop-down clamp at all times. Take care when loading large sheets of metal on the machine that fingers are not jammed or cut around pinch points. Do not allow interruptions to the work environment while carrying out this operation. Be mindful of the position of the counterweight at all times.</td>
</tr>
<tr>
<td></td>
<td>Impact from counterweight.</td>
<td></td>
</tr>
</tbody>
</table>

4. List resources required including personal protective clothing, chemicals and equipment needed

**PERSONAL PROTECTIVE EQUIPMENT**

- Safety glasses must be worn at all times in work areas.
- Sturdy footwear must be worn at all times in work areas.
- Long and loose hair must be contained.
- Close fitting/protective clothing must be worn.
- Gloves must not be worn.
- Rings and jewellery must not be worn.

5. List step by step instructions or order for undertaking the task

**PRE-OPERATIONAL SAFETY CHECKS**

- Locate and ensure you are familiar with all machine operations and controls.
- Ensure there is adequate lighting and ventilation in the area of operation.
- Check workspaces and walkways to ensure no slip/trip hazards are present.
- Be aware of other people in the area. Ensure the area is clear before using equipment.
- Ensure working parts are well lubricated and the jaws and fingers free of rust and dirt.
OPERATIONAL SAFETY CHECKS

✓ The top clamping beam is adjustable to clamp the different thicknesses of material. Adjust the beam evenly at each end to clamp the material firmly.
✓ Remove the pan brake fingers that are in the way. Use only the pan brake fingers required to make the bend.
✓ Ensure the pan brake fingers that are not removed for an operation are securely seated and firmly tightened before the machine is used.
✓ Use the wide angle iron folding bar for general work, especially wider bends. (It is necessary for thicker and harder material). The bar can be replaced with the narrower one for narrower reverse bends on thinner material.
✓ Adjust the folding beam height evenly at each end to suit the material thickness and bend radius.

✓ For sharp bends adjust as follows:
  - For material up to 20G (0.9mm) set bending beam level with table.
  - For 18G (1.2mm) material set bending beam 0.4mm below table.
  - For 16G (1.6mm) material set bending beam 0.8mm below table.
  - For 14G (2mm) material set bending beam 1.2mm below table.

✓ If the sharpness of the bend is not important the bending beam may be left at the setting for 14G material.
✓ Think about the sequence of bends. Ensure that the initial bends are carefully chosen so that the latter ones can still be done.
✓ Ensure your fingers and limbs are clear before operating the pan brake clamp and folding beam.
✓ Lower finger clamps to work. Do not drop arm (especially on head).
✓ Check work piece is secure.
✓ Keep yourself and others clear of moving counterweight (where fitted).

ENDING OPERATIONS AND CLEANING UP

✓ Lower finger clamps to a safe position.
✓ Return all accessories to storage racks.
✓ Leave the work area in a safe, clean and tidy state.

DON’T

✗ Do not use faulty equipment. Immediately report suspect machinery.
✗ Do not use a pan brake for bending metal other than soft steel, stainless steel, aluminium, soft brass & copper (sheet metal only).
✗ Do not use if the top edge of the folding beam at rest is less than the measurements specified for sharp bends. Adjust it.
✗ Do not attempt to bend rod, wire, strap, flat bar or spring steel sheets.
✗ Do not exceed the capacity limits of the machine.

6. List emergency shutdown procedures
Not applicable – mechanical operation only.

7. List emergency procedures for how to deal with fires, spills or exposure to hazardous substances
Not applicable.

8. List clean up and waste disposal requirements
Not applicable, no waste or dust generated.

9. List legislation used in the development of this SWP

10a. List competency required – qualifications, certificates, licensing, training - e.g. course or instruction:
Metal Trades Craftsman’s Certificate, or equivalent.

10b. List competency of Assessor
David Beech – Senior Technical Officer (Physics) – BSc (Eng)
11. Supervisory approval, And review

Supervisor: Gemma Thompson
Signature: 
Responsibility for SWP review: Gemma Thompson
Date of review: 9th August 2013

12. SWP Sign off sheet

SWP name and version:

In signing this section the assessor/authoriser agrees that the following persons are competent in following this SWP

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date Competent</th>
<th>Name of Assessor/Authoriser</th>
<th>Assessor/Authoriser signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrew McVicar</td>
<td></td>
<td>9th August 2013</td>
<td>David Beech</td>
<td></td>
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<tr>
<td>Marcel Kaegi</td>
<td></td>
<td>9th August 2013</td>
<td>David Beech</td>
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<tr>
<td>Rattan Bhandari</td>
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<td>Ces Delapez</td>
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<tr>
<td>Michael Paterson</td>
<td>See Physics file</td>
<td>6th October 2011</td>
<td>David Beech</td>
<td></td>
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<tr>
<td>Terry Pfeiffer</td>
<td>See Physics file</td>
<td>6th October 2011</td>
<td>David Beech</td>
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<tr>
<td>PETER KERR</td>
<td></td>
<td>25 Sep 13</td>
<td></td>
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