

BTEC National Level 3 Diploma or Extended Certificate in Engineering

Engineering Year 12 Induction Assignment

You are advised to spend around three hours doing your research.

A client has asked you, as a technician engineer, to redesign the stop for a manual arm access barrier, as it is not working effectively. The manual arm access barrier can be used to control, for example, vehicle access to a building site, car park or restricted areas within a warehouse.

You will research the design and manufacturing requirements that are relevant to the stop and its use. Your research should consider:

- how manual arm access barriers function
- existing designs for stops
- the manufacturing processes and technologies that are being used and possible alternatives
- the health and safety requirements for the manufacturing processes and technologies
- environmental considerations including sustainability
- material requirements and suitable material properties
- any other relevant factors, such as designing out risks to health and safety.

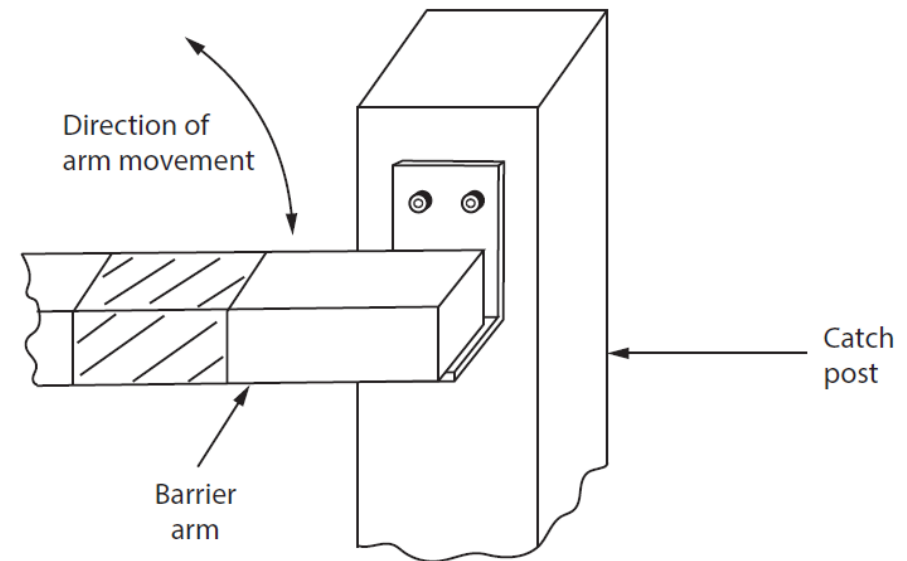
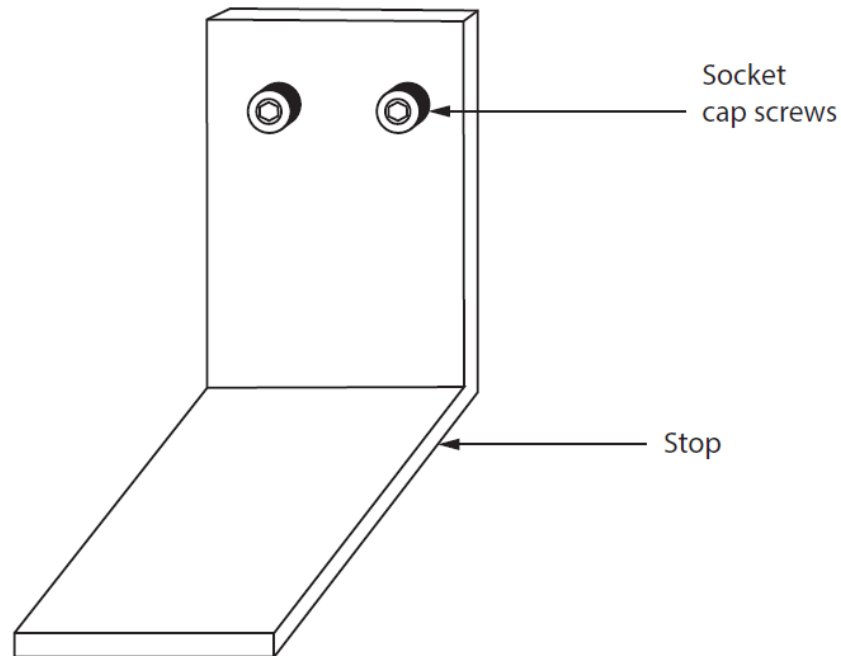
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South Craven School
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The product is a stop for a manual arm access barrier. The barrier arm rests on the stop when in a horizontal position. The stop is attached to a catch post using two M8 socket cap screws. One stop is needed per manual arm access barrier and they are manufactured in batches of 1000. Currently, the stop is cut from a length of medium carbon steel angle section and has a paint finish applied to it.



Stop Dimensions: L = 110 mm, W = 60 mm, H = 105 mm