

THROUGH SECTION | 1a - Hard

A3 Worksheet - Bicycle Bell Through section page 21.

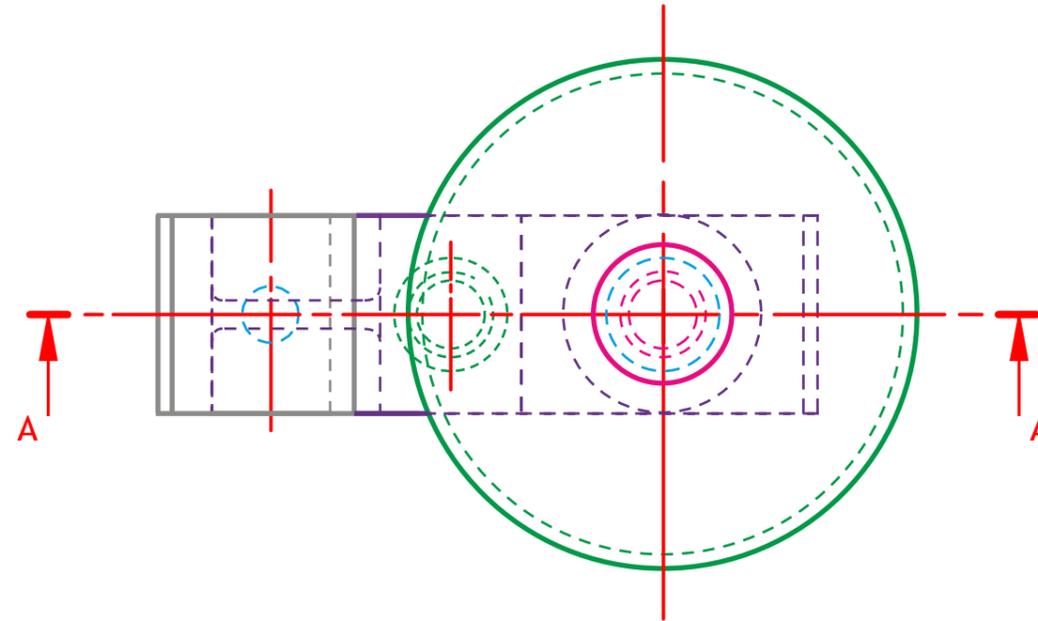
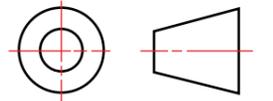
Task

Draw sectional elevation A-A of the assembled bicycle bell.

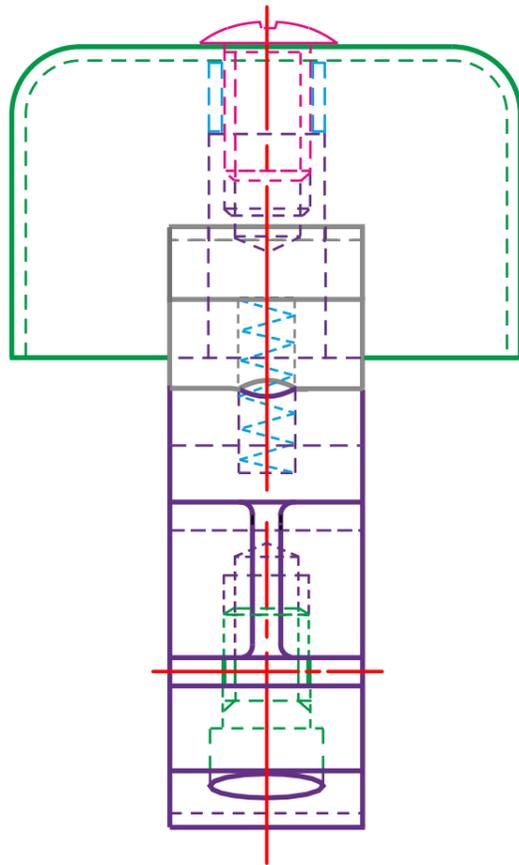
Project down and across to the elevation to complete section A-A.
Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell and the step-by-step guide on page 21 to assist with your sequencing of the task.

The bell hammer has been drawn for you.

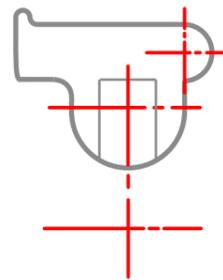
Apply drawing standards and conventions correctly.



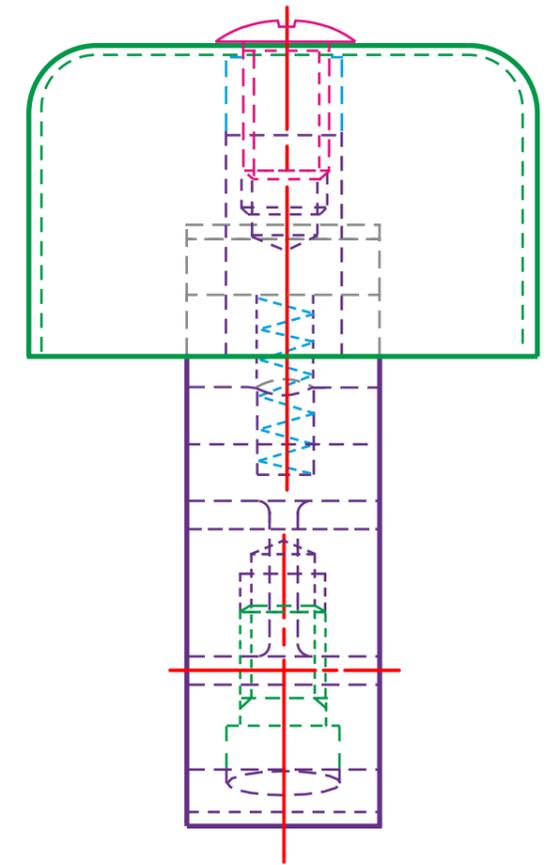
PLAN



END ELEVATION



SECTION A-A



END ELEVATION

THROUGH SECTION | 1b - Not so hard

A3 Worksheet - Bicycle Bell Through section page 21.

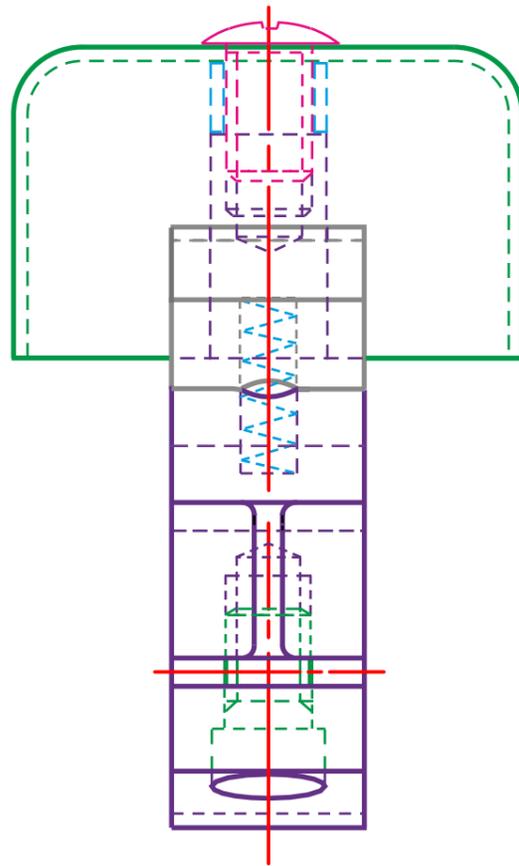
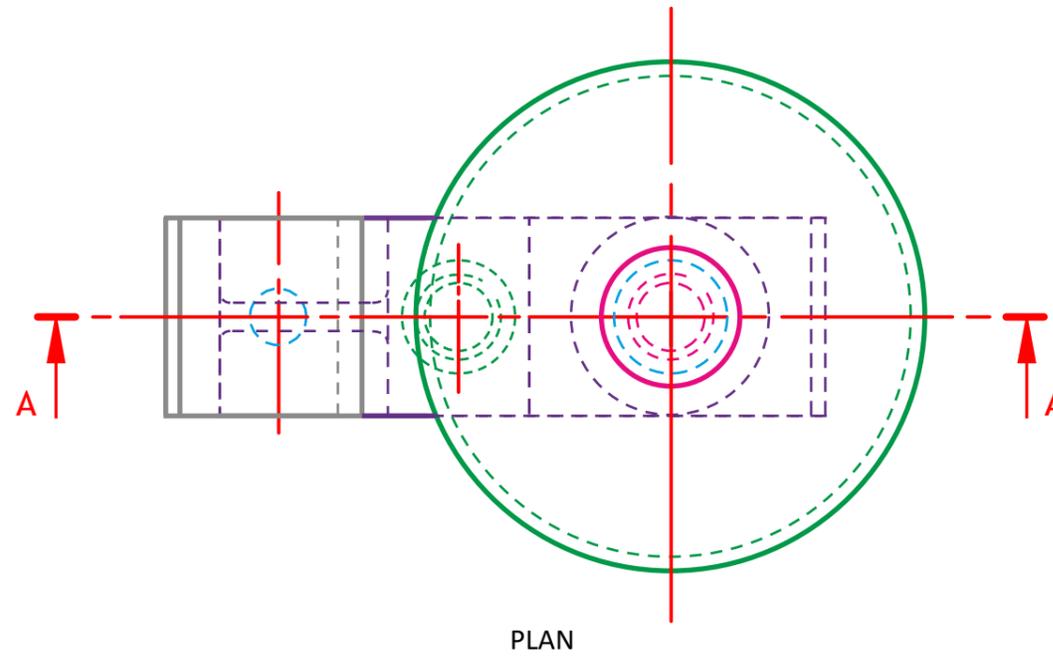
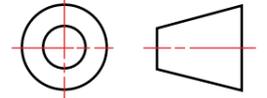
Task

Draw sectional elevation A-A of the assembled bicycle bell.

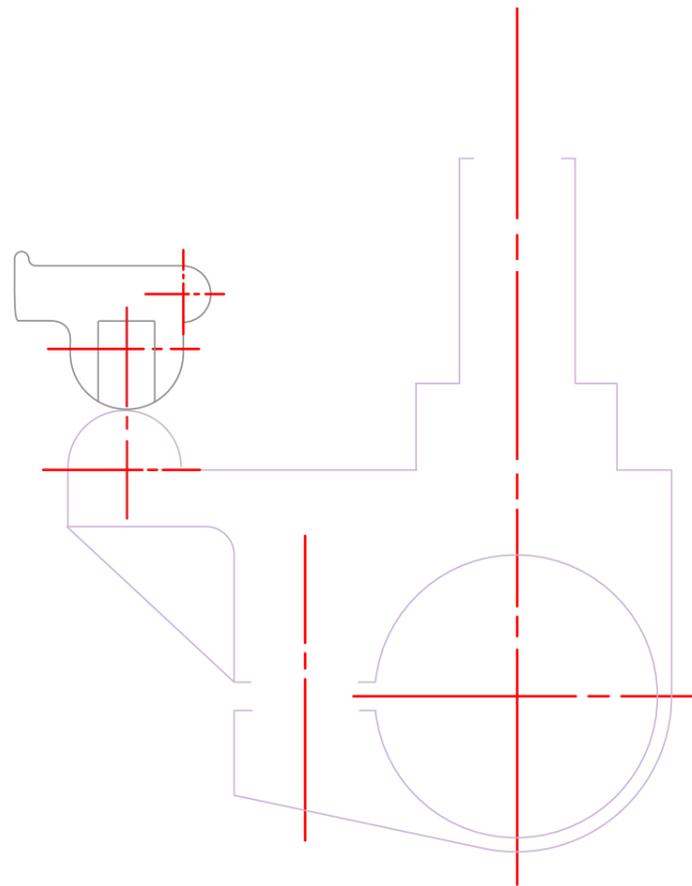
Project down and across to the elevation to complete section A-A.
Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell and the step-by-step guide on page 21 to help with your sequencing of the task.

Two components have been drawn for you.

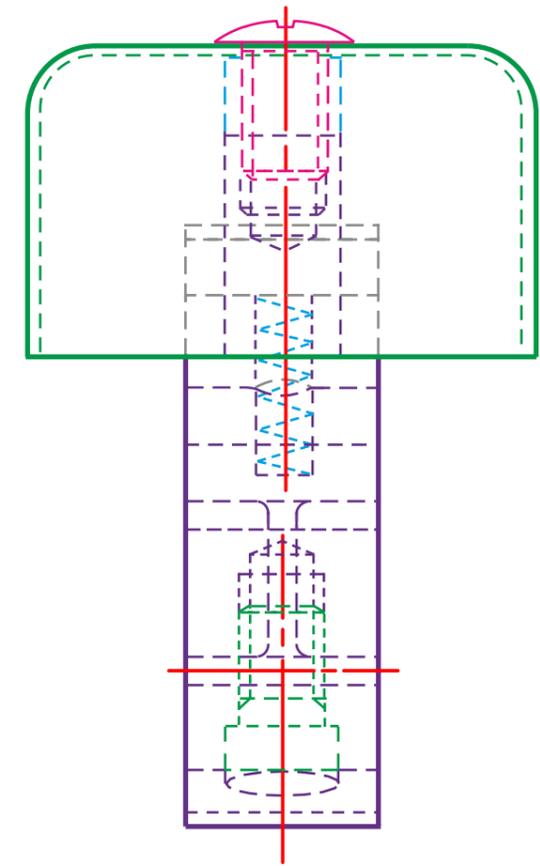
Apply drawing standards and conventions correctly.



END ELEVATION



SECTION A-A



END ELEVATION

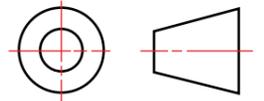
10mm sq scaling check

Name:

TITLE: THROUGH SECTIONAL ASSEMBLY

DATE:

THROUGH SECTION | 1c - Easiest



A3 Worksheet - Bicycle Bell Through section page 21.

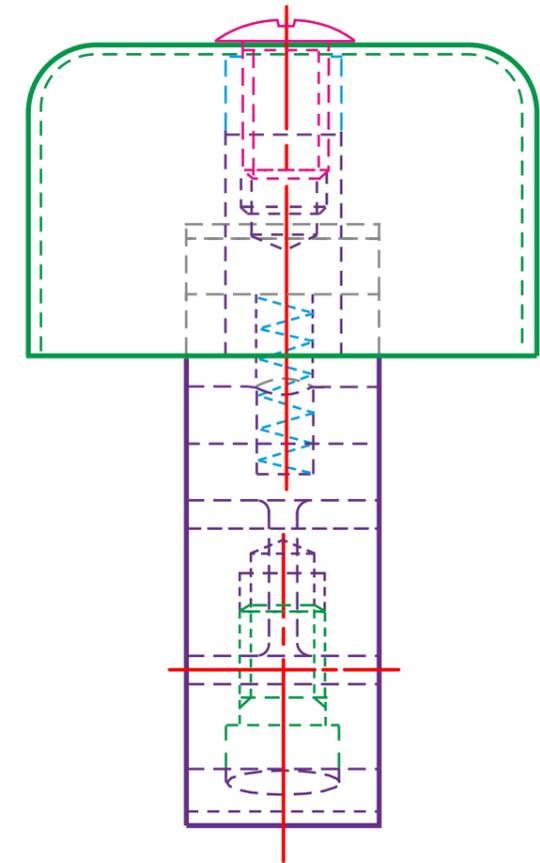
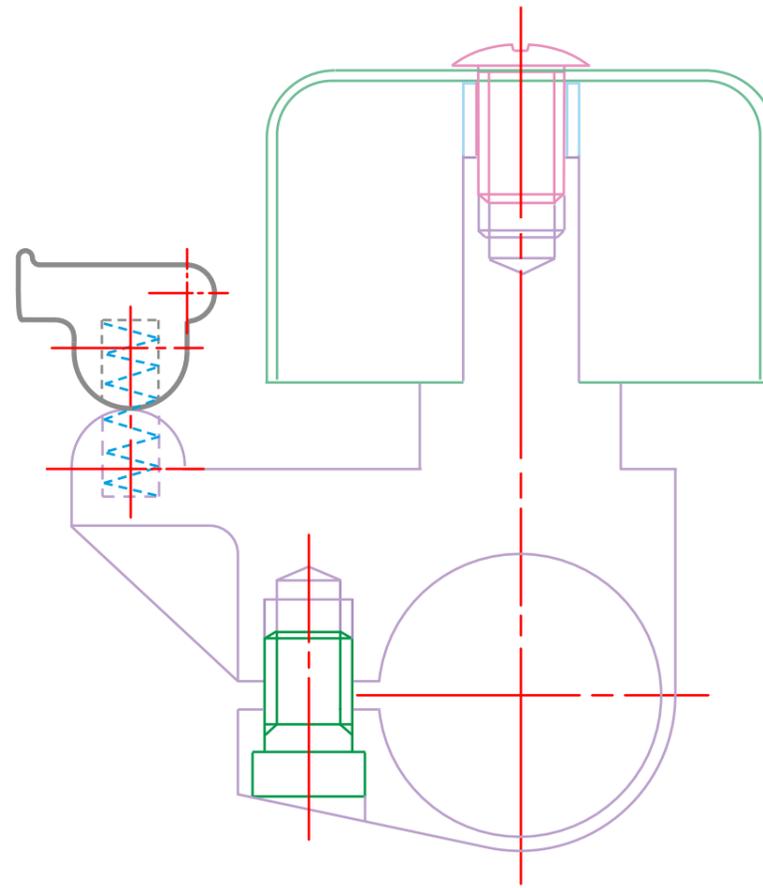
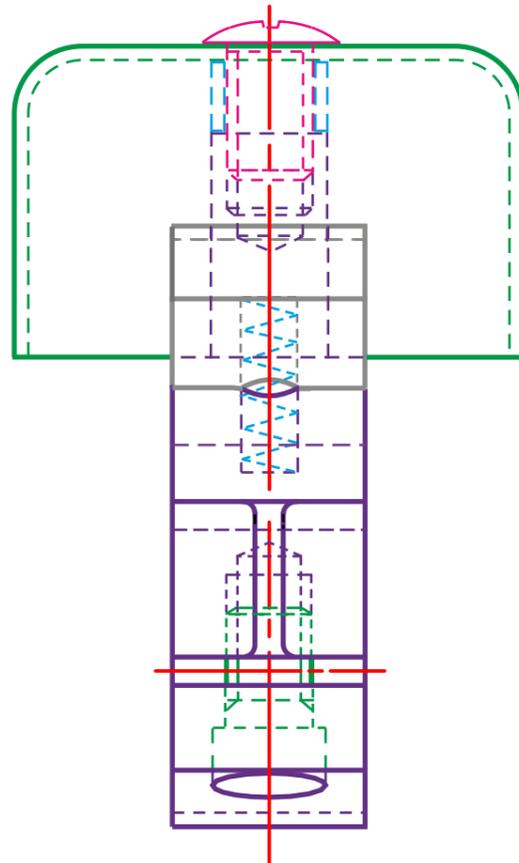
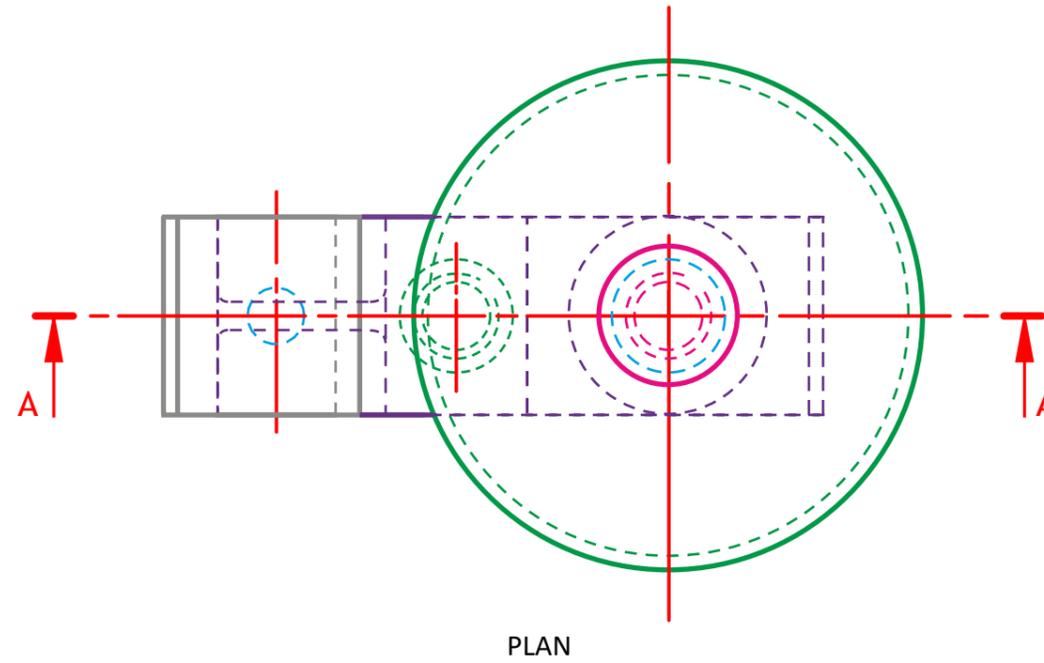
Task

Draw, to a scale of 2:1, sectional elevation A-A of the assembled bicycle bell. Add cross-hatching correctly.

Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell.

The outline of section A-A has been given.

Apply drawing standards and conventions correctly.



10mm sq scaling check

Name:

TITLE: THROUGH SECTIONAL ASSEMBLY

DATE:

STEPPED SECTION | 2a - Hard

A3 Worksheet - Bicycle bell stepped section page 15

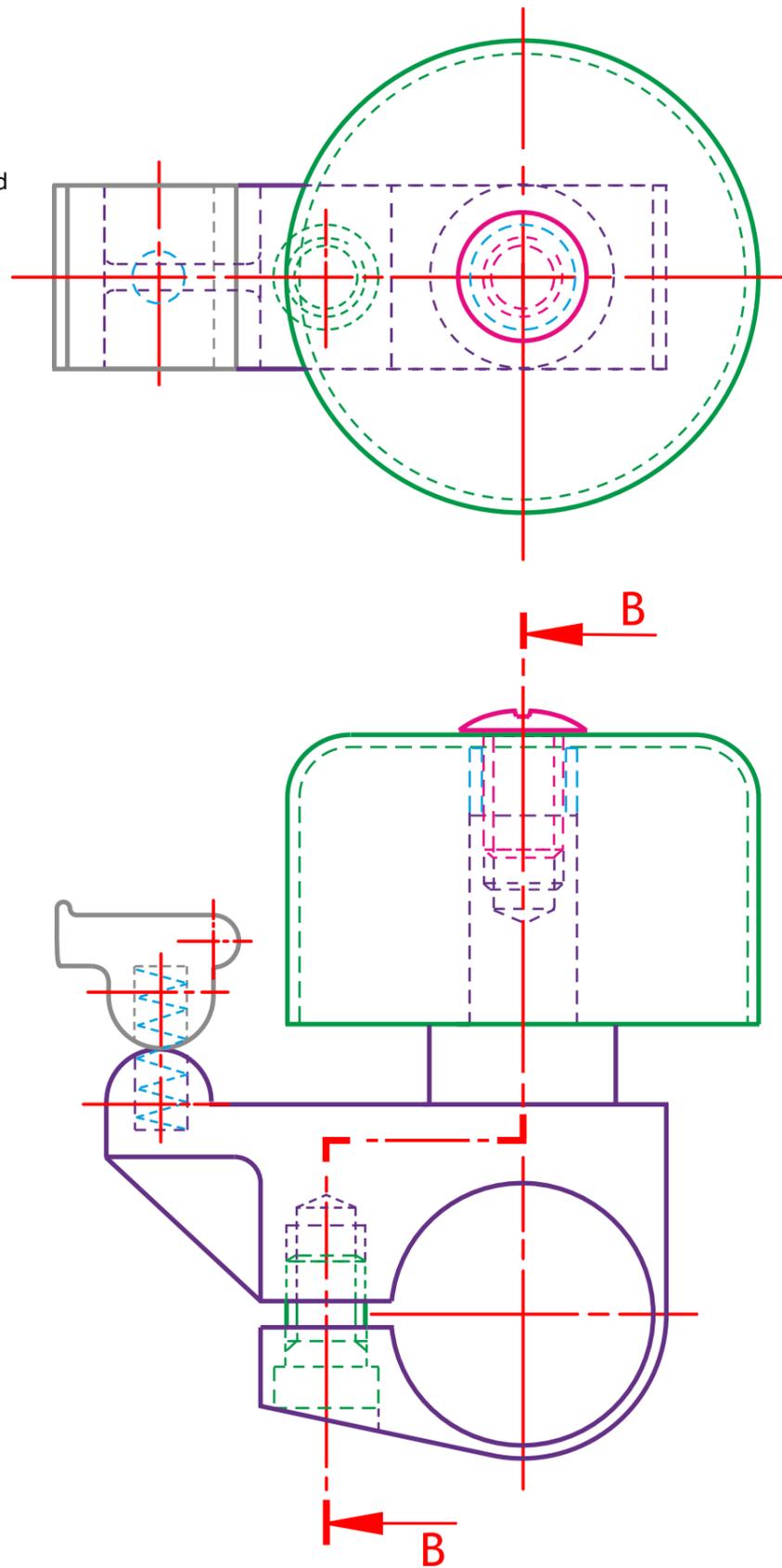
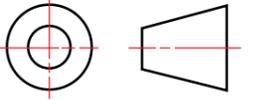
Task

Draw a sectional end elevation B-B of the assembled bicycle bell.

Using a bounce line, project down and across to the end elevation to complete section B-B.

Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell and page 15 to help with the task.

Apply drawing standards and conventions correctly.



SECTION B-B



10mm sq scaling check

Name:

TITLE: STEPPED SECTION ASSEMBLY

DATE:

STEPPED SECTION | 2b - Not so Hard

A3 Worksheet - Bicycle bell stepped section page 15

Task

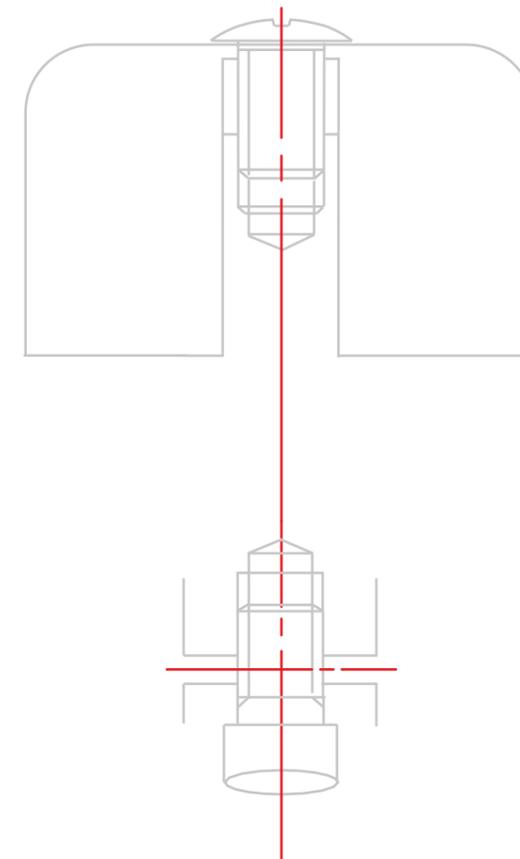
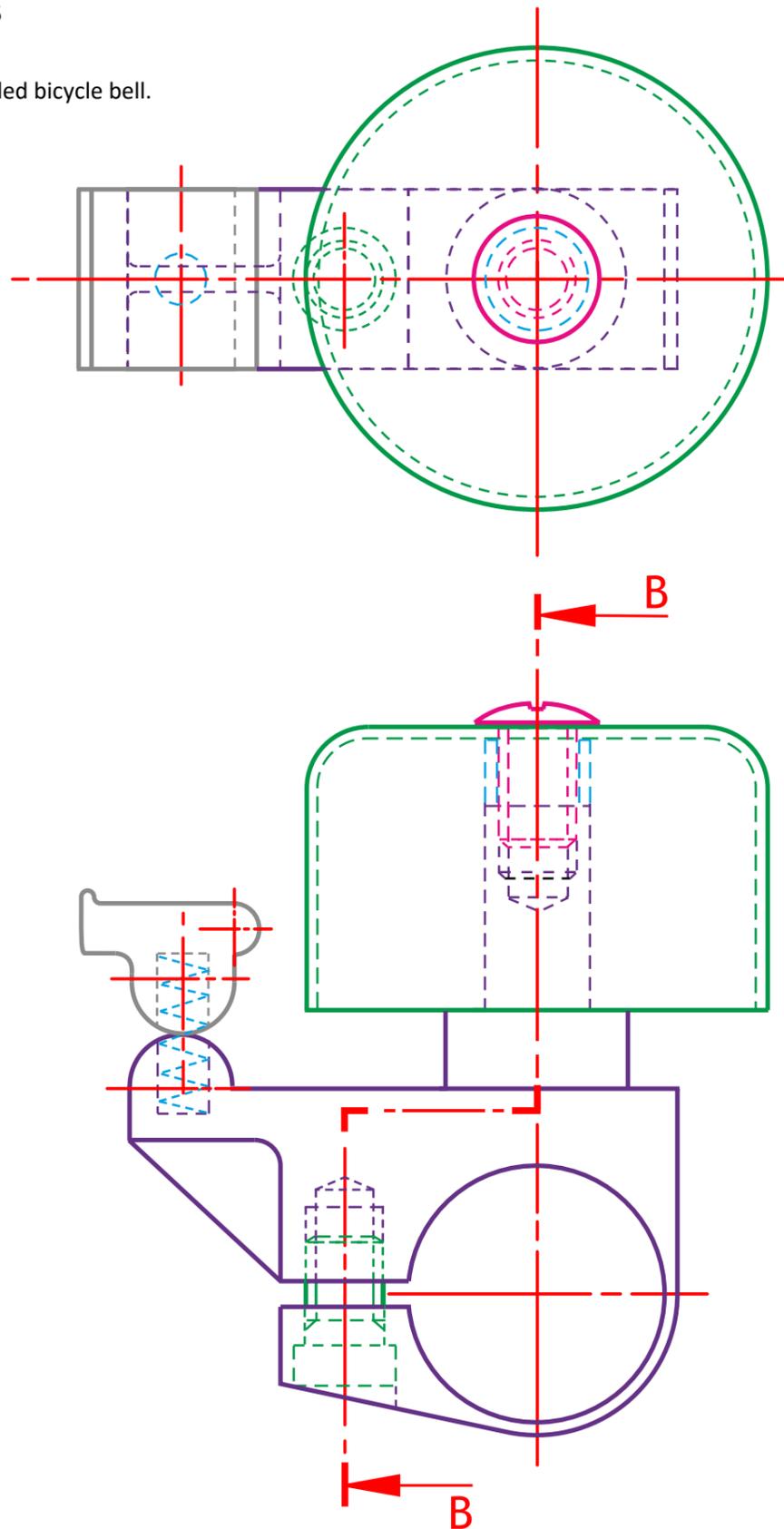
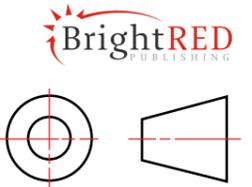
Draw the sectional end elevation B-B of the assembled bicycle bell.

Using a bounce line, project down and across to the end elevation to complete section B-B.

Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell and page 15 to help with the task.

A part outline of section B-B is given.

Apply drawing standards and conventions correctly.



10mm sq scaling check

Name:

TITLE: STEPPED SECTION ASSEMBLY

DATE:



SECTIONS | 3a - EASY

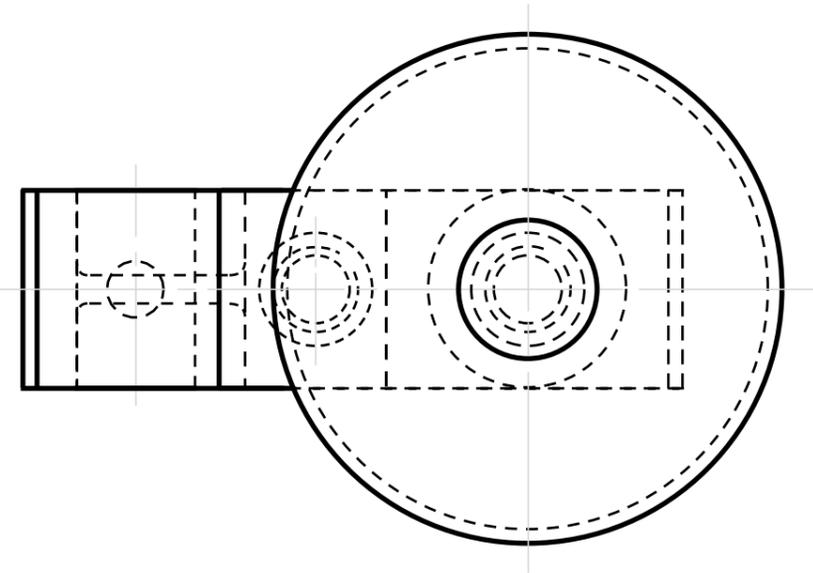
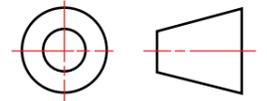
A3 Worksheet - Bicycle bell section cutting planes page 25.

Task

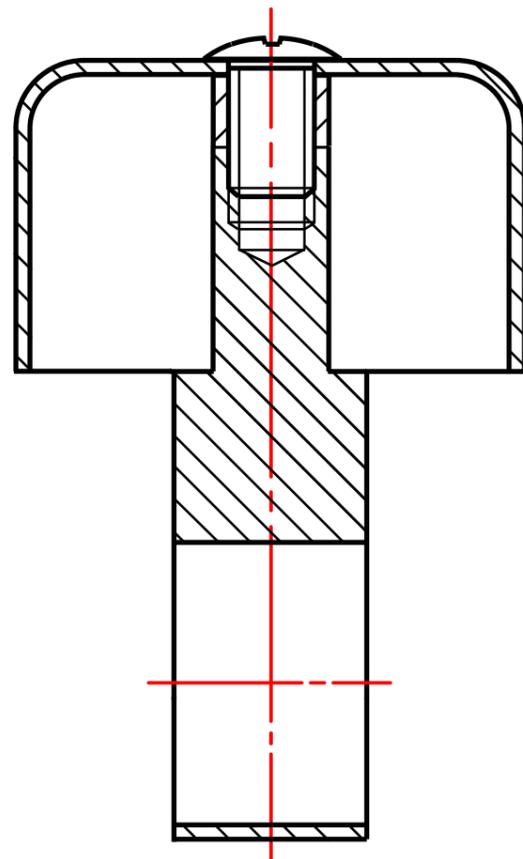
The drawings opposite are missing the cutting planes X-X and Y-Y.

Q3. Add both cutting planes to the drawings. The cutting planes should be added to different views. Take care to ensure you apply the correct drawing standards and conventions.

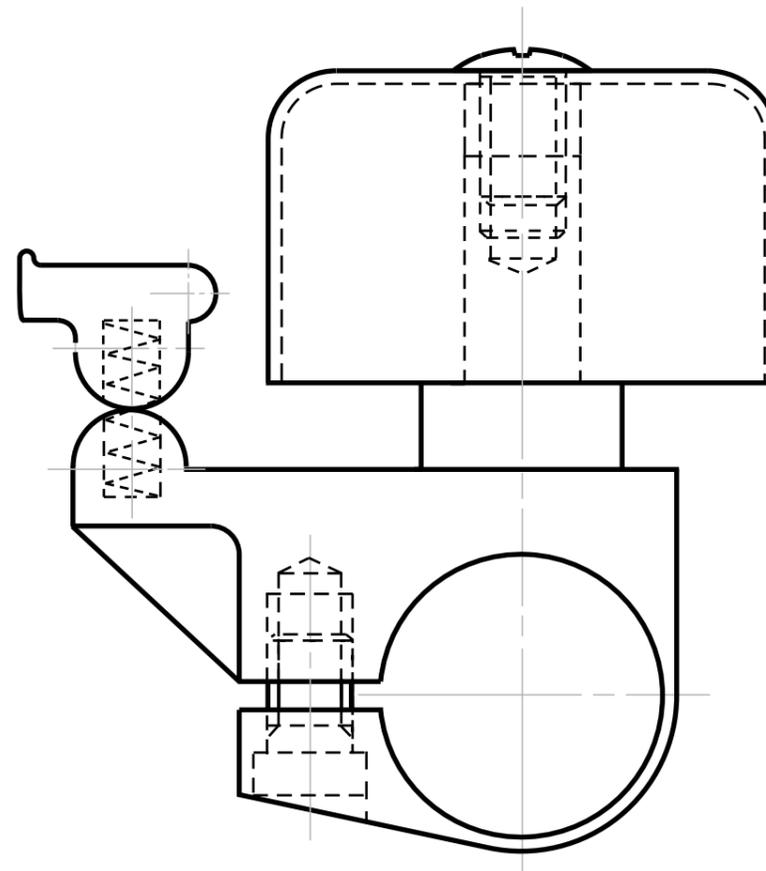
Study the drawings and add the cutting plane in the correct position. Apply the correct drawing standards and conventions.



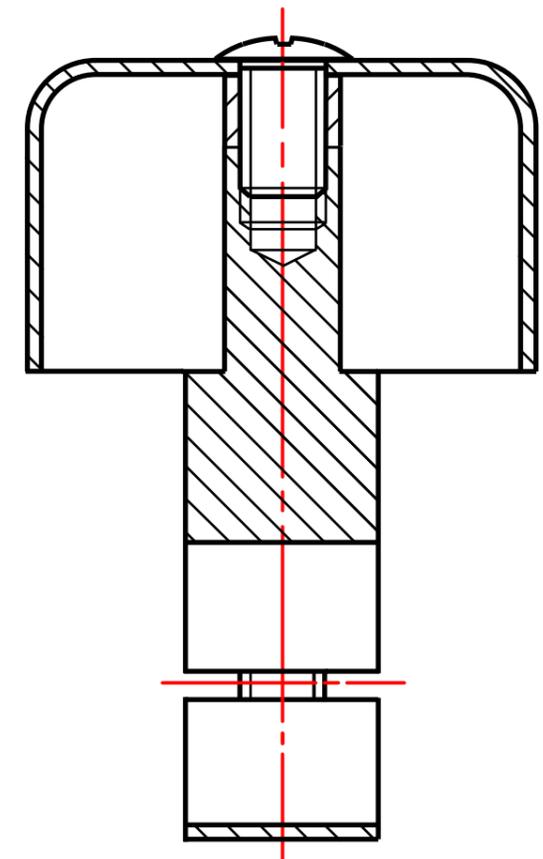
PLAN



SECTION Y-Y



ELEVATION



SECTION X-X

HALF SECTION | 4a HARD

A3 Worksheet - Bicycle bell half section page 23

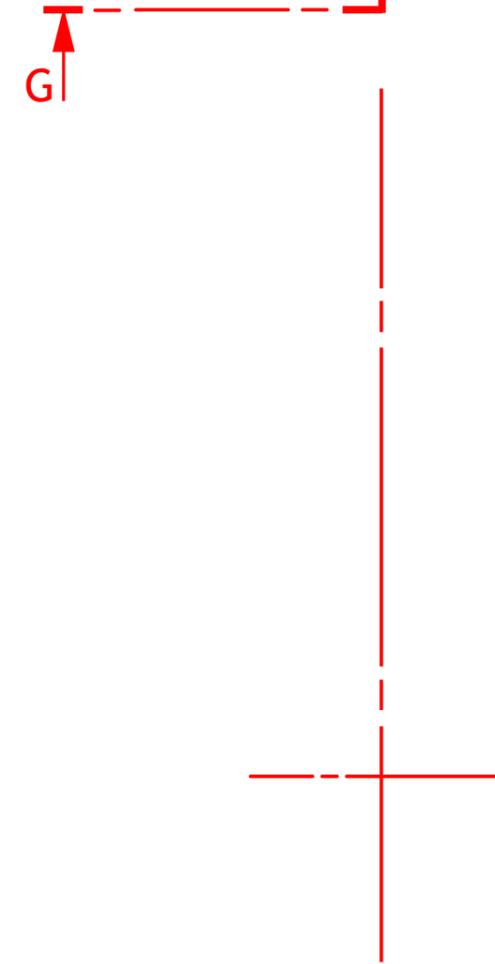
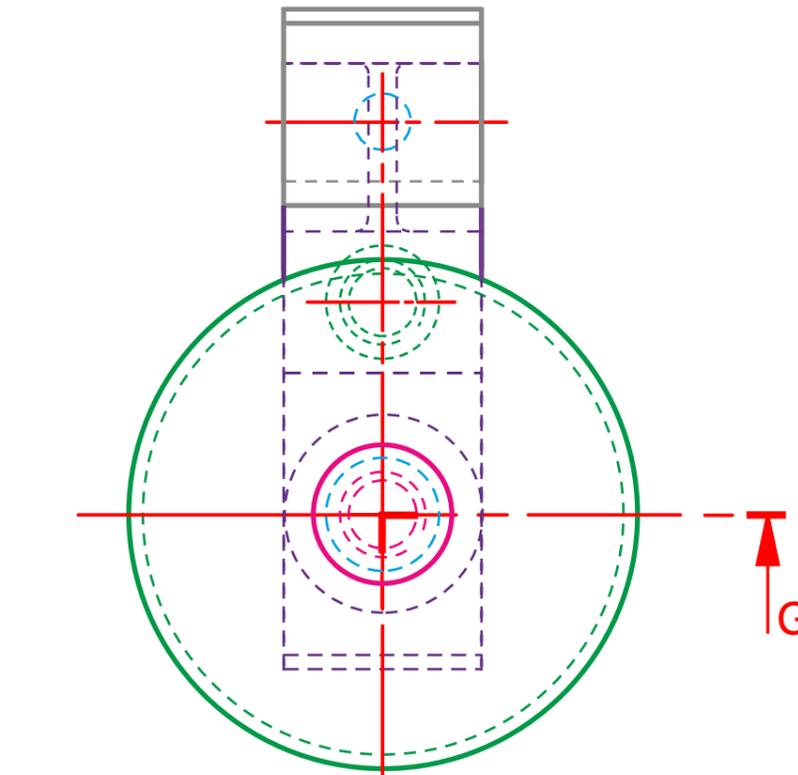
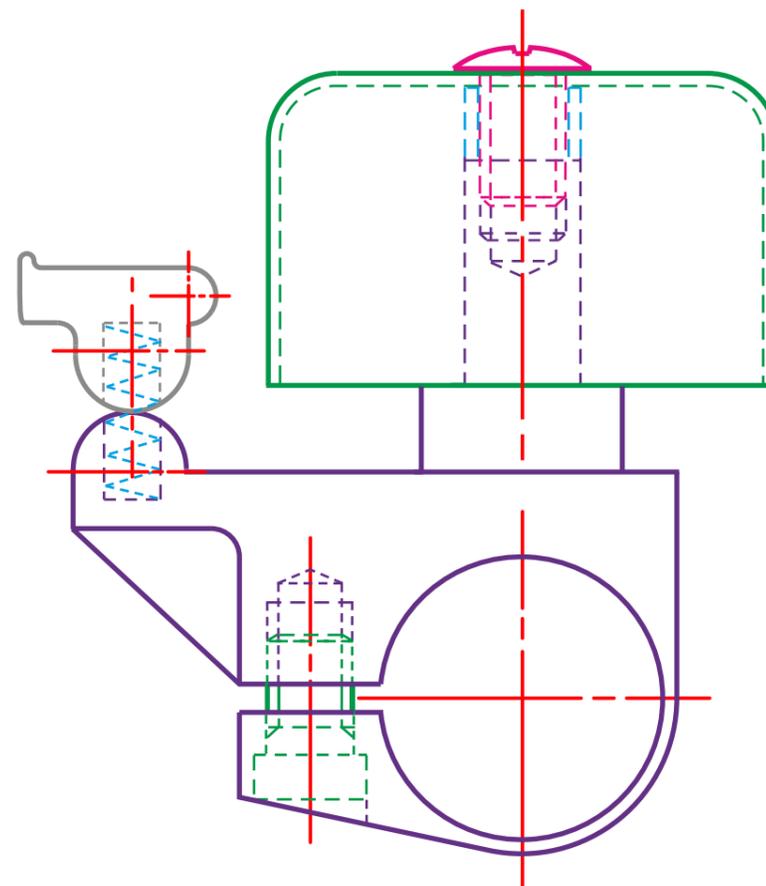
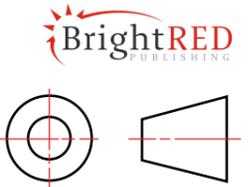
Task

Draw a sectional elevation G-G of the assembled bicycle bell.

Project down and across to the elevation to create section G-G.

Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell and page 23 to help with your sequencing of the task.

Apply drawing standards and conventions correctly.



SECTION G-G

10mm sq scaling check

Name:

TITLE: HALF-SECTION ASSEMBLY

DATE:

HALF SECTION | 4b EASIEST

A3 Worksheet - Bicycle bell half section page 23

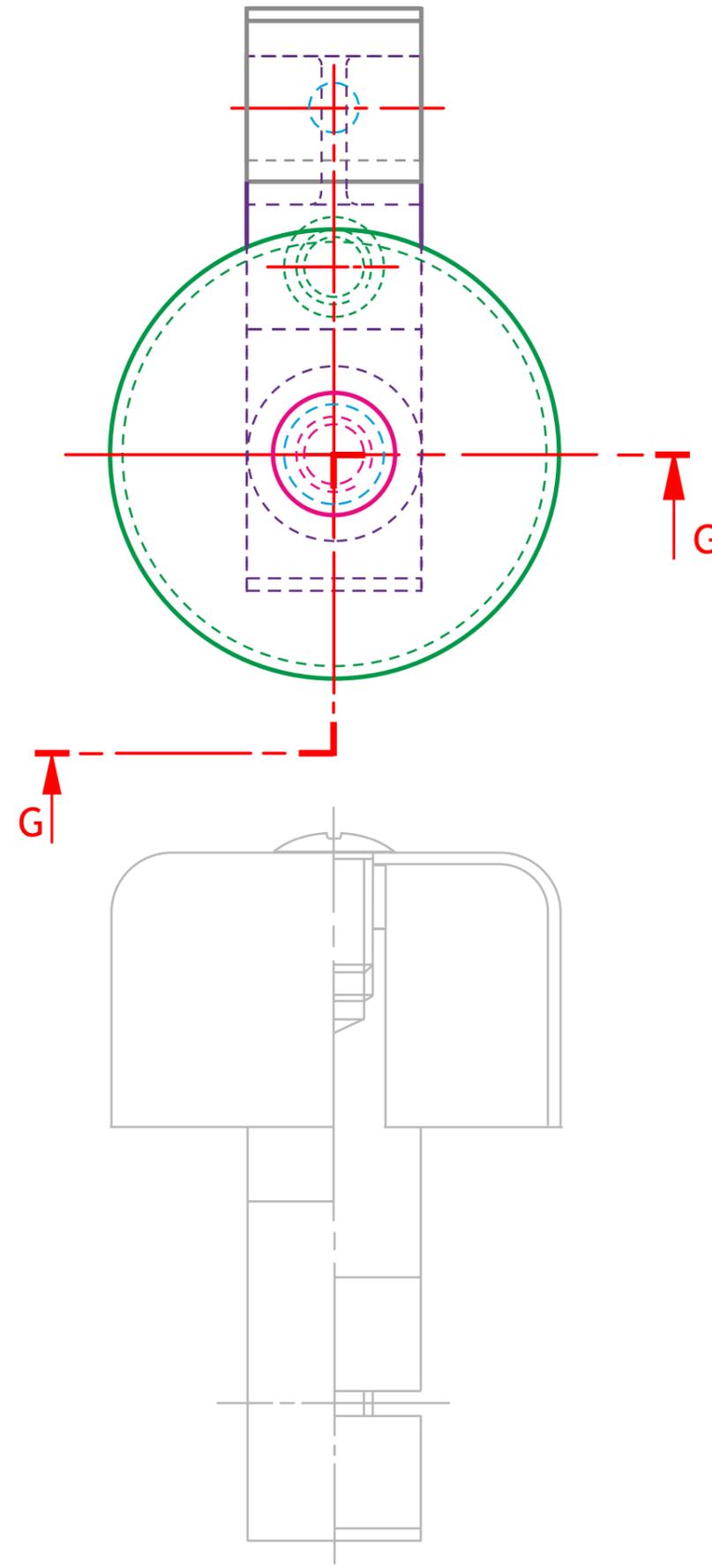
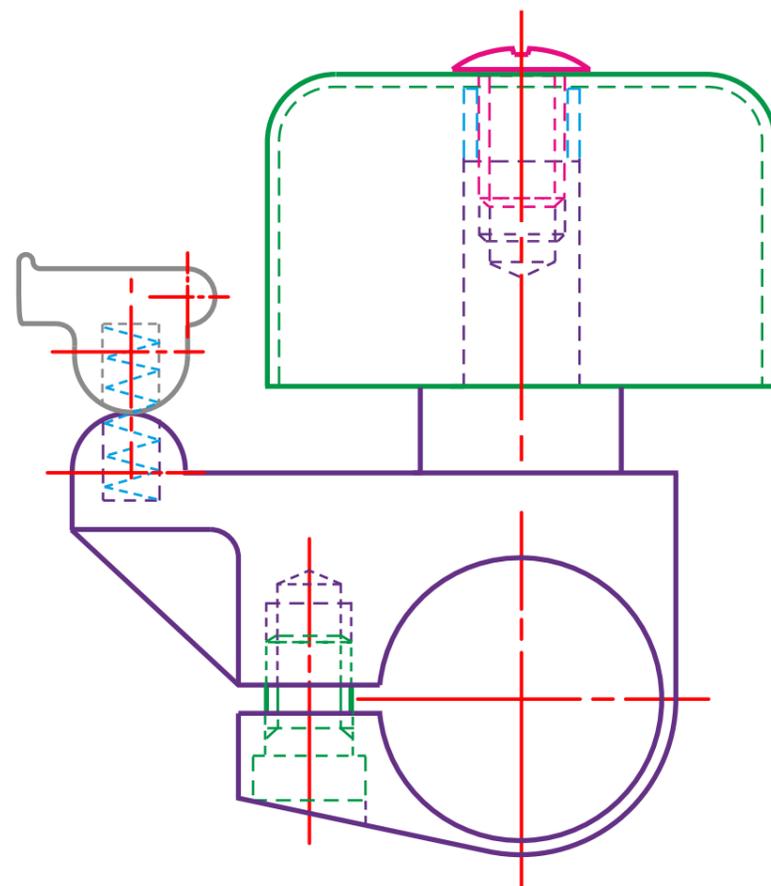
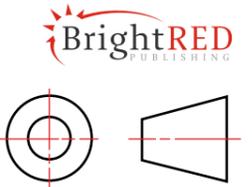
Task

Draw a sectional elevation G-G of the assembled bicycle bell.

Complete the elevation and add cross-hatching.
Use the information on the detailed component drawings on page 19 to assist in your visualisation of the bell.

The outline of section G-G is given.

Apply drawing standards and conventions correctly.



SECTION G-G

10mm sq scaling check

Name:

TITLE: HALF-SECTION ASSEMBLY

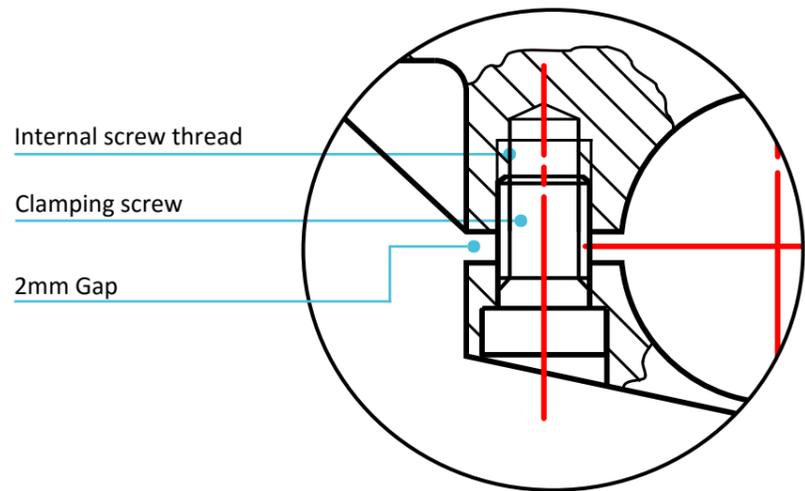
DATE:

DRAWING STANDARDS & CONVENTIONS | 5

A3 Worksheet - Bicycle bell drawing standards and conventions page 24.

The internal screw thread is deep and the clamping screw doesn't reach the top of it.

Q1. Explain why the internal screw thread is deeper than the clamping screw can reach.

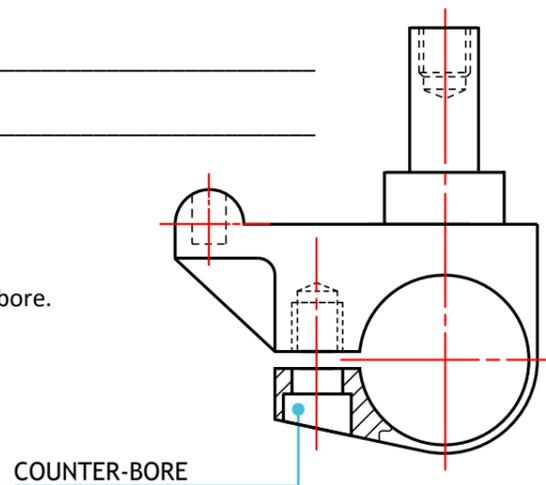


The handle bar clamp includes a 2mm wide gap.

Q2 Give two reasons for the inclusion of the gap.

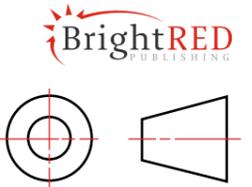
The handle bar clamp includes a feature called a counter-bore.

Q3 Explain two functions of this counter-bore.



The product has been designed to allow the bell hammer to ring the bell.

Q4. Describe three features on the bell hammer and other components (shown on the elevation below) that make it possible to ring the bell.

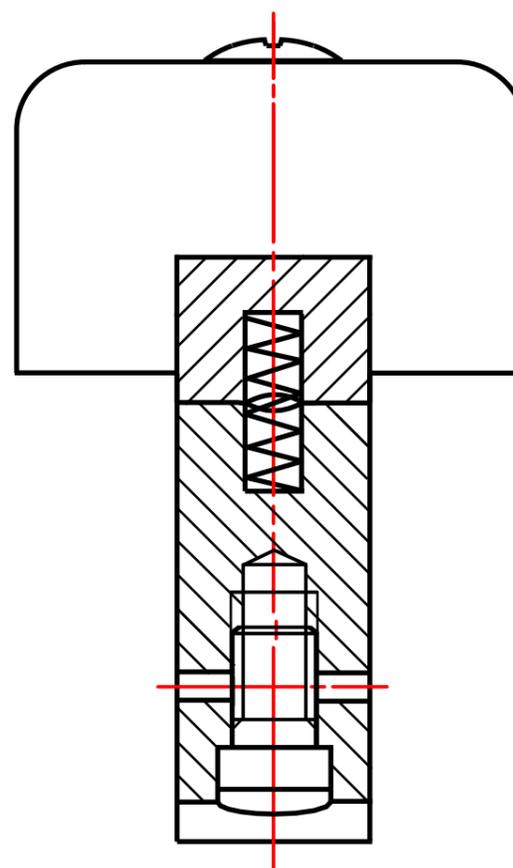


Task

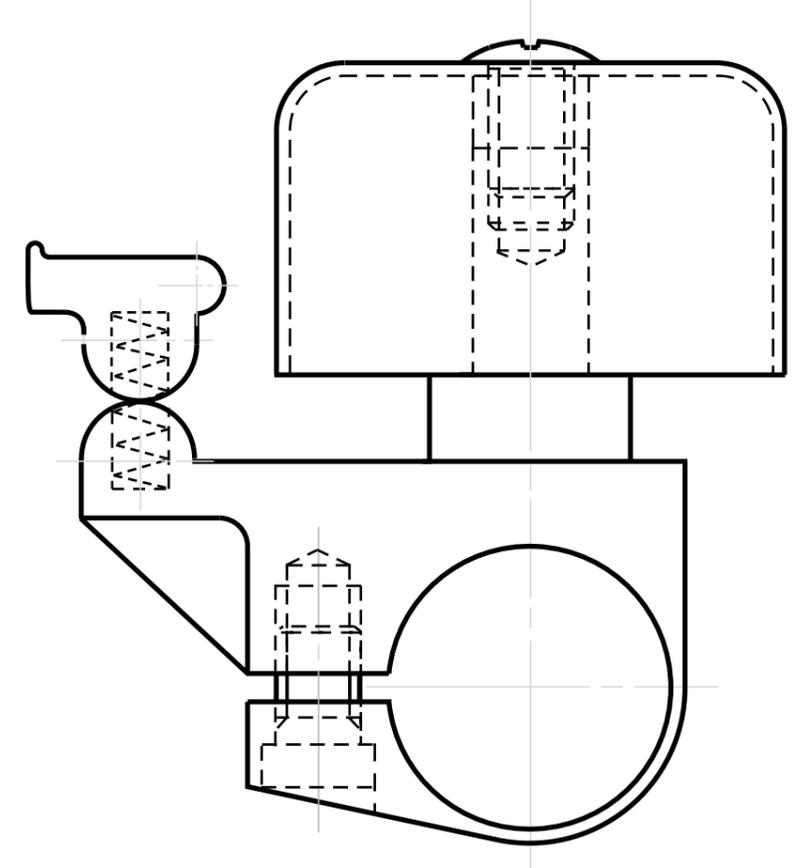
The elevation below is missing the cutting plane F-F

Q5. Add the cutting plane to the elevation taking care to ensure you apply the correct drawing standards and conventions.

You can download a worksheet from our website to enable you to draw the cutting plane directly onto the elevation.



SECTION F-F



ELEVATION

EXPLODED ASSY | 6a HARD

A3 Worksheet - Exploded orthographic view page 22

Task

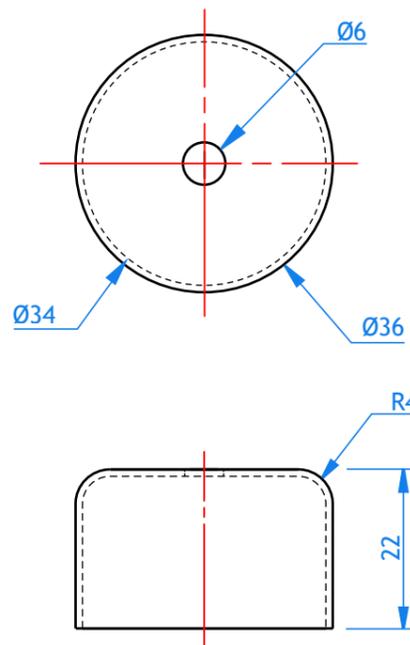
Draw, to a scale of 2:1, an exploded elevation of the bicycle bell.

The centres and starting points are given. Use the information on the detailed component drawings below to assist in your visualisation of the bell and to supply dimensions.

One component and some outlines are given.

Component drawings

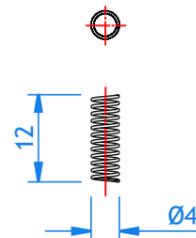
BELL DOME



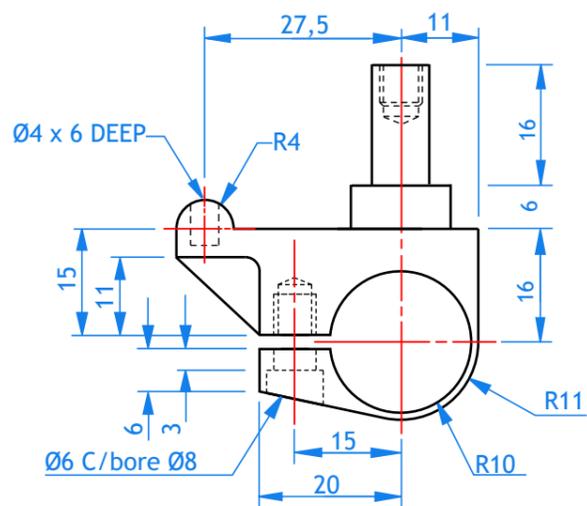
TOP BELL SCREW



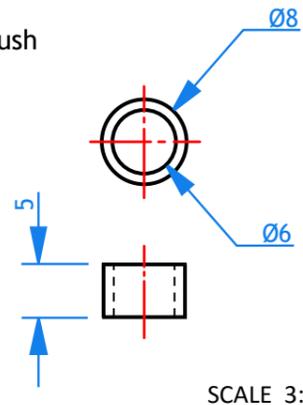
SPRING



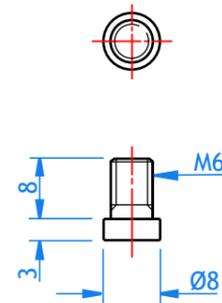
HANDLE BAR CLAMP



Bush



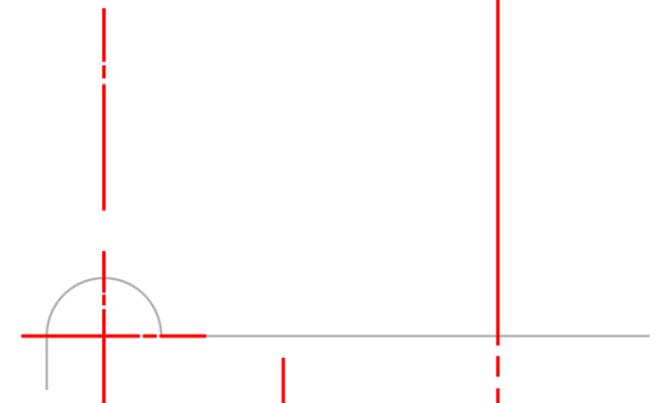
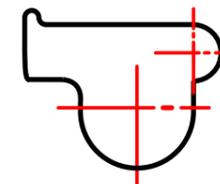
CLAMPING SCREW



SCALE 3:2

The spring you will draw in the exploded view looks different to the one shown in the component drawings

Q1. Explain, giving two reasons, why the spring you will draw is different to the one shown in the component drawings.



EXPLODED ELEVATION

10mm sq scaling check

Name:

TITLE: EXPLODED ELEVATION

DATE:

EXPLODED ASSY | 6b EASIEST

A3 Worksheet - Exploded orthographic view page 22

Task

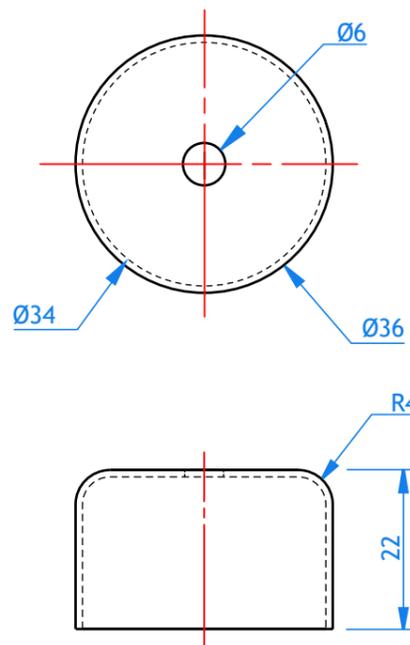
Complete, to a scale of 2:1, an exploded elevation of the bicycle bell.

The centres and two components are given. Use the information on the detailed component drawings below to assist in your visualisation of the bell and to supply dimensions.

Two components are given.

Component drawings

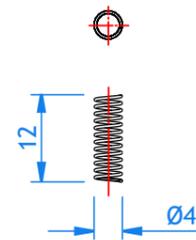
BELL DOME



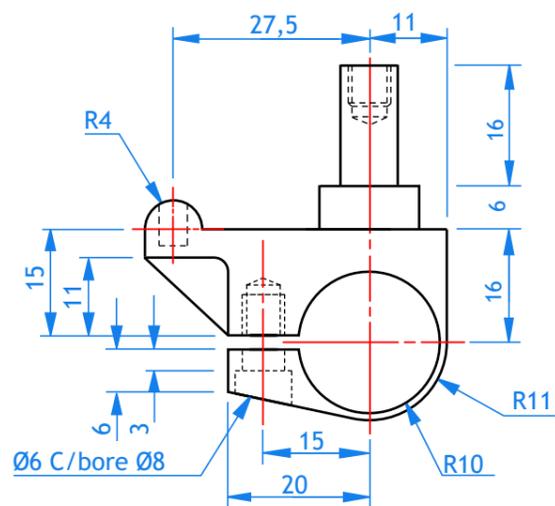
TOP BELL SCREW



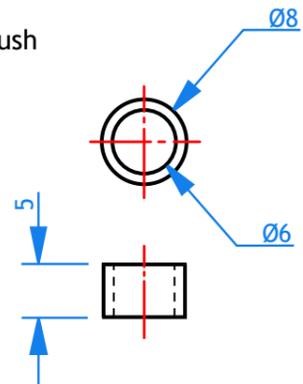
SPRING



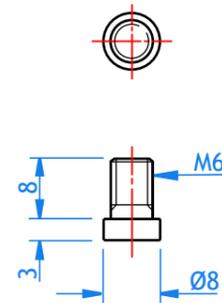
HANDLE BAR CLAMP



Bush



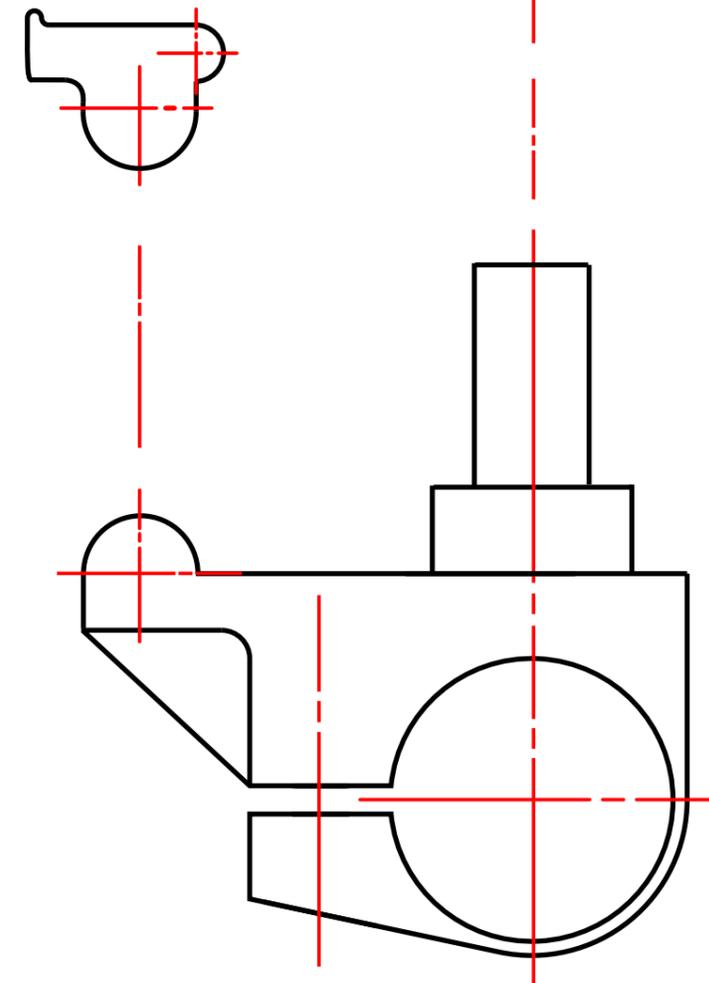
CLAMPING SCREW



SCALE 3:2

The spring you will draw in the exploded view looks different to the one shown in the component drawings

Q1. Explain, giving two reasons, why the spring you will draw is different to the one shown in the component drawings.



EXPLODED ELEVATION

10mm sq scaling check

Name:

TITLE: EXPLODED ELEVATION

DATE:

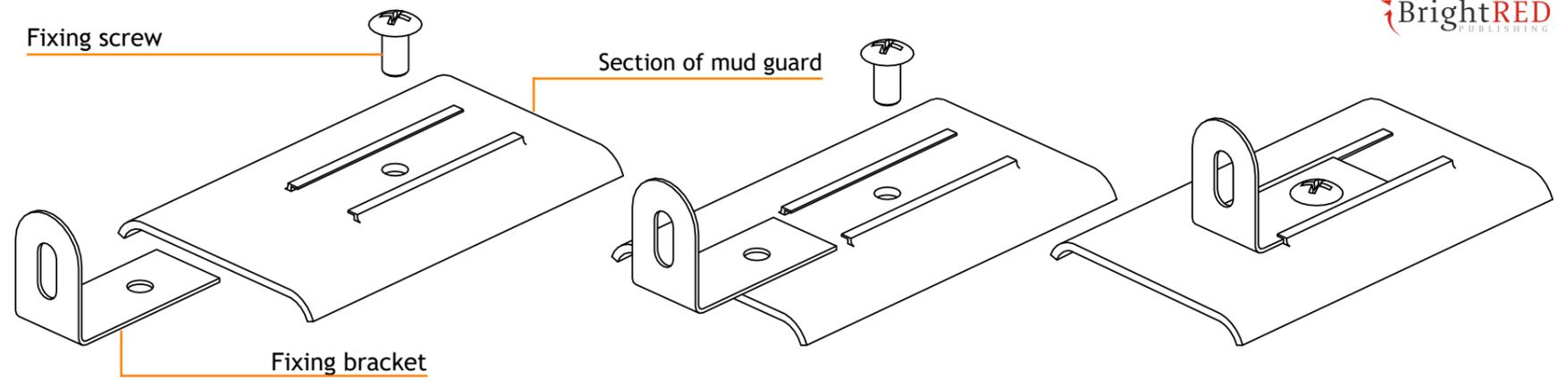
Tolerancing | 7

A3 Worksheet - Tolerancing Dimensions pages 26 - 28.

A fixing bracket, mud guard and screw assembly are shown. Two functional dimensions are shown with dimensional tolerances added.

Task

1. Identify two other functional dimensions and apply a suitable tolerance to each dimension.
2. Identify where parallel dimensioning has been used and explain why this method is used.
3. Identify one non-functional dimension and explain why it is non-functional.



Fixing bracket

PLAN

ELEVATION

END ELEVATION

Mud guard

ENLARGED DETAIL

PLAN

ELEVATION

CLIENT: RANDOM CYCLES	DRAWING 2 of 12	DRAWN BY G. Thompson	
DATE: 12. 8. 15	ALL SIZES IN mm	TOLERANCE +/- 0.5mm	

 10mm sq scaling check

Name:

TITLE: MANUFACTURING TOLERANCES

DATE: