

Delivery Guide: Bike Maintenance

Overview

This topic provides learners with the opportunity to be hands on and find out more about basic bike maintenance. This topic is available at entry level and level 1. The 'Mechanical systems in bikes' topic explores how things work in greater depth and is available at either L1 or L2. Learners who do well with and enjoy this topic may want to explore that topic too.

Resources

Digital

<https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/the-m-check-for-your-bike-in-11-steps/>

This website provides advice on the 'M check' to check your bike before cycling.

<https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/how-to-set-up-your-bike-for-a-comfortable-ride/>

This website provides tips on how to set you bike up safely.

<https://www.youtube.com/watch?v=aOHhelwXLBs>

This online video needs breaking down into small chunks, but provides a comprehensive guide to home maintenance.

<https://www.youtube.com/watch?v=b66ocmukxLA>

This online clip provides tips on keeping your bike in working order.

<https://www.youtube.com/watch?v=2GNqTHVp6RU>

This clip explains how to change an inner tube.

<https://www.youtube.com/watch?v=FVE-xWuQ1gQ>

This clip explains how to index your gears.

<https://www.youtube.com/watch?v=1Gs-OscFGFk>

This clip explains how brake cables work.

Physical

Internet access and display system

Student workbook

AQA Summary sheet

Bikes to work on (it may be a good idea to use something that doesn't need to be used for transport after the session)

If available, a work stand will make performing maintenance tasks much more accessible. Learners will be able to access parts of the bike at a position which is more comfortable for them.

Tools:

- Pump
- Tyre Levers
- Allen Keys
- Spanners (an adjustable spanner is fine)
- Cleaning materials (bucket, washing up liquid, water, rags and brushes)

Subject knowledge

The person delivering this topic needs to be able to carry out all the learning outcomes in the topic themselves before teaching this to a group of learners. Ideally, the person delivering this topic would have a bike maintenance qualification, for example Cytech if working on bikes that the learner will ride after doing their own maintenance.

Activity ideas

This topic can be delivered by:

- Arranging a visit to a local bike workshop to talk to a mechanic.
- Using the online resources to support learning.
- Demonstrating each technique and allowing learners the opportunity to practice on their own bike.
- Completing the student workbook.
- Supporting learners in servicing their own bike.
- Supporting Learners in carrying out maintenance on bikes that are used within your setting.

Evidencing completion of the unit

Entry level (Unit code: [117892](#))

Outcomes

Demonstrated the ability to

1. Use an Allen key to tighten a loose bolt
2. Set a bicycle seat to the correct height

Shown knowledge of

3. Two parts that wear out on a bicycle
4. The name of five bicycle components

Experienced

5. Inflating a tyre
6. Cleaning a bike

Evidence

1. Record on the summary sheet when you have witnessed the learner using an allen key to tighten a loose bolt. Ideally, they should be able to select the appropriate size and understand which direction tightens and loosens.
2. Record on the summary sheet when you have witnessed the learner setting the seat to an appropriate height for themselves. They should show that it is correctly tightened by demonstrating that the seat post doesn't rotate with manual pressure.
3. Record on the summary sheet and/or mark the learner work booklet. Ideally, they should be identifying major wearable components like tyres, brake pads, braking surfaces, chain etc. but they may also identify things like handlebar grips etc.
4. Record on the summary sheet and/or mark the learner work booklet, when the learner has identified 5 components. Ideally, they should be identifying specific components like 'brake calliper' rather than 'brakes' but large components, e.g. 'wheel', 'handlebars' or 'frame' are also acceptable answers.
5. Record on the summary sheet when you have witnessed the learner inflating a tyre. They should be able to do this independently, but might need guidance to know when the pressure is correct etc.
6. Record on the summary sheet when you have witnessed the learner cleaning a bike. They should do this independently and consider how they are going to reach components that are harder to access, even if they don't achieve a perfect finish!

Level 1 (Unit Code: 117893)

Outcomes

Demonstrated the ability to

1. Perform an 'm-check'
2. Replace an inner tube to fix a puncture
3. Use allen keys to tighten loose bolte
4. Identify when brake pads are worn
5. Identify when tyres are worn
6. Adjust cable tension using barrel adjusters

Shown knowledge of

7. the names of ten bicycle components
8. how gears work
9. how cable brakes work

Evidence

1. Record on the summary sheet when you have witnessed the learner performing an 'm-check'. Ideally, this should involve some discussion around what they are looking for.
2. Record on the summary sheet when you have witnessed the learner replacing an inner tube to fix a puncture. If there isn't an actual puncture, this can be demonstrated by removing the tube and re-installing it.
3. Record on the summary sheet when you have witnessed the learner using allen keys to tighten loose bolts. They should be able to say which direction tightens and which loosens.
4. Record on the summary sheet when you have witnessed the learner identifying worn brake pads. They may use a worn set as a reference point.
5. Record on the summary sheet when you have witnessed the learner identifying worn tyres. They may do this by stating that the tread has worn off or by finding a wear indicator.
6. Record on the summary sheet when you have witnessed the learner adjusting cable tension. This may be either for gears or brakes.
7. Record on the summary sheet and/or mark the learner work booklet, when the learner has identified 10 components. Ideally, this should be more specific than in the entry level unit, e.g. 'tyres', 'rib' or 'hub' rather than 'wheel'
8. Record on the summary sheet, and/or mark the learner work booklet, when the learner has shown that they know how the system works. They may demonstrate this by saying or writing things like 'the barrel adjuster can be used to set the cable tension' etc.
9. Record on the summary sheet, and/or mark the learner work booklet, when the learner has shown that they know how the system works. They may demonstrate this by saying or writing things like 'the barrel adjuster can be used to set the cable tension' etc.