Mountain Biking

Scout Information Centre
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Introduction

This is the first edition of the factsheet. Further editions may be issued in the light of experience with this edition. The publication of further editions will be notified in Scouting Magazine, Talking Points and the Activities Newsletter.

General

This factsheet deals with cycling on any type of bicycle in country remote from habitation in the areas defined in the Rules of The Association. It does not address the use of mountain bikes on cycle trails in inhabited areas.

Authorisation

Mountain biking should always be carried out in groups of at least four and not more than seven. No more than two groups should travel together. In each group there should be an authorised person, or the activity should be under the supervision of a suitably authorised person. These authorisations are granted by the appropriate Commissioner (usually District, but occasionally County/Area or National) on the advice of the appropriate County Activity Assessor. The assessment for authorisation is based on the three following points.

a) The person applying for authorisation should fully understand the responsibilities of the authorisation and be aware of their limits of authority. They should also be able to tailor the activity to the physical and mental needs of the young people concerned.

   This is the first and most critical aspect of the authorisation procedure. Commissioners should consider every application thoroughly before adding their support and signature.

b) The person wishing to be authorised should be in possession of the necessary technical skills and theoretical knowledge.

c) The person applying for authorisation should have good knowledge of the area in which

d) They intend to operate and should appreciate local hazards.

The Sport of Mountain Biking

Depending on your interests it is possible to tour, compete, get fit, and explore using a mountain bike. To the purists, the ultimate is the all out assault of rider and machine against the most extreme natural terrain. The tiring progress up steeper gradients and the exhilarating fast descents giving challenge to both body and metal. Cycling as a pastime, means of transport and as a competitive sport has been around for many decades. Cycling has many forms and uses. Serious mountain bikes are designed and built to be extremely light but strong compared to road bikes. Here we concern ourselves with the use of mountain bikes purchased for less than £200, at 1999 prices, within the normal range of a Christmas or birthday present for our 10 - 14 year olds. It is probable that if the youngster really takes to the sport he may well want to compete. If so, for success, a far more expensive bike and associated equipment may be required, and is beyond the scope of this factsheet. Here we concern ourselves that many of our youngsters have mountain bikes and this factsheet is developed to make safe but exciting use of them.

The Bike

It is vital that before any trip away from close habitation any bike taken must be checked over, to be in very good condition and suitable for the intended route. One broken bike ruins the trip for all, and may endanger life. One idea is to invite your local cycle shop to inspect the bikes well prior to the event.

Frame The frame size is generally 2 - 2.5 inches smaller than the equivalent road bike for the same rider, made usually of high specification alloy steel or aluminium/steel, or even carbon-fibre/steel or aluminium combinations. It is the heart of the machine; strong enough to cope with the stresses of rough terrain but light enough to be carried over those

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parts of the route impossible to ride. Our youngsters are more likely to have the cheaper, heavier bikes, and may need help lifting them over obstacles.

Wheels Normally now made of light alloy capable of taking tyres from around 1.5 to 2.25 inches. Steel wheels are still available but are much heavier and braking is not as efficient.

Tyres Three main types - pure off road tyres, all surface tyres good enough to give reasonable traction off road but with a central road tread, more likely on a youngster's bike, and smooth tyres for a street machine. A tyre pressure range of 40lb - 60lb per square inch is often moulded onto the tyre casing; the lower pressure can give greater adhesion on softer ground, but increases the likelihood of punctures.

Brakes Usually now brake arrangement is a centre-pull cantilever, but new arrangements are being seen on top-flight competition bikes that will no doubt feature on lesser machines soon. Top quality composite brake blocks should be used especially with alloy rims for best braking, but be aware that they wear out quite quickly.

Gears 15 to 18 or even 21 ratios are quite normal. Overall gearing tends to be much lower than road bikes, and again made of stronger materials. Gears are used with practise to ascend stiffer gradients and their purpose is to make the 'work' easier by permitting a greater number of pedal revolutions per wheel revolution, easing the muscular strain required to get up the hill. Aim for a constant speed of pedalling, using the gears to achieve this.

Tools The bare essentials include a pump, a small adjustable spanner, 4,5 and 6mm Allen keys, tyre levers, a small screwdriver, a chain breaking tool, spare tube and puncture repair kit and possibly a spare brake/gear cable. The quantity of tools and spares varies according to the severity and the duration of the trip to be undertaken. Some of these tools are available in miniature. These items should be carried with the bike perhaps in a small saddle pack. It is important to know how to use the tools and some bike shops run maintenance classes.

What to Wear

Helmet There is no sensible argument against the wearing of helmets either on or off road, although a head injury in mountain biking is unlikely, the risk of a fall in which the head is struck has severe consequences. Wear one! See POR 43.5.

Clothes Outdoor activity experts swear by the layer system of clothing, but thick fleeces and cardboard stiff shell garments are generally over-engineered for cycling. Whilst ascending you get too hot, so mountain bikers tend to wear thin layers of modern synthetic fabrics, tight fitting to offer little wind resistance. **Layering**:- The 'base layer' is the next to the skin garment, such as 'thermal' underwear. The 'mid-layer' is a warmth layer, possibly another base layer or a fleece. The 'shell layer' is the outer garment, which must be windproof and if condition dictate waterproof too.

Your route, and the experience of the group will dictate whether shorts or long trousers are worn. Our groups tend to be inexperienced and if the route for them is severe or through areas of nettles or brambles, then expect a few minor falls, and therefore cover both arms and legs. Long trousers of any sort must have gathering around the ankles to prevent snagging in the chain assembly. As experience increases so purists favour Lycra multi-panel cycling shorts for greater comfort, these worn without underwear to prevent chafing but with tights for when the weather is cooler.

Footwear The aim of the footwear is to transmit all downward force from the leg to the bike and not to tire the ankles. So footwear should have a more solid sole, either lightweight fabric boots, or chunky trainers with deep tread. Experts wear expensive race-type shoes with stiff soles that are held onto the pedal by toe-clips.

Sports glasses Not essential but a good idea. To protect the eyes against oncoming insects and stones thrown up by the rear wheel of the rider in front, and from ultraviolet light. Normal sunglasses tend to fall off over rough ground, so tape or string them tighter.

Gloves A must. In a fall, hands always tend to go out to cushion, and on rough tracks at speed the resultant injury will be severe. Descending quickly really is a white-knuckle ride. Fingerless cycle gloves with soft leather palms and towelling backs allow better control of brake and gear levers, but do not offer wind resistance to the fingers. Gardening gloves offer a reasonable compromise and are a lot cheaper than specialist mitts.

Where and How to Ride

The Aim of the Scout Association is to promote the development of young people as responsible citizens and members of their local, national and international community. Going mountain biking on **inappropriate** tracks and trails does not live easily with this Aim.

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Somebody owns every part of the countryside, except common land, and there are many places out of bounds to mountain bikers. There is, however, a great deal of suitable track available and there is no need to spoil the fun of other countryside users. It is just a matter of checking the legality of your route and knowing the basics about access law.

You are not permitted on footpaths or disused railway lines unless they have been redesignated as cycle paths. You can ride on bridleways, byways open to all traffic, canal towpaths (only with a permit) and forestry tracks and paths. Some forests now have mountain bike routes specially marked out and used in competition. Many of these routes are marked by coloured waymarking arrows, yellow on footpaths, blue on bridleways, red on byways. Learn to use your Ordnance Survey map and always carry it with you. These show most of the rights of way, but the Highway Authority holds the definitive map of local rights of way on which you are entitled to ride.

If you ride on the road take care, you know what it is like to be cut up, scared and downright terrorised by overtaking traffic. That is how bikers can appear to walkers and horse riders. **When approaching other trail users slow down.** This is not just good trail sense, it is good politics; bridleways and other trails open to us are shared trails and we do not want our activity to get a bad name. That can lead to blanket bans. Trails in some parts of the country have been closed to cyclists due to thoughtless riding in the past. Passing horses takes special care; they can be easily frightened and may kick. So call out before you reach them and wait till the horse rider acknowledges your passing.

If someone picks an argument with you, do not argue back, even if you think you are in the right. Stay calm and diplomatic and slowly ride or walk away.

Minimal Impact Cycling

Look after trails and they will be there for years to come. Damage them and up will go the barriers. Ride with respect. Every trail is a form of land scarring; there is no escaping the fact that wherever humans venture they leave marks of their passing. All old tracks, drove-roads and footpaths were created through use, and if we do not keep travelling on them they will fade back into the landscape. However, we do not want our favourite track turning into a motorway, so how can we protect the land so that we do as little harm as possible?

Climbers have ‘clean climbing’; anglers have ‘catch and release’; mountain bikers have ‘skid-free biking’.

Skidding is what beginners do. It unnecessarily damages tyres, paths and bikers credibility.

Bad braking is a common problem and there is no need for it. To skid means you are out of control. Instead learn to use both brakes and squeeze the brake levers rhythmically, once a second, called cadence braking, this should stop the rear wheel from locking up and gives you far more control. Thus the mountain biker does not rip up the ground. It is worth noting that research carried out and published by Mountain and Trail Bike Pro magazine back in 1994 showed that on hard-based tracks, bikes caused very minimal damage - less in fact than walkers.

To reduce your impact on the land

- Always stick to the trail and keep the scarring to a minimum.
- Go through puddles if you can see the hole poses no danger, not around them Going round just makes them wider.
- Stay off the soft stuff if it has been raining for a while.
- Follow the Countryside Code.

Weather

The weather should never be taken for granted. In hill country, bad weather can descend very quickly. Protective clothing, navigation technique and mountain skills go some way towards combating the elements, but even experts can get it wrong sometimes and it is important to realise wilderness areas are neither benign nor playgrounds.

Too much sun Fun in the sun can carry a high price. On summer days always pack a high factor sweat resistant sun-screen and apply it every couple of hours. Drink plenty of water, probably more than you think is necessary. Take lunch with you, and take breaks in the shade.

Wind Exposure Watch out for the wind chill factor, where the cold and wind combine to produce an apparent temperature a lot lower than the real one. Descending quickly amplifies this effect. It can be a killer! Learn to recognise the symptoms of exposure and when they appear, take action immediately. You should have fed well before setting off, and continue to eat small snacks at regular intervals to maintain your blood sugar level. Liquid intake is also important, because without fluid the body finds it difficult to digest food and dehydration lowers the body’s resistance to the elements.

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Equipment

What you take with you depends on the length of your trip and the nature of your route but these items should be considered, and in most cases carried with you.

First Aid Kit
Bike spares
Waterproofs
Bike tools and pump
Full water bottles
Map, compass and whistle
Spare clothing
Notepad and pen
Food and separate emergency rations
Lights

Some of these can be packed in the saddlepack, but you may need to use either a pannier or a small daysack. Panniers fixed to the bike make the bike heavier - awkward if the route means a lot of carrying or lifting. Do not carry too much on your back either, your centre of gravity becomes too high and increases the risks of a fall. Full camping gear cannot therefore be taken on a mountain bike ride.

Checklist

- **Plan your route carefully** - make sure it is within the capabilities of the weakest member of your group and of your equipment. Allow enough time to return well before nightfall. Consider completing a Scout Association route plan with escape routes for all but the shortest rides.
- **Have bikes checked over**
- **Consider what equipment needed**
- **Check weather report** - do not go if the forecast is for weather conditions beyond your experience.
- **Leave details of group and chosen route with responsible adult and report changes by telephone**
- **If you get it wrong** - and are caught in low-visibility conditions up in the hills, stop until the weather clears, find shelter. Put on spare, dry clothing. Sit on something dry. If cold, keep the limbs moving, stay awake and huddle close to companions.

Publications Cross Reference

The current editions of:-

Policy, Organisation and Rules of The Scout Association
Gearing Up - Countryside Commission
Authorisation Scheme for Hill Walking and Mountain Biking FS120401
Home Contact FS120078
Route Plan FS120409

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