

# **Ratio**

2x12 ROAD



# UPGRADE KIT CONTENTS



1. 12s Road **ratchet**
2. 2x12 11t **lower jockey wheel**
3. 2x12 11t **upper jockey wheel**
4. Shifter **disassembly screw**
5. Upper **jockey spacer**
6. Emergency **mint cake**

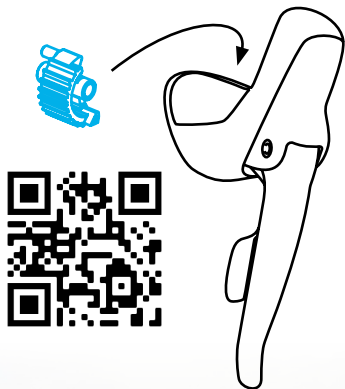
*Contents of individual part kits may be a subset of those above*

# 1. SHIFTER RATCHET REPLACEMENT

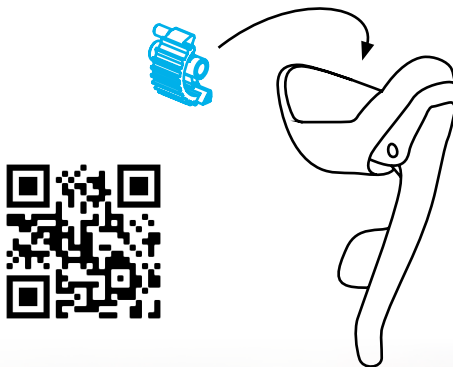


Fit the 12 Speed Road ratchet to your shifter. Scan the QR code for your shifter type or visit [ratiotechnology.com](https://ratiotechnology.com) to view our video guide. Make sure that you follow the correct guide.

SRAM 11 speed shifters for  
**hydraulic brakes**



SRAM 11 speed shifters for **cable brakes**



## 2. JOCKEY WHEEL REPLACEMENT



UPPER  
JOCKEY  
SPACER

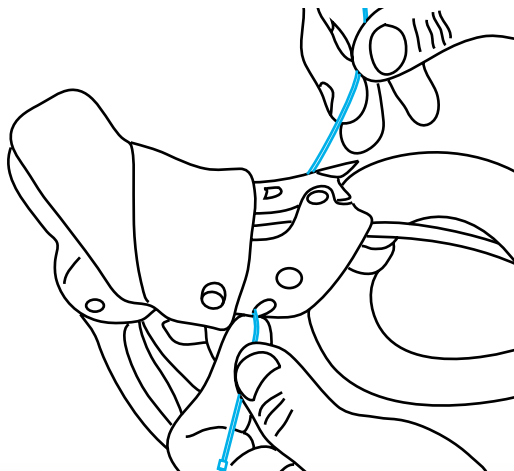


The 2x12 Road kit is compatible with SRAM Exact Actuation™ 2x11 derailleurs including Red 22™, Force 22™ and Rival 22™. Check that your chosen cassette doesn't exceed the **maximum capacity** of your derailleur as recommended by SRAM. For example, the derailleur on the left is WiFLi™ with 32t capacity.

Use a **2.5 mm** hex key to remove the original jockey wheels. The upper and lower screws are **different sizes**; take care to keep them separate.

Fit your Ratio jockey wheels, ensuring the nylon **upper jockey spacer** is fitted to the upper jockey with the raised ring beneath its teeth. The rotation arrows mark the direction that the jockeys will rotate when the bike is pedalled **forwards**.

### 3. SHIFTER CABLE ROUTING



**Cable brakes only:** Pull the lever, then feed the brake cable through the hole and out of the shifter. Connect the brake and check that the operation is normal.

**Both brake types:**

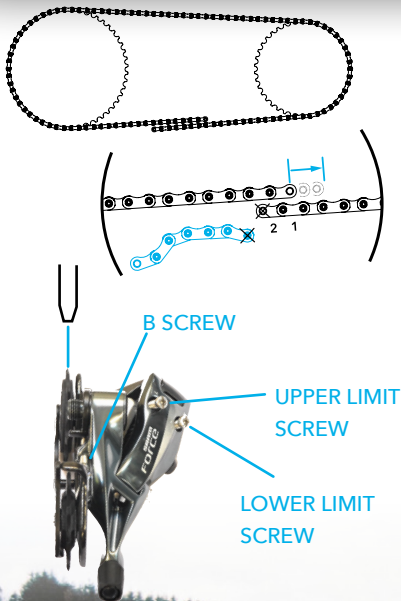
1. Shift the mechanism into the **smallest** sprocket
2. Roll the shifter hood back from the base
3. Feed the end of your new derailleur cable into the hole at the **bottom** of the shifter
4. Ensure that the cable passes through the **hole in the red cable spool** inside the shifter
5. Pull the cable out of the top of the shifter until the end of the cable is **seated in the spool**
6. Fit an outer ferrule and then slide the inner cable into the outer housing

## 4. DERAILLEUR CABLE ROUTING



1. Fit a ferrule to the end of the outer cable
2. Thread the inner cable through the **cable adjuster** and the **cable fin**
3. Shift into the smallest sprocket, pull the cable tight and clamp it with the bolt (**3 Nm** maximum), ensuring that the cable is **seated in the groove** in the washer
4. Pull on the derailleur to bed the cable in, then re-tighten the cable in approximately the smallest sprocket position
5. Cut the cable to length and clamp an end cap in place

## 5. CHAIN LENGTH AND INDEXING



1. Wrap your Flattop™ 12 speed chain around the **big chainring** and the **largest sprocket**, missing the derailleur
2. Depending on the length of your chainstays, the final link will meet the chain to be cut **anywhere in the range shown**
3. Count two links from the meeting point as shown and break the chain, ensuring that the chain **ends at an inner link**
4. If in doubt, count another two links - it is better to leave the chain **too long**
5. Thread the chain through the derailleur and join it with a **quick link**
6. Adjust the **lower limit screw** until the upper jockey wheel is aligned with the centre of the **smallest** sprocket
7. Set the **B screw** - in the largest sprocket, there should be **at least a 6 mm gap** between the sprocket teeth and the upper jockey wheel teeth
8. Use the clamp bolt and then the barrel adjuster to index the gears. If the shifts **inboard** are slow, turn the adjuster **anticlockwise**. If the shifts **outboard** are slow, turn it **clockwise**
9. Release the upper limit screw. In the largest sprocket, trying to shift to an easier gear should put you back into the **same sprocket**. Turn the limit screw **clockwise** until this doesn't happen, then release it around **half a turn**. It should not be possible to shift the chain **into the spokes**





**Ratio Technology** was founded in 2018 to develop groundbreaking drivetrain components. Since then, we've set our minds to creating the parts we want to ride on our own bikes. We hope you enjoy them.

All the best,

**Tom, Felix, Will and Louis**

**#ratiotechnology**

Photography by Hugo Hunt [www.hugoshootsfilm.com](http://www.hugoshootsfilm.com)

