

# Installing New Brake & Shifter Cables





# How brake and shifter cables work...

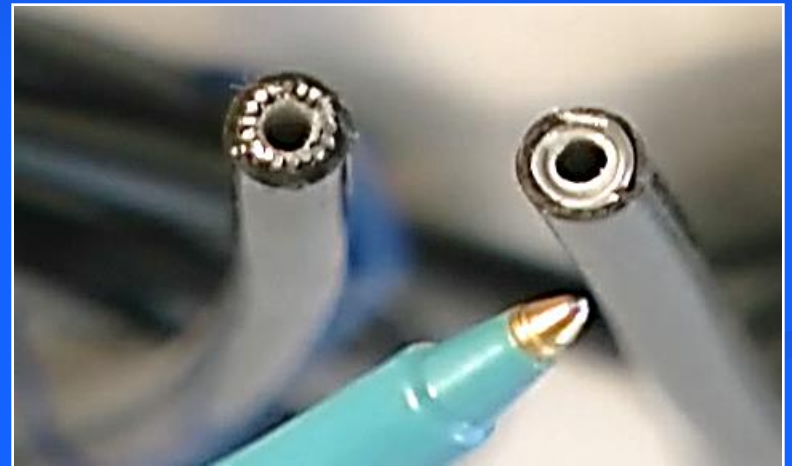
- Isaac's third law – for every action, there is...
- when you pull on a cable (brake or shifter), there is an equal push on the housing





# Brake & Shifter Housings

- cables housings are different for the brakes & shifters
  - compressionless housing is used for shifters
  - spiral wound is used for brakes



- notice the plastic liner inside the housing – this is what the cable slides back and forth on – no lubrication needed!

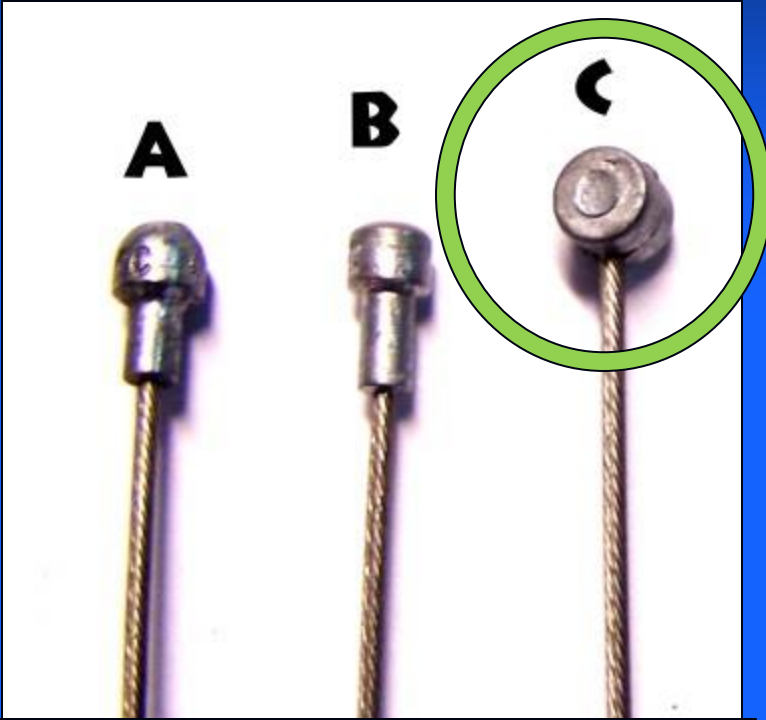
# Brake & Shifter Housings

- to save weight and reduce friction, some bikes substitute the frame for sections of the housing...

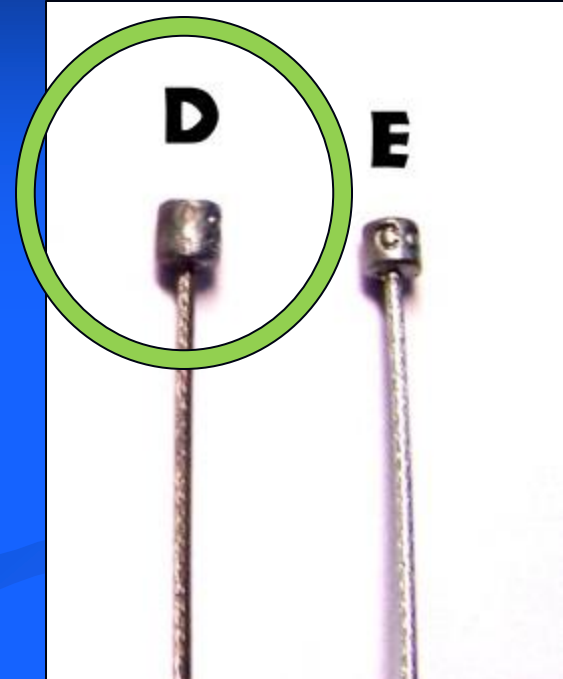


# Brake & Shifter Cables

- cables are different for the brakes & shifters



- A. Shimano brake cable  
B. Campagnolo brake cable  
C. Mountain bike brake cable



- D. Shimano shifter cable  
E. Campagnolo shifter cable



# Cutting Brake & Shifter Cable Housings

- cut cables and housings with cable cutters



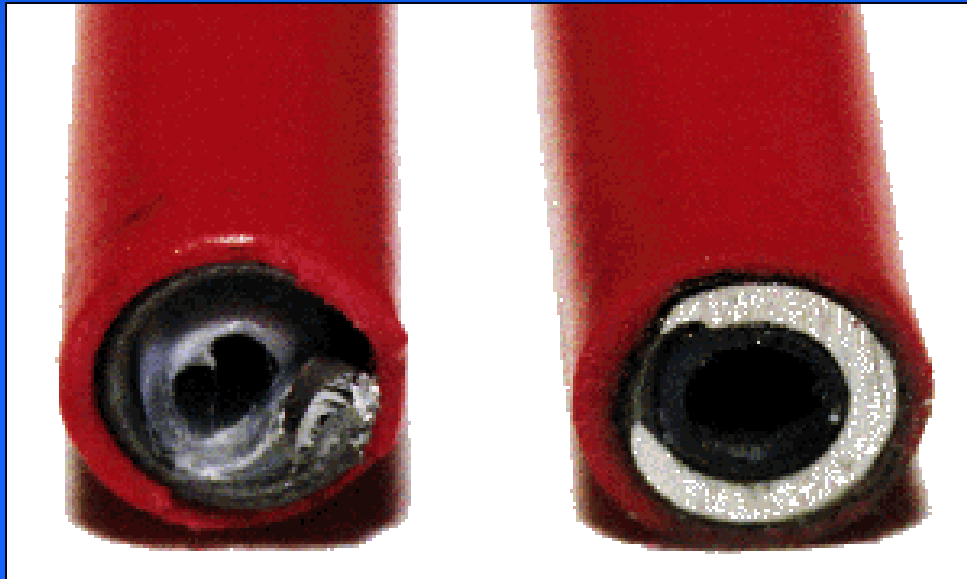
- file or grind the end of the housing so it is square



- use an awl or scribe to reshape the plastic liner in the housing

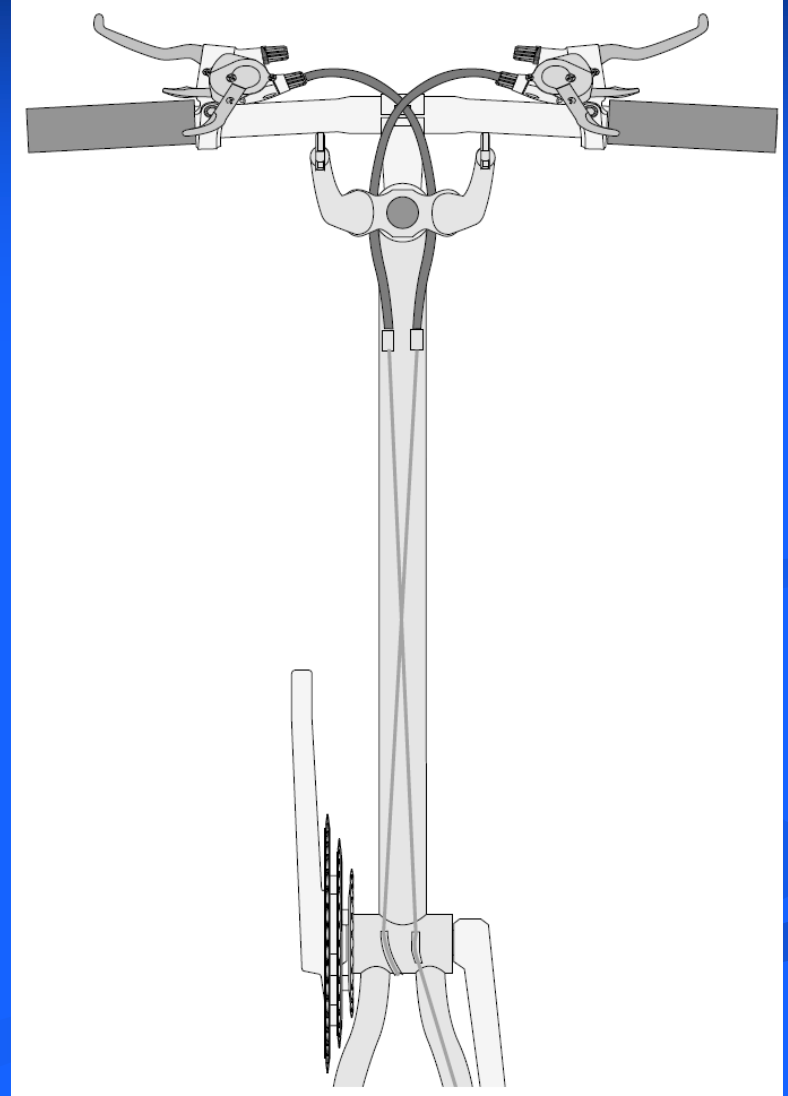
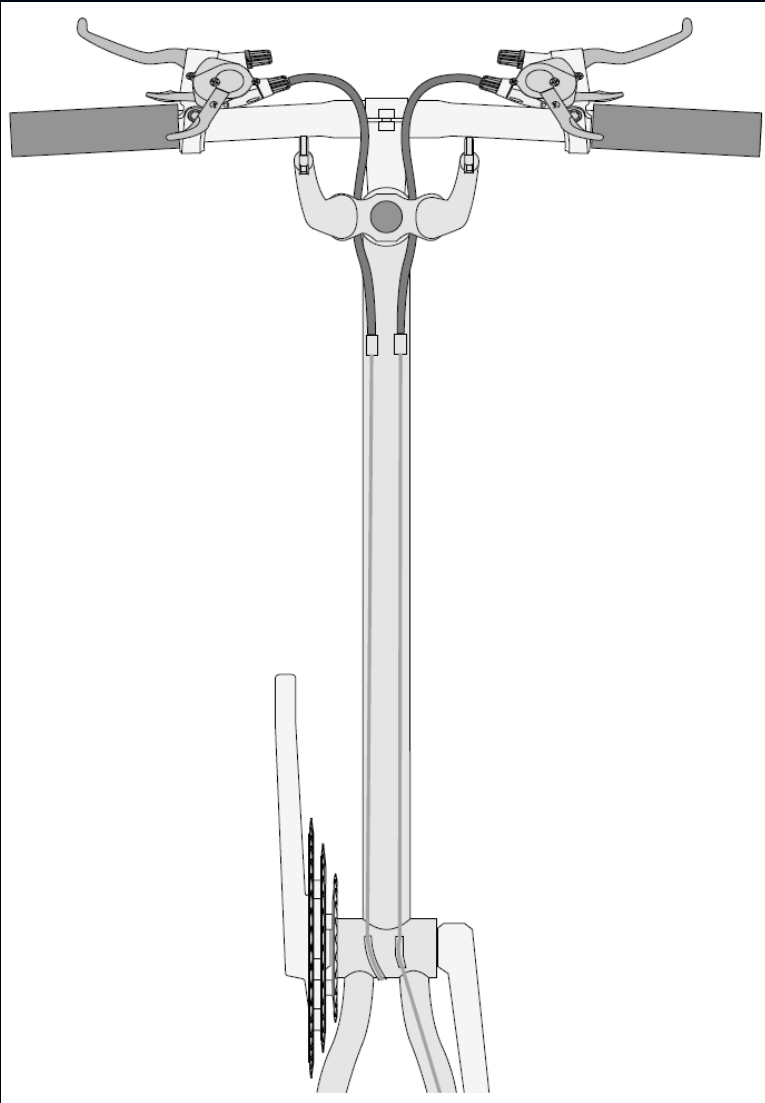


## Before & After Housing Prep...



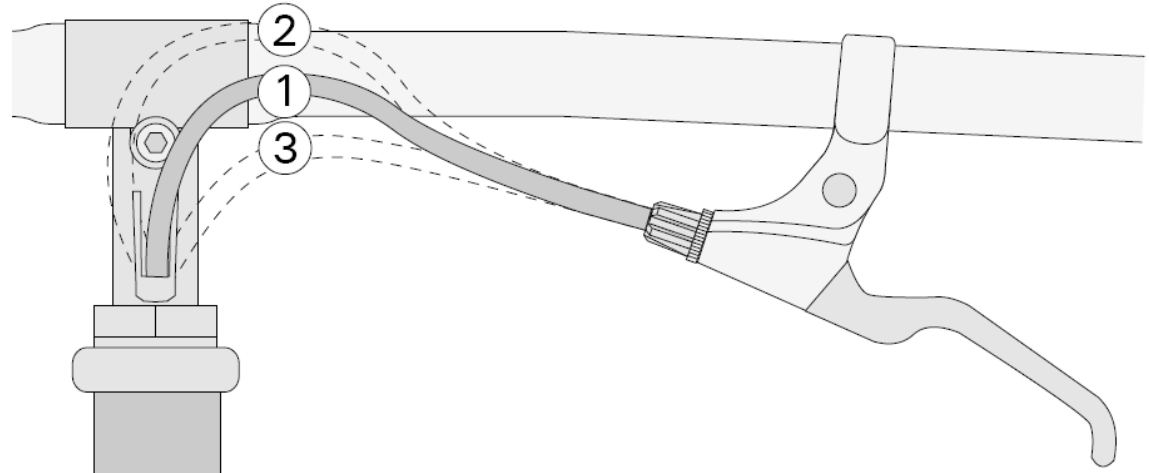
# Cable Routing

- Determine proper routing before cutting housing to length...

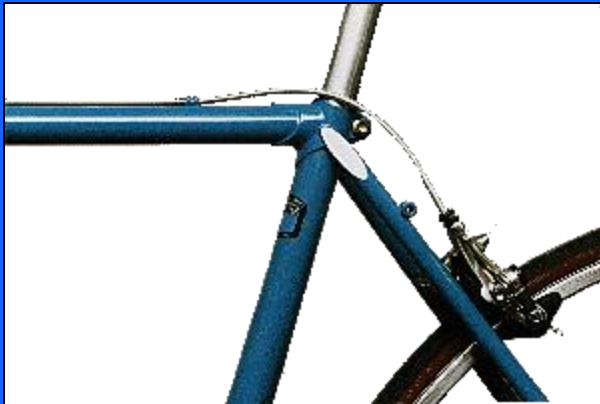




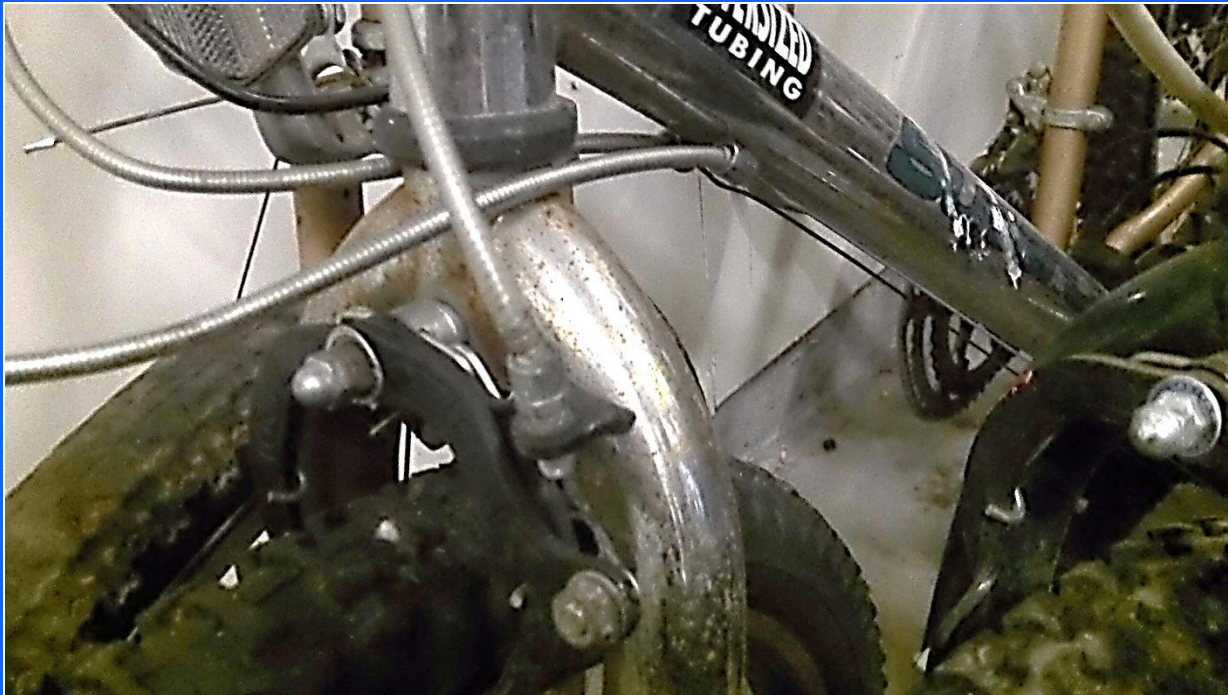
# Cable Housing Length



**35.6** When the housing length is correct, it enters the stop below the stem in a straight line (1). When the housing length is too long (2) or too short (3), the housing enters the stop below the stem or at the brake at an angle.



# Cable Housing Length

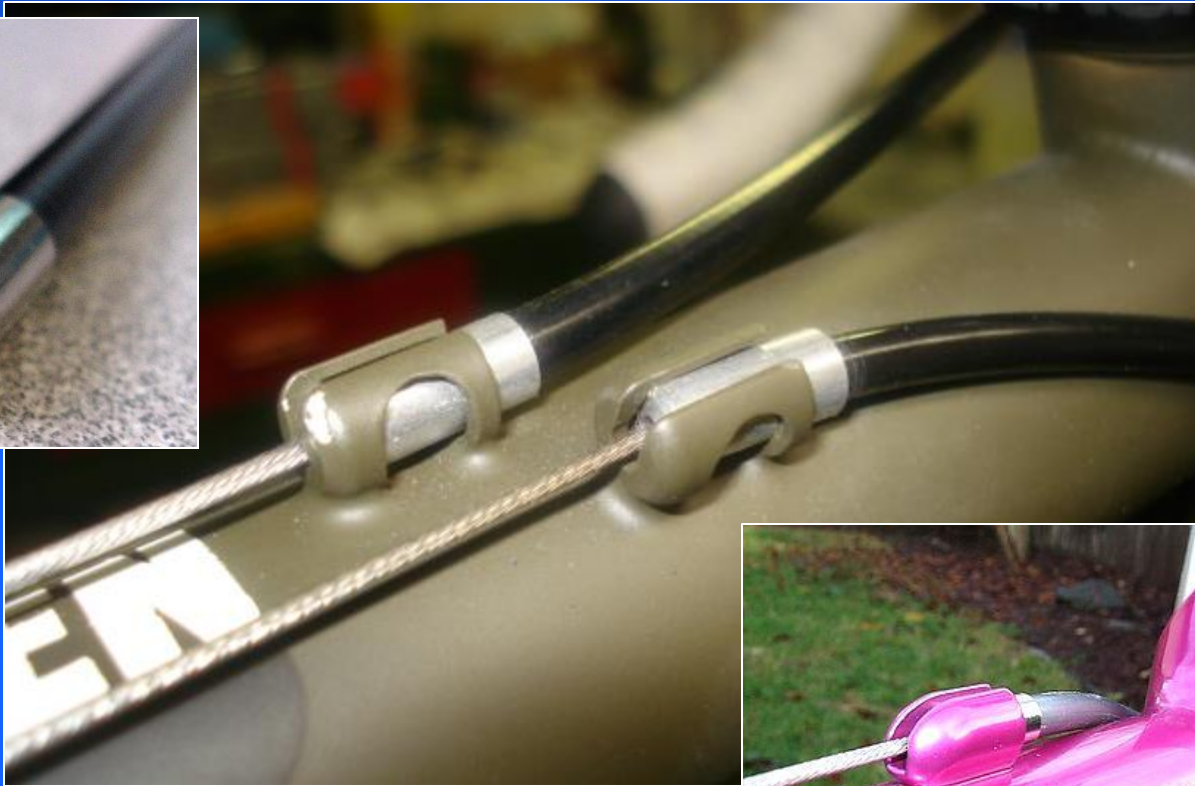


# Cable Housing Length



# ★ Housings Ferrules

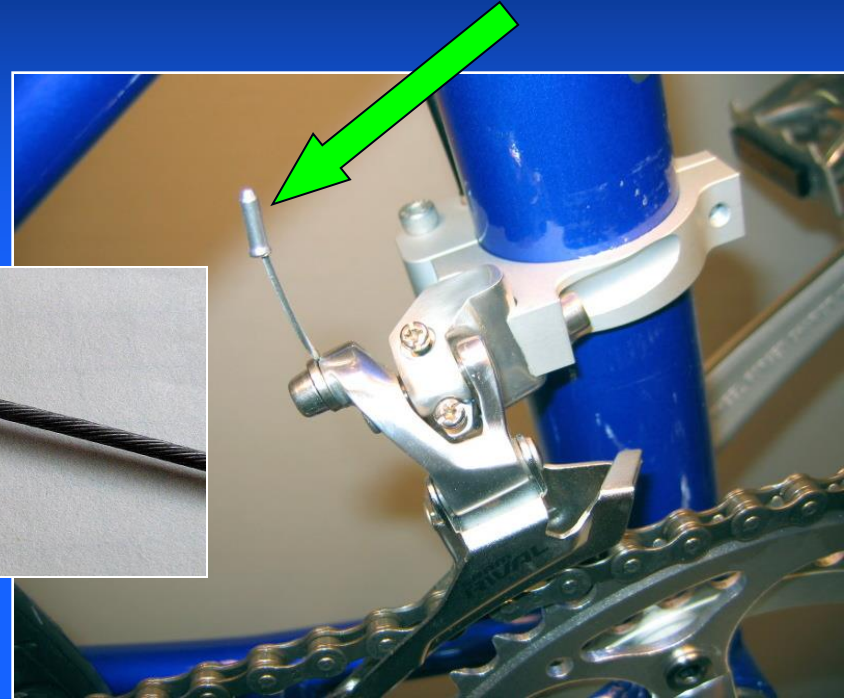
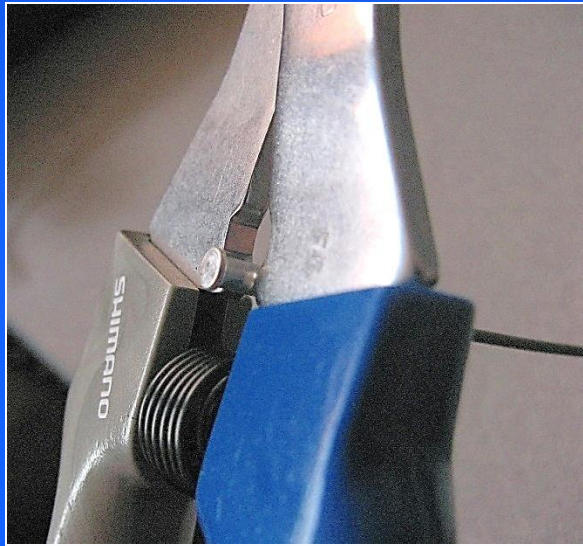
- install new *ferrules* – these...
  - prevent the end of the housing from spreading out under pressure
  - keeps the housing aligned with the cable stop





# Cable Caps

- once cable slack has been removed, cut the cable leaving 1.5" beyond the clamp
- install a *cable cap* so cable won't fray



- **DO NOT** cut the cable or install the cable cap until you test ride your bike and you are satisfied brakes and shifters work properly!!!



# Barrel Adjusters

- allow you to make corrections to cable slack on the road without tools...

