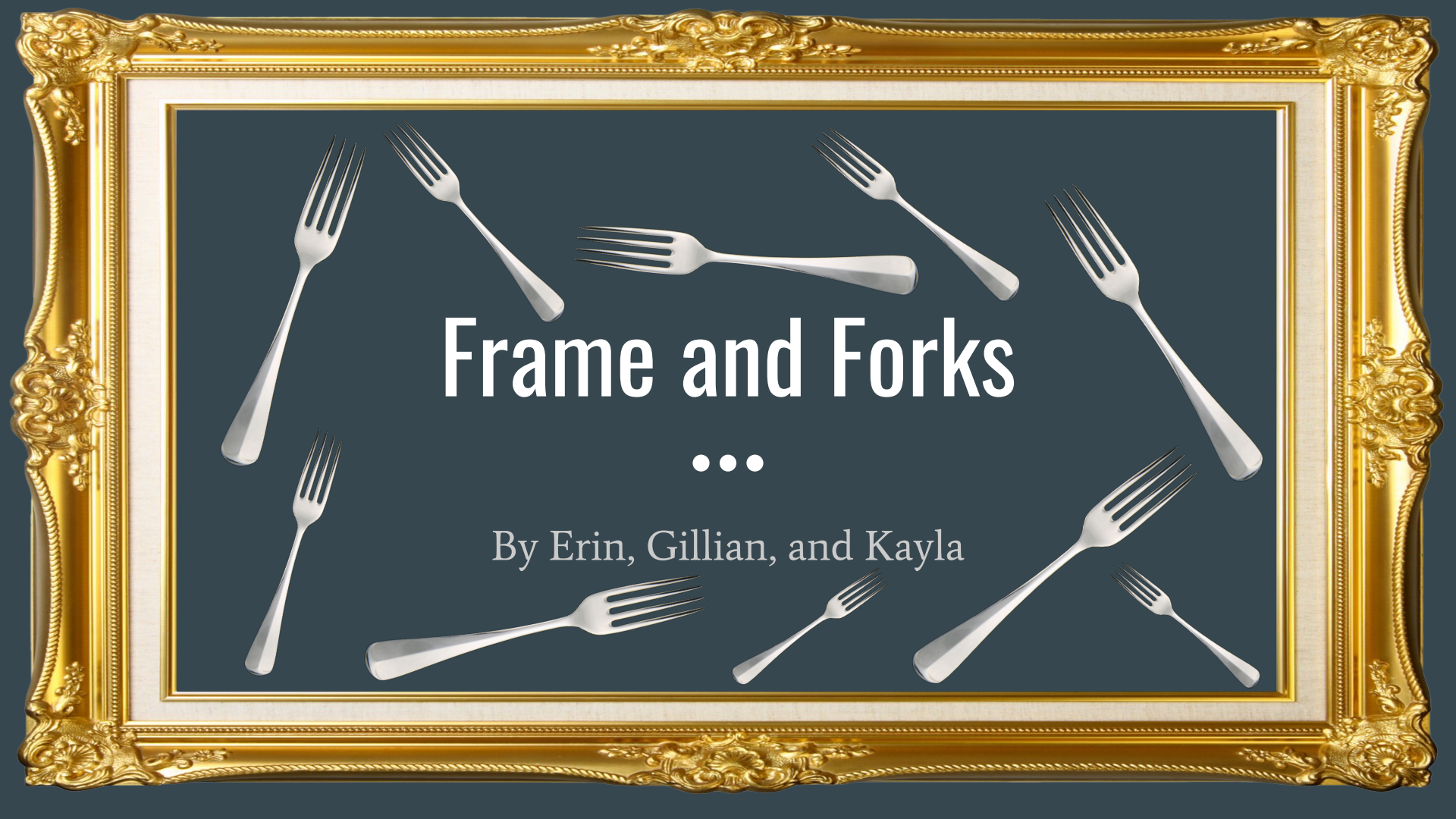
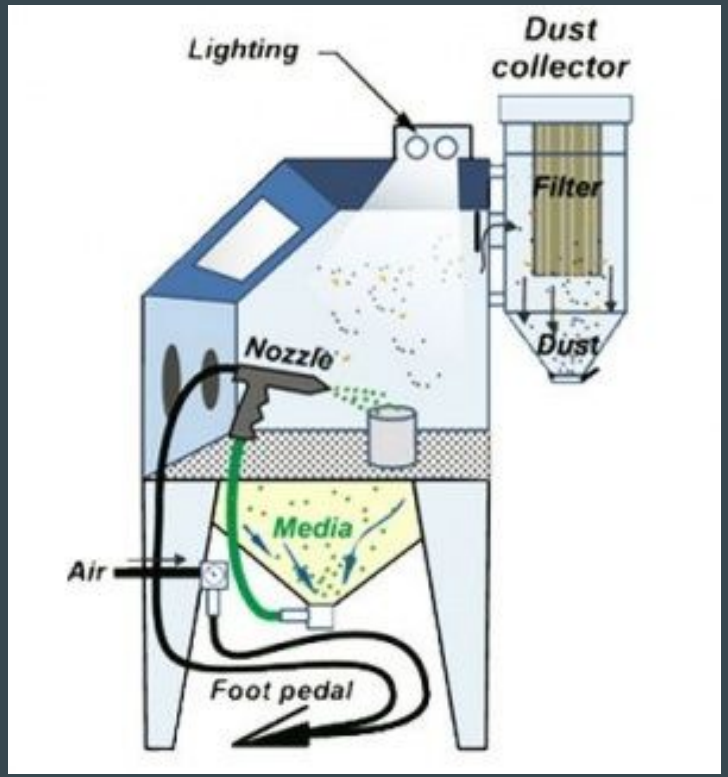

Frame and Forks
By Erin, Gillian, and Kayla

Overview of Disassembly: Taking Apart the Frame

Overview of Restoration: Degreasing, Sandblasting

Restoration: Sandblasting



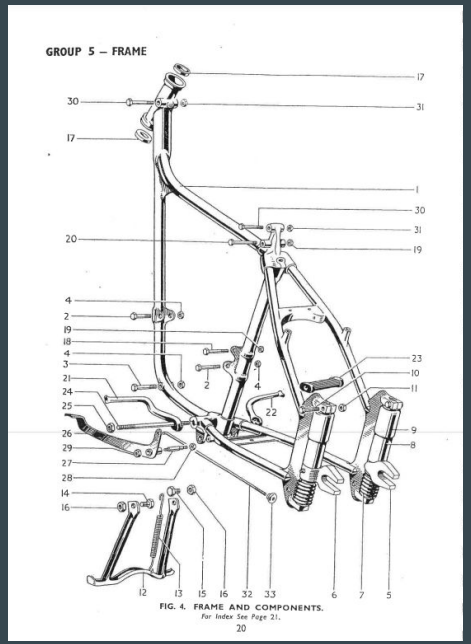
- Finely ground silica sand is fired at high velocity out of an air-powered pressure gun
- This impacts the surface and is used to clean and abrade a surface, typically metal, of paint or other materials
- The sandblasting cabinet is funnel shaped so that the sand will easily fall down to the bottom

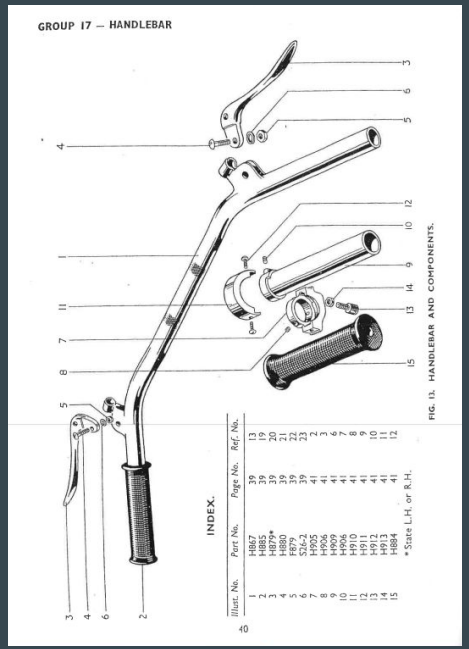
Source

Overview of Restoration: Priming, Painting

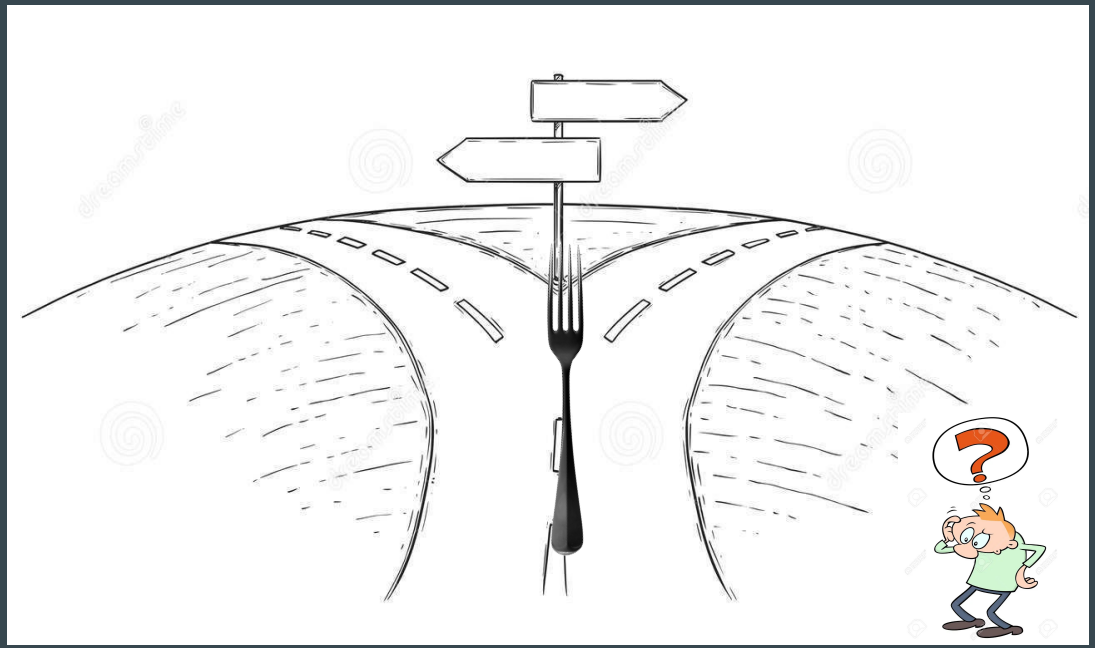
Frame

Frame and handlebar diagrams in the parts manual



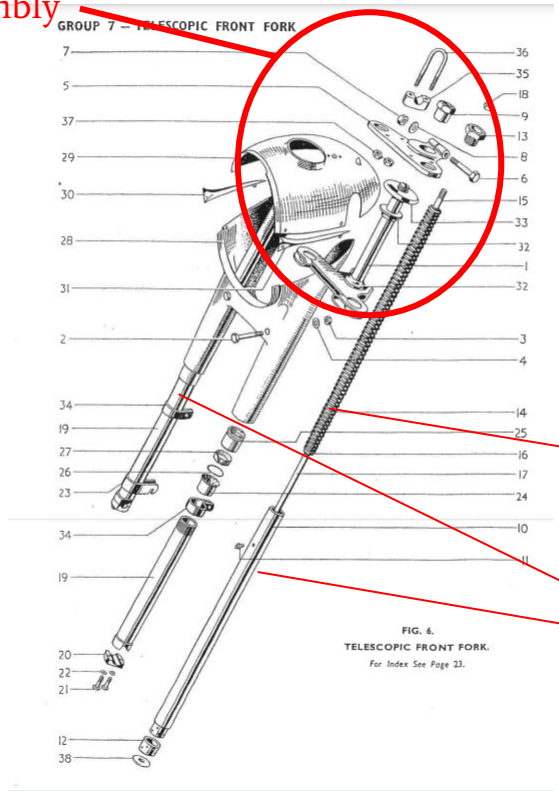


Front Forks- Mechanics



Front Fork Diagram - Parts Manual

Triple Tree Assembly



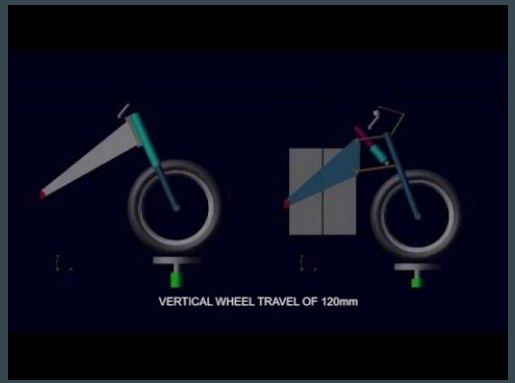
Spring

Fork Tubes

<u>Purpose of the front forks:</u>

Suspension system that maximizes traction to keep the tire in contact with the road, even as it goes over rough terrain such as bumps.

Our Front Forks



How it works:

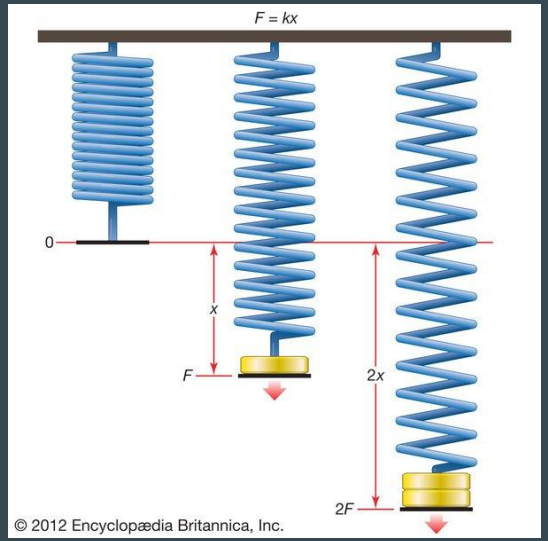
- Front fork assembly connects the frame to the front wheel and axle
- Make-up of the forks:
  - Springs
  - Oil
  - Inner Stanchion tubes
  - Outer Body
- The tubes slide in and out of the body compressing and stretching the spring that is inside to account for bumps in the road

Spring compression - Using Hooke's Law

Hooke's Law: the force F needed to extend or compress a spring by some distance X is proportional to that distance. (F=K△t)

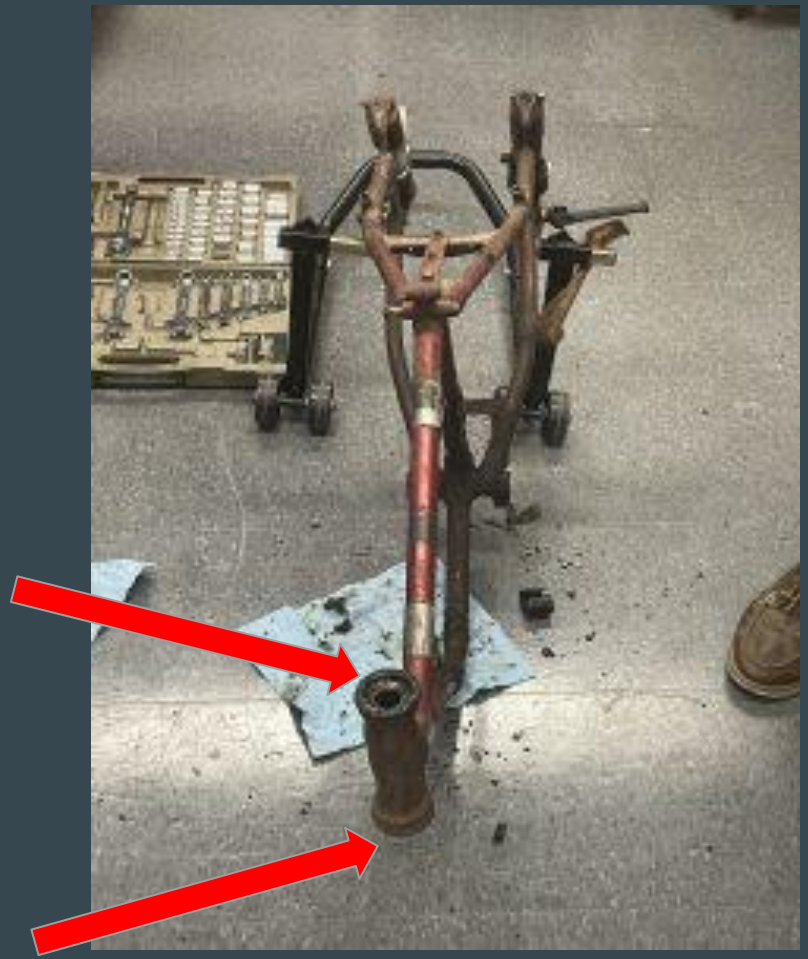
How to find the spring constant K:

1. Assemble front forks and turn upside down
2. Find the weight of the wheel
3. Put a wheel on the frame and measure the displacement of the frame
4. Use f=k*△t to find the constant K.
    a. f= weight of the wheel
    b. △t = displacement of the frame from the weight



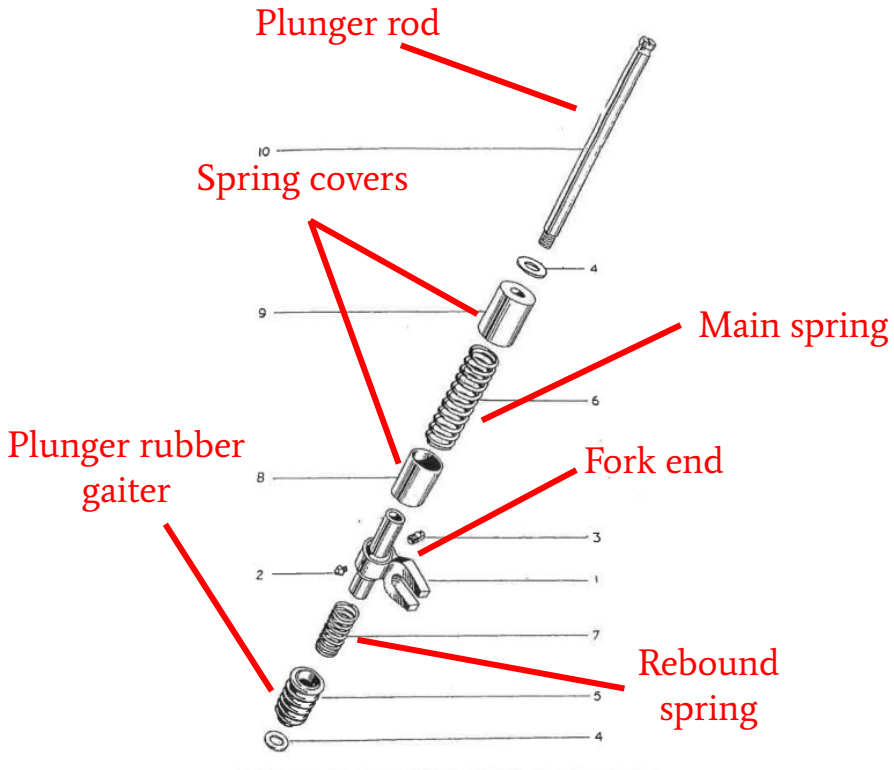
Ball bearing

- The triple tree is the clamp-like structure that secures the front fork to its frame. The ball bearings are part of this assembly.
- There are 15 balls on the top and 15 balls on the bottom.
- This is NOT a caged bearing, but rather held in a race and filled with grease.
- Ball bearings enable the steering assembly to turn easily, without friction.



Back Forks

and Rear Suspension



Rear Suspension diagram in the parts manual

Our Back Forks:

Plunger suspension

On each side, the rear suspension has two springs, a main and a rebound one below–so four in total. Compressing and extending the springs allows the motorcycle to retain energy, like with the front forks.

Purpose of the rear suspension is to heavily reduce impact of uneven ground on the rider through its compression system

Putting everything together

The End!