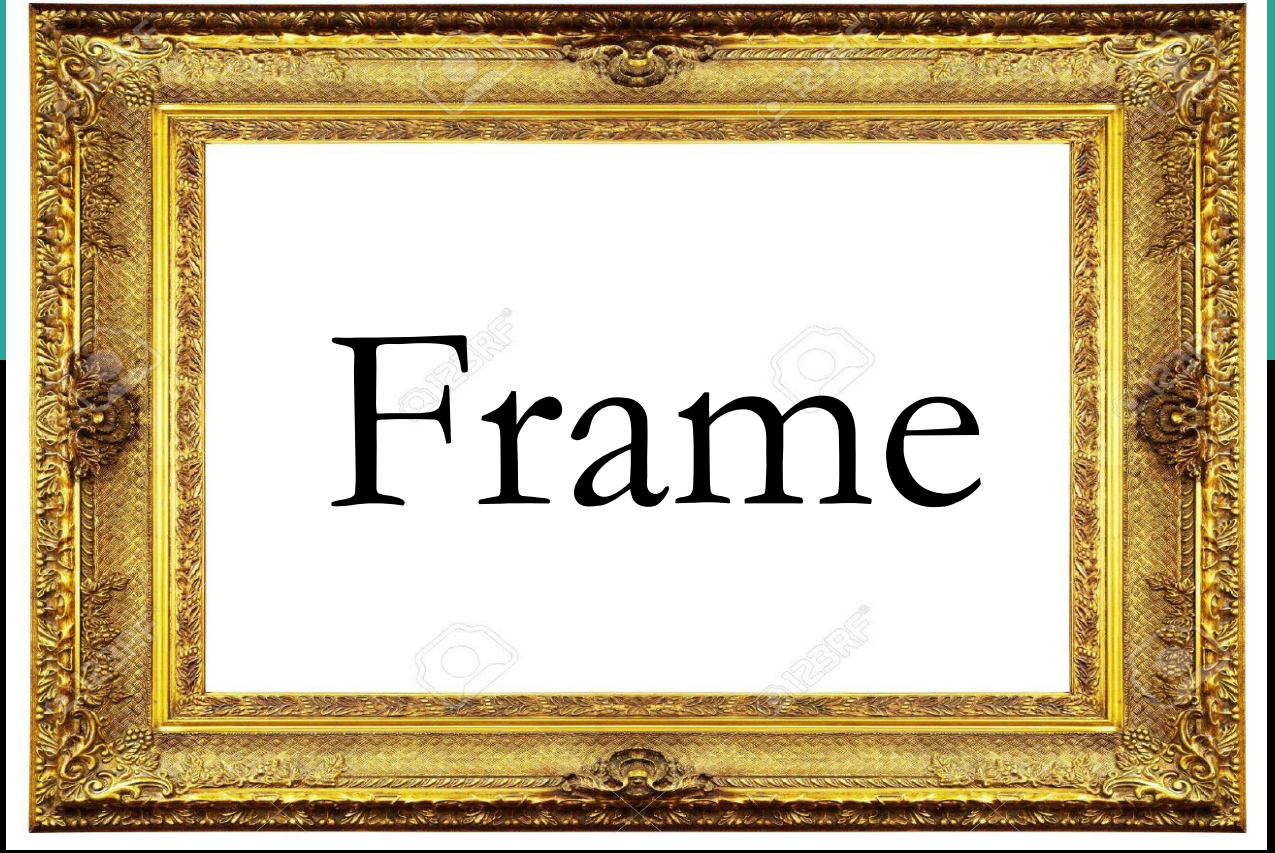
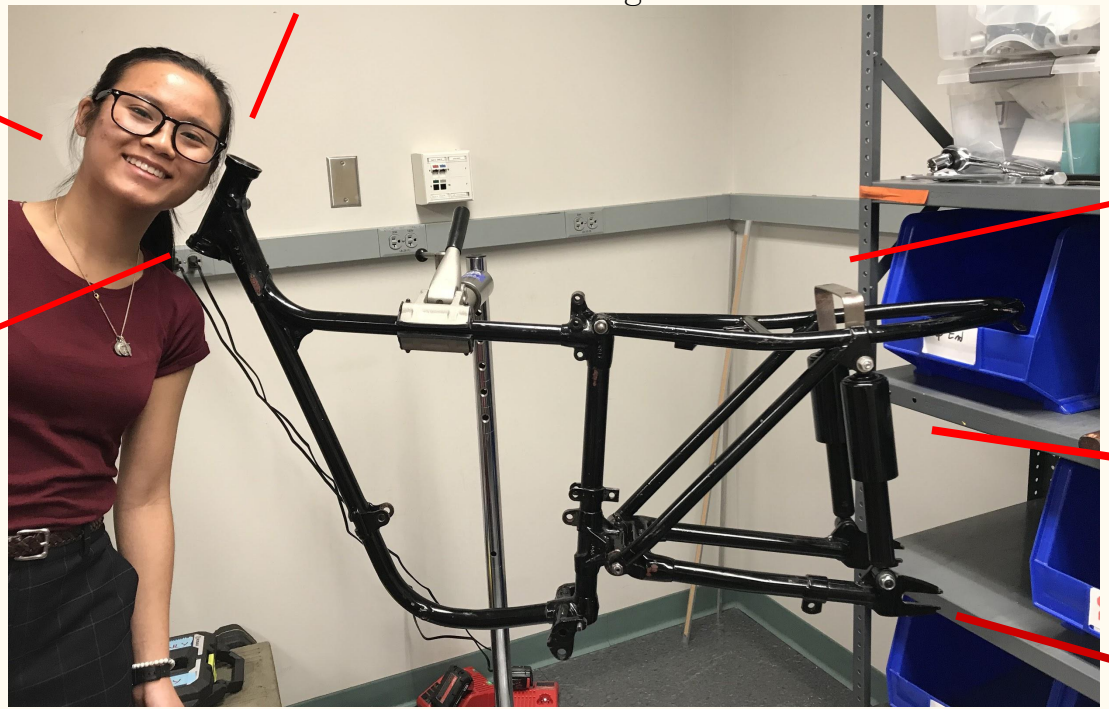


Owen Matthews, Charles An, Simon Rosen

Parts of the Frame



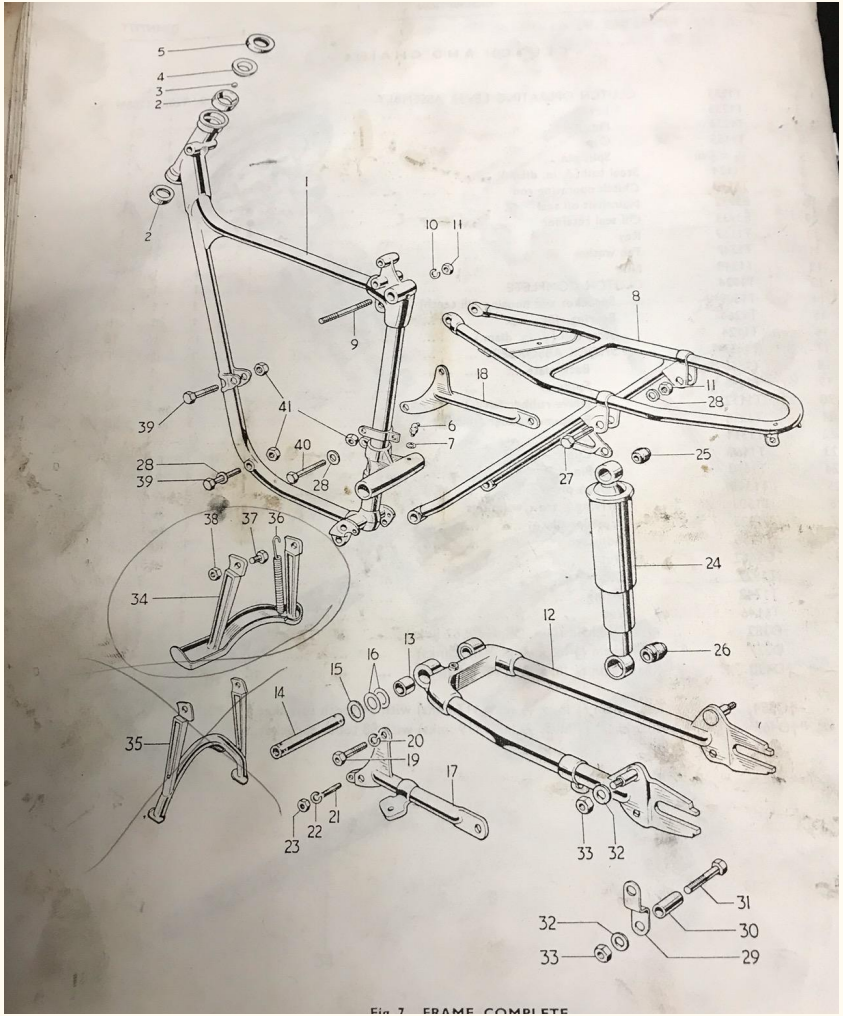
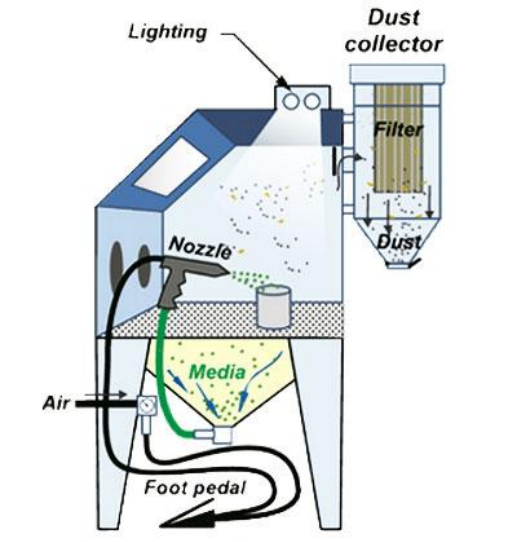
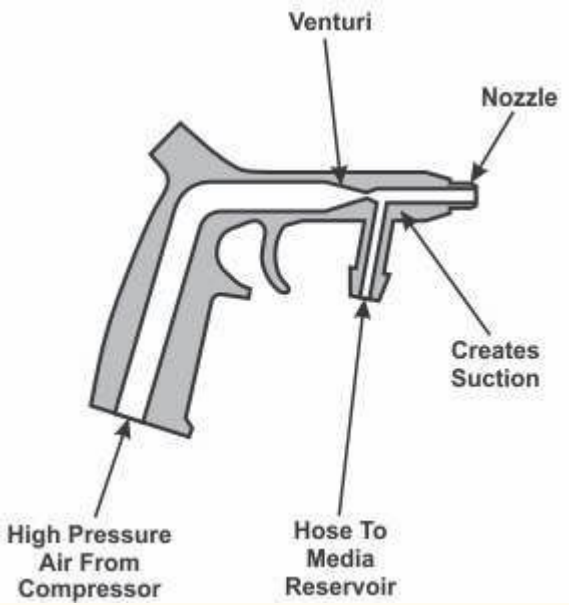


Fig 7 FRAME COMPLETE

Restoration: Sandblasting

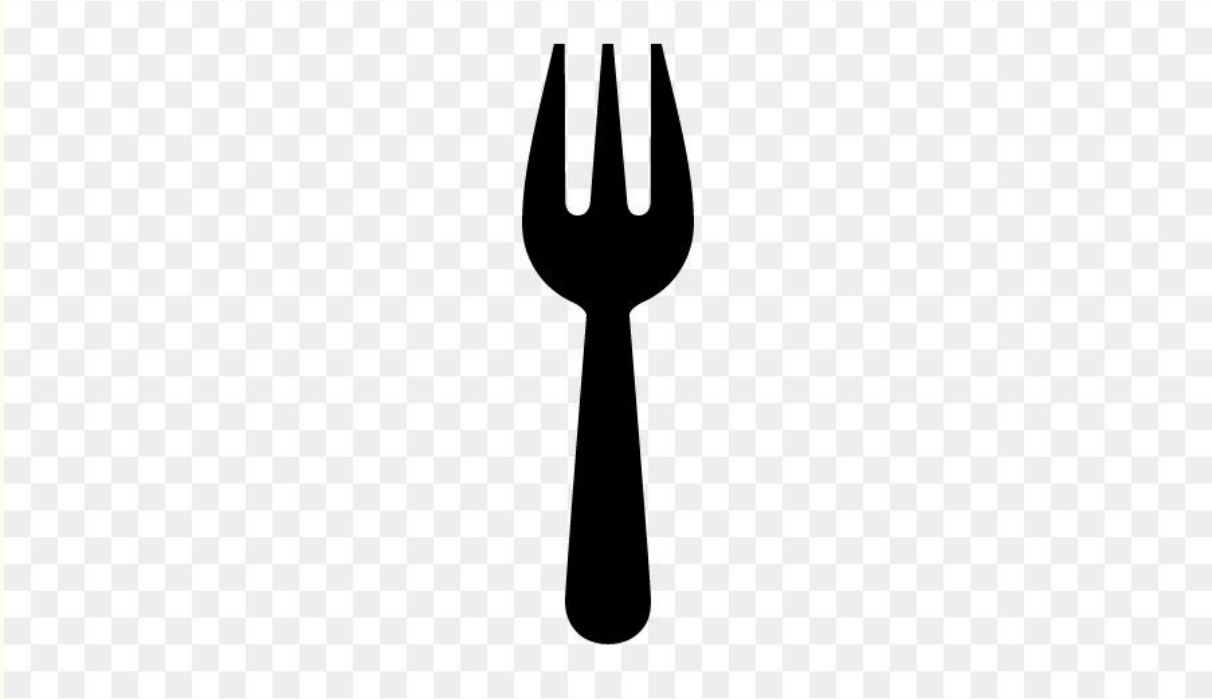
“A siphon sandblaster has three components: a sandblasting gun, an air compressor or normal pressurized tank and a container that functions as a reservoir to hold loose sand. One of the hoses connects to the underside of the barrel, and the other attaches to the bottom of the handle.”





https://www.miraclemaintenance.com/sandblaster-work-sandblasting/

Front Fork




Fork
Spring
Dust
Excluder
Stanchion
Restrictor
Rod
Drain Stud
Lower
Fork Leg
Fork End
Cap

This bike has lightweight forks

So How Does Front Fork Tube Suspension Work?

When the bike goes over a bump, the stanchions slide further into the fork tubes and the springs compress

Springs

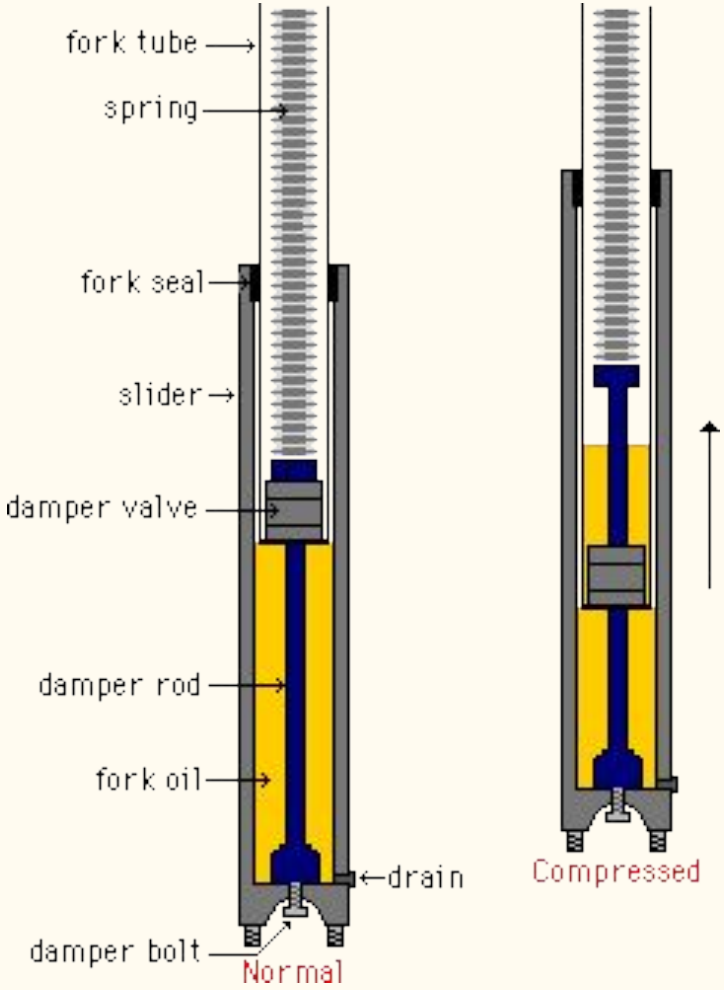
-coil spring: spiral of resilient steel rod; stretched or compressed by the vertical movement of the wheels (compress to absorb shock)

- The springs absorb the kinetic energy from the motorcycle going over bumps.
- The more tightly coiled the spring is, the more force is needed to collapse the spring and while the spring is collapsed it stores potential energy.
- At rest or in motion, the bottom surface of your tires is the only part of your vehicle in contact with the road. Any time that a tire's contact with the ground is broken or reduced, your ability to drive, steer and brake is severely compromised.

Restrictor Rod

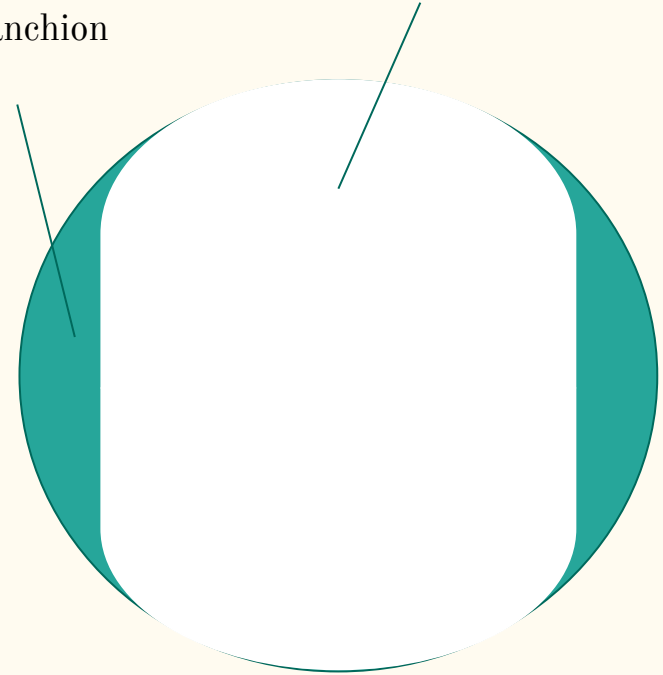
-Viscous friction (oil)

-When the stanchion is pushed down into the fork tube, the oil must flow around a valve. This causes viscous friction and stops the bike from bouncing as much



Room for Oil to flow between resistor rod and edges of stanchion (?)

Resistor Rod



Oil Height in Fork Legs (Stanchion Up)

$V\ (\text{cylinder}) = h\pi r^2$

$H\pi(1.4)^2 = 75\ \text{cm}^3$

$r = 1.4$ cm (fork tube)
$V = 75\ \text{cm}^3$ (according to parts manual)
$H = ?$

$H = 12.186$ cm

Oil Height in Stanchion when Stanchion Goes All the Way Down into Fork Leg (HUGGEEE BUMP)

$V\ (\text{cylinder}) = h\pi r^2$

$H\pi(1.015)^2 = 75\ \text{cm}^3$

$r = 1.015$ cm (of stanchion)
$V = 75\ \text{cm}^3$
$H = ?$

$H = 23.184$ cm

Back Suspension

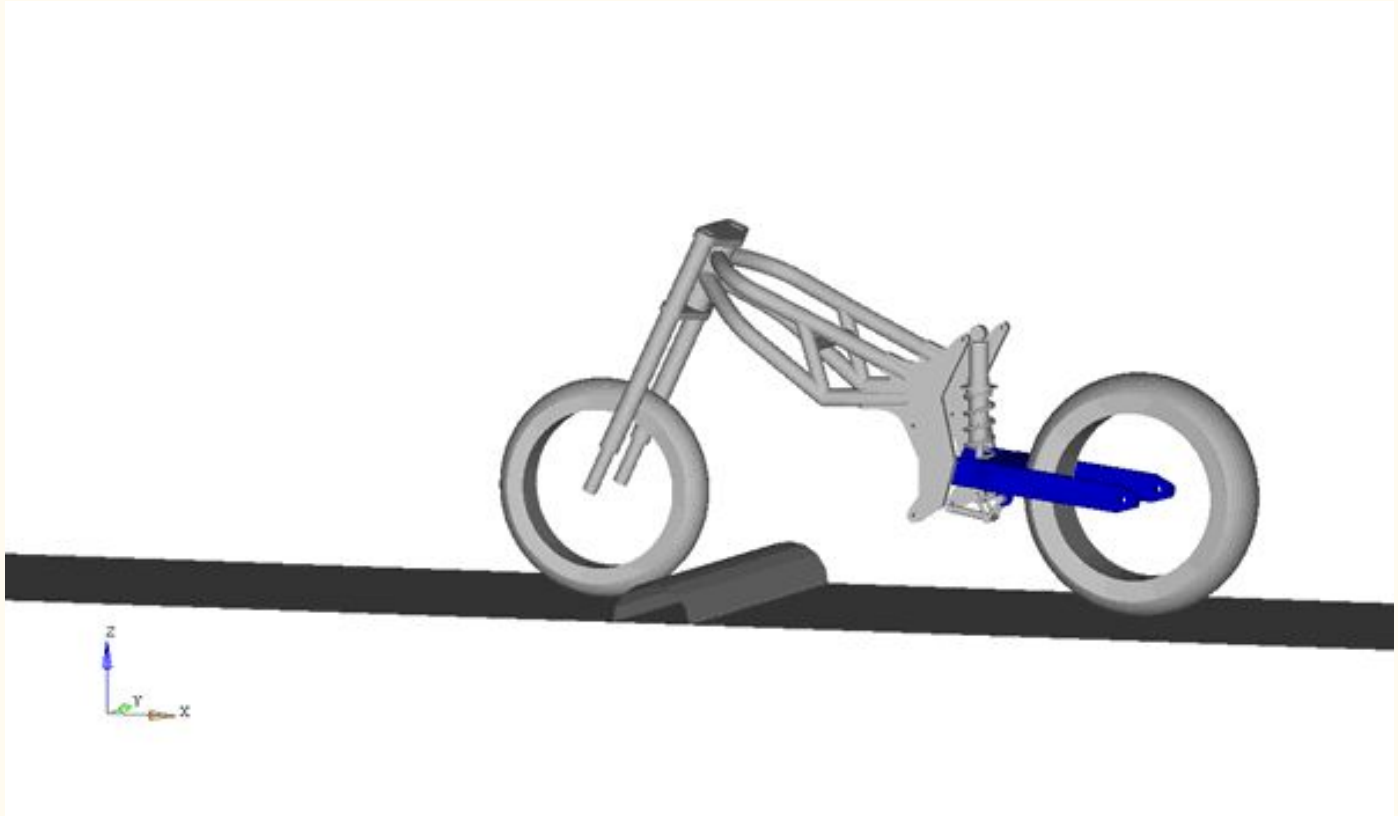
-comprised of:

-twin shocks (two gigantic springs)

-swing arm (which allows the wheel to pivot without the rest of the bike pivoting)

    -this keeps the wheel on the ground (if the wheel comes off the ground, the rider will lose control of the bike)

Animation of suspension on rear swing arm



CAD Piece For Seat