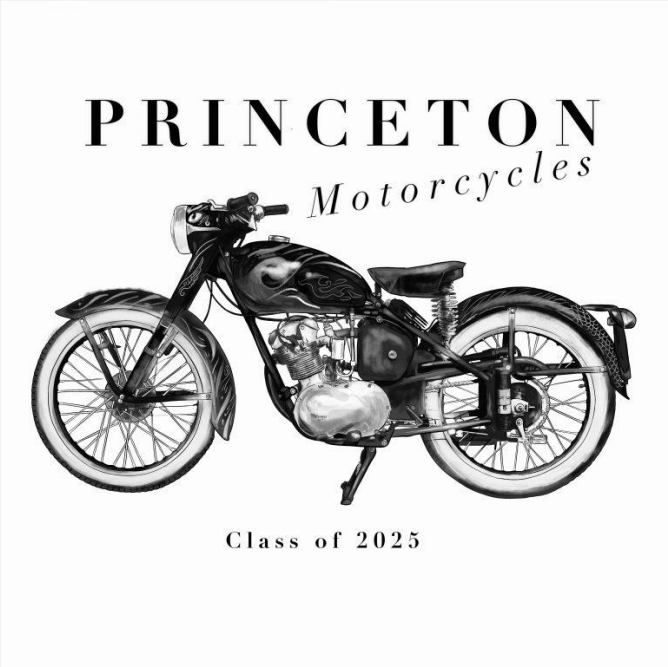
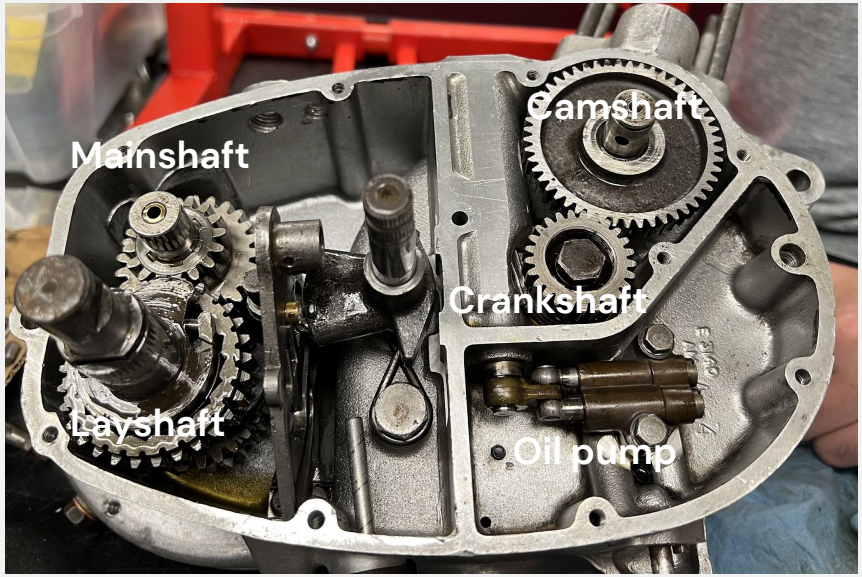
FRS 106 - 2022

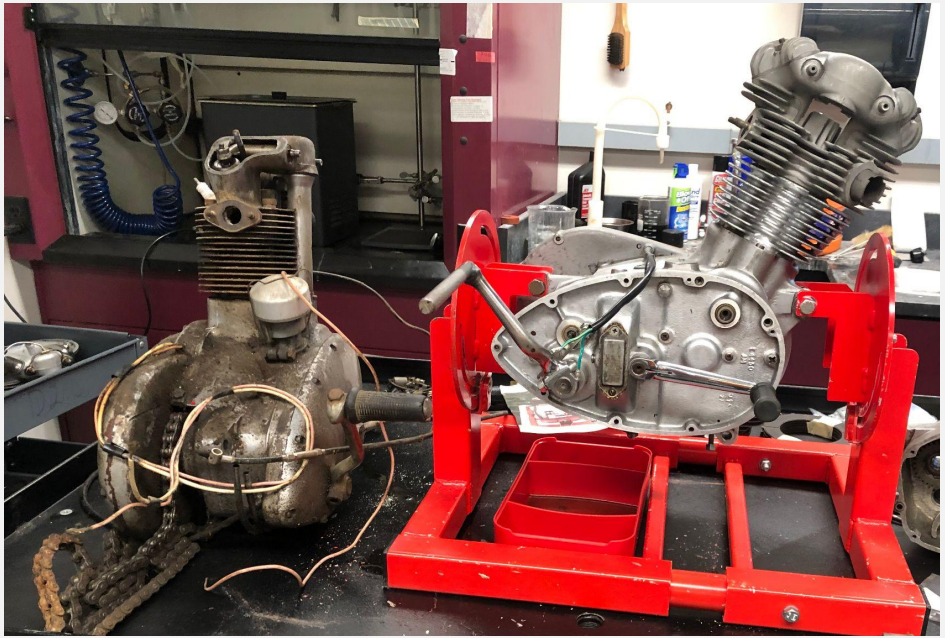


Bottom End
1954 Triumph Terrier

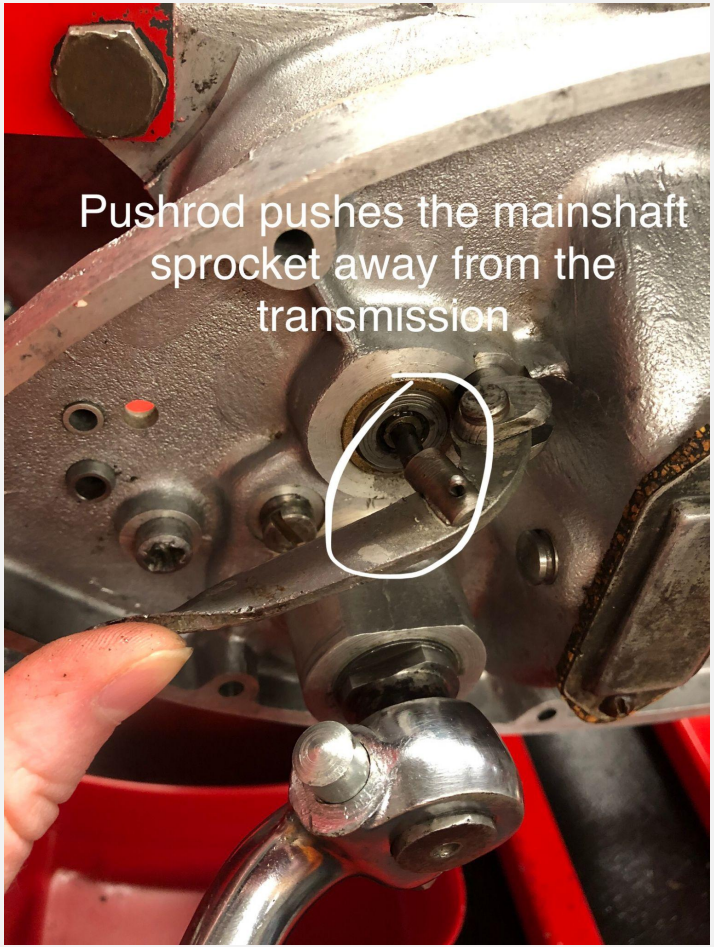
Gabby, Katie, & Will

Transmission Overview

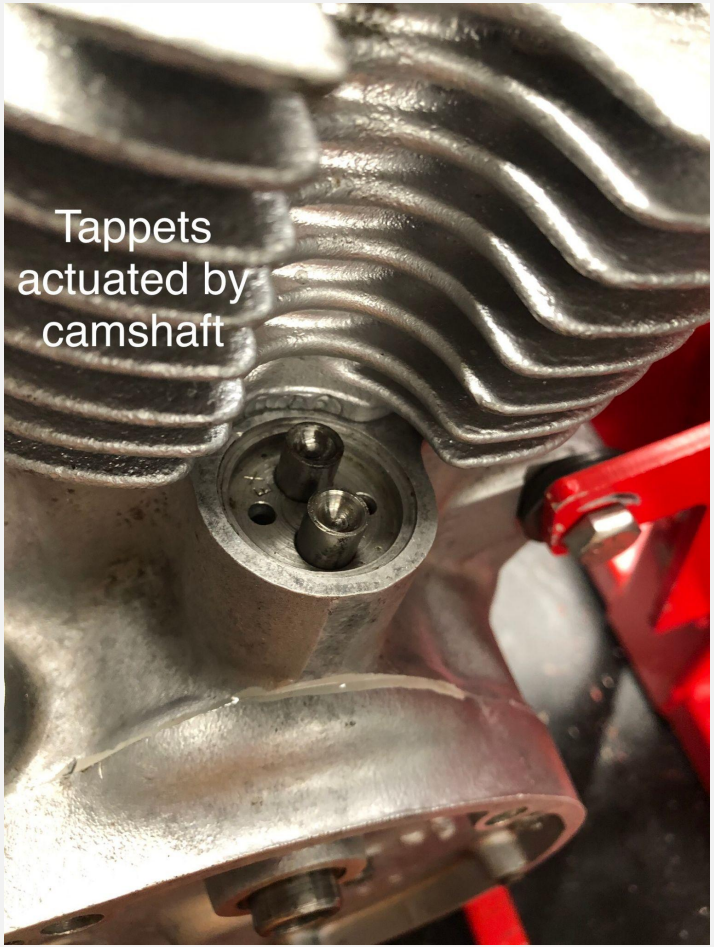




Clutch Overview



Top End Interaction



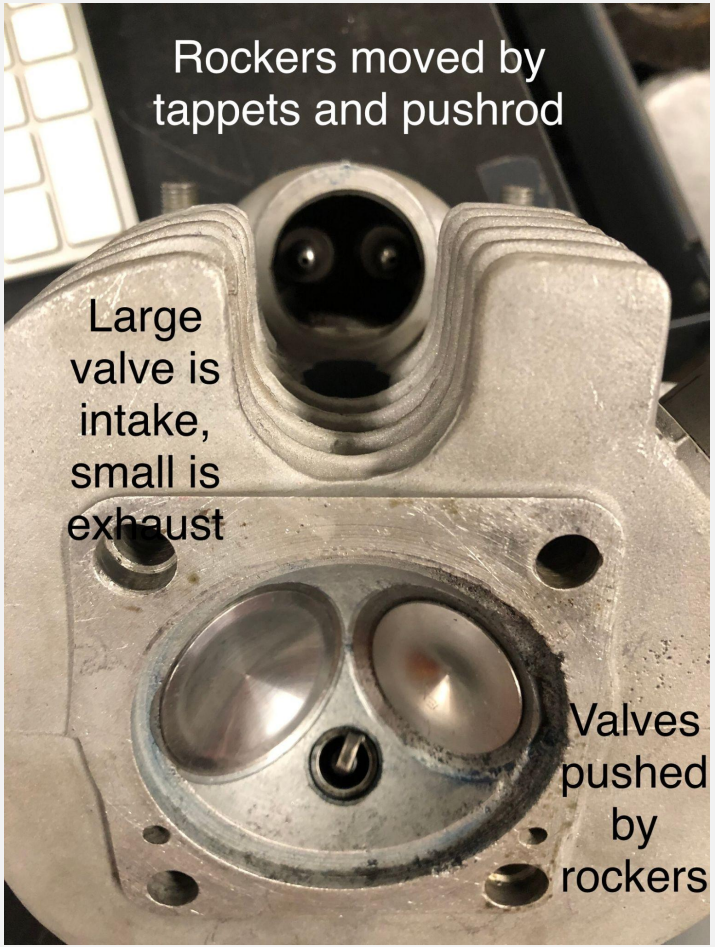
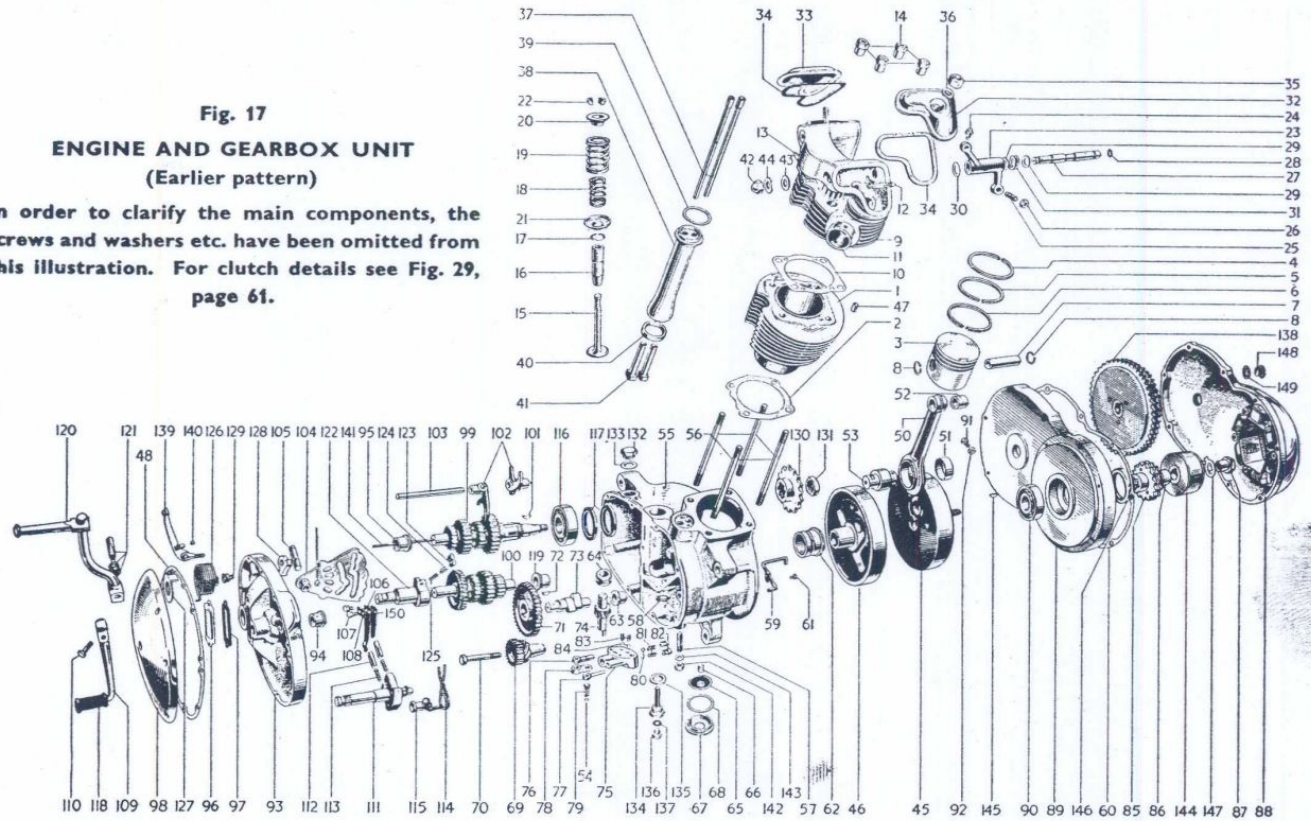


Fig. 17

ENGINE AND GEARBOX UNIT

(Earlier pattern)

In order to clarify the main components, the screws and washers etc. have been omitted from this illustration. For clutch details see Fig. 29, page 61.

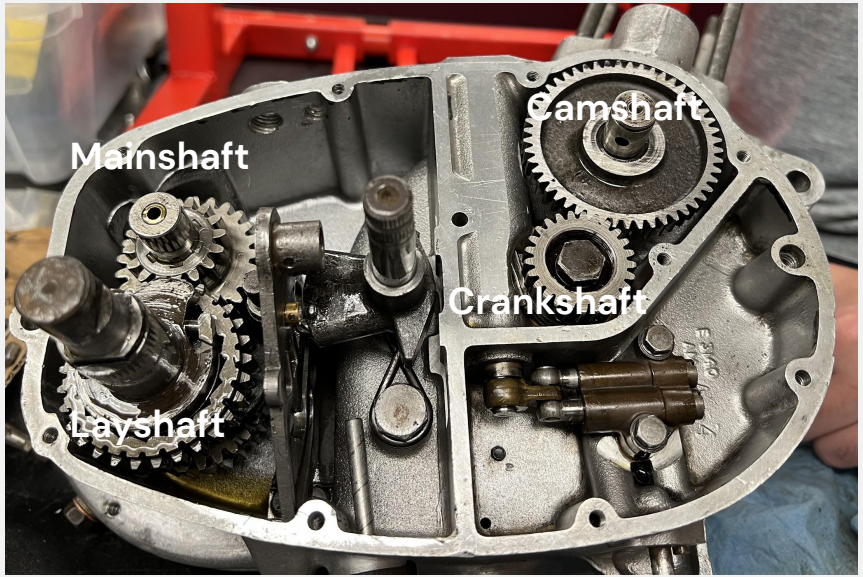


Transmission & Gear Shifting

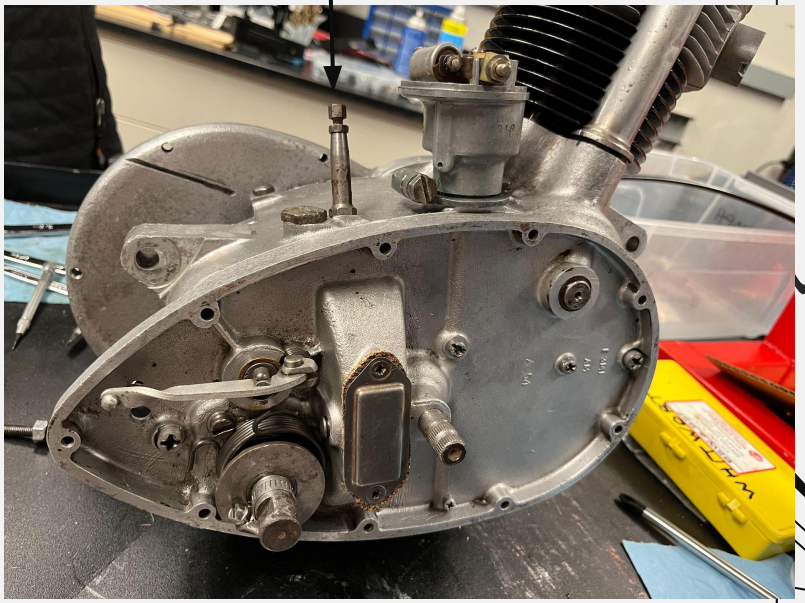
Purpose of Transmission

- Transmission controls speed and torque of wheels given power from engine
  - Power = torque x speed
- Low gear -> More torque is provided but wheels move slower
- Speed influenced by gear ratios
  - $RPM_1 / RPM_2 = N_1 / N_2$

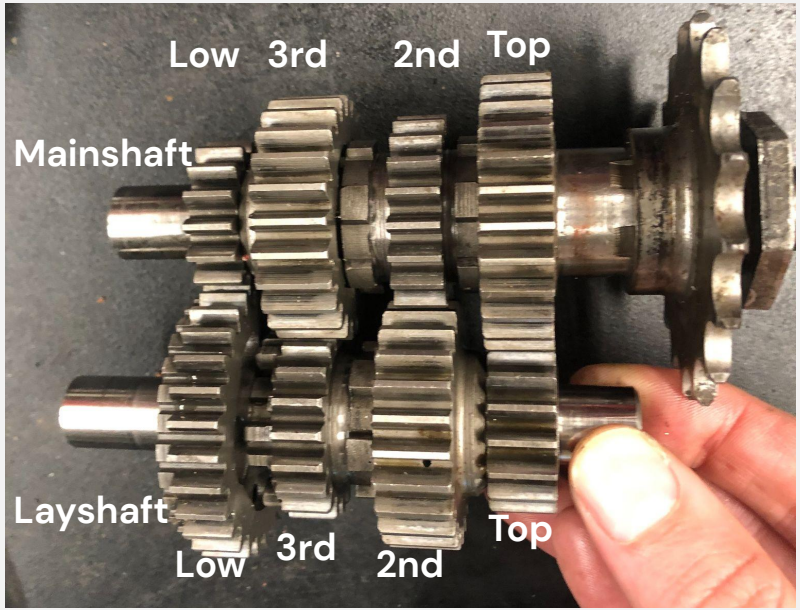
Transmission Operation



Gear indicator for rider



Shafts and Gear Clusters



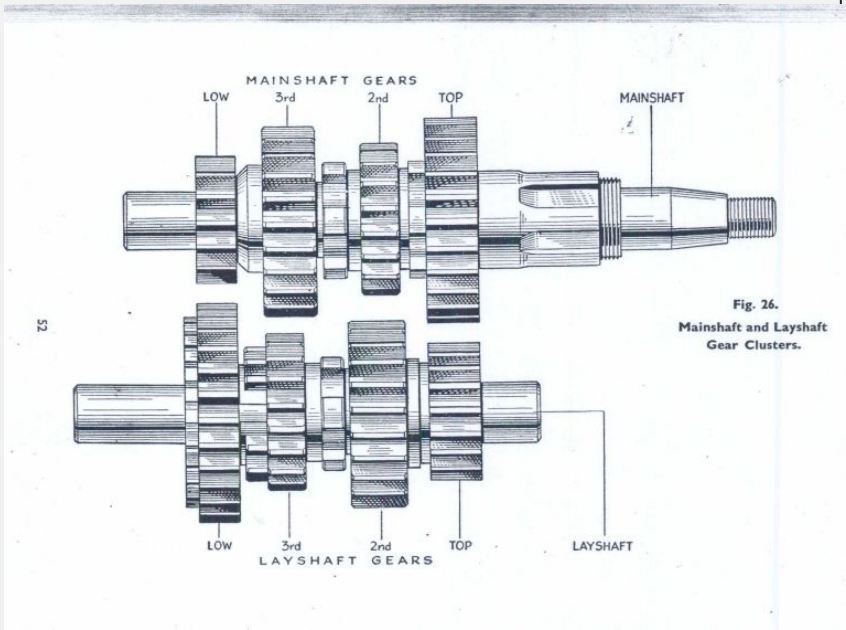


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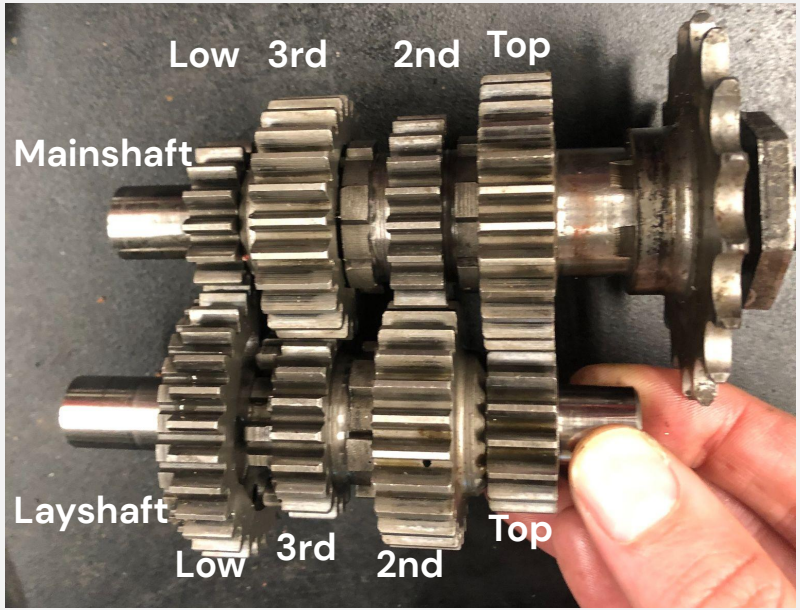
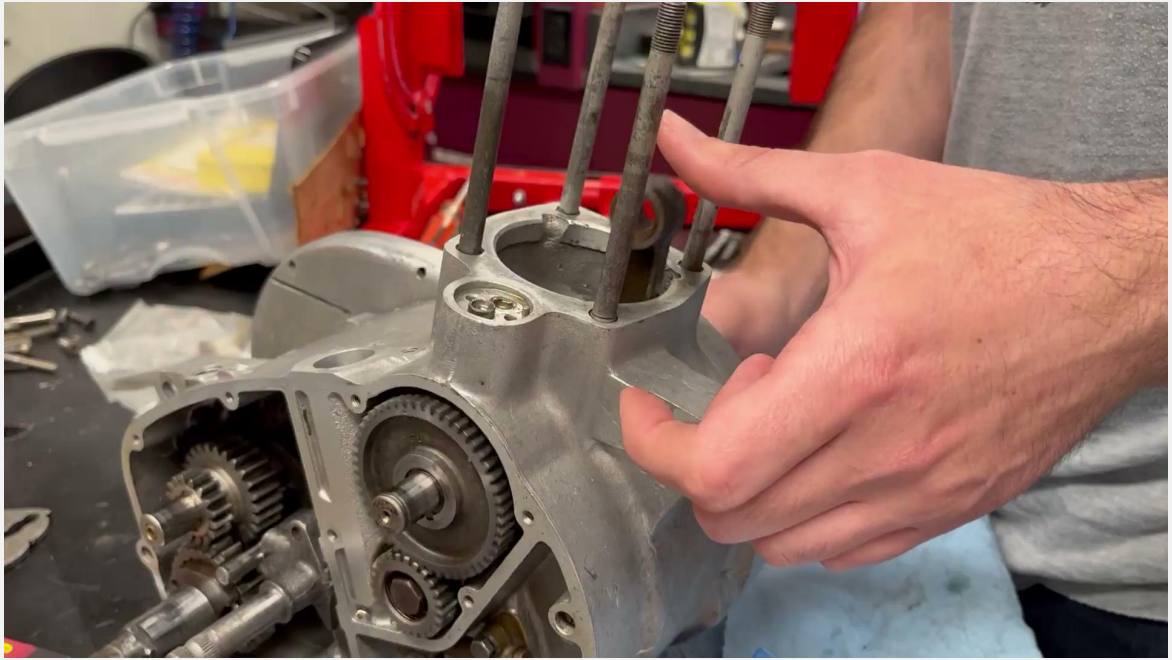
Fig. 26.
Mainshaft and Layshaft
Gear Clusters.

Counting Teeth



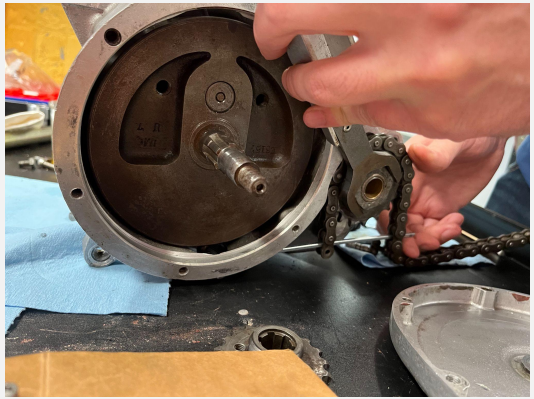
- Engine sprocket: 19 teeth
- Mainshaft low: 16 teeth
- Layshaft low: 29 teeth
- Mainshaft 2nd: 20 teeth
- Layshaft 2nd: 25 teeth
- Mainshaft 3rd: 25 teeth
- Layshaft 3rd: 20 teeth
- Mainshaft top: 28 teeth
- Layshaft top: 17 teeth

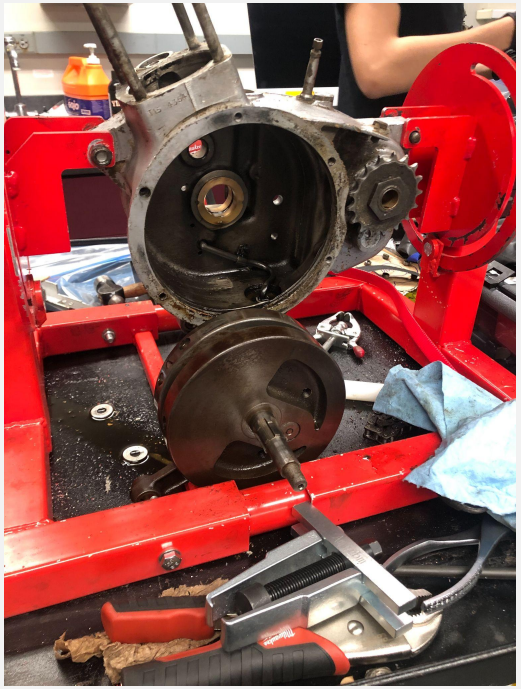
Flywheel/ Crankshaft

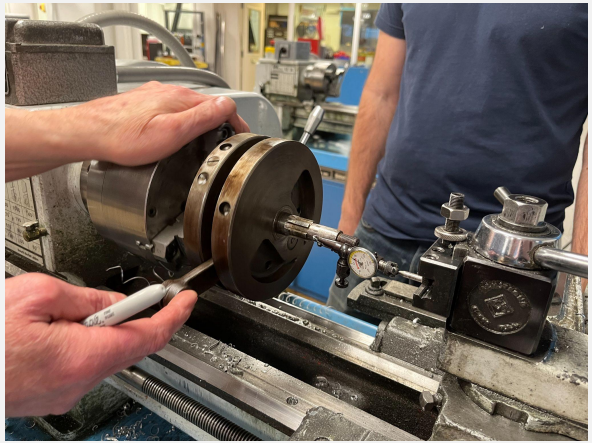


Clutch & Chain Assembly

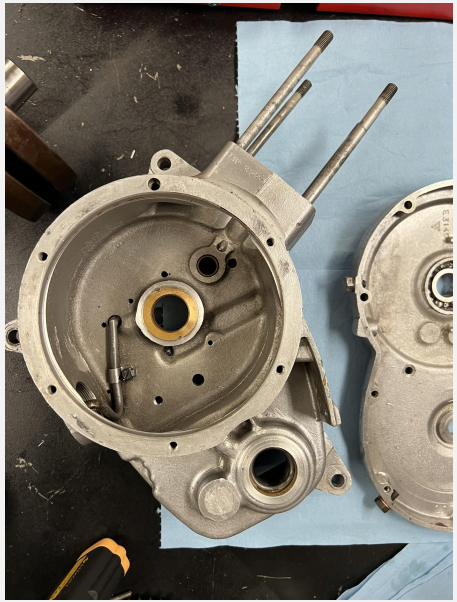
Flywheel

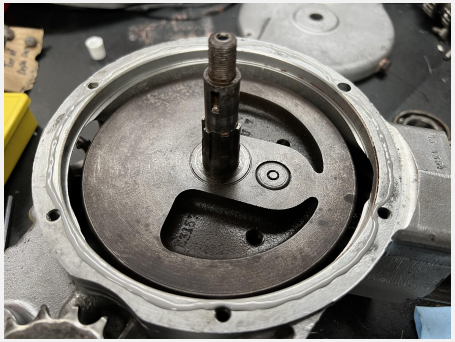


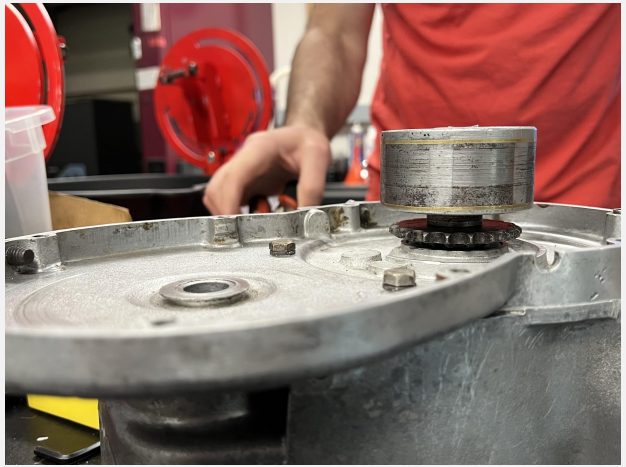




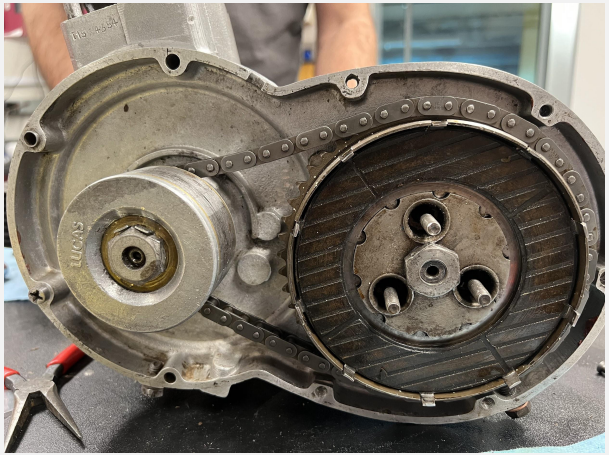
Flywheel & Rotor Install

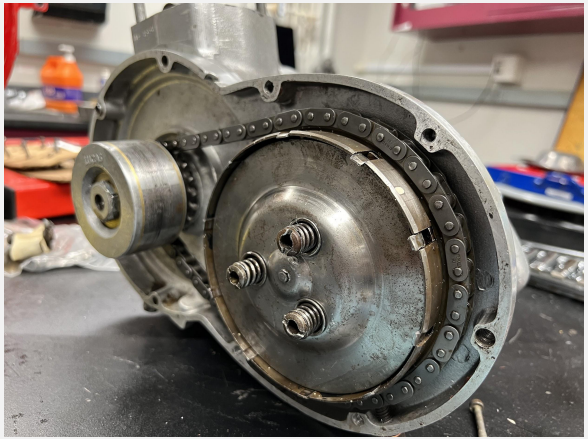




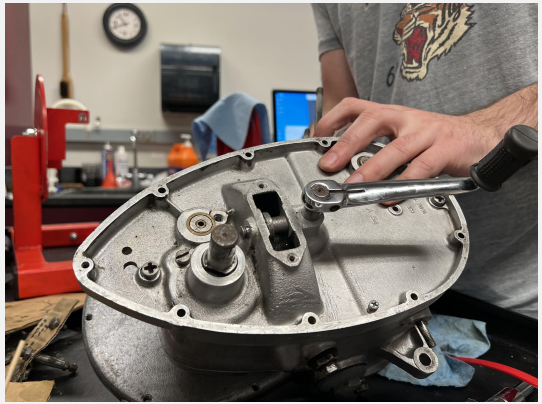


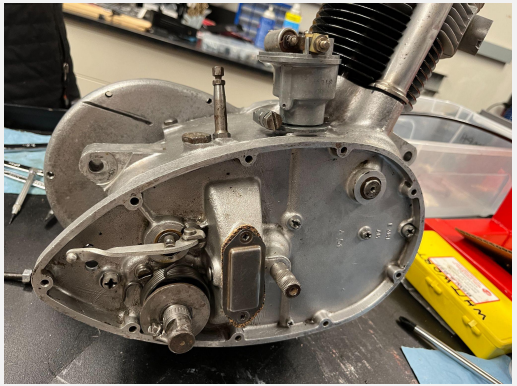
Rotor, Clutch plates, & Chain





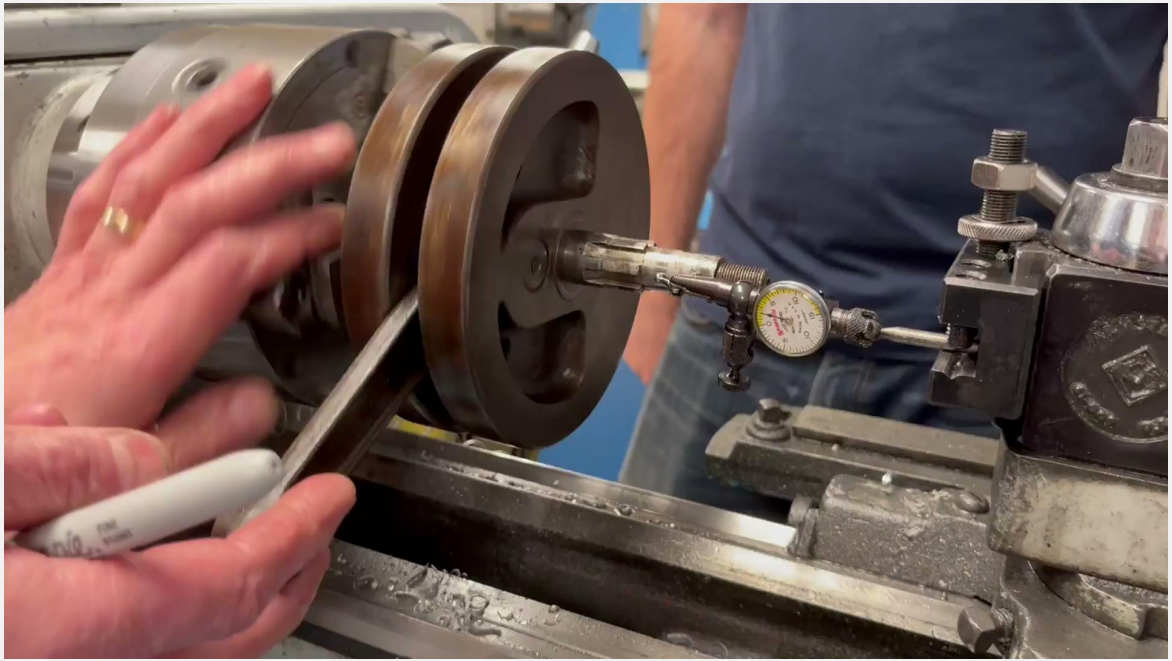
Shifter & Clutch Arm



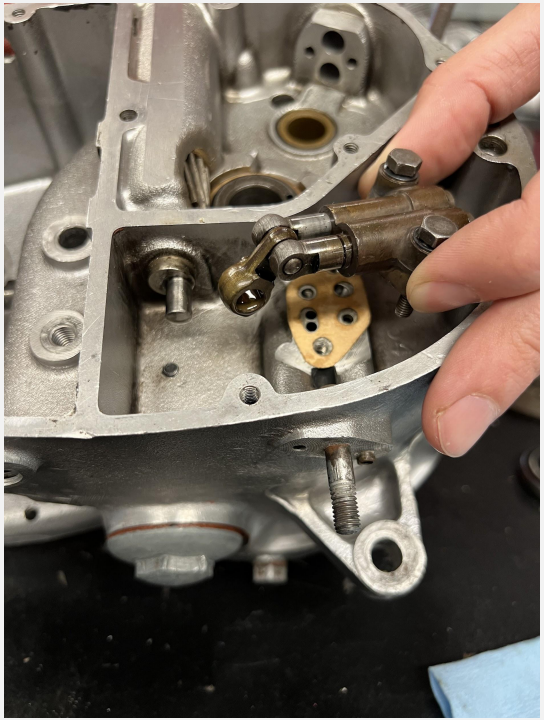


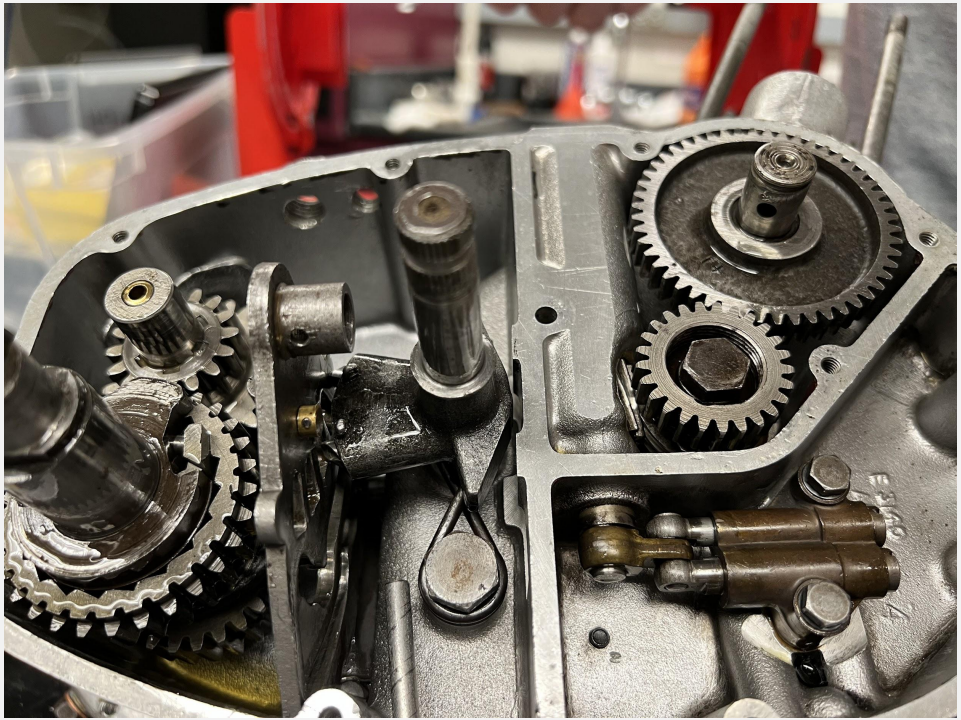
Other parts of the engine

Centering the flywheel



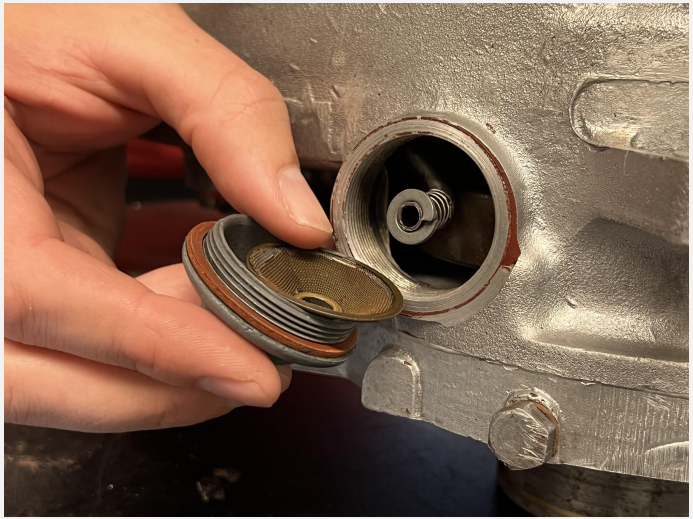
Oil pump



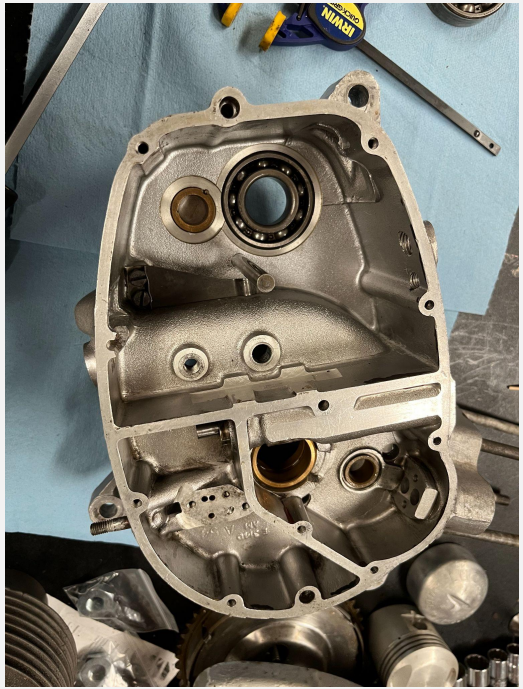


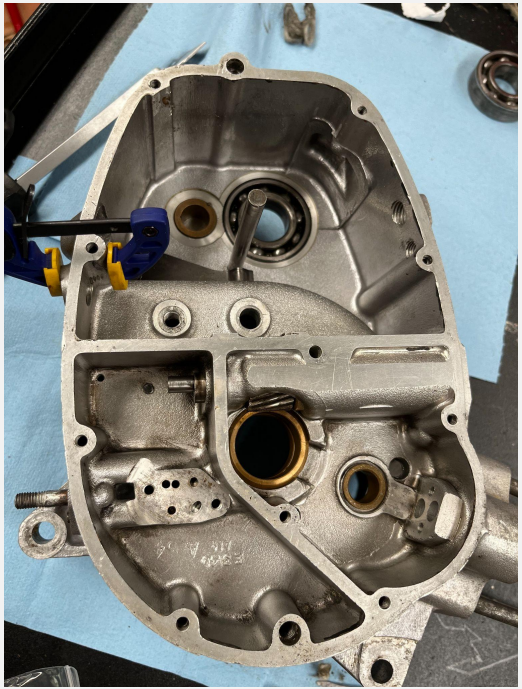
Oil pump

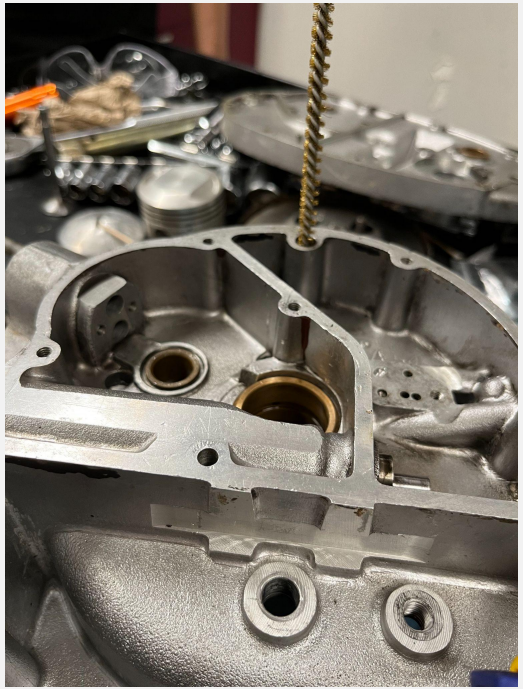
Oil pump



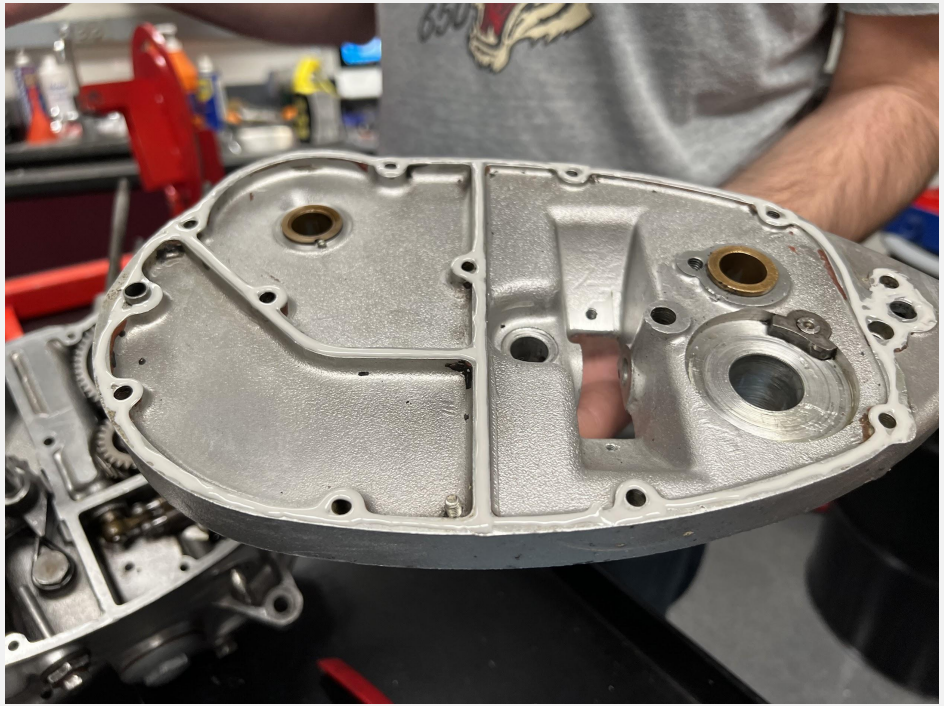
Fixing the engine case



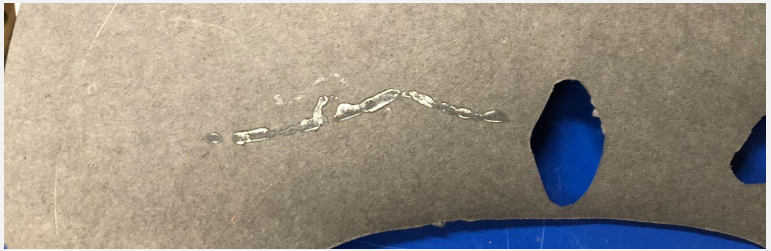




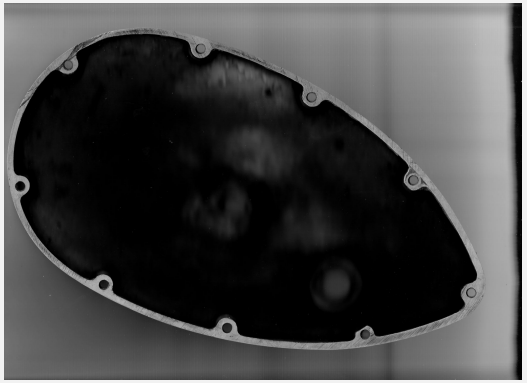
Liquid Gaskets

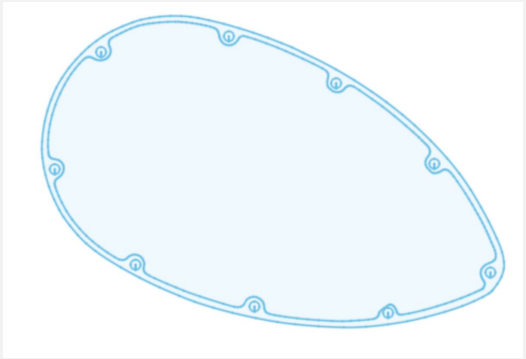


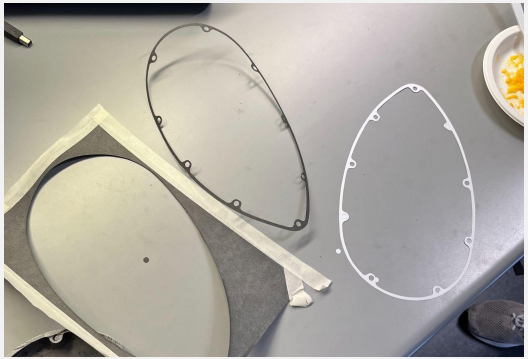
Making new gaskets



Making new gaskets







Polishing the covers

Installing the engine

Before and After