Bottom End
1954 Triumph Terrier

Gabby, Katie, & Will
Transmission Overview

- Mainshaft
- Camshaft
- Crankshaft
- Layshaft
- Oil pump
Clutch Overview

Pushrod pushes the mainshaft sprocket away from the transmission.

Many layers of plates mesh together to create friction between clutch and mainshaft sprocket, mechanically linking them together.
Top End Interaction

Tappets actuated by camshaft

Rockers moved by tappets and pushrod

Large valve is intake, small is exhaust

Valves pushed by rockers
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
  - \( \frac{\text{RPM}_1}{\text{RPM}_2} = \frac{N_1}{N_2} \)
Transmission Operation
Shafts and 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 & 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