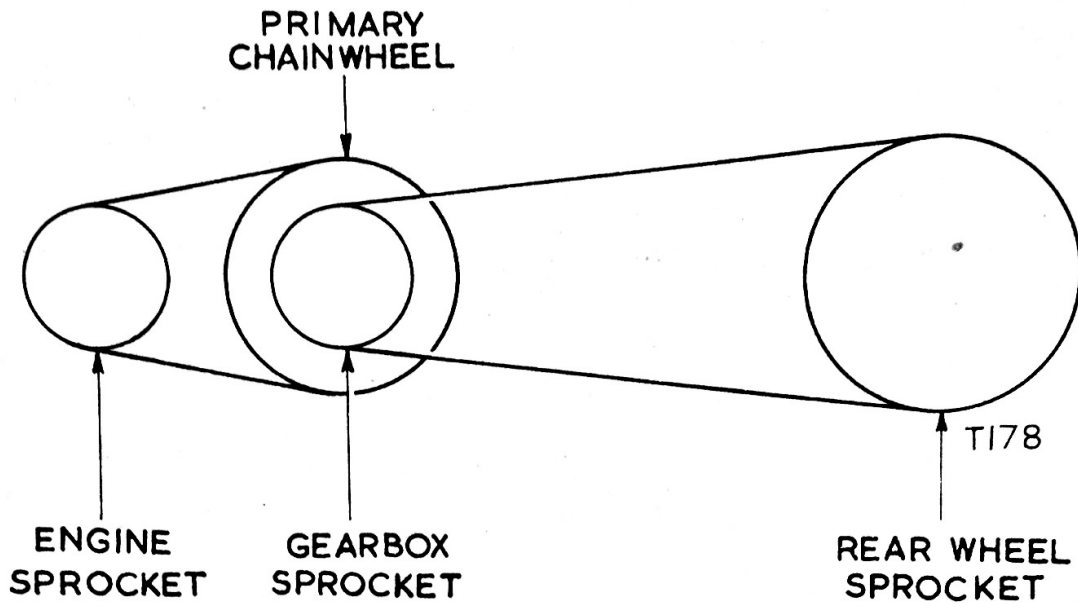


GEARBOX



To find the gear ratios of a machine, calculate the top gear as follows:—

Divide the number of teeth on the primary chainwheel by the number of teeth on the engine sprocket and multiply the result by the number of teeth on the rear wheel sprocket, divided by the number of teeth on the gearbox sprocket, as example:—

$$\frac{\text{clutch sprocket (50)}}{\text{engine sprocket (28)}} \times \frac{\text{rear wheel sprocket (52)}}{\text{gearbox sprocket (18)}} = \frac{2600}{504} = 5.156$$

To find the intermediate gear ratio, multiply the overall top gear by the internal gear ratio concerned, as example:—

$$\text{top gear } 4.891 \text{ or } 4.9 \times \text{bottom gear internal ratio } 2.44 = 11.95 \text{ bottom gear overall ratio}$$

$$\text{Gearbox internal ratio} = \frac{\text{layshaft gear}}{\text{mainshaft gear}} \times \frac{\text{mainshaft top gear}}{\text{layshaft top gear}}$$

as example:—

$$\frac{\text{(layshaft 3rd) 22T}}{\text{(mainshaft 3rd) 24T}} \times \frac{\text{(mainshaft top) 26T}}{\text{(layshaft top) 20T}} = 1.191$$