Technical Q & A by Willie Priaulx December 2023

Rear End Gear Ratios

The Model A Ford was available with several different Rear End Gear Ratios.

Low speed ratio, 4.11:1	9 teeth on the pinion, 37 teeth on ring gear.
Standard Gear Ratio, 3.78:1	9 teeth pinion, 34 teeth ring gear.
High speed ratio, 3.54:1	11 teeth pinion, 39 teeth ring gear.

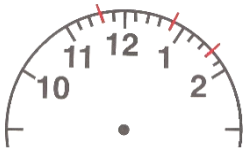
An early 3.70:1, 10-37 gear set was discontinued March 1929.

Q: How can I tell what gear ratio I have, without taking the rear end apart to count the teeth?

A: Jack up one rear wheel, turn the engine over two times, and measure the turns of the tire.

1) Put the transmission in high gear.
2) Jack up one rear wheel and chalk-mark the top of the tire (12 o'clock position), making sure any slack is out of the drive train.
3) Hand crank the engine exactly 2 complete revolutions.
4) Check the rotation (turns) of the tire, about one full turn.
   The chalk line will now be close to 12:00, plus or minus a few minutes.

A) 11:58 = Low speed gear ratio, 4.11	(0.97 turns)
B) 12:04 = Standard gear ratio, 3.78	(1.06 turns)
C) 12:08 = High speed gear ratio, 3.54	(1.13 turns)



The math:

R *(ring)* ÷ P *(pinion)* = G *(gear ratio)*	*34 / 9 = 3.78*
4 ÷ G = T *(turns of the tire)*	*4 / 3.78 = 1.06*
T x 60 = *minutes + 11:00*	*1.06 x 60 = 64 ~ 12:04*

Speedometer Gear

When you change the Rear End Gear Ratio you must also make a corresponding change to the Speedometer Gear to accurately display the speed. Speedo gears are identified by the number of teeth per gear.

1928-29 with 21" wheels.

Rear End Ratio	Gear Teeth
Low	19
Standard	18
High	17

1930-31 with 19" wheels.

Rear End Ratio	Gear Teeth
Low	20, 21
Standard	19
High	18