

Standard Gas "C" weight code. Gives a 4200-4600 WOT shift

- Primary weight (Heavy weight)   **41**   Grams
- Secondary weight (Inner weight)   **15**   Grams
- Spring @ .500   **550g/18.7oz**
- Spring @ .500   **120g/4oz**



Corvette Governor 3.42 gears

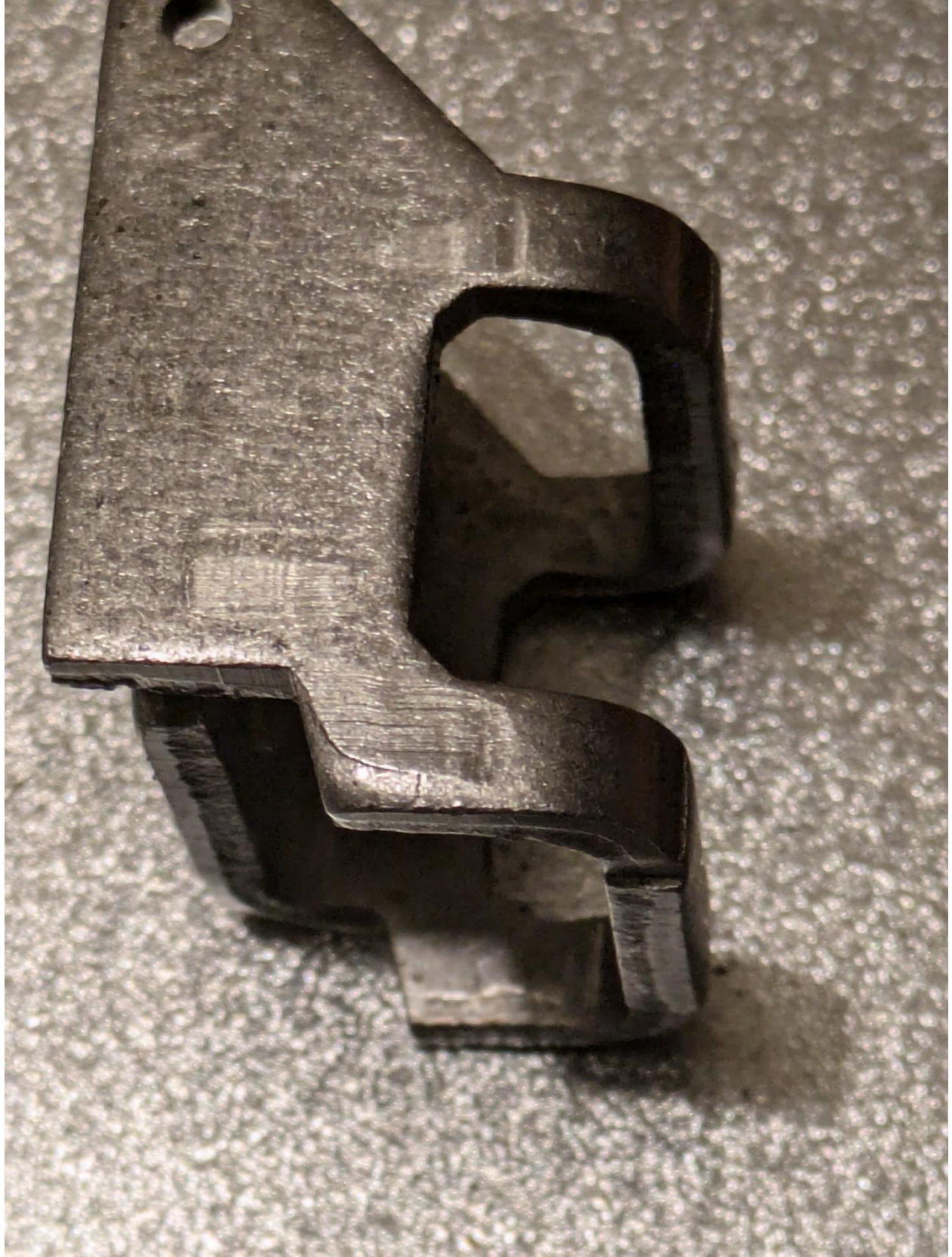
- Primary weight (Heavy weight)   **41**   Grams
- Secondary weight (Inner weight)   **9**   Grams
- Spring @ .500   **550g/18.7oz**
- Spring @ .500   **120g/4oz**

700-R4 Camaro Governor 3.73 gears.  
It gives a 5400-5800 WOT Shift

- Primary weight (Heavy weight) **30** Grams
  - Nail end .188 wide
  - Gear end .212 wide
  - Cut approximately .345 deep
- Secondary weight (Inner weight) **9** Grams
  - .125 wide
  - .080 long
  - .430 from bend to edge of the 45 degree cut
- Spring @ .500 **550g/18.7oz**
- Spring @ .500 **N/A**









I measured the springs on each governor I had. All the springs rates and sizes were the same.

Lighter spring dimensions measured,  
.725L x.320dia. x.017wire

Heavier spring dimensions measured,  
1.125Lx.320dia.x.023wire

The differences were in the primary & secondary weights. They use different combinations of weights to get their desired results for each engine/gear ratio.

This is a direct quote on the governor operation from my 2<sup>nd</sup> edition 4L60 Technician's Guide.

*" The governor weights are mounted on weight pins and arranged such that only the secondary weights act directly on the end of the regulating valve. The primary weights exert a force on the secondary weights through the springs.*

*Drive 4 (D4) fluid feeds the governor fluid circuit and exerts a pressure on the valve in the opposite direction of governor weight force. When the governor is stationary (vehicle completely stopped) the weights are not exerting any pressure on the valve. This allows governor fluid pressure to overcome the force of the springs and move the valve. In this position, the valve blocks the D4 fluid passage and opens the exhaust passage, resulting in minimum (zero) governor pressure.*

*As the governor begins turning with increased vehicle speed, the weights move outward due to centrifugal force, the force of the weights moves the valve against*

*governor pressure to open D4 fluid passage and also restrict the exhaust of governor fluid. This regulating action results in a governor pressure that is proportional to vehicle speed.*

*The heavier primary weights are more sensitive to changes in vehicle speed at lower rpm than the lighter secondary weights. Thus, at lower vehicle speed, centrifugal force only the primary weights outward. The primary weights transfer this force through the springs and the secondary weights to the regulating valve. As the vehicle speed increases even further, the primary weights reach a stop and are no longer effective. From this point on, centrifugal force acting on the lighter secondary weights is used to move the valve and increase governor pressure. As the secondary weights move outward, the weight with the heavier primary spring will begin moving first.*

*At high vehicle speeds, when both the secondary and primary weights are fully extended and little or no governor fluid is exhausting, governor pressure approaches drive fluid pressure.”*

Well that the engineer’s idea of how it works, as mechanic’s we want real world fixes.

Governors make approximately 1psi of governor pressure per MPH. Governor pressure works on one side of the shift valve. TV pressure works on the other side. Governor pressure must overcome TV pressure to move the shift valve. TV pressure is varied by your foot because the TV cable is hooked to the throttle arm. This

variable to the governor operation makes it very difficult to get it perfect. The governor actually has 3 things going on to create any shift. Every time you adjust one thing it affects the other 2. You will get to a point of I'm good with this...

Rules of thumb Adjust TV cable so that you have a light throttle 1-2, floor it and get a 2-1. (A light throttle 1-2-3-3-1 is better but not required to live.)

Lighter weights will bring later shifts (heavier-earlier)

Stiffer springs will produce stacked, closer shifts.

Lighter springs will tend to space the shifts apart.

My experience is primary (heavy)weights make the part throttle. So, if you feel your light/medium throttle 1-2-3 is early. Lighten the thick weight

Secondary weights work on the heavy throttle. So, if your WOT is early, lighten the secondary weight

Springs make a difference in the spread & medium/heavy throttle.

Similar weight springs space the shifts at a similar RPM. IE: 1-2 at 3200, 2-3 at 3200, 3-4@3200. Different rate springs space the shifts at different RPM. IE: 1-2@3200, 2-3@2800, 3-4@2600.

All of this is on a curve and has to be customized to the modifications you have made to the vehicle.