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CS225

Tires: There are three different types of tires. Snow, track, and all terrain. All tires start with an inflation percentage of 100%. Snow tires would be the thickest, giving them the most grip (highest value for friction) and would also be the thickest of the three. Track tires would still have a good amount of grip on dry terrain but would be at a disadvantage in wet/snowy weather. All terrain tires still have a good amount of grip and would be a simple tire choice to use on any track.

Snow Tires:

* coefficientOfFriction (double) = 10.0
* widthInset (double) = 2.0
* addedRadius (double) = 5.0
* inflationPercentage (double) = 100.0

Track Tires

* coefficientOfFriction (double) = 8.0
* widthInset (double) = 1.20
* addedRadius (double) = 2.0
* inflationPercentage (double) = 100.0

All Terrain Tires

* coefficientOfFriction (double) = 5.0
* widthInset (double) = 1.50
* addenRadius (double) = 3.0
* inflationPercentage (double) = 100.0

GasType: There are three different types of gas that can be used. Diesel, Premium, and Regular. There is one gas type per engine type, so my thoughts were that there will be select locations where CarBuilds will be able to fill up the gas tank on the map.

Diesel:

* Diesel: GasType
* density (double) = 5.0

Premium:

* Premium: GasType
* density (double) = 4.0

Regular:

* Regular: GasType
* density (double) = 3.0

Engines: There are three types of engines. A Diesel V8, V6, and a 4 cylinder. The V8 is the engine that puts out the most horsepower making faster than the other two motors. An idea that came to mind is that the fastest engine (V8) could use a type of fuel that is harder to obtain that the other two engines (i.e. Diesel). The V6 puts out a medium amount of power, but also has a significantly higher average MPG than the V8. The 4 cylinder puts out the least amount of power, however has the highest average MPG and also is the lightest out of the three.

Diesel V8:

* horsepower (double) = 325.0
* cylinders (int) = 8
* gasType (GasType) = Diesel
* averageMPG (double) = 18.0
* weightOfEngine (double) 575.0

V6

* horsepower (double) =280.0
* cylinders (int) = 6
* gasType (GasType) = Premium
* averageMPG (double) = 22.0
* weightOfEngine (dobule) = 470.0

4 Cylider:

* horsepower (double) = 240.0
* cylinders (int) = 4
* gasType (GasType) = Regular
* averageMPG (double) 26.0
* weightOfEngine (double) = 300.0

Wheels: There are three types of wheels that can be picked. 20, 18, 17 (radius of the wheels.). 20’’ wheels would be better suited for snowy terrain and 18/17’’ wheels perform equally on dry terrain.

20:

* radius (double) = 20.0
* width (double) = 6.5

18:

* radius (double) = 18.0
* width (double) = 6.0

17:

* radius (double) = 17.0
* width (double) = 5.5

GasTank: There are two different types of tanks, a large tank and a small tank.

Large Tank:

* gallons (double) = 20.0
* tankWeight (double) = gallons

Small Tank:

* gallons (double) = 13.0
* tankWeight (double) = gallons