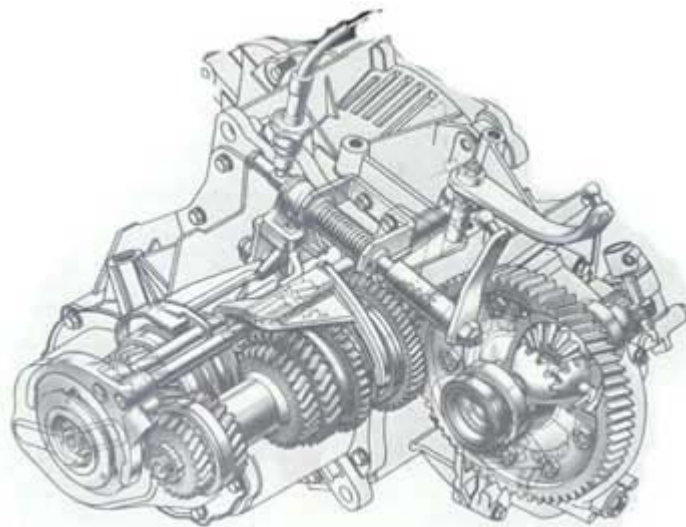




## About gears.....

Hmmm, I should be able to tell you some things about gearboxes, since I amused myself with my 16 v, the 1.9 converted from the 1.6 and the turbo ofcourse !!( also see the story's about them !)

Gears, or ratios are more important than you should think. The use of changing the different ratios is a thing that's has been often underestimated. At the 205 it's really necessary, because gear ratios isn;t Peugeot's best point,... at least not when you want a car that handles like a real machine ! This makes that the 160 BHP 16v in the 205 together with the standard 1.9 gearbox doesn't perform at all. You simply won;t get more than keeping up with the other 16v's on the road (like Gold's and Vauxhalls). And to be honest: I really want more, especially when I paid quite much for the 16v transplant.... I want to crush the stupid Golfs, and only show them my tiny little rear ! Well, it's possible: a very easy solution you can find in using the 1.6 GTi gearbox. This one pulls hard at lower speeds (it revs earlier, especially in the 1st gear where the 1.9 box is tooooo long) but will end quicker, giving a lower top speed. Just for the test: put a 1.9 GTi driver in the same car (1.9) with a 1.6 gearbox and a little wet weather,... result: spinning wheels in the 1st gear ! But,.. after a little searching and some trial- and error we came to the conclusion that a combi-box would be the best choice. That's because the 1.6 box was cool when you wanted to race but on the highway it gave a bit of a nervous making noise, and a top speed to laugh about.



First I'll show you which ratios are available at Peugeot (and Citroen), so what are the ratios you could make a choice of,.... Speeds are at 6500 rpm,... and than up to the rev-limiter say 250-500 rpm more ! (for the 16v it should be more more more !!!!! (something like 8000 or so !).

	1	2	3	4	5	6	E
<b>205 D 1.8 GRD</b>	3.308	1.882	1.280	0.969	0.757	-	3.471
	61	108	158	209	268	-	
<b>205 XS / Rallye</b>	3.418	1.950	1.357	1.054	0.854	-	3.584
	54	94	135	174	214	-	

<b>205 1.6 GTI</b>	<b>3.251</b>	<b>1.850</b>	<b>1.360</b>	<b>1.069</b>	<b>0.865</b>	<b>-</b>	<b>4.063</b>
	53	94	128	162	203	-	
<b>205 1.6 GTI Close ratio</b>	<b>3.308</b>	<b>1.882</b>	<b>1.280</b>	<b>0.969</b>	<b>0.757</b>	<b>-</b>	<b>4.063</b>
	52	92	136	179	229	-	
<b>205/309 1.9 GTI</b>	<b>2.923</b>	<b>1.850</b>	<b>1.360</b>	<b>1.069</b>	<b>0.865</b>	<b>-</b>	<b>3.688</b>
	65	103	141	179	221	-	
<b>205 1.9 GTI Gutmann</b>	<b>2.923</b>	<b>1.850</b>	<b>1.360</b>	<b>1.069</b>	<b>0.810</b>	<b>-</b>	<b>3.940</b>
	61	97	132	168	221	-	
<b>405 GR 1.9</b>	<b>3.251</b>	<b>1.850</b>	<b>1.148</b>	<b>0.829</b>	<b>0.658</b>	<b>-</b>	<b>3.938</b>
	55	97	156	216	272	-	
<b>405 MI 16</b>	<b>2.923</b>	<b>1.850</b>	<b>1.280</b>	<b>0.969</b>	<b>0.757</b>	<b>-</b>	<b>4.429</b>
	54	86	124	164	210	-	
<b>405 T16</b>	<b>3.4166</b>	<b>1.8181</b>	<b>1.25</b>	<b>0.9687</b>	<b>0.7674</b>	<b>-</b>	<b>3.9333</b>
	12x41	22x40	28x35	32x31	43x33	-	12x59
	52	99	144	185	234	-	
<b>306 GTi</b>	<b>2.92</b>	<b>1.87</b>	<b>1.41</b>	<b>1.15</b>	<b>0.92</b>	<b>0.79</b>	<b>4.05</b>
	60	93	124	152	189	221	

5 <sup>e</sup> overbrengingen;	0.880	205 standaard
	0.865	205 1.6 & 1.9 GTI
	0.854	205 XS / Rallye
	0.800	205 Diesel
	0.7674	405 T16
	0.757	405 MI 16 / 205 Diesel 1.8 GRD
	0.658	405 GR 1.9
Eindreducties;	3.471	205 Diesel 1.8 GRD
	3.584	205 XS / Rallye
	3.688	205 1.9 GTI
	3.939	205 Turbo Diesel / 405 GR 1.9
	4.063	205 1.6 GTI
	4.429	405 MI 16







### ***The formula :***

If you want to calculate the speed of your 205 at a specific rev you can use the following formula.... remember: copy the exact formula, and don't forget any quote's !!!!, else the answer of it will give the speed from an F16!!!!

Speed=( in Km/h )  $(\text{RPMM}/(\text{Rendd} \cdot \text{Rgear})) \cdot (((\text{Vd} \cdot 2.54) + (2 \cdot (\text{BmCC} \cdot (\text{Bp}/100)))) \cdot \text{pi}) \cdot 0,0006$

RPMM= RPM in thousand's

Rendd= Final drive, see table

Rgear= Gear ratio of the specific gear

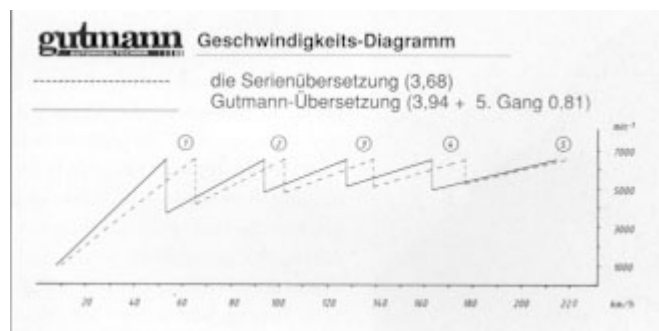
Vd= Rimm diameter ( 14" or 15" probably )

BmCC= Tire measurement in centimeters ( 18,5 or 19,5 )

Bp= Tire thickness (or rate) ( 55 or 50 )

pi= The nice scientific number from about 3,1416

Calculate the speed with the formula above !!



**The Gearbox from the 16v, the turbo & the T16;**

What we did is mounting the final drive from a 1.6 into the 1.9 gearbox, and changing the 5th gear into a longer one,... for the highway ! This gear was the onbe from a 205 diesel. You couls also contact Gutmann for some different ratio's, but the prices will be high: between f349,- and f398,- (something like 100 pounds) for a 5th gear and about f749,- (about 200 pounds) for the final drive. Cheaper option is to go to the car-dump and search for the specific gearbox.!

The gearbox we created like that was quite a success; really racy on the city roads till 170 km/h, and creating some higher speeds on the highway... up to 225 km/h or so. The only thing that I didn;t 100% agree of was the shifting between the 4th and the 5th gear,.... it was just a little bit to far out of eachother,... so when you wanted to shift fast,.... kkkrrraaaaakkkkkkk,.... haha !, followed by a little power loss, but than,,.... like a rocket again !

205 2.0 Turbo 8v			v	205 1.9		
2.923	6500 rpm	63 1.9 box	1	2.923	59	From the 1.9 g
1.850		100 1.9 box	2	1.850	94	Standard 1.9 b
1.360		136 1.9 box	3	1.360	128	See above
1.069		173 1.9 box	4	1.069	162	See above
0.865		214 1.9 box	5	0.800	217	5th from a 205
3.810		Final drive from a 205 Diesel	E	4.063		Final drive fro:

Besides this home-made gearbox a friend of me with the former 2.0 16v (and turbo etc etc, read the story of the turbo) experimeted a lot with different ratios.... and sometimes they were simply too long, or too short. He also did a 1.9 conversion to a 205 XS and used a 309 16v gearbox for that car. This was one of the better performing boxes: very close ratio in the lower gears (1-3) and longer ratios in the 4th and 5th gear,.... nice to drive on the highway ! When that car ran from zero till fast it sounded almost like a motorcycle,...

**Old & new model differences**

On the picture below you can see one of the differences between the old- (BE-1) and the new (BE-3) type gearbox; the oil-fill hole is located at the front of the old box (2) and at the side of the new model (and late old model) boxes (1).