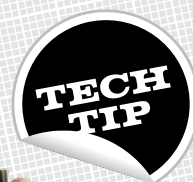


Tech Tip: Gear box „4-gear PK“
for Vespa 50 S 3°/Special V5B3T 3°/V5B4T 2°/SR (D)/100 2°/125 PV 2°/ET3 2°/PK50/S/SS/XL/2/FL/PK80-125 S/PK125/ETS/N//XL/XL2

Overview of the different gear cogs and their areas of use



Gear	GR	Output shaft			Input shaft			use	further characteristics of the input shaft	
		teeth	design	part no	teeth	design	part no			
1.	58/10	5,8	58	Standard	134903000	10	all input shafts, Standard as DRT	Standard	-	
1.	55/10	5,5	55	DRT ROVIGO	40431710	10	all input shafts, Standard as DRT	tall 1. gear	-	
1.	54/10	5,4	54	DRT	4043171C	10	all input shafts, Standard as DRT	extra tall 1. gear	-	
1.	54/10	5,4	54	DRT	4043171C	10	DRT MATRIX	40440285	extra tall 1. gear	ultra short 2./3./4. 3. gear
2.	54/13	4,15	54	Standard	134904000	13	DRT SINCRO PISTA	4043275A	ultra short 2. gear	ultra short 4th gear/extra short 3. gear
2.	56/14	4	56	DRT	40431740	14	Standard	11237700	extra short 2. gear	-
2.	52/13	4	52	DRT KATANA	404317300	13	DRT SINCRO PISTA/MATRIX		extra short 2. gear	ultra short 4th gear/extra short 3. gear
2.	55/14	3,93	55	DRT	4043173A	14	Standard	11237700	short 2. gear	-
2.	55/14	3,93	55	DRT	4043173A	14	DRT RUNNER/NURBURG/SINCRO		short 2. gear, optimale Kombination	extra short 3./4. gear
2.	51/13	3,92	51	DRT	40432980	13	DRT MATRIX	40440285	short 2. gear	ultra short 4th gear/ultra short 3. gear
2.	54/14	3,86	54	Standard	134904000	14	Standard	11237700	Standard	-
2.	52/14	3,71	52	DRT KATANA	404317300	14	Standard	11237700	tall 2. gear	-
3.	50/16	3,13	50	Standard	13490500	16	DRT MATRIX	40440285	ultra short 3. gear	ultra short 4th gear/ultra short 2. gear
3.	51/17	3	51	DRT	4043163	17	DRT NURBURG	40442172	extra short 3. gear	extra short 4th gear
3.	51/17	3	51	DRT	4043163	17	DRT RUNNER	40430313	extra short 3. gear	extra short 4th gear
3.	50/17	2,94	50	Standard	13490500	17	DRT NURBURG	40442172	extra short 3. gear	extra short 4th gear
3.	50/17	2,94	50	Standard	13490500	17	DRT RUNNER	40430313	extra short 3. gear	extra short 4th gear
3.	50/17	2,94	50	Standard	13490500	17	DRT SINCRO Replica	40442171	extra short 3. gear	extra short 4th gear
3.	50/17	2,94	50	Standard	13490500	17	DRT SINCRO PISTA	4043275A	extra short 3. gear	ultra short 4th gear/ultra short 2. gear
3.	49/17	2,88	49	DRT RSP	40434945	17	DRT NURBURG	40442172	short 3. gear	extra short 4th gear
3.	51/18	2,83	51	DRT	4043163	18	Standard	11237700	short 3. gear	-
3.	50/18	2,78	50	Standard	13490500	18	Standard	11237700	Standard	-
3.	49/18	2,72	49	DRT RSP	40434945	18	Standard	11237700	tall 3. gear	-
4.	47/18	2,61	47	DRT PARMA	40431770	18	DRT MATRIX	40440285	ultra short 4th gear	ultra short 3. gear/ultra short 2. gear
4.	47/19	2,47	47	DRT PARMA	40431770	19	DRT SINCRO Replica	40442171	ultra short 4th gear	extra short 3. gear
4.	47/19	2,47	47	DRT PARMA	40431770	19	DRT SINCRO PISTA	4043275A	ultra short 4th gear	extra short 3. gear/ultra short 2. gear
4.	47/19	2,47	47	DRT PARMA	40431770	19	DRT short 4th gear/PARMA	4043185B	ultra short 4th gear	-
4.	47/20	2,35	47	DRT PARMA	40431770	20	DRT NURBURG	40442172	extra short 4th gear	extra short 3. gear
4.	47/20	2,35	47	DRT PARMA	40431770	20	DRT short 4th gear/PARMA	4043185C	short 4th gear	-
4.	49/21	2,33	49	ZIRRI	40442000	21	ZIRRI	40442000	short 4th gear	-
4.	46/20	2,3	46	Standard	13490600	20	DRT RUNNER	40430313	short 4th gear	extra short 3. gear
4.	47/21	2,24	47	DRT PARMA	40431770	21	DRT short 4th gear/PARMA	4043185F	short 4th gear	-
4.	46/21	2,19	46	Standard	13490600	21	DRT	40442400	short 4th gear	-
4.	48/22	2,18	48	DRT	*	22	Standard	11237700	extra short 4th gear (*was replaced by input shaft part no 40442400, 21-18-14-10 teeth for original 4th gear 46 teeth by DRT)	-
4.	46/22	2,09	46	Standard	13490600	22	Standard	11237700	Standard	-



Alex, SIP answers:

My gears are jumping!

Why?

- the clutch cable has been set too tightly
- the gear cogs have been assembled together wrongly or they are worn out
- the wrong gear selector has been installed or it is worn out
- the gear shift arm has too much clearance or is the wrong type
- gears are not set correctly via the cable
- too much clearance in the gears -> distance them correctly
- spacer washer; gears worn out on the cruciform rest

Tech-Tip

Please find below a small combination of the different tuning combinations with the corresponding gearbox setup. The cylinders that are listed only provide an example of the corresponding class. With the exhaust systems we distinguish between ‚Sport‘, such as the Banana, VSP Road and PM40, and ‚Race‘, such as Scooter&Service, VSP Race, Falc, etc.

Important: these combinations are only intended as examples which have proven their worth on the road and on racing circuits in the past. Many cool components have become available since then and a lot more combinations are possible.

Cylinder	Exhaust	Primary	Input shaft DRT	1. Gear	2. Gear	3. Gear	4. Gear	Result	Recommendation	
POLINI 100	Sport	21/60 - 24/69	Runner	20-17-14-10	DRT 55	54 / DRT 52	50	46	Standard	-
POLINI 100	Sport	21/60 - 24/69	SINCRO PISTA	19-17-13-10	58	54	50	DRT 47	tall 1. gear	-
POLINI 130	Sport	23/60 - 27/69	Runner	20-17-14-10	DRT 55	54 / DRT 52	50	46	extra tall 1. gear	-
POLINI 130	Sport	23/60 - 27/69	SINCRO PISTA	19-17-13-10	58	54	50	DRT 47	extra tall 1. gear	ultra short 2./3./4. 3. gear
POLINI/DR 130	Sport	27/69	Runner	20-17-14-10	DRT 55	DRT 55	50/ DRT 51	46	ultra short 2. gear	ultra short 4th gear/ extra short 3. gear
POLINI 130	Sport	27/69	NUR-BURG	20-17-14-10	DRT 55	DRT 55	DRT 51	DRT 47	extra short 2. gear	-
POLINI 130	Sport	27/69	NUR-BURG	20-17-14-10	DRT 55	54	50	DRT 47	extra short 2. gear	ultra short 4th gear/ extra short 3. gear
POLINI 130	Sport	25/69 - 27/69	short 4.	21-18-14-10	58	54	50	46	short 2. gear	-
QUATTRINI	Sport	22/60 - 25/69	Runner	20-17-14-10	DRT 55	54 / DRT 52	50	46	short 2. gear, optimale Kombination	extra short 3./4. gear
QUATTRINI	Sport	25/69	Runner	20-17-14-10	58	54	50	46	short 2. gear	ultra short 4th gear/ ultra short 3. gear
QUATTRINI	Sport	23/60 - 27/69	SINCRO PISTA	19-17-13-10	58	54	50	DRT 47	Standard	-
QUATTRINI	Race	27/69	SINCRO PISTA	19-17-13-10	DRT 54	DRT 51	50	DRT 47	tall 2. gear	-
QUATTRINI	Race	25/69	Runner	20-17-14-10	58	54	50	46	ultra short 3. gear	ultra short 4th gear/ ultra short 2. gear
QUATTRIN	Race	24/69	short 4.	21-18-14-10	58	54	50	46	extra short 3. gear	extra short 4th gear
QUATTRINI	Race	28/68	MATRIX	18-16-13-10	DRT 54	DRT 51	50/ DRT 49	DRT 47	extra short 3. gear	extra short 4th gear