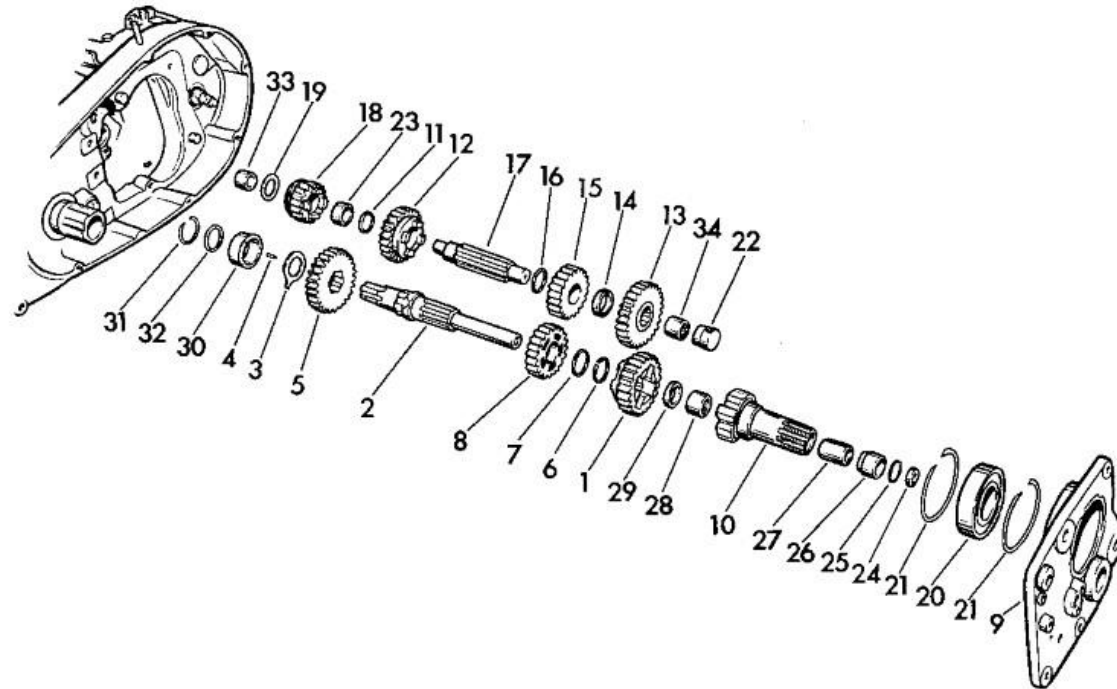


OSKRG Research/Restoration Bulletin #11

K & Sportster Transmission Gears, Mainshafts & Countershafts 1952-1972 vs3



- | | | |
|---------------------------------------|--|--|
| 1. Mainshaft second gear | 14. Countershaft gear spacer | 24. Clutch gear oil seal |
| 2. Transmission mainshaft | 15. Countershaft second gear | 25. Clutch hub nut "O" ring |
| 3. Mainshaft thrust washer | 16. Countershaft second gear thrust washer | 26. Clutch gear oil seal extension |
| 4. Transmission mainshaft roller (23) | 17. Transmission countershaft | 27. Clutch gear bushing |
| 5. Mainshaft low gear | 18. Countershaft low gear | 28. Clutch gear needle roller bearing |
| 6. Mainshaft third gear retainer ring | 19. Countershaft low gear washer | 29. Mainshaft thrust washer |
| 7. Mainshaft third gear washer | 20. Mainshaft ball bearing | 30. Mainshaft roller bearing race |
| 8. Mainshaft third gear | 21. Mainshaft ball bearing snap ring (2) | 31. Mainshaft roller bearing retainer ring |
| 9. Access cover | 22. Countershaft oiler plug | 32. Mainshaft roller bearing washer |
| 10. Clutch gear | 23. Countershaft low gear bushing | 33. Countershaft bearing - closed end |
| 11. Countershaft low gear washer | | 34. Countershaft bearing - open end |
| 12. Countershaft third gear | | |
| 13. Countershaft drive gear | | |

Figure following name of part indicates quantity necessary for one complete assembly.

This OSKRG Bulletin as with all OSKRG Bulletins is a work in progress. This work is far from complete. Many images are still needed as well as feedback concerning errors or omissions. This Bulletin will be updated from time to time as additional data is collected or errors need to be corrected. Please either email additional information/images to graino@comcast.net or post them to <http://www.harleykmodel.com/>.

Countershaft Group

Parts Book	CS Drive Gear	Year	CS 2 nd Gear	Year	CS 3 rd Gear	Year	CS Low Gear	Year	Countershaft	Year		
52-53	35695-52 (29T)	52-53Ks	35750-52 (18T)	52-53Ks	35709-52 (Per PB 26T) SHOP DOPE #345 25T or 26T	52-53Ks	35760-52 (22T per PB) SHOP DOPE #345 18T	52-53Ks	35613-52	52-53Ks		
54	35695-52A (27T)	52-54Ks	35750-52A (22T)	52-53Ks	35709-52 (26T) SHOP DOPE #345 25T or 26T	52-53Ks	35759-54 Per 63PB 17T	54Ks	35613-54	54Ks		
			35750-54A (21T)	54Ks	35709-54 (24T)	54Ks						
56	35695-52A (27T)	52-56Ks	35750-54B (21T)	Unknown	35709-54A (23T)	54-56Ks	35759-54 Per 63PB 17T	54-56Ks	35613-54	54-56Ks		
			35750-54C (21T)	54-56Ks							35760-52 (22T per PB) SHOP DOPE #345 18T	52-53Ks
			Note: Two -54C Samples have 20T									
57	35695-52A (27T)	52-56Ks & Sportster	35750-54C (21T) Note: Two -54C Samples have 20T	54-56Ks & Sportster	35709-54A (23T)	54-56Ks 57XL	35760-54	57XL	35613-54	54-56Ks 57XL		
58 Sup.	35695-58 (27T)	58 Sportster	35750-58 (20T)	58 Sportster					35613-58	58 Sportster		
59	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54	57-59 All Sportsters	35613-58	58-* XLH-XLCH		
63	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54 (17T)	57-63 All Sportsters	35613-58	58-* XLH-XLCH		
65	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54 (17T)	57-65 All Sportsters	35613-58	58-* XLH-XLCH		
67	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54A (17T)	57-67 All Sportsters	35613-58	58-* XLH-XLCH		
70	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54A (17T)	57-70 All Sportsters	35613-58	58-* XLH-XLCH		
71	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54A (17T)	57-71 All Sportsters	35613-58	58-* XLH-XLCH		
72	35695-58 (27T)	58-* XLH-XLCH	35750-58 (20T)	58-* XLH-XLCH	35709-54A (23T)	54-56Ks 57-* XLH-XLCH	35760-54B (17T)	57-72 All Sportsters	35613-58	58-* XLH-XLCH		

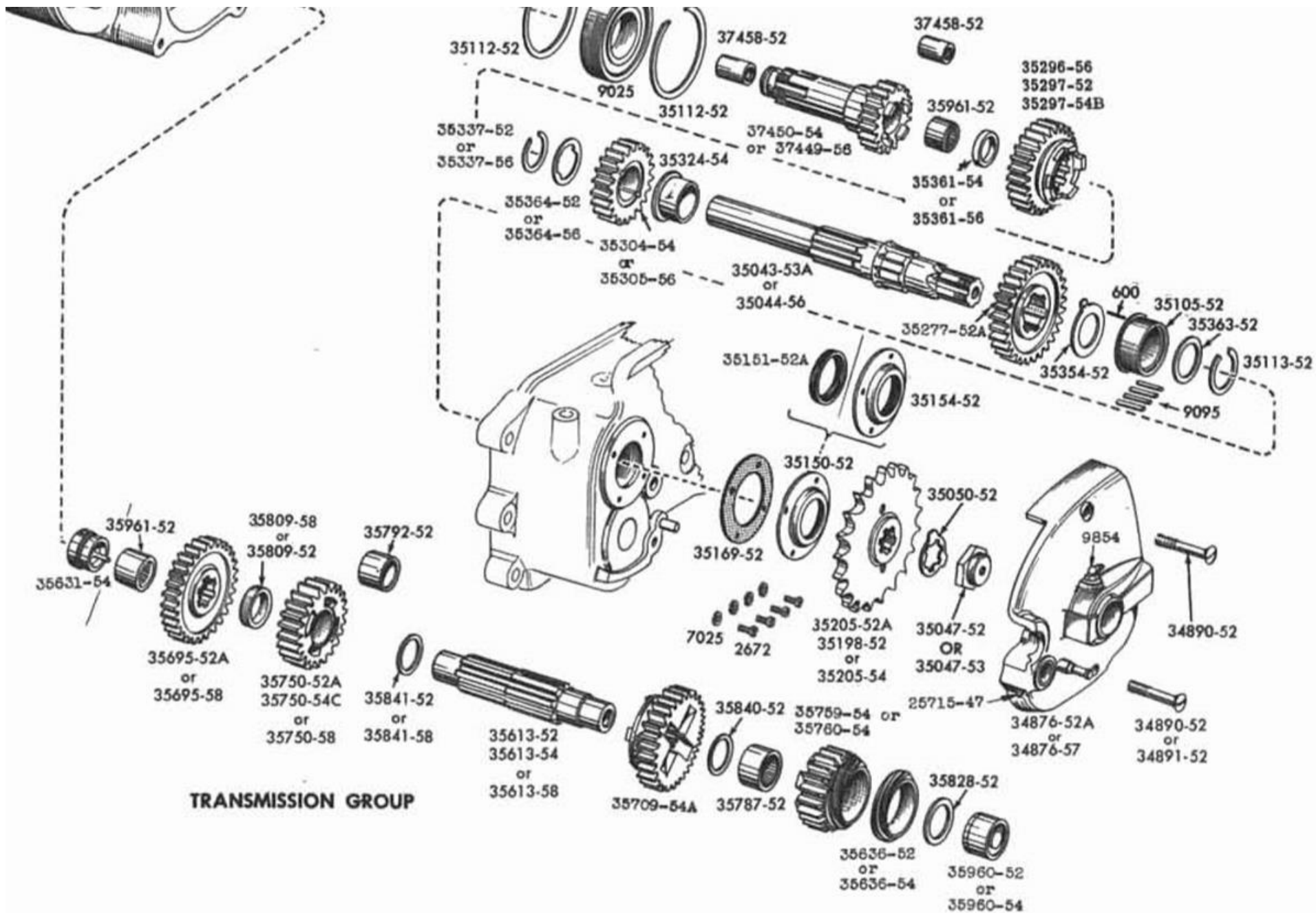
Mainshaft Group

Parts Book	Clutch Gear	Year	MS 2 nd Gear	Year	MS 3 rd Gear	Year	MS Low Gear	Year	Mainshaft	Year
52-53	37450-52 Per 63PB Has 18T	52-53Ks	35297-52 (25T)	52-53Ks	35304-52 (21T)	52-53Ks	35277-52 (29T)	52-53Ks	35043-52 35043-53	52K 53Ks
54	37450-54 Per 63PB Has 17T	54Ks	35297-54 (24T)	54Ks	35304-54 Per 63PB Has 20T 35304-52A Set of gears MS & CS. Consist of 35304-54 & 35709-54A	54Ks 56PB 55K 52-53Ks	35277-52A (29T) SHOP DOPE #345, Jan.15, 1954 modified 35277-52A gear with 27T.	All 54 & On	35043-53A	52-54Ks
56	37450-54 Per 63PB Has 17T	54-56Ks up to VIN 1465	35297-54 (24T)	54-55Ks	35305-56	56Ks	35277-52A (29T) Think PB in error about # of teeth based on Shop Dope #345, indicates replacement with 27T. Likely running change in early 54 model year.	All 54 & On	35043-53A	52-56Ks up to VIN 1465
	37449-56	Above 56K VIN 1465	35296-56 (23T)	56Ks	35304-52A Set of gears MS & CS. Consist of 35304-54 & 35709-54A	52-53Ks			35044-56	56Ks above VIN 1465
57	37449-56	57XL	35296-56 (23T) 35297-54A PN shown in picture but not referenced in text. 35297-54B Set of main-shaft 2 nd gears (24T)? Corrected in 64 Sup.	56Ks All Sports ?????? 54-55Ks	35305-56 35304-52A Set of gears MS & CS. Consist of 35304-54 & 35709-54A	56Ks All Sportster 52-53Ks	35277-52A (29T) Think PB in error about # of teeth based on Shop Dope #345, indicates replacement with 27T. Likely running change in early 54 model year.	All 54 & On	35044-56	56Ks above VIN 1465 & 57XL
59	37449-56	56K above VIN 1465-59 KH, XL, XLH, XLCH	35296-56 (23T) (The 59PB is wrong about 35297-54B, says single gear with 23T.)	56Ks All Sports	35305-56	56Ks All Sportster				
63	37449-56 (17T)	56K above VIN 1465-63 KH, XL, XLH, XLCH	35296-56 (23T) (The 63PB is wrong about 35297-54B, says single gear with 24T.)	56Ks All Sports	35305-56 (20T)	56Ks All Sportster	35277-52A (27T)	All 54 & On	35044-56	56K above VIN 1465-63 KH, XL, XLH, XLCH
64 Sup.			35297-54B Mainshaft second & third gear set, catalog correction.	54-55Ks						
65	37449-56 (17T)	56K above VIN 1465-65 KH, XL, XLH, XLCH	35269-56 (23T) Believe this part number is in error, juxtaposing of the 6 & 9. Believe the 66 Supplement corrects this error.	56Ks All Sports	35305-56 (20T)	56Ks All Sportster	35277-52A (27T)	All 54 & On	35044-56	56K above VIN 1465-65 KH, XL, XLH, XLCH
66 Sup.			35269-56 Replaced by 35296-56							
67	37449-56 (17T)	56K above VIN 1465-66 KH, XL, XLH, XLCH & 67 XLCH	35296-56 (23T)	56Ks All Sports	35305-56 (20T)	56Ks All Sportster	35277-52A (27T)	All 54 & On	35044-56	56K above VIN 1465-66 KH, XL, XLH, XLCH & 67 XLCH
	37448-67 (17T)	67 XLH							35046-67	67 XLH
70	37449-56 (17T)	56K above VIN 1465-66 KH, XL, XLH, XLCH & 67-69 XLCH	35296-56 (23T)	56Ks All Sports	35305-56 (20T)	56Ks All Sportster	35277-52A (27T)	All 54 & On	35044-56	56K above VIN 1465-66 KH, XL, XLH, XLCH & 67-69 XLCH
	37448-67 (17T)	67-*XLH, 70-*XLCH							35046-67	67-*XLH, 70-*XLCH





Mainshaft



Parts Book	Clutch Gear	Year	MS 2 nd Gear	Year	MS 3 rd Gear	Year	MS Low Gear	Year	Mainshaft	Year
71	37449-56 (17T)	56K above VIN 1465-66 KH, XL, XLH, XLCH & 67- 69 XLCH	35296-56 (23T)	56Ks All Sports	35305-56 (20T)	56Ks All Sportster	35277-52A (27T)	All 54 & On	35044-56	56K above VIN 1465- 66 KH, XL, XLH, XLCH & 67-69 XLCH
	37448-67 (17T)	67-70 XLH, 70 XLCH							35046-67	67-70 XLH, 70-*XLCH
	37448-71 (17T)	71-*XLH & XLCH							35046-71	71-* XLH & XLCH
72	37449-56 (17T)	56K above VIN 1465-66 KH, XL, XLH, XLCH & 67- 69 XLCH	35296-56 (23T)	56Ks All Sports	35305-56 (20T)	56Ks All Sportster	35277-52A (27T)	All 54 & On	35044-56	56K above VIN 1465- 66 KH, XL, XLH, XLCH & 67-69 XLCH
	37448-67 (17T)	67-70 XLH, 70 XLCH							35046-67	67-70 XLH, 70-XLCH
	37448-71 (17T)	71-*XLH & XLCH							35046-71A	71-* XLH & XLCH

59 Parts Book



TRANSMISSION GROUP

Part Number	Identifying Characteristics	Side 1	Side 2
CS Drive Gears			
35695-52 (29T)	<p>This CSDG is the only gear with 29T with the exception of the Mainshaft Low Speed Gear. The MSLSG will have a considerably larger center hole. Without samples of the earliest Countershaft PN 35613-52 and the earliest Mainshaft PN 35043-52 I am unable to provide dimensions of the center holes and number of center splines on the gear at this time.</p>		
35695-52A (27T)	<p>This CSD Gear is recognizable by its 27T and 6 center splines. It can be differentiated from its successor drive gear PN 35695-58 which also has 27T because the -58 will have 8 splines at its center. It can be told apart from the Mainshaft Low Speed Gear because the -52A CS Drive Gear has a center dimension at its widest of .874" and the MSLG will have a center at its widest of 1.183".</p>	 <p>A photograph showing the side 1 view of a metal gear with 27 teeth and 6 splines. The gear is placed next to its original cardboard packaging, which is labeled '35695-52A' and 'HARLEY-DAVIDSON MOTOR CO., INC. MILWAUKEE, WISCONSIN 53201 U.S.A.'.</p>	 <p>A photograph showing the side 2 view of the same metal gear. The gear is placed next to its original cardboard packaging, which is labeled '35695-52A' and 'HARLEY-DAVIDSON MOTOR CO., INC. MILWAUKEE, WISCONSIN 53201 U.S.A.'.</p>
35695-58 (27T)	<p>This CSDG is recognizable by its 27T and 8 splines at its center.</p>	 <p>A photograph showing the side 1 view of a metal gear with 27 teeth and 8 splines. The gear is placed on top of its original cardboard packaging, which features the Harley-Davidson logo and the text 'Genuine and Accessories'.</p>	 <p>A photograph showing the side 2 view of the same metal gear. The gear is placed on top of its original cardboard packaging, which features the Harley-Davidson logo and the text 'Genuine and Accessories'.</p>

CS 2 nd Gears			
35750-52 (18T)			
35750-52A (22T)	<p>This is the only CS 2nd Gear with 22T. It looks similar to the MS 3rd Gear. The differences are no MS 3rd Gear will have 22T and the MS 3rd Gear has 5 “voids” to accept the “Dogs or protrussions” from the MS 2nd Gear. The CS 2nd Gear will only have 4 voids. Some CS Low Gears have 22T but are easily distinguished from the CS 2nd Gear in that the CSLG has 4 dogs to engage the CS 3rd Gear.</p>		
35750-54A (21T)	<p>At this time I have no samples to say whether this CS 2nd Gear is marked with its PN. Expect it would have 4 voids to distinguish it from the MS 3rd Gear with the same number of teeth that has 5 voids. Am unaware at this time of the differences between the -54A CS 2nd Gear and the -54B CS 2nd Gear.</p>		
35750-54B (21T)	<p>At this time I have no samples to say whether this CS 2nd Gear is marked with its PN. Expect it would have 4 voids to distinguish it from the MS 3rd Gear with the same number of teeth that has 5 voids. Am unaware at this time of the differences between the -54B CS 2nd Gear and the -54A CS 2nd Gear.</p>		

<p>35750-54C (21T) Note: All viewed samples have only 20T.</p>	<p>This CS 2nd Gear is PN marked. Parts Books say it has 21T, all samples seen to date have 20T. Has 4 voids and smooth opposite side.</p>		
<p>35750-58 (20T)</p>	<p>This CS 2nd Gear is PN marked. Has 20T. Has 4 voids and smooth opposite side.</p>		
<p>CS 3rd Gears</p>			
<p>35709-52 (26T)</p>	<p>The CS 3rd Gears look similar to the MS 2nd Gear but can be easily differentiated by the CS 3rd Gear having only 4 Dogs and the MS 2nd Gear having 5 Dogs. The -52 is the only CS 3rd Gear with 26T.</p>		
<p>35709-54 (24T)</p>	<p>The CS 3rd Gears look similar to the MS 2nd Gear but can be easily differentiated by the CS 3rd Gear having only 4 Dogs and the MS 2nd Gear having 5 Dogs. The -54 is the only CS 3rd Gear with 24T.</p>		

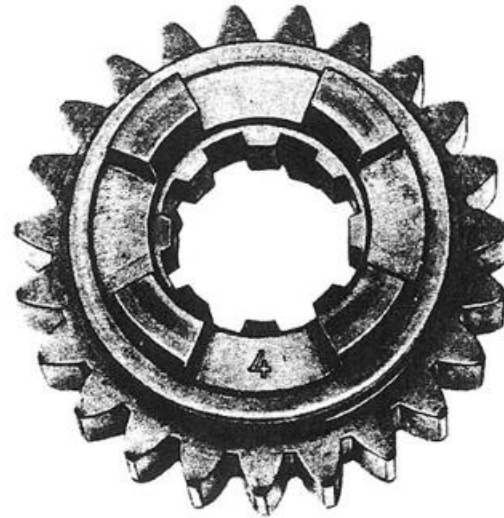
SHOP DOPE #356
35709-54 (23T or
24T)

As a result of changes in material and heat treatment, the above two gears now in new motorcycle production and furnished on parts order are much huskier gears than were available earlier.

The later, huskier gears are identified by the numeral 4 stamped between the driving dogs. Disregard other numbers that may be found stamped elsewhere on the gears.

The first huskier gears produced have twenty four teeth; later the number of teeth will be reduced to twenty three. However, gear pitch diameter stays the same whether twenty-three or twenty-four teeth, and therefore one gear can be replaced with the other. Gears identified by the numeral 4, whether twenty-three or twenty-four teeth, are OK to use.

The new gears went into new motorcycle assembly starting with number 55KH 1706. A few lower numbered motorcycles have the new 35709-54 C/S 3rd gear, but not the new 35297-54 M/S 2nd gear.



C/S 3rd Gear
35709-54

35709-54A (23T)

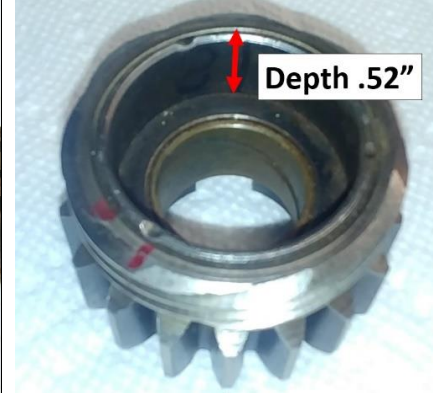
The CS 3rd Gears look similar to the MS 2nd Gear but can be easily differentiated by the CS 3rd Gear having only 4 Dogs and the MS 2nd Gear having 5 Dogs. The -54A is the only CS 3rd Gear with 23T. It is also marked with its PN.



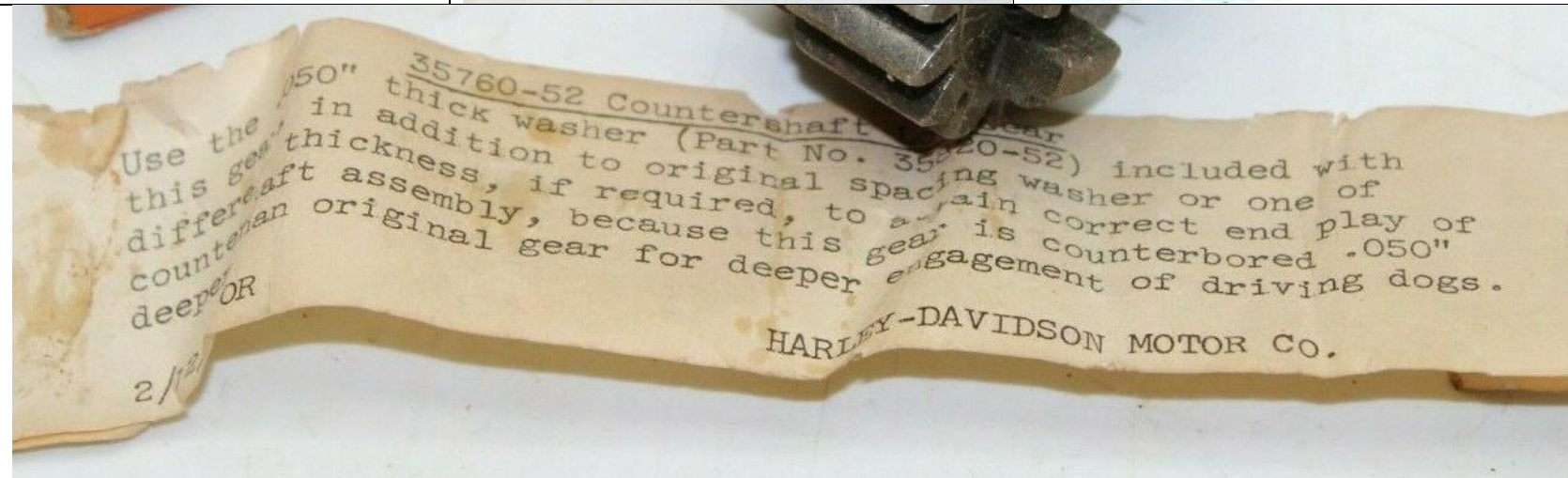
CS Low Gears

35760-52 (22T?)
Shop Dope #345 indicates it will have 18 teeth.

The CS Low Gear is easy to spot because it has 4 dogs on one side and the speedo drive gear on the other. The Parts Book says the -52 CSLG should have 22T. Shop Dope #345 indicates it will have 18 teeth. This eBay sample has 18T. The PBs indicate the other 4 versions of this gear all have 17T. I believe the version of the -52 shown is the deeper bored version noted below.

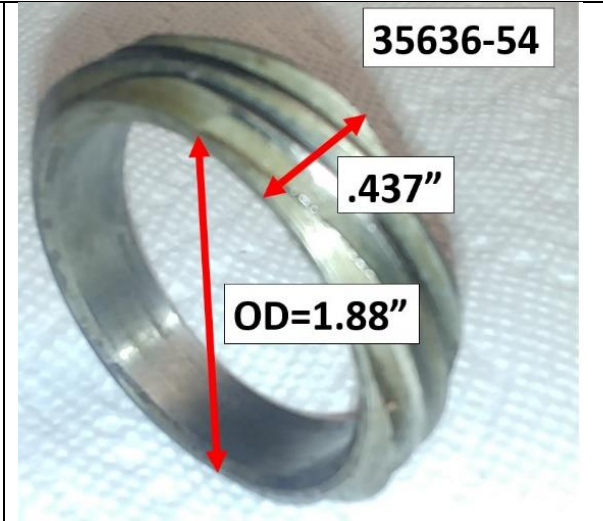


This note implies that even though there is no PN change an earlier version must have existed that was not bored as much.



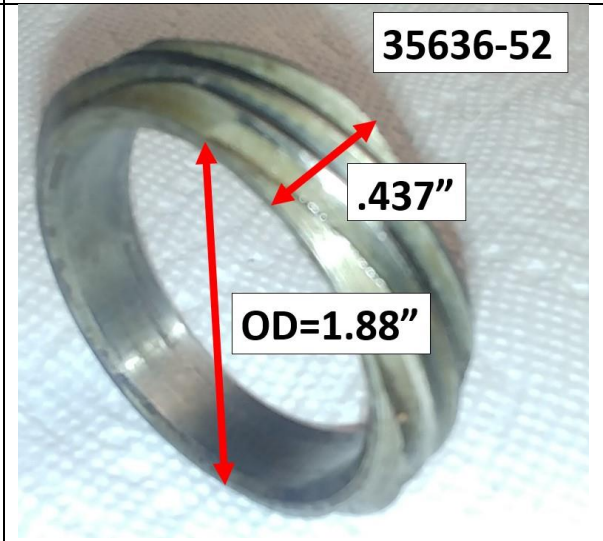
35759-54 (17T)

The CS Low Gear is easy to spot because it has 4 dogs on one side and the speedo drive gear on the other. At this time without PN verifiable samples I am unable to distinguish between this 35759-54 CSLG and the 35760-54 CSLG. It can be distinguished from the 35760-52 CSLG due to that gears 18 or possibly 22 teeth. You can distinguish it from the 35760-54A or the 35760-54B versions because they use the -52A speedo drive gear that is not as wide as the 35636-54 speedo drive gear, .410" vs. .437". The PBs indicate or imply that the 35636-54 speedo drive gear shown, only used with the 54-56Ks, is different from the 35636-52 gear used on both the 52-53 Ks & the 57-66 XLs & XLHs. At this time I can not identify any dimensional differences between these 2 speedo drive gears. It would make sense that the ramp or slope would be slightly different for this gear since the 54-56Ks used a 49 tooth instead of a 51 tooth rear sprocket. I have not as yet been able to adequately test their ramp in order to verify this ascertainment.



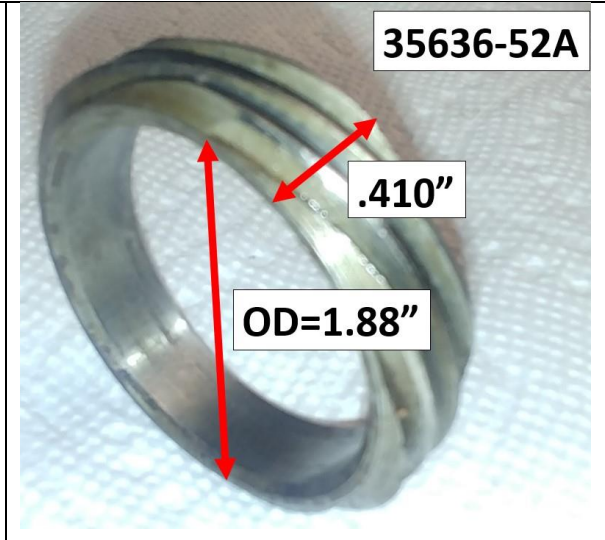
35760-54 (17T)

The CS Low Gear is easy to spot because it has 4 dogs on one side and the speedo drive gear on the other. At this time without PN verifiable samples I am unable to distinguish between this 35760-54 CSLG and the 35759-54 CSLG. It can be distinguished from the 35760-52 CSLG due to that gears 18 or possibly 22 teeth. You can distinguish it from the 35760-54A or the 35760-54B versions because they use the -52A speedo drive gear that is not as wide as the 35636-52 speedo drive gear, .410" vs. .437". The PBs indicate or imply that the 35636-54 speedo drive gear shown, only used with the 54-56Ks, is different from the 35636-52 gear used on both the 52-53 Ks & the 57-66 XLs & XLHs. At this time I can not identify any dimensional differences between these 2 speedo drive gears. It would make sense that the ramp or slope would be slightly different for this gear since the 54-56Ks used a 49 tooth instead of a 51 tooth rear sprocket. I have not as yet been able to adequately test their ramp in order to verify this ascertainment.



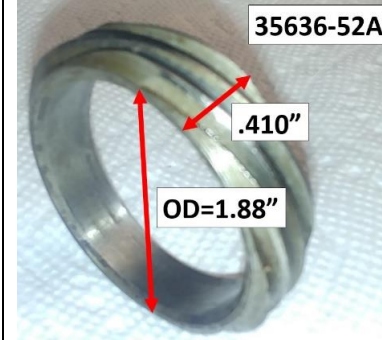
35760-54A (17T)



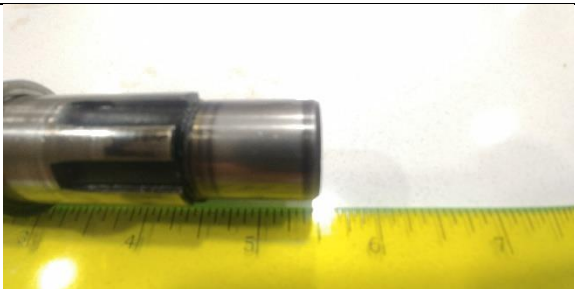
The CS Low Gear is easy to spot because it has 4 dogs on one side and the speedo drive gear on the other. At this time without a PN verifiable sample of this gear I am unable to distinguish between this 35760-54A CSLG and the 35760-54B versions. We are able to distinguish between it and the earlier 35760-52, 35759-54 & the 35760-54. The -54A and -54B CSLGs both use the same speedo drive gear, 35636-52A. It appears to have the same ID and OD as the earlier 35636-52 & 35636-54 gears but its' width is less, .410" vs .437".






35760-54B (17T)

The CS Low Gear is easy to spot because it has 4 dogs on one side and the speedo drive gear on the other. At this time without a PN verifiable sample of this gear I am unable to distinguish between this 35760-54B CSLG and the 35760-54A versions. We are able to distinguish between it and the earlier 35760-52, 35759-54 & the 35760-54. The -54A and -54B CSLGs both use the same speedo drive gear, 35636-52A. It appears to have the same ID and OD as the earlier 35636-52 & 35636-54 but its' width is less, .410" vs .437". Its' recess depth also is deeper than all the other CSLG samples I have. Without a verifiable CSLG 35760-54A to compare its depth against I cannot say that this measurement is a uniquely identifying feature only to the -54B version. All other CSLG samples measure approximately .315" in depth.




Countershafts			
35613-52	I have no PN verifiable samples at this time to evaluate for unique characteristics.		
SHOP DOPE #356 35613-54 Early version below VIN 54KH 2040	<p>When servicing the transmission of a motorcycle with number below 54KH 2040 inspect the countershaft 35613-54 with its gears removed. If an oil hole is found cross-drilled at 2nd gear position, discard shaft and replace with a later shaft that does not have this oil hole.</p> <p>No verified samples to evaluate at this time. Believe it would be identical to the later -54 version only would have a second oiler hole where 2nd gear rides.</p>		
35613-54 Later version equal to or above VIN 54KH 2040	This -54 Countershaft measures 5.5" in length and is easily distinguished from the -58 Countershaft. The -54 CS has 6 splines on the Drive Gear end 8 splines on the other end. The later -54 above VIN 54KH 2040 will only have one oiler hole where the low speed gear rides. The -58 CS will have 8 splines on both ends. I have no PN verifiable samples at this time of the -52 CS to compare to the -54 CS.		

35613-58	<p>This -58 Countershaft measures 5.5" in length and is easily distinguished from the -54 Countershaft. The -58 CS has 8 splines on the Drive Gear end 8 splines on the other end. The -54 CS will have 6 splines on the Drive gear end and 8 splines on the other end.</p>		
<p>Clutch Gears</p>			
37450-52 (18T)	<p>The -52 Clutch Gear can be easily distinguished from the -54 & -56 Clutch Gears because it is the only Clutch Gear with 18T.</p>		
37450-54 (17T)	<p>Based on minimal evidence think the -54 Clutch Gear is unique in that it has 17T and is approximately 4.25" in length. Its threaded end has about 7 threads.</p>		
37449-56 (17T)	<p>Need verified samples, the samples I have at this time are contradictory.</p>		

<p>37448-67 (17T)</p>	<p>The -67 Clutch Gear can be easily distinguished from the -54 & -56 Clutch Gears that also have 17T by its significant "grove".</p>			
<p>37448-71 (17T)</p>	<p>No samples to evaluate at this time.</p>			
<p>MS 2nd Gears</p>	<p>The 35297-52 MS 2nd Gear is unique in that it has 5 dogs (assumption, no samples to examine) and 25T.</p>			
<p>35297-52 (25T)</p>				

<p>35297-54 (24T) Original Version</p>	<p>The 35297-54 MS 2nd Gear is unique in that it has 5 dogs (assumption, no samples to examine) and 24T.</p>		
<p>SHOP DOPE #356 35297-54 (23 or 24T) Later Version</p>	<p>As a result of changes in material and heat treatment, the above two gears now in new motorcycle production and furnished on parts order are much huskier gears than were available earlier.</p> <p>The later, huskier gears are identified by the numeral 4 stamped between the driving dogs. Disregard other numbers that may be found stamped elsewhere on the gears.</p> <p>The first huskier gears produced have twenty four teeth; later the number of teeth will be reduced to twenty three. However, gear pitch diameter stays the same whether twenty-three or twenty-four teeth, and therefore one gear can be replaced with the other. Gears identified by the numeral 4, whether twenty-three or twenty-four teeth, are OK to use.</p> <p>The new gears went into new motorcycle assembly starting with number 55KH 1706. A few lower numbered motorcycles have the new 35709-54 C/S 3rd gear, but not the new 35297-54 M/S 2nd gear.</p>		
	<div data-bbox="829 776 1333 1291" data-label="Image"> </div> <div data-bbox="982 1295 1180 1356" data-label="Caption"> <p>M/S 2nd Gear 35297-54</p> </div>		

35296-56 (23T)	The 35296-56MS 2 nd Gear is unique in that it has 5 dogs, 23T and is not marked with a "4".		
35297-54A	No samples available. 35297-54A PN shown in picture but not referenced in text.		
MS 3rd Gears			
35304-52 (21T)	The MS 3 rd Gear 35304-52 is unique in that it has 21T based on PBs and the assumption that it has 5 voids. No samples available to evaluate at this time.		
35304-54 (20T)	The MS 3 rd Gear 35304-54 may be distiguisable from the other MS 3 rd Gears in that it may have 18T? The 63PB says it has 20T . The only picture sample available pictured here has 18T. It does have the 5 voids which I believe means it has to a Mainshaft 3 rd Gear.		

35305-56 (20T)	The MS 3 rd Gear 35305-56 may be distiguisable from the other MS 3 rd Gears if in fact the -54 gear does have 18T. If so the -56 gear would be the only one with 20T and 5 voids.		
MS Low Gears			
35277-52 (29T)	No samples to evaluate at this time. If PBs are correct would expect it to have 29T. Do not at this time know how to differentiate it from the 29T, -52A MSLG.		
35277-52A (29T)? 27T Shop Dope #345 indicates this gear has 27T.	No samples to evaluate at this time. Based on Shop Dope #345, believe the 27 tooth MSLG was either a running change early in the 54 model year or a 54 model year change. I believe the 54, 56 & 57 PBs are in error indicating 29T. The MS Low Gear 35277-52A is distinguishable from the earlier version based on its unique number of teeth, 27. Based on the outer spine OD of a -53A Mainshaft believe the -52A MSLG will have a center at its widest of 1.183". Repop Gear Shown.		
Mainshafts			
35043-52	No samples to evaluate at this time.		
35043-53	No samples to evaluate at this time.		

35043-53A	<p>No verified samples to evaluate at this time. Believe it measures about 9 & 1/8th inches in length and does not have a small oiler hole.</p>		
35044-56	<p>No verified samples to evaluate at this time. Believe it measures about 9 & 1/8th inches in length and has a small oiler hole.</p>		
35046-67	<p>No samples to evaluate at this time. Believe it measures about 9 & 5/8th inches.</p>		
35046-71	<p>No samples to evaluate at this time.</p>		
35046-71A	<p>No samples to evaluate at this time.</p>		

SERVICE

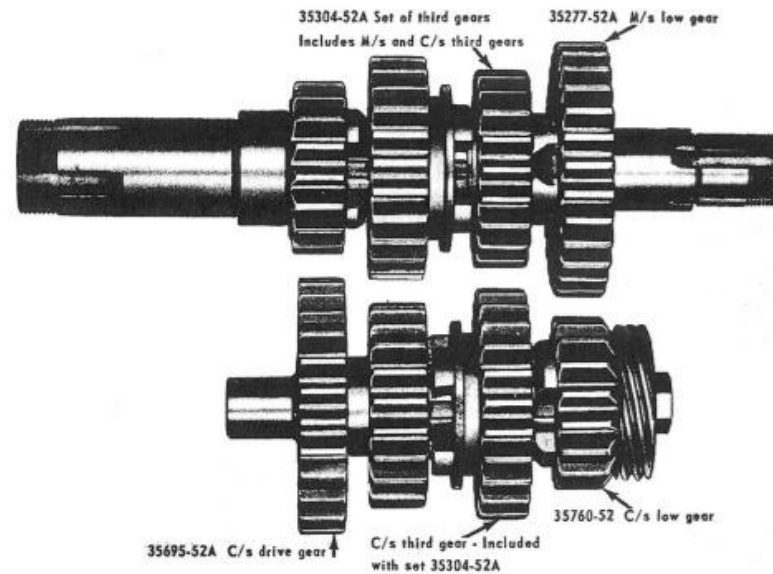
SHOP DOPE

No. 345

January 15, 1954

SERVICING 1952-53 K - KK - KRM TRANSMISSIONS

(This Bulletin does not apply to 1954 KH transmissions)



Five of the transmission gears supplied for servicing 1952-53 K transmission have been made much stronger gears as a result of modification of teeth, and changes in material and heat treatment. (These *five* gears are indicated in illustration.) The other *three* gears applying to 1952-53 transmission have not been changed. These *three* gears are:

37450-52	Clutch gear
35297-52	M/s 2nd gear
35750-52	C/s 2nd gear

RECOMMENDATION

Whenever it becomes necessary to split the crankcase of a 1952-53 K - KK - KRM, whether because of transmission trouble or trouble elsewhere in engine base, replace the *original five* gears, in the positions indicated in illustration, with the later modified gears. It is also recommended that before delivering new or used K - KK - KRM motorcycles you may have in stock for sale, you consider applying this modification.

Bear in mind that the other *three* original gears in transmission are OK to use, provided they are not damaged or excessively worn, particularly their engaging slots and dogs. If the engaging edges of slots and dogs are found quite badly worn and rounded, as results from rough or speed shifting, it is hardly worthwhile to reassemble with gears in this condition, as after a further short period of service they are likely to start jumping engagement under load, making another repair job necessary.

WHAT PART NUMBERS APPLY TO FIVE MODIFIED GEARS?

35274-52	{	35304-52A	Set of third gears - Includes two gears - M/s third gear and C/s third gear. Must be used as a pair.
Set of		35277-52A	M/s low gear.
five gears		35695-52A	C/s drive gear.
		35760-52	C/s low gear.

Only these later gears will be supplied in the future on parts orders for replacement gears for 1952-53 K. For example - if either 35709-52 C/s third gear, or 35304-52 M/s third gear is ordered from current K parts catalog (Issued Oct. 15th, 1952) 35304-52A set of third gears will be supplied. New parts catalog, in the making, will list gears as above.

HOW TO OBTAIN FIVE-GEAR COMBINATIONS

Order the same as you order other parts. Mail your order to the Parts Department (do not direct to Service Department). Order part no. 35274-52 Set of five gears. Parts will be supplied and charged for.

WHAT WILL THE FACTORY CONTRIBUTE TO THIS CONVERSION?

Gears replaced with the new *five-gear* combination in any new 1952-53 K - KK - KRM in stock, or any used K - KK - KRM with less than 7500 miles service, may be returned to factory for exchange for another new five-gear combination or for full credit, provided replaced gears are received at the factory before September 1, 1954. Applying to a motorcycle in use more than 7500 miles, gears replaced should not be returned to factory as they will not be accepted for either exchange or credit.

When returning gears replaced with the new combination, list them on a return instruction sheet. If returned with other parts, list gears on a separate instruction sheet and give the following information:

- Engine number of motorcycle from which gears were removed.
- Total mileage.
- Date gears were replaced.
- Exchange for later gears.
- Allow credit.

Unless this information is complete, gears returned will not be exchanged or credited.

Bear in mind - *This offer expires September 1, 1954.* Only gears received at the factory before this date will be accepted for exchange or credit.

WHAT ABOUT NEW GEARS I MAY HAVE IN STOCK, WHICH ARE SUPERSEDED BY THE FIVE MODIFIED GEARS?

Return these new gears for exchange or credit, but check carefully before returning to be sure you are returning only the earlier gears. (Some of the later modified gears have already been shipped on parts orders).

Return the following:

- 35304-52 M/s third gear - 21 tooth gear, with straight bronze bushing staked on one side.
- 35277-52 M/s low gear - 29 tooth gear.
- 35695-52 C/s drive gear - 29 tooth gear.
- 35709-52 C/s third gear - 25 or 26 tooth gear.
- 35760-52 C/s low gear - 18 tooth gear.

When returning above described new gears for exchange or credit, itemize on a separate return instruction sheet, and give the following information:

New obsolete stock.
Exchange for later gears.
Allow credit.

Do not return the following, as they are latest modified gears.

- M/s third gear - with 21 modified teeth and shouldered bronze bushing.
- M/s low gear - with 27 teeth.
- C/s drive gear - with 27 teeth.
- C/s third gear - with 24 teeth.

When servicing a transmission that has seen considerable use, particularly one in which something is broken or one that has been jumping out of gear, inspect following parts closely to be sure they are in good condition:

Shifter forks	34291-52
Shifter fork rollers	34168-52
Shifter cam	34012-52
Shifter centering springs	34500-52

If something has broken or gears have been jumping out of engagement under load, one or both shifter forks may be bent or badly worn - shifter fork rollers may be broken or damaged - and shifter cam slots may be beaten up and indented.

If shifter centering springs are bright finished, replace with black springs. If pawl carrier support 34513-52 does not have 34485-52 centering spring retaining plugs, they should be installed.