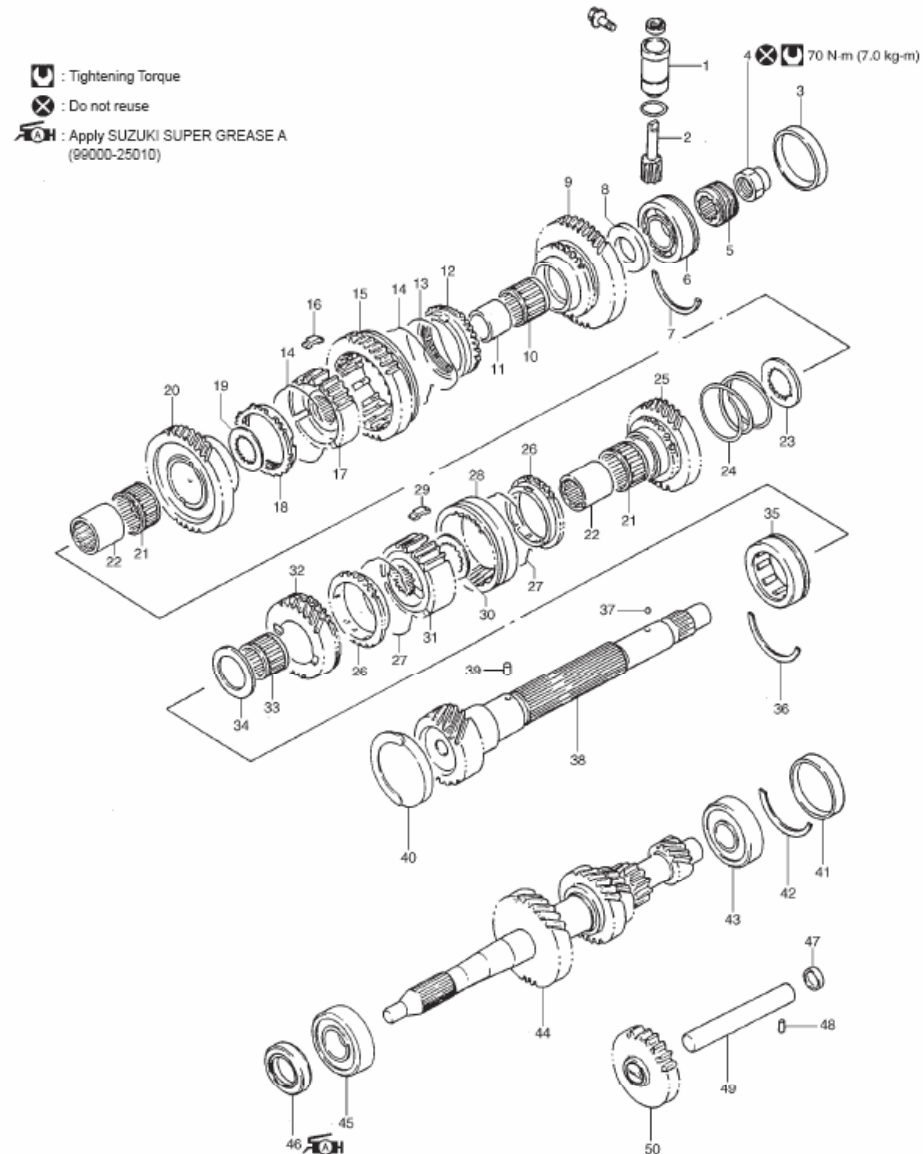


TRANSMISSION SYSTEM

F8B(800 CC Car)

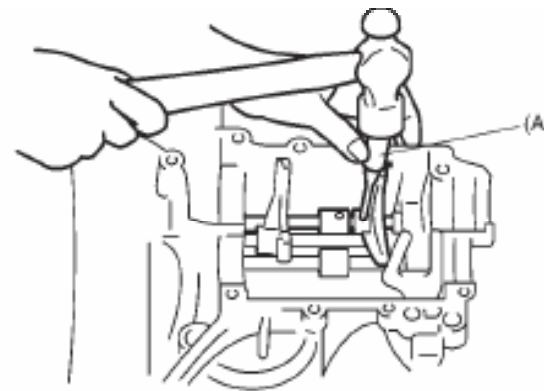
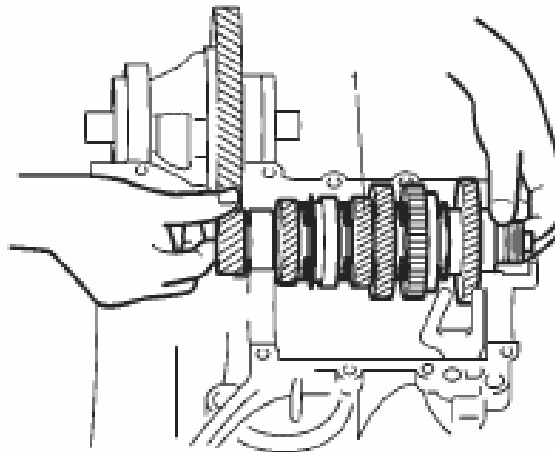
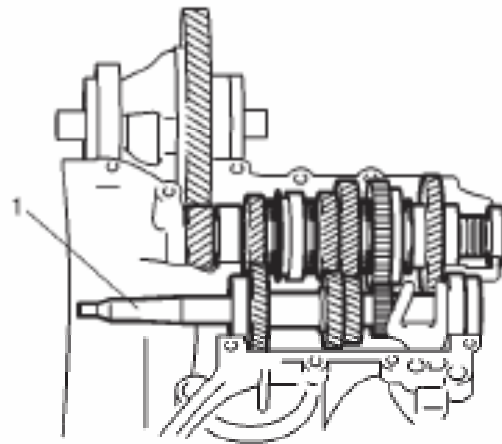
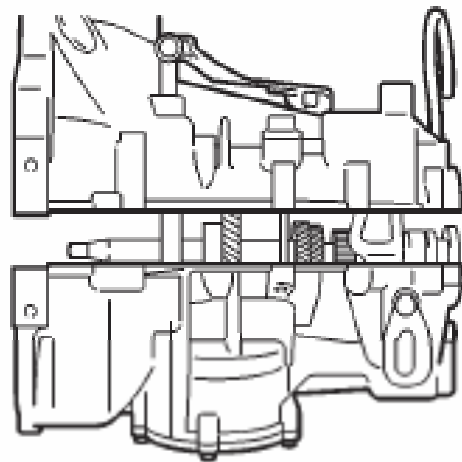
Transmission system



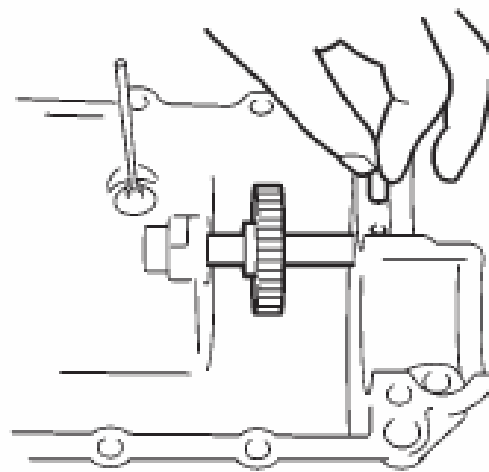
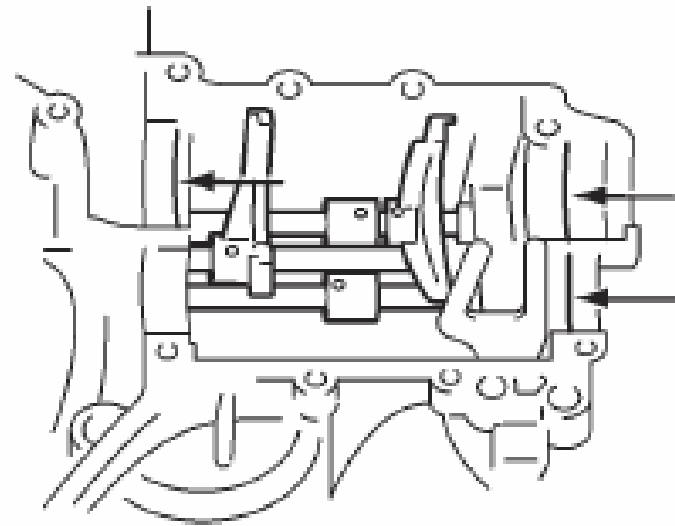
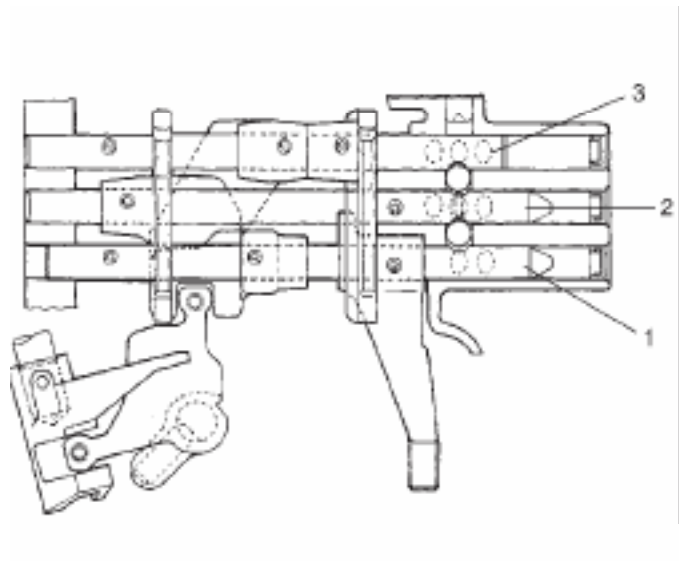
Components Name

- | | | | |
|---------------------------------|------------------------------|-------------------------|-----------------------|
| 1. Speedometer driven gear case | 13. Synchronizer ring spring | 26. Synchronizer ring | 39. Pin |
| 2. Speedometer driven gear | 14. Synchronizer spring | 27. Synchronizer spring | 40. Plug |
| 3. Counter shaft plug | 15. Low speed sleeve | 28. High speed sleeve | 41. plug |
| 4. Nut | 16. Key | 29. Key | 42. C ring |
| 5. Speedometer drive gear | 17. Low speed hub | 30. Thrust washer | 43. Bearing |
| 6. Bearing | 18. Synchronizer ring | 31. High speed hub | 44. Input shaft |
| 7. C ring | 19. Thrust washer | 32. Top gear | 45. Bearing |
| 8. Thrust washer | 20. Second gear | 33. Needle bearing | 46. Oil seal |
| 9. Low gear | 21. Needle bearing | 34. Thrust washer | 47. Plug |
| 10. Needle bearing | 22. Bush | 35. Bearing | 48. Pin |
| 11. Bush | 23. Thrust washer | 36. C ring | 49. Reverse shaft |
| 12. Synchronizer ring | 24. Spring | 37. Steel ball | 50. Reverse idle gear |
| | 25. Third gear | 38. Counter shaft | |

Transmission Disassembly



Shifting Shaft & Fork

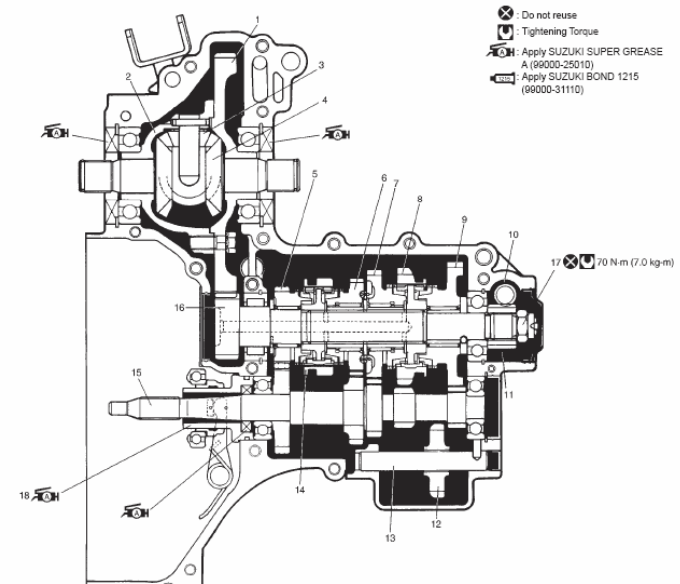


TRANSMISSION ASSY: M/T

The transmission provides four forward speeds and one reverse speed by means of Four synchronizers, Two Hub & Sleeve and three shafts:

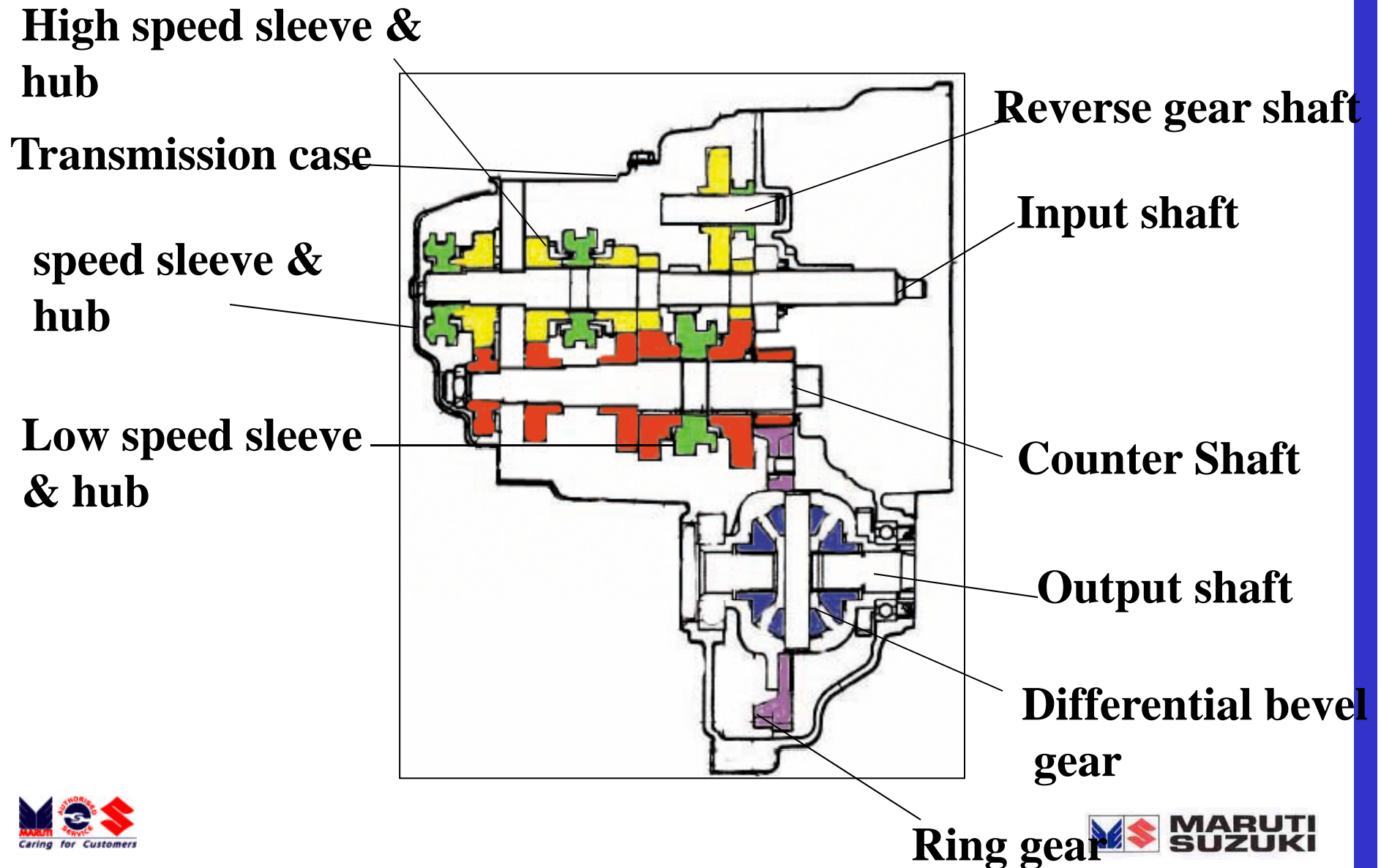
1. Input shaft ,
2. Counter shaft
3. Differential Gear

All forward gears are in constant mesh with Synchronizer and reverse uses a sliding idler gear arrangement.



- Hub and Sleeve
- Input Shaft gears / Rev gear
- Counter Shaft gears

TRANSMISSION ASSY: M/T



PARTS DISCRPTION



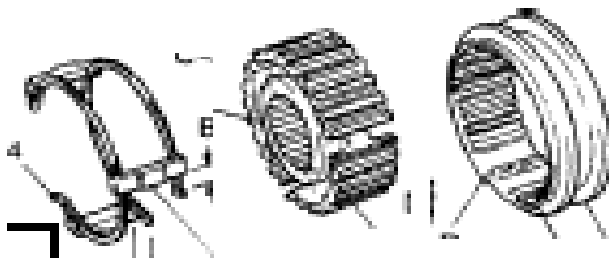
Speed Gear:

Transmits power from one shaft to other as per gear ratio.



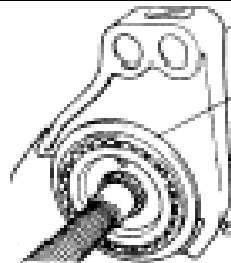
Synchroniser ring:

Facilitates smooth engagement of gear as work as a guide for sliding sleeve.



Hub & Sleeve:

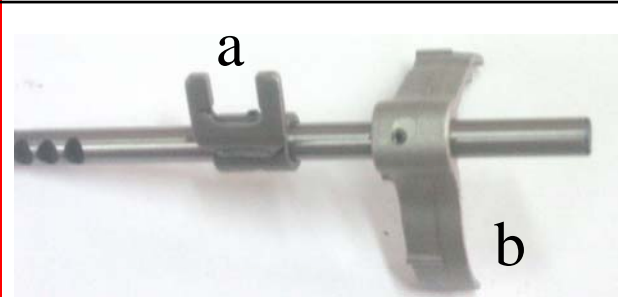
Sleeve moves over hub and engaging gear with hub so as transmit power from gear to output shaft.



Gear Shift Fork :

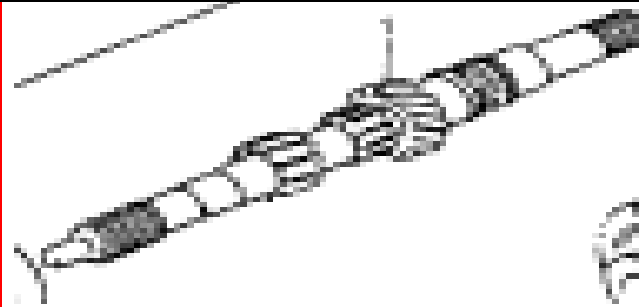
Through gear shift fork sleeve moves over hub.

PARTS DISCRIPTION



Gear Shift Shaft:

It selects the gear as per the movement of gear selector shaft. Fork (a) and (b) is fixed on the shaft. Fork (a) takes the movement from gear selector shaft and moves gear shift shaft and fork (b) results in engagement of gear.



Input Shaft (1) :

Takes power from engine through clutch assy and transmits the power to countershaft through gears.

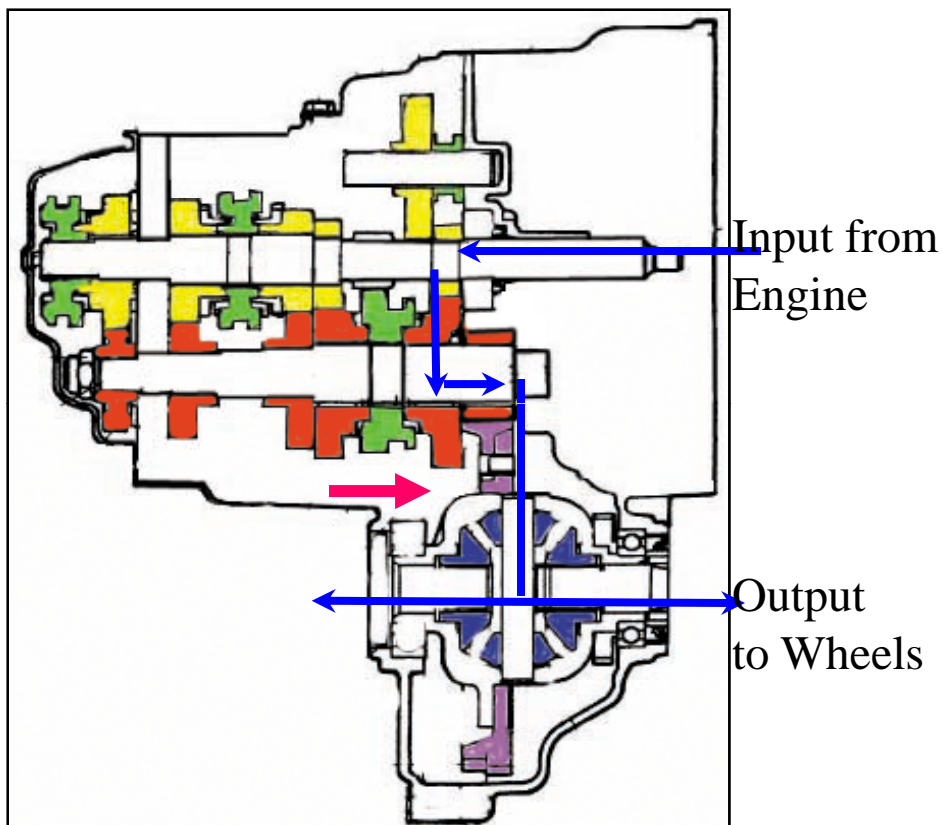


Gear Selector Shaft:

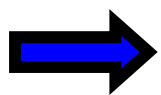
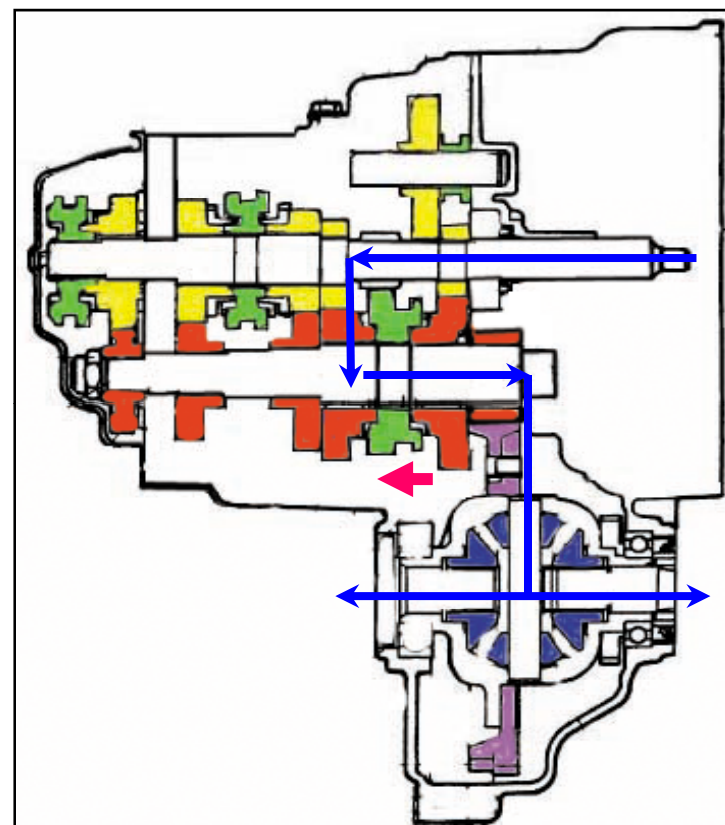
Takes movement from gear shifting rod and facilitates selection of gear by transmitting motion to fork.

POWER TRANSMISSION

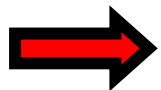
Ist Gear



IInd Gear



Indicates Power flow



Indicates Movement of Sleeve



Hub and Sleeve



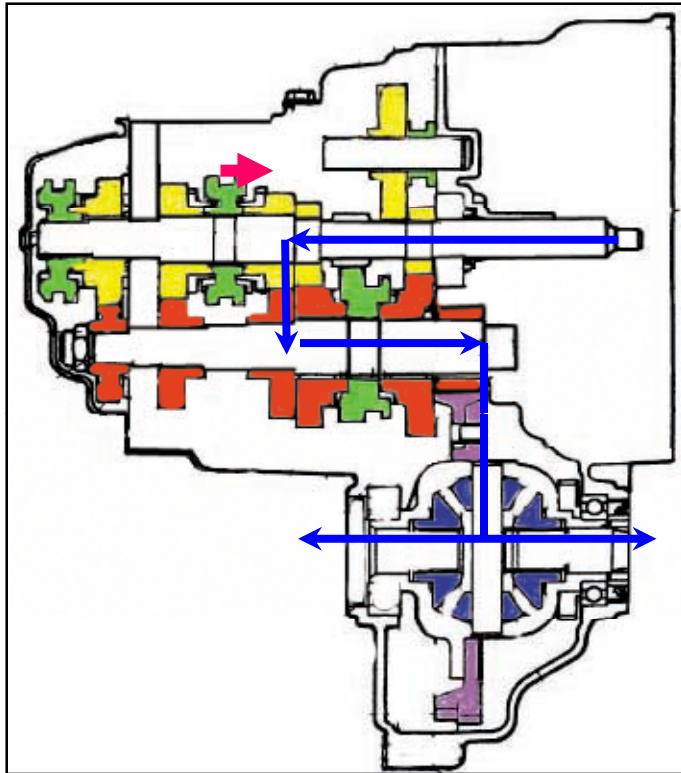
Input Shaft gears / Rev gear



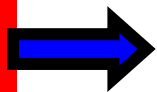
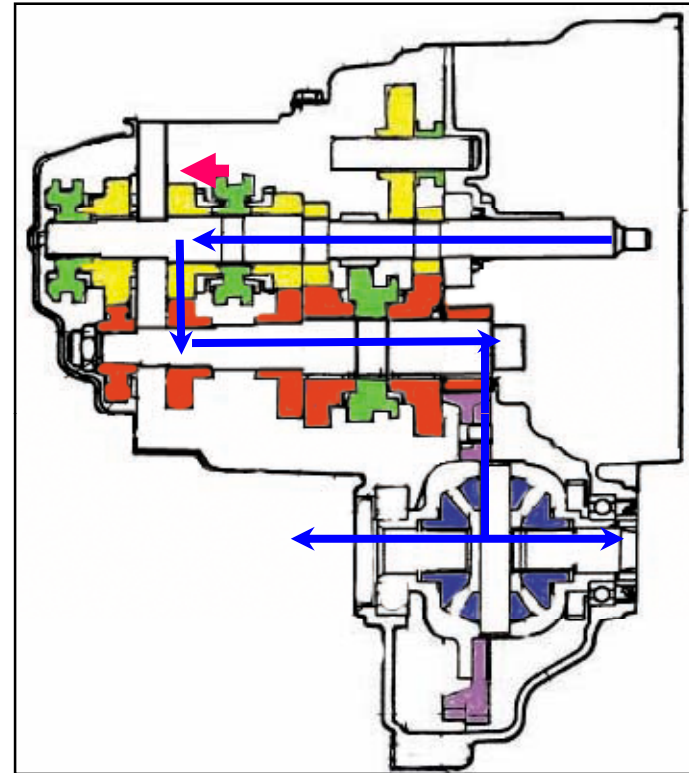
Counter Shaft gears

POWER TRANSMISSION

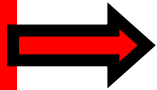
IIIrd Gear



IVth Gear



Indicates Power flow



Indicates Movement of Sleeve



Hub and Sleeve



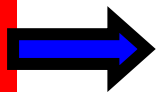
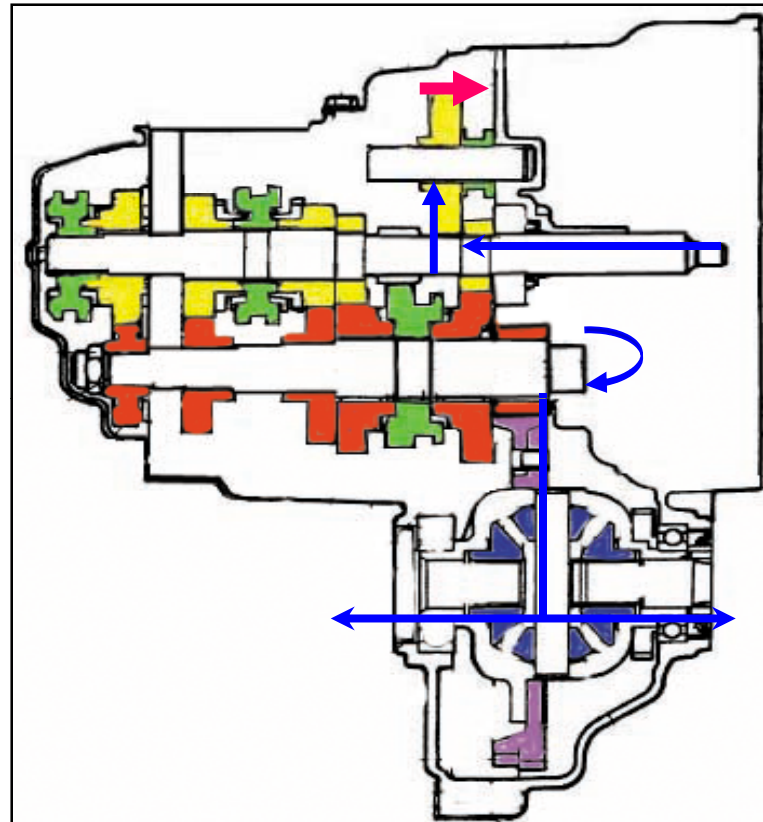
Input Shaft gears / Rev gear



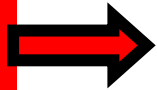
Counter Shaft gears

POWER TRANSMISSION

Reverse Gear



Indicates Power flow



Indicates Movement of Sleeve



Hub and Sleeve



Input Shaft gears / Rev gear

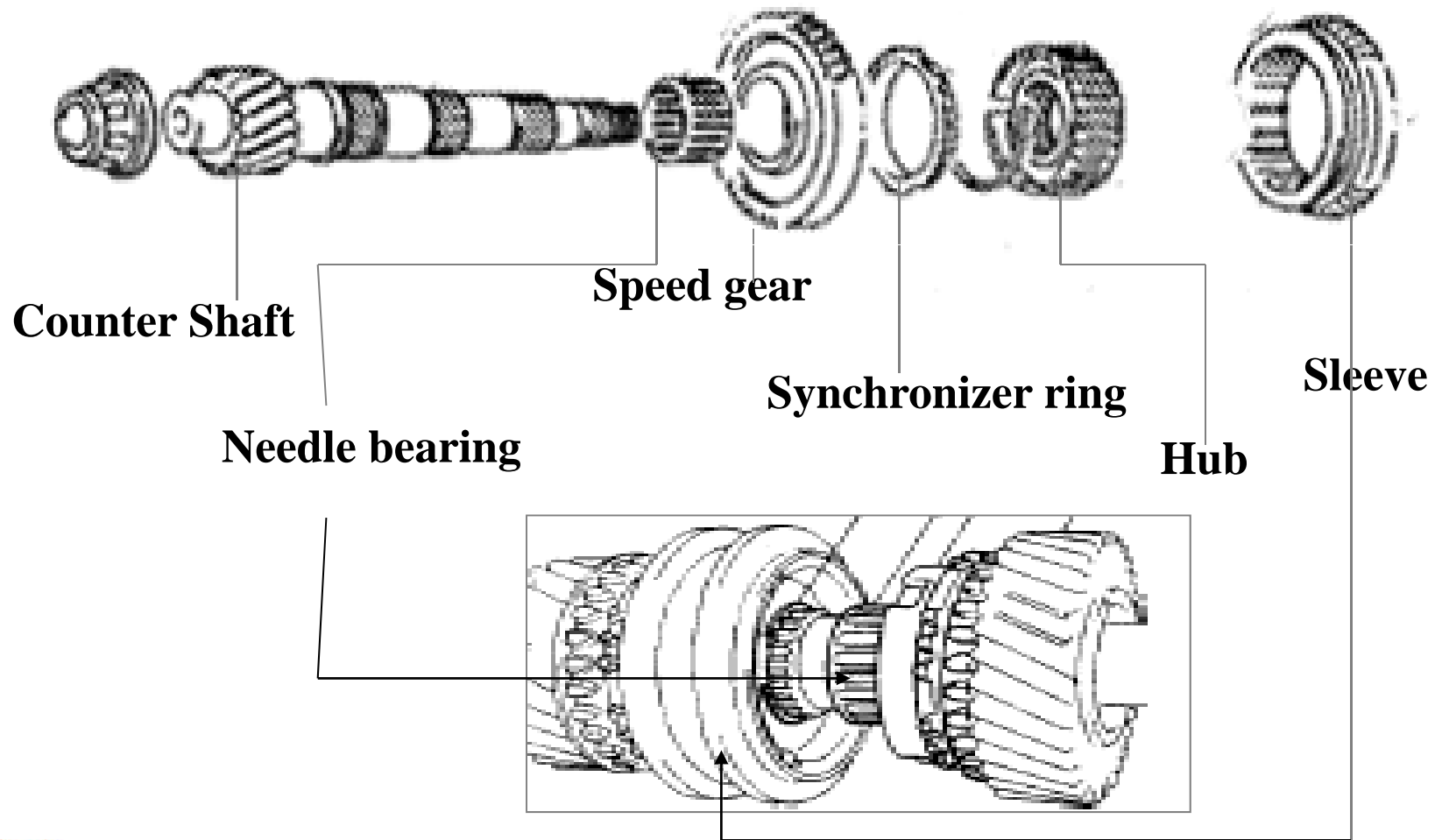


Counter Shaft gears

GEAR RATIO

Gear Ratio	MT
1st Gear	3.416
2nd Gear	1.894
3rd Gear	1.28
4th Gear	0.914
Reverse	3.583
Final Gear	3.789

Counter Shaft Gear Assy

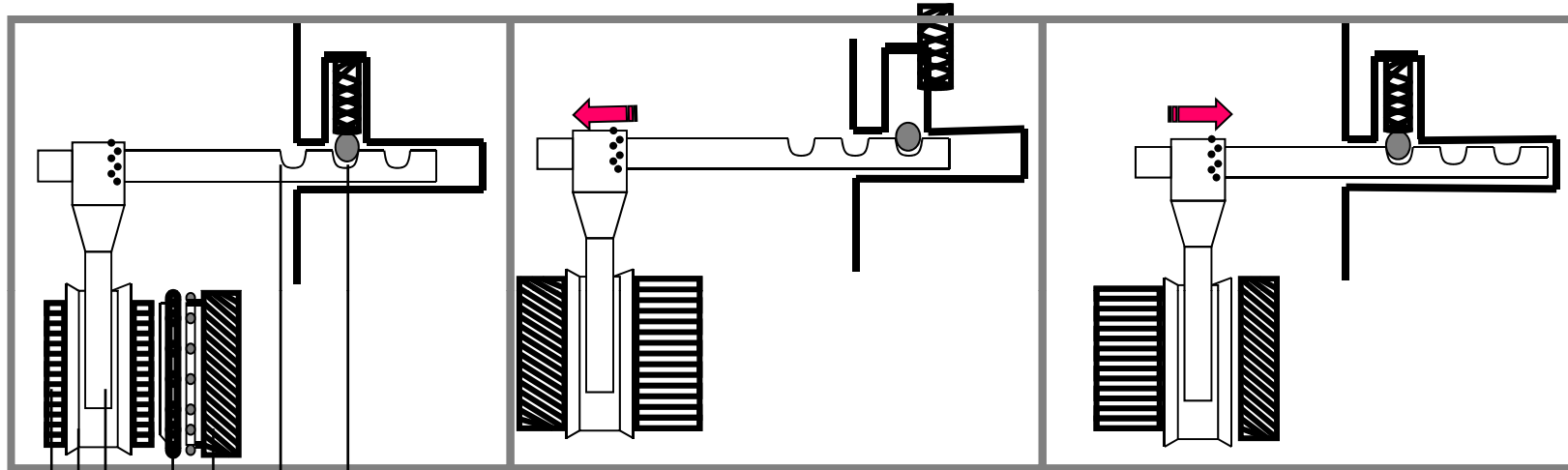


GEAR SELECTION

Neutral Position

Engaging 1st & 2nd Gear
(1st gear)

Engaging 1st & 2nd Gear
(2nd gear)

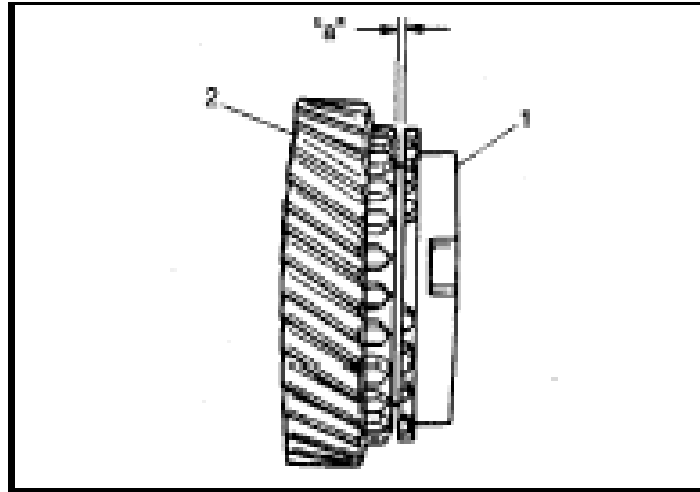


Hub
Sleeve
Gear shift fork
Synchroniser ring
Speed gear
Gear shift guide shaft
Spring loaded ball

➔ Indicates movement of the sleeve

Gear selection through gear shift guide shaft

INSPECTION WHILE REASSEMBLY



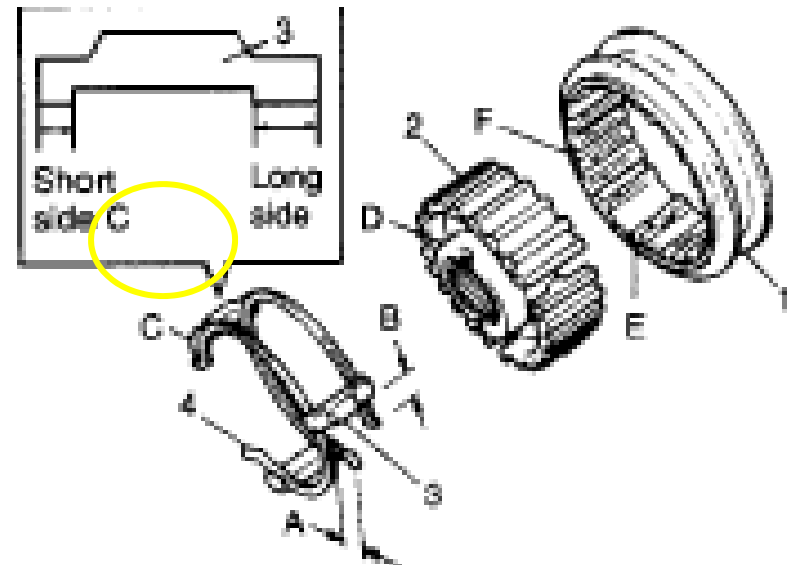
1. Gear
2. Synchronizer ring

**a) Clearance “a”: Standard 1.0–1.4 mm
Service limit 0.5 mm(By Checking
Feeler Gauge)**

ASSEMBLING TRANSMISSION UNIT

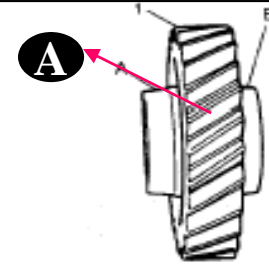
• Assemble 3rd & 4th gear synchroniser sleeve and hub with keys and springs.

*Note: Short side **C** in keys, long boss **D** in hub and chamfer spline **F** in sleeve should face inward .*



ASSEMBLING TRANSMISSION UNIT

- Install countershaft to counter shaft facing machined boss "A" inward.
- Shift low speed gear shift to 1st gear position and high speed gear shift shaft to 3rd gear position as shown . ➡
- Tighten of Counter shaft nut.



TROUBLE SHOOTING

DIAGNOSIS		
Condition	Possible Cause	Correction
Gears slipping out of mesh	• Worn shift fork shaft	Replace.
	• Worn shift fork or synchronizer sleeve	Replace.
	• Weak or damaged locating springs	Replace.
	• Worn bearings on input shaft or countershaft	Replace.
	• Worn chamfered tooth on sleeve and gear	Replace sleeve and gear.
Hard shifting	• Inadequate lubricant	Replenish.
	• Improper clutch pedal	free travel Adjust.
	• Distorted or broken clutch disc	Replace.
	• Damaged clutch pressure plate	Replace clutch cover.
	• Worn synchronizer ring	Replace.
	• Worn chamfered tooth on sleeve or gear	Replace sleeve or gear.
	• Worn gear shift control shaft joint bush	Replace.
• Distorted shift shaft	Replace.	
Noise	• Inadequate or insufficient lubricant	Replenish.
	• Damaged or worn bearing(s)	Replace.
	• Damaged or worn gear(s)	Replace.
	• Damaged or worn synchronizer parts	Replace.

THANK YOU

