



معاونت فنی و مهندسی

مدیریت آموزش فنی

جزوه آموزشی

سیستم گیربکس

سوزوکی گراند ویتارا

کلید مدرک : ۱۴۹۵۰

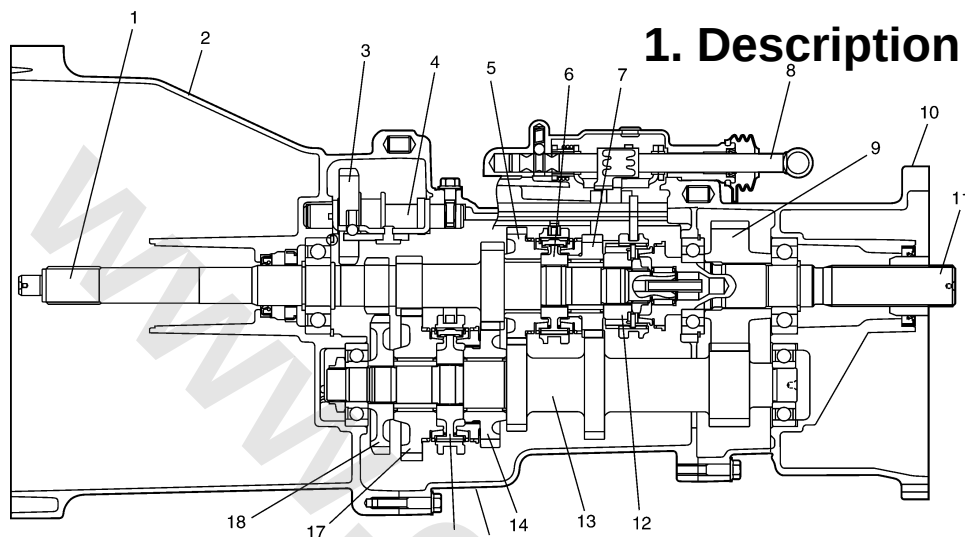
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SECTION 5B1

MANUAL TRANSMISSION

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3. Power transmission
4. Double engagement prevention mechanism
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6. Reverse gear shift lever unilateral movement mechanism
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8. Input shaft brake system (IBS)



1. Description

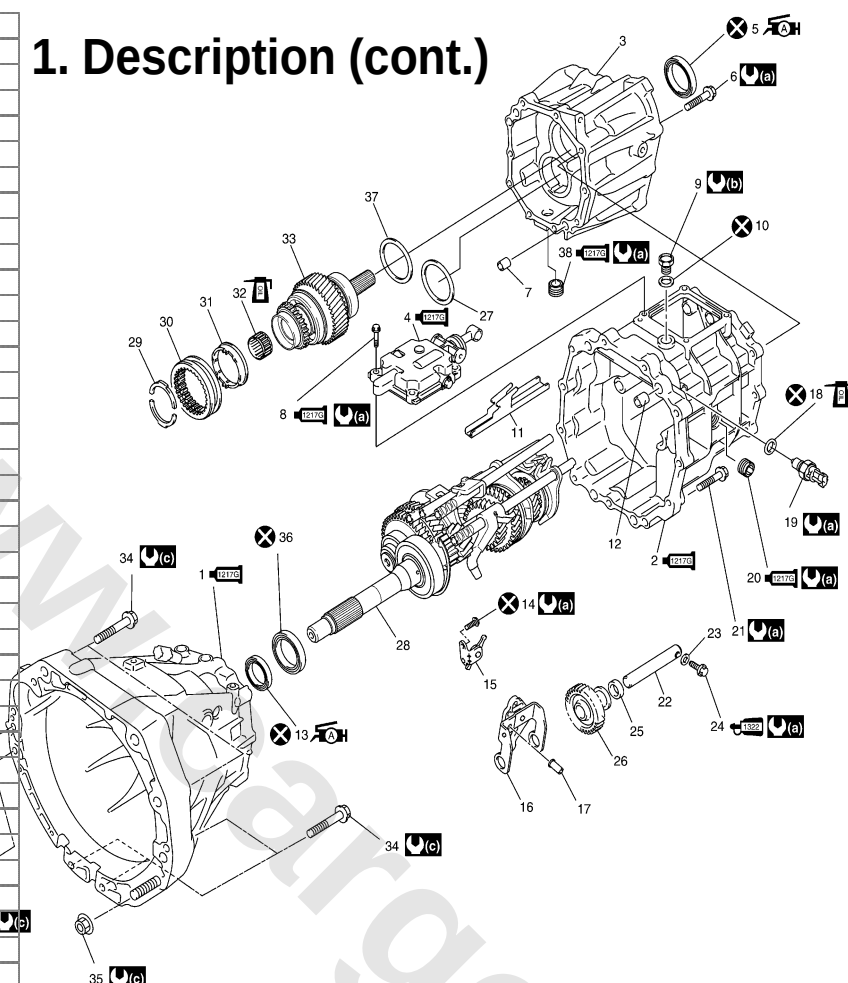
1. Input shaft	7. 3rd gear	13. Countershaft
2. Transmission front case	8. Gear shift shaft	14. 2nd gear
3. Reverse idler gear	9. Output shaft gear	15. Transmission rear case
4. Reverse shaft	10. Adapter case	16. Low speed synchronizer hub
5. 4th gear	11. Output shaft	17. 1st gear
6. High speed synchronizer hub	12. 5th speed synchronizer hub	18. Reverse gear

1. Description (cont.)

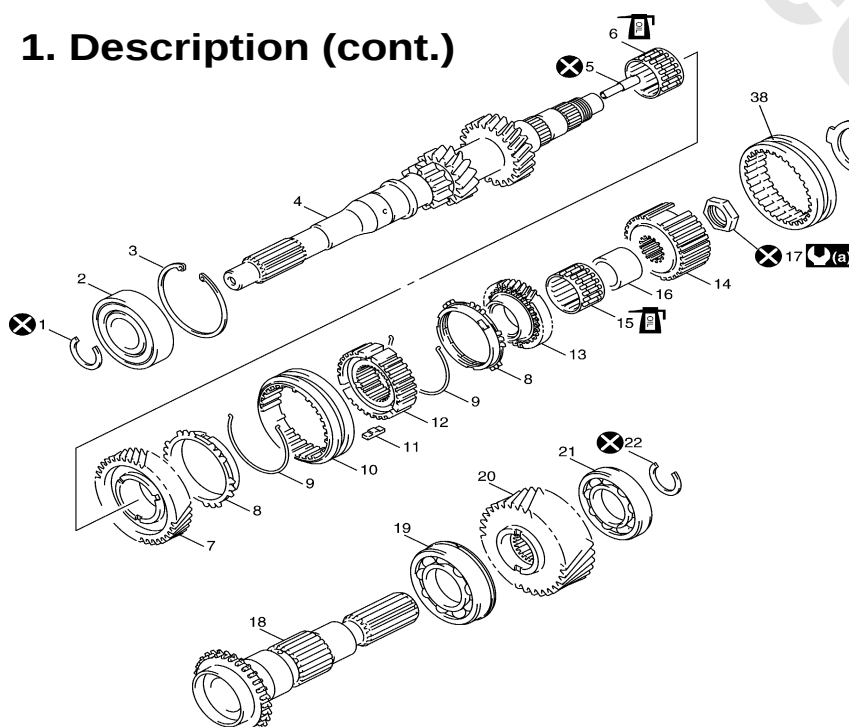
- Double engagement prevention mechanism
- 5th to reverse shift prevention mechanism
- “Cut-in-round” type housing
- Output reduction type gear layout
 - Each gear inertia is reduced → Better synchronisation
 - Idle gear at 1st and 2nd only → Lower mechanical loss
- Direct transmission at 5th (gear ratio 1.000 at 5th)
- Reverse gear shift lever unilateral movement mechanism
- Low gear shift inverse lever
- IBS

1. Transmission front case
2. Transmission rear case
3. Adapter case
4. Gear shift lever front case assembly
5. Adapter case oil seal
6. Adapter case bolt
7. Knock pin
8. Gear shift lever case bolt
9. Oil hole plug
10. Oil hole gasket
11. Oil gutter
12. Knock pin
13. Input shaft oil seal
14. Low gear shift inverse lever bolt
15. Low gear shift inverse lever
16. Reverse gear shift lever
17. Reverse shift locating
18. O-ring
19. Back up light switch
20. Oil filler plug
21. Transmission case bolt
22. Reverse gear shaft
23. Reverse shaft bolt washer
24. Reverse shaft bolt
25. Reverse gear shaft washer
26. Reverse idler gear
27. Countershaft shim
28. Input shaft & countershaft assembly
29. 5th speed synchronizer lever
30. 5th speed synchronizer sleeve
31. 5th speed synchronizer ring
32. Input shaft needle bearing
33. Output shaft assembly
34. Transmission to engine bolt
35. Transmission to engine nut
36. Pump seal
37. Output shaft shim
38. Drain plug

1. Description (cont.)

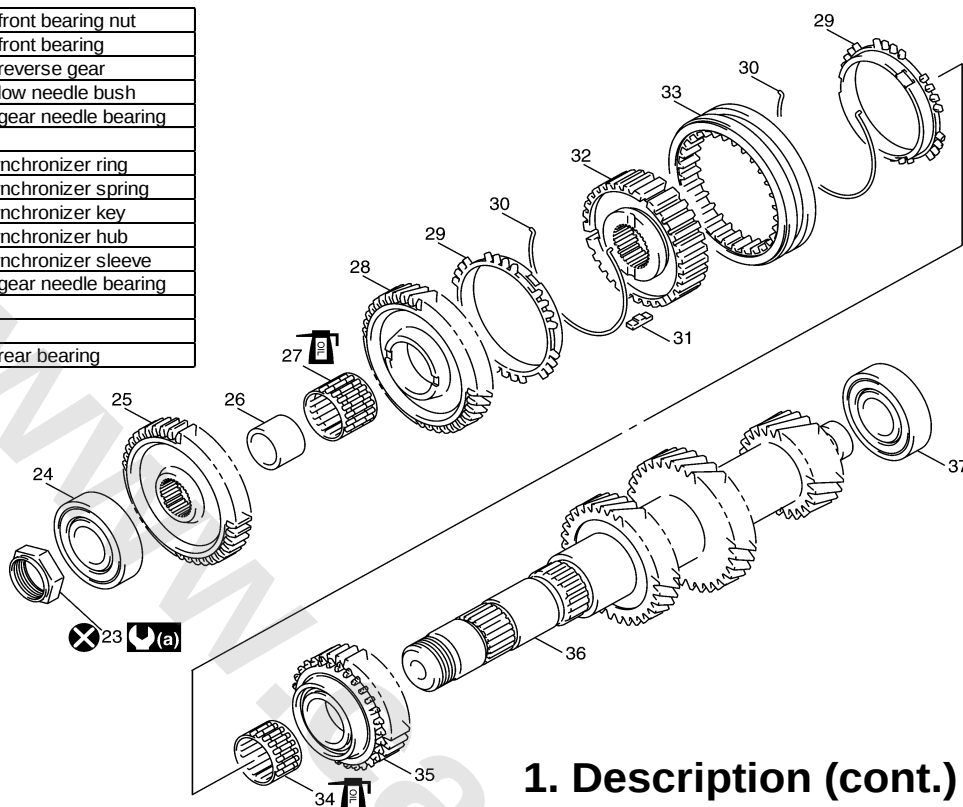


1. Description (cont.)



1. Snap ring
2. Input shaft front bearing
3. Input shaft front bearing circlip
4. Input shaft
5. Input shaft union
6. High speed gear needle bearing
7. 4th gear
8. High speed synchronizer ring
9. High speed synchronizer spring
10. High speed synchronizer sleeve
11. High speed synchronizer key
12. High speed synchronizer hub
13. 3rd gear
14. 5th speed synchronizer hub
15. High speed gear needle bearing
16. Input shaft 3rd gear bush
17. Input shaft 5th hub nut
18. Output shaft
19. Output shaft front bearing
20. Output shaft gear
21. Output shaft rear bearing
22. Output shaft rear snap ring
38. 5th speed synchronizer sleeve
39. 5th speed synchronizer lever
40. 5th speed synchronizer ring

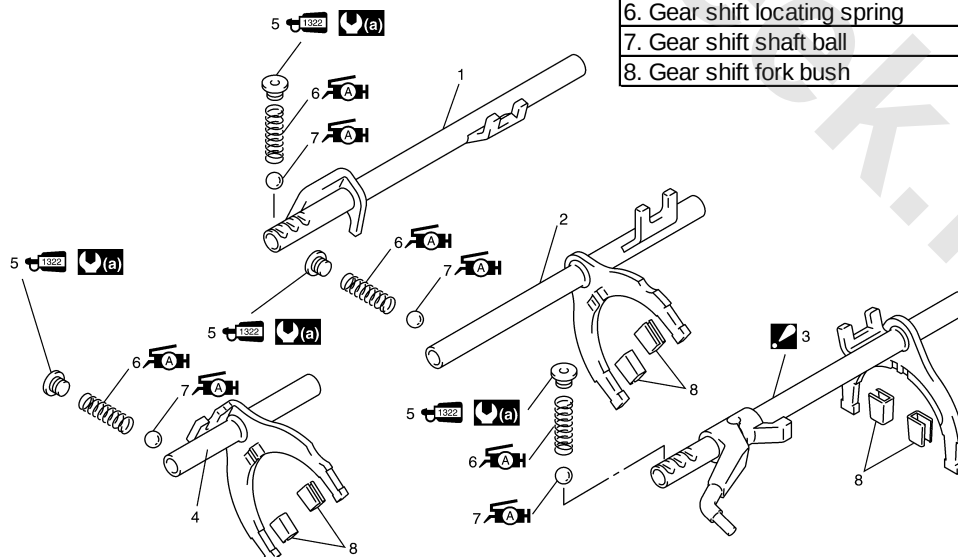
23. Countershaft front bearing nut
24. Countershaft front bearing
25. Countershaft reverse gear
26. Countershaft low needle bush
27. Countershaft gear needle bearing
28. 1st gear
29. Low speed synchronizer ring
30. Low speed synchronizer spring
31. Low speed synchronizer key
32. Low speed synchronizer hub
33. Low speed synchronizer sleeve
34. Countershaft gear needle bearing
35. 2nd gear
36. Countershaft
37. Countershaft rear bearing



1. Description (cont.)

1. Description (cont.)

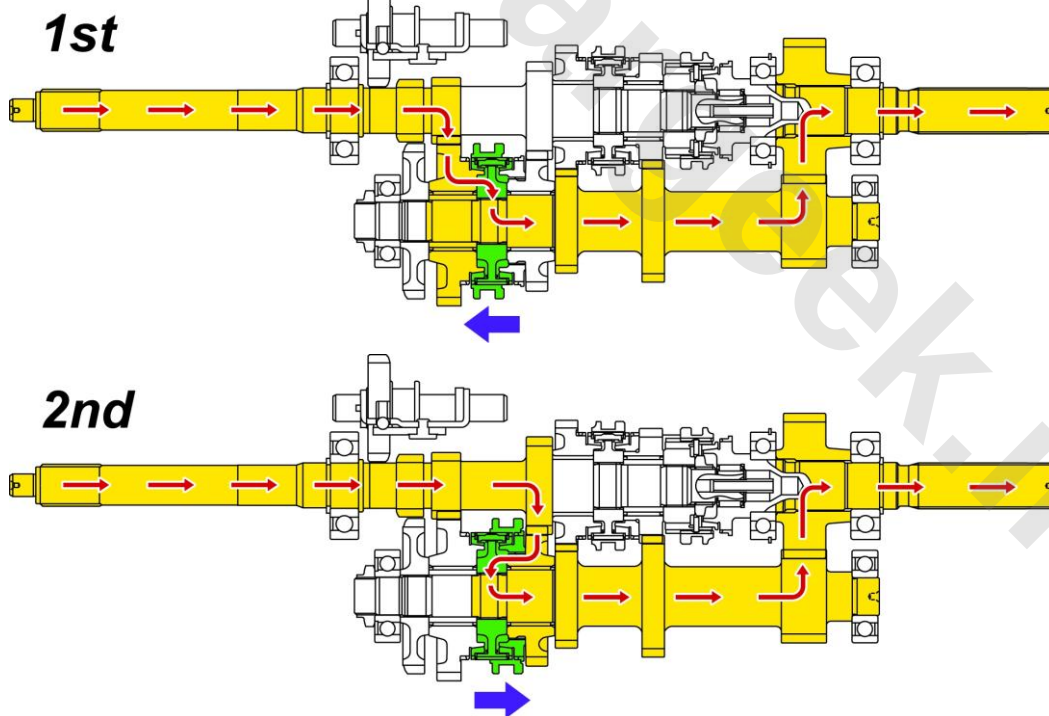
1. Low speed gear shift shaft
2. High speed gear shift fork
3. 5th & reverse gear shift fork
4. Low speed gear shift fork
5. Gear shift locating bolt
6. Gear shift locating spring
7. Gear shift shaft ball
8. Gear shift fork bush



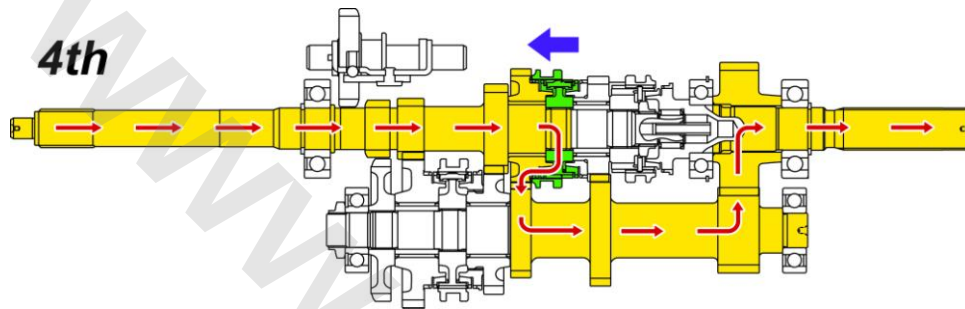
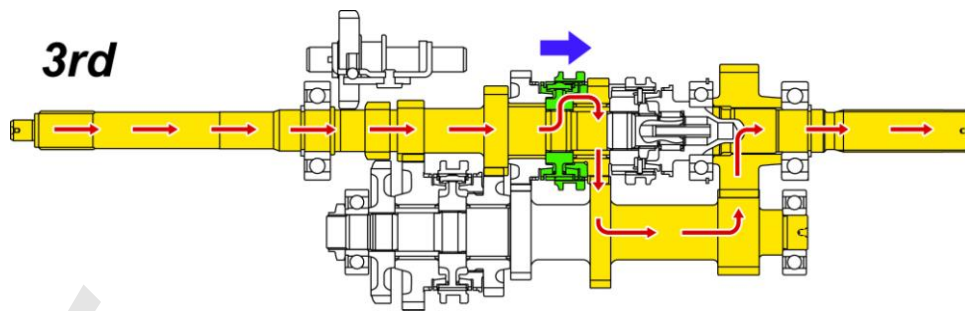
2. Specification

Applicable model		JB416/JB420/JB627
Gear shift control		Rod type
Gear ratio	1st	4.550 (40/14 x 43/27)
	2nd	2.357 (37/25 x 43/27)
	3rd	1.695 (33/31 x 43/27)
	4th	1.242 (32/41 x 43/27)
	5th	1.000
	Rev	4.436 (39/26 x 26/14 x 43/27)
Final reduction ratio		4.100 (41/10) for JB420
Bearing	Input shaft	Ball bearing
	Countershaft	Ball bearing

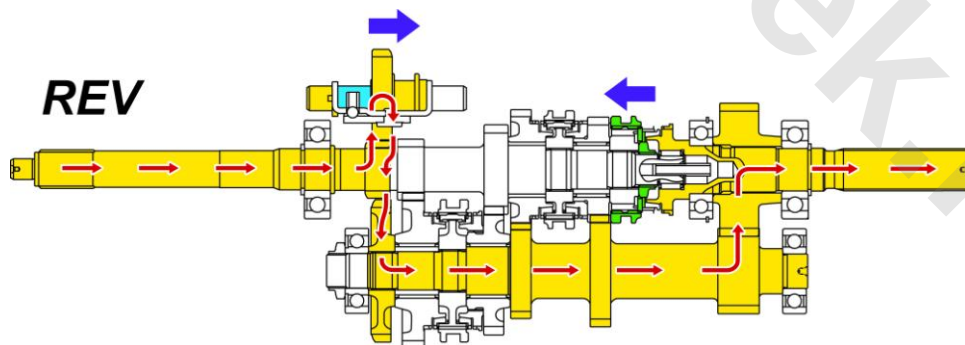
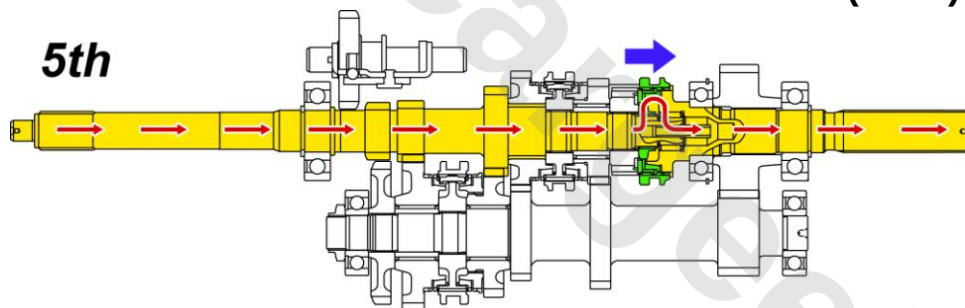
3. Power Transmission



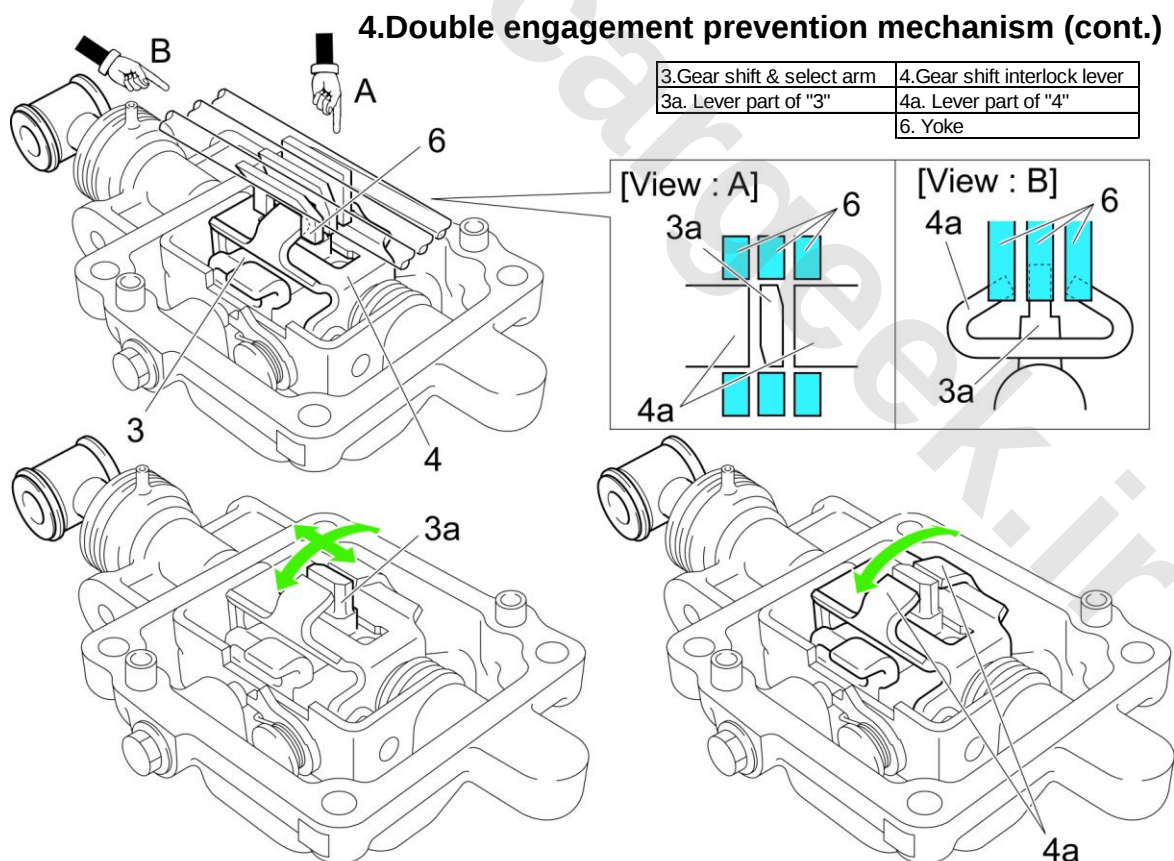
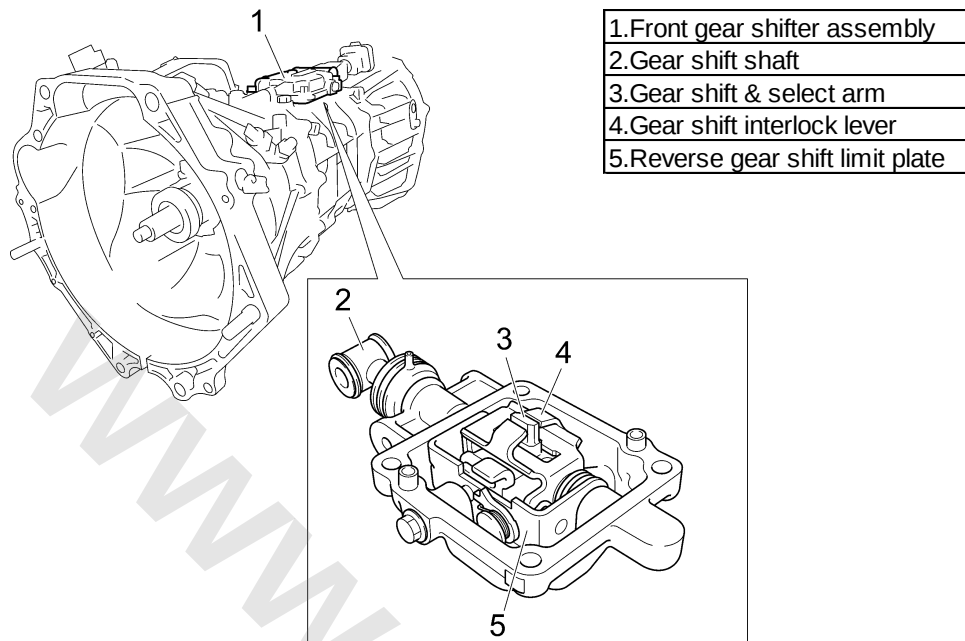
3. Power Transmission (cont.)

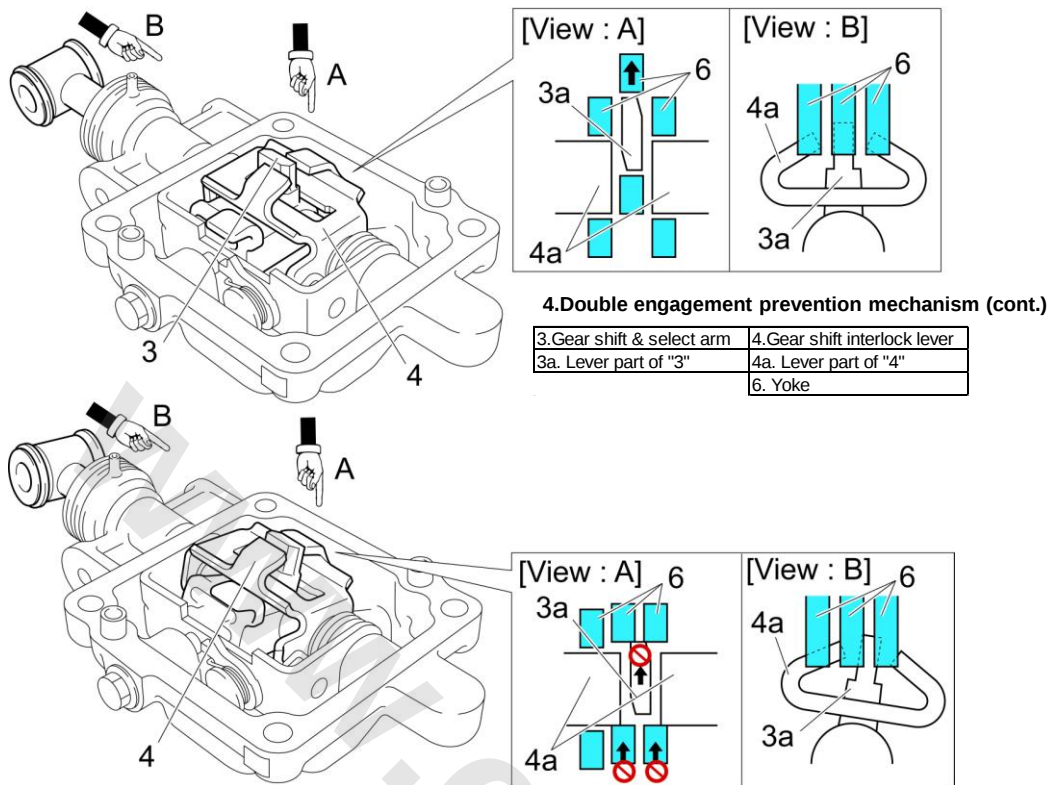


3. Power Transmission (cont.)

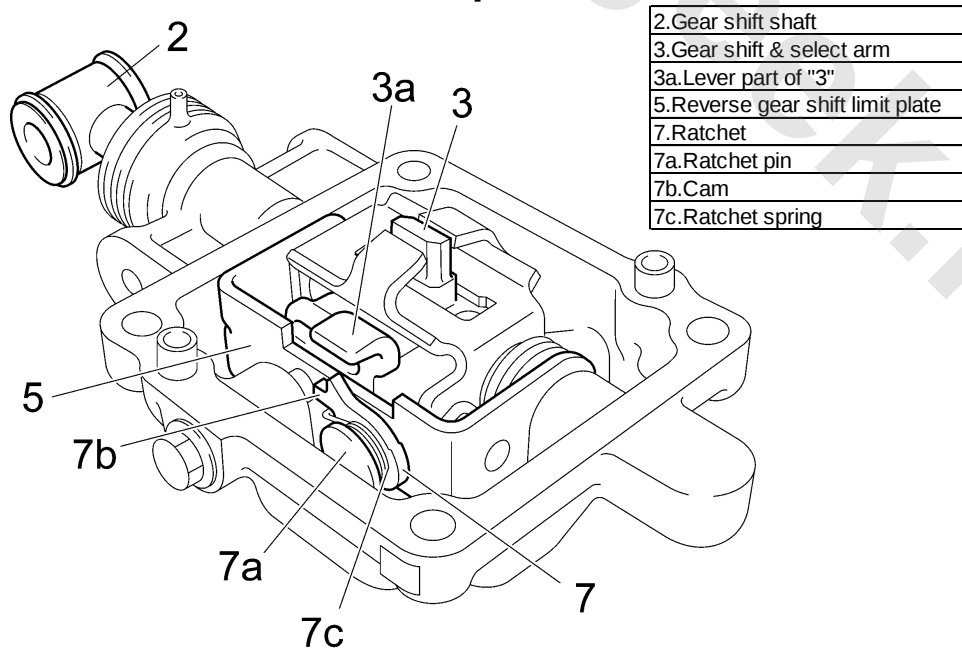


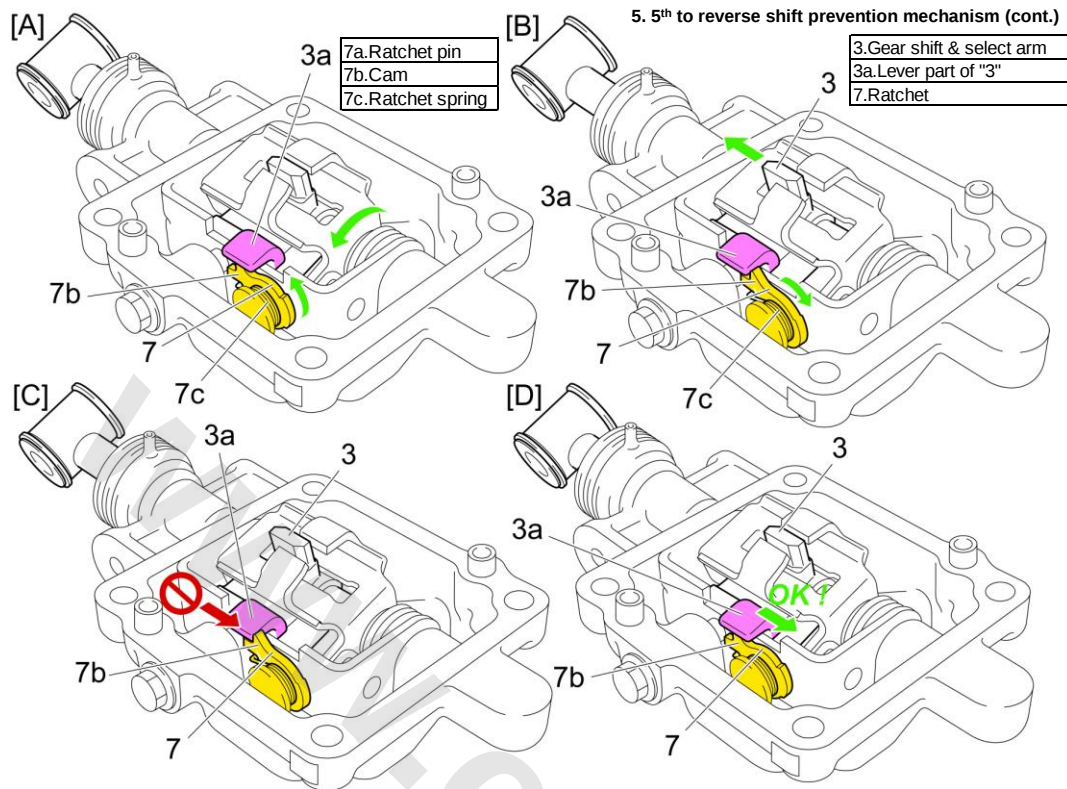
4.Double engagement prevention mechanism



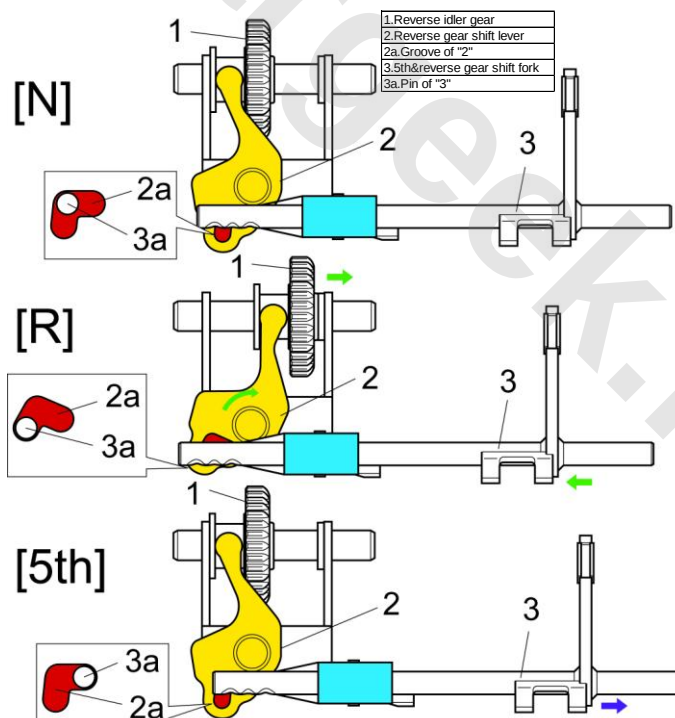


5. 5th to reverse shift prevention mechanism

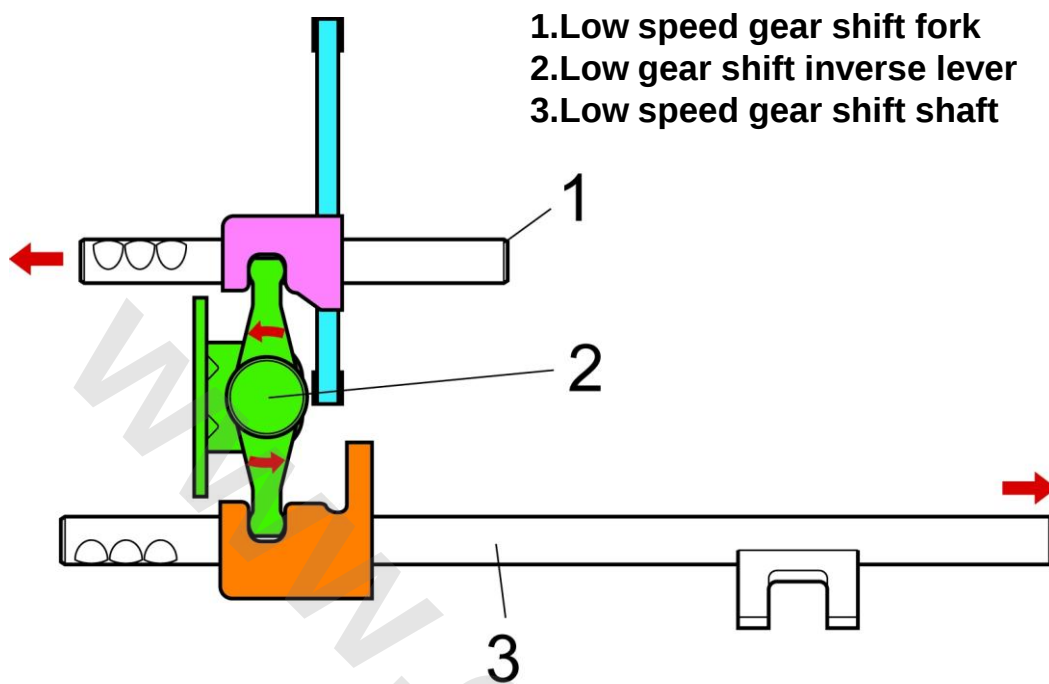




6. Reverse gear shift lever unilateral movement mechanism



7. Low gear shift inverse lever



8. IBS : Inputshaft Brake System

13.5th speed sync. hub ass'y

13a.5th speed sync. lever

13b.5th speed sync. ring

13c.5th speed sync. sleeve

14.Output shaft 5th gear

