

MT -2

MANUAL TRANSAXLE (M5BF2)

GENERAL**SPECIFICATION** EE4F985E

Model		M5BF2	
Engine displacement		1.6D	2.0D
Type		Forward 5 speed, reverse 1 speed	
Gear ratio	First	3.615	
	Second	2.053	
	Third	1.393	
	Fourth	1.061	
	Fifth	0.837	
	Reverse	3.250	
Final gear ratio		4.056	EUR : 3.650 GEN : 3.842
Speedometer gear ratio		36/30	
MT oil capacity		2.15L (2.25 U.S.qts., 1.95 Imp.qts.)	

SERVICE STANDARD

Items	Standard value [mm (in.)]
Input shaft front bearing end play	0.01L - 0.12L (0.0004 - 0.0047)
Input shaft rear bearing end play	0.01T - 0.09L (0.0004 - 0.0035)
Output shaft rear bearing end play	0.05T - 0.10T (0.0019 - 0.0039)
Differential rear bearing end play	0.15L - 0.20L (0.0059 - 0.0078)
Gear backlash in differential	0.025L - 0.15L (0.001 - 0.006)

T : Indicates tightening of -(minus) direction of end play

L : Indicates loosening of +(plus) direction of end play

GENERAL

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SNAP RING FOR ADJUSTMENT AND SPACER

Part name	Thickness mm (in.)	Identification symbol
Snap ring (For adjustment of input shaft front bearing end play)	2.15 (0.0846)	15
	2.23 (0.0877)	23
	2.31 (0.0909)	31
	2.39 (0.0941)	39
	2.47 (0.0972)	47
Snap ring (For adjustment of input shaft rear bearing end play)	1.80 (0.0709)	80
	1.87 (0.0736)	87
	1.94 (0.0764)	94
	2.01 (0.0791)	01
	2.08 (0.0819)	08
	2.15 (0.0846)	25
Spacer (For adjustment of output shaft rear bearing end play)	1.43 (0.0563)	43
	1.46 (0.0575)	46
	1.49 (0.0587)	49
	1.52 (0.0598)	52
	1.55 (0.0610)	55
	1.58 (0.0622)	58
	1.61 (0.0634)	61
	1.64 (0.0646)	64
	1.67 (0.0657)	67
	1.70 (0.0669)	70
	1.73 (0.0681)	73
	1.76 (0.0693)	76
	1.79 (0.0705)	79
	1.82 (0.0717)	82
	1.85 (0.0728)	85
	1.88 (0.0740)	88
	1.91 (0.0752)	91
	1.94 (0.0764)	94
	1.97 (0.0776)	97
	2.00 (0.0787)	00
2.03 (0.0799)	03	
2.06 (0.0811)	06	
2.09 (0.0823)	09	
2.12 (0.0835)	12	

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MANUAL TRANSAXLE (M5BF2)

Part name	Thickness mm (in.)	Identification symbol
Spacer (For adjustment of differential rear bearing end play)	0.80 (0.0314)	80
	0.83 (0.0326)	83
	0.86 (0.0338)	86
	0.89 (0.035)	89
	0.92 (0.0362)	92
	0.95 (0.0374)	95
	0.98 (0.0385)	98
	1.01 (0.0397)	01
	1.04 (0.0409)	04
	1.07 (0.0421)	07
	1.10 (0.0433)	10
	1.13 (0.0444)	13
	1.16 (0.0456)	16
	1.19 (0.0468)	19
	1.22 (0.048)	22
Spacer (For adjustment of differential pinion backlash)	0.75 - 0.82 (0.0295 - 0.0323)	-
	0.83 - 0.92 (0.0327 - 0.0362)	-
	0.93 - 1.00 (0.0366 - 0.0394)	-
	1.01 - 1.08 (0.0398 - 0.0425)	-
	1.09 - 1.16 (0.0429 - 0.0457)	-
	1.17 - 1.25 (0.046 - 0.0492)	-
	1.26 - 1.34 (0.0496 - 0.0527)	-

GENERAL

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TIGHTENING TORQUE

Items	Nm	kg-cm	lb-ft
Clutch release cylinder mounting bolts	15-22	150-220	11-16
Clutch line to transaxle assembly	12-16	120-160	9-12
Shift cable and select cable to transaxle	15-22	150-220	11-16
Start motor mounting bolts	27-34	270-340	20-25
Transaxle mount bracket to transaxle	60-80	600-800	43-58
Transaxle mount bracket to body	90-110	900-1100	65-80
Transaxle mounting bolts	43-55	430-550	32-41
Rear cover bolt	15-22	150-220	11-16
Backup light switch	30-35	300-350	22-25
Poppet spring plug	30-42	300-420	22-31
Speedometer sleeve bolt	3-5	30-50	2-4
Input shaft locking nut	140-160	1400-1600	102-115
Output shaft locking nut	140-160	1400-1600	102-115
Clutch housing transaxle case mounting bolt	35-42	350-420	25-31
Select lever assembly mounting bolt	9-14	90-140	6.5-10
Reverse idler gear shaft bolt	43-55	430-550	32-41
Transaxle case tightening bolt	35-42	350-420	26-31
Reverse shift lever assembly attaching bolt	15-22	150-220	11-16
Bearing retainer bolt	15-22	150-220	11-16
Differential drive gear bolt	130-140	1300-1400	94-101
Drain plug	30-35	300-350	22-25
Weight damper bolt	15-22	150-220	11-16
Filler plug	30-35	300-350	22-25
Shift cable and select cable retainer nut	8-11	80-110	6-8

LUBRICANTS ECFC9387

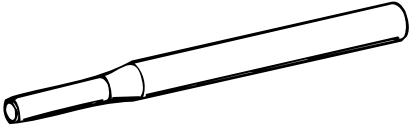
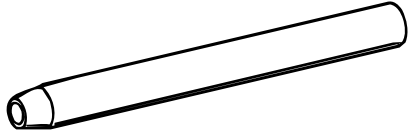
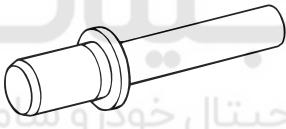
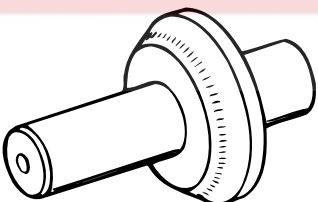
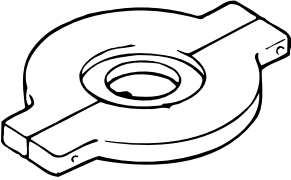
Items	Recommended lubricant	Quantity
Transaxle gear oil liter (U.S. Imp.qts.)	Hypoid gear oil, SAE 75W/90, API-GL4	2.15 (2.25, 1.95)
Transaxle input shaft spline	CASMOLY L9508	As required
Transaxle oil seal lip	RETINAX AM, MOLYTEX GREASE EP 2	As required
Transaxle case and clutch housing alignment surface	THREE BOND 1216	As required
Transaxle case and rear cover alignment surface	THREE BOND 1216	As required
Bearing retainer bolt (flush bolt only)	THREE BOND 1303	As required

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MANUAL TRANSAXLE (M5BF2)

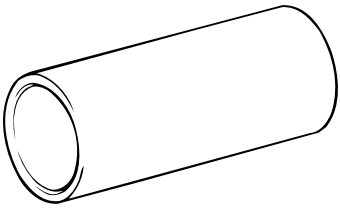
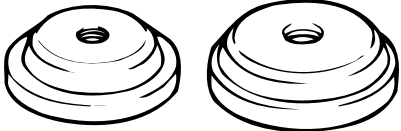
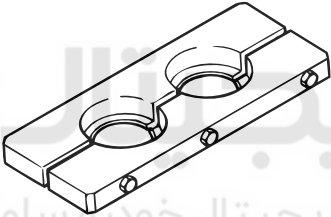
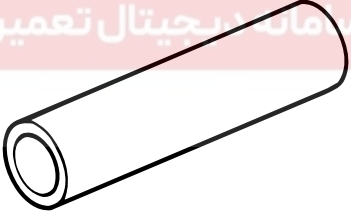
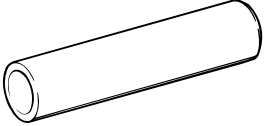
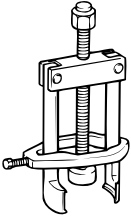
SPECIAL SERVICE TOOLS

EDA1BCB2

Tool (Number and name)	Illustration	Use
09414-11000 Lock pin extractor	 <p style="text-align: right;">X43005A</p>	Driving out the spring pin of the shift fork
09414-11100 Lock pin installer	 <p style="text-align: right;">X43005B</p>	Driving in the spring pin on the shift fork
09431-21000 Front oil seal installer	 <p style="text-align: right;">D3121000</p>	Installation of the input shaft front oil seal
09431-21200 Oil seal installer	 <p style="text-align: right;">X43005D</p>	Installation of differential oil seal
09432-21400 Taper bearing puller	 <p style="text-align: right;">D3221400</p>	Removal of input shaft front bearing

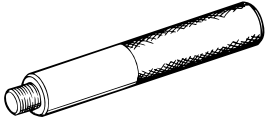
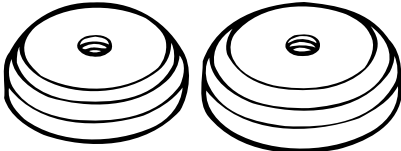
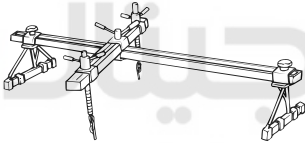
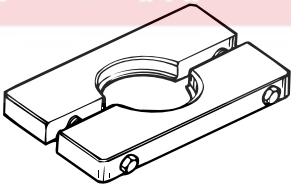
GENERAL

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Tool (Number and name)	Illustration	Use
09432-22000 Bearing installer	 <p style="text-align: right;">X43005G</p>	Installation of output shaft's gear and sleeve
09432-22100 Bearing outer race installer	 <p style="text-align: right;">X43005H</p>	Installation of input and output shaft bearing outer race (Use with 09500-11000)
09432-33200 Bearing removing plate	 <p style="text-align: right;">A7MT006A</p>	Removal of input shaft's gear and ball bearing
09432-33300 Bearing installer	 <p style="text-align: right;">R7MT006A</p>	Installation of input shaft bearing
09455-21100 Bearing installer	 <p style="text-align: right;">A7MT006D</p>	Installation of differential bearing
09495-33000 Bearing and gear puller	 <p style="text-align: right;">A7MT006C</p>	Removal of ball bearing and gear

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MANUAL TRANSAXLE (M5BF2)

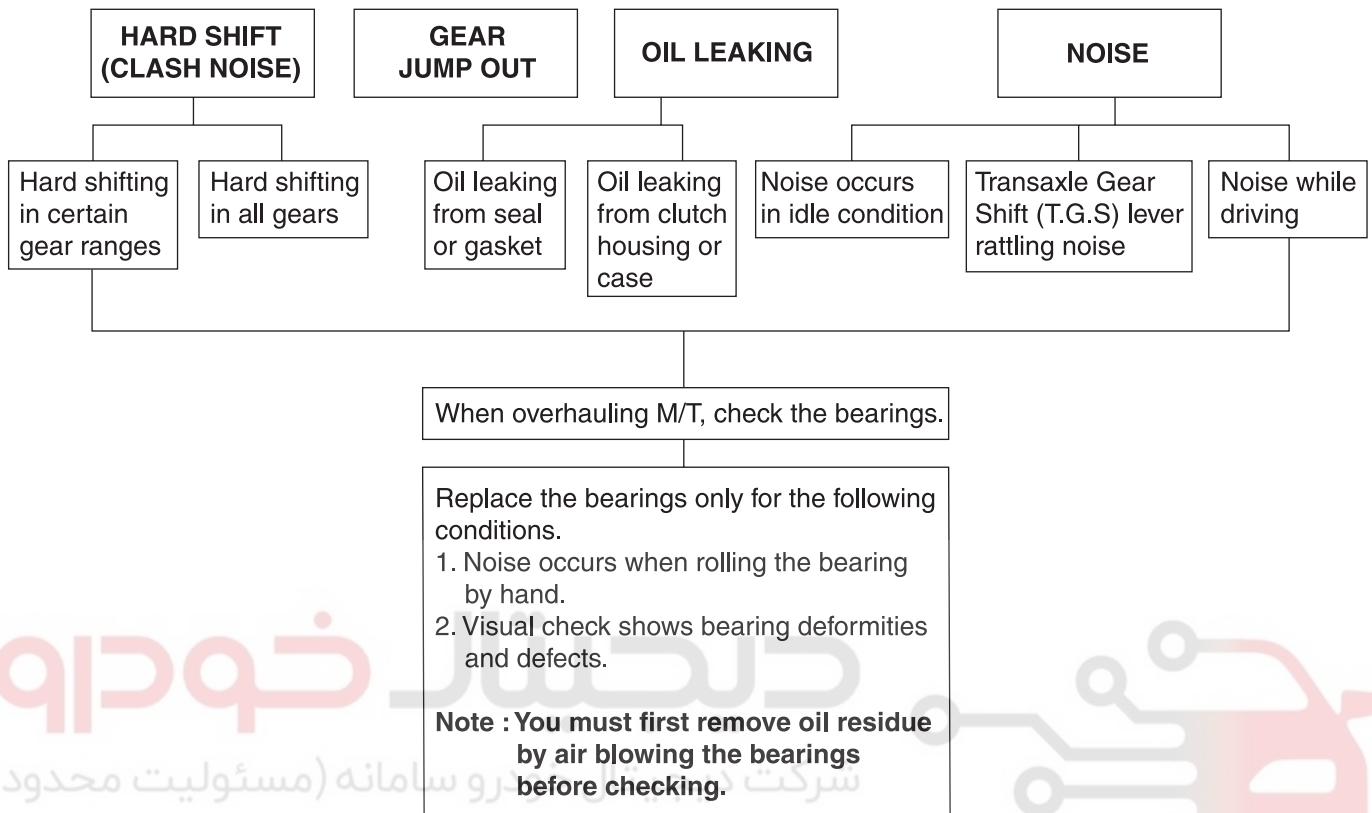
Tool (Number and name)	Illustration	Use
09500-11000 Bar	 <p style="text-align: right;">A7MT006F</p>	Installation of output shaft bearing outer race (Use with 09532-11500)
09532-11500 Pinion bearing outer race installer	 <p style="text-align: right;">X43006H</p>	Installation of output shaft and differential bearing outer race (Use with 09500-11000)
09200-38001 Engine support fixture	 <p style="text-align: right;">BK1A007Q</p>	Removal and installation of transaxle
09433-21000 Removal plate	 <p style="text-align: right;">BMGE001H</p>	Removal of differential ball bearing

GENERAL

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INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

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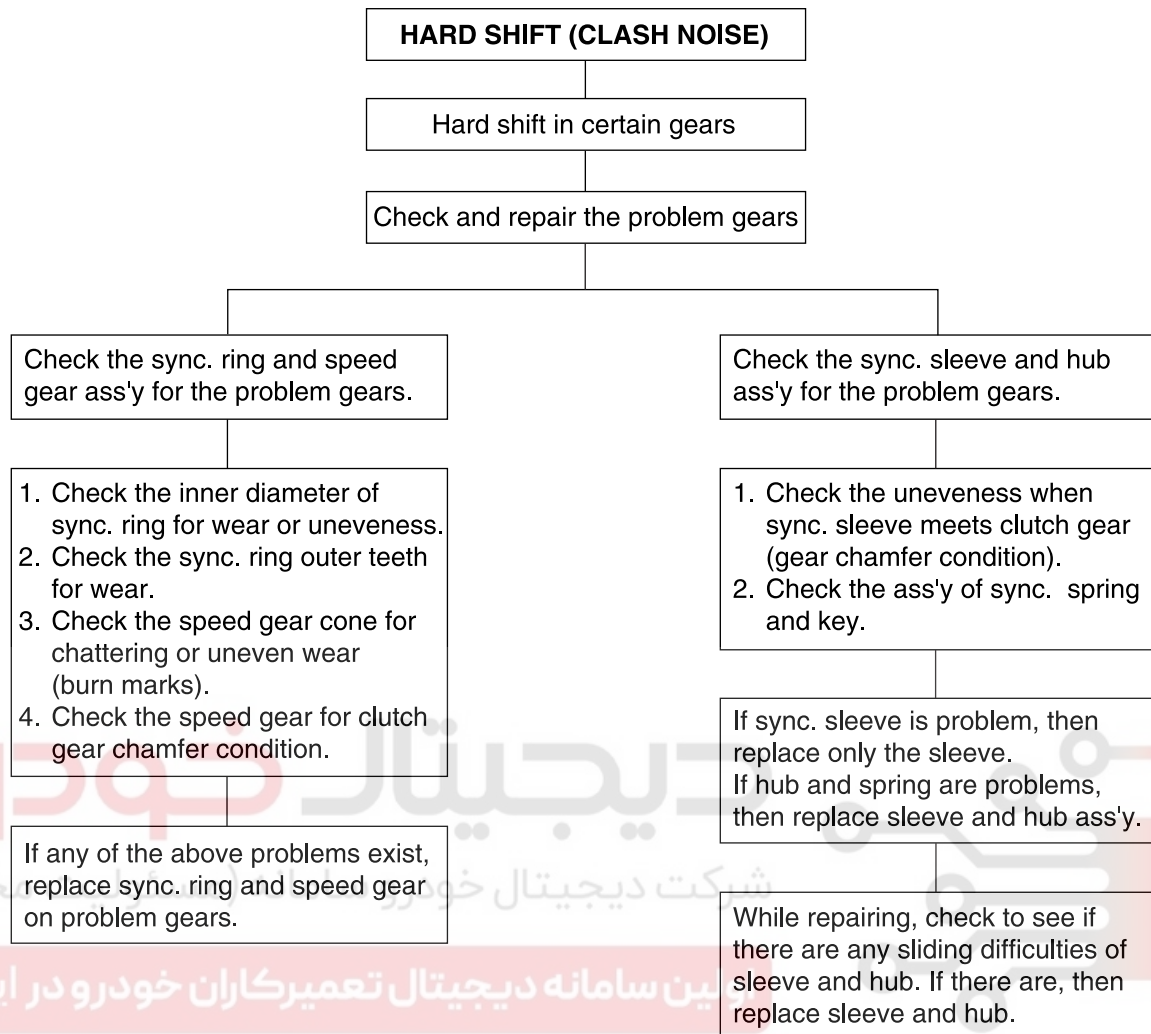


دینکسار خودرو
 شرکت خدماتی و سامانه (مسئولیت محدود)

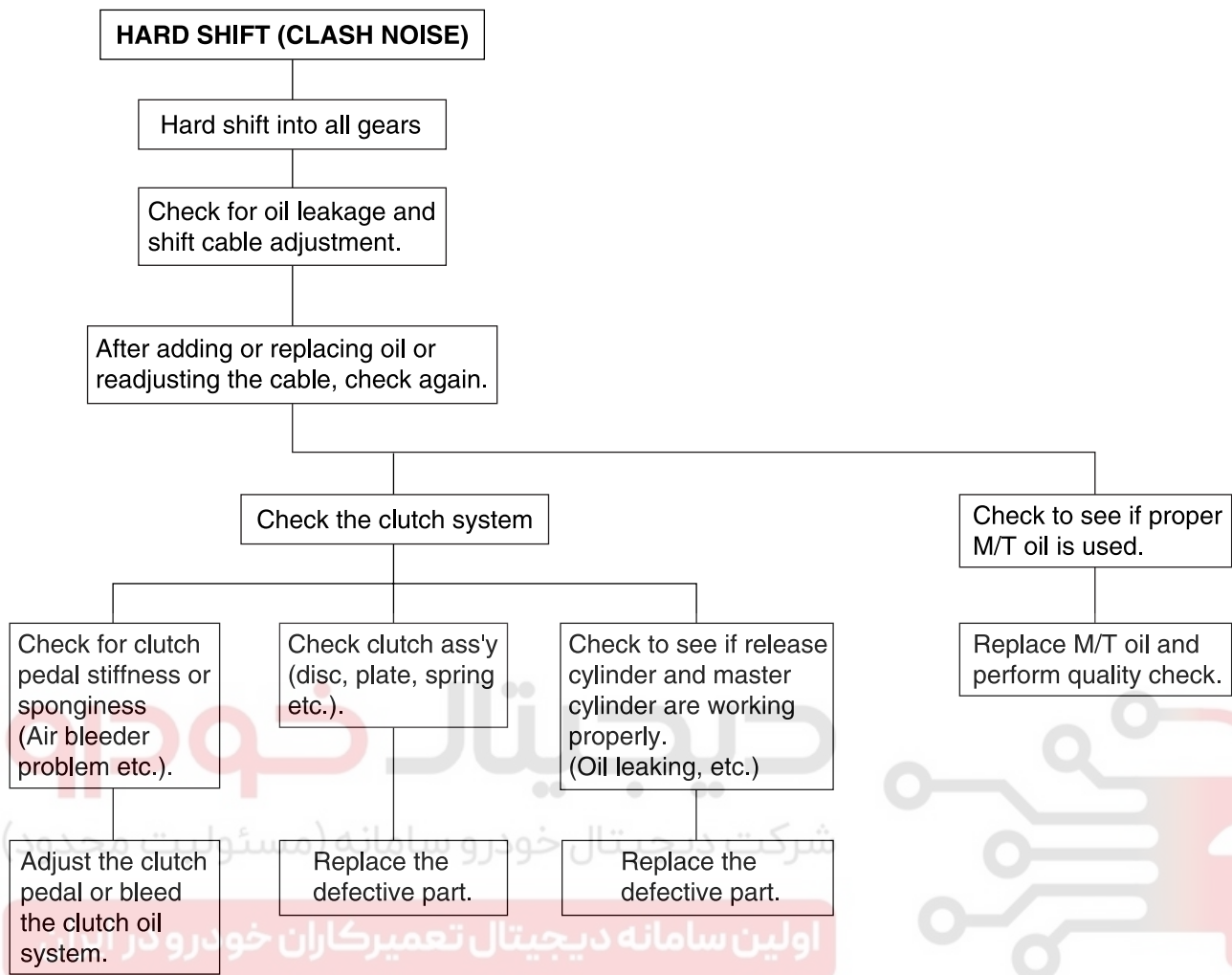
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



EMDD900A

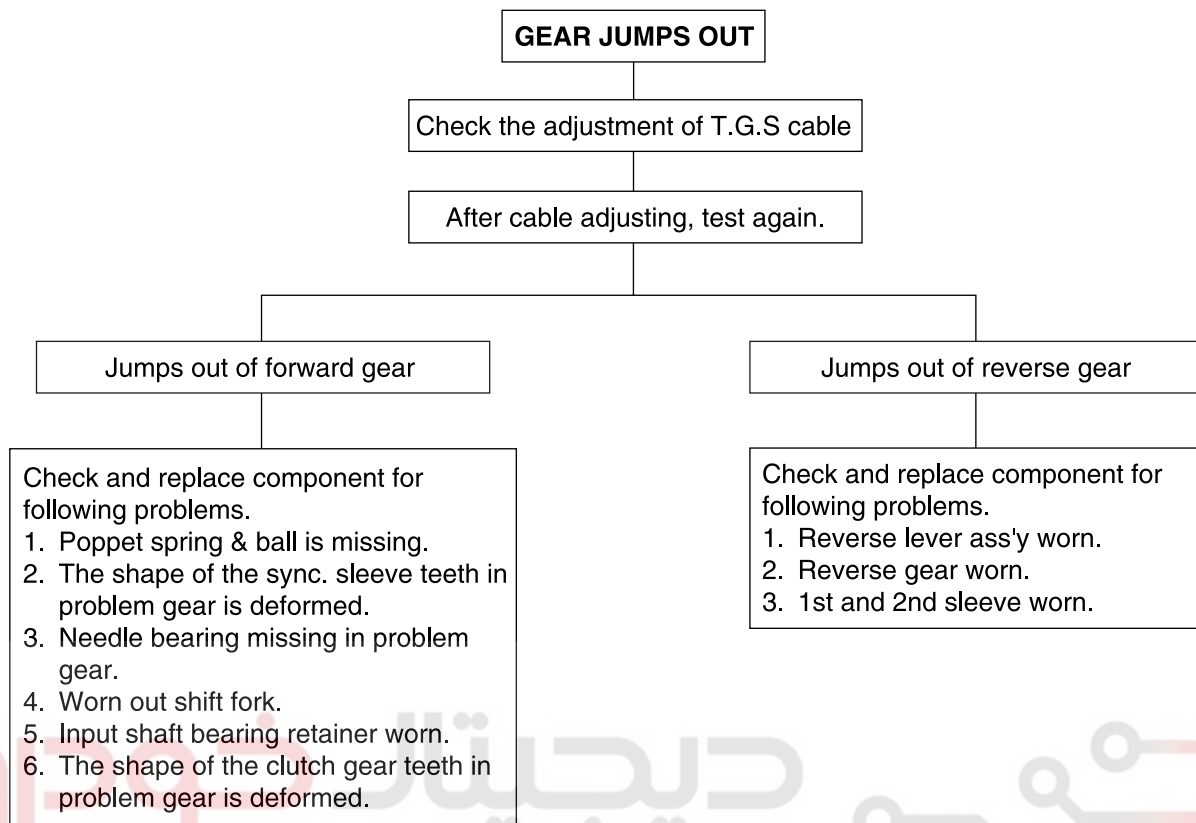


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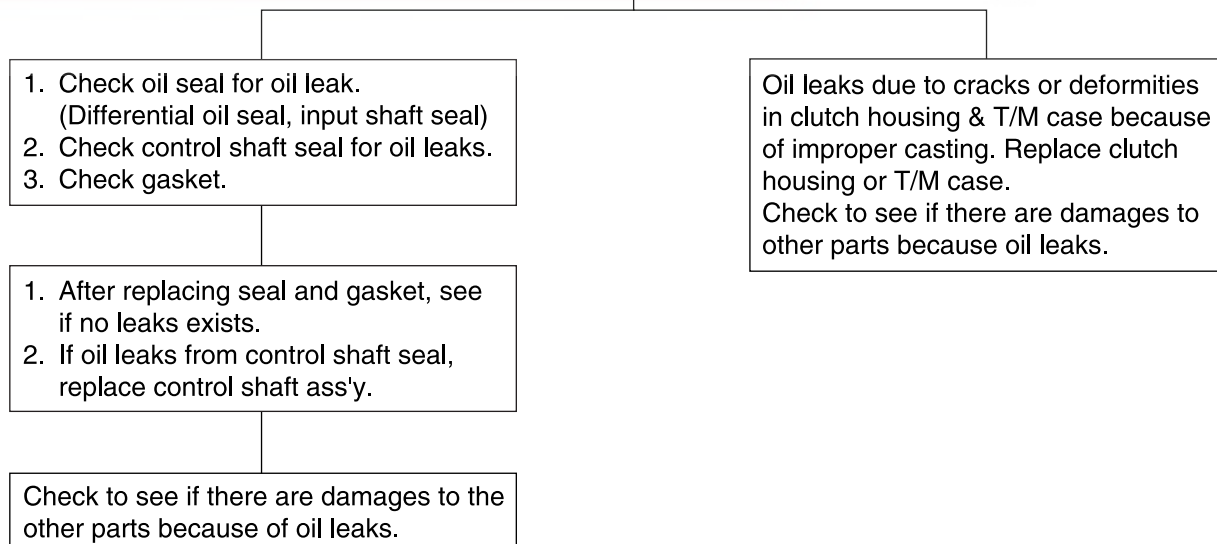


Before performing any work, check the driving habits of customers :
 If shifting occurs as the clutch is being pressed, then hard shifting would occur in all gears.

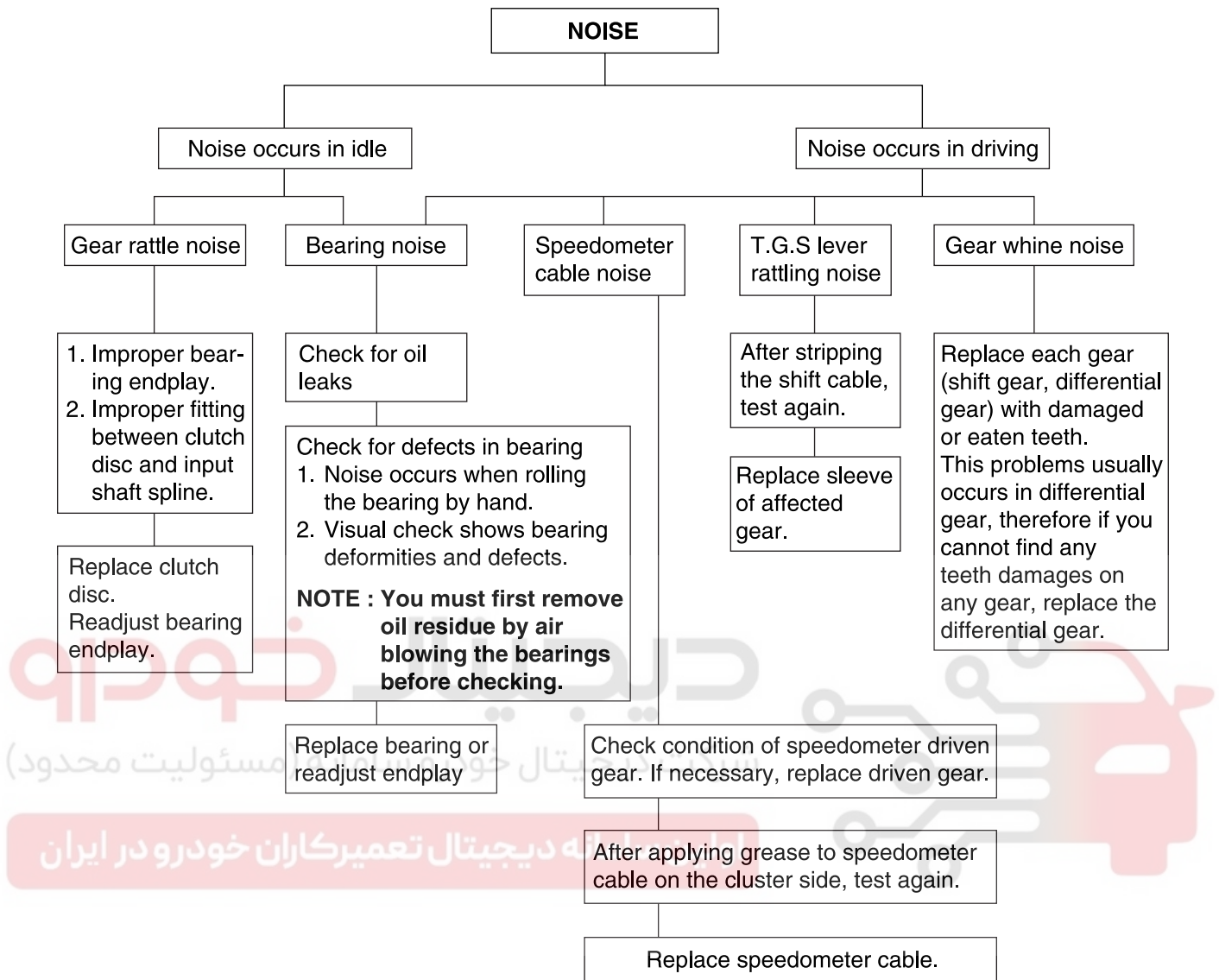
EMDD900C



OIL LEAKING



EMDD900E



EMDD900F

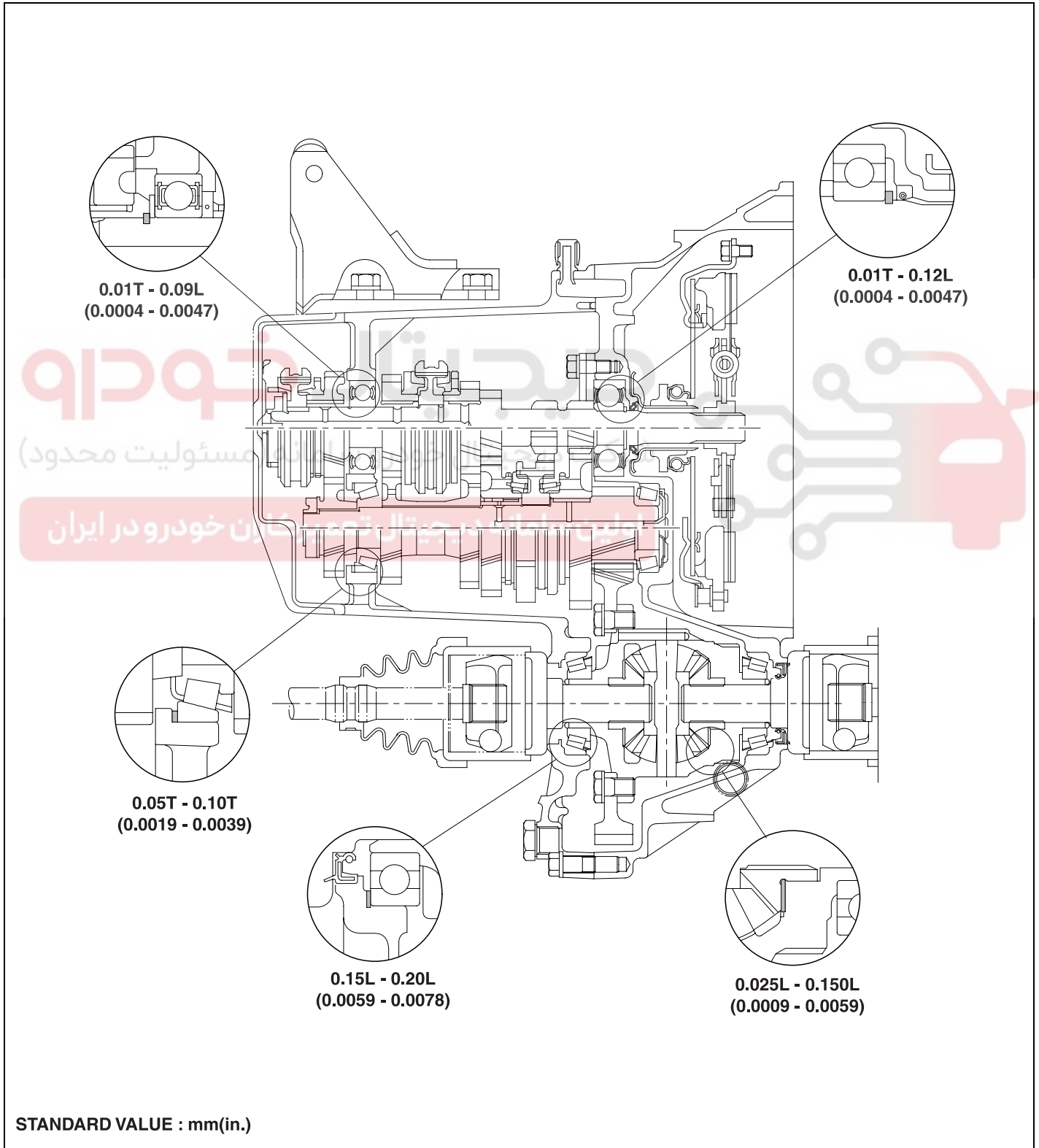
MT -14

MANUAL TRANSAXLE (M5BF2)

MANUAL TRANSAXLE SYSTEM

MANUAL TRANSAXLE

SECTION VIEW ED7B993C

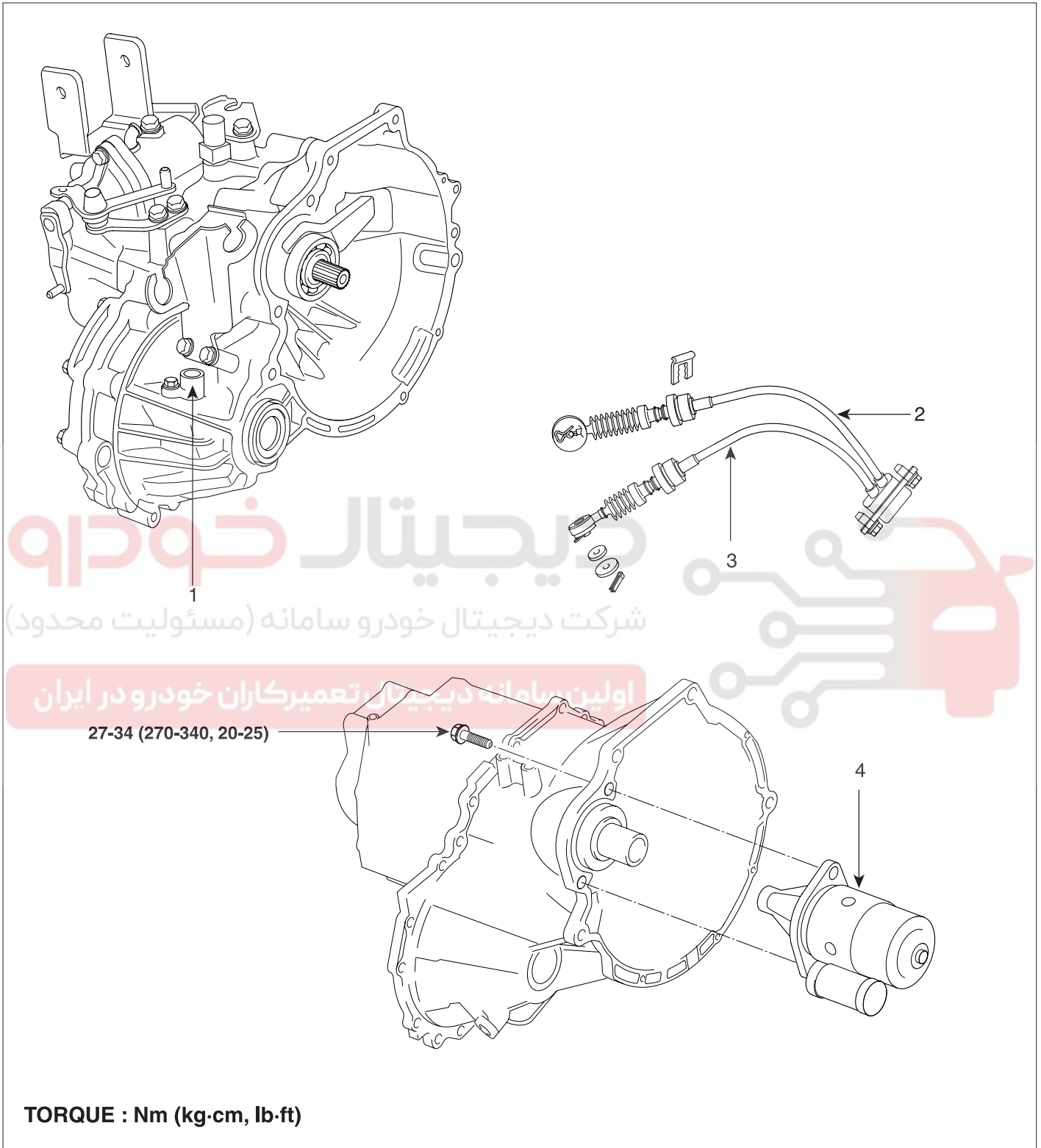


BMGE001A

MANUAL TRANSAXLE SYSTEM

MT -15

COMPONENTS(1)



- 1. Speedometer
- 2. Select cable

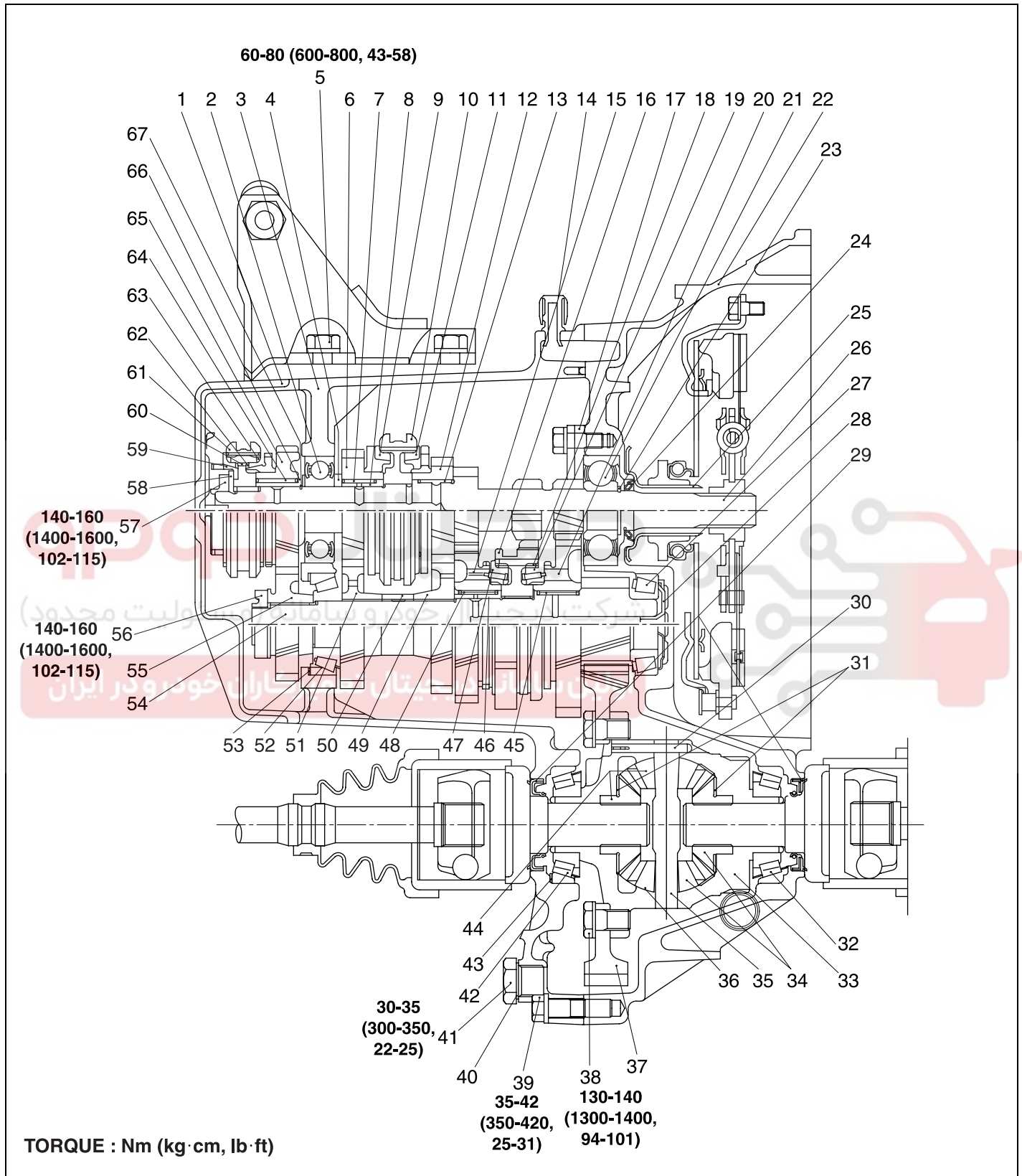
- 3. Shift cable
- 4. Starter motor

BMGE001F

MT -16

MANUAL TRANSAXLE (M5BF2)

COMPONENTS(2)

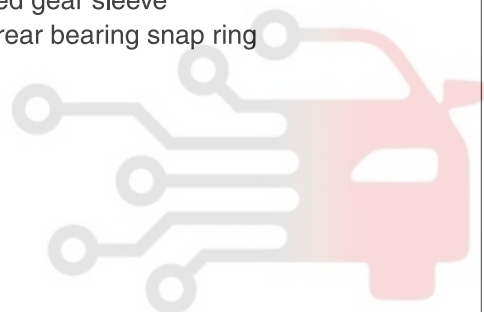


BMGE001B

MANUAL TRANSAXLE SYSTEM

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1. Rear cover
2. Input rear ball bearing
3. Transaxle cable
4. Spacer
5. Transaxle fixing bracket bolt
6. 4 speed gear
7. 3&4 speed needle roller bearing
8. 4 speed gear sleeve
9. 4 speed synchronizer ring
10. 3&4 speed synchronizer hub&sleeve
11. 3 speed synchronizer ring
12. 3 speed gear
13. 3&4 speed synchronizer hub&sleeve
14. Air breather
15. 2 speed gear
16. 1&2 synchronizer hub&sleeve
17. Bearing retainer
18. 1&4 speed keyless synchronizer spring
19. 1&2 speed double cone
20. 1 speed gear
21. Front input ball bearing
22. Clutch housing
23. Input rear bearing snap ring
24. Front input oil seal
25. Retainer bearing
26. Input shaft
27. Output front taper roller bearing
28. Oil guide
29. Control shaft oil seal
30. Lock pin
31. Differential gear spacer
32. Side taper roller bearing
33. Differential case
34. Differential gear set
35. Pinion shaft
36. Washer
37. Differential drive gear
38. Differential drive gear bolt
39. Transaxle case bolt
40. Drain plug gasket
41. Drain plug
42. Output rear taper roller bearing
43. Differential bearing spacer
44. Differential gear set
45. 1&2 speed needle roller bearing
46. 2 speed gear sleeve
47. 1&2 speed double cone
48. 1&2 speed needle roller bearing
49. 3 speed output gear
50. Spacer
51. 4 speed gear output gear
52. Output rear taper roller bearing
53. Output bearing spacer
54. Output shaft
55. 5 speed output gear
56. Locking nut
57. Locking nut
58. Reverse brake spacer
59. Reverse ring&cone
60. 5&R synchronizer key
61. 5&R synchronizer hub&sleeve
62. 5&R synchronizer spring
63. 5 speed synchronizer ring
64. 5 speed needle roller bearing
65. 5 speed gear
66. 5 speed gear sleeve
67. Input rear bearing snap ring

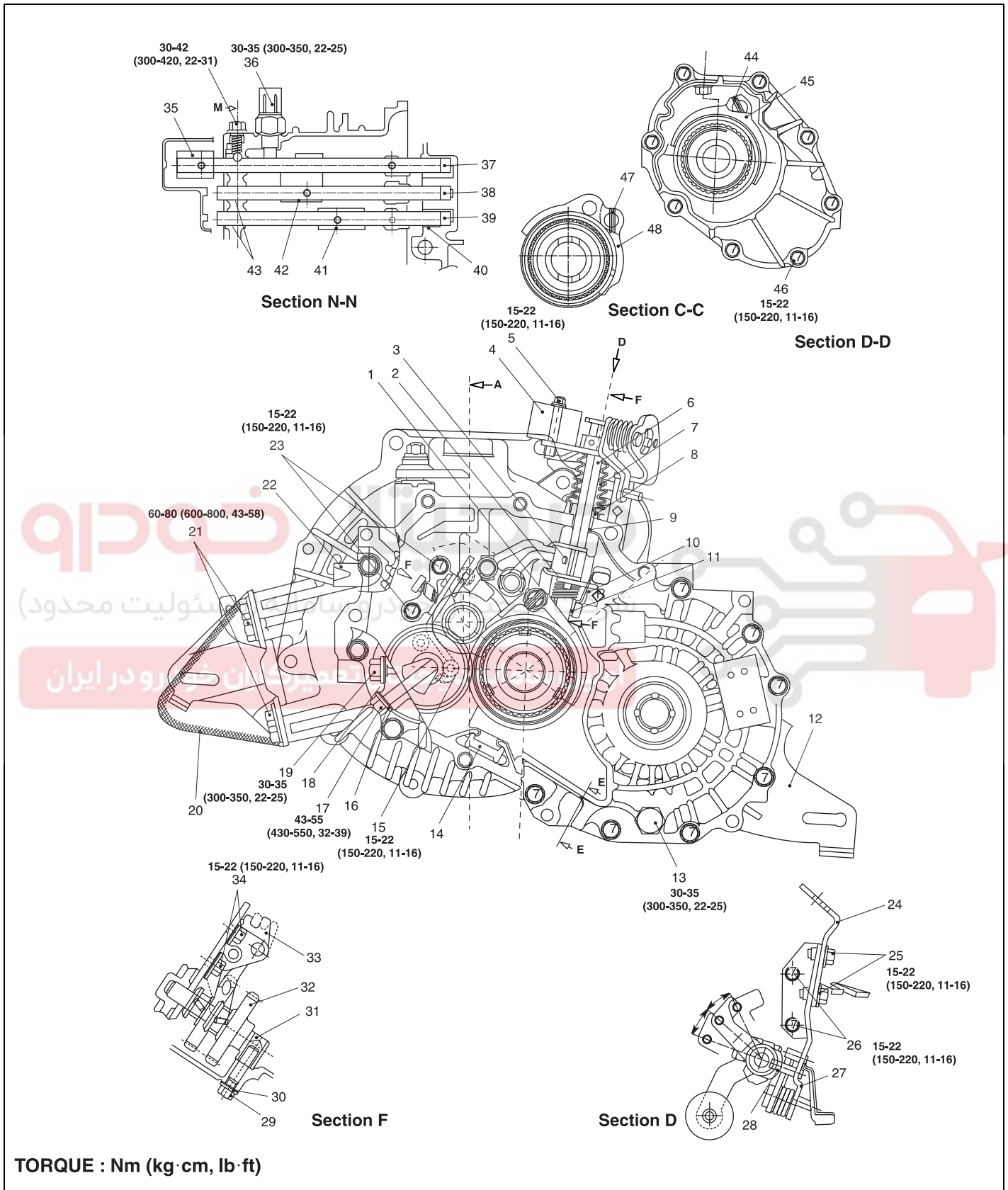


BMGE001C

MT -18

MANUAL TRANSAXLE (M5BF2)

COMPONENTS(3)



BMGE001D

MANUAL TRANSAXLE SYSTEM

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- | | |
|------------------------------------|---------------------------|
| 1. Shift fork pin spring | 44. Shift fork spring pin |
| 2. Stopper plate | 45. 5&R shift fork |
| 3. Control finger lock pin | 46. Rear cover bolt |
| 4. Weight damper | 47. 3&4 shift fork |
| 5. Weight damper bolt | 48. Shift fork spring pin |
| 6. Control shaft assembly | |
| 7. Control shaft boot | |
| 8. Control shaft oil seal | |
| 9. Control shaft needle bearing | |
| 10. Neutral return spring | |
| 11. Control shaft needle bearing | |
| 12. Roll support rear bracket | |
| 13. Drain plug | |
| 14. Magnet | |
| 15. Input front retainer seal bolt | |
| 16. Gasket | |
| 17. Reverse idler bolt | |
| 18. Filler plug gasket | |
| 19. Filler plug | |
| 20. Roll support front bracket | |
| 21. Roll rod support bracket bolt | |
| 22. Battery cable mounting bracket | |
| 23. Bolt | |
| 24. Shift control cable bracket | |
| 25. Shift cable bolt | |
| 26. Shift selector lever bolt | |
| 27. Selector lever | |
| 28. Selector lever shoe | |
| 29. Reverse idle bolt | |
| 30. Gasket | |
| 31. Reverse idle gear shaft | |
| 32. Reverse idle gear | |
| 33. Reverse shaft lever | |
| 34. Reverse shaft bolt | |
| 35. 5&R shift fork | |
| 36. Backup lamp switch | |
| 37. 5&R shift rail sub assembly | |
| 38. 3&4 shift rail sub assembly | |
| 39. 1&2 shift rail sub assembly | |
| 40. 1&2, 3&4 rail bush | |
| 41. 1&2 shift fork | |
| 42. 3&4 shift fork | |
| 43. 1&2, 3&4 rail bush | |

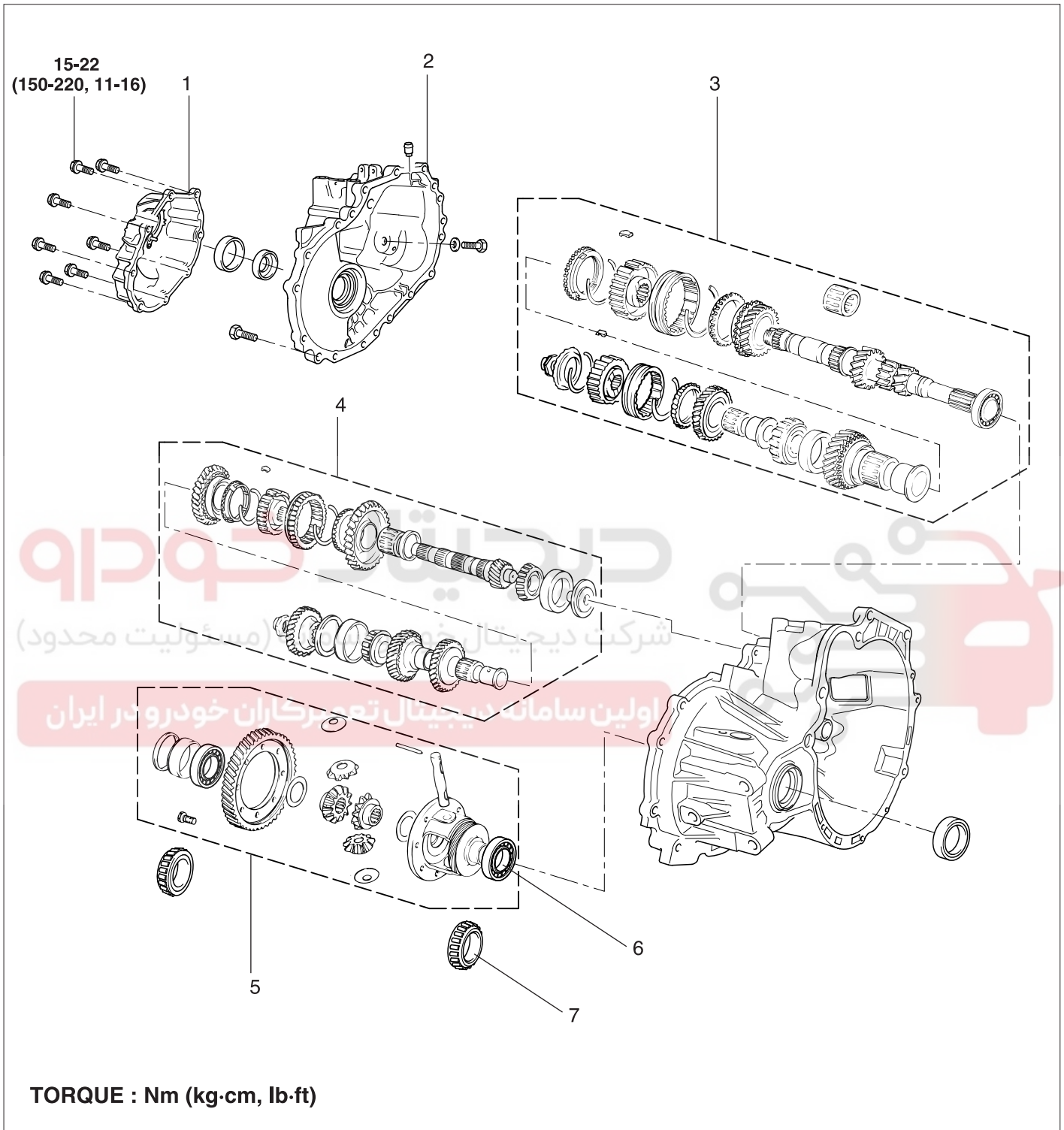


BMGE001E

MT -20

MANUAL TRANSAXLE (M5BF2)

COMPONENTS(4)



- 1. Rear cover
- 2. Transaxle case
- 3. Input shaft assembly
- 4. Output shaft assembly

- 5. Differential
- 6. For Model M5AF3
- 7. For Model M5BF2

BMGE001G

MANUAL TRANSAXLE SYSTEM**MT -21****SERVICE ADJUSTMENT
PROCEDURES**

E07BFE24

TRANSAXLE GEAR OIL LEVEL INSPECTION

Inspect each component for evidence of leakage. Check the gear oil level by removing the filler plug. If the oil is contaminated, it is necessary to replace it with new oil.

1. Remove oil filler plug and check level with finger.
2. Oil level must be up to fill the hole, add oil until it runs over. Then reinstall plug.
3. Replace the oil so that the transaxle gear oil is not dirty, and so that it is of a suitable viscosity.

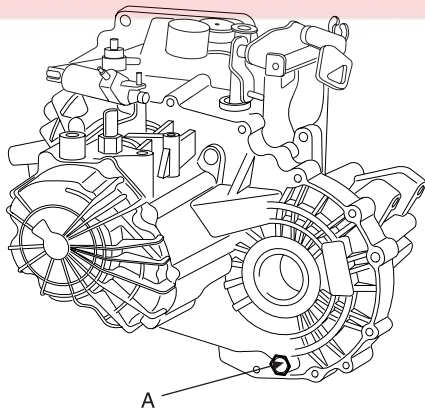
REPLACEMENT OF TRANSAXLE GEAR OIL**Transaxle gear oil :**

Hypoid gear oil, SAE 75W/90 (API GL-4)

1. With the vehicle parked on a level surface, remove the drain plug and drain the transaxle oil.
2. Replace the gasket with a new one and install the drain plug(A).

Drain plug tightening torque :

30~35Nm (300~350kg-cm, 22~25lb-ft)



AMGE002A

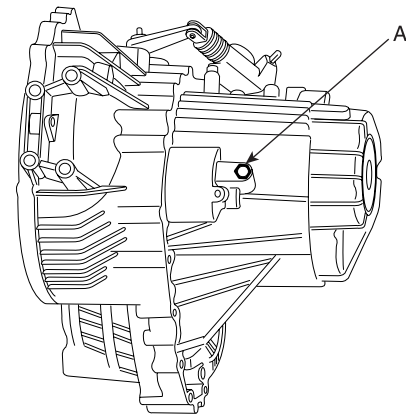
3. Add new oil through the filler plug(A) and, fill it to just below the plug opening.

Transaxle oil total capacity :

2.15 lit (2.25 U.S.qts., 1.95 Imp.qts.)

Filler plug tightening torque :

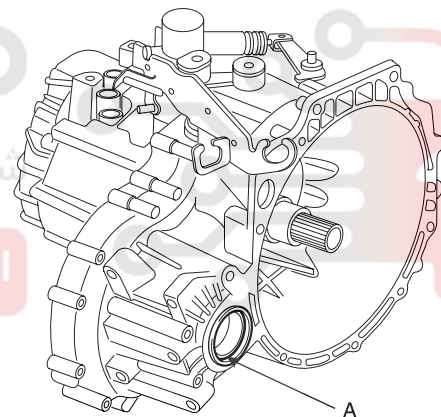
30~35Nm (300~350kg-cm, 22~25lb-ft)



AMGE002B

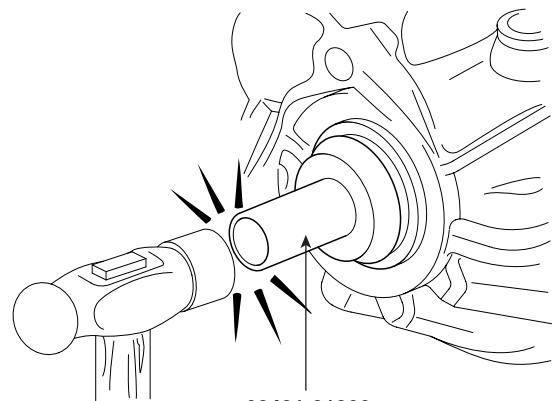
DRIVE SHAFT OIL SEAL REPLACE

1. Disconnect the drive shaft from the transaxle (see "DS" group).
2. Using a flat-tip screwdriver, remove the oil seal(A).



EMKD002A

3. Using the special tool (09431-21200), tap the drive shaft oil seal into the transaxle.



09431-21200

EMKD004A

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MANUAL TRANSAXLE (M5BF2)

4. Apply a coating of gear oil to the oil seal.

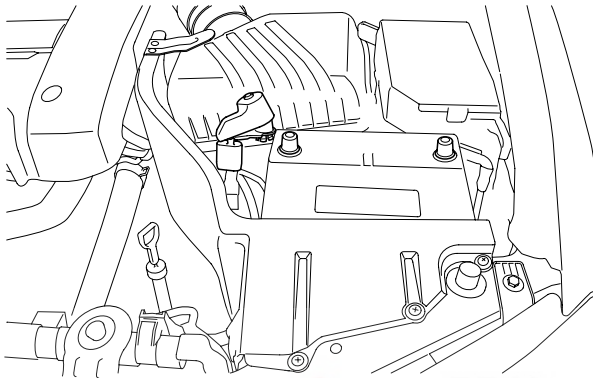
Transaxle gear oil :

Hypoid gear oil, SAE 75W/90 (API GL-4)

REMOVAL

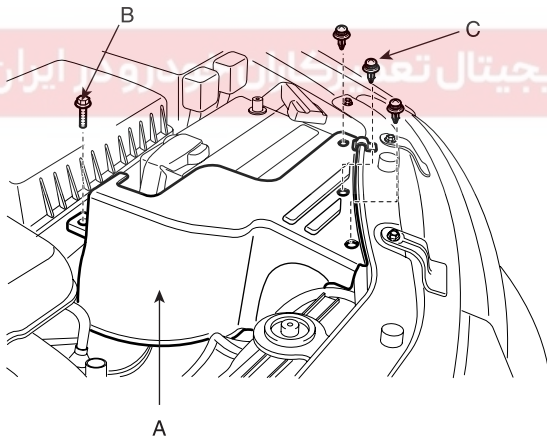
E9C57CE7

1. Remove the battery terminal. ("-", "+")



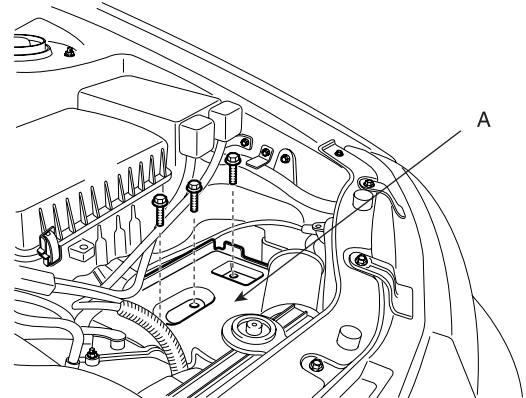
EKKD101A

2. Remove the heat shield(A). (Bolt: 1EA(B), Retainer: 3EA(C))



EKKD102A

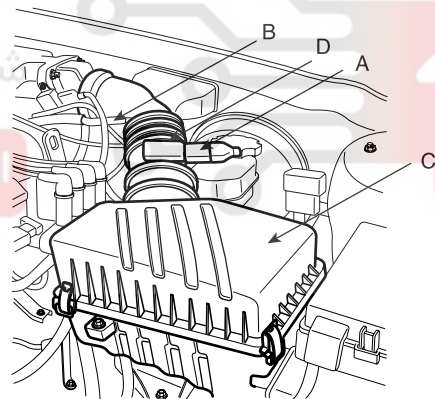
3. Remove the battery and the battery tray(A).



EKKD104A

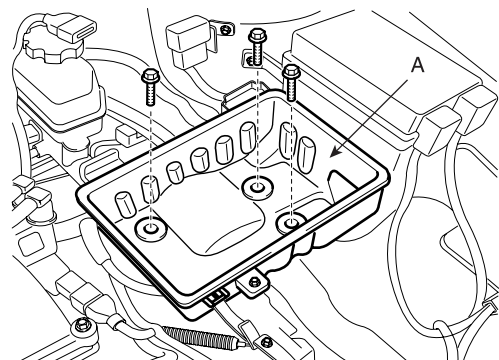
4. Removal of air cleaner and air intake hose.

- 1) Disconnect the air flow sensor connector(A) and breather hose(B).
- 2) Air cleaner upper cover(C) and air intake hose(D).



EKKD105G

3) Air cleaner lower(A) (Bolt: 3EA(B)).

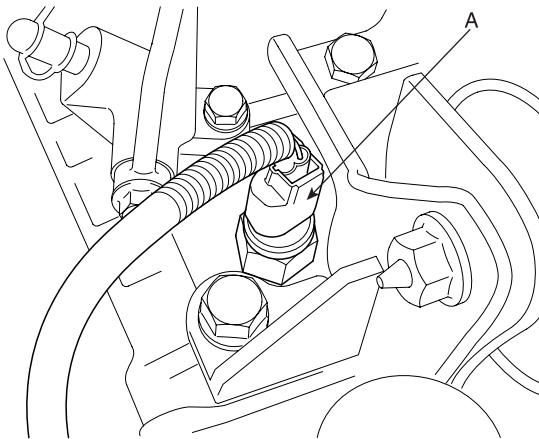


EKKD106A

MANUAL TRANSAXLE SYSTEM

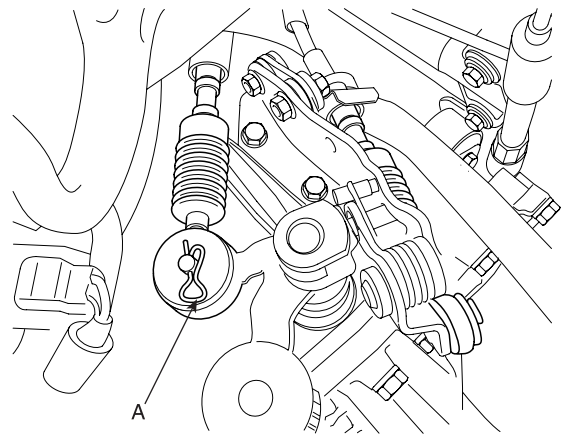
MT -23

5. Disconnect the backup lamp switch connector(A).



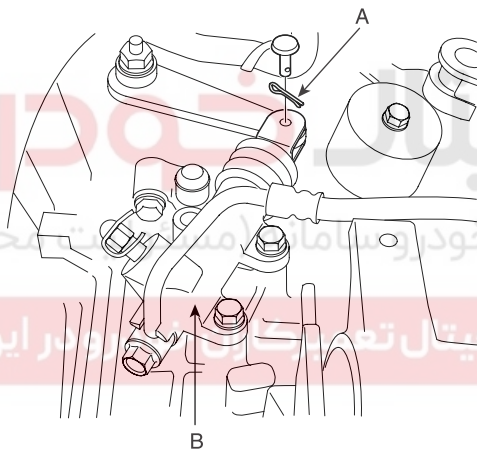
EMKD101A

8. Remove the cotter pin(A) of the shift and selector cable.



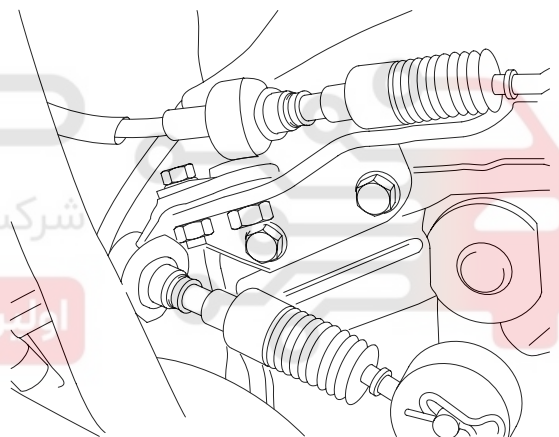
EMKD104A

6. Remove the cotter pin(A) of the clutch release cylinder(B).



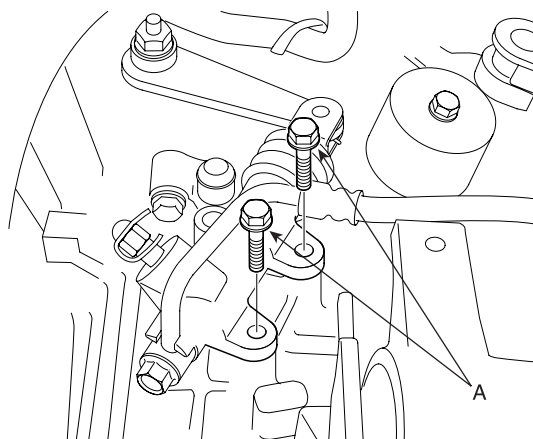
EMKD102A

9. Remove the holder of the shift and select cable.



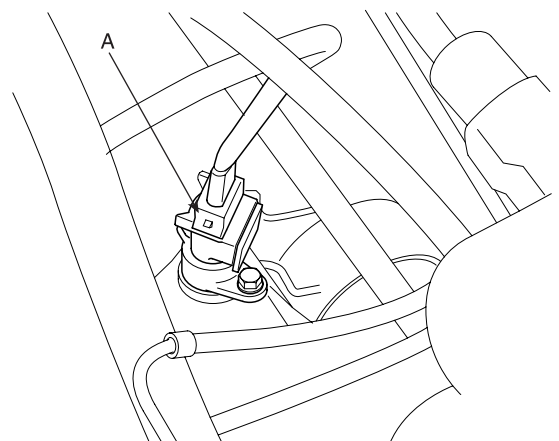
EMKD005A

7. Remove the clutch release cylinder mounting bolts(A).



EMKD103A

10. Disconnect the vehicle speed sensor connector(A).

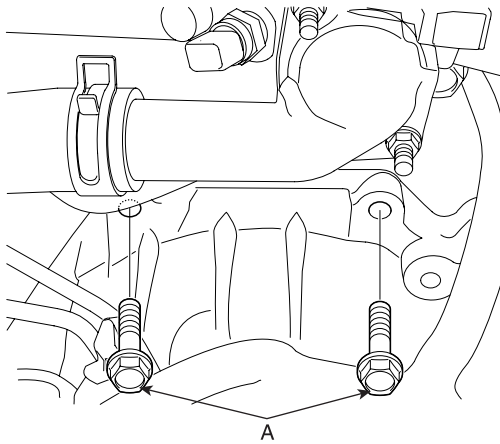


EKKD156A

MT -24

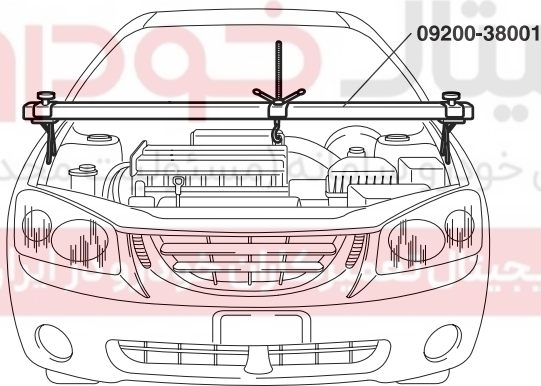
MANUAL TRANSAXLE (M5BF2)

11. Remove the start motor mounting bolts and the transaxle mounting to the engine bolts(A).



EKKD125A

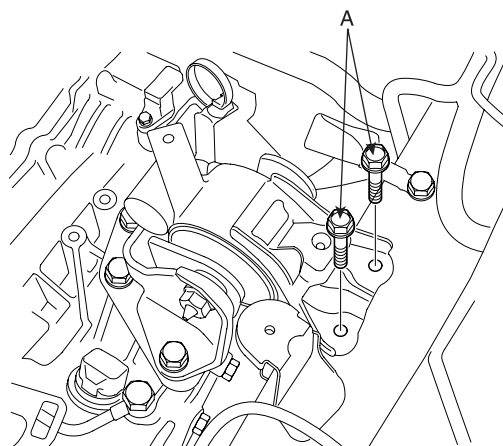
12. Attach to the engine hooks using special tool (09200-38001).



BMGE001

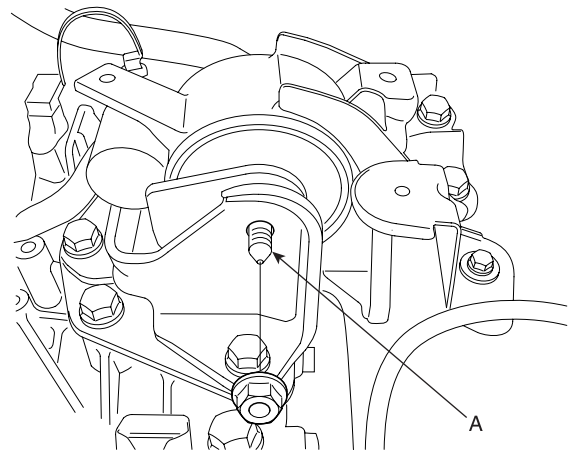
13. Remove the transaxle-mounting bracket.

- 1) Body mounting bolts(A) (Upper side)



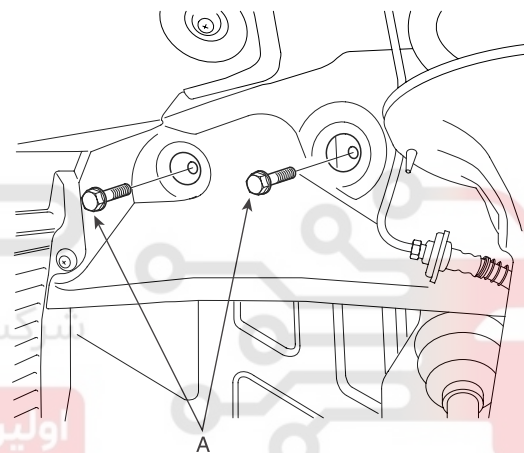
EKKD120A

- 2) Insulator bolt(A).



EKKD121A

- 3) Body mounting bolts(A) (Left side)

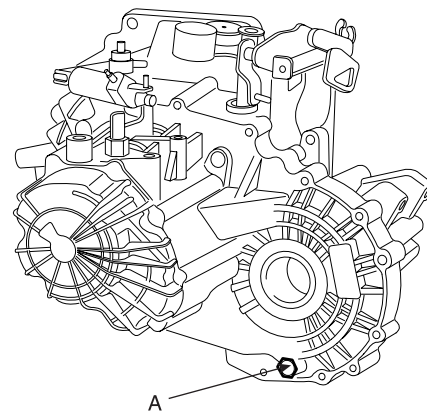


EKKD122A

14. Lift up the vehicle.

15. Remove the front tire.

16. Remove the drain plug(A) and drain the transaxle gear oil.



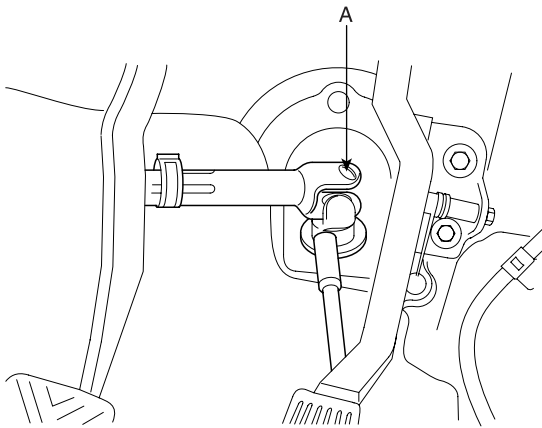
AMGE002A

17. Disconnect the tie rod end, wheel speed sensor, knuckle, caliper and drive shaft. (see "DS" group).

MANUAL TRANSAXLE SYSTEM

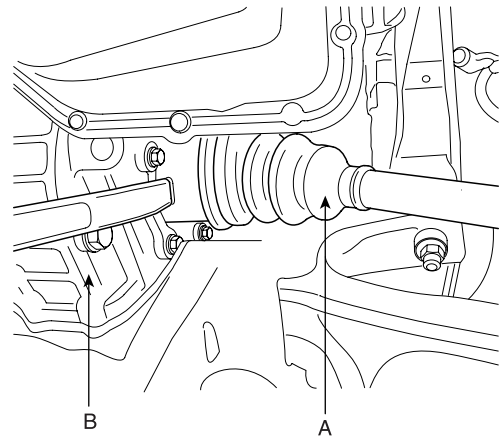
MT -25

18. Remove the gear box u-joint(A) mounting bolt.



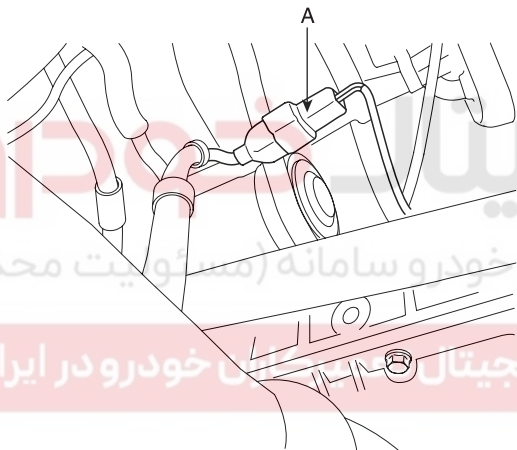
EKKD033A

23. Remove the drive shaft(A) from the transaxle(B).



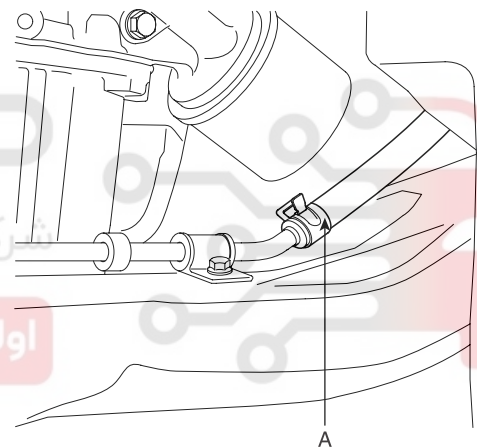
EMKD007A

19. Disconnect the oxygen sensor connector(A).



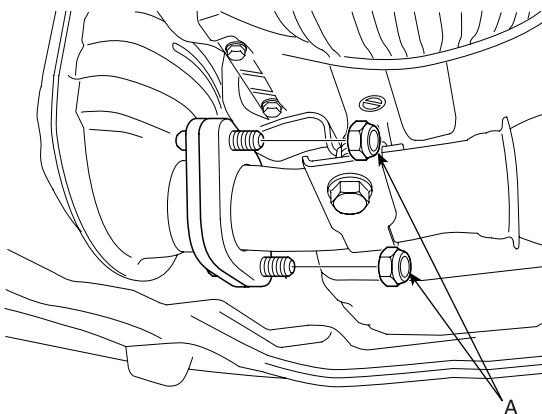
EKKD131A

24. Remove the power return hose(A) and drain the power steering oil.



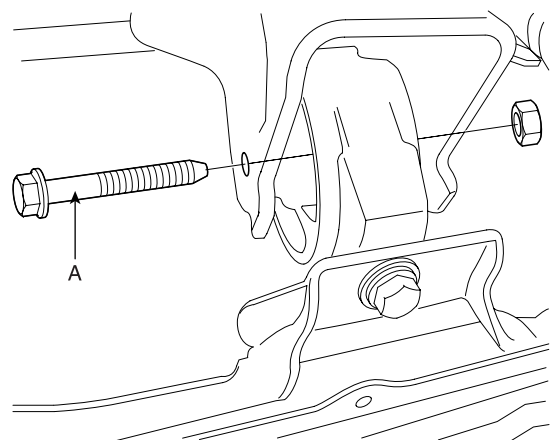
EKKD129A

20. Remove the front muffler mounting nuts(A).



EKKD130G

25. Remove the front roll stopper-mounting bolt(A).



EKKD134A

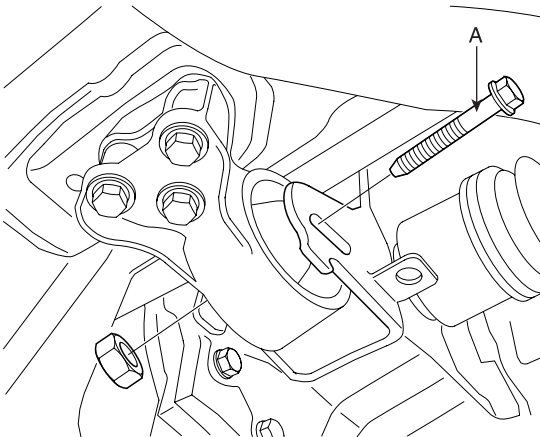
21. Remove the front muffler to the center muffler mounting nuts. (2EA)

22. Remove the front muffler bracket bolt and front muffler. (1EA)

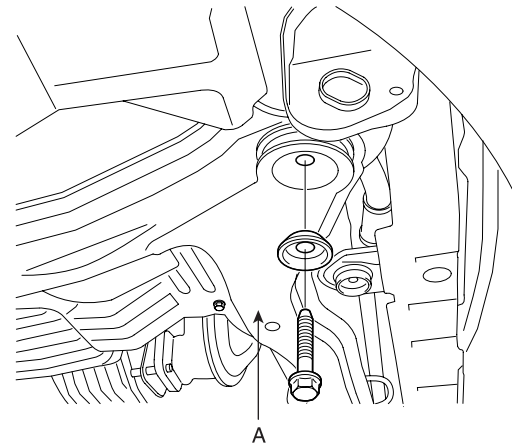
MT -26

MANUAL TRANSAXLE (M5BF2)

26. Remove the rear roll stopper-mounting bolt(A).

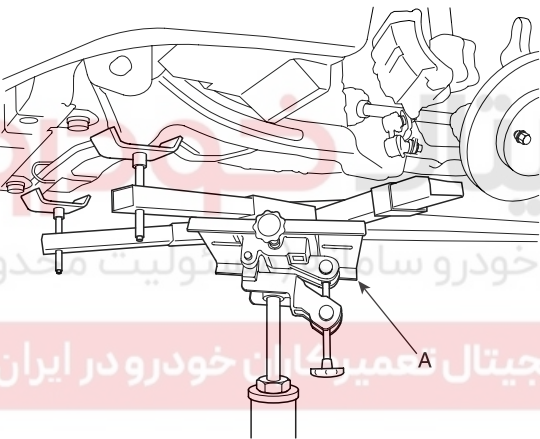


EKKD135A



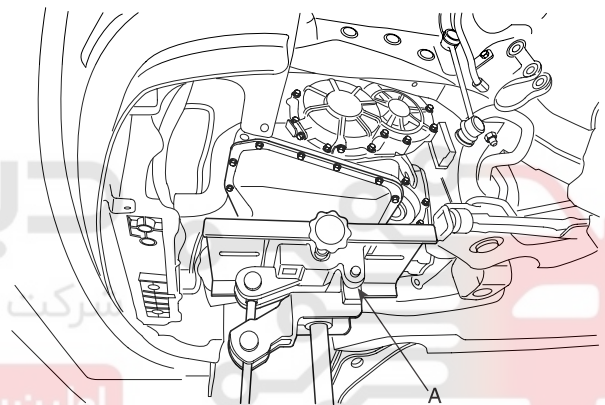
EKKD139A

27. Install the jack(A) for supporting sub-frame.



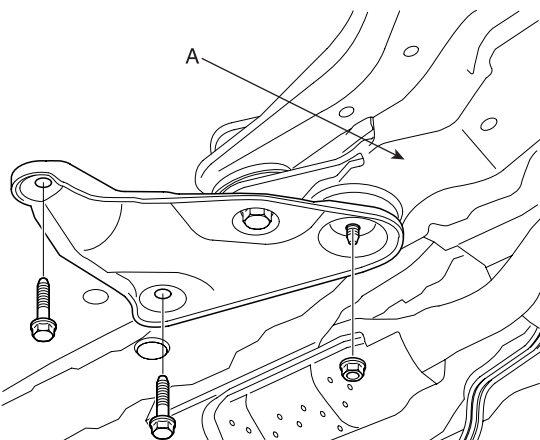
EKKD137A

29. Install the T/M jack(A).



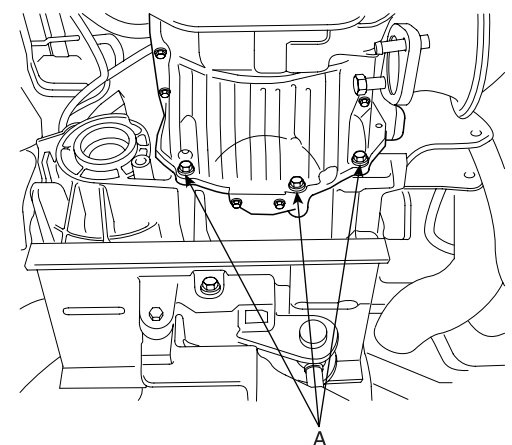
EMKD008A

28. Remove the sub-frame(A).



EKKD138A

30. Remove the transaxle lower mounting bolts(A).



EMKD010A

MANUAL TRANSAXLE SYSTEM

MT -27

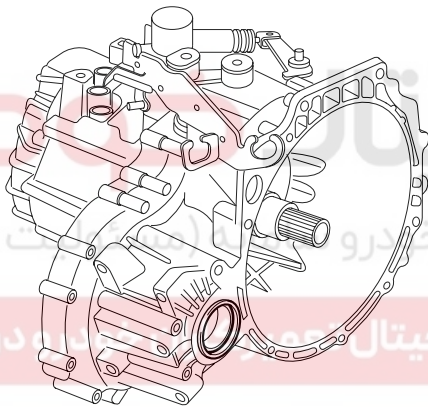
31. Remove the transaxle assembly supporting by a jack.

 **NOTE**

When supporting the transaxle assembly, make sure that the lifting force is applied to a wide area, not to a small localized area.

 **CAUTION**

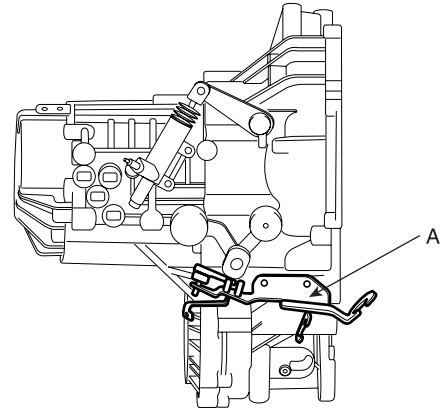
- **Mounting bracket installation procedures.**
 - Engine mounting bracket.
 - T/M mounting bracket.
 - Rear roll stopper mounting bracket.
 - Front roll stopper mounting bracket.
- **Be careful not to crush the insulator when installing the front roll stopper-mounting bracket. If the insulator is crushed or damaged, high vehicle idle vibration can occur.**



EMKD105B

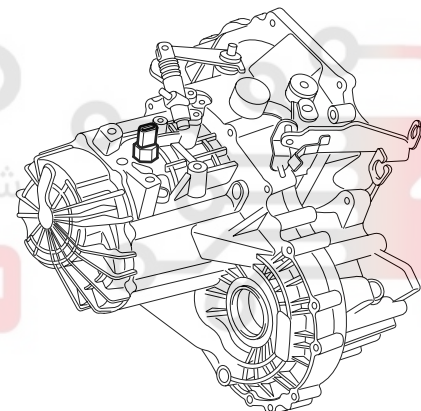
DISASSEMBLY E4B2B0BC

1. Remove the control & select cable bracket(A).



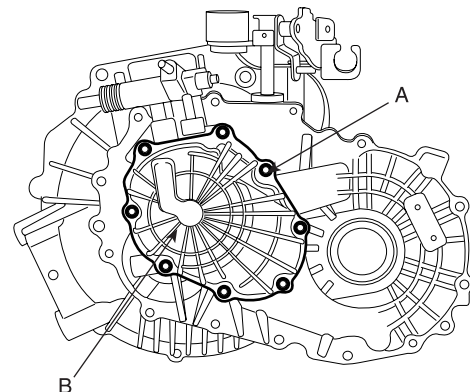
X43020B

2. Remove the backup light switch.



R7MT019B

3. Remove the rear cover bolts(A) and the rear cover(B).

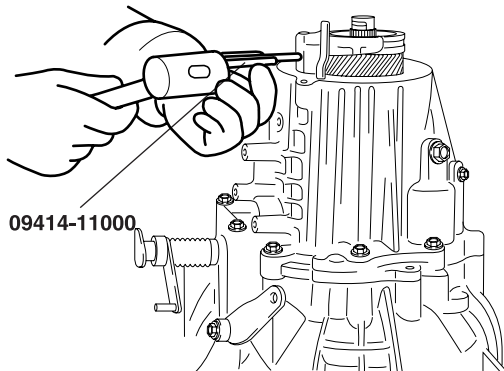


R7MT008A

MT -28

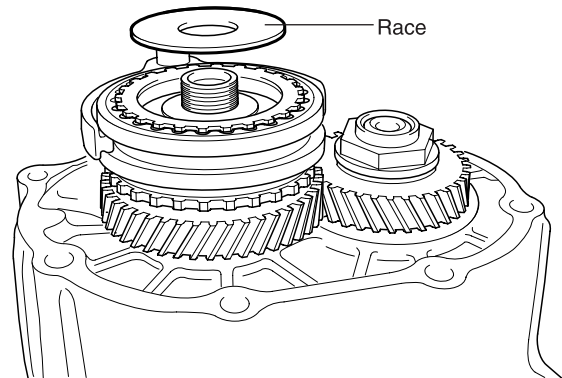
MANUAL TRANSAXLE (M5BF2)

4. Remove the spring pin of the fifth speed shift fork using the special tool(09414-11000).



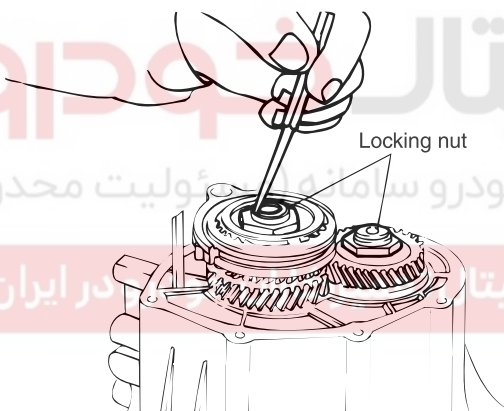
R7MT019D

7. Remove the race.



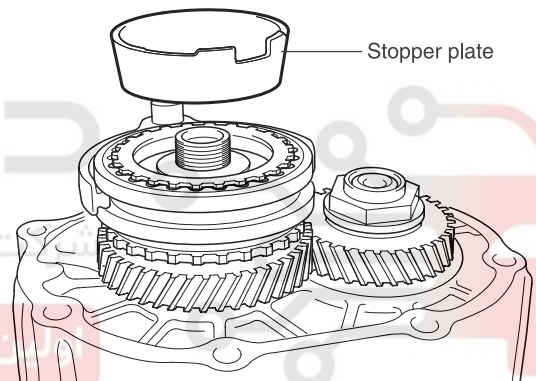
EMDD177A

5. To remove the locking nuts of input shaft and output shaft, unstake the locking nuts.



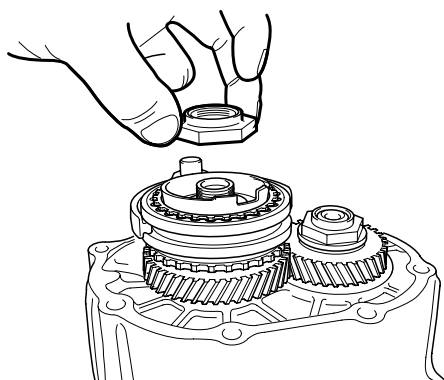
A7MT020A

8. Remove the stopper plate.



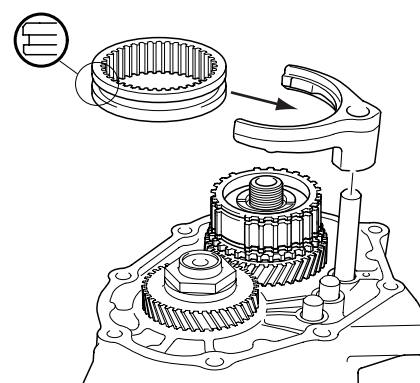
EMDD178A

6. Remove and discard the locking nuts of input shaft and output shaft.



KMDD176A

9. Remove the fifth synchronizer sleeve and the 5th shift fork.

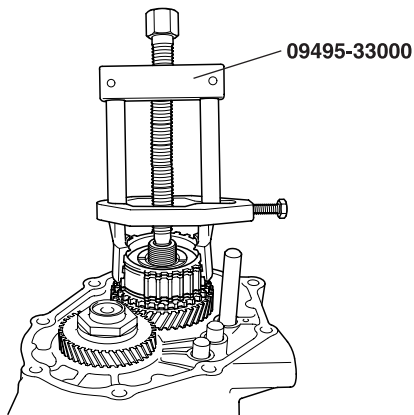


KMDD180A

MANUAL TRANSAXLE SYSTEM

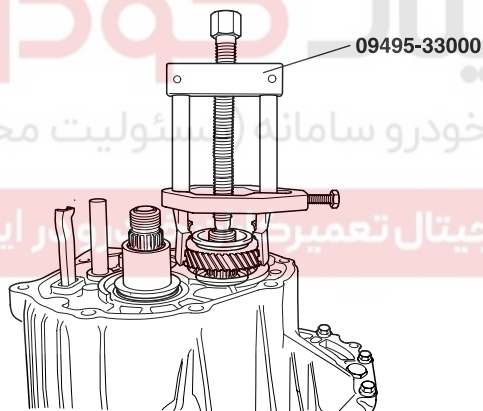
MT -29

10. Remove the fifth synchronizer hub, the ring with fifth speed gear and the needle roller bearing using the special tool(09495-33000).



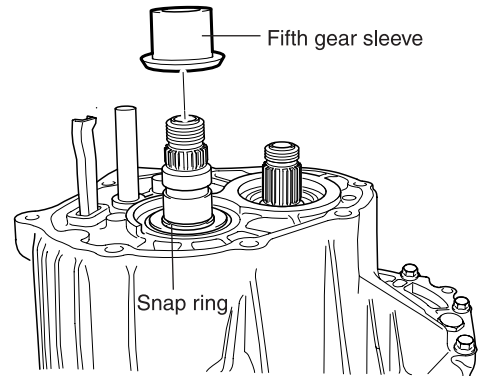
BMGE002A

11. Remove the fifth speed gear after removing the locking nut on the output shaft using the special tool (09495-33000).

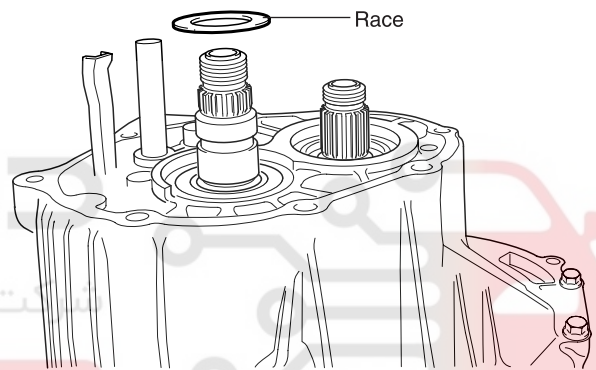


BMGE002B

12. Remove the fifth speed gear sleeve and race.

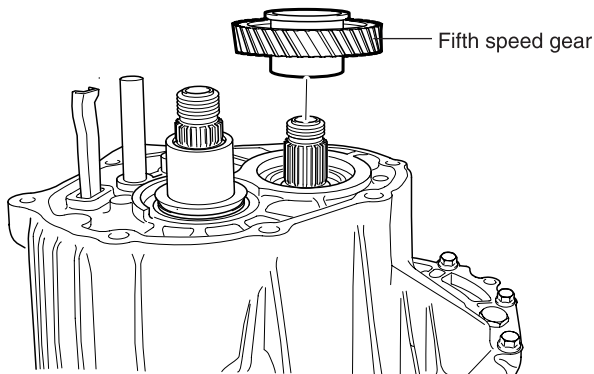


EMDD190A

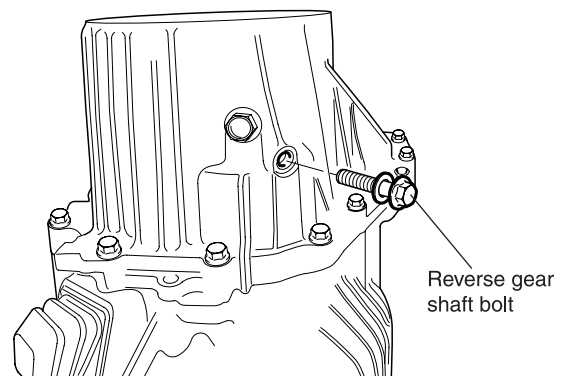


EMDD191A

13. Remove the reverse gear shaft bolt.



EMDD189A

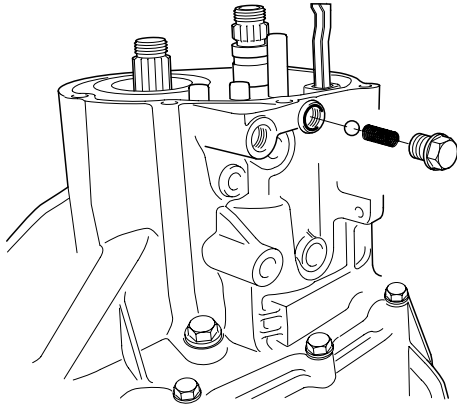


EMDD192A

MT -30

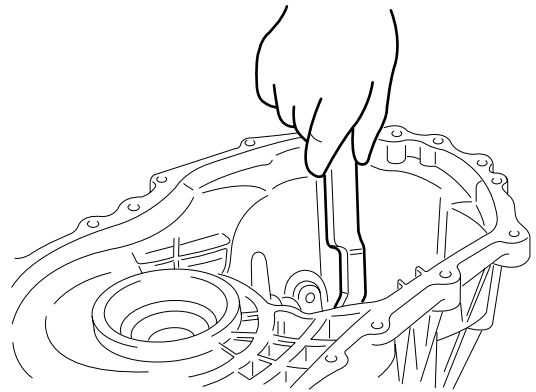
MANUAL TRANSAXLE (M5BF2)

14. Remove the fifth & reverse shift rail poppet bolt.



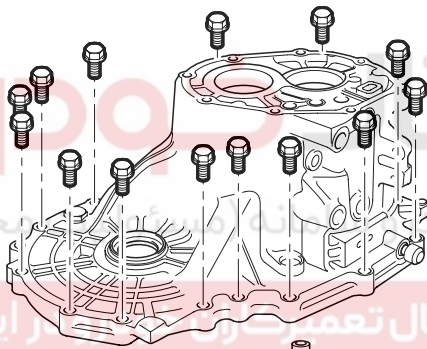
KMDD193A

16. Remove the oil guide.

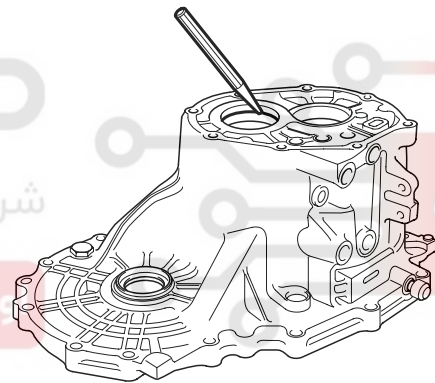


R7MT021C

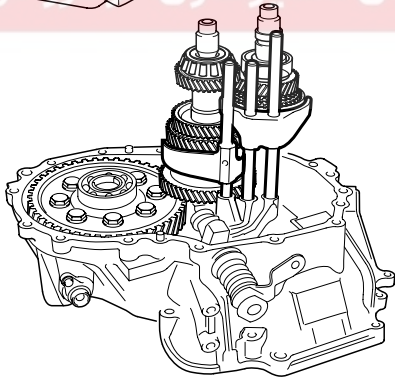
15. Remove the transaxle case mounting bolts (14EA) and then the transaxle case.



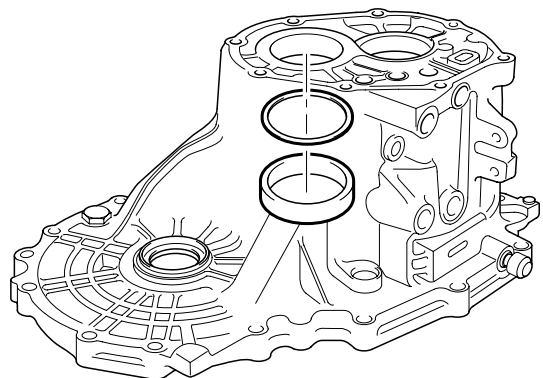
17. Remove the output shaft bearing outer race and the space.



KMDD199A



KMDD197B

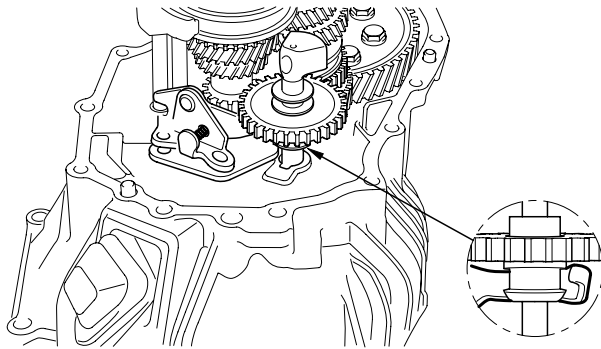


KMDD203A

MANUAL TRANSAXLE SYSTEM

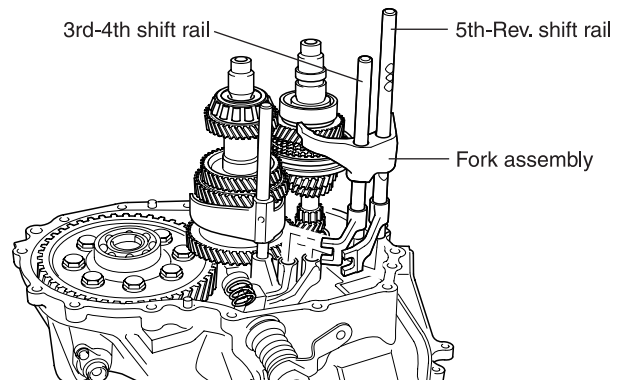
MT -31

18. Remove the reverse shift lever.



KMDD200A

21. Remove the shift rail & fork for 3rd-4th & 5th-Rev.



EMDD012A

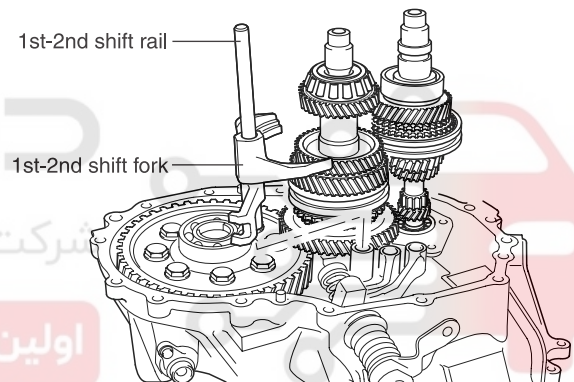
19. Remove the reverse gear shaft and gear.

22. Remove the shift rail & fork for 1st-2nd.

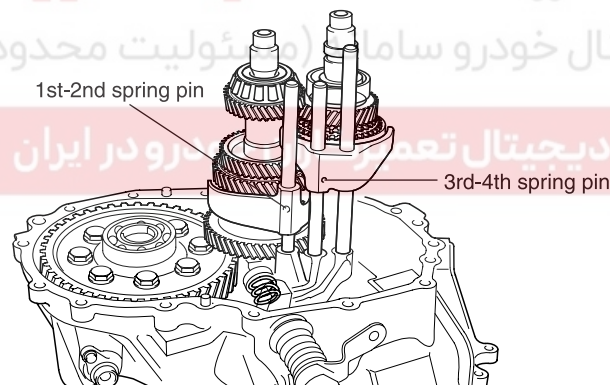
20. Remove the spring pin of 3rd-4th gear shift fork.

CAUTION

Be careful not to damage it when removing 1st-2nd spring pin.

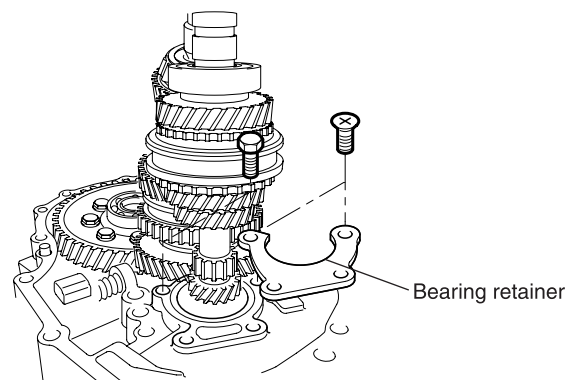


EMDD013A



EMDD204A

23. Remove the bearing retainer.

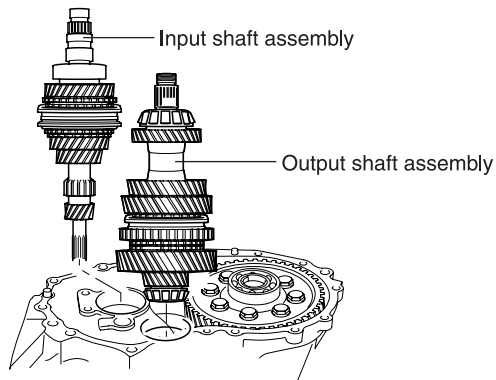


EMDD015A

MT -32

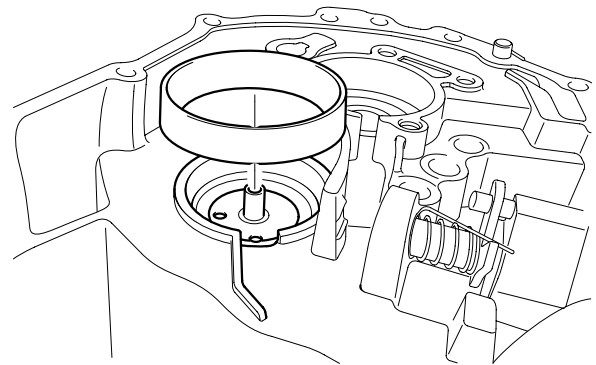
MANUAL TRANSAXLE (M5BF2)

24. Pull out the input shaft from the clutch housing inclining the output shaft.



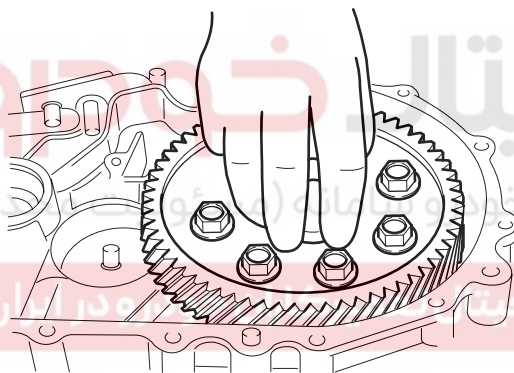
EMDD019A

27. Remove the output shaft bearing outer race.



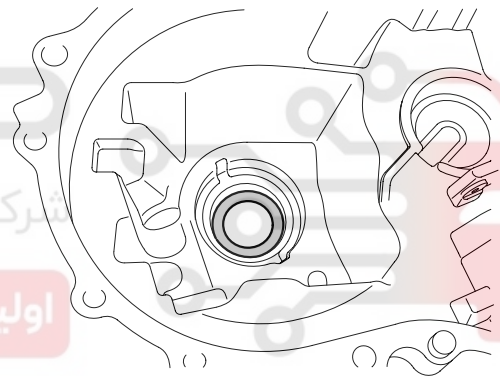
KMDD022A

25. Remove the differential gear assembly.



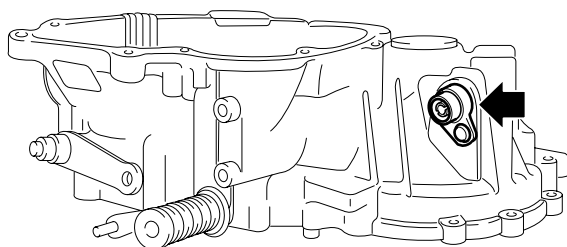
X43026A

28. Remove the oil seal.



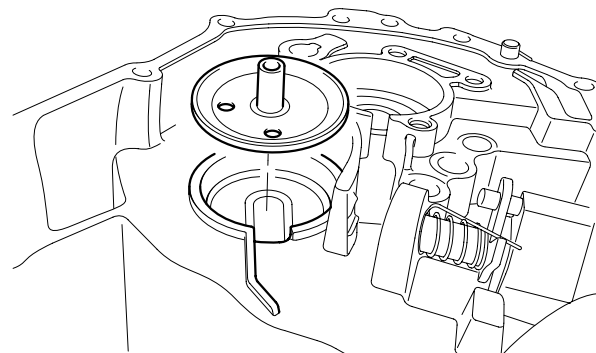
KMDD025A

26. Remove the speedometer driven gear assembly.



R7MT023B

29. Remove the output shaft oil guide.

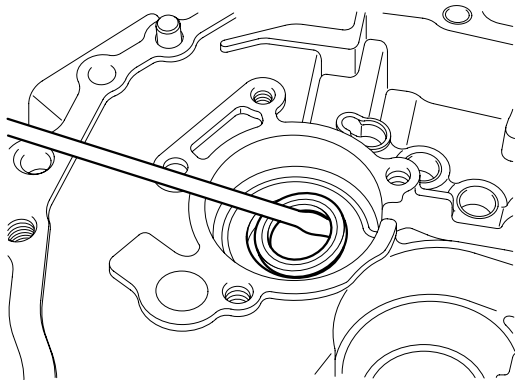


KMDD023A

MANUAL TRANSAXLE SYSTEM

MT -33

30. Remove the input shaft oil seal.

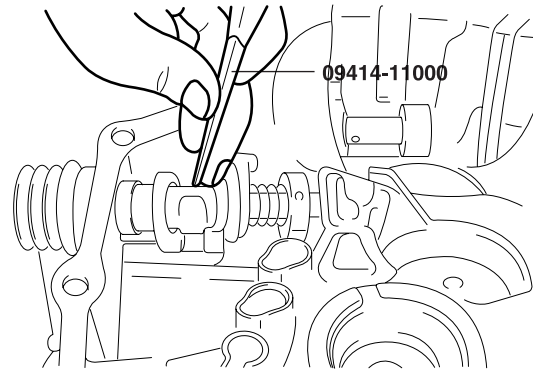


KMDD026A

2) Using the special tool (09414-11000), remove the lock pin.

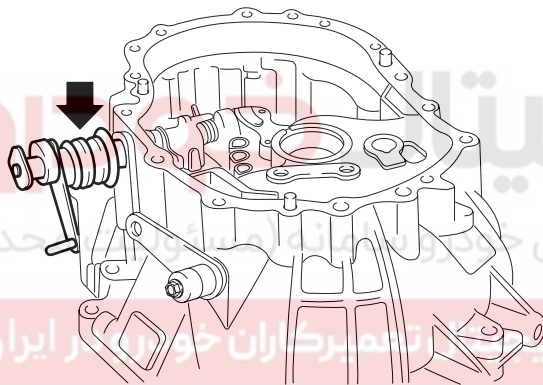
NOTE

When removing the control shaft, the lock pin should be removed first.



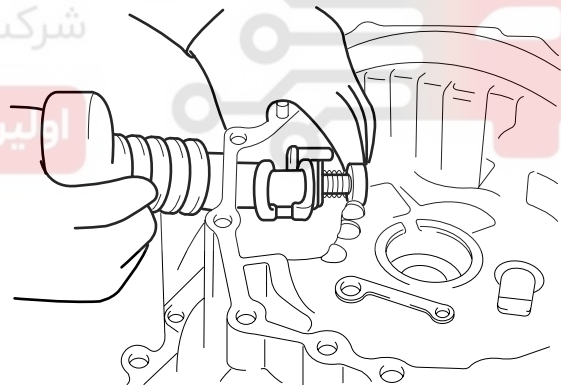
R8MT002A

31. Remove the control shaft assembly.



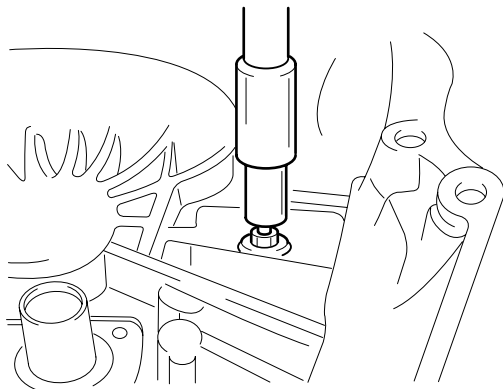
R7MT024B

3) With holding and twisting the control shaft by hand, pull the control shaft out of its position.



R8MT003A

1) Remove the bolt (12 mm (0.47in.) - 1EA) which is installed to the rear portion of clutch housing.



R8MT001A

MT -34

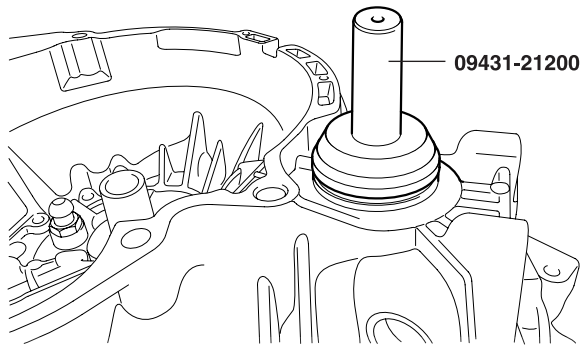
MANUAL TRANSAXLE (M5BF2)

REASSEMBLY EAEA8820

1. Install the drive shaft oil seal using the special tool(09431-21200).

NOTE

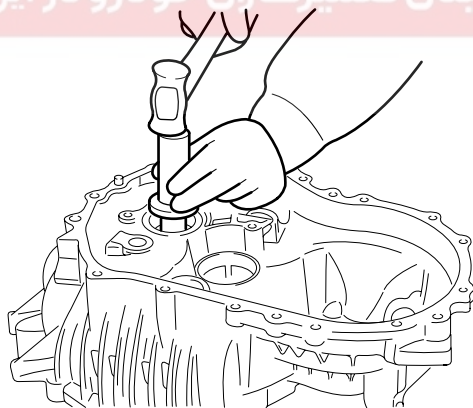
Insert the oil seal straightly.



2. Install the input shaft front oil seal using the special tool(09431-21000).

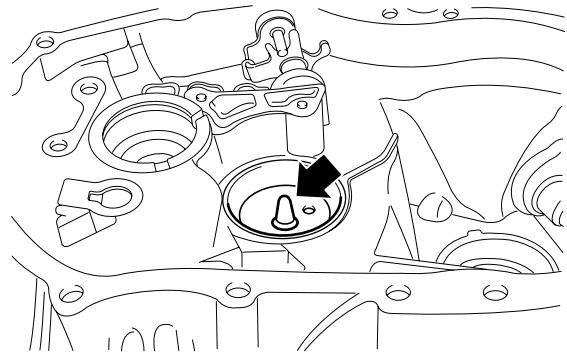
CAUTION

Do not reuse the oil seal.



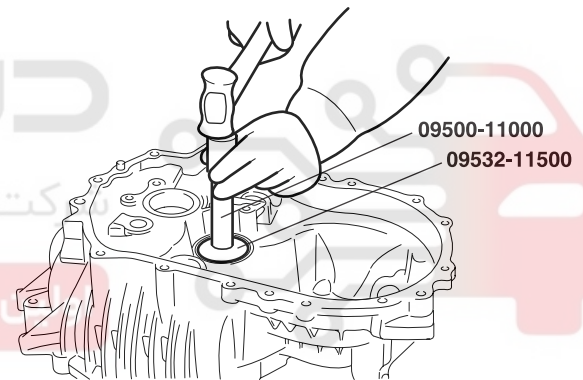
R7MT025B

3. Install the output shaft oil guide.



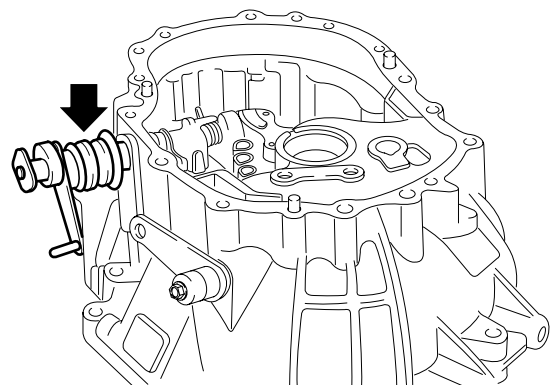
R7MT023D

4. Install the output shaft bearing outer race using the special tools(09500-11000, 9532-11500).



R7MT025C

5. Install the control shaft assembly.

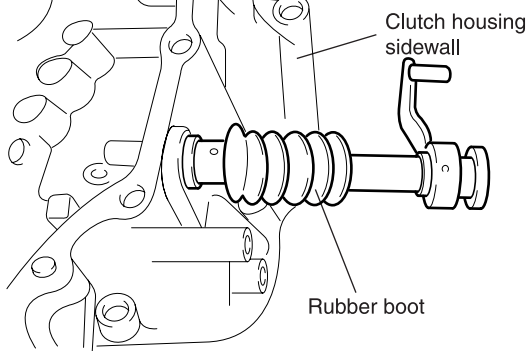


R7MT024B

MANUAL TRANSAXLE SYSTEM

MT -35

- 1) After inserting the rubber boot onto the control shaft, insert the control shaft into the clutch housing.

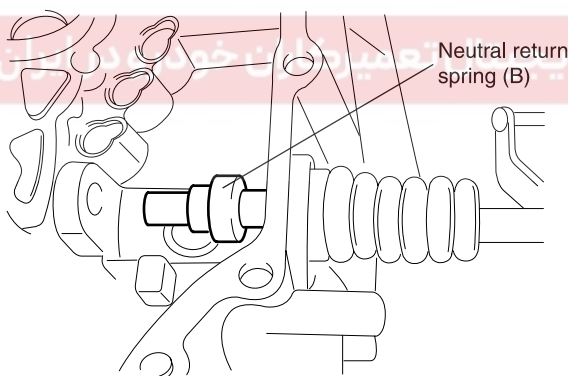


R9MT004A

- 2) Insert the neutral return spring (B) onto the control shaft.

NOTE

Larger diameter of the neutral return spring (B) should be toward the side wall of the clutch housing as shown figure.

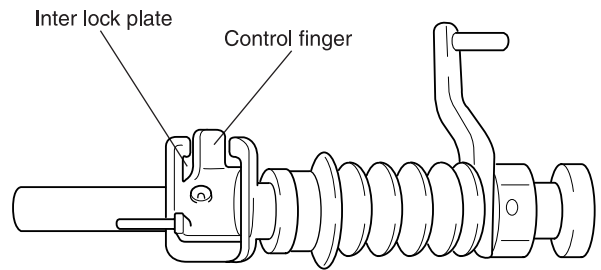


R9MT005A

- 3) Slide the control finger inside the inter lock plate, and then slide the assembly onto the control shaft.

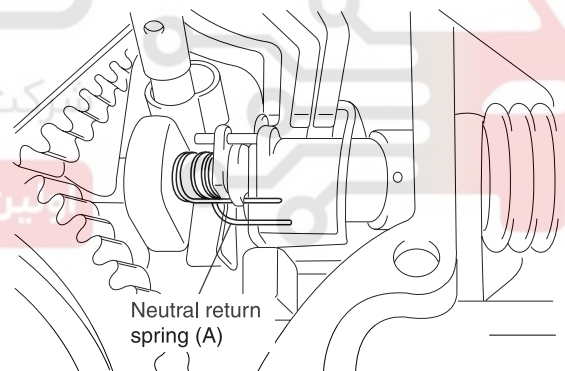
NOTE

The lug on the control finger should point in the same direction as the control shaft lever.



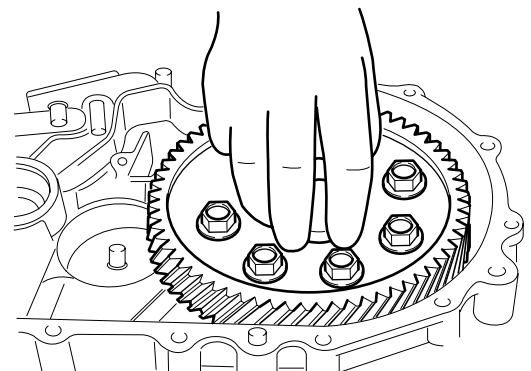
R9MT006A

- 4) Insert the stopper plate.
- 5) Push the control shaft assembly into the clutch housing support hole.
- 6) Push the lock pin through the control finger and control shaft.



R9MT009A

6. Install the differential gear assembly.

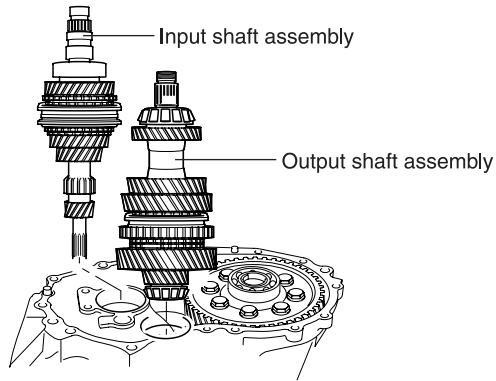


A7MT026A

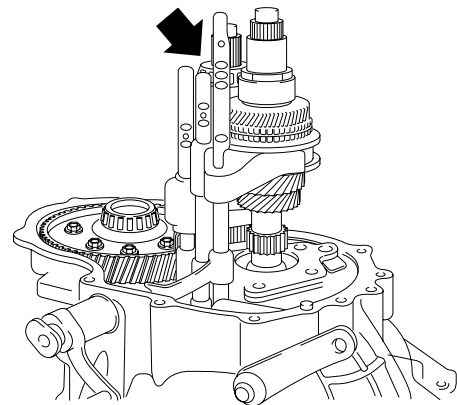
MT -36

MANUAL TRANSAXLE (M5BF2)

7. Insert the output shaft, inclining the differential assembly.
And insert the input shaft, inclining the output shaft.



EMDD019A



R9MT022D

8. Install the input shaft bearing retainer.



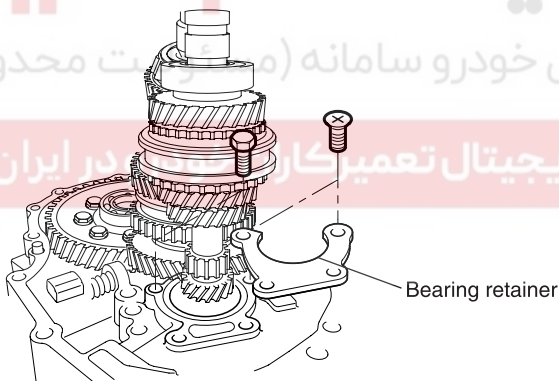
CAUTION

Apply a **THREE BOND 1303** on the hex-bolts.

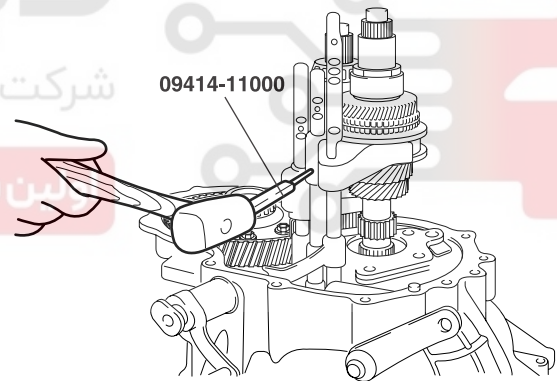


CAUTION

Do not reuse the spring pin.



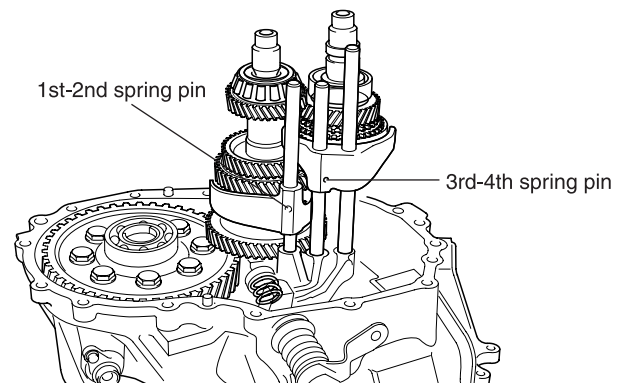
EMDD015A



R9MT022C

9. Reassembly of the shift rail assemblies.

- 1) Place the first and second speed synchronizer sleeve to the second gear position in order to get installing space of 1st-2nd shift rail assembly.
- 2) Place the third and fourth speed synchronizer sleeve to neutral position.
- 3) Install the shift rail and fork assemblies.

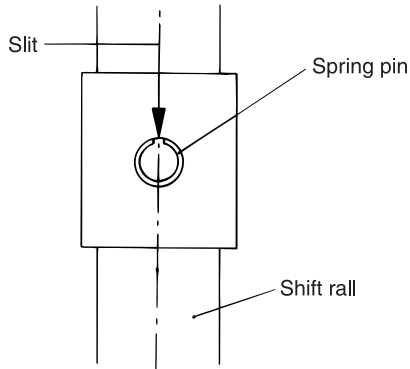


EMDD204A

MANUAL TRANSAXLE SYSTEM

MT -37

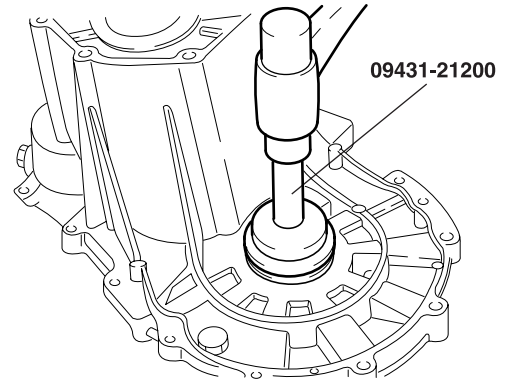
- 2) When installing, make sure that the slit of the spring pin is aligned with center line of the shift rail.



A7MT027A

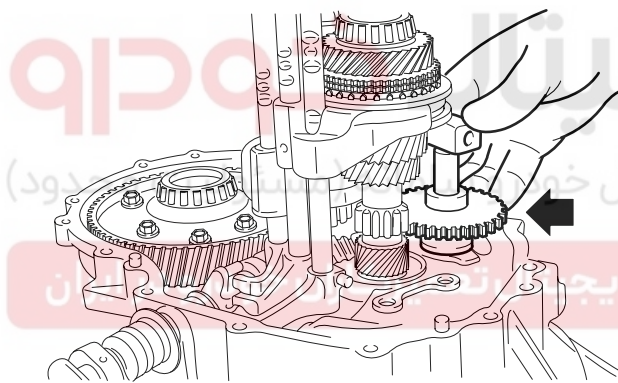
- 13. Install the drive shaft oil seal in the transaxle case using the special tool(09431-21200).

CAUTION
Do not reuse the oil seal.



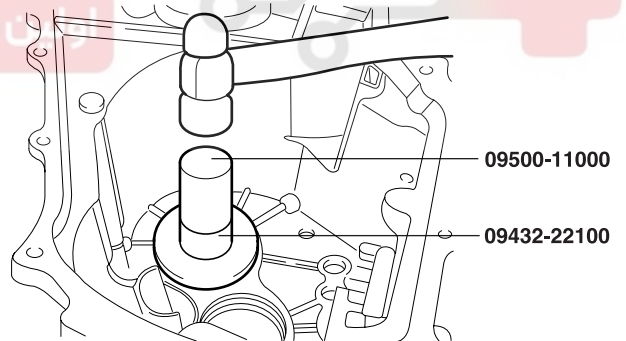
- 11. Install the reverse gear shaft and reverse gear.

A7MT027C



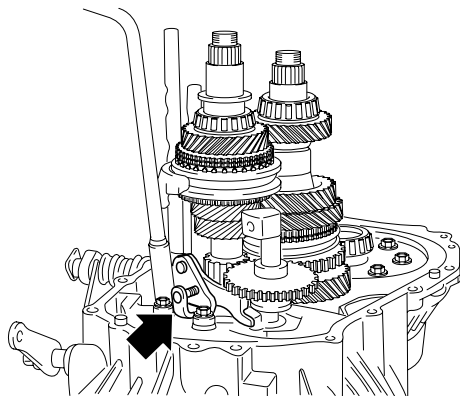
R9MT022B

- 14. Install the input shaft bearing outer race and spacer using the special tools(09432-22100/09500-11000).
- 15. Install the output shaft bearing outer race and spacer using the special tools(09432-22100/09500-11000).



- 12. Install the reverse shift lever.

A7MT027D



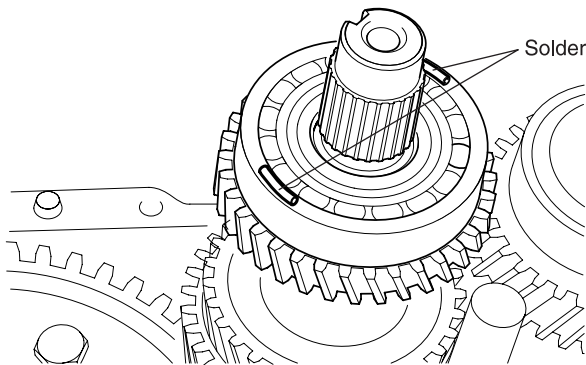
R7MT022A

MT -38

MANUAL TRANSAXLE (M5BF2)

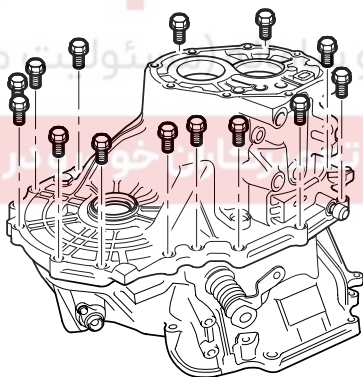
16. Installation of spacer.

- 1) Place two pieces of rosin-core solder with 3 mm (0.118 in.) in diameter on the bearing outer race as illustrated.



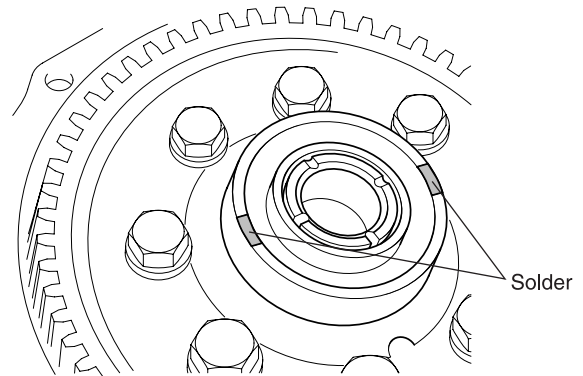
EMDD900Y

- 2) Install the transaxle case temporarily and tighten the bolts to the specified torque, then remove the transaxle case.



EMDD900V

- 3) Detach the crushed solders.



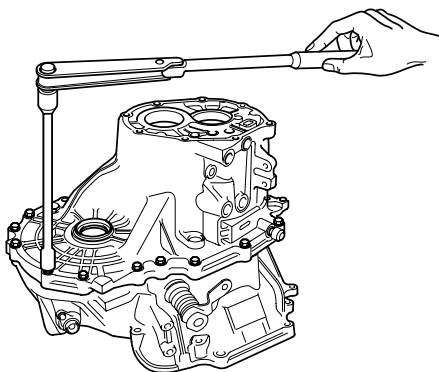
EMDD900X

- 4) Measure the thickness of the crushed solder.
- 5) Select and install the proper spacers.

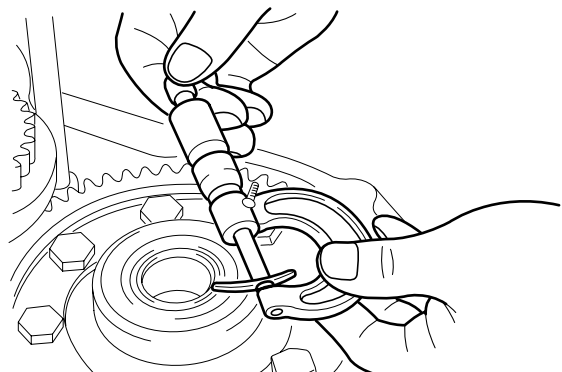
Items	Standard value mm(in.)
Output shaft rear bearing	0.05T - 0.10T (0.0019 - 0.0039)
Differential rear bearing	0.15L - 0.20L (0.0059 - 0.0078)

SELECTION EXAMPLE

- Output shaft
 - The thickness of the crushed solder : 1.72mm (0.0677in.)
 - Standard value : 0.07T mm (0.0002in.)
1.72mm (0.0677in.) + 0.07mm (0.0027in.) = 1.79mm (0.0704in.)
 Therefore, select the spacer of the 1.79mm (0.0704in.) thickness.



EMDD900W

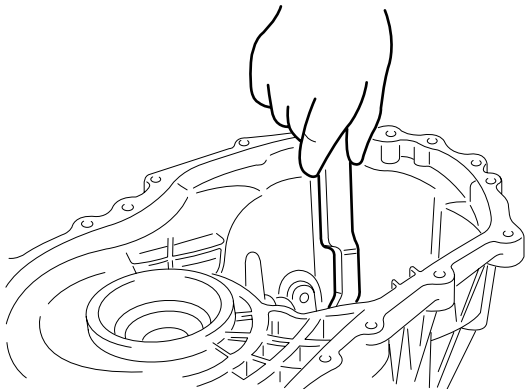


A7MT028B

MANUAL TRANSAXLE SYSTEM

MT -39

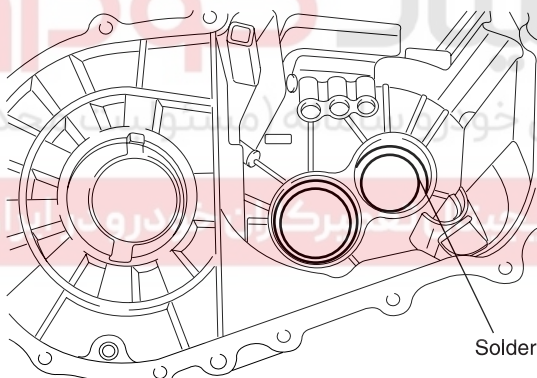
17. Install the oil guide in the transaxle case.



R7MT021C

18. Apply the specified sealant to the clutch housing side of the transaxle case.

Specified sealant: THREE BOND 1216

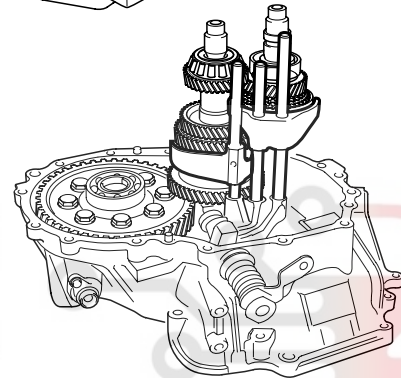
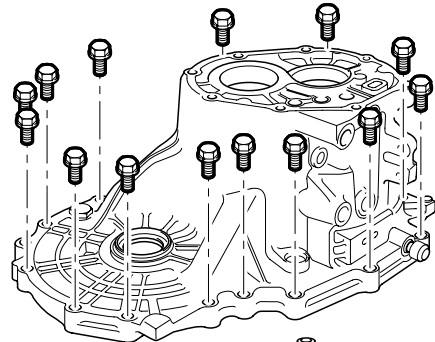


X43028A

19. Install the transaxle case onto the clutch housing assembly and tighten the bolts.

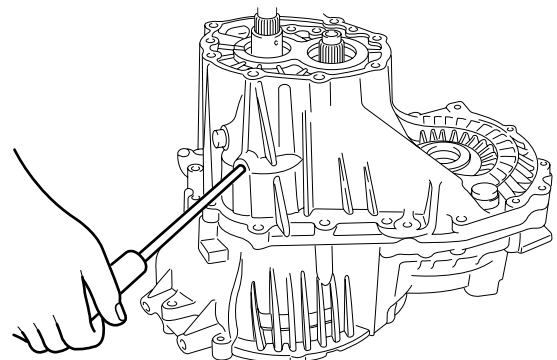
Tightening torque

Transaxle case: 35~42Nm (350~420kg·cm, 26~31lb·ft)



KMDD197B

20. Center the reverse idler gear shaft with screw driver.



R7MT028B

21. Tighten the reverse idler gear shaft bolt to the specified torque.

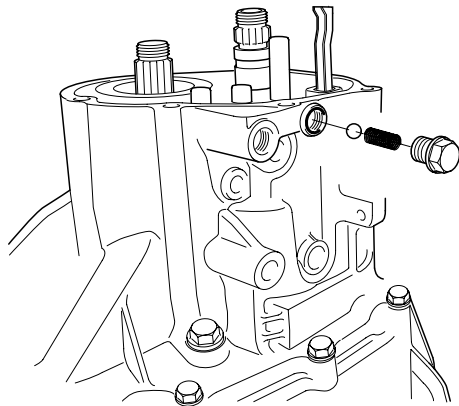
Tightening torque

Reverse gear shaft bolt:
43~55Nm (430~550kg·cm, 32~41lb·ft)

MT -40

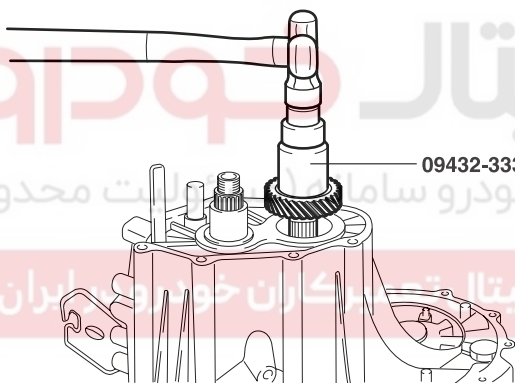
MANUAL TRANSAXLE (M5BF2)

22. Install the 5th-reverse shift rail poppet bolt.



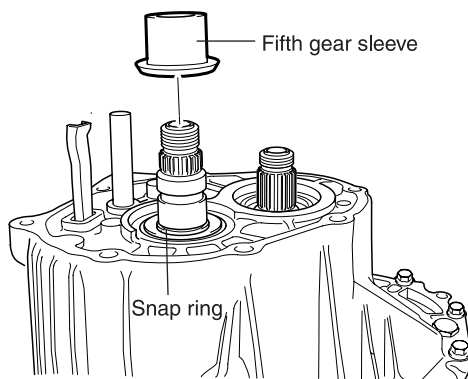
KMDD193A

23. Install the output shaft gear using the special tool(09432-33300).



A9MT029C

24. Install the rear bearing, spacer, snap ring and 5th gear sleeve.

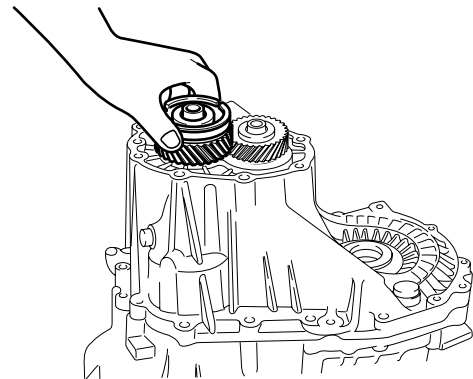


EMDD190A

25. Install the fifth speed gear, needle roller bearing, synchronizer ring and synchronizer hub.

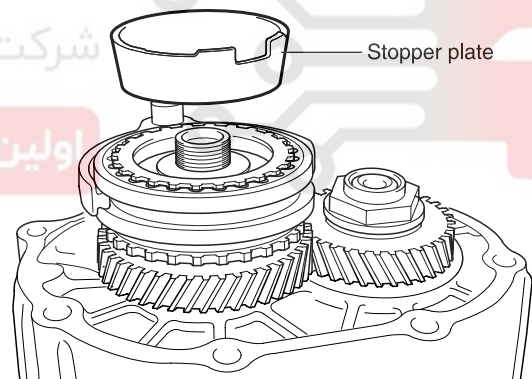
CAUTION

Place the oil groove of synchronizer hub toward the fifth speed gear.



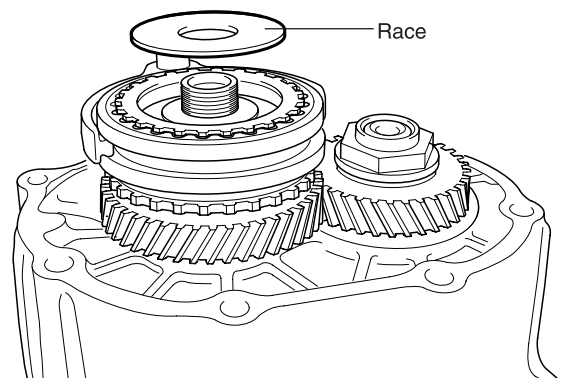
R7MT029A

26. Install the stopper plate.



EMDD178A

27. Install the race.

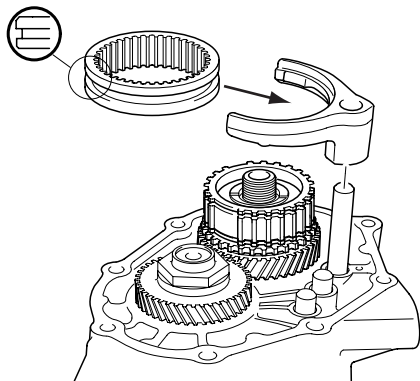


EMDD177A

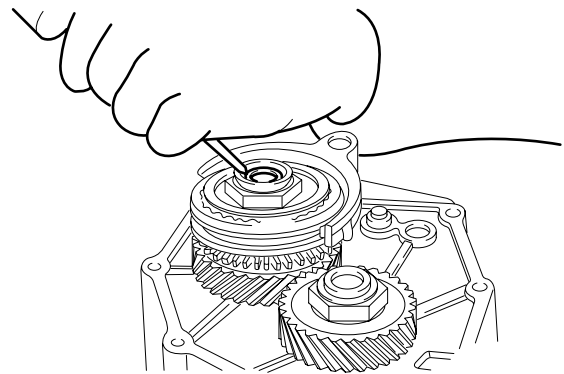
MANUAL TRANSAXLE SYSTEM

MT -41

28. Install the 5th shift fork and the 5th synchronizer sleeve at the same time.



KMDD180A



A7MT030B

30. Install the spring pin using the special tool(09414-11000) or pin punch.

CAUTION

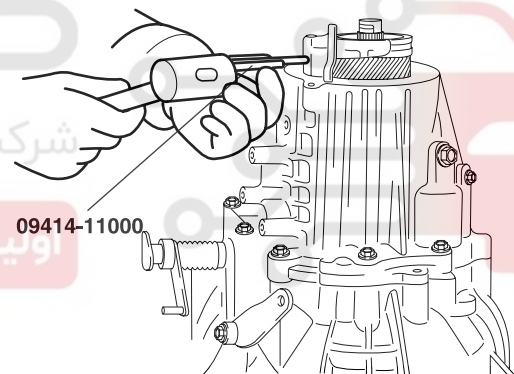
Do not reuse the spring pin.

29. Reassembly of locking nut.

- 1) Shift the transaxle into 3rd and 5th gear.
- 2) Tighten the locking nut to the specified torque.

Tightening torque :

140~160Nm (1400~1600kg-cm, 102~115lb-ft)



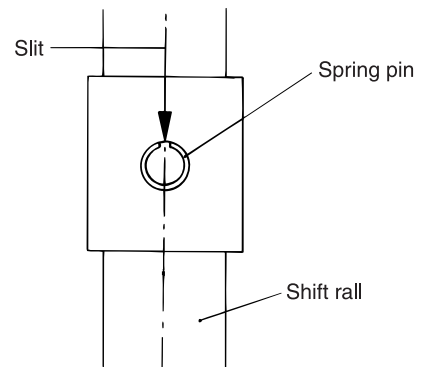
R7MT019D



A7MT020C

31. When installing, make sure that the slit of the spring pin is aligned with the center line of the shift rail.

3) Stake the locking nut.



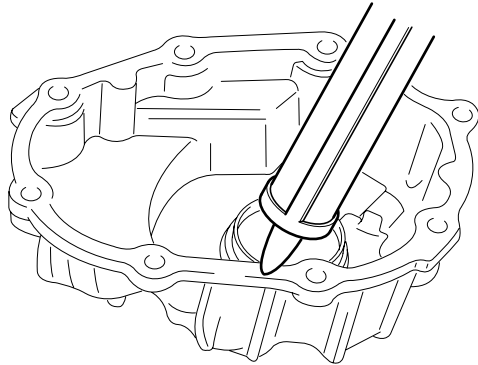
A7MT027A

MT -42

MANUAL TRANSAXLE (M5BF2)

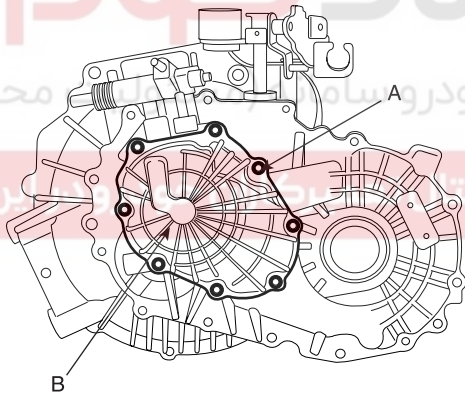
32. Apply the specified sealant to the rear cover and install the rear cover.

Specified sealant : THREE BOND 1216



R7MT030A

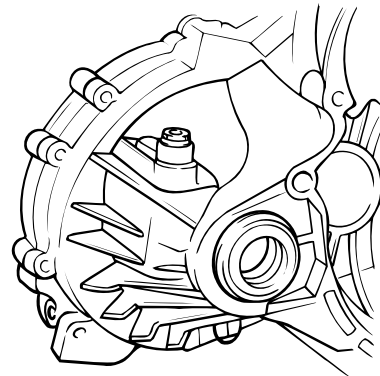
33. Install the rear cover bolts(A)(8EA) and the rear cover(B).



R7MT008A

34. Install the speedometer driven gear assembly.

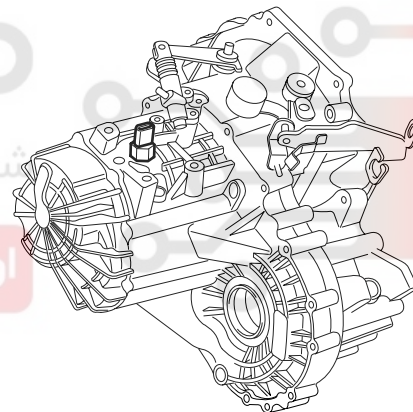
Tightening torque
Speedometer driven gear:
3~5Nm (30~50kg-cm, 2~4lb-ft)



A7MT031B

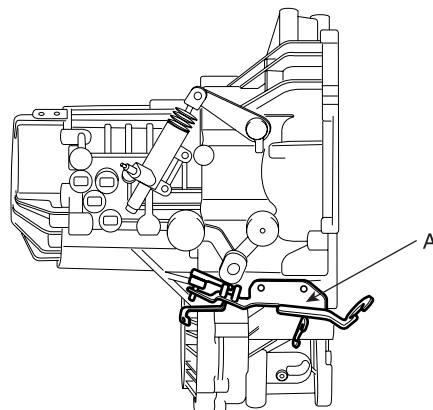
35. Install the backup light switch.

Tightening torque
Backup light switch:
30~35Nm (300~350kg-cm, 22~25lb-ft)



R7MT019B

36. Install the shift cable bracket(A).

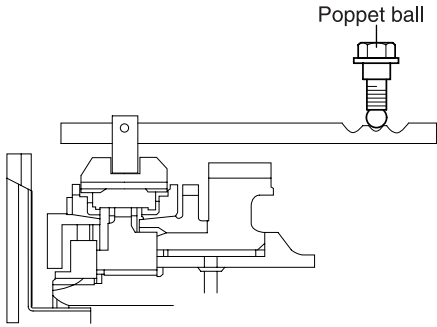
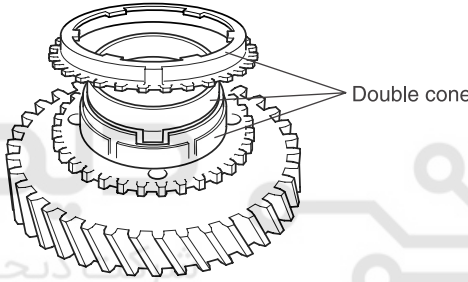
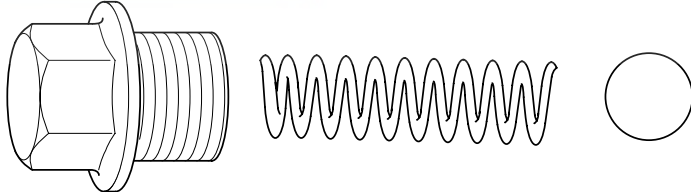
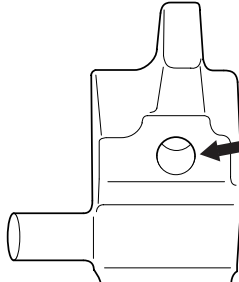


X43020B

MANUAL TRANSAXLE SYSTEM

MT -43

SERVICE TIP

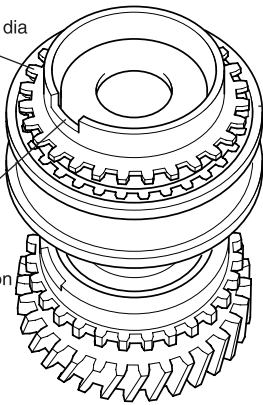
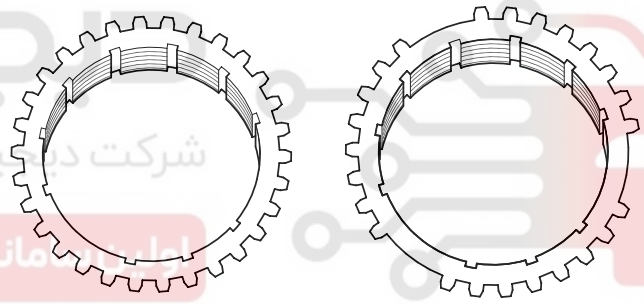
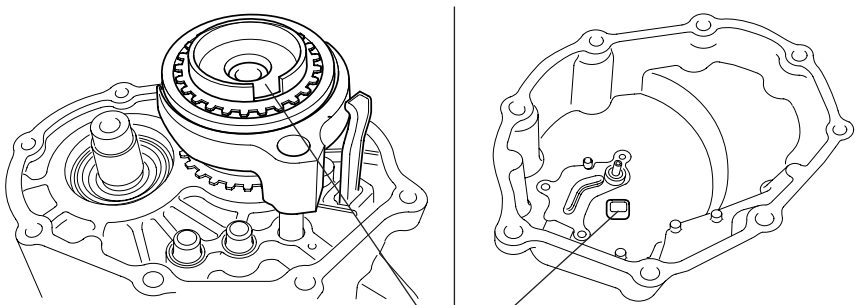
Item	Service tip
Shift control rail (5th-reverse)	 <p style="text-align: right;">BMGE003A</p>
1st-2nd gear set	 <p style="text-align: right;">BMGE003B</p>
Poppet ball	 <p style="text-align: right;">BMGE003C</p>
Control shaft finger	 <p style="text-align: right;">BMGE003D</p>

MT -44

MANUAL TRANSAXLE (M5BF2)

SERVICE POINTS WHEN REASSEMBLING POPPET BALL

Poppet ball

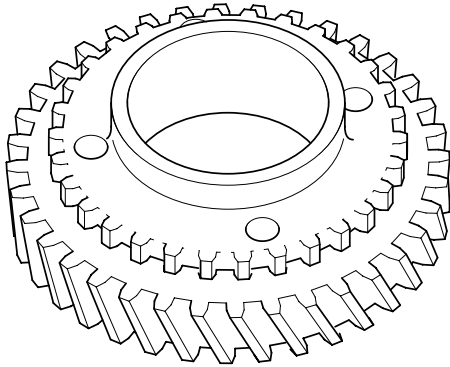
Items	Service points
Input shaft gear assembly	<div data-bbox="587 436 877 526"> <p>① 5&R synchronizer ring inner dia</p> <ul style="list-style-type: none"> • 5th side ring : Small • Reverse side ring : Large </div> <div data-bbox="587 683 861 772"> <p>③ Reverse brake cone direction</p> <ul style="list-style-type: none"> • Align the groove with the shift rail. </div> <div data-bbox="1181 504 1428 593"> <p>② Sleeve direction</p> <ul style="list-style-type: none"> • Reverse side : Groove • 5th side : 45° taper </div>  <p style="text-align: right;">EMDD903F</p>
5th-reverse synchronizer ring	<div data-bbox="845 929 997 974"> <p><5th gear ring></p> </div> <div data-bbox="1157 929 1364 974"> <p><Reverse gear ring></p> </div>  <div data-bbox="574 1299 1061 1344"> <p>Inner dia. & height 5th gear ring: Small, High</p> </div> <div data-bbox="1125 1299 1428 1344"> <p>Reverse gear ring: Large, Low</p> </div> <p style="text-align: right;">EMDD903G</p>
Reverse brake cone	 <p style="text-align: center;">Align</p> <p style="text-align: right;">EMDD903H</p>

MANUAL TRANSAXLE SYSTEM

MT -45

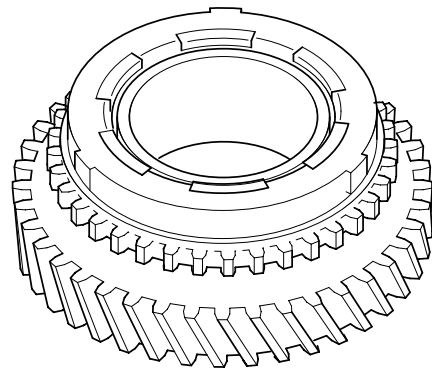
NOTE

- 1. Double cone kit
 - a) Speed gear



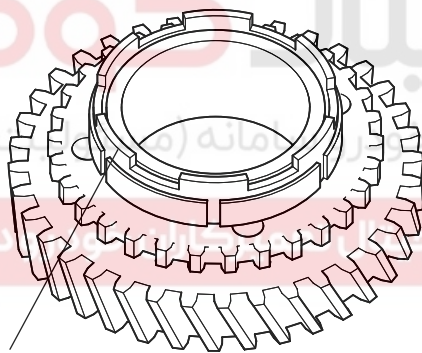
KMDD902A

- d) Outer synchronizer ring



KMDD902D

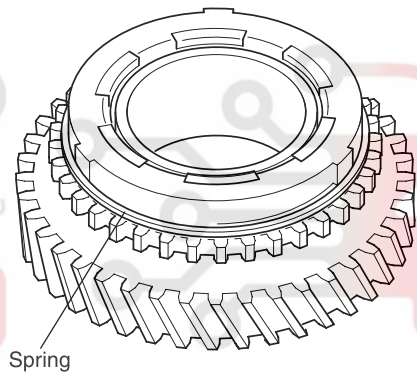
- b) Inner synchronizer ring



Inner synchronizer ring

EMDD902B

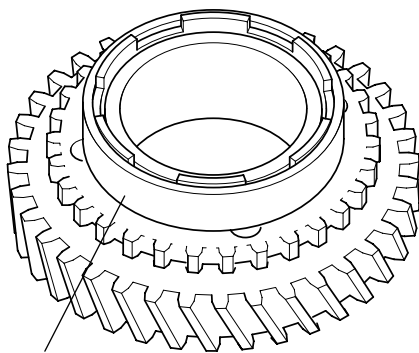
- e) Spring



Spring

EMDD902E

- c) Synchronizer cone

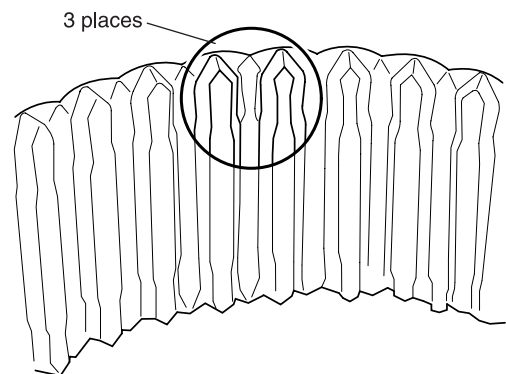


Synchronizer cone

EMDD902C

- 2. Sleeve & Hub kit

- a) Sleeve



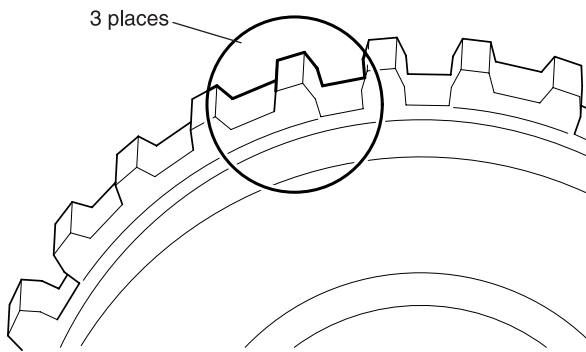
3 places

EMDD902F

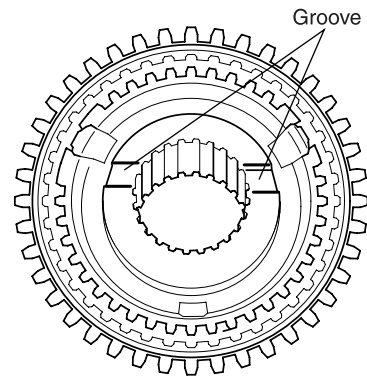
MT -46

MANUAL TRANSAXLE (M5BF2)

b) Hub



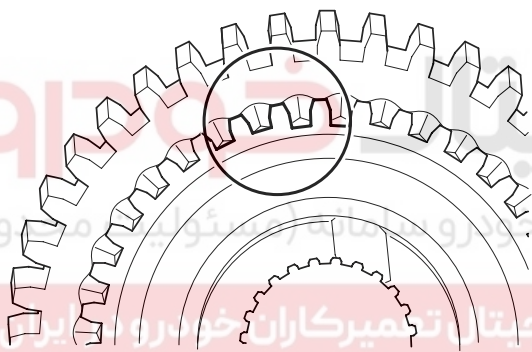
EMDD902G



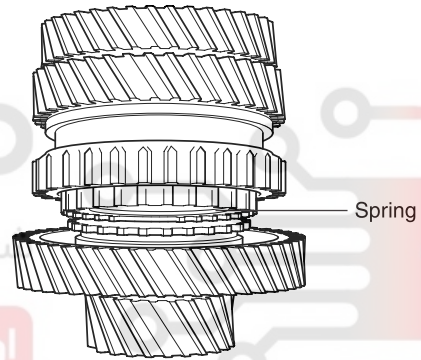
EMDD903B

- 4. Double cone type.
- a) With spring

c) Sleeve & hub

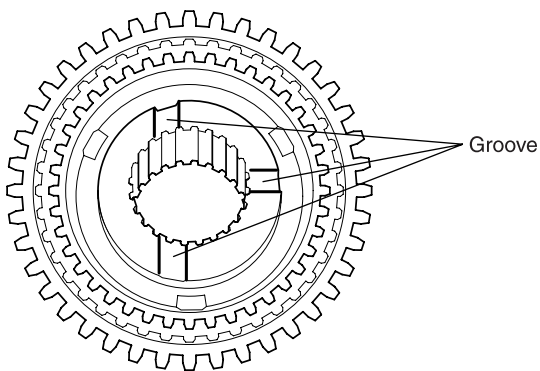


KMDD902H



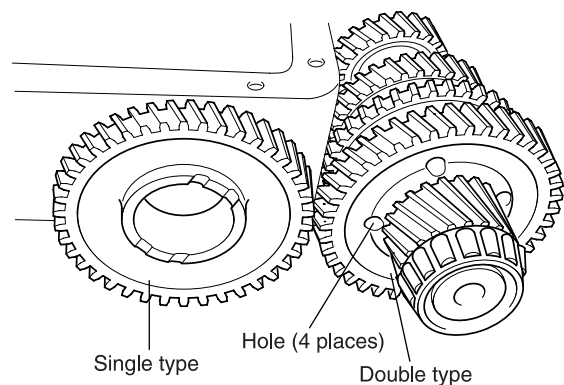
EMDD903D

- 3. 1st-2nd gear hub assembly direction
- a) 1st gear side (Groove 3places)



EMDD903A

- b) Double cone : Hole (4places)



EMDD903E

- b) 2nd gear side (Groove 2places)

INSTALLATION

E79D0FBA

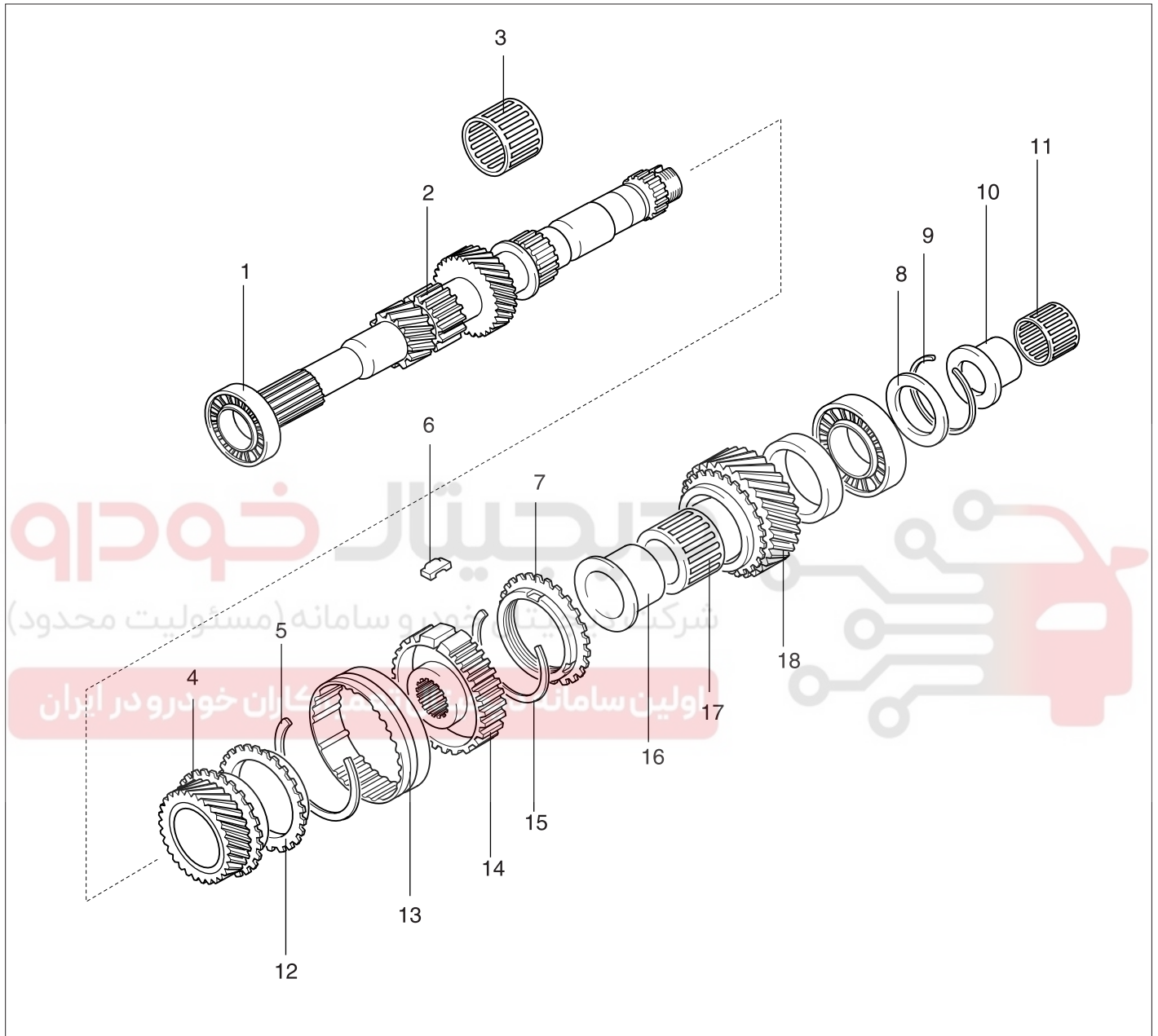
Installation is the reverse of removal.

MANUAL TRANSAXLE SYSTEM

MT -47

INPUT SHAFT

COMPONENTS EDCAB9A2



- | | |
|------------------------|---------------------------------|
| 1. Ball bearing | 10. 5th speed gear sleeve |
| 2. Input shaft | 11. Needle bearing |
| 3. Needle bearing | 12. Synchronizer ring |
| 4. 3rd speed gear | 13. 3rd-4th synchronizer sleeve |
| 5. Synchronizer spring | 14. 3rd-4th synchronizer hub |
| 6. Synchronizer key | 15. Synchronizer spring |
| 7. Synchronizer ring | 16. Bearing sleeve |
| 8. Spacer | 17. Needle bearing |
| 9. Snap ring | 18. 4th speed gear |

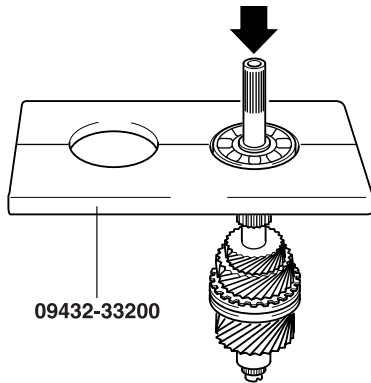
BMGE004A

MT -48

MANUAL TRANSAXLE (M5BF2)

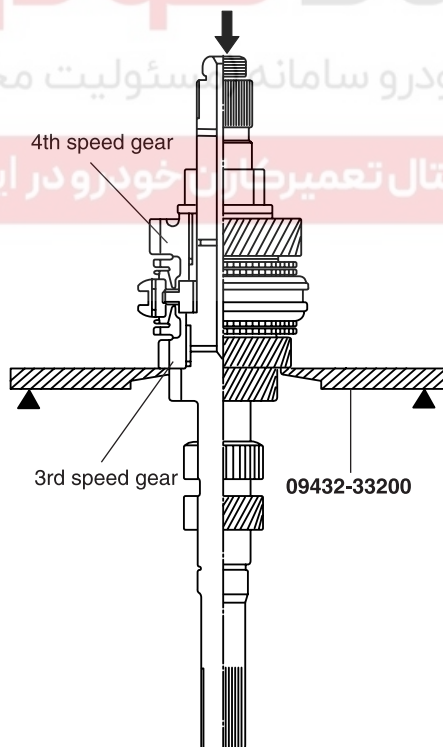
DISASSEMBLY EFC0BB3E

1. Remove the front bearing using the special tool(09432-33200).



A7MT035B

2. Remove the inner ring, spacer, 4th gear, needle roller bearing, bearing sleeve, synchronizer rings, 3rd and 4th gear synchronizer hub and sleeve and 3rd gear all together using the special tool (09432-33200).

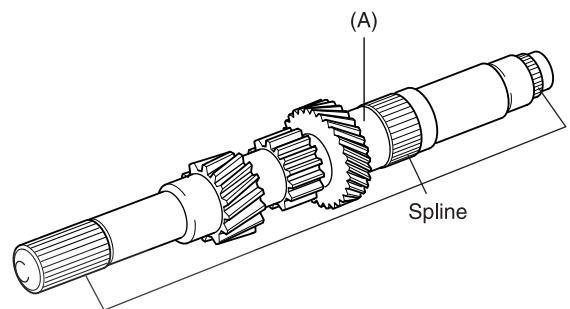


A7MT035C

INSPECTION EC5CDAEA

INPUT SHAFT

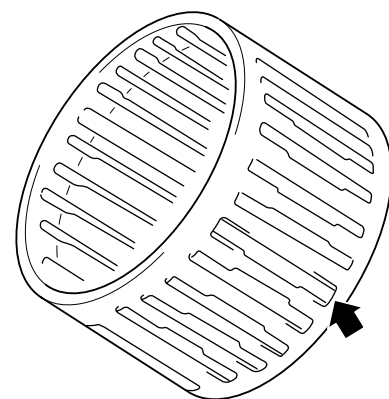
1. Check the outer surface of the input shaft where the needle roller bearing is mounted for damage or abnormal wear [portion (A)].
2. Check the splines for damage or wear.



A7MT035D

NEEDLE ROLLER BEARING

1. Install the needle roller bearing on the shaft with the bearing sleeve and gear. Check that it rotates smoothly without abnormal noise or play.
2. Check the needle roller bearing cage for distortion.



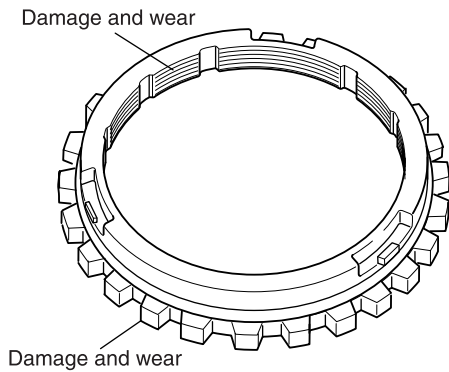
A7MT040D

MANUAL TRANSAXLE SYSTEM

MT -49

SYNCHRONIZER RING

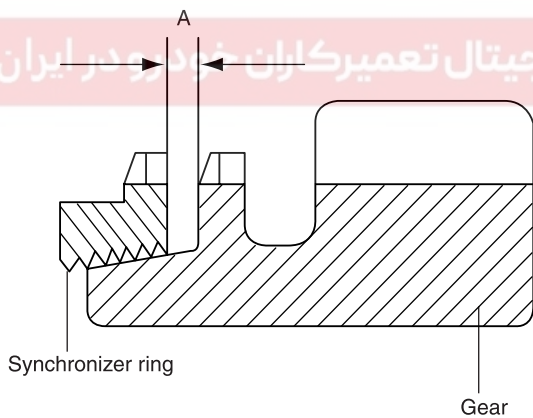
1. Check the clutch gear teeth for damage.
2. Check the internal surface for damage, wear or broken grooves.



A7MT036B

3. Push the synchronizer ring toward the clutch gear and check clearance "A". Replace if it is not within specifications.

Limit : 0.5 mm (0.02 in.)



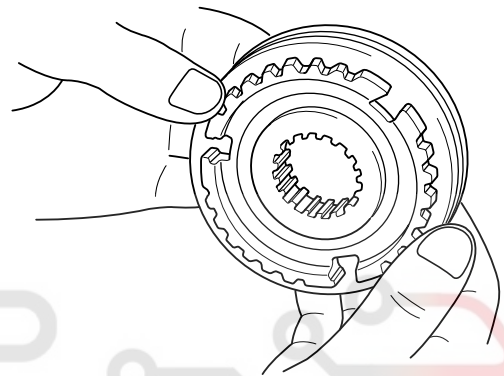
A7MT036C

SYNCHRONIZER SLEEVE AND HUB

1. Install the synchronizer sleeve on the hub and check that it slides smoothly.
2. Check that the sleeve is free from damage.
3. Check for wear of the hub end surfaces (in contact with each gear).

CAUTION

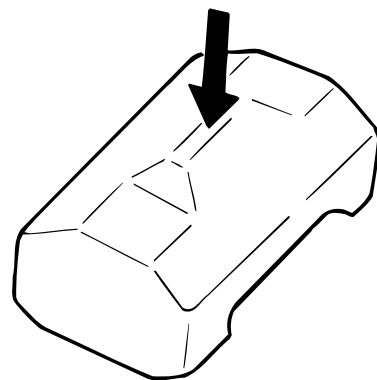
Replace the synchronizer hub and sleeve as a set.



A7MT032B

SYNCHRONIZER KEY AND SPRING

1. Check for wear of the synchronizer key center protrusion.
2. Check the spring for weakness, distortion or damage.



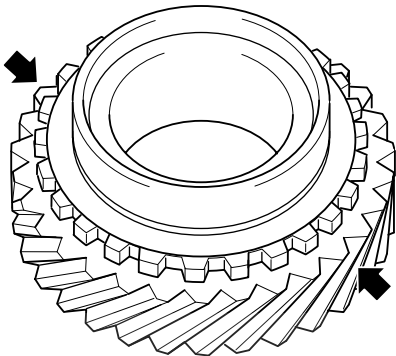
A7MT032C

MT -50

MANUAL TRANSAXLE (M5BF2)

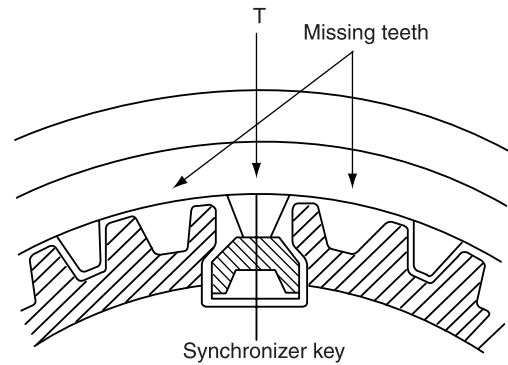
GEARS

1. Check the helical gear and clutch gear teeth for damage or wear.
2. Check the gear cone for rough surfaces, damage or wear.
3. Check the gear bore for damage or wear.



A7MT037A

2. The synchronizer sleeve has teeth missing at six places. Assemble the hub to the sleeve so that the center tooth between the two missing teeth will touch synchronizer key.



A7MT033B

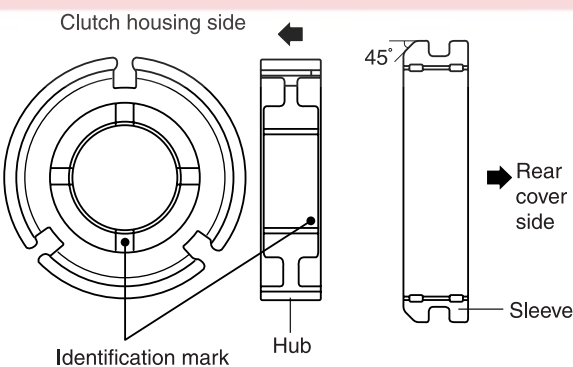
3. Install the synchronizer spring so that the stepped portions will rest on the synchronizer keys.

CAUTION

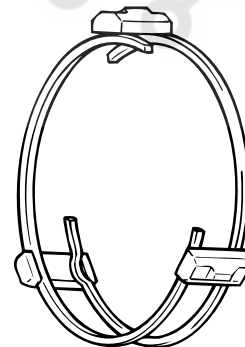
When installing the synchronizer springs, make sure they are not facing the same direction.

REASSEMBLY E16C02C2

1. Install the synchronizer hub and sleeve so that they are positioned as shown in the figure.



A7MT037B



K43035C

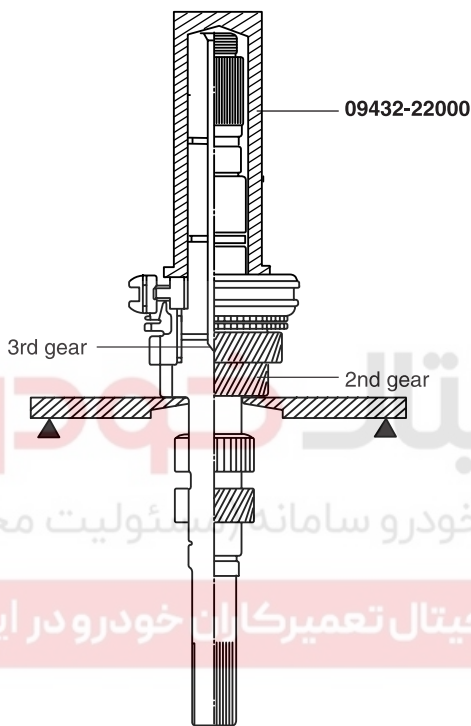
MANUAL TRANSAXLE SYSTEM

MT -51

4. Install the 3rd-4th gear synchronizer assembly on the input shaft using the special tool(9432-22000).

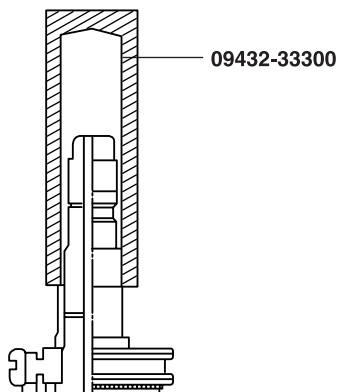
⊗ WARNING

- When installing the synchronizer assembly, make sure that the three synchronizer keys are seated correctly in their respective grooves of the synchronizer ring.
- After installing the synchronizer assembly, check that 3rd gear rotates smoothly.



A7MT038A

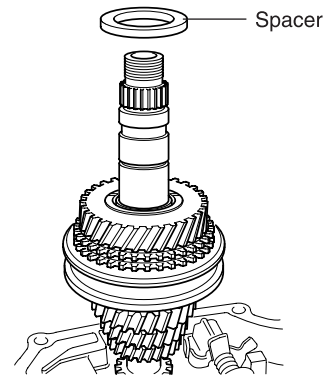
5. Install the bearing sleeve using the special tool(09432-33300).



A7MT038B

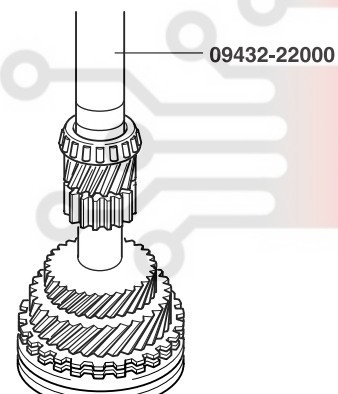
6. Install the needle bearing and 4th gear on the input shaft.

7. Install the spacer and sleeve on the input shaft.



EKKK032A

8. Install the ball bearing on the input shaft using the special tool(9432-22000).



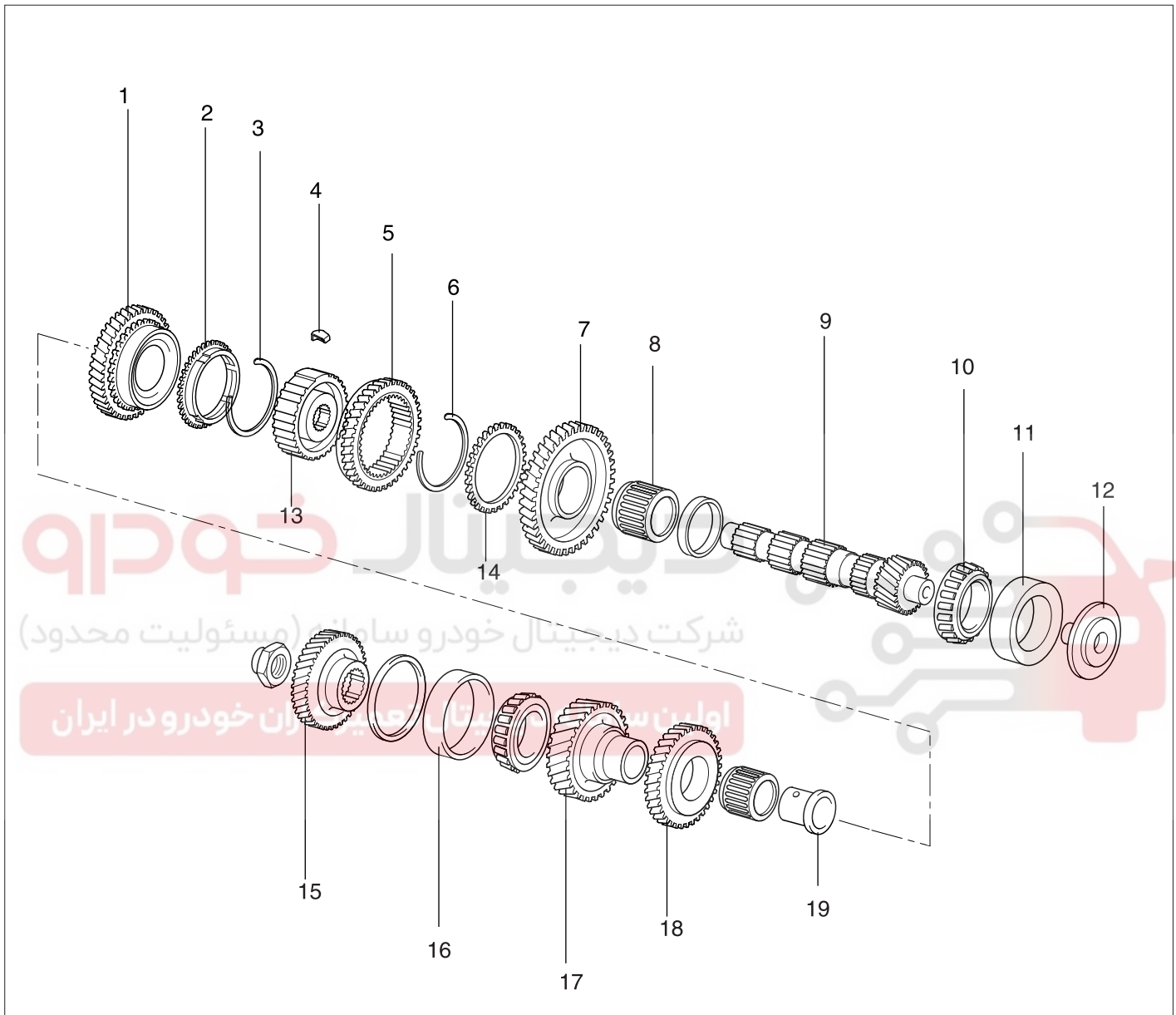
R7MT038A

MT -52

MANUAL TRANSAXLE (M5BF2)

OUTPUT SHAFT

COMPONENTS E9ED6CE5



- | | |
|--------------------------------------|---------------------------|
| 1. 2nd speed gear | 11. Outer race |
| 2. Synchronizer ring | 12. Oil guide |
| 3. Synchronizer spring | 13. Synchronizer hub |
| 4. Synchronizer key | 14. Synchronizer ring |
| 5. 1st-2nd speed synchronizer sleeve | 15. 5th speed gear |
| 6. Synchronizer spring | 16. Spacer |
| 7. 1st speed gear | 17. 4th speed gear |
| 8. Needle bearing | 18. 3rd speed gear |
| 9. Output shaft | 19. 2nd speed gear sleeve |
| 10. Taper roller bearing | |

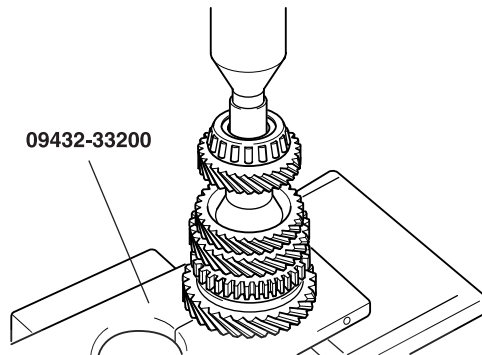
BMGE005A

MANUAL TRANSAXLE SYSTEM

MT -53

DISASSEMBLY E925D855

1. Remove the taper roller bearing, fourth output gear, spacer, third output gear, second speed gear assembly with second gear sleeve and needle roller bearing, first speed gear assembly with needle roller bearing and spacer and steel ball using the special tool(09432-33200).

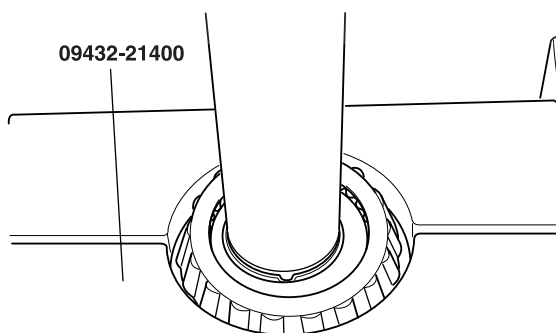


A7MT040A

2. Remove the rear taper roller bearing using the special tool(09432-21400).

CAUTION

Do not reuse the bearing removed from the shaft.

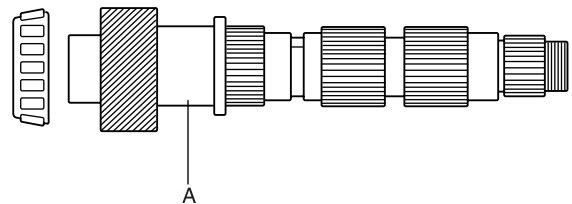


A7MT040B

INSPECTION E11FD9E2

OUTPUT SHAFT

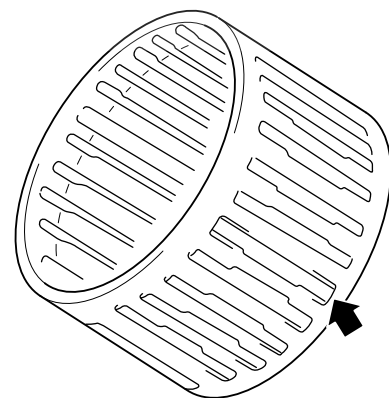
1. Check the outer surface of the output shaft where the needle bearing is mounted for damage or abnormal wear [portion (A)].
2. Check the splines for damage or wear.



A7MT040C

NEEDLE ROLLER BEARING

1. Install the needle bearing on the shaft with the bearing sleeve and gear. Check that it rotates smoothly without abnormal noise or play.
2. Check the needle bearing cage for distortion.



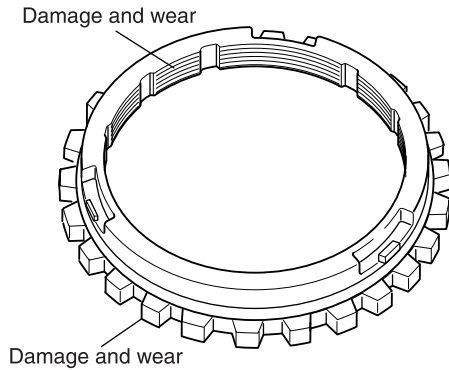
A7MT040D

MT -54

MANUAL TRANSAXLE (M5BF2)

SYNCHRONIZER RING

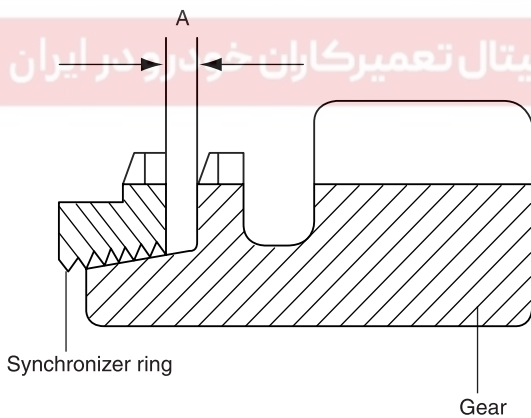
1. Check the clutch gear teeth for damage.
2. Check the internal surface for damage, wear or broken grooves.



A7MT036B

3. Push the synchronizer ring toward the clutch gear and check clearance "A". Replace if it is not within specifications.

Limit : 0.5 mm (0.02 in.)



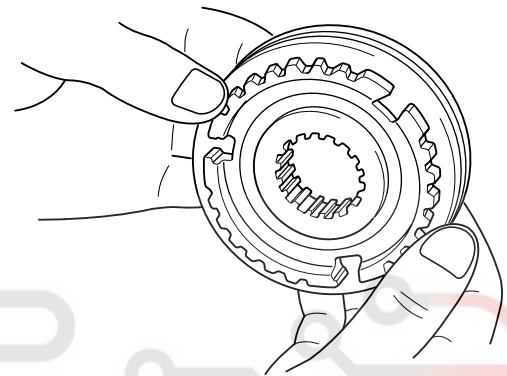
A7MT036C

SYNCHRONIZER SLEEVE AND HUB

1. Install the synchronizer sleeve on the hub and check that it slides smoothly.
2. Check that the sleeve is free from damage.
3. Check for wear of the hub end surfaces (in contact with each gear).

CAUTION

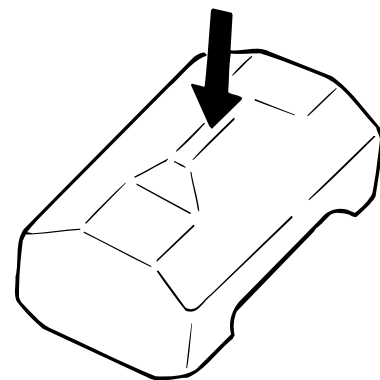
Replace the synchronizer hub and sleeve as a set.



A7MT032B

SYNCHRONIZER KEY AND SPRING

1. Check for wear of the synchronizer key center protrusion.
2. Check the spring for weakness, distortion or damage.



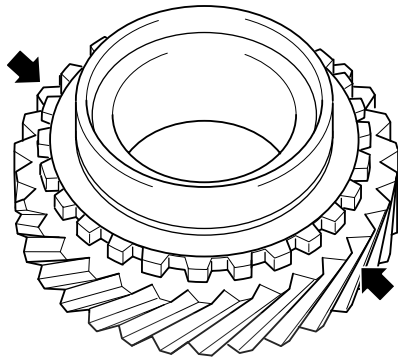
A7MT032C

MANUAL TRANSAXLE SYSTEM

MT -55

GEARS

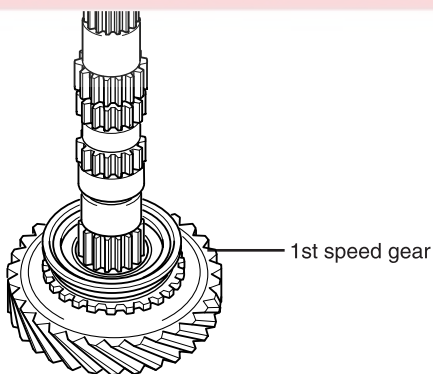
1. Check the helical gear and clutch gear teeth for damage or wear.
2. Check the gear cone for rough surfaces, damage or wear.
3. Check the gear bore for damage or wear.



A7MT037A

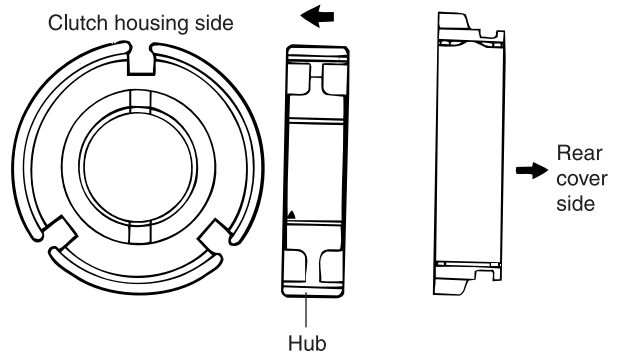
REASSEMBLY EDB59CB8

1. Install the first speed gear assembly with needle bearing.



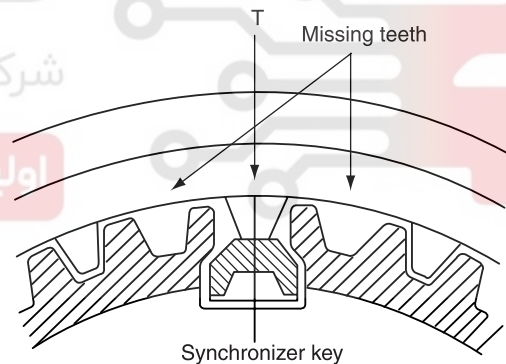
A7MT041E

2. Combine the first-second gear synchronizer hub and sleeve.



A7MT037C

3. The synchronizer sleeve has teeth missing at six places. Assemble the hub to the sleeve so that the center tooth between the two missing teeth will touch the synchronizer key.



A7MT033B

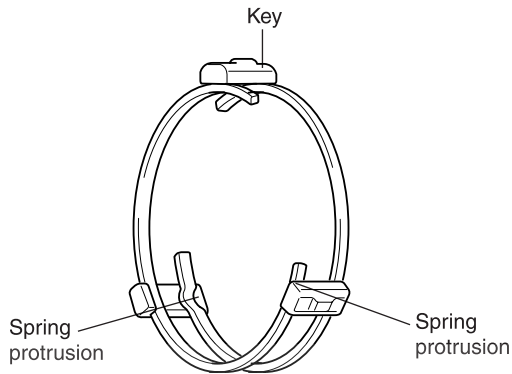
MT -56

MANUAL TRANSAXLE (M5BF2)

4. Install the synchronizer spring so that its protrusion may be engaged in the groove of the synchronizer keys.

CAUTION

When installing the synchronizer springs, make sure they are not facing the same direction.

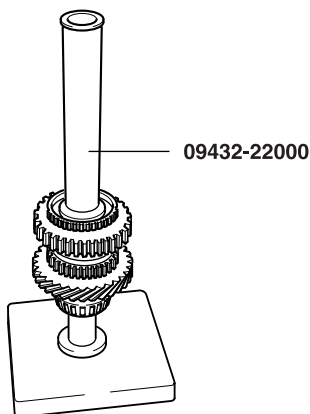


A7MT033C

5. Install the first-second speed gear synchronizer assembly over the output shaft using the special tool(09432-22000).

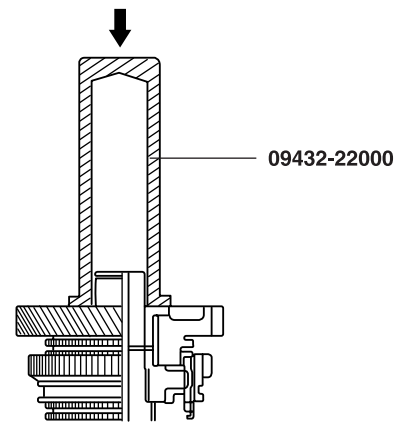
CAUTION

- *When installing the synchronizer assembly, make sure that the three synchronizer keys are seated correctly in their respective groove on the synchronizer ring.*
- *After installation of the synchronizer assembly, check that first gear rotates smoothly.*



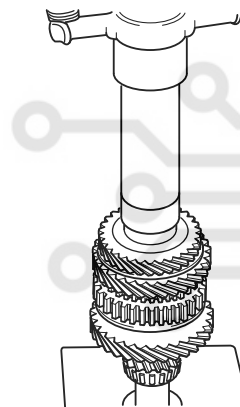
A9MT042A

6. Install the second speed gear with needle roller bearing and bearing sleeve using the special tool(09432-22000).



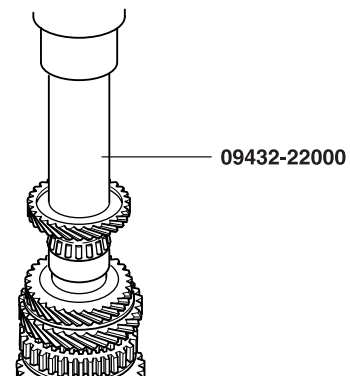
A9MT042B

7. Install the third speed gear and spacer.



A7MT043A

8. Install the fourth speed gear using the special tool(09432-22000).



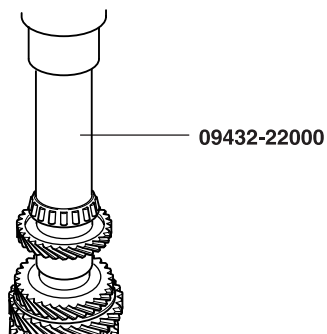
A7MT043B

MANUAL TRANSAXLE SYSTEM**MT -57**

9. Install the bearing using the special tool(09432-22000).

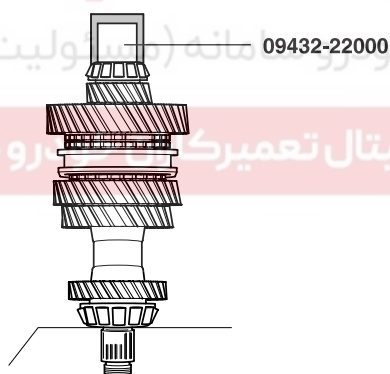
 **CAUTION**

Do not reuse the bearing removed from the shaft.



X43043C

10. Install the rear side taper roller bearing using the special tool(09432-22000).



KKKK043D

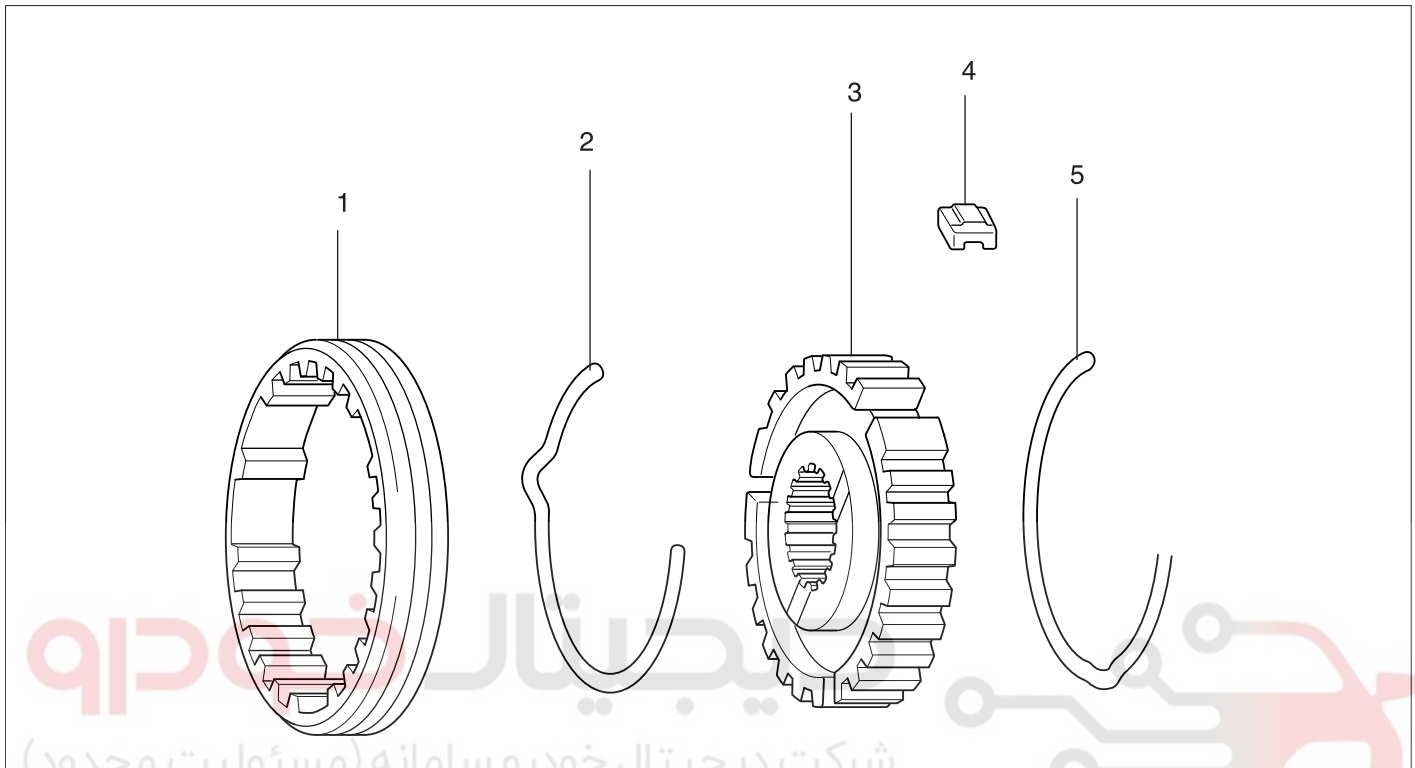


MT -58

MANUAL TRANSAXLE (M5BF2)

FIFTH SPEED SYNCHRONIZER

COMPONENTS EA6ACCCB



1. Synchronizer sleeve
2. Synchronizer spring
3. Synchronizer hub

4. Synchronizer key
5. Synchronizer spring

BMGE006A

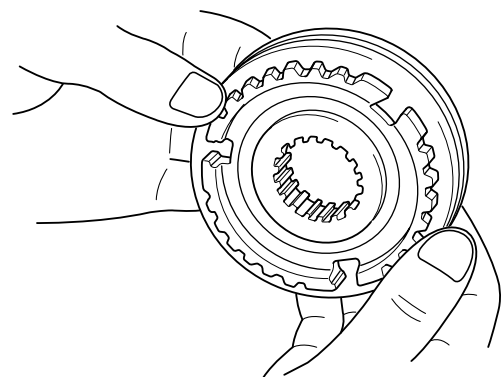
INSPECTION E25D532B

SYNCHRONIZER SLEEVE AND HUB

1. Install the synchronizer sleeve on the hub and check that they slide smoothly.
2. Check that the sleeve is free from damage at its inside front and rear ends.
3. Check for wear of the hub front end (surface in contact with the fifth speed gear).

 **CAUTION**

Replace the synchronizer hub and sleeve as a set.



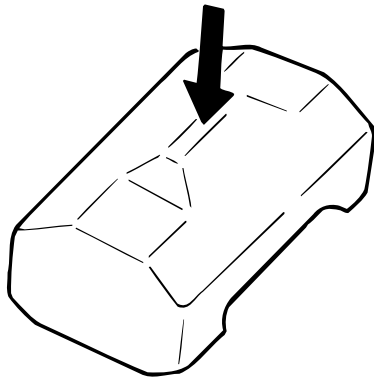
A7MT032B

MANUAL TRANSAXLE SYSTEM

MT -59

SYNCHRONIZER KEY AND SPRING

1. Check for wear of the synchronizer key center protrusion.
2. Check the spring for weakness, deformation and breakage.

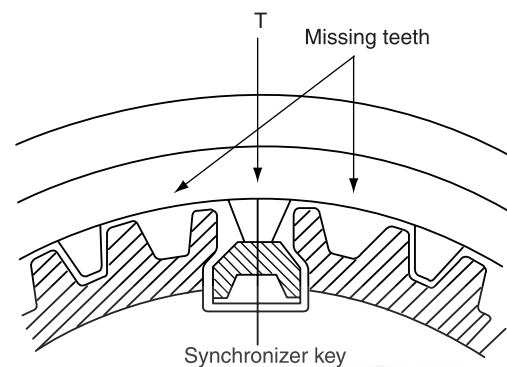


A7MT032C

REASSEMBLY

ED4AF76A

1. Assemble the synchronizer hub, sleeve and key noting their direction.
2. The synchronizer sleeve has teeth missing at six portions. Assemble the hub to the sleeve so that the center tooth between the two missing teeth will touch the synchronizer key.

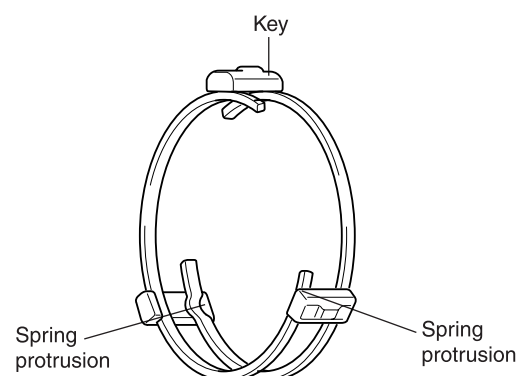


A7MT033B

3. Install the synchronizer spring so that its protrusion may be engaged in the groove of the synchronizer key.

 **CAUTION**

When installing the synchronizer springs, make sure that the front and rear ones are not faced in same direction.



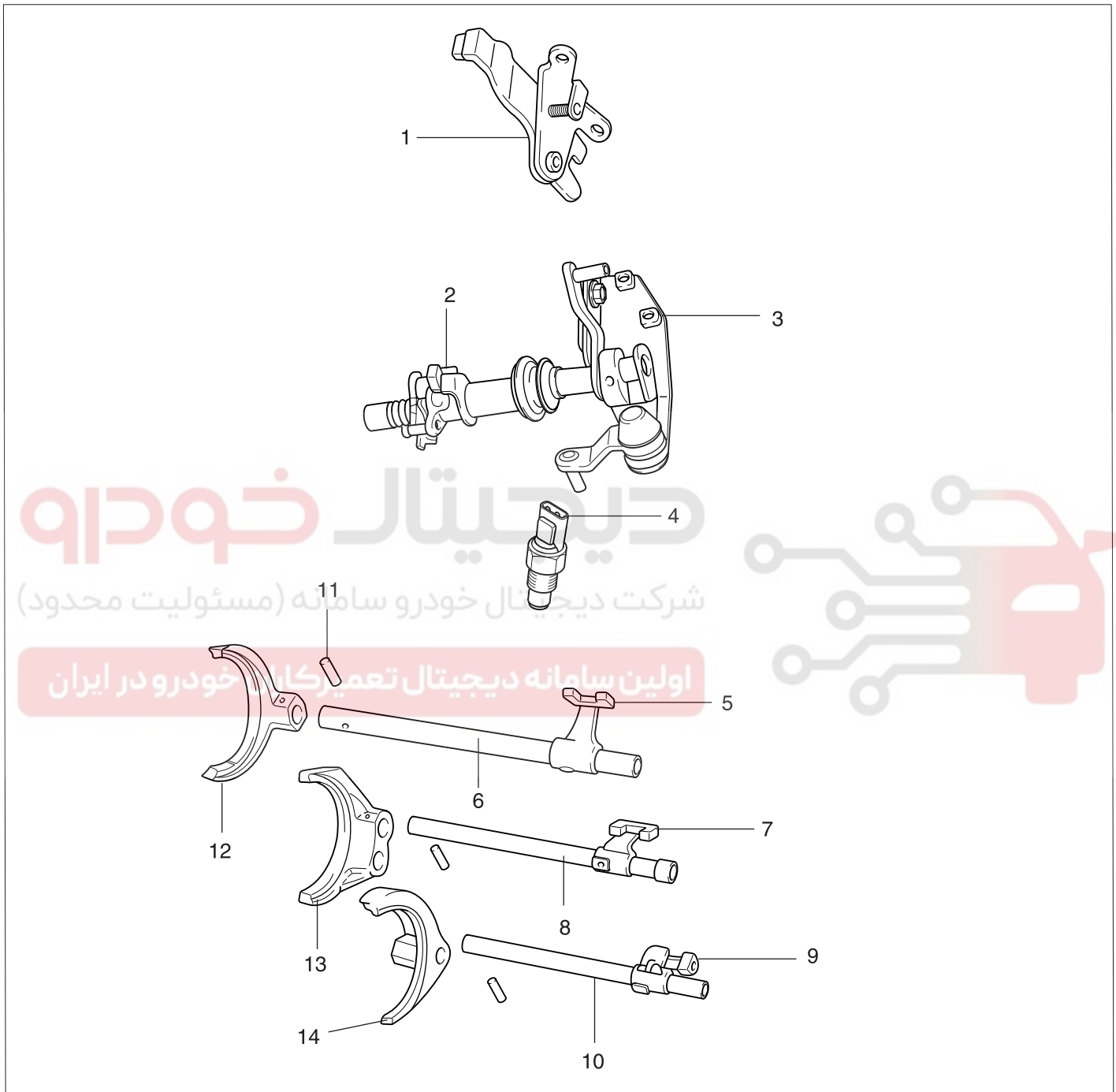
A7MT033C

MT -60

MANUAL TRANSAXLE (M5BF2)

SHIFT FORK

COMPONENTS E0A84C8C



- | | |
|-----------------------------|-----------------------------|
| 1. Reverse shift lever | 8. Third-fourth shift rail |
| 2. Control shaft assembly | 9. First-second shift lug |
| 3. Select lever assembly | 10. First-second shift rail |
| 4. Backup lamp switch | 11. Spring pin |
| 5. Fifth-reverse shift lug | 12. First shift fork |
| 6. Fifth-reverse shift rail | 13. Third-fourth shift fork |
| 7. Third-fourth shift lug | 14. First-second shift fork |

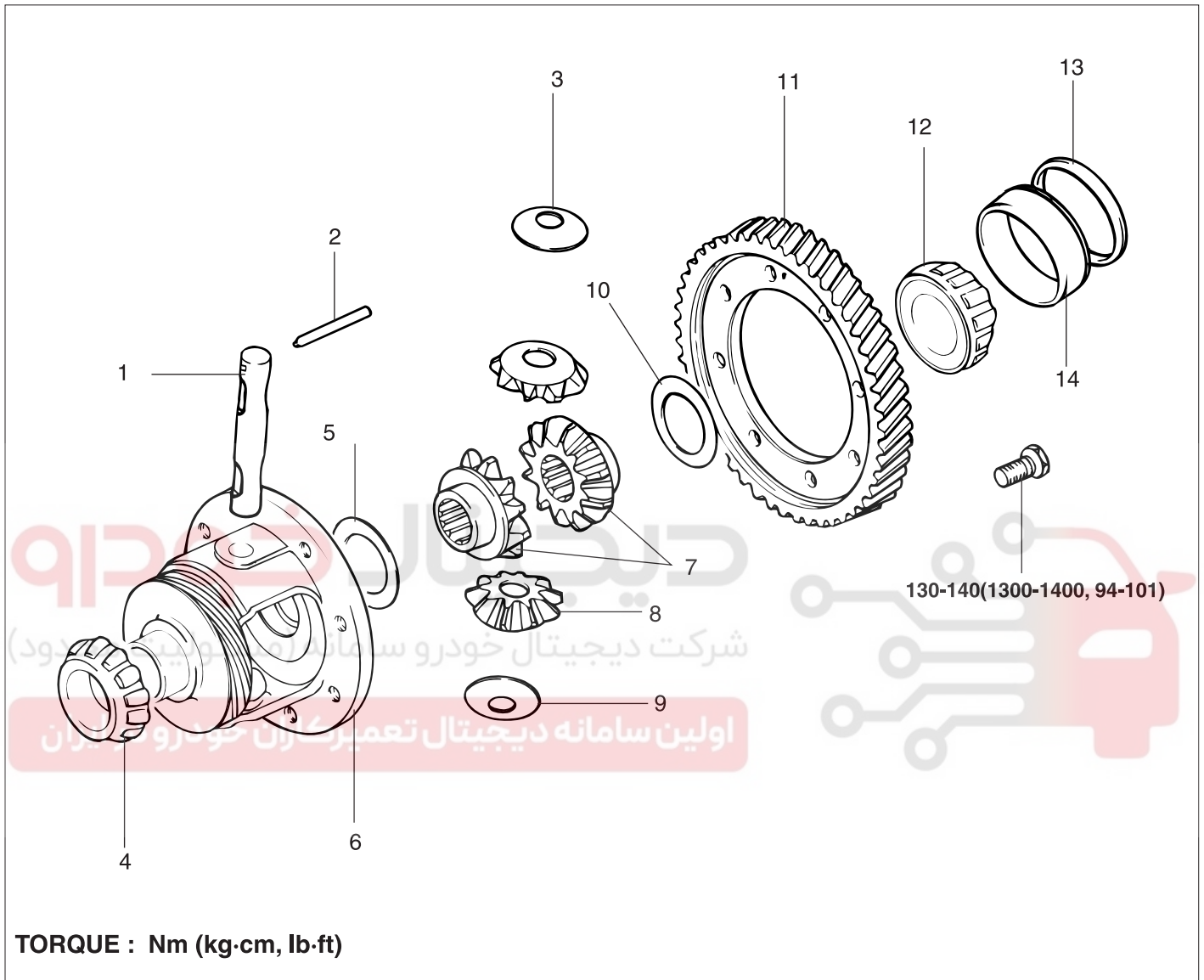
BMGE006B

MANUAL TRANSAXLE SYSTEM

MT -61

DIFFERENTIAL

COMPONENTS EF94DFE4



- | | |
|-------------------------|-----------------------------|
| 1. Pinion shaft | 8. Pinion gear |
| 2. Lock pin | 9. Washer |
| 3. Washer | 10. Spacer |
| 4. Taper roller bearing | 11. Differential drive gear |
| 5. Spacer | 12. Taper roller bearing |
| 6. Differential case | 13. Spacer |
| 7. Side gear | 14. Outer race |

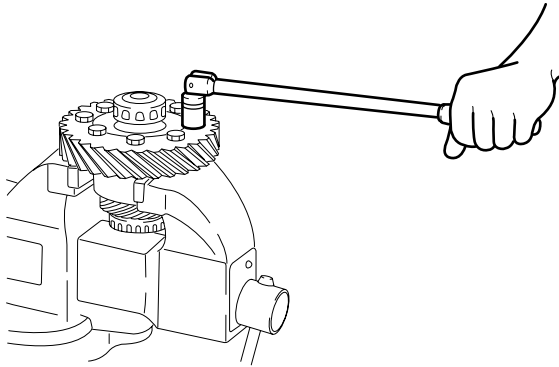
BMGE006C

MT -62

MANUAL TRANSAXLE (M5BF2)

DISASSEMBLY EB5B1CA1

1. Clamp the differential case in a vise.
2. Remove the differential drive gear retaining bolts and remove the differential drive gear from the case.



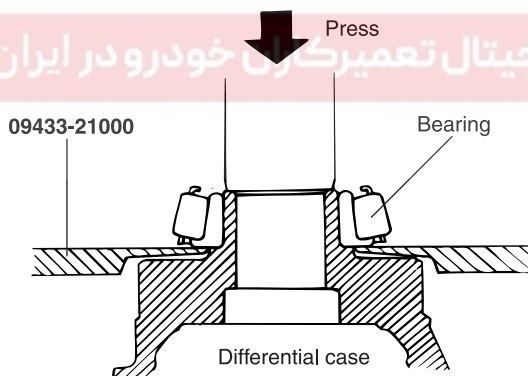
R9MT045B

3. Remove the taper roller bearing using the special tool.

CAUTION

Do not reuse the bearing removed from the shaft.

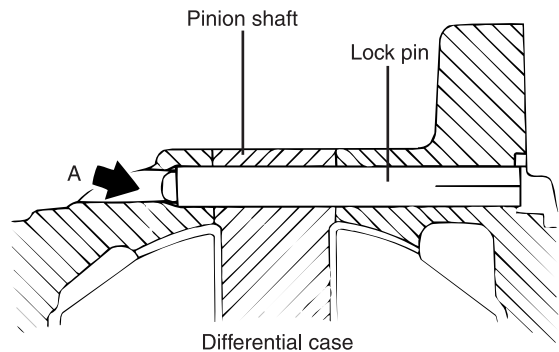
اولین سامانه دیجیتال خودرو تعمیرکاران خودرو (مسئولیت محدود)



R9MT046A

4. Drive out the lock pin from the hole A using a punch.
5. Drive out the pinion shaft.

6. Remove the pinion gears, washers, side gears and spacers.



A7MT046B

REASSEMBLY EBD1059E

1. Install the spacer on the back of the side gear and then install the gear in the differential case.

CAUTION

When installing a new side gear, use a spacer of medium thickness [0.93~1.00 mm (0.0366~0.0394 in.)].



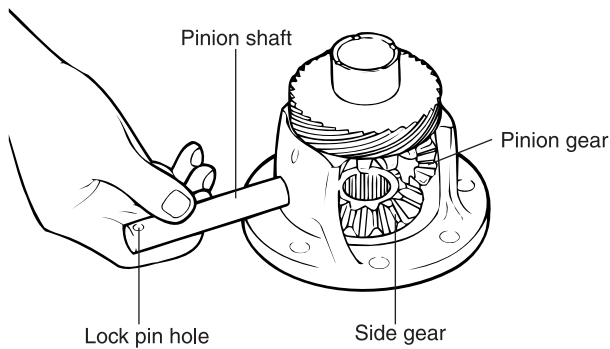
A7MT046C

2. Set the washer on the back of each pinion and insert the two pinions to specified position while engaging them with the side gears by turning them.

MANUAL TRANSAXLE SYSTEM

MT -63

3. Insert the pinion shaft.



A7MT046D

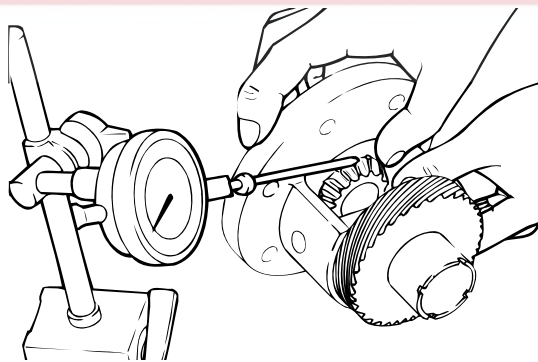
4. Measure the backlash between the side gears and pinions.

Standard value : 0.025~0.150mm (0.001~0.006in.)

5. If the backlash is out of specification, disassemble and install the correct spacer, reassemble and remeasure.

CAUTION

Adjust the backlash of both side gears to the same specification.

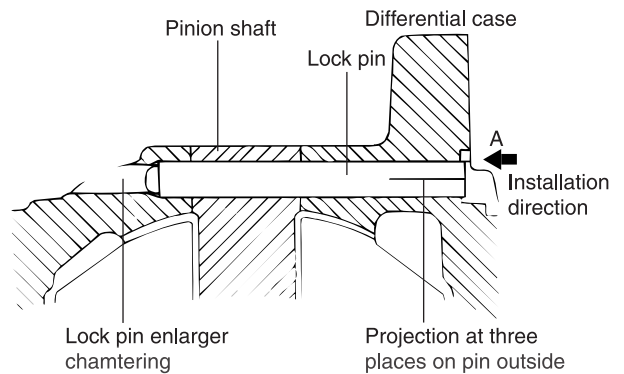


A7MT046E

6. Align the pinion shaft lock pin hole with the case lock pin hole and insert the lock pin.

CAUTION

- Do not reuse the lock pin.
- The lock pin head must be sunk below the flange surface of the differential case.

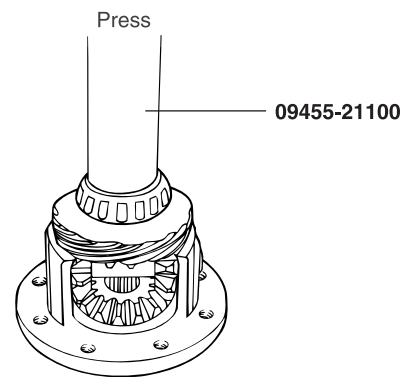


A9MT046B

7. Install the taper roller bearings on both sides of the differential case using the special tool(09455-21100).

CAUTION

When press-fitting the bearing, press on the inner race only.



R7MT047A

MT -64

MANUAL TRANSAXLE (M5BF2)

8. Apply specified sealant to the entire threads of the bolts. Tighten to specifications using the sequence shown in the illustration.

Specified sealant : BM Stud Locking No. 2471.

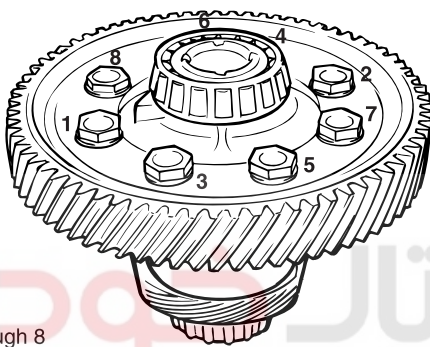
Tightening torque

Differential drive gear bolt:

130~140Nm (1300~1400kg-cm, 94~101lb-ft)

**CAUTION**

If a bolt is reused, remove the old sealant from the threads.



1 through 8
indicate tightening sequence

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

R9MT047B

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

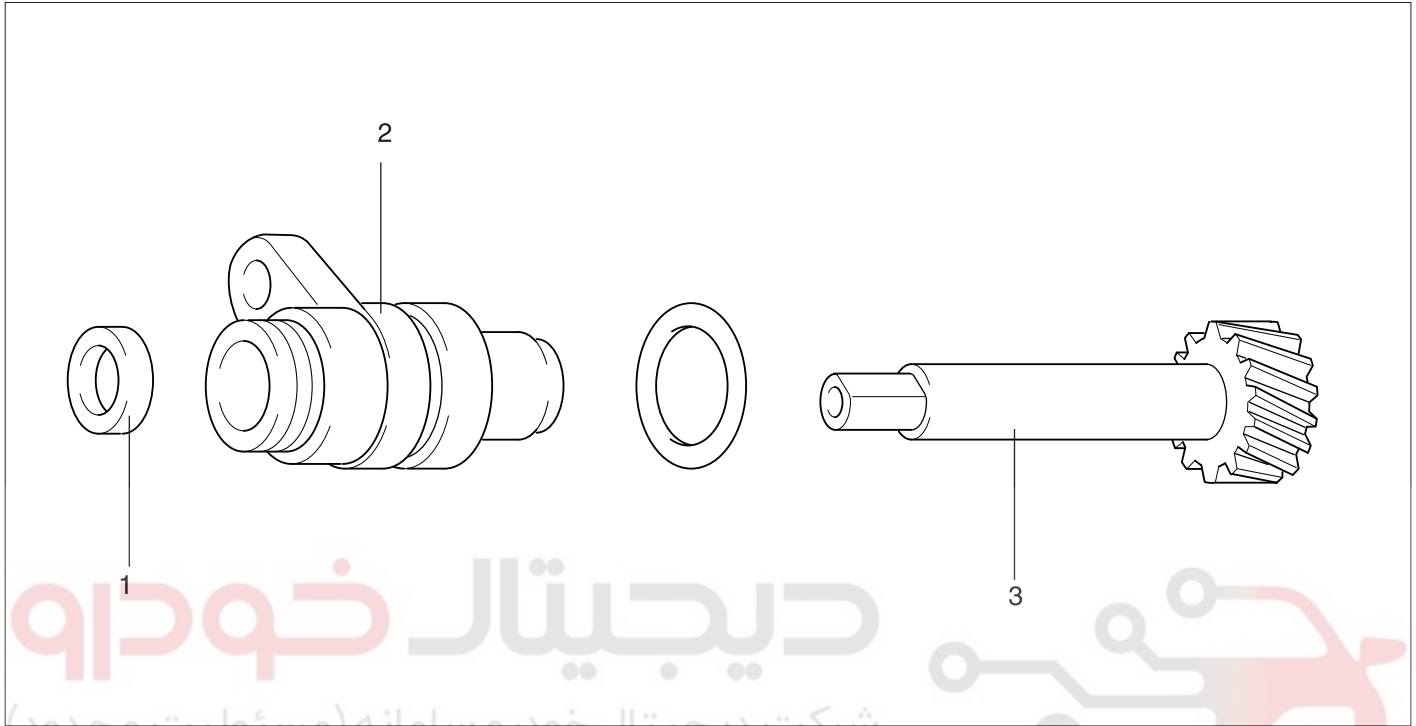


MANUAL TRANSAXLE SYSTEM

MT -65

SPEEDOMETER CABLE

COMPONENTS EF3F37FA



1. Oil seal

2. Sleeve

3. Sleeve

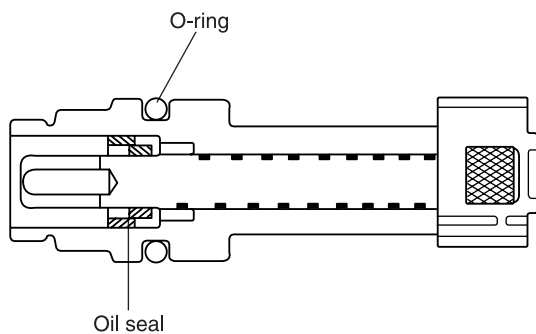
BMGE006D

REASSEMBLY E2E6D22D

Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.

CAUTION

Insert carefully the speedometer driven gear into the clutch housing not to disassemble the speedometer driven gear shaft.



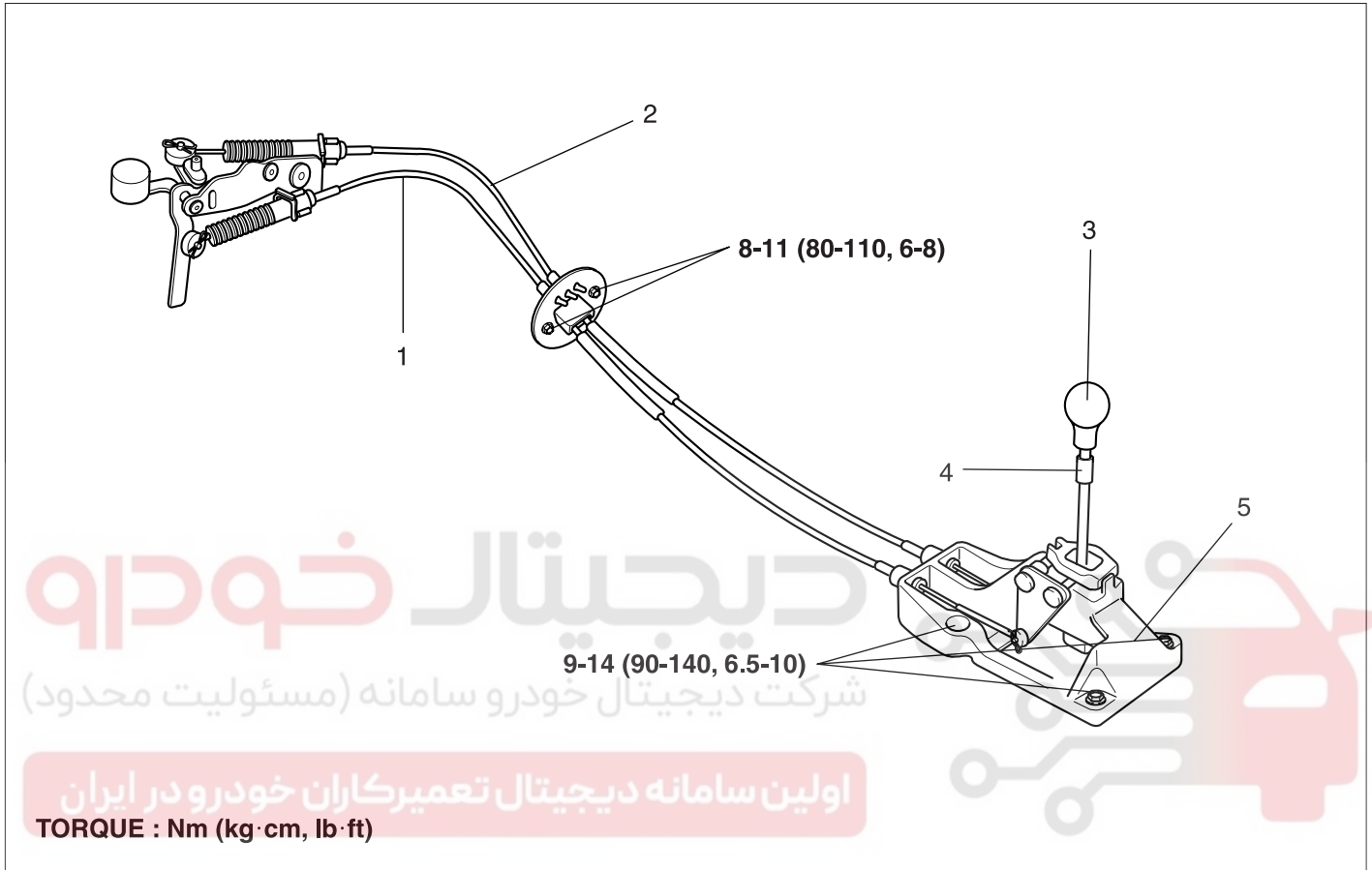
A7MT048B

MT -66

MANUAL TRANSAXLE (M5BF2)

MANUAL TRANSAXLE SHIFT CONTROL

COMPONENTS(1) EAEFDCE



- 1. Select cable
- 2. Shift cable
- 3. Manual transaxle knob

- 4. Boot holder
- 5. Manual transaxle lever

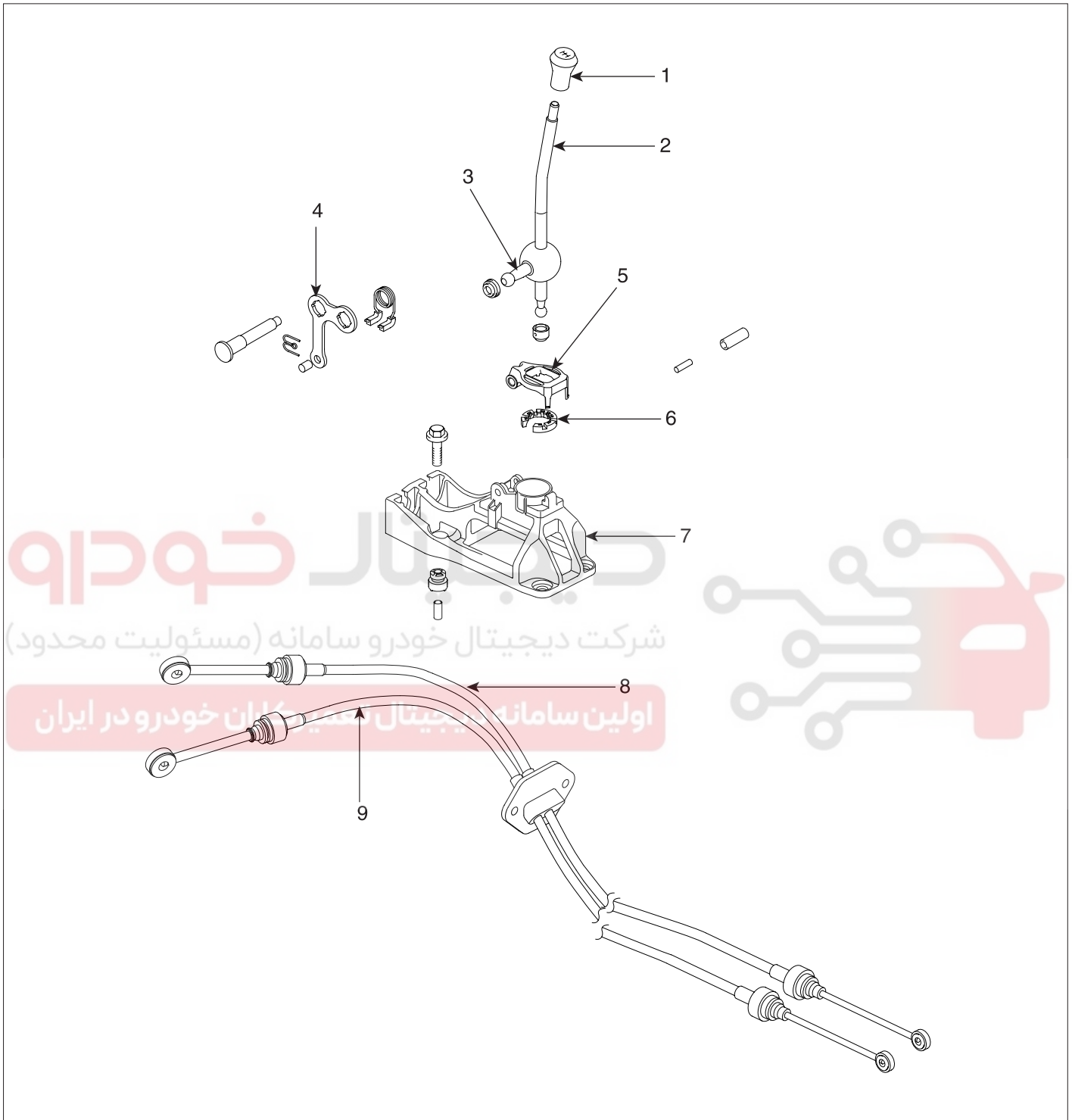
TORQUE : Nm (kg·cm, lb·ft)

BMGE006E

MANUAL TRANSAXLE SYSTEM

MT -67

COMPONENTS(2)

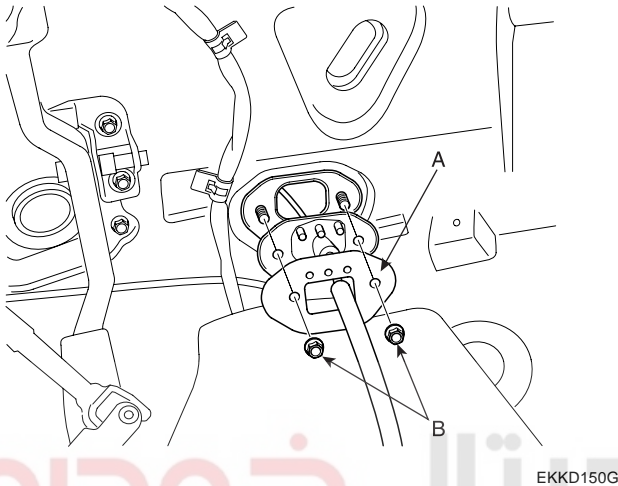


- | | |
|-----------------|-----------------|
| 1. Knob | 6. Cushion |
| 2. Shift lever | 7. Bracket |
| 3. Stud | 8. Shift cable |
| 4. Select lever | 9. Select cable |
| 5. Cover | |

BMGE006F

MT -68**MANUAL TRANSAXLE (M5BF2)****REMOVAL** EDDCA88A

1. Remove the console box.
2. Remove the split pin and holder.
3. Remove the shift assembly.
4. Remove retainer (A) and nuts (B).



5. Remove the split pin and holder. (Transaxle side)
6. Remove the shift cable and select cable.

INSPECTION EAF9738E

1. Check the select cable for proper operation and for damage.
2. Check the shift cable for proper operation and for damage.
3. Check the boots for damage.
4. Check the boots for wear abrasion sticking, restricted movement or damage.
5. Check for the weak or damaged spring.

REASSEMBLY E14CC793

1. Securely assemble the end part of the select cable and bushing to contact the flange side with lever section.
2. Apply the grease enough to the bearing, housing and other connecting portions.

INSTALLATION E6A16DE5

1. Install the shift lever assembly.
2. Install to the cable after locating the shift lever and select lever at the neutral position.

NOTE

Operating lever of body side check secure operation of lever of T/M side after installation.

