

Manual Transaxle

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MANUAL TRANSAXLE SYSTEM

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GENERAL

SPECIFICATIONS EFDF9717

Model		M5BF2 (5-speed)	M5GF1 (5-speed)	MFA60 (6-speed)	
Engine		2.0 DOHC	2.7 DOHC	2.0 DOHC	2.7 DOHC
Gear ratio	1st	3.462	3.231	3.153	←
	2nd	2.053	1.952	1.944	←
	3rd	1.393	1.296	1.333	←
	4th	1.061	0.943	1.055	←
	5th	0.837	0.775	0.857	←
	6th	-	-	0.704	←
	Reverse	3.250	3.455	3.002	←
	Final gear ratio	4.056	4.063	4.678	4.428
Oil quantity (ℓ)		2.15	2.1	2.2 ± 0.1	

SERVICE STANDARD

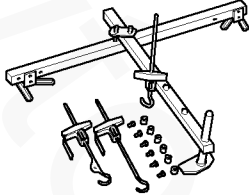
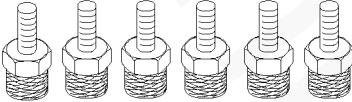
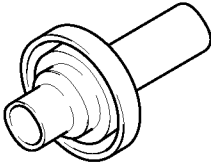
Item	Standard	Limit
Input shaft 6th gear end play	0 ~ 0.1	-
Output shaft 6th gear end play	0 ~ 0.1	-
Output shaft 6th gear bearing play	0 ~ 0.06	-
Clearance between 3rd gear and synchronizer ring	0.9 ~ 1.45	0.7
Clearance between 4th gear and synchronizer ring	0.9 ~ 1.45	↑
Clearance between 5th gear and synchronizer ring	0.95 ~ 1.4	↑
Clearance between 6th gear and synchronizer ring	0.95 ~ 1.4	↑
Clearance between reverse gear and synchronizer ring	0.95 ~ 1.4	↑

Unit : mm

TIGHTENING TORQUE

Item	N-m	kg-cm	lb-ft
Manual transaxle case to clutch housing bolt	63 ~ 67	630 ~ 670	46 ~ 49
Drain plug	30 ~ 39	300 ~ 390	22 ~ 28
Reverse lever	11.8 ~ 15.6	118 ~ 156	8.7 ~ 11.5
Shift check plug	12.7 ~ 17.0	127 ~ 170	9.3 ~ 12.5
Shift check	22.5 ~ 25.5	225 ~ 255	16.6 ~ 18.8
Stopper bolt	26.5 ~ 30.4	265 ~ 304	19.6 ~ 22.4
Control shaft bolt	6.3 ~ 8.3	63 ~ 83	4.6 ~ 6.0
Shift lever mounting plate	2 ~ 3	20 ~ 30	1 ~ 2
Differential final gear bolt	112.7 ~ 127.4	1127 ~ 1274	83 ~ 94

SPECIAL TOOLS EC20A2CA

Tool (Number and name)	Illustration	Use
Engine support fixture J28467-B	 <p style="text-align: right; font-size: small;">J284670B</p>	Removal and installation of transaxle assembly
Engine support adapters J28467-125	 <p style="text-align: right; font-size: small;">J2846712</p>	Use with J28467-B
09431-2C000 Oil seal installer	 <p style="text-align: right; font-size: small;">D3139000</p>	Installation of differential side oil seal

TROUBLESHOOTING E4FC3764

Symptom	Probable cause	Remedy
Vibration, noise	Loose or damaged transaxle and engine mounts	Tighten or replace mounts
	Inadequate shaft end play	Correct end play
	Worn or damaged gears	Replace gears
	Inadequate grade of oil	Replace with specified oil
	Low oil level	Replenish
	Inadequate engine idle speed	Adjust idle speed
Oil leakage	Broken or damaged, oil seal or O-ring	Replace oil seal or O-ring
Hard shift	Faulty control cable	Replace control cable
	Poor contact or wear of synchronizer ring and gear cone	Correct or replace
	Weakened synchronizer spring	Replace synchronizer spring
	Inadequate grade of oil	Replace with specified oil
Jumps out of gear	Worn gear shift fork or broken poppet spring	Replace shift fork or poppet spring
	Synchronizer hub-to-sleeve spline clearance too large	Replace synchronizer hub and sleeve

MANUAL TRANSAXLE SYSTEM

SERVICE ADJUSTMENT PROCEDURES E67C89EA

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

Use HYUNDAI GENUINE PARTS MTF SAE 75W/85.

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

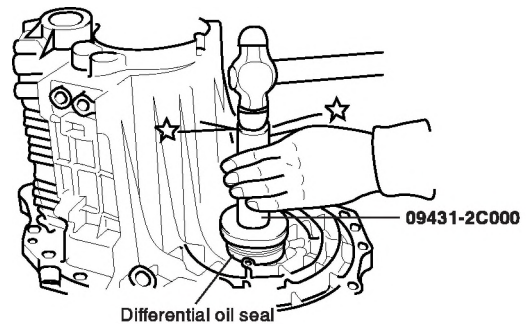
Standard value

Transaxle oil total capacity :
 M5BF2 : 2.15 liter
 M5GF1 : 2.1 liter
 MFA60 : 2.2 ± 0.1 liter

DRIVE SHAFT OIL SEAL REPLACEMENT

1. Disconnect the drive shaft from the transaxle (Refer to "DS" group).
2. Using a flat-tip screwdriver, remove the oil seal.
3. Using the special tool (09431-2C000), tap the drive shaft oil seal into the transaxle.
4. Apply a coating of gear oil to the oil seal.

Transaxle gear oil : HYUNDAI GENUINE PARTS MTF SAE 75W/85. Disconnect the drive shaft from the transaxle (Refer to "DS" group)

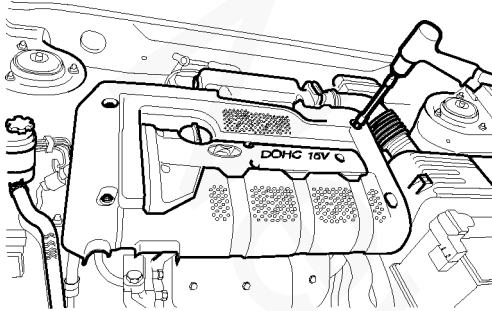


EMOB118A

MANUAL TRANSAXLE

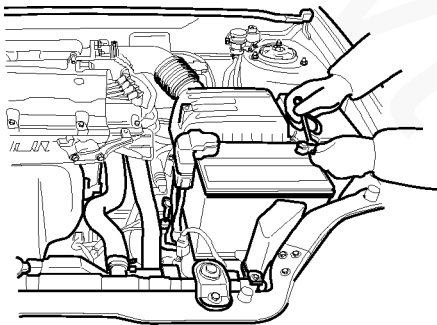
REMOVAL EF17DC21

1. Remove the engine cover.



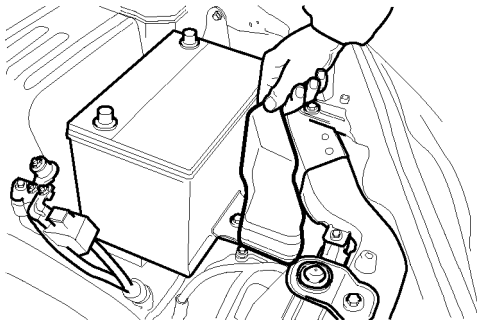
KMOB001A

2. Remove the battery terminal.



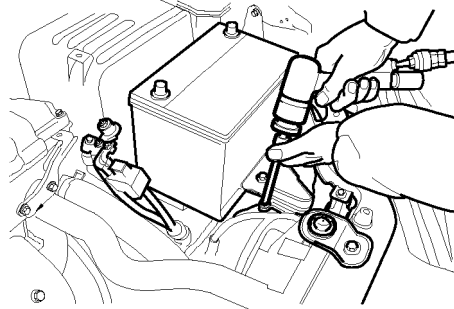
KMOB002A

3. Remove the air duct.



KMOB003A

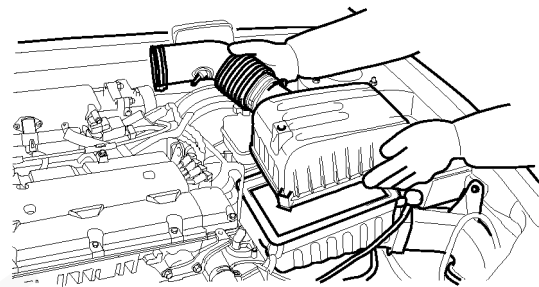
4. Remove the battery tray.



KMOB004A

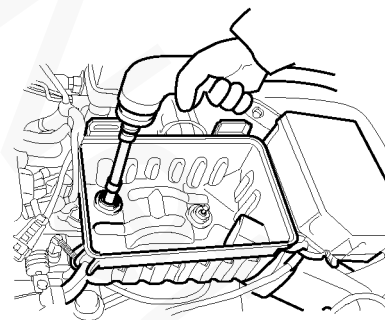
5. Remove the air cleaner.

- 1) Upper



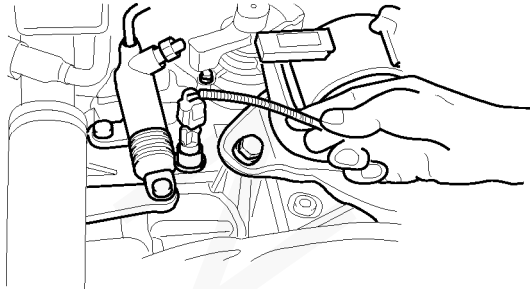
KMOB005A

- 2) Lower



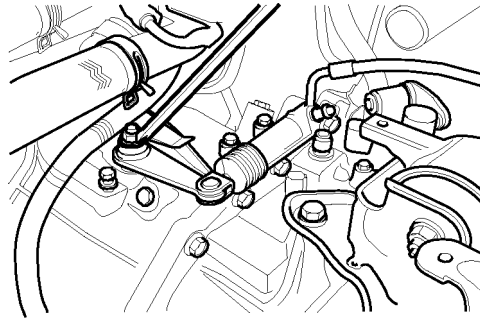
KMOB006A

6. Remove the back-up lamp switch.



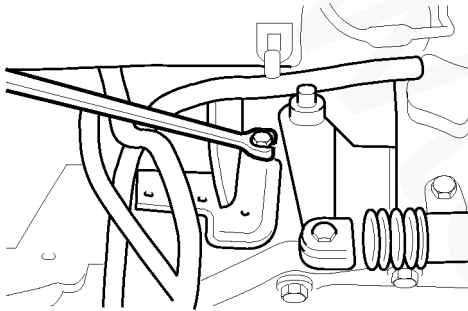
KMOB007A

9. Remove the speedometer driven gear connector.
10. Remove the clutch release cylinder mounting bolt.



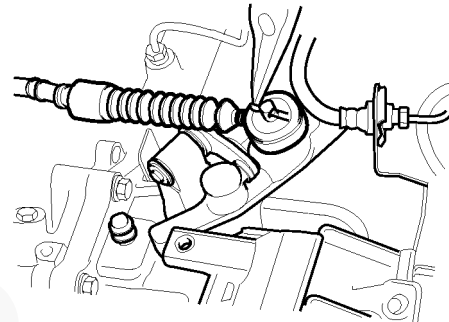
KMOB011A

7. After removing the CKP sensor, O2 sensor and oil pressure switch wiring bracket, separate the connectors.



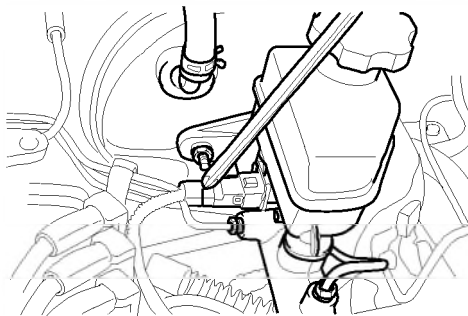
KMOB008A

11. Remove the cotter pin of the shift cable (transaxle side).



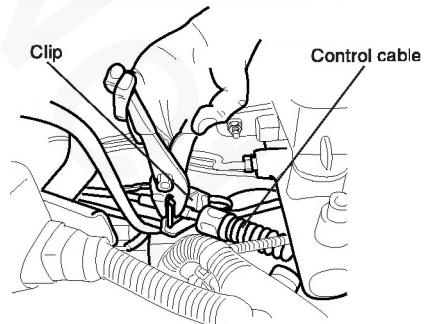
KMOB012A

8. Remove the brake fluid leveling sensor connector.



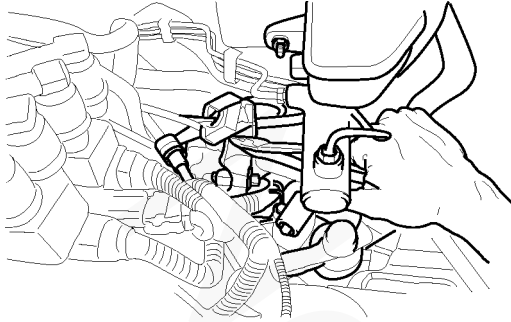
KMOB009A

12. Remove the cotter pin of the select cable. (transaxle side)
13. Remove the clip of the shift cable (transaxle side).



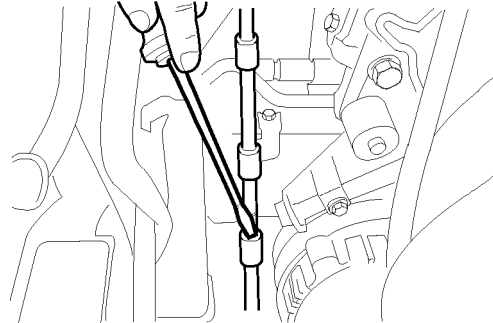
KMOB014A

14. Remove the clip of the select cable (transaxle side).



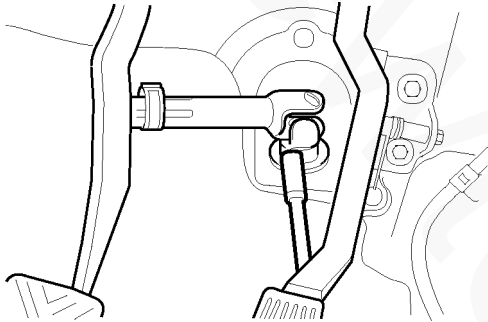
KMOB015A

17. Separate the hose after removing the clip of the power steering return hose.



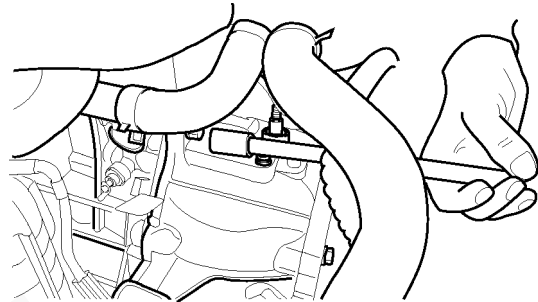
KMOB018A

15. Separate the steering column shaft joint.



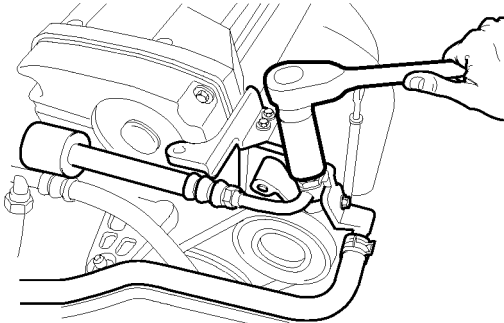
KMOB016A

18. Remove the upper connecting transaxle bolt.



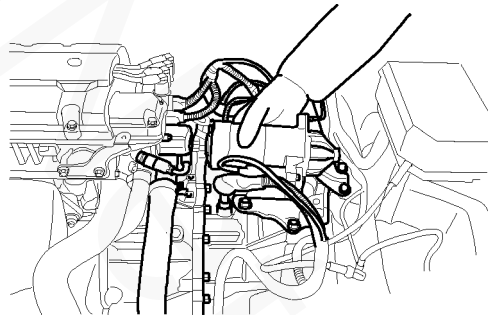
KMOB020A

16. Separate the power steering oil pump hose.



KMOB017A

19. Separate the start motor.



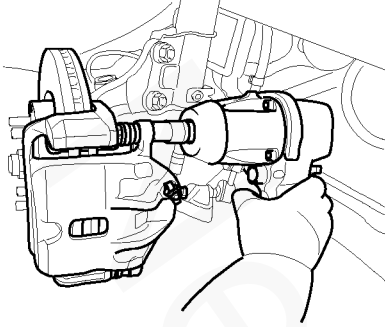
KMOB021A

 **NOTE**

Be careful not to leak after separating.

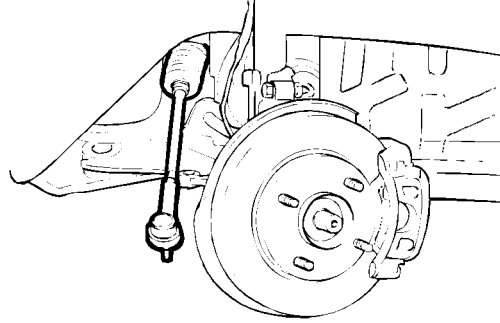
20. Install the engine support fixture.

21. After removing the tire, remove the caliper.



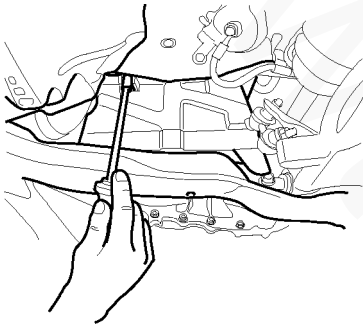
KMOB024A

24. Separate the tie rod end.



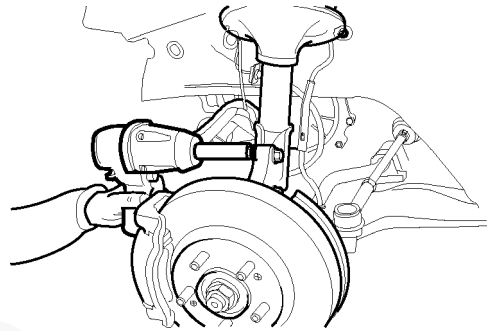
KPKA032A

22. Remove the transaxle side cover.



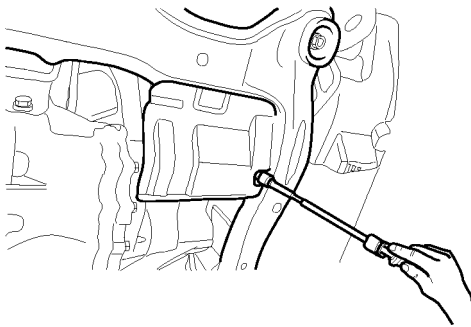
KMOB023A

25. Remove the wheel speed sensor and the knuckle mounting bolt.



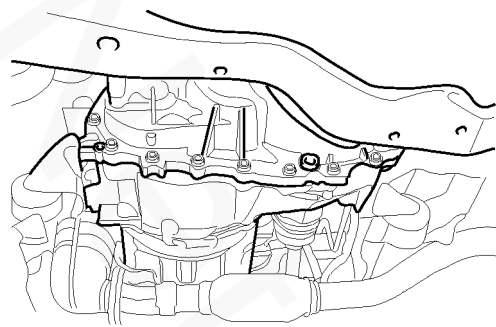
KMOB026A

23. Remove the transaxle side under cover.



KMOB025A

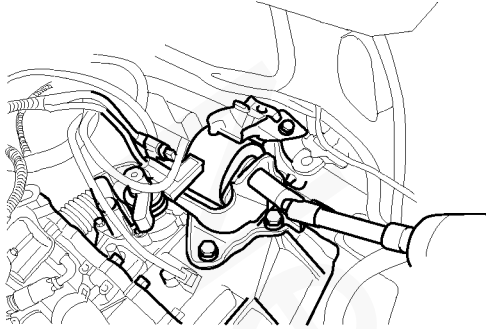
26. Drain the oil.



KMOB027A

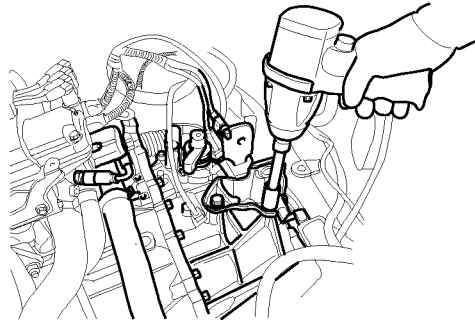
27. Remove the transaxle mounting bracket.

- 1) Insulator bolt



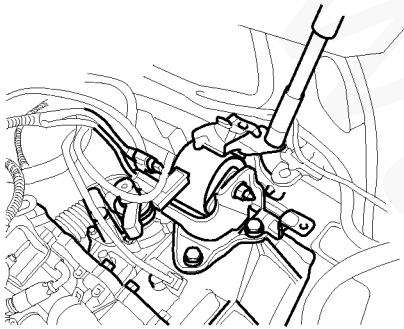
KMOB028A

- 4) Transaxle side mounting bolt.



KMOB028D

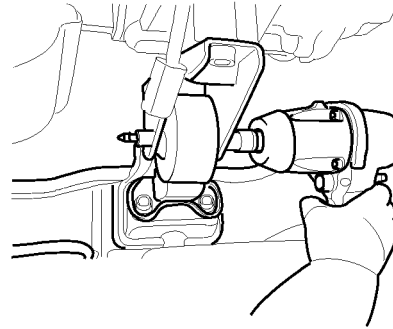
- 2) Body side mounting bolt (Upper)



KMOB028B

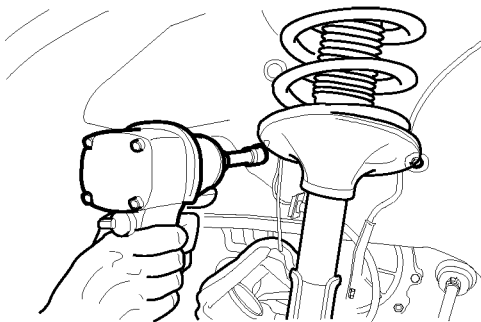
28. Remove the front roll stopper.

- 1) Insulator bolt



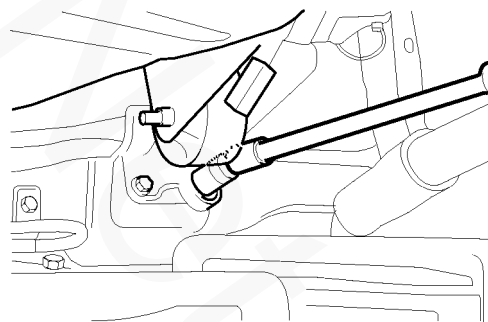
KMOB029A

- 3) Body side mounting bolt (Side)



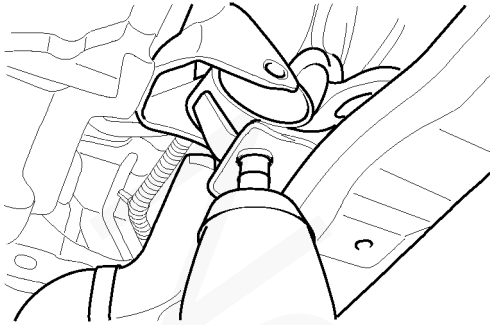
KMOB028C

- 2) Stopper bolt (Upper)



KMOB029B

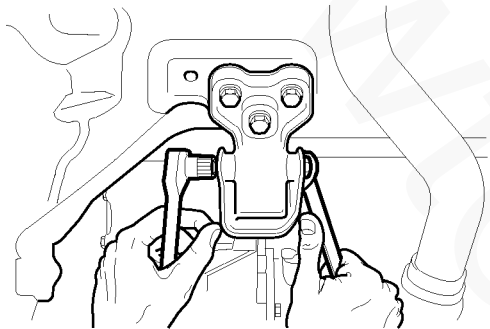
3) Stopper bolt (Lower)



KMOB029C

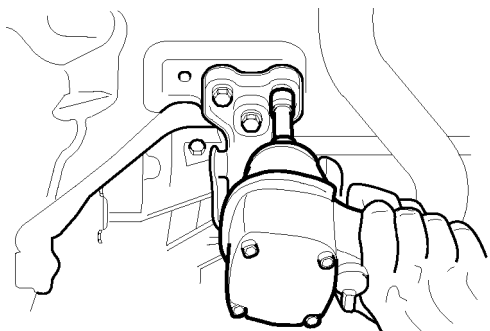
29. Remove the rear roll stopper.

1) Insulator bolt



KMOB030A

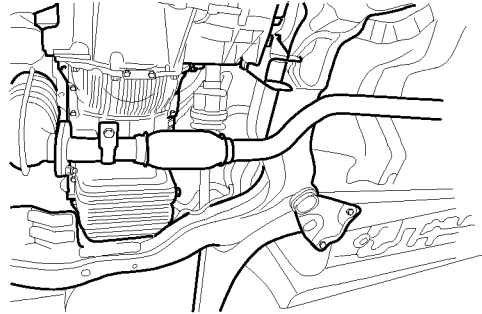
2) Stopper bolt



KMOB030B

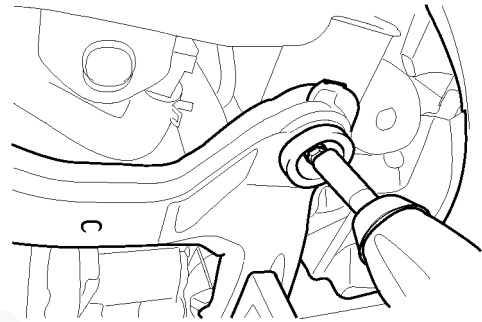
30. Remove the drive shaft.

31. Remove the front muffler.



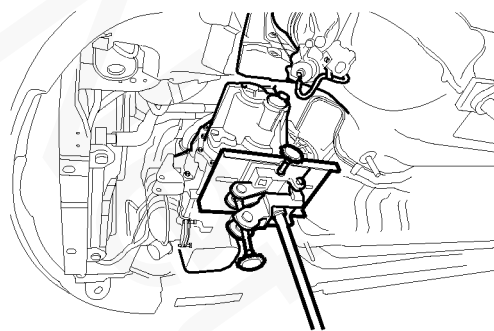
KMOB031A

32. Remove the sub frame mounting bolt.



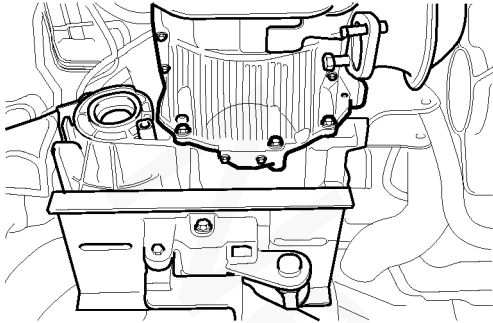
KMOB032A

33. Install the transaxle jack.



KMOB033A

34. Remove the transaxle lower mounting bolt to the engine.



KMOB034A

35. Remove the transaxle assembly.

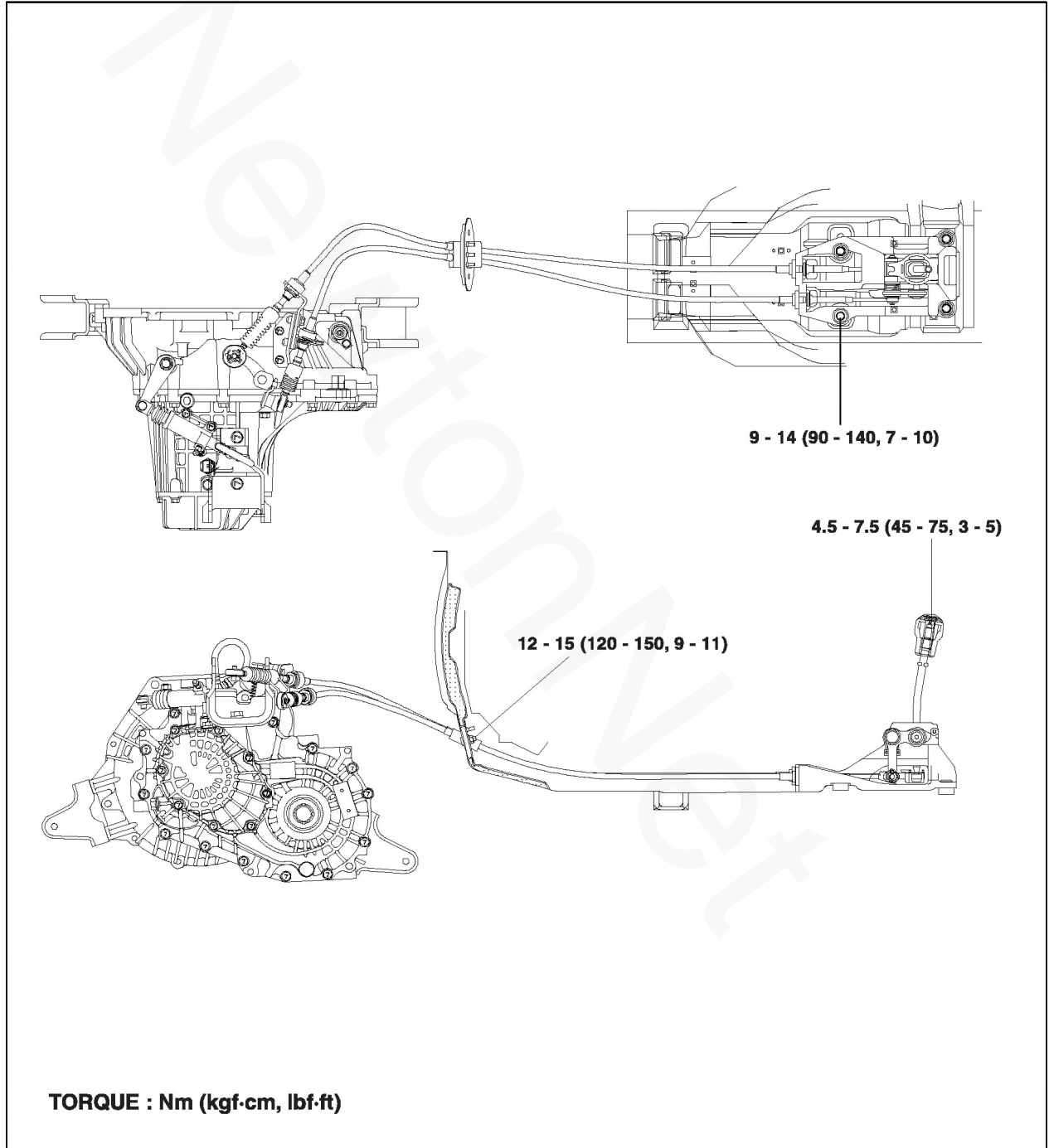
INSTALLATION E02B20D7

Installation is the reverse of the removal.

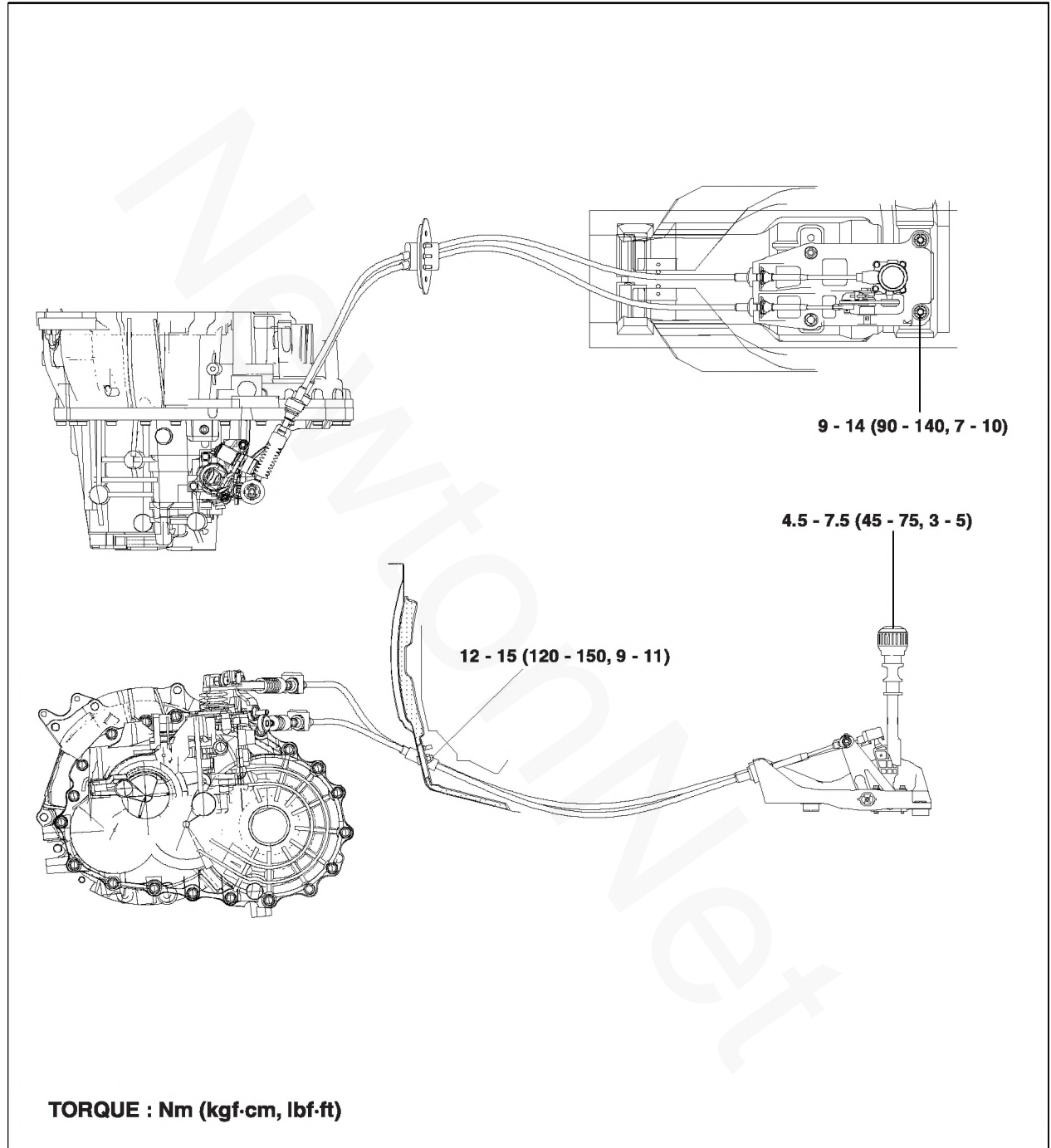
MANUAL TRANSAXLE SHIFT CONTROL

COMPONENTS E99C22FD

5-SPEED M/T

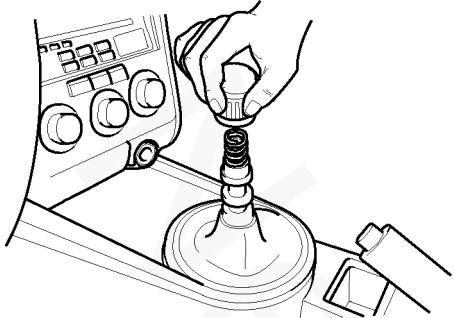


6-SPEED M/T



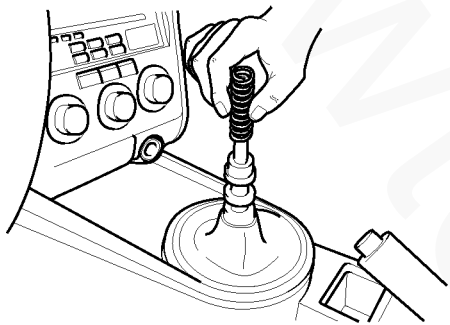
REMOVAL E5BE8CAF

1. Remove the shift knob.



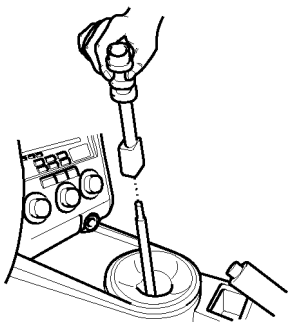
KMOB001H

2. Remove the spring and the cap (for 6-speed M/T).



KMOB001I

3. Remove the skirt (for 6-speed M/T).



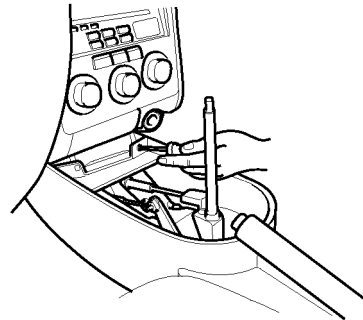
KMOB001J

4. Remove the console upper cover.



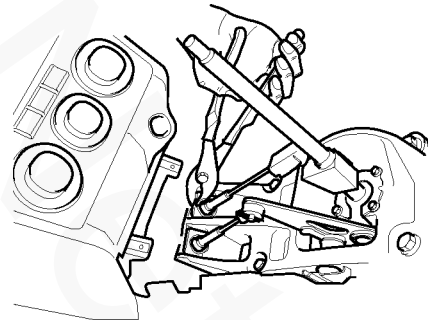
KMOB001K

5. Remove the console assembly.



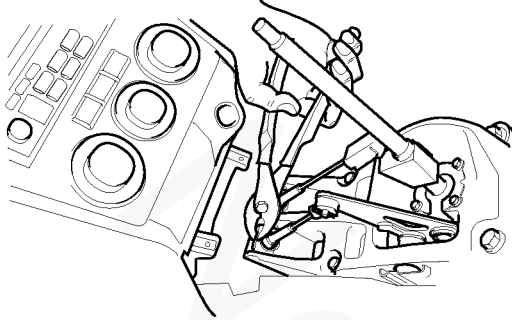
KMOB001L

6. Remove the shift cable clip.



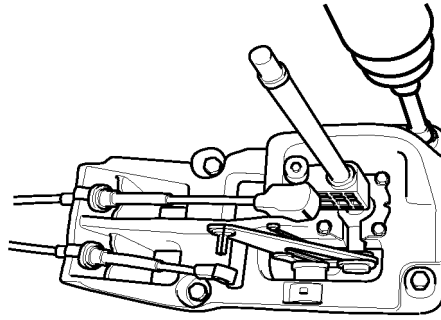
KMOB001M

7. Remove the select cable clip.



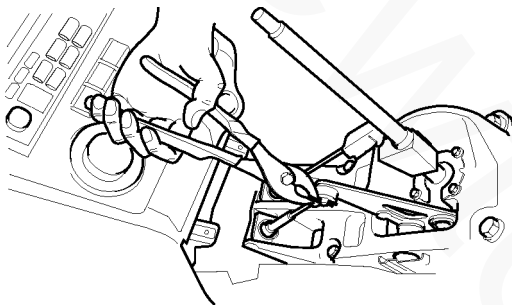
KMOB001N

10. Remove the shift lever assembly.



KMOB001Q

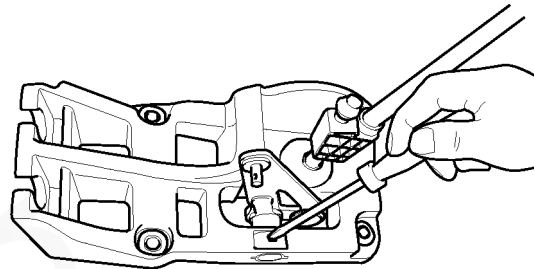
8. Remove the snap pin of the select cable.



KMOB001O

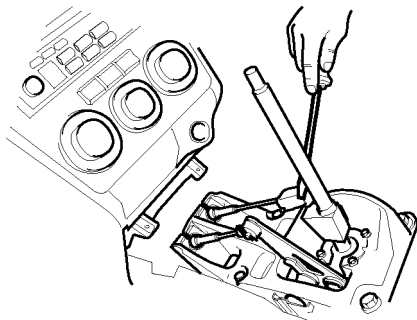
CAUTION

For 6-speed M/T, push the plate shaft outward with a driver or equivalent through the hole in the shift lever bracket to remove it.



KMOB001R

9. Remove the shift cable.



KMOB001P

INSPECTION EAA7ACE1

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 boot for damage.
4. Check each bushing for wear, abrasion, sticking, restricted movement or damage.
5. Check for a weak or damaged spring.

INSTALLATION E350F8F6

Install the shift lever assembly.