

Clutch System > General Information > Specifications

Specification

Item	Specification
Engine type	2.4L
Clutch operation	Hydraulic type
Clutch disc	Single dry with diaphragm
Clutch cover assembly	Diaphragm spring strap

Tightening Torque

Item	N.m	kgf.m	lb-ft
Clutch cover (2.4L)	247.5~34.3	2.5~3.6	18~26
Concentric slave cylinder	11.8~14.7	1.2~1.5	8.7~10.8
Stop lamp switch	7.8~9.8	0.8~1.0	5.8~7.2
Ignition lock switch	7.8~9.8	0.8~1.0	5.8~7.2
Air bleeding plug	6.8~9.8	0.7~1.0	9.2~13.3
Clutch pedal mounting	16.7~25.5	1.7~2.6	12.3~18.8

Lubricants

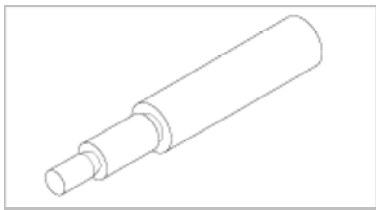
Item	Specified lubricants	Quantity
Inner surface of clutch disc spline	CASMOLY L9508	0.2 gr.
Clutch master cylinder tube	RG 306	As required

Service Standard

Item	Standard value
Clutch pedal stroke	147~153 mm (5.7874~6.0236 in.)
Clutch pedal free play	6~13 mm (0.2362~0.5118 in.)
Distance between a mat and a clutch pedal	167 mm (6.5748 in.)
Depth from a clutch lining surface to a rivet	0.5 mm (0.1969 in.)

Clutch System > General Information > Special Service Tools

Special Service Tools

Tool (Number and Name)	Illustration	Use
09411-11000 Clutch disc guide		Installation of the clutch disc

Clutch System > Clutch System > Description and Operation

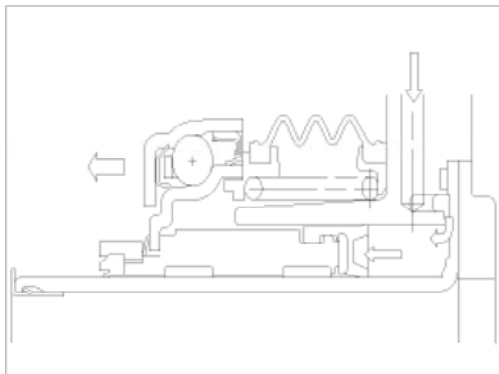
Concentric Slave Cylinder-C.S.C.

It improves working efficiency and lowers the number and the weight of part by unifying clutch release control parts(clutch release bearing ~ clutch release cylinder) in a manual transaxle.

Operation

Concentric Slave Cylinder-C.S.C

When the clutch pedal is pressed, oil pressure is transmitted along the arrow directions shown below and that moves the clutch slave cylinder and the diaphragm spring of the clutch cover.



Clutch System > Clutch System > Repair procedures

Service Adjustment Procedure

Stop Lamp Switch

1. Disconnect the 2P connector from the stop lamp switch.
2. Remove the stop lamp switch.
3. Check for continuity between the terminals according to the table.

Clutch pedal position	Stop lamp switch	Continuity
Released	Pressed	YES
Pressed	Released	NO

If the continuity is not as specified, replace the stop lamp switch.

If OK, install the stop lamp switch and adjust the pedal height.

Tightening torque :

7.8~9.8Nm (0.8~1.0kgf.m, 5.8~7.2lb-ft)

Ignition Lock Switch

1. Disconnect 2P-connector from a ignition lock switch.
2. Disconnect the ignition lock switch. (if you can install a tester with the switch fixed, this step can be omissible)
3. Check for continuity between terminals. (refer to the table below)

Clutch pedal position	Ignition lock switch	Continuity
Released	Released	NO
Pressed	Pressed	YES

If there is difference between what tested and the table above, replace the ignition lock switch with a new one.

If not, install the ignition lock switch and adjust the clutch pedal.

Tightening torque :

Concentric Slave Cylinder Air Bleeding Procedure

1. After disconnecting a cap from the concentric slave cylinder air bleeder, insert a vinyl hose in the plug.
2. Loosening the plug screw, press and release the clutch pedal about 10 times.

NOTE

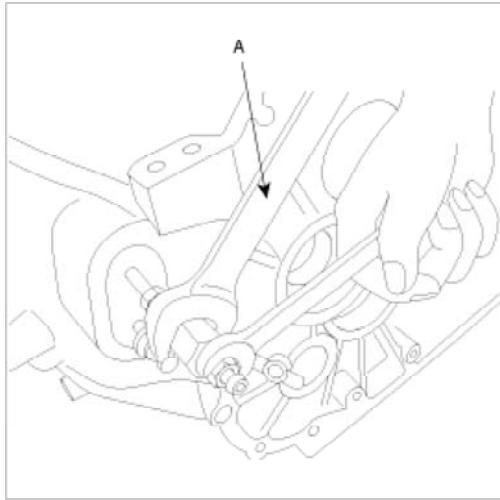
Hold the air bleeder body not to rotate with a spanner(A). The holding is needed when the plug loosened or tightened.

3. Tighten the plug during the clutch pedal pressed. Afterwards, raise the pedal with a hand.

Tightening torque :

6.8~9.8 N.m (0.7~1.0 kgf.m, 9.2~13.3 lb-ft)

4. After pressing the clutch pedal 3 times more, loosen the plug and retighten it with the pedal pressed. Raise it again, then.
5. Repeat the step 4 two or three times. (until there is no bubble in the fluid)



CAUTION

1. Do not clamp the pipe of a concentric slave cylinder.
2. Be careful not to damage O-rings.

Clutch Pedal And Ignition Lock Switch

NOTE

- Inspect a ignition lock switch.
- Remove the driver's seat mat to adjust a clutch pedal.
- No gap between a clutch master cylinder piston and push rod can cause clutch slip.

1. Loosen and draw out the bolt until it is off the pedal surface.
2. Push and pull a clutch master cylinder push rod to satisfy the specification below.

Specification:

Clutch pedal stroke : 147~153 mm (5.7874~6.0236 in.)

Clutch pedal free play : 6~13 mm (0.2362~0.5118 in.)

Clutch pedal distance : 167 mm (6.5748 in.)

3. With no pressure on a clutch pedal, tighten the bolt until it contacts on the pedal.
4. Fix the bolt with a nut.

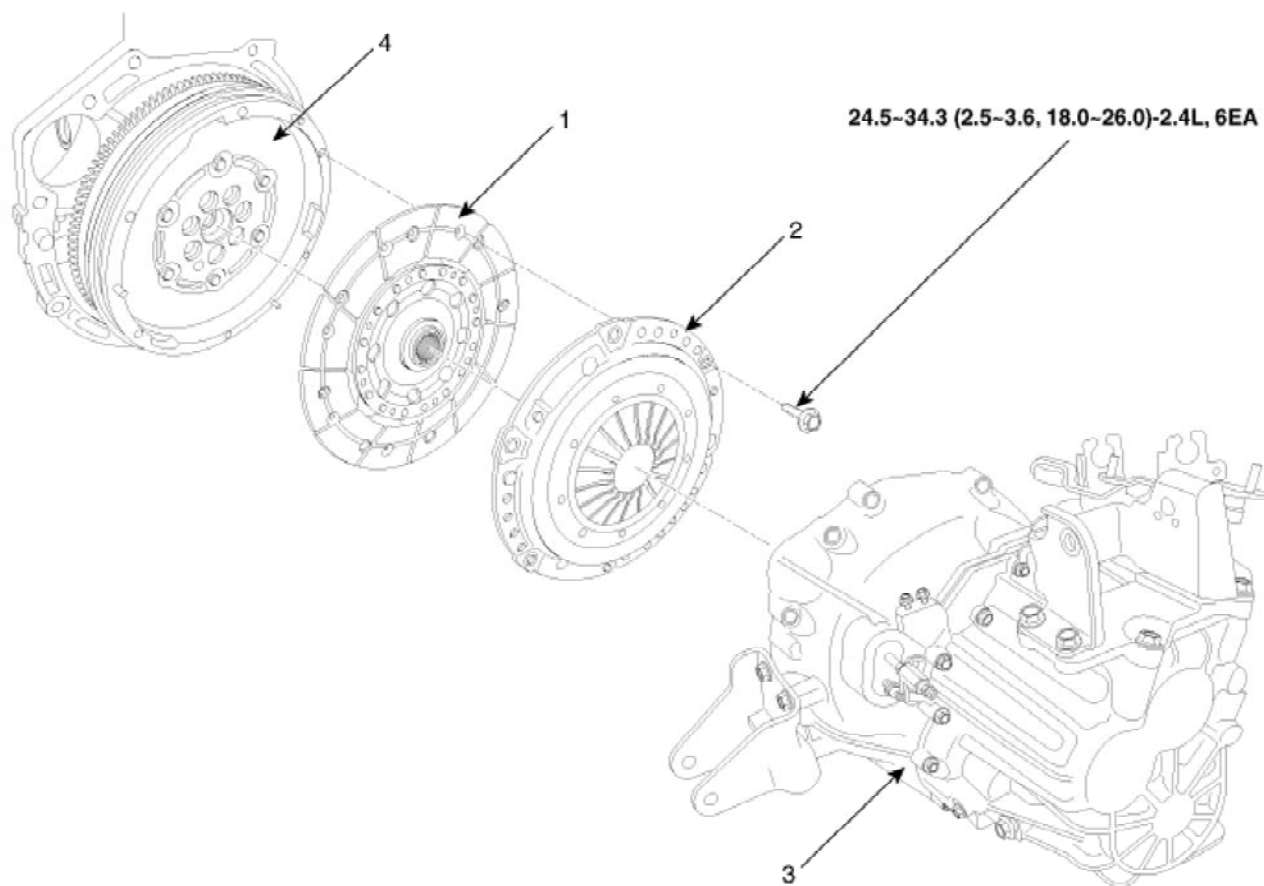
6. Adjust the ignition lock switch position with the pedal a little(3~5mm) raised.
7. Install the ignition lock switch firmly.

Tightening torque :

7.8~9.8N.m (0.8~1.0kgf.m, 5.8~7.2lb-ft)

Clutch System > Clutch System > Clutch Cover And Disc > Components and Components Location

Components



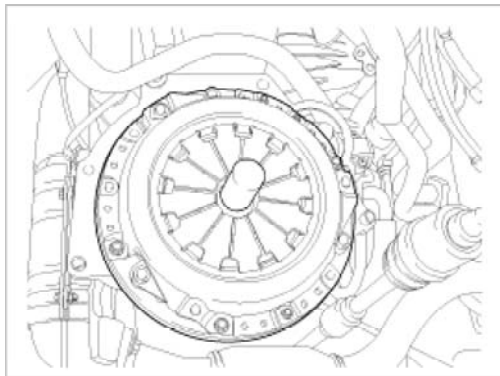
Torque : Nm (kgf.m, lb-ft)

1. Clutch disc
2. Clutch cover

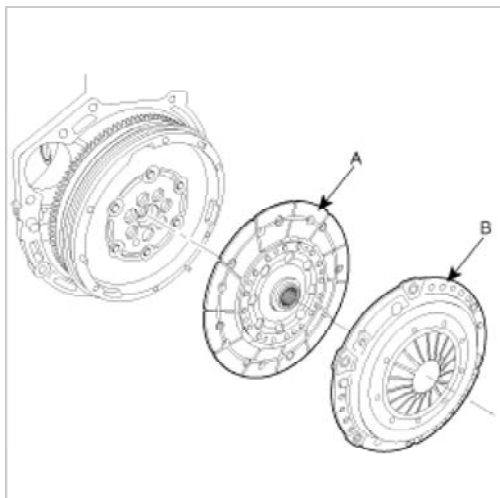
3. Manual transaxle
4. Engine flywheel

Replacement

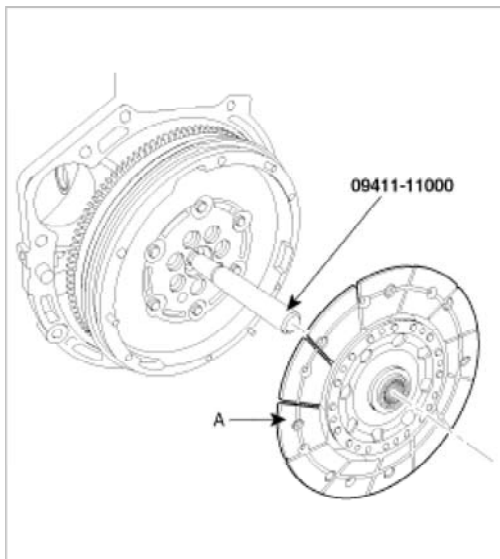
1. Remove a transaxle assembly. (Refer to "Manual transaxle system" in MT group).
2. Remove the clutch cover bolts. Not to be bent or twisted, loosen them in diagonal directions.



3. Remove the clutch cover(A) and disc(B).



4. Using the SST(09411-11000), install a disc(A).



CAUTION

- Apply grease on a disc spline part and transmission input shaft spline part as required.
→ How to do: apply grease(CASMOLY L9508) 0.2gr. on the transmission input shaft spline part.
- * Possible problems when not following

- When excessively applying: Scattered grease by centrifugal force contaminates the clutch disc. Loss of friction force can cause a slip
- The 'T/M SIDE' marked surface should face the transaxle.
→ If the surface face the opposite side, there can be an interference between a disc and a flywheel surface.

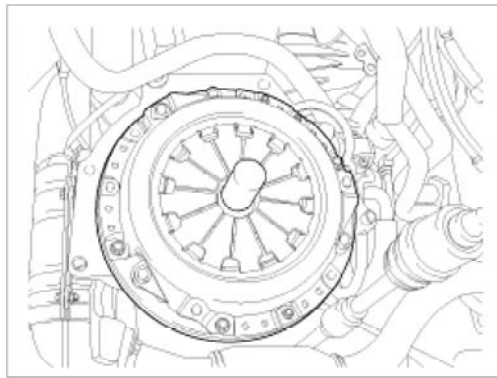


5. Tighten the clutch cover.

Install the clutch cover assembly to the flywheel and temporarily tighten the bolts three steps at time in a star pattern.

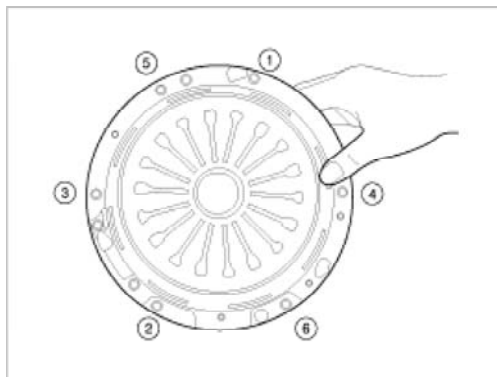
Tightening torque :

24.5~34.3 N.m (2.5~3.6 kgf.m, 18.0~26.0 lb-ft) (2.4L-6EA)



CAUTION

When installing the clutch cover, tighten the bolts in diagonal directions not to be bent or twisted.



* Possible problems when not following

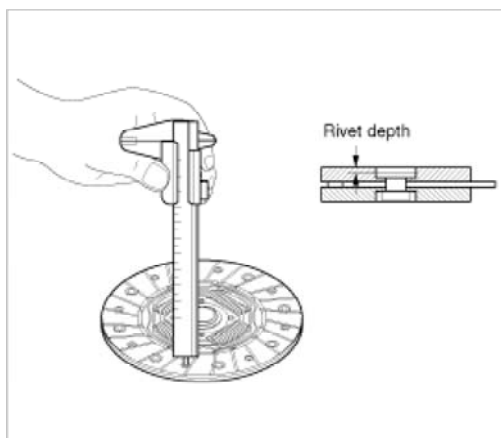
- When tightening the bolt completely at a time: the clutch cover can be twisted and vibration can occur.
- On vehicles with 2.4L gasoline engines and clutches, it is necessary to follow this caution.
- Not following tightening torque: There can be bad torque transmission in clutch and relaxation possibility of bolts.

Inspection



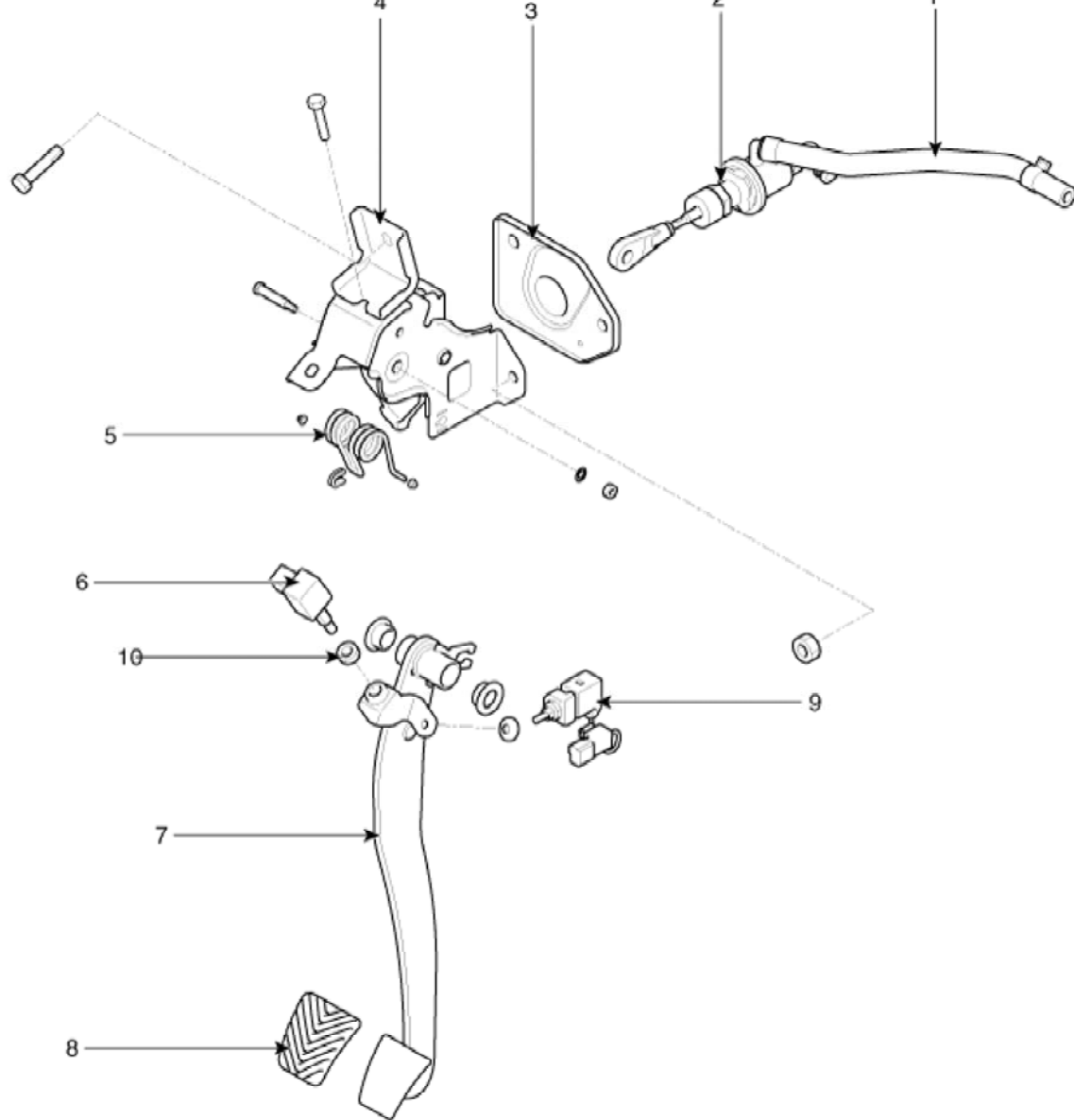
2. Check the clutch cover and disc surface for wear or crack.
3. Check the clutch disc lining for slipping or oil mark.
4. Measure the depth from a clutch lining surface to a rivet. If the measured value is less than the specification below, replace it.

Specification: 5 mm (0.1969 in.)



Clutch System > Clutch System > Clutch Pedal > Components and Components Location

Components



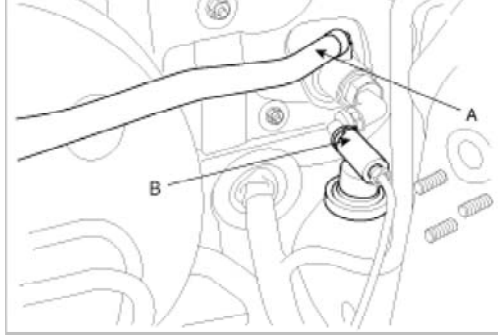
1. Reverse hose
2. Master cylinder
3. Siller
4. Member assembly
5. Turn over spring

6. Clutch switch
7. Clutch arm
8. Pedal pad
9. Ignition lock switch
10. Stopper

Clutch System > Clutch System > Clutch Pedal > Repair procedures

Replacement

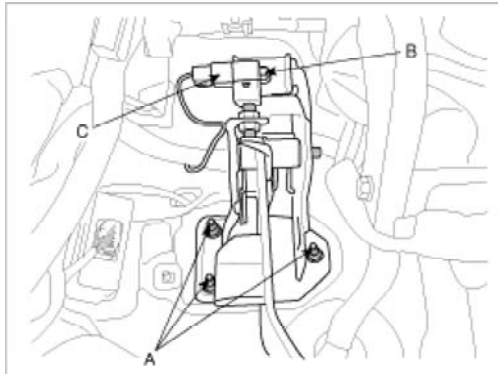
1. Remove the flexible hose (A) connected to brake reserve tank from the master cylinder.
2. Disconnect the clutch tube (B) from the master cylinder.



3. Disconnect the two ignition lock switch connectors (C).
4. Remove the clutch pedal mounting bolts (A-3ea) and the bracket mounting nuts (B-1ea.)

Tightening torque :

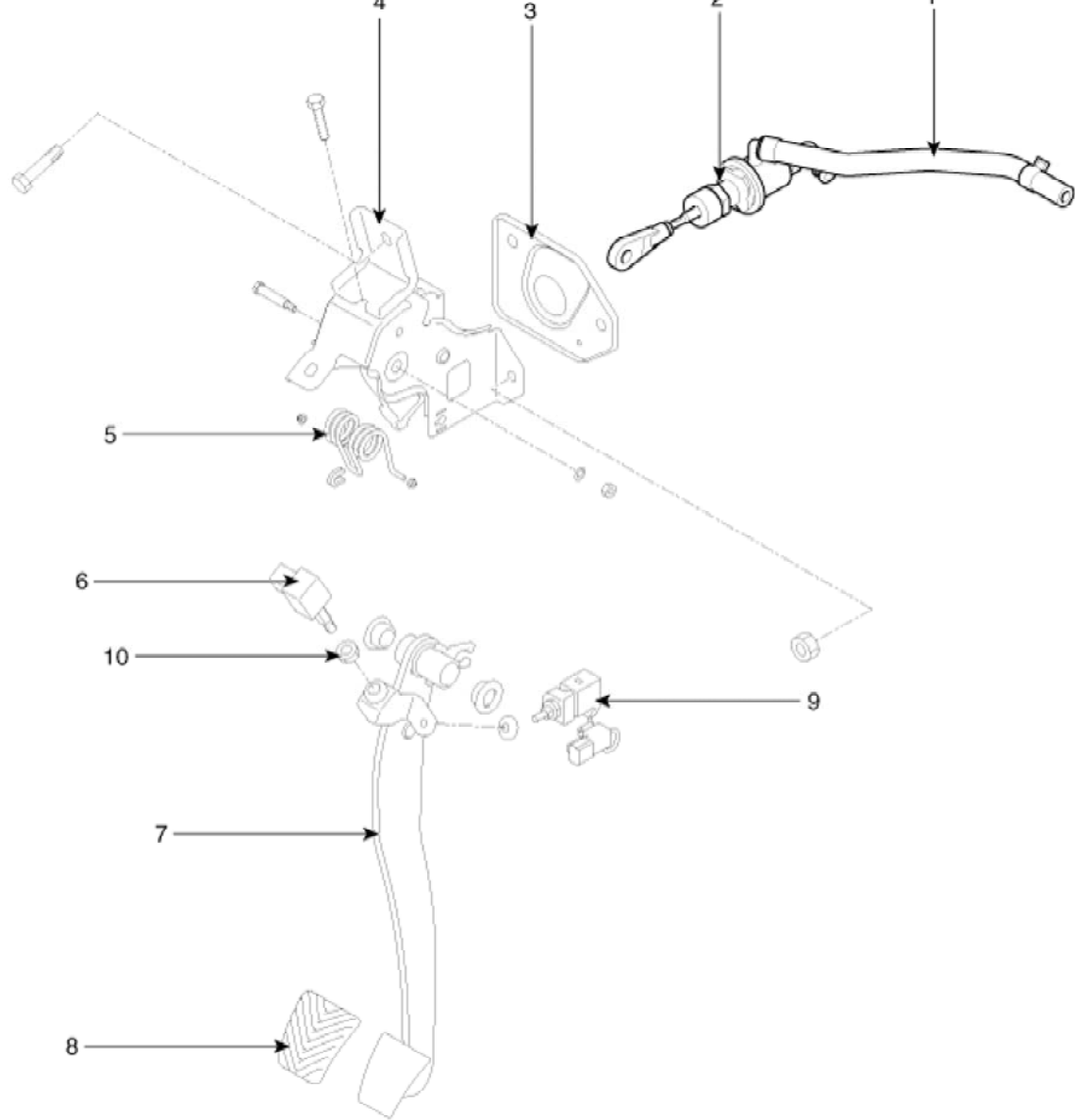
16.7~25.5N.m (1.7~2.6kgf.m, 12.3~18.8lb-ft)



5. Installation is reverse of removal.

Clutch System > Clutch System > Clutch Master Cylinder > Components and Components Location

Components



1. Reverse hose
2. Master cylinder
3. Siller
4. Member assembly
5. Turn over spring

6. Clutch switch
7. Clutch arm
8. Pedal pad
9. Ignition lock switch
10. Stopper

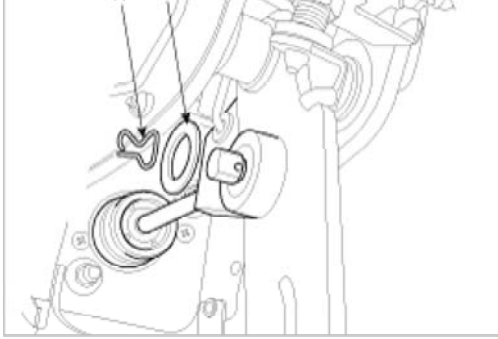
Clutch System > Clutch System > Clutch Master Cylinder > Repair procedures

Removal

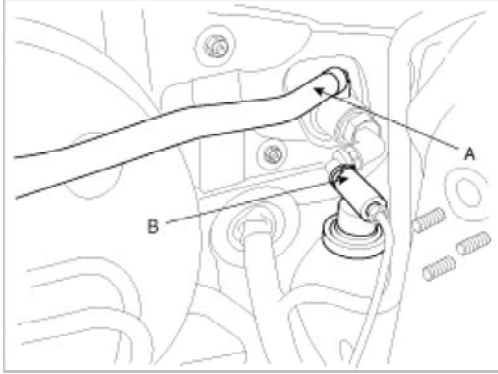
NOTE

Do not spill brake fluid on the vehicle; it may damage the paint if brake fluid does contact the paint, wash it off immediately with water.

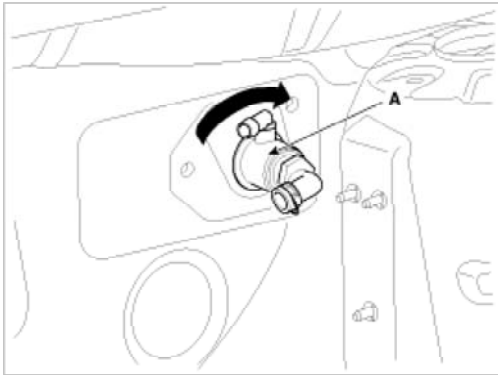
1. Disconnect the push rod from the master cylinder by removing the snap pin (A) and washer (B).



2. Disconnect the clutch tube (B) and reverse hose(A) from the clutch master cylinder.



3. Remove the clutch master cylinder by turning it clockwise.(A)



Installation

1. Installation is the reverse of removal.

NOTE

- Perform bleeding air procedure in concentric slave cylinder after pouring the brake fluid.(Refer to "Repair procedures" in CH group.)