Great Wall Motors
5R35 Automatic Transmission

长城汽车
中国造 长城车

長城品質


Great Wall
Motors

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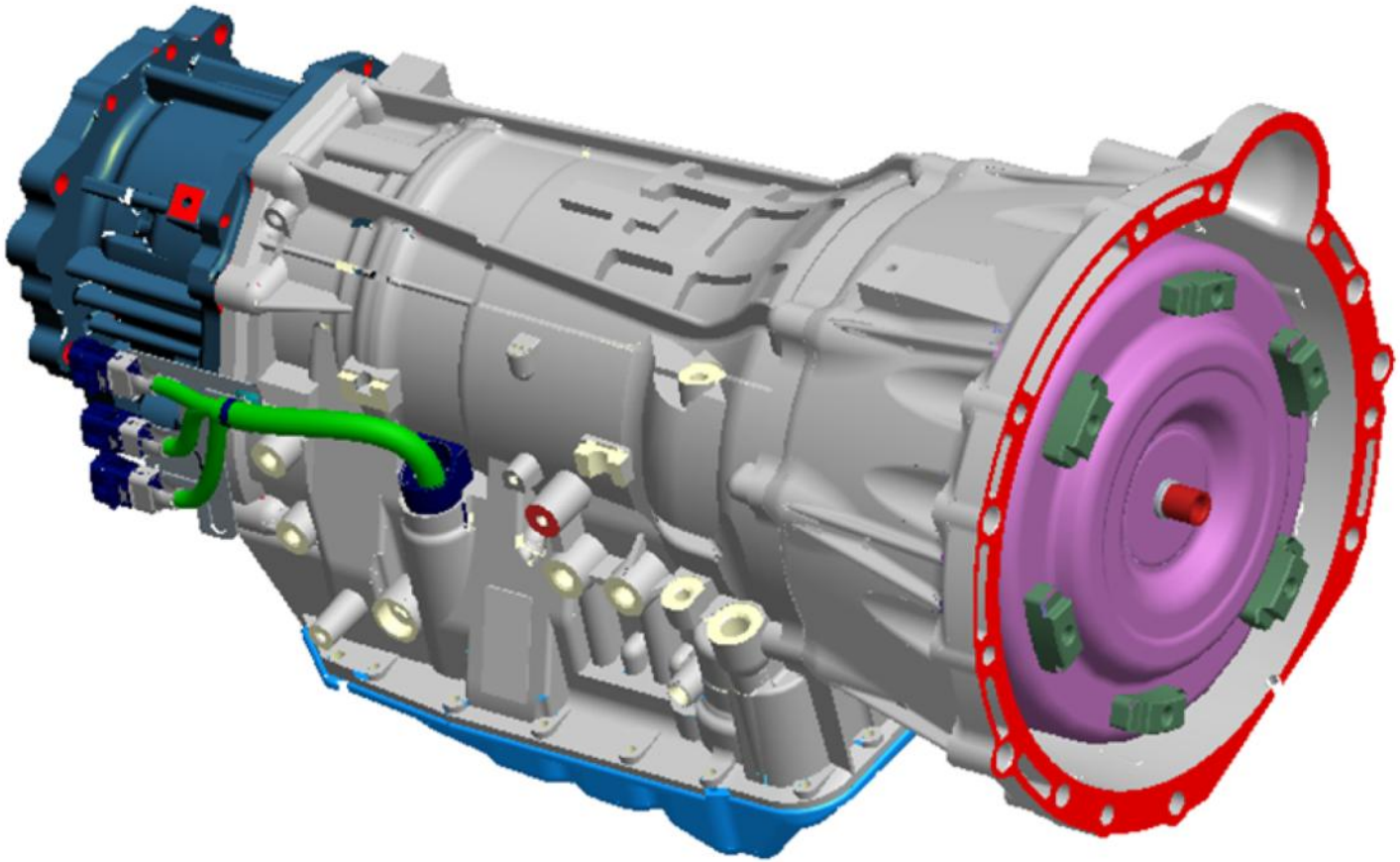
Ⅰ. General Description of 5R35 Automatic Transmissions

5R35 transmission, a 5-speed automatic transmission fitted on Haval H5 of Great Wall Motors, is provided with full-range electronic control and sports mode which reduce the vibration of transmission, realize stable driving and bring the driving pleasure as with the manual transmission.

The optimum performance of the transmission is achieved by AT electronic control system which controls the driving condition and internal state of AT control unit via AT control unit and control valve assembly.

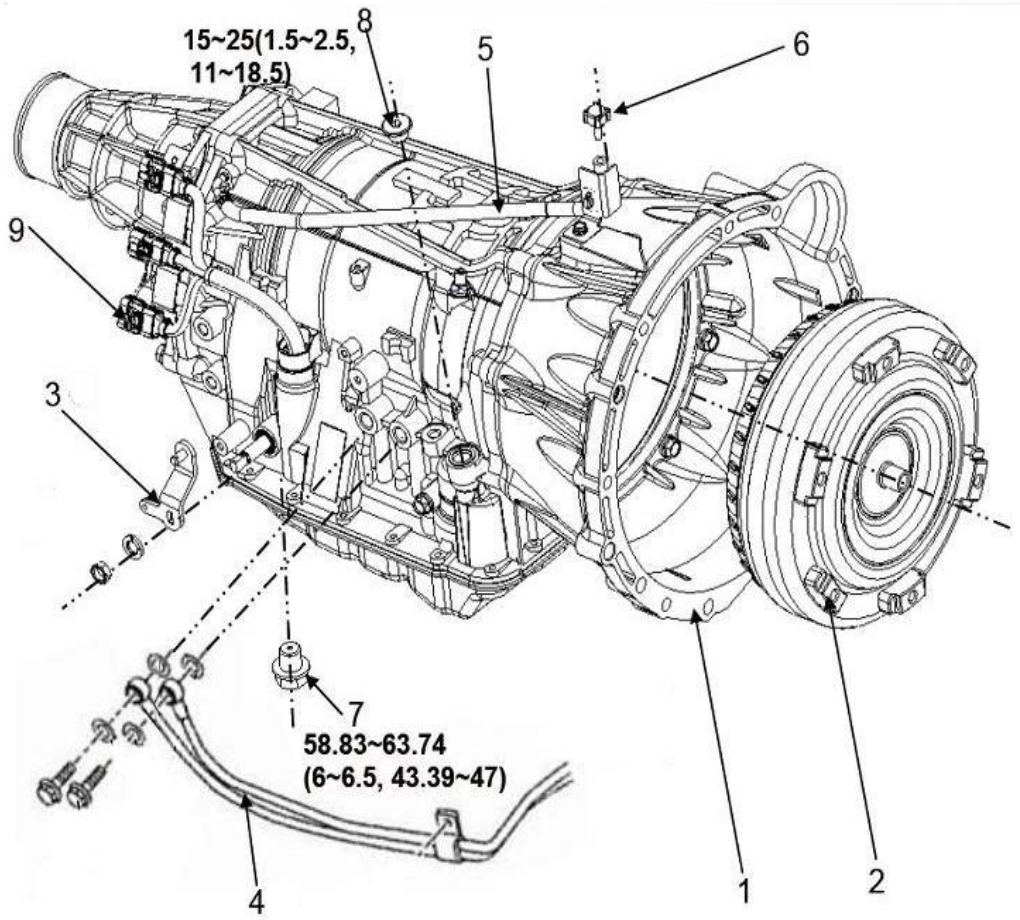
5R35 Automatic Transmission Assembly



5R35 Automatic Transmission Parameters

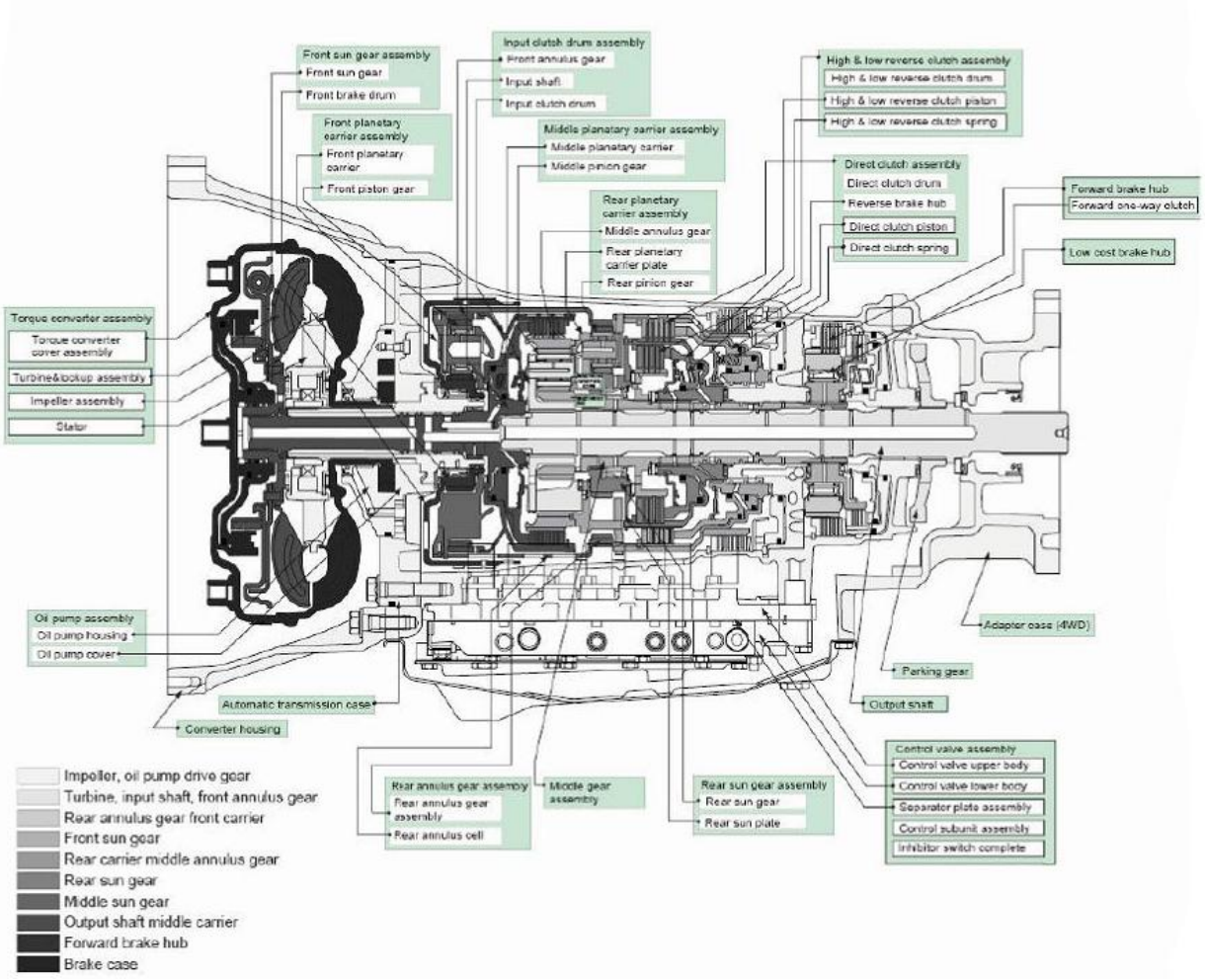
Specifications		
Items		5R35
Drive system		2WD/4WD
Type of hydrodynamic torque converter		Three-dimensional, first order, two-phase
Transmission type		Five drive gears and one reversing gear
Engine displacement		2.0L Diesel engine
Gear shifting		Cable
Speed ratio	1st gear	3.827
	2st gear	2.368
	3st gear	1.520
	4st gear	1.000
	5st gear	0.834
	Reversing gear	2.613
Shift mode		variable
Gear range		4 positions (P-R-N-D) + sports mode
Control methods		Electronic control
Function	Lock control	Configured
	Operating hydraulic control	Configured
	Real-time feedback and transport control	Configured
	Real-time feedback and transport control	Configured
	Self-diagnosis control	Configured
	Fault protection function	Configured
	Sports mode function	Configured
Oil pump	Type	Oil pump
	Drive mode	Engine-driven pump
A.T.F		Apolloil ATF RED-1k(Or1)

Drawing of 5R35 Automatic Transmission Assembly



1. Transmission assembly
2. Hydrodynamic torque converter
3. Manual control lever
4. ATF cooling pipe
5. Ventilation hose
6. Vent plug
7. Oil drain plug
8. Screw plug
9. Wiring harness connector

Internal Diagram of 5R35 Automatic Transmission Assembly



Ⅱ. Operating Principles for 5R35 Automatic Transmission

Shift positions		I/C	H&LR/C	D/C	Rev/B	F/B	LC/B	Fwd/B	1st OWC	Fwd OWC	3rd OWC	Remarks
P			△			△						Park
R			○		○	○			◎		◎	Reverse
N			△			△						Neutral
D	1st		△"			△	△"◇"	○	◎	◎	◎	Automatic Shifting 1↔2↔3↔4↔5
	2nd			○		△	◇"	○		◎	◎	
	3rd		○	○		○		△	◇		◎	
	4th	○	○	○				△	◇			
	5th	○	○			○		△	◇		◇	

Working components of 5R35 automatic transmission

○-Working ◎-Working during acceleration ◇-Working during coasting ◇〃-Working only under manual mode △-Working but having no impact on transmission of power △〃-Working at proper vehicle speed.

Cross Reference Table of Functions of 5R35 Automatic Transmission Actuating Elements

Part name	Abbreviation	Function
Front brake	F/B	Fastening the front sun gear
Input clutch	I/C	Make the input shaft engage with the middle and front annular gear.
Direct clutch	D/C	Make the rear planetary gear carrier engage with the rear sun gear.
High/low reverse clutch	H&LR/C	Make the middle sun gear engage with the rear sun gear.
Reverse brake	Rev/B	Fasten the rear planetary gear carrier.
Forward brake	FWD/B	Fasten the middle sun gear
Low-cost brake	LCB	Fasten the middle sun gear
1st one-way clutch	1^{st}OWC	Allow the rear sun gear to rotate forward (relative to the sun gear) freely and fasten it when it rotates backward.
Forward one-way clutch	FWD OWC	Allow the rear sun gear to rotate forward freely and fasten it when it rotates backward.
3rd one-way clutch	3^{rd}OWC	Allow the rear sun gear to rotate forward freely and fasten it when it rotates backward.

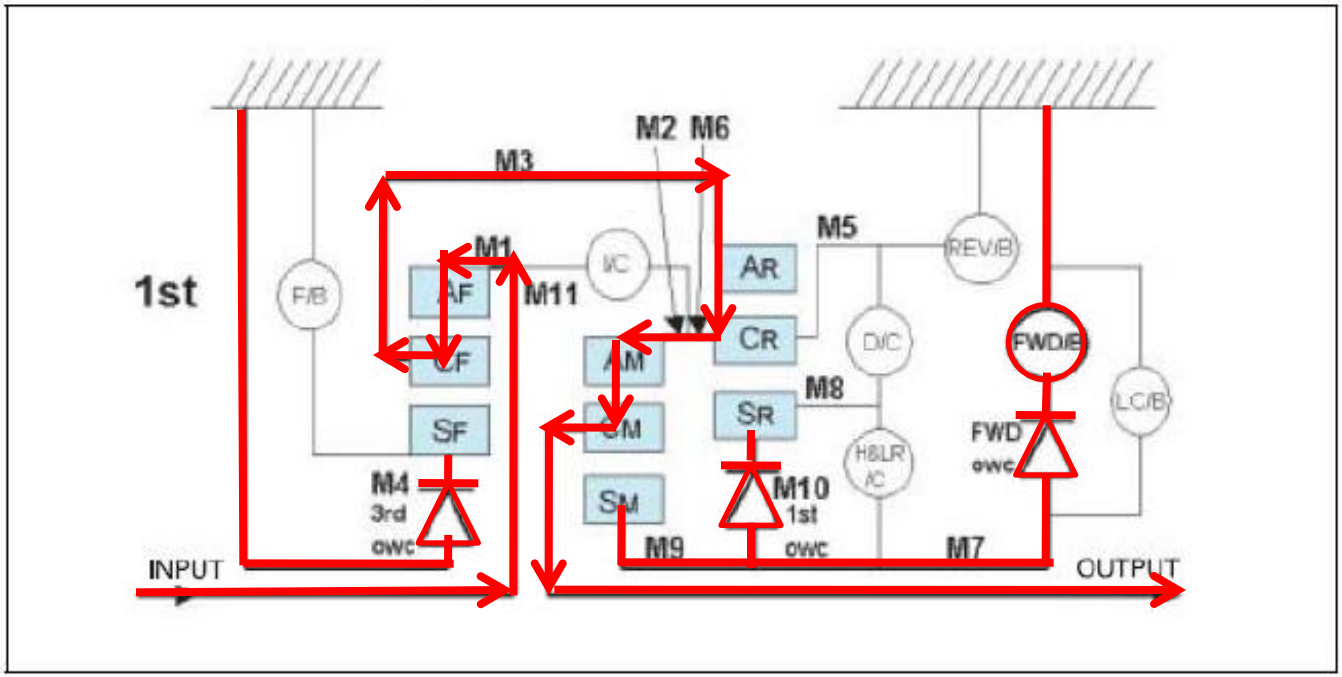
Operating Principles for N/P Gear of 5R35 Automatic Transmission

- Neutral gear (N): the driving torque of input shaft will not be transferred to the output shaft as the forward brake and reverse brake have been released.
- Parking gear (P): Similar to N gear, the driving torque of input shaft will not be transferred to the output shaft as the forward brake and reverse brake have been released.
- The parking pawl connected with the shift lever is engaged with the parking lock mechanism and mechanically fastens the output shaft.

Operating Principles for 1st Gear of 5R35 Automatic Transmission

- D, M2, M3, M4, M5 gear -1st gear
- Fasten the front brake.
- Front brake and forward one-way clutch control the reverse rotation of the middle sun gear.
- 1st one-way clutch controls the reverse rotation of the rear sun gear.
- 3rd one-way clutch controls the reverse rotation of the front sun gear.
- During deceleration, the middle sun gear rotates forward so that the forward one-way clutch idles and the engine brake is not activated.

Power Transmission Line of 1st Gear of 5R35 Automatic Transmission



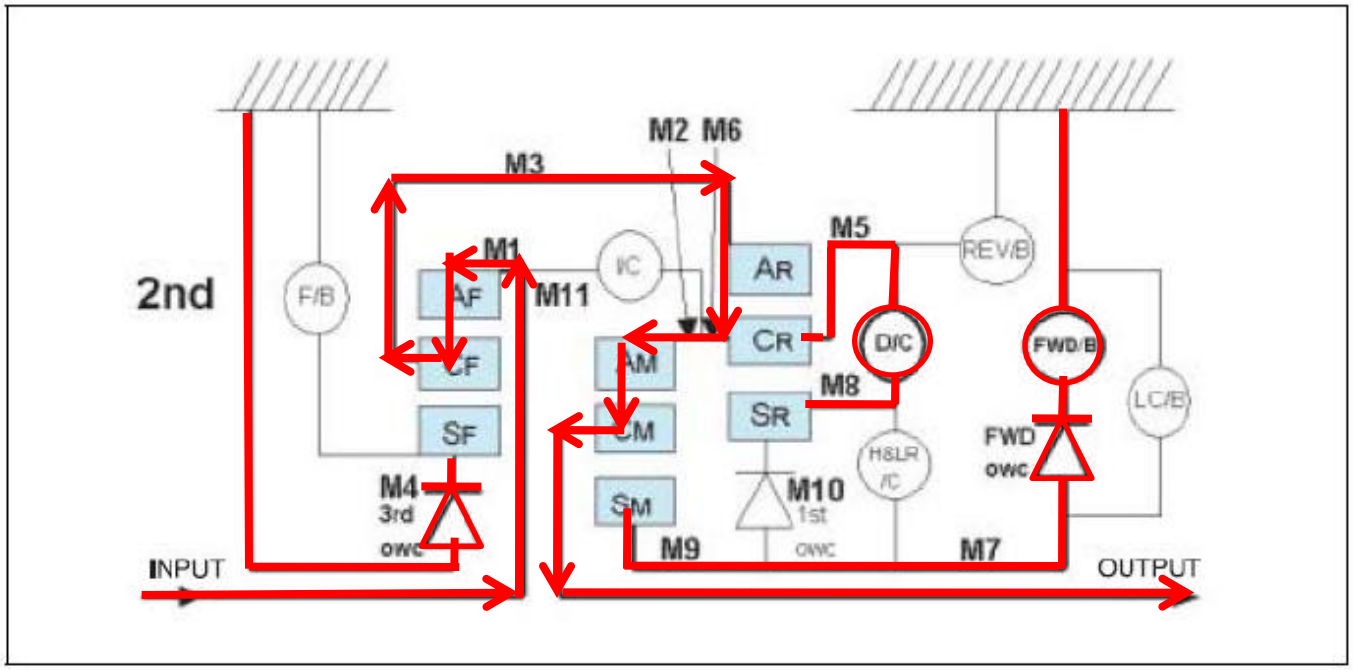
Note: the heavy line in the diagram represents the components in operation and the continuous thin line represents the components not in operation.

- Power transmission process:
- Input shaft →front annular gear →front planetary carrier → rear annular gear →rear planetary carrier →middle annular gear→ middle planetary carrier→ output shaft

Operating Principles for 2nd Gear of 5R35 Automatic Transmission

- D, M3, M4, M5 gears 2^{nd} gear
- Fasten the front brake.
- Front brake and forward one-way clutch control the reverse rotation of the middle sun gear.
- 3rd one-way clutch controls the reverse rotation of the front sun gear.
- The direct clutch is connected and the rear planetary carrier is engaged with the rear sun gear.

Power Transmission Line of 2nd Gear of 5R35 Automatic Transmission

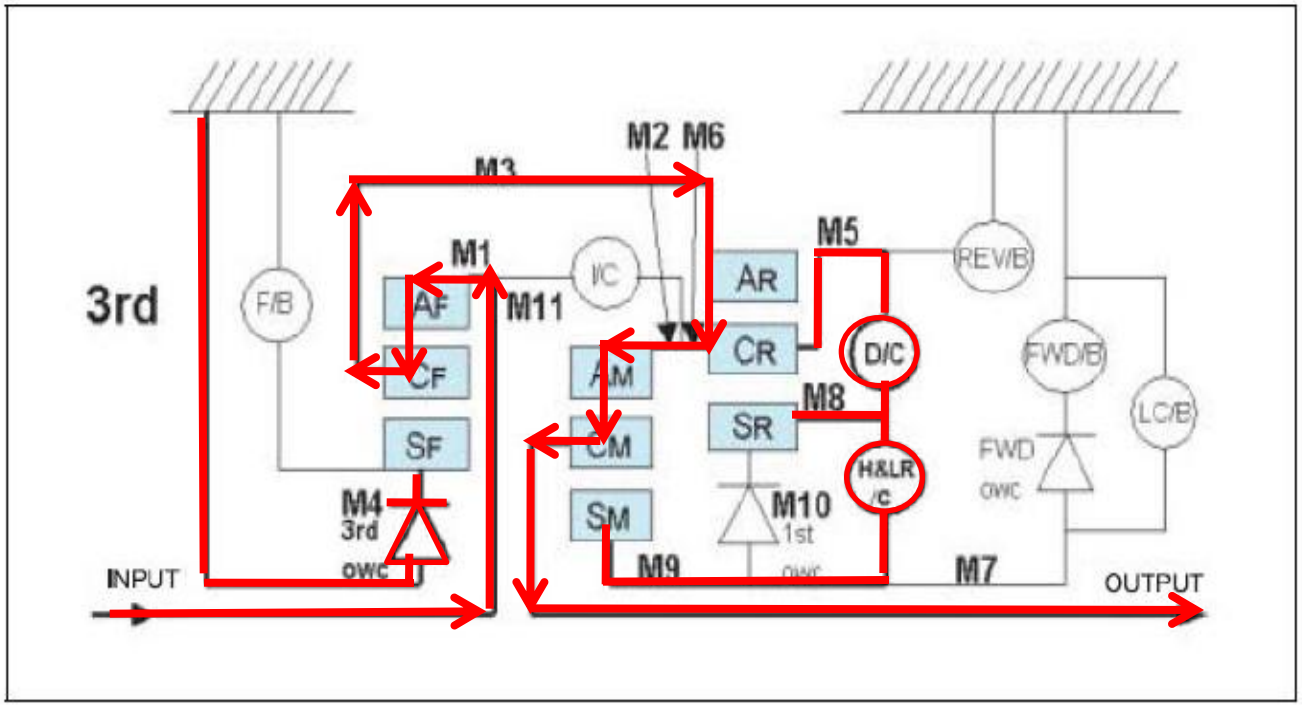


- Power transmission process:
- Input shaft →front annular gear →front planetary carrier → rear annular gear →rear planetary carrier →middle annular gear→ middle planetary carrier→ output shaft

Operating Principles for 3rd Gear of 5R35 Automatic Transmission

- D, M3, M4, M5 gears 3nd gear
- Fasten the front brake.
- 3rd one-way clutch controls the reverse rotation of the front sun gear.
- High/low reverse clutch is connected and the middle sun gear is engaged with the rear sun gear.

Power Transmission Line of 3rd Gear of 5R35 Automatic Transmission

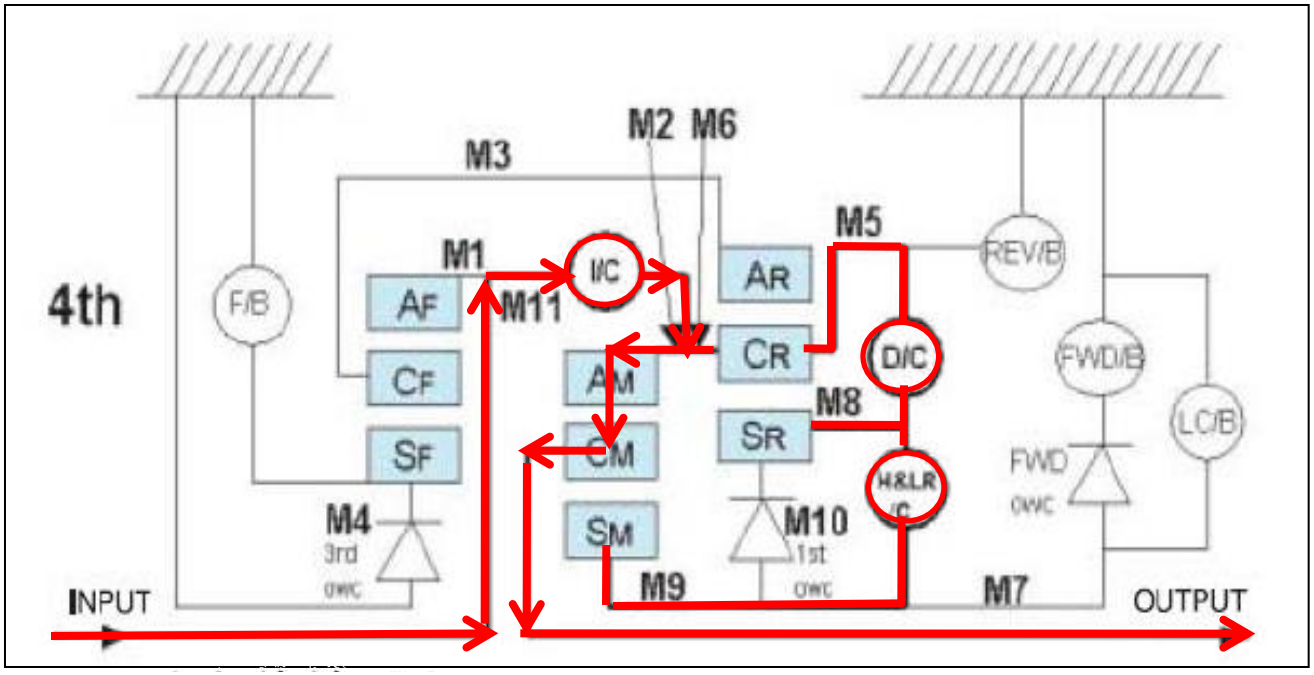


- Power transmission process:
- Input shaft →front annular gear →front planetary carrier → rear annular gear →rear planetary carrier →middle annular gear→ middle planetary carrier→ output shaft

Operating Principles for 4th Gear of 5R35 Automatic Transmission

- D, M4, M5 gears 4^{th} gear
- The front brake is released that the sun gear rotates forward freely.
- The input clutch is connected and the front annular gear is engaged with the middle annular gear.
- The driving force is transmitted to the front annular gear, middle annular gear and rear planetary carrier, the three planetary gear systems which rotate forward together as a whole.

Power Transmission Line of 4th Gear of 5R35 Automatic Transmission



Power transmission process:

Input shaft → front annular gear → front planetary carrier → rear annular gear

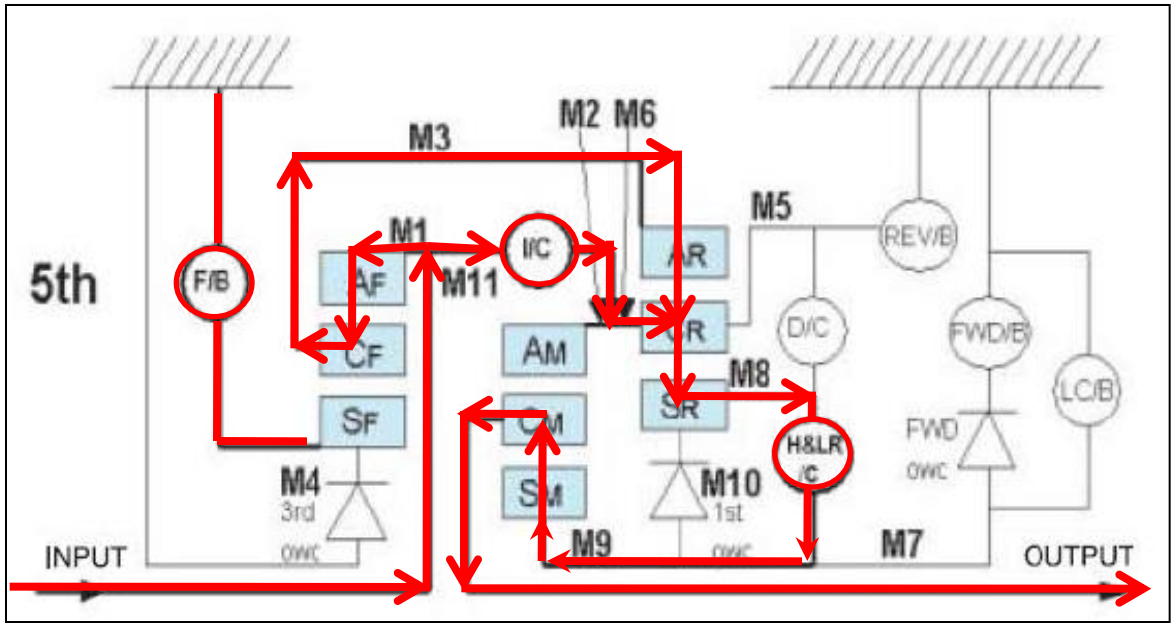
→ rear planetary carrier → middle annular gear

middle planetary carrier → output shaft

Operating Principles for 5th Gear of 5R35 Automatic Transmission

- D, M5 gears 5th gear
- The front brake fastens the front sun gear.
- The direct clutch is released and the rear planetary carrier is disconnected with the rear sun gear.

Power Transmission Line of 5th Gear of 5R35 Automatic Transmission



Power transmission process:

Input shaft → front annular gear → front planetary carrier → rear annular gear

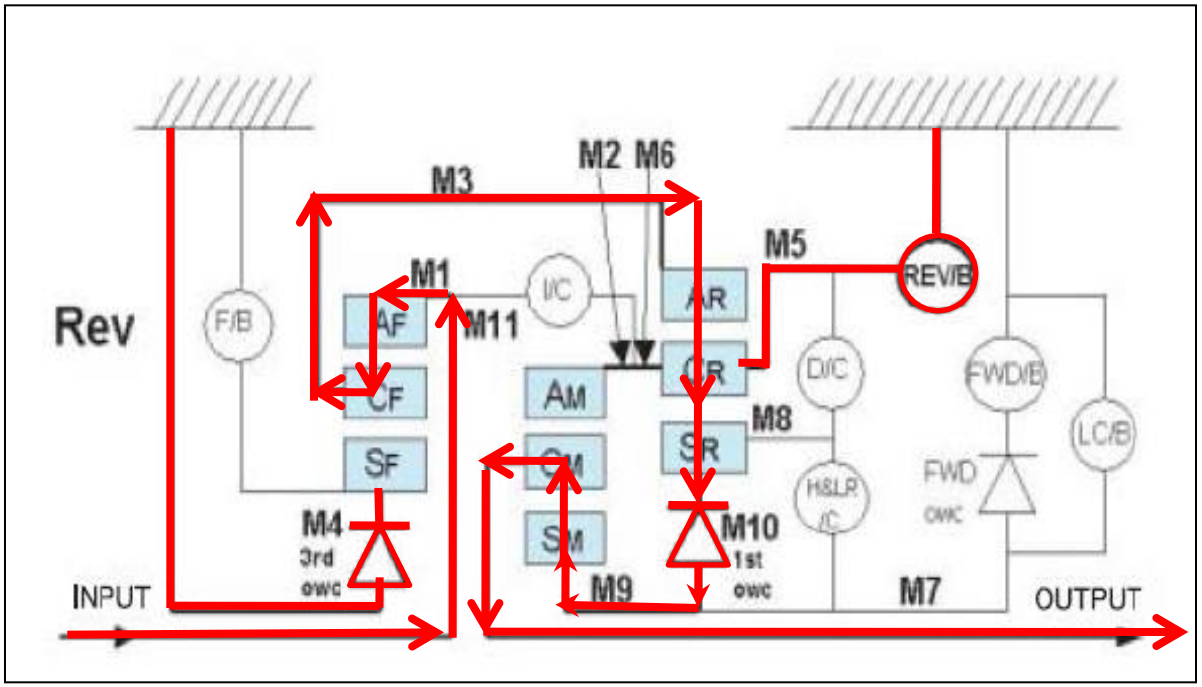
Input shaft → middle annular gear → rear planetary carrier → rear sun gear

middle sun gear → middle planetary carrier → output shaft

Operating Principles for Reverse Gear of 5R35 Automatic Transmission

- R gear
- The front brake fastens the front sun gear.
- The high/low reverse clutch is connected and the middle sun gear is engaged with the rear sun gear.
- The reverse brake fastens the rear planetary carrier.

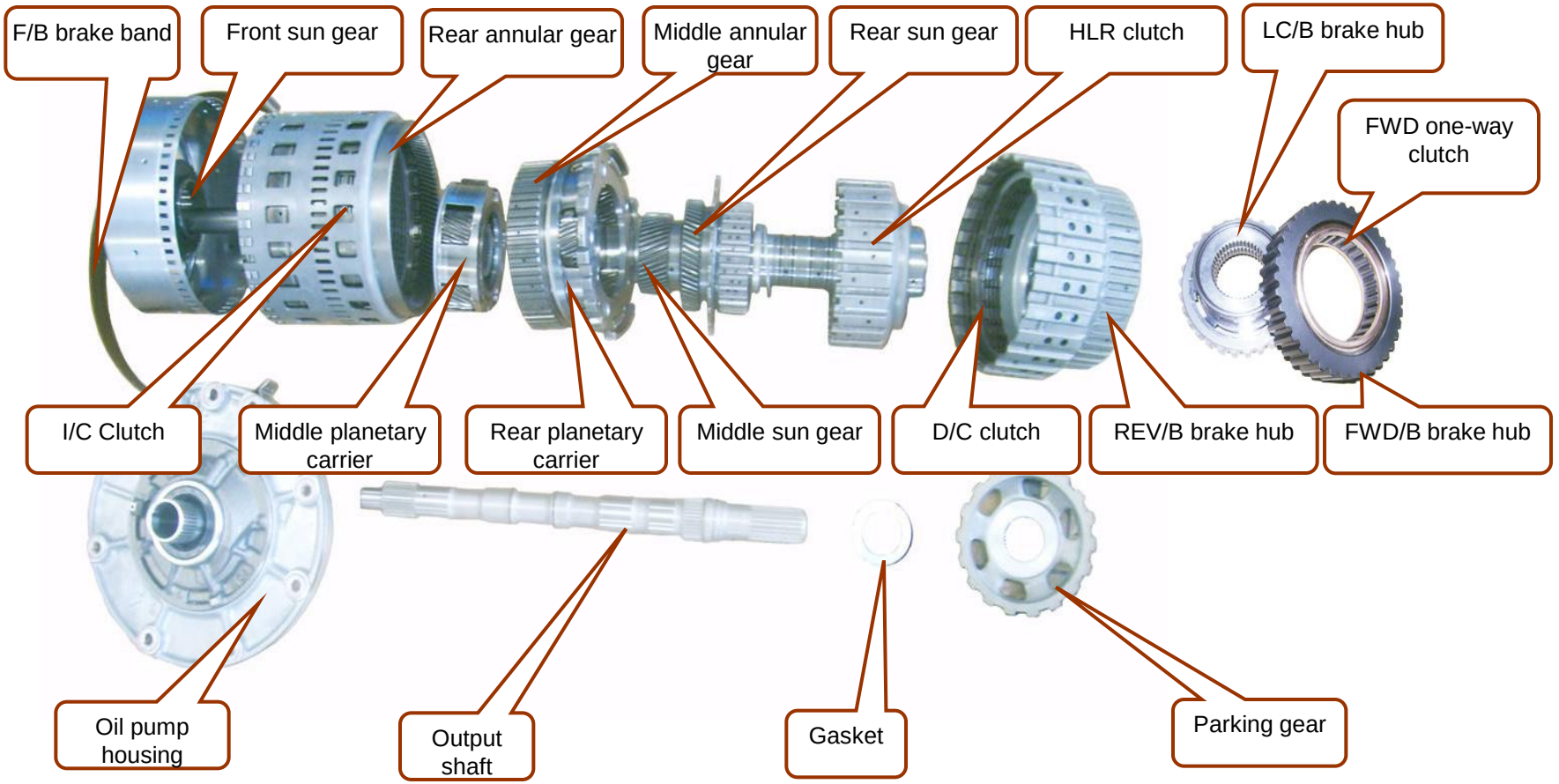
Power Transmission Line of Reverse Gear of 5R35 Automatic Transmission



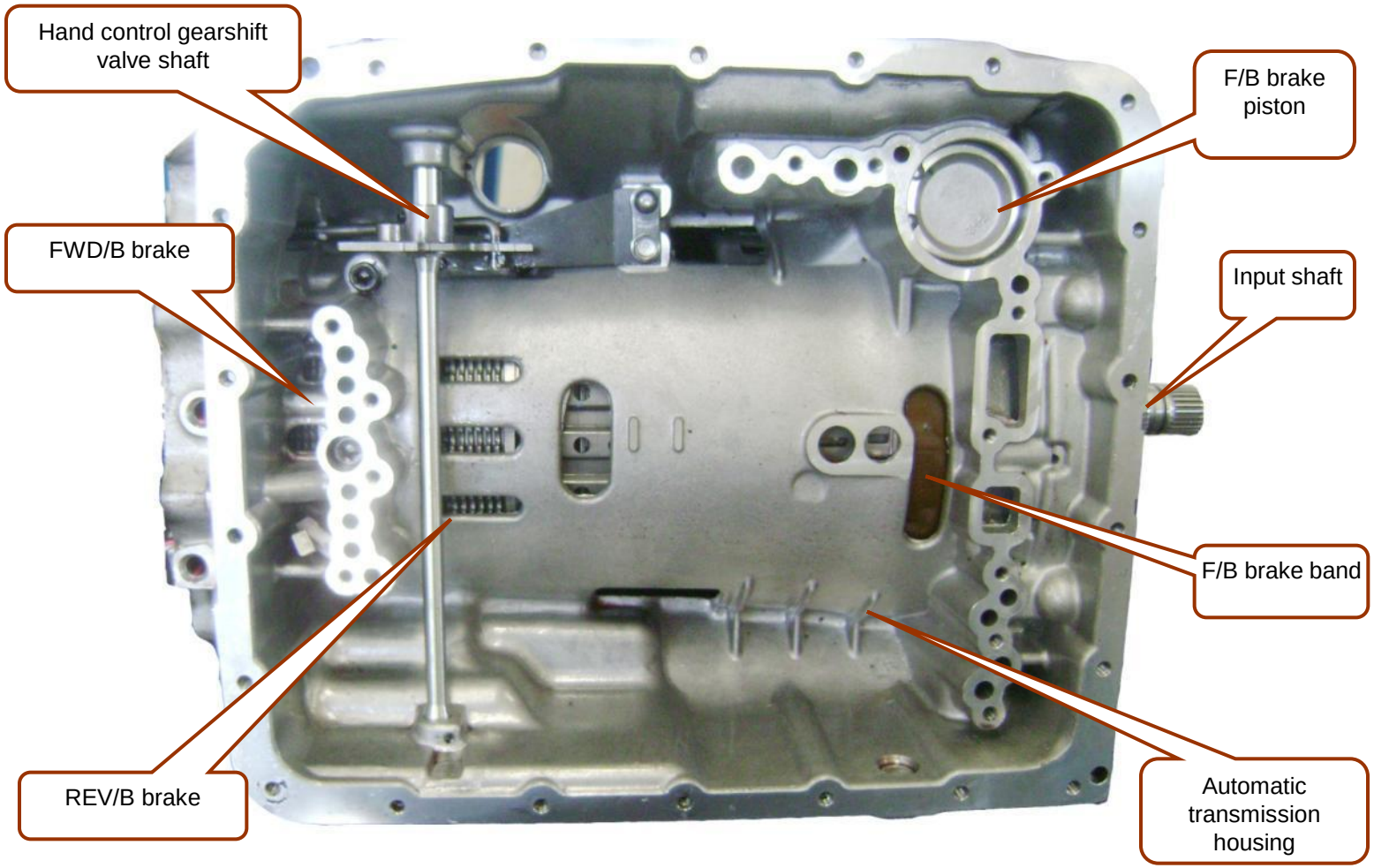
Power transmission process:

- Input shaft →front annular gear →front planetary carrier → rear annular gear →rear planetary carrier →middle annular gear→ middle planetary carrier→ output shaft

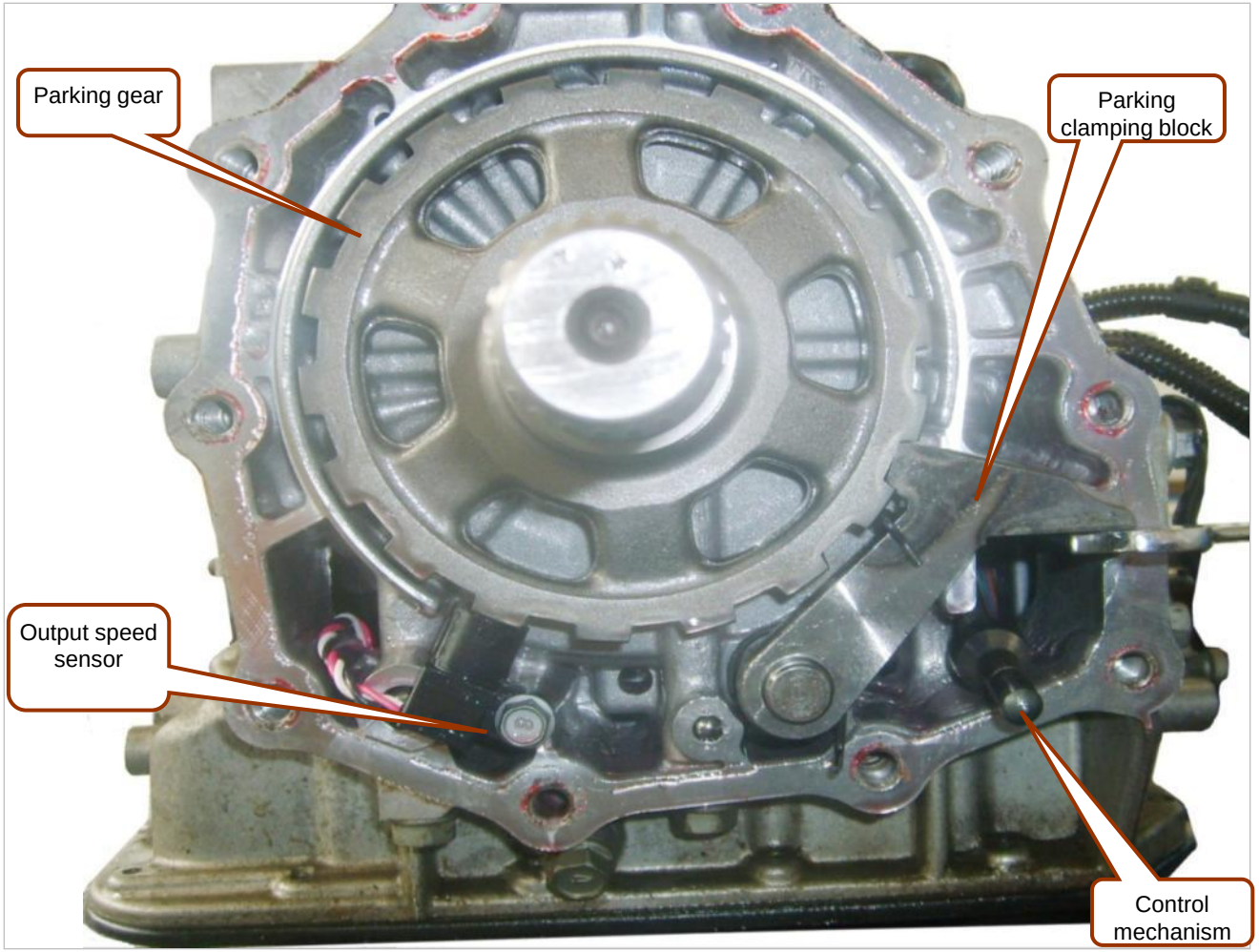
Ⅲ. Structure of 5R35 Automatic Transmission



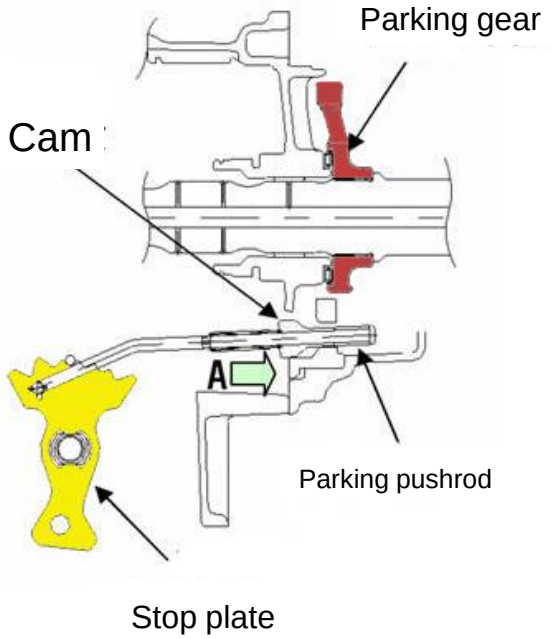
Part Name of 5R35 Automatic Transmission Housing

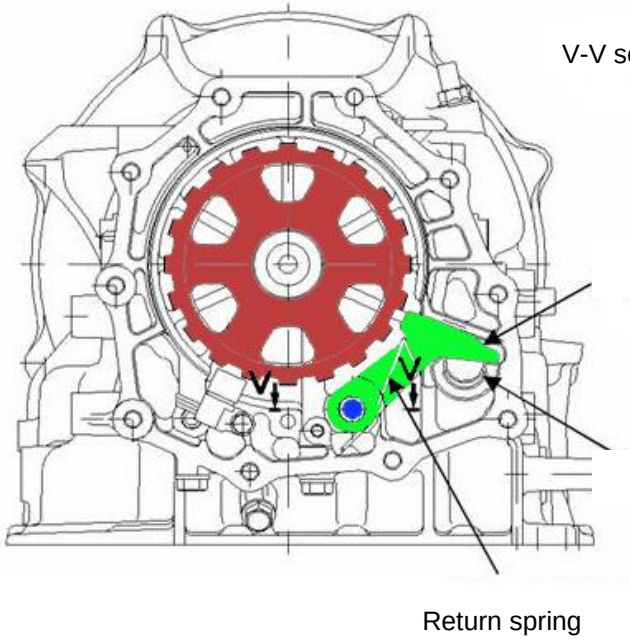


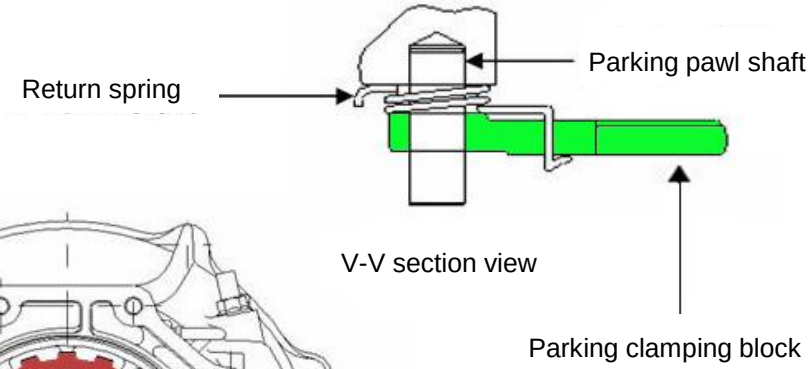
Parking Mechanism of 5R35 Automatic Transmission



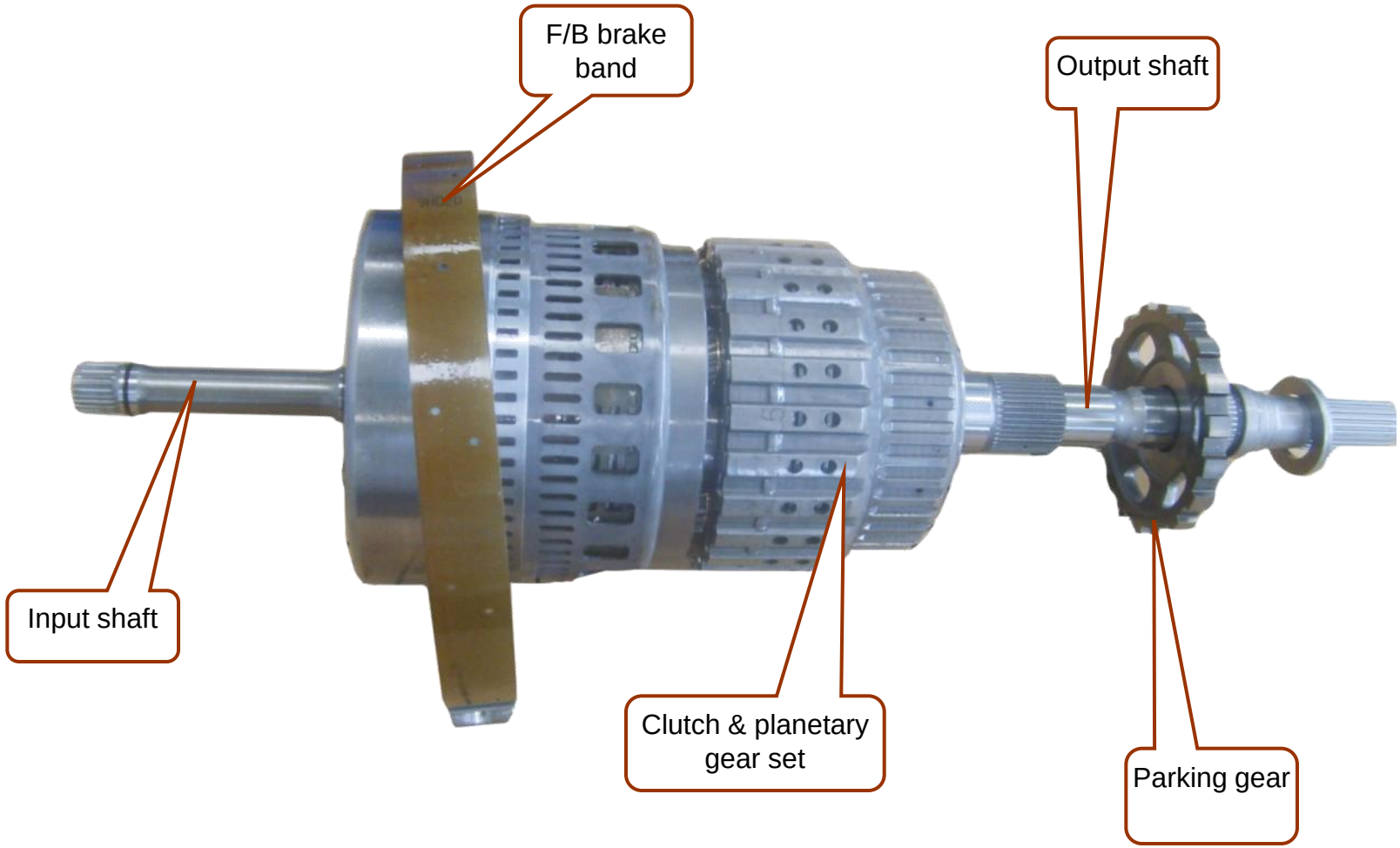
Parking Mechanism of 5R35 Automatic Transmission



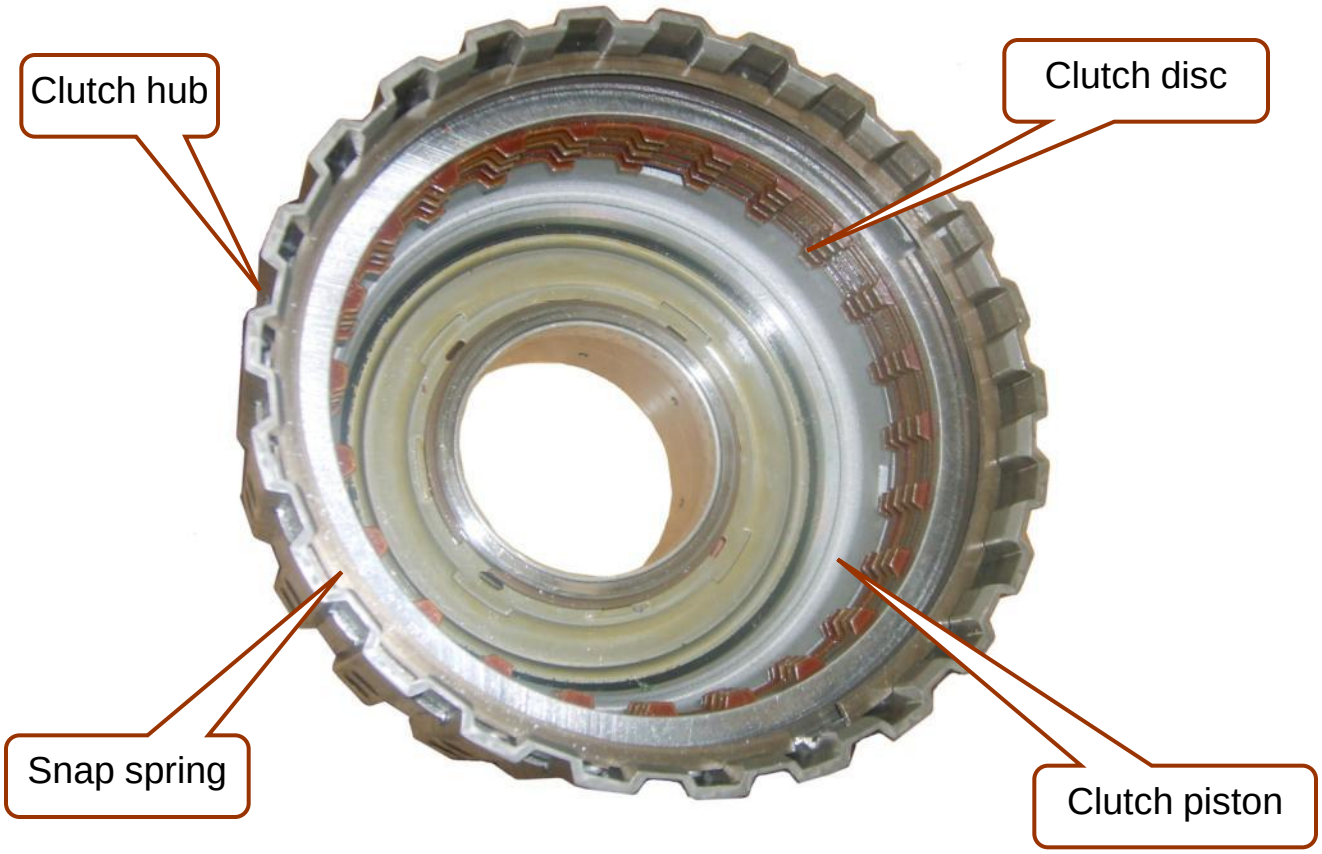




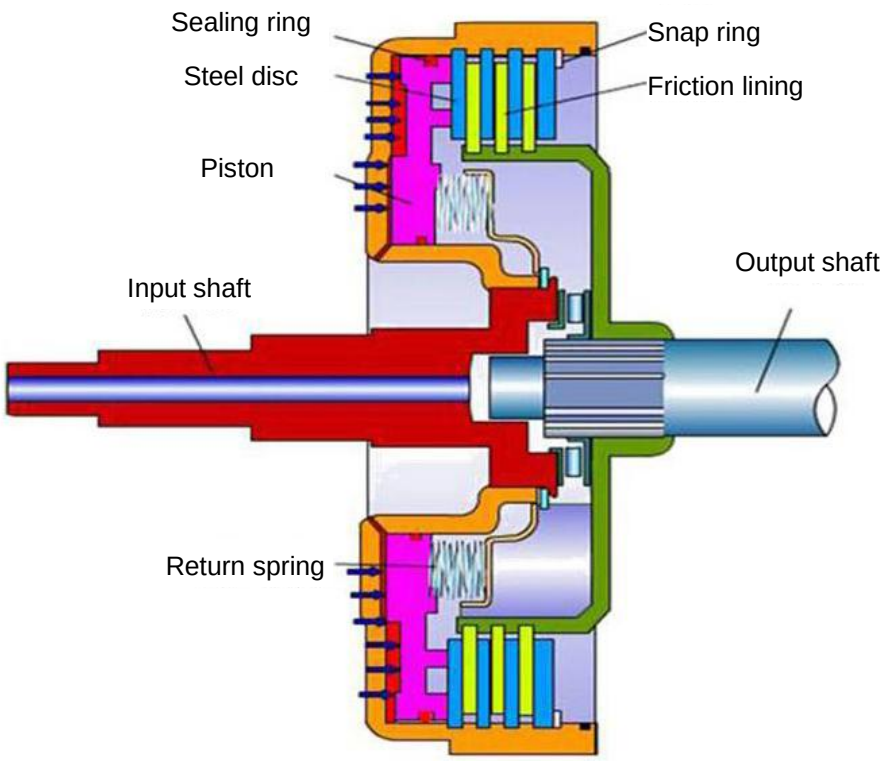
Internal Part Name of 5R35 Automatic Transmission



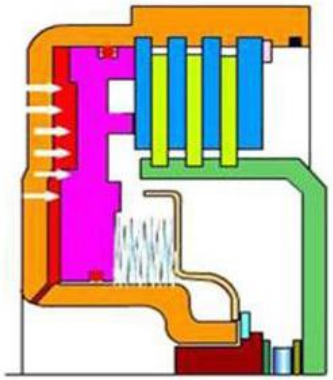
Clutch for 5R35 Automatic transmission



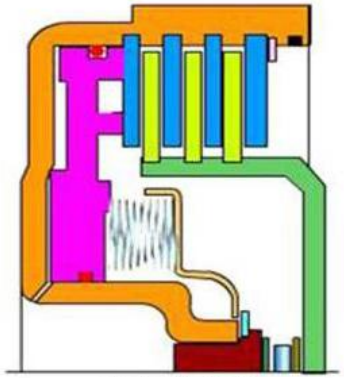
Operating Principles for Clutch of 5R35 Automatic Transmission



Components of clutch



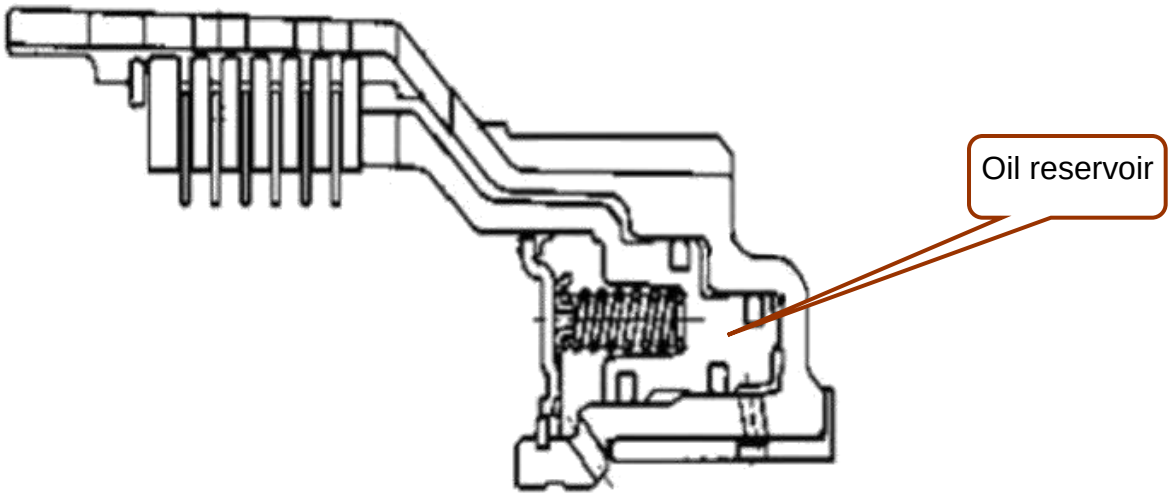
Clutch engaging



Clutch detaching

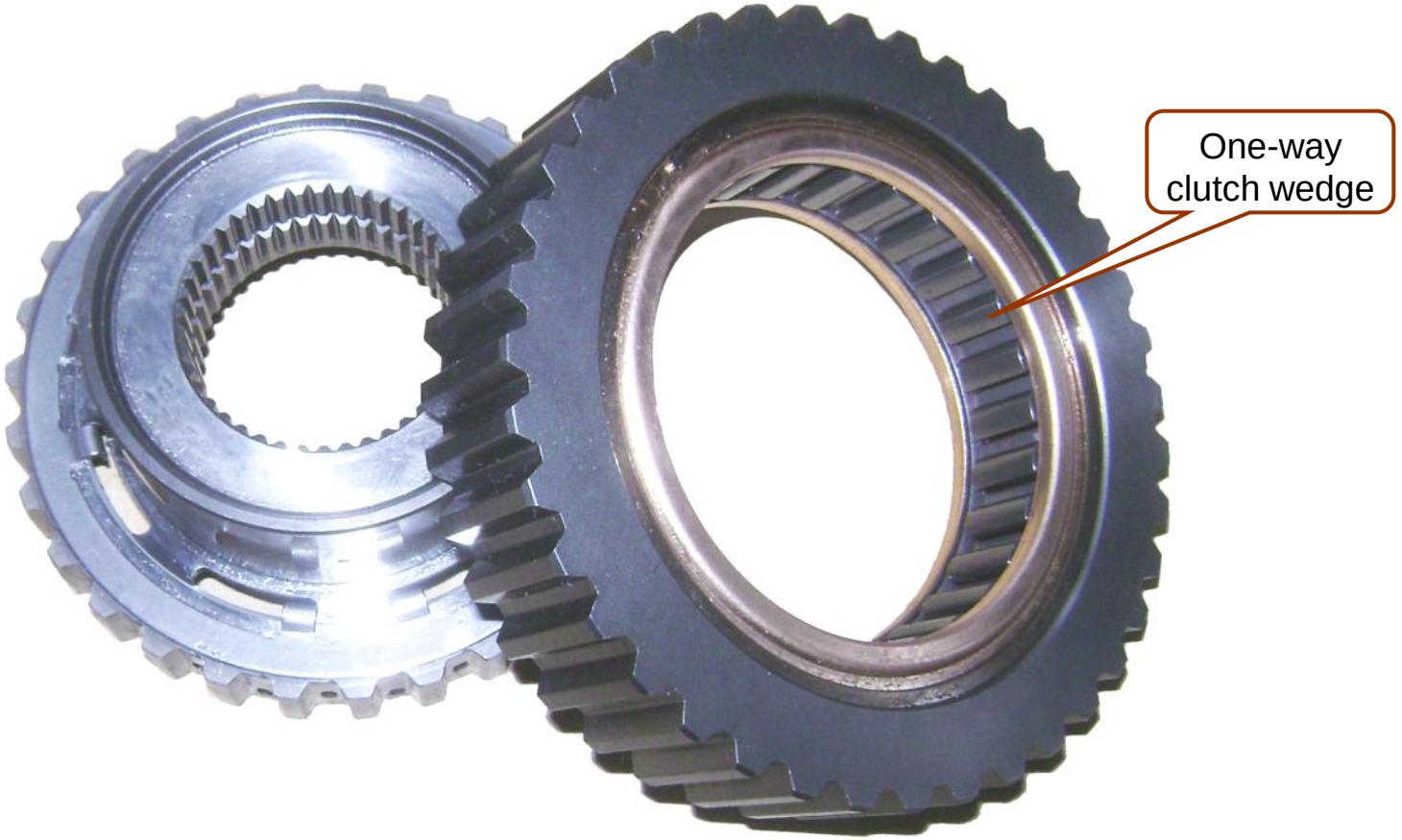
Engagement: when there exits oil pressure in the left cavity of piston, the piston moves rightwards against the action of return spring and presses out the friction lining and steel disc, so that the clutch is engaged and the friction force is occurred, and then the power is transmitted from the input shaft to the output shaft.

Detaching: when there is no oil pressure in the left cavity of piston, the piston moves leftwards under the action of return spring; at this time, there is no pressing force between the steel disc and the friction lining, so the clutch is detached and the power cannot be transmitted from the input shaft to the output shaft.



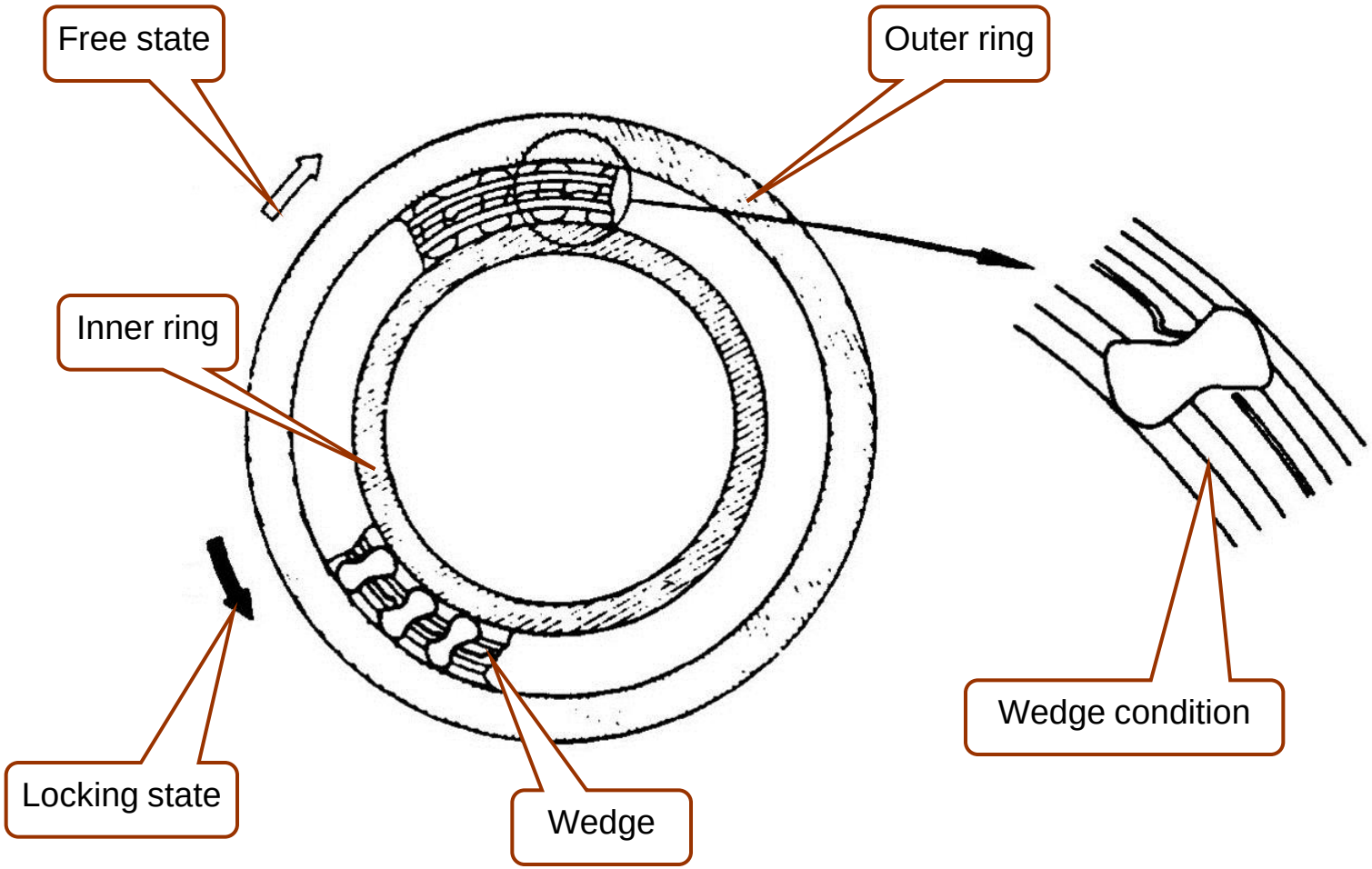
- Clutch performance regulating valve—With this structure, two oil reservoirs can be provided for the direct clutch piston, and thus the clutch performance can be regulated if necessary.
- With the help of this structure, the gear shifting performance is improved and the balance between various performances is maintained.
- Piston which eliminates centrifugal force—Rotary clutch uses the piston to eliminate the centrifugal force, so that the hydraulic action caused by the centrifugal force is eliminated.

One-way Clutch for 5R35 Automatic Transmission

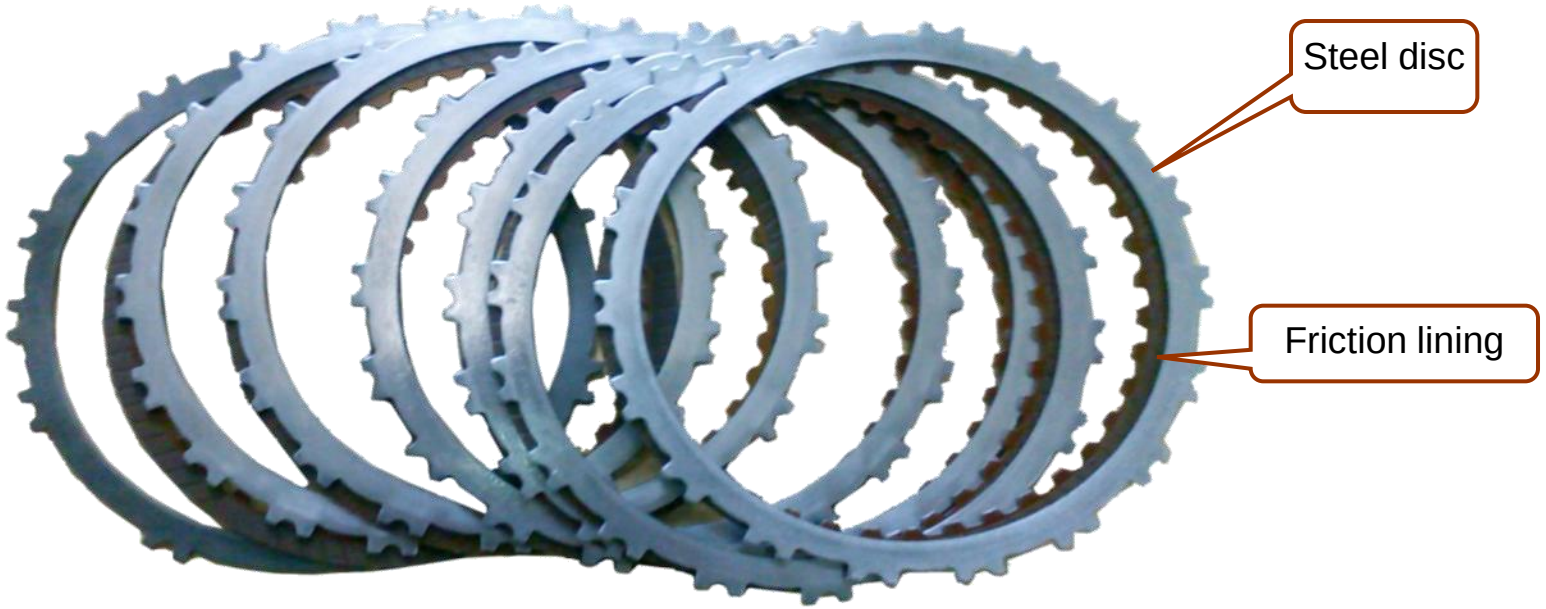


Operating Principles for One-way Clutch of 5R35 Automatic Transmission

The one-way clutch is used for fixing or connecting certain sun gears, planetary carriers, annular gears and other basic elements in several planetary gear sets, so as to achieve the gears of different drive ratios for the planetary transmission. And the fixing or connecting action is exerted through the one-way locking mechanism, so the fixing or connecting action can be made only in single direction. The element can be fixed or connected when the forced direction and locking direction of the element connected with it is the same, and be released or disconnected when the two directions are opposite.

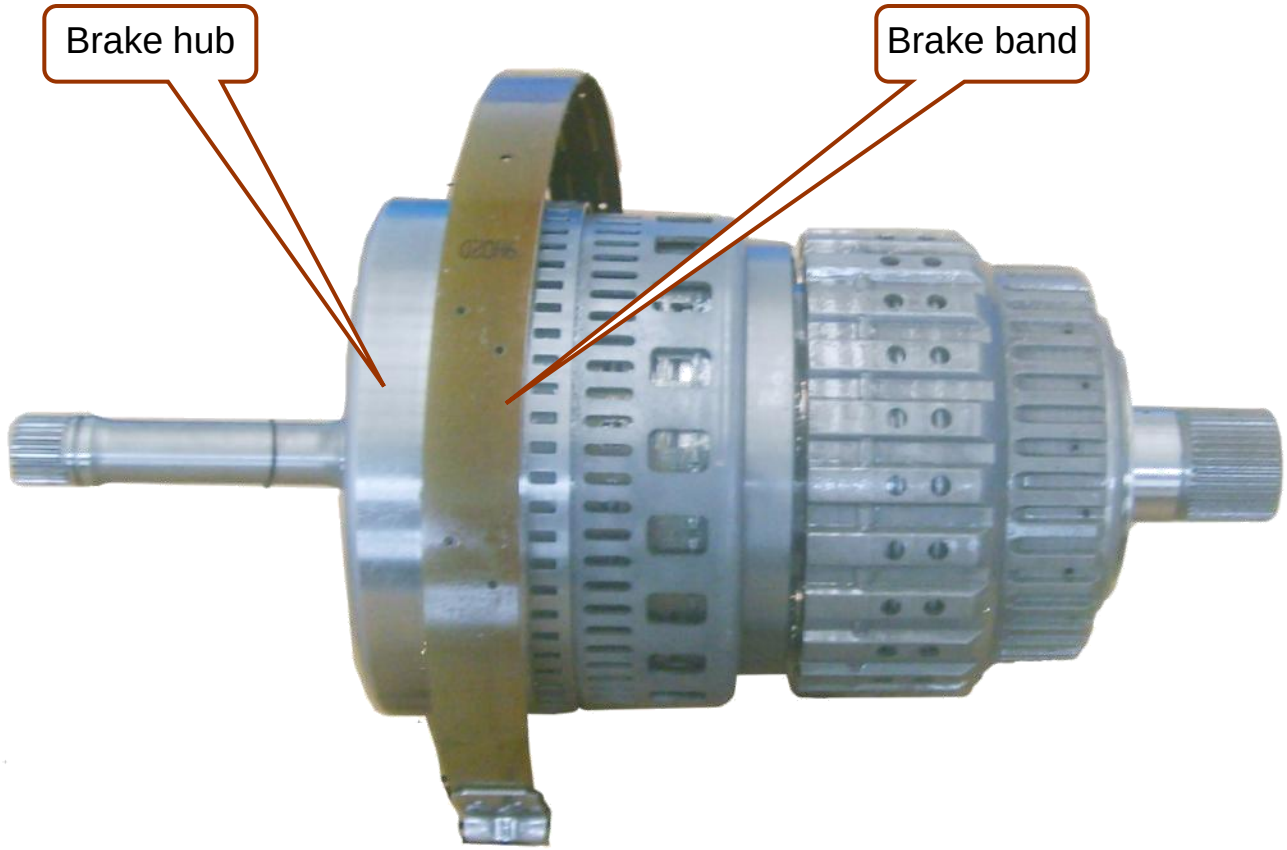

Free state
Outer ring
Inner ring
Wedge condition
Locking state
Wedge

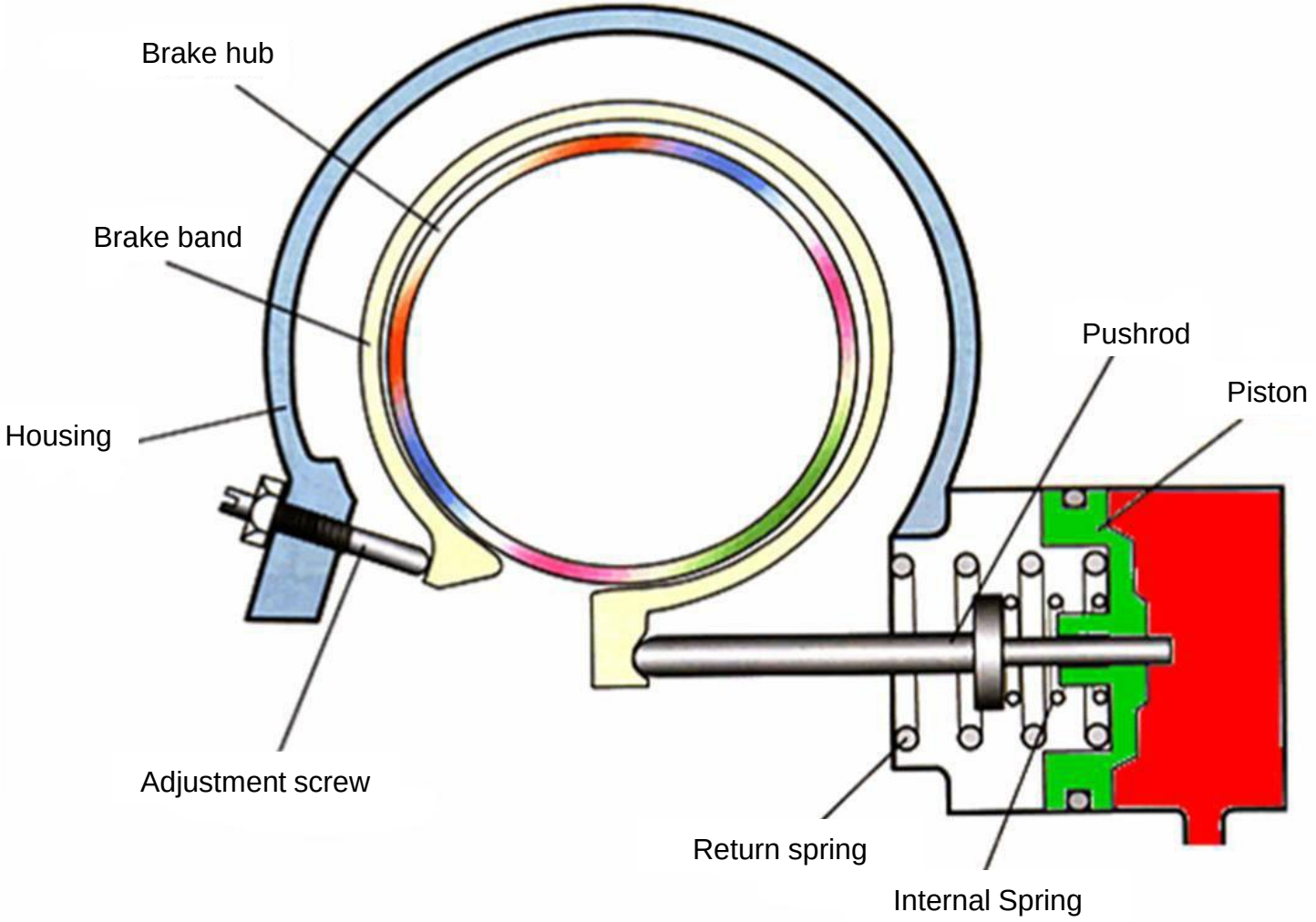
Disc Brake Lining Set for 5R35 Automatic Transmission



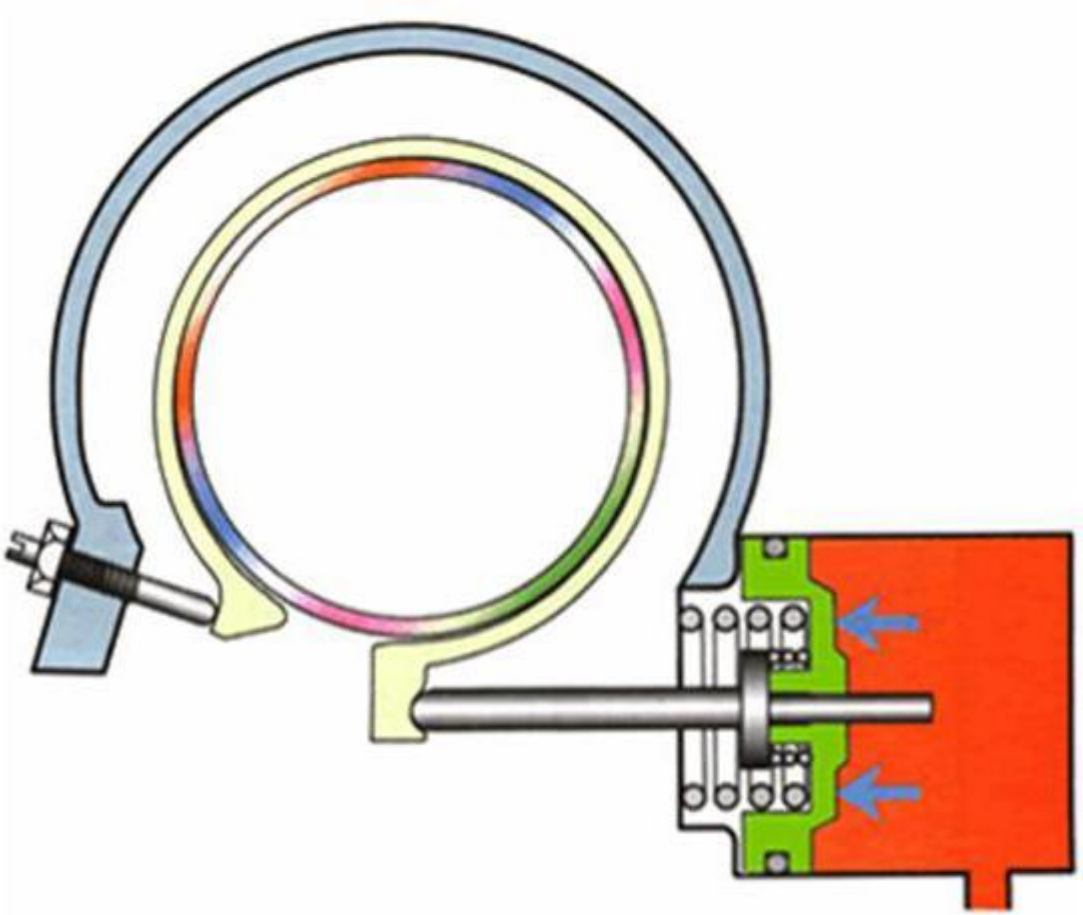
The disc brake (equivalent to the clutch drum) is fixed on the automatic transmission housing; when the brake operates, certain element in the planetary gear set connected with the brake hub will be fixed and cannot rotate.

Band Brake for 5R35 Automatic Transmission



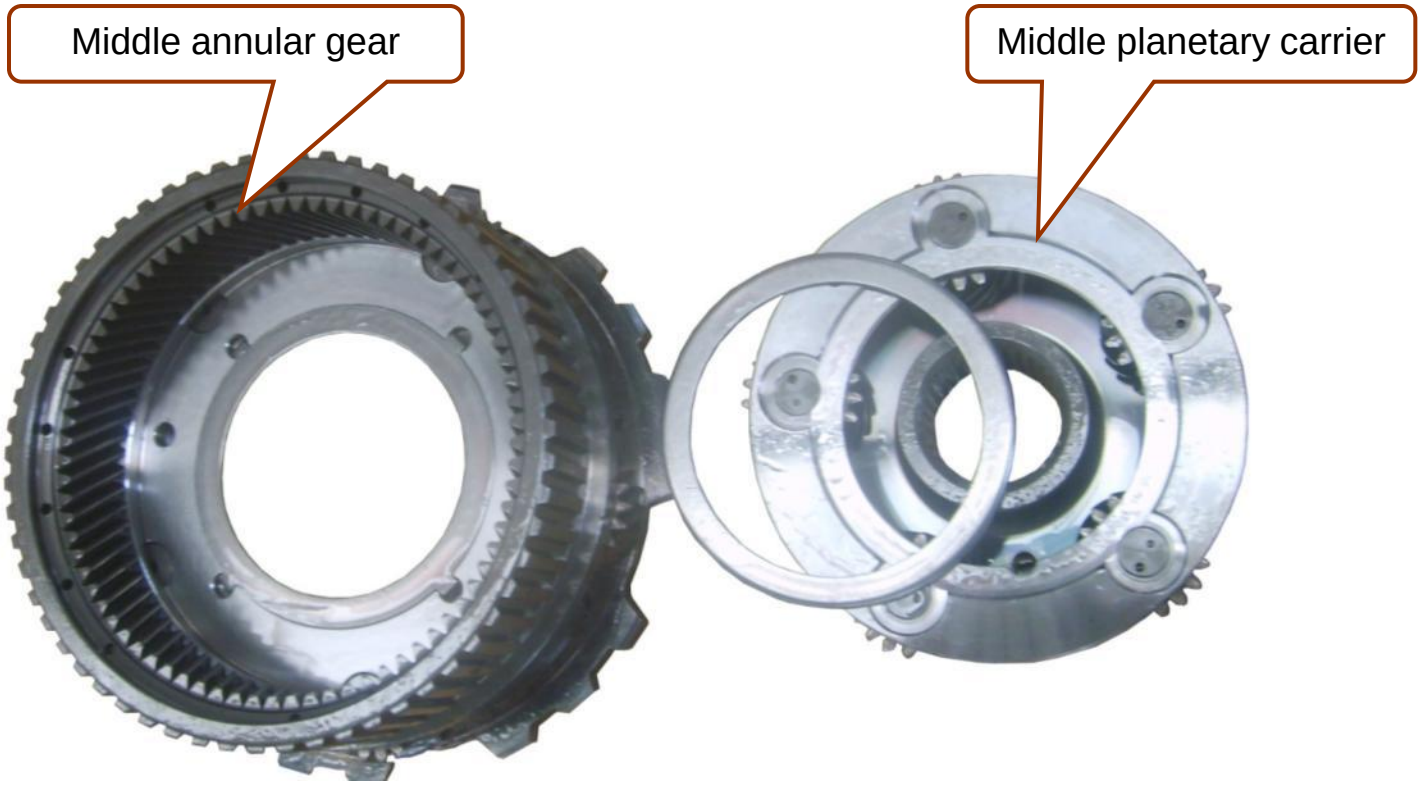


Band brake under non-braking status



Band brake under braking status

Planetary Gear Mechanism of 5R35 Automatic Transmission



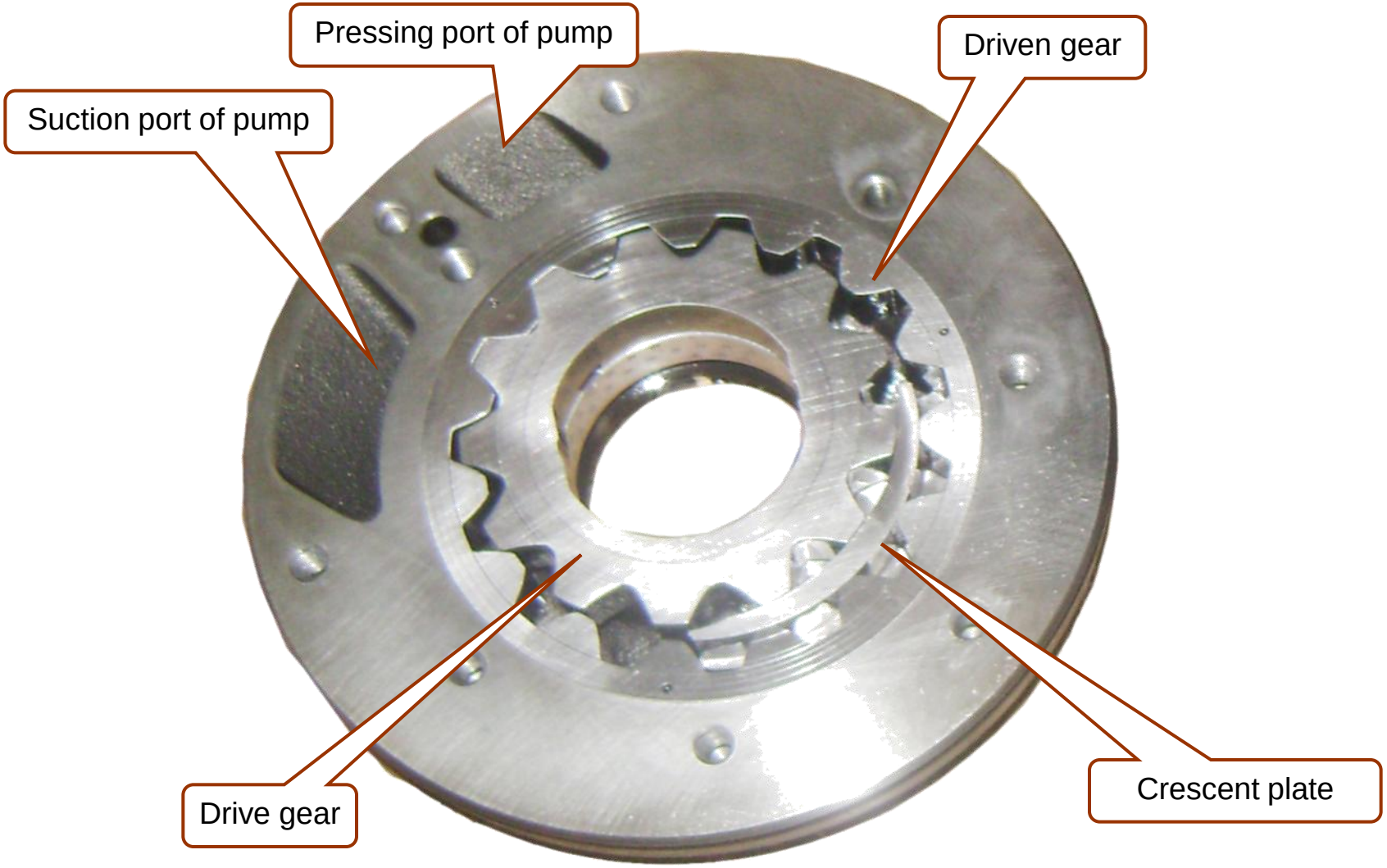
Planetary gear drive rules

Drive scheme for planetary gear mechanism

Scheme No.	Fixture	Driving parts	Driven parts	Speed status	Rotating direction
1	Annular gear	Sun gear	Planetary carrier	Deceleration	Same direction
2		Planetary carrier	Sun gear	Acceleration	
3	Sun gear	Annular gear	Planetary carrier	Deceleration	Same direction
4		Planetary carrier	Annular gear	Acceleration	
5	Planetary carrier	Sun gear	Annular gear	Deceleration	Opposite direction
6		Annular gear	Sun gear	Acceleration	
7	Any two components are integrated			Direct drive	
8	No component is fixed, and any two components are not integrated			Neutral gear (not transmitting power)	

Hydraulic pump of 5R35 automatic transmission

- An internally tangent gear pump is used for the pump.
- The power consumption of the pump is minimized by improving mechanical efficiency.
- The pump, made of steel and aluminum, is light in weight.


Pressing port of pump
Driven gear
Suction port of pump
Drive gear
Crescent plate

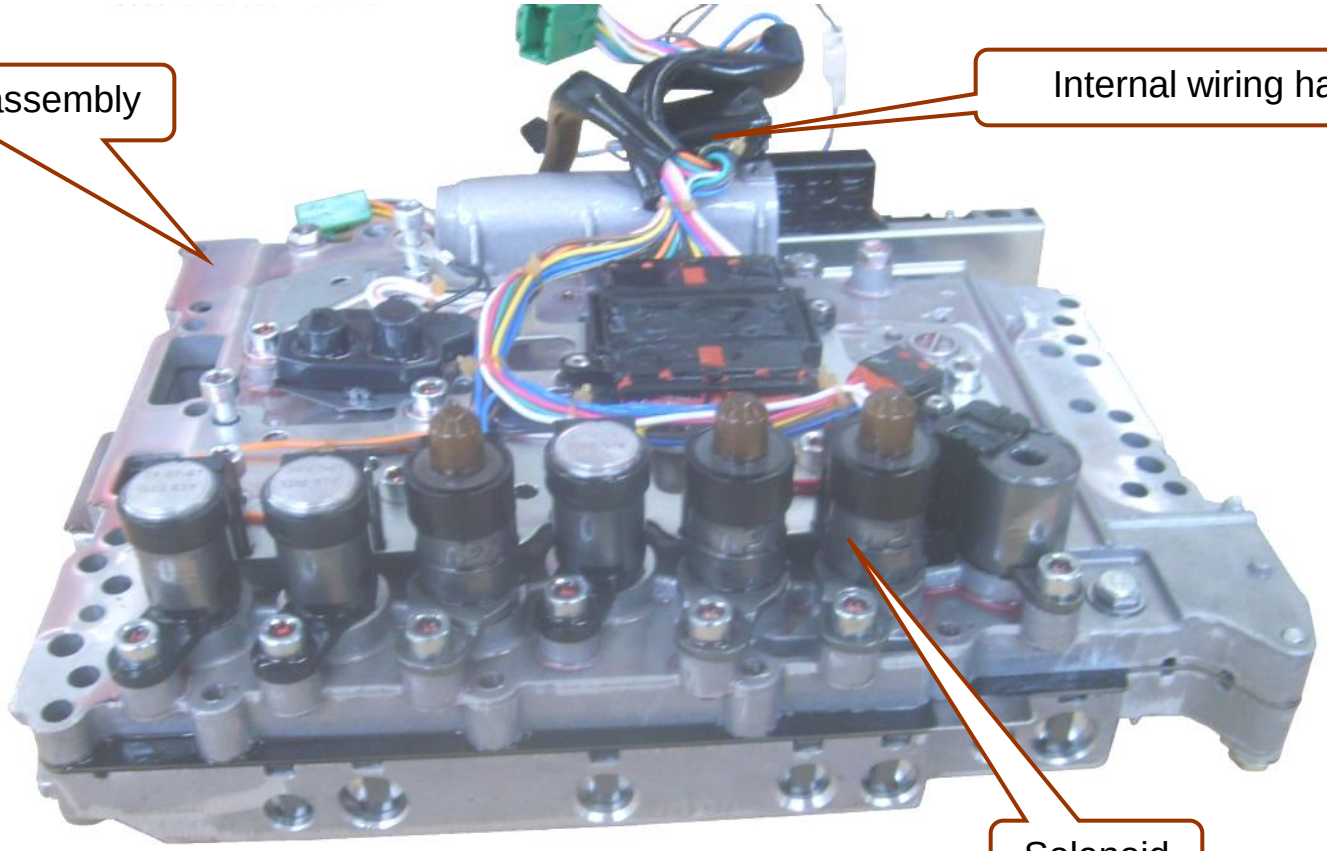
Operating principles for hydraulic pump of 5R35 automatic transmission

During the operation of pump, the driving gear drives the driven gear to rotate, and at the end of gear disengagement (inlet cavity), the volume becomes larger and larger, resulting in vacuum suction force which prompts the ATF to flow into the pump from oil sump through strainer. And at the end of gear engagement (outlet cavity), the volume becomes smaller and smaller, and the oil pressure rises, which results in ATF being squeezed out from the oil cavity. Therefore, pump runs constantly to generate the oil with certain pressure which is supplied for the working of automatic transmission.

5R35 automatic transmission fluid filter

- After the automatic transmission hydraulic system components have been in use for a long time, the fluid may deteriorate or be polluted by dust particles in the air due to wear particles of parts, friction lining peeling off or excessive wear of seal, which may cause stuck slide valve and blocked orifice. Therefore, strict measures should be taken to filter the fluid.

Hydraulic unit of 5R35 automatic transmission



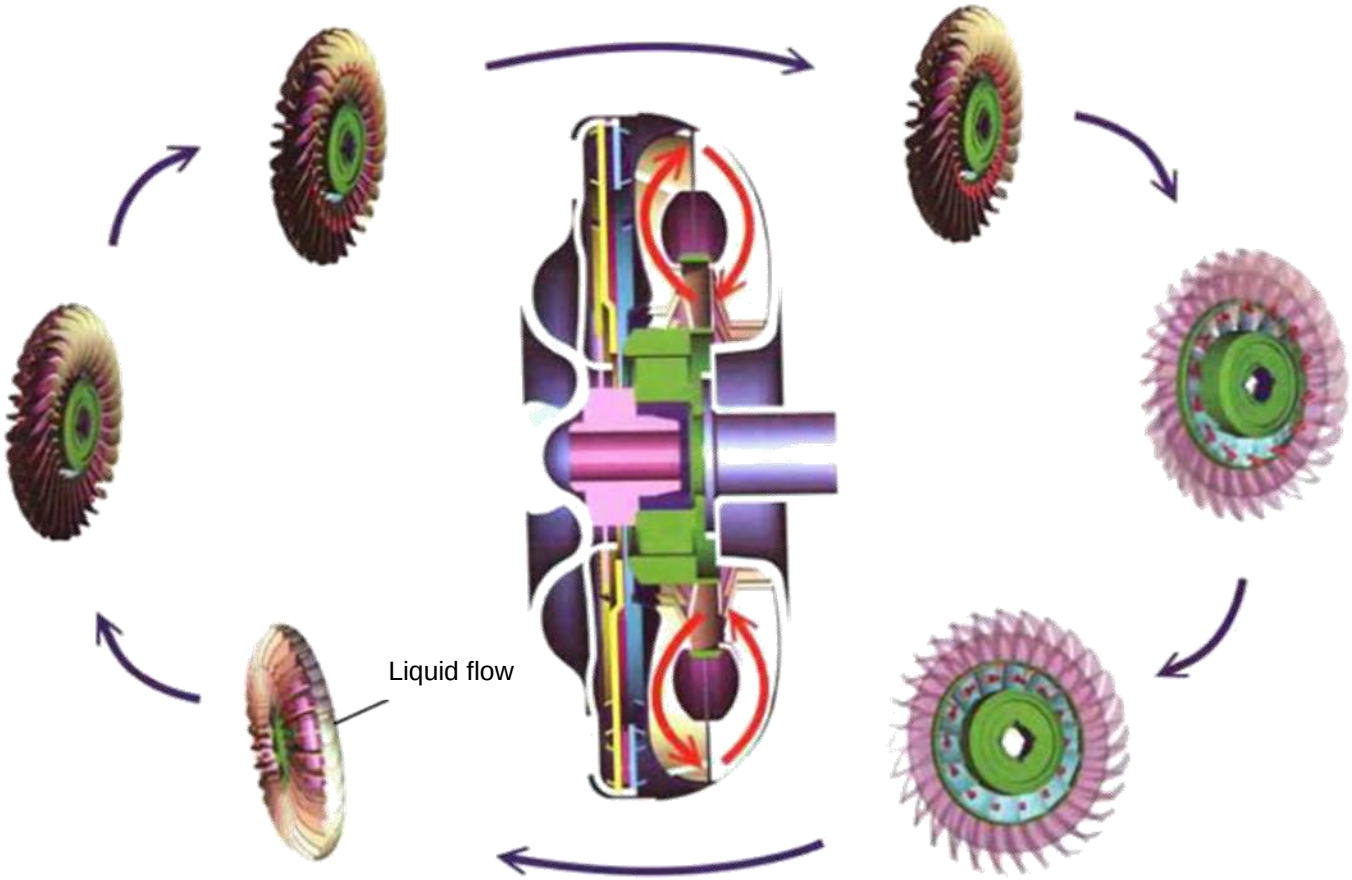
Functions of hydraulic unit for 5R35 automatic transmission

- Hydraulic unit is the interface between computer and machinery;
- Ensure the flow and pressure required for implementing some function;
- Provide or cut off the supply for clutch and brake;
- Provide the supply for torque converter loop, lubrication loop and cooling circuit.

Hydrodynamic torque converter

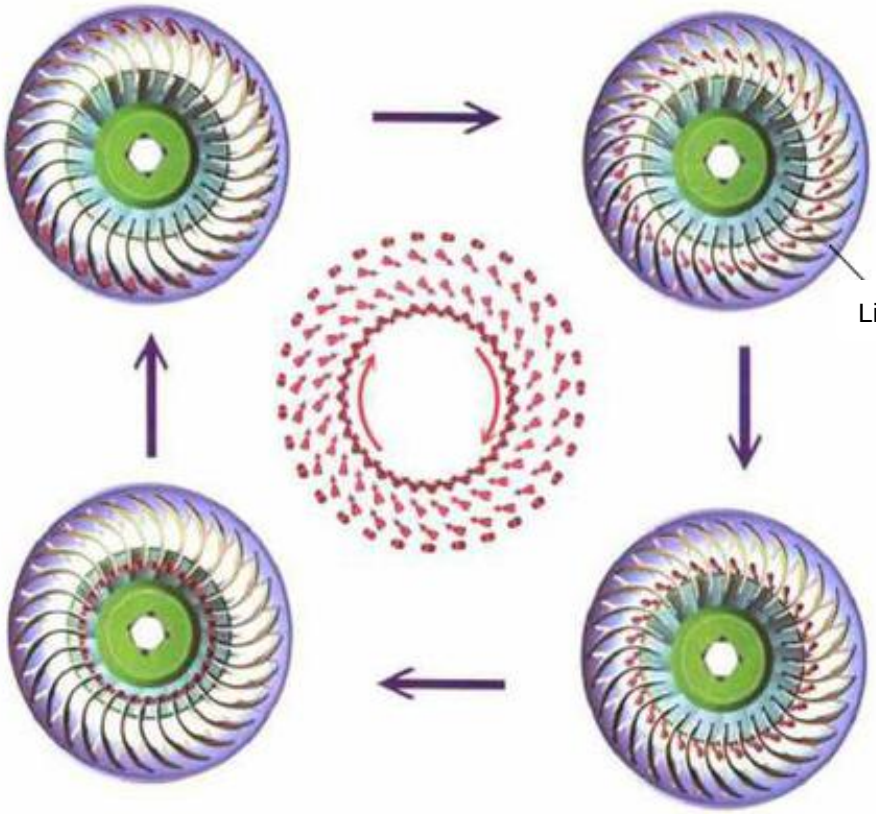
- Hydrodynamic torque converter is a single-stage two-phase three-dimensional type converter, which transmits engine power to automatic transaxle.
- The physical form of the following part of the hydrodynamic torque converter is changed from round shape to flat form, which is helpful for reducing the length.

Vortex flow of Hydrodynamic torque converter

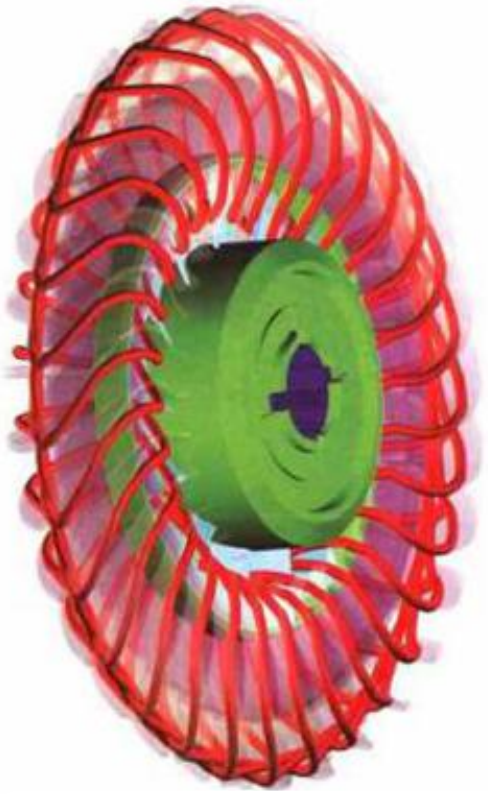


The liquid flow which flows into pump impeller, turbine and guide wheel successively and at last returns to the impeller is called vortex flow

Circulating flow of hydrodynamic torque converter

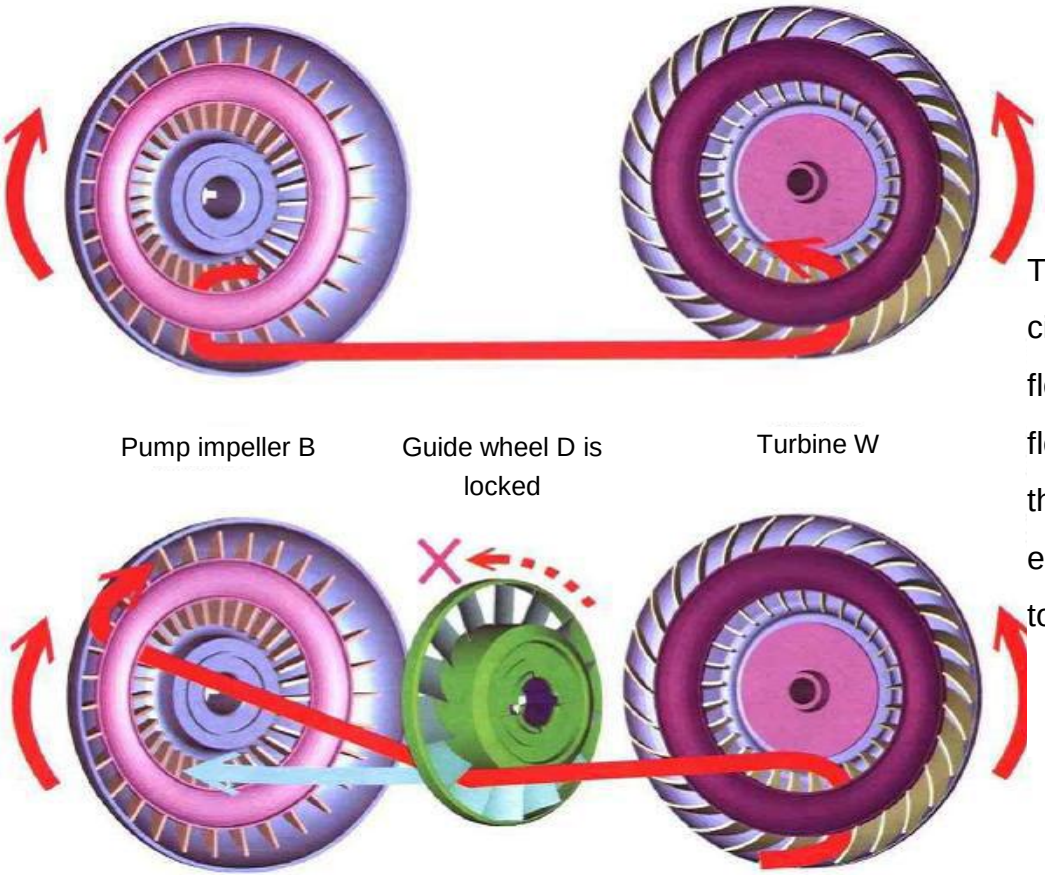


The liquid flow along the rotating direction of hydrodynamic torque converter is called circulating flow



The actual liquid flow direction has the shape of a helix resultant of vortex and circulating flow

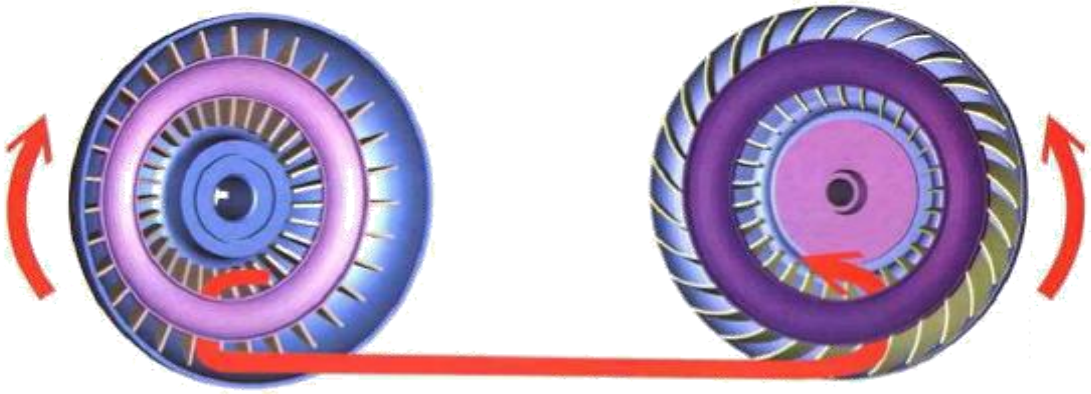
Working condition of hydrodynamic torque converter at low vehicle speed



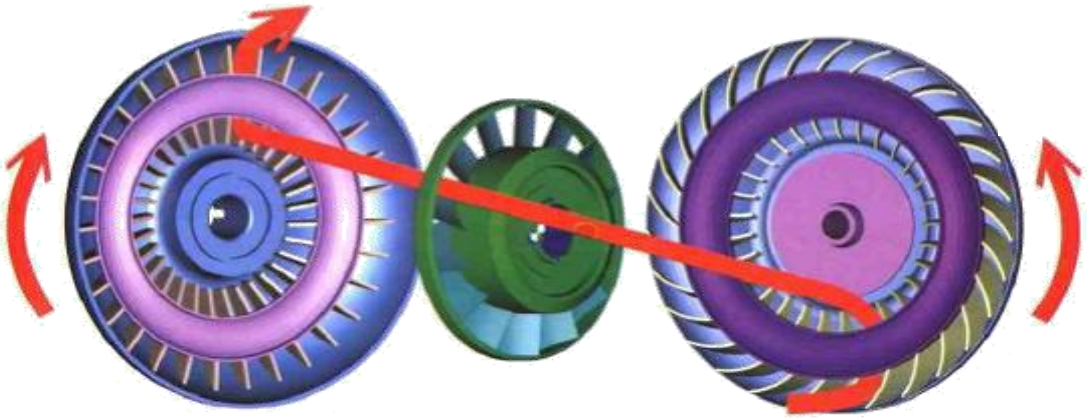
The vortex flow speed Va is higher than the circulating flow speed Vb. The resultant flow with the resultant speed Vc of the two flow impacts the front of guide wheel, so the one-way clutch is locked as taking effect, which causes increased output torque of turbine

$$M_W=M_B+M_D.$$

Working condition of hydrodynamic torque converter at medium vehicle speed



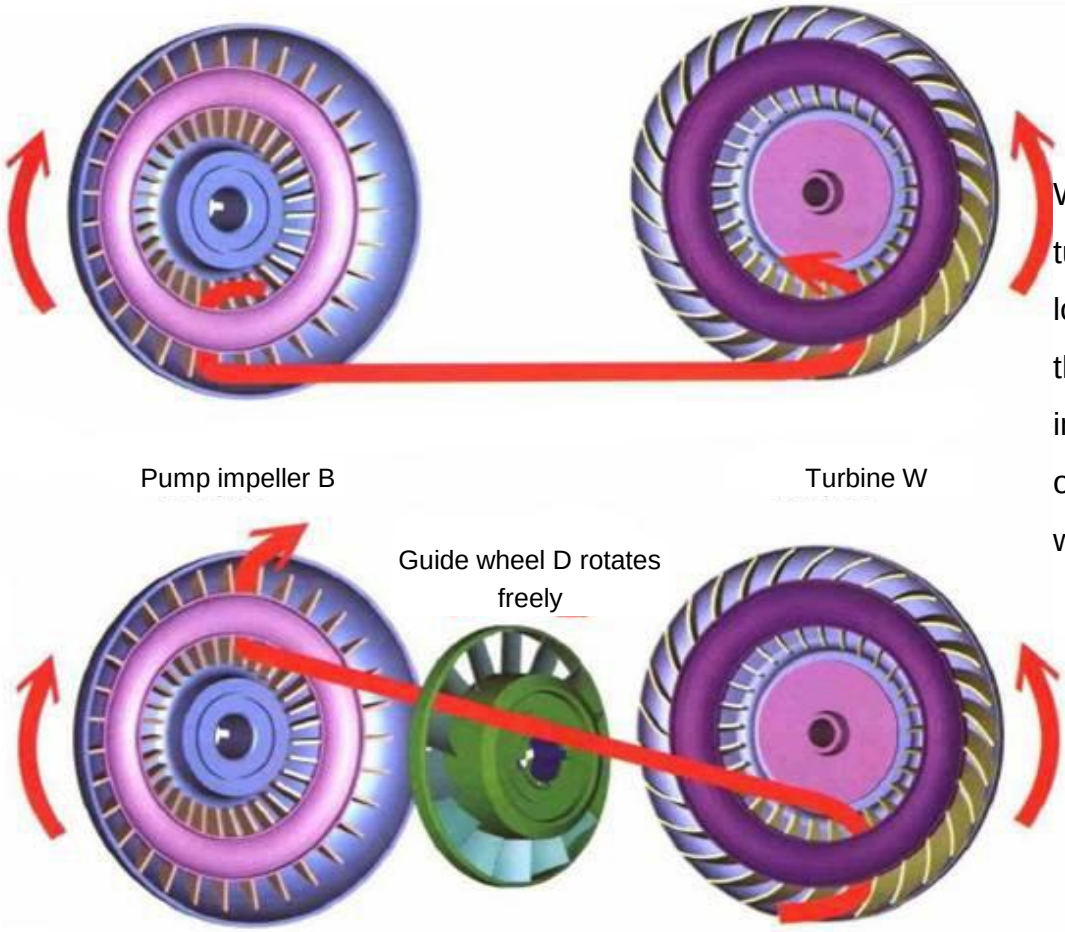
Pump impeller B Guide wheel D Turbine W



As the turbine speed is 0.85 times the impeller speed, the resultant liquid flow direction is tangential to the guide wheel blade, M_D=0. At this time, the hydrodynamic torque converter acts as a coupler, and the corresponding speed is called as “coupling point”.

$$M_W = M_B$$

Working condition of hydrodynamic torque converter at high vehicle speed



When the pump impeller speed closes to the turbine speed, vortex flow speed reaches the lowest while circulating flow speed reaches the highest, and then the resultant flow impacts the back of guide wheel. At this time, one-way clutch is released, and the guide wheel rotates freely.

$$M_W = M_B$$

Chapter 2: Repair & Maintenance of 5R35 Automatic Transmission

Check of 5R35 automatic transmission fluid level

1. Renewal of 5R35 automatic transmission fluid
2. Stall test of 5R35 automatic transmission
3. Pressure test of 5R35 automatic transmission pipeline
4. Correct traction for vehicle with 5R35 automatic transmission
5. Reading of fault code of 5R35 automatic transmission

1. Check of 5R35 automatic transmission fluid level

1. Drive the vehicle for 10 minutes under urban traffic condition after engine warm-up (the air temperature is 20℃, and the fluid temperature reaches 70-80℃ after 10min of driving).
2. Park the vehicle on a level ground, and apply the parking brake.
3. When the engine is idling, push the shift lever to N position from P position while depressing the brake pedal.
4. When the P or N gear is engaged, check whether the fluid level is within the specified range of the dipstick.

5. Wipe off all dirt all over the dipstick before taking it out.

Note: If the transmission fluid smells burnt, it means that the fluid is polluted by bushing and wear particles, and it may be necessary to check & repair the transmission.

6. Check whether the fluid level is lower than HOT mark of dipstick. If the level is low, refill AFT till the level reaches the HOT mark.

- ATF model: APOLLOIL ATF RED-1K
- Filling quantity of ATF: up to Great Wall Motor Company Limited.

Note:

- When the fluid level is too low, the pump may take in air, which may cause various abnormal situation. The sucked air forms compressible bubbles in the hydraulic system, which results in unstable pressure and causes shifting delay, slipping of clutch and brake, etc.
- If ATF is excessive, bubble generates as gear rotates, causing the same situation as the fluid level is low, which may accelerate the deterioration of AFT. Under the two circumstances, bubbles may result in overheating and fluid oxidation, and disturb the normal operation of valve, clutch and brake. In addition, bubbles may cause the fluid to overflow from the air vent of the drive axle, which may be mistaken for leakage.

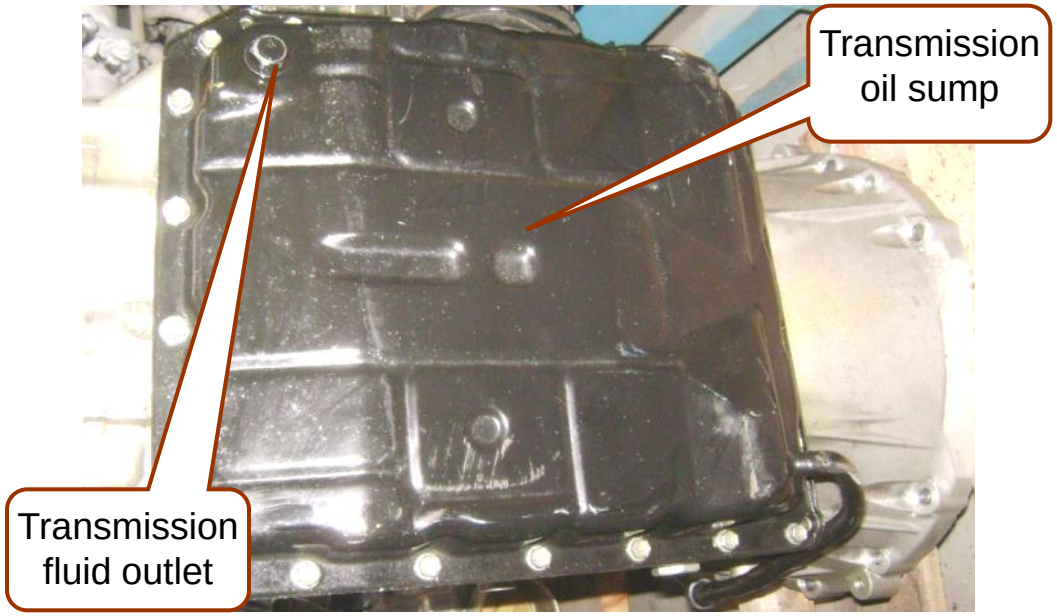
7. Insert the dipstick steadily into the filling pipe.

- Note:
- When it is necessary to check the fluid level at lower temperature (20-30℃), or during the renewal of fluid, turn the dipstick to COLD position, then check the fluid level under the above HOT condition.
- Use paper without ramie cotton not cloth or scrap material to wipe off the oil on the dipstick.
- Make sure that the dipstick is fixed on the filling pipe.

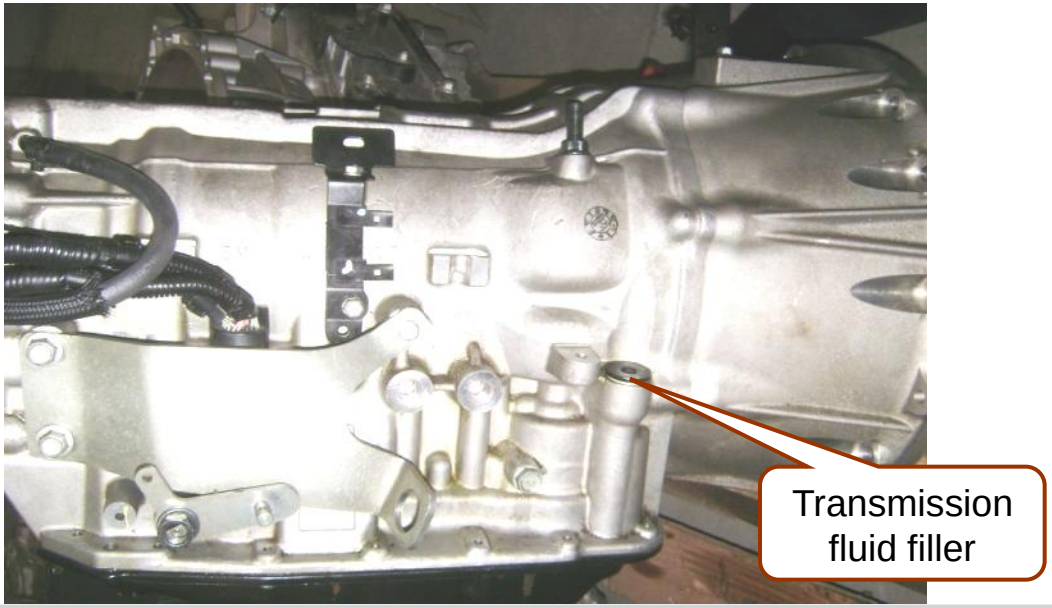
Check for fluid state		
Fluid state	Possible reasons	Measures
Varnish (very sticky)	Damaged or worn clutch and brake band	Change ATF, and check AT or the vehicle (wiring harness, cooling pipe, etc.).
Ivory or turbid	Water in oil	Change ATF, and check whether there is water in the oil.
Mixed with metal powder	Abnormally worn AT sliding members	Change ATF and test the AT.

2. Renewal of 5R35 automatic transmission fluid

- Disconnect the hose connecting the transmission and oil cooler (inside the radiator)
- Take off the drain plug (A) at the bottom of transmission to drain ATF.

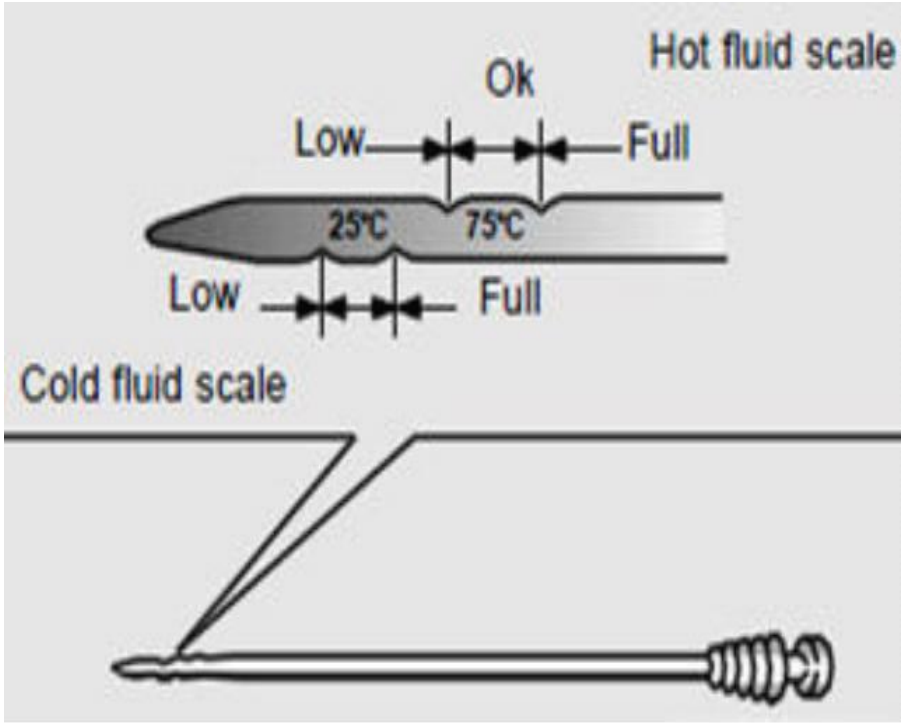


- Fit new gasket, and then tighten the drain plug to the specified torque.
- The tightening torque is 58.83-～63.74Nm.
- Add new transmission fluid via the filling pipe, and the filling amount is about 8L.
- Warning: never overfill.
- Remarks: check if the transmission fluid is polluted. If it is polluted, repeat steps from 2 to 5.



- Add new oil via the filling pipe.
- Reconnect the hose disconnected in step 1, and put the dipstick at the original place. (Putting the dipstick at the original place means to put the dipstick into filling pipe after the dirt on it being wiped off) .
- Verify ATF check steps from 3 to 7.

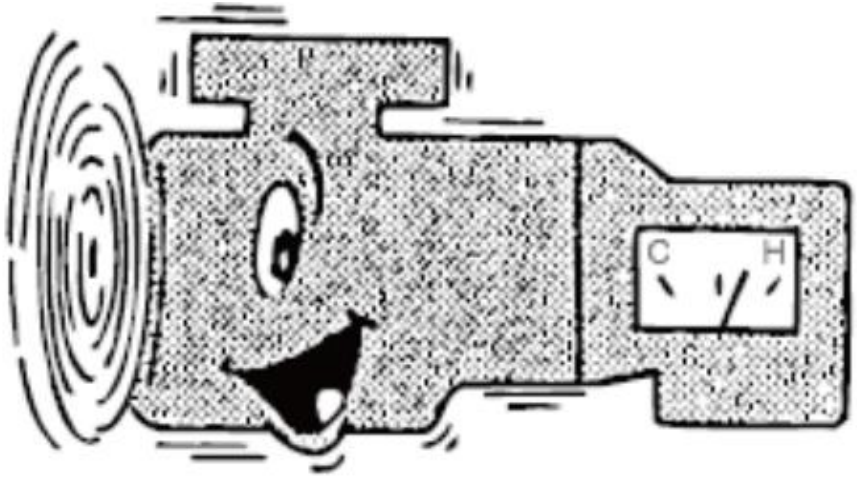
- Drive the vehicle in urban area for 10 minutes until the fluid temperature reaches 70-80℃. Then recheck the fluid level. The level should be at the HOT position.



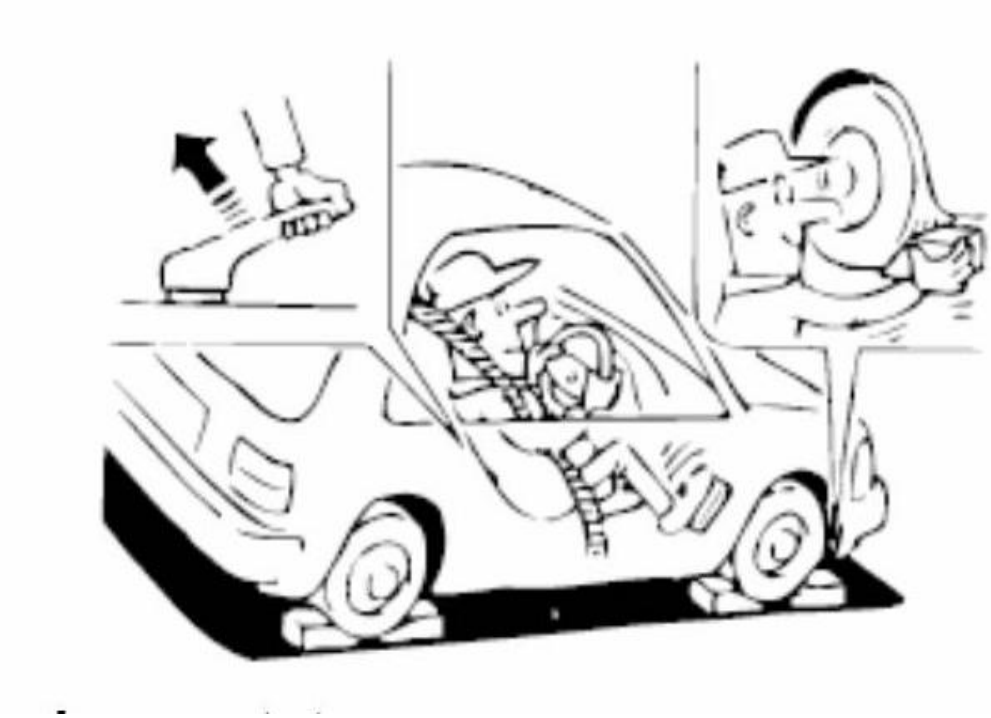
3. Stall test of 5R35 automatic transmission

- Test procedure
- Check the engine oil level and refill if necessary.
- Drive the vehicle for 10min after engine warm-up to make the fluid temperature reach 70-80℃ (158-176F). Refill if necessary.

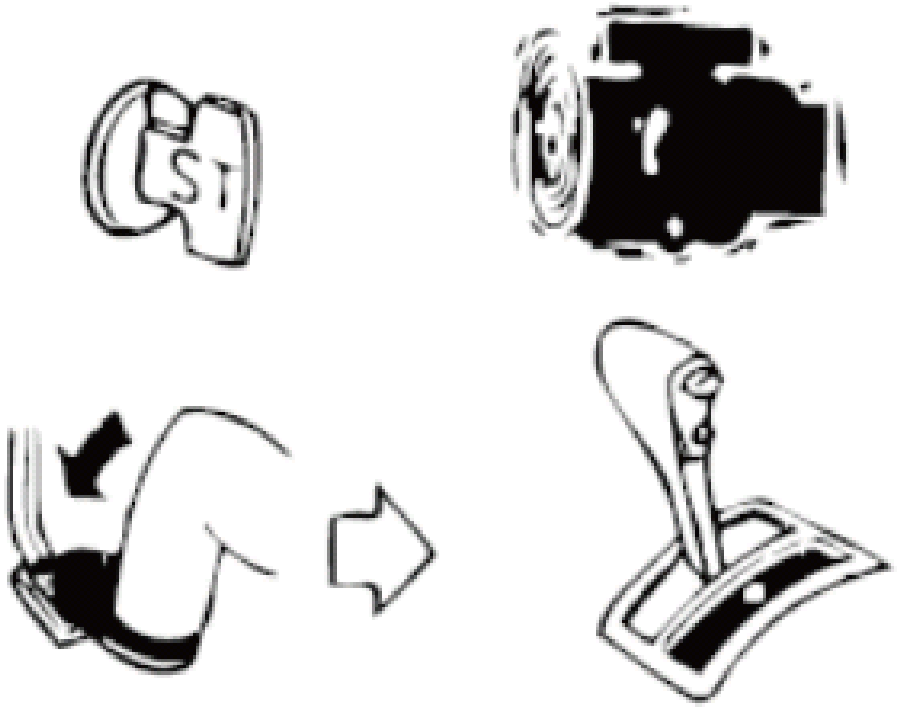
- Note: at the ambient temperature of 20℃ (68℉), drive the vehicle for 10 minutes under urban traffic situation to make the fluid temperature reach 70-80℃ (158-176℉).



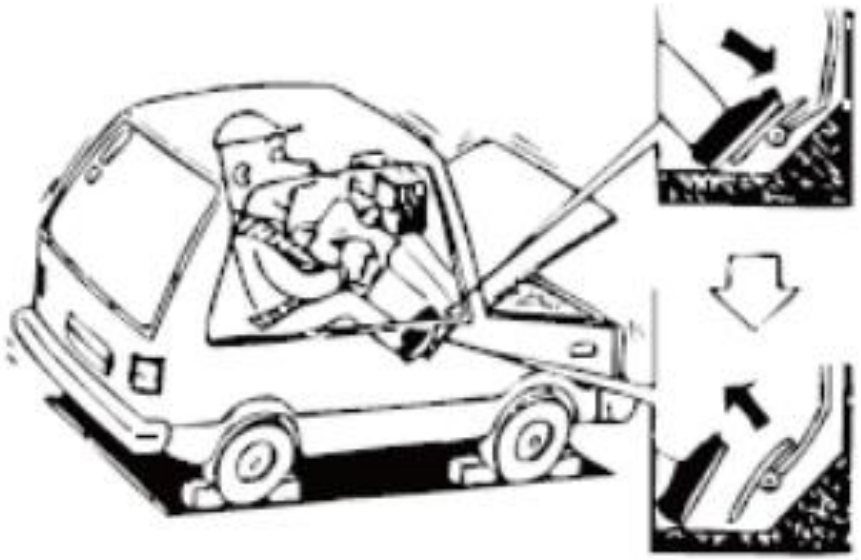
- Make sure that the parking brake is applied, and the wheel is stationary.



Start the engine, depress the brake pedal, and turn the shift lever to D position.



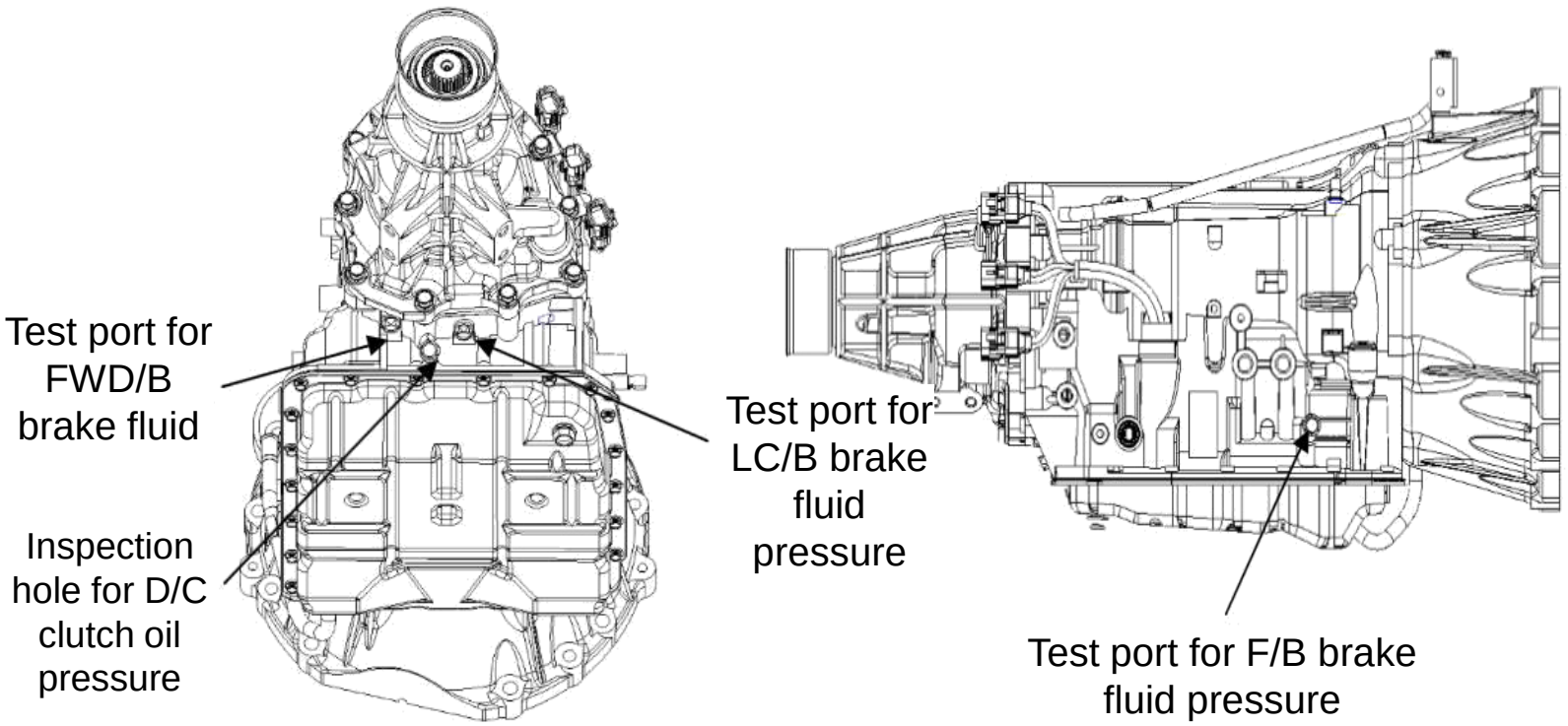
- Depress the accelerator pedal gradually while stepping on the brake pedal.



- Quickly read the stall speed and move your foot away the accelerator pedal. The stall speed shall be 2,500r/min at D gear.
- Note: during test, the time for stepping on accelerator pedal shall be no more than 5 minutes.
- Turn the gear lever to N position.
- Cool AFT oil temperature.
- Note: the engine should run at idle speed for at least 1 minute.

Fault diagnosis			
Stall test	Shift lever positions		Expected faulty part
	D、M	R	
	H	O	●Forward brake ● Forward one-way clutch ●1st one-way clutch ●3rd one-way clutch
	O	H	●Front wheel brake ●High/low reverse clutch ●1st one-way clutch
	L	L	Engine and one-way clutch for hydrodynamic torque converter
	H	H	Low pipeline pressure
	O	O	Check for the fastness of one-way clutch in hydrodynamic torque converter, or check it through other tests
O: Stall speed is within the specified range. H: Stall speed is higher than the specified value. L: Stall speed is lower than the specified value.			

4. Pressure test of 5R35 automatic transmission pipeline

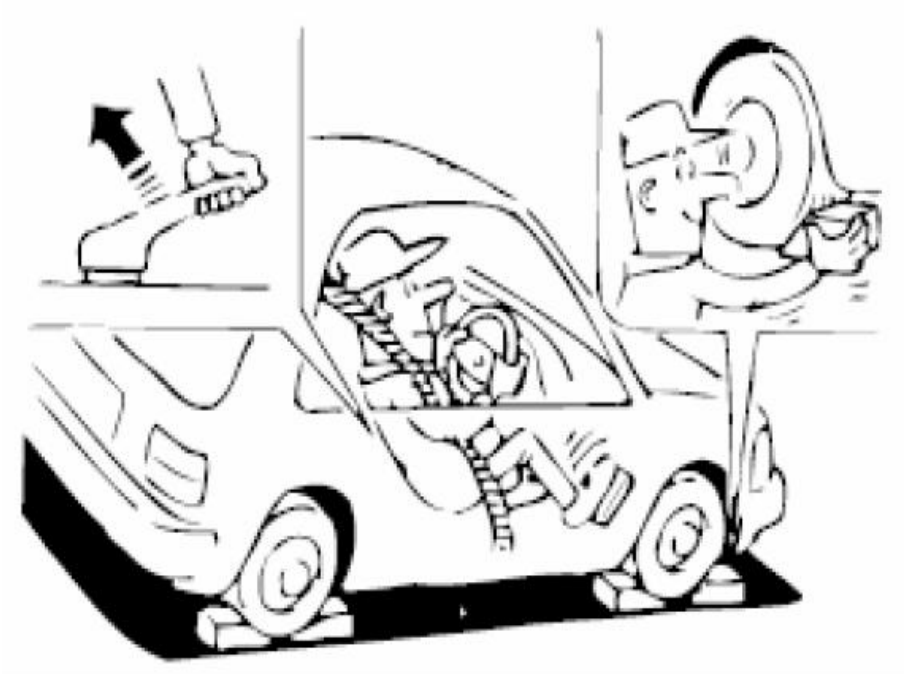


Pipeline pressure test port

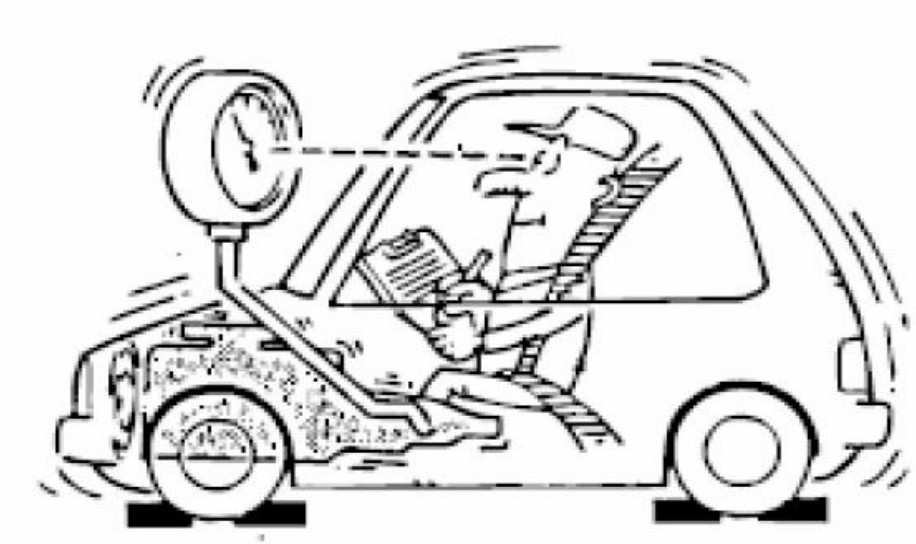
Test steps:

- Check for the engine oil level and refill the oil if necessary.
- Drive the vehicle for 10min after engine warm-up to make the AFT temperature reach 70-80℃ (158-168℉), then check the AFT level.
- After the preheating of AT, take off the pipeline pressure testing plug, then mount hydraulic pressure gauge to measure.
- Note: it is necessary to use the O-ring installed on hydraulic pressure testing plug during the measurement with hydraulic pressure gauge.

- Make sure that the parking brake is applied and the wheels are stationary.



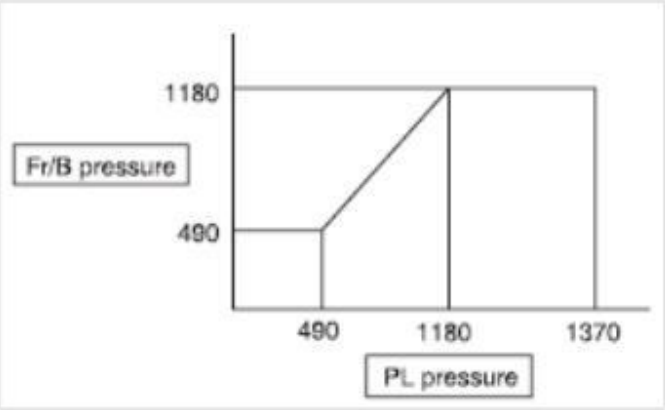
- Start the engine, measure the pipeline pressure as the engine works at an idle speed or a stall speed.
- Note:
- Keep stepping on the brake pedal during the measurement.



- For the measurement of pipeline pressure at stall speed, see Stall Speed Test.
- After the measurement, install hydraulic testing plug, and screw it to the specified torque of 4.8-9.8N.m.

Standard value for pipeline pressure of 5R35 automatic transmission

Engine speed	Pipeline pressure (kpa (kg/cm²))	
	RAI gear	Drive gear
Idling	490(5.0)	490(5.0)
Stall	1180(12.0)	

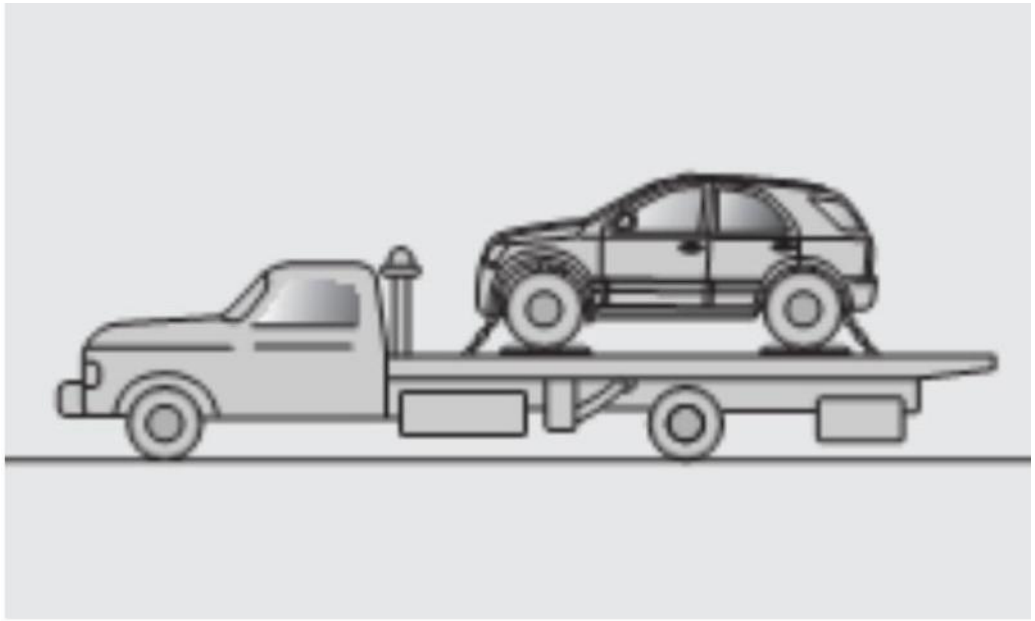


Fault diagnosis		
Results		Possible causes
Idling	Low at all gears	It may be caused by faulty pressure transmission system or low output of pump, etc. Such as: ●Worn pump ●Clingy pressure regulating valve or plug, and aged spring ●Oil leakage net →oil pump→ pressure leakage in the channel of pressure regulating valve ●Low idle speed for the engine
	Low at particular gear	The cause may be that there is pressure leakage on relevant equipments or channels to a certain extent after the pressure is diverted by the manual valve.
	High	It may be caused by the faulty sensor or poor pressure regulating performance Such as: ●Faulty acceleration sensor ● Faulty oil temperature sensor ● Faulty pipeline pressure solenoid (clingy or blocked strainer, short-circuit when OFF) ● Clingy pressure regulating valve or plug

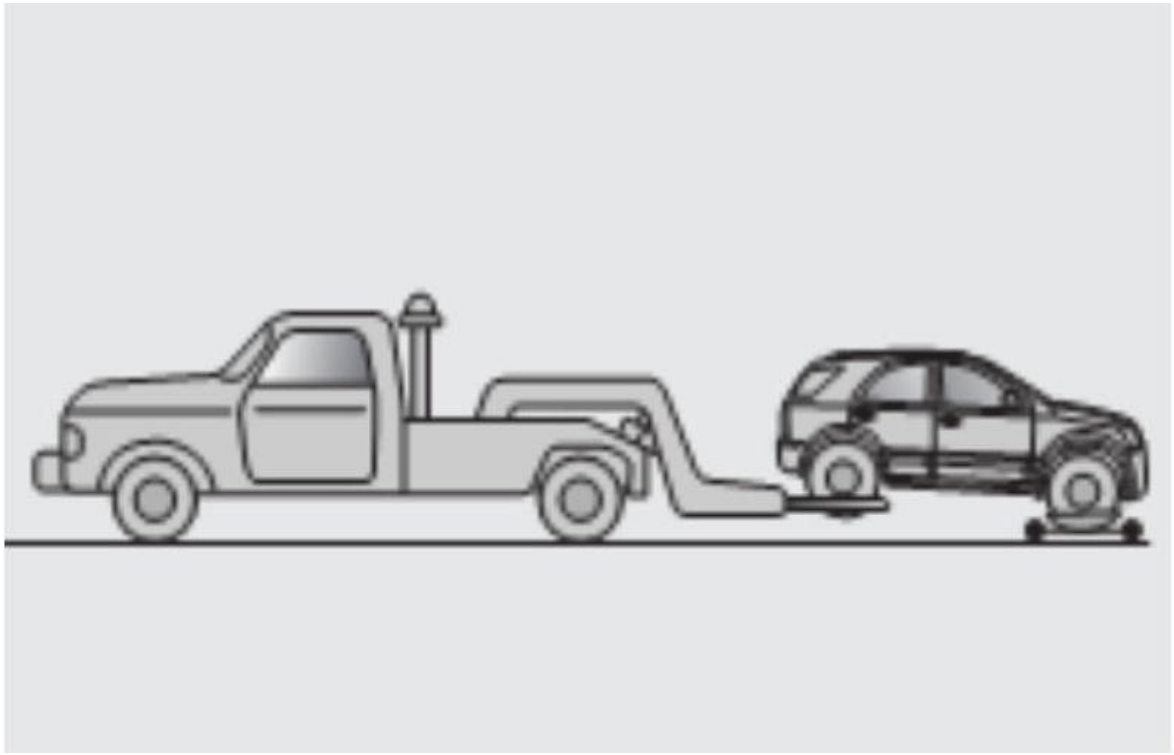
Fault diagnosis		
Results		Possible causes
Idling	Hydraulic pressure is not higher than that during the idling	It may be caused by faulty sensor or poor pressure regulating performance Such as: ●Faulty acceleration sensor ●Faulty TCM ●Faulty pipeline pressure solenoid (clingy strainer and/or short-circuit when ON) ●Clingy pressure regulating valve or plug ●Clingy control valve or blocked strainer.
	Hydraulic pressure increases, but not within the specified range.	It may be caused by faulty pressure transmission system or sensor, and poor pressure regulating performance Such as: ● Faulty acceleration sensor ● Faulty pipeline pressure solenoid (clingy and/or blocked strainer) ●The adherence of pressure regulators or pressure regulating plugs ● The adherence of control valve, the blocking of control strainer.
	Low at particular gear	The cause may be that there is pressure leakage on relevant equipments or channels to a certain extent after the pressure is diverted by manual valve.

5. Correct traction for vehicle with 5R35 automatic transmission

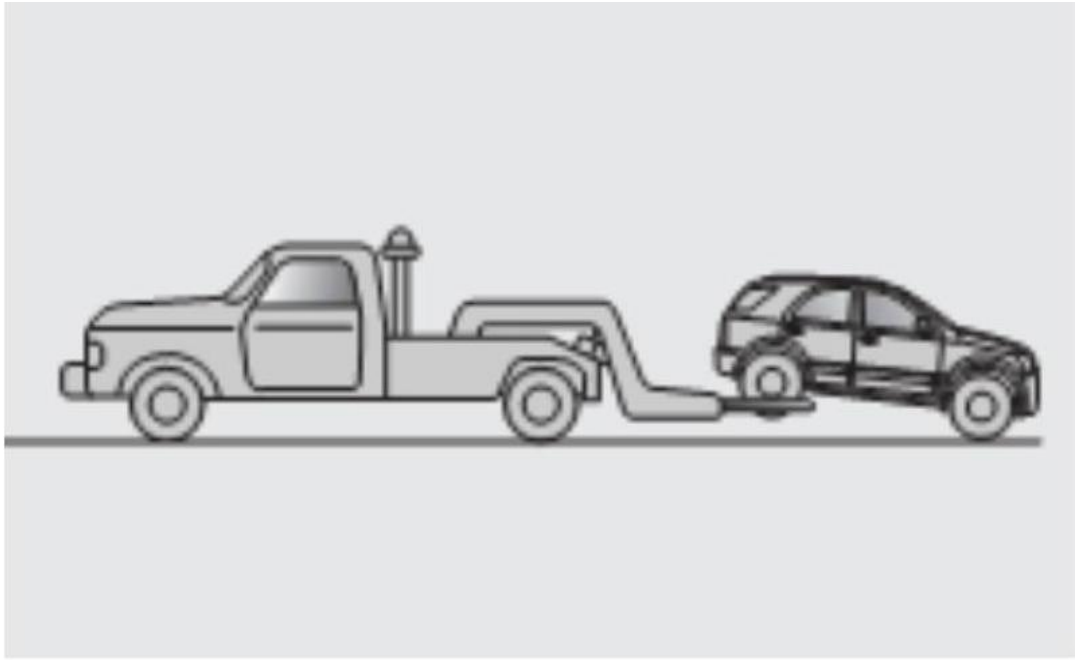
- If the traction is required due to fault, you are recommended to contact the authorized dealer or commercial traction service company. In order to avoid the damage of vehicle, correct lifting and traction procedures must be observed. And it is recommended to use ground jack or flat-bed trailer.



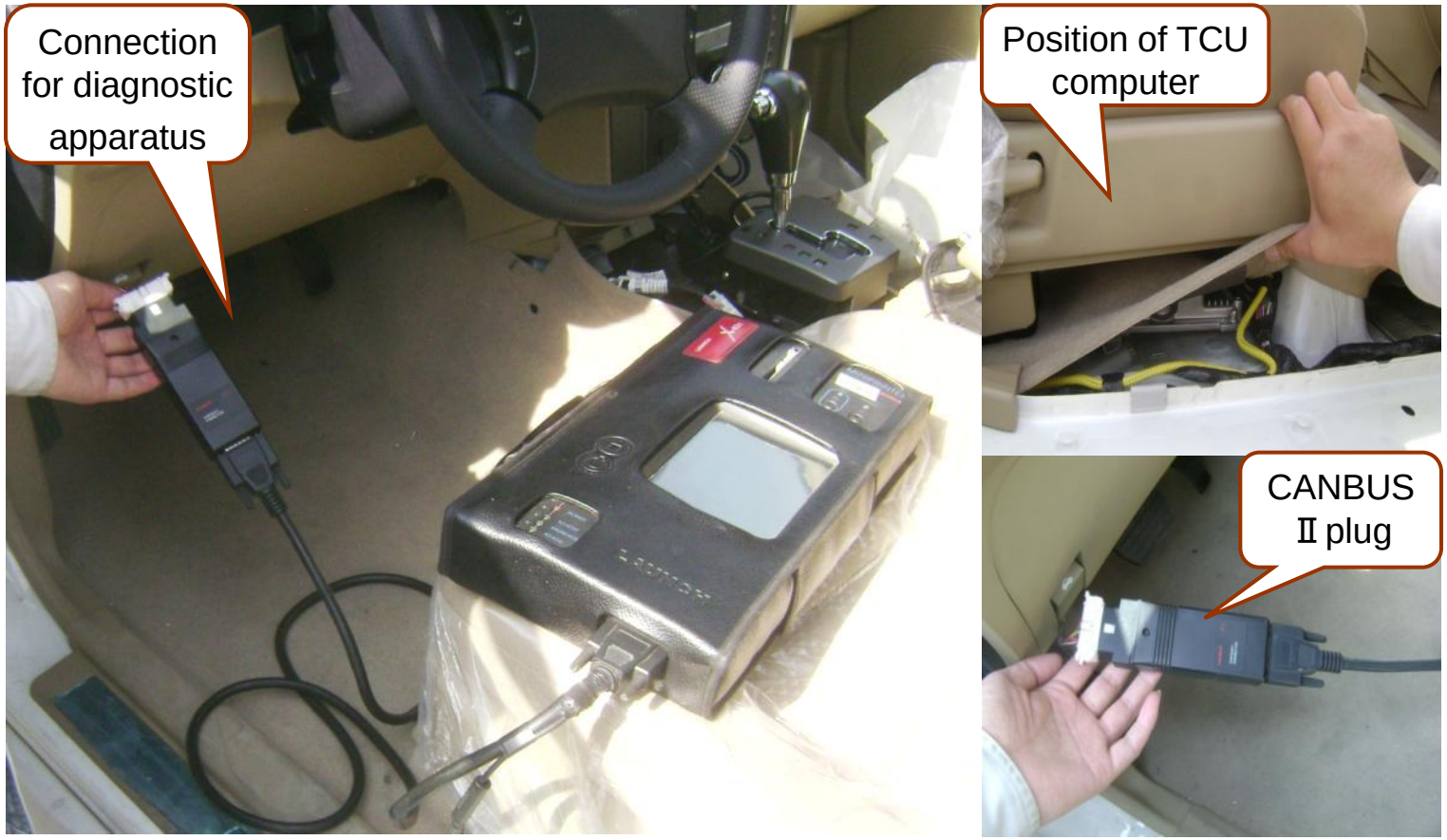
When towing four-wheel-drive vehicles, it is necessary to use wheel lifting equipments and ground jack or flat-bed trailer to raise up the four wheels from the ground.

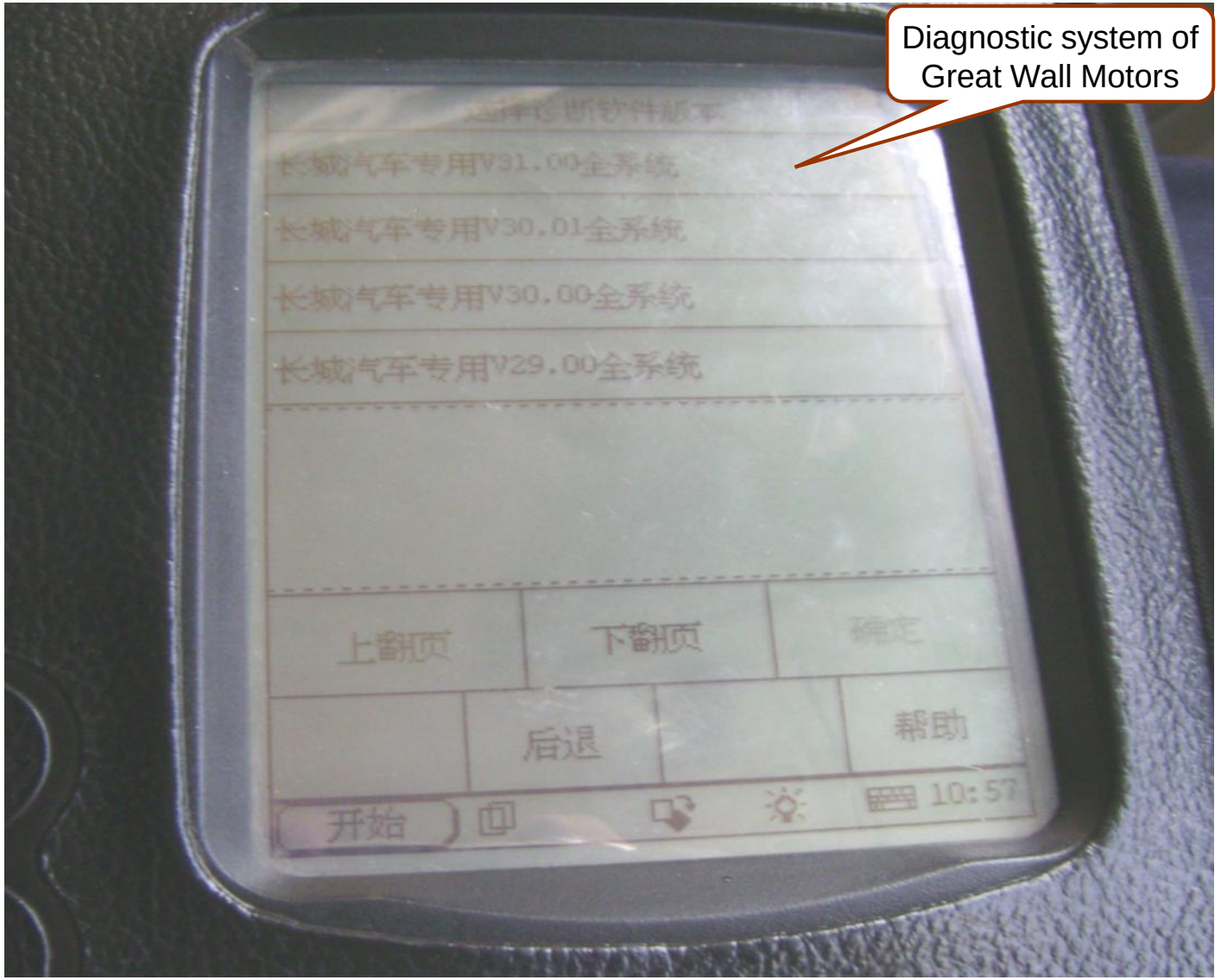


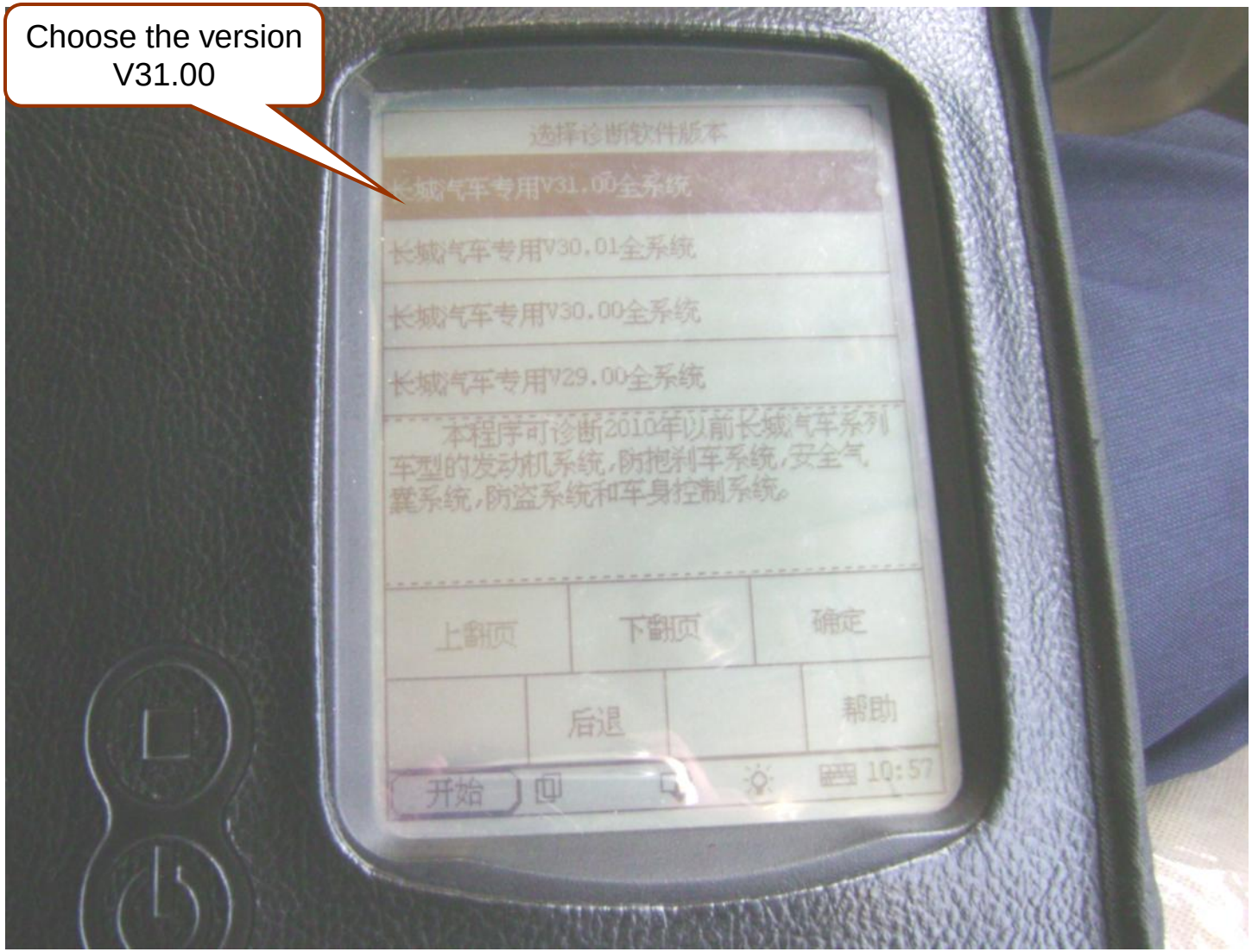
- When towing two-wheel-drive vehicles, front wheels may be on the ground (without using ground jack), and the rear wheels should be raised from the ground.
- Under the circumstance of using commercial tractor but not the ground jack, the tail of vehicle (not front part) must be lifted all the time.



6. Reading of fault code of 5R35 automatic transmission



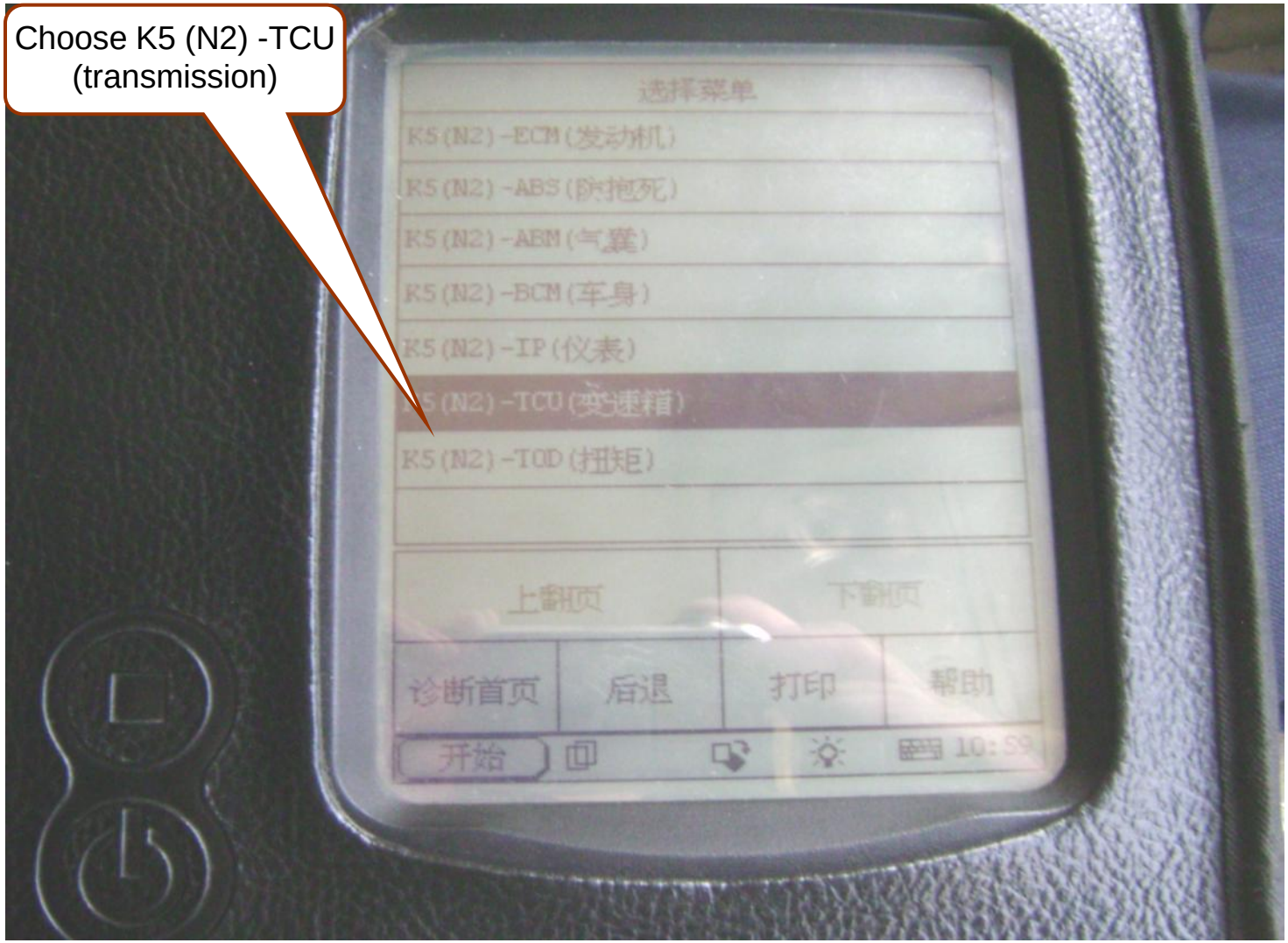

Diagnostic system of Great Wall Motors
长城汽车专用V31.00全系统
长城汽车专用V30.01全系统
长城汽车专用V30.00全系统
长城汽车专用V29.00全系统
上翻页
下翻页
确定
后退
帮助
开始
10:57

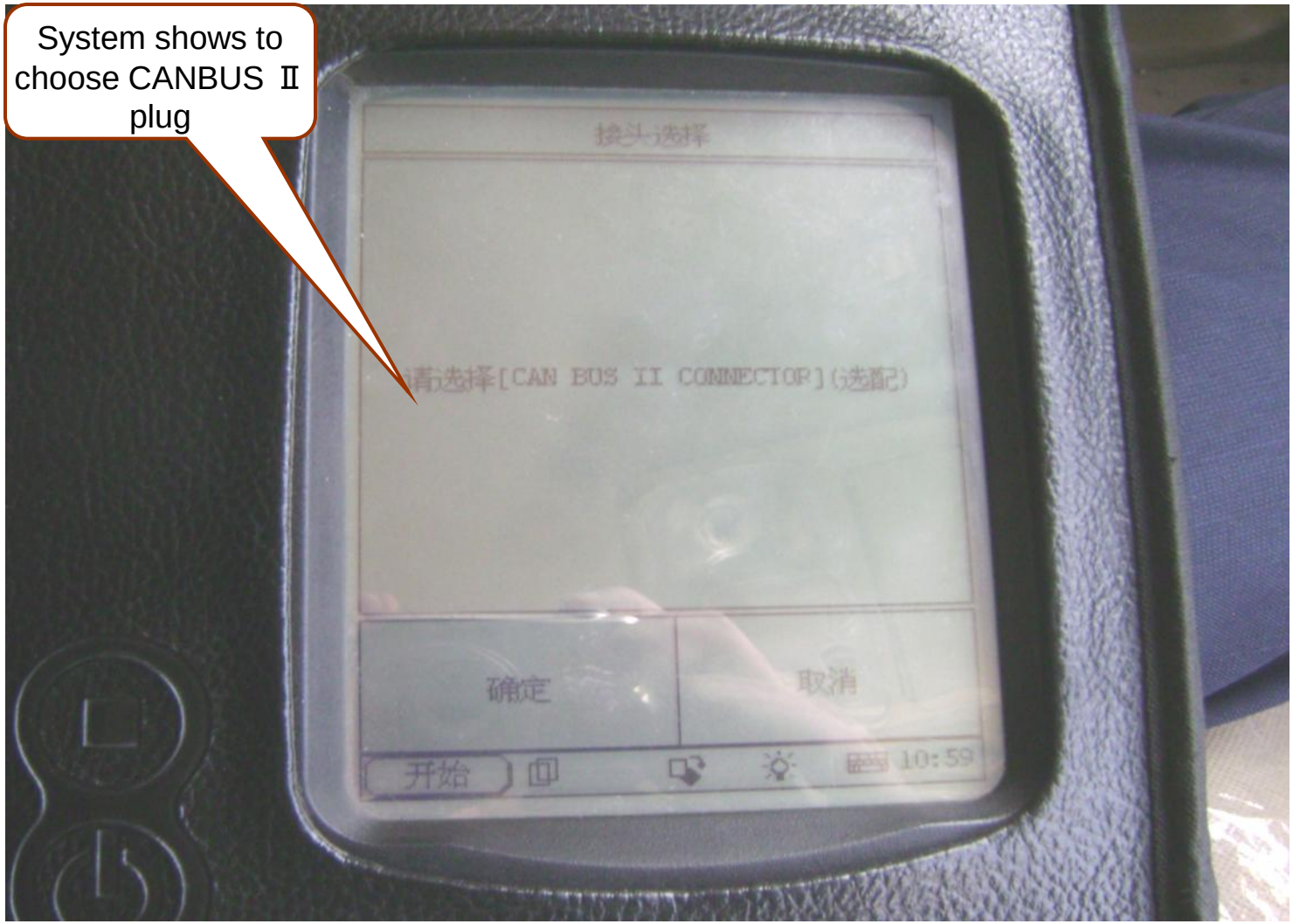

Choose the version
V31.00
选择诊断软件版本
长城汽车专用V31.00全系统
长城汽车专用V30.01全系统
长城汽车专用V30.00全系统
长城汽车专用V29.00全系统
本程序可诊断2010年以前长城汽车系列
车型的发动机系统,防抱刹车系统,安全气
囊系统,防盗系统和车身控制系统。
上翻页
下翻页
确定
后退
帮助
开始
10:57

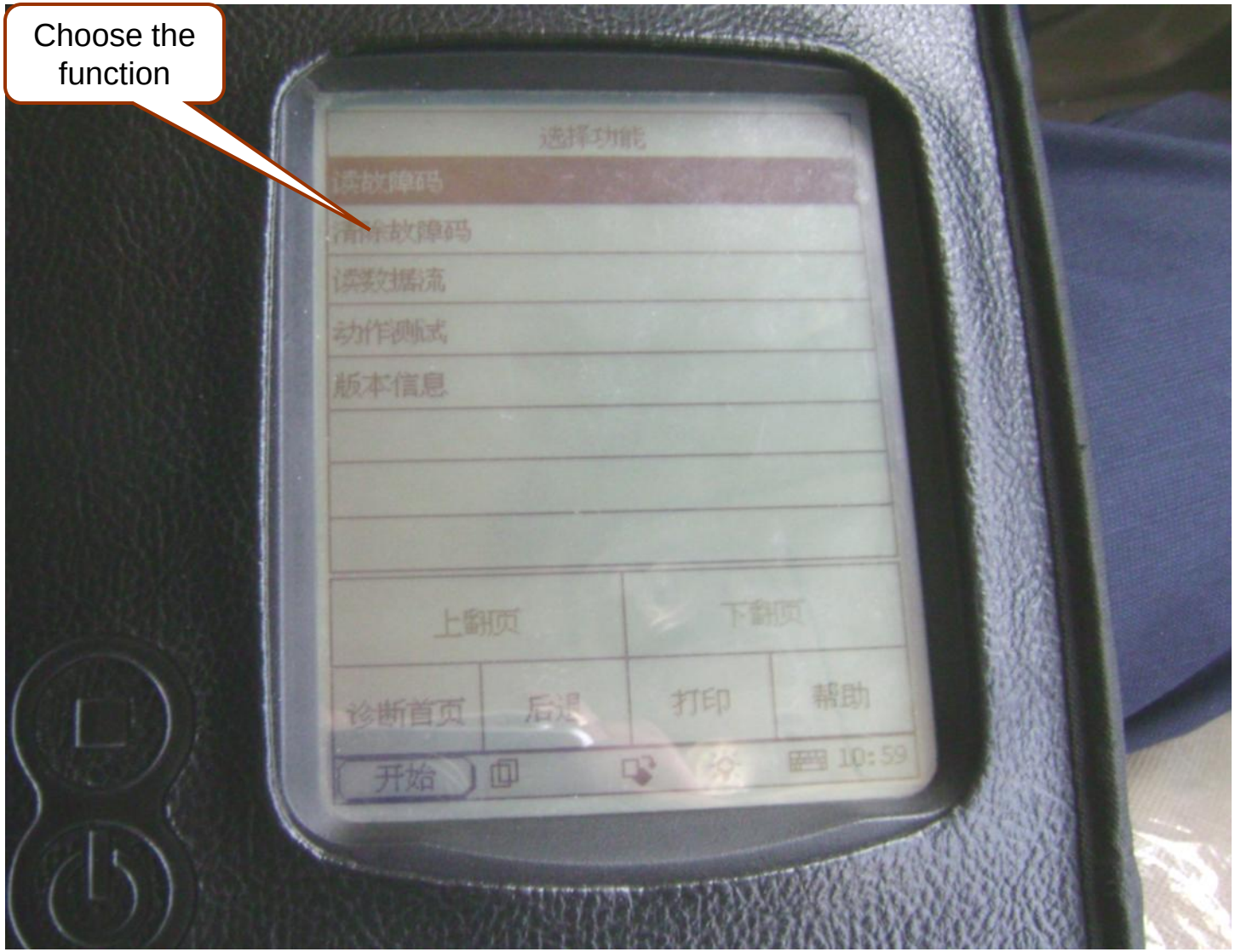

System initialization
SMARTBOX复位...
取消
开始
10:57

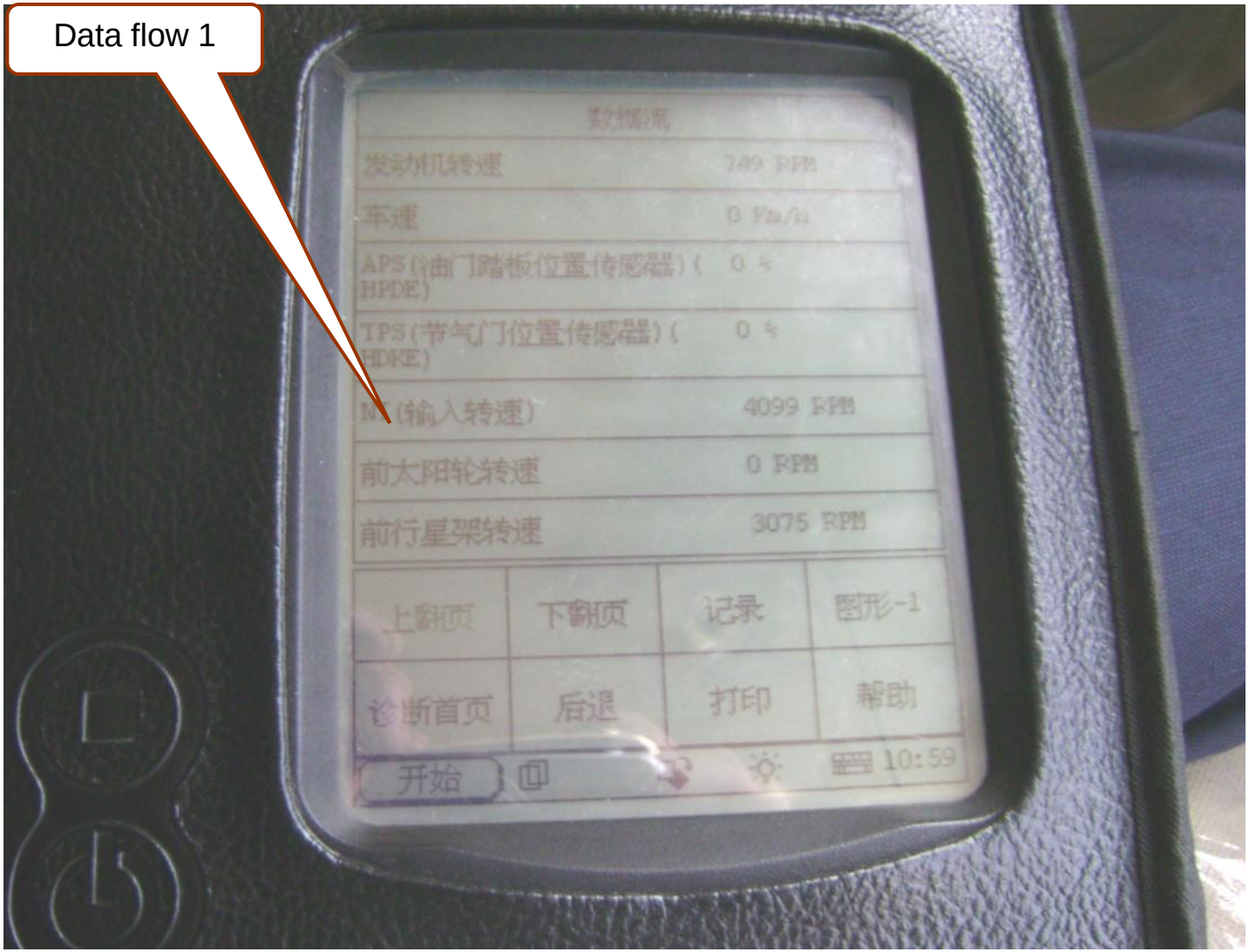

Ending of initialization
SMARTBOX复位 [成功]
SMARTBOX检验 [成功]
正在下载诊断软件 [成功]
确定
开始

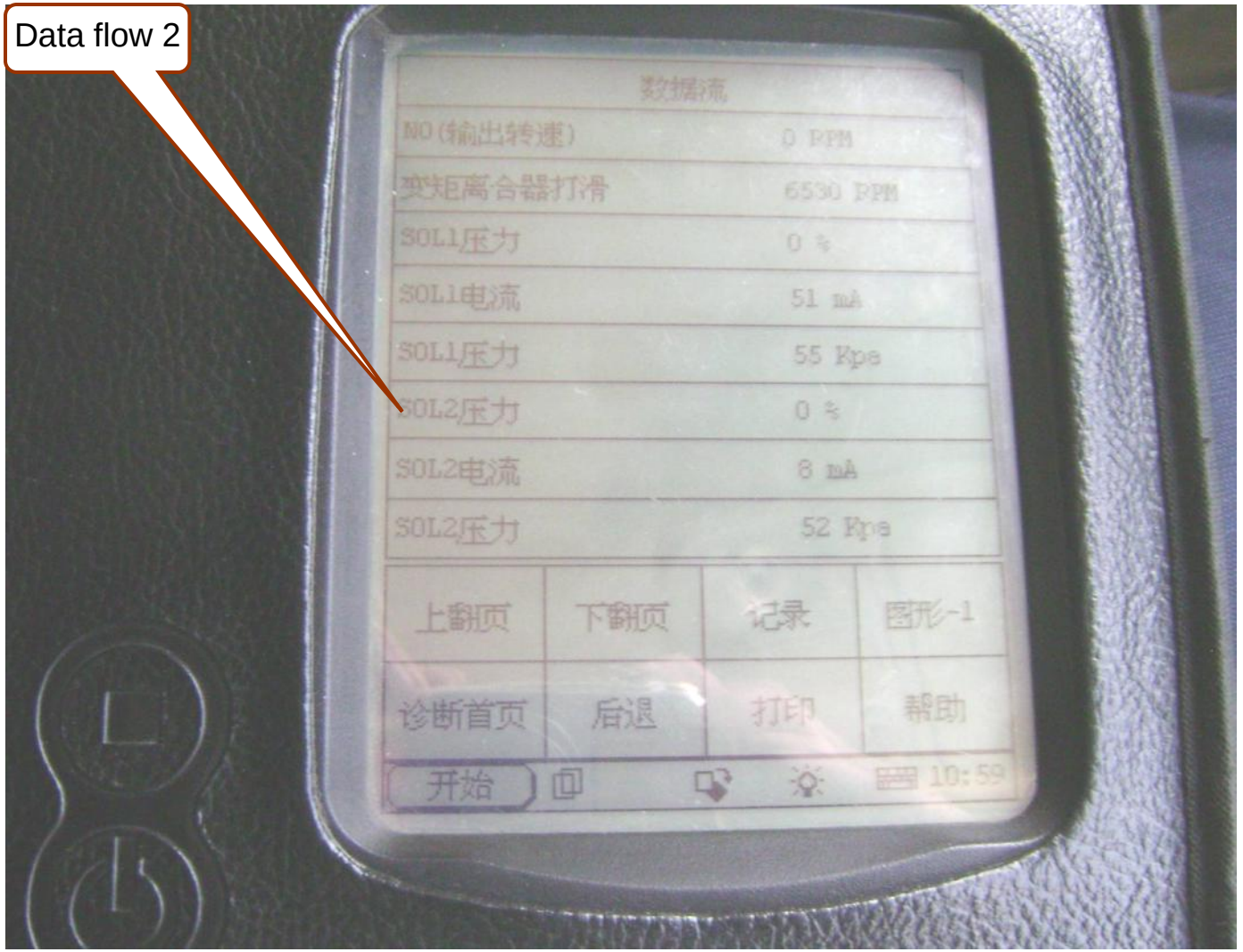

Choose K5 (N2) vehicle model
选择菜单
发动机系统
防抱刑车系统
安全气囊系统
防盗系统
车身系统
K5(N2)车型
上翻页
下翻页
诊断首页
后退
打印
帮助
开始

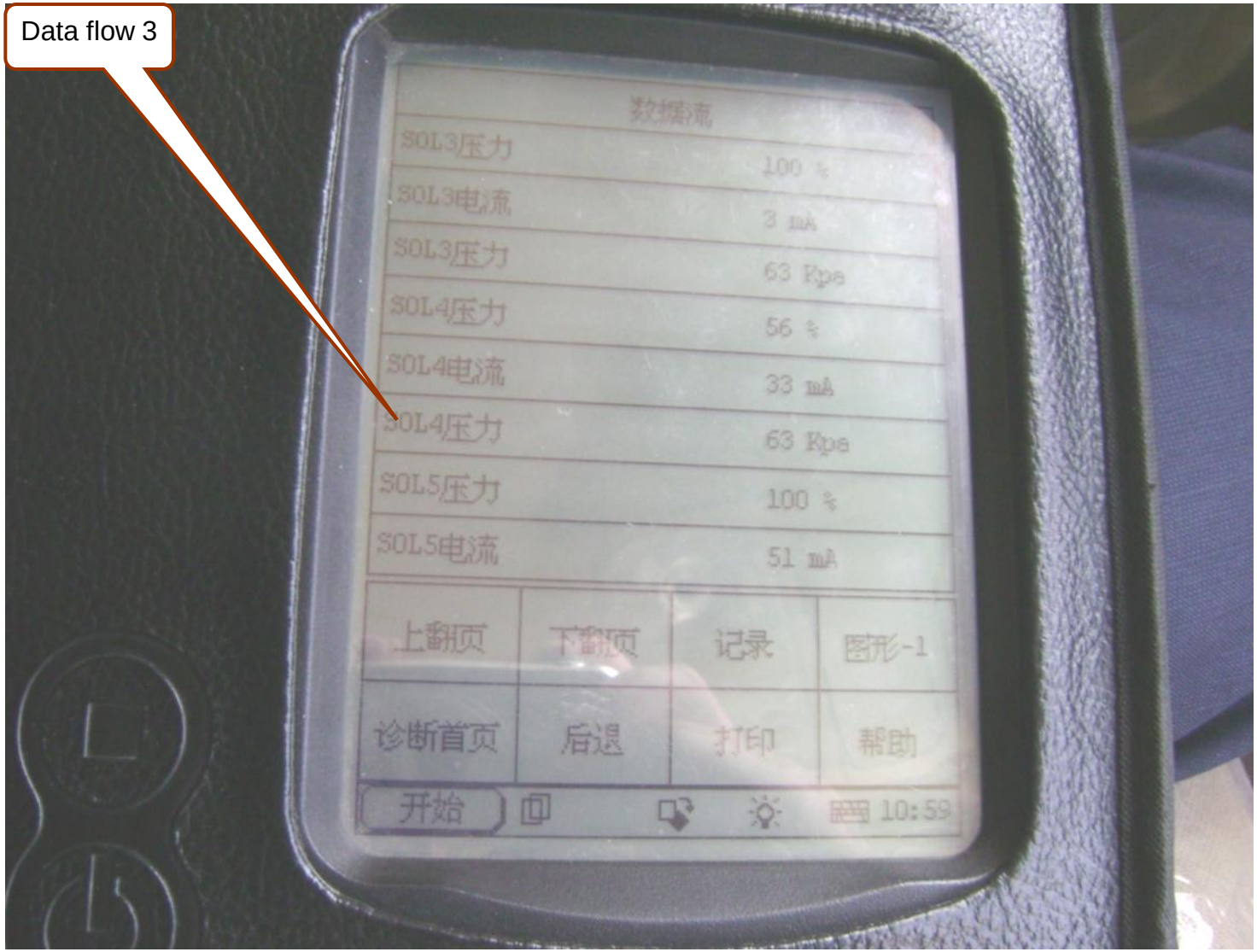

Choose K5 (N2) -TCU (transmission)
选择菜单
K5(N2)-ECM(发动机)
K5(N2)-ABS(防抱死)
K5(N2)-ABM(气囊)
K5(N2)-BCM(车身)
K5(N2)-IP(仪表)
K5(N2)-TCU(变速箱)
K5(N2)-TOD(扭矩)
上翻页
下翻页
诊断首页
后退
打印
帮助
开始

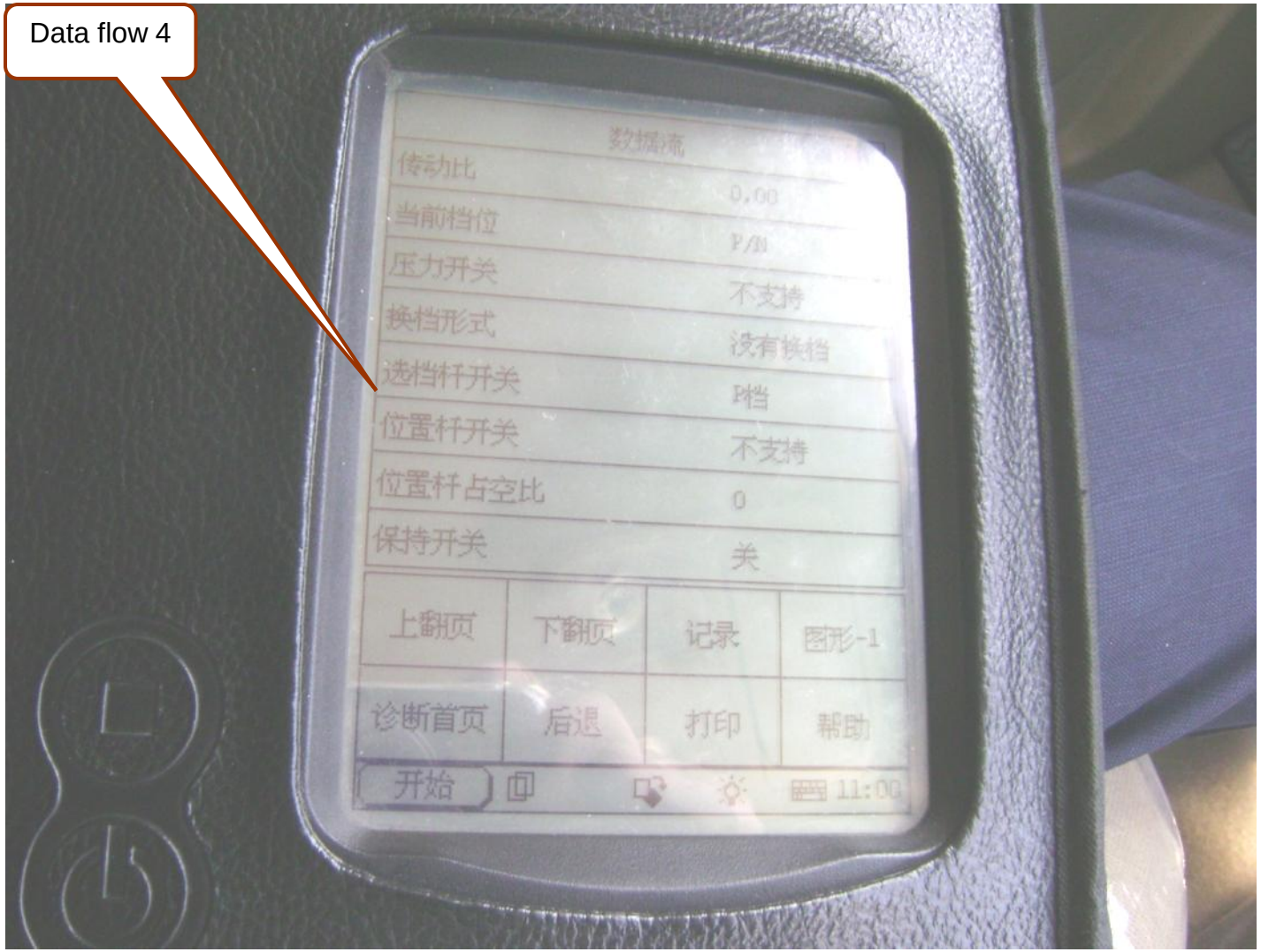

System shows to choose CANBUS Ⅱ plug
接头选择
请选择[CAN BUS II CONNECTOR](选配)
确定
取消
开始
10:59

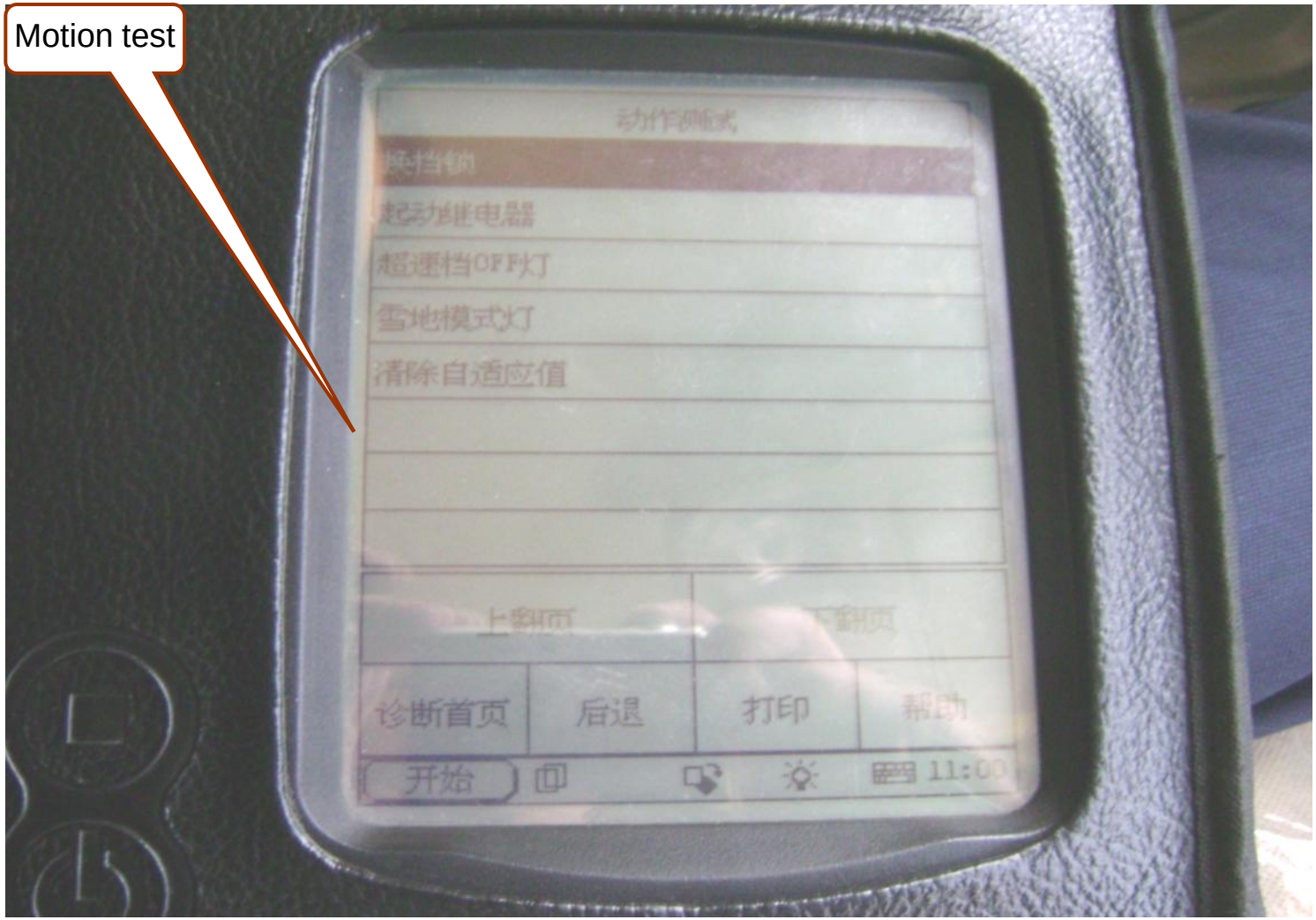

Choose the function
选择功能
读故障码
清除故障码
读数据流
动作测试
版本信息
上翻页
下翻页
诊断首页
后退
打印
帮助
开始
10:59


Data flow 1
数据流
发动机转速 749 RPM
车速 0 Km/h
APS(油门踏板位置传感器)(0 %
HPDE)
TPS(节气门位置传感器)(0 %
EDKE)
N (输入转速) 4099 RPM
前太阳轮转速 0 RPM
前行星架转速 3075 RPM
上翻页
下翻页
记录
图形-1
诊断首页
后退
打印
帮助
开始
10:59


Data flow 2
数据流
NO(输出转速) 0 RPM
变矩离合器打滑 6530 RPM
SOL1压力 0 %
SOL1电流 51 mA
SOL1压力 55 Kpa
SOL2压力 0 %
SOL2电流 8 mA
SOL2压力 52 Kpa
上翻页
下翻页
记录
图形-1
诊断首页
后退
打印
帮助
开始
10:59


Data flow 3
数据流
SOL3压力 100 %
SOL3电流 3 mA
SOL3压力 63 Kpa
SOL4压力 56 %
SOL4电流 33 mA
SOL4压力 63 Kpa
SOL5压力 100 %
SOL5电流 51 mA
上翻页
下翻页
记录
图形-1
诊断首页
后退
打印
帮助
开始
10:59


Data flow 4
数据流
传动比
0.00
当前档位
P/N
压力开关
不支持
换档形式
没有换档
选档杆开关
P档
位置杆开关
不支持
位置杆占空比
0
保持开关
关
上翻页
下翻页
记录
图形-1
诊断首页
后退
打印
帮助
开始
11:00


Motion test
诊断首页
后退
打印
开始

Review of courses

Chapter 1: Knowledge on 5R35 Automatic Transmission

Chapter 2: Repair & Maintenance of 5R35 Automatic Transmission

Thank you