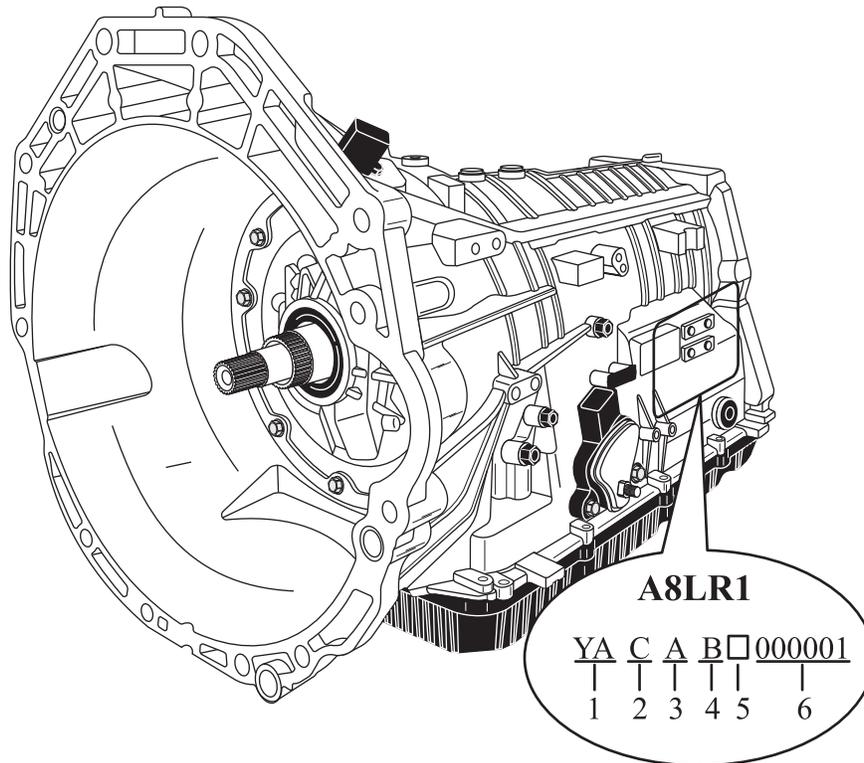


HYUNDAI/KIA A8LR1/A8TR1 PRELIMINARY INFORMATION



1. **Model: XA: A8TR1 - YA: A8LR1**
2. Production year: A : 2010, B : 2011, C : 2012, D : 2013.
3. Engine: F: Lambda-II 3.8 GDI, G: Theta-II 2.0 T-MP
Tau - 4.6 MPI & 5.0 GDI
4. Detailed Classification: A: Lambda-II 3.8 GDI / Theta-II 2.0 T-MP
5. Spare
6. Transaxle production sequence number: 000001 - 999999

Many thanks to the good folks at WIT for providing this transmission to ATSG

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Figure 1



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

The A8LR1 used in 2.0L and 3.8L engines and the A8TR1 used in 4.6L and 5.0L engines is Hyundai's rear wheel drive 8 speed transmission found in 2012/2013 and up Genesis Coupe/Sedan and Equus vehicles (figure 1). Kia uses the A8LR1 in their 2015 and up K900 3.8L vehicles and the A8TR1 in 5.0L here in the United States.

It utilizes a 3 element, 1 stage, 2 phase type torque converter which drives a non-crescent lobe gear type pump. The transmission consists of two brake clutches and four driving clutches and they are identified by the gears they apply. The brake clutches are identified as the 8LR/B and the 27/B while the driving clutches are identified as being the UD/C (1-4), 35R/C, 6/C, 4&OD/C (4-8). These friction elements drive and hold different members within the planetary geartrain assembly.

The geartrain assembly in this transmission consists of a front and middle simple planetary gear set followed by a rear Ravigneaux planetary gear set. The construction of this geartrain assembly is such that power is delivered into the transmission in two ways. The first is the input shaft/turbine shaft is spline to a long shaft that is connected to the 4&OD clutch drum housing all the way to the rear of the transmission. This causes the 4&OD clutch drum to always rotate with, and at input shaft speeds (figure 2).

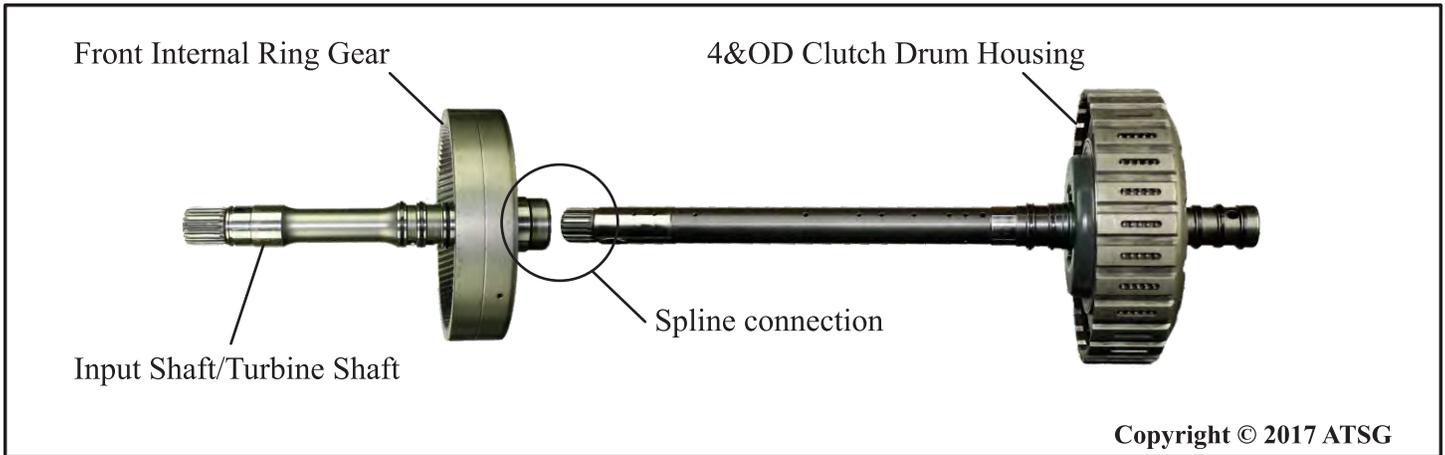


Figure 2

The second input is through the input shaft's integral front internal ring gear (annulus gear). This drives the front pinion carrier around the front sun gear which remain stationary as it is spline to the pump (figure 3).

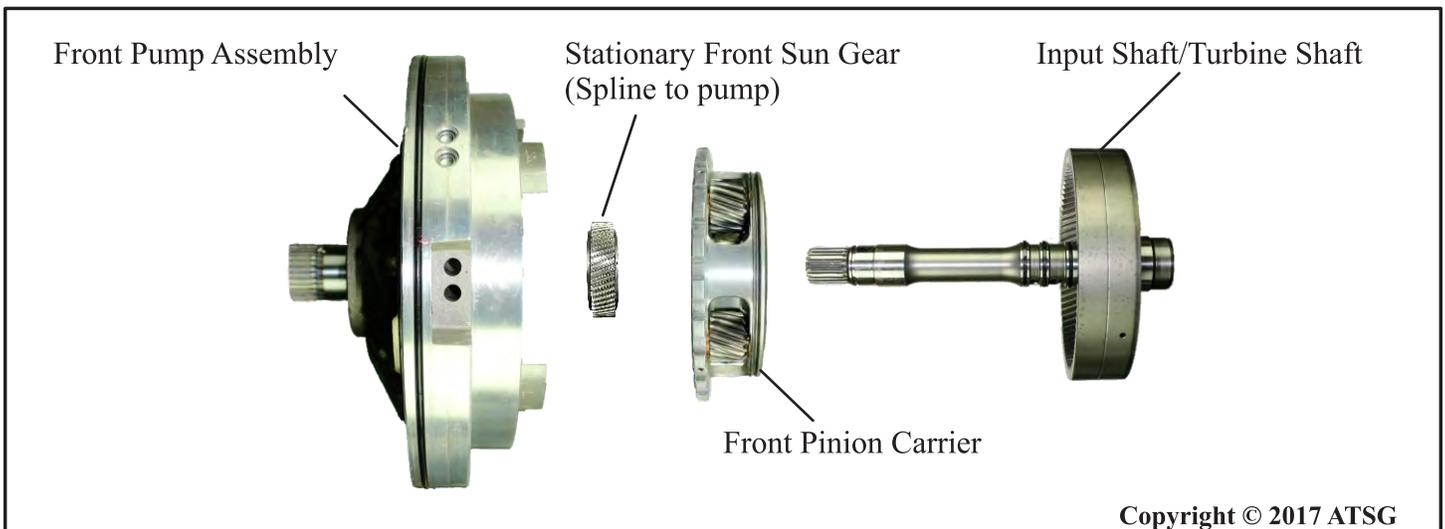


Figure 3

HYUNDAI/KIA A8LR1/A8TR1 PRELIMINARY INFORMATION

This secondary input continues through the front pinion carrier as it is lugged to and drives the middle sun gear (figure 4). With the front internal ring (annulus) gear forcing the pinion carrier to walk around the stationary sun gear, it drives the middle sun gear at an approximate 1.625 to 1 reduction. The middle sun gear shell contains the input speed sensor trigger ring "window type."

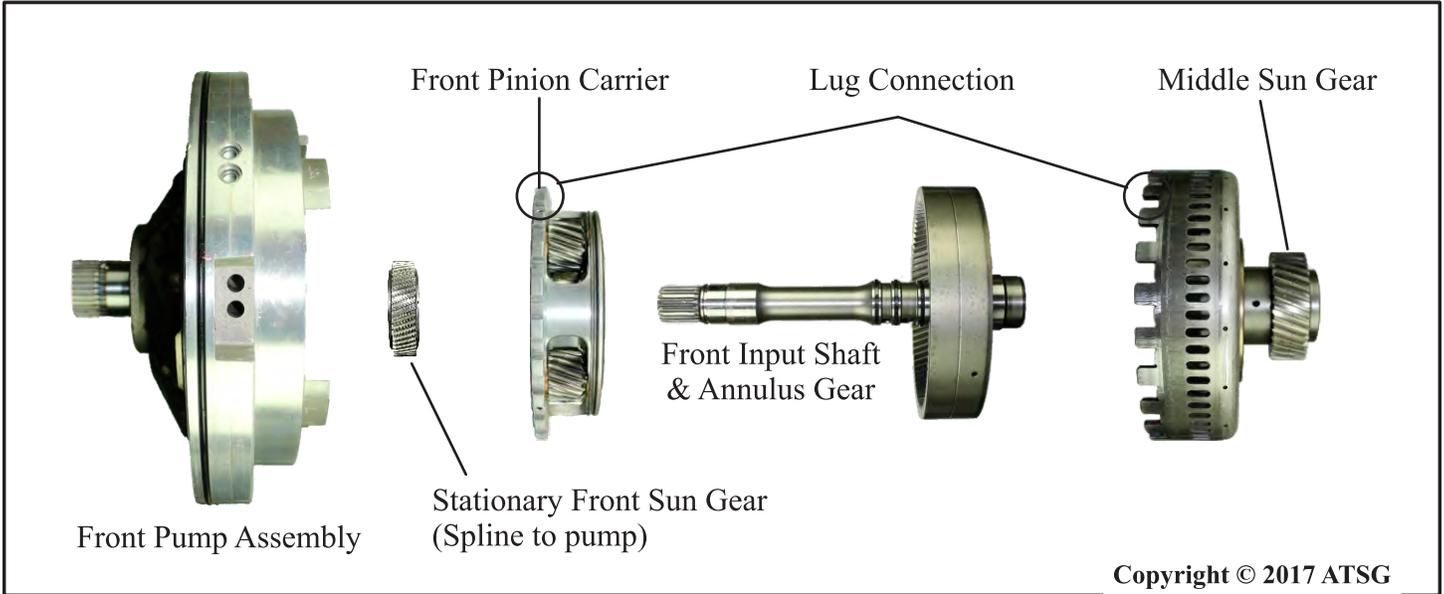


Figure 4

This reduction input of 1.625 to 1 continues through the middle sun gear to the UD clutch housing as they spline together (figure 5). This means the UD clutch housing is always in a reduced rotation to the input shaft while the 4&OD clutch housing is always in rotation equal to input shaft speed.

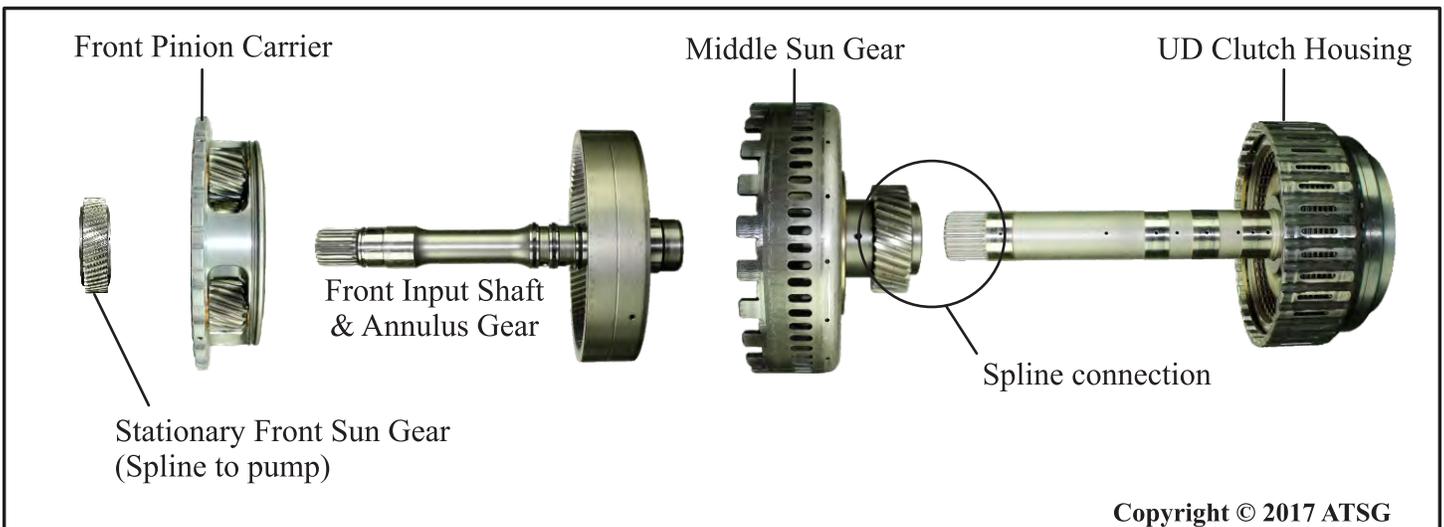


Figure 5

HYUNDAI/KIA A8LR1/A8TR1 PRELIMINARY INFORMATION

The middle sun gear then drives the middle carrier which is lugged to and drives the 6th clutch drum housing (figure 6). The 6th clutch drum housing is spline to both the 35R clutch housing and the large ravigneaux sun gear. The middle speed sensor is triggered by the rotation of the lugs on the 6th clutch drum housing.

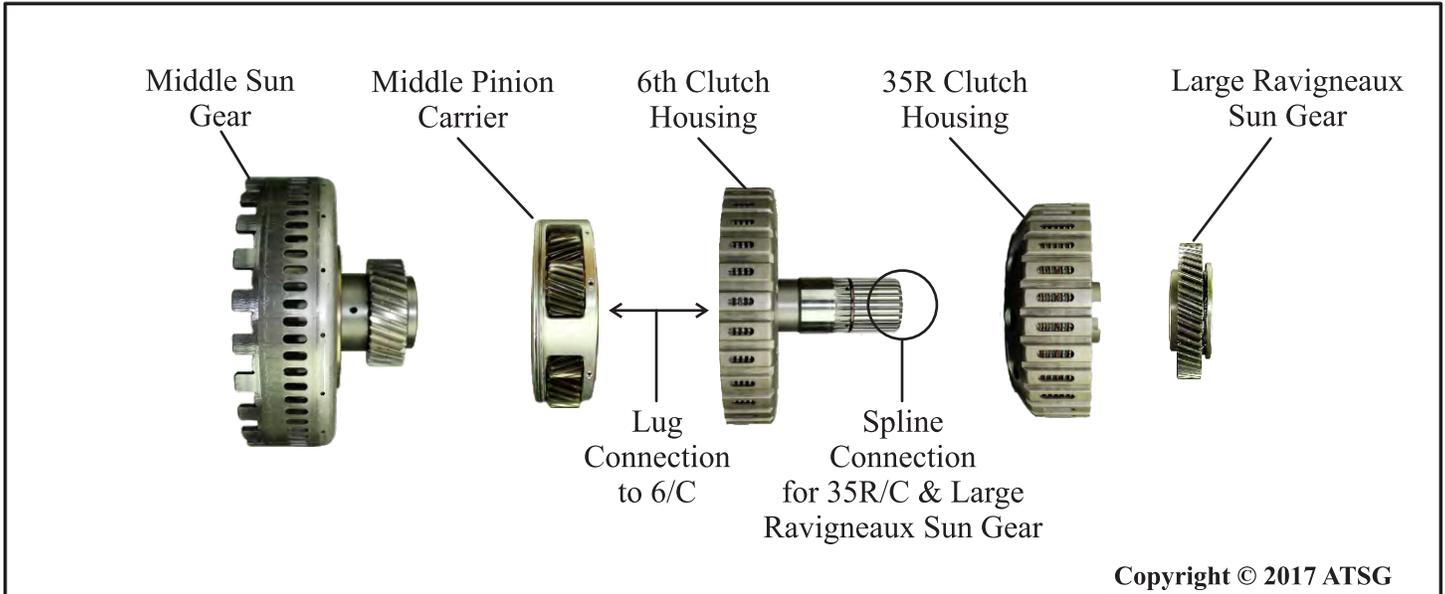


Figure 6

The clutch hub for the 6th clutch drum assembly is a combination of being both the middle internal ring gear (annulus gear) and the internal race for the one-way-clutch device as well as being the clutch hub for the 8LR/B (figure 7).

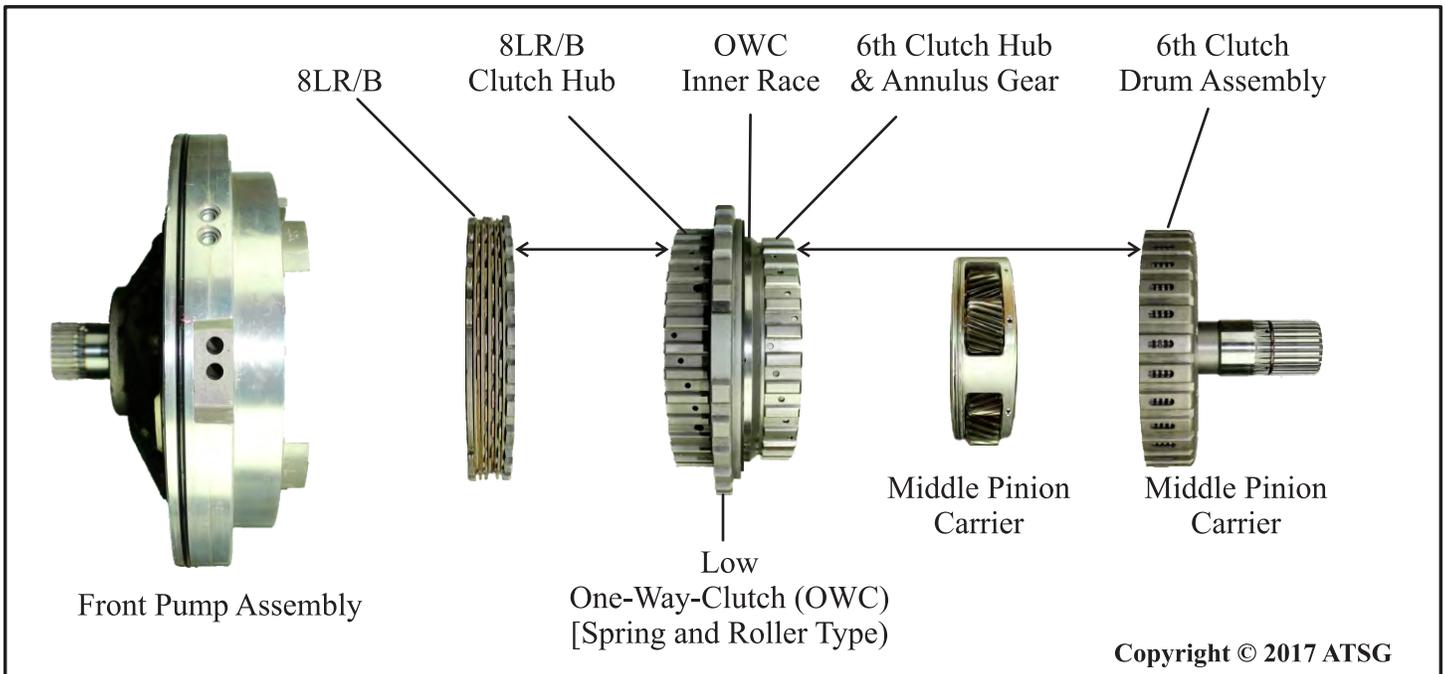


Figure 7

HYUNDAI/KIA A8LR1/A8TR1 PRELIMINARY INFORMATION

The clutch hub for the 35R clutch assembly is a drive shell that is lugged to the output shaft assembly and contains the ravigneaux internal ring gear (figure 8). It also contains the output speed sensor trigger ring "window type."

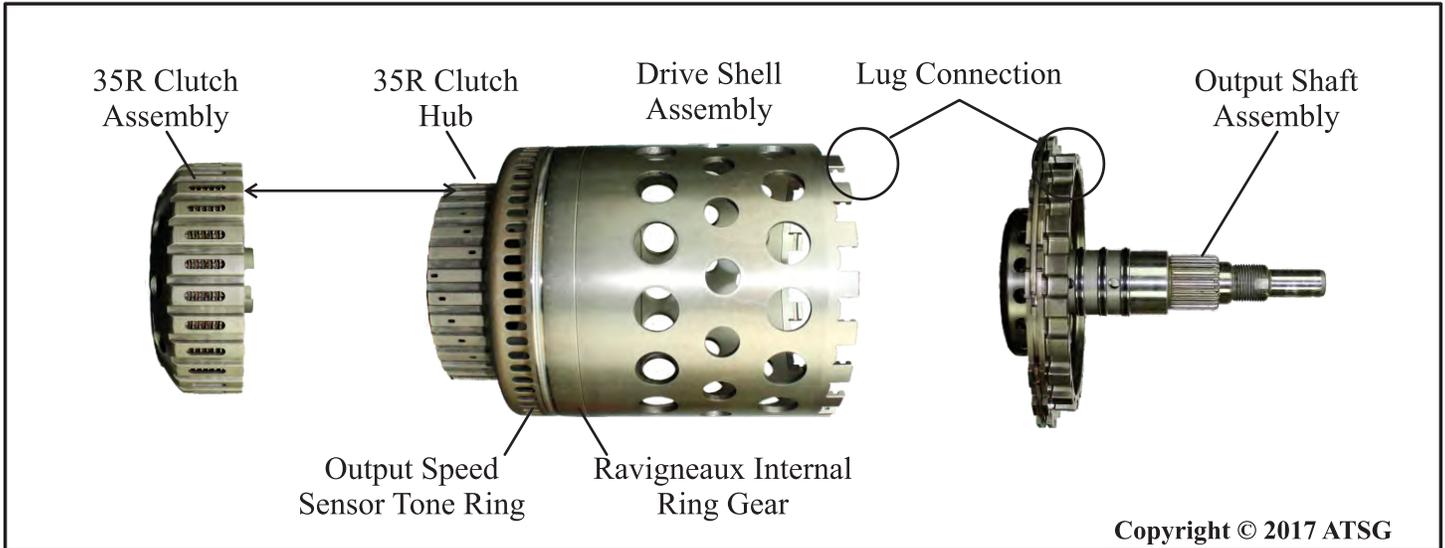


Figure 8

The UD clutch hub drives the ravigneaux small (inner) sun gear while the 4&OD/C hub drives the ravigneaux carrier (figure 9).

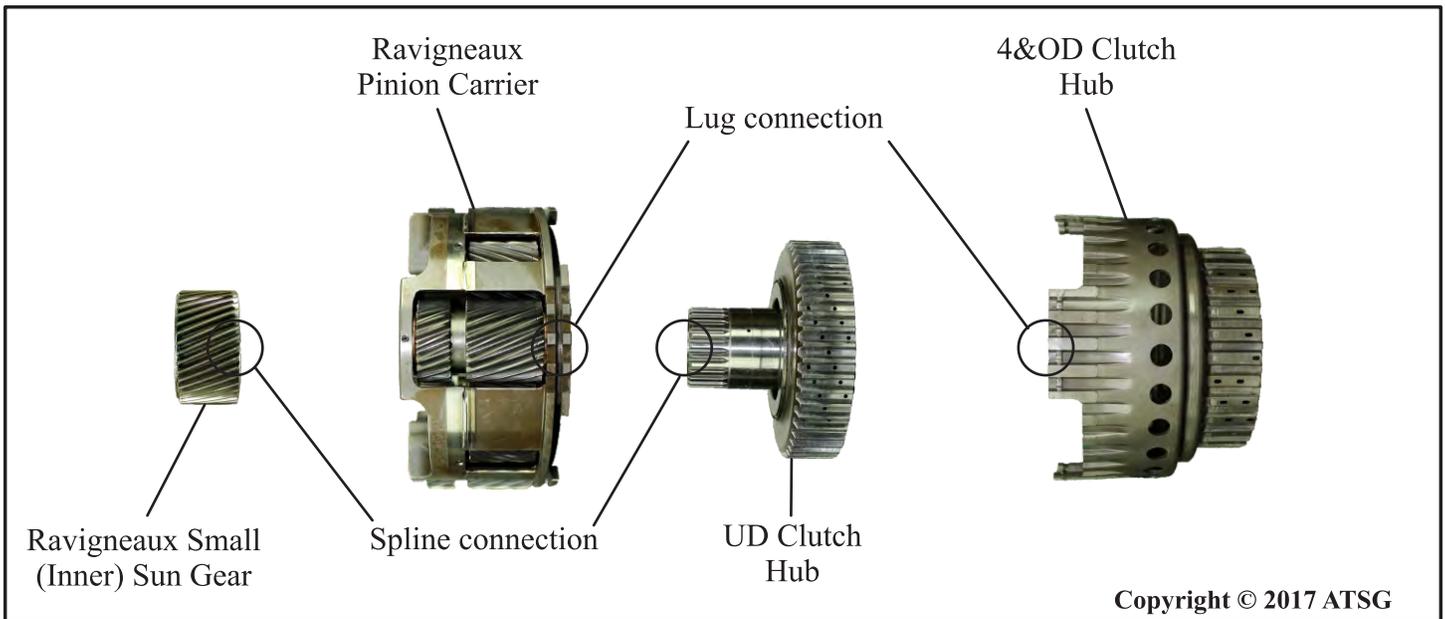
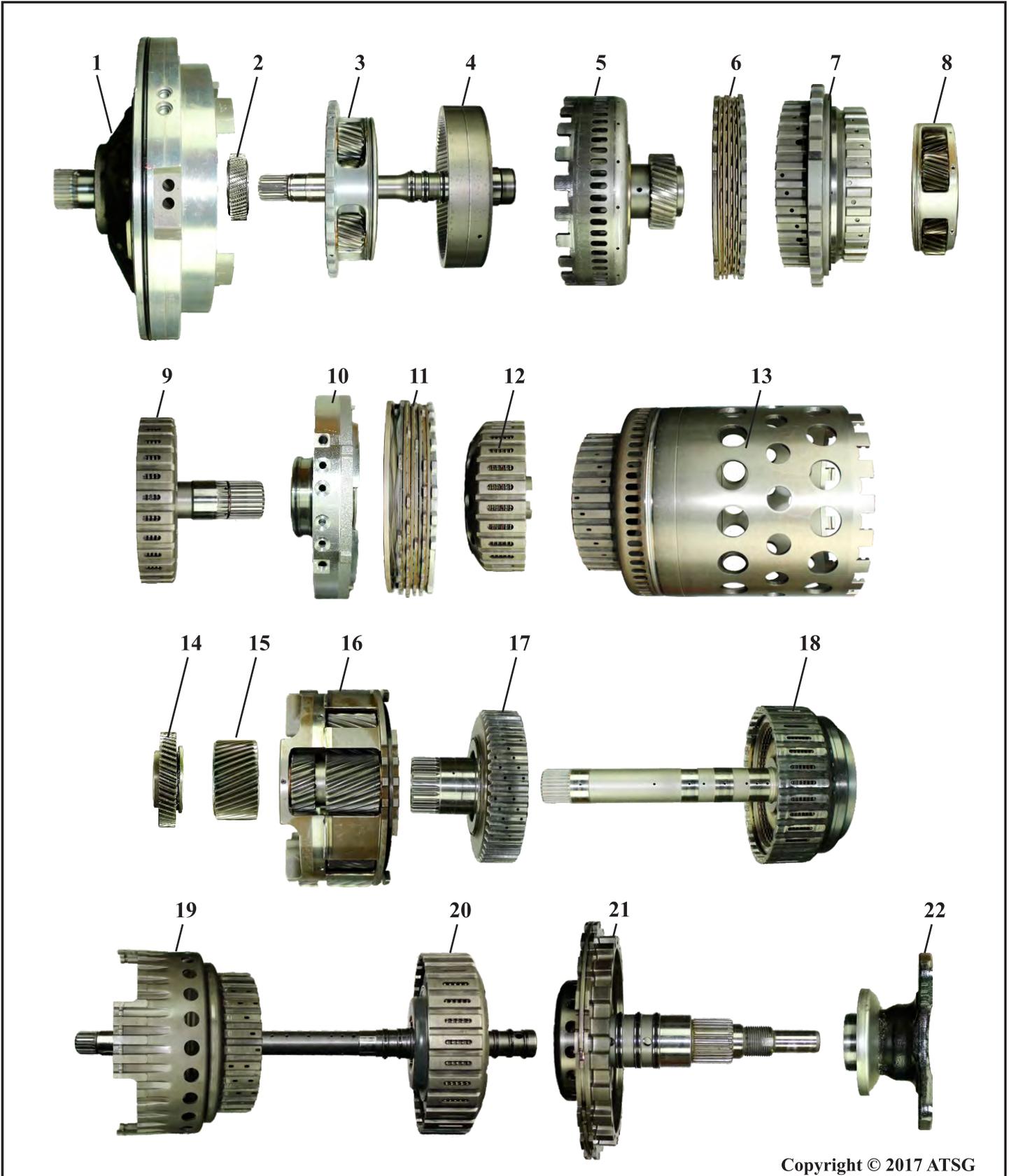


Figure 9

Technical Service Information
HYUNDAI/KIA A8LR1/A8TR1
PRELIMINARY INFORMATION



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Figure 10



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

FIGURE 10 LEGEND

1. Pump Assembly
2. Font Sun Gear
3. Front Pinion Carrier
4. Input/Turbine Shaft and Front Internal (Annulus) Ring Gear
5. Middle Sun Gear
6. 8LR Brake Assembly
7. 8LR Brake Hub, OWC Inner Race (with OWC), 6th Clutch Hub and Middle Internal Ring Gear
8. Middle Pinion Carrier
9. 6th Clutch Drum Assembly
10. Center Support for 6th Clutch, 35R Clutch and 27 Brake Clutch
11. 27 Brake Clutch Assembly
12. 35R Clutch Drum Assembly
13. 35R Clutch Hub and Ravigneaux Internal Gear Drive Shell
14. Ravigneaux Large (Outer) Sun Gear
15. Ravigneaux Small (Inner) Sun Gear
16. Ravigneaux Pinion Carrier
17. UD Clutch Hub
18. UD Clutch Drum Assembly
19. 4&OD Clutch Hub
20. 4&OD Clutch Drum Assembly
21. Output Shaft Assembly
22. Output Drive Flange

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Figure 11



HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

Powerflow first gear: UD/C and Low One-Way-Clutch Applied:

The input-shaft/front internal ring gear drives the front carrier. The front carrier drives the middle sun gear in a 1.625 to 1 reduction. The middle sun gear drives the UD/C drum housing. With the UD/C applied, the hub drives the ravigneaux small sun gear. This causes the pinion gears in the ravigneaux carrier to turn the large ravigneaux sun gear, the 6/C housing and middle carrier. The middle carrier attempts to drive the middle internal ring gear counter-clockwise but the one-way-clutch device prevents it from doing so. The reaction causes the ravigneaux small sun gear to drive the ravigneaux carrier pinions, the ravigneaux internal ring gear and output shaft in a 3.665 first gear ratio.

Powerflow second gear: UD/C and 27/B Applied:

The input-shaft/front internal ring gear drives the front carrier. The front carrier drives the middle sun gear in a 1.625 to 1 reduction. The middle sun gear drives the UD/C drum housing. With the UD/C applied, the hub drives the ravigneaux small sun gear. With the 27/B applied, this holds the large ravigneaux sun gear stationary. The reaction causes the ravigneaux small sun gear to drive the ravigneaux carrier pinions, the ravigneaux internal ring gear and output shaft in a 2.396 second gear ratio.

Powerflow third gear: UD/C and 35R/C Applied:

The input-shaft/front internal ring gear drives the front carrier. The front carrier drives the middle sun gear in a 1.625 to 1 reduction. The middle sun gear drives the UD/C drum housing. With the UD/C applied, the hub drives the ravigneaux small sun gear. With the 35R/C applied, the ravigneaux internal ring gear and large sun gear are driven at the same speed locking the ravigneaux planetary driving the output shaft in a 1.610 third gear ratio.

Powerflow fourth gear: UD/C and 4&OD/C Applied:

The input-shaft/front internal ring gear drives the front carrier. The front carrier drives the middle sun gear in a 1.625 to 1 reduction. The middle sun gear drives the UD/C drum housing. With the UD/C applied, the hub drives the ravigneaux small sun gear. With the 4&OD/C applied, it rotates the ravigneaux carrier at input speed around the middle sun gear spinning in a reduction. The reaction causes the ravigneaux internal ring gear to drive the output shaft in a 1.190 fourth gear ratio.

Powerflow fifth gear: 35R/C and 4&OD/C Applied:

The input-shaft/front internal ring gear drives the 4&OD/C drum housing at input speed. When the 4&OD clutch is applied, it drives the ravigneaux carrier at input speed. When the 35R/C is applied, it locks the ravigneaux internal ring gear to the carrier driving the output shaft in a 1:1 fifth gear ratio.

Powerflow sixth gear: 6/C and 4&OD/C Applied:

The input-shaft/front internal ring gear drives the 4&OD/C drum housing at input speed. When the 4&OD clutch is applied, it drives the ravigneaux carrier at input speed. When 6/C is applied, it drives the ravigneaux large sun gear in a reduction via the front carrier and middle sun gear. This causes the ravigneaux pinions to drive internal ring gear and e output shaft in a 0.826 sixth gear ratio.

Powerflow seventh gear: 27/B and 4&OD/C Applied:

The input-shaft/front internal ring gear drives the 4&OD/C drum housing at input speed. When the 4&OD clutch is applied, it drives the ravigneaux carrier at input speed. When 27/B applies, it holds the ravigneaux large sun gear stationary. This causes the ravigneaux pinions to drive internal ring gear and e output shaft in a 0.643 seventh gear ratio.



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

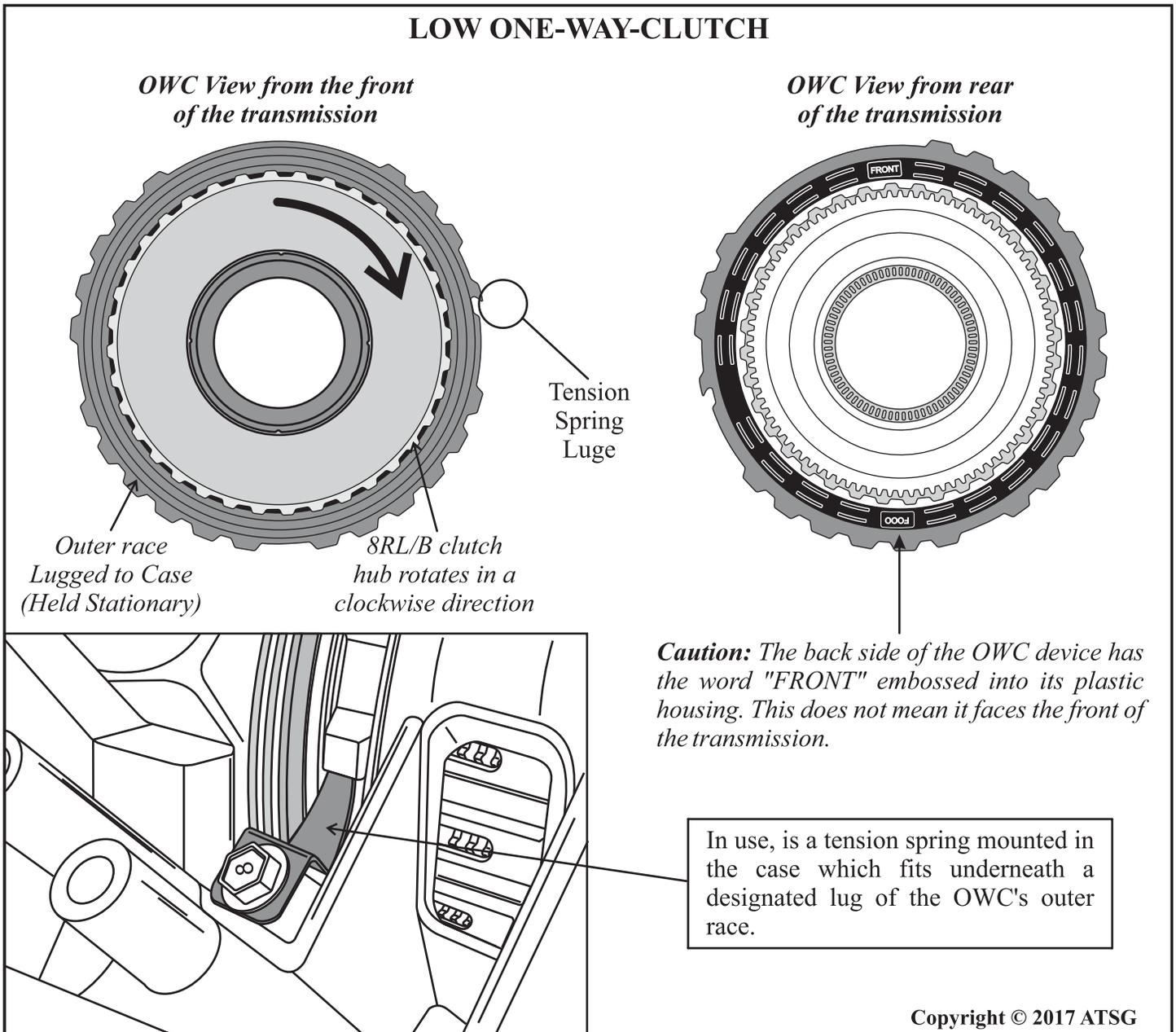
PRELIMINARY INFORMATION

Powerflow eighth gear: 8LR/B and 4&OD/C Applied:

The input-shaft/front internal ring gear drives the 4&OD/C drum housing at input speed. When the 4&OD clutch is applied, it drives the ravigneaux carrier at input speed. When the 8LR/B applies, it drives the ravigneaux small sun gear in a reduction via the front carrier and middle sun gear. This causes the ravigneaux pinions to drive internal ring gear and output shaft in a 0.556 seventh gear ratio.

Powerflow reverse gear: 8LR/B and 35R/C Applied:

When the 8LR/B applies, it causes the middle carrier to rotate counter-clockwise. This causes the 35R/C drum and the ravigneaux large sun gear to rotate counter-clockwise also. When the 35R/C applies it drives the ravigneaux internal ring gear and output shaft in a 2.273 reverse gear ratio.



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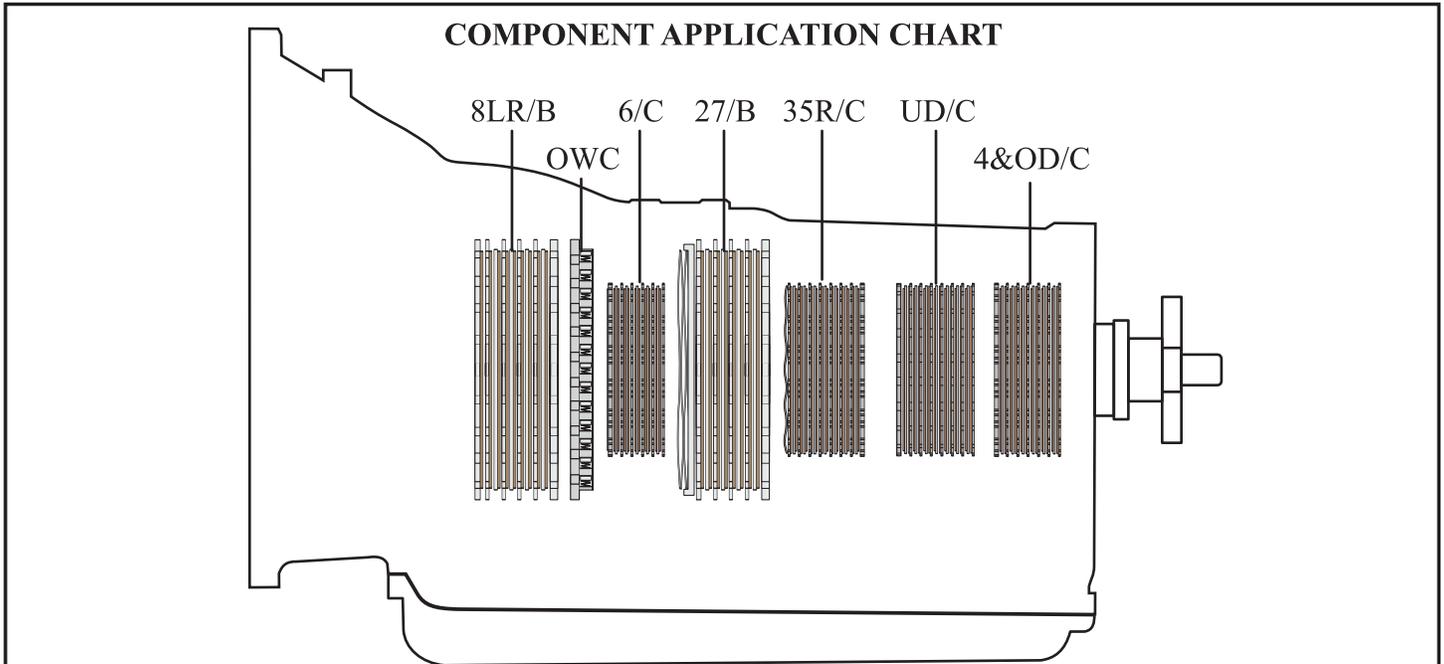
Figure 12



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION



	UD/C	4&OD/C	35R/C	6/C	27/B	8LR/B	OWC	Ratio†
P/N			X - P			X - N		
Reverse			X			X		2.273
1st Gear	X						X	3.665
2nd Gear	X				X			2.396
3rd Gear	X		X					1.610
4th Gear	X	X						1.190
5th Gear*		X	X					1.000
6th Gear		X		X				0.826
7th Gear		X			X			0.643
8th Gear		X				X		0.556
M-1 Gear	X					X		3.665

† - A8LR1 Ratios given for 3.3L and 3.8L applications. The A8TR1 4.6L and 5.0L not given here.

* - All power off to solenoids places the transmission into 5th Gear.

Note: Some models have a cushion plate in the 8LR/B assembly and some may not.

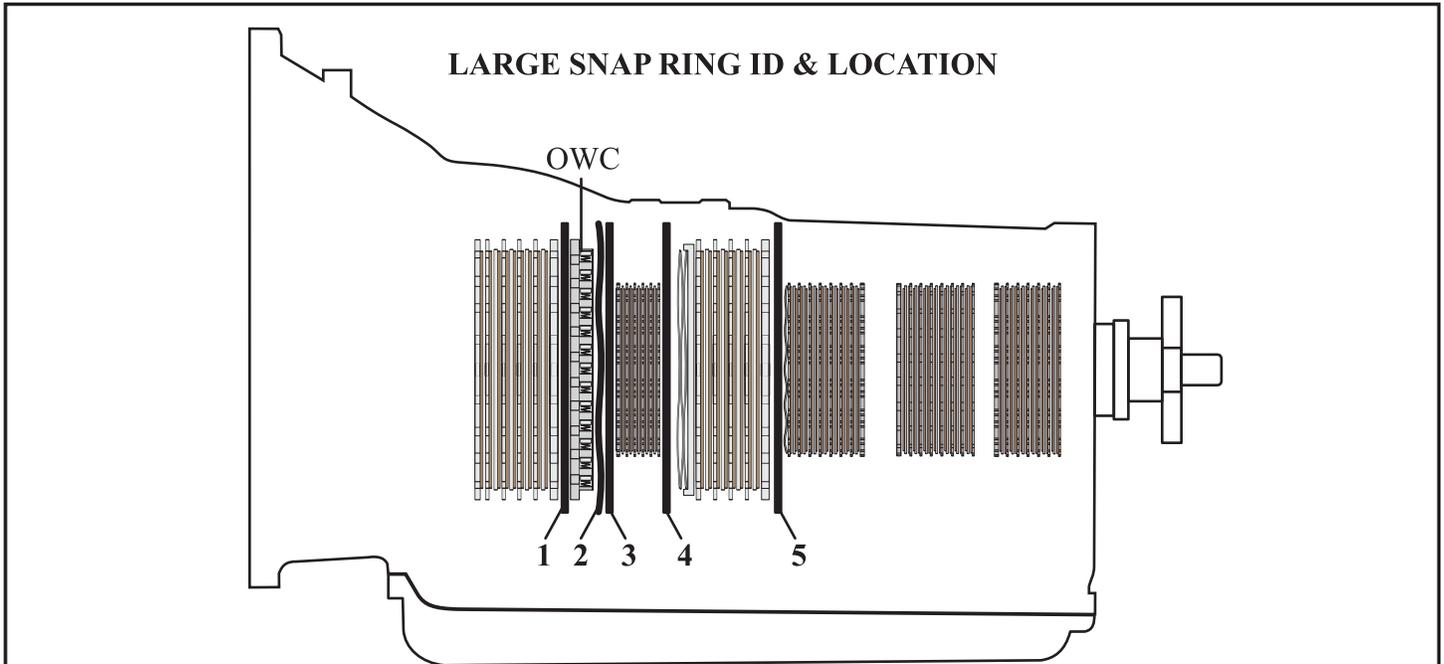
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Figure 13

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION



Snap Ring 1: 1st case snap ring: retains the one-way-clutch device (spring and roller design) into the case pump side.

Width: 0.219"
 Thickness: 0.098"
 Color: Steel

Snap Ring 2: Wave cushion ring located on the back side of the one-way-clutch against the 2nd case snap ring to absorb vibration.

Width: 0.136"
 Thickness: 0.052"
 Color: Black

Snap Ring 3: 2nd case snap ring which retains the one-way-clutch in proper position and which the wave cushion ring sits against.

Width: 0.218"
 Thickness: 0.089"
 Color: Gold

Snap Ring 4: 3rd case snap ring sits up against the pump side (front side) of the center support.

Width: 0.218"
 Thickness: 0.089"
 Color: Gold

Snap Ring 5: 4th case snap ring retains the primary gear train unit into the case.

Width: 0.200"
 Thickness: 0.078"
 Color: Black

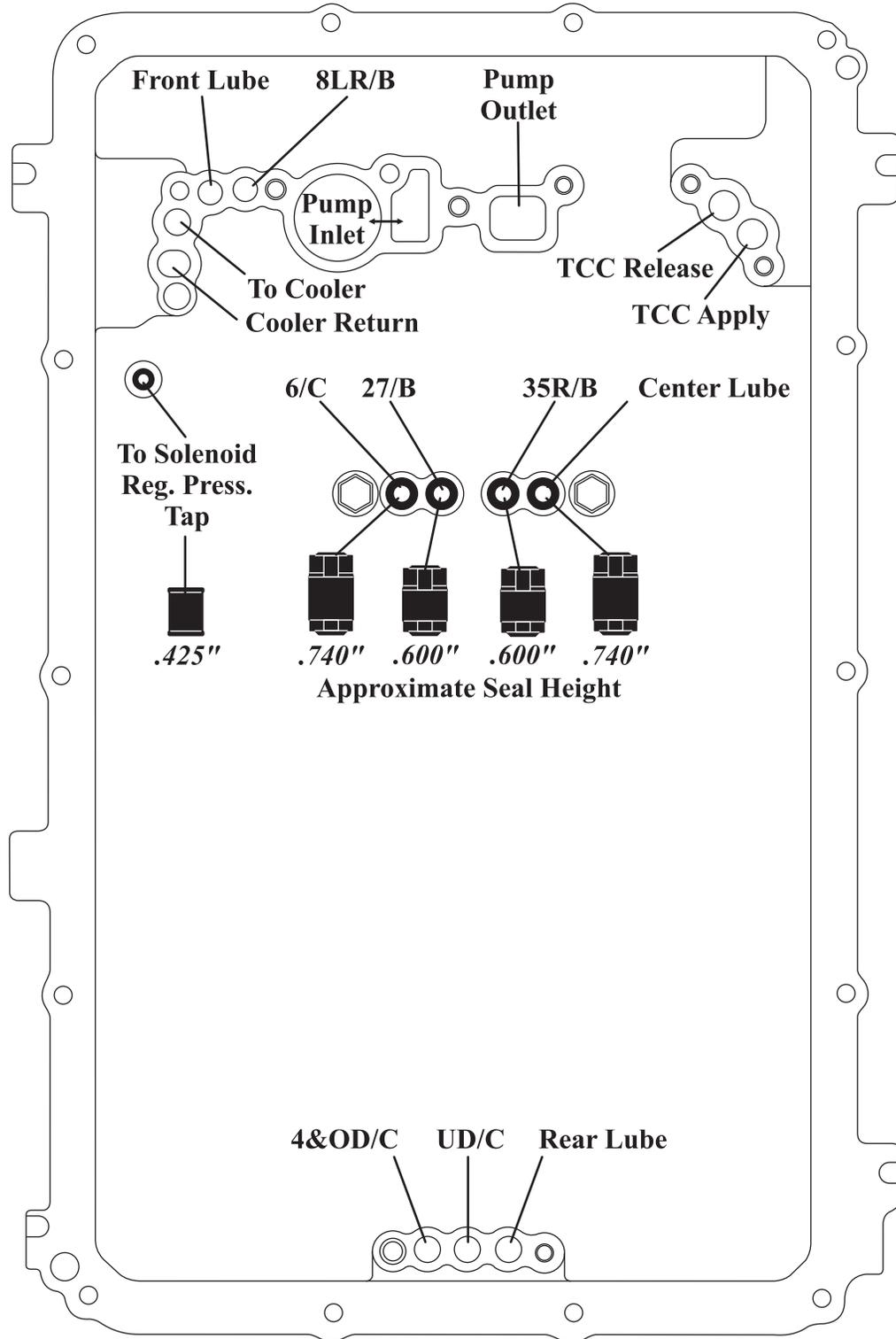
Figure 14

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

CASE PASSAGE IDENTIFICATION



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Figure 15



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

PRESSURE TAP ID & LOCATION

(Figures 17, 18 and 19)

1. 35R/B pressure tap
2. TCC Apply pressure tap
3. TCC Release pressure tap
4. 27/B pressure tap
5. 6/C pressure tap
6. Front Lube pressure tap
7. 8LR/B pressure tap
8. Solenoid Feed Pressure Tap supplying pressure to the Line Pressure Solenoid, Damper Clutch Solenoid and Shift Solenoid A.
9. Rear Lube pressure tap
10. UD/C pressure tap
11. 4&OD/C pressure tap

Technician's note (Figure 16):

Pressure taps 1, 4 and 5 are 14mm bolt head bolts with 10 x 1.25mm thread identified by a number 4 in the bolt head. These bolts must be removed when disassembling the transmission as tube seals are in these pressure ports that fit into the center support (Lube and Brake Clutch Support). These tube seals measure approximately .435" in length.

The remaining 8 pressure taps use a 14mm bolt head bolts with 10 x 1.25mm thread.

Port A is to cooler. Port B is cooler return.

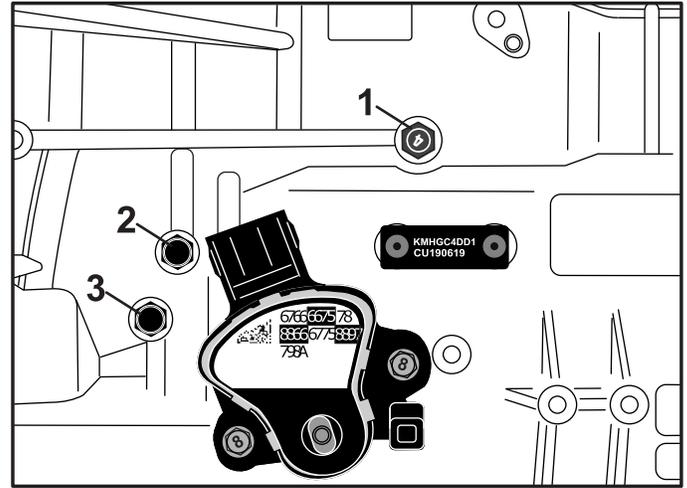


Figure 17

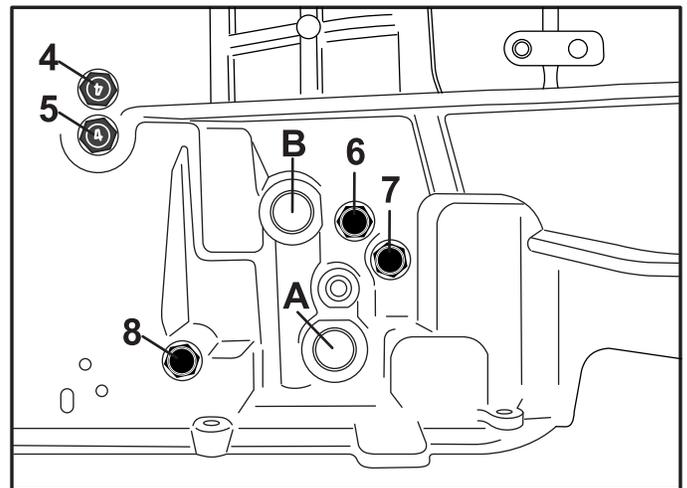


Figure 18

	Tube seals for ports 1, 4 and 5 measure approximately .435" in height
	Pressure taps 1, 4 and 5 use a 14mm bolt head with 10 x 1.25mm thread
	The remaining 8 pressure taps use a 12mm bolt head with 8 x 1.25mm thread

Figure 16

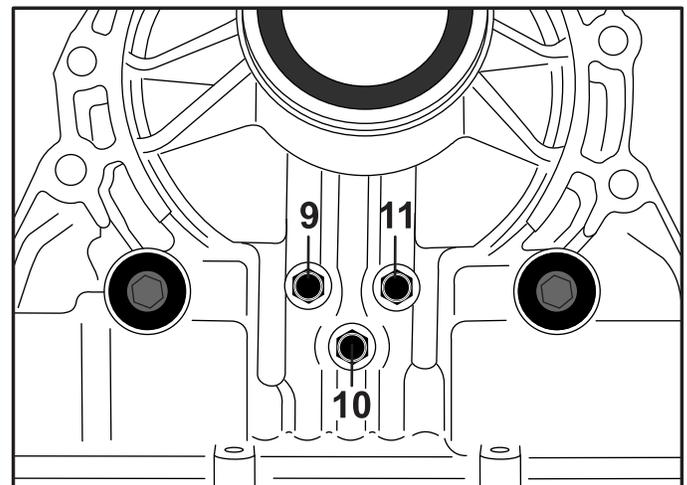


Figure 19



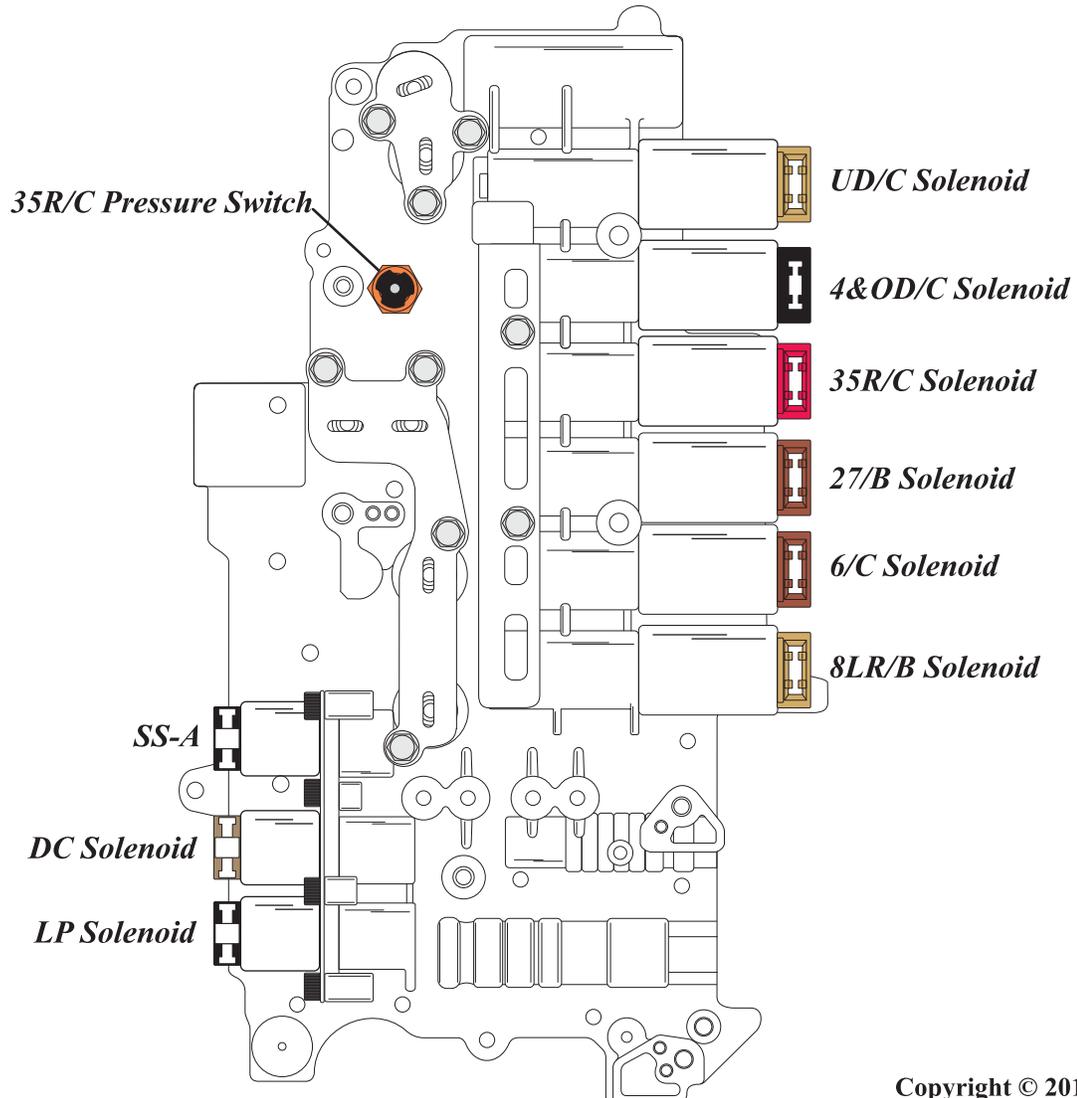
Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

SOLENOID APPLICATION CHART

	UD/C	4&OD/C	35R/C	27/B	8LR/B	6/C	ON/OFF
P		X		X			X
N		X	X		X		X
1	X	X	X				
2	X	X	X	X			
3	X	X					
4	X		X				
5							
6			X			X	
7			X	X			
8			X		X		
LOW	X	X	X		X		
REV		X			X		X



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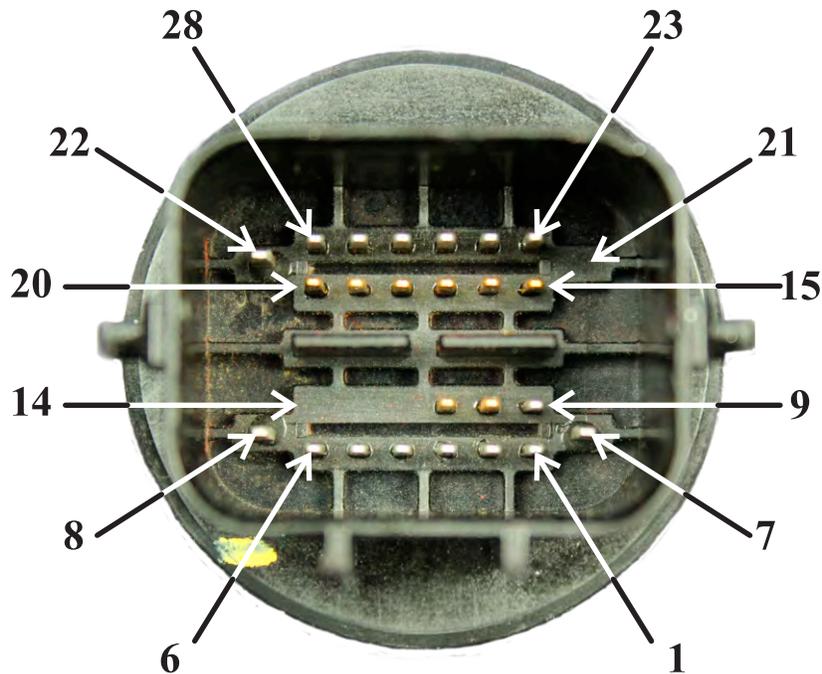
Figure 20

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

SOLENOID RESISTANCE CHECK



SOLENOID CHECK

Solenoid	Positive	Negative	Resistance	Type	Amperage Values
SSA	7	4	10-11 Ω	N.C.	0 amps OFF/1.2 amps ON
Line Press.	8	9	4.8-5.4 Ω	N.C.	0 to .85 amps (850mA)
6/C	8	24	5.0-5.6 Ω	N.V.	0 to 1.1 amps (1100mA)
35R/C*	8	26	5.0-5.6 Ω	N.A.	0 to 1.1 amps (1100mA)
4&OD/C*	8	27	5.0-5.6 Ω	N.A.	0 to 1.1 amps (1100mA)
Damper/C	22	3	4.8-5.46 Ω	N.V.	0 to .85 amps (850mA)
8LR/B	22	23	5.0-5.6 Ω	N.V.	0 to 1.1 amps (1100mA)
27/B	22	25	5.0-5.6 Ω	N.V.	0 to 1.1 amps (1100mA)
UD/C	22	28	5.0-5.6 Ω	N.V.	0 to 1.1 amps (1100mA)

NOTE: Scan tools may present the above solenoids with the following designations:

UD/C Solenoid as.....Shift Control Solenoid Valve A: SCSV-A

6/C Solenoid.....Shift Control Solenoid Valve B: SCSV-B

35R/C Solenoid as.....Shift Control Solenoid Valve C: SCSV-C

4&OD/C Solenoid as.....Shift Control Solenoid Valve D: SCSV-D

27/B Solenoid as.....Shift Control Solenoid Valve E: SCSV-E

8LR/B Solenoid as.....Shift Control Solenoid Valve F: SCSV-F

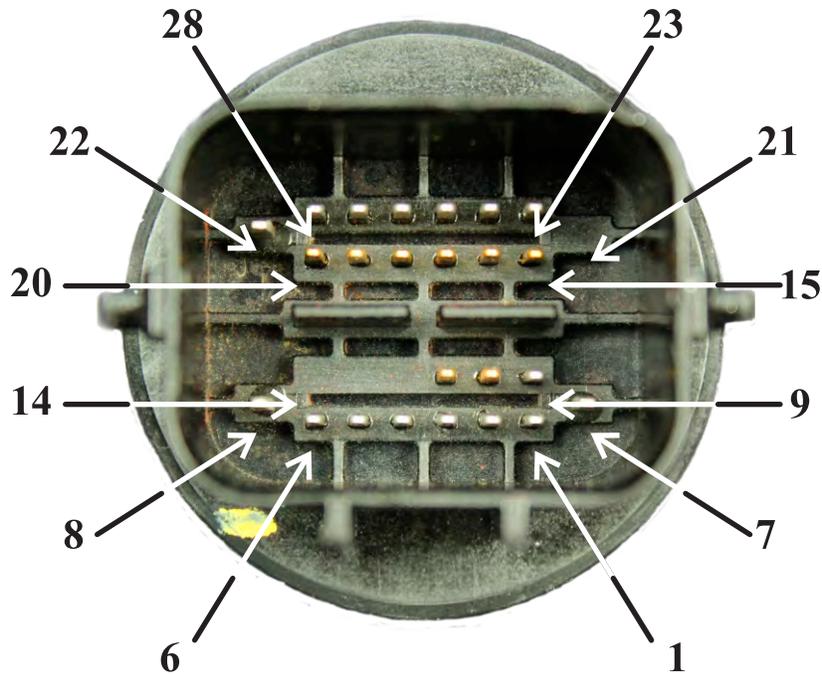
*-All solenoids off places the transmission in 5th gear

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Figure 21

HYUNDAI/KIA A8LR1/A8TR1 PRELIMINARY INFORMATION

TFT SENSOR CHECK



TFT SENSOR CHECK				
Sensor	Positive	Negative	Resistance (kΩ)	Temperature [(°C) °F]
TFT	16	15	139.5	(-40) -40
			47.4	(-20) -4.0
			18.6	(0) 32
			8.1	(20) 68.0
			3.8	(40) 104.0
			1.98	(60) 140.0
			1.08	(80) 176.0
			0.63	(100) 212.0
			0.38	(120) 248.0
			0.25	(140) 284.0
			0.16	(150) 302.0

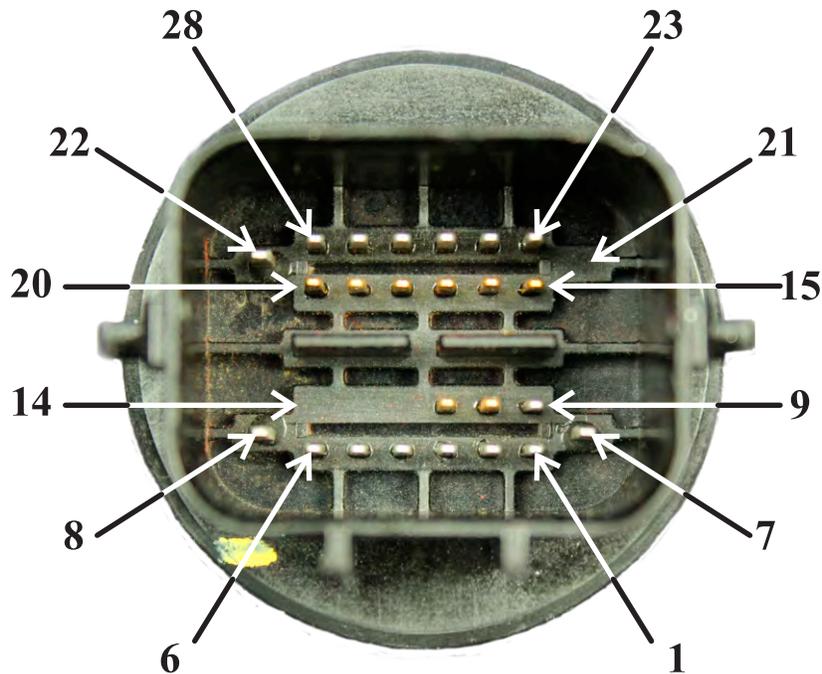
Figure 22

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

SPEED SENSOR CHECKS AND 35R PRESSURE SWITCH



All three speed sensors, the Input, Middle and Output are 2 wire Hall Effect types which cannot be properly checked by resistance. Each have a 9 volt power supply and a signal wire. The signal wire on each sensor is best checked with a scope where a 0.7v to 1.4v digital square wave signal can be observed. The difference between the sensors is only in the amount of pulses that will be seen at a fixed vehicle speed.

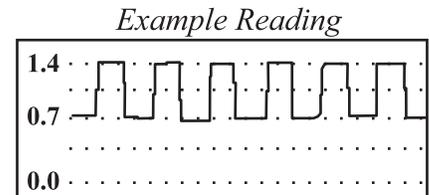
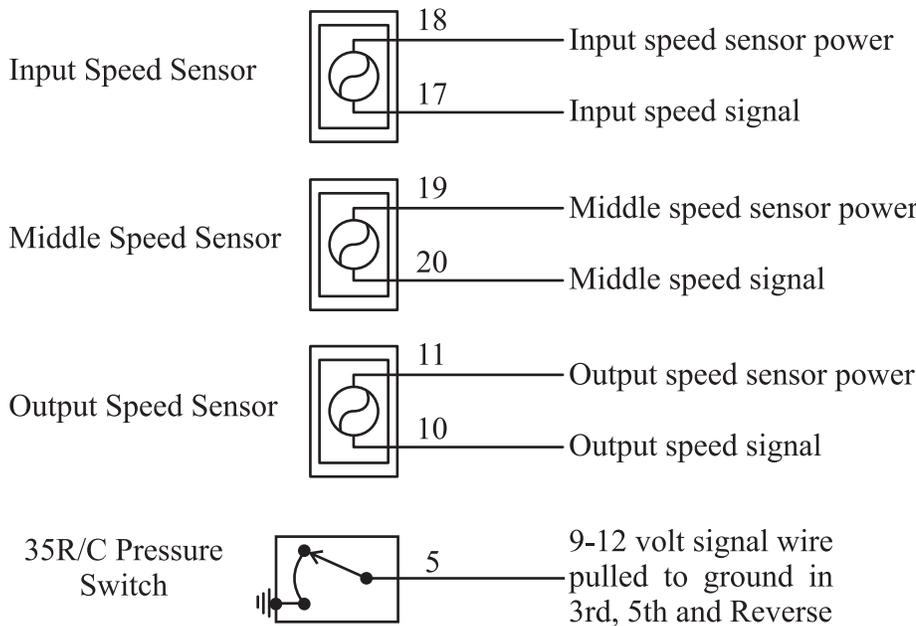


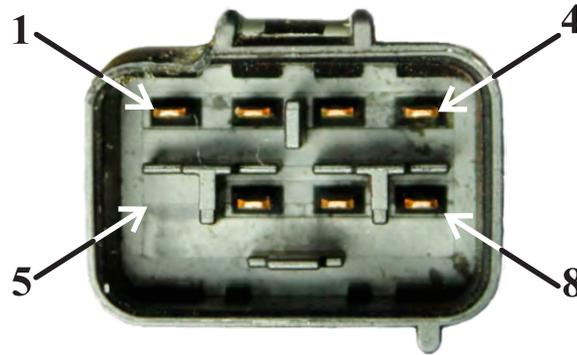
Figure 23

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

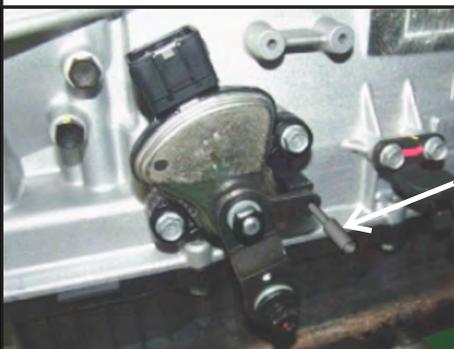
PRELIMINARY INFORMATION

TRANSMISSION RANGE SENSOR CHECK



Terminal	Function
1	Signal 2 input
2	Signal 1 input
3	Signal 3 input
4	Signal 4 input
6	IG1
7	Start power (ON) 12V
8	Start relay

CIRCUIT	P	P-R	R	R-N	N	N-D	D
Signal "1"	12V	12V	0V	0V	0V	0V	0V
Signal "2"	0V	12V	12V	12V	0V	0V	0V
Signal "3"	0V	0V	0V	12V	12V	12V	0V
Signal "4"	0V	0V	0V	0V	0V	12V	12V



Use special tool 09480-A3800 or 0.1969" (5mm) pin to align the transmission range sensor to the linkage in the neutral position. Once aligned, tighten the attaching bolts to 9.8 to 11.8 N.m. and remove the alignment pin.

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Figure 24

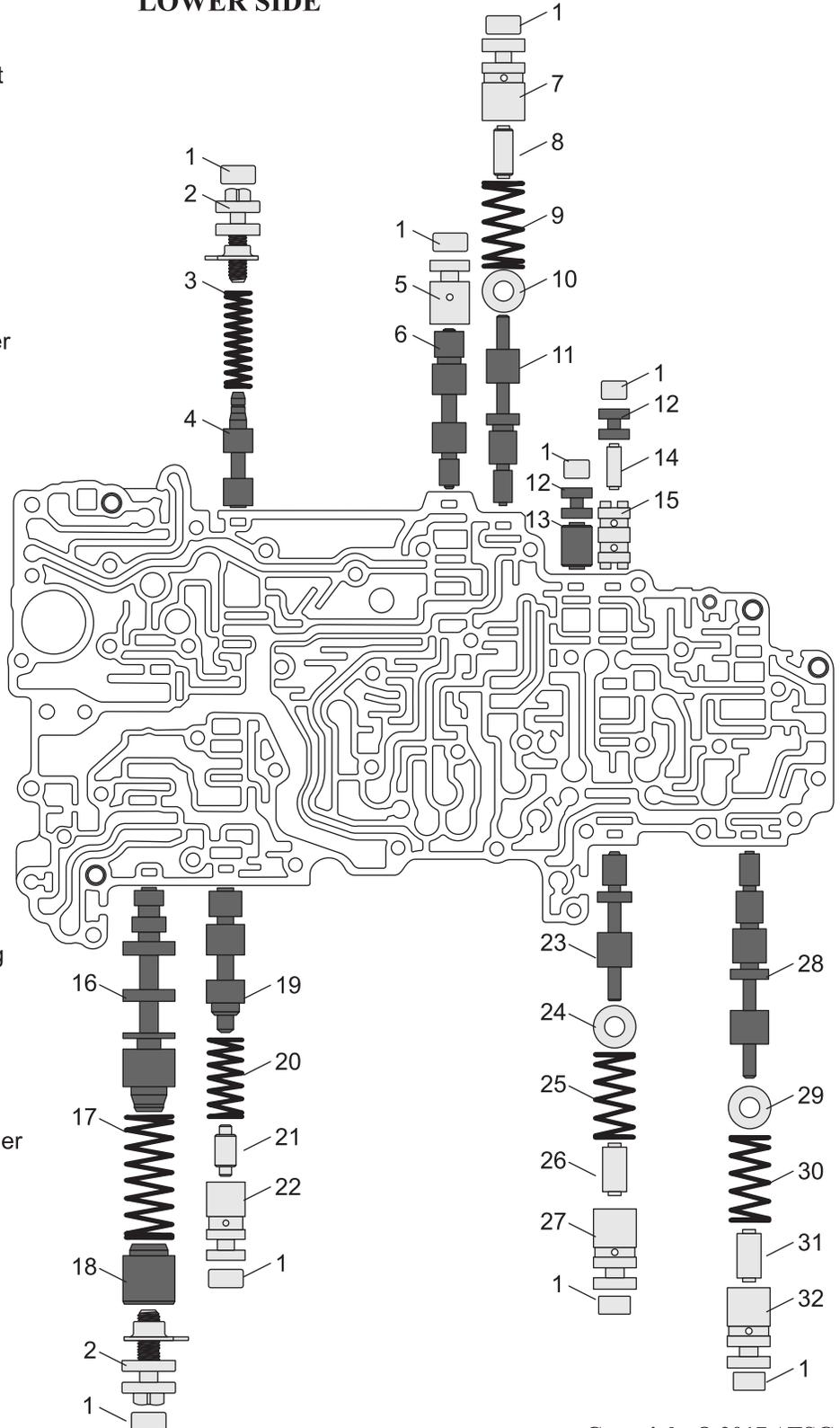
Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

UPPER VALVE BODY LOWER SIDE

1. Retainer
2. Spring Tension Calibration Bolt
3. Solenoid Reg. Valve Spring
(1.122" x .354" x .046" x 11c)
4. Solenoid Reg. Valve
5. 8LR/B Relay Valve Sleeve
6. 8LR/B Relay Valve
7. 6/C Relay Valve Sleeve
8. 6/C Relay Boost Valve
9. 6/C Relay Valve Spring
(1.059" x .533" x .035" x 6.5c)
10. 6/C Relay Valve Spring Washer
11. 6/C Relay Valve
12. Bore Plug
13. Shuttle Valve 1
14. Shuttle Valve 2
15. Shuttle Valve 2 Sleeve



16. Primary P.R. Valve
17. Primary P.R. Valve Spring
(1.566" x .630" x .055" x 8c)
18. Primary P.R. Valve Spring Plug
19. TCC Reg. Valve
20. TCC Reg. Valve Spring
(1.019" x .442" x .031" x 7c)
21. TCC Reg. Boost Valve
22. TCC Reg. Valve Sleeve
23. 27/B Relay Valve
24. 27/B Relay Valve Spring Washer
25. 27/B Relay Valve Spring
(1.062" x .531" x .039" x 6c)
26. 27/B Relay Boost Valve
27. 27/B Relay Valve Sleeve
28. UD/C Relay Valve
29. UD/C Valve Spring Washer
30. UD/C Valve Spring
(1.067" x .531" x .035" x 6c)
31. UD/C Boost Valve
32. UD/C Valve Sleeve

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Figure 25

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

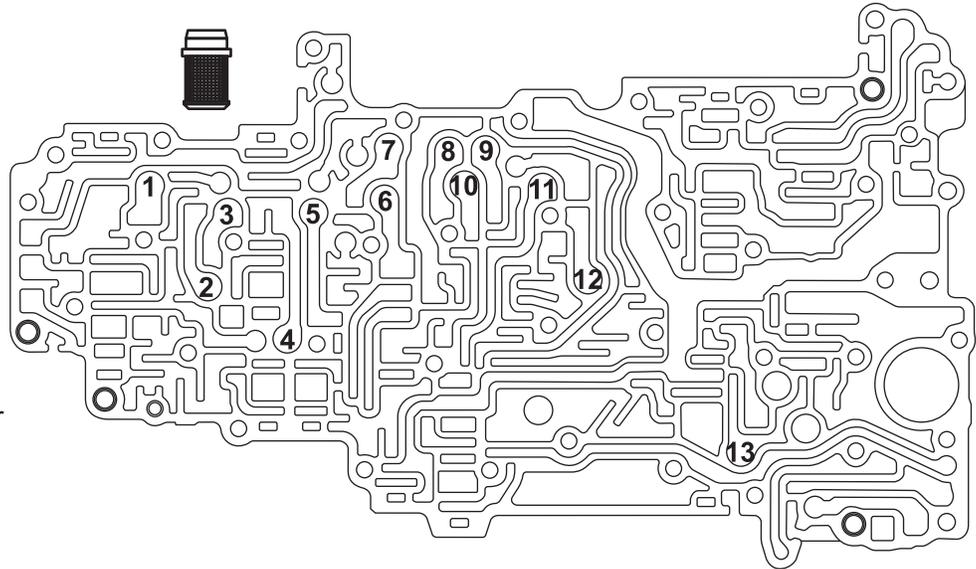
PRELIMINARY INFORMATION

UPPER VALVE BODY LOWER SIDE



Filters 1-13

1. UD/C Solenoid Out Filter
2. UD/C Solenoid In Filter
3. 4 &OD/C Solenoid Out Filter
4. 4 &OD/C Solenoid In Filter
5. 35R/C Solenoid Out Filter
6. 27/B Solenoid Out Filter
7. 35R/C Solenoid In Filter
8. 27/B Solenoid In Filter
9. 6/C Solenoid In Filter
10. 6/C Solenoid Out Filter
11. 8LR/B Solenoid Out Filter
12. 8LR/B Solenoid In Filter
13. Line Press. Solenoid In Filter



Damper Pistons 1-7



.540" x .176" x .018" x 17c



Damper Pistons 8-9



.448" x .293" x .048" x 6c

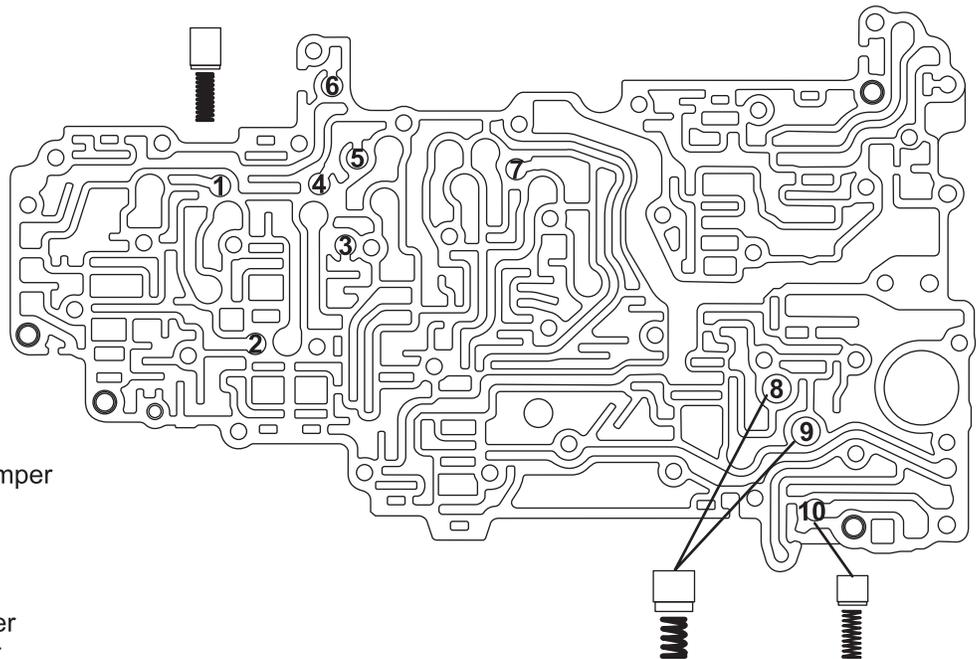


Damper Pistons 10



.540" x .217" x .018" x 11c

1. UD/C Solenoid Damper
2. FWD Line Press. Accum. Damper
3. 35R/C Solenoid Damper
4. 27/B Solenoid Damper
5. 4 &OD/C Solenoid Damper
6. M.V. Exhaust Damper
7. 8LR/B & 6/C Solenoid Damper
8. Line Press. Solenoid Damper
9. Damper Clutch Solenoid Damper
10. TCC/Cooler Pressure Damper



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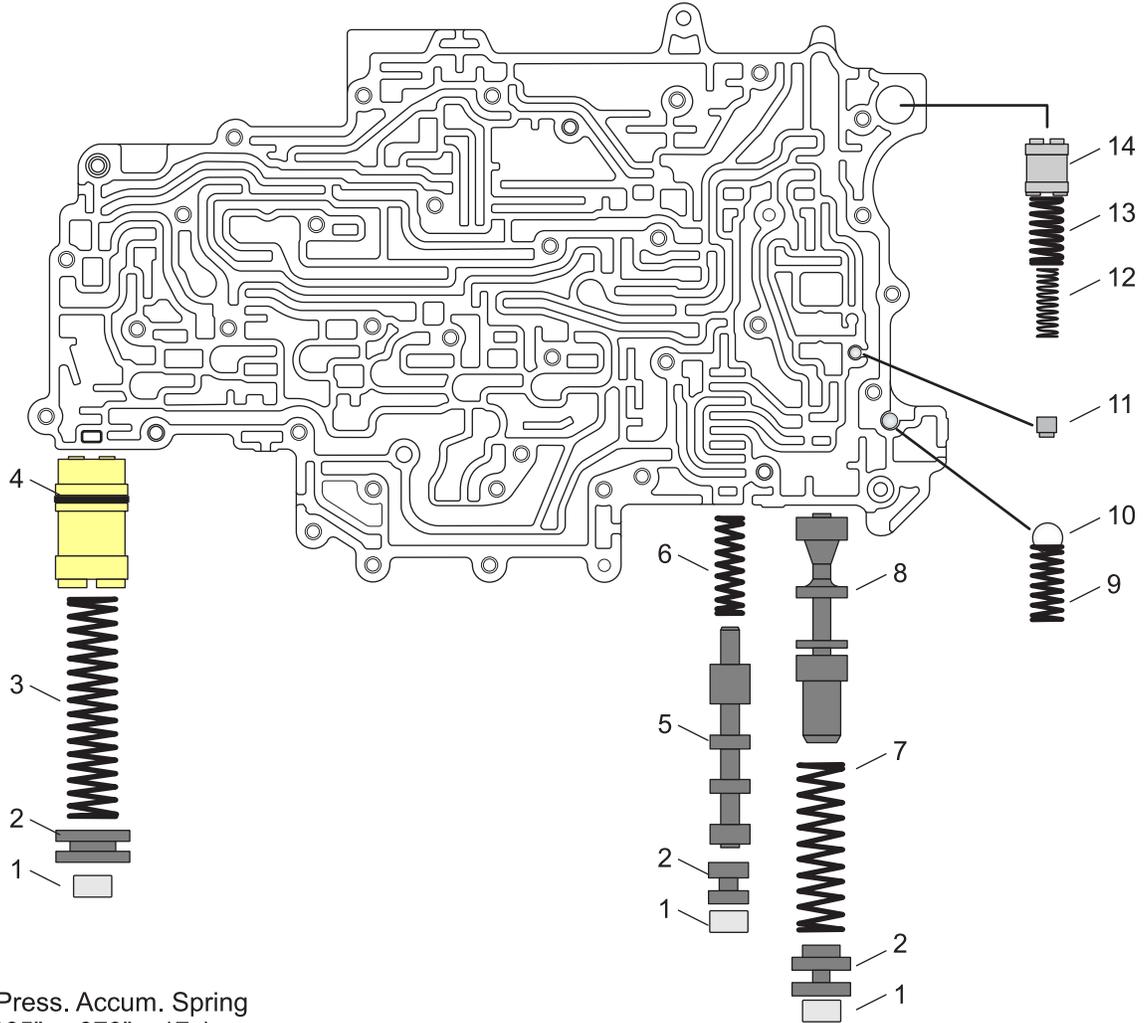
Figure 26

Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

LOWER VALVE BODY UPPER SIDE



1. Retainer
2. Bore Plug
3. FWD Line Press. Accum. Spring
(2.815" x .665" x .079" x 17c)
4. FWD Line Press. Accum. Piston
5. TCC Switch Valve
6. TCC Switch Valve Spring
(1.015" x .292" x .023" x 9c)
7. Secondary Press. Reg. Valve Spring
(1.760" x .532" x .055" x 11c)
8. Secondary Press. Reg. Valve
9. Line Press. Relief Ball Spring
(.635" x .278" x .040" x 9c)
10. .250" Line Press. Relief Ball
11. Cooler Check Valve
12. Solenoid Feed Press. Accum. Inner Spring
(1.064" x .316" x .040" x 12c)
(May have white paint)
13. Solenoid Feed Press. Accum. Outer Spring
(1.029" x .478" x .065" x 9c)
(May have white paint)
14. Solenoid Feed Press. Accum. Piston

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Figure 27



Technical Service Information

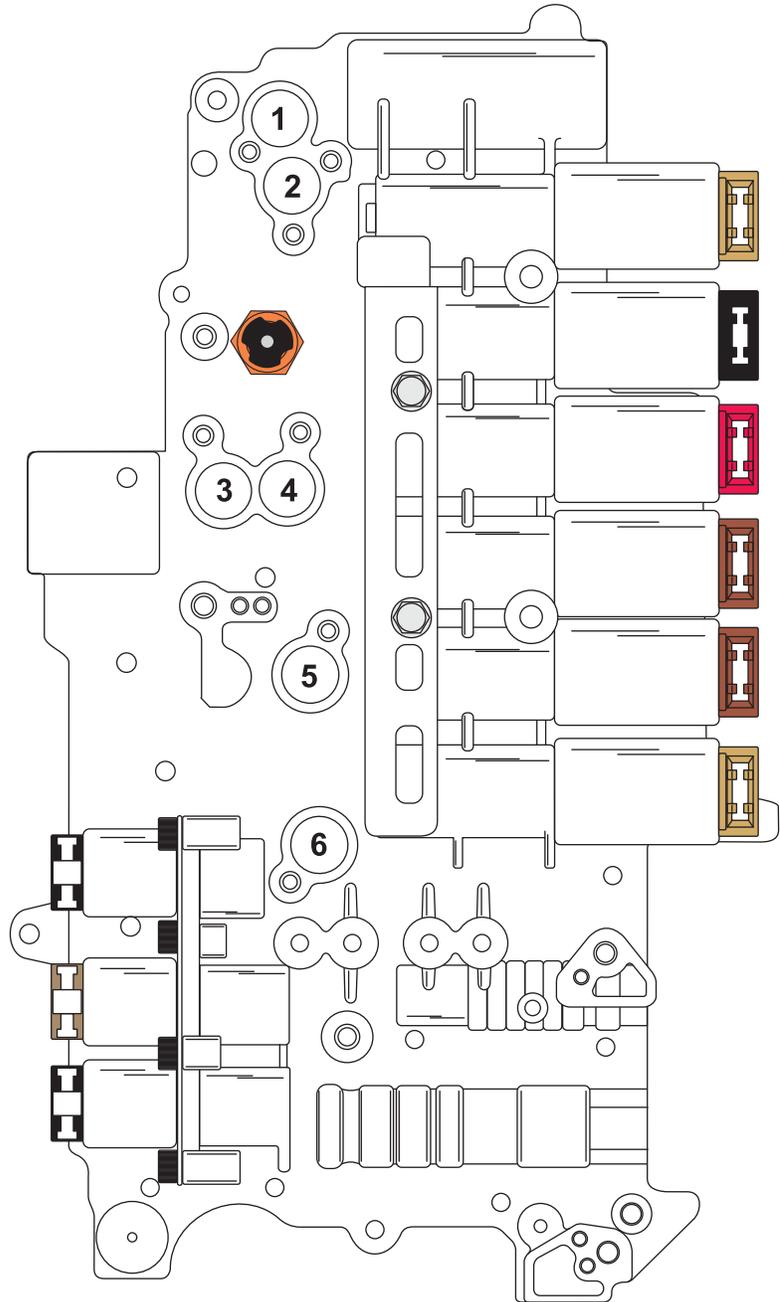
HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

LOWER VALVE BODY LOWER SIDE

-  .792" x .358" x .072" x 7.5c
(May have green paint)
-  1.053" x .518" x .072" x 8c
(May have green paint)
-  Accumulators 1-6

1. 4 &OD/C Accumulator
2. UD/C Accumulator
3. 35R/C Accumulator
4. 8LR/B Accumulator
5. 6/C Accumulator
6. 27/B Accumulator



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Figure 28



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1 PRELIMINARY INFORMATION

ATF LEVEL INSPECTION AND FLUID FILL PROCEDURE

1. Remove the plastic shield under the transmission.
2. If the ATF has been completely drained, go to Step 3.
To check the ATF level, go to Step 4.
3. If the ATF has been completely drained:
 - Move the shift lever to "N" (engine off).
 - Lift the vehicle on a hoist.
 - Remove the fill plug (figure 29).
 - Use a fluid pump or suction gun to add fluid through the fill plug.
 - Engine off. Add approximately 4 quarts of fluid.
 - Start the engine. Add approximately 4-5 additional quarts of fluid
 - Reinstall the fill plug. Go to Step 4.
4. Attach a scan tool to view Transmission Fluid Temperature.
5. Drive the vehicle until the ATF is at the low end of the range of 122~140°F (50~60°C).
6. Move the shift lever to "N" and leave the engine idling. Raise the vehicle on a hoist.
7. Remove the check level plug (figure 29).
8. Remove the fill plug and add fluid until it flows out of the overflow plug in a thin steady oil stream.
9. Reinstall the check level plug. Torque: 5~8 lb-ft.
10. Reinstall the fill plug. Torque: 25~32 lb-ft.



Fluid: SP-IV-RR ATF
Part Number 00232-19052
10.67 qt (10.1L) Full Fill

TCM LEARN PROCEDURE

TCM learning is required when shift shock has occurred or parts related with the transaxle are replaced as well as when the transmission has been replaced, or the TCM has been replaced or reprogrammed.

TCM learning condition begins with transmission fluid temperature being between 30 - 95°C (86 - 203°F).

Garage Shift TCM Relearn:

With brake applied and 0 % throttle opening, shift to N and hold for 3 seconds, then D for 3 seconds, then to R for 3 seconds and repeat four times or more until engagements are acceptable.

Driving learning the TCM:

1. Drive the vehicle through all gears in D range. Drive from stop to 1st to 2nd to 3rd to 4th to 5th to 6th to 7th to 8th with keeping fixed throttle open.
2. Down shift from 8th to 7th, 7th to 6th, 6th to 5th, 5th to 4th, 4th to 3rd, 3rd to 2nd, 2nd to 1st.
3. Repeat the above driving pattern four times or more. Up-shift throttle open : 15 - 30%

Technical Service Information
HYUNDAI/KIA A8LR1/A8TR1
PRELIMINARY INFORMATION

FLUID DRAIN, LEVEL AND FILL PLUGS

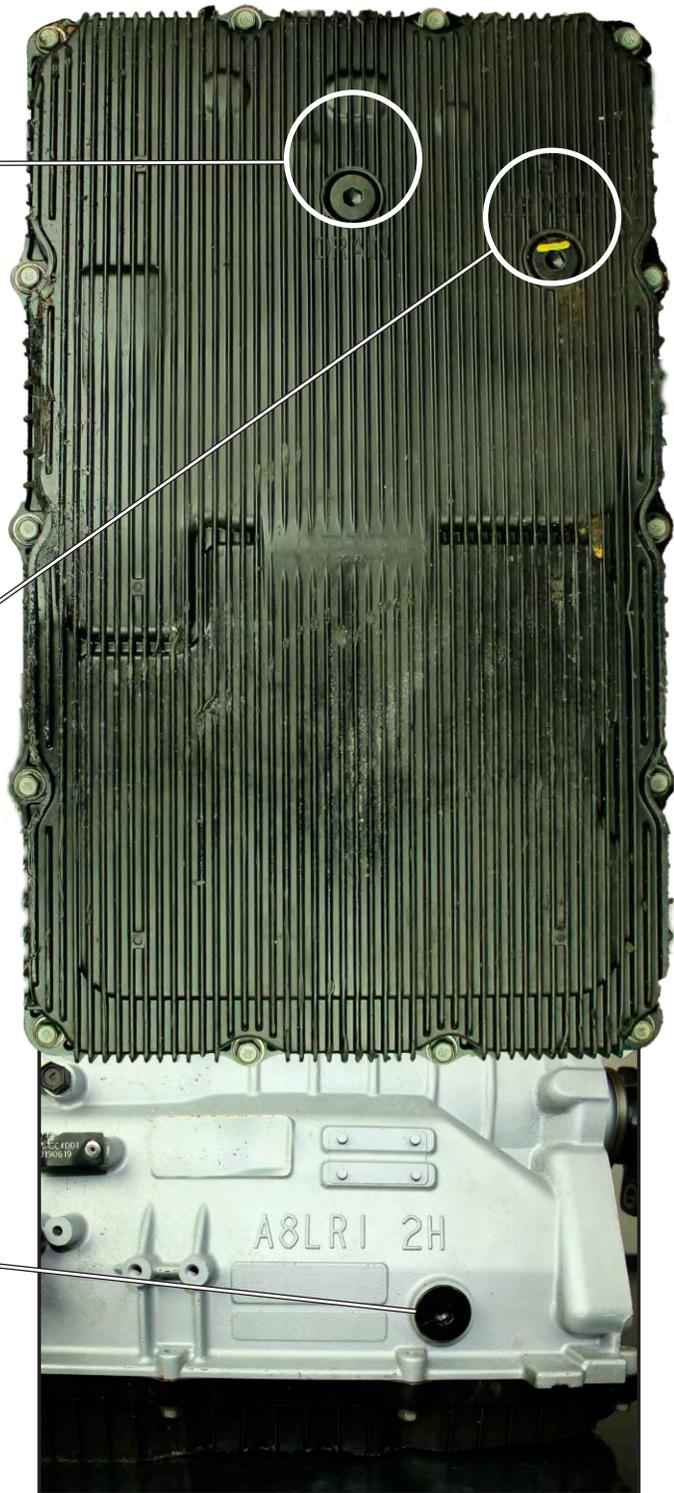
DRAIN PLUG



LEVEL PLUG



FILL PLUG



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Figure 29



Technical Service Information

HYUNDAI/KIA A8LR1/A8TR1

PRELIMINARY INFORMATION

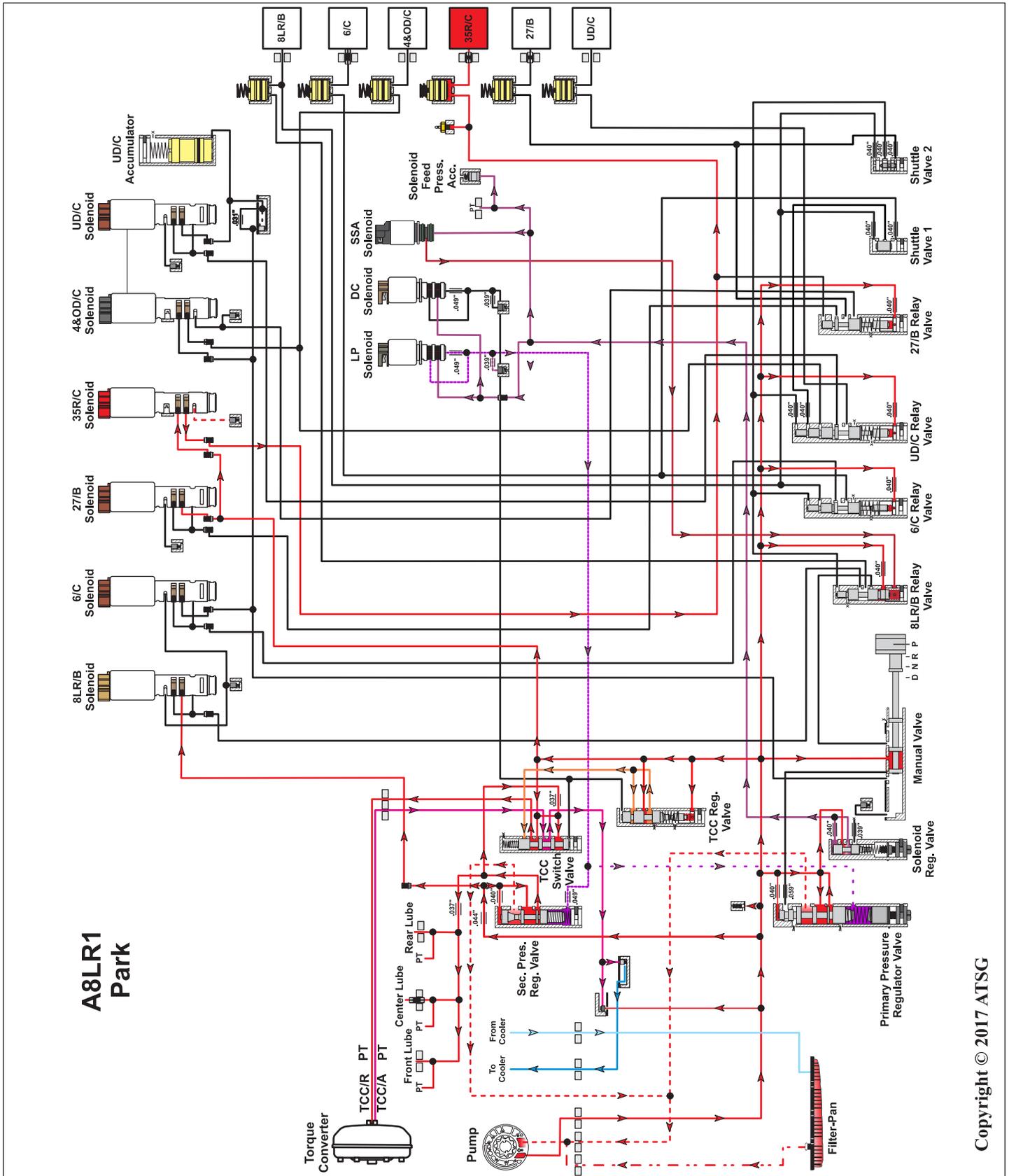


Figure 30