



MITSUBISHI F5A50/HYUNDAI-KIA A5G-HF1 VALVE BODY AND CONTROL DIFFERENCES

- *Refer to Figure 1 for a Component and Solenoid application chart for Mitsubishi, Pre-2007 Hyundai and Pre-2006 Kia vehicles.*
- *Refer to Figure 2 for a Component and Solenoid application chart for 2007 Up Hyundai and 2006 Up Kia vehicles. Note the different component and solenoid applications in 4th and 5th.*
- *Refer to Figure 3 for Solenoid identification for Mitsubishi, Pre-2007 Hyundai and Pre-2006 Kia vehicles.*
- *Refer to Figure 4 and 5 for Case connector terminal identification, ohm values for the Mitsubishi, Pre-2007 Hyundai and Pre-2006 Kia, for the 6 solenoids, and an internal wire schematic for a Mitsubishi Eclipse.*
- *Refer to Figure 6 for Solenoid identification for 2007 Up Hyundai and 2006 Up Kia .Note the added Line Pressure Control Solenoid.*
- *Refer to Figure 7 for Case connector terminal identification for 2007 Up Hyundai and 2006 Up Kia vehicles, and ohm values for the 7 solenoids, and an internal wire schematic for a Hyundai Azera, as shown in Figure 8 and a internal wire schematic for a Kia Sedona in Figure 9.*
- *Refer to Figures 10-15 for Valve Body Exploded views for Mitsubishi, Pre-2007 Hyundai and Pre-2006 Kia vehicles.*
- *Refer to Figures 16-21 for Valve Body Exploded views for 2007 Up Hyundai and 2006 Up Kia vehicles.*



Technical Service Information

"MITSUBISHI, pre-2007 hyundai, pre-2006 kia ONLY" INTERNAL COMPONENT APPLICATION CHART

Gear Range	Reverse Clutch	Underdrive Clutch	2nd Clutch	Overdrive Clutch	Low/Rev Clutch	Direct Clutch	Reduct Band	Low (OWC-1) Sprag	Reduct (OWC-2) Sprag	TCC	Gear Ratio Mitsubishi
Park					ON		ON				
Reverse	ON				ON		ON				3.117
Neutral					ON		ON				
Dr-1st		ON			ON*		ON	HOLD	HOLD		3.789
Dr-2nd		ON	ON				ON		HOLD		2.162
Dr-3rd		ON		ON			ON		HOLD		1.421
Dr-4th		ON		ON		ON				ON**	1.000
Dr-5th			ON	ON		ON				ON**	0.686

* Low/Reverse clutch is applied below 6 mph, released above 6 mph.

Final Drive Ratio 3.325

** TCC dependant on throttle position, temperature and vehicle speed.

Note: Reverse Clutch is applied with fluid pressure from the manual valve.

Note: (OWC = One Way Clutch)..

FLUID REQUIREMENTS Mitsubishi Diamond SP III

"MITSUBISHI, pre-2007 hyundai, pre-2006 kia ONLY" SOLENOID APPLICATION CHART

Gear Range	U.D. Sol	2nd Sol	O.D. Sol	TCC Sol	L/R-Dir. Sol***	RED. Sol
Park	ON	ON	ON	OFF	OFF	OFF
Reverse	ON	ON	ON	OFF	OFF	OFF
Neutral	ON	ON	ON	OFF	OFF	OFF
Dr-1st	OFF	ON	ON	OFF	OFF*	OFF
Dr-2nd	OFF	OFF	ON	OFF	ON	OFF
Dr-3rd	OFF	ON	OFF	OFF	ON	OFF
Dr-4th	OFF	ON	OFF	ON**	OFF	ON
Dr-5th	ON	OFF	OFF	ON**	OFF	ON

* Low/Reverse clutch is applied below 6 mph, and released above 6 mph.

** Torque Converter Clutch (TCC) dependant on throttle position, temperature and vehicle speed.

*** Low/Reverse Clutch or Direct Clutch depending on switch valve position.

Solenoid ON = Energized

Solenoid OFF = De-Energized

Failsafe: Two failsafe strategies are available, 2nd gear and 3rd gear.

Should all solenoids be turned Off (i.e. electrical failure), 3rd gear will be the result.

2nd gear failsafe "may" be commanded by the TCM, energizing the appropriate solenoids. Reverse always available.

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Figure 1



Technical Service Information

"2007-up HYUNDAI, 2006-up KIA ONLY" INTERNAL COMPONENT APPLICATION CHART

Gear Range	Reverse Clutch	Underdrive Clutch	2nd Clutch	Overdrive Clutch	Low/Rev Clutch	Direct Clutch	Reduct Band	Low (OWC-1) Sprag	Reduct (OWC-2) Sprag	DCC	Gear Ratio	
											Hyundai	Kia
Park					ON		ON					
Reverse	ON				ON		ON				3.859	4.586
Neutral					ON		ON					
Dr-1st		ON			ON*		ON	HOLD	HOLD		3.840	4.457
Dr-2nd		ON	ON				ON		HOLD		2.092	2.442
Dr-3rd		ON		ON			ON		HOLD		1.440	1.686
Dr-4th		ON	ON	ON			ON		HOLD	ON**	1.048	1.233
Dr-5th			ON	ON		ON				ON**	0.728	0.868

* Low/Reverse clutch is applied below 6 mph, released above 6 mph.

** Damper Converter Clutch (DCC) dependant on throttle position, temperature and vehicle speed.

Note: Reverse Clutch is applied with fluid pressure from the manual valve.

Note: (OWC = One Way Clutch)..

**Final Drive
Ratio 3.333**

FLUID REQUIREMENTS Hyundai/Kia Diamond SP III

"2007-up HYUNDAI, 2006-up KIA ONLY" SOLENOID APPLICATION CHART

Gear Range	U.D. Sol	2nd Sol	O.D. Sol	DCC Sol	L/R-Dir. Sol***	RED. Sol	Line VFS Sol
Park	ON	ON	ON	OFF	OFF	OFF	****
Reverse	ON	ON	ON	OFF	OFF	OFF	****
Neutral	ON	ON	ON	OFF	OFF	OFF	****
Dr-1st	OFF	ON	ON	OFF	OFF*	OFF	****
Dr-2nd	OFF	OFF	ON	OFF	ON	OFF	****
Dr-3rd	OFF	ON	OFF	OFF	ON	OFF	****
Dr-4th	OFF	OFF	OFF	ON**	ON	OFF	****
Dr-5th	ON	OFF	OFF	ON**	OFF	ON	****

* Low/Reverse clutch is applied below 6 mph, and released above 6 mph.

** Damper Converter Clutch (DCC) dependant on throttle position, temperature and vehicle speed.

*** Low/Reverse Clutch or Direct Clutch depending on switch valve position.

**** VFS is constantly modulating to control Line Pressure depending on throttle opening, engine load and vehicle speed.

Solenoid ON = Energized

Solenoid OFF = De-Energized

Failsafe: Two failsafe strategies are available, 2nd gear and 3rd gear.

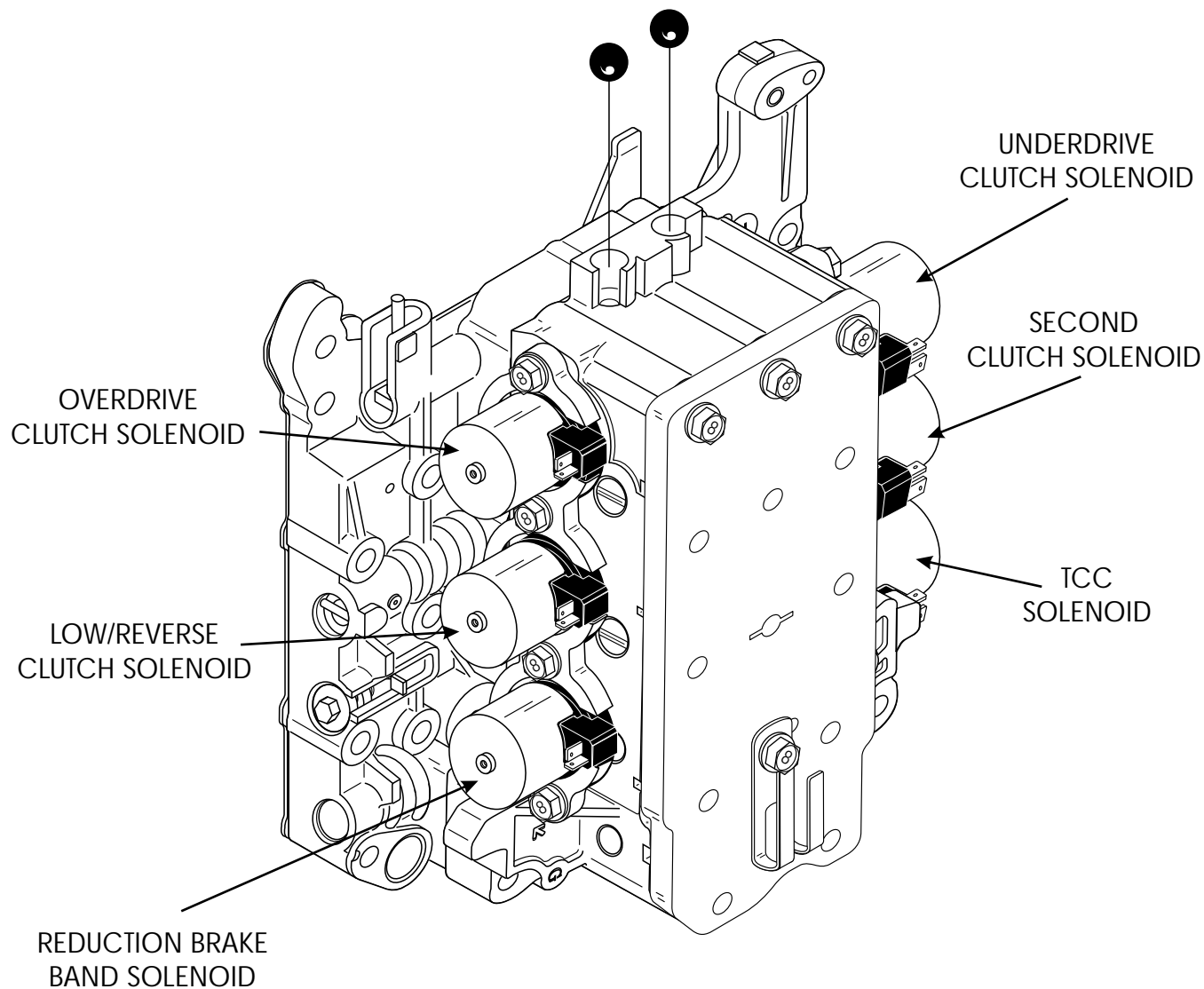
Should all solenoids be turned Off (i.e. electrical failure), 3rd gear will be the result.

2nd gear failsafe "may" be commanded by the TCM, energizing the appropriate solenoids. Reverse always available.

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Figure 2

***"Mitsubishi", "Pre-06 Kia" & "Pre-07 Hyundai"
All Have 6 Shift Solenoids***



*SOLENOID RESISTANCE SHOULD BE
2.7 - 3.4 OHMS @ 20° C (68° F)*

OEM Solenoid Part Numbers (At time of printing)

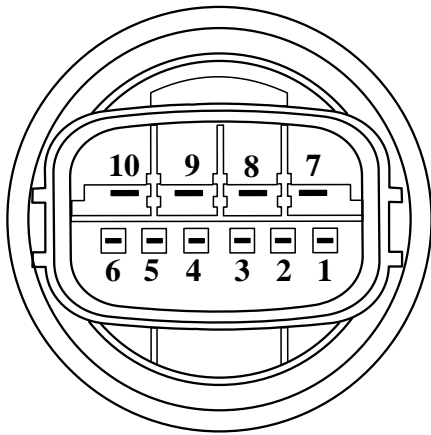
Mitsubishi Shift Solenoid- MD758981

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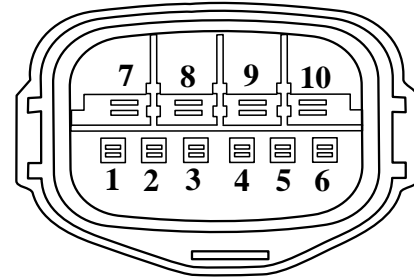
Figure 3

CASE CONNECTOR TERMINAL IDENTIFICATION AND INTERNAL COMPONENT RESISTANCE CHART

**"Mitsubishi"
"Pre-2007 Hyundai" &
"Pre-2006 Kia" Only
(10-Way Connector)**



*View Looking Into Transaxle
Case Connector*



*View Looking Into Transaxle
Harness Connector*

INTERNAL COMPONENT RESISTANCE CHART

COMPONENT	TERMINALS	RESISTANCE
Underdrive Solenoid	Terminals 9 and 3	2.7 - 3.4 Ohms @ 20°C (68°F)
2nd Solenoid	Terminals 9 and 4	2.7 - 3.4 Ohms @ 20°C (68°F)
Overdrive Solenoid	Terminals 9 and 5	2.7 - 3.4 Ohms @ 20°C (68°F)
Low/Rev Solenoid	Terminals 10 and 6	2.7 - 3.4 Ohms @ 20°C (68°F)
TCC Solenoid	Terminals 10 and 7	2.7 - 3.4 Ohms @ 20°C (68°F)
Reduction Solenoid	Terminals 10 and 8	2.7 - 3.4 Ohms @ 20°C (68°F)
TFT Sensor	Terminals 1 and 2	See Chart in Figure 9

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TERMINAL NUMBER	INTERNAL WIRE COLOR	CIRCUIT DESCRIPTION	NOTE: Wire colors may vary.
1	Red	5 Volt Power to TFT Sensor	
2	Black	Ground to TFT Sensor	
3	White	Ground for Underdrive Solenoid control	
4	Green	Ground for Second Clutch Solenoid control	
5	Orange	Ground for Overdrive Solenoid control	
6	Brown	Ground for Low/Reverse Solenoid control	
7	Blue	Ground for TCC Solenoid control	
8	Green	Ground for Reduction Solenoid control	
9	Red	Power to Underdrive, Second, and Overdrive Solenoids	
10	Yellow	Power to TCC, Low/Reverse, and Reduction Solenoids	

Figure 4

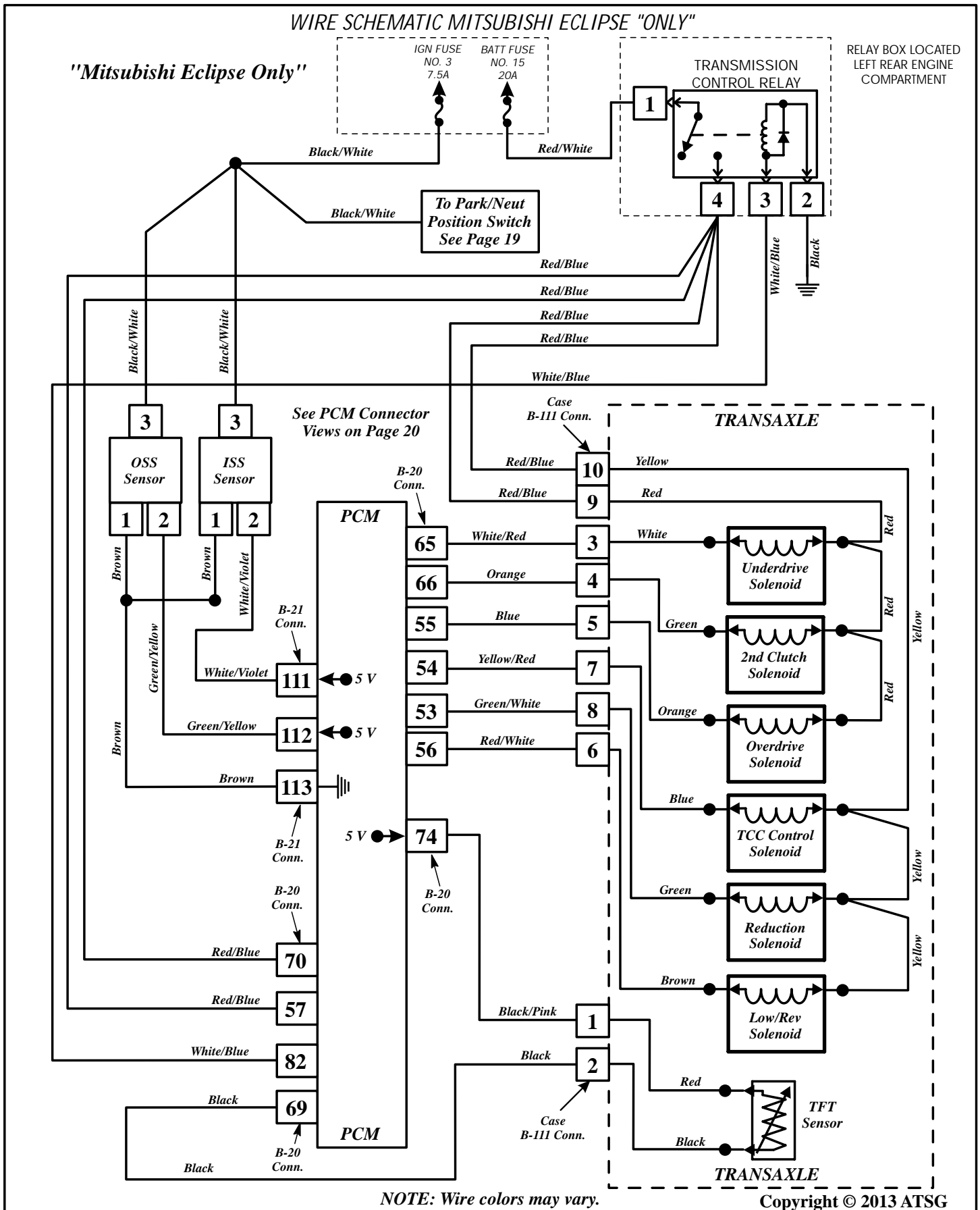
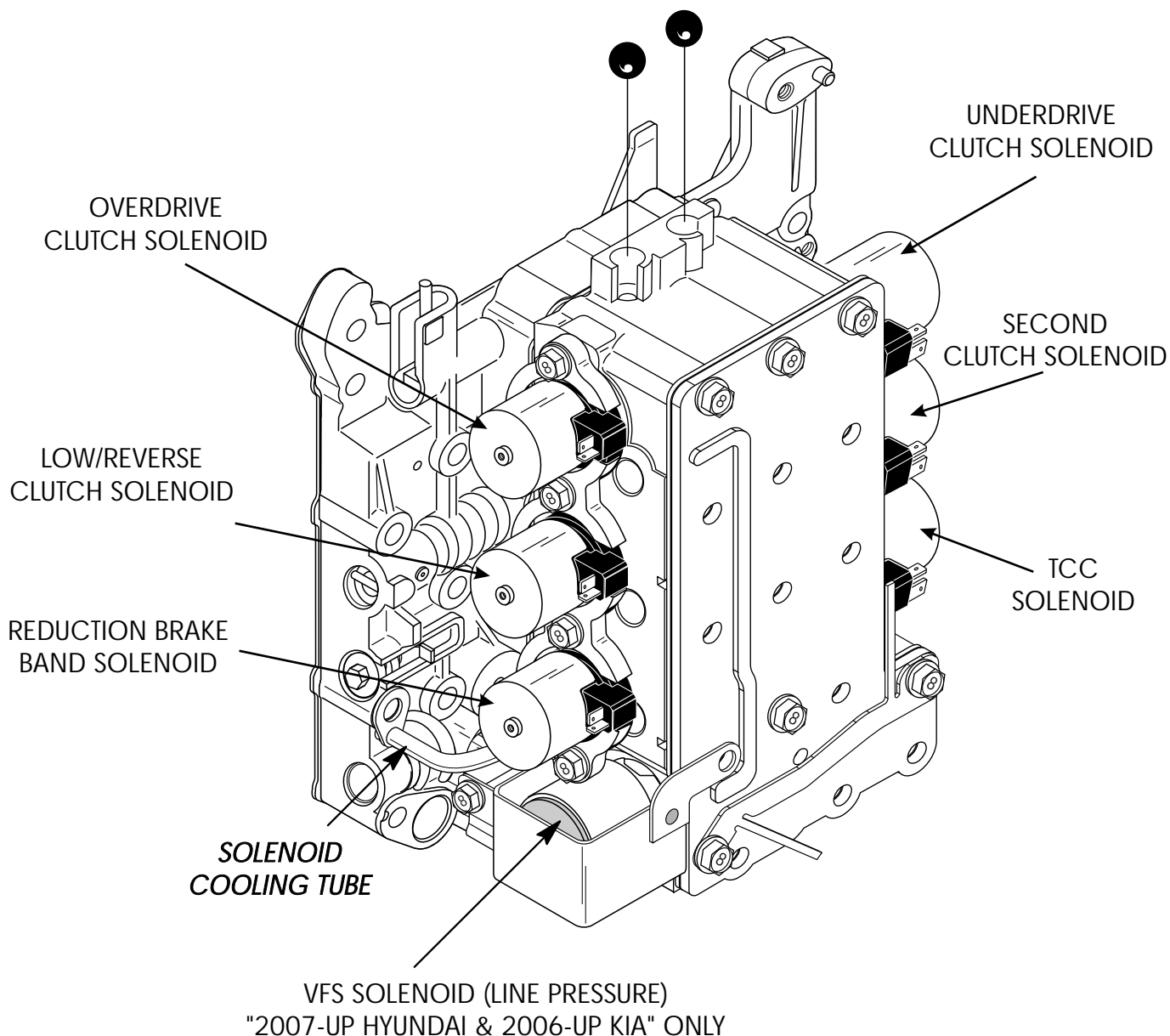


Figure 5

**"2006-Up Kia" & "2007-Up Hyundai"
All Have 6 Shift Solenoids
Plus 1 Line Pressure Solenoid**



SOLENOID RESISTANCE SHOULD BE
2.7 - 3.4 OHMS @ 20° C (68° F)

VFS-SOLENOID RESISTANCE SHOULD BE
4.0 - 5.0 OHMS @ 20° C (68° F)

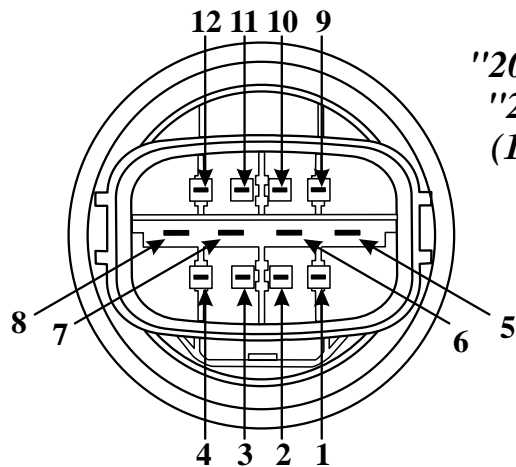
OEM Solenoid Part Numbers (At time of printing)

Hyundai & Kia Shift Solenoid - 46313-39051
Hyundai & Kia VFS Solenoid - 46313-3A060

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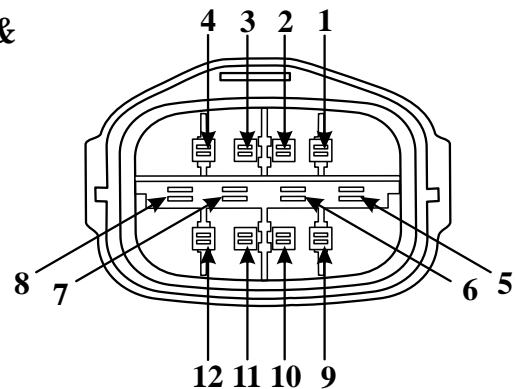
Figure 6

CASE CONNECTOR TERMINAL IDENTIFICATION AND INTERNAL COMPONENT RESISTANCE CHART



View Looking Into Transaxle
Pass-Thru Case Connector

**"2007-Up Hyundai" &
"2006-Up Kia" Only
(12-Way Connector)**



View Looking Into Transaxle
C-110 Harness Connector (Hyundai)
C-03 Harness Connector (Kia)

INTERNAL COMPONENT RESISTANCE CHART

COMPONENT	TERMINALS	RESISTANCE
Underdrive Solenoid	Terminals 5 and 3	2.7 - 3.4 Ohms @ 20°C (68°F)
2nd Solenoid	Terminals 5 and 4	2.7 - 3.4 Ohms @ 20°C (68°F)
Overdrive Solenoid	Terminals 5 and 12	2.7 - 3.4 Ohms @ 20°C (68°F)
Low/Rev Solenoid	Terminals 6 and 11	2.7 - 3.4 Ohms @ 20°C (68°F)
DCC Solenoid	Terminals 6 and 9	2.7 - 3.4 Ohms @ 20°C (68°F)
Reduction Solenoid	Terminals 6 and 10	2.7 - 3.4 Ohms @ 20°C (68°F)
VFS Solenoid	Terminals 7 and 8	4.0 - 5.0 Ohms @ 20°C (68°F)
TFT Sensor	Terminals 1 and 2	See Chart in Figure 9

TERMINAL NUMBER	INTERNAL WIRE COLOR	CIRCUIT DESCRIPTION
1	Red	5 Volt Power to TFT Sensor
2	Black	Ground to TFT Sensor
3	Yellow	Ground for Underdrive Solenoid control
4	Green	Ground for 2nd Clutch Solenoid control
5	Red	Power to Underdrive, Second, and Overdrive Solenoids
6	Yellow	Power to DCC, Low/Reverse, and Reduction Solenoids
7	Orange	Power to VFS (Line Pressure) Solenoid
8	Brown	Ground for VFS (Line Pressure) Solenoid control
9	Blue	Ground for DCC Solenoid control
10	Green	Ground for Reduction Solenoid control
11	Brown	Ground for Low/Reverse Solenoid control
12	Orange	Ground for Overdrive Solenoid control

NOTE: Wire colors may vary.

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Figure 7

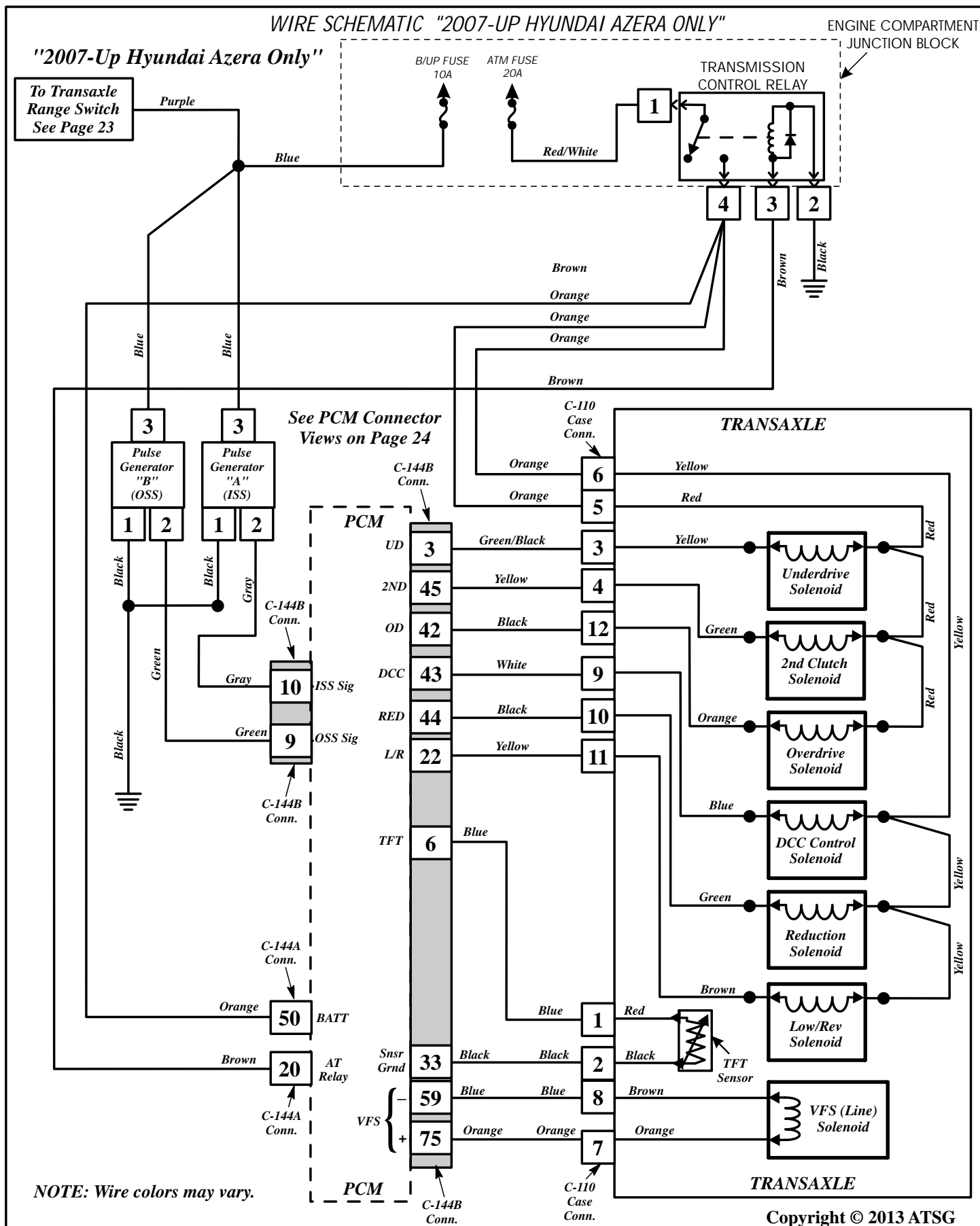
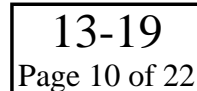
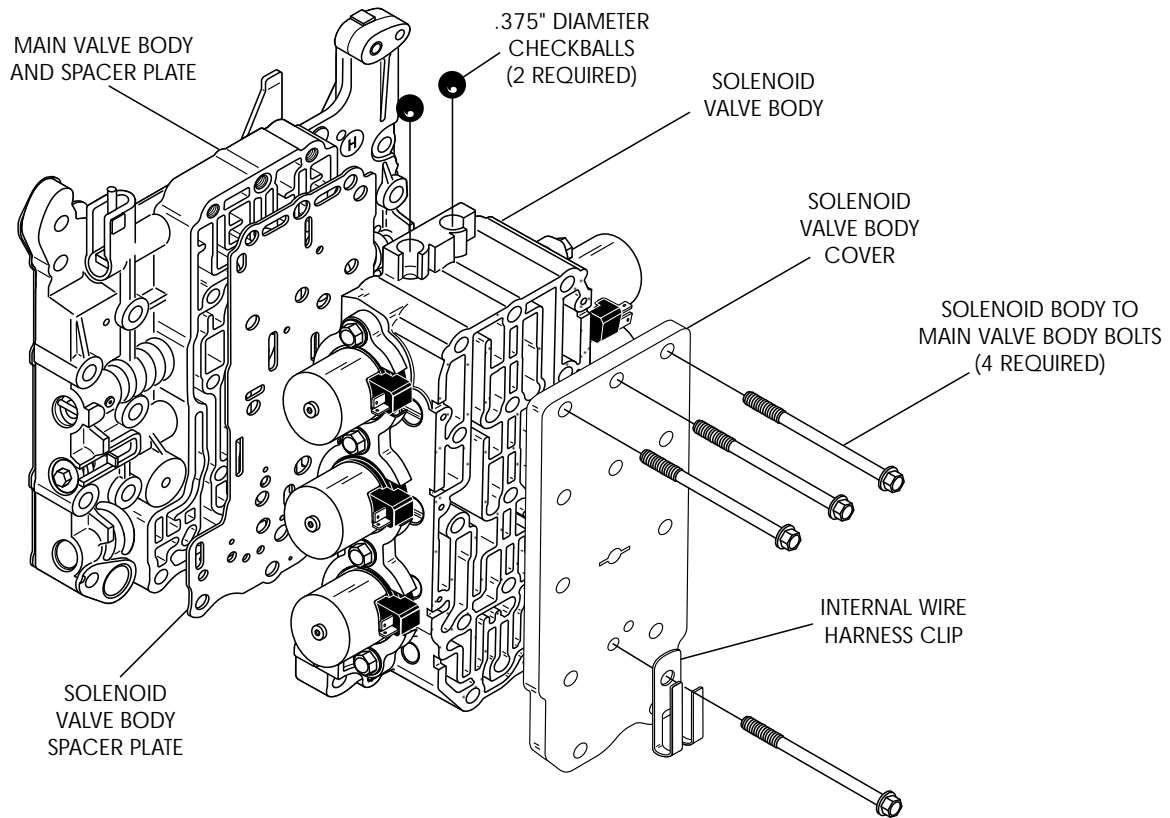


Figure 8



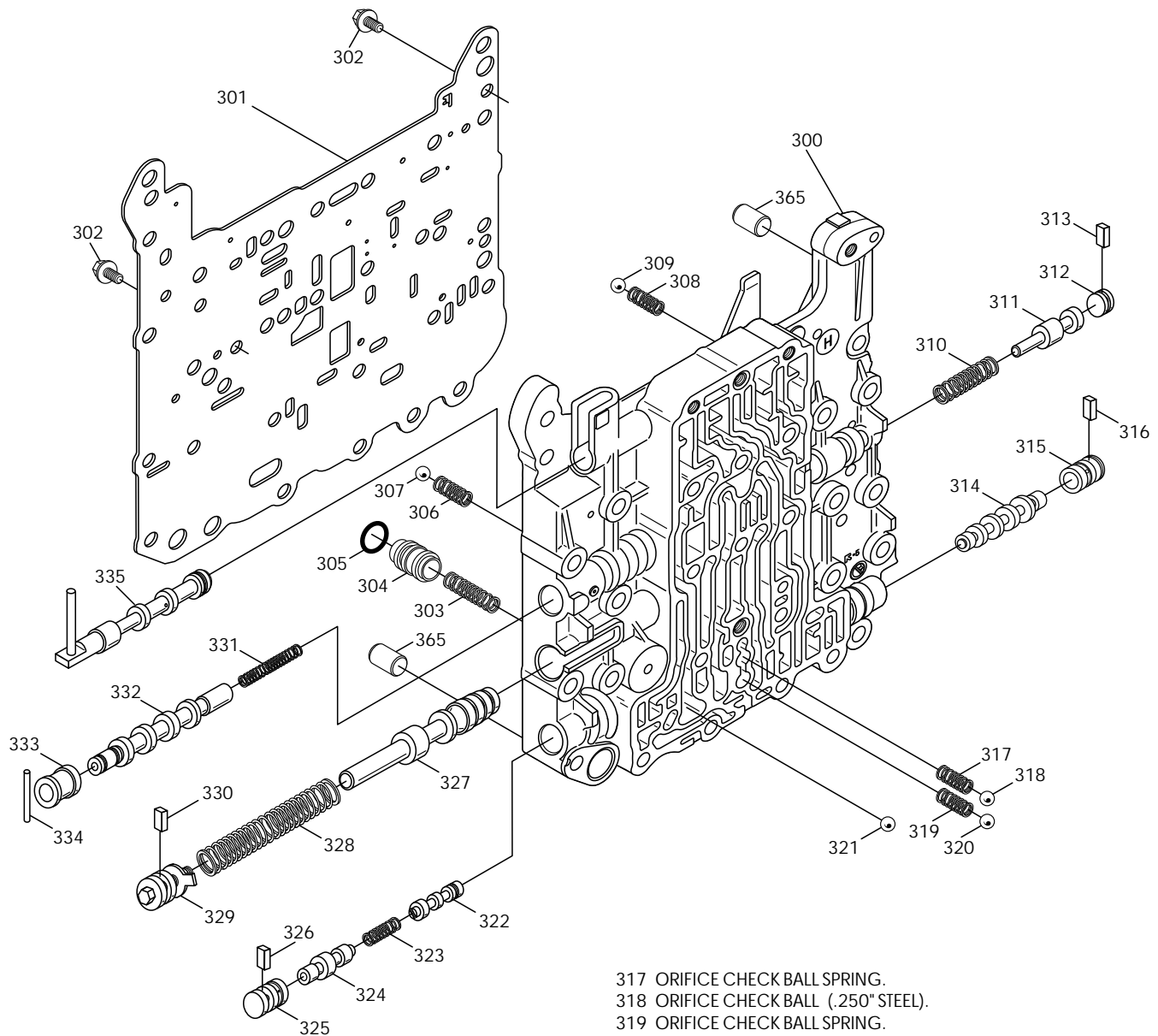
"MITSUBISHI", "PRE-2006 KIA" & "PRE-2007 HYUNDIA" VALVE BODY EXPLODED VIEWS



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Figure 10

"MITSUBISHI", "PRE-2006 KIA" & "PRE-2007 HYUNDAI" MAIN VALVE BODY EXPLODED VIEW



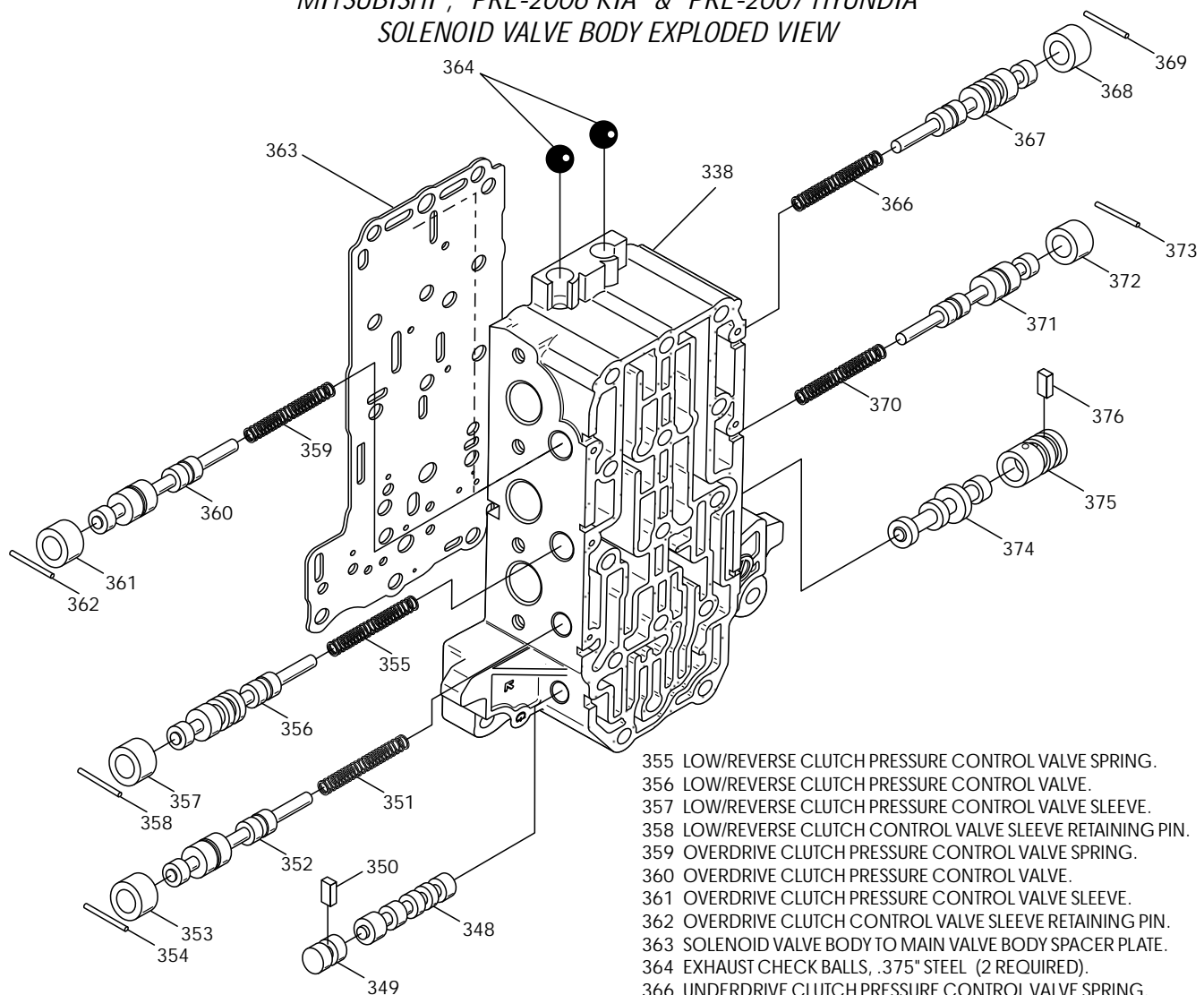
- 300 MAIN VALVE BODY CASTING.
- 301 MAIN VALVE BODY TO CASE SPACER PLATE.
- 302 MAIN VALVE BODY SPACER PLATE BOLTS (2 REQUIRED).
- 303 DAMPING VALVE SPRING.
- 304 DAMPING VALVE.
- 305 DAMPING VALVE "O" RING SEAL.
- 306 LINE RELIEF CHECK BALL SPRING.
- 307 LINE RELIEF CHECK BALL (.250" STEEL).
- 308 ORIFICE CHECK BALL SPRING.
- 309 ORIFICE CHECK BALL (.250" STEEL).
- 310 TORQUE CONVERTER PRESSURE CONTROL VALVE SPRING.
- 311 TORQUE CONVERTER PRESSURE CONTROL VALVE.
- 312 TORQUE CONVERTER PRESSURE CONTROL VALVE BORE PLUG.
- 313 TCC PRESSURE CONTROL VALVE BORE PLUG RETAINER.
- 314 FAIL-SAFE VALVE "B".
- 315 FAIL-SAFE VALVE "B" SLEEVE.
- 316 FAIL-SAFE VALVE "B" SLEEVE RETAINER.

- 317 ORIFICE CHECK BALL SPRING.
- 318 ORIFICE CHECK BALL (.250" STEEL).
- 319 ORIFICE CHECK BALL SPRING.
- 320 ORIFICE CHECK BALL (.250" STEEL).
- 321 BATHTUB CHECK BALL (.250" STEEL).
- 322 FAIL-SAFE VALVE "A1".
- 323 FAIL-SAFE VALVE "A" SPRING.
- 324 FAIL-SAFE VALVE "A2".
- 325 FAIL-SAFE VALVE "A" BORE PLUG.
- 326 FAIL-SAFE VALVE "A" BORE PLUG RETAINER.
- 327 MAIN PRESSURE REGULATOR VALVE.
- 328 MAIN PRESSURE REGULATOR VALVE SPRING.
- 329 MAIN PRESSURE REGULATOR ADJUSTMENT CONTROL.
- 330 MAIN PRESSURE ADJUSTMENT CONTROL RETAINER.
- 331 TORQUE CONVERTER CLUTCH CONTROL VALVE SPRING.
- 332 TORQUE CONVERTER CLUTCH CONTROL VALVE.
- 333 TORQUE CONVERTER CLUTCH CONTROL VALVE SLEEVE.
- 334 TCC CONTROL VALVE SLEEVE RETAINING PIN.
- 335 MANUAL SHIFT VALVE.
- 365 VALVE BODY TO CASE HOLLOW DOWELS.

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Figure 11

"MITSUBISHI", "PRE-2006 KIA" & "PRE-2007 HYUNDAI" SOLENOID VALVE BODY EXPLODED VIEW



- 338 SOLENOID VALVE BODY CASTING.
- 348 SWITCHING VALVE.
- 349 SWITCHING VALVE BORE PLUG.
- 350 SWITCHING VALVE BORE PLUG RETAINER.
- 351 REDUCTION BRAKE BAND PRESSURE CONTROL VALVE SPRING.
- 352 REDUCTION BRAKE BAND PRESSURE CONTROL VALVE.
- 353 REDUCTION BRAKE BAND PRESSURE CONTROL VALVE SLEEVE.
- 354 REDUCTION BAND CONTROL VALVE SLEEVE RETAINING PIN.

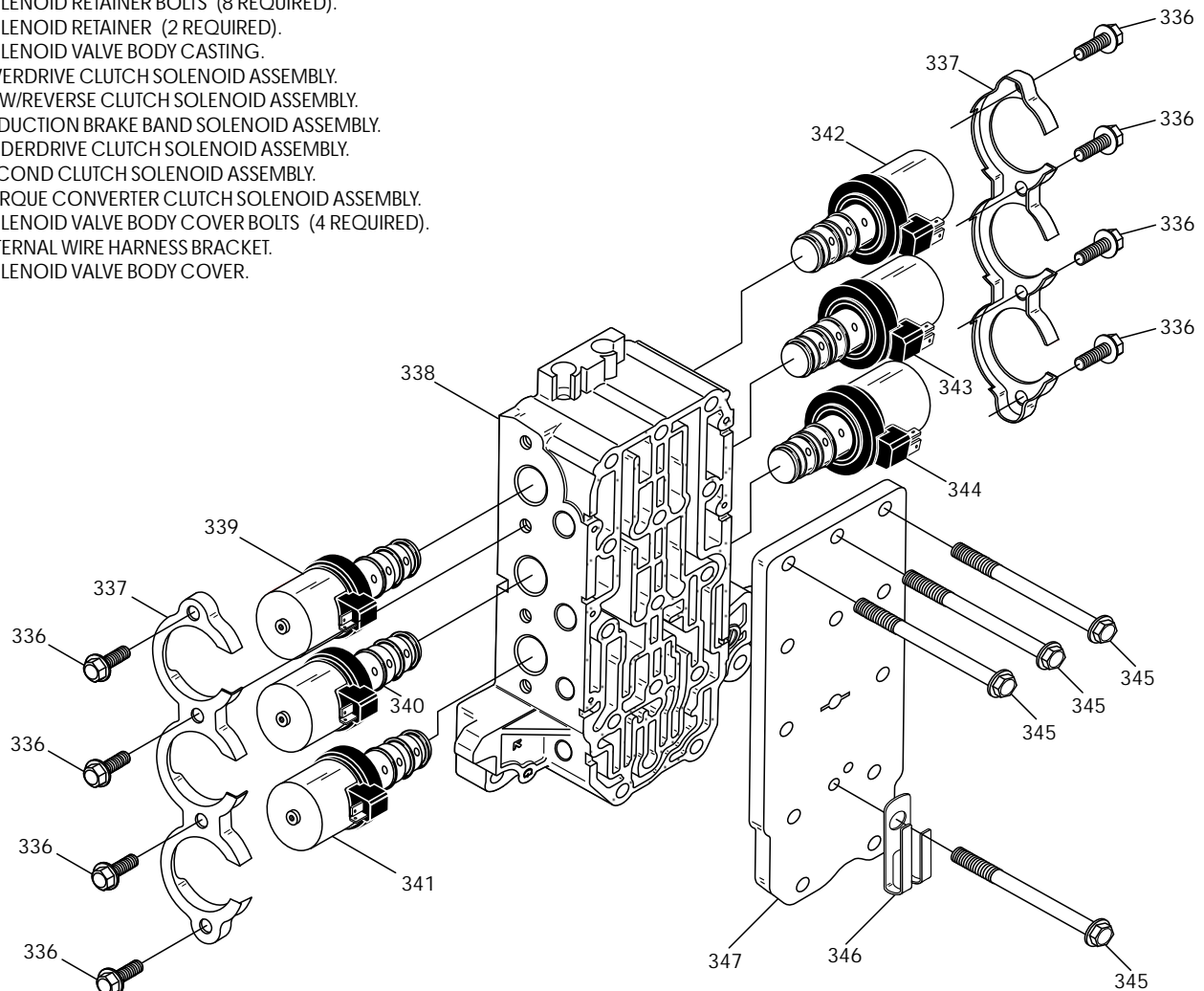
- 355 LOW/REVERSE CLUTCH PRESSURE CONTROL VALVE SPRING.
- 356 LOW/REVERSE CLUTCH PRESSURE CONTROL VALVE.
- 357 LOW/REVERSE CLUTCH PRESSURE CONTROL VALVE SLEEVE.
- 358 LOW/REVERSE CLUTCH CONTROL VALVE SLEEVE RETAINING PIN.
- 359 OVERDRIVE CLUTCH PRESSURE CONTROL VALVE SPRING.
- 360 OVERDRIVE CLUTCH PRESSURE CONTROL VALVE.
- 361 OVERDRIVE CLUTCH PRESSURE CONTROL VALVE SLEEVE.
- 362 OVERDRIVE CLUTCH CONTROL VALVE SLEEVE RETAINING PIN.
- 363 SOLENOID VALVE BODY TO MAIN VALVE BODY SPACER PLATE.
- 364 EXHAUST CHECK BALLS, .375" STEEL (2 REQUIRED).
- 366 UNDERDRIVE CLUTCH PRESSURE CONTROL VALVE SPRING.
- 367 UNDERDRIVE CLUTCH PRESSURE CONTROL VALVE.
- 368 UNDERDRIVE CLUTCH PRESSURE CONTROL VALVE SLEEVE.
- 369 UNDERDRIVE CLUTCH CONTROL VALVE SLEEVE RETAINING PIN.
- 370 SECOND CLUTCH PRESSURE CONTROL VALVE SPRING.
- 371 SECOND CLUTCH PRESSURE CONTROL VALVE.
- 372 SECOND CLUTCH PRESSURE CONTROL VALVE SLEEVE.
- 373 SECOND CLUTCH CONTROL VALVE SLEEVE RETAINING PIN.
- 374 FAIL-SAFE VALVE "C".
- 375 FAIL-SAFE VALVE "C" SLEEVE.
- 376 FAIL-SAFE VALVE "C" SLEEVE RETAINER.

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Figure 12

"MITSUBISHI", "PRE-2006 KIA" & "PRE-2007 HYUNDIA" SOLENOID VALVE BODY EXPLODED VIEW

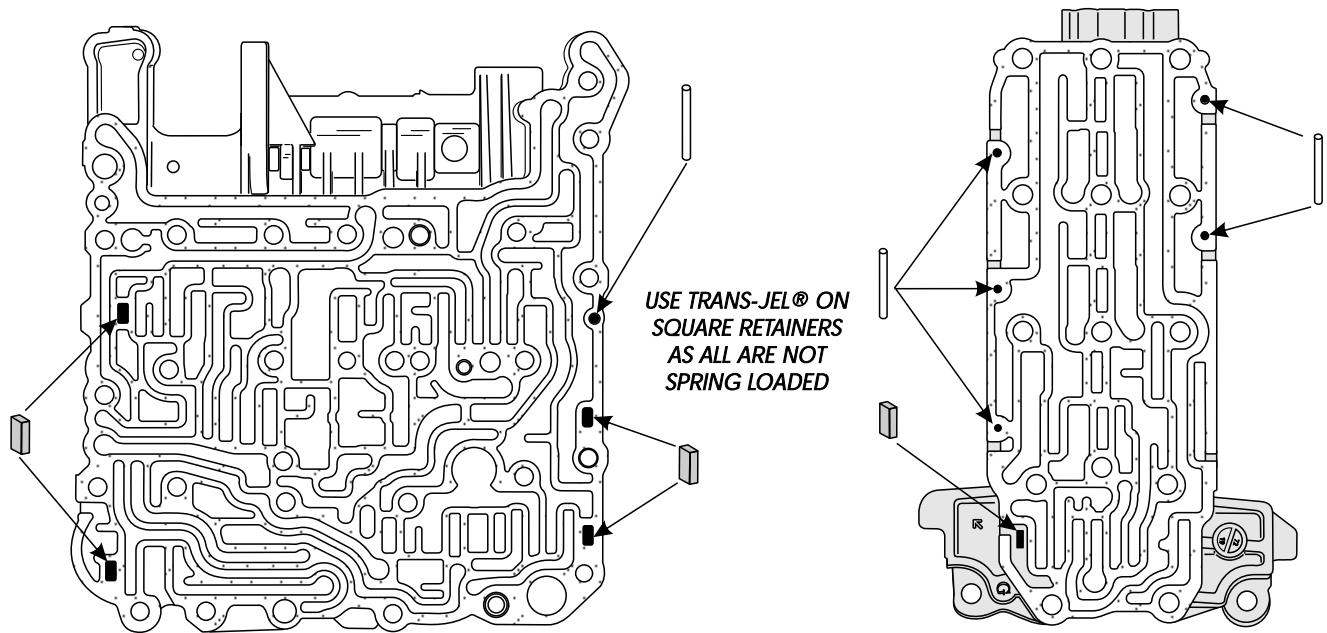
- 336 SOLENOID RETAINER BOLTS (8 REQUIRED).
- 337 SOLENOID RETAINER (2 REQUIRED).
- 338 SOLENOID VALVE BODY CASTING.
- 339 OVERDRIVE CLUTCH SOLENOID ASSEMBLY.
- 340 LOW/REVERSE CLUTCH SOLENOID ASSEMBLY.
- 341 REDUCTION BRAKE BAND SOLENOID ASSEMBLY.
- 342 UNDERDRIVE CLUTCH SOLENOID ASSEMBLY.
- 343 SECOND CLUTCH SOLENOID ASSEMBLY.
- 344 TORQUE CONVERTER CLUTCH SOLENOID ASSEMBLY.
- 345 SOLENOID VALVE BODY COVER BOLTS (4 REQUIRED).
- 346 INTERNAL WIRE HARNESS BRACKET.
- 347 SOLENOID VALVE BODY COVER.



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Figure 13

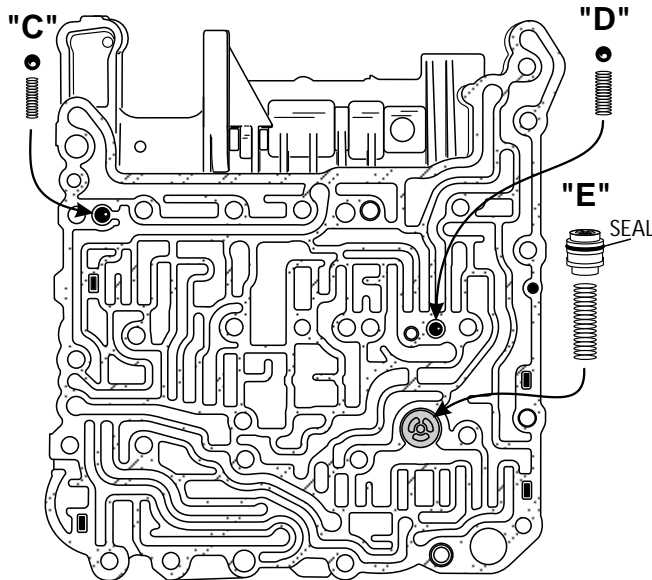
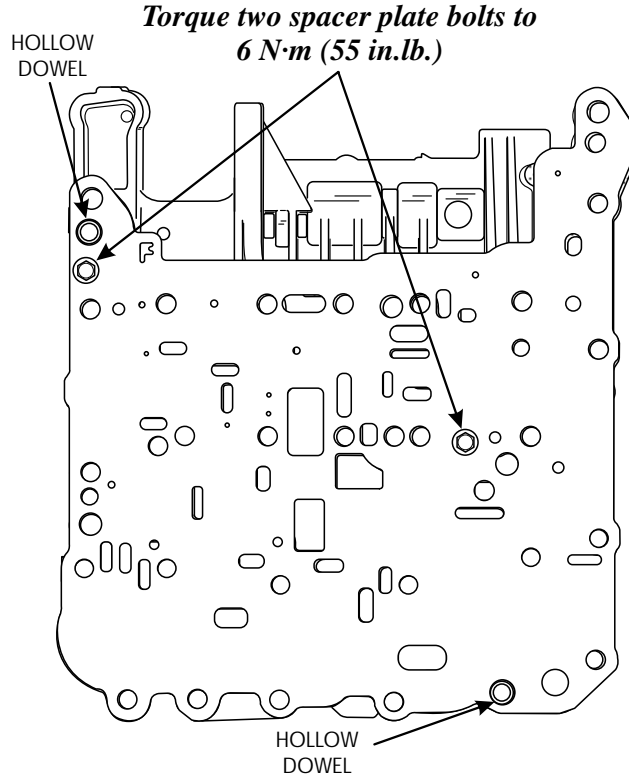
"MITSUBISHI", "PRE-2006 KIA" & "PRE-2007 HYUNDAI" VALVE BODY RETAINER LOCATIONS



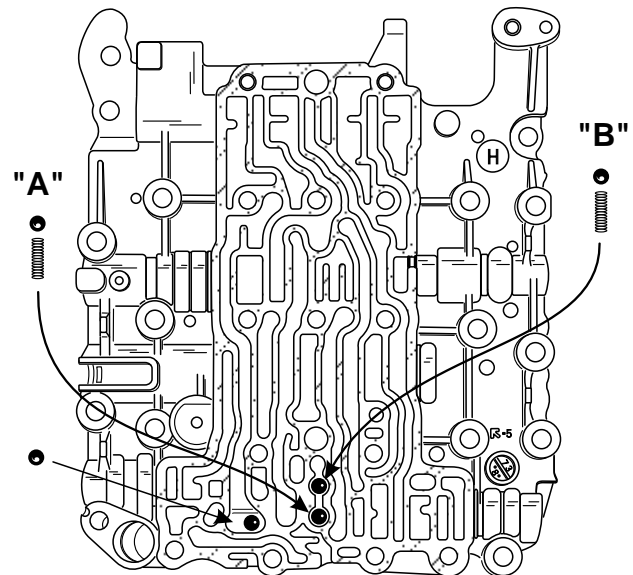
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Figure 14

"MITSUBISHI", "PRE-2006 KIA" & "PRE-2007 HYUNDA"
small parts locations



CHECKBALL AND SPRING DIMENSIONS		
SPRING	LENGTH	DIAMETER
"C"	.665"	.177"
"D"	.677"	.277"
"E"	1.398"	.300"
CHECKBALLS ARE .250" DIAMETER STEEL		

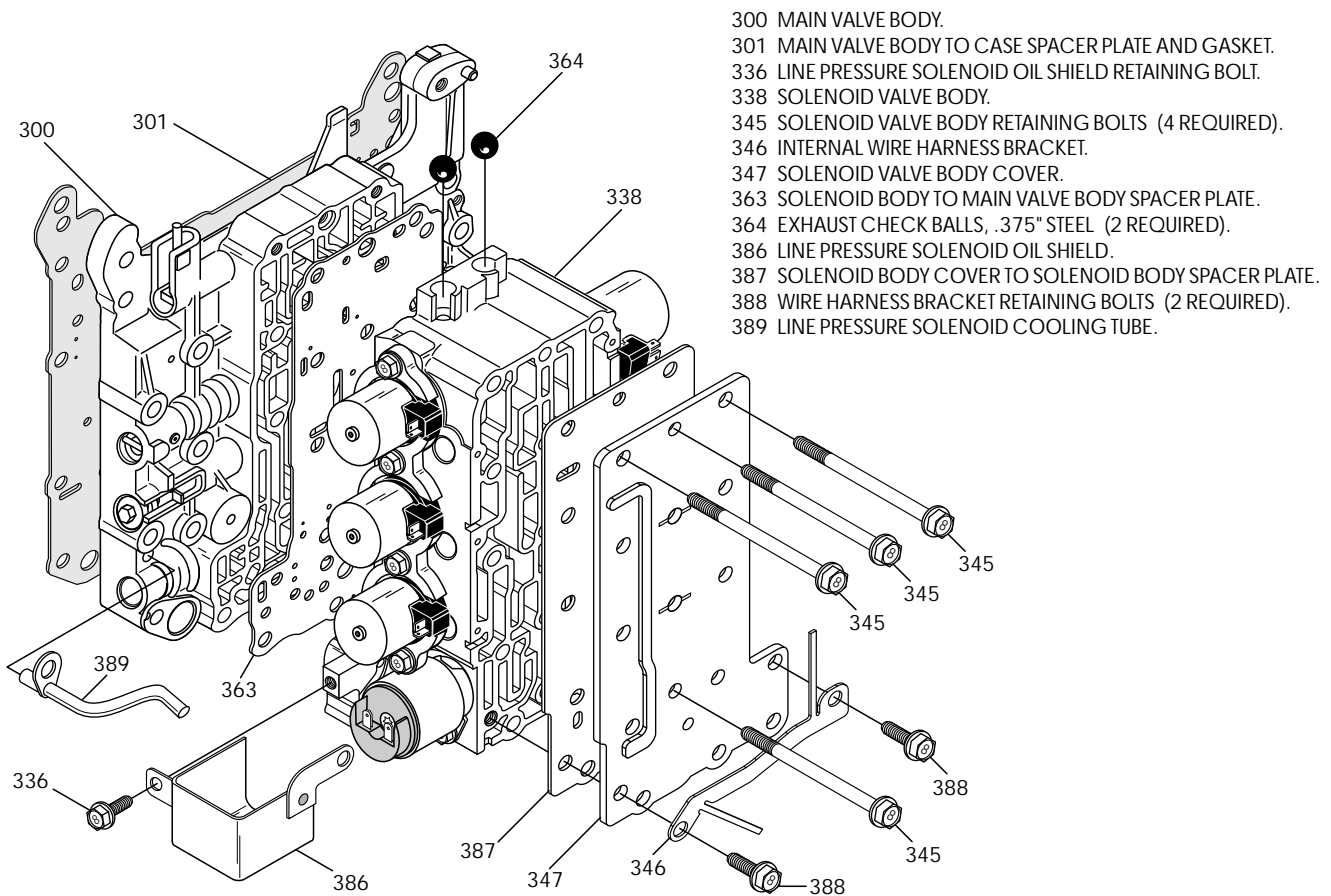


CHECKBALL AND SPRING DIMENSIONS		
SPRING	LENGTH	DIAMETER
"A"	.665"	.177"
"B"	.665"	.177"
CHECKBALLS ARE .250" DIAMETER STEEL		

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Figure 15

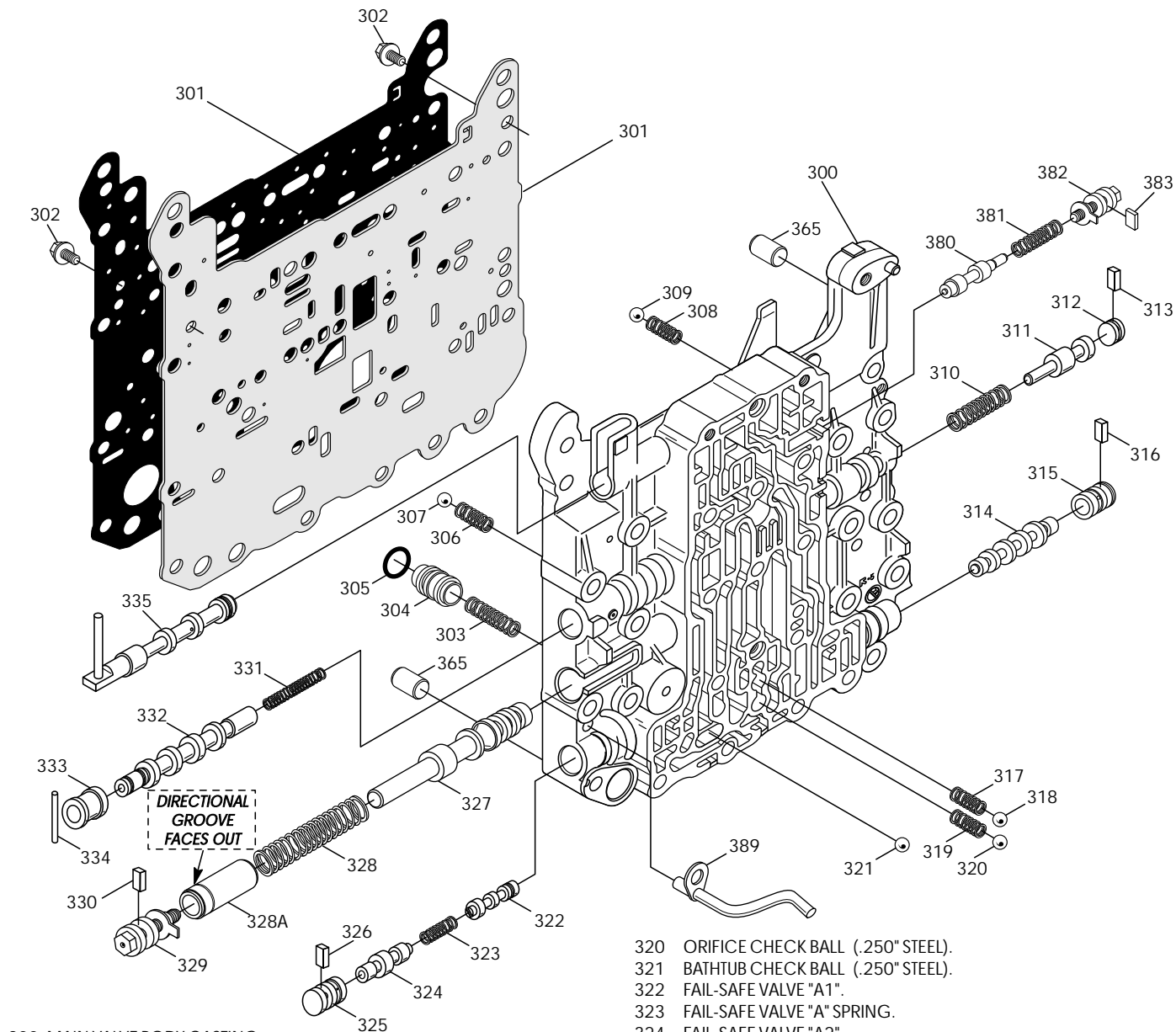
"2006-UP Kia" & "2007-UP Hyundai" valve body exploded views



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Figure 16

"2006-UP KIA" & "2007-UP HYUNDAI" MAIN VALVE BODY EXPLODED VIEW



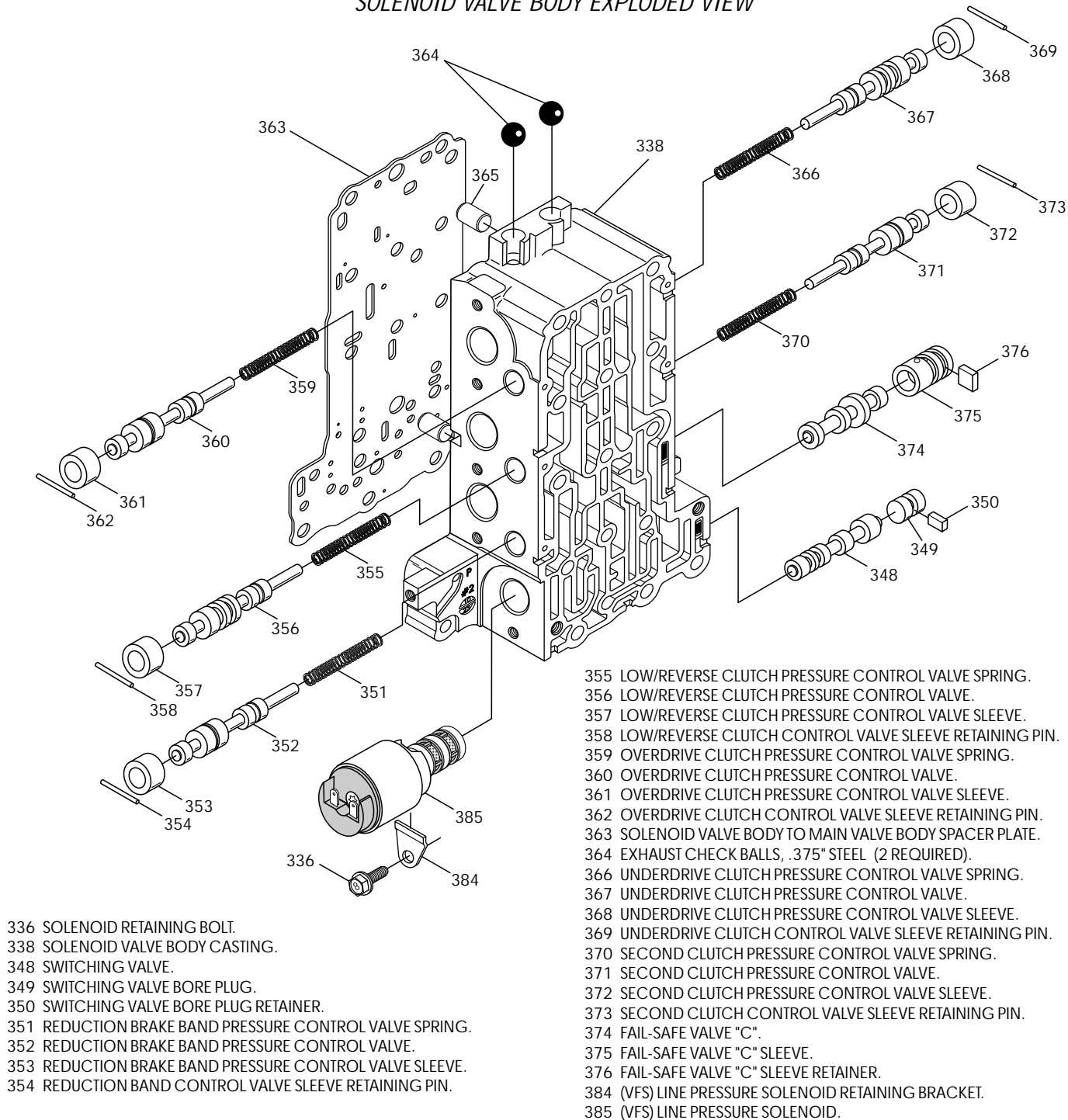
- 300 MAIN VALVE BODY CASTING.
- 301 MAIN VALVE BODY TO CASE SPACER PLATE AND GASKET.
- 302 MAIN VALVE BODY SPACER PLATE BOLTS (2 REQUIRED).
- 303 DAMPING VALVE SPRING.
- 304 DAMPING VALVE.
- 305 DAMPING VALVE "O" RING SEAL.
- 306 LINE RELIEF CHECK BALL SPRING.
- 307 LINE RELIEF CHECK BALL (.250" STEEL).
- 308 ORIFICE CHECK BALL SPRING.
- 309 ORIFICE CHECK BALL (.250" STEEL).
- 310 TORQUE CONVERTER PRESSURE CONTROL VALVE SPRING.
- 311 TORQUE CONVERTER PRESSURE CONTROL VALVE.
- 312 TORQUE CONVERTER PRESSURE CONTROL VALVE BORE PLUG.
- 313 TCC PRESSURE CONTROL VALVE BORE PLUG RETAINER.
- 314 FAIL-SAFE VALVE "B".
- 315 FAIL-SAFE VALVE "B" SLEEVE.
- 316 FAIL-SAFE VALVE "B" SLEEVE RETAINER.
- 317 ORIFICE CHECK BALL SPRING.
- 318 ORIFICE CHECK BALL (.250" STEEL).
- 319 ORIFICE CHECK BALL SPRING.

- 320 ORIFICE CHECK BALL (.250" STEEL).
- 321 BATHTUB CHECK BALL (.250" STEEL).
- 322 FAIL-SAFE VALVE "A1".
- 323 FAIL-SAFE VALVE "A" SPRING.
- 324 FAIL-SAFE VALVE "A2".
- 325 FAIL-SAFE VALVE "A" BORE PLUG.
- 326 FAIL-SAFE VALVE "A" BORE PLUG RETAINER.
- 327 MAIN PRESSURE REGULATOR VALVE.
- 328 MAIN PRESSURE REGULATOR VALVE SPRING.
- 328A MAIN PRESSURE REGULATOR SLEEVE
- 329 MAIN PRESSURE REGULATOR ADJUSTMENT CONTROL.
- 330 MAIN PRESSURE ADJUSTMENT CONTROL RETAINER.
- 331 TORQUE CONVERTER CLUTCH CONTROL VALVE SPRING.
- 332 TORQUE CONVERTER CLUTCH CONTROL VALVE.
- 333 TORQUE CONVERTER CLUTCH CONTROL VALVE SLEEVE.
- 334 TCC CONTROL VALVE SLEEVE RETAINING PIN.
- 335 MANUAL SHIFT VALVE.
- 365 VALVE BODY TO CASE HOLLOW DOWELS.
- 380 SOLENOID REDUCING VALVE.
- 381 SOLENOID REDUCING VALVE SPRING.
- 382 SOLENOID REDUCING VALVE PLUG & ADJUSTMENT CONTROL.
- 383 SOLENOID REDUCING VALVE BORE PLUG RETAINER.
- 389 (VFS) LINE PRESSURE SOLENOID COOLING TUBE.

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Figure 17

"2006-UP KIA" & "2007-UP HYUNDAI" SOLENOID VALVE BODY EXPLODED VIEW



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Figure 18

"2006-UP Kia" & "2007-UP Hyundai" solenoid i.d.

336 SOLENOID RETAINER BOLTS (10 REQUIRED).

337 SOLENOID RETAINER (2 REQUIRED).

338 SOLENOID VALVE BODY CASTING.

339 OVERDRIVE CLUTCH SOLENOID ASSEMBLY.

340 LOW/REVERSE CLUTCH SOLENOID ASSEMBLY.

341 REDUCTION BRAKE BAND SOLENOID ASSEMBLY.

342 UNDERDRIVE CLUTCH SOLENOID ASSEMBLY.

343 SECOND CLUTCH SOLENOID ASSEMBLY.

344 TORQUE CONVERTER CLUTCH SOLENOID ASSEMBLY.

345 SOLENOID VALVE BODY COVER BOLTS (4 REQUIRED).

346 INTERNAL WIRE HARNESS BRACKET.

347 SOLENOID VALVE BODY COVER.

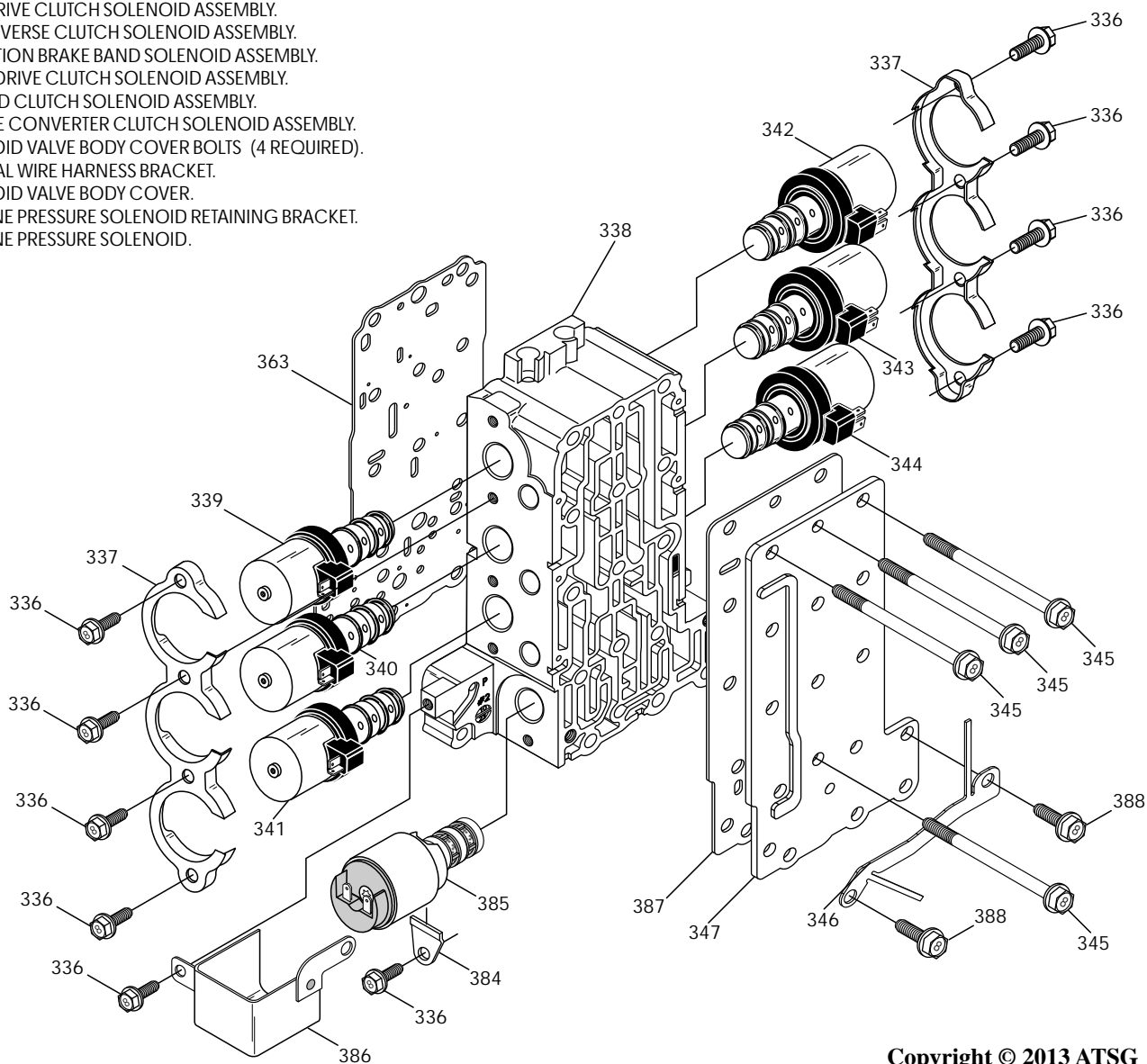
384 (VFS) LINE PRESSURE SOLENOID RETAINING BRACKET.

385 (VFS) LINE PRESSURE SOLENOID.

386 (VFS) LINE PRESSURE SOLENOID OIL SHIELD.

387 SOLENOID BODY COVER TO SOLENOID BODY SPACER PLATE.

388 WIRE HARNESS BRACKET RETAINING BOLTS (2 REQUIRED).



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Figure 19

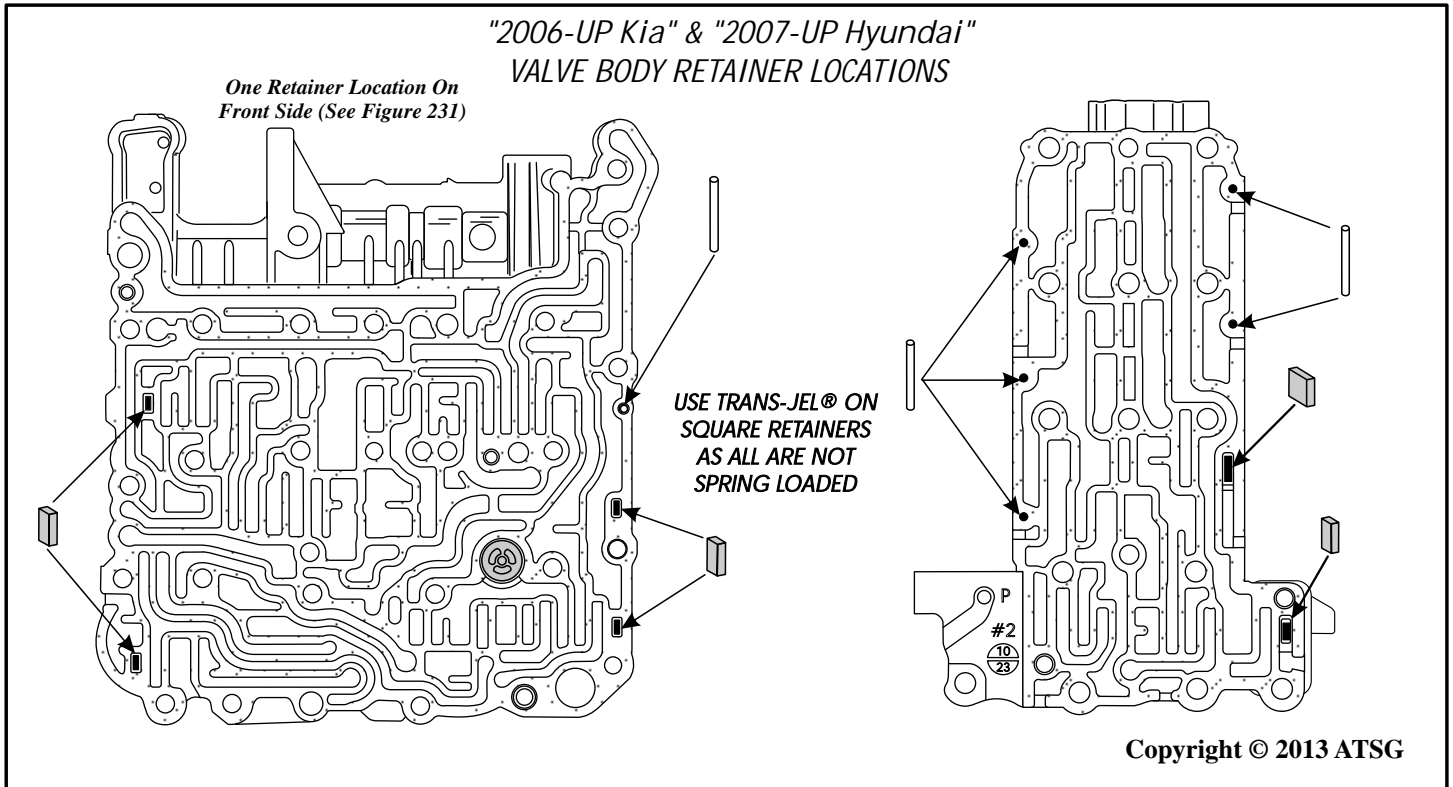
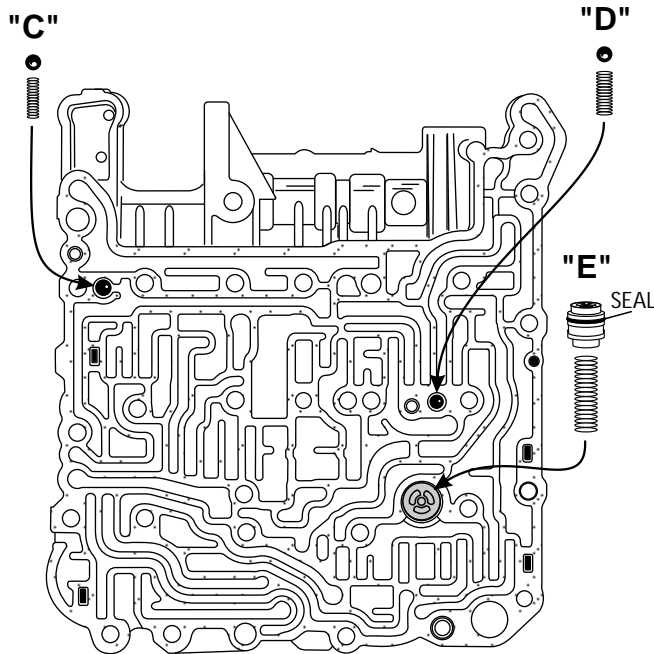
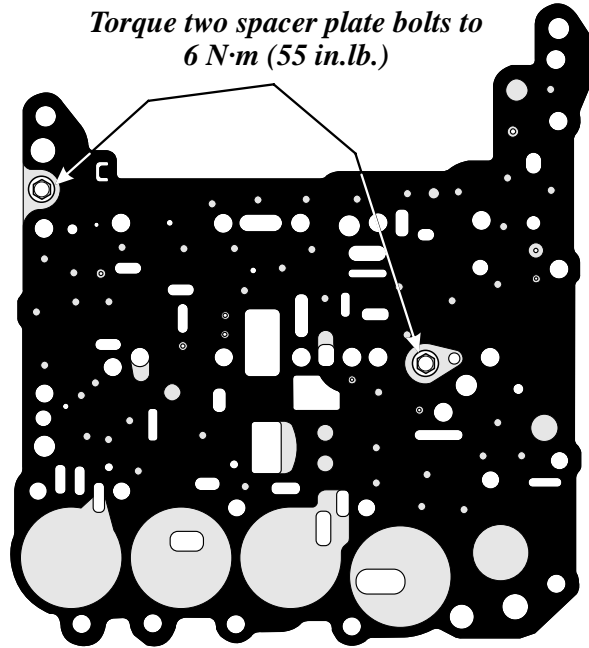


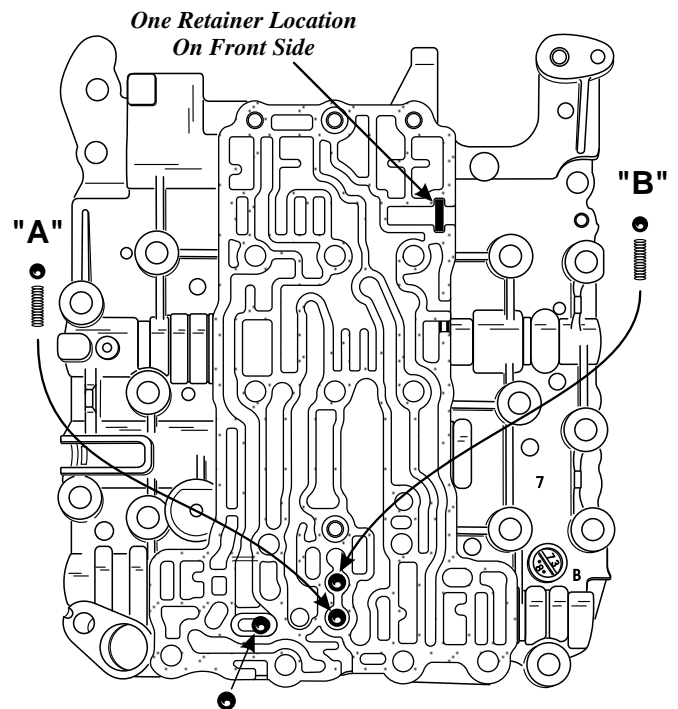
Figure 20

"2006-UP Kia" & "2007-UP Hyundai"
small parts locations

*Torque two spacer plate bolts to
6 N·m (55 in.lb.)*



CHECKBALL AND SPRING DIMENSIONS		
SPRING	LENGTH	DIAMETER
"C"	.322"	.200"
"D"	.681"	.277"
"E"	1.398"	.300"
CHECKBALLS ARE .250" DIAMETER STEEL		



CHECKBALL AND SPRING DIMENSIONS		
SPRING	LENGTH	DIAMETER
"A"	.665"	.177"
"B"	.665"	.177"
CHECKBALLS ARE .250" DIAMETER STEEL		

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Figure 21