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AUTOMATIC TRANSMISSION SERVICE GROUP
9200 S. DADELAND BLVD. STE 720
MIAMI, FLORIDA 33156
(305) 670-4161

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AUTOMATIC TRANSMISSION SERVICE GROUP
9200 S. DADELAND BLVD. STE 720
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HONDA TRANSAXLE MODEL APPLICATION CHART

CIVIC

1986-87	CIVIC	4 SPEED	CA
1988-90	CIVIC	4 SPEED	L4
1989-90	CIVIC WAGON	4 SPEED...4WD...3 SHAFT	S5
1991	CIVIC	4 SPEED	ML4A
1991	CIVIC WAGON	4 SPEED...4WD...3 SHAFT	MPSA
1992-94	CIVIC	4 SPEED...3 SHAFT	M24A
1995	CIVIC	4 SPEED...3 SHAFT...JAPAN BUILT	S24A
1995	CIVIC	4 SPEED...3 SHAFT...USA BUILT	A24A
1996	CIVIC	4 SPEED...2 SHAFT	A4RA
1997	CIVIC	4SPEED....2 SHAFT	B4RA
1996-97			M4VA

ACCORD

1983	ACCORD	4 SPEED...W/LOCK-UP	AK
1984-85	ACCORD	4 SPEED...CARBURETED	AS
1986-89	ACCORD	4 SPEED...FUEL INJECTED	F4
1990	ACCORD	4 SPEED...3 SHAFT	PX4B
1991-93	ACCORD...U.S. BUILT	4 SPEED...3 SHAFT	APX4
1991	ACCORD...JAPAN BUILT	4 SPEED...3 SHAFT	*MPXA
1992-93	ACCORD...JAPAN BUILT	4 SPEED...3 SHAFT	*MPWA
1994	ACCORD	4 SPEED...3 SHAFT	MPOA
1995-96	ACCORD	4 SPEED...3 SHAFT	AOYA
	ACCORD...V6	4 SPEED...3 SHAFT	

*NOTE: The ACCORD MPWA is found ONLY IN JAPAN BUILT VEHICLES and is totally different than the VIGOR MPWA. The ACCORD unit is transversely mounted, while the VIGOR unit is longitudinally mounted. The MPXA is found in the 1991 Japan built Accord only.

PRELUDE

1983	PRELUDE	4 SPEED	AK
1984-85	PRELUDE	4 SPEED...CARBURETED	AS
1985-87	PRELUDE	4 SPEED...FUEL INJECTED	F4
1988-89	PRELUDE	4 SPEED	K4
1990	PRELUDE	4 SPEED	PY8A
1991	PRELUDE	4 SPEED	MY8A
			MP1A

PASSPORT

1994-97	PASSPORT	4 SPEED...RWD...4WD	4L30E

ODYSSEY

1995-96	ODESSEY	4 SPEED...3 SHAFT	MPJA

ACURA TRANSAXLE MODEL APPLICATION CHART

INTEGRA

1986-87	INTEGRA	4 SPEED	CA
1988-89	INTEGRA	4 SPEED	P1
1990	INTEGRA	4 SPEED...3 SHAFT...W/MODULATOR	RO
1991-93	INTEGRA	4 SPEED...3 SHAFT...W/MODULATOR	MPRA
1994-95	INTEGRA		SP7A

LEGEND

1986-87	LEGEND...SEDAN	4 SPEED	G4
1987	LEGEND...COUPE	4 SPEED	L5
1988-89	LEGEND	4 SPEED	L5
1990	LEGEND	4 SPEED	PL5X
1991-1995	LEGEND		MPYA

VIGOR

1992-94	VIGOR	4 SPEED...IN-LINE...W/PAN	*MPWA

*NOTE: The VIGOR MPWA is totally different than the ACCORD MPWA which is found in JAPAN BUILT VEHICLES ONLY. The VIGOR unit is longitudinally mounted while the ACCORD unit is mounted transversely.

1991-96	NSX	4 SPEED...3 SHAFT...MID-ENGINE	MR9A

STERLING

1986-87	825-827 SI	4 SPEED	G4
1988-90	825-827 SI	4 SPEED	L5
1991	825-827 SI	4 SPEED	PL5X

SLX

1996	SLX	4 SPEED...RWD	4L30E

CL

1996	2.2CL	4 SPEED...3 SHAFT	A6VA
1996	3.0CL	4 SPEED...3 SHAFT	M7ZA

TL

1995-96	2.5TL	4 SPEED...3 SHAFT	M1WA
1996	3.2TL	4 SPEED...3 SHAFT	M5HA

RL

1996	3.5RL	4 SPEED...3 SHAFT	M5DA

AK

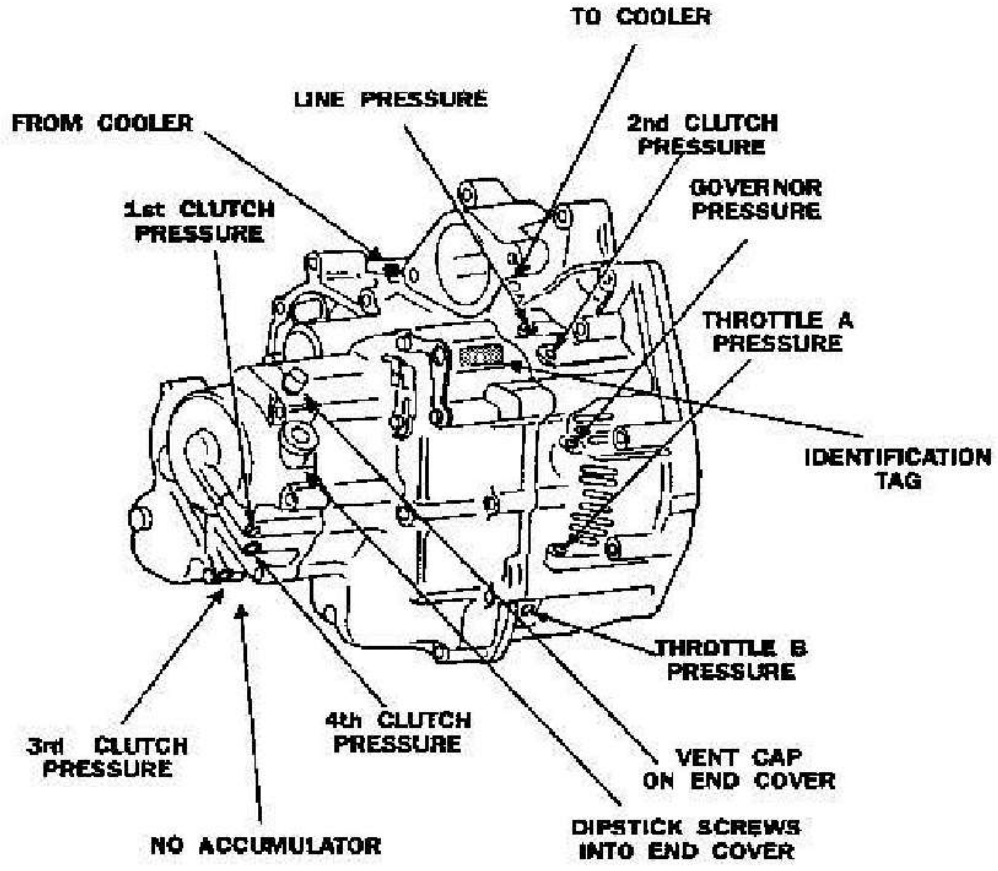
1983 ACCORD/1983 PRELUDE

SCREW-IN DIPSTICK IN END COVER
NO ACCUMULATOR
VENT CAP ON TOP OF END COVER
HAS THROTTLE CABLE
NO SOLENOIDS

AK-0000000

TRANS MODEL

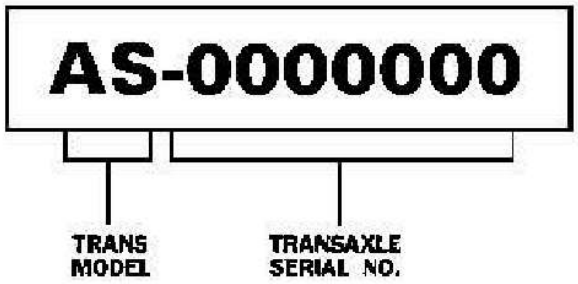
TRANSAXLE SERIAL NO.

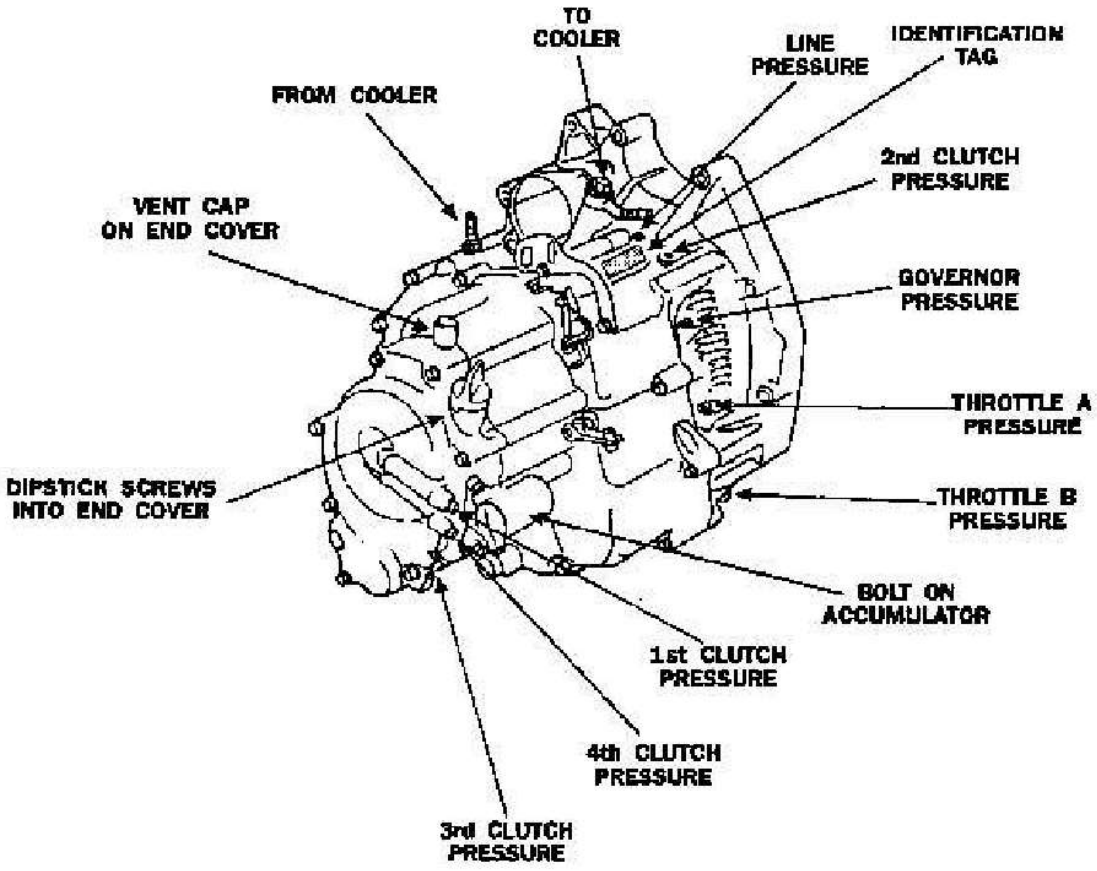


AS

1984-85 ACCORD/1984-85 PRELUDE WITH CARBURETED ENGINE

BOLT ON ACCUMULATOR ON END COVER
SCREW-IN DIP STICK
VENT CAP ON TOP OF END COVER
HAS THROTTLE CABLE



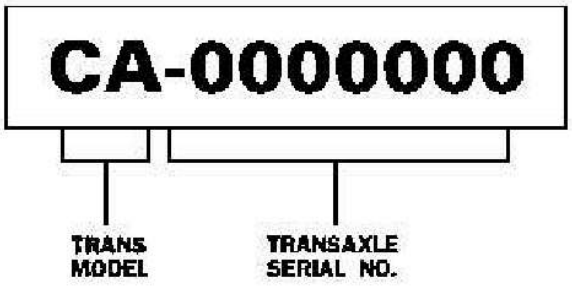


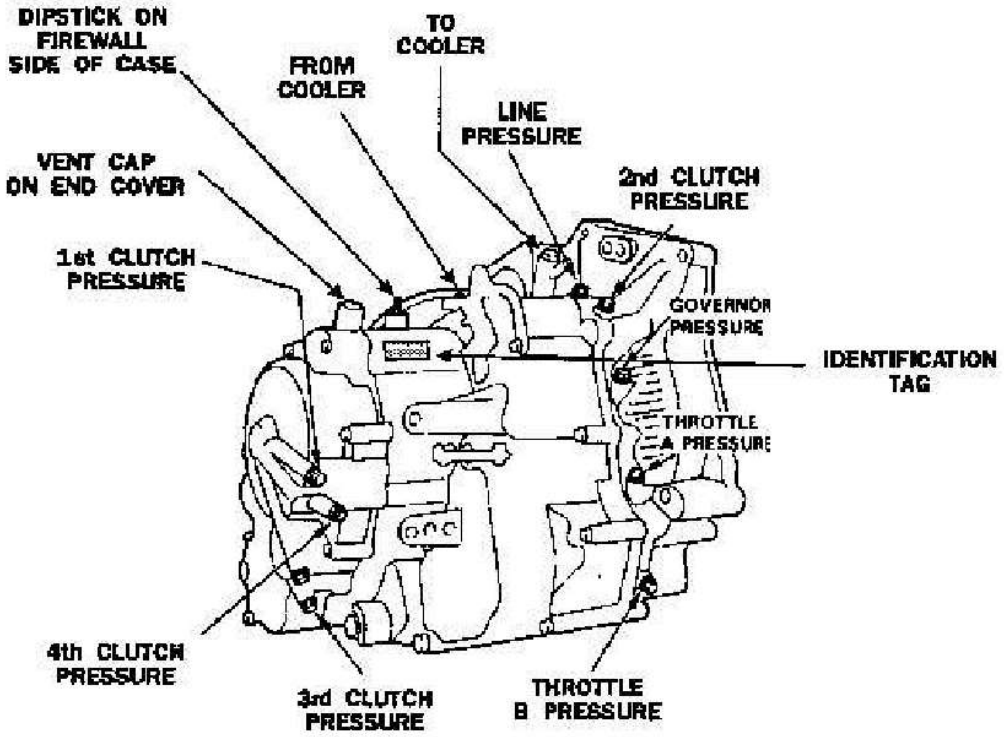
CA

1986-87 HONDA CIVIC/1986-87 ACURA INTEGRA

ACCUMULATOR PART OF END COVER
SCREW-IN DIP STICK
VENT CAP ON END COVER
HAS THROTTLE CABLE
NO SOLENOIDS

NOTE: The CIVIC CA has a thinner converter housing than the INTEGRA CA and are not interchangeable.

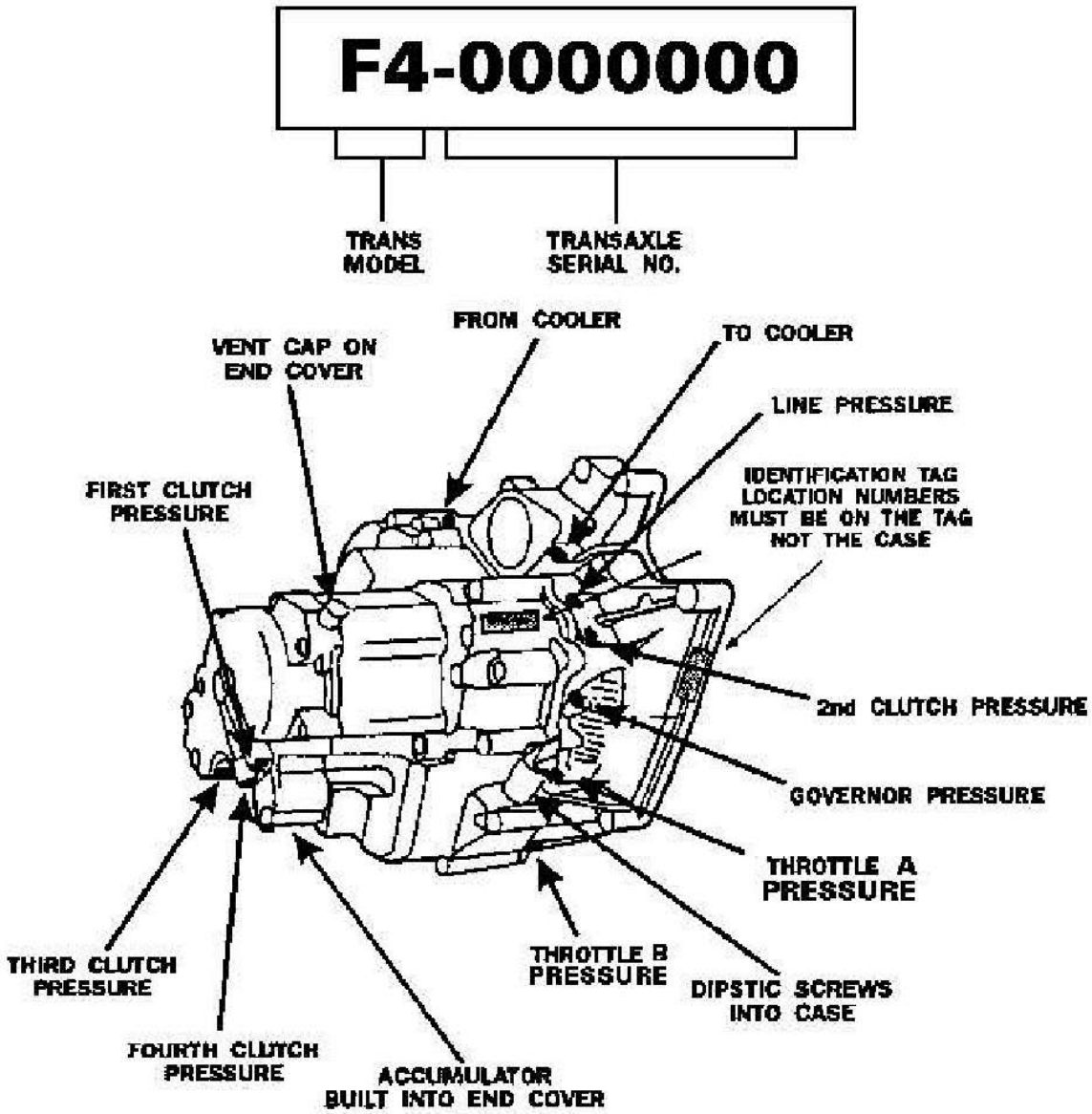




F4

1986-89 ACCORD/1985-87 PRELUDE

ACCUMULATOR PART OF END COVER
VENT CAP ON TOP OF END COVER
SCREW-IN DIP STICK
HAS THROTTLE CABLE
NO SOLENOIDS

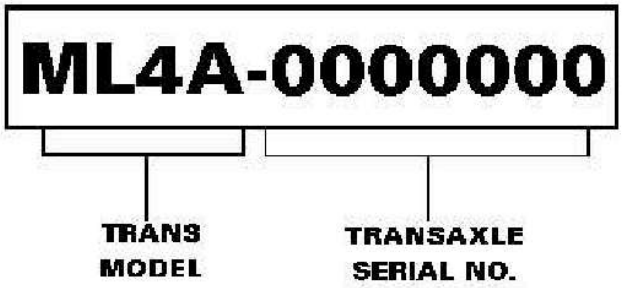


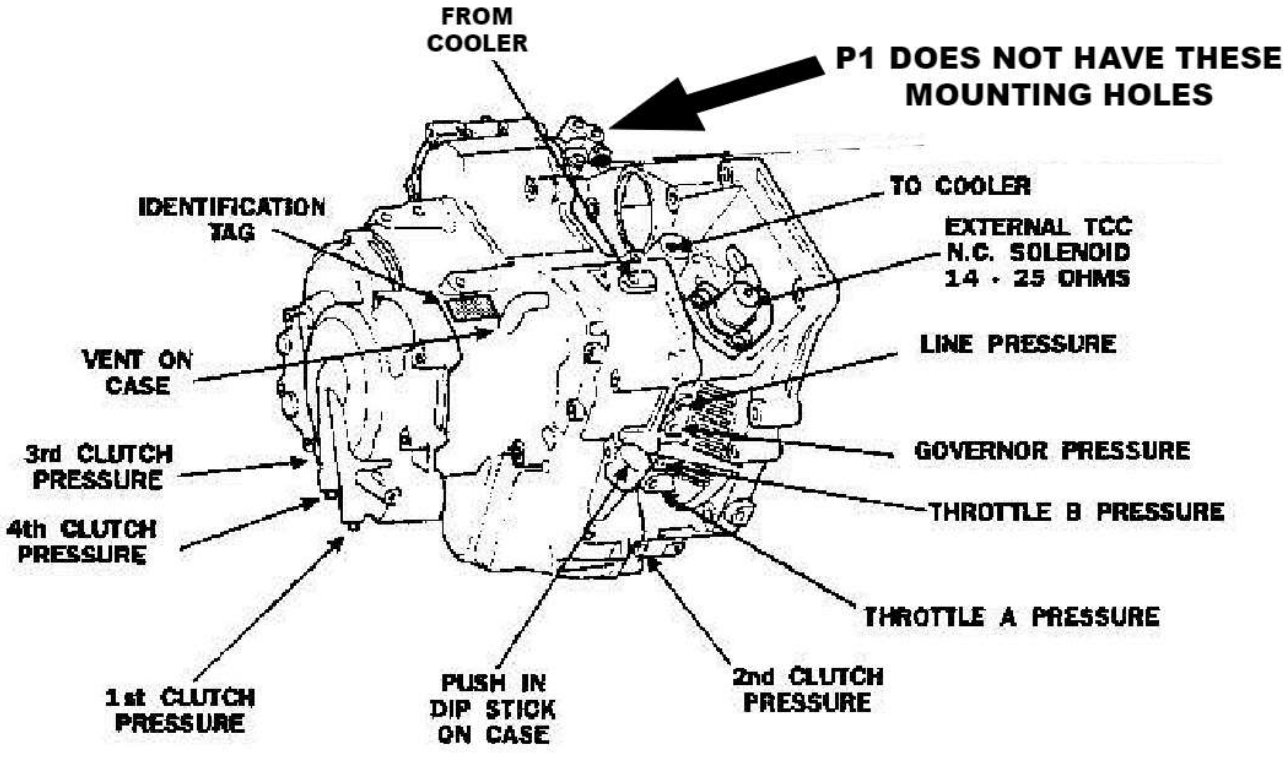
L4/ML4A/P1

1988-90 CIVIC/1991 CIVIC/1988-89 INTEGRA

1 LOCK-UP SOLENOID ON TOP OF CASE
PUSH-IN DIP STICK IN CASE
VENT ON REAR TOP OF CASE...
CAN BE STRAIGHT W/RUBBER CAP OR METAL ELBOW
P1 DOES NOT HAVE THE 3 VERTICAL MOUNTING HOLES
IN THE TOP OF THE BELL HOUSING
HAS THROTTLE CABLE

NOTE: ALTHOUGH THEY APPEAR SIMILAR THE L4 AND ML4A DO NOT INTERCHANGE WITH THE P1
USE THE ID TAG FOR POSITIVE INDENTIFICATION





AK

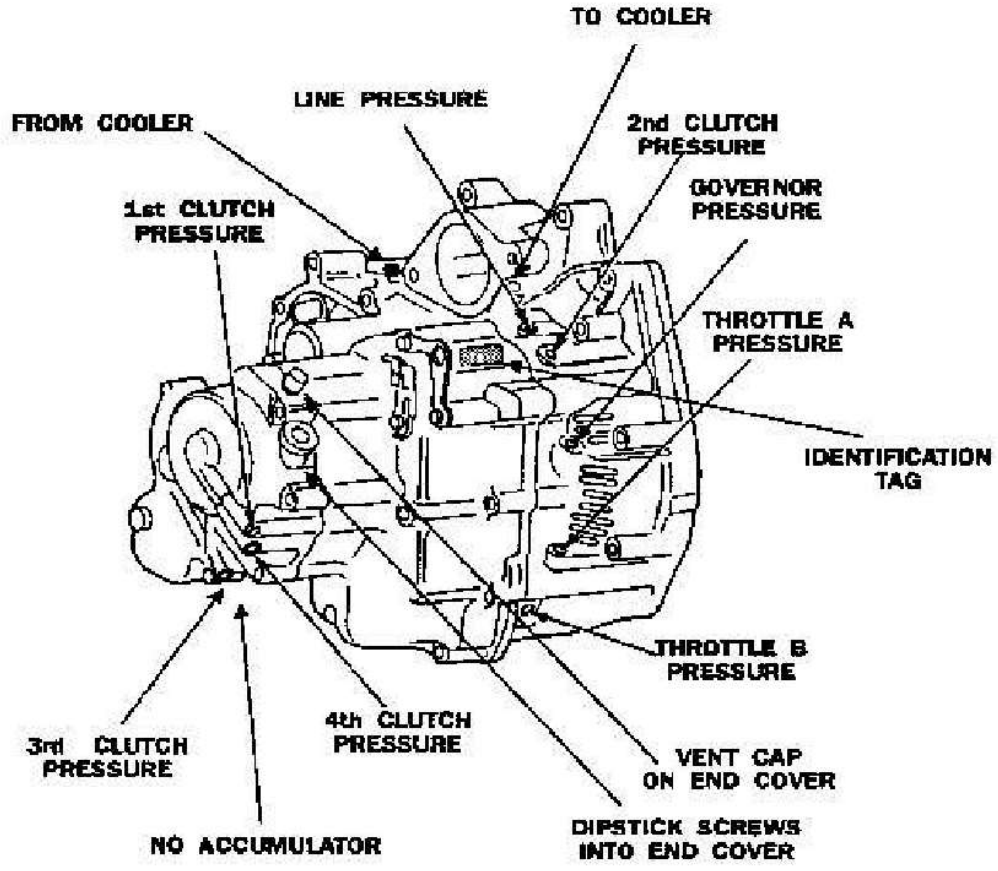
1983 ACCORD/1983 PRELUDE

SCREW-IN DIPSTICK IN END COVER
NO ACCUMULATOR
VENT CAP ON TOP OF END COVER
HAS THROTTLE CABLE
NO SOLENOIDS

AK-0000000

TRANS MODEL

TRANSAXLE SERIAL NO.



S5

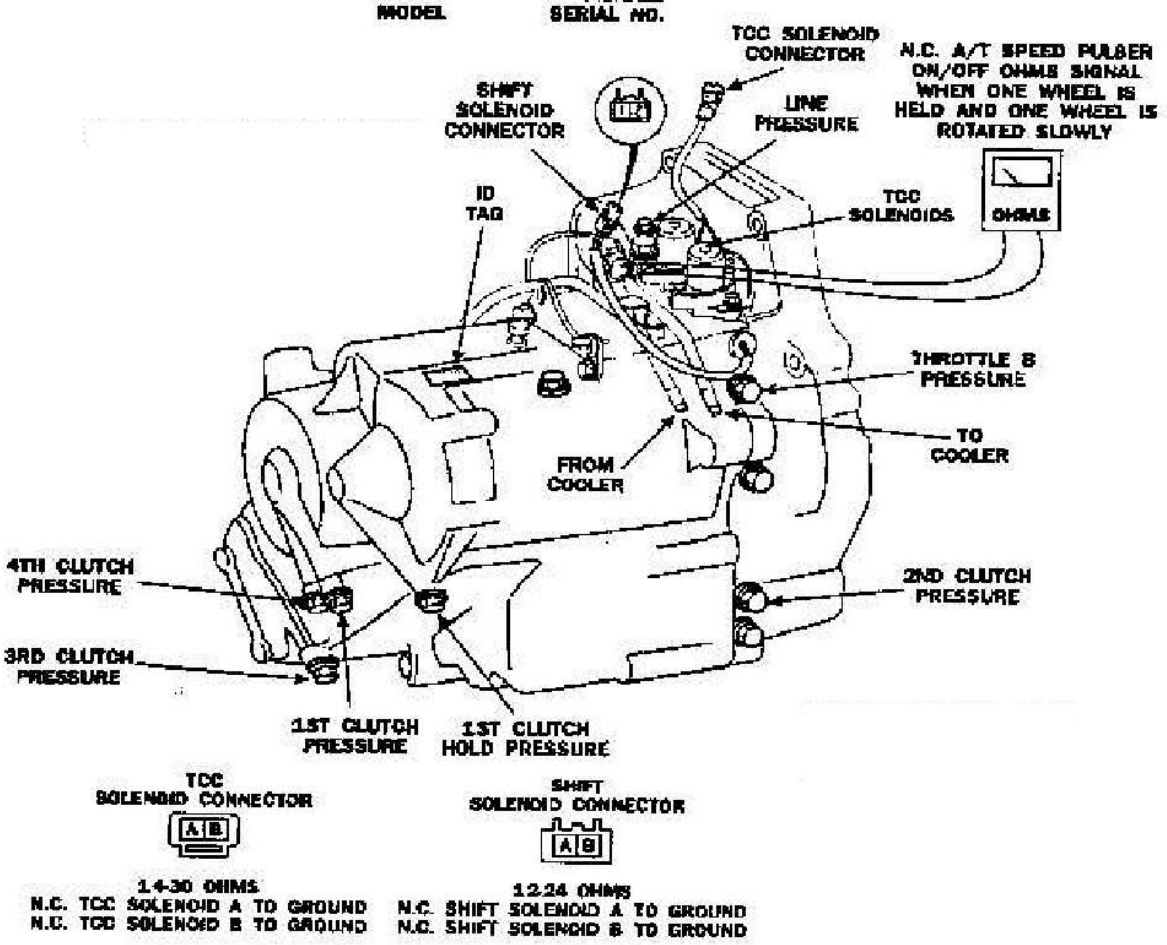
1989-90 CIVIC WAGON 4X4

2 EXTERNAL TCC SOLENOIDS
2 INTERNAL SHIFT SOLENOIDS
PUSH IN DIP STICK
1 EXTERNAL SPEED PULSER
HAS THROTTLE CABLE
TRANSFER CASE MOUNTED ON DIFFERENTIAL SIDE OF TRANSAXLE

S5-0000000

TRANS MODEL

TRANSAXLE SERIAL NO.



MPSA

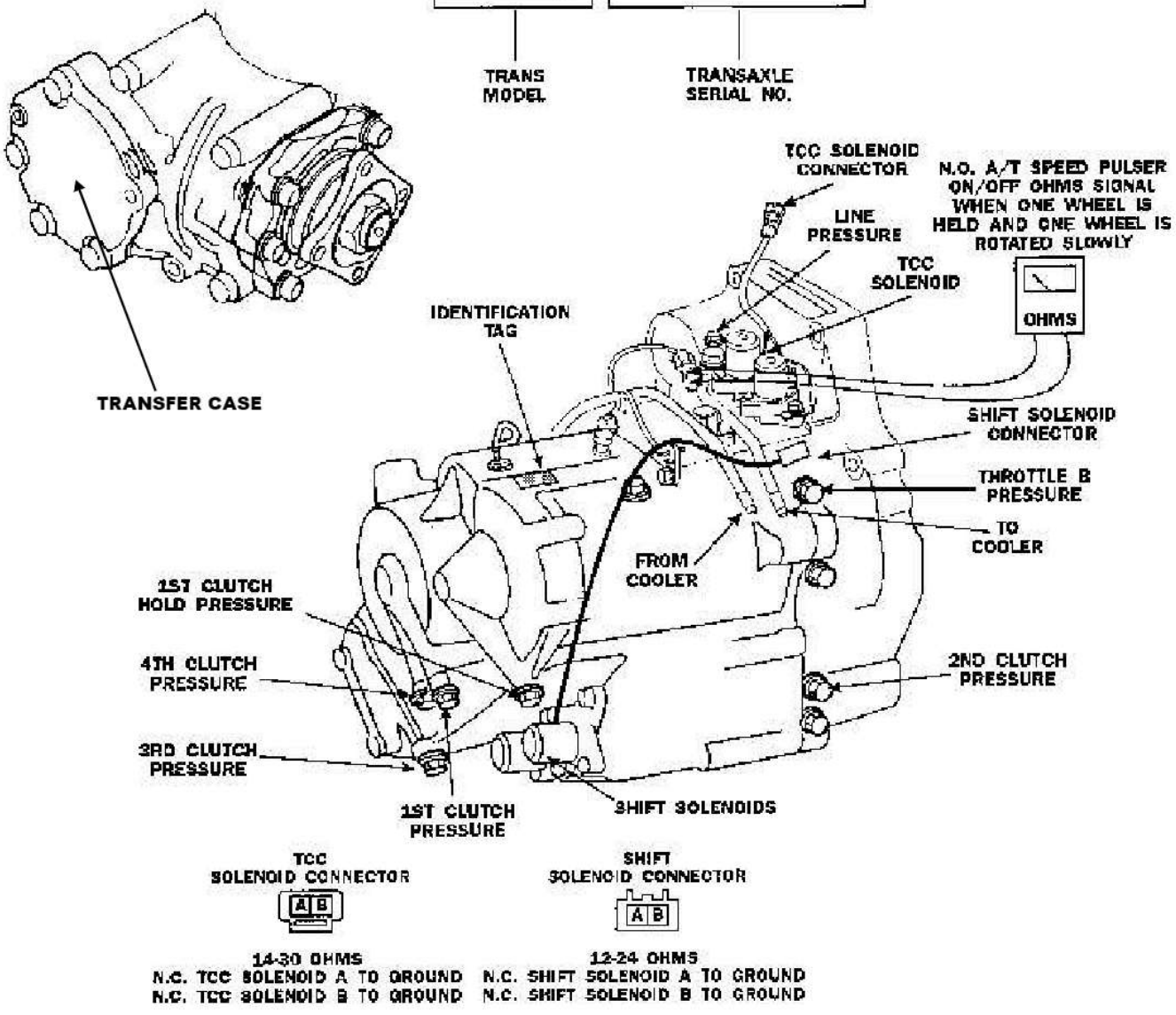
1991 CIVIC WAGON 4X4

2 SOLENOIDS EXTERNAL MOUNTED ON TOP OF CASE
2 SOLENOIDS EXTERNAL MOUNTED BELOW END COVER
PUSH-IN DIP STICK ON TOP OF CASE
HAS THROTTLE CABLE
1 EXTERNAL SPEED PULSER

MPSA-0000000

TRANS MODEL

TRANSAXLE SERIAL NO.



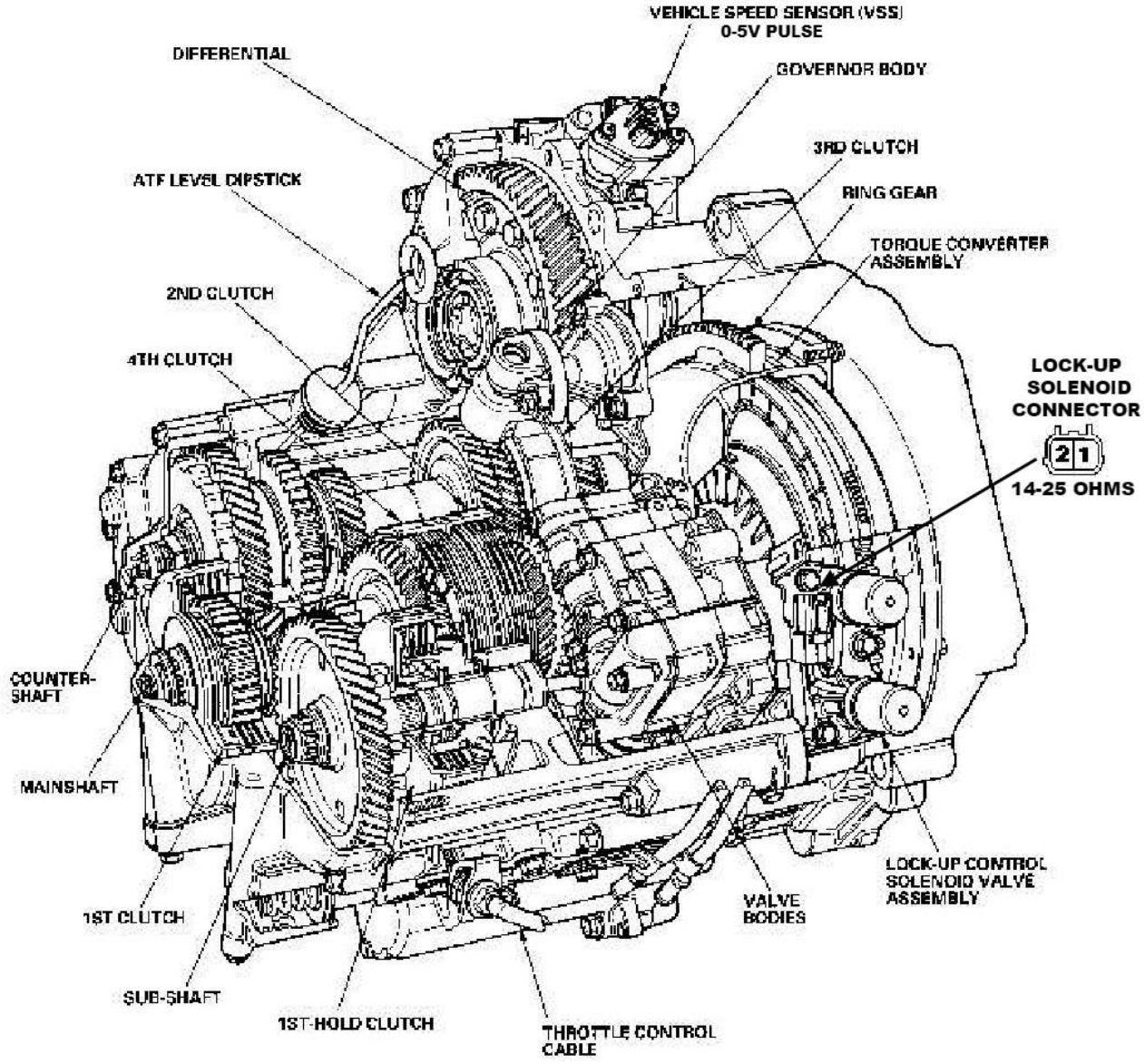
14-30 OHMS
N.C. TCC SOLENOID A TO GROUND
N.C. TCC SOLENOID B TO GROUND

12-24 OHMS
N.C. SHIFT SOLENOID A TO GROUND
N.C. SHIFT SOLENOID B TO GROUND

M24A/A24A/S24A

1992-94 CIVIC/1995 CIVIC/1995 CIVIC (JAPAN BUILT)

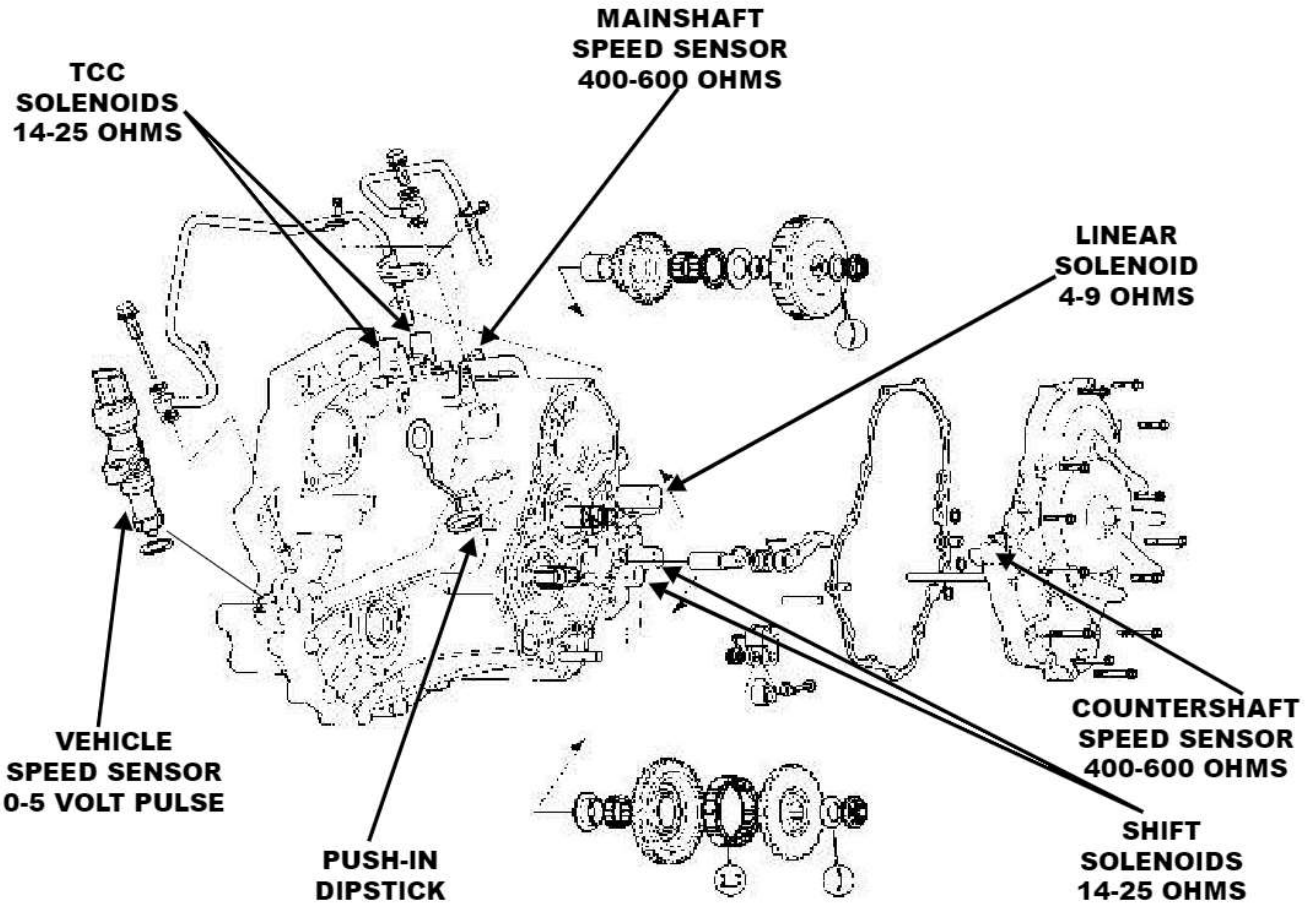
2 EXTERNAL LOCK-UP SOLENOIDS
RUBBER CAPPED VENT IN BREATHER CHAMBER ON TOP OF CASE
PUSH-IN DIP STICK IN CASE
1 GEAR DRIVEN VSS
HAS THROTTLE CABLE



A4RA/B4RA

1996 HONDA CIVIC
1997 HONDA CIVIC

2 EXTERNAL SHIFT SOLENOIDS
2 EXTERNAL TCC SOLENOIDS
1 EXTERNAL LINEAR PRESSURE CONTROL SOLENOID
1 SPEED SENSOR IN END COVER
1 SPEED SENSOR IN TRANSMISSION HOUSING
1 GEAR DRIVEN VSS
PUSH-IN DIP STICK IN CASE



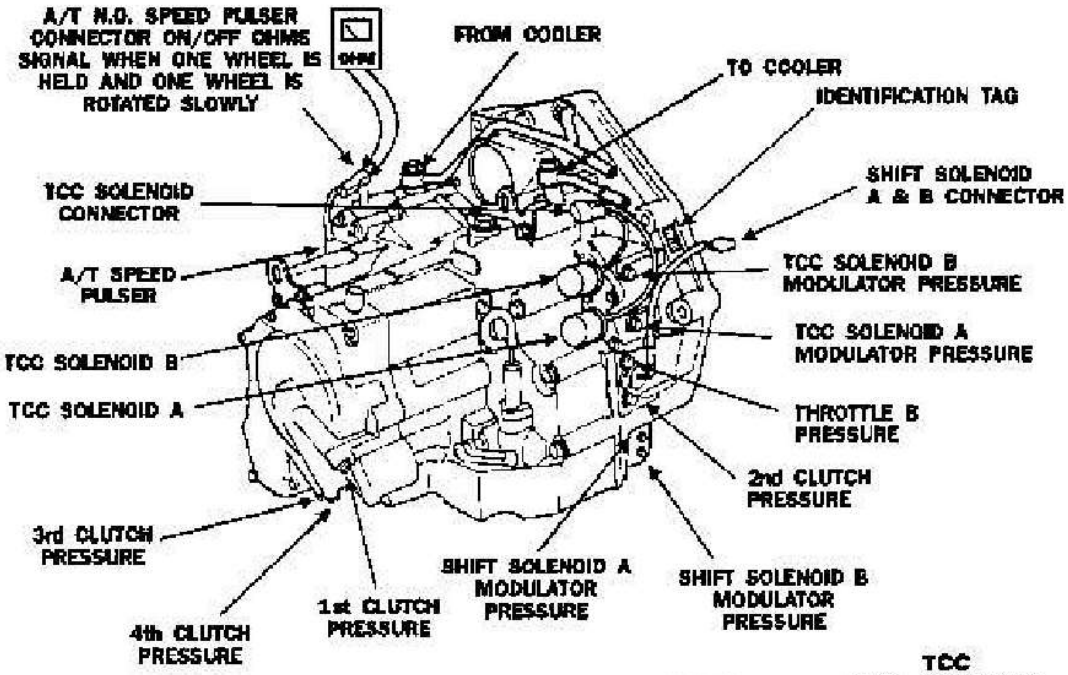
K4

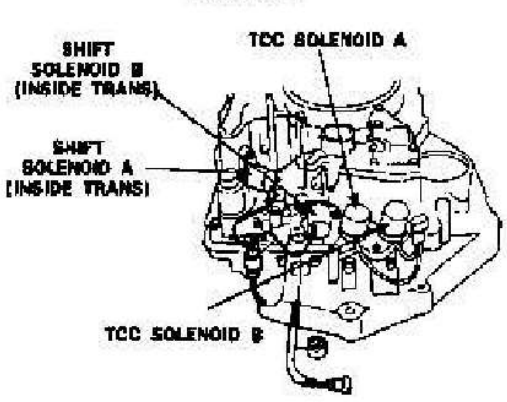
1988-89 HONDA PRELUDE

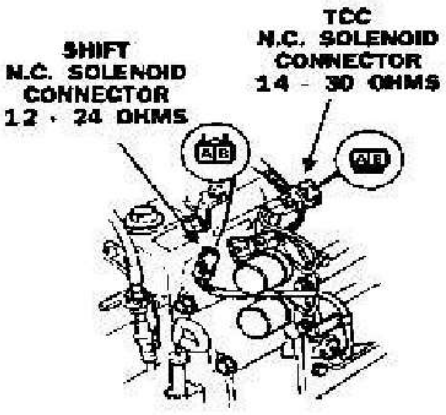
2 EXTERNAL LOCK-UP SOLENOIDS
2 INTERNAL SHIFT SOLENOIDS
VENT CAP ON REAR TOP OF CASE
PUSH-IN DIP STICK
1 SPEED PULSER
HAS THROTTLE CABLE

K4-0000000

TRANS MODEL — TRANSAXLE SERIAL NO.



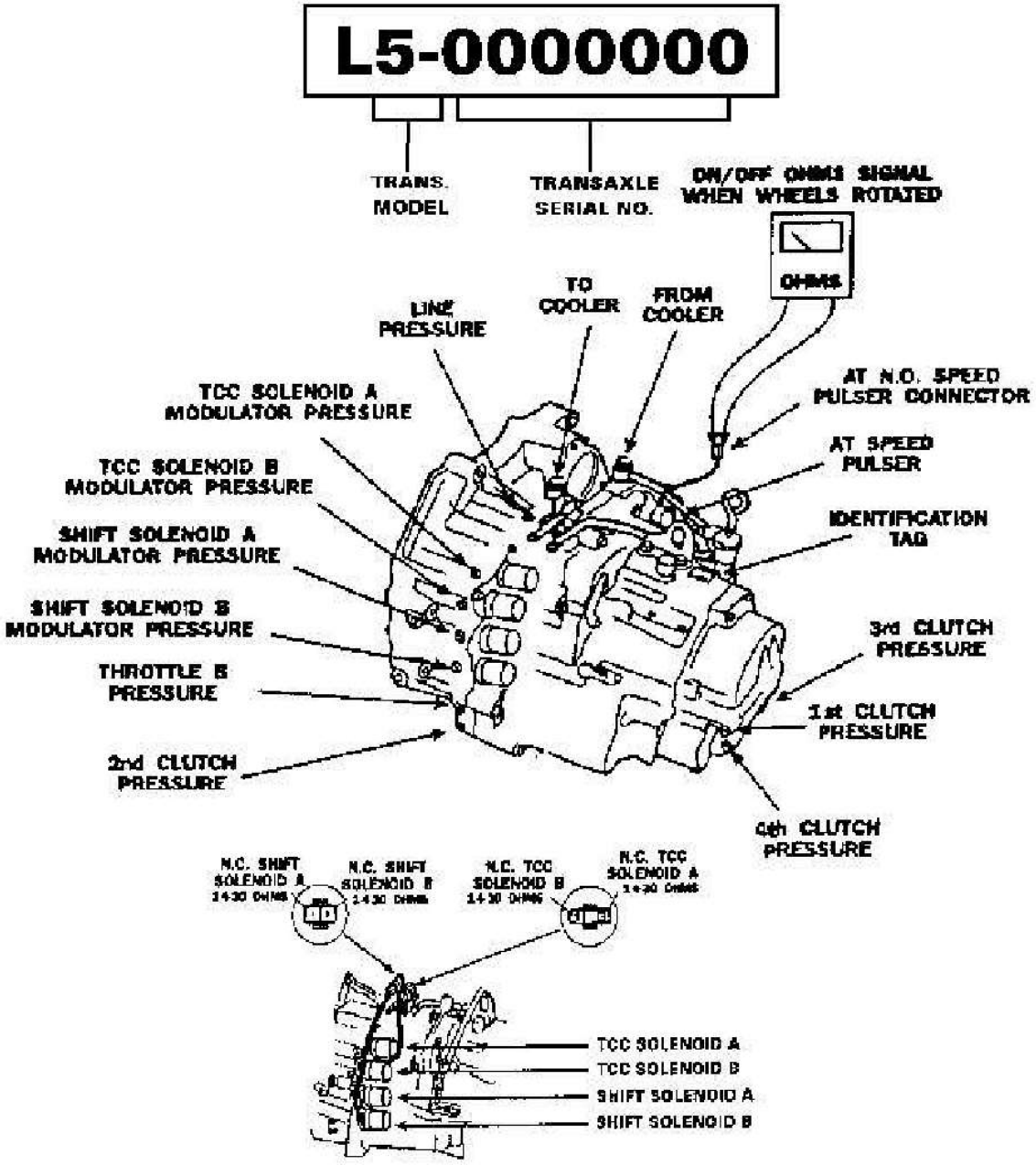




L5

1987 ACURA LEGEND COUPE
1988-89 ACURA LEGEND AND COUPE

4 EXTERNAL SOLENOIDS
PUSH IN DIP STICK WITH SHORT BOLT ON FILLER TUBE
TRANSAXLE MOUNTED ON DRIVER SIDE OF VEHICLE
LOW ACCUMULATOR PART OF END COVER
1 A/T SPEED PULSER



PL5X

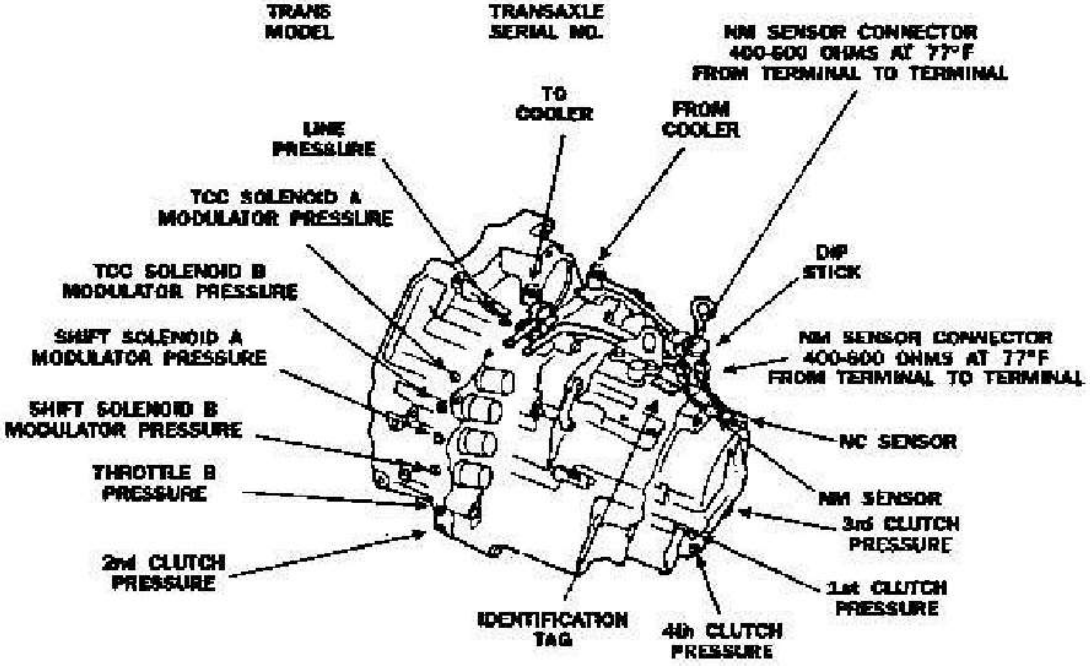
1990 ACURA LEGEND AND COUPE

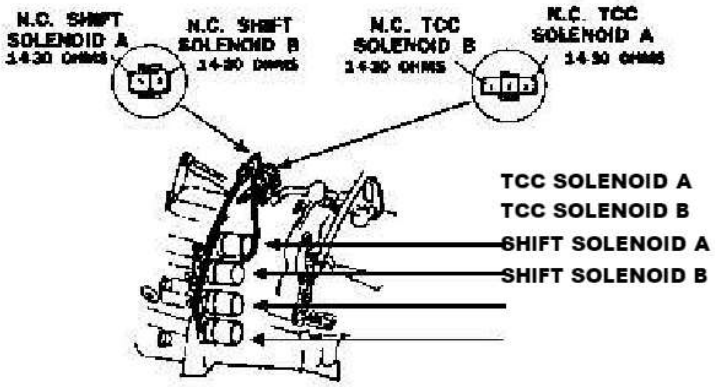
4 EXTERNAL SOLENOIDS
PUSH IN DIP STICK
TRANSAXLE MOUNTED ON DRIVER SIDE OF VEHICLE
LOW ACCUMULATOR PART OF END COVER
2 SPEED SENSORS IN END COVER

PL5X-0000000

TRANS MODEL

TRANSAXLE SERIAL NO.

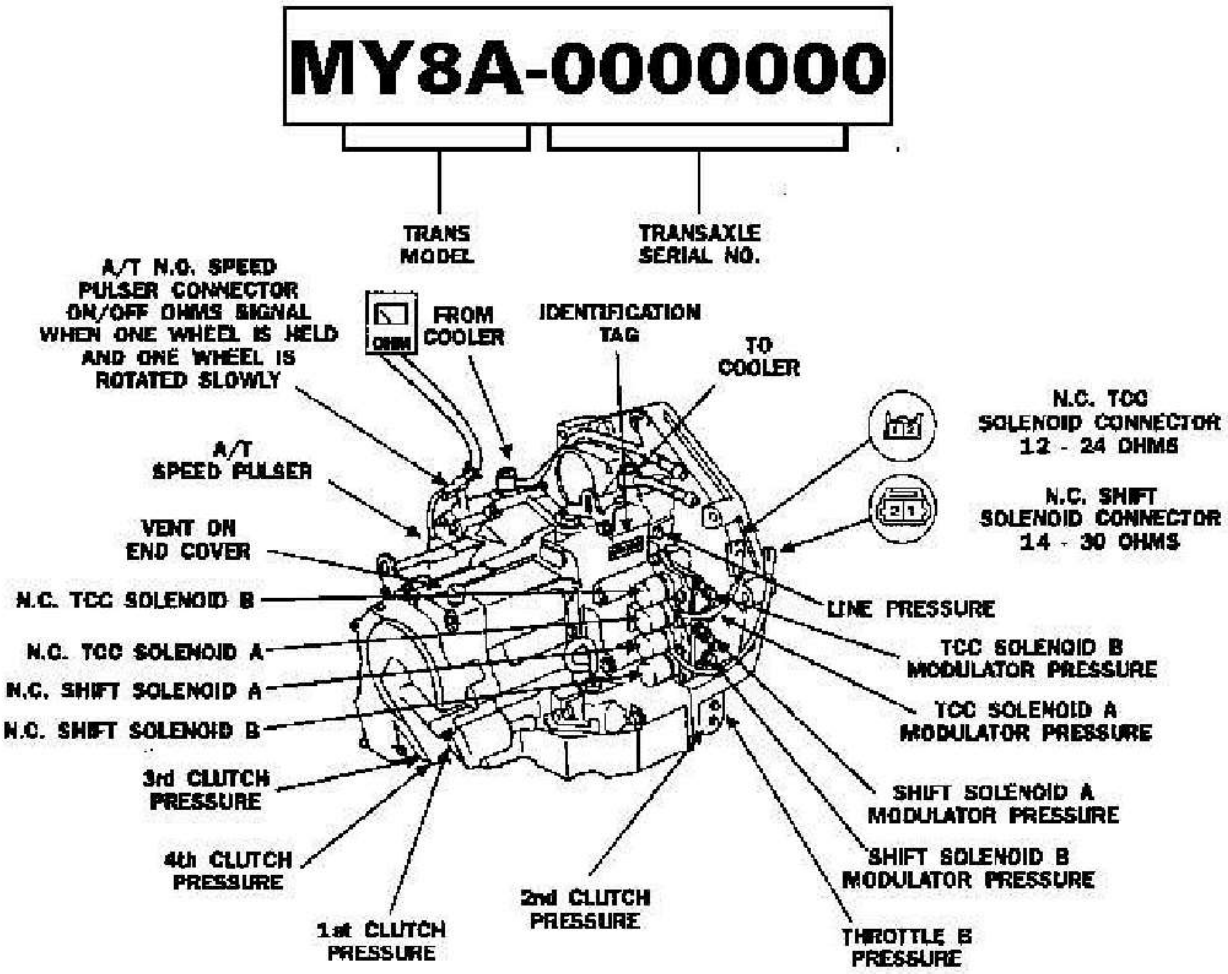




PY8A/MY8A

1990 PRELUDE/1991 PRELUDE

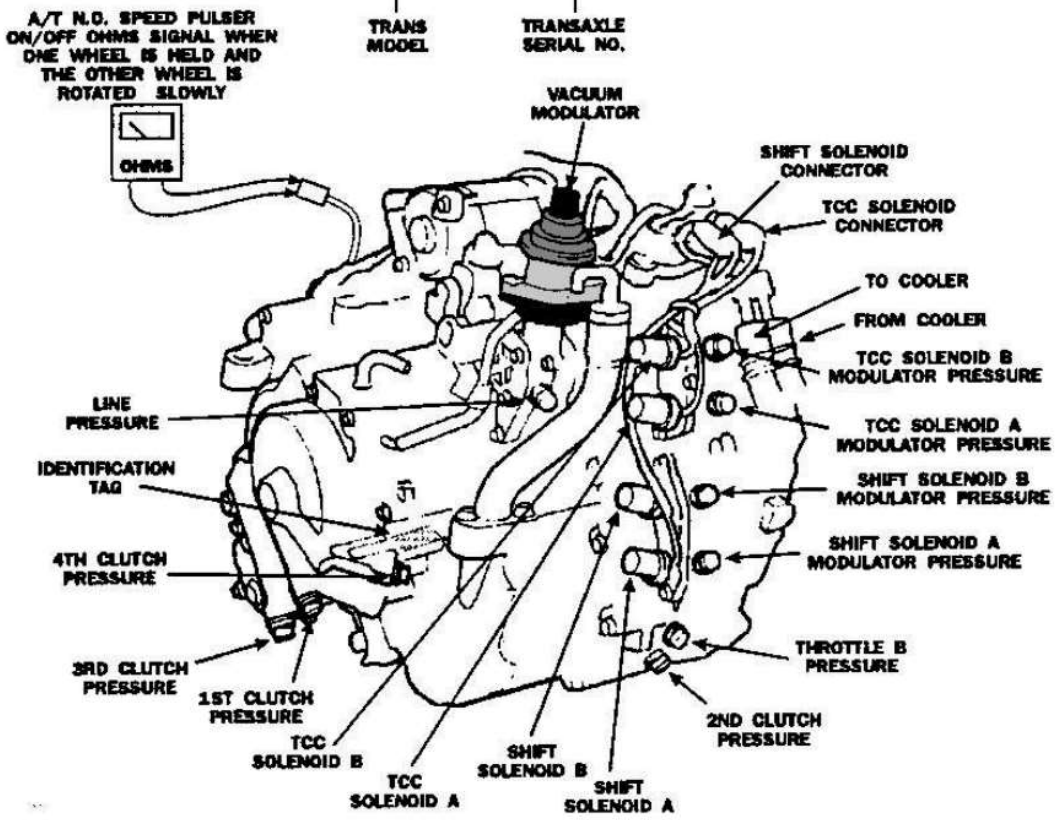
4 EXTERNAL SOLENOIDS
1 SPEED PULSER
PUSH-IN DIP STICK
VENT IN END COVER
ACCUMULATOR IN END COVER

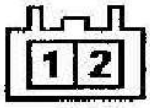


RO/MPRA

4 EXTERNAL SOLENOIDS
VACUUM MODULATOR NEXT TO DIP STICK
FILLER TUBE NEXT TO MODULATOR
1 A/T SPEED PULSER
ELBOW VENT ON TOP OF END COVER

RO-0000000





SHIFT N.C. SOLENOID CONNECTOR
12 - 24 OHMS



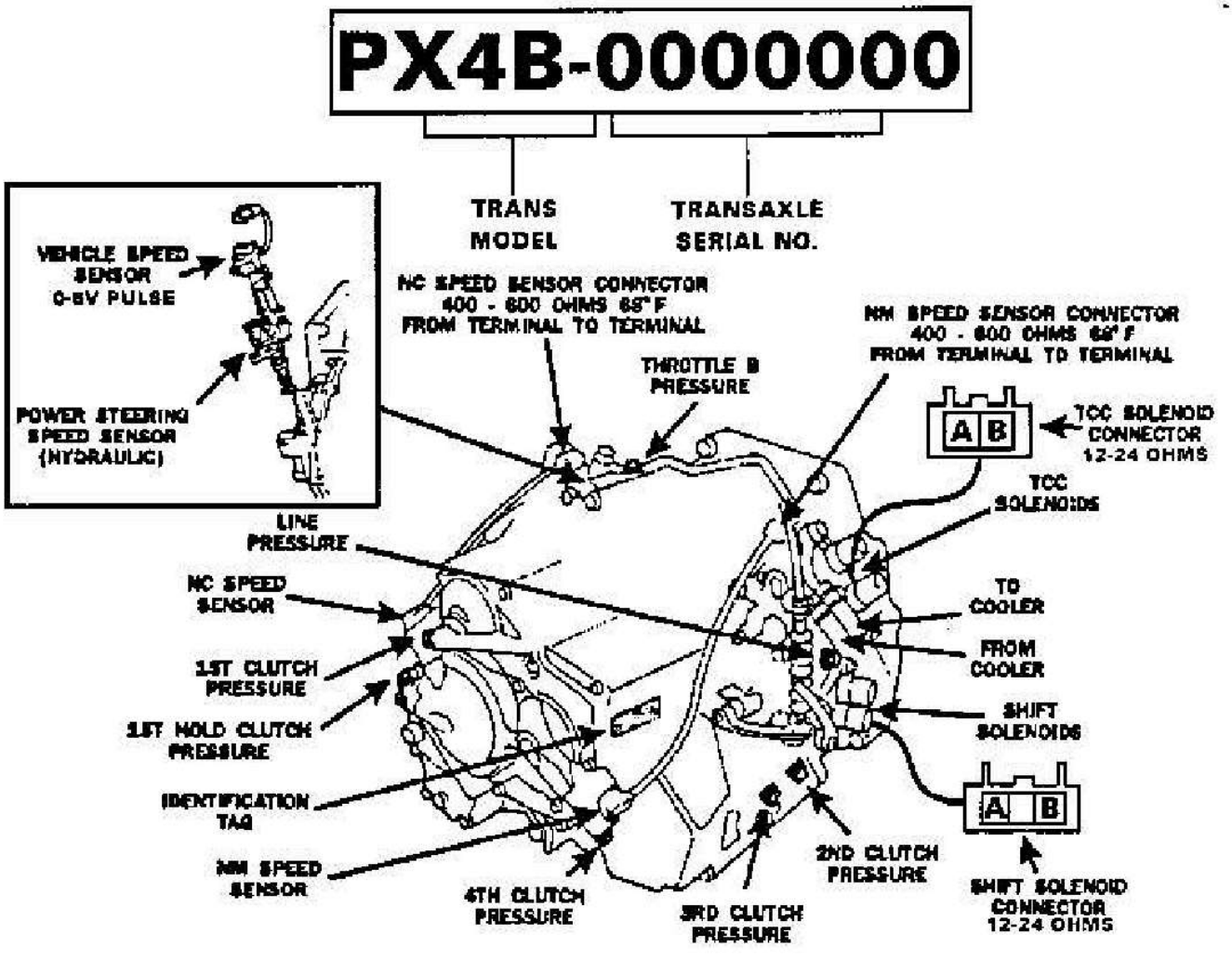
LOCK-UP N.C. SOLENOID CONNECTOR
12 - 24 OHMS

PX4B/APX4/*MPWA

1990 ACCORD/1991-93 ACCORD/1992-95 PRELUDE

*NOTE: The MPWA is used in JAPAN built vehicles only

4 EXTERNAL SOLENOIDS
2 SPEED SENSORS IN END COVER
STEERING PUMP DRIVEN VEHICLE SPEED SENSOR
ELBOW VENT ON TOP REAR OF CASE
PUSH-IN DIP STICK
HAS THROTTLE CABLE

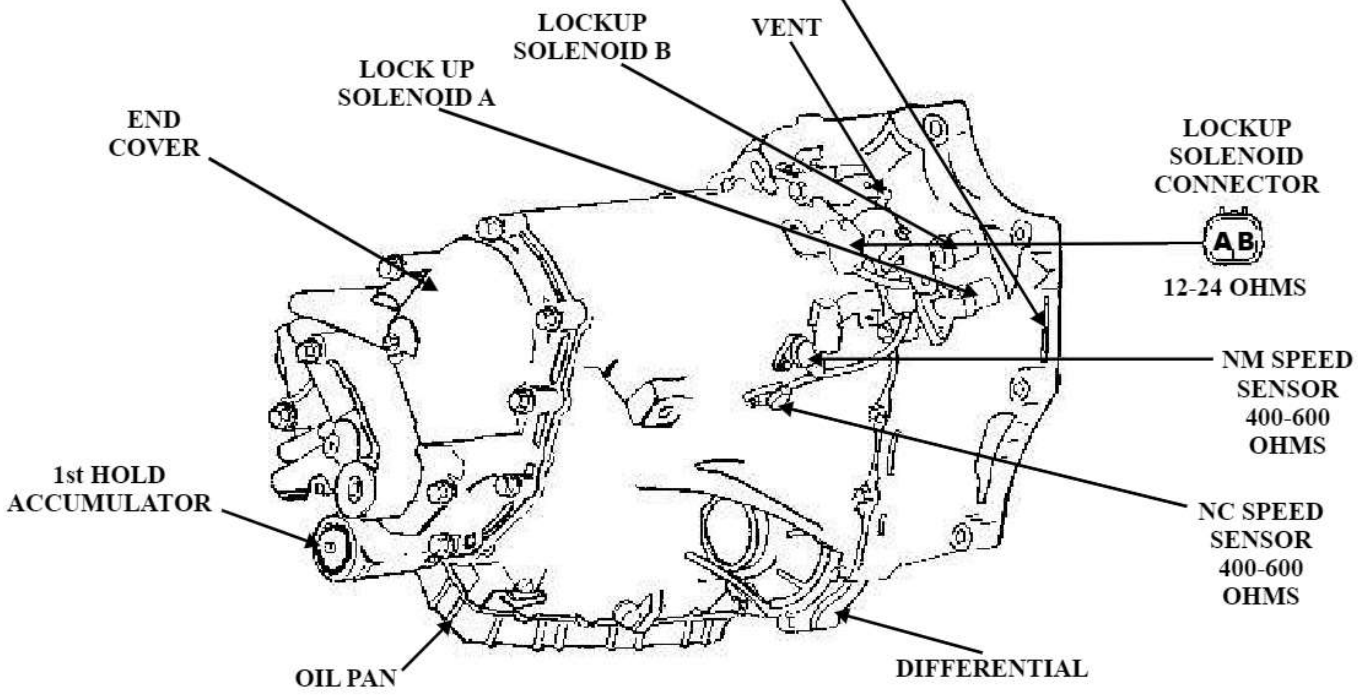


MPYA

1991-95 ACURA LEGEND

2 EXTERNAL TCC SOLENOIDS
2 EXTERNAL SPEED SENSORS MOUNTED ON TOP OF CASE
REMOVABLE OIL PAN
FILLER TUBE WITH PUSH-IN DIP STICK
VENT ON TOP, CENTER OF BELL HOUSING
VSS MOUNTED IN DIFFERENTIAL ASSEMBLY
PASSENGER SIDE DIFFERENTIAL AND TRANSAXLE
MOUNTED IN-LINE WITH ENGINE
NO THROTTLE CABLE

MPYA-0000000



SHIFT SOLENOID/ LINEAR SOLENOID CONNECTOR
LOCATED ON DRIVER SIDE OF TRANSAXLE



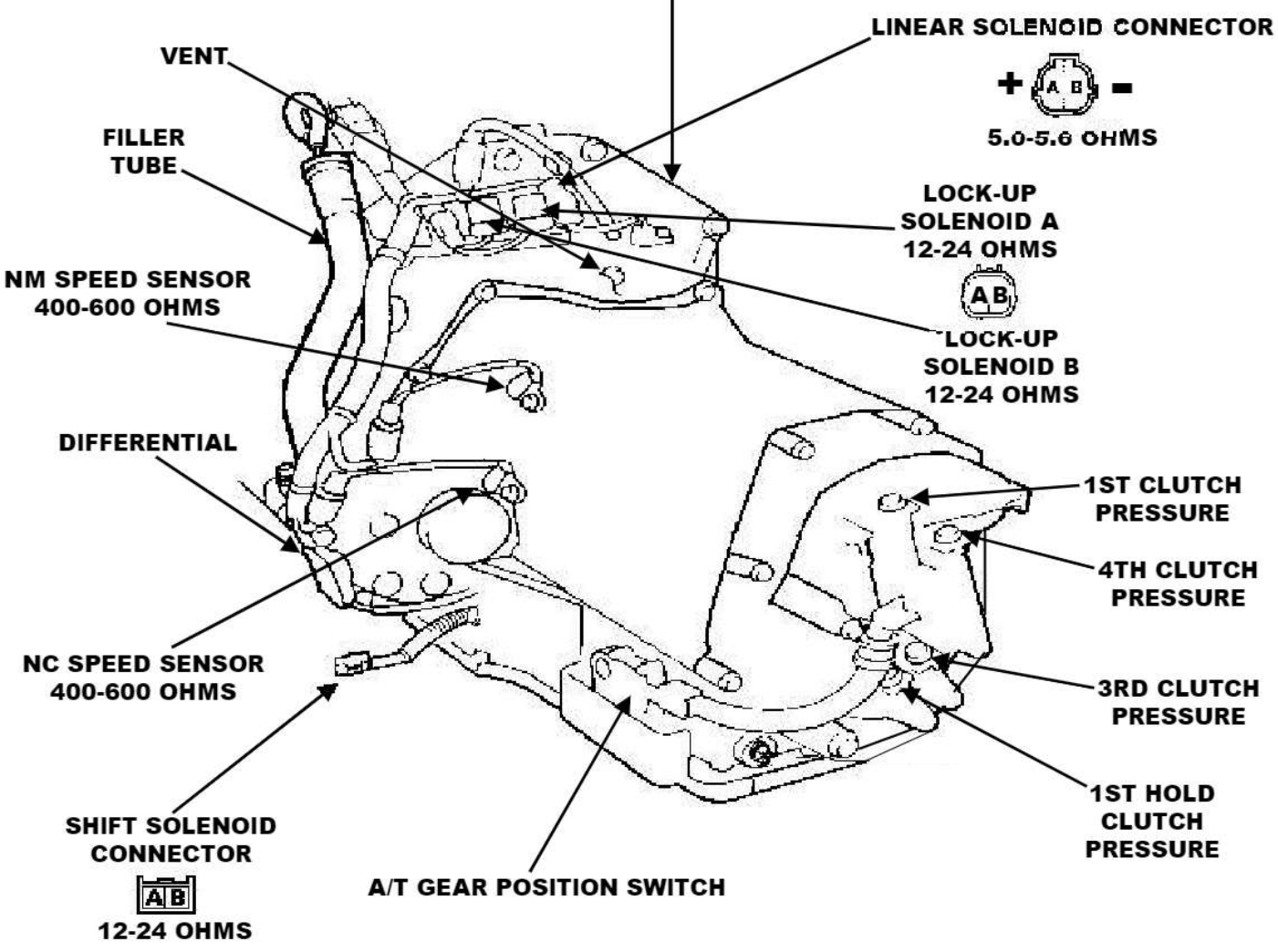
SHIFT SOLENOID TERMINAL A...GREEN WIRE...12-24 OHMS
SHIFT SOLENOID TERMINAL B....BLUE WIRE.....12-24 OHMS
LINEAR SOLENOID TERMINAL C.....RED WIRE (+)....5.0-5.6 OHMS
LINEAR SOLENOID TERMINAL D...WHITE WIRE (-)...5.0-5.6 OHMS

MPWA

1992-94 ACURA VIGOR

2 EXTERNAL TCC SOLENOIDS
2 EXTERNAL SPEED SENSORS MOUNTED ON SIDE OF CASE
REMOVABLE OIL PAN
VENT ON TOP CENTER OF BELL HOUSING
FILLER TUBE WITH PUSH-IN DIP STICK
VSS MOUNTED IN DIFFERENTIAL ASSEMBLY
DRIVER SIDE DIFFERENTIAL AND TRANSAXLE
MOUNTED IN-LINE WITH ENGINE

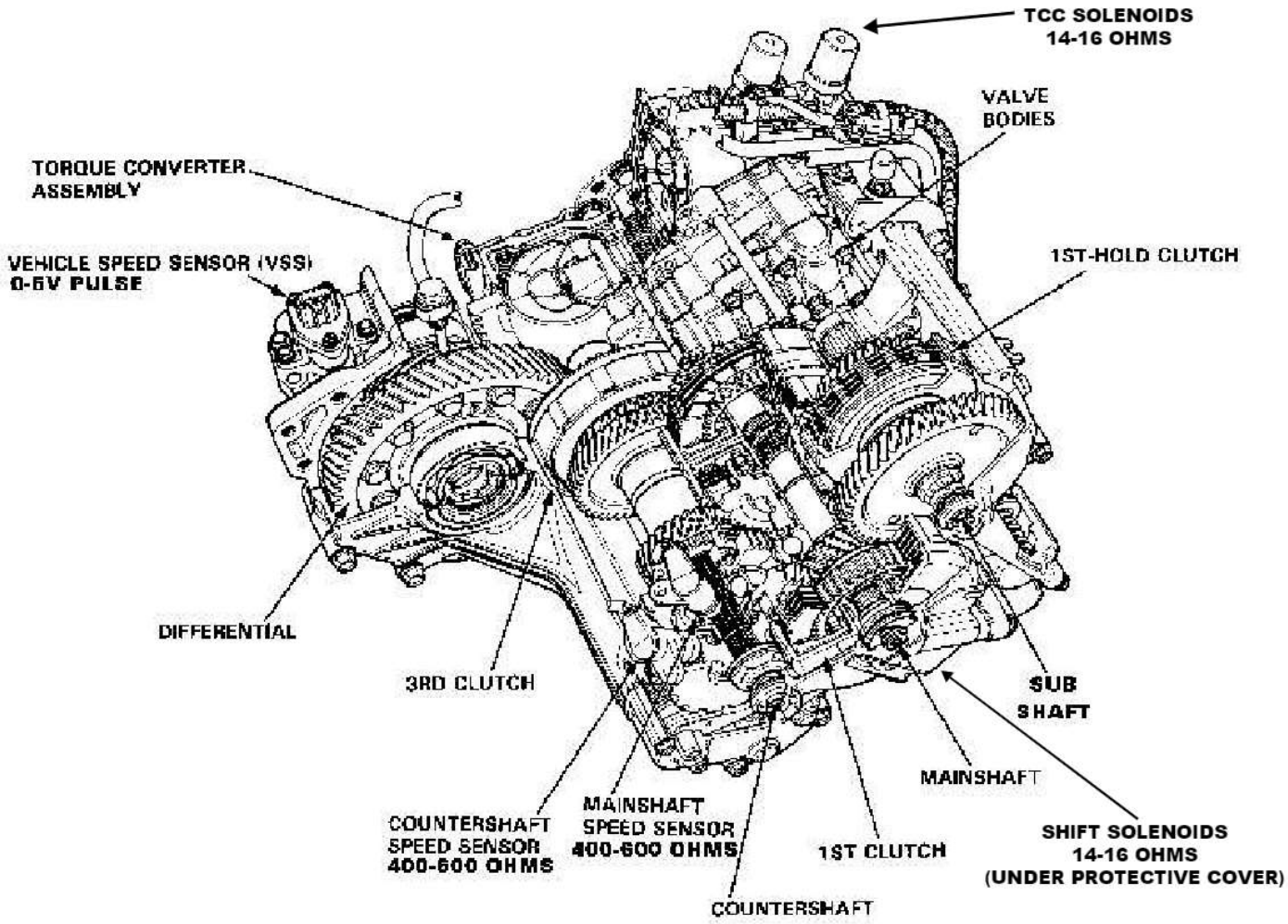
MPWA-0000000



SP7A/S4XA

1994-95 INTEGRA/1996-97 INTEGRA

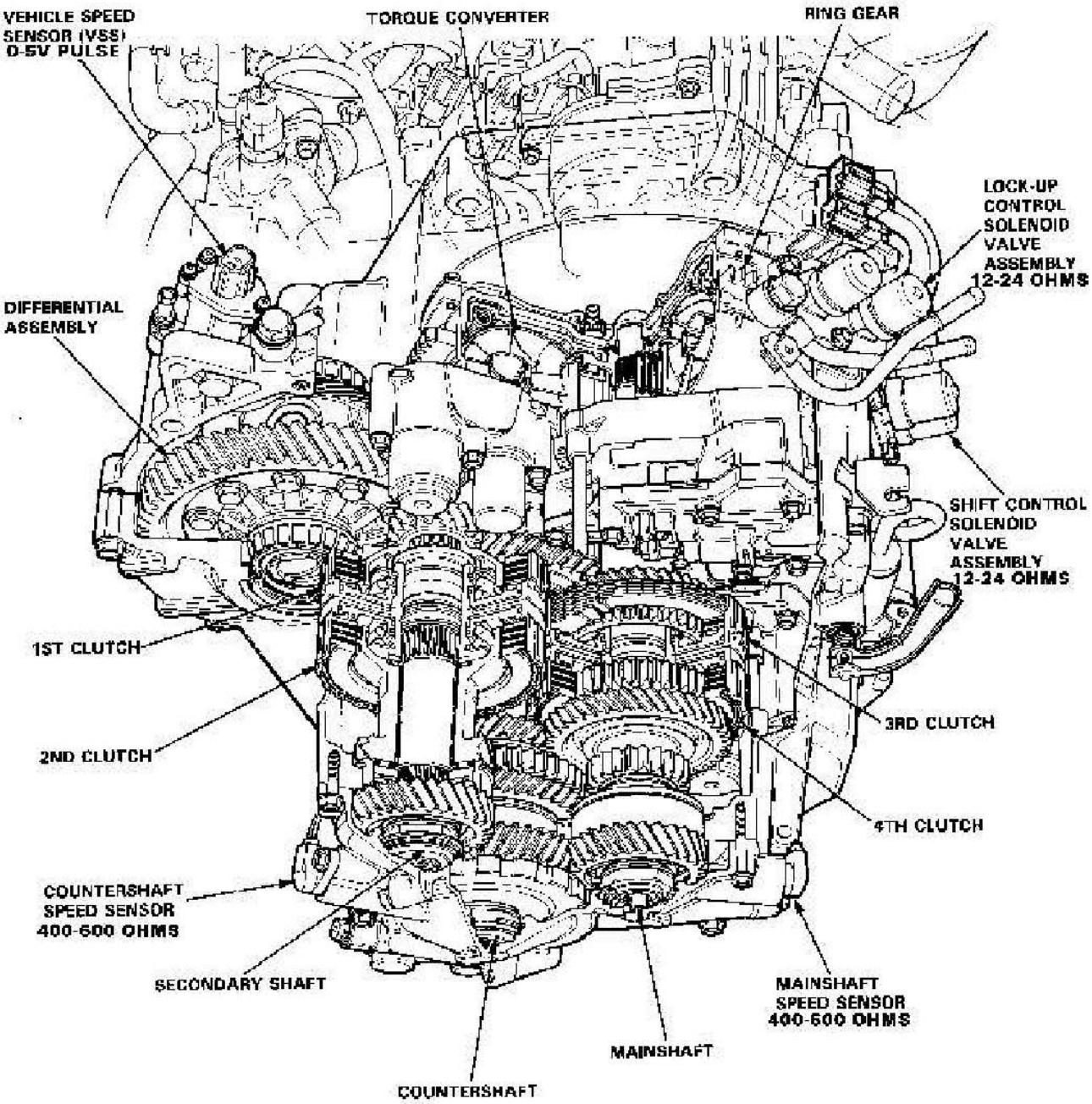
2 EXTERNAL TCC SOLENOIDS
2 EXTERNAL SHIFT SOLENOIDS (UNDER PROTECTIVE COVER)
2 SPEED SENSORS IN END COVER
1 GEAR DRIVEN VSS
PUSH-IN DIP STICK IN CASE
HAS THROTTLE CABLE



MPOA/AOYA

1994 ACCORD/1995-96 ACCORD

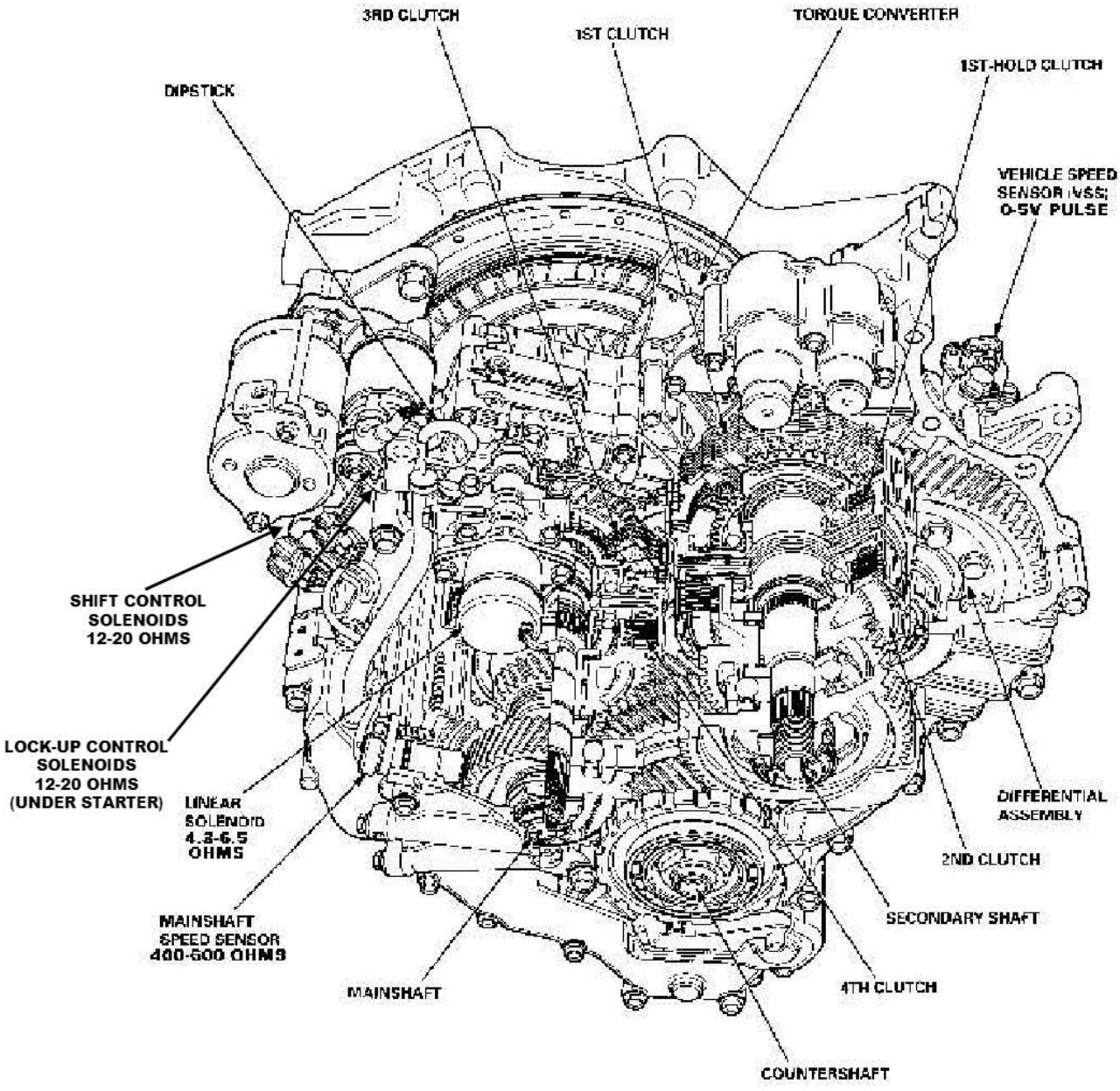
2 EXTERNAL LOCK-UP SOLENOIDS
2 EXTERNAL SHIFT SOLENOIDS
PUSH-IN DIP STICK WITH FILLER TUBE
2 SPEED SENSORS IN END COVER
STEERING PUMP DRIVEN SPEED SENSOR
HAS THROTTLE CABLE



MPZA

1995-96 ACCORD V6

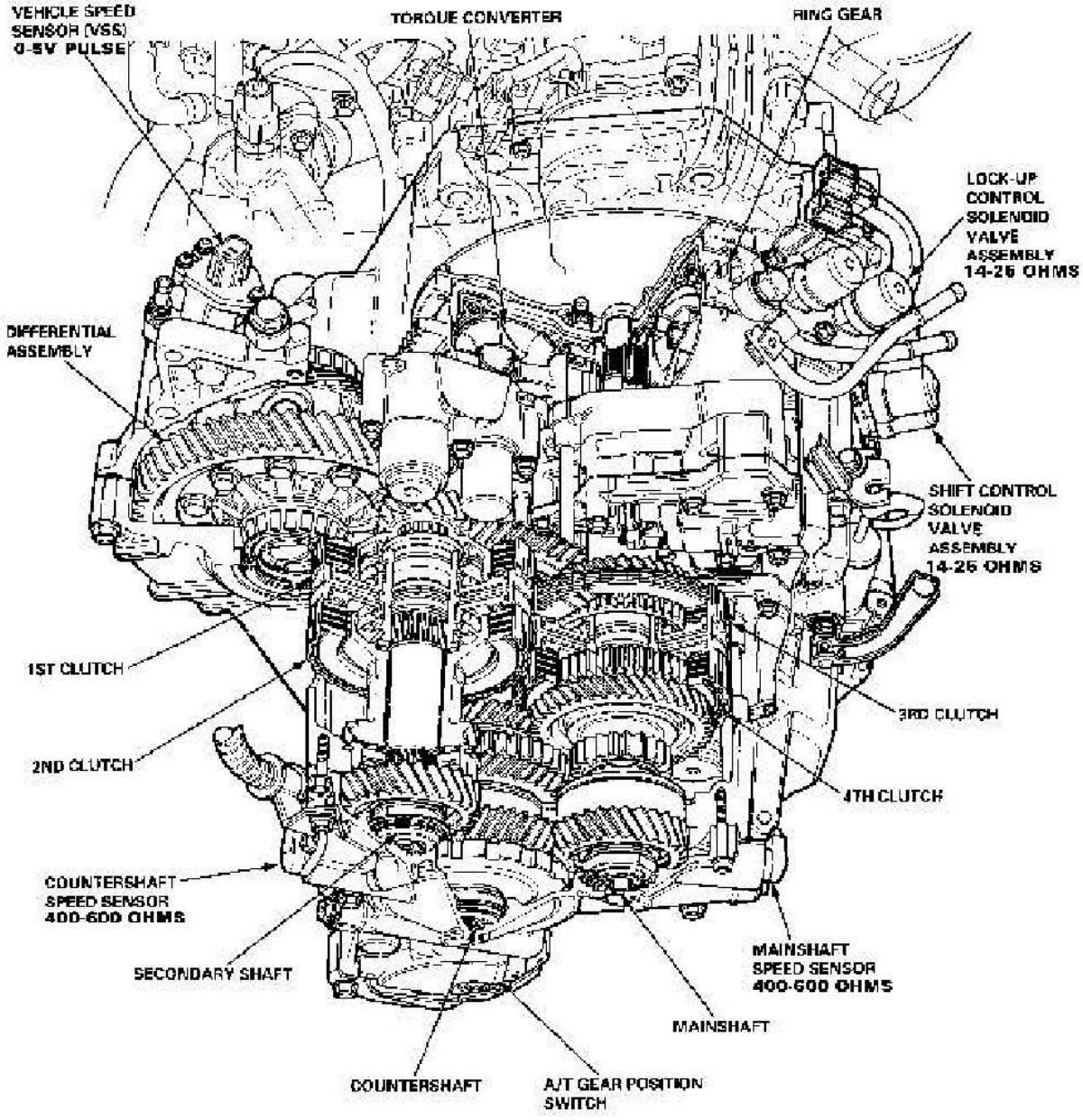
2 SPEED SENSORS IN END COVER
1 STEERING PUMP DRIVEN VSS
PUSH-IN DIP STICK WITH FILLER TUBE
ATF FILLER PLUG ON TOP OF CASE
LINEAR SOLENOID WITH THROTTLE BODY ON TOP OF CASE
2 EXTERNAL LOCK-UP SOLENOIDS
2 EXTERNAL SHIFT SOLENOIDS



MPJA

1995-96 HONDA ODESSEY

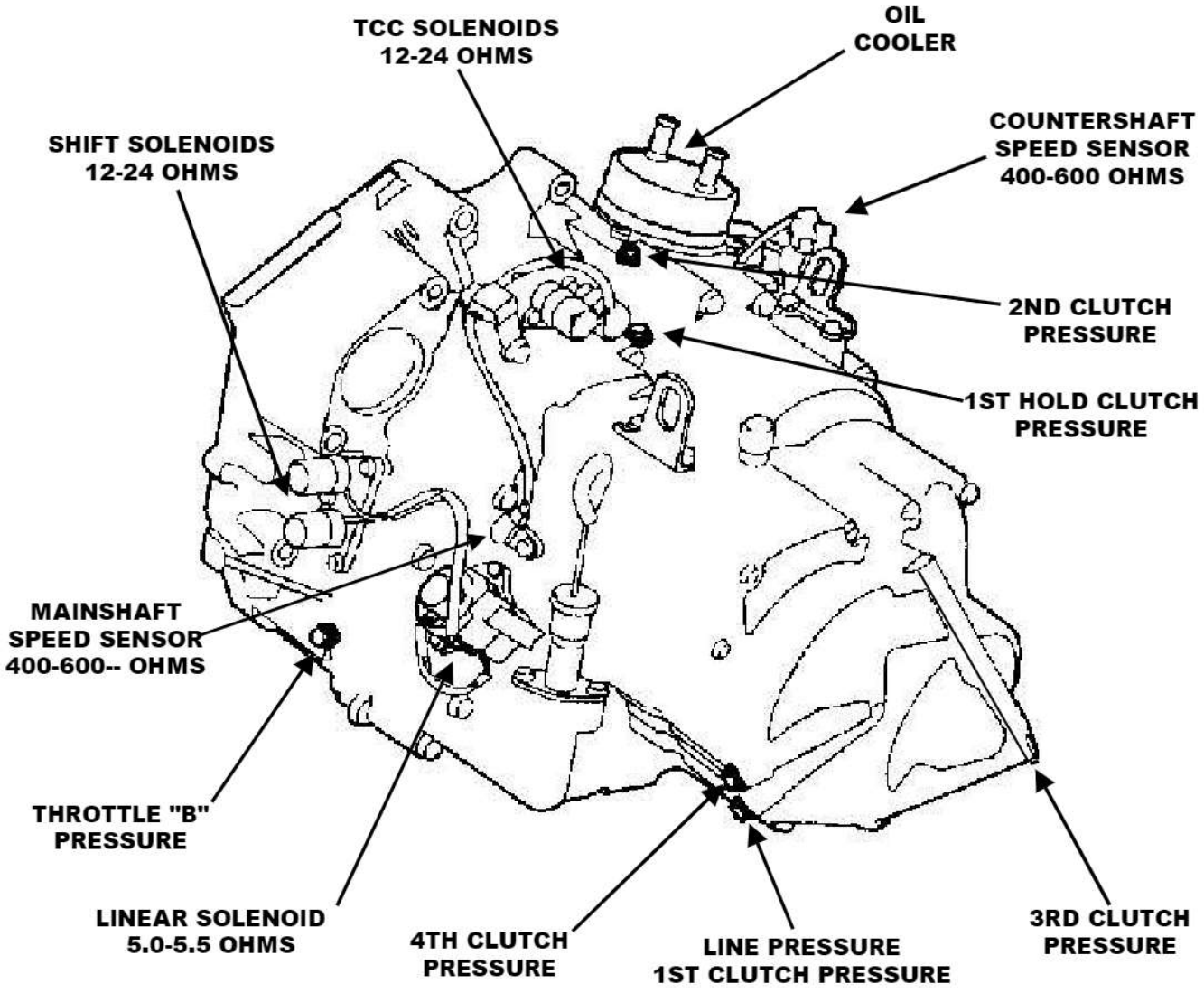
2 EXTERNAL SHIFT SOLENOIDS
2 EXTERNAL TCC SOLENOIDS
2 SPEED SENSORS IN END COVER
1 STEERING PUMP DRIVEN VSS
PUSH-IN DIP STICK WITH SHORT FILLER TUBE
HAS THROTTLE CABLE



MR9A

1991-96 ACURA NSX

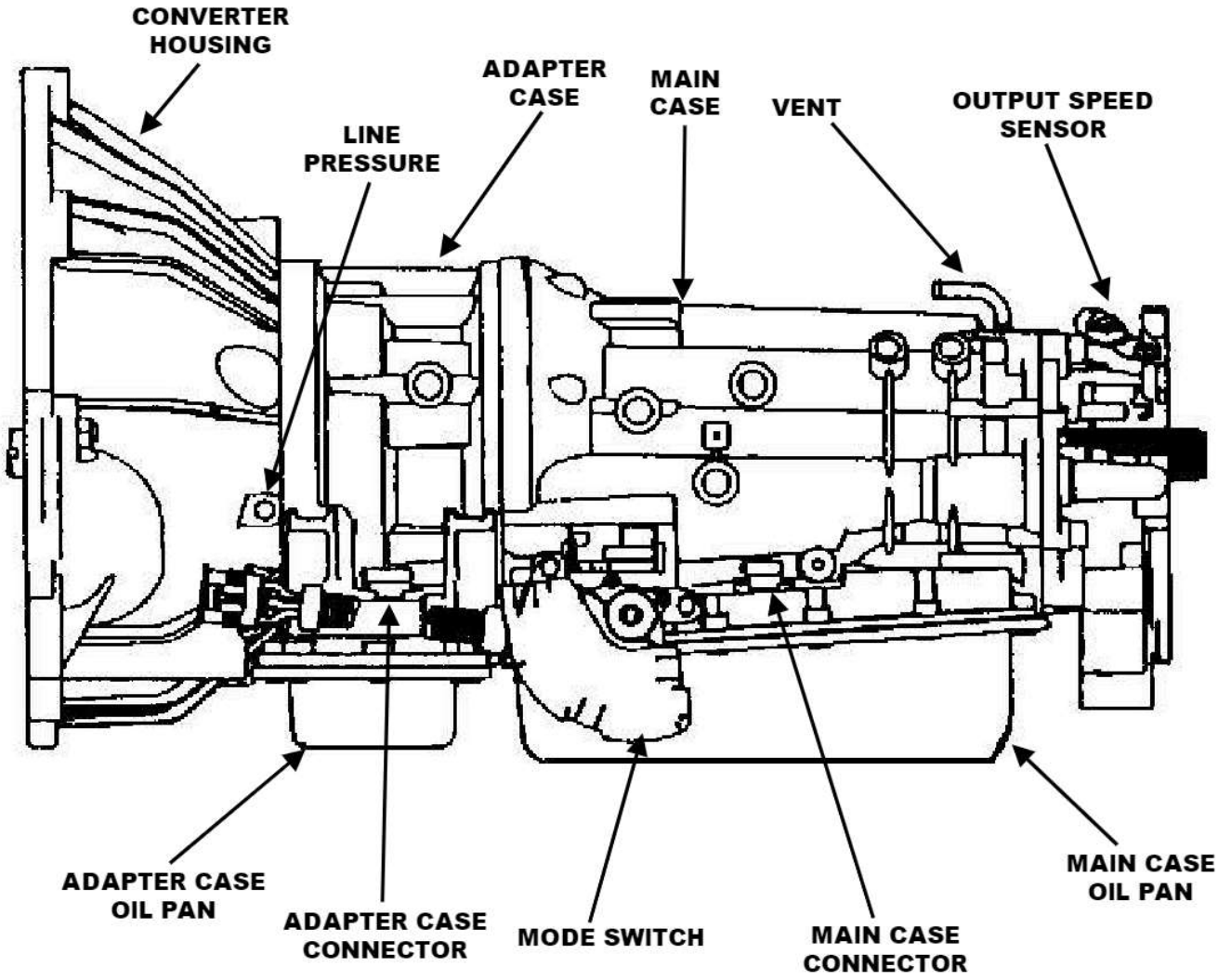
MID-ENGINE AND TRANSAXLE MOUNTING
2 EXTERNAL TCC SOLENOIDS
2 EXTERNAL SHIFT SOLENOIDS
2 SPEED SENSORS
1 EXTERNAL LINEAR SOLENOID
PUSH-IN DIP STICK WITH SHORT BOLT-ON FILLER TUBE
OIL COOLER MOUNTED ON TOP OF CASE
DIFFERENTIAL MOUNTED VSS
LIMITED SLIP DIFFERENTIAL
NO THROTTLE CABLE



4L30E

1994-97 HONDA PASSPORT
1996-97 ACURA SLX

REAR WHEEL DRIVE
2 OIL PANS
5 INTERNAL SOLENOIDS
1 OUTPUT SPEED SENSOR
MODE SWITCH ON DRIVER SIDE OF TRANSMISSION
2 CASE CONNECTORS
2 PIECE FILLER TUBE
ELBOW VENT ON TOP REAR OF CASE

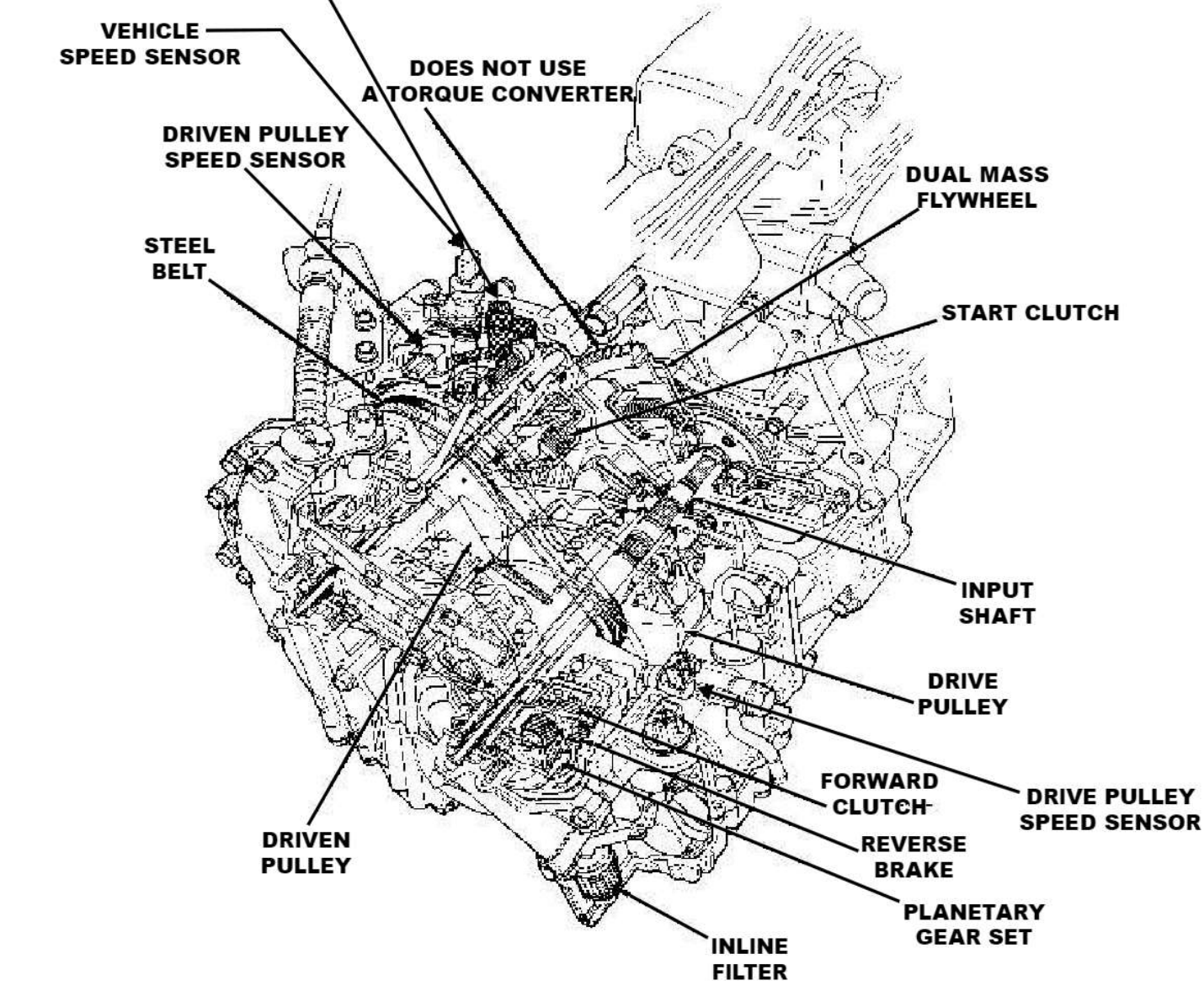


NOTE: THE HONDA PASSPORT IS IDENTICAL TO THE ISUZU RODEO IN EVERY WAY
THE ACURA SLX IS IDENTICAL TO THE ISUZU TROOPER IN EVERY WAY

M4VA

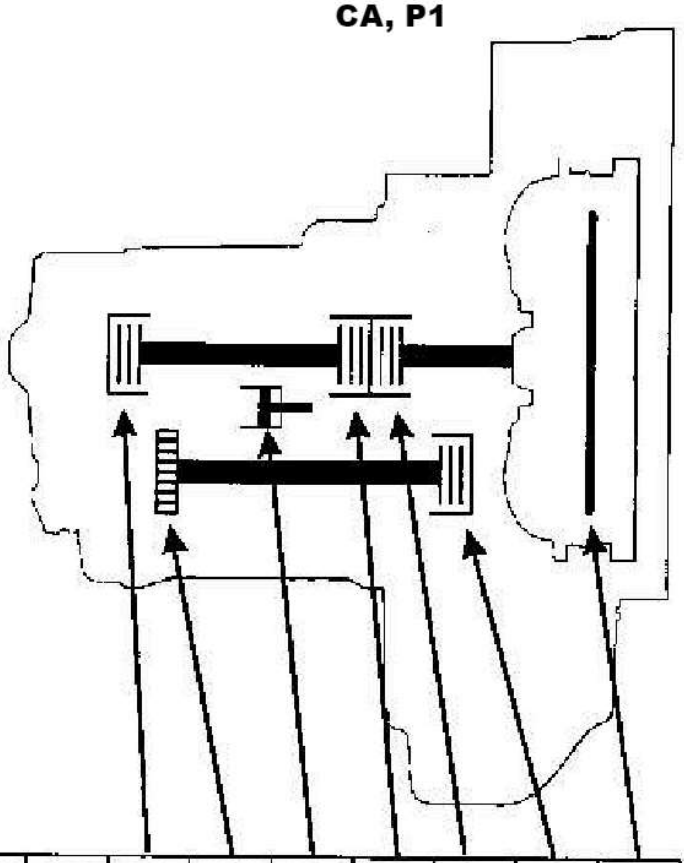
1996-97 HONDA CIVIC HX
CONTINUOUSLY VARIABLE TRANSMISSION

4 INTERNAL SOLENOIDS
4 EXTERNAL SPEED SENSORS
PUSH-IN DIP STICK
REMOVABLE CAST ALUMINUM PAN
ELECTRICAL CASE CONNECTOR



POWER FLOW AND APPLICATION

HONDA
AK, AS, CA, F4, L4, ML4A, K4, MY8A, PY8A
ACURA
CA, P1



SELECTOR POSITION	GEAR	FIRST CLUTCH	SPRAG	SERVO	FOURTH CLUTCH	SECOND CLUTCH	THIRD CLUTCH	T.C.C
R	REVERSE			ON	ON			
D4	1ST GEAR	ON	ON					
	2ND GEAR	ON[2]				ON		ON[3]
	3RD GEAR	ON[2]					ON	ON[3]
	4TH GEAR	ON[2]			ON			ON[3]
D3 or S3[1]	1ST GEAR	ON	ON					
	2ND GEAR	ON[2]				ON		
	3RD GEAR	ON[2]					ON	
2	2ND GEAR					ON		

1 THE S GEAR SELECTOR POSITION IS A SPORT MODE WHICH GIVES A LATER SHIFT FROM 1st THROUGH 3rd GEAR, 1st THROUGH 4th GEAR AND TCC IS AVAILABLE WHEN THE DRIVER ENERGIZES AN ADDITIONAL S4 SWITCH WHEN THE SELECTOR IS IN S.

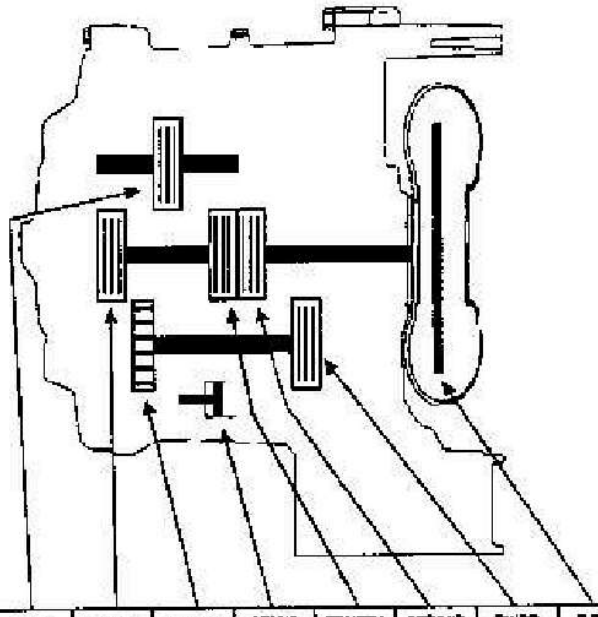
2 ON BUT NOT EFFECTIVE

3 MAY BE ON DEPENDING ON VEHICLE CONDITIONS

POWER FLOW AND APPLICATION

HONDA

M24A, S24A, A24A



SELECTOR POSITION	GEAR	LOW HOLD CLUTCH	FIRST CLUTCH	SPRAG	SERVO	FOURTH CLUTCH	SECOND CLUTCH	THIRD CLUTCH	T.C.C.
R	REVERSE				ON	ON			
D	1st		ON	ON					
	2nd		ON[3]				ON		ON[5]
	3rd		ON[3]					ON	ON[5]
	4th		ON[3]			ON			ON[6]
S[1]	1st		ON						
	2nd		ON[3]				ON		ON[6]
	3rd		ON[3]					ON	ON[6]
	4th (S4 ON)		ON[3]			ON			ON[6]
2[2]	1st	ON	ON	ON[4]					
	2nd		ON[3]				ON		

1 THE S GEAR SELECTOR POSITION IS A SPORT MODE WHICH GIVES A LATER SHIFT FROM 1st THROUGH 3rd GEAR. 1st THROUGH 4th GEAR AND TCC IS AVAILABLE WHEN THE DRIVER ENERGIZES AN ADDITIONAL S4 SWITCH WHEN THE SELECTOR IS IN S.

2 IN SELECTOR POSITION 2 THE FOLLOWING CONDITIONS OCCUR.
LOW SWITCH OFF: STAYS IN 2nd GEAR
LOW SWITCH ON AND BELOW 30 mph: STAYS IN 1st GEAR
LOW SWITCH ON AND ABOVE 30 mph: STAYS IN 2nd GEAR

3 ON BUT NOT EFFECTIVE

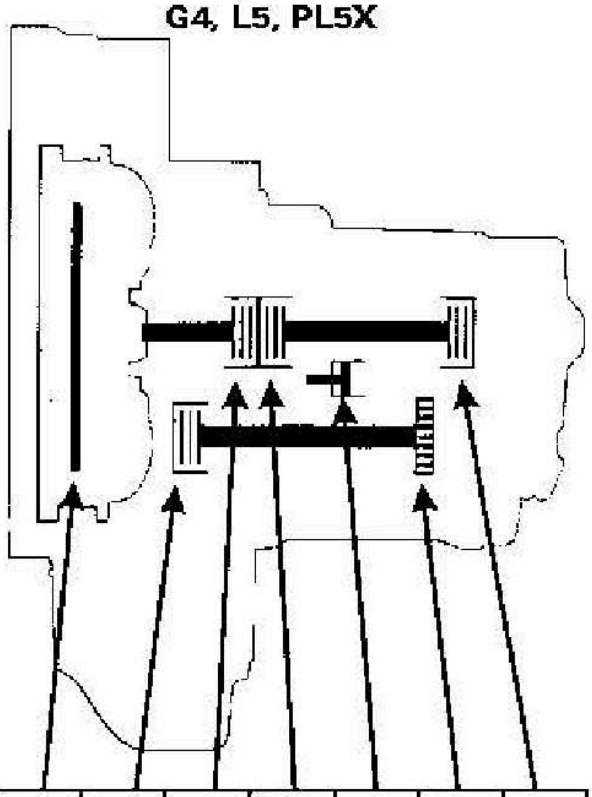
4 NOT EFFECTIVE ON ENGINE BRAKING

5 MAY BE ON DEPENDING ON VEHICLE CONDITIONS

6 ONLY ON WHEN S4 SWITCH IS ON DEPENDING ON VEHICLE CONDITIONS

POWER FLOW AND APPLICATION

ACURA/STERLING
G4, L5, PL5X



SELECTOR POSITION	GEAR	T.C.C	THIRD CLUTCH	SECOND CLUTCH	FOURTH CLUTCH	SERVO	SPRAG	FIRST CLUTCH
R	REVERSE				ON	ON		
D4	1ST GEAR						ON	ON
	2ND GEAR	ON[2]		ON				ON[3]
	3RD GEAR	ON[2]	ON					ON[3]
	4TH GEAR	ON[2]			ON			ON[3]
D3 or S3[1]	1ST GEAR						ON	ON
	2ND GEAR			ON				ON[3]
	3RD GEAR		ON					ON[3]
2	2ND GEAR			ON				

1 THE S GEAR SELECTOR POSITION IS A SPORT MODE WHICH GIVES A LATER SHIFT FROM 1st THROUGH 3rd GEAR. 1st THROUGH 4th GEAR AND TCC IS AVAILABLE WHEN THE DRIVER ENERGIZES AN ADDITIONAL S4 SWITCH WHEN THE SELECTOR IS IN S.

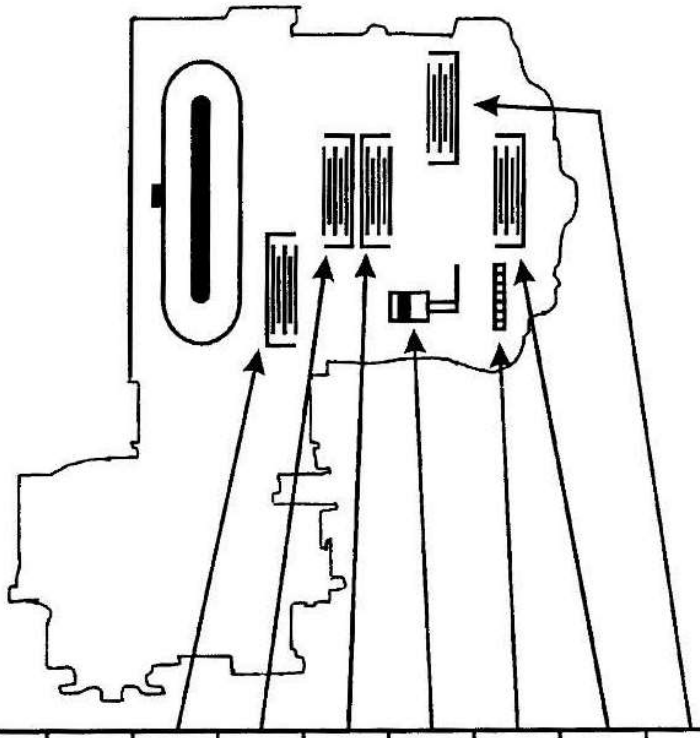
2 MAY BE ON DEPENDING ON VEHICLE CONDITIONS

3 ON BUT NOT EFFECTIVE

POWER FLOW AND APPLICATION

HONDA

S5, MPSA 4X4



RANGE	GEAR	3RD CLUTCH	2ND CLUTCH	4TH CLUTCH	REVERSE SERVO	ONEWAY CLUTCH	1ST CLUTCH	LOW HOLD CLUTCH
R	REV			ON	ON			
D	1					ON	ON	
	2		ON				ON[1]	
	3	ON					ON[1]	
	4			ON			ON[1]	
S	1					ON	ON	
	2		ON				ON[1]	
	3	ON					ON[1]	
	4[2]			ON				
2	1*					ON*	ON	ON
	1**							ON**
	2		ON				ON[1]	

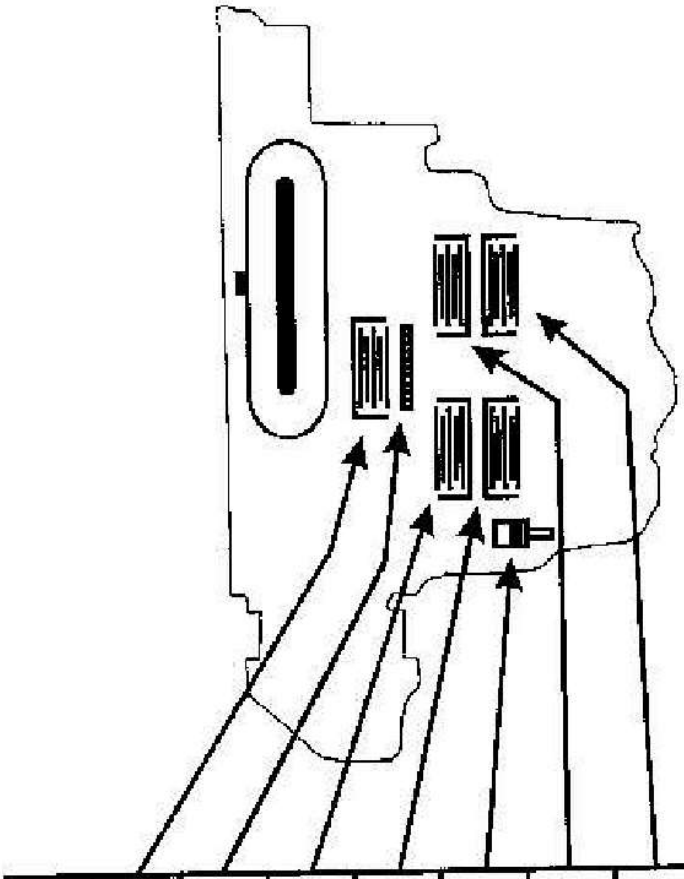
1 - APPLIED BUT NOT EFFECTIVE
2 - S4 SWITCH MUST BE ON
* - ACCELERATION
** - DECELERATION

POWER FLOW AND APPLICATION

HONDA

PX4B, APX4, *MPWA, MP1A

*JAPAN BUILT FOR EXPORT TO USA



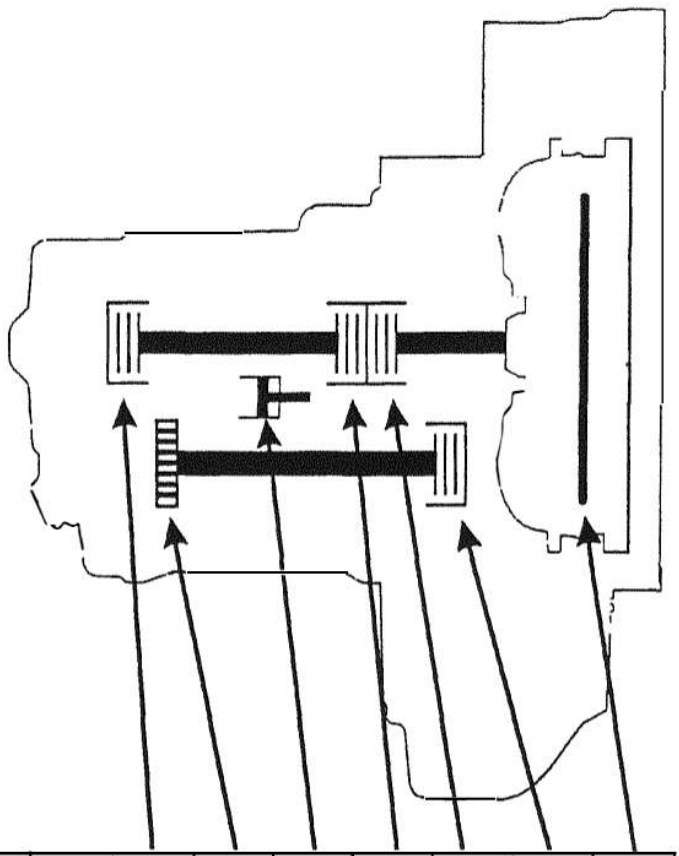
GEAR		1ST HOLD CLUTCH	1ST ONEWAY CLUTCH	1ST CLUTCH	2ND CLUTCH	REVERSE SERVO	3RD CLUTCH	4TH CLUTCH
R						ON		ON
D3	1		ON	ON				
	2			ON*	ON			
	3			ON*			ON	
D4	1		ON	ON				
	2			ON*	ON			
	3			ON*			ON	
	4			ON*				ON
2				ON*	ON			
1		ON	ON	ON				

* - ENGAGED BUT NOT TRANSMITTING POWER

POWER FLOW AND APPLICATION

HONDA

PY8A/MY8A



SELECTOR POSITION	GEAR	FIRST CLUTCH	SPRAG	SERVO	FOURTH CLUTCH	SECOND CLUTCH	THIRD CLUTCH	T.C.C
R	REVERSE			ON	ON			
D4	1ST GEAR	ON	ON					
	2ND GEAR	ON[2]				ON		ON[3]
	3RD GEAR	ON[2]					ON	ON[3]
	4TH GEAR	ON[2]			ON			ON[3]
D3 or S3[1]	1ST GEAR	ON	ON					
	2ND GEAR	ON[2]				ON		
	3RD GEAR	ON[2]					ON	
2	2ND GEAR					ON		

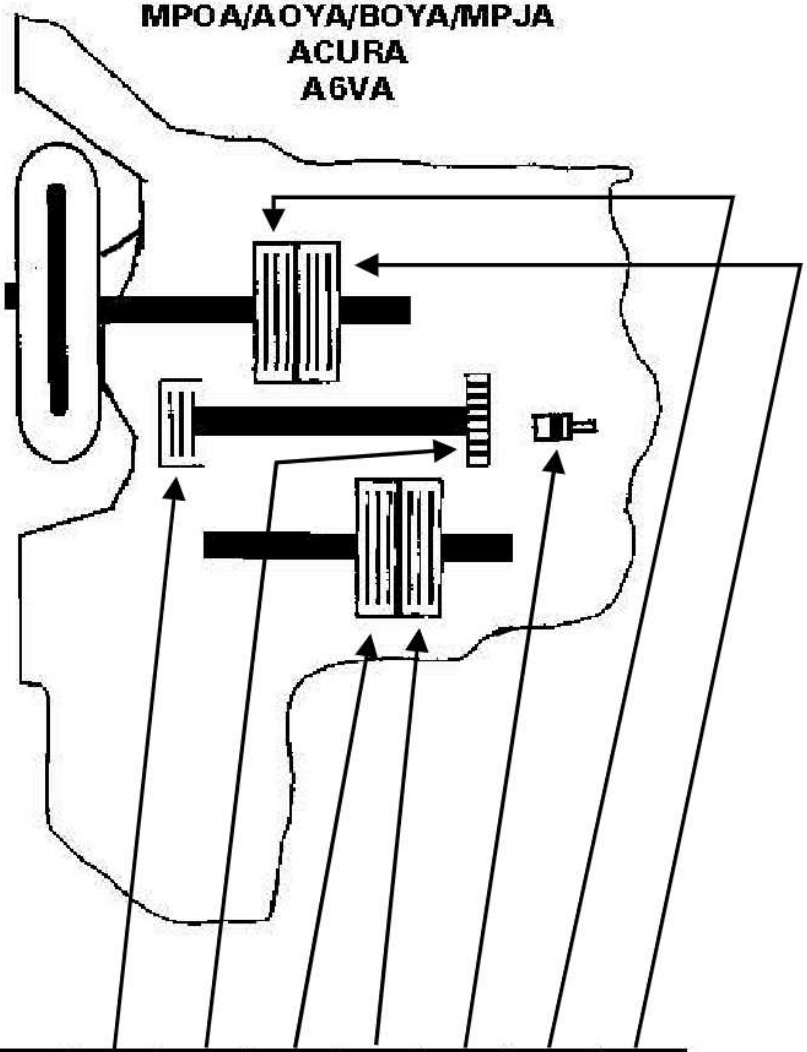
1 THE S GEAR SELECTOR POSITION IS A SPORT MODE WHICH GIVES A LATER SHIFT FROM 1st THROUGH 3rd GEAR. 1st THROUGH 4th GEAR AND TCC IS AVAILABLE WHEN THE DRIVER ENERGIZES AN ADDITIONAL S4 SWITCH WHEN THE SELECTOR IS IN S.

2 ON BUT NOT EFFECTIVE

3 MAY BE ON DEPENDING ON VEHICLE CONDITIONS

POWER FLOW AND APPLICATION

HONDA
MPOA/AOYA/BOYA/MPJA
ACURA
A6VA

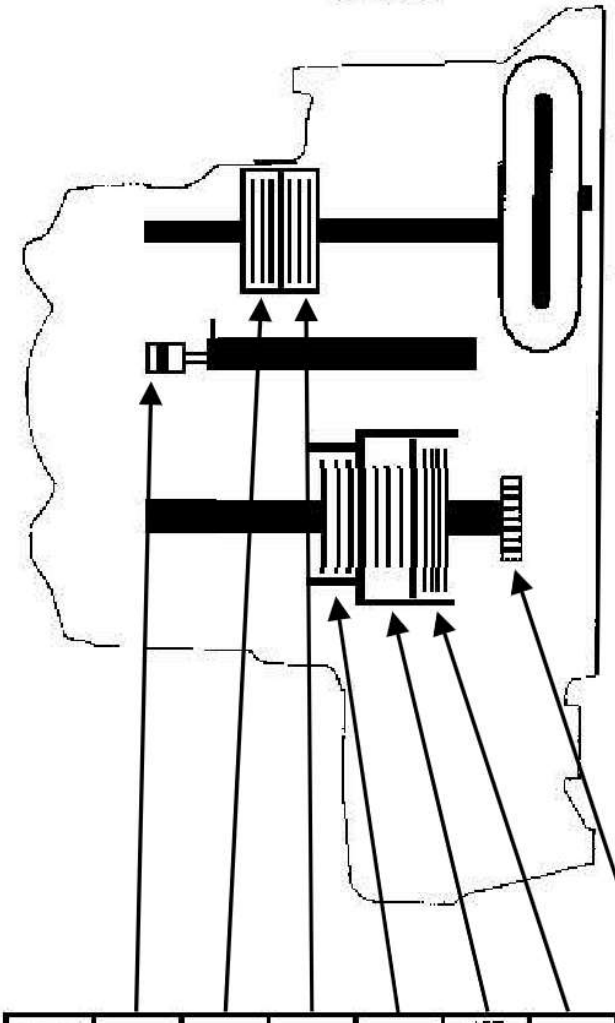


GEAR		1ST HOLD CLUTCH	LOW ONEWAY CLUTCH	1ST CLUTCH	2ND CLUTCH	REVERSE SERVO	3RD CLUTCH	4TH CLUTCH
R						ON		ON
D3	1		ON	ON				
	2			*ON	ON			
	3			*ON			ON	
D4	1		ON	ON				
	2			*ON	ON			
	3			*ON			ON	
	4			*ON				ON
2				*ON	ON			
1		ON	ON	ON				

* ON BUT INEFFECTIVE...ONE-WAY CLUTCH IS OVERRUNNING

POWER FLOW AND APPLICATION

HONDA
MPZA

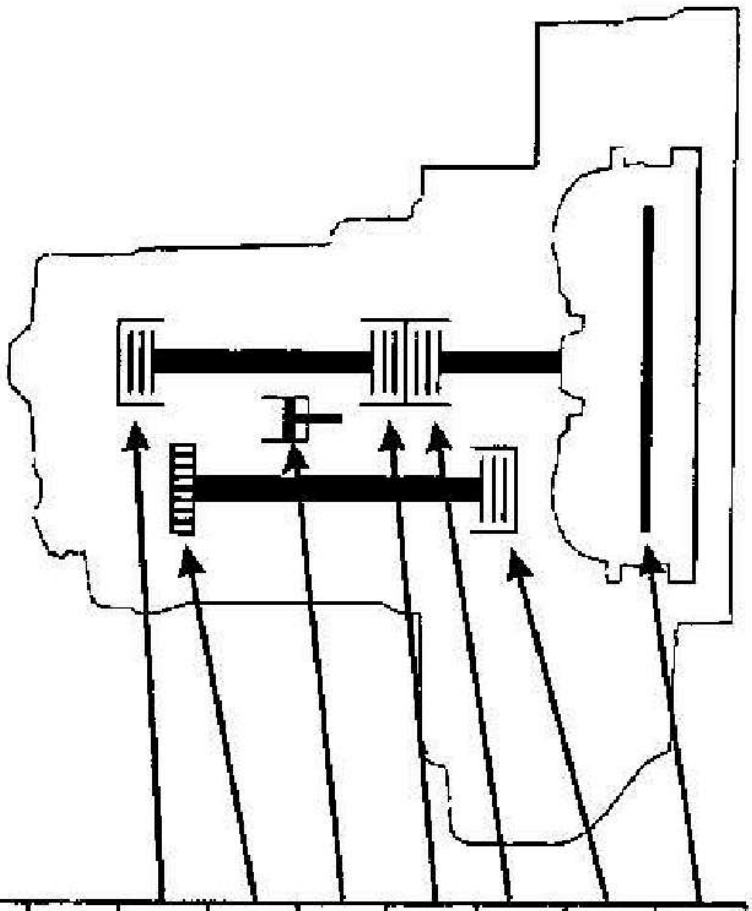


GEAR		REVERSE SERVO	4TH CLUTCH	3RD CLUTCH	2ND CLUTCH	1ST HOLD CLUTCH	1ST CLUTCH	LOW ONE-WAY CLUTCH
R		ON	ON					
D3	1						ON	ON
	2				ON		*ON	
	3			ON			*ON	
D4	1						ON	ON
	2				ON		*ON	
	3			ON			*ON	
	4		ON				*ON	
2					ON		*ON	
1						ON	ON	ON

* ON BUT INEFFECTIVE...ONE-WAY CLUTCH IS OVERRUNNING

POWER FLOW AND APPLICATION

HONDA
A4RA/B4RA

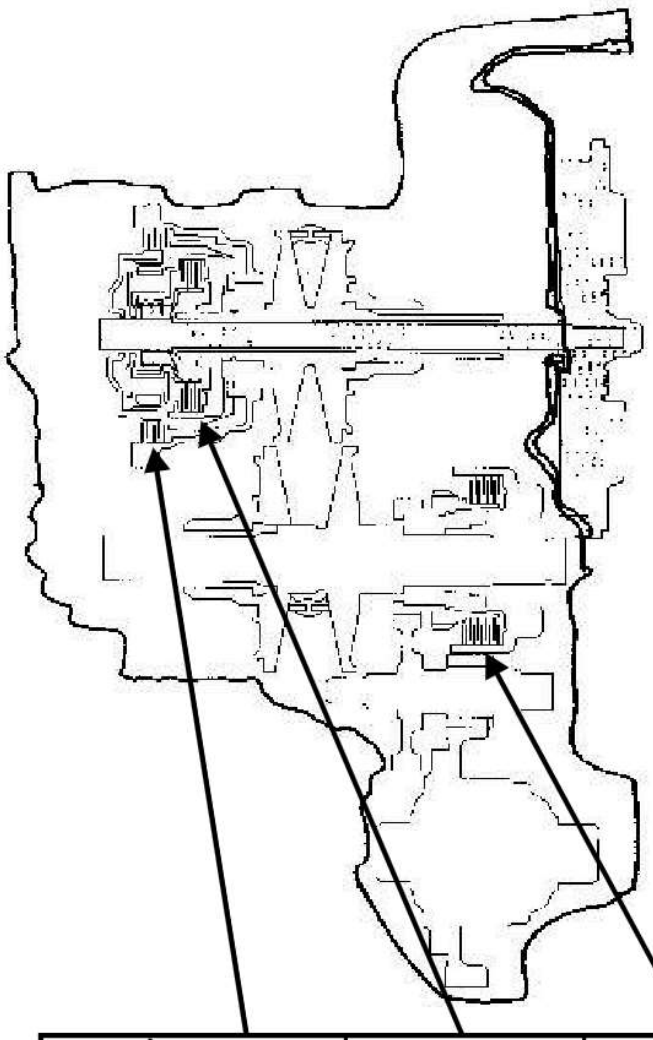


SELECTOR POSITION	GEAR	FIRST CLUTCH	SPRAG	SERVO	FOURTH CLUTCH	SECOND CLUTCH	THIRD CLUTCH	T.C.C
R	REVERSE			ON	ON			
D4	1ST GEAR	ON	ON					
	2ND GEAR	ON*				ON		
	3RD GEAR	ON*					ON	ON
	4TH GEAR	ON*			ON			ON
D3	1ST GEAR	ON	ON					
	2ND GEAR	ON*				ON		
	3RD GEAR	ON*					ON	
2	2ND GEAR					ON		

*1ST CLUTCH IS ON BUT INEFFECTIVE AS THE ONE WAY CLUTCH IS OVERRUNNING

POWER FLOW AND APPLICATION

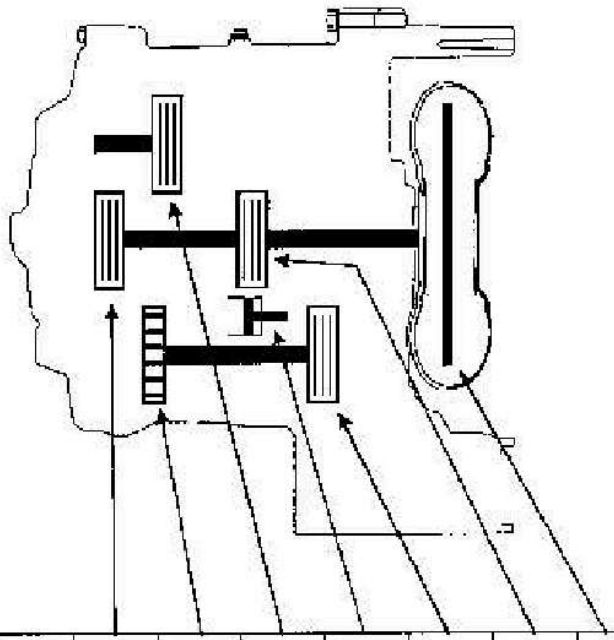
HONDA
M4VA CVT



GEAR	REVERSE BRAKE	FORWARD CLUTCH	START CLUTCH
P			
R	ON		ON
N			
D		ON	ON
S		ON	ON
L		ON	ON

POWER FLOW AND APPLICATION

ACURA
RO/MPRA



SELECTOR POSITION	GEAR	1st CLUTCH	SPRAG	2nd CLUTCH	SERVO	3rd CLUTCH	4th CLUTCH	TCC
R	REVERSE				ON		ON	
D	1st	ON	ON					
	2nd	ON[2]		ON				ON[3]
	3rd	ON[2]				ON		ON[3]
	4th	ON[2]					ON	ON[3]
S[1]	1st	ON	ON					
	2nd	ON[2]		ON				ON[4]
	3rd	ON[2]				ON		ON[4]
	4th (S4 ON)	ON[2]					ON	ON[4]
2	2nd	ON[2]		ON				

1 THE S GEAR SELECTOR POSITION IS A SPORT MODE WHICH GIVES A LATER SHIFT FROM 1st THROUGH 3rd GEAR. 1st THROUGH 4th GEAR AND TCC IS AVAILABLE WHEN THE DRIVER ENERGIZES AN ADDITIONAL S4 SWITCH WHEN THE SELECTOR IS IN S.

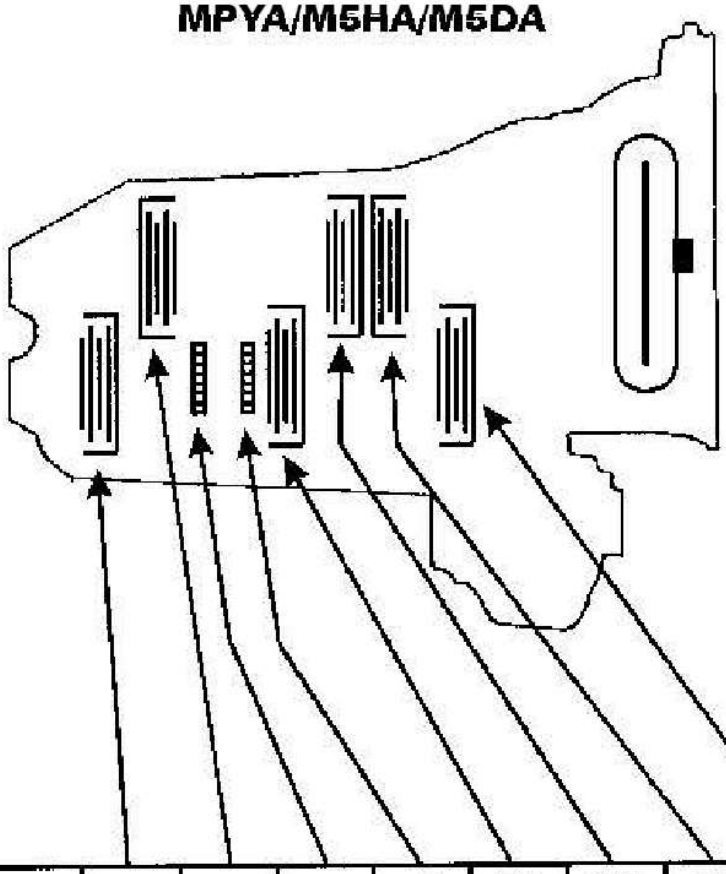
2 ON BUT NOT EFFECTIVE

3 MAY BE ON DEPENDING ON VEHICLE CONDITIONS

4 ONLY ON WHEN S4 SWITCH IS ON DEPENDING ON VEHICLE CONDITIONS

POWER FLOW AND APPLICATION

ACURA
MPYA/M5HA/M5DA

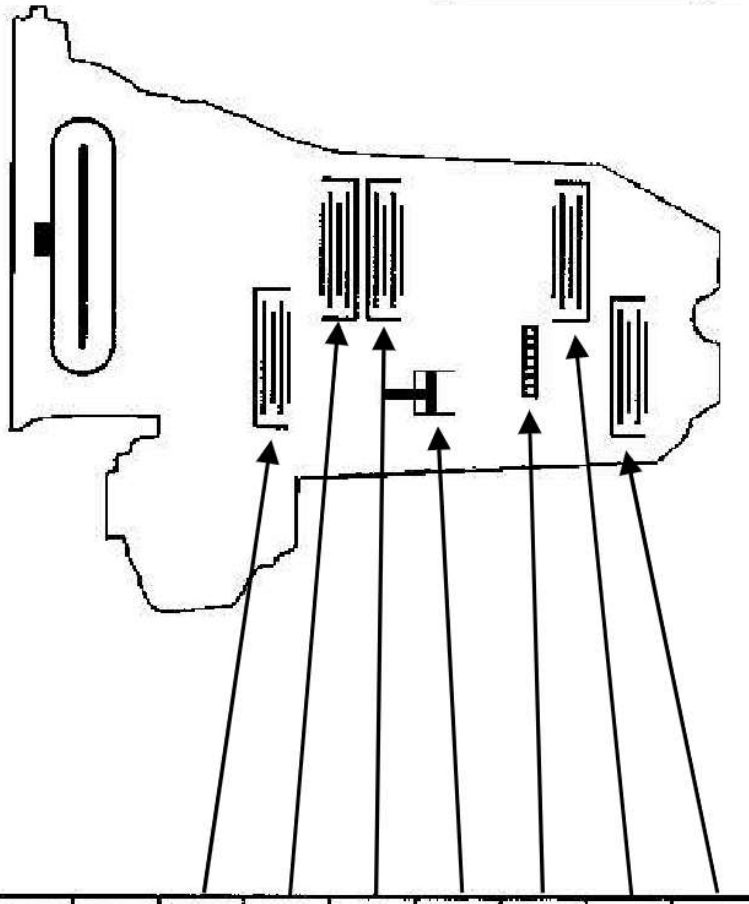


RANGE	GEAR	REVERSE CLUTCH	2ND CLUTCH	2ND ONEWAY CLUTCH	1ST ONE-WAY CLUTCH	1ST HOLD CLUTCH	1ST CLUTCH	4TH CLUTCH	3RD CLUTCH
R	REV	ON							
D4	1ST			ON	ON		ON		
	2ND		ON	ON			ON*		
	3RD		ON*				ON*		ON
	4TH		ON*					ON	
D3	1ST			ON	ON		ON		
	2ND		ON	ON			ON*		
	3RD		ON*				ON*		ON
2	1ST		ON	ON		ON			
1	2ND			ON	ON	ON	ON		

* ON BUT INEFFECTIVE...ONE-WAT CLUTCH IS OVERRUNNING

POWER FLOW AND APPLICATION

ACURA
MPWA/M1WA

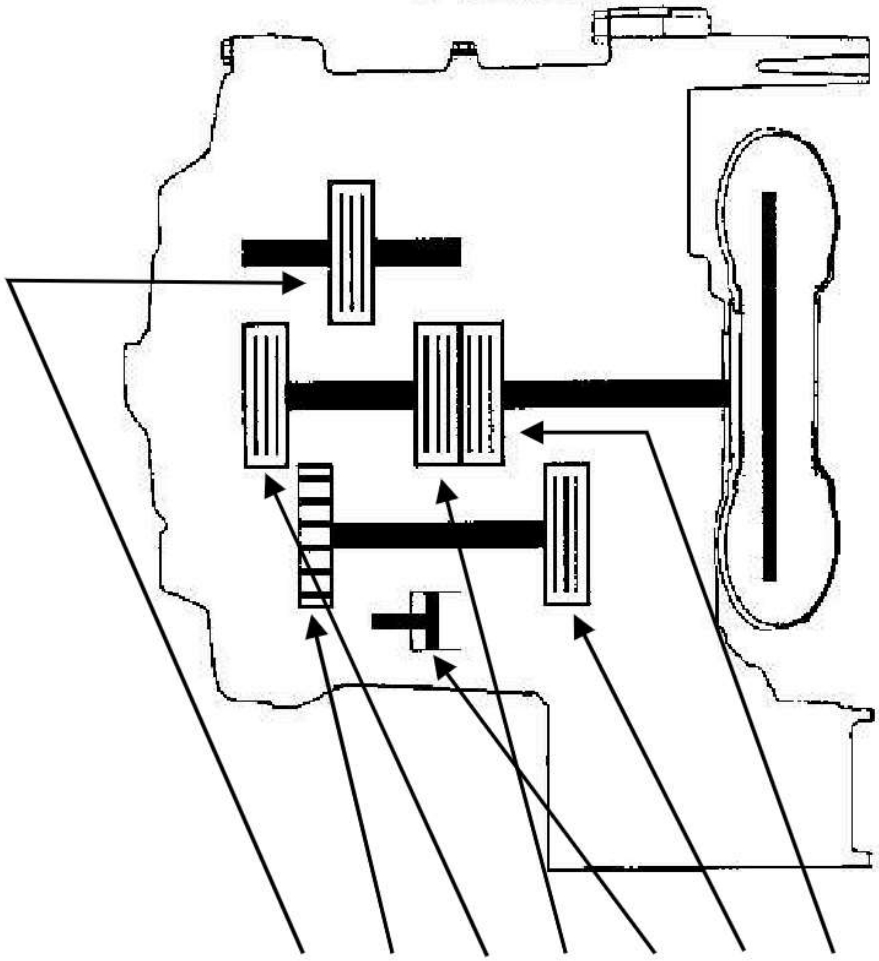


RANGE	GEAR	3RD CLUTCH	2ND CLUTCH	4TH CLUTCH	REVERSE SERVO	ONEWAY CLUTCH	1ST CLUTCH	LOW HOLD CLUTCH
R	REV			ON	ON			
D	1					ON	ON	
	2		ON				ON[1]	
	3	ON					ON[1]	
	4			ON			ON[1]	
S	1					ON	ON	
	2		ON				ON[1]	
	3	ON					ON[1]	
	4			ON				
2	1					ON	ON	ON
	1							ON
	2		ON				ON[1]	

1 - APPLIED BUT NOT EFFECTIVE

POWER FLOW AND APPLICATION

ACURA INTEGRA
SP7A/S4XA

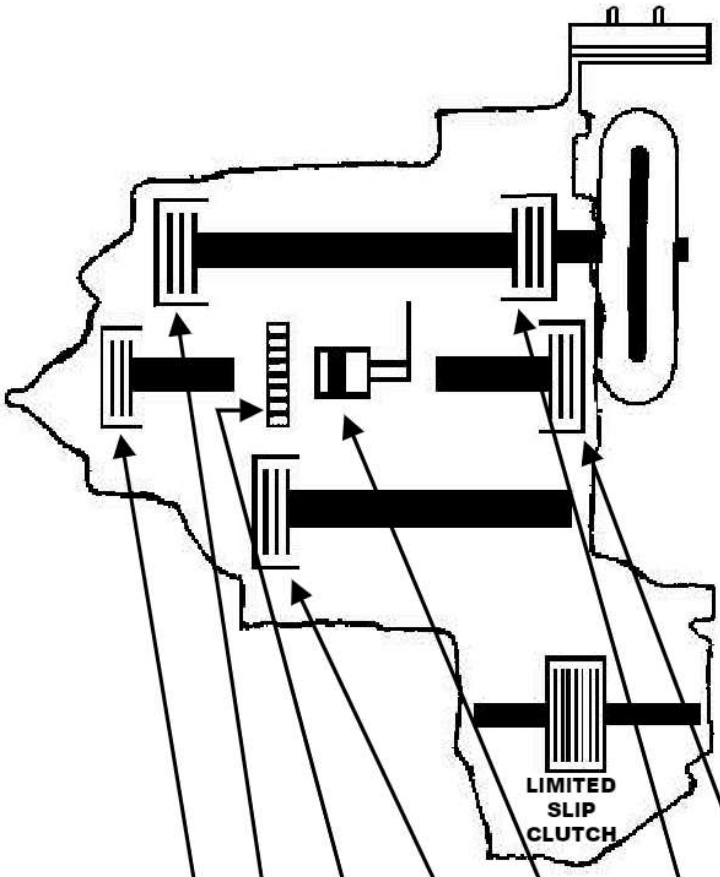


GEAR		1ST HOLD CLUTCH	1ST ONEWAY CLUTCH	1ST CLUTCH	2ND CLUTCH	REVERSE SERVO	3RD CLUTCH	4TH CLUTCH
R						ON		ON
D3	1		ON	ON				
	2			ON*	ON			
	3			ON*			ON	
D4	1		ON	ON				
	2			ON*	ON			
	3			ON*			ON	
	4			ON*				ON
2				ON*	ON			
1		ON	ON	ON				

* ENGAGED BUT NOT TRANSMITTING POWER

POWER FLOW AND APPLICATION

ACURA NSX
MR9A

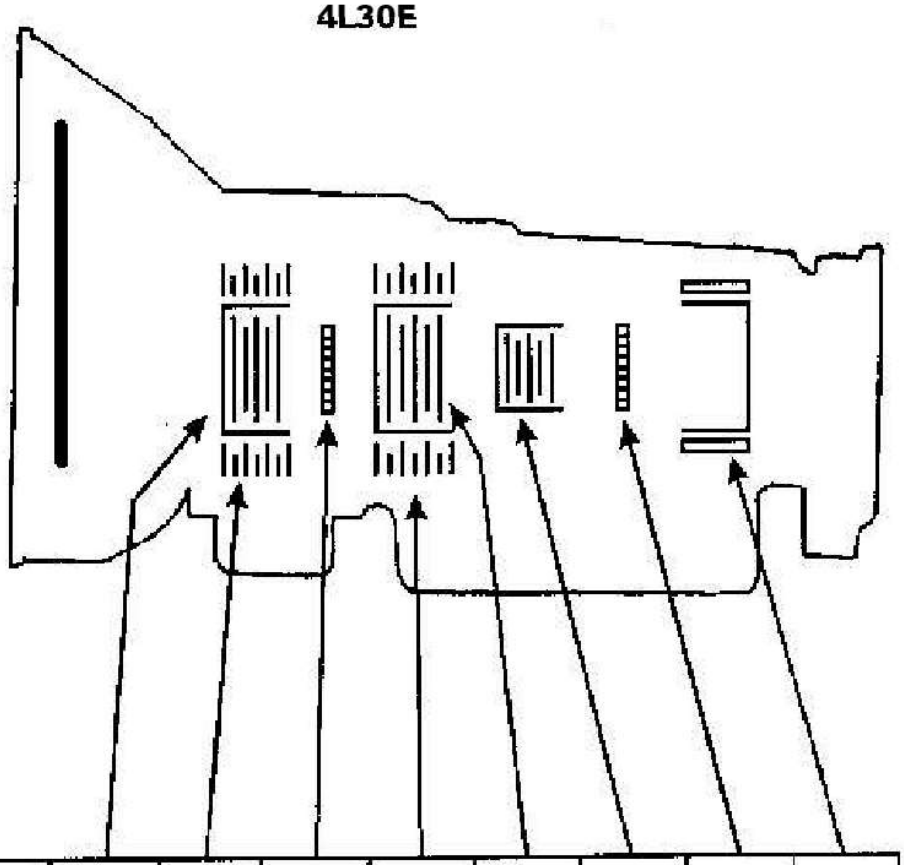


GEAR		1ST HOLD CLUTCH	1ST CLUTCH	LOW ONE-WAY CLUTCH	2ND CLUTCH	REVERSE SERVO	4TH CLUTCH	3RD CLUTCH
R						ON	ON	
D S/M	1		ON	ON				
	2		*ON		ON			
	3		*ON					ON
	4		*ON				ON	
	2		*ON		ON			
	1	ON	ON					

* ON BUT INEFFECTIVE...ONE-WAY CLUTCH IS OVERRUNNING

POWER FLOW AND APPLICATION

HONDA PASSPORT/ACURA SLX
4L30E



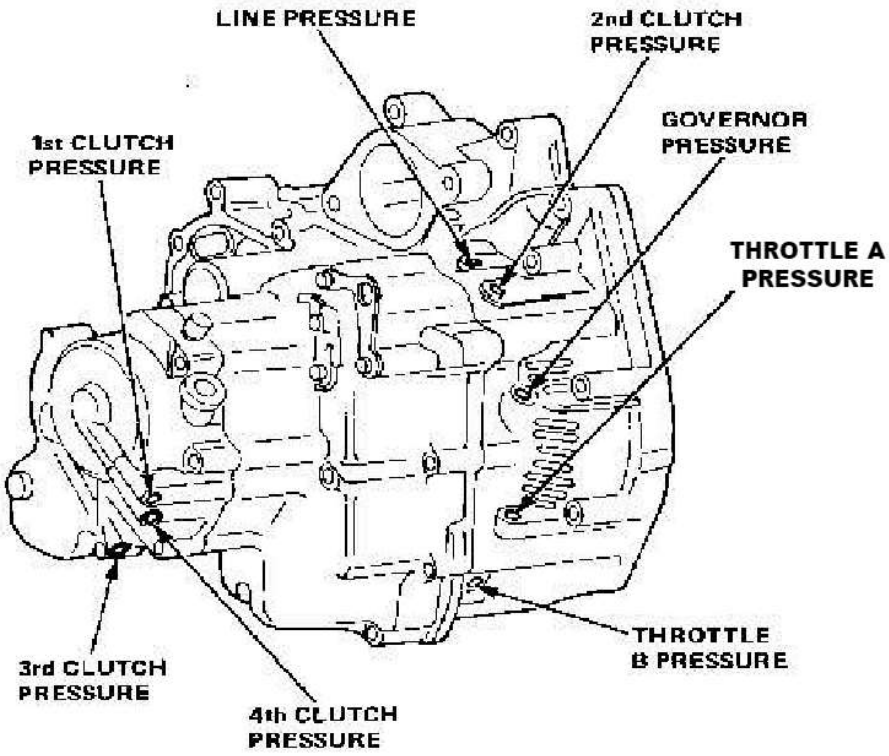
RANGE	GEAR	OVERRUN CLUTCH	4TH CLUTCH	OVERRUN ROLLER CLUTCH	2ND CLUTCH	REVERSE CLUTCH	3RD CLUTCH	LOW SPRAG	12 BAND
D	1ST	ON		ON				ON	ON
	2ND	ON		ON	ON				ON
	3RD	ON		ON	ON		ON		
	4TH		ON		ON		ON		
3	1ST	ON		ON				ON	ON
	2ND	ON		ON	ON				ON
	3RD	ON		ON	ON		ON		
2	1ST	ON		ON				ON	ON
	2ND	ON		ON	ON				ON
1	1ST	ON		ON			ON	ON	ON
R	REV	ON		ON		ON		ON	

OIL PRESSURE CHART

AK

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
P or N	P or N	LINE	ENGINE @ 2000 RPM, WHEELS OFF GROUND	107-114
D4 or D3	1ST	TV A	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	78-80
D4 or D3	1ST	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	107-114
D4 or D3	FORWARD	GOVERNOR	ROAD SPEED, 30 MPH, WHEELS ON GROUND	31-33
R	REVERSE	4TH	ENGINE @ 1000 RPM, WHEELS OFF GROUND	107-114
D3 or D4	1ST	1ST	ENGINE @ 2000 RPM, WHEELS OFF GROUND	100-114
D3 or D4	2ND	2ND	ENGINE @ 2000 RPM, WHEELS OFF GROUND	100-114
D3 or D4	3RD	3RD	ENGINE @ 2000 RPM, WHEELS OFF GROUND	100-114
D4	4TH	4TH	ENGINE @ 2000 RPM, WHEELS OFF GROUND	100-114

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

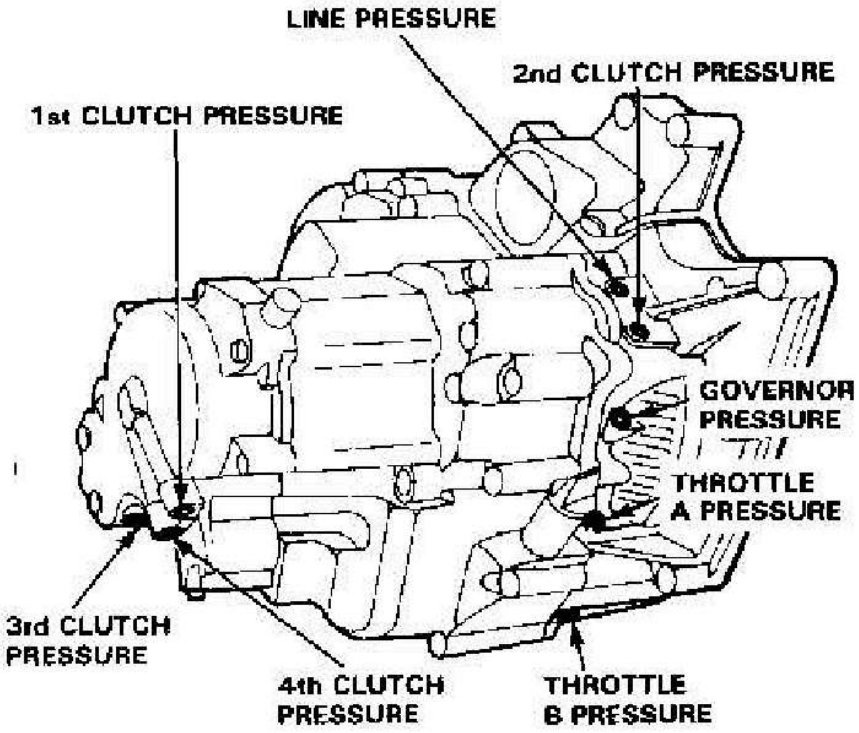


OIL PRESSURE CHART

AS/F4

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
P or N	P or N	LINE	ENGINE @ 2000 RPM, WHEELS OFF GROUND	107-128
D4 or D3	1ST	TV A	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	73-75
D4 or D3	1ST	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	114-121
D4 or D3	FORWARD	GOVERNOR	ROAD SPEED, 38 MPH, WHEELS ON GROUND	31-33
R	REVERSE	4TH	ENGINE @ 1000 RPM, WHEELS OFF GROUND	107-128
D3 or D4	1ST	1ST	ENGINE @ 2000 RPM, WHEELS OFF GROUND	102-128
D3 or D4	2ND	2ND	ENGINE @ 2000 RPM, WHEELS OFF GROUND	107-128
D3 or D4	3RD	3RD	ENGINE @ 2000 RPM, WHEELS OFF GROUND	107-128
D4	4TH	4TH	ENGINE @ 2000 RPM, WHEELS OFF GROUND	107-128

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

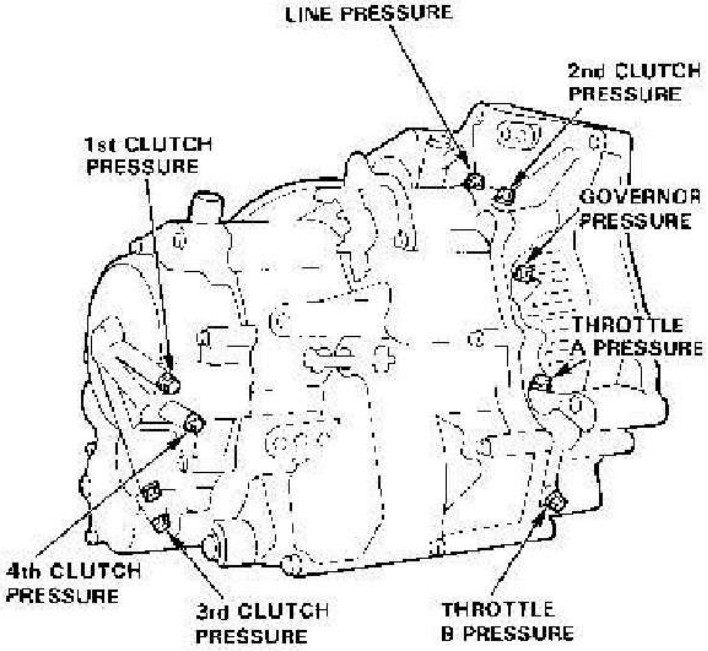


OIL PRESSURE CHART

CA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
P or N	P or N	LINE	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*121-128
D4 or D3	1ST	TV A	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	[1]79-81
D4 or D3	1ST	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	*121-128
D4 or D3	FORWARD	GOVERNOR	ROAD SPEED, 38 MPH, WHEELS ON GROUND	31-33
R	REVERSE	4TH	ENGINE @ 1000 RPM, WHEELS OFF GROUND	*121-128
D3 or D4	1ST	1ST	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*121-128
D3 or D4	2ND	2ND	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*121-128
D3 or D4	3RD	3RD	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*121-128
D4	4TH	4TH	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*121-128

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM
*CA USED IN HONDA CIVIC, PRESSURES ARE 114-121 PSI
[1]CA USED IN HONDA CIVIC, PRESSURES ARE 75-77 PSI

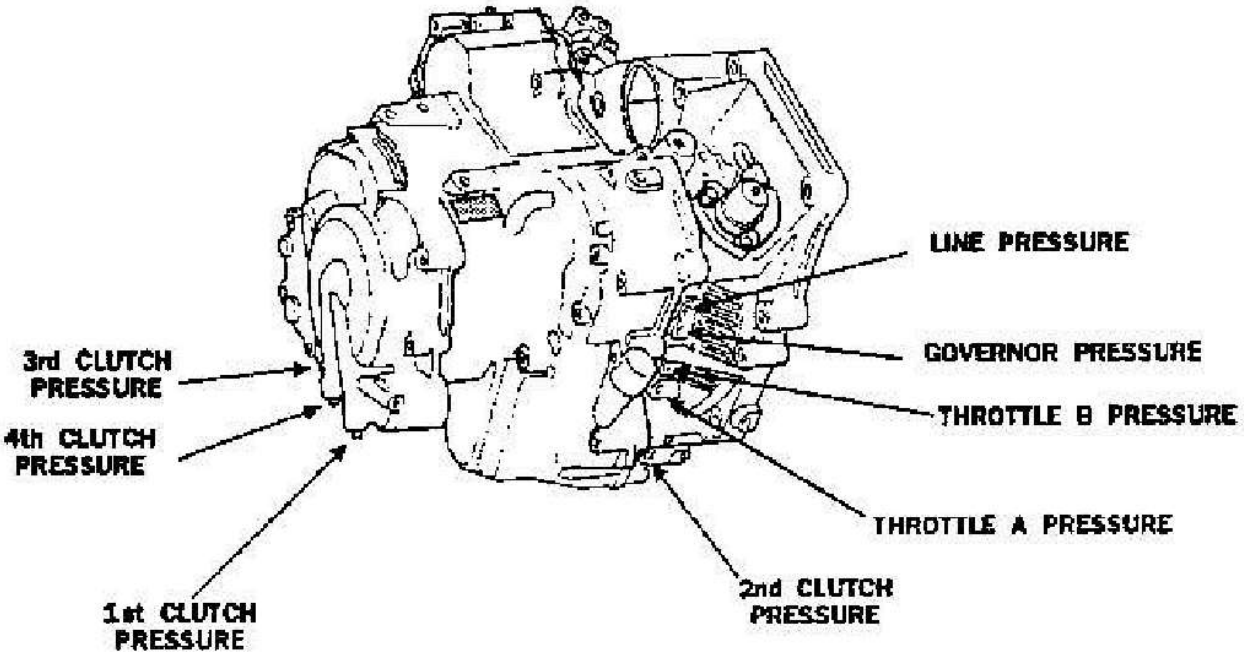


OIL PRESSURE CHART

L4/ML4A/P1

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
P or N	P or N	LINE	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
D4 or D3	1ST	TV A	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	¹73-75
D4 or D3	1ST	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	*114-121
D4 or D3	FORWARD	GOVERNOR	ROAD SPEED, 38 MPH, WHEELS ON GROUND	31-33
R	REVERSE	4TH	ENGINE @ 1000 RPM, WHEELS OFF GROUND	*114-121
D3 or D4	1ST	1ST	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*114-121
D3 or D4	2ND	2ND	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*114-121
D3 or D4	3RD	3RD	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*114-121
D4	4TH	4TH	ENGINE @ 2000 RPM, WHEELS OFF GROUND	*114-121

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM
*ML4A PRESSURES ARE 110-117 PSI
¹P1 PRESSURES ARE 70-73 PSI

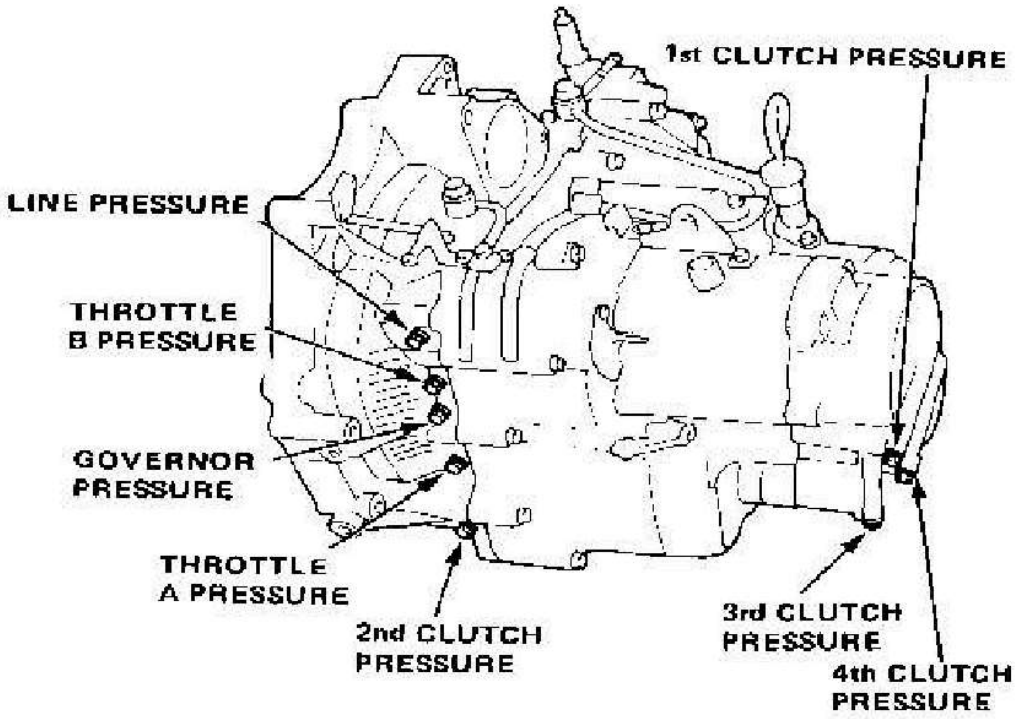


OIL PRESSURE CHART

G4

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
P or N	P or N	LINE	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
D4 or D3	1ST	TV A	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	67-69
D4 or D3	1ST	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	114-121
D4 or D3	FORWARD	GOVERNOR	ROAD SPEED, 38 MPH, WHEELS ON GROUND	26-28
R	REVERSE	4TH	ENGINE @ 1000 RPM, WHEELS OFF GROUND	114-121
D3 or D4	1ST	1ST	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
D3 or D4	2ND	2ND	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
D3 or D4	3RD	3RD	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
D4	4TH	4TH	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



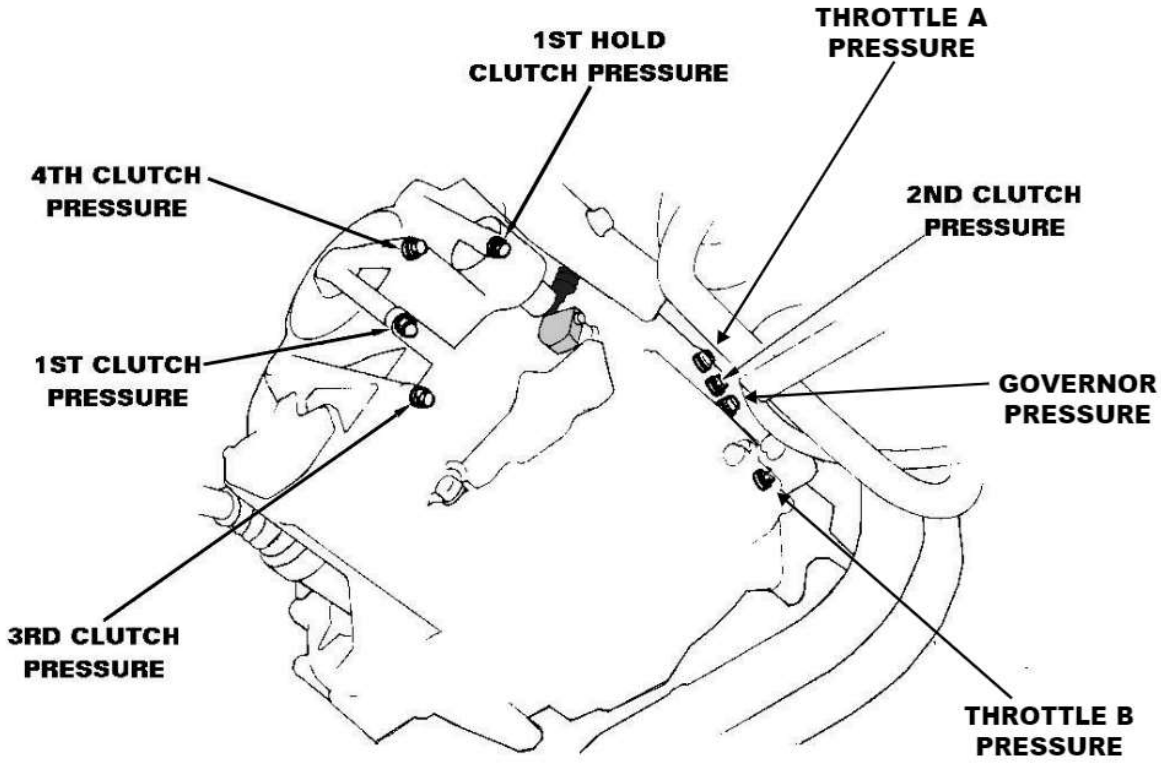
OIL PRESSURE CHART

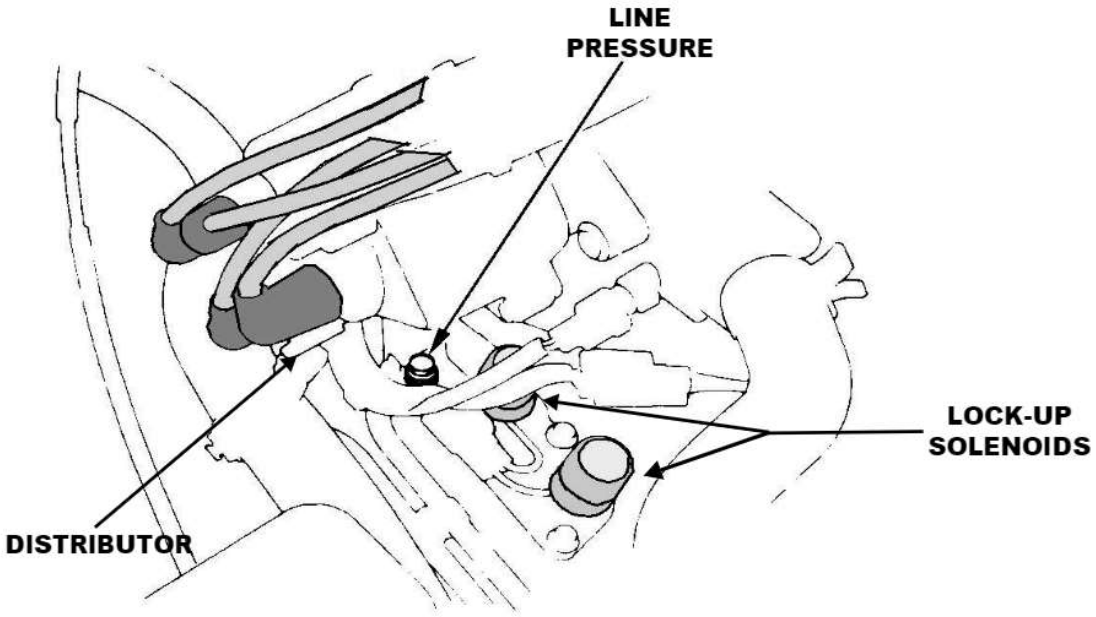
M24A/A24A/S24A

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
P or N	P or N	LINE	D15B7 ENGINE @ 2000 RPM	114-121
P or N	P or N	LINE	D16Z6 ENGINE @ 2000 RPM	121-128
D4 or D3	1ST	TV A	D15B7 ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	D15B7 ENGINE @ 1000 RPM,TV LEVER @ MAXIMUM	69-71
D4 or D3	1ST	TV A	D16Z6 ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV A	D16Z6 ENGINE @ 1000 RPM,TV LEVER @ MAXIMUM	73-75
D4 or D3	1ST	TV B	D15B7 ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	D15B7 ENGINE @ 1000 RPM,TV LEVER @ MAXIMUM	114-121
D4 or D3	1ST	TV B	D16Z6 ENGINE @IDLE, TV CABLE DISCONNECTED	MUST BE 0
D4 or D3	1ST	TV B	D16Z6 ENGINE @ 1000 RPM,TV LEVER @ MAXIMUM	121-128
D4 or D3	FORWARD	GOVERNOR	ROAD SPEED @ 38 MPH, WHEELS ON GROUND	26-28
R	REVERSE	4TH	D15B7 ENGINE @ 2000 RPM, FRONT WHEELS FREE	114-121
R	REVERSE	4TH	D16Z6 ENGINE @ 2000 RPM, FRONT WHEELS FREE	121-128
1	1ST HOLD	1ST HOLD	D15B7 ENGINE @ 2000 RPM, FRONT WHEELS FREE	114-121
1	1ST HOLD	1ST HOLD	D16Z6 ENGINE @ 2000 RPM, FRONT WHEELS FREE	121-128
D4 or 1	1ST	1ST	D15B7 ENGINE @ 2000 RPM, FRONT WHEELS FREE	114-121
D4 or 1	1ST	1ST	D16Z6 ENGINE @ 2000 RPM, FRONT WHEELS FREE	121-128
D4	2ND	2ND	D15B7 ENGINE @ 2000 RPM, FRONT WHEELS FREE	114-121
D4	2ND	2ND	D16Z6 ENGINE @ 2000 RPM, FRONT WHEELS FREE	121-128
D4	3RD	3RD	D15B7 ENGINE @ 2000 RPM, FRONT WHEELS FREE	114-121
D4	3RD	3RD	D16Z6 ENGINE @ 2000 RPM, FRONT WHEELS FREE	121-128
D4	4TH	4TH	D15B7 ENGINE @ 2000 RPM, FRONT WHEELS FREE	114-121
D4	4TH	4TH	D16Z6 ENGINE @ 2000 RPM, FRONT WHEELS FREE	121-128

NOTE: PRESSURE PORT THREAD SIZE IS 8X1.25MM

PRESSURE PORT LOCATIONS
M24A/A24A/S24A

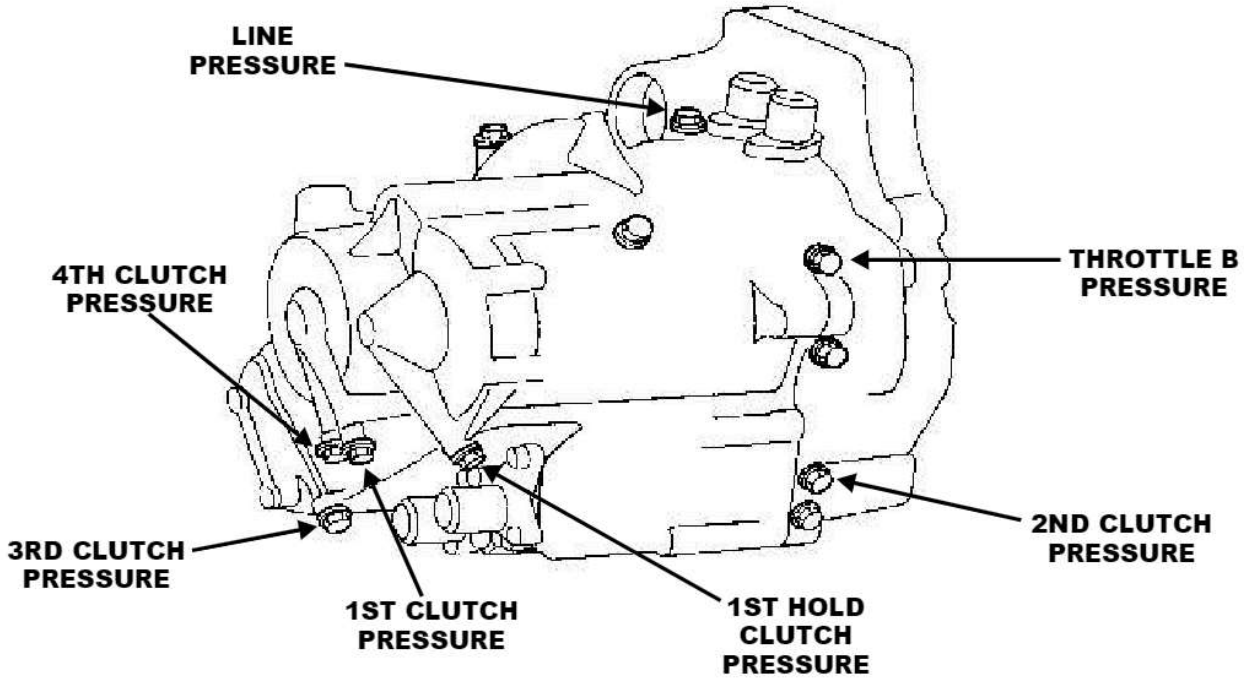




OIL PRESSURE CHARTS
S5/MPSA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	114-121
S or D	FORWARD	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
S or D	FORWARD	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	114-121
R	REVERSE	4TH	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
2	1ST HOLD	1ST HOLD	ENGINE @ 2000 RPM, WITH LOW SWITCH ON	114-121
S or D	FIRST	1ST	ENGINE @ 2000 RPM, WHEELS OFF GROUND	114-121
2	SECOND	2ND	ENGINE @ 2000 RPM, LOW SWITCH OFF	114-121
S or D	SECOND	2ND	ENGINE @ 2000 RPM, WHEELS OFF GROUND	71-121
S	THIRD	3RD	ENGINE @ 2000 RPM, WITH S4 SWITCH OFF	71-121
S or D	FOURTH	4TH	ENGINE @ 2000 RPM, WITH S4 SWITCH ON	71-121

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



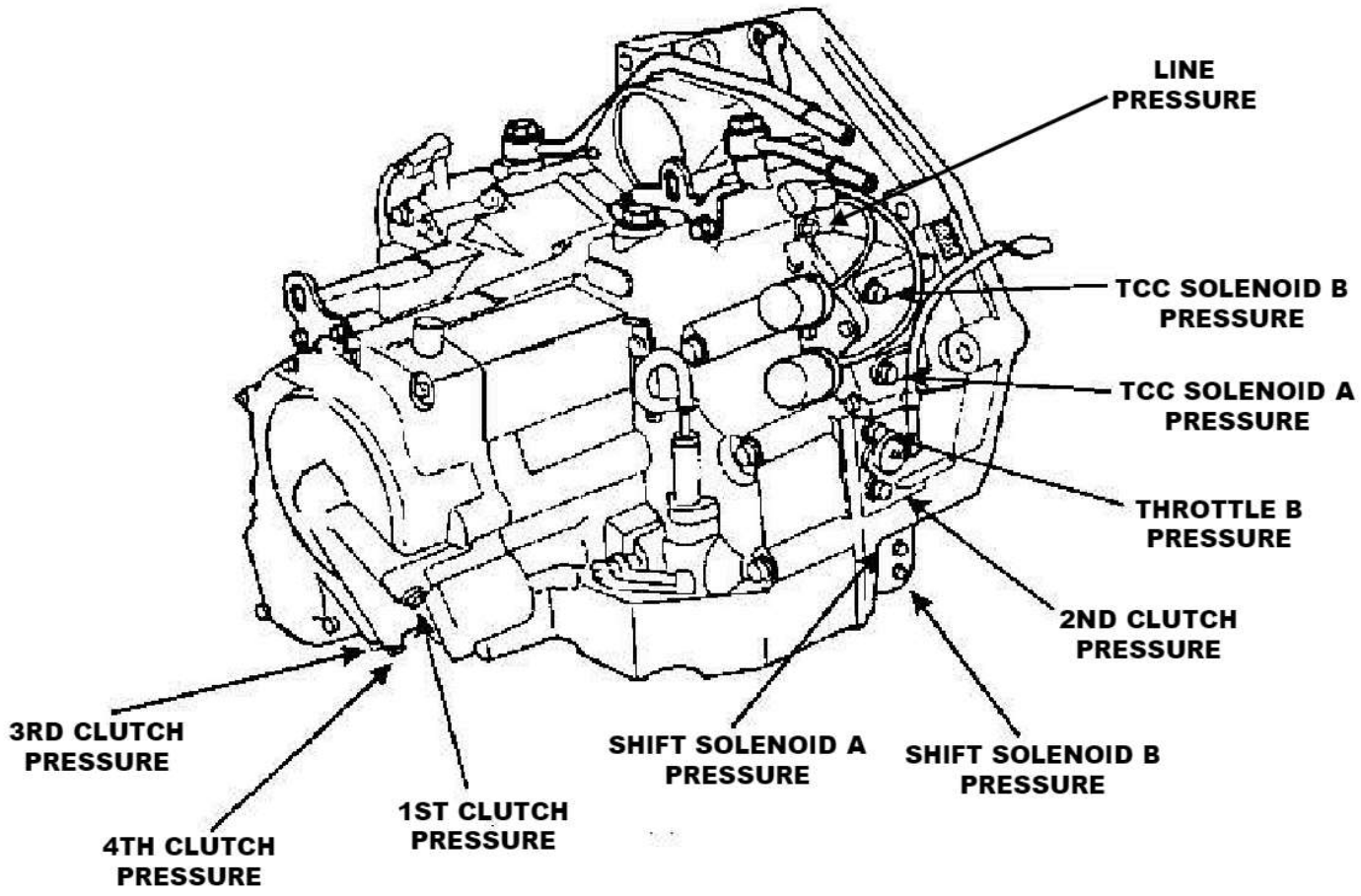
OIL PRESSURE CHARTS
K4

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	FUEL INJECTED ENGINE @ 2000 RPM	121-128
N or P	N or P	LINE	CARBURETED ENGINE @ 2000 RPM	114-121
S or D	FORWARD	TV B	FUEL INJECTED ENGINE @ IDLE,TV CABLE DISCONNECTED	MUST BE 0
S or D	FORWARD	TV B	FUEL INJECTED ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	121-128
S or D	FORWARD	TV B	CARBURETED ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
S or D	FORWARD	TV B	CARBURETED ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	114-121
S or D	FIRST	1ST CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	121-128
S or D	FIRST	1ST CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	114-121
S or D	SECOND	2ND CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	82-128
S or D	SECOND	2ND CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	82-121
S or D	THIRD	3RD CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	82-128
S or D	THIRD	3RD CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	82-121
S or D	FOURTH	4TH CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	82-128
S or D	FOURTH	4TH CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	82-121
R	REVERSE	4TH CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	82-128
R	REVERSE	4TH CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	82-121
S or D	1ST or 2ND	SHIFT SOL B	TRANSAXLE IN FIRST OR SECOND GEAR, WHEELS FREE	0-3
S or D	3RD or 4TH	SHIFT SOL B	TRANSAXLE IN 3RD OR 4TH GEAR, WHEELS FREE	70-80
S or D	2ND or 3RD	SHIFT SOL A	TRANSAXLE IN 3RD OR FOURTH GEAR, WHEELS FREE	0-3
S or D	1ST or 4TH	SHIFT SOL A	TRANSAXLE IN FIRST OR SECOND GEAR, WHEELS FREE	70-80
S or D	FIRST	TCC SOL A & B	TRANSAXLE IN 1ST GEAR, TCC SOLENOID A & B OFF	70-80
S or D	FOURTH	TCC SOL A & B	TRANSAXLE IN 4TH GEAR,TCC SOLENOID A & B ON	0-3

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

OIL PRESSURE PORT LOCATIONS

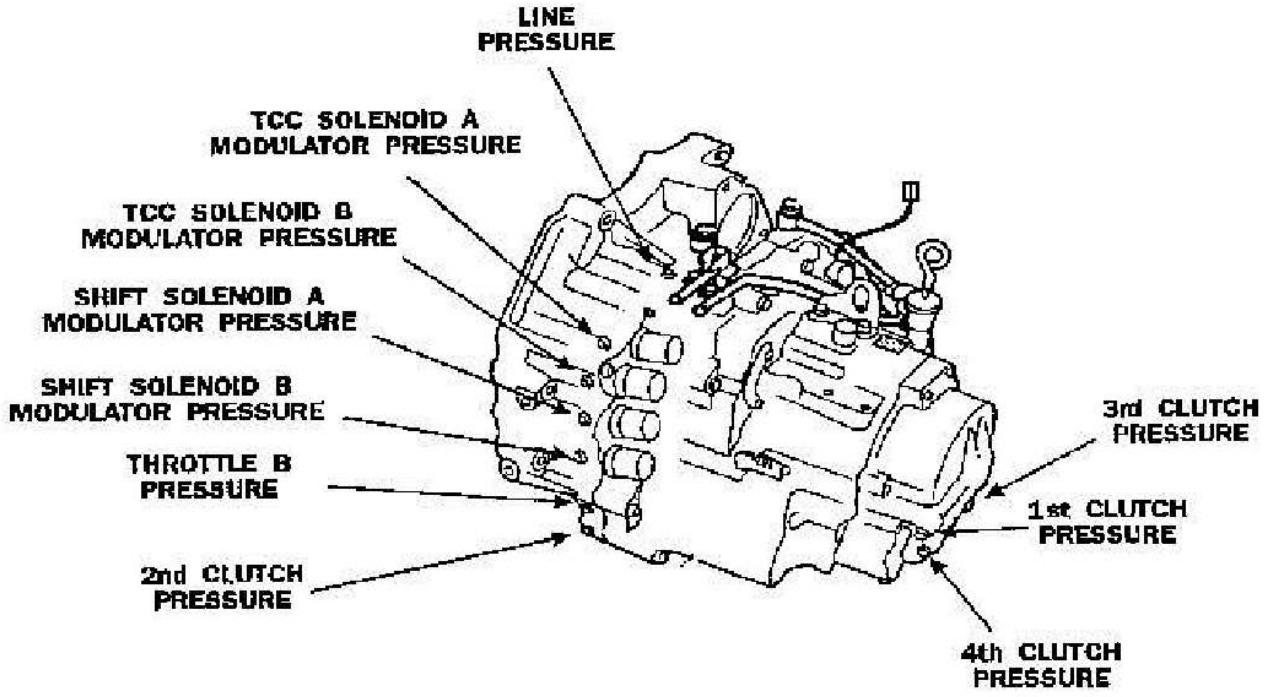
K4



OIL PRESSURE CHARTS
L5/PL5X

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	114-121
S or D	FORWARD	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
S or D	FORWARD	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	114-121
R	REVERSE	4TH	ENGINE @ 2000 RPM,WHEELS FREE	114-121
S or D	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM,WHEELS FREE	114-121
2	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM,WHEELS FREE	114-121
S or D	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, S4 SWITCH OFF	71-121
S or D	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, S4 SWITCH ON	71-121
S or D	1ST or 2ND	SHIFT SOL B	TRANSAXLE IN FIRST OR SECOND GEAR	0-3
S or D	3RD or 4TH	SHIFT SOL B	TRANSAXLE IN THIRD OR FOURTH GEAR	70-80
S or D	2ND or 3RD	SHIFT SOL A	TRANSAXLE IN THIRD OR FOURTH GEAR	0-3
S or D	1ST or 4TH	SHIFT SOL A	TRANSAXLE IN FIRST OR SECOND GEAR	70-80
S or D	FIRST	TCC SOL A & B	TRANSAXLE IN 1ST GEAR, TCC SOLENOID A & B OFF	70-80
S or D	FOURTH	TCC SOL A & B	TRANSAXLE IN 4TH GEAR, TCC SOLENOID A & B ON	0-3

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

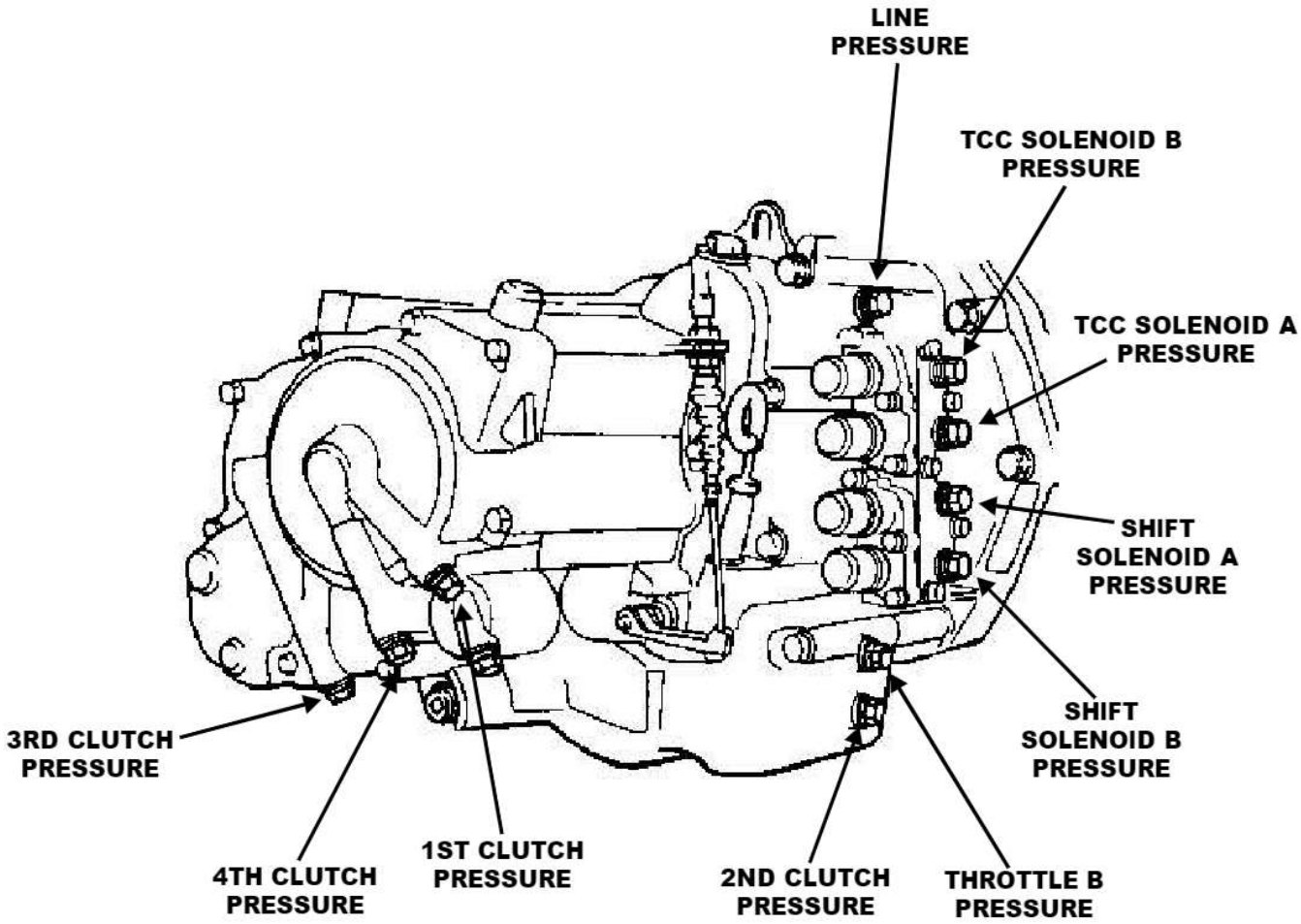


OIL PRESSURE CHARTS
PY8A/MY8A

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	FUEL INJECTED ENGINE @ 2000 RPM	121-128
N or P	N or P	LINE	CARBURETED ENGINE @ 2000 RPM	110-117
S or D	FORWARD	TV B	FUEL INJECTED ENGINE @ IDLE,TV CABLE DISCONNECTED	MUST BE 0
S or D	FORWARD	TV B	FUEL INJECTED ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	121-128
S or D	FORWARD	TV B	CARBURETED ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
S or D	FORWARD	TV B	CARBURETED ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	110-117
S or D	FIRST	1ST CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	121-128
S or D	FIRST	1ST CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	110-117
S or D	SECOND	2ND CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	68-128
S or D	SECOND	2ND CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	68-117
S or D	THIRD	3RD CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	68-128
S or D	THIRD	3RD CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	68-117
S or D	FOURTH	4TH CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, S4 SWITCH ON	68-128
S or D	FOURTH	4TH CLUTCH	CARBURETED ENGINE @ 2000 RPM, S4 SWITCH ON	68-117
R	REVERSE	4TH CLUTCH	FUEL INJECTED ENGINE @ 2000 RPM, WHEELS FREE	121-128
R	REVERSE	4TH CLUTCH	CARBURETED ENGINE @ 2000 RPM, WHEELS FREE	110-117
S or D	1ST or 2ND	SHIFT SOL B	TRANSAXLE IN FIRST OR SECOND GEAR, WHEELS FREE	0-3
S or D	3RD or 4TH	SHIFT SOL B	TRANSAXLE IN 3RD OR 4TH GEAR, WHEELS FREE	68-74
S or D	2ND or 3RD	SHIFT SOL A	TRANSAXLE IN 3RD OR FOURTH GEAR, WHEELS FREE	0-3
S or D	1ST or 4TH	SHIFT SOL A	TRANSAXLE IN FIRST OR SECOND GEAR, WHEELS FREE	68-74
S or D	FIRST	TCC SOL A & B	TRANSAXLE IN 1ST GEAR, TCC SOLENOID A & B OFF	68-74
S or D	FOURTH	TCC SOL A & B	TRANSAXLE IN 4TH GEAR,TCC SOLENOID A & B ON	0-3

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

PRESSURE PORT LOCATIONS
PY8A/MY8A

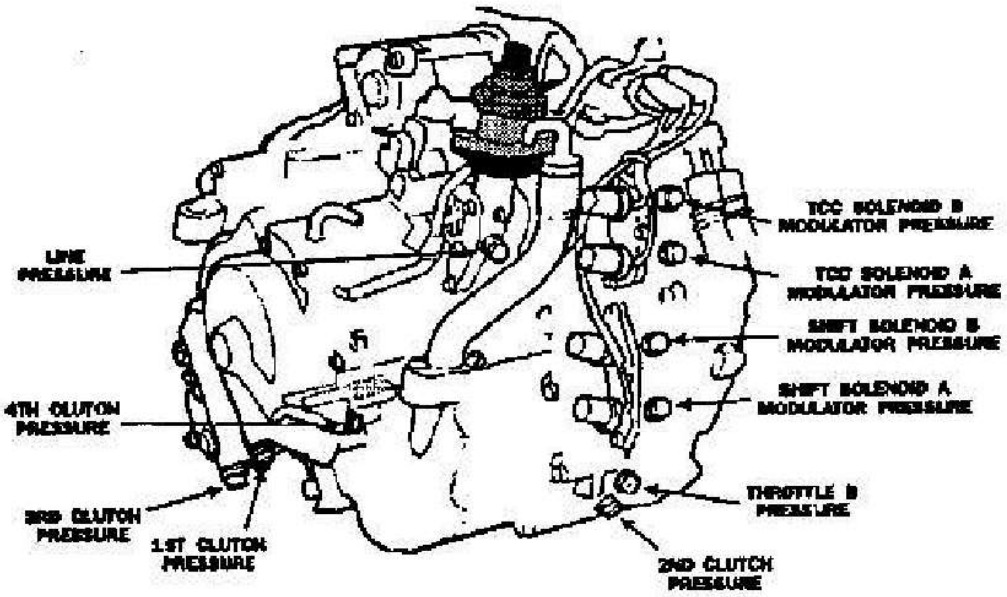


OIL PRESSURE CHART

RO/MPRA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM, @ 20" of VACUUM	71-85
N or P	N or P	LINE	ENGINE @ 2000 RPM, @ 0" of VACUUM	111-118
S or D	FORWARD	TV B	ENGINE @ IDLE, @ 20" of VACUUM	MUST BE 0
S or D	FORWARD	TV B	ENGINE @ 2000 RPM, @ 0" of VACUUM	111-118
S or D	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-119
S or D	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-119
S	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, S4 SWITCH OFF	71-119
S or D	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, S4 SWITCH ON	71-119
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-119
S or D	1ST or 2ND	SHIFT SOL B	TRANSAXLE IN FIRST OR SECOND GEAR, WHEELS FREE	0-3
S or D	3RD or 4TH	SHIFT SOL B	TRANSAXLE IN 3RD OR 4TH GEAR, WHEELS FREE	70-80
S or D	2ND or 3RD	SHIFT SOL A	TRANSAXLE IN 3RD OR FOURTH GEAR, WHEELS FREE	0-3
S or D	1ST or 4TH	SHIFT SOL A	TRANSAXLE IN FIRST OR SECOND GEAR, WHEELS FREE	70-80
S or D	FIRST	TCC SOL A & B	TRANSAXLE IN 1ST GEAR, TCC SOLENOID A & B OFF	70-80
S or D	FOURTH	TCC SOL A & B	TRANSAXLE IN 4TH GEAR,TCC SOLENOID A & B ON	0-3

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



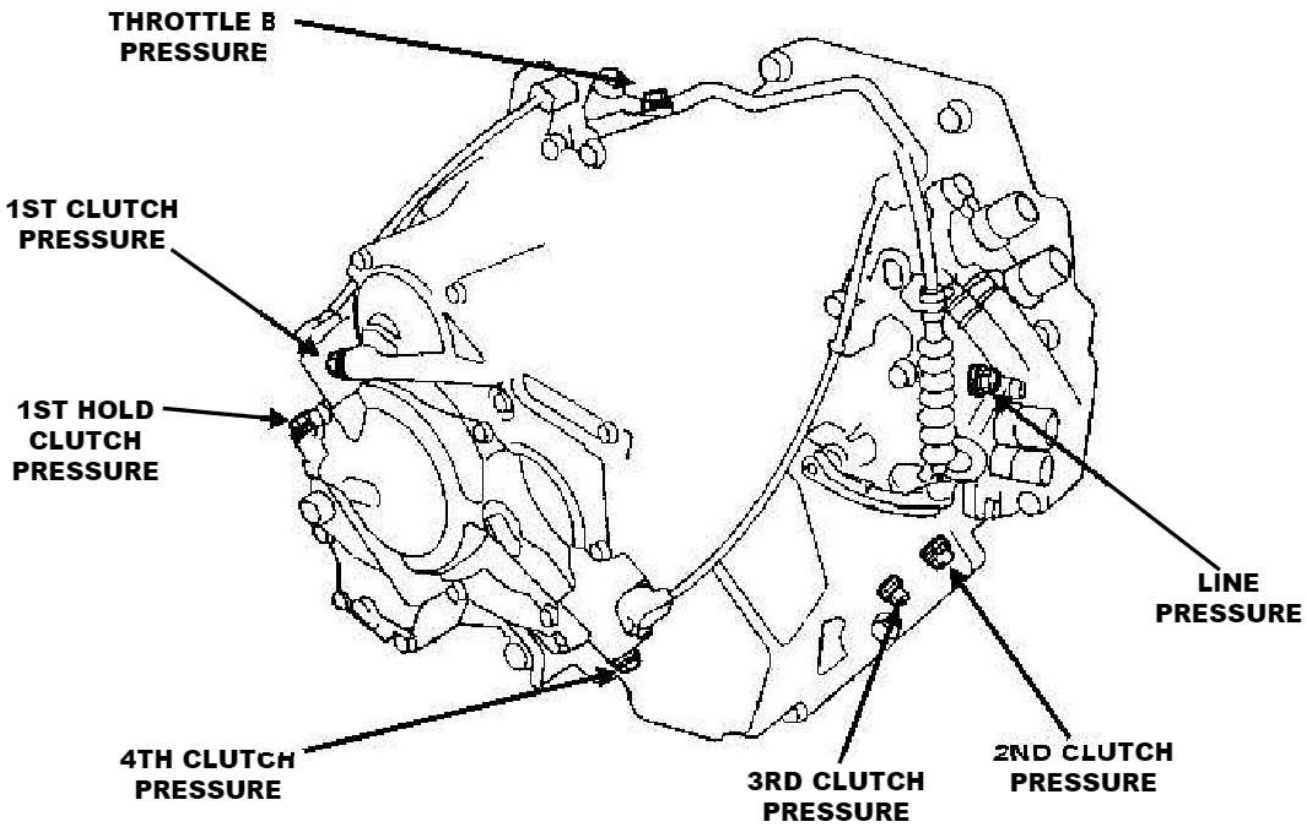
OIL PRESSURE CHART

PX4B/APX4/BOYA/*MPWA

***JAPAN BUILT**

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	107-121
D3 or D4	FORWARD	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D3 or D4	FORWARD	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	107-121
1	MANUAL LOW	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	114-121
1	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	114-121
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-121
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-121
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	74-121
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	114-121

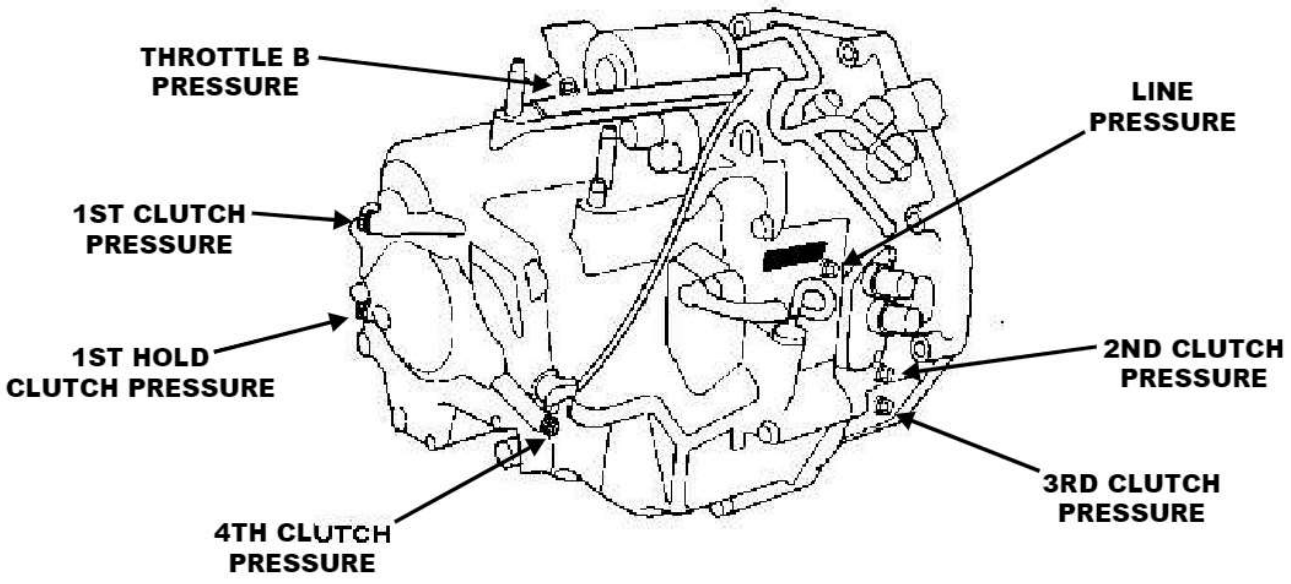
NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



OIL PRESSURE CHART
MP1A

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	F22A1 ENGINE @ 2000 RPM	107-121
N or P	N or P	LINE	H23A1 ENGINE @ 2000 RPM	114-121
D3 or D4	FORWARD	TV B	F22A1 ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D3 or D4	FORWARD	TV B	F22A1 ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	107-121
D3 or D4	FORWARD	TV B	H23A1 ENGINE @ IDLE,TV CABLE DISCONNECTED	MUST BE 0
D3 or D4	FORWARD	TV B	H23A1 ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	114-121
1	MANUAL LOW	1ST HOLD	F22A1 ENGINE @ 2000 RPM, WHEELS FREE	107-121
1	MANUAL LOW	1ST HOLD	H23A1 ENGINE @ 2000 RPM, WHEELS FREE	114-128
1	FIRST	1ST CLUTCH	F22A1 ENGINE @ 2000 RPM, WHEELS FREE	107-121
1	FIRST	1ST CLUTCH	H23A1 ENGINE @ 2000 RPM, WHEELS FREE	114-128
D3 or D4	SECOND	2ND CLUTCH	F22A1 ENGINE @ 2000 RPM, WHEELS FREE	71-121
D3 or D4	SECOND	2ND CLUTCH	H23A1 ENGINE @ 2000 RPM, WHEELS FREE	71-128
D3 or D4	THIRD	3RD CLUTCH	F22A1 ENGINE @ 2000 RPM, WHEELS FREE	71-121
D3 or D4	THIRD	3RD CLUTCH	H23A1 ENGINE @ 2000 RPM, WHEELS FREE	71-128
D4	FOURTH	4TH CLUTCH	F22A1 ENGINE @ 2000 RPM, WHEELS FREE	71-121
D4	FOURTH	4TH CLUTCH	H23A1 ENGINE @ 2000 RPM, WHEELS FREE	75-128
R	REVERSE	4TH CLUTCH	F22A1 ENGINE @ 2000 RPM, WHEELS FREE	107-121
R	REVERSE	4TH CLUTCH	H23A1 ENGINE @ 2000 RPM, WHEELS FREE	121-128

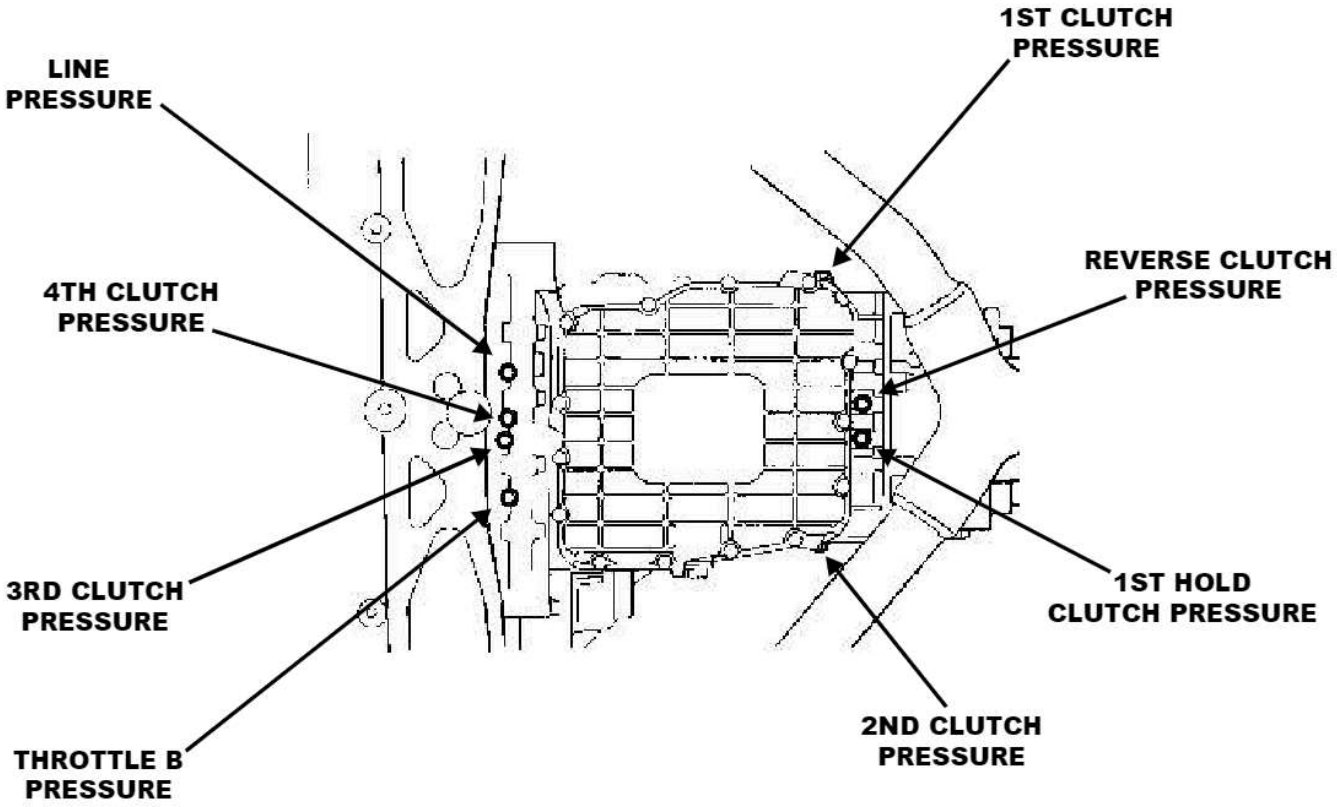
NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



OIL PRESSURE CHART
MPYA/M5HA/M5DA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	107-122
D4 or D3	FORWARD	TV B	ENGINE @ IDLE, LINEAR SOLENOID CONNECTED	0
D4 or D3	FORWARD	TV B	ENGINE @ 1000 RPM, LINEAR SOL. DISCONNECTED	84-91
1	MANUAL 1ST or 2ND	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	107-123
1	MANUAL FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	107-123
D4 or D3	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	107-123
2	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	107-123
D4 or D3	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	65-123
D4 or D3	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	65-123
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	65-123
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	169-181

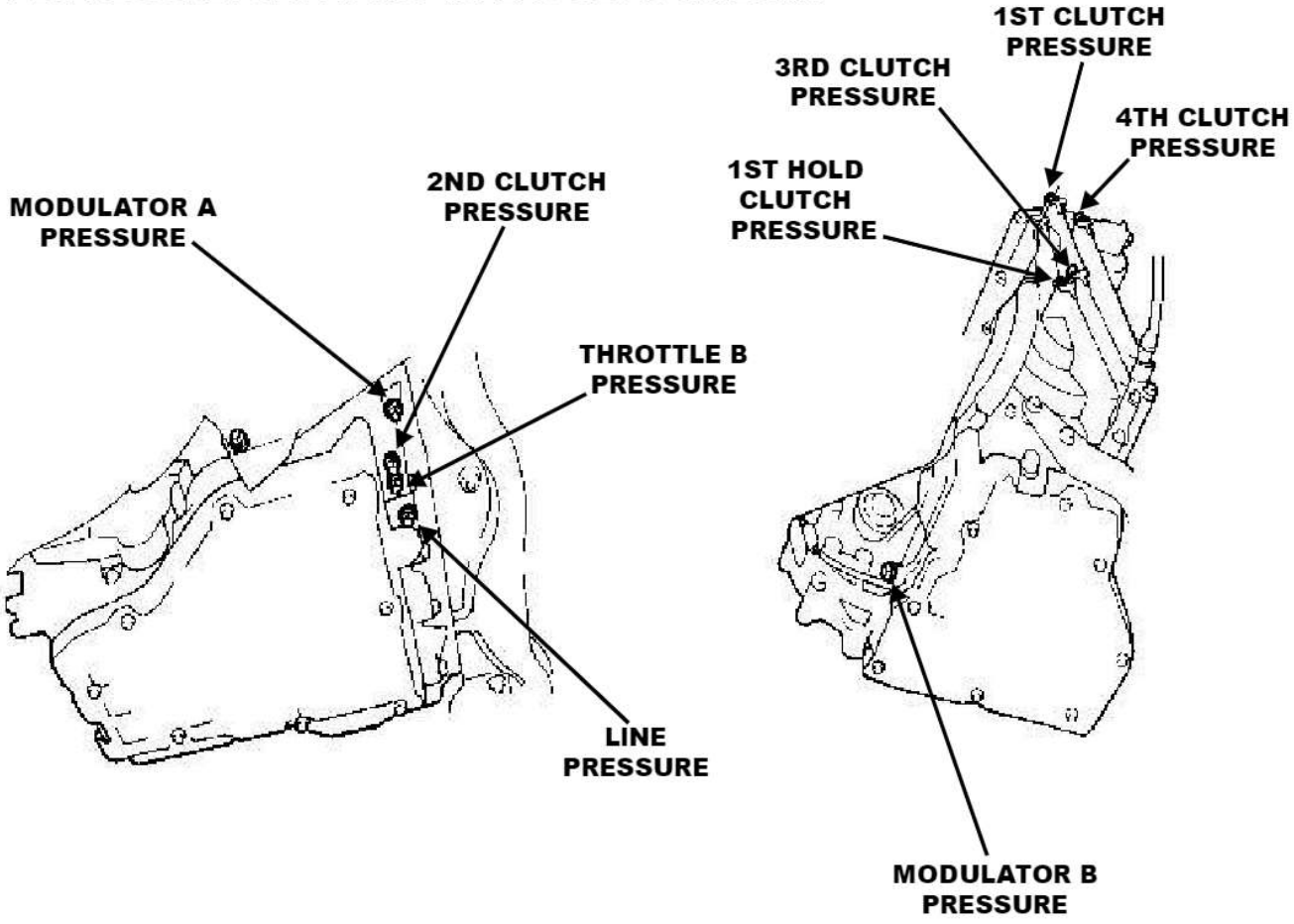
NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



OIL PRESSURE CHART
MPWA/M1WA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	121-128
D4	FORWARD	TV B	ENGINE @ IDLE, LINEAR SOLENOID CONNECTED	MUST BE 0
D4	FORWARD	TV B	ENGINE @ 1000 RPM,LINEAR SOL. DISCONNECTED	71-75
1	1ST HOLD	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	121-128
D3 or D4	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	121-128
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-128
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-128
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-128
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	121-128
N or P	N or P	MODULATOR A	ENGINE @ 2000 RPM	65-73
N or P	N or P	MODULATOR A	ENGINE @ 2000 RPM	65-73

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

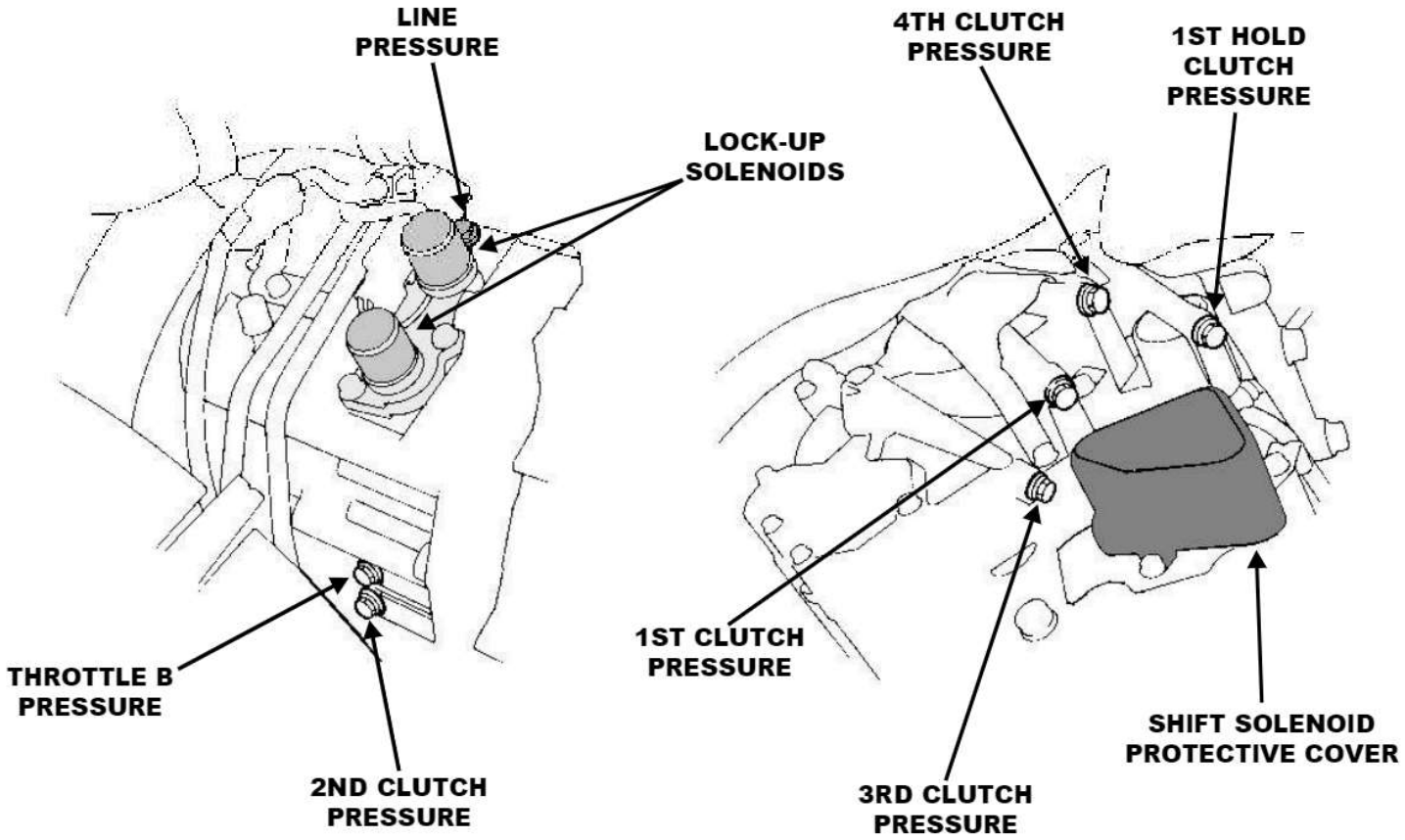


OIL PRESSURE CHART

SP7A/S4XA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	120-130
D3 or D4	FORWARD	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D3 or D4	FORWARD	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	120-130
1	1ST HOLD	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	120-130
D3 or D4	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	120-130
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	67-130
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	67-130
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	67-130
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	120-130

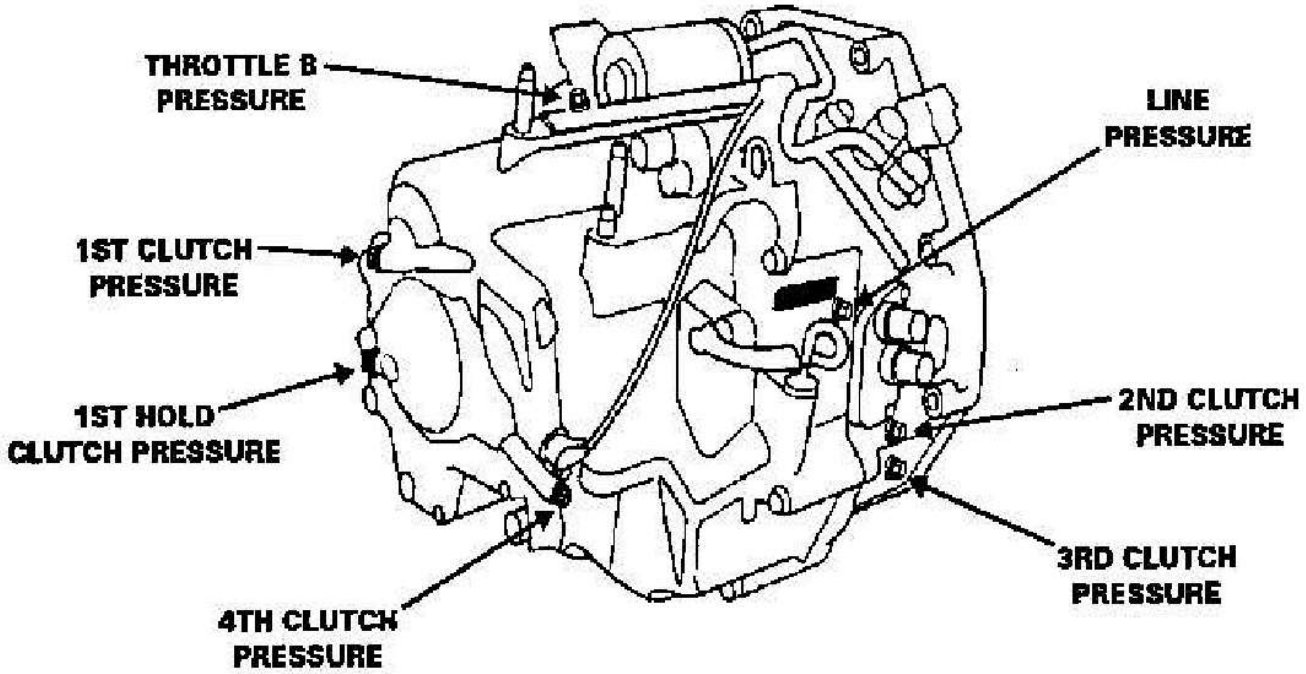
NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



OIL PRESSURE CHART
MPOA/AOYA/MPJA/AV6A

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	120-130
D3 or D4	FORWARD	TV B	ENGINE @ IDLE, TV CABLE DISCONNECTED	MUST BE 0
D3 or D4	FORWARD	TV B	ENGINE @ 1000 RPM, TV LEVER @ MAXIMUM	120-130
1	1ST HOLD	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	120-130
D3 or D4	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	120-130
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-130
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-130
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	75-130
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	120-130

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM
MPJA PRESSURE PORTS ARE MARKED WITH THE FOLLOWING: LINE-"PL"
TV B-"B"
1ST HOLD -"LH"
1ST CLUTCH-"1"
2ND CLUTCH-"2"
3RD CLUTCH-"3"
4TH CLUTCH-"T"

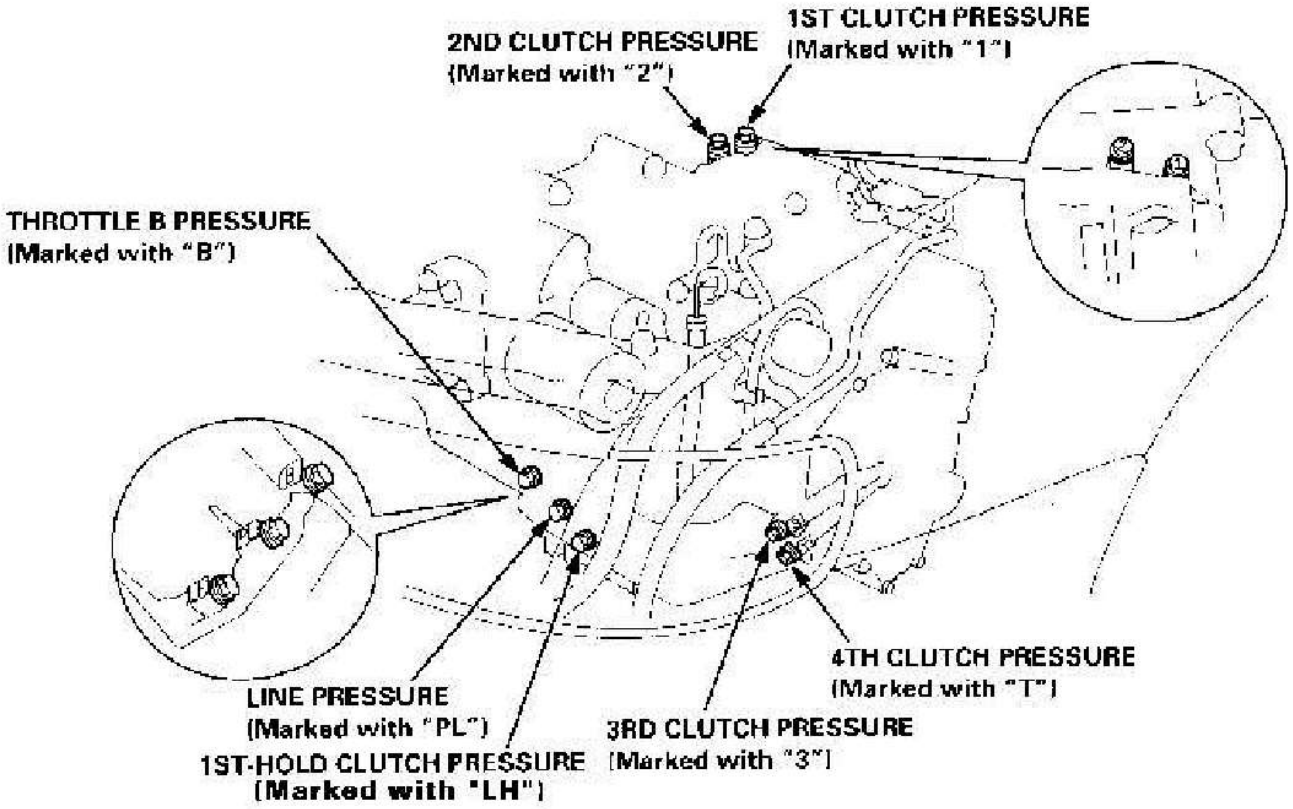


OIL PRESSURE CHART

MPZA

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	120-130
D3 or D4	FORWARD	TV B	ENGINE @ IDLE, LINEAR SOL. CONNECTED	MUST BE 0
D3 or D4	FORWARD	TV B	ENGINE @ 1000 RPM, LINEAR SOL. DISCONNECTED	120-130
1	1ST HOLD	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	71-120
D3 or D4	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-120
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-120
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-120
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-120
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	120-130

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

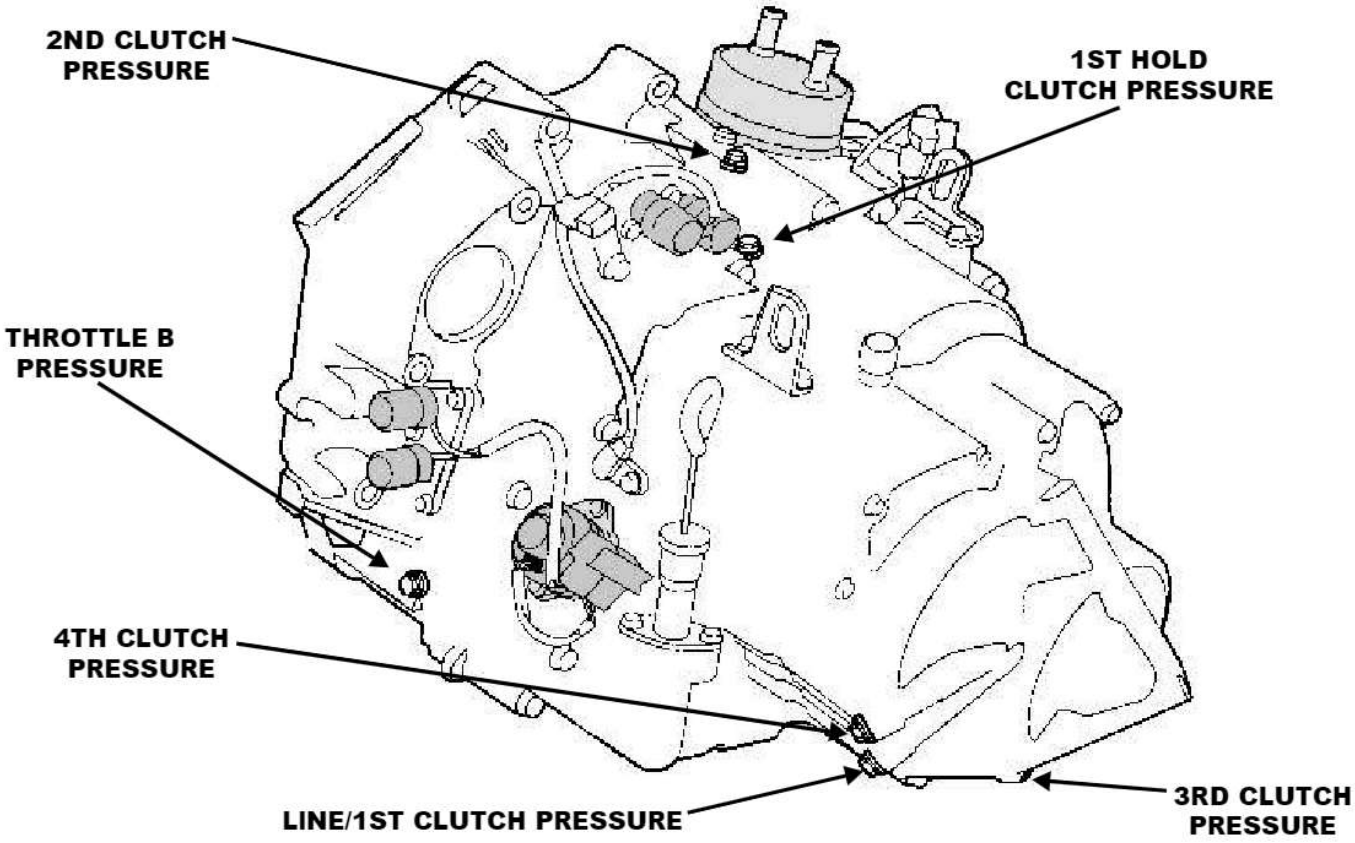


OIL PRESSURE CHART

MR9A

SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
D or 1	D or 1	LINE 1ST CLUTCH	ENGINE @ 2000 RPM	121-128
D	FORWARD	TV B	ENGINE @ IDLE, LINEAR SOL. CONNECTED	MUST BE 0
D	FORWARD	TV B	ENGINE @ 1000 RPM, LINEAR SOL. DISCONNECTED	87-95
1	1ST HOLD	1ST HOLD	ENGINE @ 2000 RPM, WHEELS FREE	121-128
2	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	121-128
D	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-128
D	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-128
D	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	71-128
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	121-128

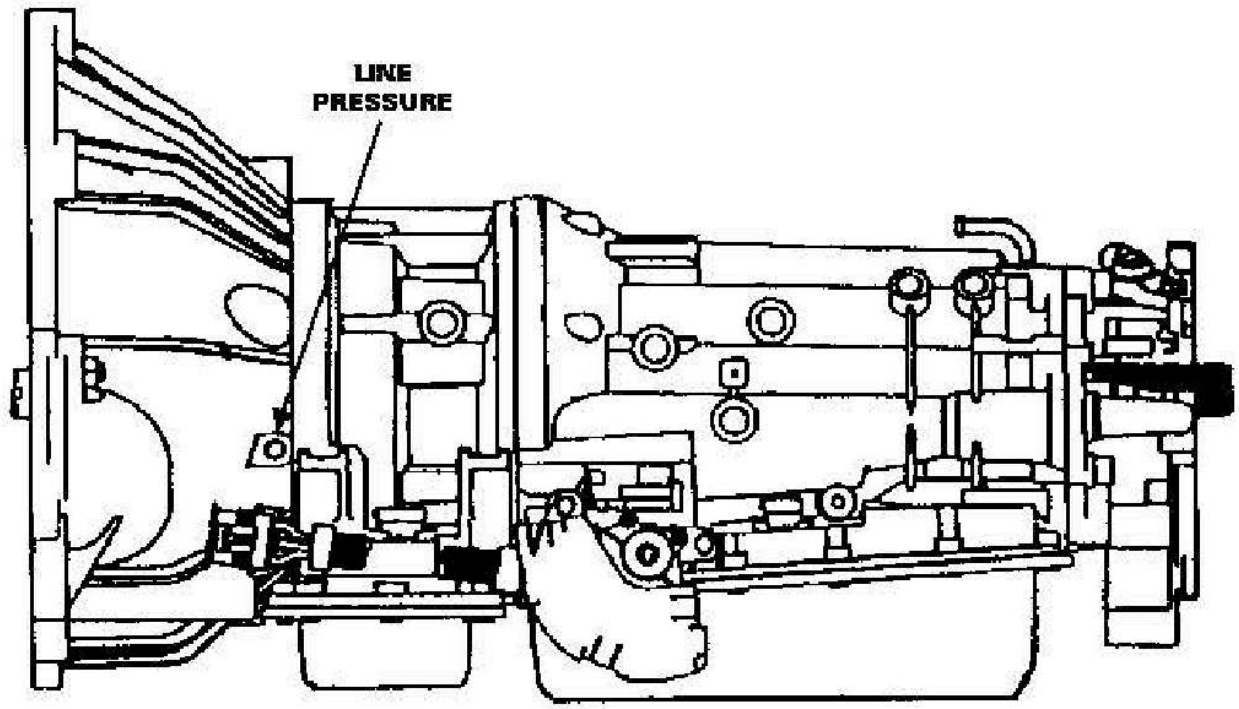
NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM



OIL PRESSURE CHART

4L30E

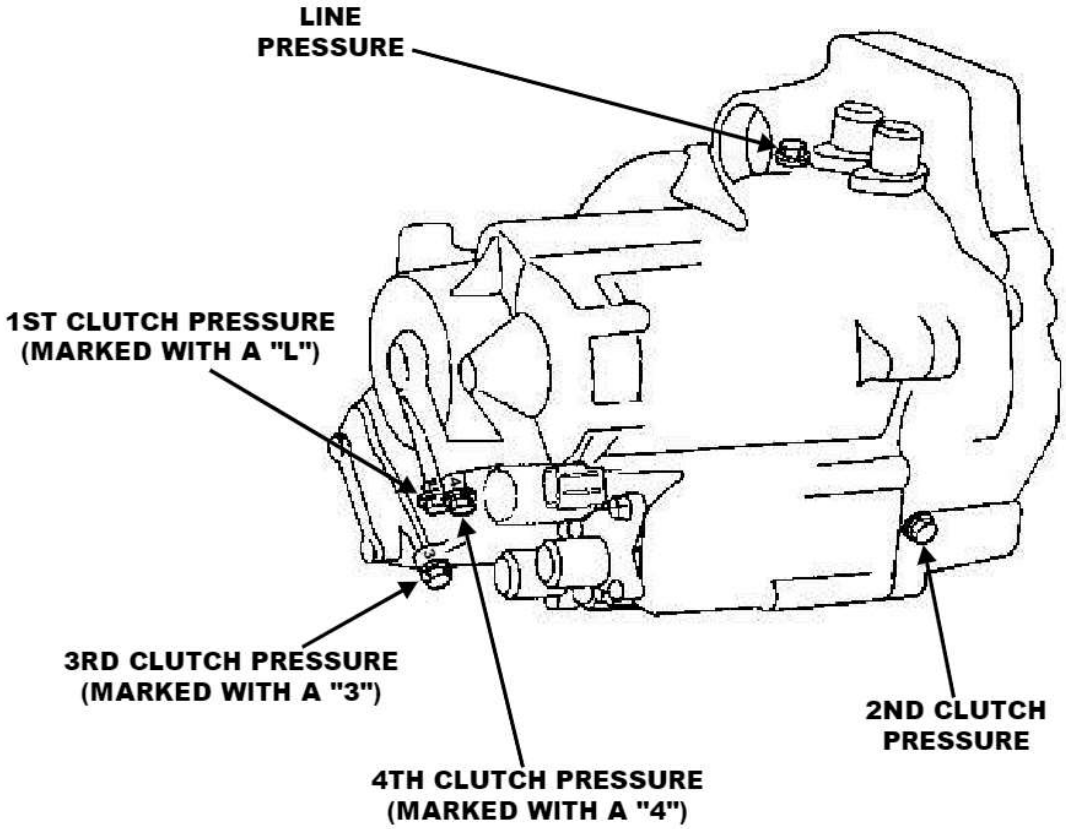
MODE	LEVER POSITION	ENGINE SPEED	LINE PRESSURE		FORCE MOTOR CURRENT
			kPa	PSI	
NORMAL/POWER	D,3,2,L	IDLE/STALL	ABOUT 330	ABOUT 48	VARIABLE
WINTER	D	IDLE	316-358	46-52	0.97 AMP
NORMAL/POWER WINTER	REVERSE	IDLE	450-508	65-74	0.97 AMP
NORMAL/POWER	D,3,2,1	STALL SPEED	1031-1111	150-160	0.15 AMP
WINTER	D	STALL SPEED	1031-1111	150-160	0.15 AMP
NORMAL/POWER WINTER	REVERSE	STALL SPEED	1449-1562	210-226	0.15 AMP



OIL PRESSURE CHART
A4RA/B4RA

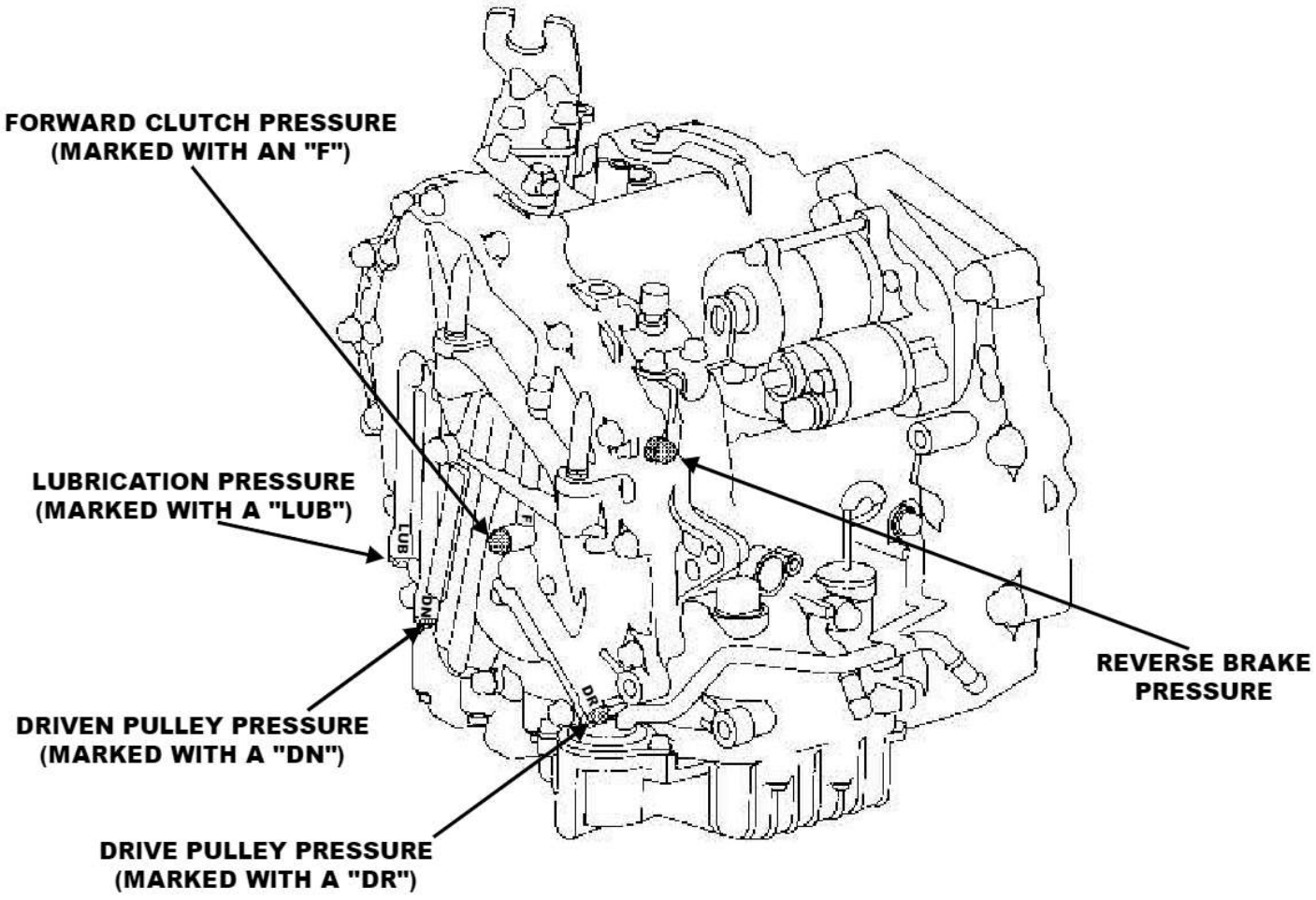
SELECTOR LEVER POSITION	GEAR	PRESSURE PORT	CONDITIONS	PRESSURE IN PSI
N or P	N or P	LINE	ENGINE @ 2000 RPM	120-130
D3 or D4	FIRST	1ST CLUTCH	ENGINE @ 2000 RPM, WHEELS FREE	120-130
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID DISCONNECTED	120-124
D3 or D4	SECOND	2ND CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID CONNECTED	0-21
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID DISCONNECTED	118-125
D3 or D4	THIRD	3RD CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID CONNECTED	0-21
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID DISCONNECTED	118-125
D4	FOURTH	4TH CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID CONNECTED	0-21
R	REVERSE	4TH CLUTCH	ENGINE @ 2000 RPM, LINEAR SOLENOID DISCONNECTED	118-125

NOTE: PRESSURE PORT FITTING THREAD SIZE IS 8X1.25MM

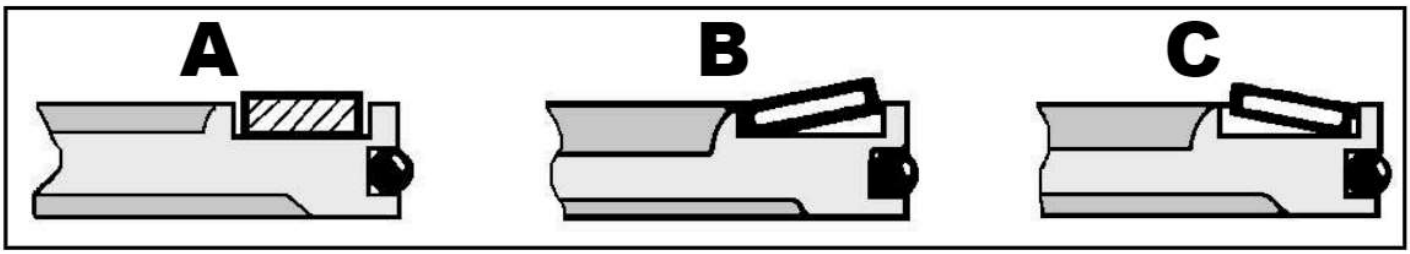


OIL PRESSURE CHART
M4VA

SHIFT LEVER POSITION	CIRCUIT PRESSURE	CONDITIONS	PRESSURE IN PSI
D	FORWARD CLUTCH	WHEELS FREE, ENGINE @ 1500 RPM	200 - 253
R	REVERSE BRAKE	WHEELS FREE, ENGINE @ 1500 RPM	200 - 253
N	DRIVE PULLEY	WHEELS FREE, ENGINE @ 1500 RPM	30 - 100
N	DRIVEN PULLEY	WHEELS FREE, ENGINE @ 1500 RPM	210 - 330
N	LUBRICATION	WHEELS FREE, ENGINE @ 3000 RPM	ABOVE 30



CLUTCH CUSHION PLATE POSITION



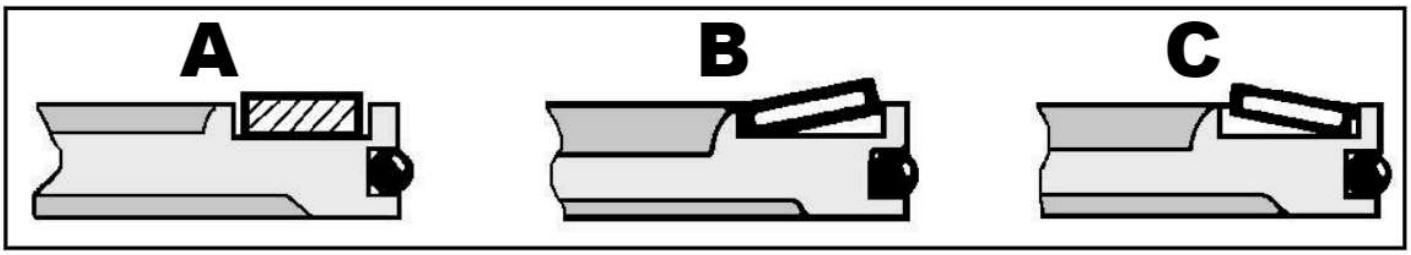
TRANSAXLES WITH 3 SETS OF CLUTCHES

MODEL	FORWARD CLUTCH	START CLUTCH	REVERSE CLUTCH
M4VA/CVT	B	A	B

TRANSAXLES WITH 4 SETS OF CLUTCHES

MODEL	1ST CLUTCH	2ND CLUTCH	3RD CLUTCH	4TH CLUTCH
AK	B	B	B	B
AS	B	B	B	B
CA	A	B	B	B
F4	A	B	B	B
K4	B	C	B	B
L4	B	C	B	B
ML4A	B	C	B	B
P1	B	C	B	B
G4	B	C	B	B
L5	B	C	B	B
PL5X	B	C	B	B
RO	B	B	B	B
MY8A	C	C	B	B
PY8A	C	C	B	B
MPRA	C	B	B	B
A4RA/B4RA	B	C	B	B

CLUTCH CUSHION PLATE POSITION



TRANSAXLES WITH 5 SETS OF CLUTCHES

MODEL	1ST HOLD	1ST CLUTCH	2ND CLUTCH	3RD CLUTCH	4TH CLUTCH
S5	B	B	C	B	B
MPSA	B	B	C	B	B
PX4B	C	B	C	B	B
APX4	C	B	C	B	B
*MPWA	C	B	C	B	B
MP1A	C	B	C	B	B
M24A	B	B	C	B	B
S24A	B	B	C	B	B
A24A	B	B	C	B	B
MPWA	C	B	C	B	B
SP7A	B	B	C	B	B
MPOA	C	B	C	B	C
AOYA	C	B	C	B	C
MPJA	C	B	C	B	C
MPZA	C	-	C	B	C
MR9A	C	B	C	B	B

*Japan built Accord only

TRANSAXLES WITH 6 SETS OF CLUTCHES

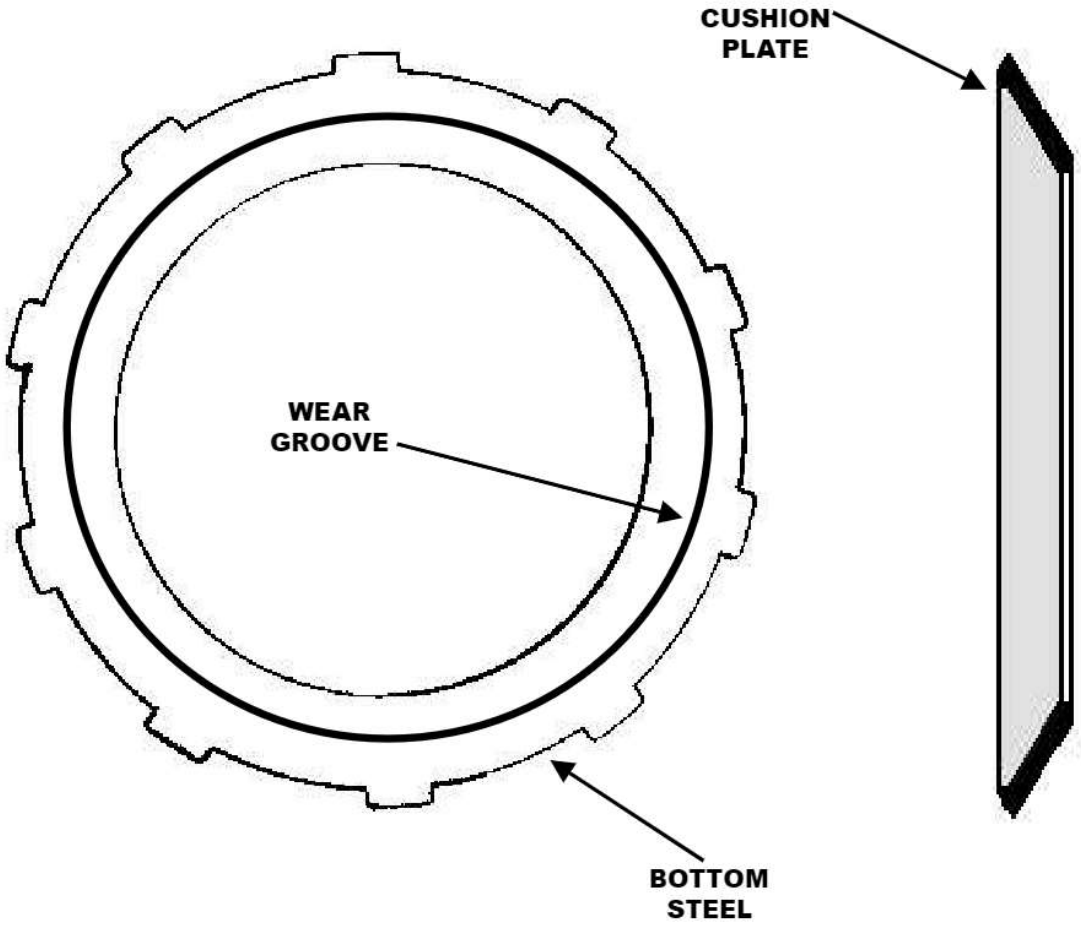
MODEL	1ST HOLD	1ST CLUTCH	2ND CLUTCH	3RD CLUTCH	4TH CLUTCH
MPYA	C	B	C	C	C	B

HARSH UPSHIFT

COMPLAINT: A harsh upshift into one or more gears.

CAUSE: This can be caused by installing the cushion plate upside down into a clutch drum (See chart on the 2 preceeding pages).
This can also be caused by reusing a bottom steel plate that has had a groove worn into it by the cushion plate which will prevent the cushion plate from flattening out resulting in a harsh upshift into the gear or gears affected.

CORRECTION: Replace the worn steel plate with one that does not have this wear groove. (See illustration below)



HONDA/ACURA

HARSH SHIFT COMPLAINTS

COMPLAINT: Harsh upshift, especially the 1-2 shift, and/or harsh garage shifts.

CAUSE: The bottom steel plate in each clutch pack will have a groove cut into it by the dished belleville spring on top of the clutch piston, which will increase clutch clearance or cause the belleville spring to get caught in groove worn into the bottom steel plate, resulting in the harsh shift complaint.
The groove worn into the steel plate may as deep as .013" which will result in a failure to FULLY COMPRESS the belleville spring causing the spring to not fully cushion the clutch pack on the shift.

CORRECTION: A new ***WAVED*** cushion spring, available from ALTO PRODUCTS, will avoid the above mentioned problems thereby preventing this particular cause of harsh shift complaints. (Refer to Figure 1)

NOTE: Availability at this time is limited to transaxles that use 116mm frictions only. The following units use 116mm frictions: F4; K4; PY8A; MY8A; G4; L5; PL5X; P1; RO; MPRA; MPWA; MP7A.

SERVICE INFORMATION:

Waved Cushion Spring.....Alto Part # 58767A

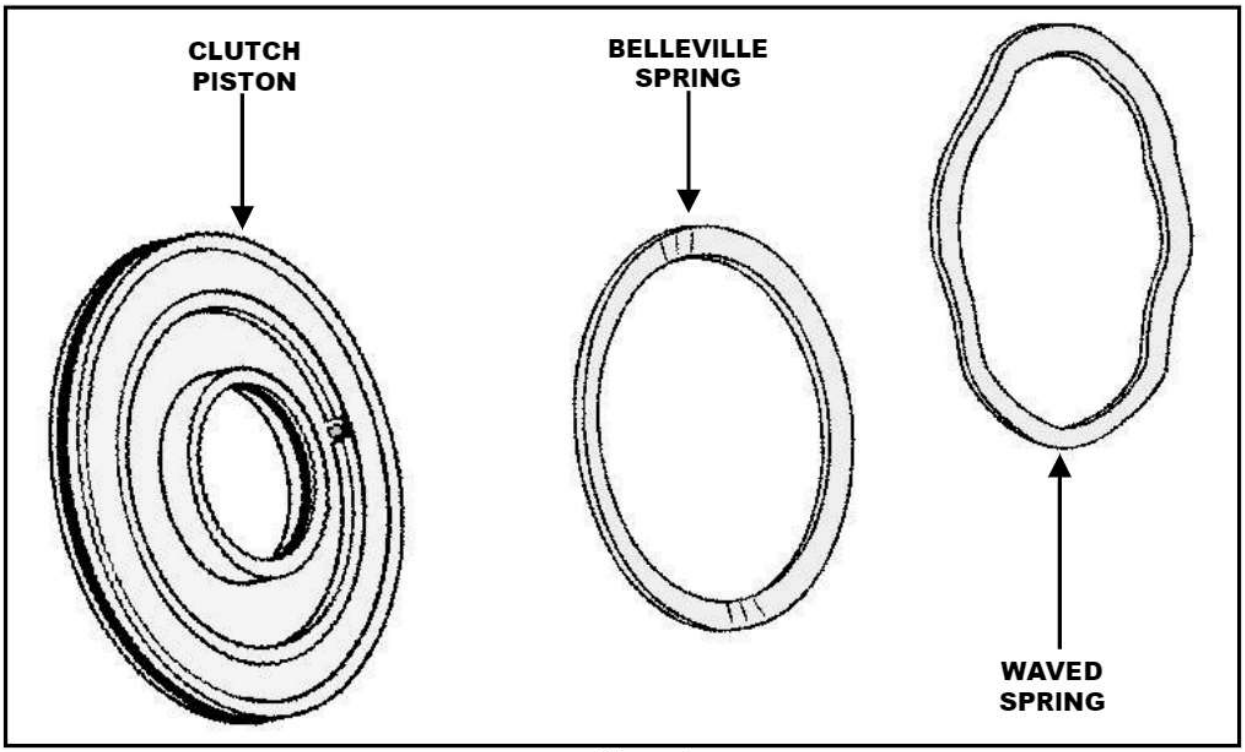


Figure 1

CLUTCH CLEARANCE

TRANSAXLES WITH 3 SETS OF CLUTCHES

MODEL	FORWARD CLUTCH	START CLUTCH
M4VA/CVT	.024-.031	.020-.028

TRANSAXLES WITH 4 SETS OF CLUTCHES

MODEL	1ST CLUTCH	2ND CLUTCH	3RD CLUTCH	4TH CLUTCH
AK	.016-.028	.016-.028	.016-.028	.016-.028
AS	.016-.028	.026-.031	.016-.023	.016-.023
CA	.026-.033	.026-.031	.016-.023	.016-.023
F4	.026-.033	.020-.028	.016-.024	.016-.024
K4	.026-.033	.016-.024	.016-.024	.016-.024
L4	.026-.033	.026-.033	.016-.024	.016-.024
ML4A	.026-.033	.026-.033	.016-.024	.016-.024
P1	.026-.033	.026-.033	.016-.024	.016-.024
G4	.026-.033	.020-.028	.020-.028	.016-.024
L5	.026-.033	.020-.028	.020-.028	.016-.024
PL5X	.026-.033	.020-.028	.020-.-28	.016-.024
RO	.026-.033	.020-.028	.016-.024	.016-.024
MY8A	.026-.033	.020-.028	.016-.024	.016-.024

TRANSAXLES WITH 5 SETS OF CLUTCHES

MODEL	1ST HOLD	1ST CLUTCH	2ND CLUTCH	3RD CLUTCH	4TH CLUTCH
S5	.026-	.026-.033	.026-.032	.016-.024	.016-.024
MPSA	.033	.026-.033	.026-.033	.016-.024	.016-.024
PX4B	.020-	.026-.033	.026-.033	.016-.024	.016-.024
APX4	.031	.026-.033	.026-.033	.016-.024	.016-.024
*MPW	.031-	.026-.033	.026-.033	.016-.024	.016-.024
A	.039	.026-.033	.026-.033	.016-.024	.016-.024
MP1A	.031-	.026-.033	.026-.033	.016-.024	.016-.024
M24A	.039	.026-.033	.026-.033	.016-.024	.016-.024
S24A	.031-	.026-.033	.026-.033	.016-.024	.016-.024
A24A	.039	.026-.033	.022-.030	.022-.030	.022-.030
MPWA	.031-	026-.033	.026-.033	.016-.024	.016-.024

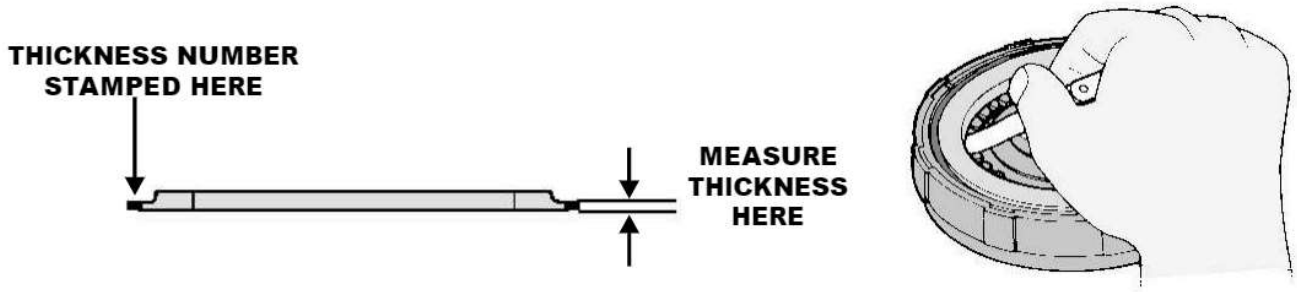
*Japan built Accord only

TRANSAXLES WITH 6 SETS OF CLUTCHES

MPYA	.028-.035	.026-.033	.024-.031	.024-.031
	.020-.028	.030-.037		

SELECTIVE PRESSURE PLATES

Adjusting clutch pack clearances is accomplished by choosing the correct top pressure plate in each clutch drum which come in various thickness'
Listed below are the charts which list these pressure plates and their part numbers.



AK

P/N	PLATE NO.	THICKNESS
22551–PA9–010	1	2.3 mm (0.09 in.)
22552 PA9 010	2	2.6 mm (0.102 in.)
22553–PA9–010	3	2.9 mm (0.114 in.)
22554–PA9–010	4	3.2 mm (0.125 in.)
22555–PA9–010	5	3.5 mm (0.137 in.)
22561–PA9–010	11	2.15 mm (0.084 in.)
22562–PA9–010	12	2.45 mm (0.096 in.)
22563–PA9–010	13	2.75 mm (0.108 in.)
22564–PA9–010	14	3.05 mm (0.120 in.)
22565–PA9–010	15	3.35 mm (0.132 in.)
22566–PA9–010	16	3.65 mm (0.143 in.)

AS/CA

P/N	PLATE NO.	THICKNESS
22551–PC9–000	1	2.4 mm (0.094 in.)
22552–PC9–000	2	2.5 mm (0.098 in.)
22553–PC9–000	3	2.6 mm (0.102 in.)
22554–PC9–000	4	2.7 mm (0.106 in.)
22555–PC9–000	5	2.8 mm (0.110 in.)
22556–PC9–000	6	2.9 mm (0.114 in.)
22557–PC9–000	7	3.0 mm (0.118 in.)
22558–PC9–000	8	3.1 mm (0.122 in.)
22559–PC9–000	9	3.2 mm (0.126 in.)
22560–PC9–000	10	3.3 mm (0.130 in.)

F4

P/N	PLATE NO.	THICKNESS
22551–PF4–000	1	2.1 mm (0.082 in.)
22552–PF4–000	2	2.2 mm (0.086 in.)
22553–PF4–000	3	2.3 mm (0.090 in.)
22554–PF4–000	4	2.4 mm (0.094 in.)
22555–PF4–000	5	2.5 mm (0.098 in.)
22556–PF4–000	6	2.6 mm (0.102 in.)
22557 PF4–000	7	2.7 mm (0.106 in.)
22558–PF4–000	8	2.8 mm (0.110 in.)
22559–PF4–000	9	2.9 mm (0.114 in.)
22560–PF4–000	10	3.0 mm (0.118 in.)

K4/G4/L5/PL5X/PY8A/MY8A

P/N	PLATE NO.	THICKNESS
22551 PF4–000	1	2.1 mm (0.082 in.)
22552–PF4–000	2	2.2 mm (0.086 in.)
22553–PF4–000	3	2.3 mm (0.090 in.)
22554–PF4–000	4	2.4 mm (0.094 in.)
22555–PF4 000	5	2.5 mm (0.098 in.)
22556 PF4–000	6	2.6 mm (0.102 in.)
22557–PF4–000	7	2.7 mm (0.106 in.)
22558–PF4–000	8	2.8 mm (0.110 in.)
22559–PF4–000	9	2.9 mm (0.114 in.)
22560–PF4–000	10	3.0 mm (0.118 in.)
22561–PF4–000	11	3.1 mm (0.122 in.)
22562–PF4–000	12	3.2 mm (0.126 in.)
22563–PF4–000	13	3.3 mm (0.130 in.)
22564–PF4–000	14	3.4 mm (0.134 in.)

SELECTIVE PRESSURE PLATES

L4/ML4A/P1

PLATE NO.	P/N	THICKNESS
1	22551—PC9—000	2.4 mm (0.094 in.)
2	22552—PC9—000	2.5 mm (0.098 in.)
3	22553—PC9—000	2.6 mm (0.102 in.)
4	22554—PC9—000	2.7 mm (0.106 in.)
5	22555—PC9—000	2.8 mm (0.110 in.)
6	22556—PC9—000	2.9 mm (0.114 in.)
7	22557—PC9—000	3.0 mm (0.118 in.)
8	22558—PC9—000	3.1 mm (0.122 in.)
9	22559—PC9—000	3.2 mm (0.126 in.)
10	22560—PC9—000	3.3 mm (0.130 in.)
11	22561—PC9—000	2.1 mm (0.082 in.)
12	22562—PC9—000	2.2 mm (0.086 in.)
13	22563—PC9—000	2.3 mm (0.090 in.)

S5/MPSA

	P/N	PLATE NO.	THICKNESS
1st—4th	22551—PC9—000	1	2.4 mm (0.094 in.)
	22552—PC9—000	2	2.5 mm (0.098 in.)
	22553—PC9—000	3	2.6 mm (0.102 in.)
	22554—PC9—000	4	2.7 mm (0.106 in.)
	22555—PC9—000	5	2.8 mm (0.110 in.)
	22556—PC9—000	6	2.9 mm (0.114 in.)
	22557—PC9—000	7	3.0 mm (0.118 in.)
	22558—PC9—000	8	3.1 mm (0.122 in.)
	22559—PC9—000	9	3.2 mm (0.126 in.)
	22560—PC9—000	10	3.3 mm (0.130 in.)
	22561—PC9—000	11	2.1 mm (0.082 in.)
	22562—PC9—000	12	2.2 mm (0.086 in.)
	22563—PC9—000	13	2.3 mm (0.090 in.)
1st hold clutch only	22551—PS5—030	1	2.1 mm (0.082 in.)
	22552—PS5—030	2	2.2 mm (0.086 in.)
	22553—PS5—030	3	2.3 mm (0.090 in.)
	22554—PS5—030	4	2.4 mm (0.094 in.)
	22555—PS5—030	5	2.5 mm (0.098 in.)
	22556—PS5—030	6	2.6 mm (0.102 in.)
	22557—PS5—030	7	2.7 mm (0.106 in.)

MP1A/APX4/*MPWA

Plate No.	Part Number	Thickness mm (in)
1	22551—PX4—003	2.10 (0.083)
2	22552—PX4—003	2.20 (0.087)
3	22553—PX4—003	2.30 (0.091)
4	22554—PX4—003	2.40 (0.094)
5	22555—PX4—003	2.50 (0.098)
6	22556—PX4—003	2.60 (0.102)
7	22557—PX4—003	2.70 (0.106)
8	22558—PX4—003	2.80 (0.110)
9	22559—PX4—003	2.90 (0.114)

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RO

	P/N	PLATE NO.	THICKNESS mm (in.)
1st, 3rd and 4th	22551—PF4—000	1	2.1 (0.082)
	22552—PF4—000	2	2.2 (0.086)
	22553—PF4—000	3	2.3 (0.090)
	22554—PF4—000	4	2.4 (0.094)
	22555—PF4—000	5	2.5 (0.098)
	22556—PF4—000	6	2.6 (0.102)
	22557—PF4—000	7	2.7 (0.106)
	22558—PF4—000	8	2.8 (0.110)
	22559—PF4—000	9	2.9 (0.114)
	22560—PF4—000	10	3.0 (0.118)
	22561—PF4—000	11	3.1 (0.122)
	22562—PF4—000	12	3.2 (0.126)
	22563—PF4—000	13	3.3 (0.130)
	22564—PF4—000	14	3.4 (0.134)
2nd only	22631—PR0—013	1	3.1 (0.122)
	22632—PR0—013	2	3.2 (0.126)
	22633—PR0—013	3	3.3 (0.130)
	22634—PR0—013	4	3.4 (0.134)
	22635—PR0—013	No mark	3.5 (0.138)
	22636—PR0—013	6	3.6 (0.142)
	22637—PR0—013	7	3.7 (0.146)
	22638—PR0—013	8	3.8 (0.150)
	22639—PR0—013	9	3.9 (0.154)

MPRA

	P/N	PLATE NO.	THICKNESS mm (in.)
1st, 3rd and 4th	22551—PF4—000	1	2.1 (0.082)
	22552—PF4—000	2	2.2 (0.086)
	22553—PF4—000	3	2.3 (0.090)
	22554—PF4—000	4	2.4 (0.094)
	22555—PF4—000	5	2.5 (0.098)
	22556—PF4—000	6	2.6 (0.102)
	22557—PF4—000	7	2.7 (0.106)
	22558—PF4—000	8	2.8 (0.110)
	22559—PF4—000	9	2.9 (0.114)
	22560—PF4—000	10	3.0 (0.118)
	22561—PF4—000	11	3.1 (0.122)
	22562—PF4—000	12	3.2 (0.126)
	22563—PF4—000	13	3.3 (0.130)
	22564—PF4—000	14	3.4 (0.134)
2nd only	22631—PR9—013	1	3.1 (0.122)
	22632—PR9—013	2	3.2 (0.126)
	22633—PR9—013	3	3.3 (0.130)
	22634—PR9—013	4	3.4 (0.134)
	22635—PR9—013	5	3.5 (0.138)
	22636—PR9—013	6	3.6 (0.142)
	22637—PR9—013	7	3.7 (0.146)
	22638—PR9—013	8	3.8 (0.150)
	22639—PR9—013	9	3.9 (0.154)

PX4B

Plate No.	Part Number	Thickness mm (in)
1	22551-PX4-000	2.10 (0.082)
2	22552-PX4-000	2.20 (0.086)
3	22553-PX4-000	2.30 (0.090)
4	22554-PX4-000	2.40 (0.094)
5	22555-PX4-000	2.50 (0.098)
6	22556-PX4-000	2.60 (0.102)
7	22557-PX4-000	2.70 (0.106)
8	22558-PX4-000	2.80 (0.110)
9	22559-PX4-000	2.90 (0.114)

MPWA

	Plate No.	Part Number	Thickness mm (in)
1ST and 1ST HOLD CLUTCH	1	22551-PF4-000	2.1 (0.083)
	2	22552-PF4-000	2.2 (0.087)
	3	22553-PF4-000	2.3 (0.091)
	4	22554-PF4-000	2.4 (0.094)
	5	22555-PF4-000	2.5 (0.098)
	6	22556-PF4-000	2.6 (0.102)
	7	22557-PF4-000	2.7 (0.106)
	8	22558-PF4-000	2.8 (0.110)
	9	22559-PF4-000	2.9 (0.114)
	10	22560-PF4-000	3.0 (0.118)
	11	22561 PF4 000	3.1 (0.122)
	12	22562-PF4-000	3.2 (0.126)
	13	22563-PF4-000	3.3 (0.130)
	14	22564-PF4-000	3.4 (0.134)

	Plate No.	Part Number	Thickness mm (in)
2ND and 4TH CLUTCH	1	22631-PR9-000	2.1 (0.083)
	2	22632-PR9-000	2.2 (0.087)
	3	22633-PR9-000	2.3 (0.091)
	4	22634-PR9-000	2.4 (0.094)
	5	22635-PR9-000	2.5 (0.098)
	6	22636-PR9-000	2.6 (0.102)
	7	22637-PR9-000	2.7 (0.106)
	8	22638 PR9 000	2.8 (0.110)
	9	22639-PR9 000	2.9 (0.114)

	Plate No.	Part Number	Thickness mm (in)
3RD CLUTCH	1	22551-PF4-000	2.1 (0.083)
	2	22552-PF4-000	2.2 (0.087)
	3	22553-PF4-000	2.3 (0.091)
	4	22554-PF4-000	2.4 (0.094)
	5	22555-PF4-000	2.5 (0.098)
	6	22556-PF4-000	2.6 (0.102)
	7	22557-PF4-000	2.7 (0.106)
	8	22558-PF4-000	2.8 (0.110)
	9	22559-PF4-000	2.9 (0.114)
	10	22560-PF4-000	3.0 (0.118)

M24A,A24A/*S24A

	Plate No.	Part Number	Thickness
1, 2, 3, 4 CLUTCH	1	22551-PC9-000	2.40 mm (0.094 in)
	2	22552-PC9-000	2.50 mm (0.098 in)
	3	22553-PC9-000	2.60 mm (0.102 in)
	4	22554-PC9-000	2.70 mm (0.106 in)
	5	22555-PC9-000	2.80 mm (0.110 in)
	6	22556-PC9-000	2.90 mm (0.114 in)
	7	22557-PC9-000	3.00 mm (0.118 in)
	8	22558-PC9-000	3.10 mm (0.122 in)
	9	22559-PC9-000	3.20 mm (0.126 in)
	10	22560-PC9-000	3.30 mm (0.130 in)
	11	22561-PC9-000	2.10 mm (0.083 in)
	12	22562-PC9-000	2.20 mm (0.087 in)
	13	22563-PC9-000	2.30 mm (0.091 in)

	Plate No.	Part Number	Thickness
1ST HOLD CLUTCH	1	22551-PS5-003	2.10 mm (0.083 in)
	2	22552-PS5-003	2.20 mm (0.087 in)
	3	22553-PS5-003	2.30 mm (0.091 in)
	4	22554-PS5-003	2.40 mm (0.094 in)
	5 (No mark)	22555-PS5-003	2.50 mm (0.098 in)
	6	22556-PS5-003	2.60 mm (0.102 in)
	7	22557 PS5-003	2.70 mm (0.106 in)

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SP7A

	Plate No.	Part Number	Thickness mm (in)
1ST CLUTCH	1	22551-PF4-000	2.1 (0.083)
	2	22552 PF4 000	2.2 (0.087)
	3	22553-PF4-000	2.3 (0.091)
	4	22554-PF4-000	2.4 (0.094)
	5	22555-PF4 000	2.5 (0.098)
	6	22556-PF4-000	2.6 (0.102)
	7	22557-PF4-000	2.7 (0.106)
	8	22558-PF4-000	2.8 (0.110)
	9	22559-PF4-000	2.9 (0.114)
	10	22560-PF4-000	3.0 (0.118)
	11	22561-PF4-000	3.1 (0.122)
	12	22562-PF4-000	3.2 (0.126)
	13	22563-PF4-000	3.3 (0.130)
	14	22564-PF4-000	3.4 (0.134)

	Plate No.	Part Number	Thickness mm (in)
2ND, 3RD and 4TH	1	22551-P56-N00	2.1 (0.083)
	2	22552-P56-N00	2.2 (0.087)
	3	22553-P56-N00	2.3 (0.091)
	4	22554-P56-N00	2.4 (0.094)
	5	22555-P56-N00	2.5 (0.098)
	6	22556-P56-N00	2.6 (0.102)
	7	22557-P56-N00	2.7 (0.106)
	8	22558-P56-N00	2.8 (0.110)
	9	22559 P56 N00	2.9 (0.114)
	10	22560-P56-N00	3.0 (0.118)

	Plate No.	Part Number	Thickness
1ST HOLD CLUTCH	1	22551 PS5-003	2.10 mm (0.083 in)
	2	22552-PS5-003	2.20 mm (0.087 in)
	3	22553-PS5 003	2.30 mm (0.091 in)
	4	22554 PS5-003	2.40 mm (0.094 in)
	5 (No mark)	22555-PS5-003	2.50 mm (0.098 in)
	6	22556-PS5 003	2.60 mm (0.102 in)
	7	22557-PS5-003	2.70 mm (0.106 in)

MPOA/AOYA/MPJA

Plate No.	Part Number	Thickness mm (in)
1	22551—PX4—003	2.10 (0.083)
2	22552—PX4—003	2.20 (0.087)
3	22553—PX4—003	2.30 (0.091)
4	22554—PX4—003	2.40 (0.094)
5	22555—PX4—003	2.50 (0.098)
6	22556—PX4—003	2.60 (0.102)
7	22557—PX4—003	2.70 (0.106)
8	22558 PX4—003	2.80 (0.110)
9	22559 PX4—003	2.90 (0.114)

MR9A

	Plate No.	Part Number	Thickness mm (in)
1ST HOLD, 2ND, 3RD & 4TH	1	22551—PX4—003	2.10 (0.083)
	2	22552—PX4—003	2.20 (0.087)
	3	22553—PX4—003	2.30 (0.091)
	4	22554—PX4—003	2.40 (0.094)
	5	22555—PX4—003	2.50 (0.098)
	6	22556—PX4—003	2.60 (0.102)
	7	22557—PX4—003	2.70 (0.106)
	8	22558 PX4—003	2.80 (0.110)
	9	22559 PX4—003	2.90 (0.114)

	Plate No.	Part Number	Thickness mm (in)
1ST CLUTCH	1	22631—PR9—003	2.1 (0.083)
	2	22632—PR9—003	2.2 (0.087)
	3	22633—PR9—003	2.3 (0.091)
	4	22634—PR9—003	2.4 (0.094)
	5	22635—PR9—003	2.5 (0.098)
	6	22636—PR9—003	2.6 (0.102)
	7	22637—PR9—003	2.7 (0.106)
	8	22638—PR9—003	2.8 (0.110)
	9	22639—PR9—003	2.9 (0.114)

A4RA/B4RA

Plate No.	Part Number	Thickness
1	22551 – P4R – 003	2.1 mm (0.083 in)
2	22552 – P4R – 003	2.2 mm (0.087 in)
3	22553 – P4R – 003	2.3 mm (0.091 in)
4	22554 – P4R 003	2.4 mm (0.094 in)
5	22555 – P4R – 003	2.5 mm (0.098 in)
6	22556 – P4R – 003	2.6 mm (0.102 in)
7	22557 – P4R – 003	2.7 mm (0.106 in)
8	22558 – P4R – 003	2.8 mm (0.110 in)
9	22559 – P4R – 003	2.9 mm (0.114 in)

MPZA

	Plate No.	Part Number	Thickness mm (in)
1ST CLUTCH	1	22551 – P0Z – 003	2.10 (0.083)
	2	22552 – P0Z – 003	2.20 (0.087)
	3	22553 – P0Z – 003	2.30 (0.091)
	4	22554 – P0Z 003	2.40 (0.094)
	5	22555 – P0Z – 003	2.50 (0.098)
	6	22556 – P0Z 003	2.60 (0.102)
	7	22557 – P0Z 003	2.70 (0.106)
	8	22558 – P0Z 003	2.80 (0.110)
	9	22559 – P0Z 003	2.90 (0.114)

	Plate No.	Part Number	Thickness mm (in)
2ND, 3RD and 4TH CLUTCH	1	22551 PX4 003	2.10 (0.083)
	2	22552 – PX4 – 003	2.20 (0.087)
	3	22553 – PX4 – 003	2.30 (0.091)
	4	22554 – PX4 003	2.40 (0.094)
	5	22555 – PX4 – 003	2.50 (0.098)
	6	22556 PX4 003	2.60 (0.102)
	7	22557 – PX4 003	2.70 (0.106)
	8	22558 – PX4 – 003	2.80 (0.110)
	9	22559 – PX4 – 003	2.90 (0.114)

	Plate No.	Part Number	Thickness mm (in)
1ST HOLD CLUTCH	1	22681 – P0Z – 003	1.6 (0.063)
	2	22682 - P0Z – 003	1.8 (0.071)
	No mark	22683 – P0Z 003	2.0 (0.079)
	4	22684 – P0Z – 003	2.2 (0.087)
	5	22685 – P0Z – 003	2.4 (0.095)

SELECTIVE PRESSURE PLATES

M4VA/CVT

	Plate No.	Part Number	Thickness
FORWARD CLUTCH	1	22561 – P4V – 003	3.5 mm (0.138 in)
	2	22562 – P4V – 003	3.6 mm (0.142 in)
	3	22563 P4V – 003	3.7 mm (0.146 in)
	4	22564 – P4V - 003	3.8 mm (0.150 in)
	5	22565 – P4V – 003	3.9 mm (0.154 in)
	6	22566 – P4V – 003	4.0 mm (0.157 in)
	7	22567 – P4V – 003	4.1 mm (0.161 in)
	8	22568 – P4V – 003	4.2 mm (0.165 in)
	9	22569 – P4V 003	4.3 mm (0.169 in)
	10	22570 – P4V – 003	4.4 mm (0.173 in)
	11	22571 – P4V – 003	4.5 mm (0.177 in)
	12	22572 – P4V – 003	4.6 mm (0.181 in)
	13	22573 – P4V – 003	4.7 mm (0.185 in)

	Plate No.	Part Number	Thickness
REVERSE BRAKE	1	22551 – P4V – 003	3.6 mm (0.142 in)
	2	22552 – P4V – 003	3.8 mm (0.150 in)
	3	22553 – P4V – 003	4.0 mm (0.157 in)
	4	22554 – P4V – 003	4.2 mm (0.165 in)
	5	22555 – P4V – 003	4.4 mm (0.173 in)
	6	22556 – P4V – 003	4.6 mm (0.181 in)
	7	22557 – P4V – 003	4.8 mm (0.189 in)
	8	22558 – P4V – 003	5.0 mm (0.200 in)

	Plate No.	Part Number	Thickness mm (in)
1ST, 2ND, 3RD & 4TH CLUTCH	1	22551 — PY4 — 003	2.10 (0.083)
	2	22552 — PY4 — 003	2.20 (0.087)
	3	22553 — PY4 — 003	2.30 (0.091)
	4	22554 — PY4 003	2.40 (0.094)
	5	22555 — PY4 — 003	2.50 (0.098)
	6	22556 — PY4 — 003	2.60 (0.102)
	7	22557 PY4 — 003	2.70 (0.106)
	8	22558 — PY4 — 003	2.80 (0.110)
	9	22559 — PY4 — 003	2.90 (0.114)

	Plate No.	Part Number	Thickness mm (in)
1ST HOLD CLUTCH	L1	22351 — PY4 — 003	2.10 (0.083)
	L2	22352 — PY4 — 003	2.20 (0.087)
	L3	22353 — PY4 — 003	2.30 (0.091)
	L4	22354 — PY4 — 003	2.40 (0.094)
	L5	22355 — PY4 — 003	2.50 (0.098)
	L6	22356 — PY4 003	2.60 (0.102)
	L7	22357 — PY4 — 003	2.70 (0.106)
	L8	22358 PY4 — 003	2.80 (0.110)
	L9	22359 — PY4 — 003	2.90 (0.114)

	Plate No.	Part Number	Thickness mm (in)
REVERSE CLUTCH	R1	22451 — PY4 — 003	4.1(0.161)
	R2	22452 — PY4 — 003	4.2(0.165)
	R3	22453 — PY4 — 003	4.3(0.169)
	R4	22454 — PY4 — 003	4.4(0.173)
	R5	22455 — PY4 — 003	4.5(0.177)
	R6	22456 — PY4 003	4.6(0.181)
	R7	22457 — PY4 — 003	4.7(0.185)
	R8	22458 PY4 — 003	4.8(0.189)
	R9	22459 — PY4 — 003	4.9(0.193)

CLUTCH CLEARANCE

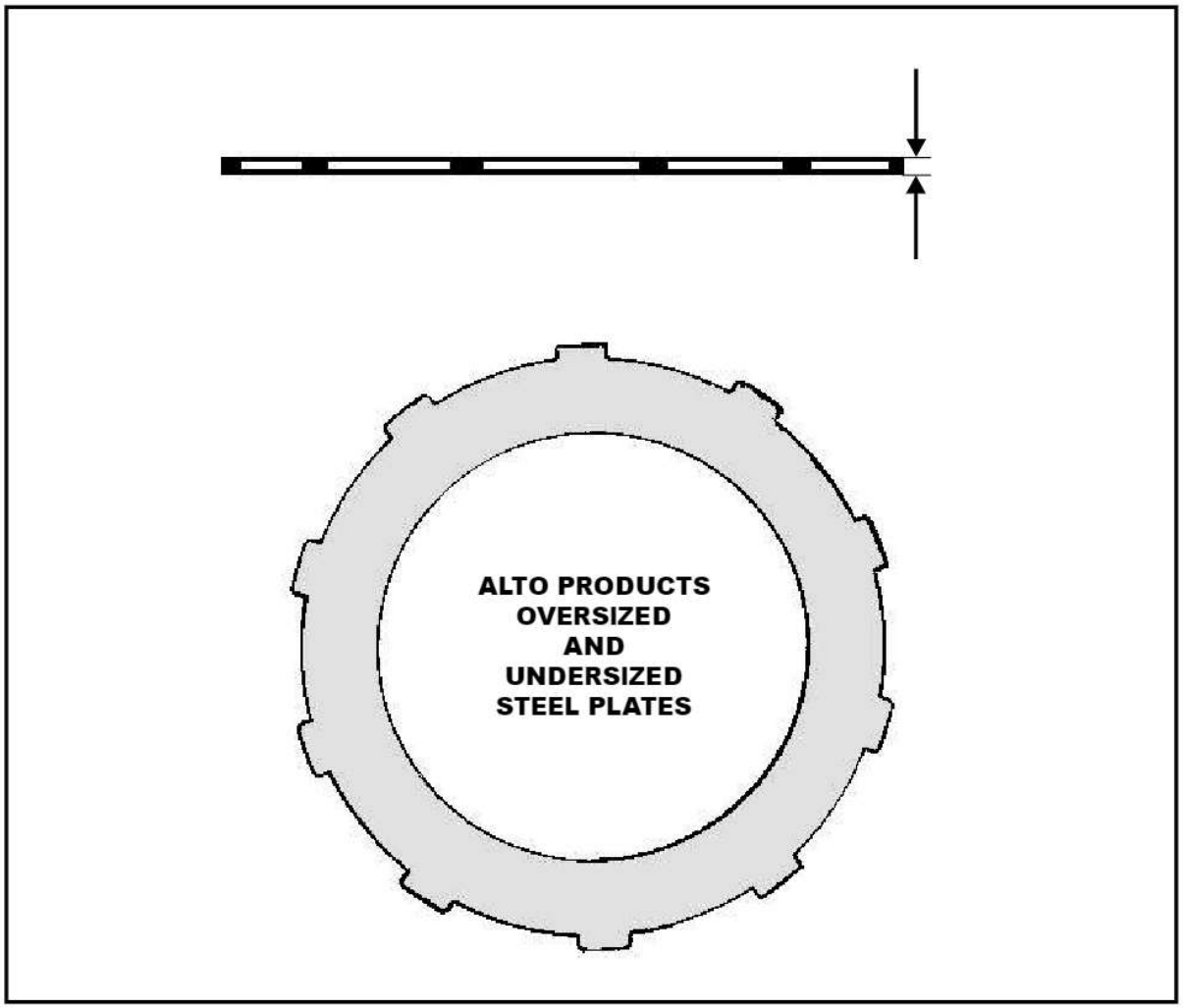
SELECTIVE STEEL PLATES

CHANGE: Oversized and undersized steel plates are available through ALTO PRODUCTS for all HONDA 3 and 4 speed transmissions.

REASON: It is difficult to stock ALL the selective pressure plates that are required to set clutch pack clearance.

SERVICE INFOMATION: The oversized steel plates are 2.1MM (.083)
The undersized steel plates are 1.8MM (.070)

CONTACT: ALTO PRODUCTS for information on who in your area stocks these steel plates at ...908-249-3633 or check with your parts supplier.



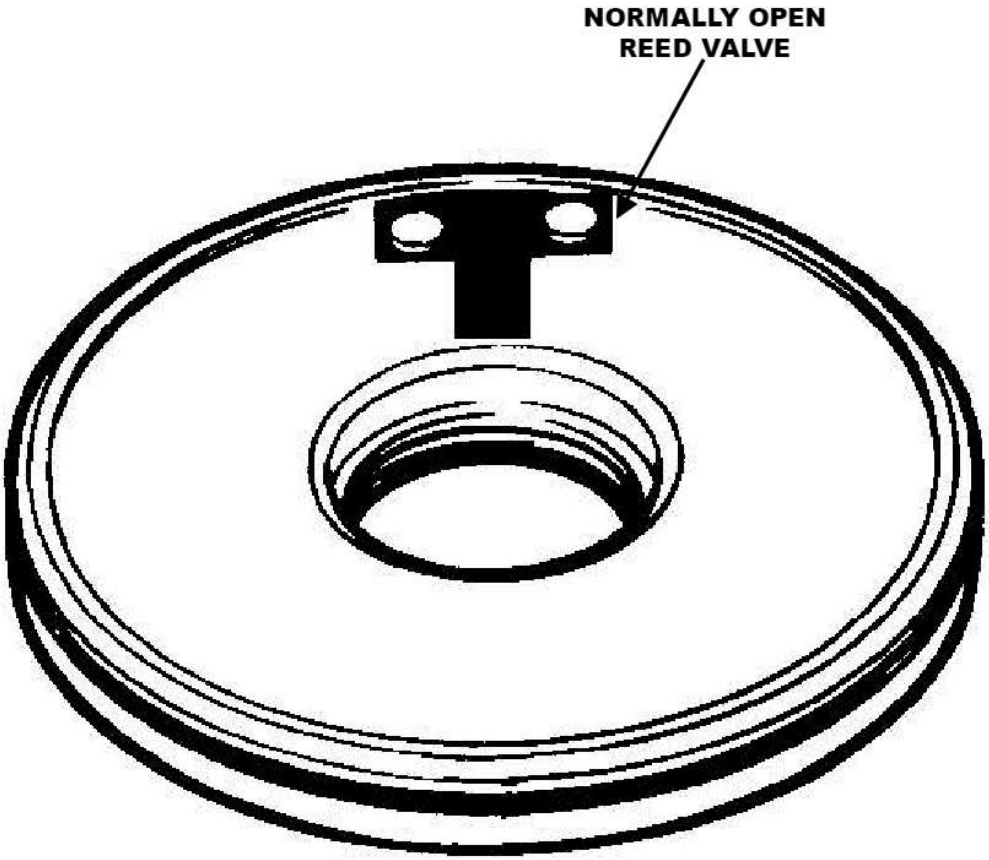
CLUTCH PISTON REED VALVE
SLIP OR CHATTER ON SHIFT

COMPLAINT: A chatter or slip when shifting into any gear.

CAUSE: All clutch pistons in all drums have an air bleed reed valve. Its purpose is to allow air to escape from the drum during release of the piston.
If material from previous damage should become lodged in the reed valve, it would be held open on the apply, when it should be closed, resulting in a leak affecting that particular clutch.

CORRECTION: Clean the reed valve thoroughly If it is damaged, replace the piston.

WARNING: Brazing the reed valve shut could result in a harsh shift complaint.



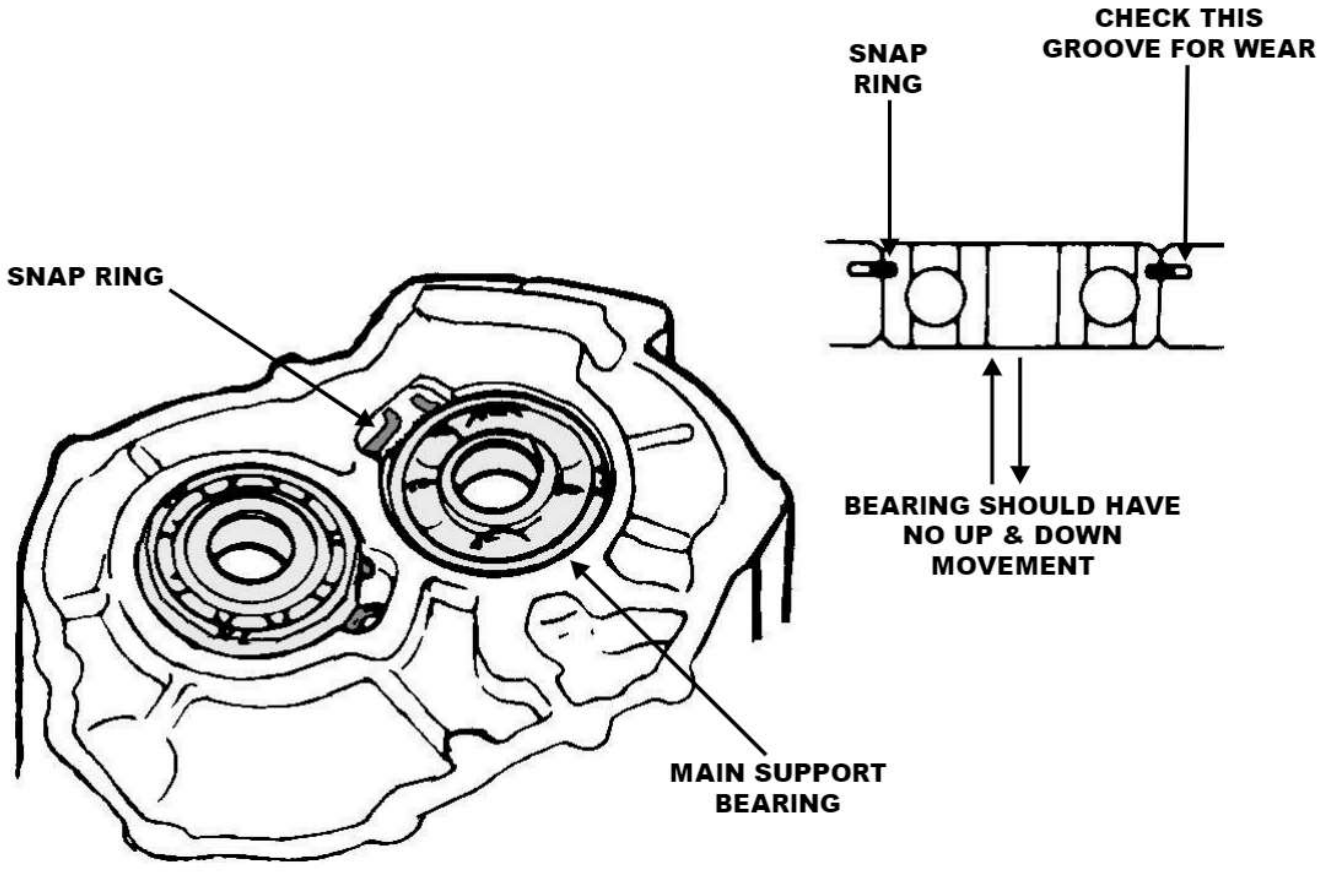
MAINSHAFT & COUNTERSHAFT MAIN SUPPORT BEARING SNAP RING GROOVE WEAR

COMPLAINT: Grinds on garage shift park to reverse or drive to reverse.

CAUSE: The snap ring that holds the mainshaft and countershaft support bearings in place in the transmission case has worn the snap ring groove allowing the entire shaft assembly to move up and down in the case. (See illustration below)

CORRECTION: Replace the transmission case.

WARNING: This condition should be investigated **BEFORE** the mainshaft and countershaft nuts are removed in order to avoid finding this problem **AFTER** the unit is rebuilt.



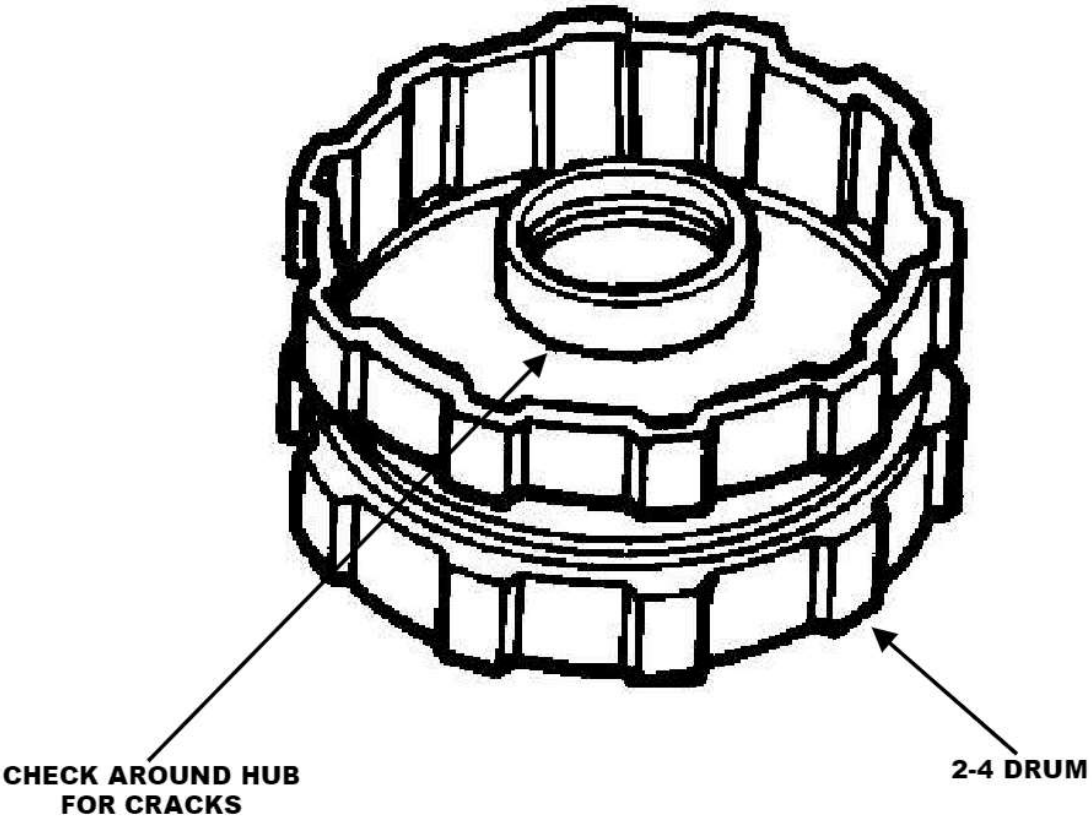
2-4, 4-2 SHIFT SHUTTLING

COMPLAINT: While driving at a steady speed, transaxle will hunt between 2nd gear and 4th gear.

CAUSE: A crack develops around the center hub of the 2-4 drum (see illustration below) allowing 4th gear oil to leak into the 2nd clutch side of the 2-4 drum causing the second clutch to apply.

CORRECTION: First verify the cause by connecting a pressure gauge to the 2nd clutch pressure port and drive the vehicle in 4th gear. There should be 0 PSI at the 2nd clutch when the transaxle is in 4th gear. If oil pressure is seen at the 2nd clutch when the vehicle is in 4th gear, the 2-4 drum can be considered to be the cause of the problem and will have to be replaced.

TIP: If the vehicle can not be driven, the 2nd clutch pressure can be checked with the vehicle in reverse, because the 4th clutch is ON in reverse as it would be in drive, 4th gear.



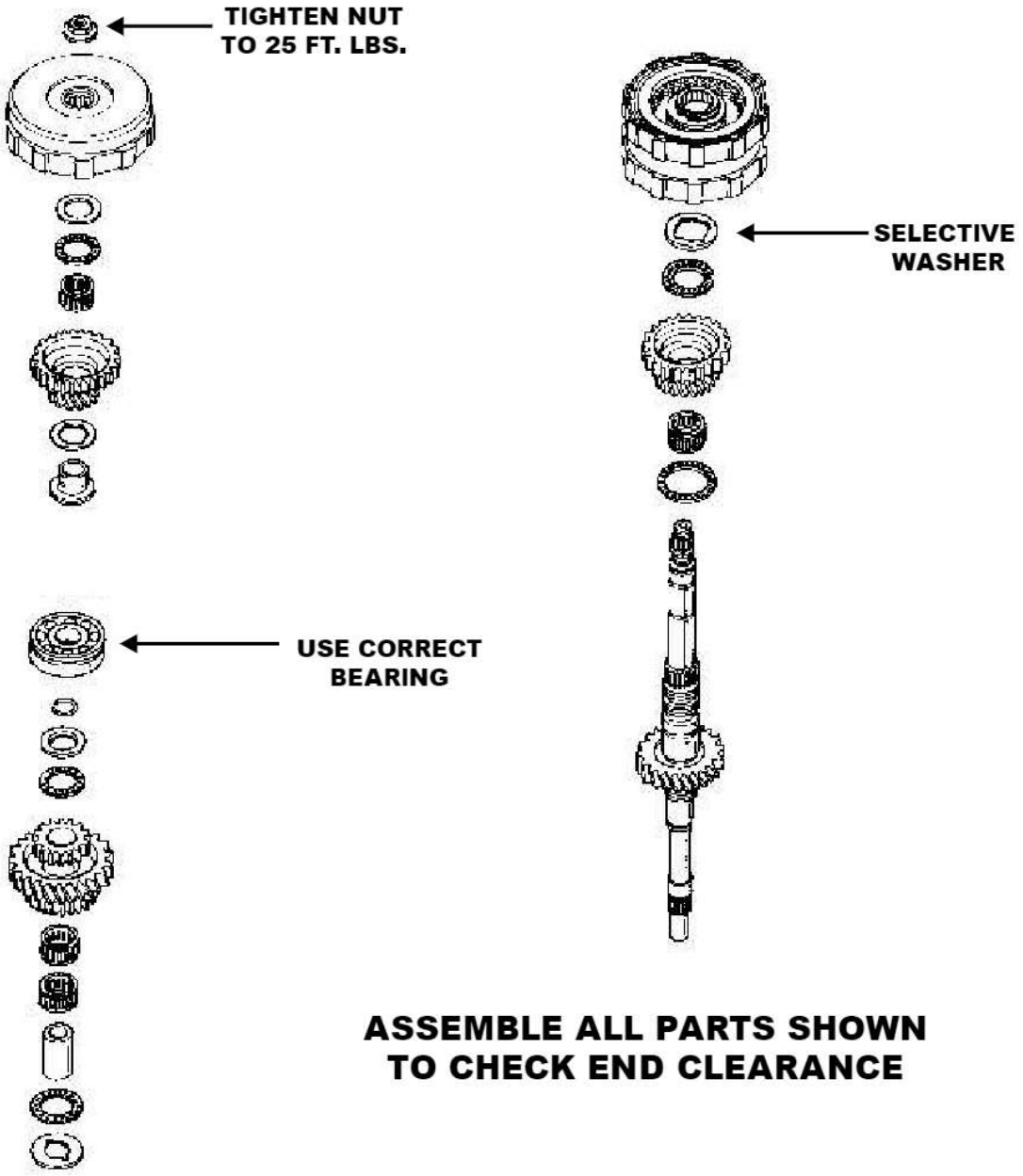
2 SHAFT

MAINSHAFT CLEARANCE MEASUREMENTS

Checking end clearance on Honda/Acura transaxles is critical due to the fact that all 2 shaft measurements fall between .003 to .006. The basic design of a Honda/Acura transaxle is more like a standard transaxle which is why clearance is so important.

Incorrect endplay is the NUMBER 1 cause of problems such as bind-up in reverse and grinding on garage shifts, especially when ANY hardparts are replaced.

Checking endplay can be confusing. The following information should clear up some of this confusion.



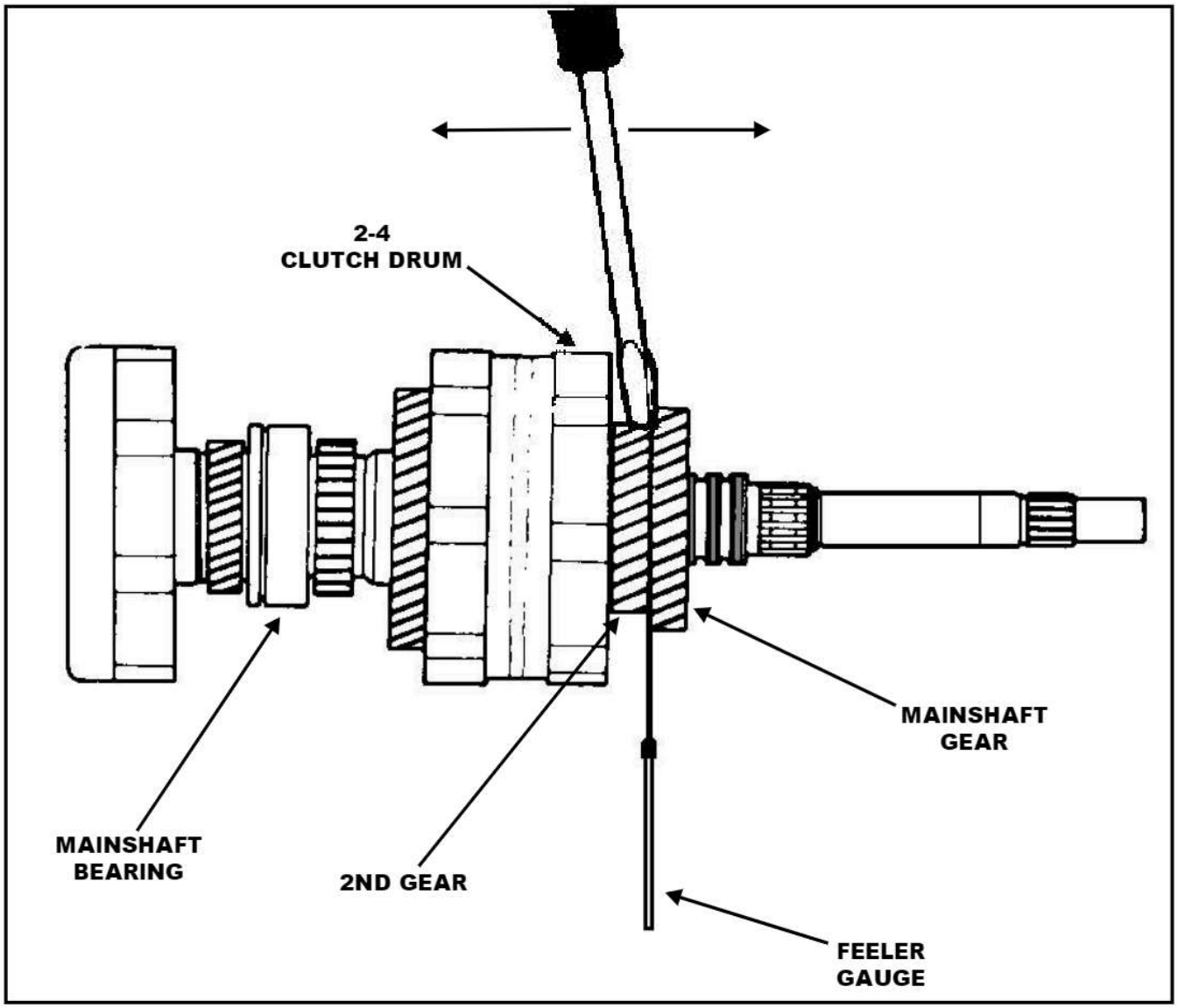
ASSEMBLE ALL PARTS SHOWN TO CHECK END CLEARANCE

2 SHAFT

MAINSHAFT CLEARANCE MEASUREMENTS

1-Assemble mainshaft and all of its components and tighten mainshaft nut to 25 ft. lbs.
2-Assemble the mainshaft bearing on the mainshaft, do NOT use the countershaft bearing.
3-Probe feeler gauge between 2nd gear and mainshaft gear.
4-Move 2nd gear towards the 2-4 clutch drum, take measurement with feeler gauge.
4-Move 2nd gear towards mainshaft gear, take measurement with feeler gauge.
5-Subtract first measurement from second measurement
6-Total MUST BE between .003 to .006.

NOTE: Final mainshaft nut torque must be 70 ft. lbs.
Mainshaft nut torque on A4RA/B4RA units is 58 Ft. Lbs.



2 SHAFT

MAINSHAFT SELECTIVES

AK

ID	PART NUMBER	THICKNESS
A	90401–PC9–0000	2.45–2.50 mm (0.096–0.098 in.)
B	90402–PC9–0000	2.55–2.60 mm (0.100–0.102 in.)
C	90403–PC9–0000	2.65–2.70 mm (0.104–0.106 in.)
D	90404–PC9–0000	2.75–2.80 mm (0.172-0.173 IN.)

CA/L4/ML4A/P1

ID	PART NUMBER	THICKNESS
A	90441–PC9–010	3.47–3.50 mm (0.137–0.138 in.)
B	90442–PC9–010	3.52–3.55 mm (0.139–0.140 in.)
C	90443–PC9–010	3.57–3.60 mm (0.141–0.142 in.)
D	90444–PC9–010	3.62–3.65 mm (0.143–0.144 in.)
E	90445–PC9–010	3.67–3.70 mm (0.145–0.146 in.)
F	90446–PC9–010	3.72–3.75 mm (0.147–0.148 in.)
G	90447–PC9–010	3.77–3.80 mm (0.149–0.150 in.)
H	90448–PC9–010	3.82–3.85 mm (0.151–0.152 in.)
I	90449–PC9–010	3.87–3.90 mm (0.153–0.154 in.)

G4

ID	PART NUMBER	THICKNESS
A	90441–PG4–000	4.00 mm (0.157 in.)
B	90442–PG4–000	4.05 mm (0.159 in.)
C	90443–PG4–000	4.10 mm (0.161 in.)
D	90444–PG4–000	4.15 mm (0.163 in.)
E	90445–PG4–000	4.20 mm (0.165 in.)
F	90446–PG4–000	4.25 mm (0.167 in.)
G	90447–PG4–000	4.30 mm (0.169 in.)
H	90448–PG4–000	4.35 mm (0.171 in.)
I	90449–PG4–000	4.40 mm (0.173 in.)

AS

ID	PART NUMBER	THICKNESS
A	90441–PC9–000	3.47–3.50 mm (0.137–0.138 in.)
B	90442–PC9–000	3.52–3.55 mm (0.139–0.140 in.)
C	90443–PC9–000	3.57–3.60 mm (0.141–0.142 in.)
D	90444–PC9–000	3.62–3.65 mm (0.143–0.144 in.)
E	90445–PC9–000	3.67–3.70 mm (0.145–0.146 in.)
F	90446–PC9–000	3.72–3.75 mm (0.147–0.148 in.)
G	90447–PC9–000	3.77–3.80 mm (0.149–0.150 in.)
H	90448–PC9–000	3.82–3.85 mm (0.151–0.152 in.)
I	90449–PC9–000	3.87–3.90 mm (0.153–0.154 in.)

F4

ID	PART NUMBER	TRANSAXLE
A	90441–PF4–000	3.97–4.00 mm (0.156–0.157 in.)
B	90442–PF4–000	4.02–4.05 mm (0.158–0.159 in.)
C	90443–PF4–000	4.07–4.10 mm (0.160–0.161 in.)
D	90444–PF4–000	4.12–4.15 mm (0.162–0.163 in.)
E	90445–PF4–000	4.17–4.20 mm (0.164–0.165 in.)
F	90446–PF4–000	4.22–4.25 mm (0.166–0.167 in.)
G	90447–PF4–000	4.27–4.30 mm (0.168–0.169 in.)
H	90448–PF4–000	4.32–4.35 mm (0.170–0.171 in.)
I	90449–PF4–000	4.37–4.40 mm (0.172–0.173 in.)

2 SHAFT

MAINSHAFT SELECTIVES

L5/PL5X

ID	PART NUMBER	THICKNESS
A	90441 PL5 000	4.00 mm (0.157 in.)
B	90442 – PL5 – 000	4.05 mm (0.159 in.)
C	90443 – PL5 – 000	4.10 mm (0.161 in.)
D	90444 – PL5 – 000	4.15 mm (0.163 in.)
E	90445 – PL5 – 000	4.20 mm (0.165 in.)
F	90446 PL5 – 000	4.25 mm (0.167 in.)
G	90447 – PL5 000	4.30 mm (0.169 in.)
H	90448 – PL5 000	4.35 mm (0.171 in.)
I	90449 – PL5 000	4.40 mm (0.173 in.)

K4

ID	PART NUMBER	THICKNESS
A	90441 – PL5 – 000	3.97 4.00 mm (0.156 – 0.157 in)
B	90442 – PL5 – 000	4.02 – 4.05 mm (0.158 – 0.159 in)
C	90443 PL5 000	4.07 – 4.10 mm (0.160 – 0.161 in)
D	90444 – PL5 – 000	4.12 4.15 mm (0.162 – 0.163 in)
E	90445 – PL5 – 000	4.17 – 4.20 mm (0.164 0.165 in)
F	90446 – PL5 – 000	4.22 4.25 mm (0.166 – 0.167 in)
G	90447 – PL5 – 000	4.27 – 4.30 mm (0.168 – 0.169 in)
H	90448 – PL5 000	4.32 – 4.35 mm (0.170 – 0.171 in)
I	90449 – PL5 000	4.37 – 4.40 mm (0.172 0.173 in)

PY8A/MY8A

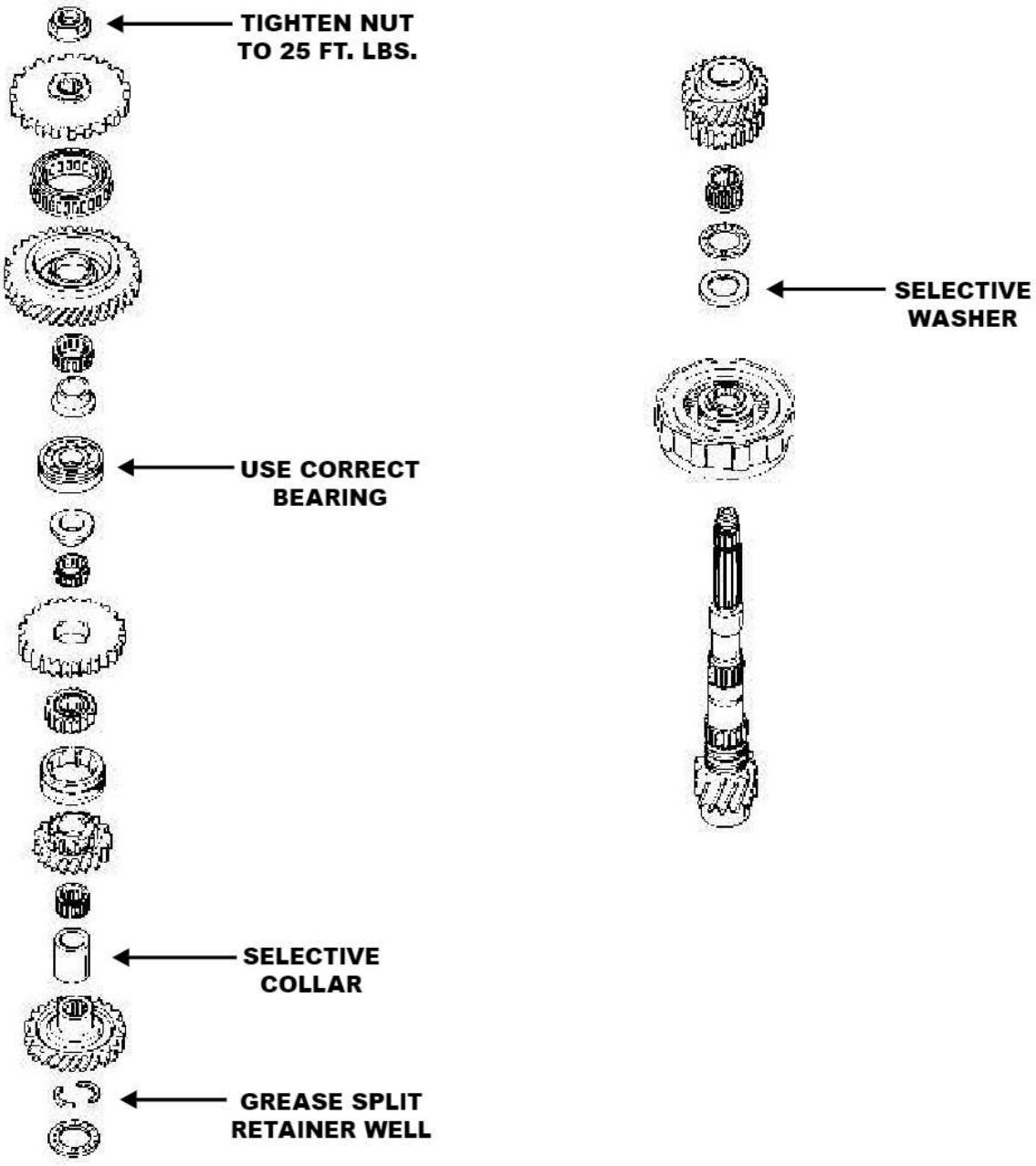
ID	PART NUMBER	THICKNESS
A	90441 – PG4 – 010	3.97 – 4.00 mm (0.156 – 0.157 in)
B	90442 PG4 010	4.02 – 4.05 mm (0.158 0.159 in)
C	90443 PG4 010	4.07 4.10 mm (0.160 – 0.161 in)
D	90444 – PG4 – 010	4.12 4.15 mm (0.162 – 0.163 in)
E	90445 – PG4 – 010	4.17 – 4.20 mm (0.164 0.165 in)
F	90446 PG4 010	4.22 – 4.25 mm (0.166 – 0.167 in)
G	90447 – PG4 – 010	4.27 – 4.30 mm (0.168 0.169 in)
H	90448 – PG4 – 010	4.32 – 4.35 mm (0.170 – 0.171 in)
I	90449 – PG4 – 010	4.37 – 4.40 mm (0.172 0.173 in)

A4RA/B4RA

No.	Part Number	Thickness
1	90441 – P4P – 010	4.00 mm (0.157 in)
2	90442 – P4P – 010	4.05 mm (0.159 in)
3	90443 P4P – 010	4.10 mm (0.161 in)
4	90444 – P4P – 010	4.15 mm (0.163 in)
5	90445 – P4P – 010	4.20 mm (0.165 in)
6	90446 – P4P – 010	4.25 mm (0.167 in)
7	90447 – P4P – 010	4.30 mm (0.169 in)
8	90448 – P4P 010	4.35 mm (0.171 in)
9	90449 – P4P – 010	4.40 mm (0.173 in)
10	90450 – P4P – 000	4.45 mm (0.175 in)

2 SHAFT

COUNTERSHAFT CLEARANCE MEASUREMENTS



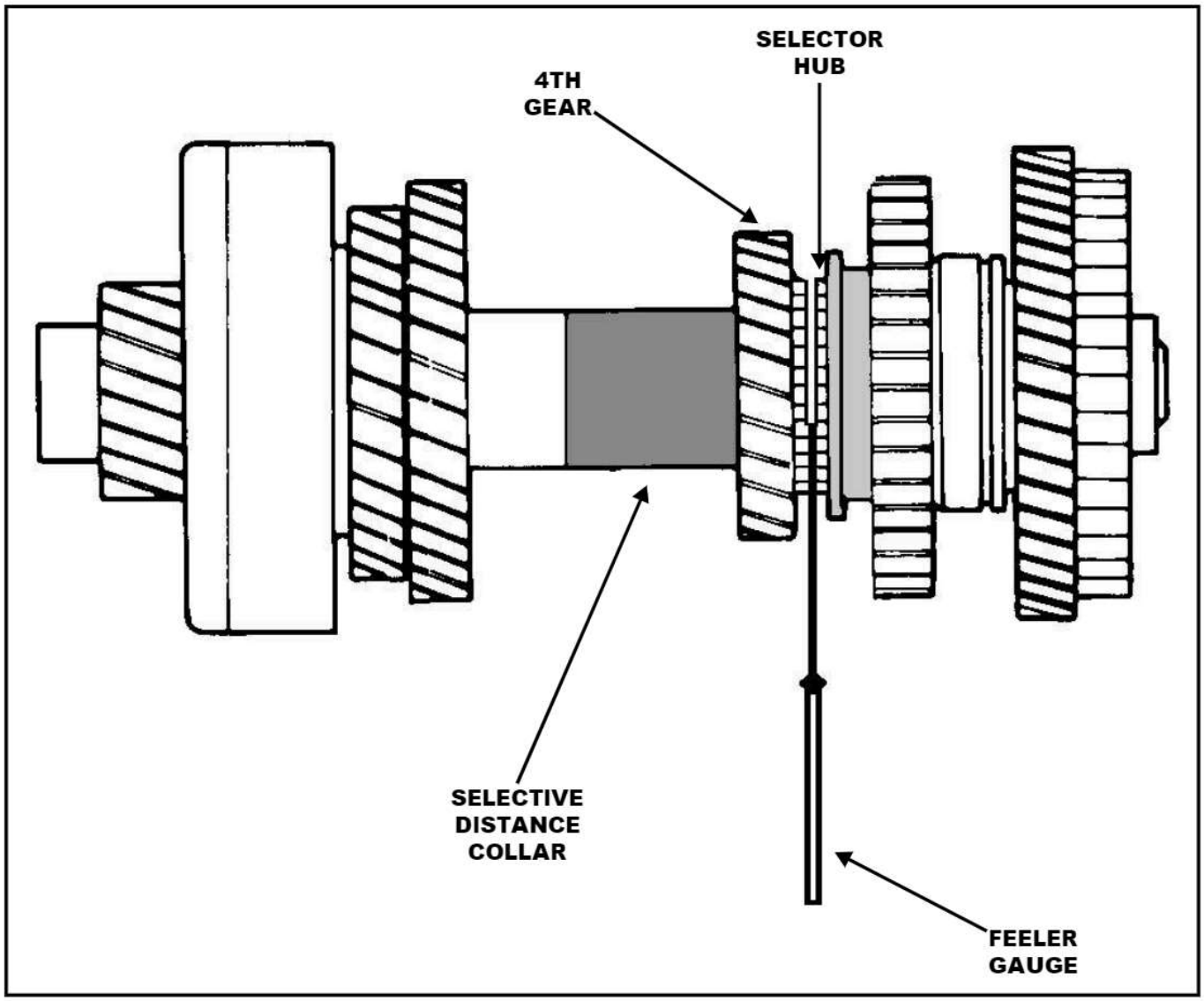
ASSEMBLE ALL PARTS SHOWN
TO CHECK END CLEARANCE

2 SHAFT
COUNTERSHAFT CLEARANCE MEASUREMENTS

DISTANCE COLLAR

1-Assemble countershaft and all its components and tighten countershaft nut to 25 ft. lbs.
2- Assemble the countershaft bearing on the countershaft, do NOT use mainshaft bearing.
3-Probe feeler gauge between the 4th gear and the selector hub.
4-Measurement MUST BE between .003 and .006.
5-Obtain proper length distance collar to adjust this measurement (See charts)

NOTE: Countershaft nut torque on A4RA/B4RA units is 76 Ft. Lbs.



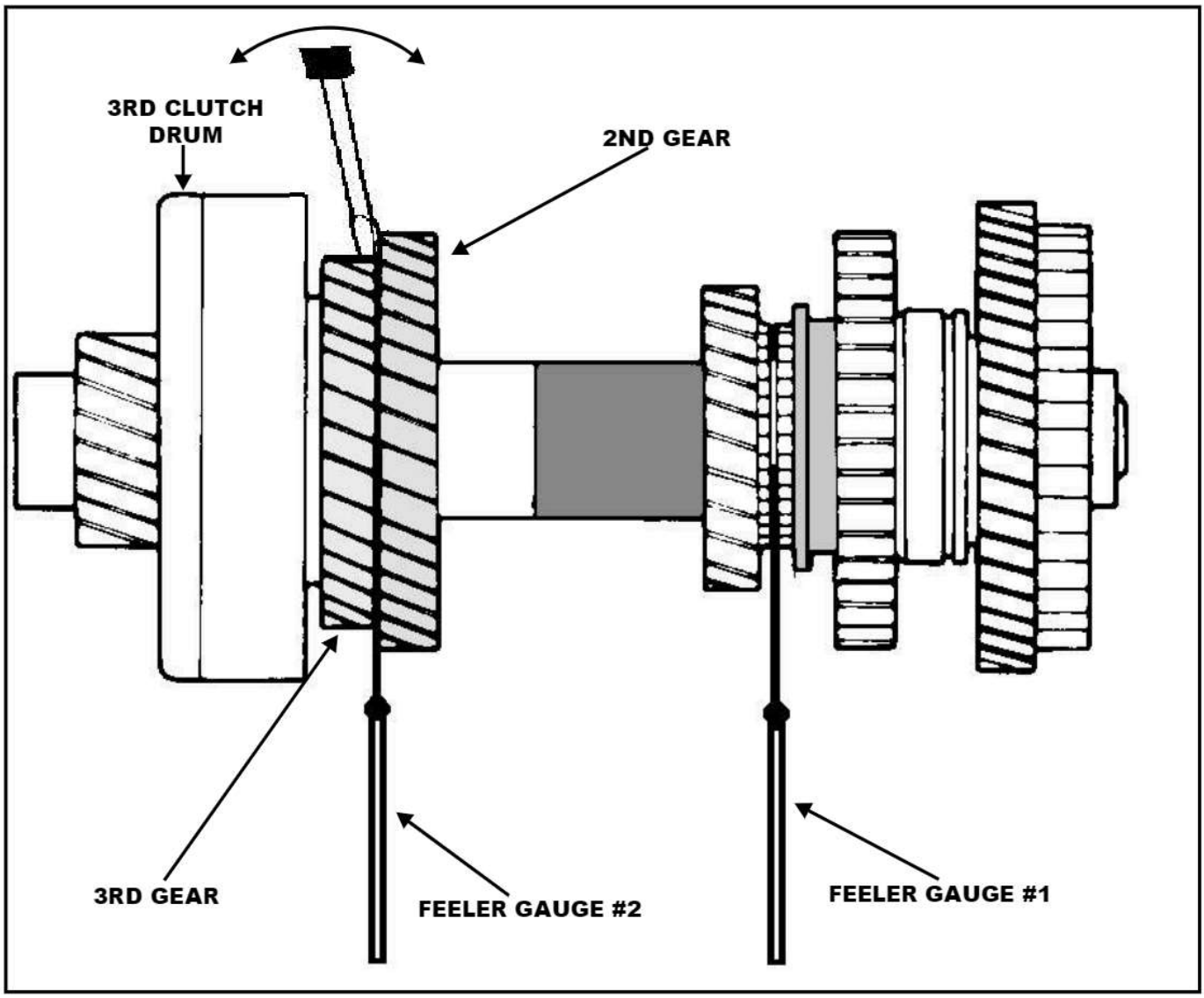
2 SHAFT

COUNTERSHAFT CLEARANCE MEASUREMENTS

SELECTIVE WASHER

1-Leave feeler gauge #1 stuck between 4th gear and selector hub.
2-Probe feeler gauge #2 between the 2nd gear and the 3rd gear.
3-Move the 3rd gear towards the 3rd clutch drum, take measurement with feeler gauge #2.
4-Move the 3rd gear towards the 2nd gear, take measurement with feeler gauge #2.
5-Subtract the first measurement from the second measurement.
6-The total MUST BE .003 to .006

NOTE: Final countershaft nut torque must be 70 ft. lbs. (76 Ft. Lbs. on A4RA/B4RA units). This measurement is ***NOT*** necessary on A4RA/B4RA units! The splined washer between the 3rd clutch drum and the 3rd gear in ***NOT*** selective.



2 SHAFT
COUNTERSHAFT SELECTIVES

AK

DISTANCE COLLAR

ID	PART NUMBER	THICKNESS
A	90503–PC9–0000	38.95–39.00 mm (1.533–1.535 in.)
B	90504–PC9–0000	39.05–39.10 mm (1.537–1.539 in.)
C	90505–PC9–0000	39.15–39.20 mm (1.541–1.543 in.)
D	90507–PC9–0000	39.25–39.30 mm (1.545–1.547 in.)

SPLINED WASHER

ID	PART NUMBER	THICKNESS
A	90411–PA9–0100	2.97–3.00 mm (0.117–0.118 in.)
B	90412–PA9–0100	3.02–3.05 mm (0.119–0.120 in.)
C	90413–PA9–0100	3.07–3.10 mm (0.121–0.122 in.)
D	90414–PA9–0100	(3.12–3.15 mm (0.123–0.124 in.)
E	90415–PA9 0100	3.17–3.20 mm (0.125–0.126 in.)
F	90416–PA9–0100	3.22–3.25 mm (0.127–0.128 in.)
G	90419–PA9- 0100	3.27–3.30 mm (0.129–0.130 in.)
H	90420–PA9–0100	3.32–3.35 mm (0.131–0.132 in.)
I	90421–PA9–0100	3.37–3.40 mm (0.133–0.134 in.)

AS

DISTANCE COLLAR

ID	PART NUMBER	THICKNESS
A	90503–PC9–000	38.97–39.00 mm (1.534–1.535 in.)
B	90508–PC9–000	39.02–39.05 mm (1.536–1.537 in.)
C	90504–PC9–000	39.07–39.10 mm (1.538 -1.539 in.)
D	90509–PC9–000	39.12–39.15 mm (1.540–1.541 in.)
E	90505–PC9–000	39.17–39.20 mm (1.542–1.543 in.)
F	90510–PC9- 000	39.22–39.25 mm (1.544–1.545 in.)
G	90507–PC9–000	39.27–39.30 mm (1.546–1.547 in.)

SPLINED WASHER

ID	PART NUMBER	THICKNESS
A	90411–PA9–0100	2.97–3.00 mm (0.117–0.118 in.)
B	90412–PA9–0100	3.02–3.05 mm (0.119–0.120 in.)
C	90413–PA9–0100	3.07–3.10 mm (0.121–0.122 in.)
D	90414–PA9–0100	(3.12–3.15 mm (0.123–0.124 in.)
E	90415–PA9 0100	3.17–3.20 mm (0.125–0.126 in.)
F	90416–PA9–0100	3.22–3.25 mm (0.127–0.128 in.)
G	90419–PA9- 0100	3.27–3.30 mm (0.129–0.130 in.)
H	90420–PA9–0100	3.32–3.35 mm (0.131–0.132 in.)
I	90421–PA9–0100	3.37–3.40 mm (0.133–0.134 in.)

2 SHAFT
COUNTERSHAFT SELECTIVES
F4

DISTANCE COLLAR

ID	PART NUMBER	THICKNESS
A	90503—PC9—000	38.97—39.00 mm (1.534—1.535 in.)
B	90504—PC9—000	39.02—39.05 mm (1.536 1.537 in.)
C	90505—PC9—000	39.07—39.10 mm (1.538—1.539 in.)
D	90507—PC9—000	39.12—39.15 mm (1.540—1.541 in.)
E	90508—PC9 000	39.17 39.20 mm (1.542—1.543 in.)
F	90509—PC9—000	39.22—39.25 mm (1.544 1.545 in.)
G	90510—PC9—000	39.27—39.30 mm (1.546—1.547 in.)

SPLINED WASHER

ID	PART NUMBER	TRANSAXLE
A	90411—PF4—010	2.97—3.00 mm (0.117 0.118 in.)
B	90412--PF4—010	3.02 3.05 mm (0.119—0.120 in.)
C	90413—PF4—010	3.07 -3.10 mm (0.121 0.122 in.)
D	90414—PF4—010	3.12 -3.15 mm (0.123—0.124 in.)
E	90415—PF4—010	3.17 --3.20 mm (0.125 0.126 in.)
F	90416 PF4—010	3.22—3.25 mm (0.127—0.128 in.)
G	90417—PF4—010	3.27 3.30 mm (0.129—0.130 in.)
H	90418 PF4—010	3.32 3.35 mm (0.131—0.132 in.)
I	90419—PF4—010	3.37 3.40 mm (0.133—0.134 in.)

CA

SPLINED WASHER

ID	PART NUMBER	TRANSAXLE
1	90411- PA9—010	2.97—3.00 mm (0.117—0.118 in.)
2	90412—PA9 010	3.02—3.05 mm (0.119—0.120 in.)
3	90413—PA9—010	3.07 3.10 mm (0.121—0.122 in.)
4	90414—PA9—010	3.12—3.15 mm (0.123—0.124 in.)
5	90415—PA9—010	3.17 3.20 mm (0.125—0.126 in.)
6	90418—PA9 000	3.22—3.25 mm (0.127 0.128 in.)
7	90419 PA9—000	3.27—3.30 mm (0.129—0.130 in.)
8	90420—PA9- 000	3.32—3.35 mm (0.131- 0.132 in.)
9	90421—PA9- 000	3.37—3.40 mm (0.133—0.134in.)

DISTANCE COLLAR

ID	PART NUMBER	TRANSAXLE
1	90511-PH0-000	34.00 mm (1.339 in.)
2	90512-PH0-000	34.05 mm (1.341 in.)
3	90513-PH0-000	34.10 mm (1.342 in.)
4	90514-PH0-000	34.15 mm (1.344 in.)
5	90515 PH0-000	34.20 mm (1.346 in.)
6	90516-PH0-000	34.25 mm (1.348 in.)
7	90517-PH0-000	34.30 mm (1.350 in.)

2 SHAFT
COUNTERSHAFT SELECTIVES
L4/ML4A/P1

DISTANCE COLLAR

ID	PART NUMBER	TRANSAXLE
1	90503—PC9—000	39.00 mm (1.535 in.)
2	90504—PC9—000	39.10 mm (1.539 in.)
3	90505—PC9—000	39.20 mm (1.543 in.)
4	90507—PC9—000	39.30 mm (1.547 in.)
5	90508—PC9—000	39.05 mm (1.537 in.)
6	90509—PC9—000	39.15 mm (1.541 in.)
7	90510—PC9—000	39.25 mm (1.545 in.)

SPLINED WASHER

ID	PART NUMBER	TRANSAXLE
1	90417—PA9—010	2.97—3.00 mm (0.117—0.118 in.)
2	90412—PA9—010	3.02—3.05 mm (0.119—0.120 in.)
3	90413—PA9—010	3.07—3.10 mm (0.121—0.122 in.)
4	90414—PA9—010	3.12—3.15 mm (0.123—0.124 in.)
5	90415—PA9—010	3.17—3.20 mm (0.125—0.126 in.)
6	90416—PA9—000	3.22—3.25 mm (0.127—0.128 in.)
7	90419—PA9—000	3.27—3.30 mm (0.129—0.130 in.)
8	90420—PA9—000	3.32—3.35 mm (0.131—0.132 in.)
9	90421—PA9—000	3.37—3.40 mm (0.133—0.134in.)

G4

SPLINED WASHER

ID	PART NUMBER	TRANSAXLE
1	90411—PG4—000	4.50 mm (0.177 in.)
2	90412—PG4—000	4.55 mm (0.179 in.)
3	90413—PG4—000	4.60 mm (0.181 in.)
4	90414—PG4—000	4.65 mm (0.183 in.)
5	90415—PG4—000	4.70 mm (0.185 in.)
6	90416—PG4—000	4.75 mm (0.187 in.)
7	90417—PG4—000	4.80 mm (0.189 in.)
8	90418—PG4—000	4.85 mm (0.191 in.)
9	90419—PG4—000	4.90 mm (0.193 in.)

DISTANCE COLLAR

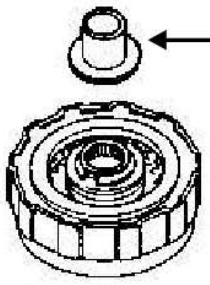
ID	PART NUMBER	TRANSAXLE
1	90501—PG4—000	47.50 mm (1.870 in.)
2	90502—PG4—000	47.55 mm (1.872 in.)
3	90503—PG4—000	47.60 mm (1.874 in.)
4	90504—PG4—000	47.65 mm (1.876 in.)
5	90505—PG4—000	47.70 mm (1.878 in.)
6	90506—PG4—000	47.75 mm (1.880 in.)
7	90507—PG4—000	47.80 mm (1.882 in.)

L5/PL5X

DISTANCE COLLAR

ID	PART NUMBER	TRANSAXLE
1	90501—PL5—000	47.45 mm (1.868 in)
2	90502—PL5—000	47.50 mm (1.870 in)
3	90503—PL5—000	47.55 mm (1.872 in)
4	90504—PL5—000	47.60 mm (1.874 in)
5	90505—PL5—000	47.65 mm (1.876 in)
6	90506—PL5—000	47.70 mm (1.878 in)
7	90507—PL5—000	47.75 mm (1.880 in)
8	90508—PL5—000	47.80 mm (1.882 in)
9	90509—PL5—000	47.85 mm (1.884 in)
10	90510—PL5—000	47.90 mm (1.886 in)

THE L5 AND PL5X DO NOT USE A SELECTIVE WASHER IN THIS POSITION



IF THIS COLLAR MEASURES LESS THAN 28.40MM (1.118) **REPLACE IT**

PART NUMBER 90411-PL5-000

2 SHAFT

COUNTERSHAFT SELECTIVES

K4

DISTANCE COLLAR

ID	PART NUMBER	THICKNESS
1	90503–PC9–000	38.97–39.00 mm (1.534–1.535 in)
2	90508–PC9–000	39.02–39.05 mm (1.536–1.537 in)
3	90504–PC9–000	39.07–39.10 mm (1.538–1.539 in)
4	90509–PC9–000	39.12–39.15 mm (1.540–1.541 in)
5	90505–PC9–000	39.17–39.20 mm (1.542–1.543 in)
6	90510–PC9–000	39.22–39.25 mm (1.544–1.545 in)
7	90507–PC9–000	39.27–39.30 mm (1.546–1.547 in)

SPLINED WASHER

ID	PART NUMBER	TRANSAXLE
1	90411–PF4–000	2.97–3.00 mm (0.117–0.118 in)
2	90412–PF4–000	3.02–3.05 mm (0.119–0.120 in)
3	90413–PF4–000	3.07–3.10 mm (0.121–0.122 in)
4	90414–PF4–000	3.12–3.15 mm (0.123–0.124 in)
5	90415–PF4–000	3.17–3.20 mm (0.125–0.126 in)
6	90416–PF4–000	3.22–3.25 mm (0.127–0.128 in)
7	90417–PF4–000	3.27–3.30 mm (0.129–0.130 in)
8	90418–PF4–000	3.32–3.35 mm (0.131–0.132 in)
9	90419–PF4–000	3.37–3.40 mm (0.133–0.134 in)

PY8A/MY8A

DISTANCE COLLAR

ID	PART NUMBER	THICKNESS
1	90503–PC9–000	38.97–39.00 mm (1.534–1.535 in)
2	90504–PC9–000	39.07–39.10 mm (1.538–1.539 in)
3	90505–PC9–000	39.17–39.20 mm (1.542–1.543 in)
4	90507–PC9–000	39.27–39.30 mm (1.546–1.547 in)
5	90508–PC9–000	39.02–39.05 mm (1.536–1.537 in)
6	90509–PC9–000	39.12–39.15 mm (1.540–1.541 in)
7	90510–PC9–000	39.22–39.25 mm (1.544–1.545 in)
8	90511–PC9–000	39.87–39.90 mm (1.570–1.571 in)
9	90512–PC9–000	39.92–39.95 mm (1.572–1.573 in)

SPLINED WASHER

ID	PART NUMBER	TRANSAXLE
1	90411–PF4–000	2.97–3.00 mm (0.117–0.118 in)
2	90412–PF4–000	3.02–3.05 mm (0.119–0.120 in)
3	90413–PF4–000	3.07–3.10 mm (0.121–0.122 in)
4	90414–PF4–000	3.12–3.15 mm (0.123–0.124 in)
5	90415–PF4–000	3.17–3.20 mm (0.125–0.126 in)
6	90416–PF4–000	3.22–3.25 mm (0.127–0.128 in)
7	90417–PF4–000	3.27–3.30 mm (0.129–0.130 in)
8	90418–PF4–000	3.32–3.35 mm (0.131–0.132 in)
9	90419–PF4–000	3.37–3.40 mm (0.133–0.134 in)

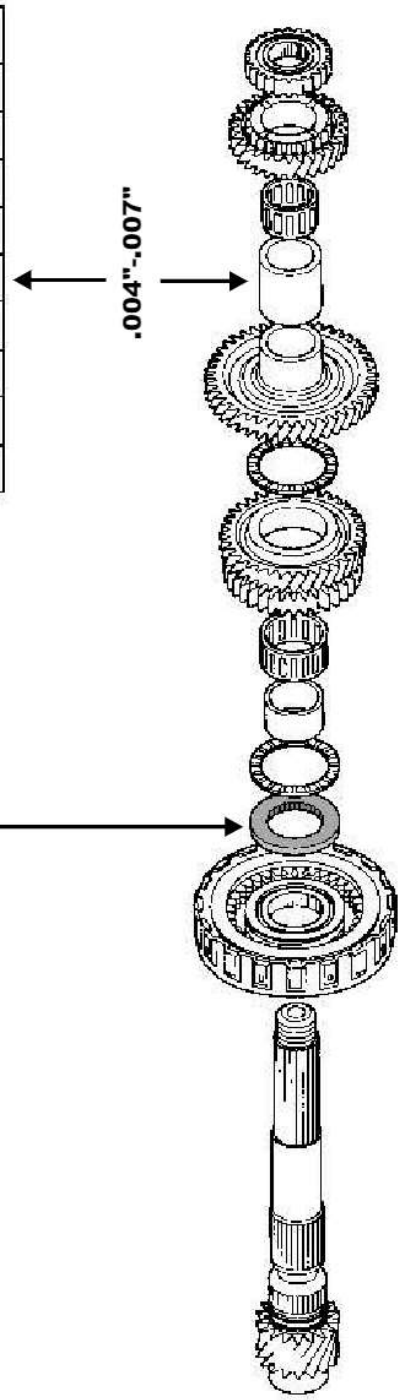
2 SHAFT

COUNTERSHAFT SELECTIVES

A4RA/B4RA

DISTANCE COLLAR

No.	Part Number	Width
1	90503 – PC9 – 000	39.00 mm (1.535 in)
2	90504 – PC9 – 000	39.10 mm (1.539 in)
3	90505 – PC9 – 000	39.20 mm (1.543 in)
4	90507 – PC9 – 000	39.30 mm (1.547 in)
5	90508 – PC9 – 000	39.05 mm (1.537 in)
6	90509 – PC9 – 000	39.15 mm (1.541 in)
7	90510 – PC9 – 000	39.25 mm (1.545 in)
8	90511 – PC9 – 000	38.90 mm (1.531 in)
9	90512 – PC9 – 000	38.95 mm (1.533 in)



THIS SPLINED WASHER IS *NOT* SELECTIVE NO MEASUREMENT IS NECESSARY

3 SHAFT

MAINSHAFT, COUNTERSHAFT and SECONDARY SELECTIVES

S5/MPSA

MAINSHAFT

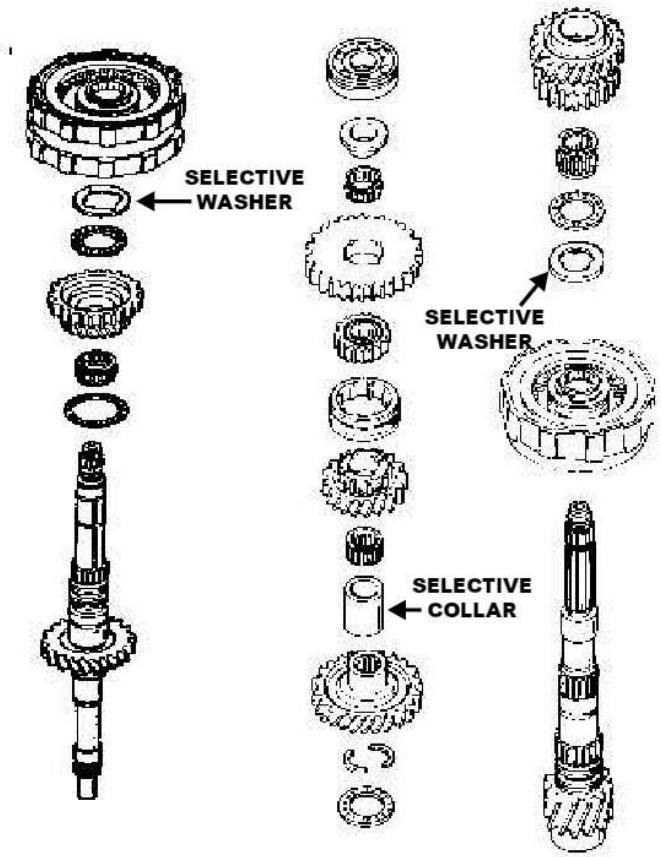
ID	PART NUMBER	THICKNESS
A	90441–PC9–010	3.47–3.50 mm (0.137–0.138 in.)
B	90442–PC9–010	3.52–3.55 mm (0.139–0.140 in.)
C	90443–PC9–010	3.57–3.60 mm (0.141–0.142 in.)
D	90444–PC9–010	3.62–3.65 mm (0.143–0.144 in.)
E	90445–PC9–010	3.67–3.70 mm (0.145–0.146 in.)
F	90446–PC9–010	3.72–3.75 mm (0.147–0.148 in.)
G	90447–PC9–010	3.77–3.80 mm (0.149–0.150 in.)
H	90448–PC9–010	3.82–3.85 mm (0.151–0.152 in.)
I	90449–PC9–010	3.87–3.90 mm (0.153–0.154 in.)

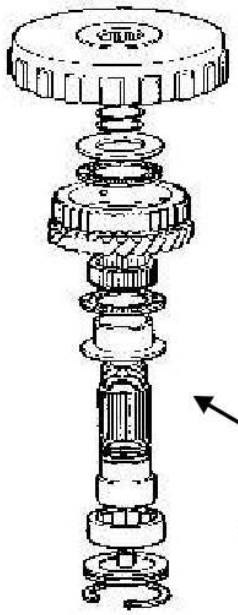
COUNTERSHAFT-DISTANCE COLLAR

ID	PART NUMBER	THICKNESS
1	90503–PC9–000	39.00 mm (1.535 in.)
2	90504–PC9–000	39.10 mm (1.539 in.)
3	90505–PC9–000	39.20 mm (1.543 in.)
4	90507–PC9–000	39.30 mm (1.547 in.)
5	90508–PC9–000	39.05 mm (1.537 in.)
6	90509–PC9–000	39.15 mm (1.541 in.)
7	90510–PC9–000	39.25 mm (1.545 in.)

COUNTERSHAFT-SPLINED WASHER

ID	PART NUMBER	THICKNESS
1	90411–PA9–010	2.97–3.00 mm (0.117–0.118 in.)
2	90412–PA9–010	3.02–3.05 mm (0.119–0.120 in.)
3	90413–PA9–010	3.07–3.10 mm (0.121–0.122 in.)
4	90414–PA9–010	3.12–3.15 mm (0.123–0.124 in.)
5	90415–PA9–010	3.17–3.20 mm (0.125–0.126 in.)
6	90418–PA9–000	3.22–3.25 mm (0.127–0.128 in.)
7	90419–PA9–000	3.27–3.30 mm (0.129–0.130 in.)
8	90420–PA9–000	3.32–3.35 mm (0.131–0.132 in.)
9	90421–PA9–000	3.37–3.40 mm (0.133–0.134 in.)
10	90423–PA9–000	2.87–2.90 mm (0.113–0.114 in.)
11	90424–PA9–000	2.92–1.95 mm (0.1158–0.1161IN.)





THERE ARE NO SELECTIVES ON THE SUBSHAFT

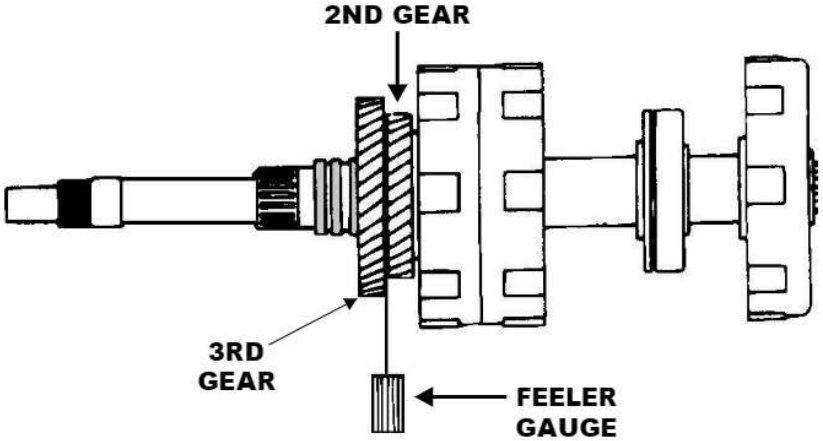
3 SHAFT

MAINSHAFT SELECTIVES

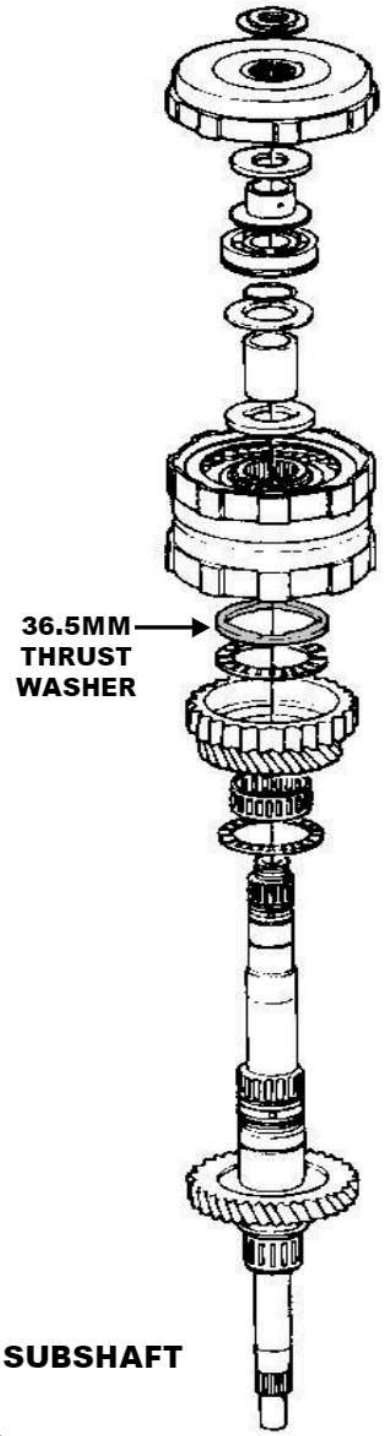
M24A/S24A/A24A

36.5X51MM THRUST WASHER

1-Assemble the mainshaft and its components without the 1st gear.
2-Torque the mainshaft nut to 25 ft. lbs.
3-Hold the 2nd gear against the 2nd clutch.
4-Insert a feeler gauge between the 3rd gear and the 2nd gear.
5-The measurement MUST BE .002 to.005.



NOTE: MAINSHAFT ASSEMBLED WITHOUT THE 1ST GEAR



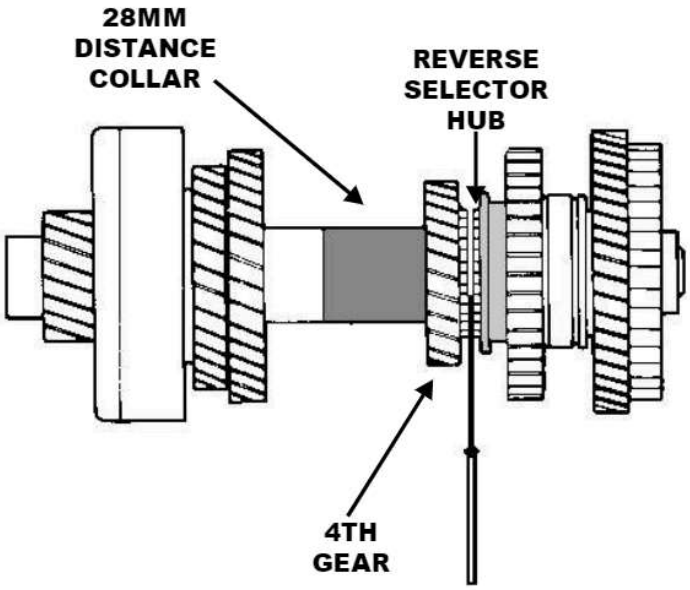
36.5MM THRUST WASHER

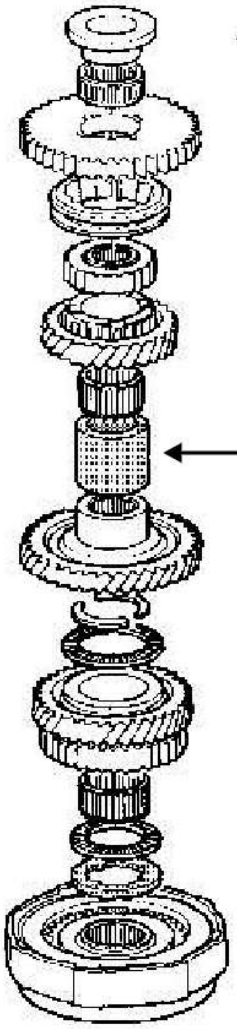
NO.	PART NUMBER	THICKNESS
1	90441-PC9-010	3.50 mm (0.138 in)
2	90442-PC9-010	3.55 mm (0.140 in)
3	90443-PC9-010	3.60 mm (0.142 in)
4	90444-PC9-010	3.65 mm (0.144 in)
5	90445-PC9-010	3.70 mm (0.146 in)
6	90446-PC9-010	3.75 mm (0.148 in)
7	90447-PC9-010	3.80 mm (0.150 in)
8	90448-PC9-010	3.85 mm (0.152 in)
9	90449-PC9-010	3.90 mm (0.154 in)

NOTE: THERE ARE NO SELECTIVES ON THE SUBSHAFT

3 SHAFT
COUNTERSHAFT SELECTIVES
M24A/S24A/A24A
28MM DISTANCE COLLAR

1-Assemble the countershaft with ALL of its components.
2-Torque the countershaft nut to 25 ft lbs.
3-Insert feeler gauge between the 4th gear and the reverse selector hub.
4-Measurement MUST BE .002 to .005.
5-Select the correct 28mm distance collar to obtain the proper clearance.



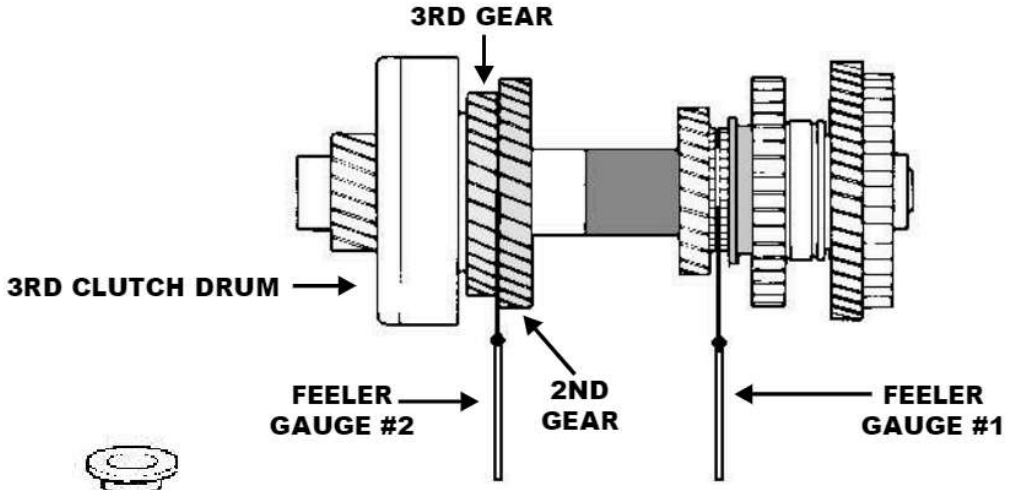


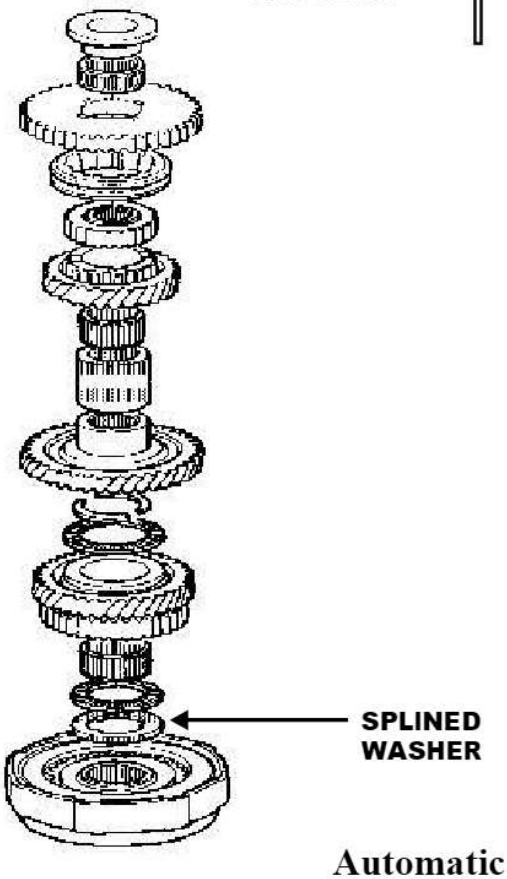
28MM DISTANCE COLLAR

NO.	PART NUMBER	THICKNESS
1	90503 - PC9 - 000	38.97 – 39.00 mm (1.534 – 1.535 in)
2	90504 - PC9 – 000	39.07 – 39.10 mm (1.538 – 1.539 in)
3	90505 – PC9 – 000	39.17 – 39.20 mm (1.542 – 1.543 in)
4	90507 - PC9 - 000	39.27 – 39.30 mm (1.546 – 1.547 in)
5	90508 – PC9 – 000	39.02 – 39.05 mm (1.536 – 1.537 in)
6	90509 - PC9 – 000	39.12 – 39.15 mm (1.540 – 1.541 in)
7	90510 - PC9 – 000	39.22 – 39.25 mm (1.544 – 1.545 in)
8	90511 – PC9 – 000	39.37 – 39.40 mm (1.550 – 1.551 in)
9	90512 - PC9 - 000	39.82 – 39.85 mm (1.572 – 1.573 in)

3 SHAFT
COUNTERSHAFT SELECTIVES
M24A/S24A/A24A
SPLINED WASHER

1-Feeler gauge #1 that was used for the distance collar measurement MUST remain in place.
2-Insert feeler gauge #2 between the 3rd gear and the 2nd gear, pushing the 3rd gear towards the 3rd clutch and take a measurement.
3-Then push the 3rd gear towards the 2nd gear and take another measurement.
4-Subtract one figure from the other and the total MUST BE .002-.005
5-Select the correct splined washer to obtain the proper clearance.
NOTE: Final countershaft nut torque is 100 FT. LBS.





SPLINED WASHER

NO.	PART NUMBER	THICKNESS
1	90411-PF4-000	3.00 mm (0.118 in)
2	90412-PF4-000	3.05 mm (0.120 in)
3	90413-PF4-000	3.10 mm (0.122 in)
4	90414-PF4-000	3.15 mm (0.124 in)
5	90415-PF4-000	3.20 mm (0.126 in)
6	90416-PF4-000	3.25 mm (0.128 in)
7	90417-PF4-000	3.30 mm (0.130 in)
8	90418-PF4-000	3.35 mm (0.132 in)
9	90419-PF4-000	3.40 mm (0.134 in)
10	90411-P24-J00	3.45 mm (0.136 in)
11	90412-P24-J00	3.50 mm (0.138 in)
12	90413-P24-J00	3.55 mm (0.140 in)
13	90414-P24-J00	3.60 mm (0.142 in)

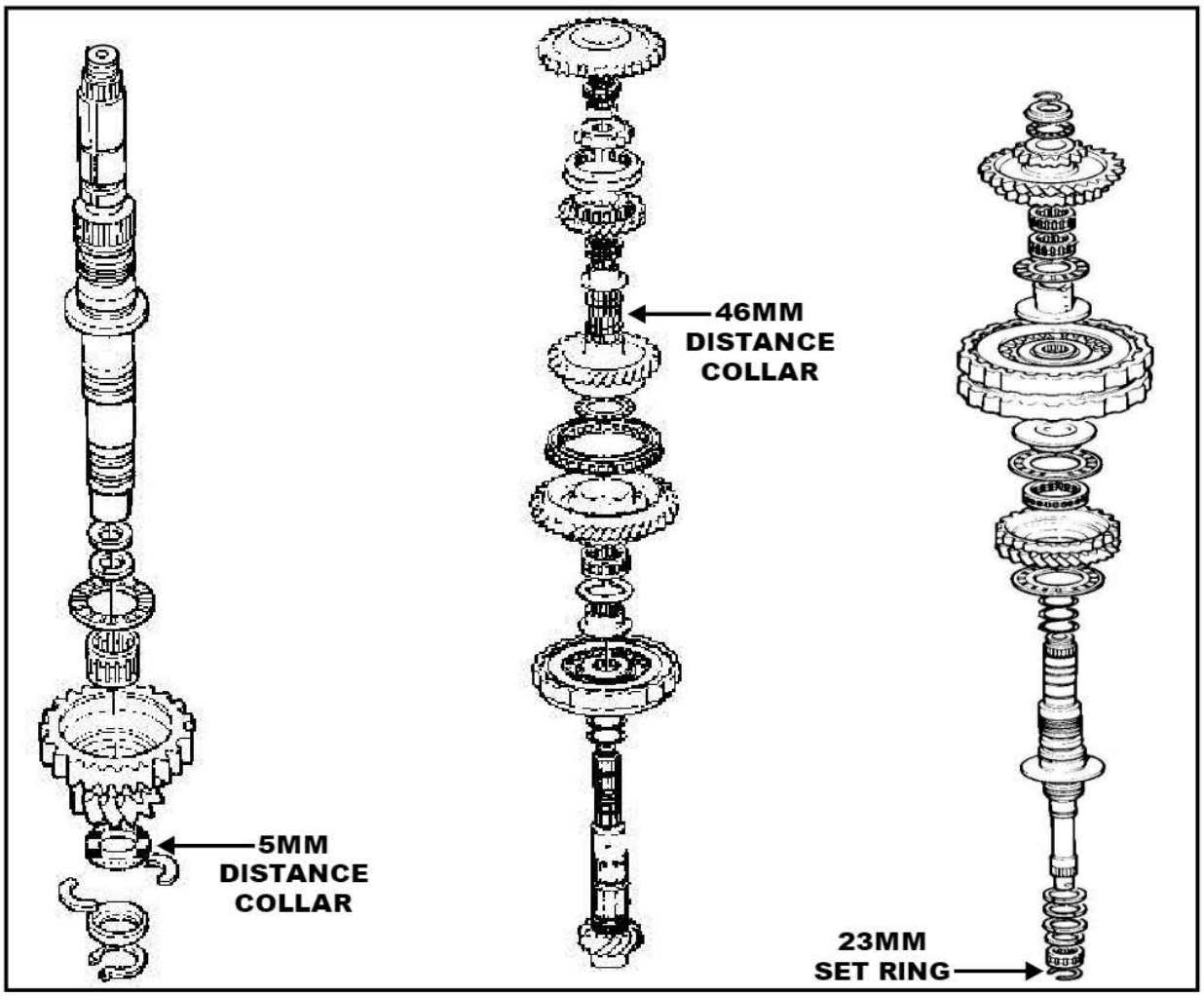
PX4B 3 SHAFT

MAINSHAFT, COUNTERSHAFT AND SECONDARY SHAFTS

COMPLAINT: Setting endplay adjustments and measurements

CAUSE: Other than the final drive, the PX4B uses NO SELECTIVES to adjust endplay.

CORRECTION: The countershaft distance collar must measure 46mm (1.811") in length.
The secondary shaft distance collar must measure 5mm (.1969") in thickness.
The mainshaft set ring must measure 23mm(.9055").
All clutch collars and hardparts should not be undercut.
The counter shaft nut should be torqued to no more than 145 ft. lbs.
The main shaft and secondary shaft nuts should be torqued to no more than 116 ft. lbs.



HONDA APX4
1992-93 ONLY

BIND-UP IN REVERSE

COMPLAINT: After an overhaul the transaxle is bound up in reverse. All other gear positions are normal.

CAUSE: The 32mm cotter retainer located on the countershaft has been installed upside down (Refer to figure 1) causing all endplay in the countershaft to removed.
The countershaft is now bound up resulting in a reverse bind-up condition.

CORRECTION: Install the cotter retainer so that the cotters fit inside the retainer. (Refer to figure 1)

NOTE: This condition cannot occur on a 1991 APX4 because it does not utilize the split cotters or the retainer in this location. (Refer to figure 2)

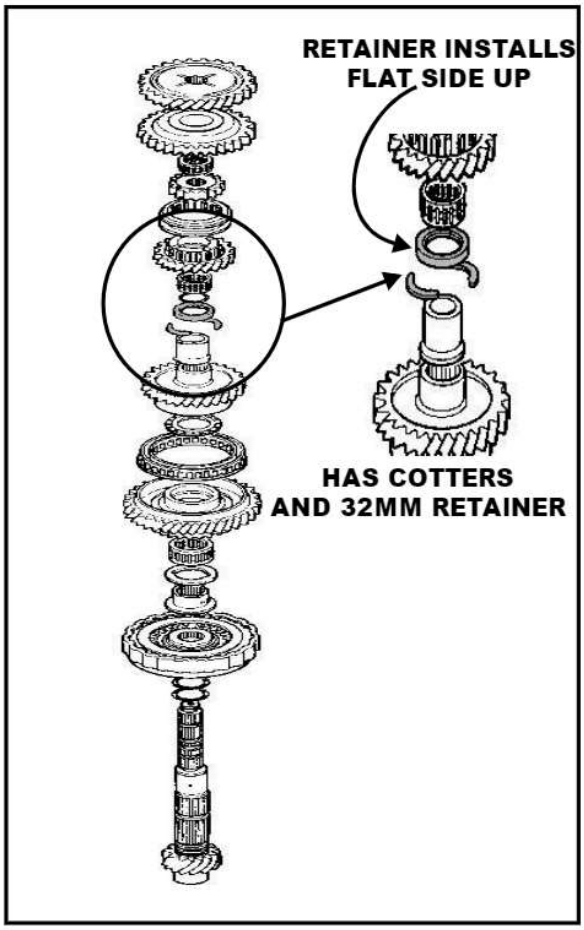


Figure 1

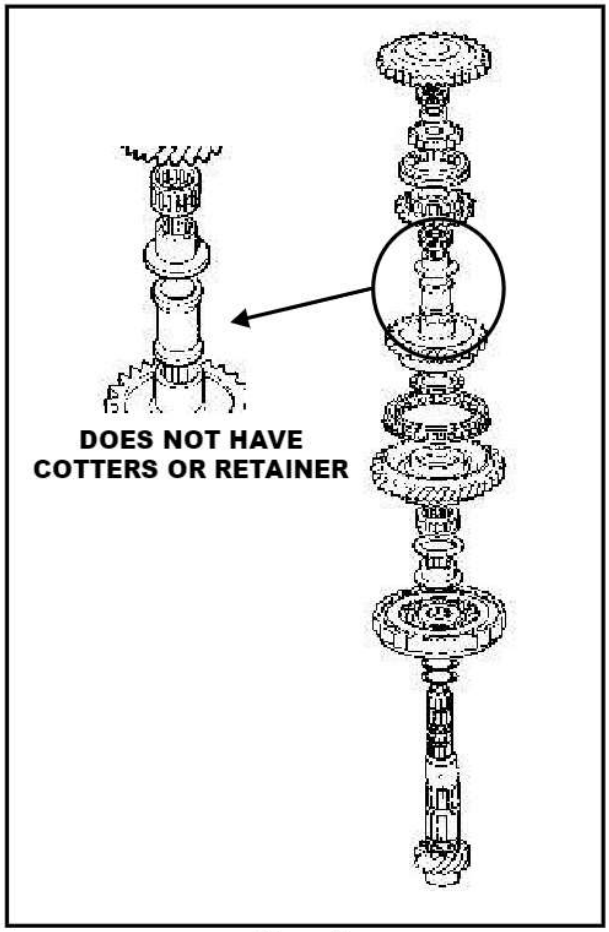


Figure 2

3 SHAFT

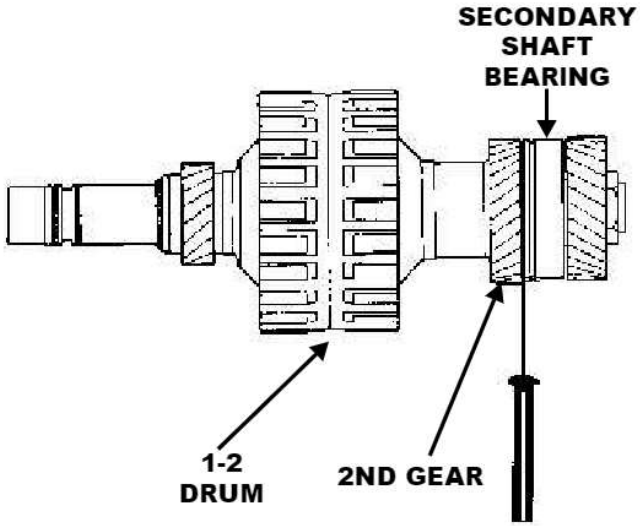
MAINSHAFT, COUNTERSHAFT and SECONDARY SELECTIVES

APX4/MPWA/MPOA/AOYA/MPJA/MP1A

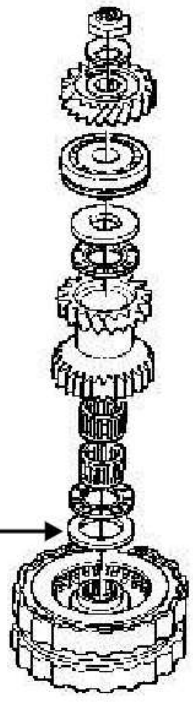
1-Torque secondary shaft nut to 25 ft. lbs.
2-Insert feeler gauge between 2nd gear and secondary shaft bearing.
3-Move the 3rd gear towards the 1-2 clutch drum, take measurement with feeler gauge.
4-Move the 3rd gear towards the secondary shaft bearing, take measurement with feeler gauge.
5-Subtract the first measurement from the second measurement.
6-The total must be .003 to .006.

SECONDARY SHAFT

ID	PART NUMBER	THICKNESS
1	90406-PX4-700	4.05 mm (0.159 in)
2	90407-PX4-700	4.10 mm (0.161 in)
3	90408-PX4-700	4.15 mm (0.163 in)
4	90409-PX4-700	4.20 mm (0.165 in)
5	90410-PX4-700	4.25 mm (0.167 in)
6	90411-PX4-700	4.30 mm (0.169 in)
7	90412-PX4-700	4.35 mm (0.171 in)
8	90413-PX4-700	4.40 mm (0.173 in)
9	90414-PX4-700	4.45 mm (0.175 in)







NOTE: THERE ARE NO SELECTIVES ON THE MAINSHAFT OR THE COUNTERSHAFT

3 SHAFT

MAINSHAFT SELECTIVES
MPZA

1-Install all the parts as shown in figure 1 onto the mainshaft.
2-Hold the collar against the 3-4 clutch drum and measure the clearance between the collar and the 4th clutch hub with a feeler gauge as shown in figures 2 and 3.
3-To adjust clearance select the correct splined washer from the chart shown below.
NOTE: The counter shaft has ***NO*** selectives.

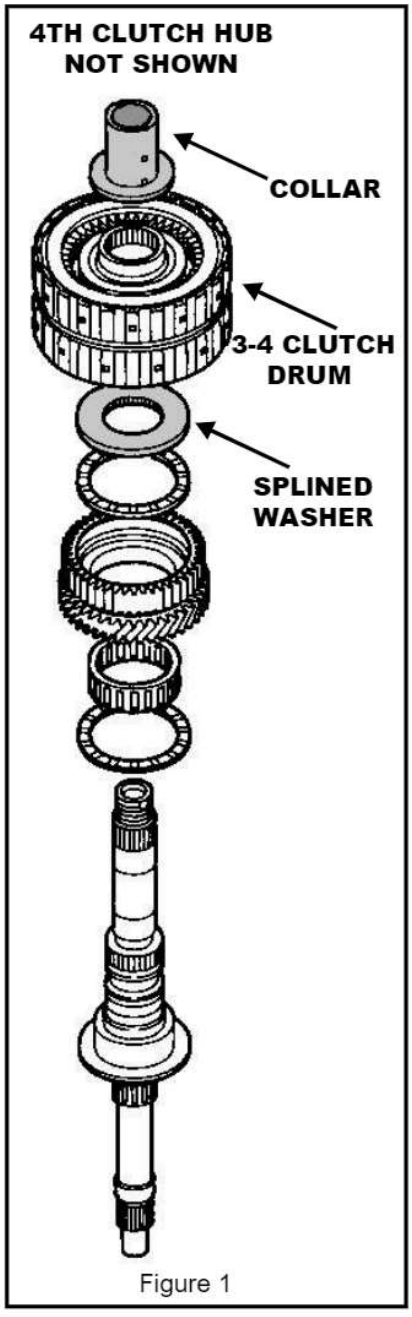
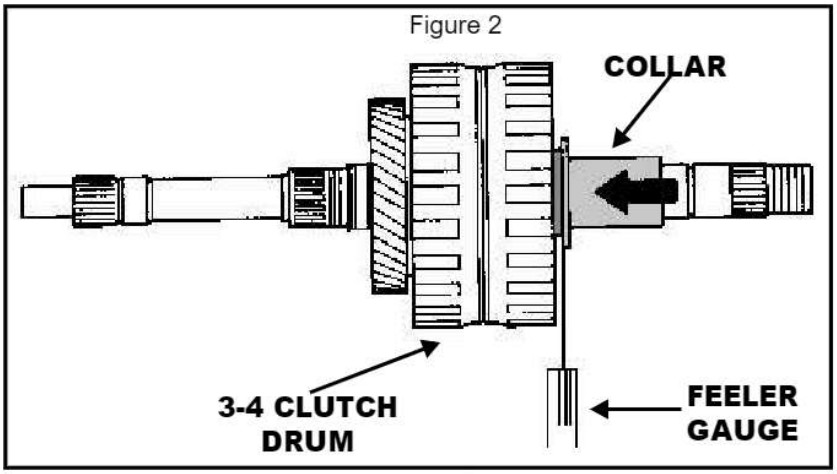


Figure 1

Figure 2



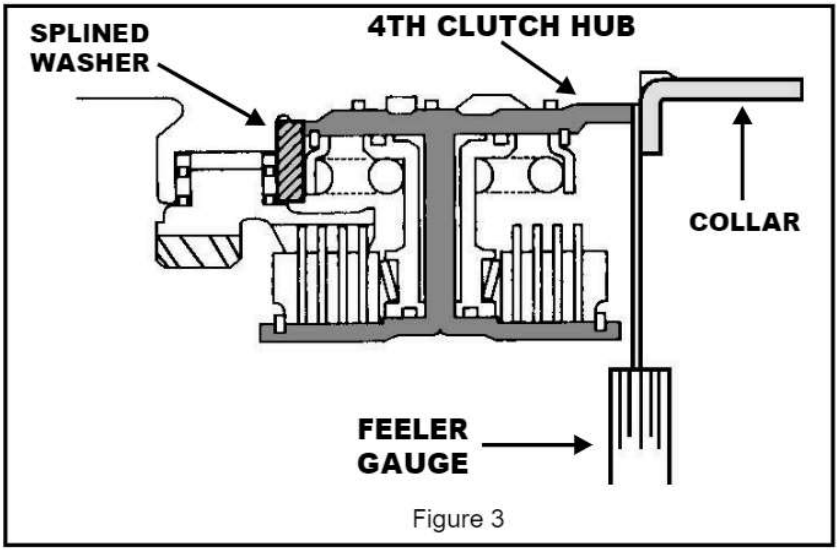


Figure 3

SPLINED WASHER

No.	Part Number	Thickness
1	90414 – P0Z – 000	4.85 mm (0.191 in)
2	90415 – P0Z – 000	4.90 mm (0.193 in)
3	90416 – P0Z – 000	4.96 mm (0.195 in)
4	90417 – P0Z – 000	5.00 mm (0.197 in)
5	90418 P0Z – 000	5.05 mm (0.199 in)
6	90419 – P0Z – 000	5.10 mm (0.201 in)

3 SHAFT
SECONDARY SHAFT SELECTIVES #2
MPZA

1-Install all the parts shown in figure 1 onto the secondary shaft, making certain the #2 splined washer is installed with the chamfer facing up.
2-Measure the clearance between the #2 splined washer and the split cotters with a feeler gauge
as shown in figure 2 and 3.
3-Adjust clearance to .003"-.006" by selecting the correct #2 splined washer from the chart below.

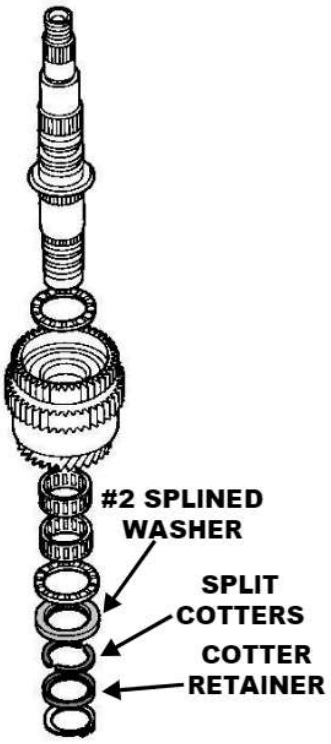


Figure 1

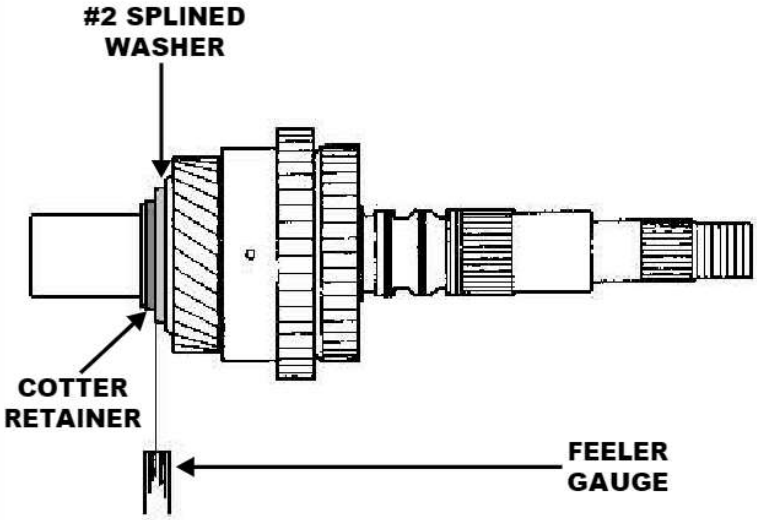


Figure 2

#2 SPLINED WASHER

No.	Part Number	Thickness
1	90502 – P0Z 000	6.85 mm (0.270 in)
2	90503 – P0Z – 000	6.90 mm (0.272 in)
3	90504 – P0Z – 000	6.95 mm (0.274 in)
4	90505 – P0Z – 000	7.00 mm (0.276 in)
5	90506 – P0Z – 000	7.05 mm (0.278 in)
6	90507 – P0Z – 000	7.10 mm (0.280 in)

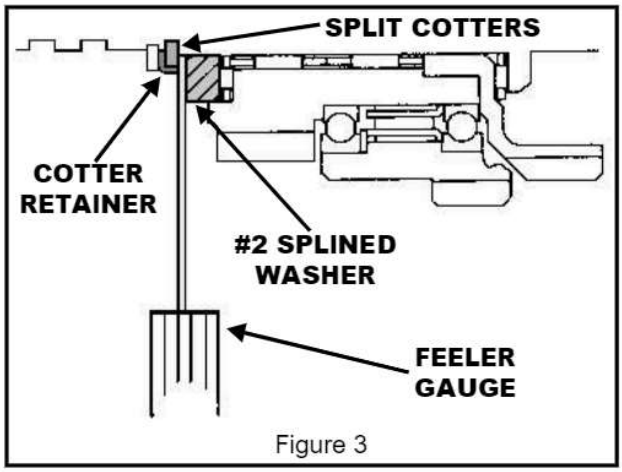


Figure 3

3 SHAFT

SECONDARY SHAFT SELECTIVES #1

MPZA

1-Install parts onto secondary shaft as shown in figure 1.
2-Position dial indicator against the 2nd gear as shown in figure 2.
3-Hold thrust washer against the clutch assembly and measure 2nd gear clearance while moving the 2nd gear only, up and down against the thrust washer as shown in figure 3.
4-Adjust clearance to .003"-.006" by selecting the correct #1 splined washer from the chart below.

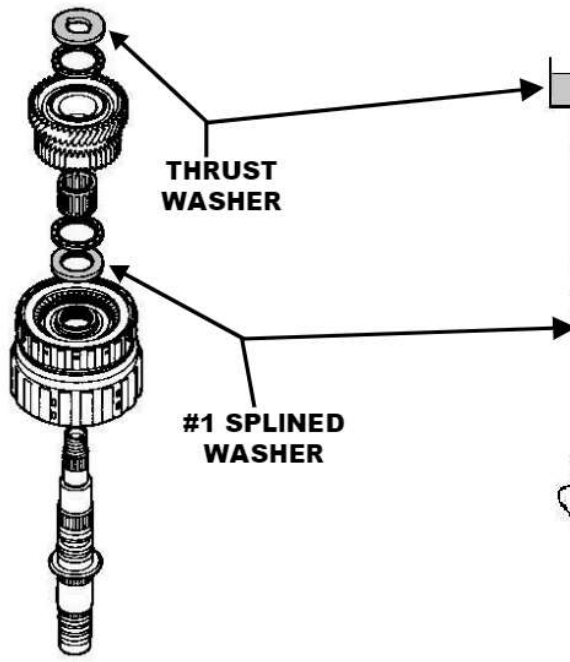


Figure 1

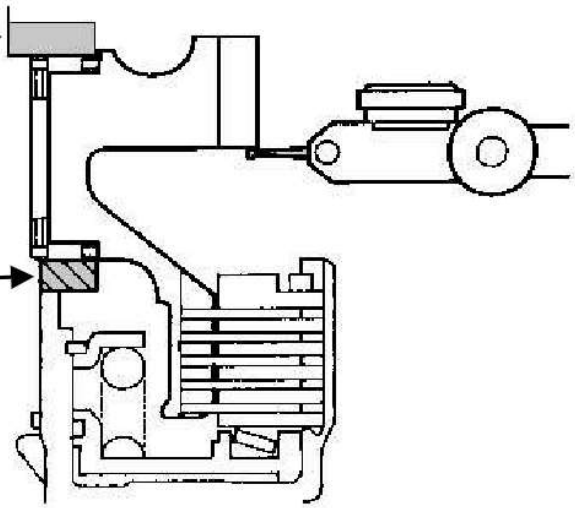


Figure 2

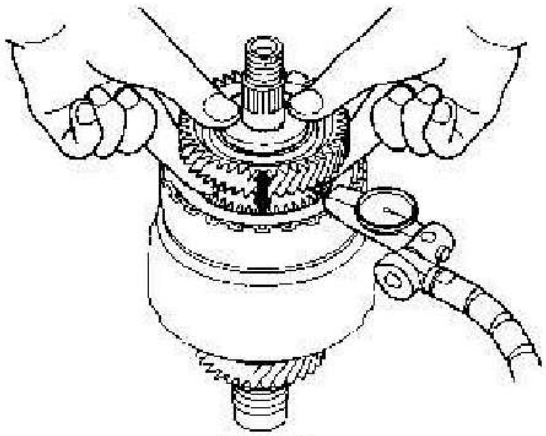


Figure 3

#1 SPLINED WASHER

No.	Part Number	Thickness
1	90406 – P0Z – 000	4.90 mm (0.193 in)
2	90407 – P0Z – 000	4.95 mm (0.195 in)
3	90408 – P0Z – 000	5.00 mm (0.197 in)
4	90409 – P0Z – 000	5.05 mm (0.199 in)
5	90410 – P0Z – 000	5.10 mm (0.201 in)
6	90411 – P0Z – 000	5.15 mm (0.203 in)
7	90412 – P0Z – 000	5.20 mm (0.205 in)

3 SHAFT

COUNTERSHAFT SELECTIVES

RO

A B C DISTANCE COLLAR

1-Assemble the the 3rd clutch assembly as shown in figure 1.
2-Place the assembly in a press and exert 11 pounds of pressure on the 2nd gear.
3-Spin by hand the 3rd gear. If it spins clearance is good.(Figure 2)
4-If it does not spin, replace the A, B, C distance collar with the appropriate size listed in the chart below.
5-Repeat steps 1, 2 and 3.

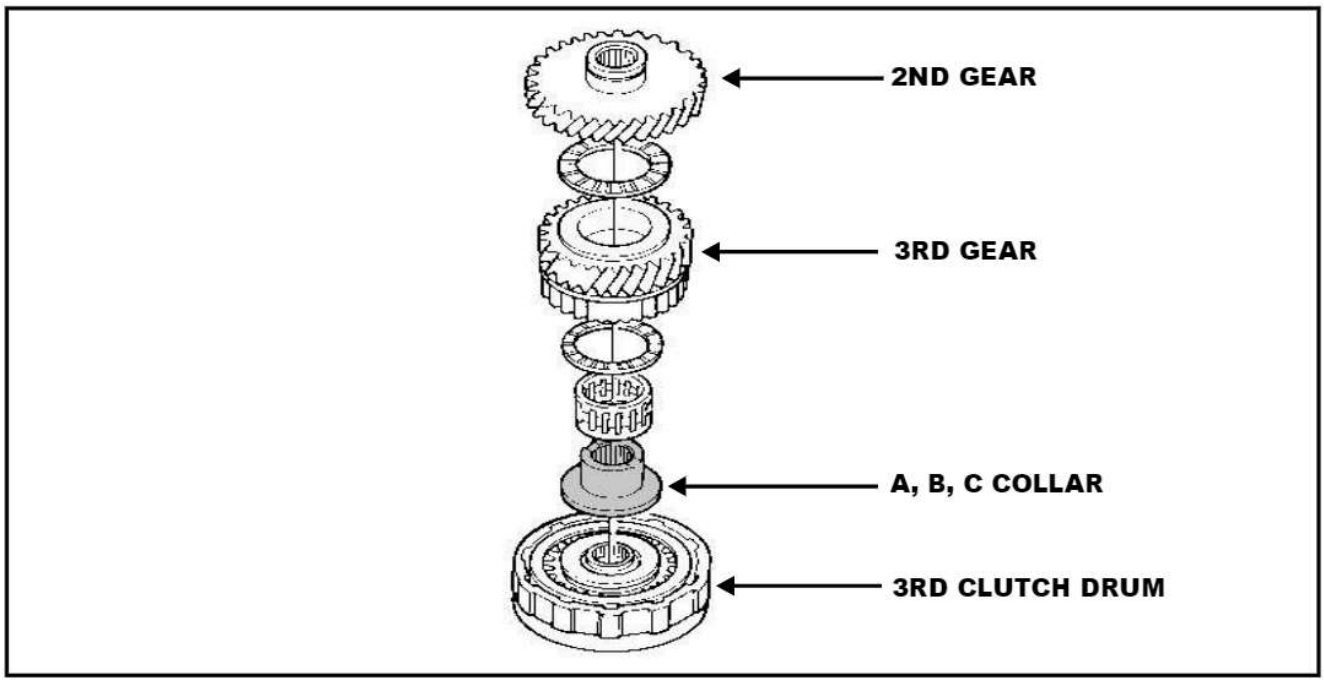


Figure 1

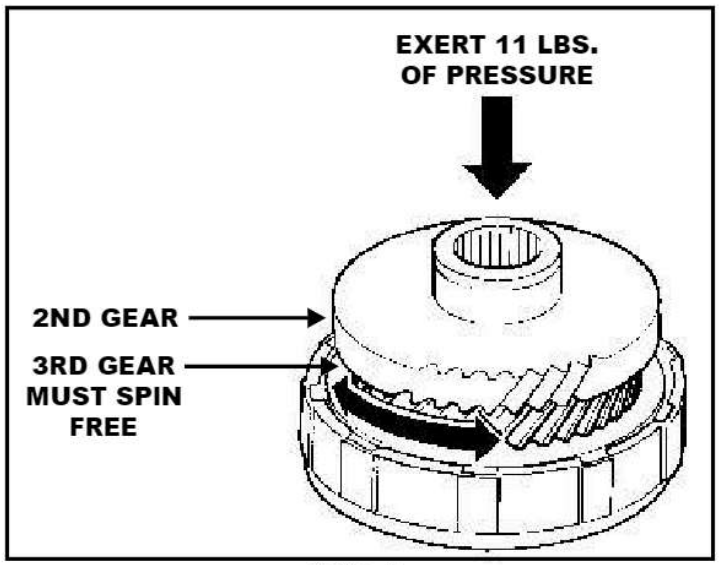
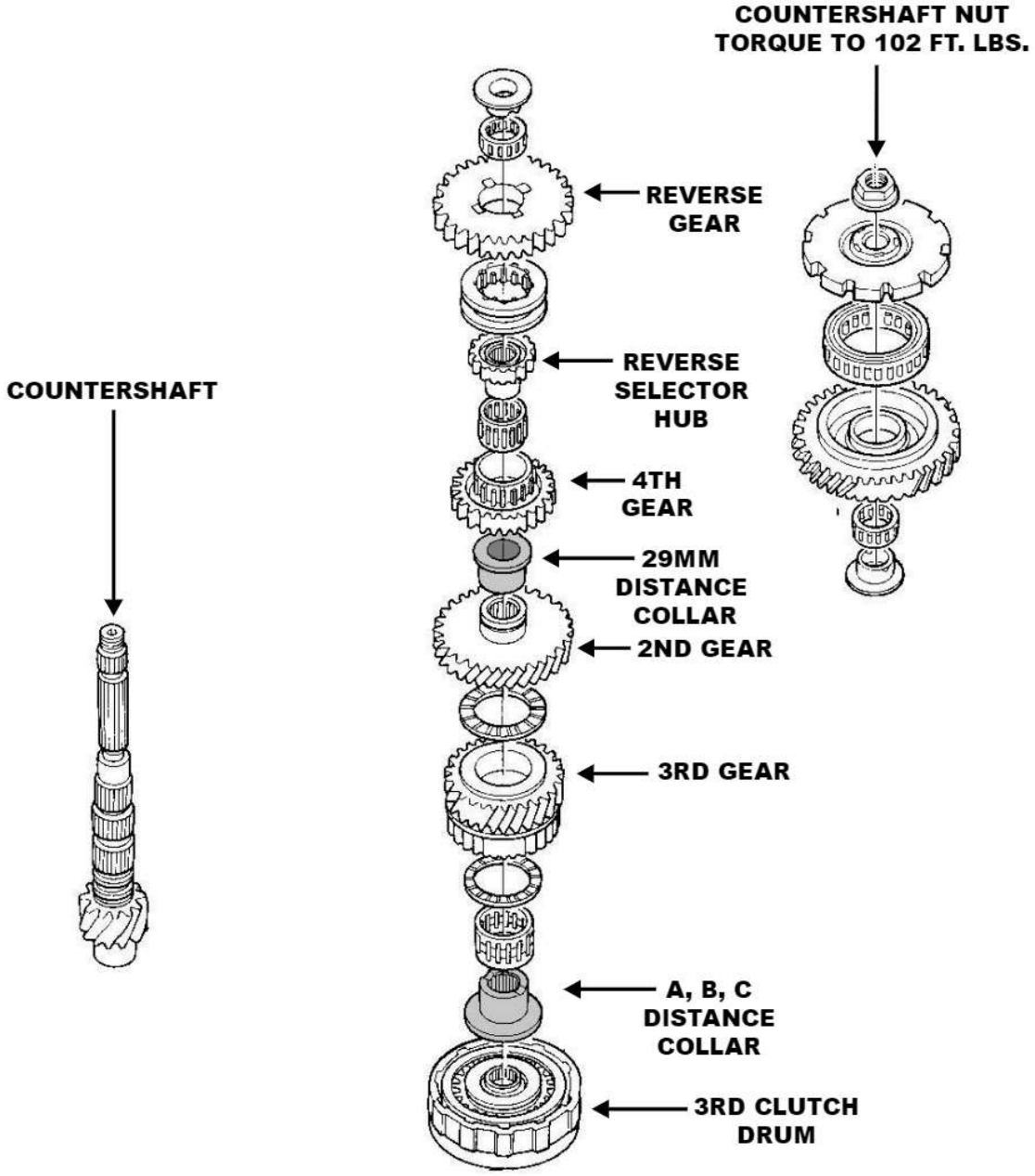


Figure 2

A B C DISTANCE COLLAR

	Part No.	Collar Width (mm, in)
A	90501-PRO-000	25.985 (1.0230)
B	90511-PRO-000	26.015 (1.0242)
C	90512-PRO-000	26.045 (1.0254)

3 SHAFT
COUNTERSHAFT SELECTIVES
RO



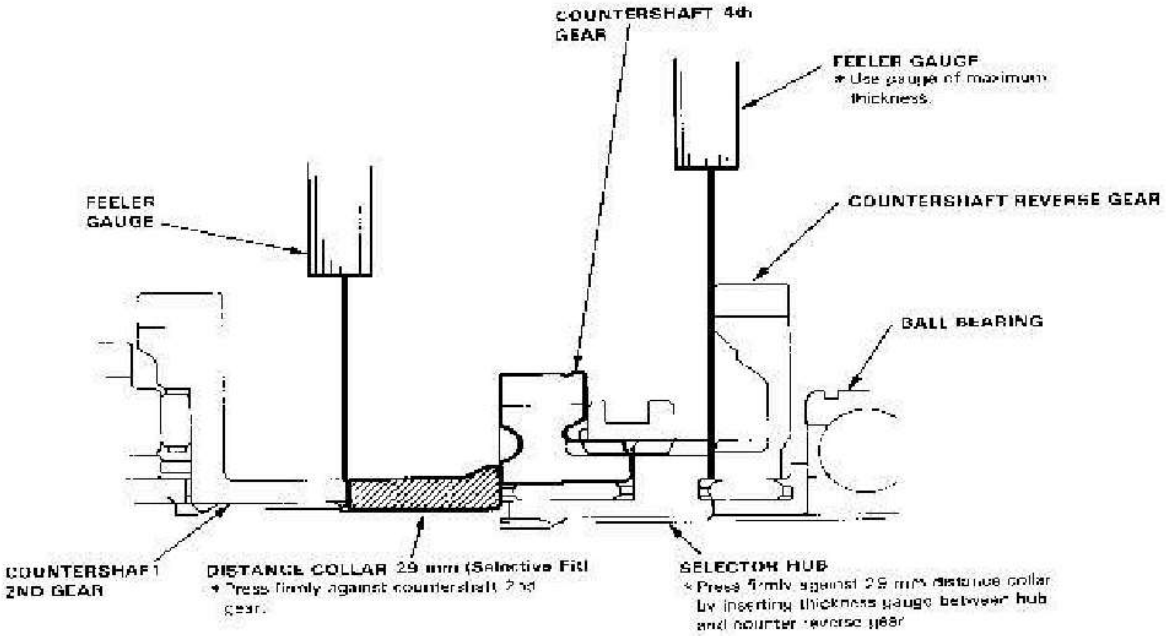
3 SHAFT
COUNTERSHAFT SELECTIVES
RO

29MM DISTANCE COLLAR

1-Assemble the countershaft and ALL of its components,
2-Torque countershaft nut to 25 ft. lbs.
3-Move reverse selector hub firmly against the 4th gear.
4-Insert a feeler gauge between the reverse gear and the reverse selector hub, using the thickest feeler that will fit and leave it there.
5-Insert a second feeler gauge between the 29mm distance collar and the 2nd gear.
6-Measurement MUST BE 0 to .0031.

29MM DISTANCE COLLAR

Part No.	Thickness (mm, in)
90503—PRO—010	23.10 (0.9094)
90504—PRO 010	23.15 (0.9114)
90505- PRO-010	23.20 (0.9134)
90506--PRO—010	23.25 (0.9154)
90507—PRO—010	23.30 (0.9173)
90508- PRO—010	23.35 (0.9193)
90509—PRO 010	23.40 (0.9213)



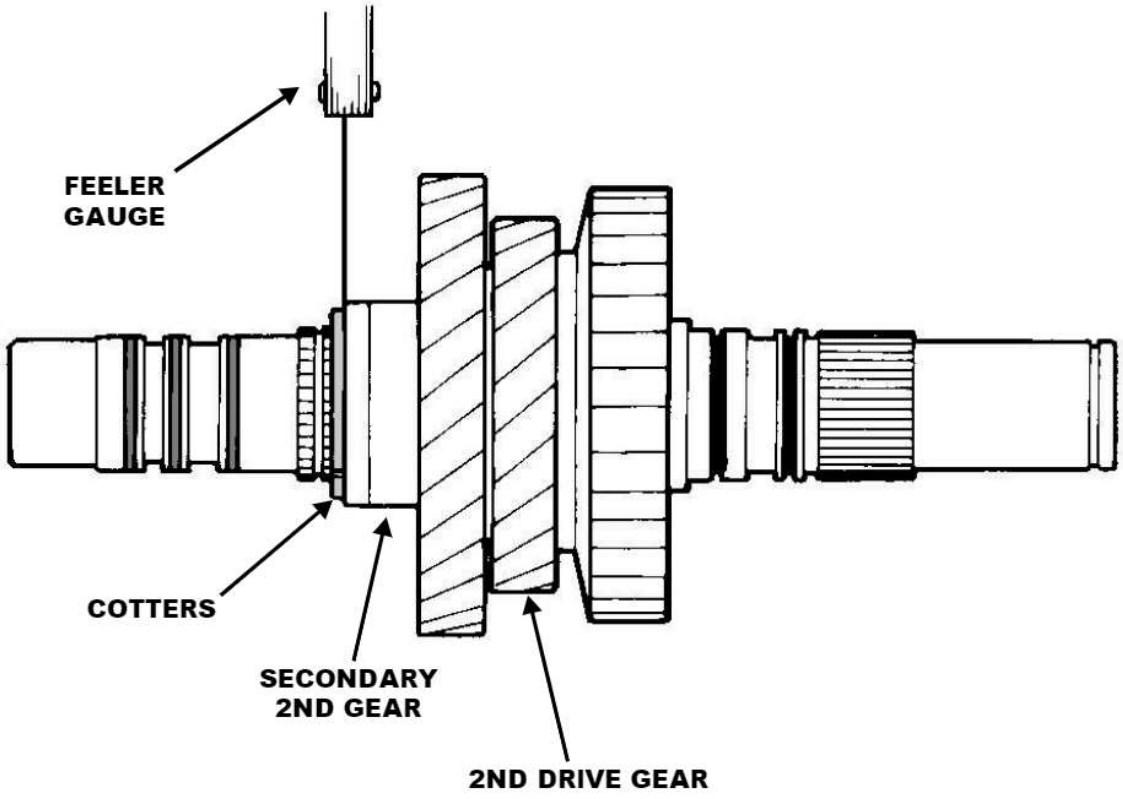
3 SHAFT

SECONDARY SHAFT SELECTIVES

RO

26MM COTTER

1-Make certain 2nd drive gear has no axial movement
2-Make certain that the 2nd drive gear is fully seated to the shoulder on the secondary shaft.
3-Select the thickest cotters that will fit into the grooves in the shaft and insert them into the shaft.
4-Insert a .04mm (.0016) feeler gauge between the cotters and the secondary 2nd gear.
5-If the feeler is snug, the clearance is correct, if it is not select different cotters which will bring the clearance within specs.

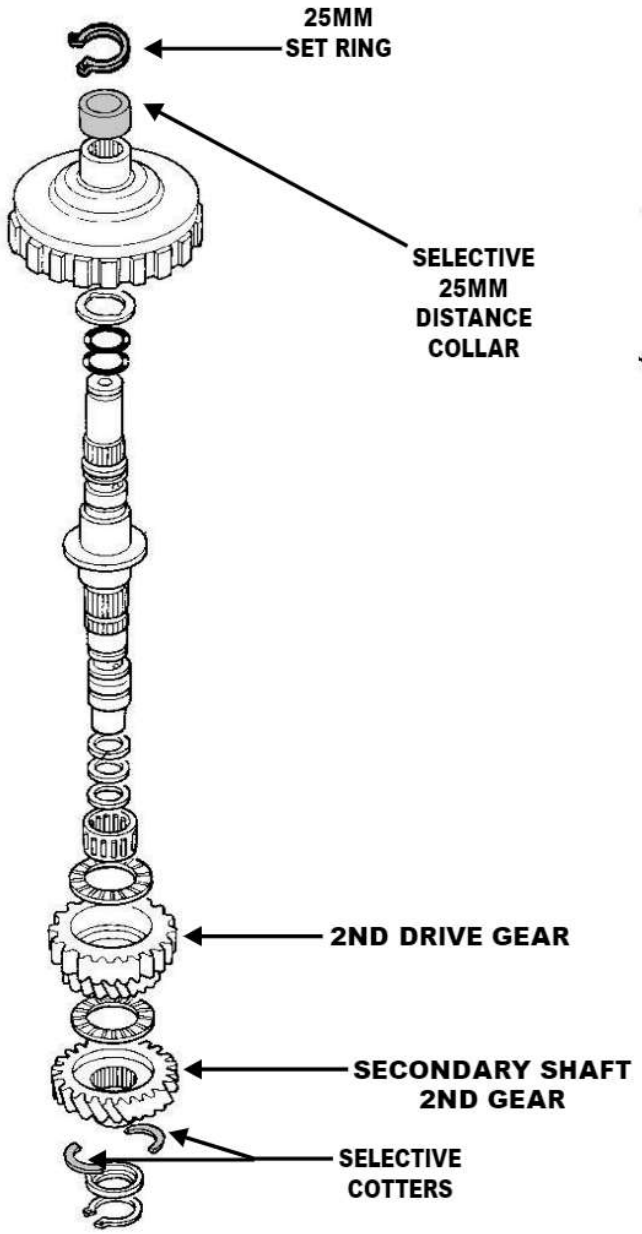


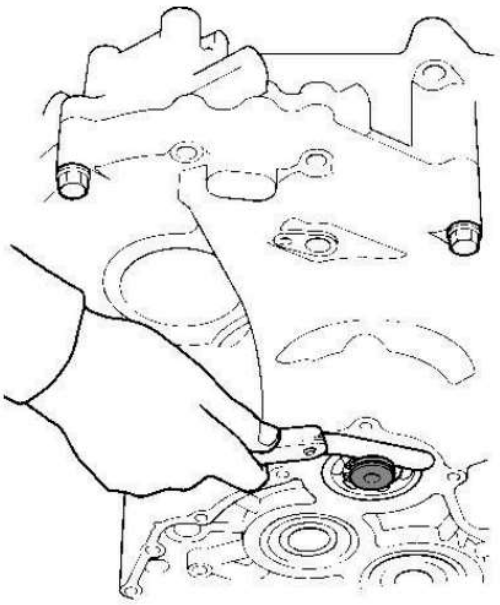
COTTERS

Part No.	Thickness (mm, in)
90428—PRO--000	2.00 (0.0787)
90429—PRO—000	2.03 (0.0799)
90430--PRO—000	2.06 (0.0811)
90431—PRO--010	2.09 (0.0823)

3 SHAFT
SECONDARY SHAFT SELECTIVES
RO
25MM DISTANCE COLLAR

1-Assemble the secondary shaft and ALL of its components.
2-Install the assembled secondary shaft into the case halves and secure with 5 or 6 bolts.
3-Install set ring onto secondary shaft end and measure clearance between set ring and secondary shaft ball bearing with a feeler gauge.
4-Clearance should measure .003-.006.
5-Select correct distance collar to attain the correct clearance.





25MM DISTANCE COLLAR

Part No.	Collar Width (mm. in)
90520- PRO 000	16.85 (0.6634)
90521—PRO—000	16.90 (0.6654)
90522—PRO—000	16.95 (0.6673)
90513 PRO--000	17.00 (0.6693)
90514--PRO—000	17.05 (0.6713)
90515—PRO—000	17.10 (0.6732)
90516—PRO—000	17.15 (0.6752)
90517- PRO—000	17.20 (0.6772)
90518 PRO 000	17.25 (0.6791)
90519 PRO 000	17.30 (0.6811)

NOTE: THERE ARE NO SELECTIVES ON THE MAINSHAFT

3 SHAFT

COUNTERSHAFT & SECONDARY SHAFT SELECTIVES

MPRA

1-All measurement procedures for the MPRA and the RO are the same.
2-The selective choices are different.
3-The selective charts below are for the MPRA ONLY.

3RD GEAR DISTANCE COLLAR

NO.	PART NUMBER	THICKNESS
1	90498—PR9—000	25.955—25.970 (1.0218—1.0224)
2	90499—PR9—000	25.970—25.985 (1.0224—1.0230)
3	90500—PR9—000	25.985—26.000 (1.0230—1.0236)
4	90501—PR9—000	26.000—26.015 (1.0236—1.0242)
5	90511—PR9—000	26.015—26.030 (1.0242—1.0248)
6	90512—PR9—000	26.030—26.045 (1.0248—1.0254)

29MM DISTANCE COLLAR

NO.	PART NUMBER	THICKNESS
1	90503—PR0—030	23.08—23.10(0.9087—0.9094)
2	90504—PR0—030	23.10—23.12(0.9094—0.9102)
3	90505—PR0—030	23.12—23.14(0.9102—0.9110)
4	90506—PR0—030	23.14—23.16(0.9110—0.9118)
5	90507—PR0—030	23.16—23.18(0.9118—0.9126)
6	90508—PR0—030	23.18—23.20(0.9126—0.9134)
7	90509—PR0—030	23.20—23.22(0.9134—0.9142)
8	90531—PR0—010	23.22—23.24(0.9142—0.9150)
9	90532—PR0—010	23.24—23.26(0.9150—0.9157)
10	90533—PR0—010	23.26—23.28(0.9157—0.9165)
11	90534—PR0—010	23.28—23.30(0.9165—0.9173)
12	90535—PR0—010	23.30—23.32(0.9173—0.9181)
13	90536—PR0—010	23.32—23.34(0.9181—0.9189)
14	90537—PR0—010	23.34—23.36(0.9189—0.9197)
15	90538—PR0—010	23.36—23.38(0.9197—0.9205)
16	90539—PR0—010	23.38—23.40(0.9205—0.9213)

25MM COTTERS

NO.	PART NUMBER	THICKNESS
1	90428—PR0—000	2.00 mm(0.0787 in)
2	90429—PR0—010	2.05 mm(0.0807 in)
3	90430—PR0—010	2.10 mm(0.0827 in)
4	90431—PR0—020	2.15 mm(0.0846 in)

25MM DISTANCE COLLAR

NO.	PART NUMBER	THICKNESS
1	90513—PR0—850	28.85 mm(1.136 in)
2	90514—PR0—850	28.90 mm(1.138 in)
3	90515—PR0—850	28.95 mm(1.140 in)
4	90516—PR0—850	29.00 mm(1.142 in)
5	90517—PR0—850	29.05 mm(1.144 in)
6	90518—PR0—850	29.10 mm(1.146 in)
7	90519—PR0—850	29.15 mm(1.148 in)
8	90520—PR0—850	29.20 mm(1.150 in)
9	90521—PR0—850	29.25 mm(1.152 in)
10	90522—PR0—850	29.30 mm(1.154 in)

NOTE: THE MPRA HAS NO SELECTIVES ON THE MAINSHAFT

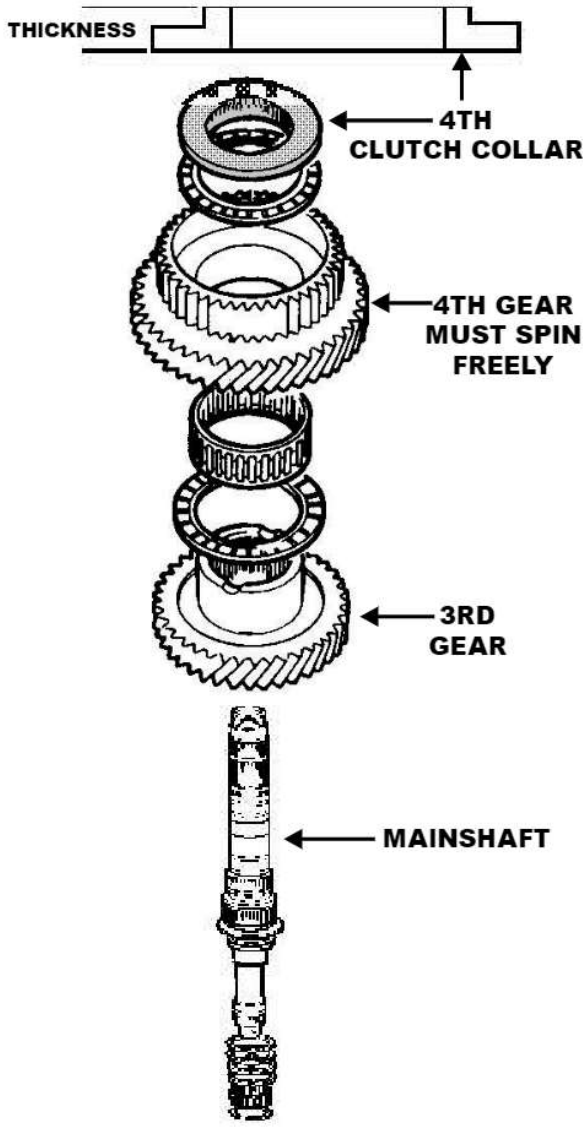
ACURA LEGEND INLINE

MPYA

MAINSHAFT SELECTIVES

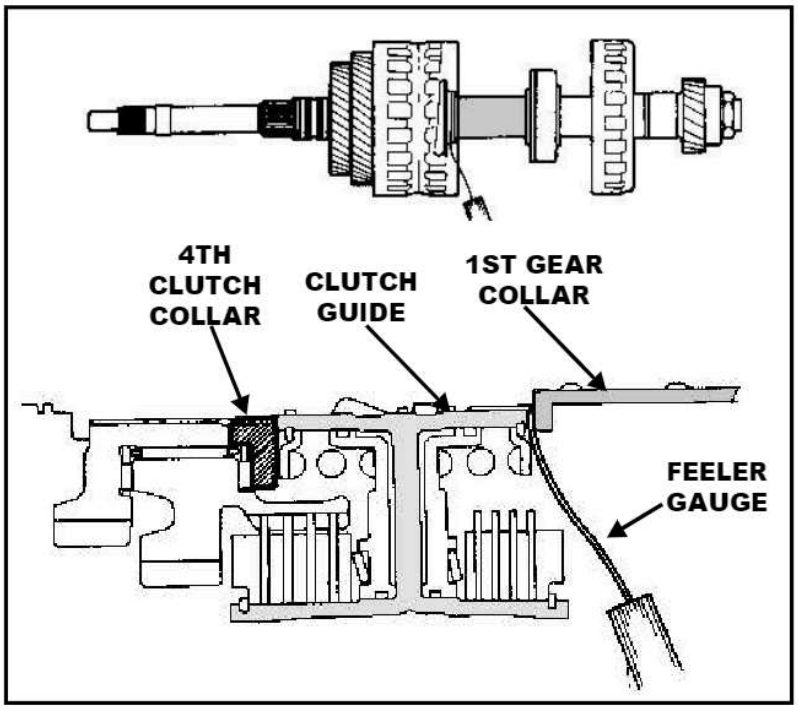
4TH CLUTCH COLLAR

1-Install the 3rd gear, thrust needle bearing, caged bearing, the 4th gear, thrust needle bearing and the 4th clutch collar onto the mainshaft as shown below..
WARNING: If the 4th clutch collar can be pushed on by hand. **REPLACE IT!**
2-Spin the 4th gear by hand. It MUST spin freely.
3-Assemble the rest of the mainshaft components without the 1st gear and torque the mainshaft nut to 25 ft lbs.
4-Insert feeler gauge between 1st gear collar and clutch guide.
5-Measurement should be 0 to .003.
6-If clearance is greater than .003, select the correct 4th clutch collar from the chart below.



4TH CLUTCH COLLAR

NO.	PART NUMBER	THICKNESS
1	90431-PY4-010	9.67–9.70 (0.381–0.382)
2	90432-PY4-010	9.72–9.75 (0.383–0.384)
3	90433-PY4-010	9.77–9.80 (0.385–0.386)
4	90434-PY4-010	9.82–9.85 (0.387–0.388)
5	90435-PY4-010	9.87–9.90 (0.389–0.390)
6	90436-PY4-010	9.92–9.95 (0.391–0.392)
7	90437-PY4-010	9.97–10.00 (0.393–0.394)



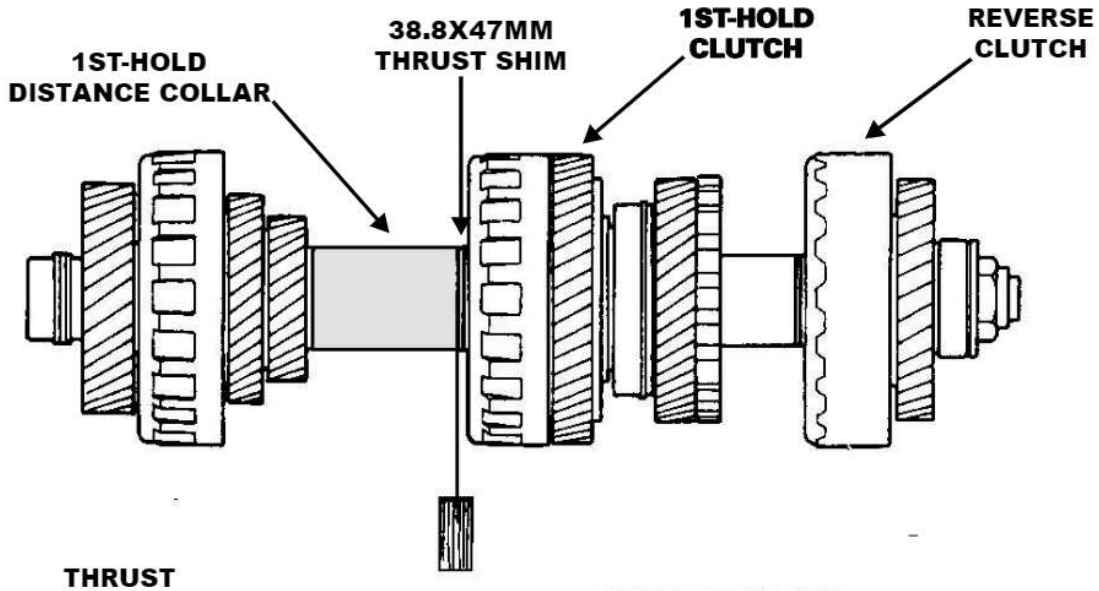
ACURA LEGEND INLINE

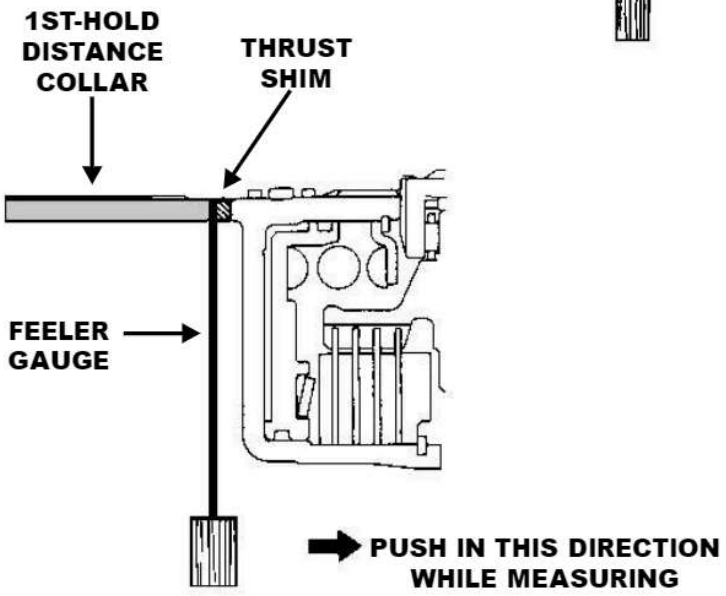
MPYA

COUNTERSHAFT SELECTIVES

38.8X47MM THRUST SHIM

1-Assemble the countershaft and ALL of its components and torque countershaft nut to 25 FT. LBS.
2-Push the 1st-hold clutch assembly towards the reverse clutch.
3-Insert a feeler gauge between the thrust shim and the 1st-hold clutch distance collar.
4-Measurement should be 0 to .003.
5-If clearance is more than .003, select the proper 38.8x47mm thrust shim to obtain proper clearance.
6-Final countershaft nut torque is 123 FT. LBS.





38.8X47 THRUST SHIM

NO.	PART NUMBER	THICKNESS
1	90451-PY4-000	2.97–3.00 (0.117–0.118)
2	90452-PY4-000	3.02–3.05 (0.119–0.120)
3	90453-PY4-000	3.07–3.10 (0.121–0.122)
4	90454-PY4-000	3.12–3.15 (0.123–0.124)
5	90455-PY4-000	3.17–3.20 (0.125–0.126)
6	90456-PY4-000	3.22–3.25 (0.127–0.128)
7	90457-PY4-000	3.27–3.30 (0.129–0.130)
8	90458-PY4-000	3.32–3.35 (0.131–0.132)
9	90459-PY4-000	3.37–3.40 (0.133–0.134)
10	90460-PY4-000	3.42–3.45 (0.135–0.136)
11	90461-PY4-000	3.47–3.50 (0.137–0.138)

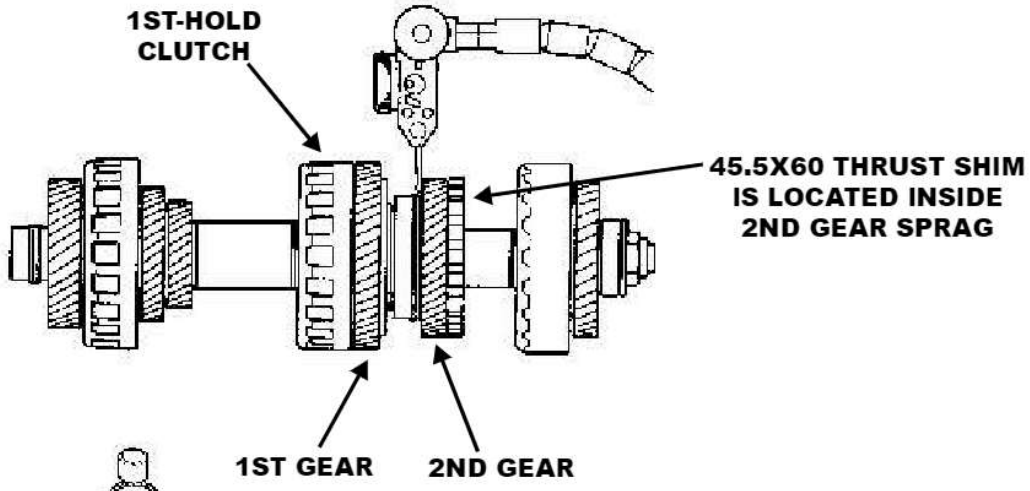
ACURA LEGEND INLINE

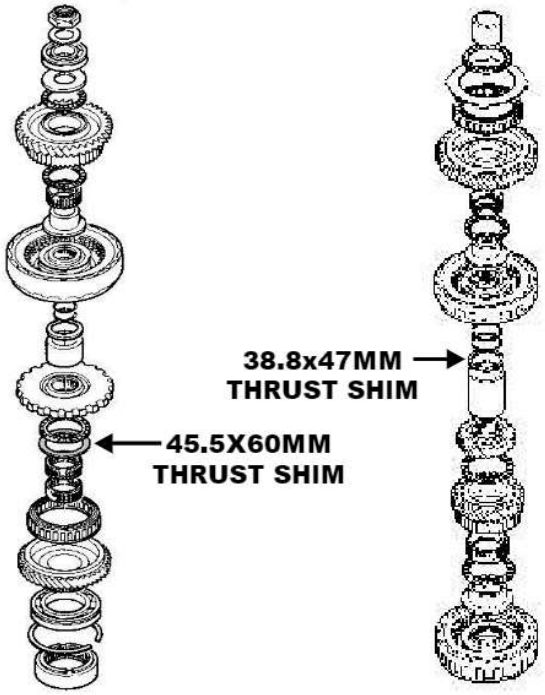
MPYA

COUNTERSHAFT SELECTIVES

45.5X60 THRUST SHIM

1-Place a dial indicator on the 2nd gear and measure clearance while pushing the first gear towards the 1st hold clutch assembly.
2-Measurement should be .002-.005.
3-If clearance is excessive, select the correct 45.5x60mm thrust shim to obtain proper clearance.
4-Final countershaft torque is 123 FT. LBS.





45.5X60MM THRUST SHIM

NO.	PART NUMBER	TRANSAXLE
1	90411-PY4-000	1.27–1.30 (0.050–0.051)
2	90412-PY4-000	1.32–1.35 (0.052–0.053)
3	90413 PY4-000	1.37–1.40 (0.054–0.055)
4	90414-PY4-000	1.42–1.45 (0.056–0.057)
5	90415-PY4-000	1.47–1.50 (0.058–0.059)
6	90416-PY4-000	1.52–1.55 (0.060–0.061)
7	90417-PY4-000	1.57–1.60 (0.062–0.063)
8	90418-PY4-000	1.62–1.65 (0.064–0.065)
9	90419-PY4-000	1.67–1.70 (0.066–0.067)
10	90420-PY4-000	1.72–1.75 (0.068–0.069)
11	90421-PY4-000	1.77–1.80 (0.070–0.071)
12	90422-PY4-000	1.82–1.85 (0.072–0.073)
13	90423-PY4-000	1.87–1.90 (0.074–0.075)

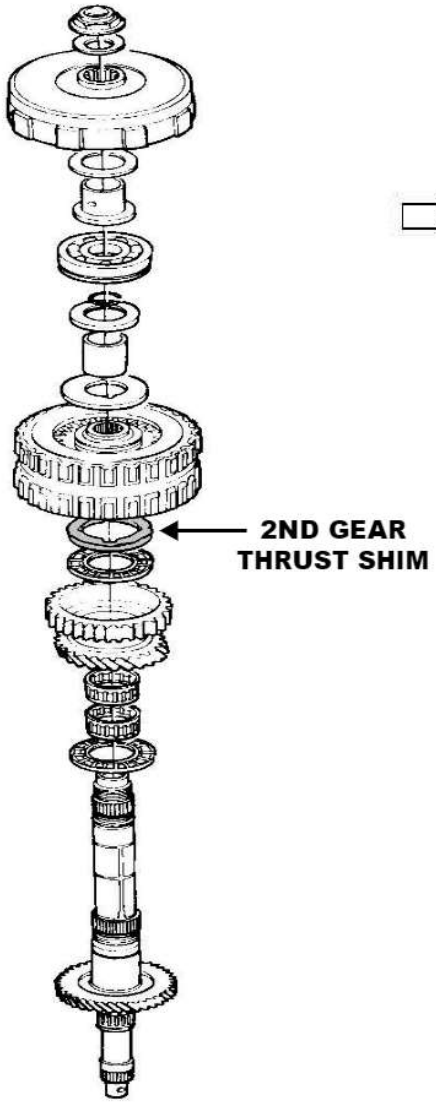
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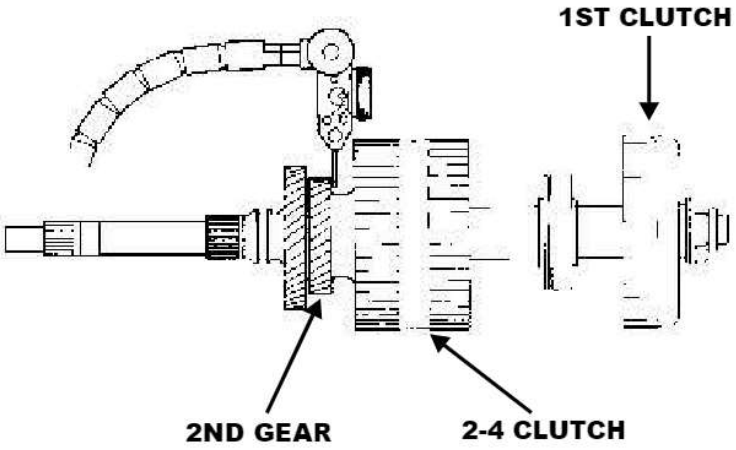
MAINSHAFT SELECTIVE

MPWA

2ND GEAR THRUST SHIM

1-Assemble the mainshaft with ALL its components and torque the mainshaft nut to 25 FT. LBS.
2-Attach a dial indicator to the 2nd gear.
3-Measure 2nd gear clearance while pushing the 2-4 clutch towards the 1st clutch.
4-The measurement should be .003 to .006
5-If clearance is greater than .006 select the proper 2nd gear thrust shim to obtain the correct clearance.
6-Final mainshaft nut torque is 123 FT. LBS.





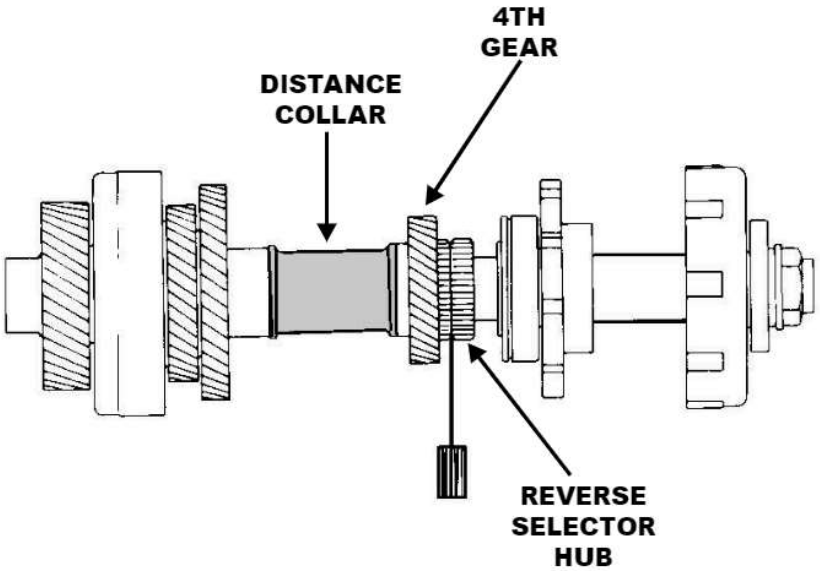
2ND GEAR THRUST SHIM

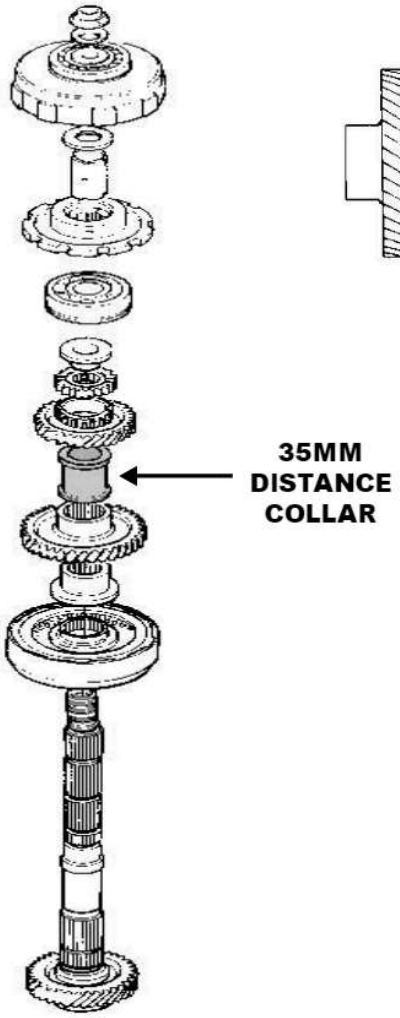
NO.	PART NUMBER	THICKNESS
1	90441-PW4-000	4.00 mm (0.157 in)
2	90442-PW4-000	4.05 mm (0.159 in)
3	90443-PW4-000	4.10 mm (0.161 in)
4	90444-PW4-000	4.15 mm (0.163 in)
5	90445-PW4-000	4.20 mm (0.165 in)
6	90446-PW4-000	4.25 mm (0.167 in)
7	90447-PW4-000	4.30 mm (0.169 in)
8	90448-PW4-000	4.35 mm (0.171 in)
9	90449-PW4-000	4.40 mm (0.173 in)
10	90450 PW4-000	4.45 mm (0.175 in)
11	90451-PW4-000	4.50 mm (0.177 in)

INLINE
COUNTERSHAFT SELECTIVE
MPWA

DISTANCE COLLAR

1-Assemble the countershaft with ALL its components and torque the countershaft nut to 25FT. LBS.
2-Push the 4th gear against the distance collar.
3-Insert a feeler gauge between the 4th gear and the reverse selector hub.
4-The measurement should be .003-.006.
5-If clearance is greater than .006, select the proper distance collar to obtain the correct clearance
6-Final countershaft nut torque is 123FT. LBS.





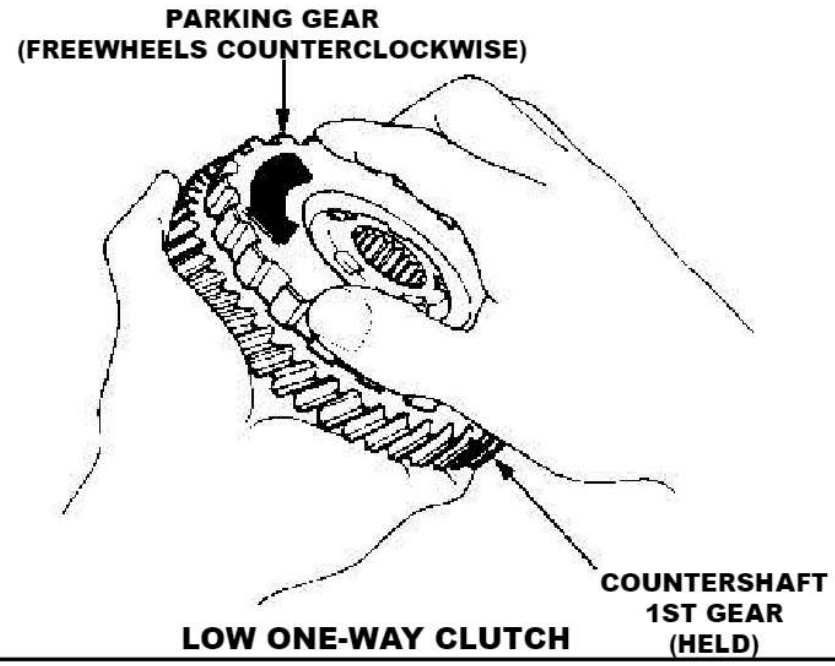
35MM DISTANCE COLLAR

NO.	PART NUMBER	THICKNESS
1	90501-PW7-000	65.65 mm (2.585 in)
2	90502-PW7-000	65.70 mm (2.587 in)
3	90503-PW7-000	65.75 mm (2.589 in)
4	90504 PW7-000	65.80 mm (2.591 in)
5	90505 PW7-000	65.85 mm (2.593 in)
6	90506 PW7-000	65.90 mm (2.594 in)
7	90507-PW7-000	65.95 mm (2.596 in)
8	90508-PW7-000	66.00 mm (2.598 in)
9	90509 PW7-000	66.05 mm (2.600 in)
10	90510-PW7-000	66.10 mm (2.602 in)

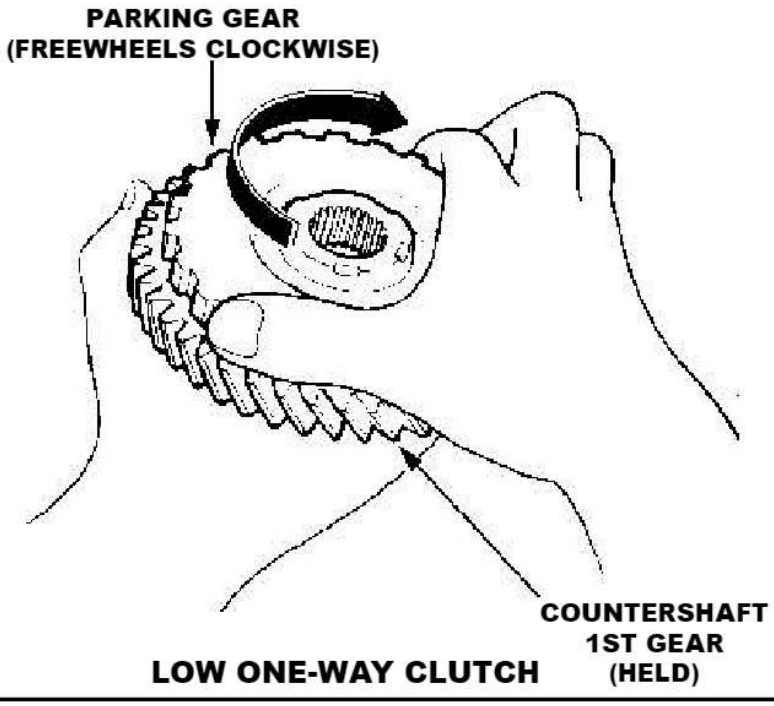
SPRAG ROTATION

AK, AS, CA, F4, P1, L4, ML4A, S5, MPSA,K4, MPRA, SP7A, RO, S4XA, M24A, *S24A, A24A, PY8A, MY8A, B/A4RA, MDMA

*JAPAN BUILT



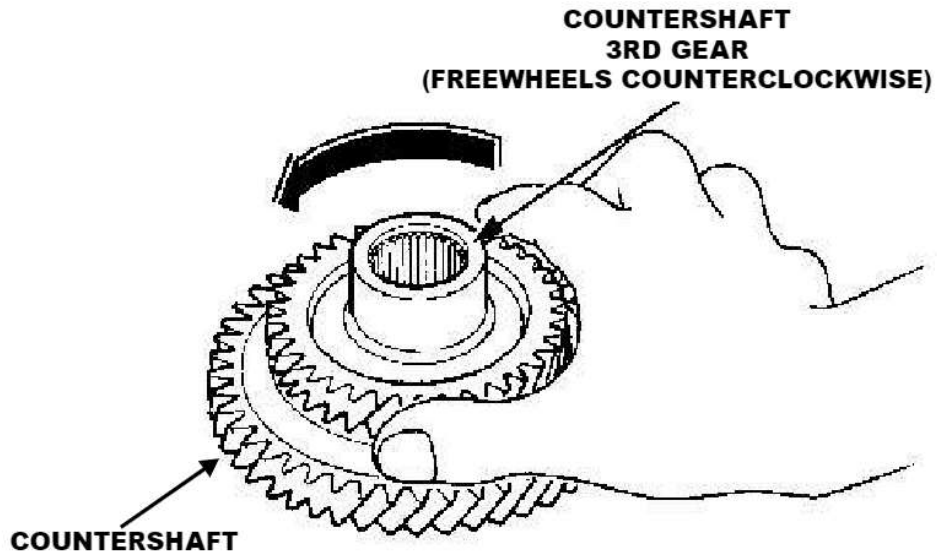
G4, L5, PL5X



SPRAG ROTATION

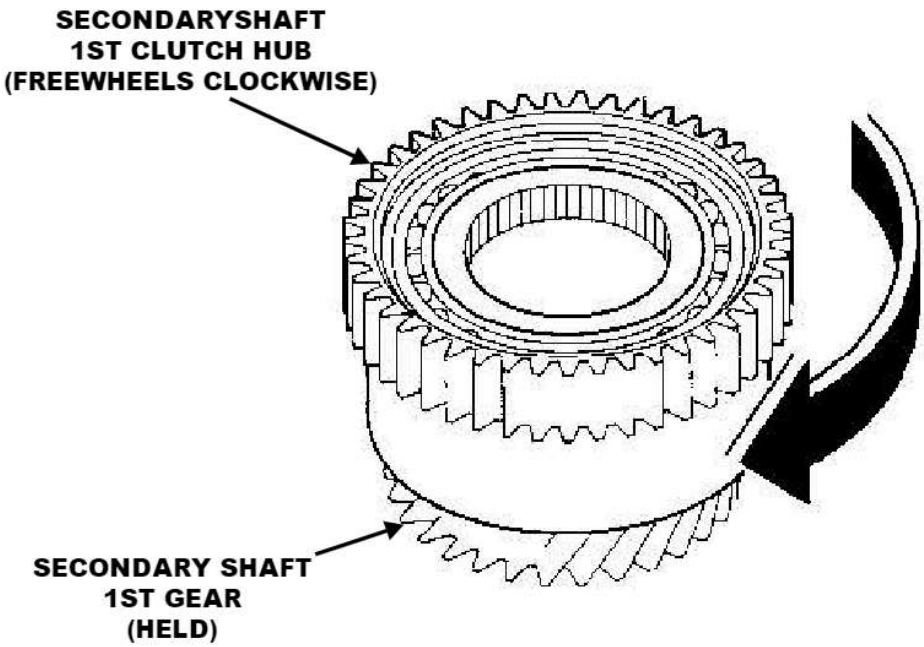
PX4B, APX4, *MPWA, MP1A, MPOA, MPJA, AOYA, A6VA

*JAPAN BUILT



LOW ONE-WAY CLUTCH

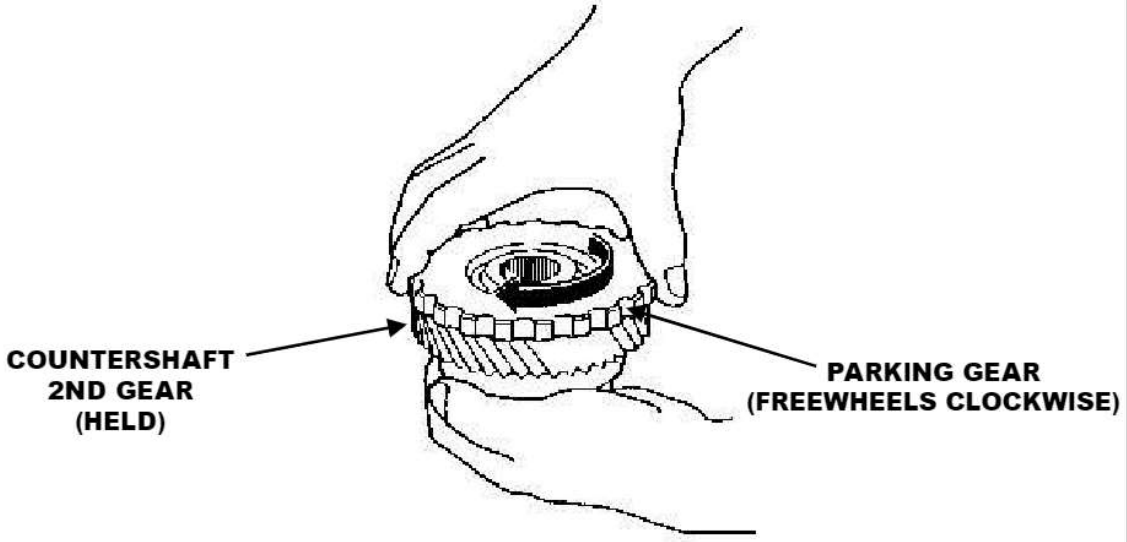
MPZA



LOW ONE-WAY CLUTCH

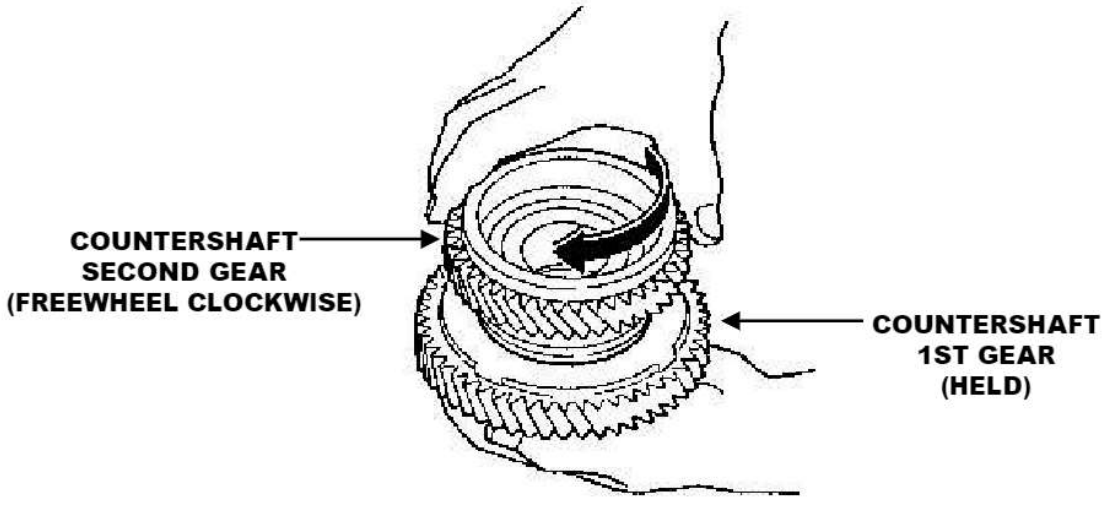
SPRAG ROTATION

MPYA, M1WA, M5DA



2ND GEAR ONE-WAY CLUTCH

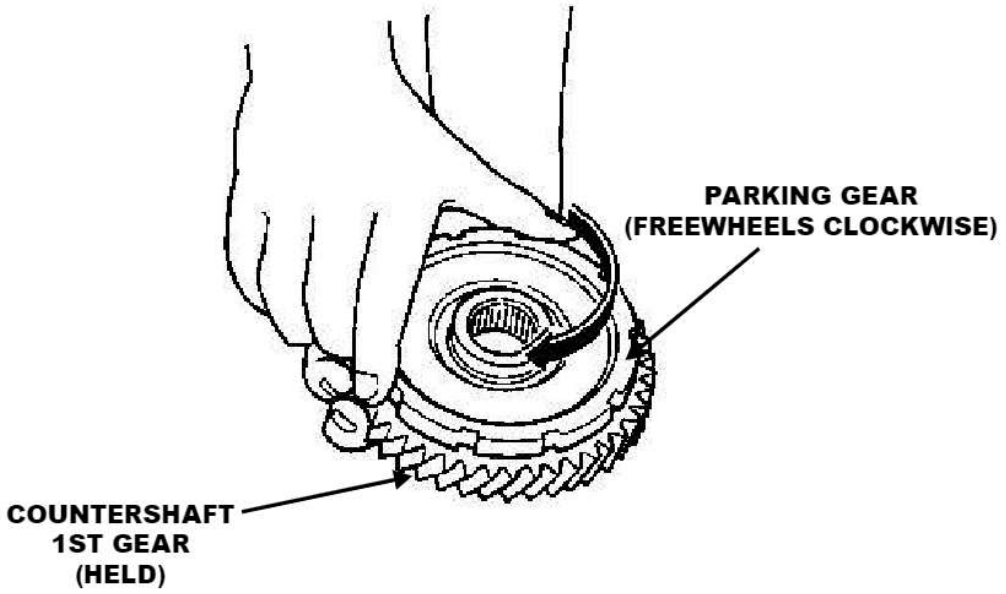
MPYA, M5HA, M5DA



1ST GEAR ONE-WAY CLUTCH

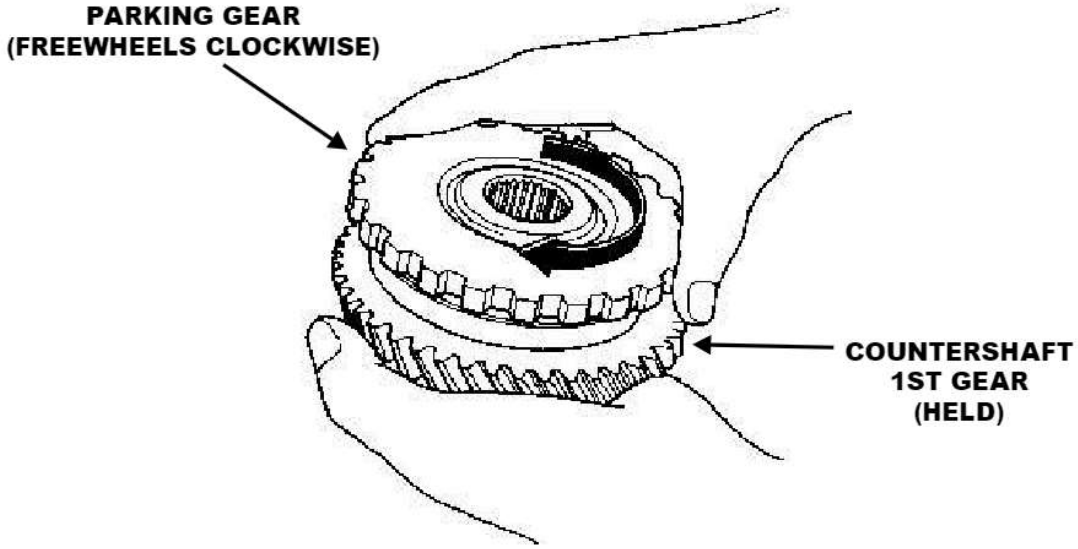
SPRAG ROTATION

VIGOR MPWA



LOW ONE-WAY CLUTCH

MR9A



LOW ONE-WAY CLUTCH

FEED TUBE BUSHINGS

SLIPS, CHATTERS OR PREMATURE CLUTCH FAILURE

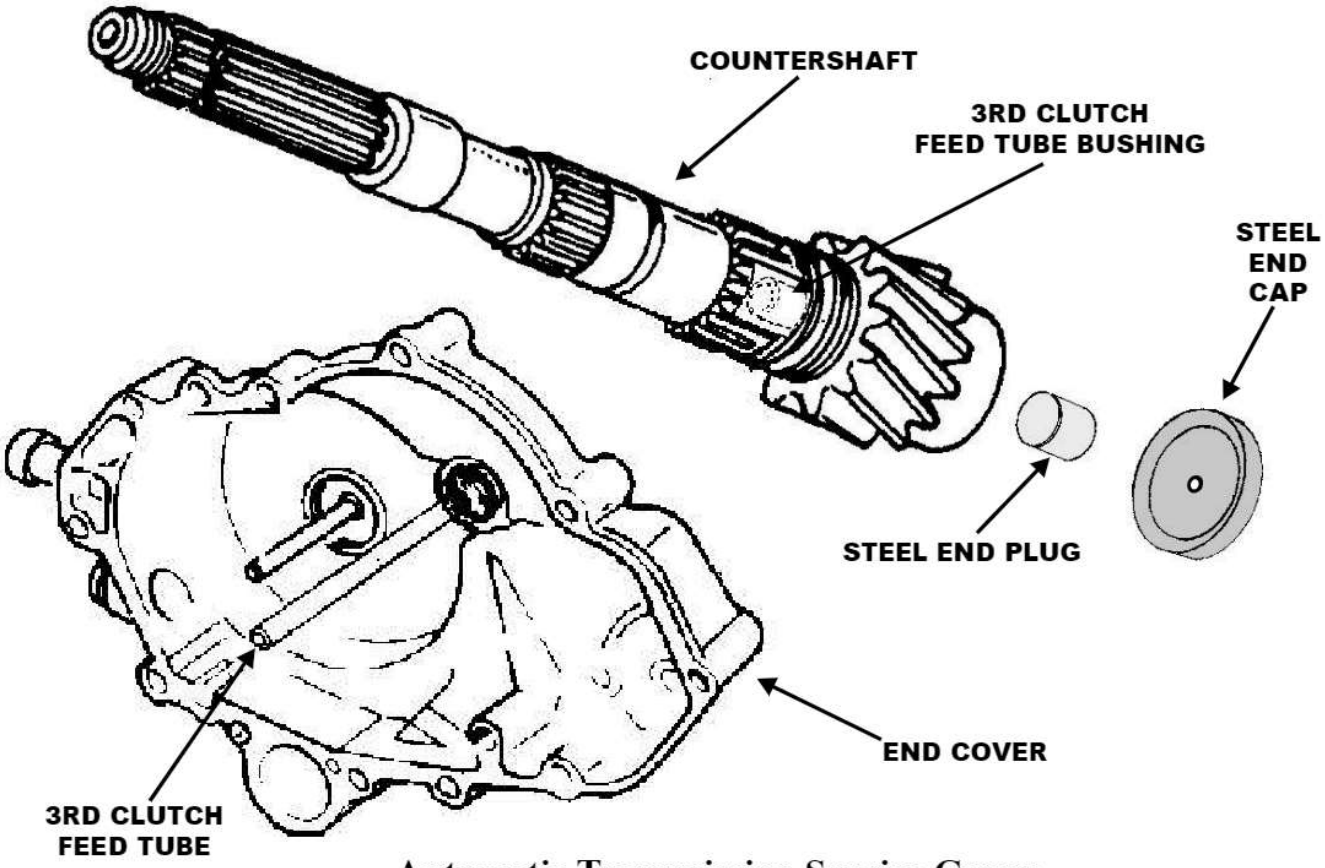
CAUSE: Worn feed pipe bushings.

COMPLAINT: A slip, chatter or premature clutch failure can occur when a clutch fed by a feed tube has worn feed tube bushings. The feed tubes can also be damaged by these worn bushings.
All Honda/Acura transaxles have feed tube bushings located down in the center of the shafts.

CORRECTION: The bushings or the shaft must be replaced.

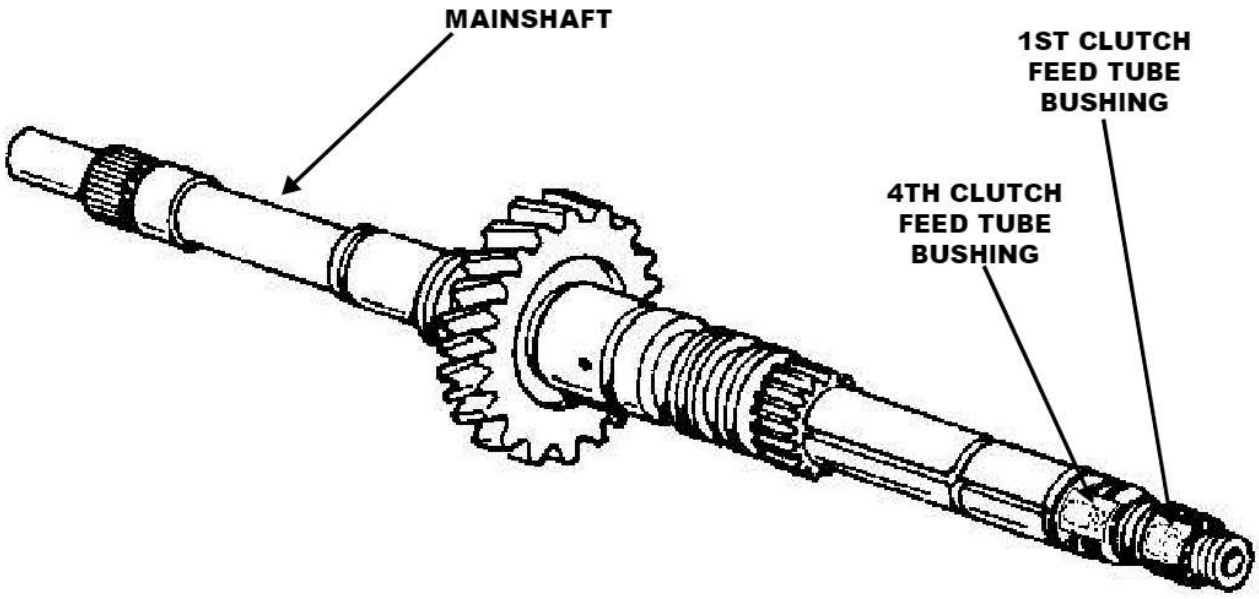
TIP: A good way to check for worn feed tube bushings is to wrap the feed tube once around with cellophane tape. If the feed tube goes into the shaft without scraping the tape off, the bushing is no good.

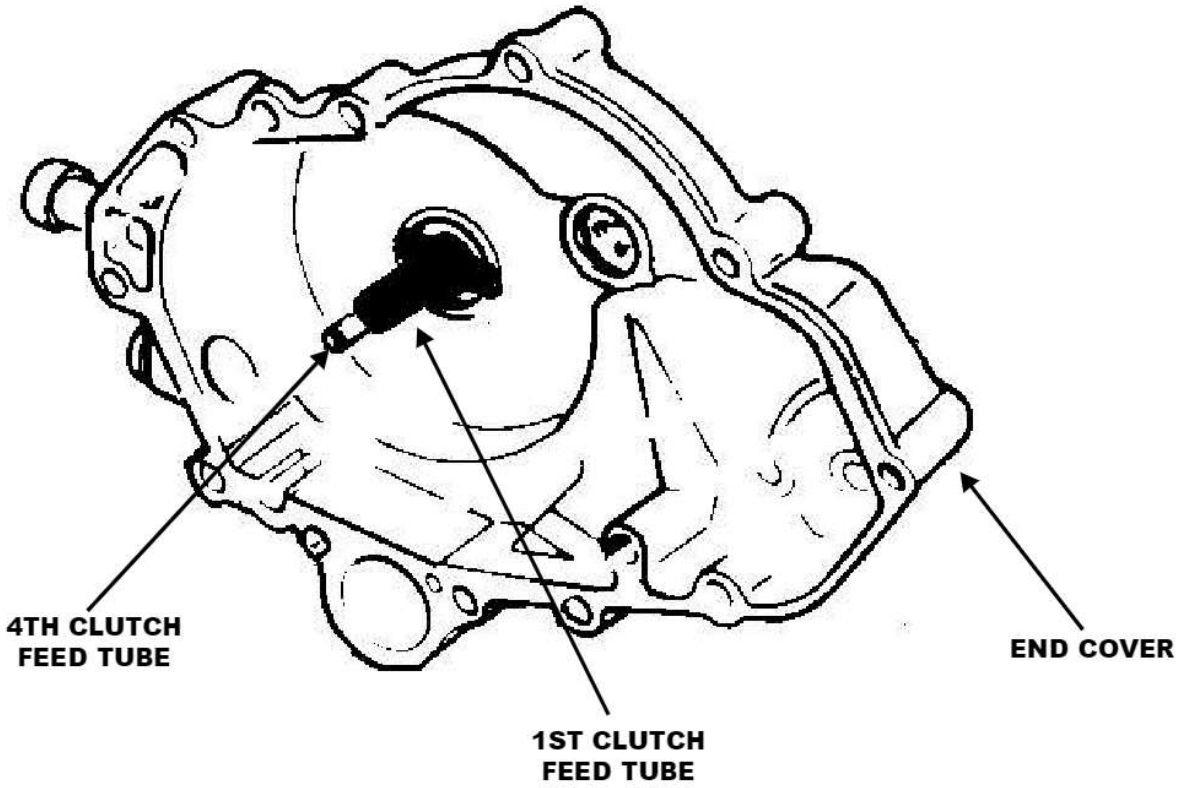
WARNING: If the end of the feed tube is damaged, DO NOT cut the tube short. REPLACE IT!
Using a shortened feed tube will cause no clutch apply or a cross leak if one tube is located inside another.
Replacement feed tube bushings may be **LONGER** than the originals, make certain when installing the longer bushings, **NOT TO COVER ANY FEED HOLES.**



FEED TUBE BUSHINGS

SLIPS, CHATTERS OR PREMATURE CLUTCH FAILURE





HONDA/ACURA

FEED TUBE BUSHING REPLACEMENT

COMPLAINT: Unexplainable clutch chatter and/or premature clutch failure. Transaxle may also not want to move in reverse or take off in low gear, but will take off in manual second.

CAUSE: The cause may be worn or missing feed tube bushings that are located down in the center of the main, counter and secondary shafts.

CORRECTION: These bushing can be replaced with new bushings, but, this can be a difficult operation due to the difficulty in removing the old bushings and being certain that the new bushings are not damaged during installation and that they are installed at the CORRECT HEIGHT so that none of the lube holes in the shafts are blocked.

A tool has been produced by AMERICAN EAGLE TOOL CO. that will make this job much easier to remove and install new feed tube bushings. (Refer to Figure 1)

TECH TIP: Wrap the bottom of the feed tube once around with cellophane tape. (Do not overlap the ends of the tape)
Insert the selected feed tube into the appropriate shaft, if the tape is not cleanly scraped off by the feed tube bushing, the bushing requires replacement.

SERVICE INFORMATION:

Feed Tube Remover/Installer.....American Eagle Tool Co. PN.... HP600

HONDA/ACURA

FEED TUBE BUSHING REPLACEMENT

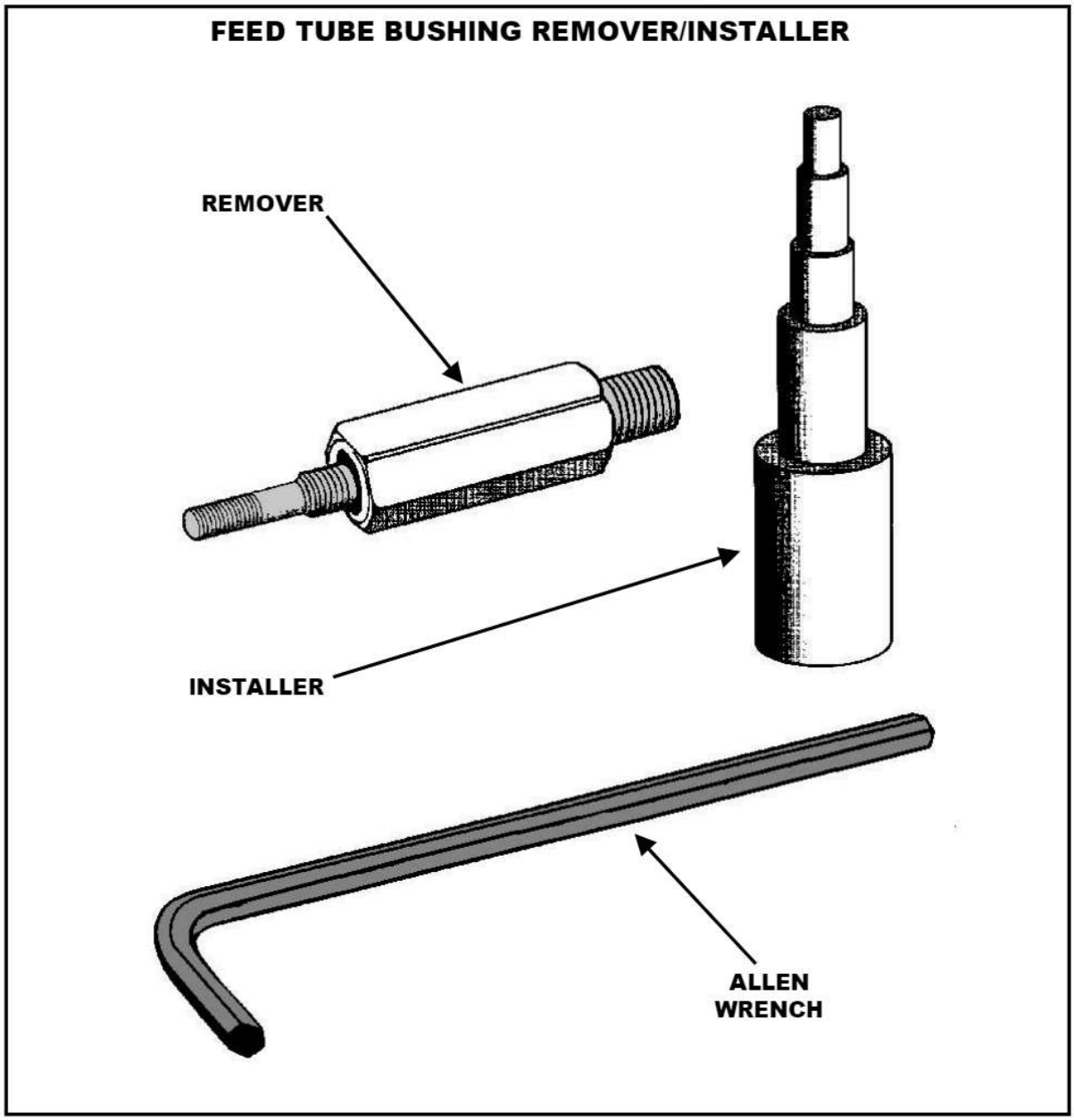


Figure 1

GOVERNOR

NO REVERSE ENGAGEMENT, 2ND GEAR STARTS

COMPLAINT: No reverse when manual lever is placed in the reverse position and 2nd gear starts.

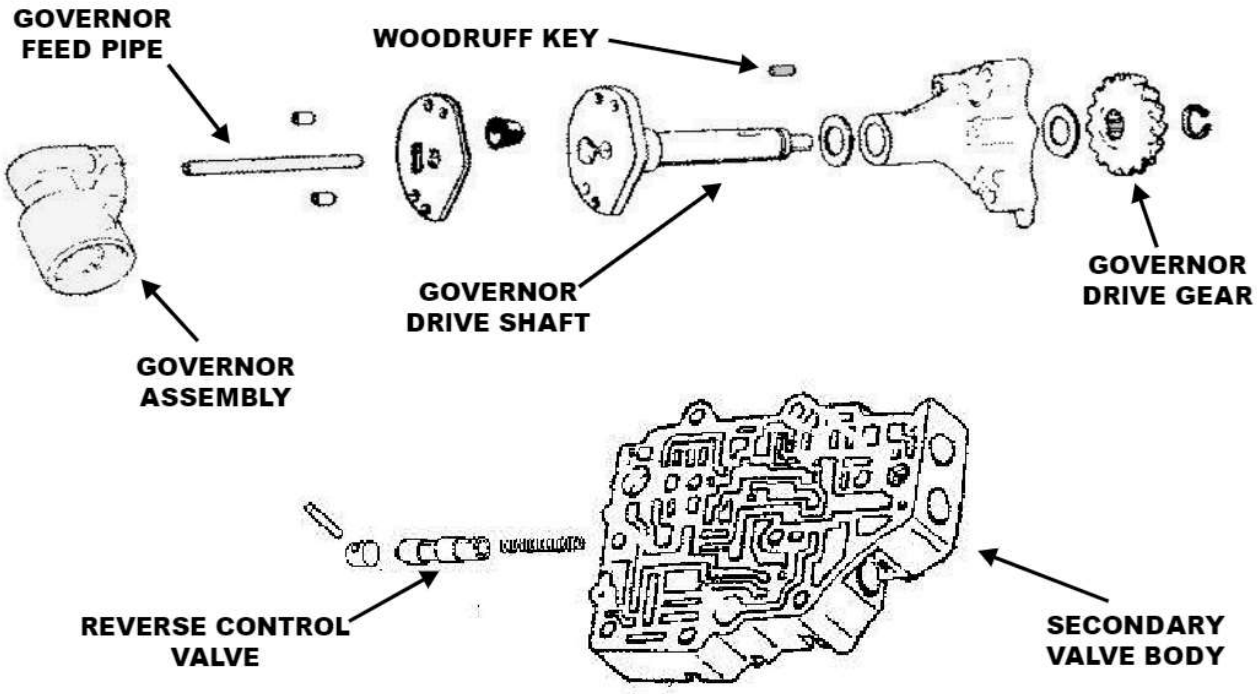
CAUSE: Honda/Acura vehicles equipped with a reverse control valve use governor pressure to prevent reverse engagement when the vehicle is moving forward.
The Governor feed pipe may have fallen out or is missing, or the governor valve is stuck, or the reverse control valve is stuck.

CORRECTION: Make certain that the governor feed pipe fits tightly into the governor body.
Make certain that the governor valve and the reverse control valve are free.

CAUTION: Some early governors have a checkball staked into the side of the governor body which can leak. Make certain the checkball is tight.

TIP: While servicing the governor assembly it is a good practice to check the woodruff key that holds the governor drive gear to the shaft. A sheared key can cause a no upshift from low gear condition.

NOTE: The example used in the illustrations below is an model F4 transaxle.

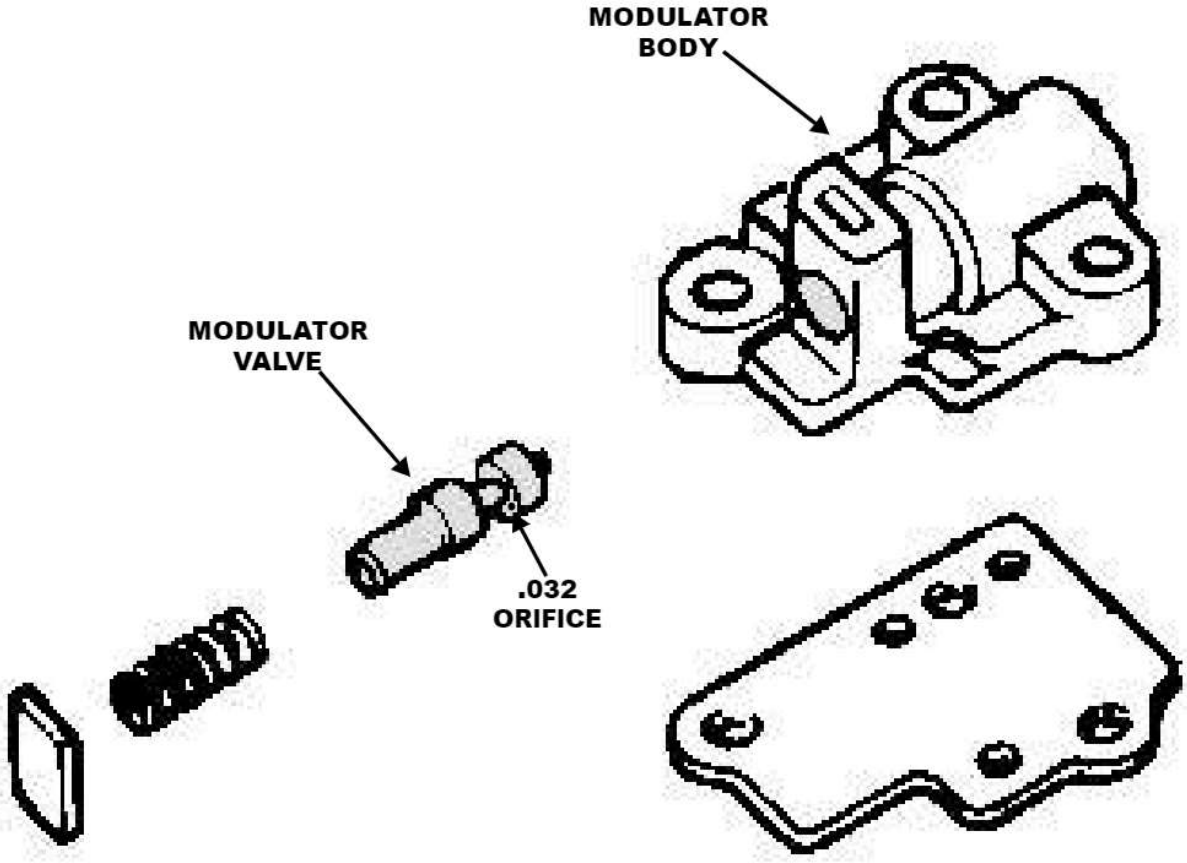


MODULATOR VALVE
LATE SHIFT POINTS

COMPLAINT: Shift points are late and throttle valve "A" is not stuck..

CAUSE: The cause may be, the .032 orifice in the modulator valve could be clogged with debris from previous damage. The reason for this is the modulator valve uses line pressure from throttle valve "B" to regulate this pressure to throttle valve "A" which controls shift timing in hydraulically operated units.

CORRECTION: Remove the valve from the modulator body which is located on top of the of the servo body, making certain that the .032 orifice is clear and that the valve is free.
The modulator valve arrangement shown below is an F4 model. Other model transaxles will have the valve located in the secondary valve body.



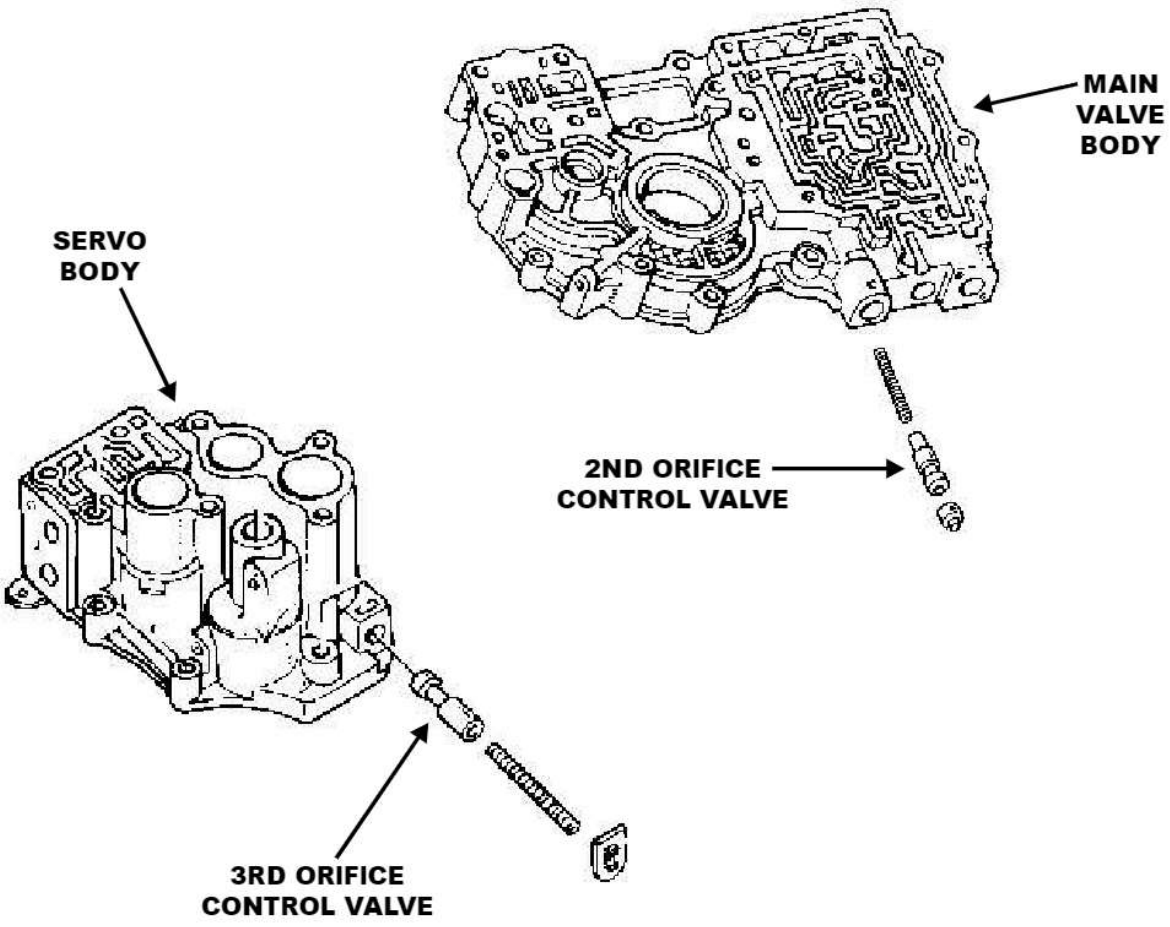
ORIFICE CONTROLS VALVES

FLARED 2-3 OR 3-4 SHIFT

COMPLAINT: A flared shift on the 2-3 shift and/or on the 3-4 shift and TV pressure is correct.

CAUSE: This complaint can be caused by a second or third orifice control valve spring that has become weak which will allow to much apply oil to be exhausted.

CORRECTION: Replace the original spring on the 2nd orifice control valve if the 2-3 shift is flared or on the 3rd orifice control valve if the 3-4 shift is flared. A 1 pound stronger spring should cure the problem. Check the service manual for the location of these valves for the model transaxle you are working on.
The example shown in the illustration below is a model F4.



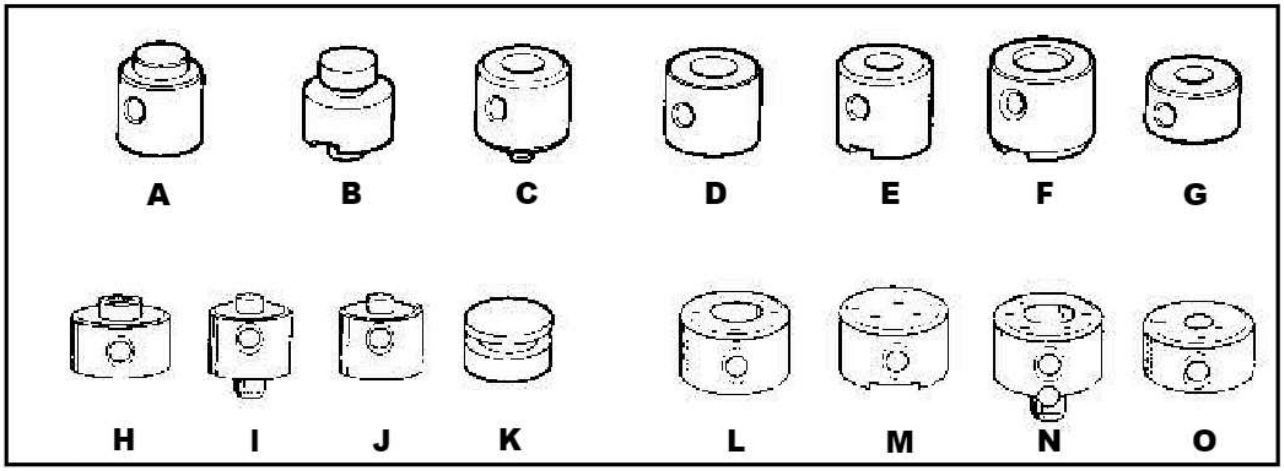
VALVE BODY BORE PLUGS

Honda/Acura transaxles utilize a variety of different bore plugs to retain the various valves in their respective bores. These bore plugs have either projected tips or an off center hole in which a retaining pin goes to position the plug at a certain depth.

When servicing these valves it is easy to turn a bore plug around and install it in the bore backward which, depending on what valve is affected, could cause a variety of problems.

For example, if it were a shift valve, you could have stacked or no upshift. If it were a clutch pressure control valve you would have clutch slippage or if it were to be an orifice control valve you could have flared shifts.

In the illustrations below the various types of bore plugs are shown and in which direction they are to be installed in the valve bore.



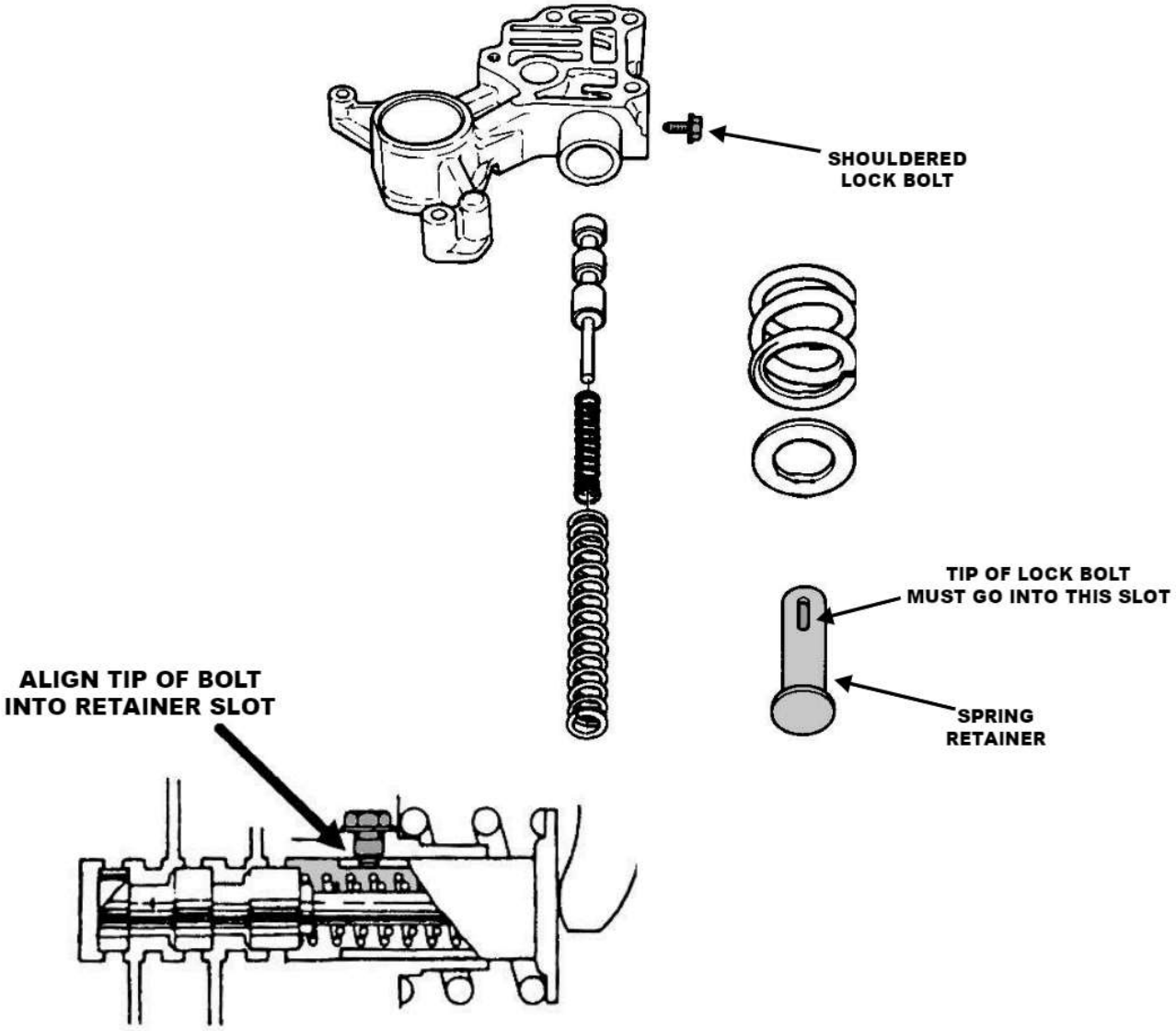
A-Plugs with 1 projected tip and 1 flat end are installed with the flat end toward the spring.
B-Plugs with a projected tip on each end are installed with the smaller tip toward the spring.
C-Plugs with 1 projected tip and 1 hollow end are installed with the tip toward the spring.
D-Plugs with 1 hollow end and 1 flat end are installed with the flat end towards the spring.
E-Plugs with notched ends are installed with the notch towards the spring.
F-Same as E, EXCEPT retaining pin hole is off center.
G- Plugs with flat ends and 1 large hole and 1 small hole are installed with the small hole towards the spring.
H-Plugs with 1 projected tip and 1 flat end are installed with the flat end towards the spring.
I-Same as B. The small projected tip acts as a spring guide.
J-Same as A, EXCEPT the retaining pin hole is off center.
K-Plugs with flat ends and a groove around the plug are installed with the groove closest to the spring.
L-Same as D, EXCEPT overall hieght is less than "D".
M-Plugs with 1 notched end and 1 flat end are installed with the notched end towards the spring.
N-Same as C, EXCEPT for overall height.

HIGH LINE PRESSURE

COMPLAINT: Harsh engagement, harsh shift quality and bangs on coast downshift, throttle pressure OK.

CAUSE: The pressure regulator valve spring retainer is misaligned with the shouldered lock bolt which will jam the retainer and causing the retainer to exert more tension on the pressure regulator valve resulting in high line pressure.

CORRECTION: When reassembling the pressure regulator valve, make certain the tip of the shouldered lock bolt is indexed into the slot of the pressure regulator valve spring retainer.



PUMP CLEARANCE

A loss of main line pressure can be caused by misassembly of the pump or, the pump is worn beyond its wear limits.

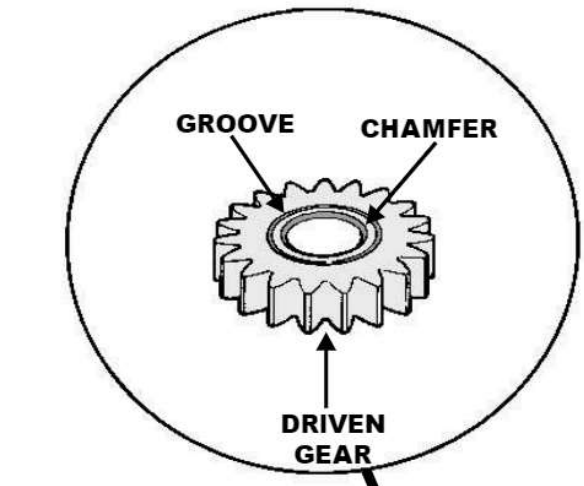
When assembling the gears into the pump make certain that the driven gear is installed with the grooved and chamfered side towards the spacer plate.

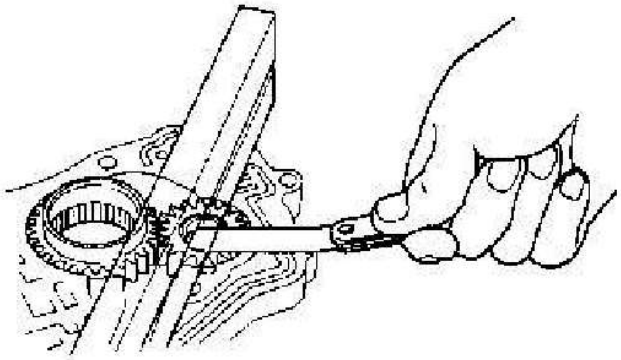
When checking thrust clearance, place a straight edge across the main valve body and the drive and driven pump gears. Next, insert a feeler gauge between the straight edge and first the drive gear, and then the driven gear.

Clearance MUST measure .001 to .002 or .03 to .05MM. Next insert a feeler gauge between the drive gear and the side of the pump pocket.

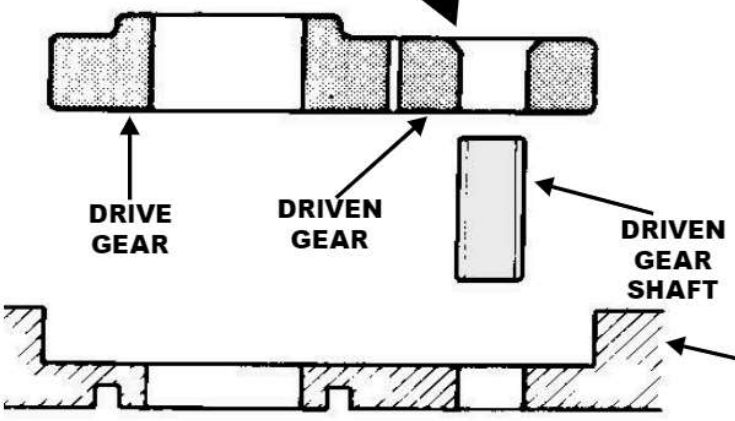
Clearance MUST be .0083 to .0104 or .210 to .265 MM. Next insert a feeler gauge between the driven gear and the pump pocket. Clearance MUST be .0028 to .0049 or .07 to .125.

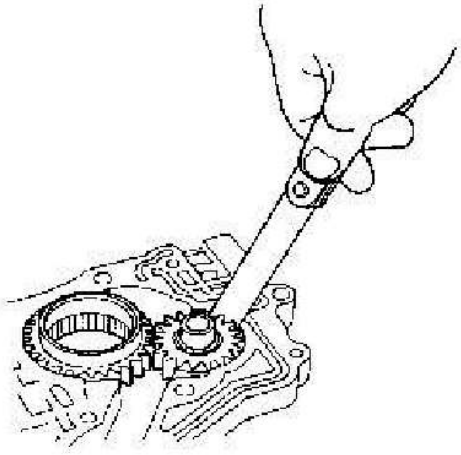
If these tolerances are exceeded, the pump assembly should be replaced.





THRUST CLEARANCE





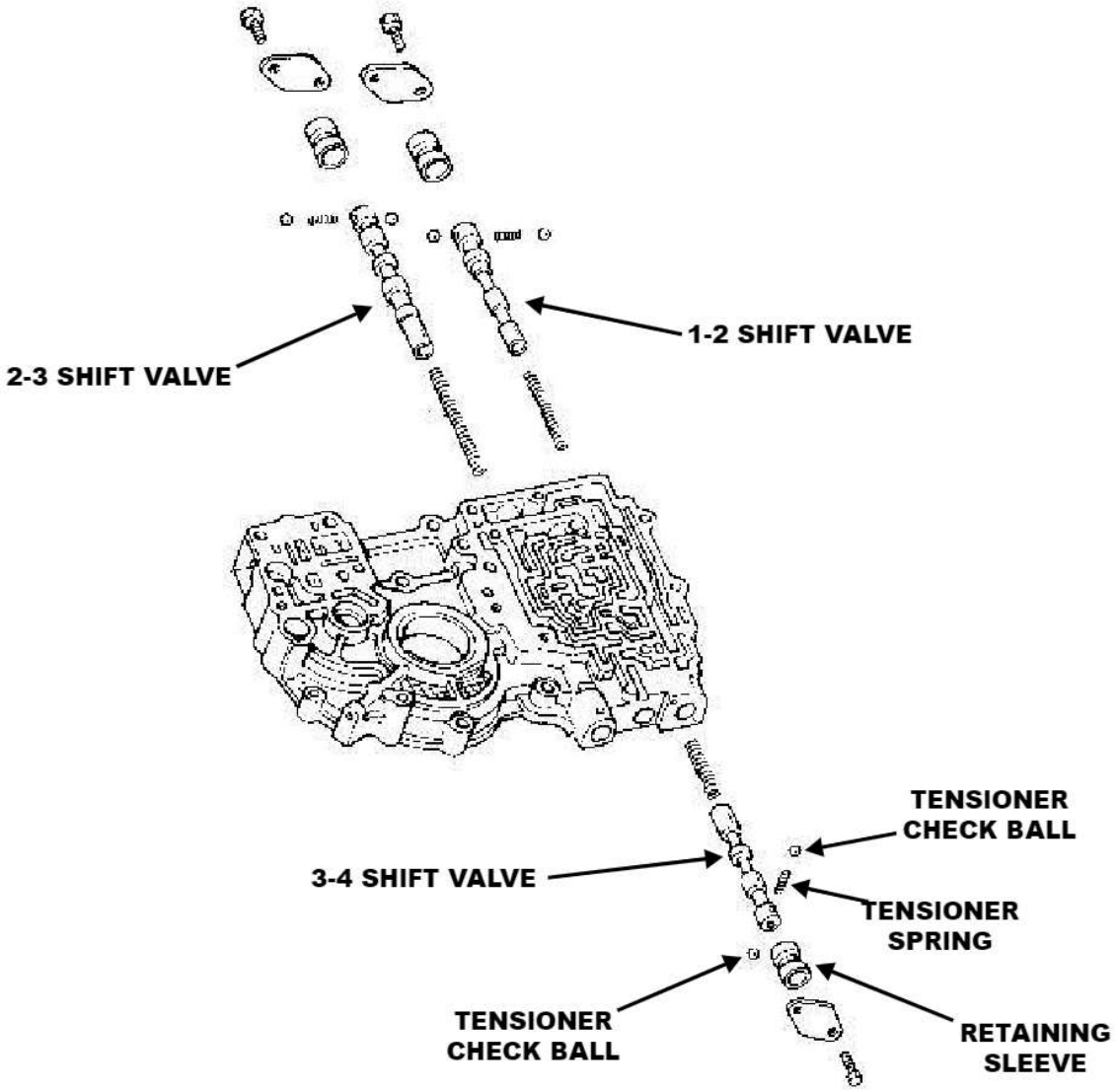
SIDE CLEARANCE

STACKED SHIFTS/ERRATIC GEAR CHANGE

COMPLAINT: Erratic stacked shifting or an uncommanded gear change, TV pressure OK.

CAUSE: The 1-2, 2-3 and 3-4 shift valves on governor shifted models only have tensioner check balls and springs on them. If these check balls are missing or if these springs are damaged or missing, the valve will be allowed to stroke at will and cause a stacked shift or an instant up or downshift because of no tension on the valve.

CORRECTION: Make certain that the tensioner check balls and springs are in position on the shift valves when servicing the valve body.
The example shown below is a model CA.



REVERSE SELECTOR

GRINDING DURING GARAGE SHIFTS

COMPLAINT: Transaxle grinds when shifting from drive into reverse and/or continues to grind after the shift lever is placed into park. Transaxle grinds when shifting out of reverse.

CAUSE:

1-The number one cause is incorrect shaft end clearance.
2-Clutch pack clearance to tight.
3-Over tightening of the shaft nuts.
4-Cotters fell out of place during assembly
5-Distance collar or spacer installed upside down.
6-Friction, steel, fluid incompatibility
7-Misadjusted or faulty external linkage, causing manual valve to be out of position.
8-A worn servo body.
9-Grooves cut into the 4th clutch drum by the steel plate lugs or Grooves cut into the 4th clutch hub by the friction plate teeth.
10-A broken cushion plate jamming the 4th clutch on.
11-Incorrect installation of the reverse selector assembly or it is damaged.
12-Main ball bearing snap ring has worn the snap ring groove in the case, causing the entire shaft assembly to move up and down in the case.
13-The use of a rebuilt 2-4 drum that has had the center hub replaced and welded at an incorrect height.
14-A dragging converter clutch.

CORRECTION

1- Make certain end clearance is .003-.006 on early models and .002-.005 on late models.
2-Clutch clearance should be set at .032.
3- Follow torque specifications for shaft nuts.
4-Use a generous amount of assembly grease to hold the cotters in position.
5-Follow assembly illustrations in the appropriate service manual.
6-Use GOOD quality frictions, Replace steel plates or sand them with 240 grit sandpaper, Use Honda fluid or an additive such as LubeGard®
7-Make certain Linkage is adjusted properly and is tight.
8-Check clearance between reverse servo shaft and servo body and replace servo body if necessary. (See illustration)
9-Replace drum or clutch hub as necessary.
10-Replace cushion plate .
11-Make certain that the reverse selector hub and slider are installed right side up. (See illustrations)
12-Replace case half.
13-Compare the height of the center hub to that of the original drum.
14-Replace converter or free stuck valve or repair electrical fault if so equipped.

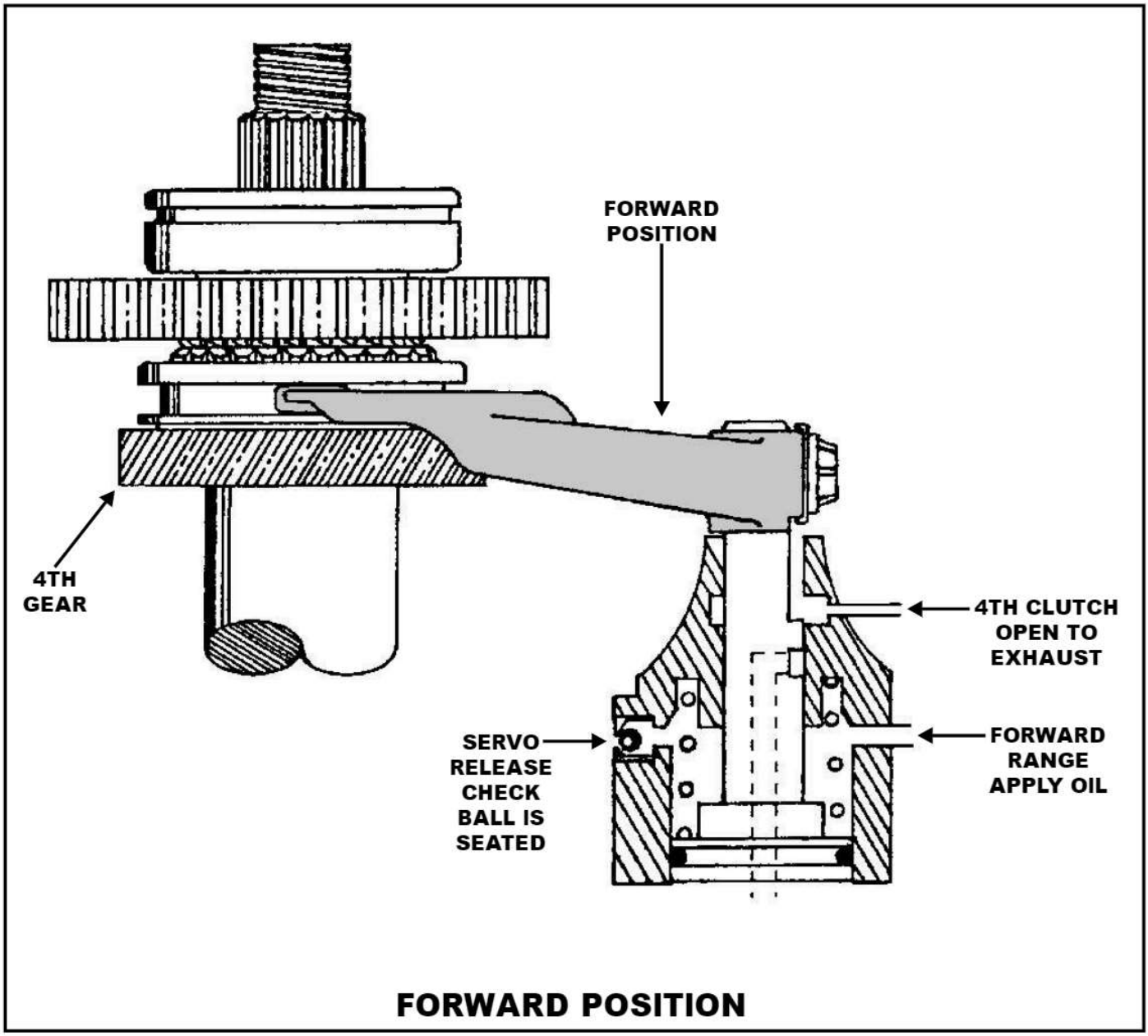
REVERSE SELECTOR

FORWARD RANGE

The position shown below is with the reverse selector engaged with the 4th gear. This is its position in all forward gears, park and neutral.

The 4th clutch apply circuit is open to exhaust, forward servo apply oil keeps the selector engaged with the 4th gear and the servo release checkball is seated.

When the engine is not running, the spring or detent assembly will keep the selector engaged with the 4th gear.



FORWARD POSITION

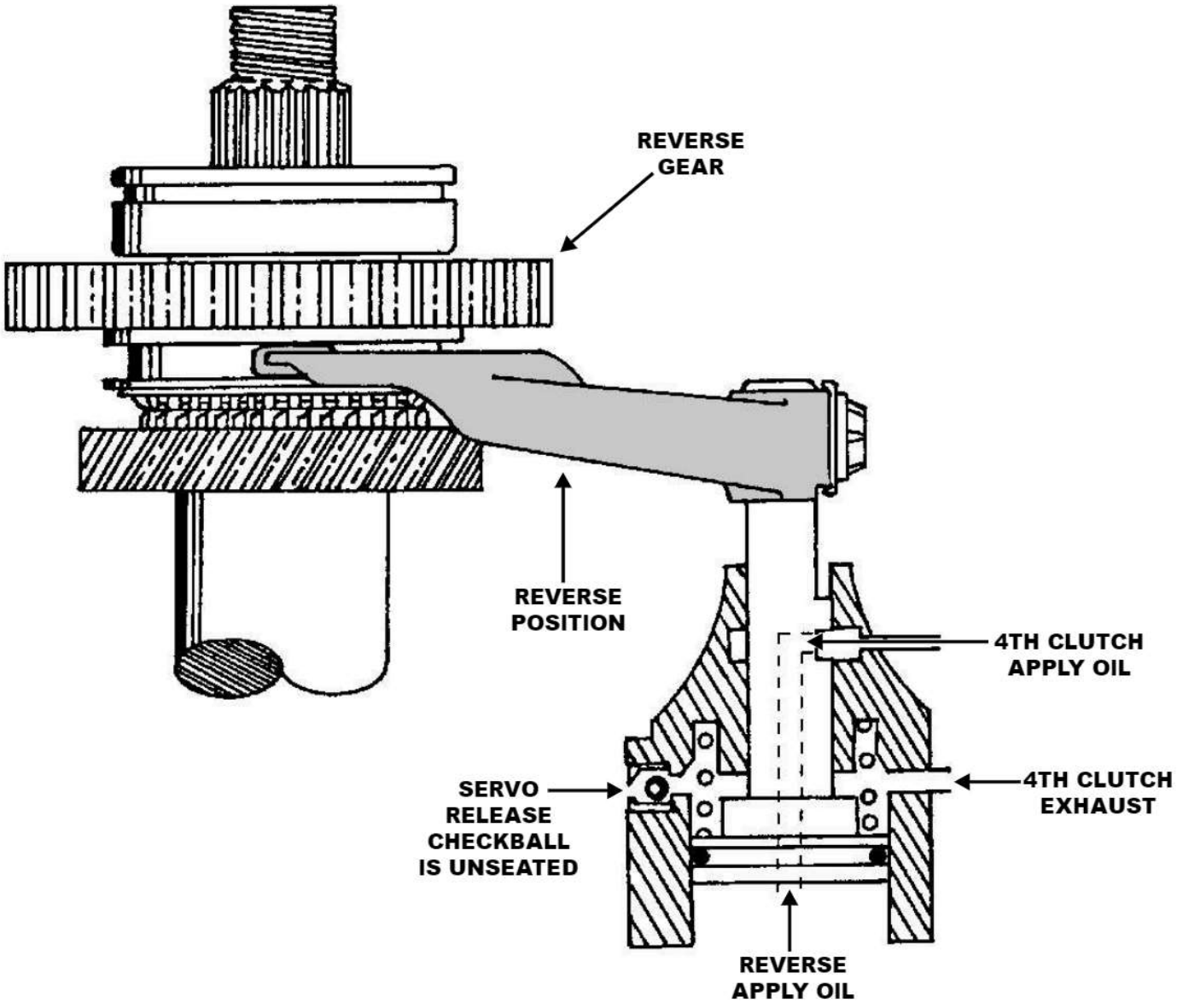
REVERSE SELECTOR

REVERSE RANGE

When reverse is selected, oil from the manual valve is sent to the bottom of the reverse servo which moves the reverse selector up where it engages the reverse gear.

The servo release checkball is unseated and as the servo piston approaches the reverse position the 4th clutch feed hole in the servo shaft will line up with the 4th clutch apply hole in the servo body and reverse gear is achieved.

When the manual shift lever is moved out of the reverse position the servo piston. will move down towards the 4th gear and at the same time will open the 4th clutch to exhaust.



REVERSE POSITION

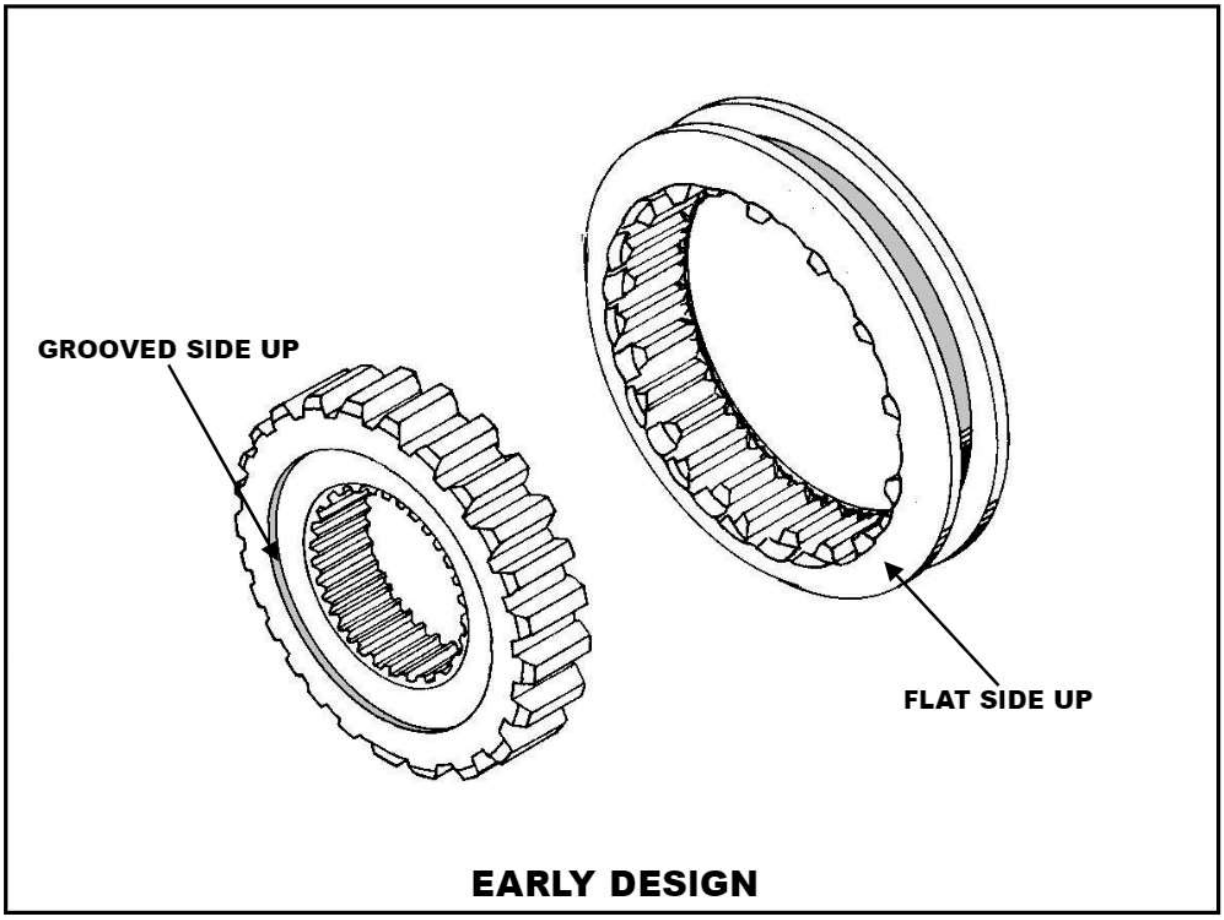
NEW DESIGN REVERSE SELECTOR SLEEVE

GRINDING WHEN SHIFTING INTO REVERSE

COMPLAINT: Grinding noise when shifting from drive to reverse

CAUSE: Misassembly of the new design reverse selector assembly

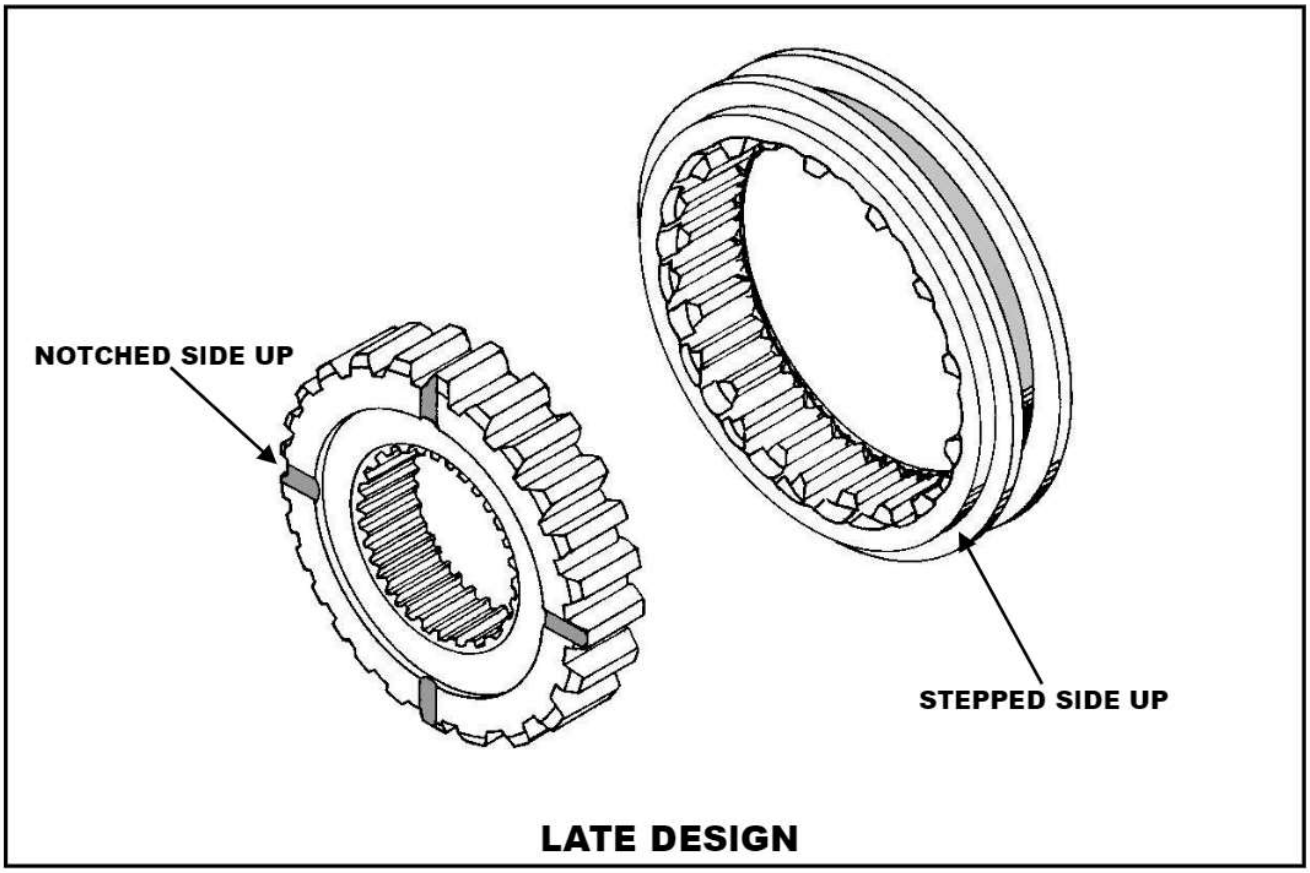
CORRECTION: In most Honda 4 speed transaxles, the reverse selector is installed with the ***FLAT SIDE UP***, and the selector hub is installed with the groove up. (See illustration below)
For example the PX4B found in 1990 Accords, is just the **OPPOSITE!**
The reverse selector is installed with the ***STEPPED SIDE UP,*** and the selector hub is installed with the notches facing up.
(See illustration and a list of the units using the step up design.on the following page)



EARLY DESIGN

NEW DESIGN REVERSE SELECTOR SLEEVE

GRINDING WHEN SHIFTING INTO REVERSE



LATE DESIGN

NOTE: The HONDA/ACURA transaxles listed below use the stepped side up/notched side up reverse selector assembly design.

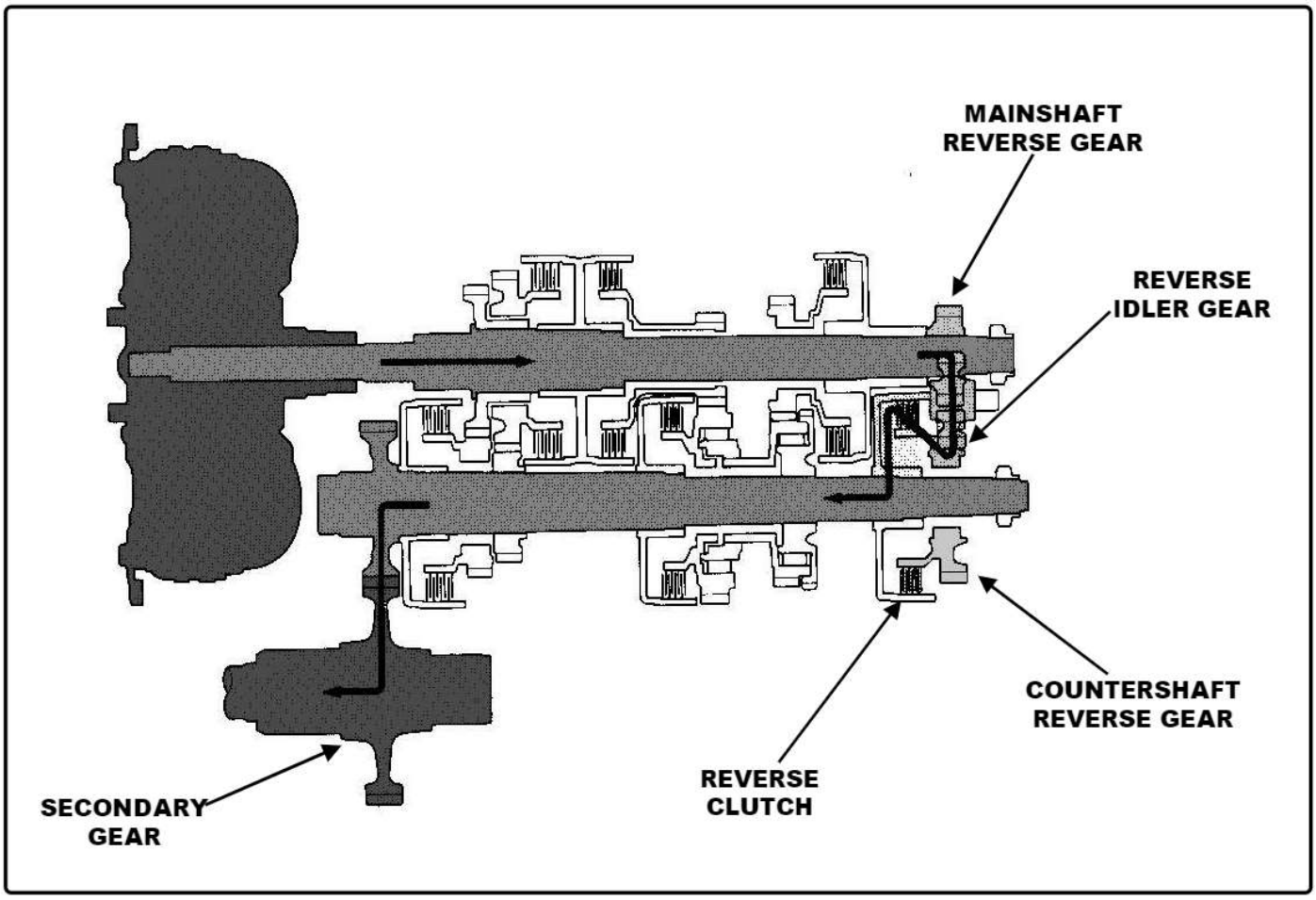
PX4B
MP1A
APX4
MPWA-JAPAN BUILT ACCORD
MPOA-JAPAN BUILT
AOYA
MPWA-VIGOR
MPZA
MPJA

ACURA MPYA

REVERSE SELECTOR ELIMINATED

In all Honda/Acura transaxles, a mechanical sliding clutch is used as a reaction member to assist in backward movement. This design has also resulted in noisy garage shifts and bind-ups in reverse. In the 1991 and up Acura Legend the sliding clutch has been eliminated and been replaced with a reverse clutch. Hydraulic pressure applies the reverse clutch. Power is transmitted from the mainshaft reverse gear through the reverse idler gear to the countershaft reverse gear. Rotation direction of the counter- shaft reverse gear is changed through the reverse idler gear in the rear cover.

Power is then transmitted to the secondary drive gear and drives the secondary gear. The power flow in reverse is illustrated in the illustration below.



DIFFERENTIAL CROSS SHAFT FAILURE

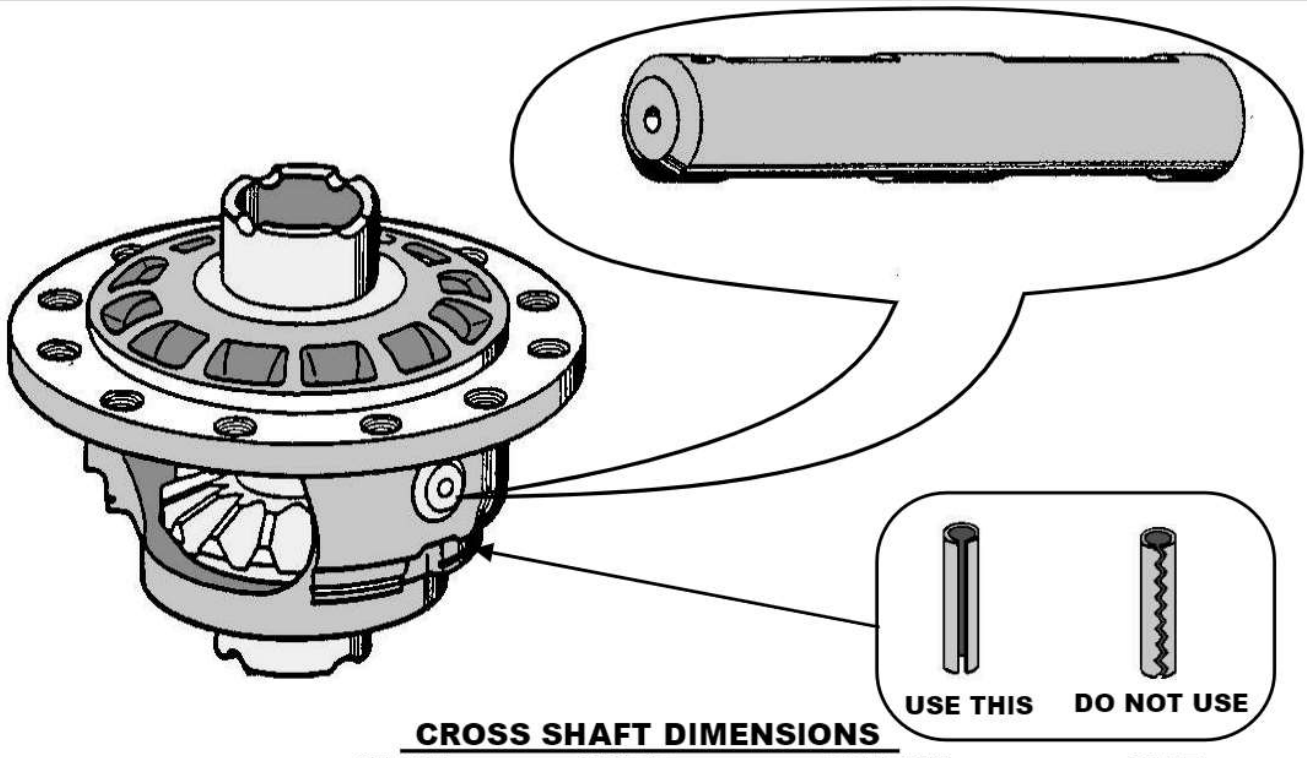
COMPLAINT: Failure of the differential cross shaft in the area of the cross shaft where the pinion gears rotate.

CAUSE: The cause may be the material from which the cross shaft was made.

CORRECTION: There is available from Honda, two new design differential cross shafts made of Titanium, that will eliminate the above complaint and should be installed during routine overhaul. (See illustration below)) These Titanium cross shafts can easily be identified by their gold color.

The rolled pin that retains the cross shaft in the differential carrier should also be replaced with a different design. The original rolled pin, with the split that resembles a "ZIPPER" (See illustration below), should NEVER be used. ALWAYS replace it with a regular split type rolled pin of the proper dimension.

Refer to the chart below for the dimensions and part numbers for the correct differential



CROSS SHAFT DIMENSIONS

APPLICATION	SHAFT DIAMETER	SHAFT LENGTH	ROLL PIN HOLE DIAMETER	PART NUMBER
4 CYL.	.708"	4.069"	.161"	41321-PL3-TOO
6 CYL.	.708"	4.522"	.238"	41321-PL5-ZOO

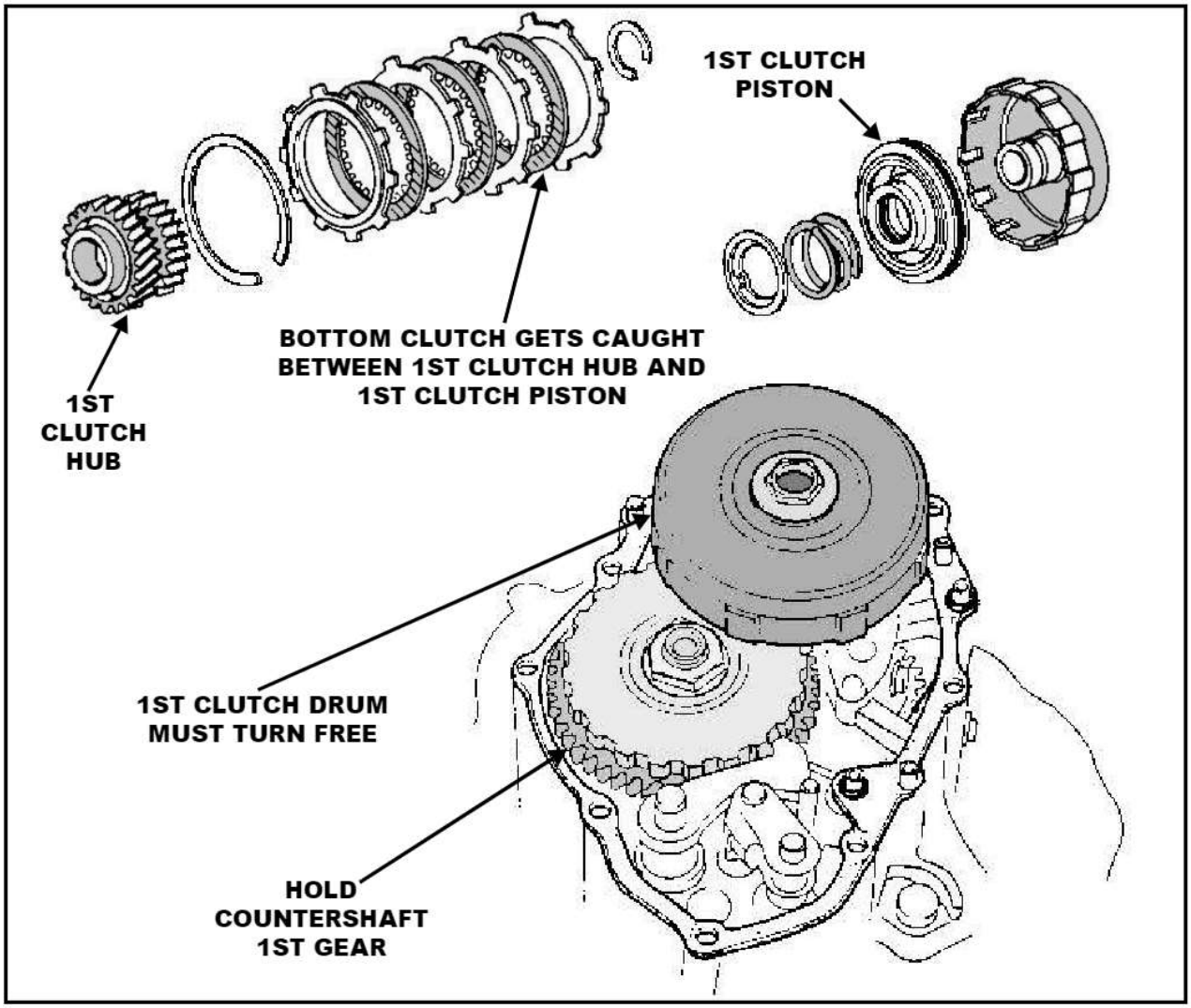
HONDA/ACURA 2 SHAFT

BINDS IN REVERSE; MOVES FORWARD IN NEUTRAL; WANTS TO MOVE IN PARK

COMPLAINT: Binds in reverse; moves forward in neutral; wants to move in park.

CAUSE: Improper indexing of the first gear hub to the low friction plates causing the last friction plate to be caught between the first gear hub and th piston.

CORRECTION: Make certain all three clutches have splined to the first gear hub. After tightening the mainshaft nut, make certain you can turn the clutch drum while holding the first gear hub. (See illustration below)

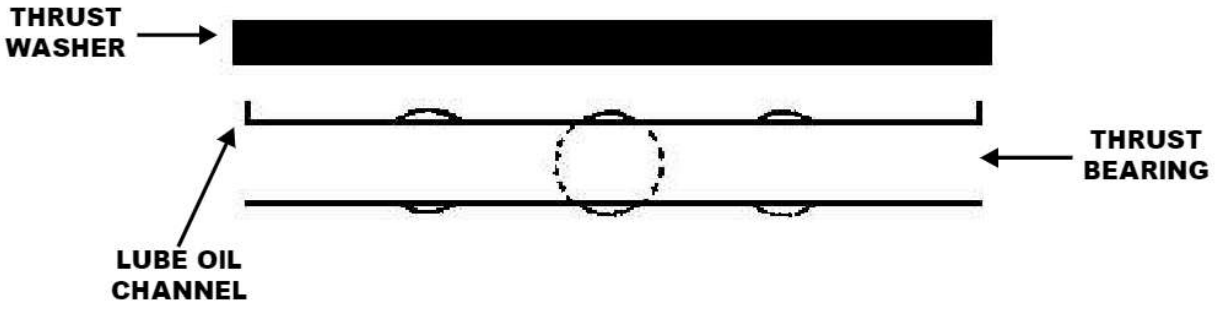


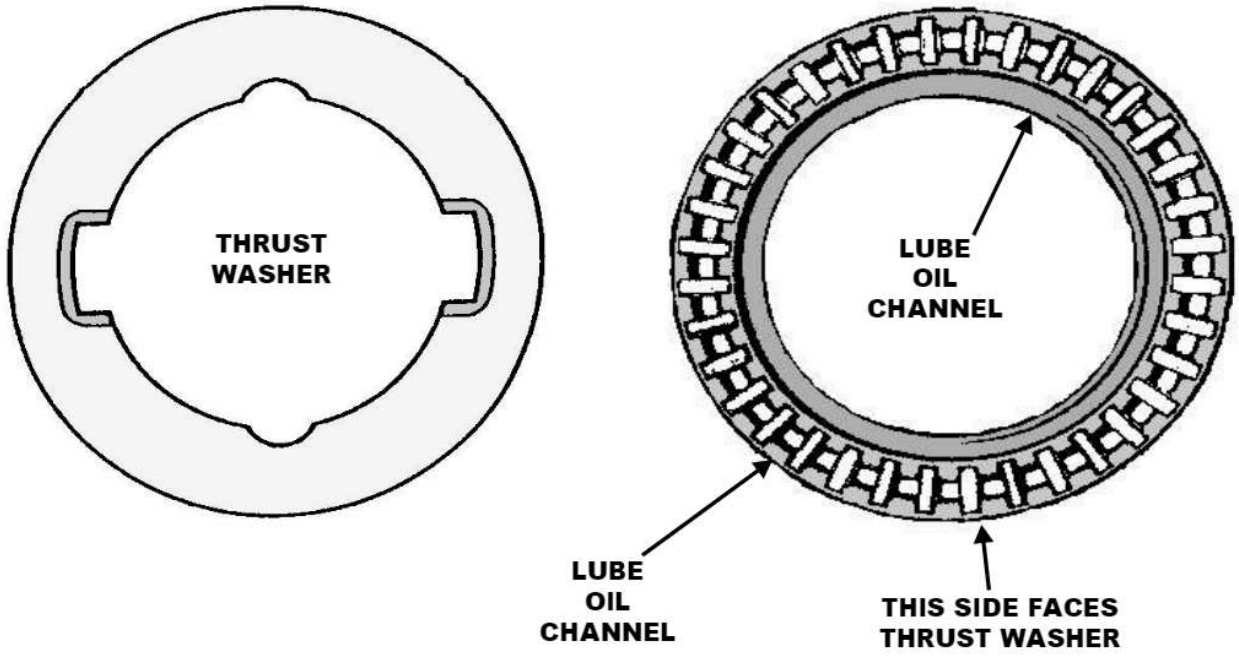
THRUST NEEDLE BEARINGS

COMPLAINT: Premature thrust bearing failure or a bearing whine .

CAUSE: Most of the thrust bearings in Honda transaxles have oil cahannels that provide lubrication for the bearing. (See illustration below) Failure to install these thrust bearings in the correct direction will result in a lack of lube oil condition causing the bearing to whine and fail prematurely.

CORRECTION: The lube oil channels MUST face the thrust washer. (See illustration below)



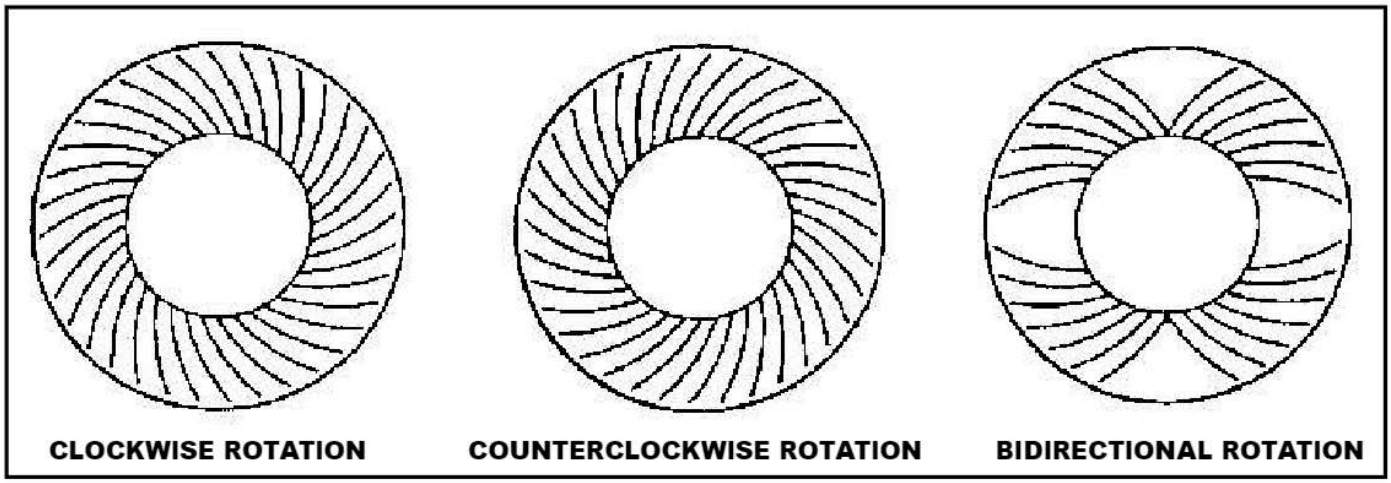


SEAL ROTATION
CHRONIC SEAL LEAK

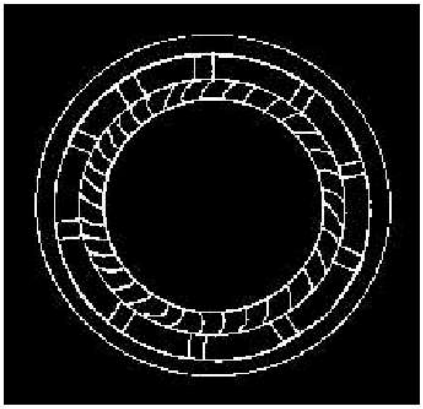
COMPLAINT: Front seal or axle seal continues to leak even after multiple replacements.

CAUSE: Honda/Acura converter and axle seals can be direction sensitive and therefore attention must be paid to which way the shaft to be sealed will rotate.
The helix of the seal which are the angled lines on the lip of the seal indicate direction of rotation (See illustration below).
If a Honda Accord front seal was installed in an Acura Legend the front seal would leak because the Honda converter rotates in an opposite direction than the Acura converter.
Another cause of chronic seal front seal leakage is driving the seal into the converter housing to deep.

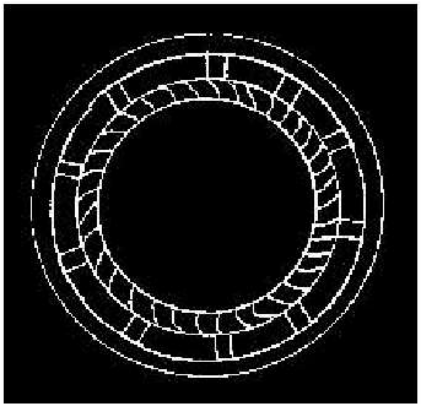
CORRECTION: Make certain the seal you are using has the correct helix for the direction of the shaft you are sealing. (See illustration below)
Seals that are bidirectional will seal shafts rotating in either direction. Axle seals can be bidirectional, Converter seals typically are not.



CLOCKWISE ROTATION | COUNTERCLOCKWISE ROTATION | BIDIRECTIONAL ROTATION



HONDA/ACURA INTEGRA



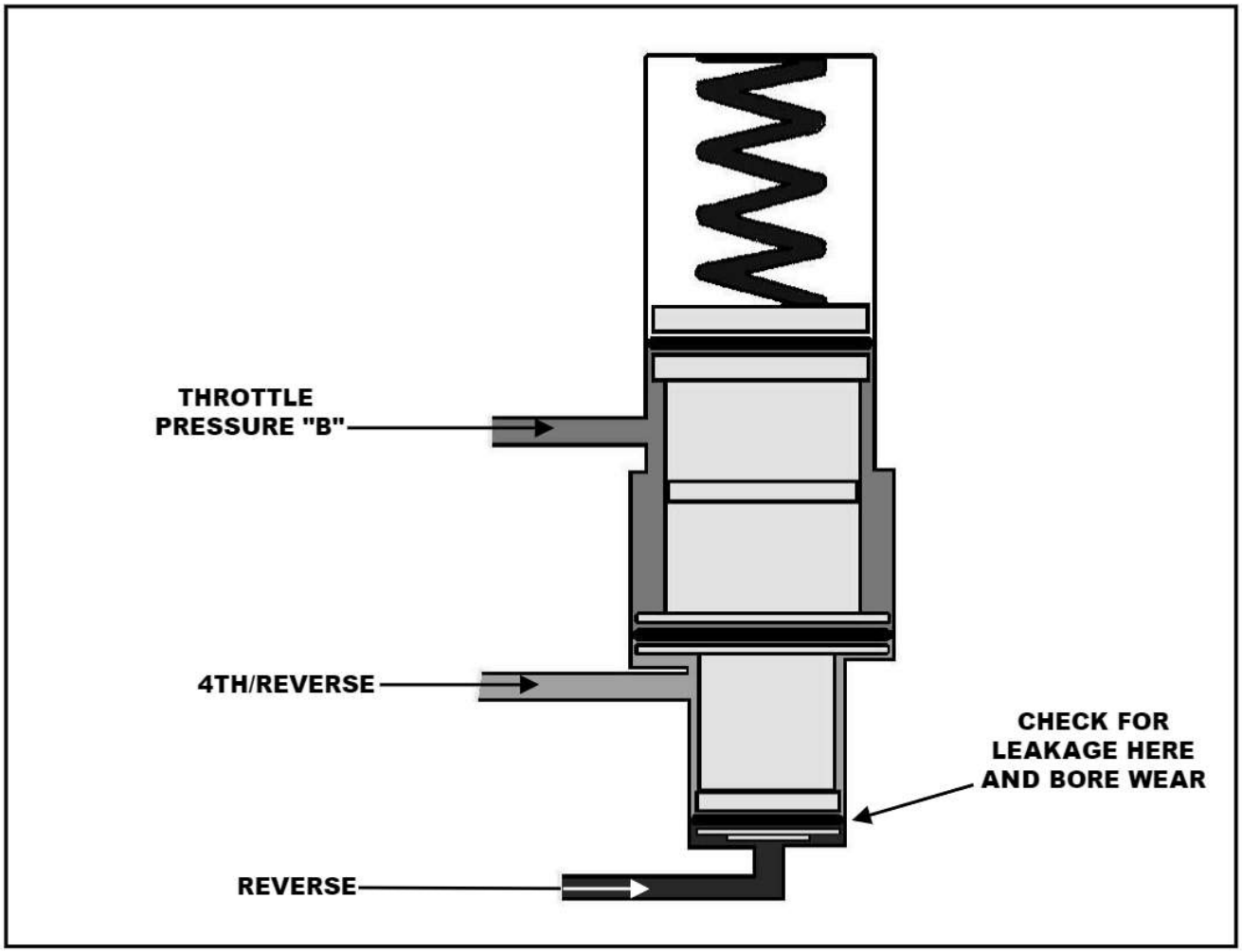
ACURA LEGEND/STERLING

PX4B / APX4
SOFT OR FLARED 3-4 SHIFT

COMPLAINT: Soft or flared 3-4 shift; good reverse.

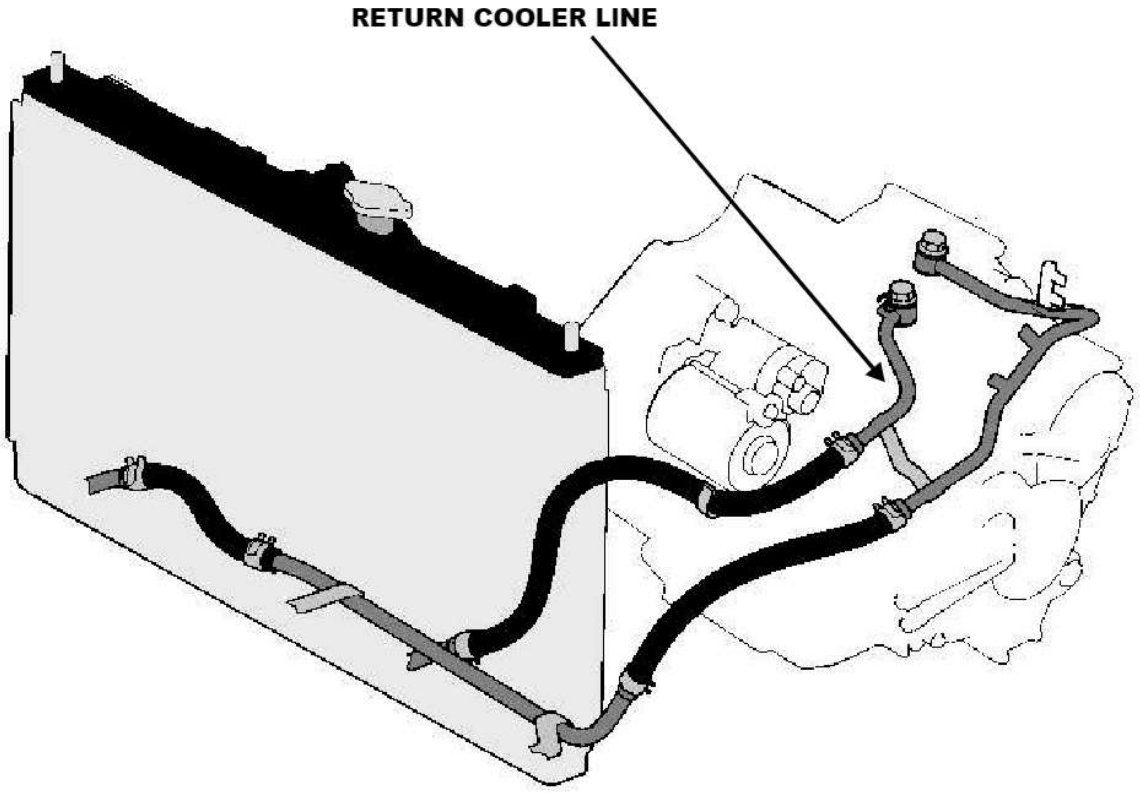
CAUSE: The latest generation of HONDA 3 shaft transaxles uses a double action 4th/reverse accumulator. If the small accumulator "o" ring seal is leaking,
(See illustration below) only the 3-4 shift will be affected as 4th gear oil leaks into the reverse circuit and could cause a soft or flared 3-4 shift.
The 4th/reverse accumulator is the center accumulator piston located in the servo body section of the valve body assembly.
The bottom of the 4th/reverse accumulator bore must also be inspected for grooving. If the bore cannot be satisfactorily reconditioned the servo body will have to be replaced.

CORRECTION: Replace accumulator seals and/or recondition or replace servo body.



TRANSAXLE COOLING SYSTEM

Due to the nature of the Honda/Acura transaxle design, hard part failure is common.
It is important to flush the cooler lines thougholy in both directions and install an inline filter in the return cooler line.
The return cooler line in all Honda/Acura transaxles is always the one over the differential area with the exception being the inline units.



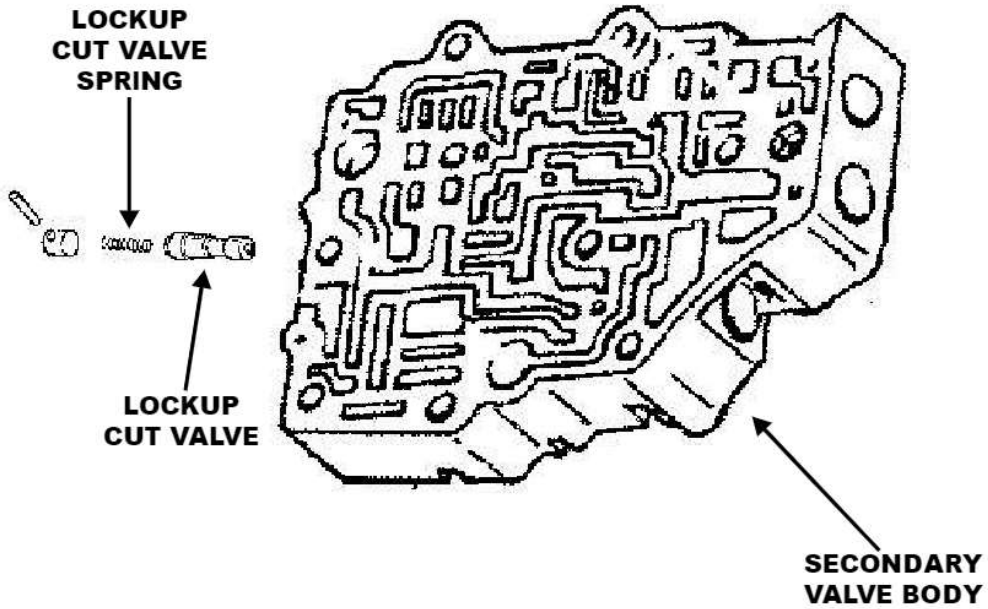
LOCKUP
CONVERTER CLUTCH BUSYNESS

COMPLAINT: When lockup occurs, a hunting sensation is experienced. This is otherwise desribed as "going in and out of lockup".

CAUSE: Hydraulicly operated transaxles utilize a lockup cut valve to release the converter clutch when the drivers foot is removed from the accelerator pedal.
Over a period of time small internal leaks cause the line pressure to act on the valve thereby preventing the spring to overcome it.

CORRECTION: Cut 1 coil off the lockup cut valve spring.

NOTE: Units that DO NOT have a lockup cut valve use a poppet style converter.
If the unit you are working on does not have a lockup cut valve, make certain that a poppet style converter is used.The poppet style converter can be identified by an ink code stamped on the converter such as NO, P4, 13 or 15.



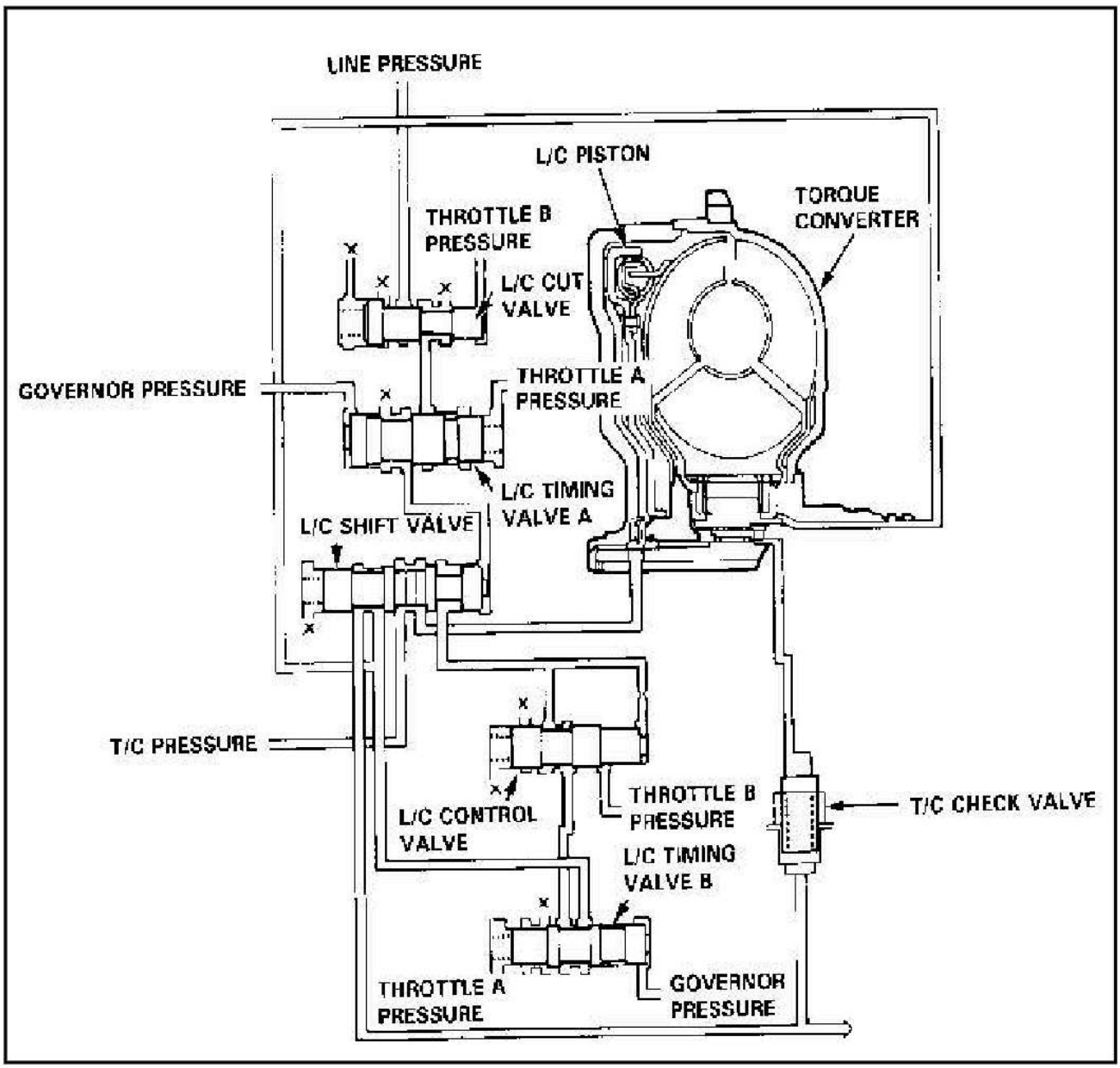
LOCKUP CONTROL

HYDRAULIC

TCC engagement will occur in 2nd, 3rd and 4th gear as long as vehicle speed provides sufficient governor pressure to overcome throttle valve "A" pressure. With hydraulic control, TCC apply begins with partial apply and then full apply.

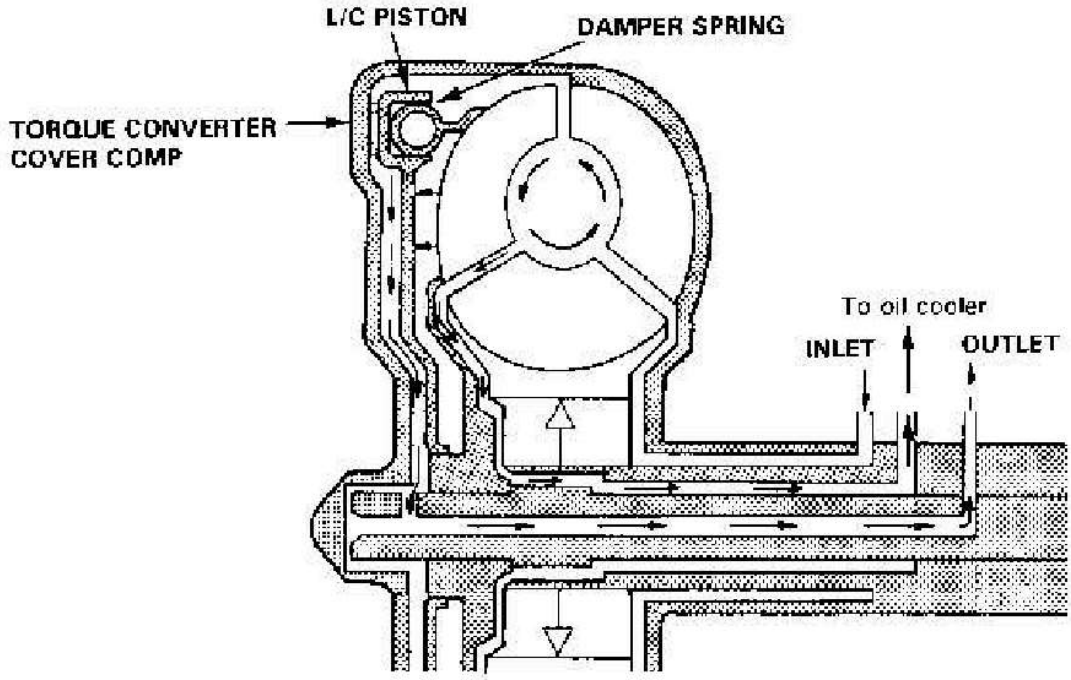
The hydraulic TCC control system utilizes 6 valves to control TCC apply and release functions, which are controlled according to Governor, TV "A" and TV "B" pressures.

The TCC valves are the ***TC Check Valve, LC Cut Valve, LC Timing Valve "A", LC Control Valve, LC Shift Valve and the LC Timing Valve "B".***

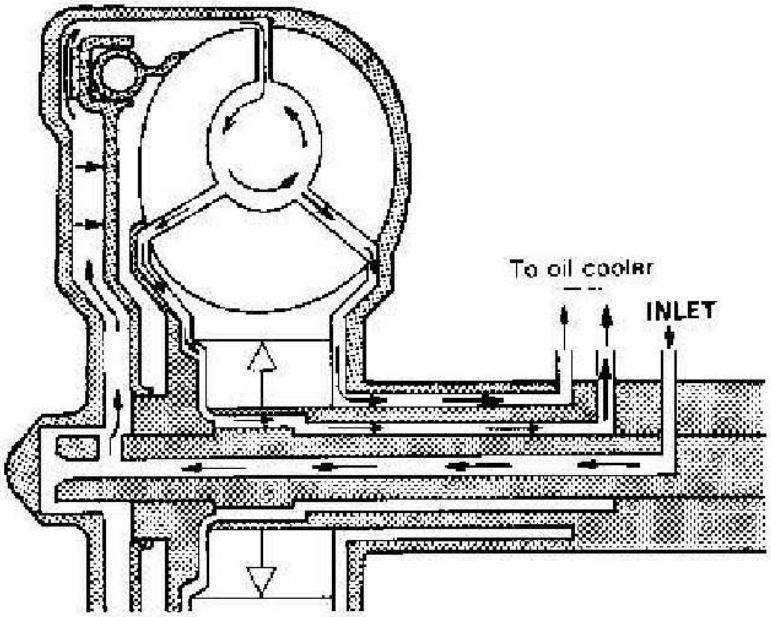


LOCKUP CONTROL

HYDRAULIC



LOCKUP ON



LOCKUP OFF

LOCKUP CONTROL

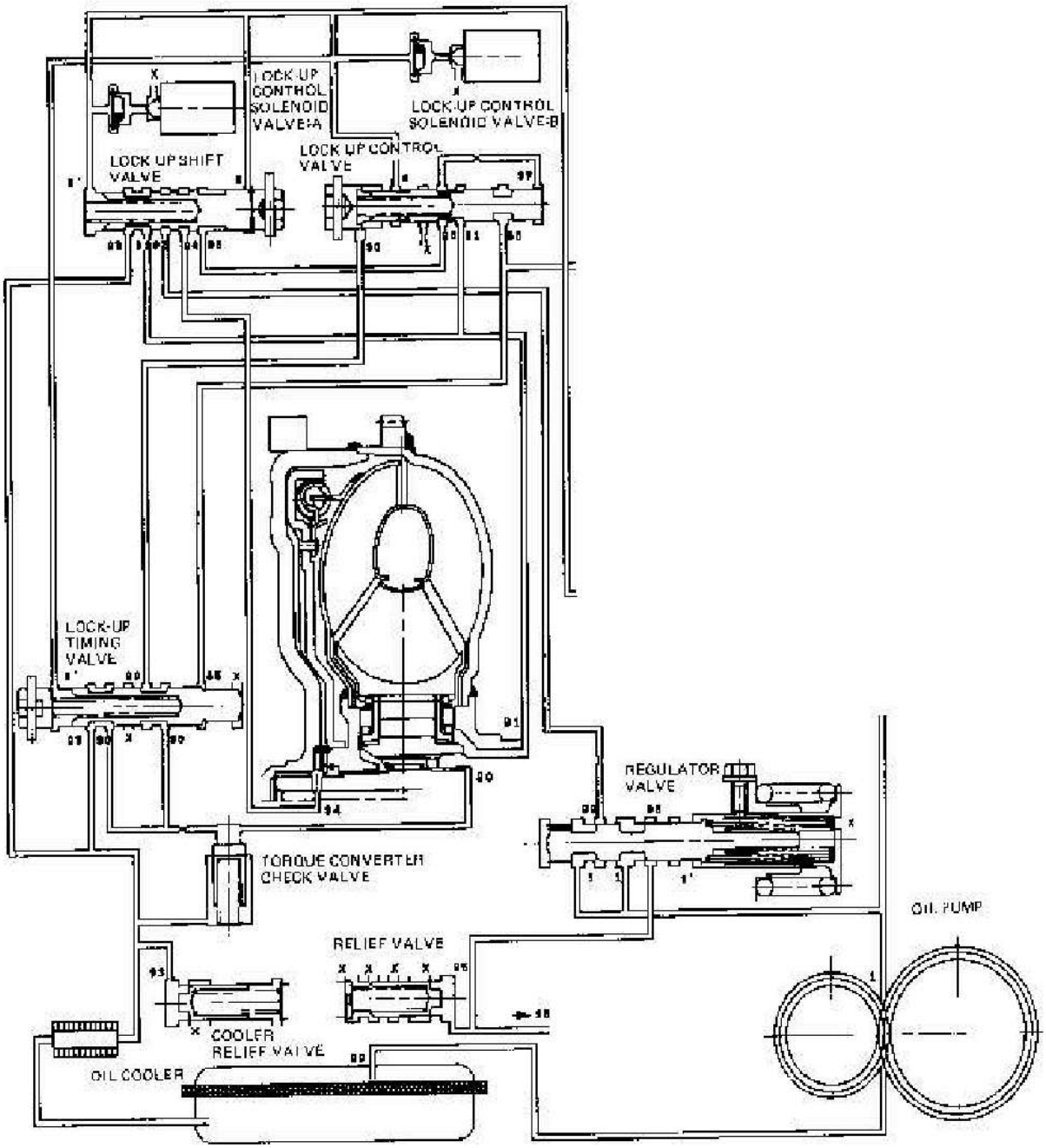
COMPUTER CONTROLLED

The electronic TCC control system provides a partial, half and full TCC apply which is accomplished through the use of a Lock up Solenoid "A" and a Lock up Solenoid "B". By turning Lock up Solenoid "A" on only or by turning Lock up Solenoids "A" and "B" on together, the various degrees of TCC apply is accomplished as shown in the chart below.
The amount of valves that are needed in the electronic control system are reduced to four. The LC Timing Valve "A" and the LC Cut Valve used in the hydraulic control system have been eliminated.
Utilizing lock up solenoid "A" and "B" pressures and TV "B" pressure, the 4 valves for TCC apply and release are the ***LC Shift Valve, LC Control Valve, LC Timing Valve and the TC Check Valve.***

Solenoid valve / Lock-up condition	A	B
Lock-up OFF	OFF	OFF
Lock-up, slight	ON	OFF
Lock-up, half	ON	ON
Lock-up, full	ON	ON
Lock-up during deceleration	ON	Duty operation OFF◄——►ON

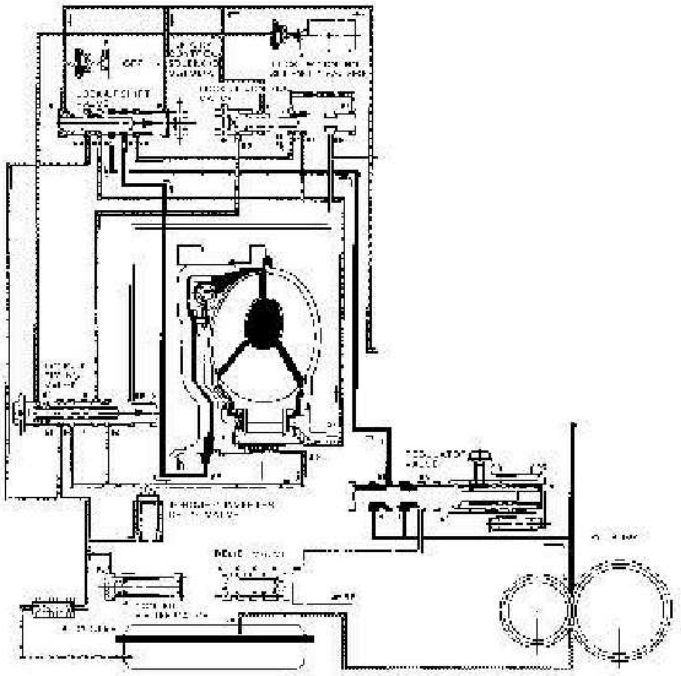
LOCKUP CONTROL

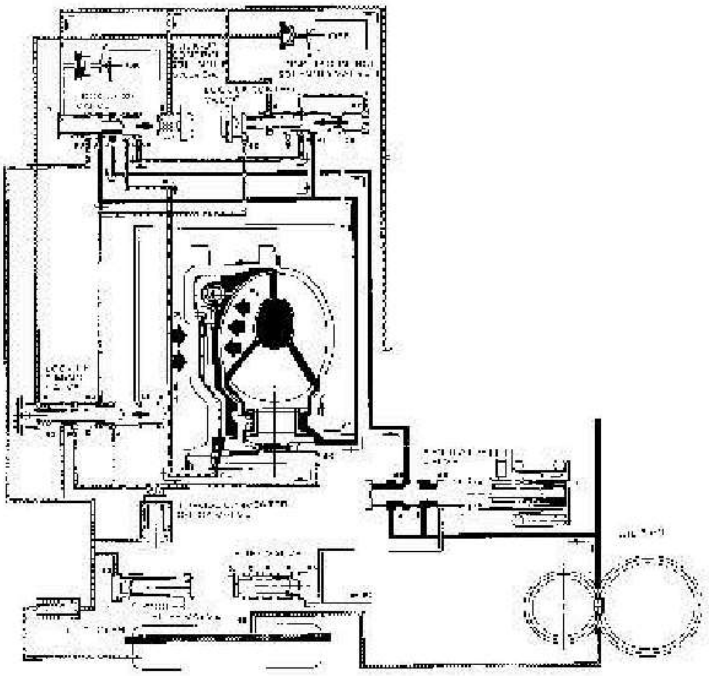
COMPUTER CONTROLLED



LOCKUP CONTROL

COMPUTER CONTROLLED

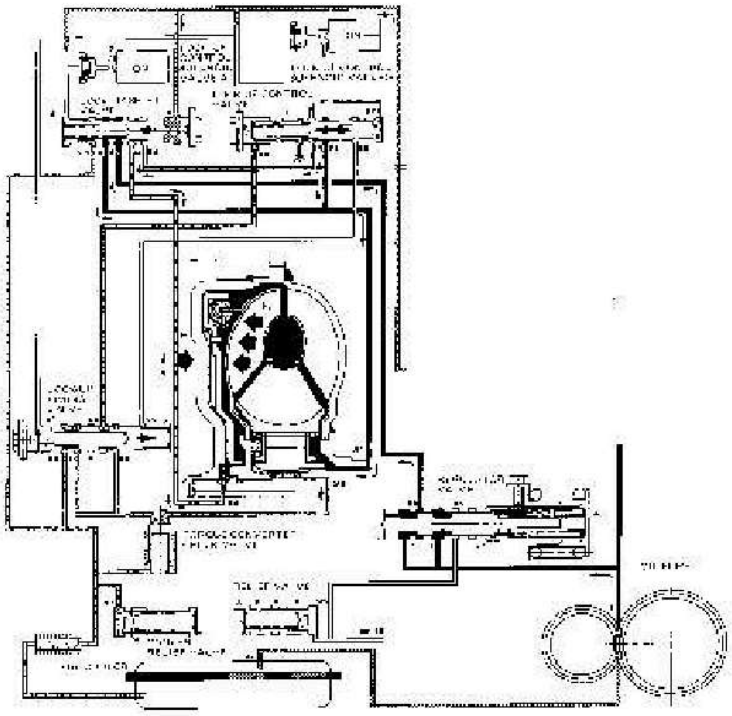




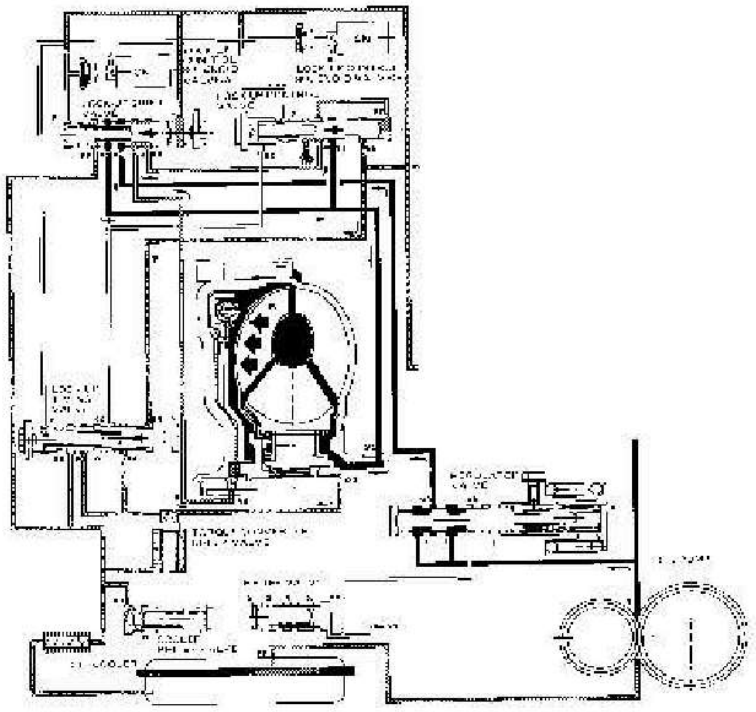
PARTIAL LOCKUP

LOCKUP CONTROL

COMPUTER CONTROLLED



HALF LOCKUP



FULL LOCKUP

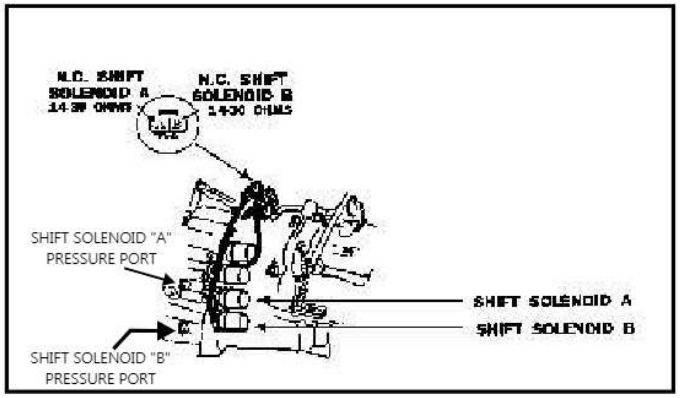
SHIFT SOLENOIDS

When Honda/Acura transaxles that are electrically shifted develop shift problems, how will you determine if it is a problem with the computer control system, the shift control solenoids or the hydraulic control system?

The first step is to check to see what gear the computer is commanding. This can be accomplished with a simple 12 volt test light or a volt meter.

The chart in figure 1 indicates what gear is obtained based on shift solenoid "ON" state. Using the illustration in figure 2, we would backprobe the solenoid connector shown, in the same order as the chart indicates. Therefore, according to the chart if solenoid "A" was OFF and solenoid "B" was ON, that would be a first gear command which would indicate that the computer control system is operating correctly.

GEAR	SOLENOID "A"	SOLENOID "B"
FIRST	OFF	ON
SECOND	ON	ON
THIRD	ON	OFF
FOURTH	OFF	OFF



The next step is to physically operate the shift solenoids with a direct 12 volts in order to determine if we have a solenoid problem or a hydraulic control problem.

Almost every electrically shifted Honda/Acura transaxle has solenoid pressure service ports and it is through these service ports that we will be able to determine in which area the problem lies.

But first we have to understand how the shift solenoids operate. Honda/Acura shift solenoids are NORMALLY CLOSED. That means that when the solenoid is OFF it HOLDS oil pressure to keep the shift valve from moving.

When the solenoid is energized (ON) the oil is now permitted to exhaust allowing the shift valve to stroke resulting in an upshift.

SHIFT SOLENOIDS

The chart provided in figure 3 will allow us to watch the solenoid pressures while we turn the solenoids on and off according to the chart in figure 1.

Notice that in 4th gear both solenoids are OFF (CLOSED). Solenoid pressures are both at 71-81 PSI. BUT, what if Solenoid "B" were restricted when 1st gear was being commanded? As we can see by the chart this could be mistaken for an electrically dead system.

If pressure is HIGHER than 3 PSI when the solenoid is ON, the solenoid is restricted and will require replacement.

If the pressures are CORRECT, Then the valve body is the place to go.

GEAR	SOLENOID "A"	SOLENOID "B"
FIRST	71-81 PSI	0-3 PSI
SECOND	0-3 PSI	0-3 PSI
THIRD	0-3 PSI	71-81 PSI
FOURTH	71-81 PSI	71-81 PSI

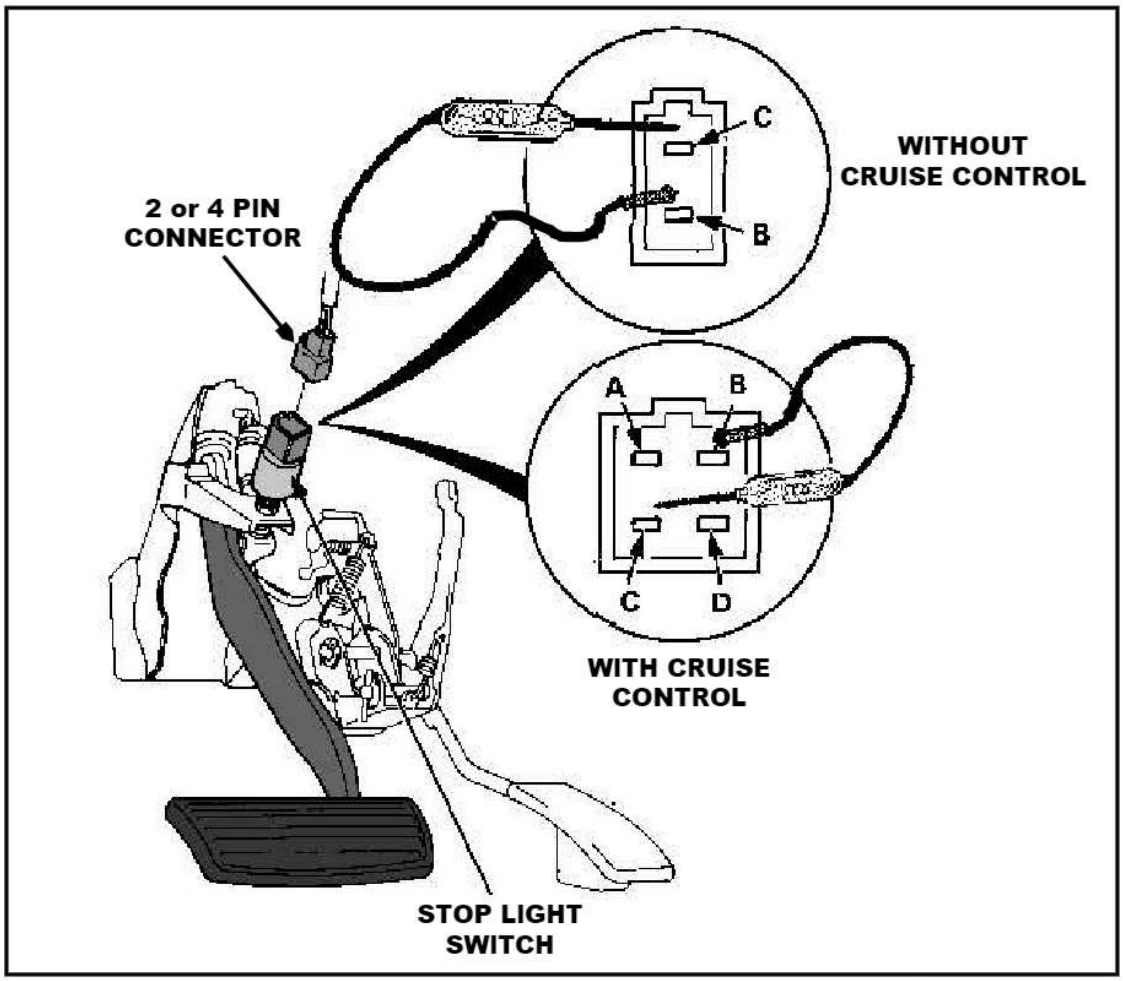
HONDA/ACURA SOLENOID SHIFTED TRANSAXLES

SECOND GEAR STARTS

COMPLAINT: Vehicle pulls off in second gear from a standing start. Stop lights may be on at all times.

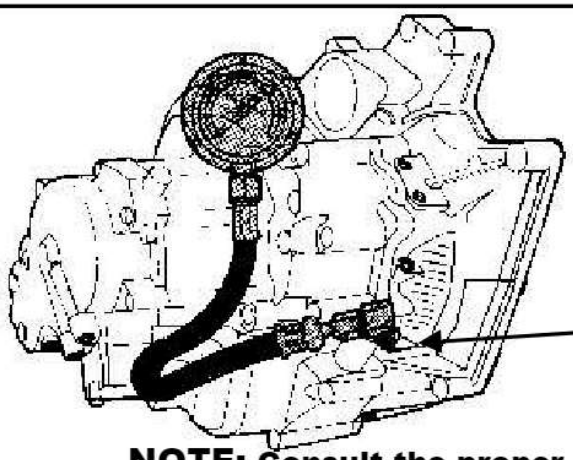
CAUSE: This can be caused by a faulty stop light switch. On most solenoid shifted Honda/Acura transaxles the A/T Control Unit will command 2nd gear when the brake pedal is depressed, thereby preventing shift shock during engagement into drive.
If the stop light switch is stuck on, the A/T Control Unit will not command 1st gear when the brake pedal is released, causing the vehicle to pull off in 2nd gear.
The stop lights may also remain on even though the brake pedal is released.

CORRECTION: Check for battery voltage at terminals "B" and "C" at the stop light switch connector as shown in the illustration below. If battery voltage is present when the brake pedal is released, check the "B" and "C" wires for a short to power.



THROTTLE PRESSURE CONTROL

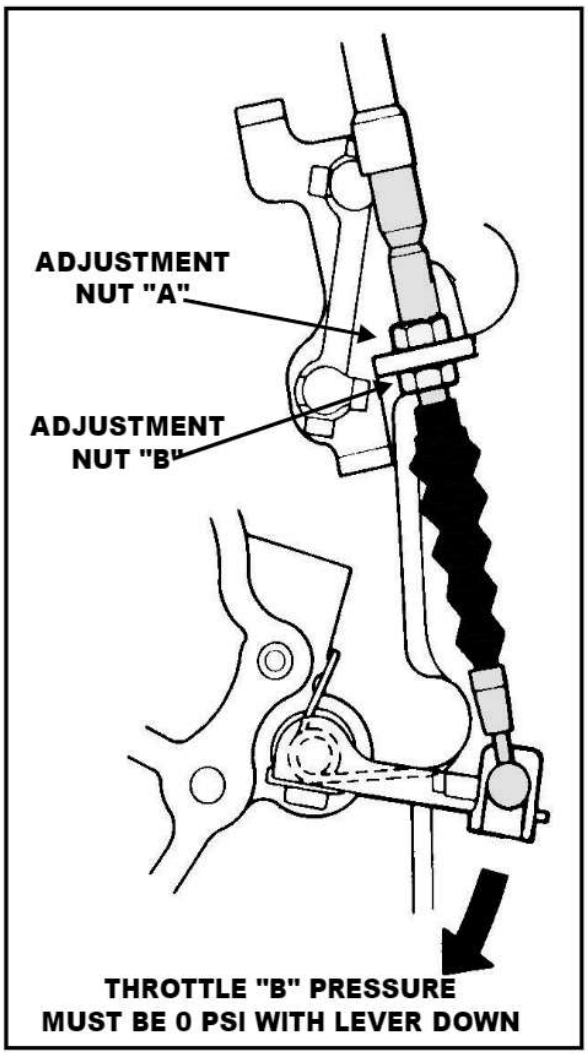
CABLE CONTROL



TV "B" PRESSURE IS CHECKED AT AN IDLE, IN "D4" RANGE AND MUST BE

ZERO

NOTE: Consult the proper service manual for pressure port location



Honda/Acura transaxles currently control throttle pressure in 3 different ways:

1-THROTTLE CABLE
2-MODULATOR
3-LINEAR SOLENOID

No matter which device is used, it is controlling shift feel by controlling oil pressure to throttle valve "B" which controls accumulator oil pressure which in turn controls shift feel.

Governor shifted units ONLY, also control shift timing via throttle valve "A".

We will begin with the throttle cable control:

1-Connect a pressure gauge to the TV "B" service port as shown in **figure 1.**

2-Make certain the engine is off fast idle.

3-Depress foot brake and place shift lever in "D4".

4-Throttle "B" pressure **MUST BE 0 PSI!**

5- If throttle "B" pressure is not 0 PSI, adjust the throttle cable until it is 0 PSI by loosening adjustment nuts "A" and "B" as shown in Figure2.

6-Position cable to obtain 0 PSI, then tighten adjustment nuts "A" and "B".

7-With the brakes applied and the shift lever in "D4" range, slightly depress accelerator pedal while observing pressure gauge The moment the accelerator pedal is depressed, the gauge should indicate an immediate pressure rise.

8-Press the accelerator pedal quickly to the floor, the pressure should rise to about 100 PSI.

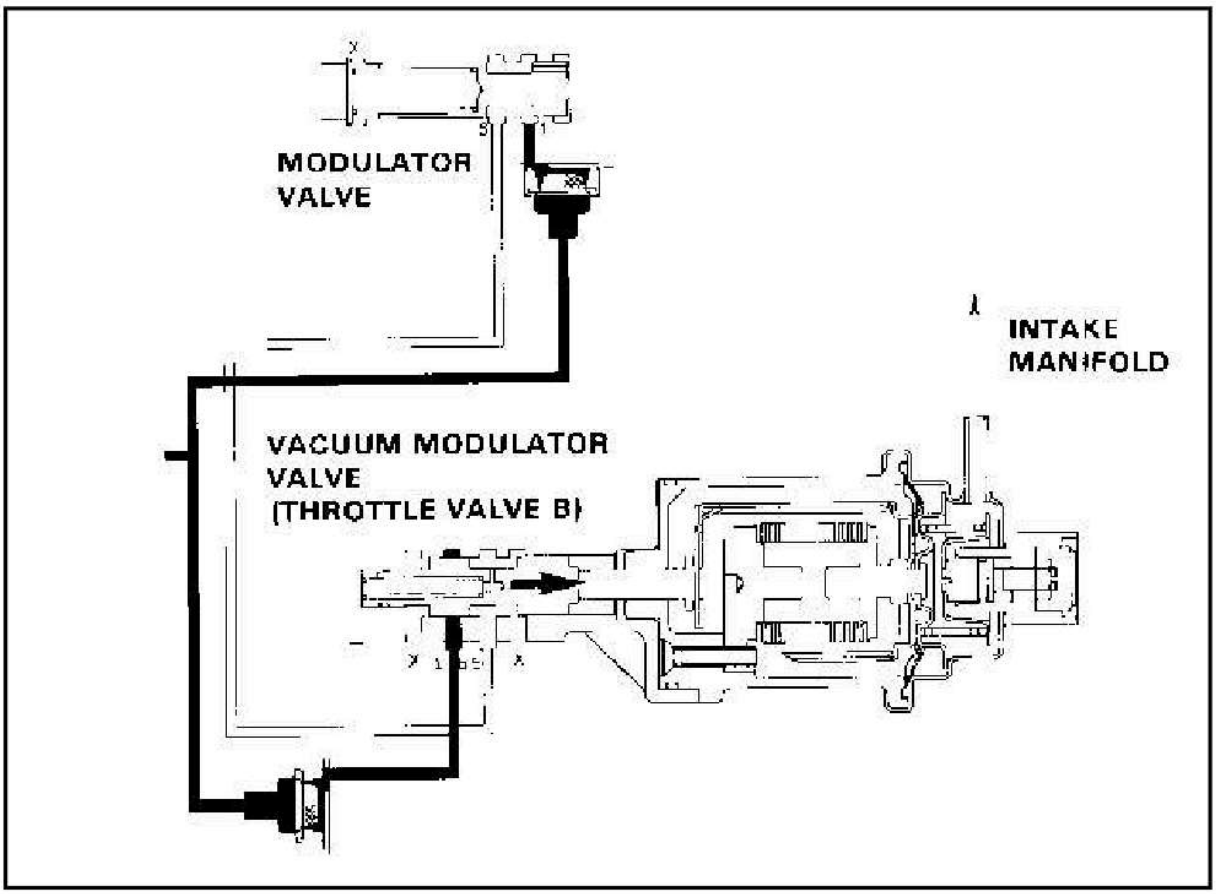
This cable adjustment will also have an effect on lockup apply timing and feel.

THROTTLE PRESSURE CONTROL
MODULATOR CONTROL
HARSH SHIFT CONCERNS

COMPLAINT: Harsh upshift and harsh coast downshift. Vehicle may also experience harsh engagement.

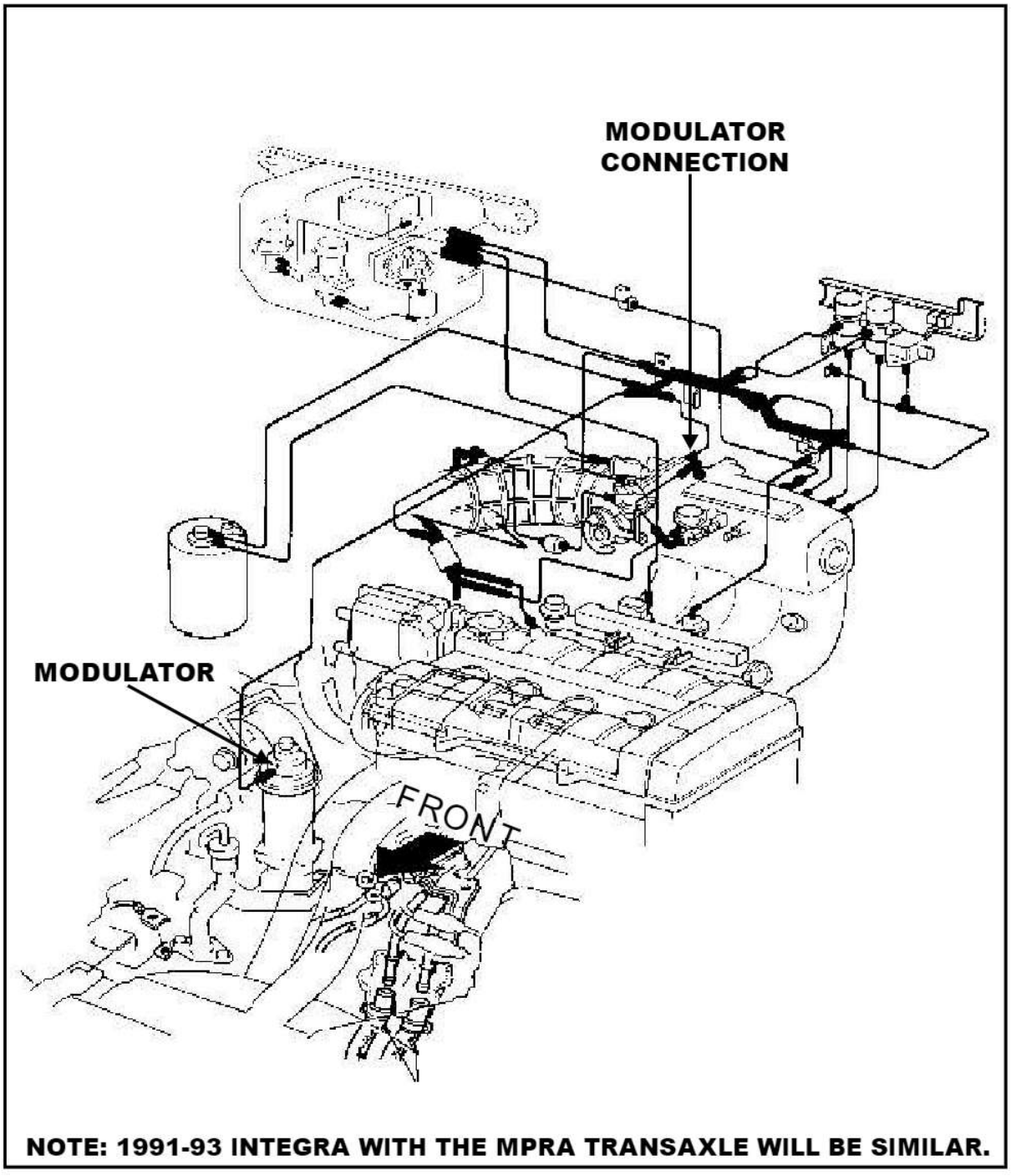
CAUSE: The cause may be a faulty vacuum modulator or insufficient vacuum to the modulator.
The 1990-93 Acura Integra uses a vacuum modulator to control TV "B" and therefore shift feel which eliminates the need for a throttle cable. A stuck throttle "B" valve can also cause this concern.

CORRECTION: Replace the faulty modulator and/or repair the engine vacuum problem.



ACURA

VACUUM DIAGRAM
1990 INTEGRA
"RO" TRANSAXLE



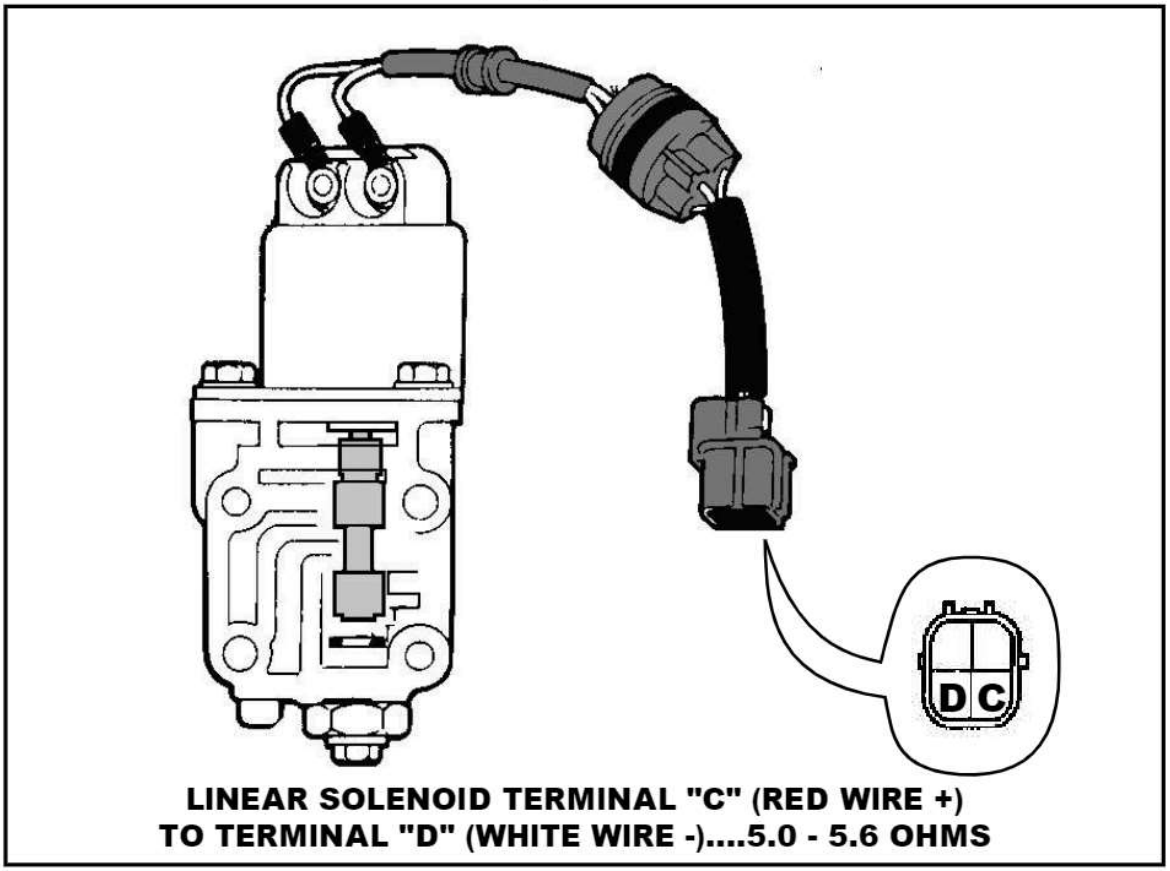
NOTE: 1991-93 INTEGRA WITH THE MPRA TRANSAXLE WILL BE SIMILAR.

THROTTLE PRESSURE CONTROL
LINEAR SOLENOID CONTROL
HARSH SHIFT CONCERNS

COMPLAINT: Harsh upshifts and harsh coast downshifts

CAUSE: Failure of the Linear Solenoid or Linear Solenoid Signal

CORRECTION: The latest generation of Honda/Acura transaxles uses a pressure control solenoid called a Linear Solenoid, which is normally closed, to adjust shift feel.
This now eliminates the need of a throttle cable to control throttle pressure "B".
The throttle "B" valve still regulates pressure to the accumulators and the clutch pressure control valve as it did in past designs, but now the computer is controlling throttle "B" pressure through the Linear Solenoid.
Therefore, failure of the Linear Solenoid or the signal to it or a sticking throttle valve could cause harsh upshifts, harsh coast downshifts or harsh kickdown.
The Linear Solenoid and the Shift Solenoids share a common connector.
The Linear Solenoid specifications are listed in the illustration below.

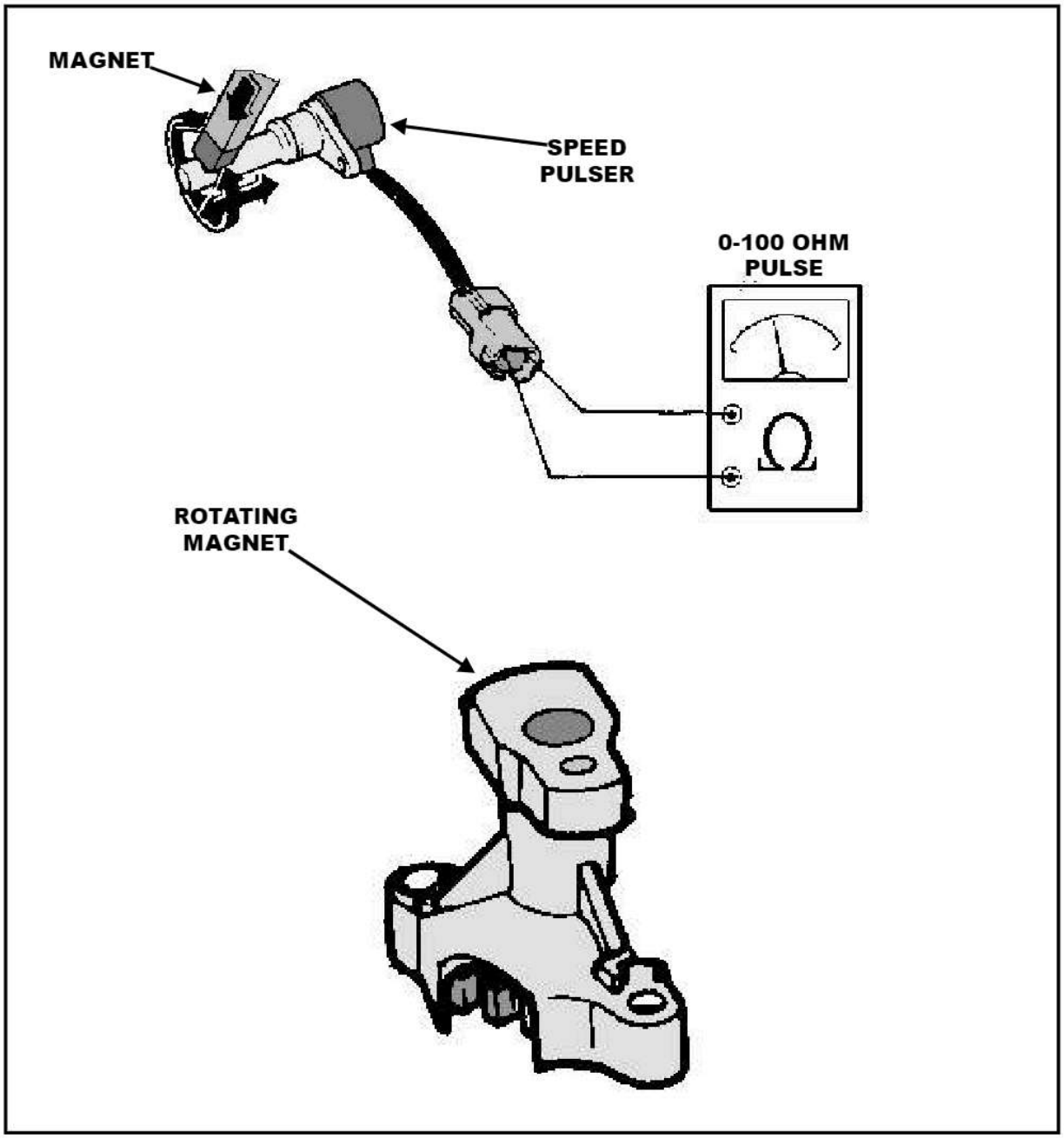


**LINEAR SOLENOID TERMINAL "C" (RED WIRE +)
TO TERMINAL "D" (WHITE WIRE -)....5.0 - 5.6 OHMS**

HONDA/ACURA SPEED SENSORS

A/T SPEED PULSER

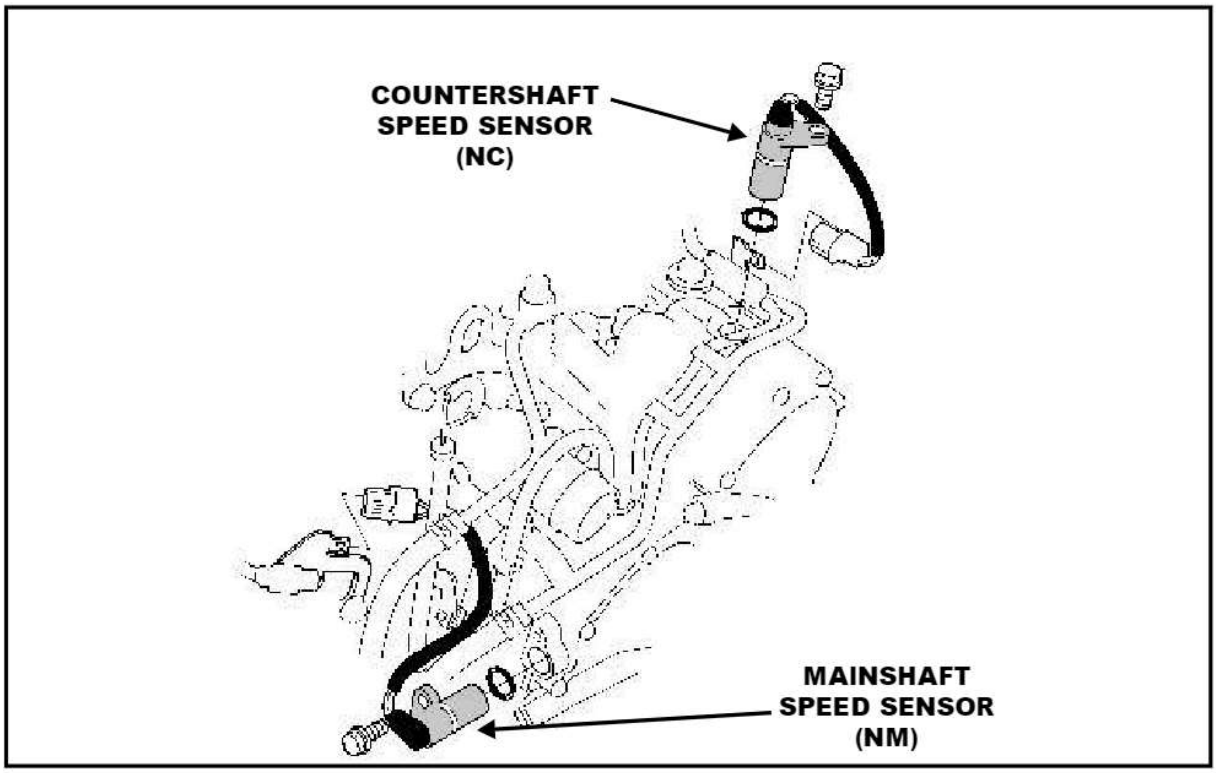
This 2 wire type of speed sensor can be checked with an ohm meter. The meter will pulse whenever the rotating magnet passes the pick-up and the reed switch inside opens and closes.
The voltage pulse is 0-5 volts DC. The ohm pulse is INFINITY to 100 ohms.

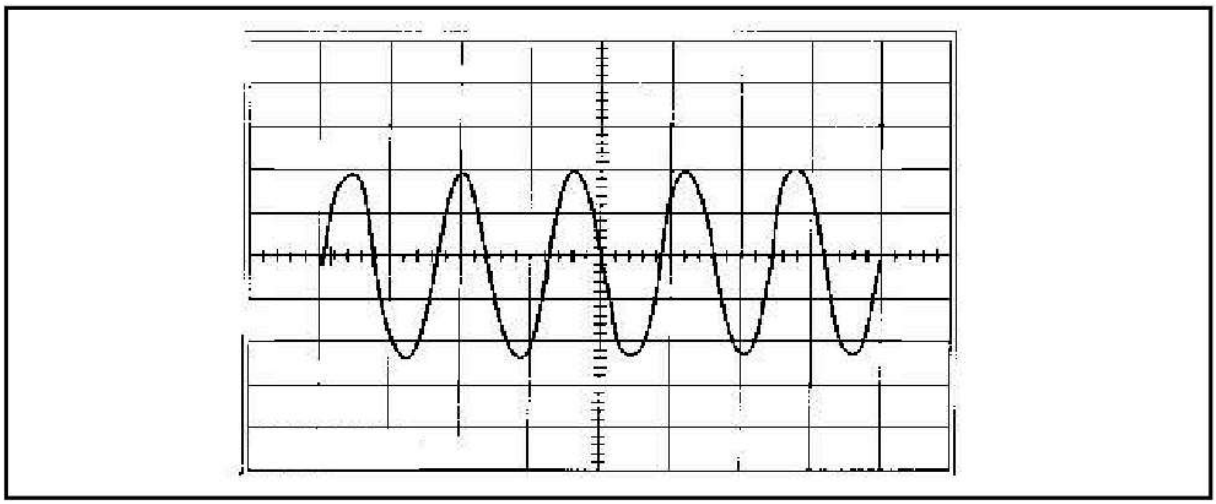


HONDA/ACURA A/T SPEED SENSORS

AC GENERATORS

This type of speed sensor generates its own signal when a toothed exciter ring rotates in front of it.
This type of speed sensor is checked with a volt meter set on AC volts or with a multi-meter set on HERTZ. (Refer to figure 1)
This type of speed sensor can also be checked with an ocilloscope, which is the most acurate method



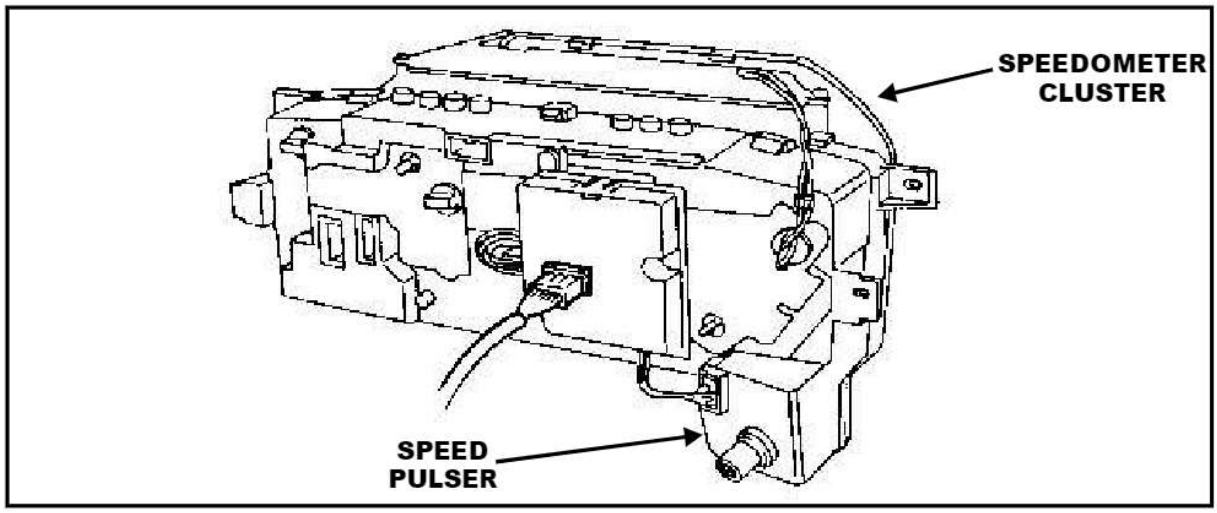


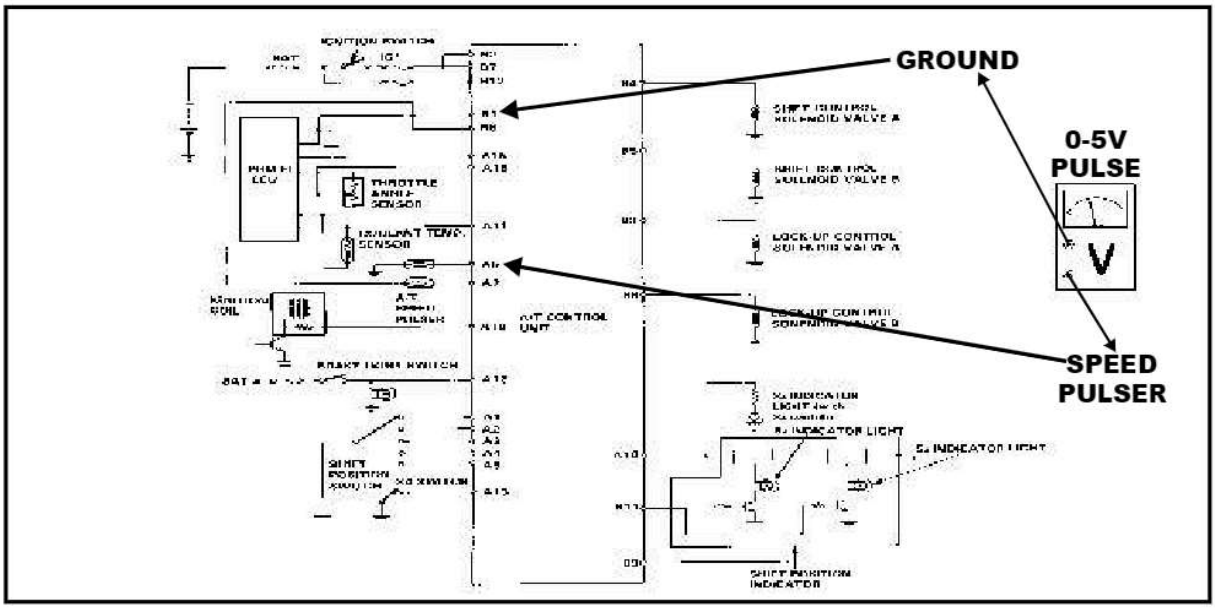
HONDA/ACURA VEHICLE SPEED SENSORS

IN-DASH SPEED PULSER

The example shown here is a 1989 Prelude and is the type of vehicle speed sensor located in the speedometer cluster. (Refer to figure 1)
The best way to check this speed sensor is to locate the terminal in the transaxle computer that the speed sensor is wired to and with the multimeter set on DC VOLTS, rotate front wheels by hand, the voltage seen should pulse from 0 to 5 volts.
In this example the positive multimeter lead would go to A6 which is the speed pulser wire and the negative lead would go to B1 which is the computer ground. (Refer to figure 2)

NOTE: In some ACURA LEGEND coupes this speed sensor uses an amplifier board and an optical sensor which converts the VSSignal to a 0-5 volt pulse. The VSS assembly is sold as part of the entire instrument cluster if purchased from the dealer.

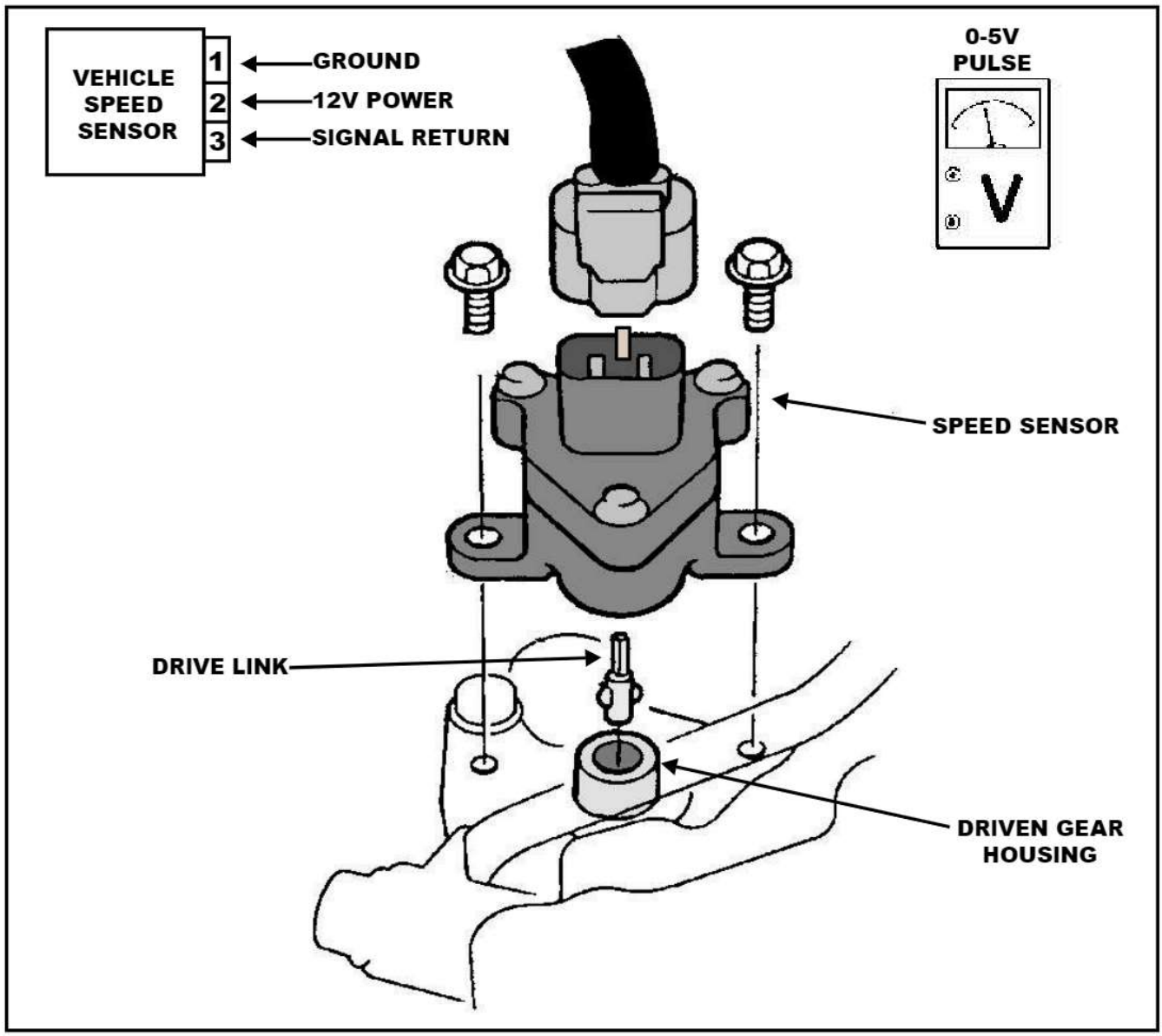




HONDA/ACURA SPEED SENSORS

VSS MECHANICAL

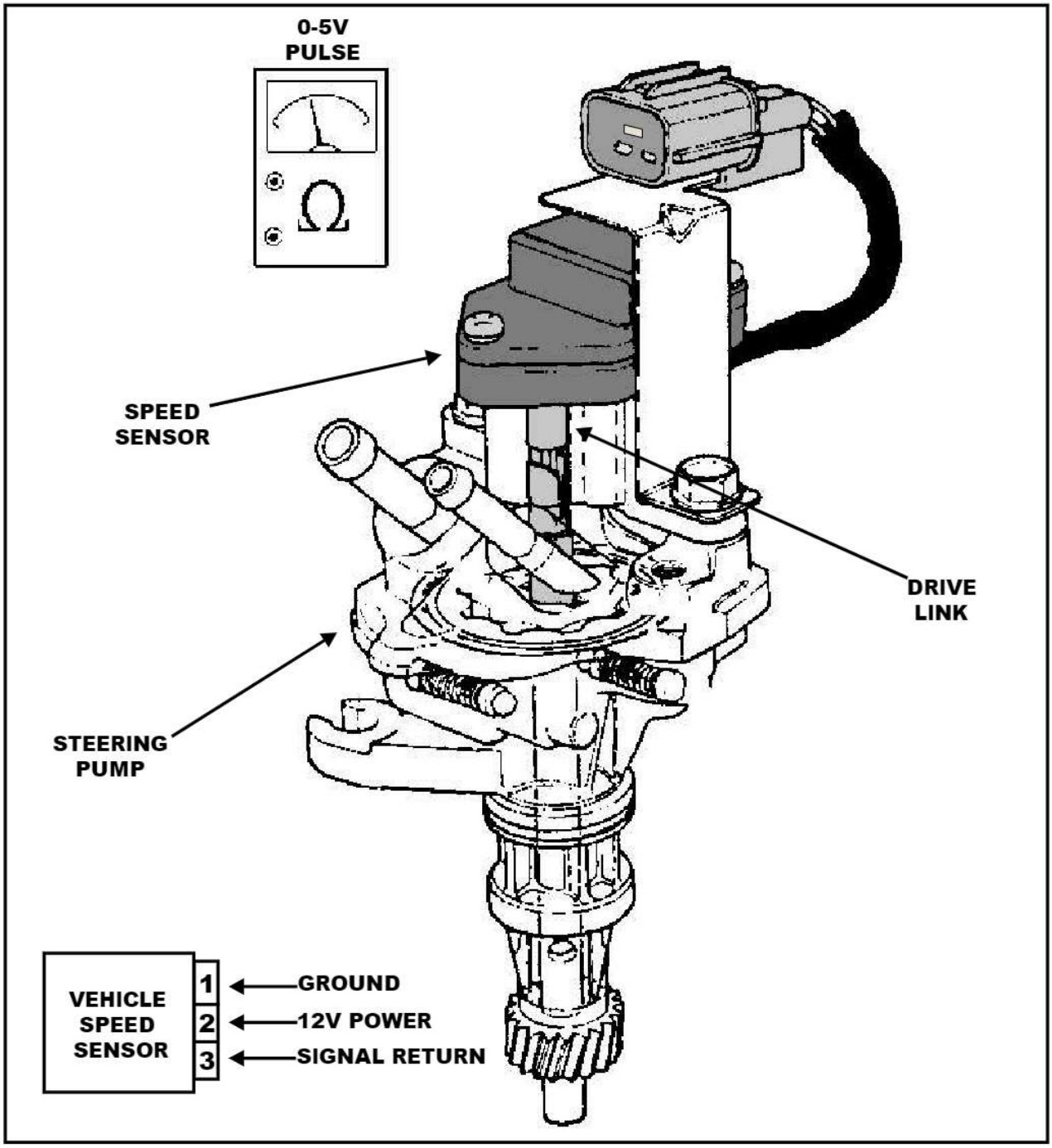
This type of speed sensor is gear driven by the differential ring gear and produces a pulsed signal as it rotates which opens and closes the reed switch inside it.
This pulsed signal will pulse 4 times for 1 revolution of the wheels.
This type of speed sensor can be checked with a volt meter set on DC VOLTS with the connector plugged in and ignition key on which will show a value of 0-5 VOLTS.
Typically 3 wire VSS must have power to excite the circuitry inside them unlike the 2 wire style.
Therefore it is necessary to check this type of VSS connected with the ignition key on.
Typically this sensor will have a 12 volt power supply, a signal return and a ground wire.
The volt meter should be connected between the signal return and ground where a 0-5V pulse should be seen.



HONDA/ACURA SPEED SENSORS

VSS HYDRAULIC

This 3 wire speed sensor is checked the same way as the mechanical speed sensor on the previous page.
The difference is, this speed sensor is used by the power steering pump to control the gain valve in order to control steering effort under varying conditions.



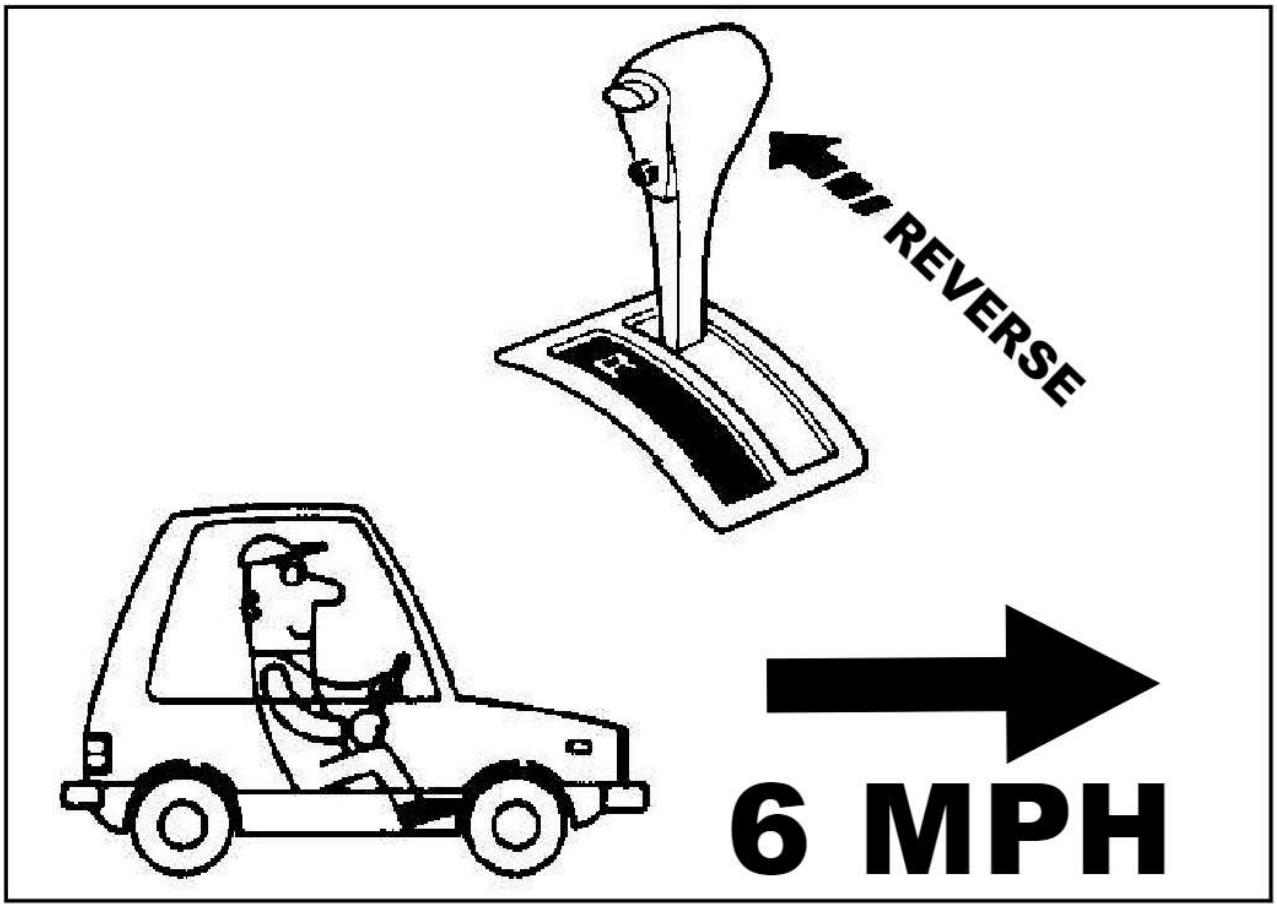
HONDA/ACURA SOLENOID SHIFTED TRANSAXLES

NO REVERSE

COMPLAINT: No reverse engagement when shift lever is placed in the reverse position.

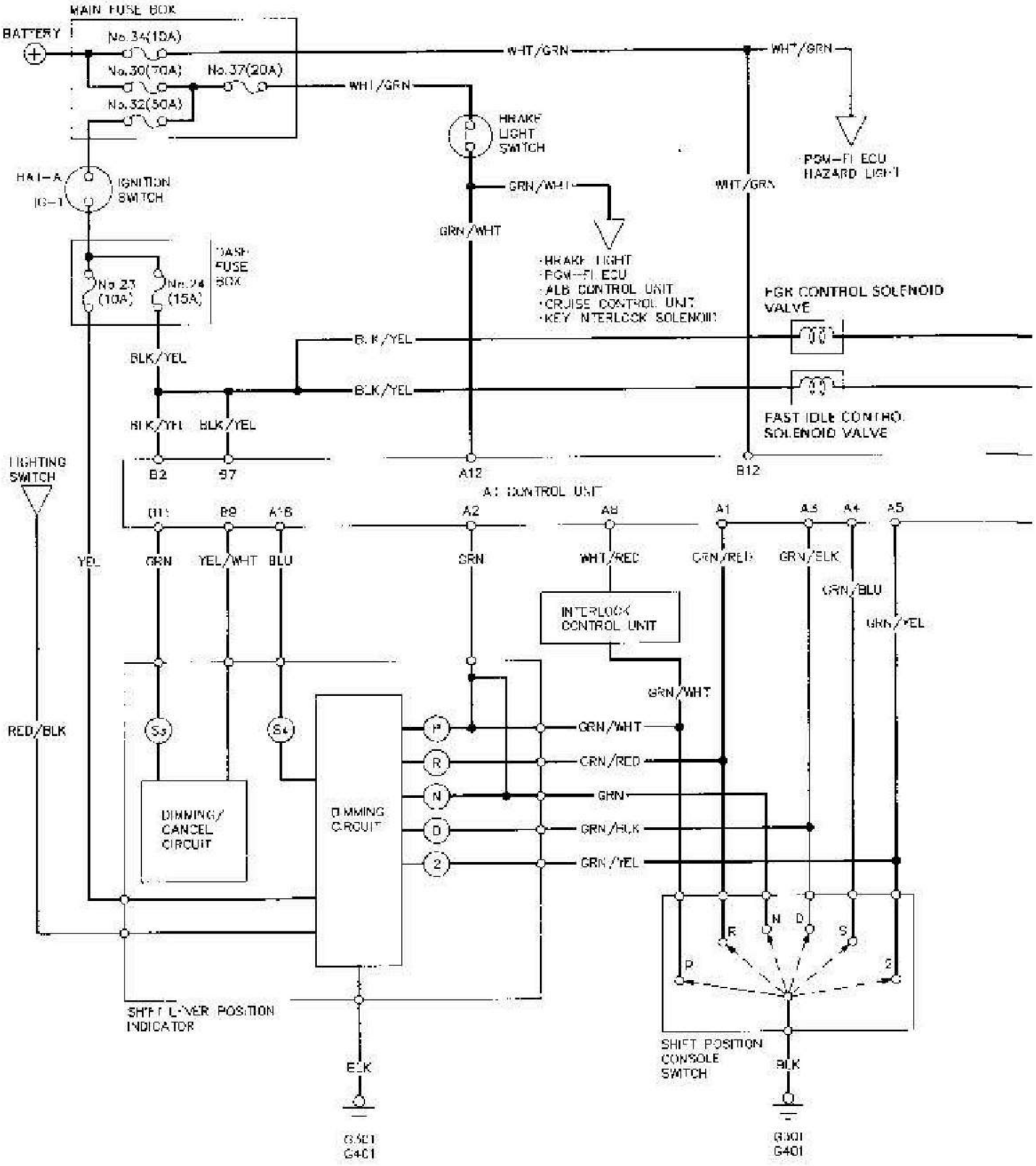
CAUSE: Most solenoid shifted Honda/Acura transaxles have a REVERSE INHIBITOR feature which prevents reverse engagement should reverse be selected while the vehicle is moving forward at a speed greater then 6 mph.
If the Vehicle Speed Sensor is faulty and is showing vehicle speed above 6 mph, causing the transaxle computer to think the vehicle is moving faster than 6 mph, reverse will be prevented because the computer will command 1st gear causing the 1-2 shift valve to block oil from operating the reverse servo and the 4th clutch.

CORRECTION: Check the VSS with a volt or ohm meter. If the meter never drops to 0 volts or Infinity on the OHMS scale when the front wheels are rotated by hand, replace the Vehicle Speed Sensor.



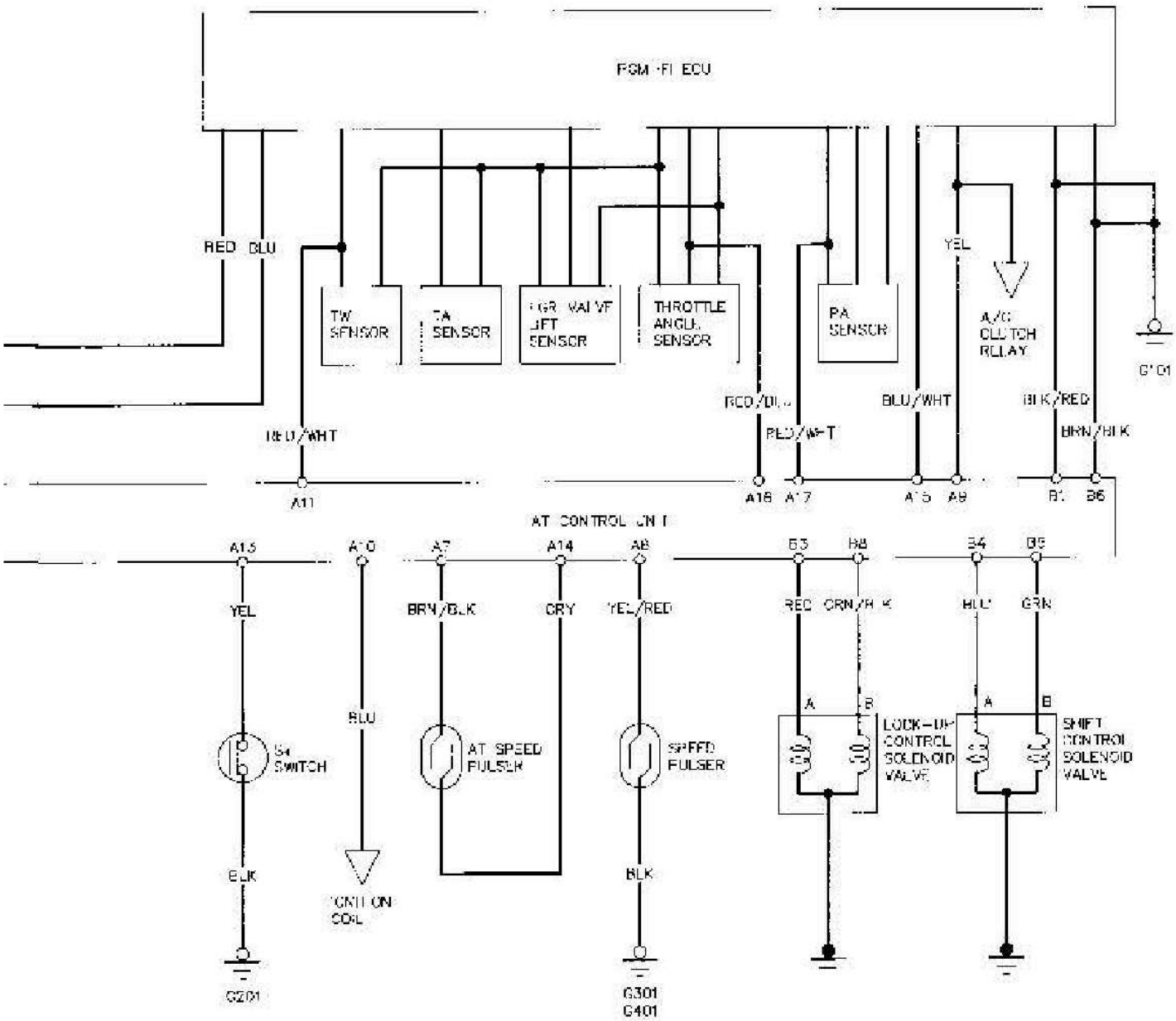
CIRCUIT DIAGRAM

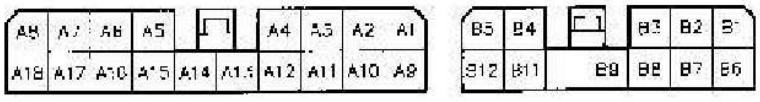
1ST GENERATION



CIRCUIT DIAGRAM

1ST GENERATION





WIRE SIDE

1ST GENERATION CODE CHART

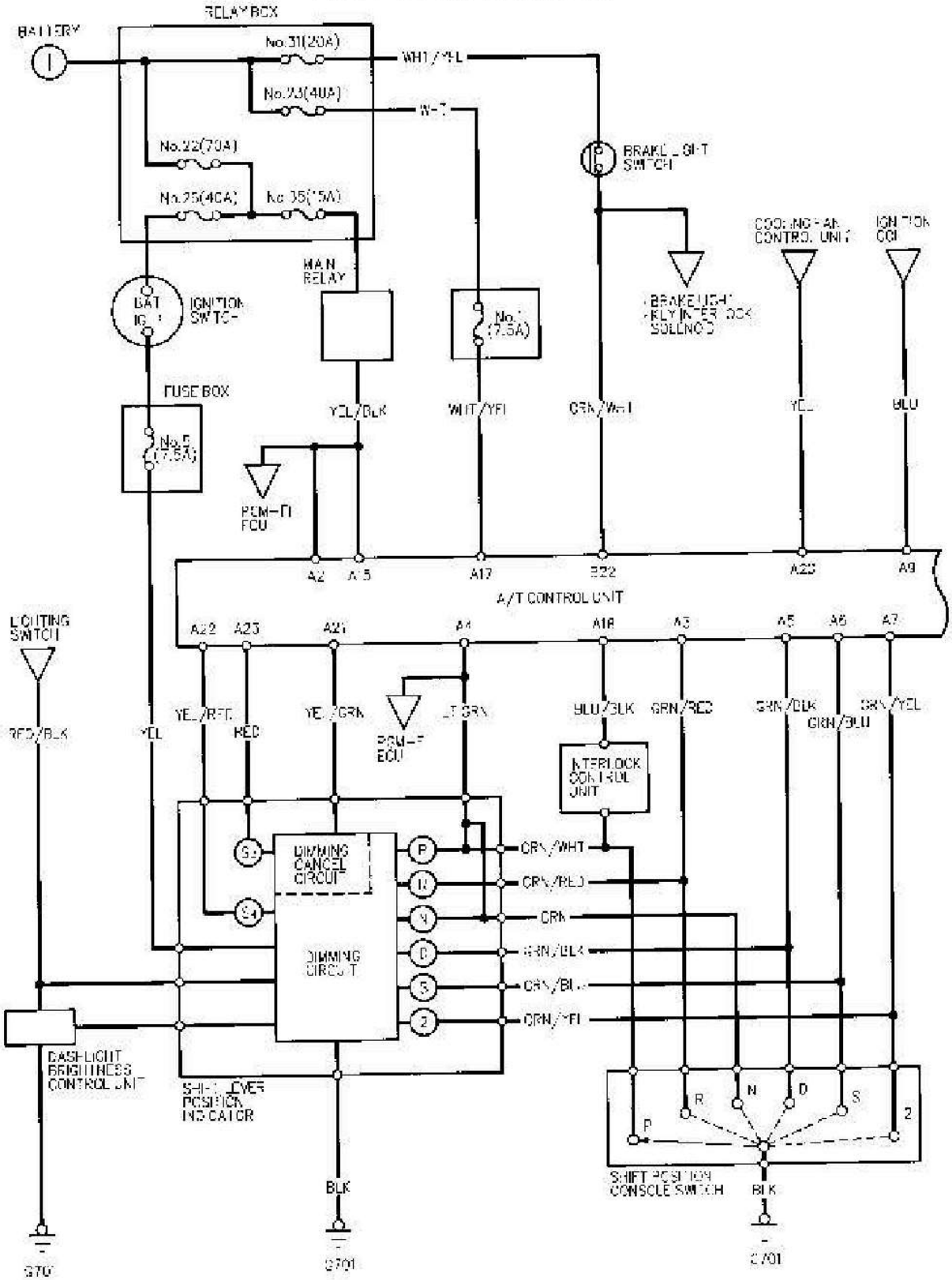
Number of LED display blinks	O/D indicator light	Symptom	Probable Cause
1	Blinks	• Lock-up clutch does not engage. • Lock-up clutch does not disengage. • Frequent engine stalling.	• Disconnected lock-up control solenoid valve A connector • Open or short in lock-up control solenoid valve A wire • Faulty lock up control solenoid valve A
2	Blinks	• Lock-up clutch does not engage.	• Disconnected lock up control solenoid valve B connector • Open or short in lock-up control solenoid valve B wire • Faulty lock up control solenoid valve B
3	Blinks or OFF	• Lock up clutch does not engage.	• Disconnected throttle angle sensor connector • Open short in throttle angle sensor wire • Faulty throttle angle sensor
4	Blinks	• Lock-up clutch does not engage.	• Disconnected speed pulser connector • Open or short in speed pulser wire • Faulty speed pulser
5	Blinks	• Fails to shift other than 2nd ⟷ 4th gear. • Lock up clutch does not engage.	• Short in shift position console switch wire • Faulty shift position console switch
6	OFF	• Fails to shift other than 2nd ⟷ 4th gear. • Lock-up clutch does not engage. • Lock up clutch engages and disengages alternately.	• Disconnected shift position console switch connector • Open in shift position console switch wire • Faulty shift position console switch.
7	Blinks	• Fails to shift other than 1st ⟷ 4th, 2nd ⟷ 4th, or 2nd ⟷ 3rd gears. • Fails to shift (Stuck in 4th gear).	• Disconnected shift control solenoid valve A connector • Open or short in shift control solenoid valve A wire • Faulty shift control solenoid valve A
8	Blinks	• Fails to shift (stuck in 1st gear or 4th gear).	• Disconnected shift control solenoid valve B connector • Open or short in shift control solenoid valve B wire • Faulty shift control solenoid valve B
9	Blinks	• Lock up clutch does not engage.	• Disconnected A/T speed pulser • Open or short in A/T speed pulser wire • Faulty A/T speed pulser
10	Blinks	• Lock up clutch does not engage.	• Disconnected coolant temperature sensor connector • Open or short in coolant temperature sensor wire • Faulty coolant temperature sensor
11	OFF	• Lock-up clutch does not engage.	• Disconnected ignition coil connector • Open or short in ignition coil wire • Faulty ignition coil

NOTE:

- If a customer describes the symptoms for codes 3, 6 or 11, yet the LED is not blinking, it will be nec recreate the symptom by test driving, and then checking the LED with the ignition STILL ON.
- If the LED display blinks 12 or more times, the control unit is faulty.

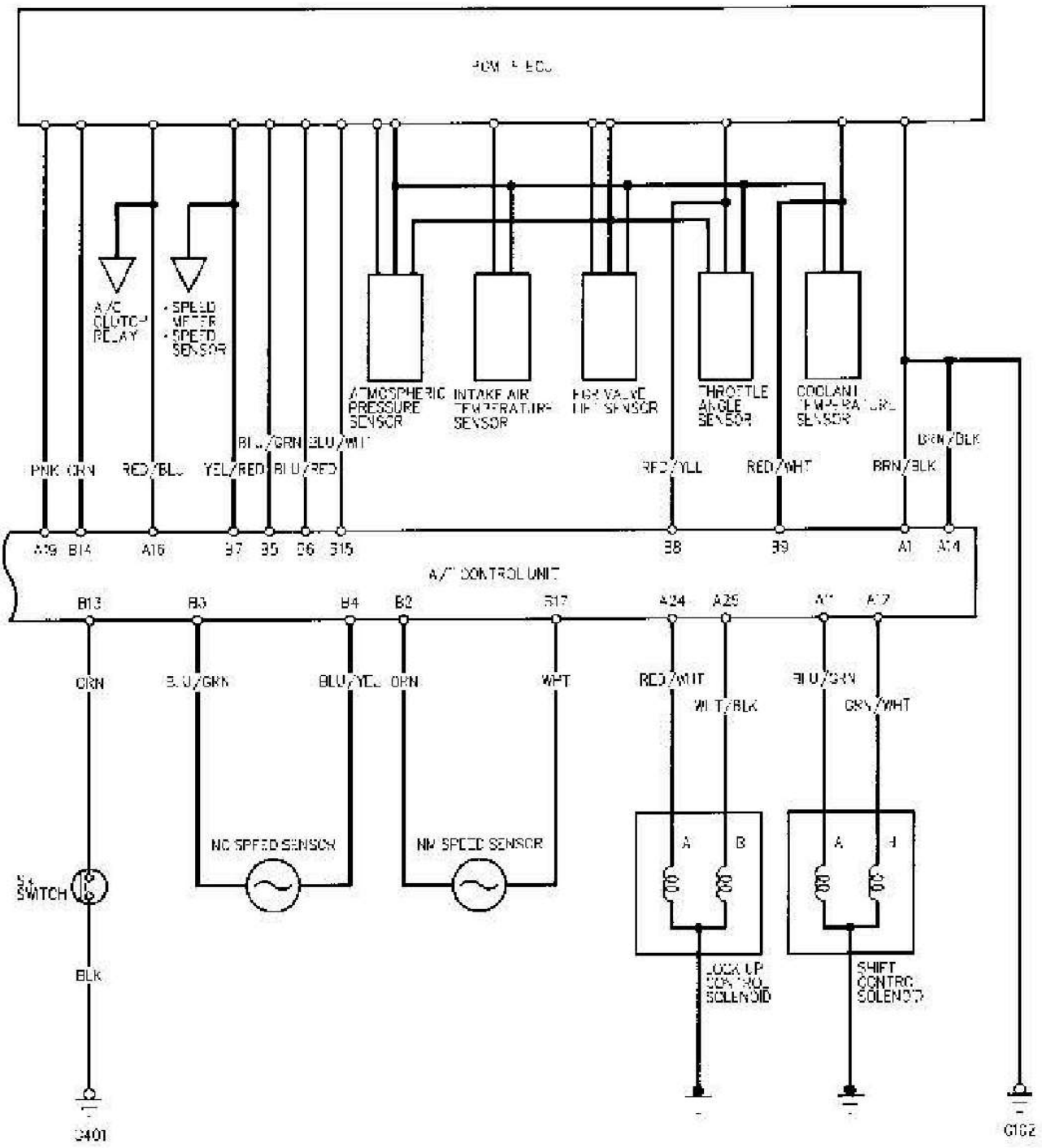
CIRCUIT DIAGRAM

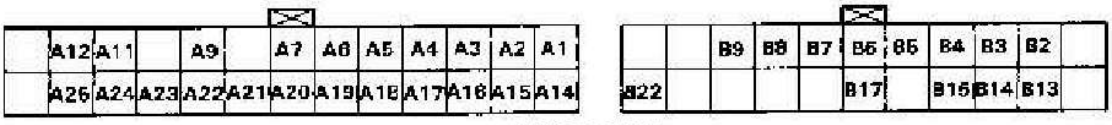
2ND GENERATION



CIRCUIT DIAGRAM

2ND GENERATION





WIRE SIDE

2ND GENERATION CODE CHART

Number of LED display blinks	S5 Indicator light	Possible Cause	Symptom
1	Blinks	• Disconnected lock-up control solenoid valve A coupler • Short or open in lock-up control solenoid valve A wire • Faulty lock-up control solenoid valve A	• Lock-up clutch does not engage. • Lock-up clutch does not disengage. • Frequent engine stalling.
2	Blinks	• Disconnected lock-up control solenoid valve B coupler • Short or open in lock-up control solenoid valve B wire • Faulty lock-up control solenoid valve B	• Lock-up clutch does not engage.
3	Blinks or OFF	• Disconnected throttle angle sensor coupler • Short or open in throttle angle sensor wire • Faulty throttle angle sensor	• Lock-up clutch does not engage.
4	Blinks	• Disconnected pulser coupler • Short of open in speed pulser wire • Faulty speed pulser	• Lock-up clutch does not engage.
5	Blinks	• Short in shift position console switch wire • Faulty shift position console switch	• Fails to shift other than 2nd ⟷ 4th gears. • Lock up clutch does not engage.
6	OFF	• Disconnected shift position console switch coupler • Open in shift position console switch wire • Faulty shift position console switch	• Fails to shift other than 2nd ⟷ 4th gears. • Lock-up clutch does not engage. • Lock-up clutch engages and disengages alternately.
7	Blinks	• Disconnected shift control solenoid valve A coupler • Short or open in shift control solenoid valve A wire • Faulty shift control solenoid valve A	• Fails to shift (between 1st ⟷ 4th, 2nd ⟷ 4th or 2nd ⟷ 3rd gears only). • Fails to shift (stuck in 4th gear)
8	Blinks	• Disconnected shift control solenoid valve B coupler • Short or open in shift control solenoid valve B wire • Faulty shift control solenoid valve B	• Fails to shift (stuck in 1st or 4th gears).

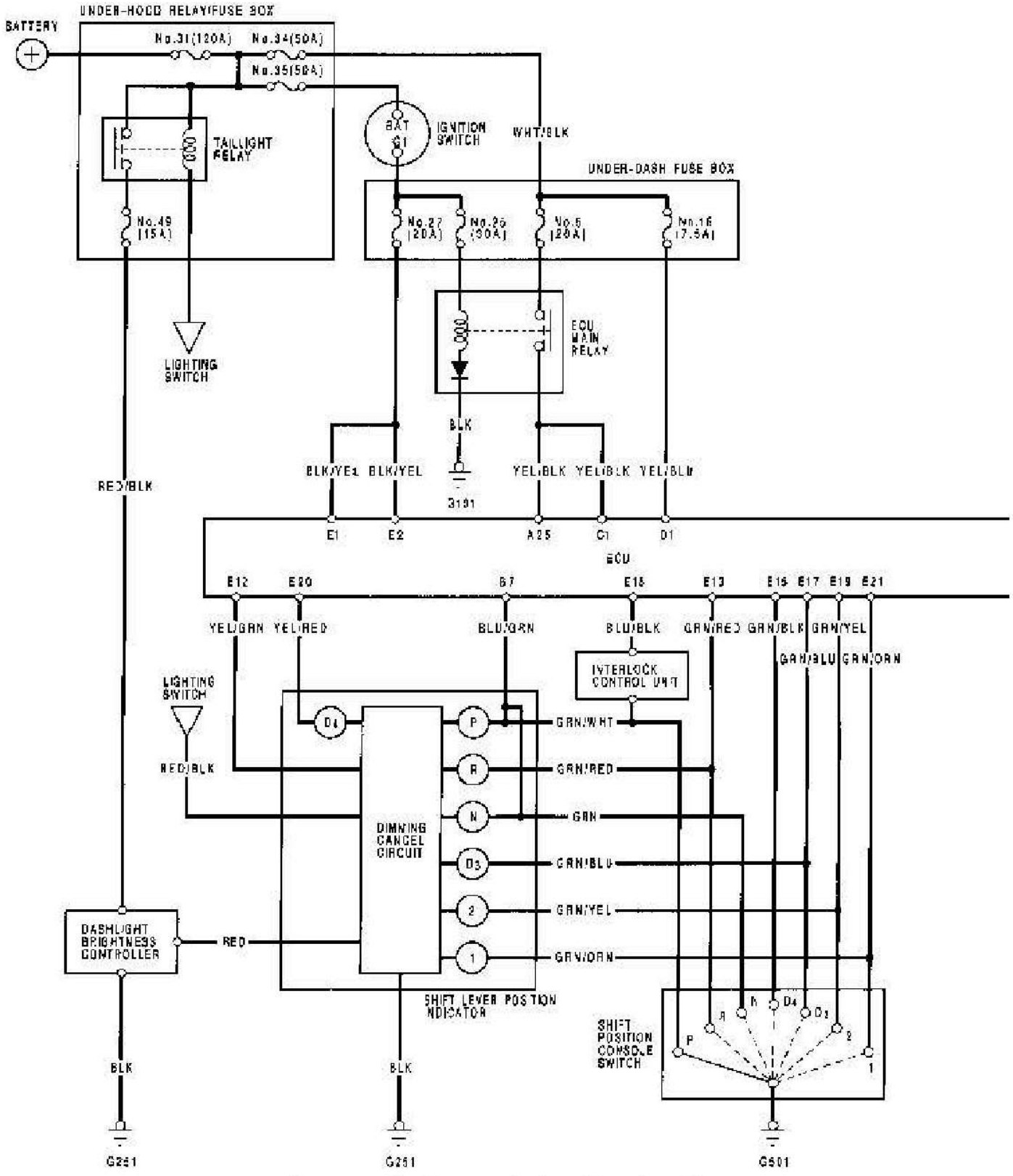
2ND GENERATION CODE CHART

Number of LED display blinks	S₂ indicator light	Possible Cause	Symptom
9	Blinks	• Disconnected NC speed pulser coupler • Short or open in the NC speed pulser wire • Faulty NC speed pulser	• Lock up clutch does not engage.
10	Blinks	• Disconnected water temperature sensor coupler • Short or open in the water temperature sensor wire • Faulty water temperature sensor	• Lock-up clutch does not engage.
11	OFF	• Disconnected ignition coil coupler • Short or open in ignition coil wire • Faulty ignition coil	• Lock-up clutch does not engage.
14	OFF	• Short or open in HAS wire • Trouble in EFI unit	• Transmission jerks hard when shifting.
15	OFF	• Disconnected NM speed pulser coupler • Short of open in NM speed pulser wire • Faulty NM speed pulser	• Transmission jerks hard when shifting.

- If a customer describes the symptoms for codes 3, 8, or 11, yet the LED is not blinking, it will be necessary to recreate the symptom by test driving, and then checking the LED with the ignition still ON.
- If the LED displays codes other than those listed above or stays lit continuously, the control unit is faulty.
- Sometimes the S₂ indicator light and the Check Engine warning light may come on simultaneously. If so, check the PGM FI system according to the number of blinks on the PGM-FI ECU self-diagnosing indicator, then reset the memory by removing the Clock fuse in the dash fuse box for more than 10 seconds. Drive the vehicle for several minutes at speed over 30 mph (50 km/h), then recheck the lights.

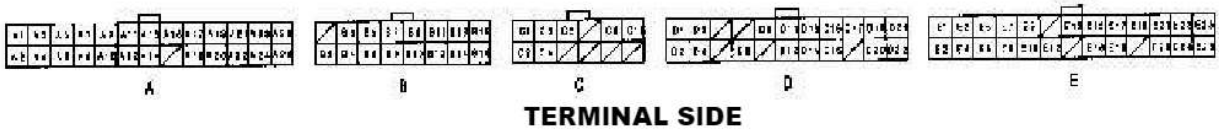
CIRCUIT DIAGRAM

3RD GENERATION

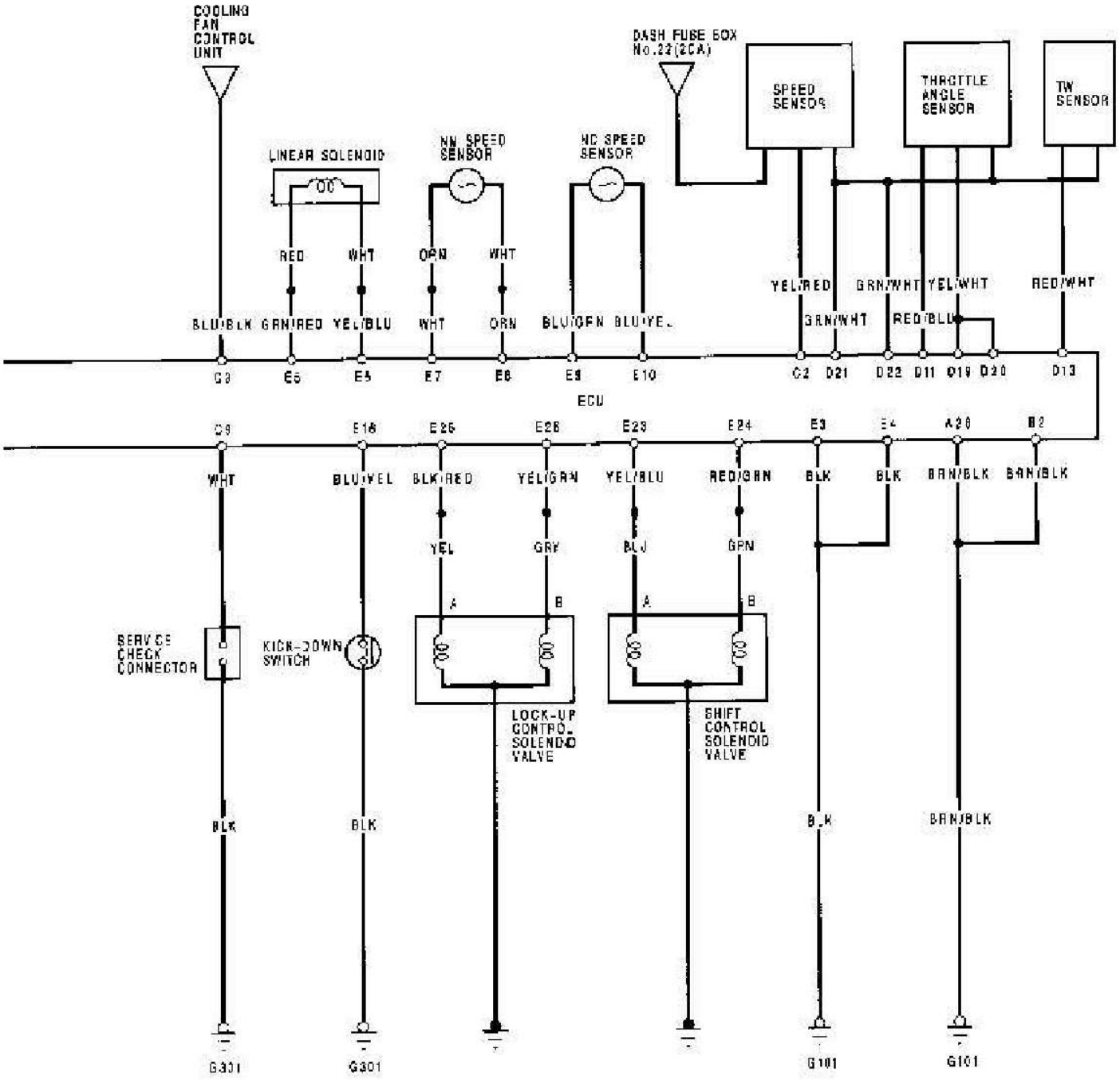


CIRCUIT DIAGRAM

3RD GENERATION



TERMINAL SIDE



3RD GENERATION CODE CHART

Number of D4 indicator light blinks while Service Check Connector is jumped.	D4 indicator light	Possible Cause	Symptom
1	Blinks	• Disconnected lock-up control solenoid valve A connector • Short or open in lock-up control solenoid valve A wire • Faulty lock-up control solenoid valve A	• Lock up clutch does not engage. • Lock-up clutch does not disengage. • Unstable idle speed.
2	Blinks	• Disconnected lock-up control solenoid valve B connector • Short or open in lock-up control solenoid valve B wire • Faulty lock-up control solenoid valve B	• Lock-up clutch does not engage.
3	Blinks or OFF	• Disconnected throttle angle sensor connector • Short or open in throttle angle sensor wire • Faulty throttle angle sensor	• Lock-up clutch does not engage.
4	Blinks	• Disconnected speed sensor connector • Short or open in speed sensor wire • Faulty speed sensor	• Lock-up clutch does not engage.
5	Blinks	• Short in shift position console switch wire • Faulty shift position console switch	• Fails to shift other than 2nd ↔ 4th gears. • Lock-up clutch does not engage.
6	OFF	• Disconnected shift position console switch connector • Open in shift position console switch wire • Faulty shift position console switch	• Fails to shift other than 2nd ↔ 4th gears. • Lock-up clutch does not engage. • Lock-up clutch engages and disengages alternately.
7	Blinks	• Disconnected shift control solenoid valve A connector • Short or open in shift control solenoid valve A wire • Faulty shift control solenoid valve A	• Fails to shift (between 1st ↔ 4th, 2nd ↔ 4th or 2nd ↔ 3rd gears only). • Fails to shift (stuck in 4th gear)
8	Blinks	• Disconnected shift control solenoid valve B connector • Short or open in shift control solenoid valve B wire • Faulty shift control solenoid valve B	• Fails to shift (stuck in 1st or 4th gears).
9	Blinks	• Disconnected NC speed sensor connector • Short or open in the NC speed sensor wire • Faulty NC speed sensor	• Lock-up clutch does not engage.

3RD GENERATION CODE CHART

Number of D4 indicator light blinks while Service Check Connector is jumped.	D4 indicator light	Possible Cause	Symptom
10	Blinks	• Disconnected water temperature sensor connector • Short or open in the water temperature sensor wire • Faulty water temperature sensor	• Lock up clutch does not engage.
11	OFF	• Trouble in ECU	• Lock-up clutch does not engage.
14	OFF	• Trouble in ECU	• Transmission jerks hard when shifting.
15	OFF	• Disconnected NM speed sensor connector • Short or open in NM speed sensor wire • Faulty NM speed sensor	• Transmission jerks hard when shifting.
16	Blinks	• Disconnected linear solenoid connector • Short or open in linear solenoid wire • Faulty linear solenoid	• Transmission jerks hard when shifting • Lock-up clutch does not engage.
17	OFF	• Short in kick-down switch wire • Faulty kick-down switch	• 4th • 2nd kick-down speed is low.

- If a customer describes the symptoms for codes 3, 6, 11 or 17, yet the D4 indicator light is not blinking, it will be necessary to recreate the symptom by test driving, and then checking the D4 indicator light with the ignition still ON.
- If the D4 indicator light displays codes 1, 2, 3, 7, 8, or 16, check first the No. 31, 25, 5 and 22 fuse before electrical troubleshooting. If any of the fuses have blown, repair them and then recheck.
- If the D4 indicator light displays codes other than those listed above or stays lit continuously, the ECU is faulty.
- Sometimes the D4 indicator light and the Check Engine light may come on simultaneously. If so, check the PGM-FI system according to the number of blinks on the PGM-FI self-diagnosing indicator, then reset the memory by removing the BACK UP fuse in the under-hood fuse box for more than 10 seconds. Drive the vehicle for several minutes at speeds over 30 mph (50 Km/h), then recheck the lights.

OBD II CODE CHART

Diagnostic Trouble Code (DTC)*	D4 indicator light	Symptom	Possible Cause
P1753 (1)	Blinks	• Lock-up clutch does not engage. • Lock-up clutch does not disengage. • Unstable idle speed.	• Disconnected lock-up control solenoid valve A connector • Short or open in lock-up control solenoid valve A wire • Faulty lock-up control solenoid valve A
P1758 (2)	Blinks	• Lock-up clutch does not engage.	• Disconnected lock-up control solenoid valve B connector • Short or open in lock-up control solenoid valve B wire • Faulty lock-up control solenoid valve B
P1790 (3)	Blinks or OFF	• Lock-up clutch does not engage.	• Disconnected throttle position (TP) sensor connector • Short or open in TP sensor wire • Faulty TP sensor
P1791 (4)	Blinks	• Lock-up clutch does not engage.	• Disconnected vehicle speed sensor (VSS) connector • Short or open in VSS wire • Faulty VSS
P1705 (5)	Blinks	• Fails to shift other than 2nd – 4th gears. • Lock-up clutch does not engage.	• Short in A/T gear position switch wire • Faulty A/T gear position switch
P1706 (6)	OFF	• Fails to shift other than 2nd – 4th gears. • Lock-up clutch does not engage. • Lock-up clutch engages and disengages alternately.	• Disconnected A/T gear position switch connector • Open in A/T gear position switch wire • Faulty A/T gear position switch
P0753 (7)	Blinks	• Fails to shift (between 1st – 4th, 2nd – 4th or 2nd – 3rd gear only). • Fails to shift (stuck in 4th gear).	• Disconnected shift control solenoid valve A connector • Short or open in shift control solenoid valve A wire • Faulty shift control solenoid valve A
P0758 (8)	Blinks	• Fails to shift (stuck in 1st or 4th gears).	• Disconnected shift control solenoid valve B connector • Short or open in shift control solenoid valve B wire • Faulty shift control solenoid valve B
P0720 (9)	Blinks	• Lock-up clutch does not engage.	• Disconnected countershaft speed sensor connector • Short or open in countershaft speed sensor wire • Faulty countershaft speed sensor
P1792 (10)	Blinks	• Lock-up clutch does not engage.	• Disconnected engine coolant temperature (ECT) sensor connector • Short or open in ECT sensor wire • Faulty ECT sensor
P0725 (11)	OFF	• Lock-up clutch does not engage.	• Disconnected ignition coil connector • Short or open in ignition coil wire • Faulty ignition coil

(DTC)*: The DTCs in the parentheses are the number of the D4 indicator light blinks when the service check connected with the special tool.

OBD II CODE CHART

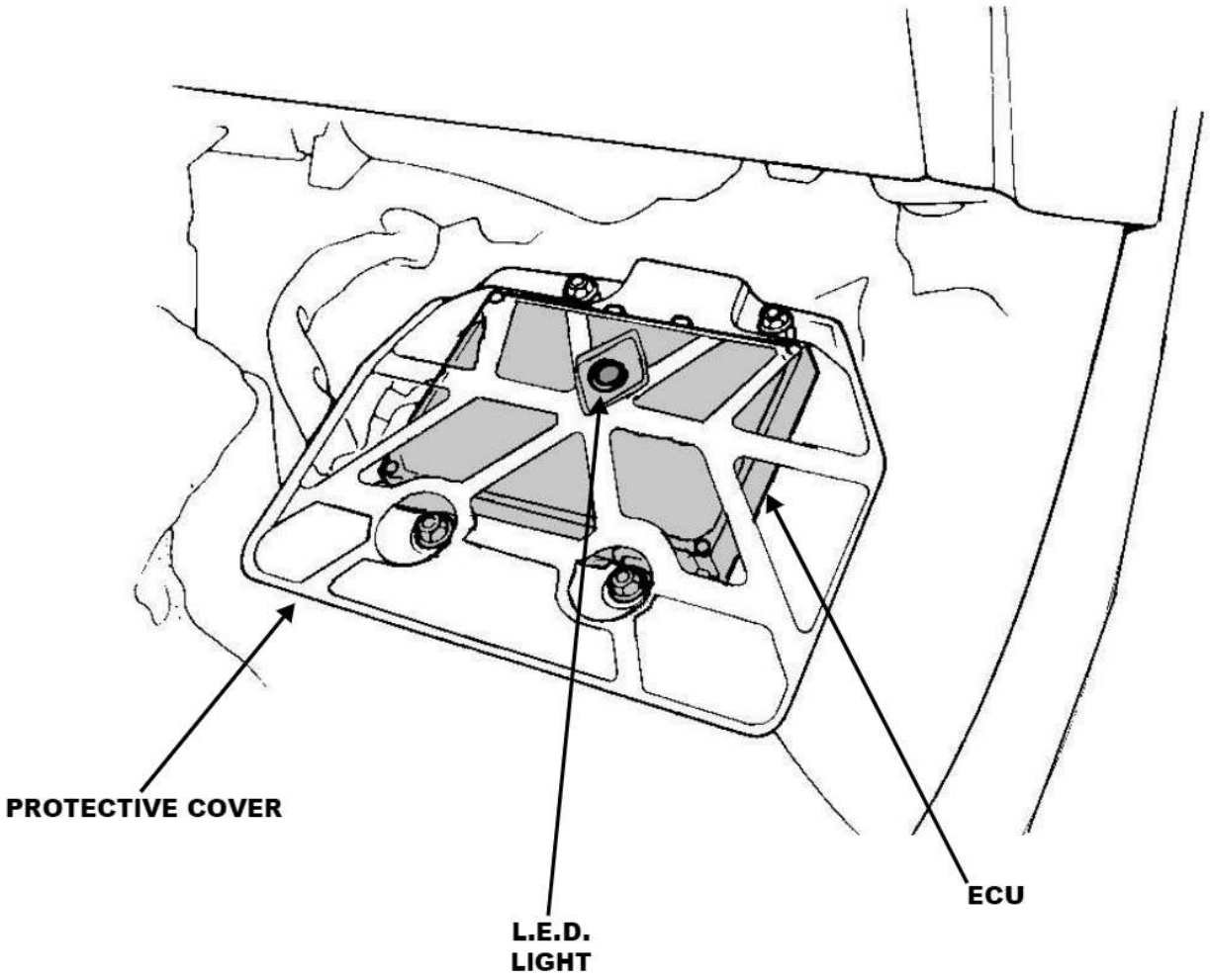
Diagnostic Trouble Code (DTC)*	"D" indicator light	Symptom	Possible Cause
P1794 (13)	Blinks	• No specific symptom appears.	• Short or open in BLU/WHT wire between B2 terminal and ECM • Faulty barometric pressure (BARO) sensor NOTE: BARO sensor is built into ECM.
P1786 (14)	Blinks	• Transmission jerks hard when shifting.	• Short or open in FAS (BRN/WHT) wire between B19 terminal and ECM • Faulty ECM
P0715 (15)	OFF	• Transmission jerks hard when shifting.	• Disconnected mainshaft speed sensor connector • Short or open in mainshaft speed sensor wire • Faulty mainshaft speed sensor
P1768 (16)	Blinks	• Transmission jerks hard when shifting. • Lock-up clutch does not engage.	• Disconnected linear solenoid connector • Short or open in linear solenoid wire • Faulty linear solenoid
P0740 (none)	OFF	• Lock-up clutch does not engage. • Lock-up clutch does not disengage. • Unstable idle speed.	• Faulty lock-up control system
P0730 (none)	OFF	• Fails to shift (between 1st – 2nd, 2nd – 4th or 2nd – 3rd gears only). • Fails to shift (stuck in 1st or 4th gears).	• Faulty shift control system

COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1988-91 HONDA CIVIC 2WD

Lockup is computer controlled and will cause the CHECK-ENGINE lamp to illuminate when a fault exists.
In order to retrieve codes, the passenger side carpet must be pulled back and the protective cover removed, exposing the ECU.
The RED L.E.D. light located in the top center of the ECU will flash the stored codes.
To clear codes remove the 15 amp ECU fuse for 30 seconds.

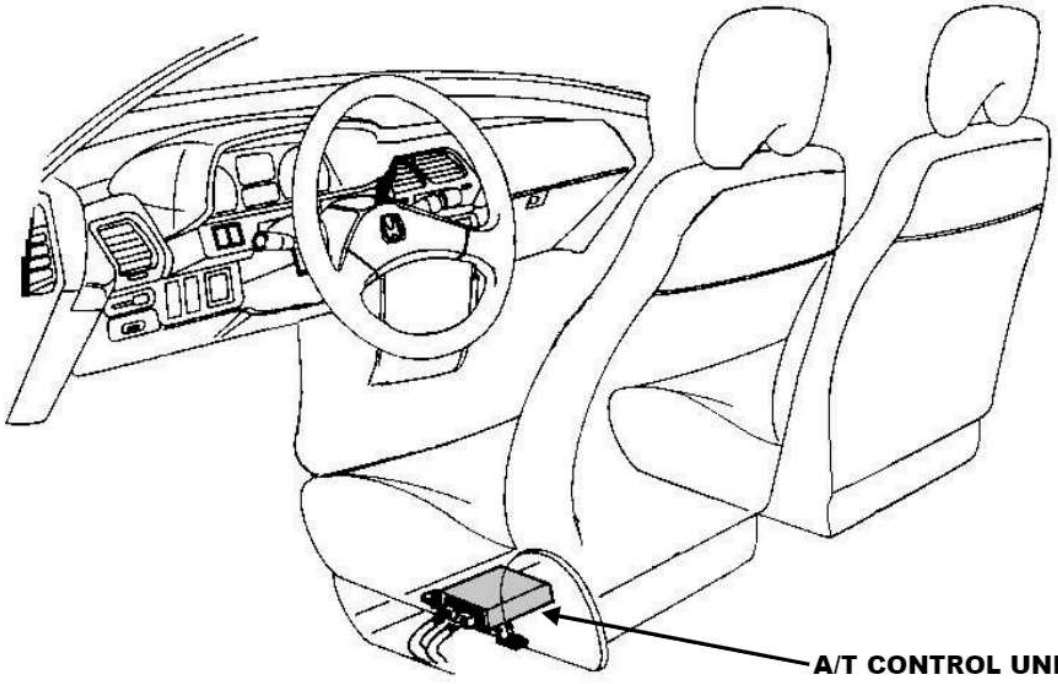


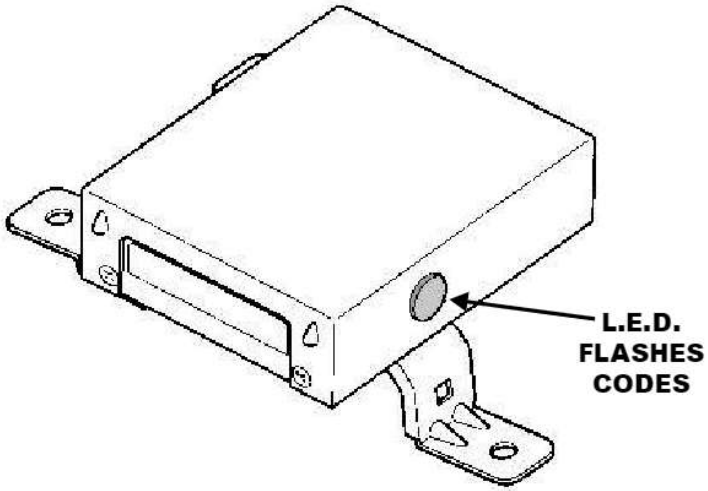
COMPUTER CONTROL

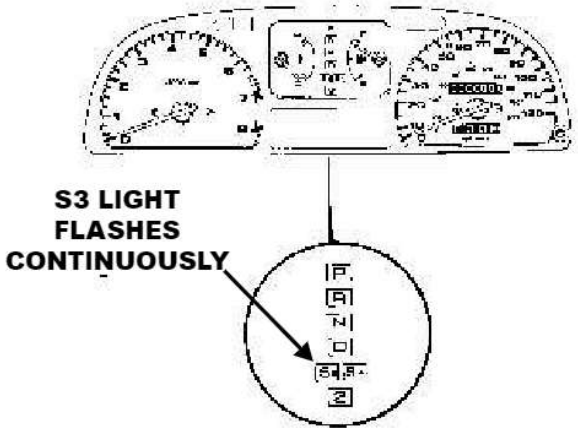
COMPUTER LOCATION/CODE INDICATOR LAMP

1989-91 HONDA CIVIC 4WD

The S3 lamp will flash continuously when a fault code is stored in the transaxle computer.
In order to see what codes are stored, locate the transaxle computer under the drivers seat and the RED L.E.D. light on the side of the transaxle computer will flash the codes that are stored.
To clear the codes, remove the HAZARD fuse in the main fuse box for 30 seconds.







COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

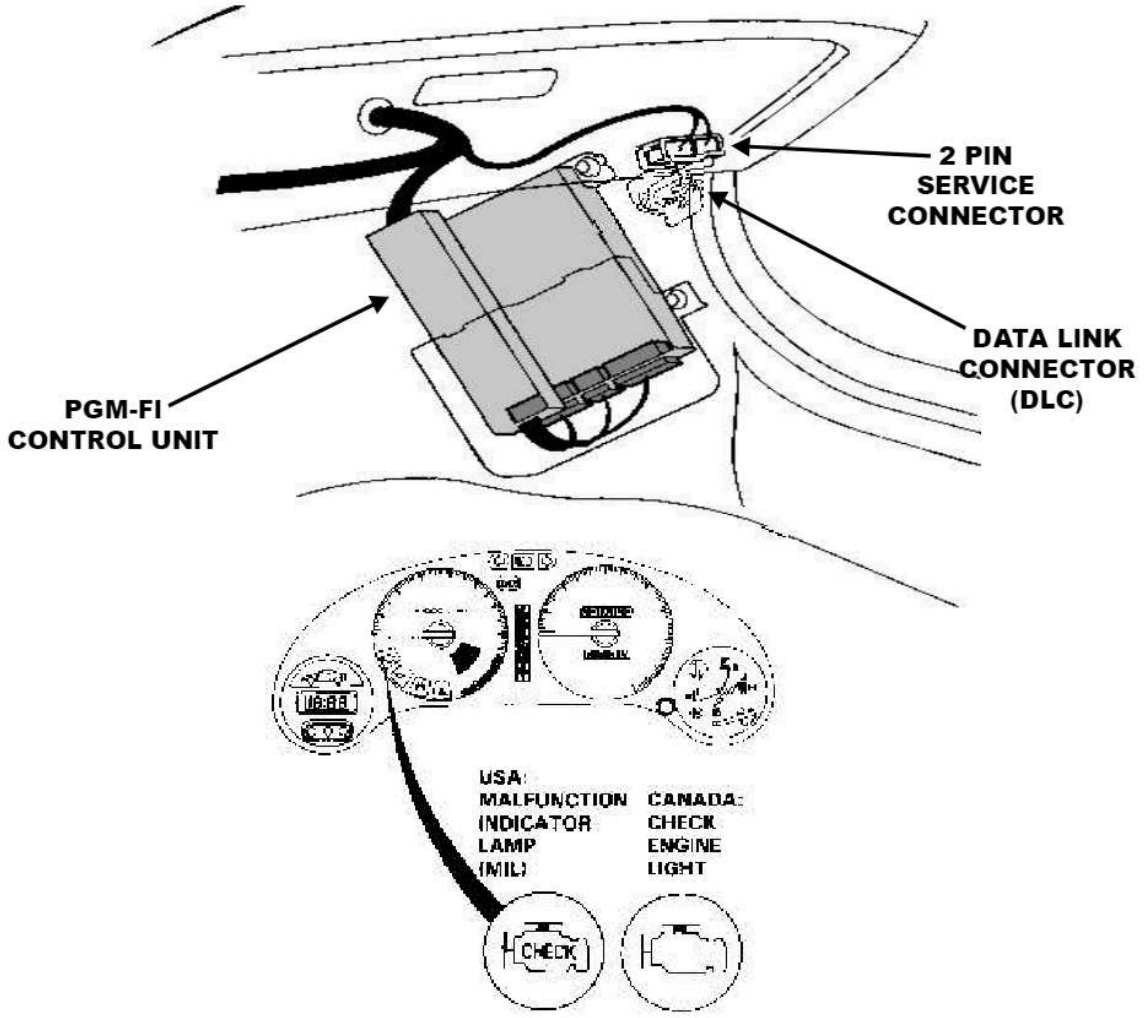
1993-95 HONDA CIVIC

Only lockup is computer controlled. When a fault occurs in the lockup control system the MIL or CHECK-ENGINE indicator lamp will come on and remain on.
In order to retrieve codes stored in the PGM-FI computer, locate the the 2 pin service connector under the passenger side corner of the dashboard and put a jumper wire across those 2 pins. At this time the MIL/CHECK-ENGINE lamp will flash the stored codes.
A data link connector is also located in the same area as the service connector for scanner hook-up.

WARNING: DO NOT USE A JUMPER WIRE ON THE DATA LINK CONNECTOR.

To clear codes remove the 7.5 amp back-up fuse from the under hood relay box for 30 seconds.

NOTE: Removing the back-up fuse will cancel radio preset station settings.



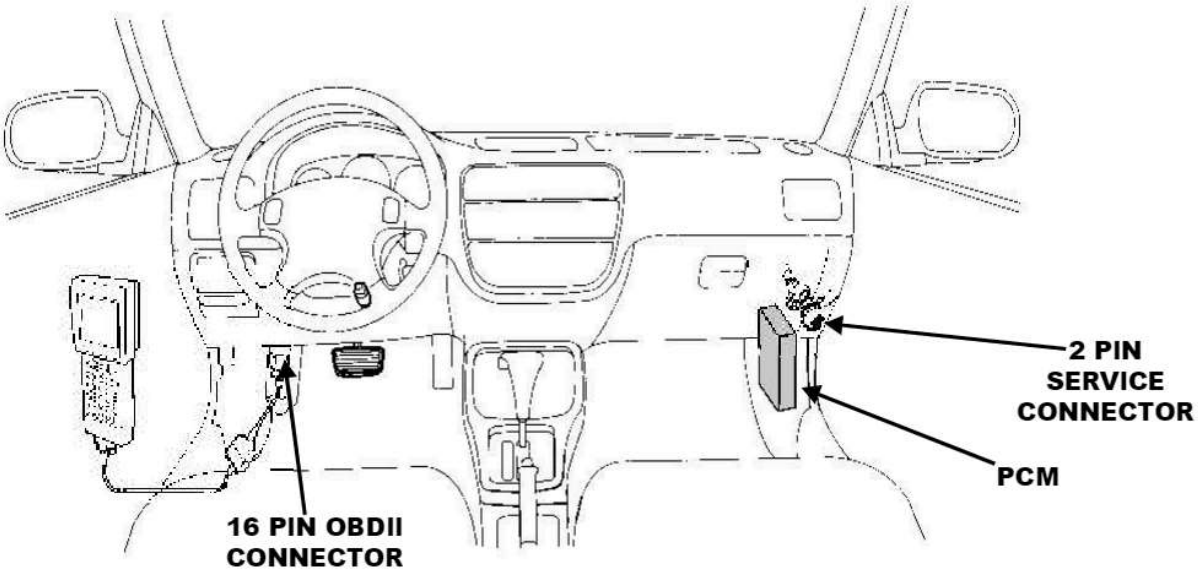
MIL/CHECK-ENGINE LAMP FLASHES CODES

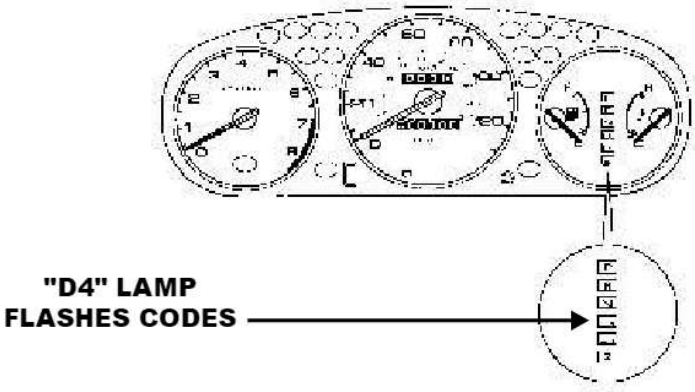
COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1996-97 HONDA CIVIC

When a code is stored, the "D4" lamp will blink steadily. Locate the 2 pin service connector under the passenger side of the dashboard and jump the 2 pin connector.
The "D4" lamp will now flash the ***2 DIGIT*** trouble code stored in the PCM which is located behind the passenger side kick panel.
The OBDII diagnostic connector is located under the drivers side dash board.
With an OBDII capable scanner attached to the 16 pin OBDII connector, the ***5 DIGIT*** codes that are stored in the PCM will now be displayed. To clear all codes remove the 7.5 amp Back Up Fuse, located in the underhood relay box, for 10 seconds.
NOTE: Removing the Back Up Fuse will cancel radio preset stations and clock settings.





COMPUTER CONTROL

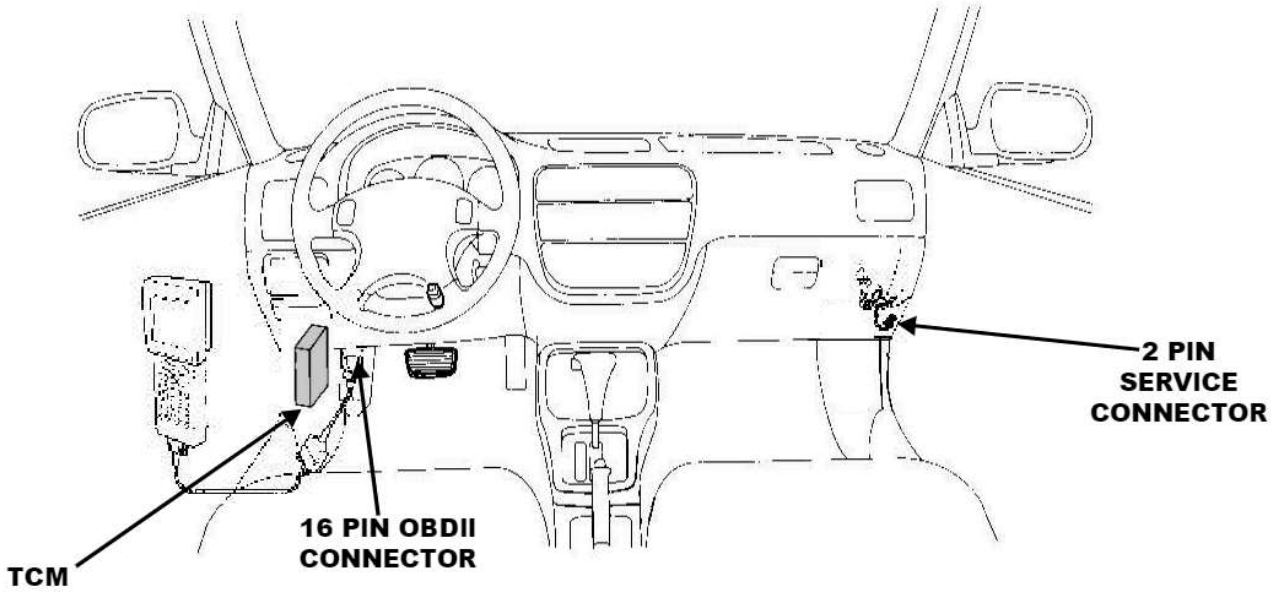
COMPUTER LOCATION/CODE INDICATOR LAMP

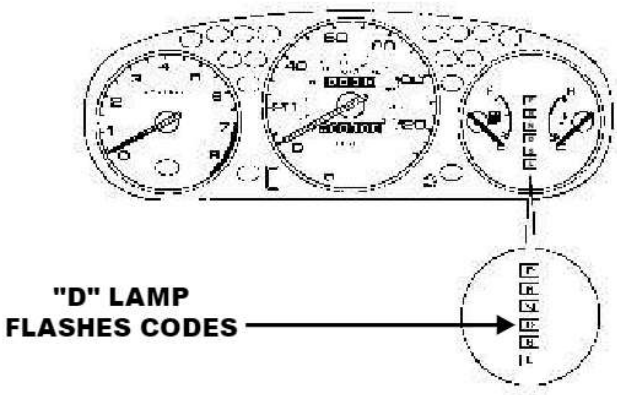
1996-97 HONDA CIVIC HX ONLY

When a code is stored, the "D" lamp will blink steadily. Locate the 2 pin service connector under the passenger side of the dashboard and jump the 2 pin connector.
The "D" lamp will now flash the ***2 DIGIT*** trouble code stored in the TCM which is located behind the drivers side kick panel.
The OBDII diagnostic connector is located under the drivers side dash board.
With an OBDII capable scanner attached to the 16 pin OBDII connector, the ***5 DIGIT*** codes that are stored in the TCM will now be displayed. To clear all codes remove the 7.5 amp Back Up Fuse, located in the underhood relay box, for 10 seconds.

WARNING: Removing the Back Up Fuse will cancel the START CLUTCH FEEDBACK SIGNAL as well as the radio preset stations and clock settings.

NOTE: Some PGM-FI problems will also make the "D" lamp illuminate. These problems should be addressed first.





COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1990-93 HONDA ACCORD

When the A/T Control Unit senses a malfunction the "S" lamp will flash continuously.

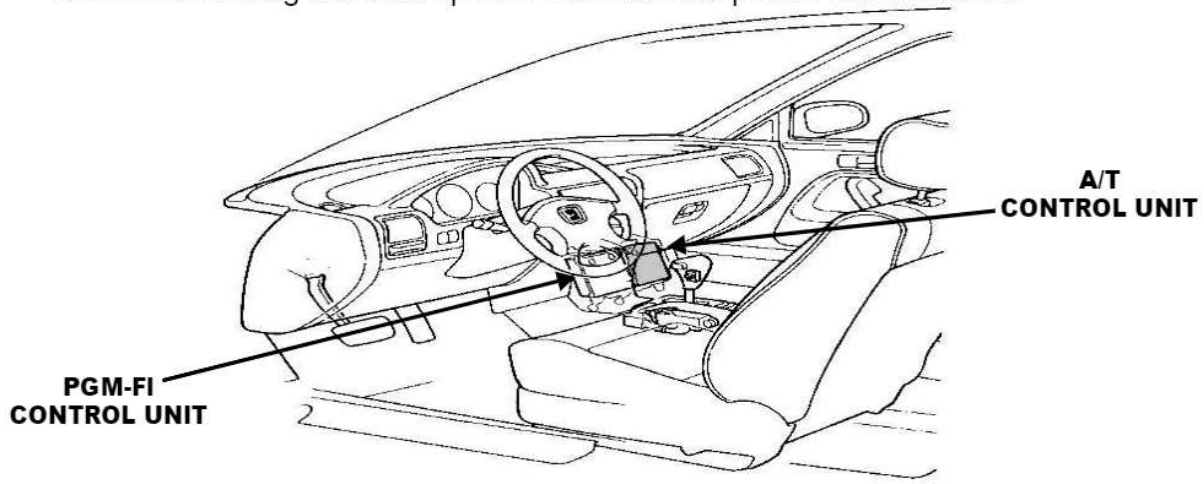
In order to retrieve codes that are stored in the A/T Control Unit, locate the 2 pin service connector under the passenger side corner of the dashboard and put a jumper wire across those 2 pins. At this time the "S" lamp will begin to flash codes that are stored in the A/T Control Unit.

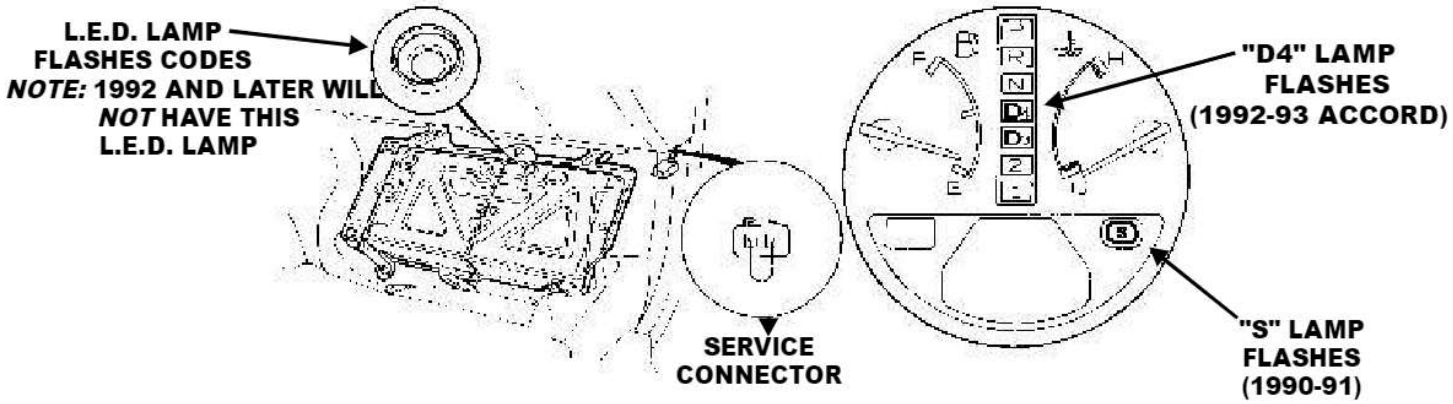
The A/T Control Unit also has a L.E.D. lamp that will flash any stored codes without having to jump the 2 pin service connector. In order to view the L.E.D. lamp, the passenger side carpet will have to be pulled back and the protective cover in the floorboard will have to be removed.

NOTE: Some PGM-FI problems will also cause the "S" lamp to flash continuously. In the event this occurs those problems will have to be addressed **FIRST.**

In order to clear codes, remove the 7.5 amp back-up fuse located in the under hood relay box for 30 seconds.

NOTE: Removing the back-up fuse will cancel all preset radio stations.





COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1994-95 HONDA ACCORD

When the Transmission Control module (TCM) senses a fault, the "D4" lamp will flash continuously.

In order to retrieve codes, locate the 2 pin service connector on the passenger side corner of the dashboard and put a jumper wire across the 2 pins.

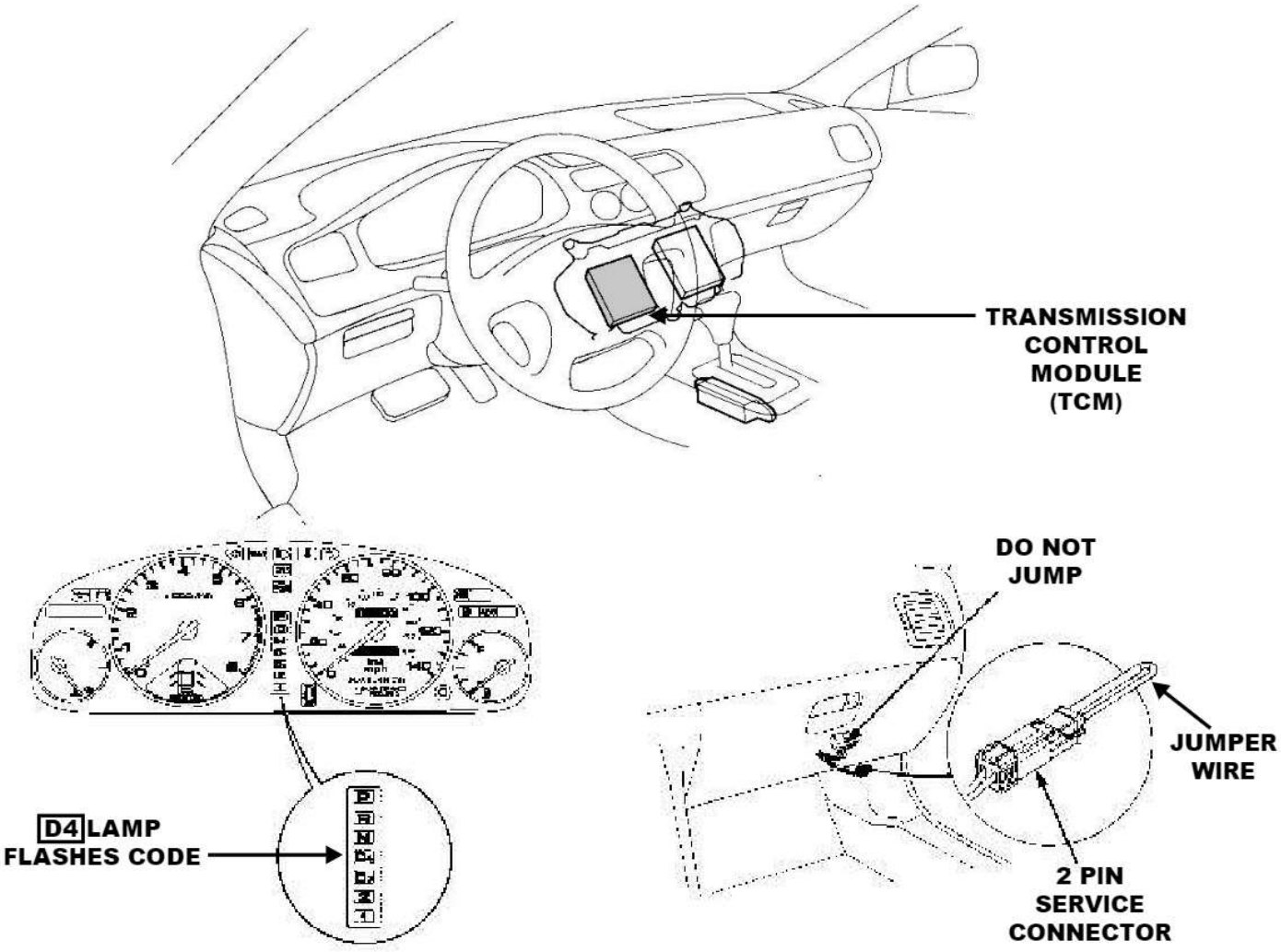
The "D4" lamp will now flash codes that have been stored by the TCM. A Data Link Connector (DCL) is also provided in the same area for scanner communication.

WARNING: DO NOT USE A JUMPER WIRE ON THE DATA LINK CONNECTOR.

To clear the codes, remove the 7.5 amp BACK-UP fuse from the under the hood relay box for 30 seconds.

WARNING: Removing the BACK-UP fuse will cancel anti-theft code, vehicle will not start. Get the code from the vehicle owner.

NOTE: Some PGM-FI problems will cause the D4 lamp to flash. In the event this happens these problems must be addressed **FIRST.**



COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1995-96 HONDA ACCORD V6

When the Transmission Control module (TCM) senses a fault, the "D4" lamp will flash continuously.

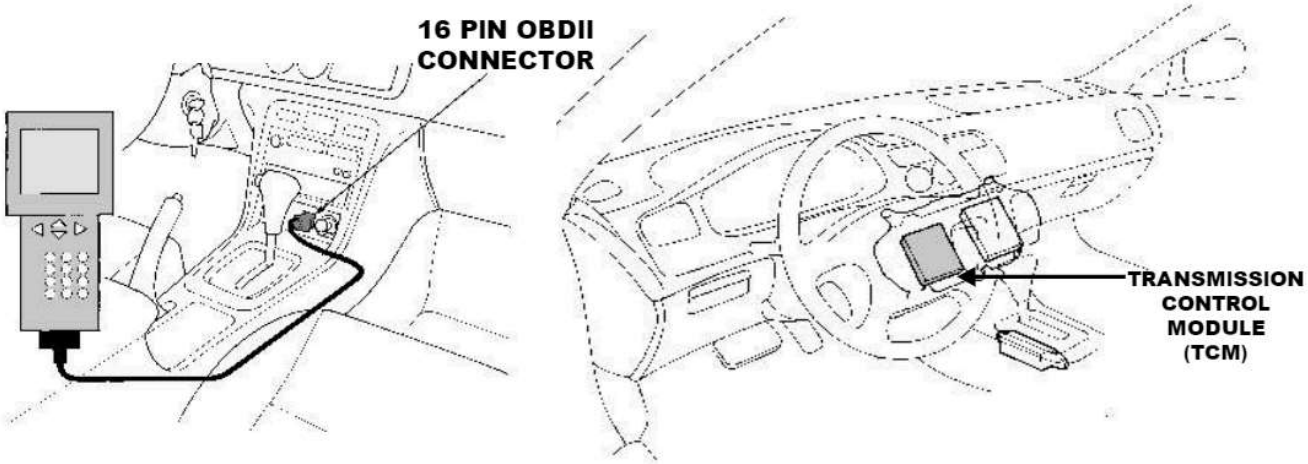
In order to retrieve ***2 DIGIT*** codes, locate the 2 pin service connector on the passenger side corner of the dashboard and put a jumper wire across the 2 pins. The "D4" lamp will now flash codes that have been stored by the TCM. A 16 PIN OBDII Data Link Connector (DCL) is also provided next to the cigarette lighter to retrieve the ***OBDII 5 DIGIT*** codes.

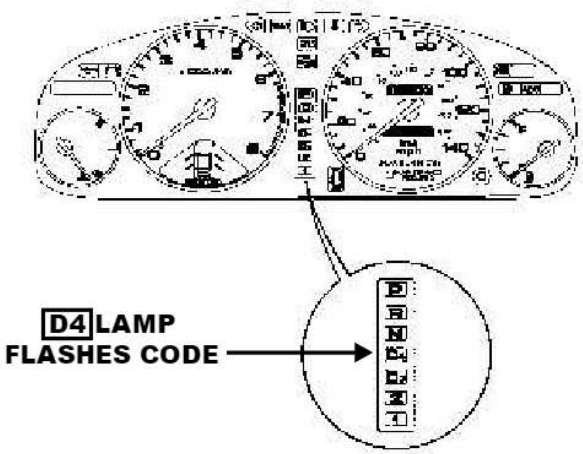
WARNING: DO NOT USE A JUMPER WIRE ON THE DATA LINK CONNECTOR.

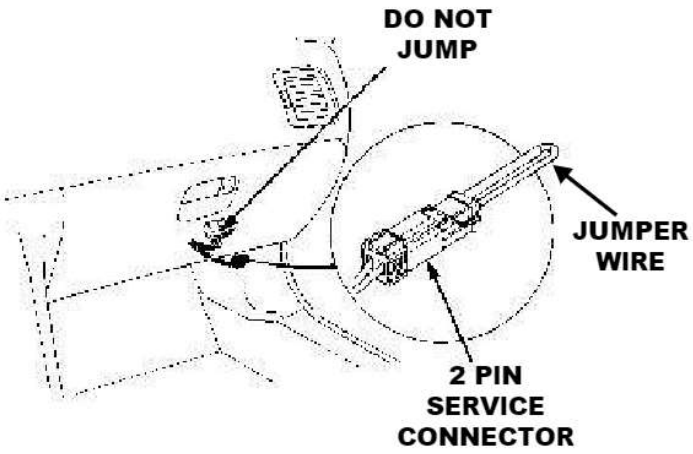
To clear the codes, remove the 7.5 amp BACK-UP fuse from the under the hood relay box for 10 seconds.

WARNING: Removing the BACK-UP fuse will cancel anti-theft code, vehicle will not start. Get the code from the vehicle owner.

NOTE: Some PGM-FI problems will cause the D4 lamp to flash. In the event this happens these problems must be addressed **FIRST.**







COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1996-97 HONDA ACCORD

When the Transmission Control module (PCM) senses a fault, the "D4" lamp will flash continuously.

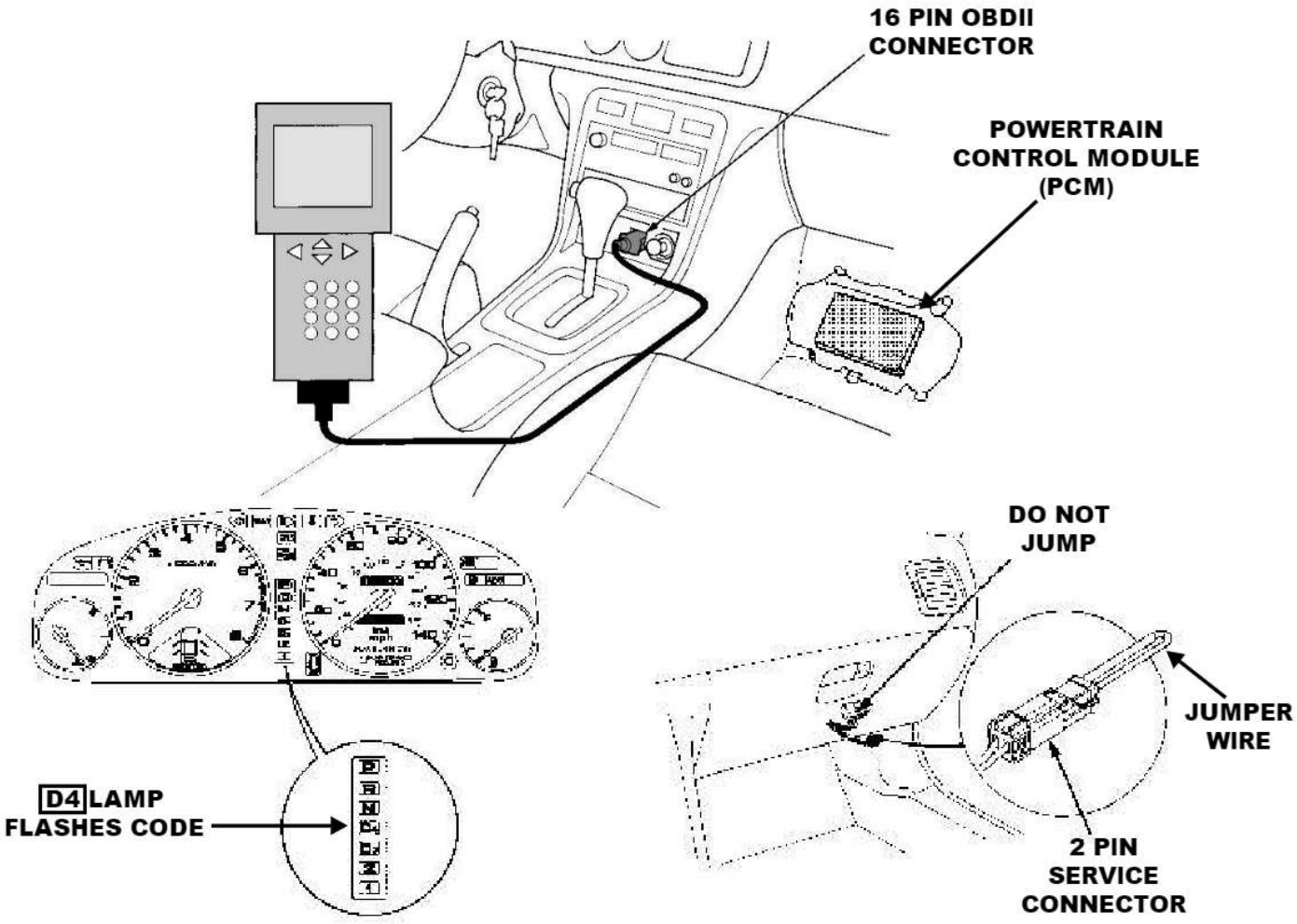
In order to retrieve ***2 DIGIT*** codes, locate the 2 pin service connector on the passenger side corner of the dashboard and put a jumper wire across the 2 pins. The "D4" lamp will now flash codes that have been stored by the PCM. A 16 PIN OBDII Data Link Connector (DCL) is also provided next to the cigarette lighter to retrieve the ***OBDII 5 DIGIT*** codes.

WARNING: DO NOT USE A JUMPER WIRE ON THE 16 PIN DATA LINK CONNECTOR.

To clear the codes, remove the 7.5 amp BACK-UP fuse from the under the hood relay box for 10 seconds.

WARNING: Removing the BACK-UP fuse will cancel anti-theft code, vehicle will not start. Get the code from the vehicle owner **FIRST.**

NOTE: Some PGM-FI problems will cause the D4 lamp to flash. In the event this happens these problems must be addressed **FIRST.**

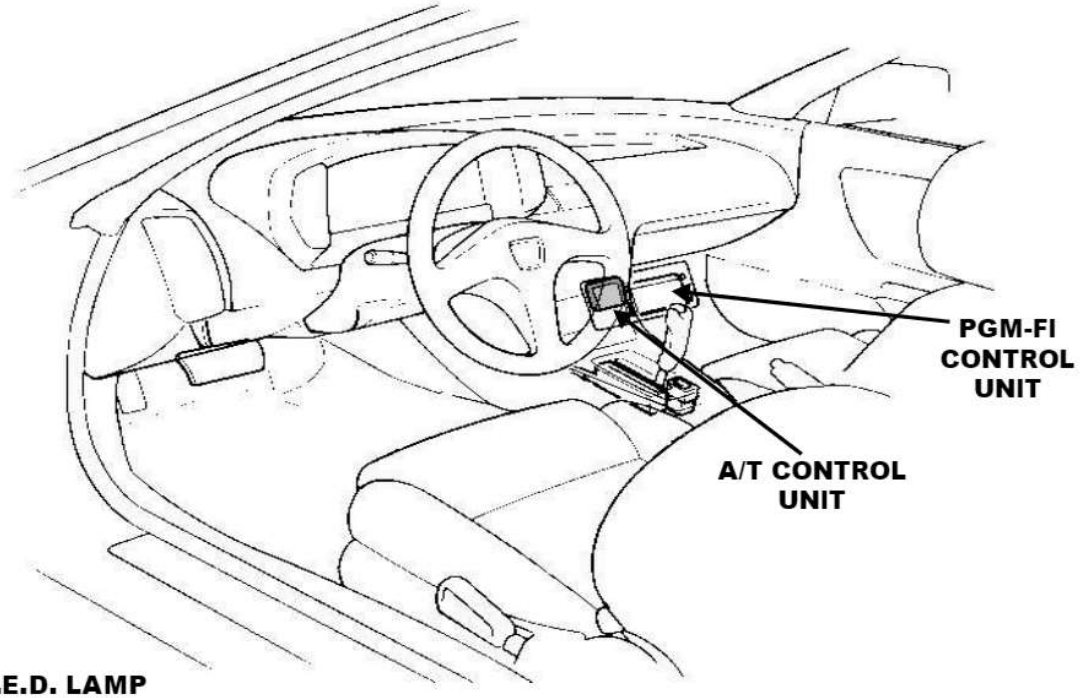


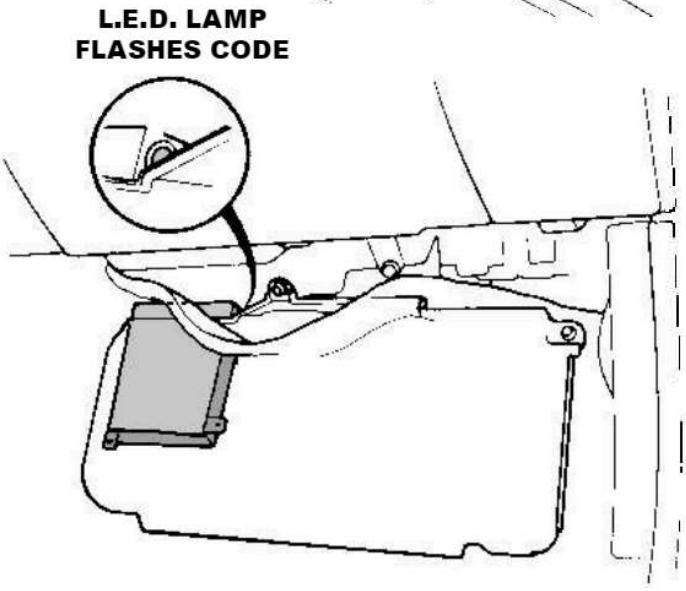
COMPUTER CONTROL

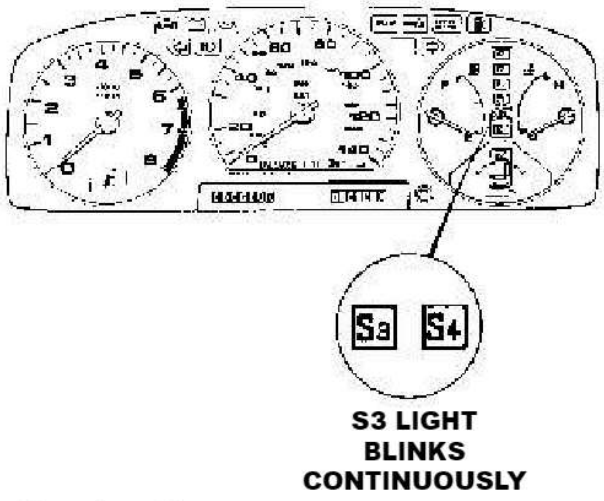
COMPUTER LOCATION/CODE INDICATOR LAMP

1988-91 PRELUDE

The S3 light will blink continuously when a code is stored in the computer.
In order to see what that code is, you must pull back the carpet on the passenger side floorboard and remove the protective cover.
The RED L.E.D. LAMP in the corner of the transaxle computer (See illustration below) will flash the actual fault code. The A/T control unit is smaller than the PGM-FI control unit, which is located next to it.
To clear codes pull out the EFI/ECU 10 amp fuse located in the under hood relay box for 30 seconds.







COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1992-95 PRELUDE

When the A/T Control Unit senses a problem with the input or output systems the "D4" lamp in the instrument cluster will blink continuously indicating that a code has been stored in the A/T Control Unit.

To retrieve codes, locate the 2 pin service connector under the passenger side dashboard. Jump the 2 pin connector, turn the ignition on and the "D4" lamp will flash the code pattern.

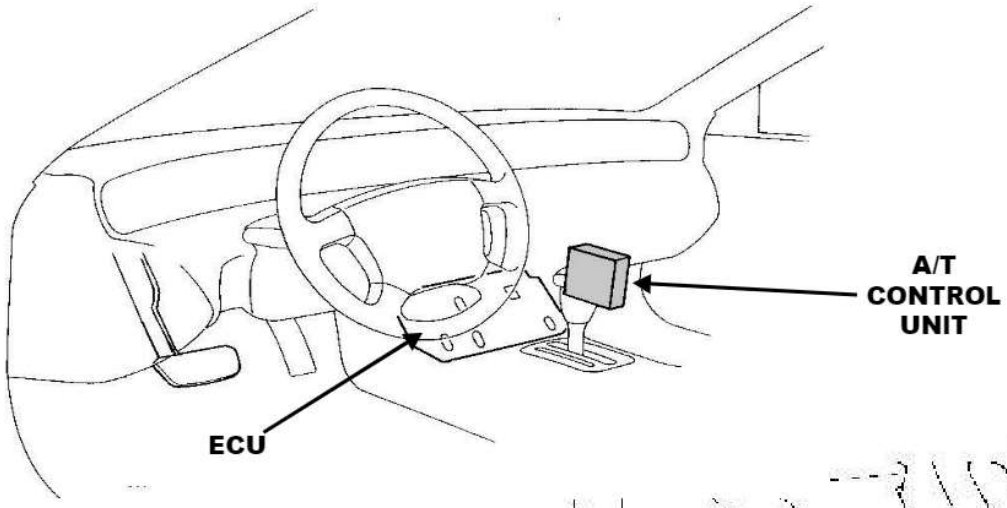
CAUTION: The Data Link Connector is located in the same area as the service connector.

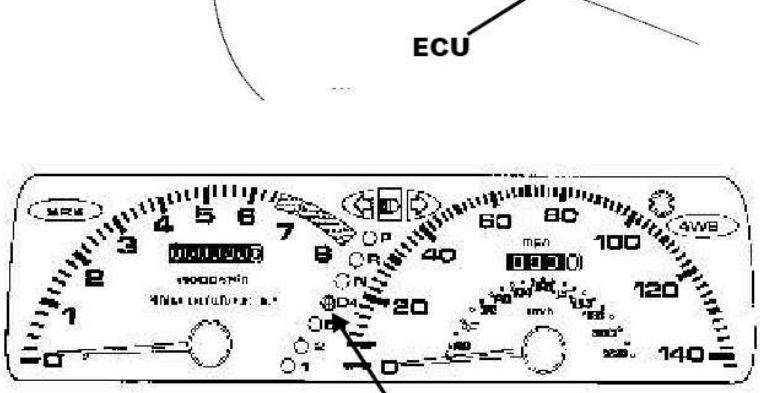
DO NOT JUMP THE DATA LINK CONNECTOR!

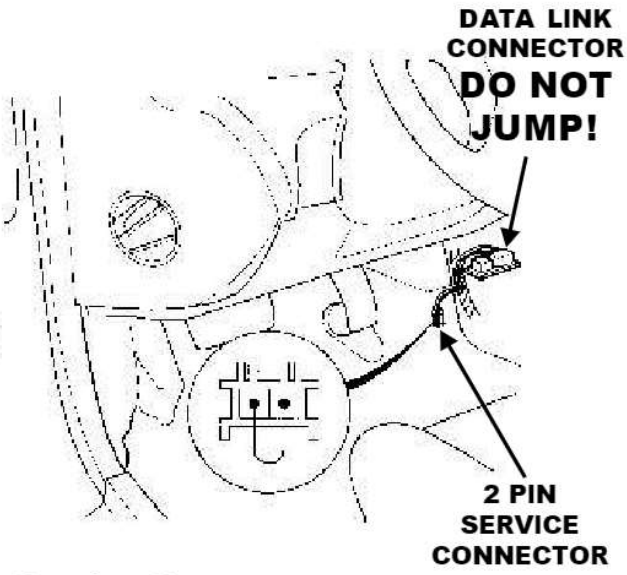
WARNING: The "D4" lamp and the "CHECK ENGINE" lamp may illuminate simultaneously. If so, the PGM-FI controller is storing a code and must be addressed ***FIRST.***

To clear codes, remove the 10 amp Radio/Clock fuse from the underhood relay box for 10 seconds.

CAUTION: Removing the 10 amp Clock/Radio fuse will cancel radio anti-theft codes. Get the customer's code number FIRST. The radio preset stations and clock settings will also be lost.







COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1995 ODYSSEY

When the TCM senses a problem with the input or output systems the "D4" lamp in the instrument cluster will blink continuously indicating that a code has been stored in the TRANSMISSION CONTROL UNIT.

To retrieve codes, locate the 2 pin service connector under the passenger side dashboard. Jump the 2 pin connector, turn the ignition on and the "D4" lamp will flash the code pattern.

CAUTION: The Data Link Connector is located in the same area as the service connector.

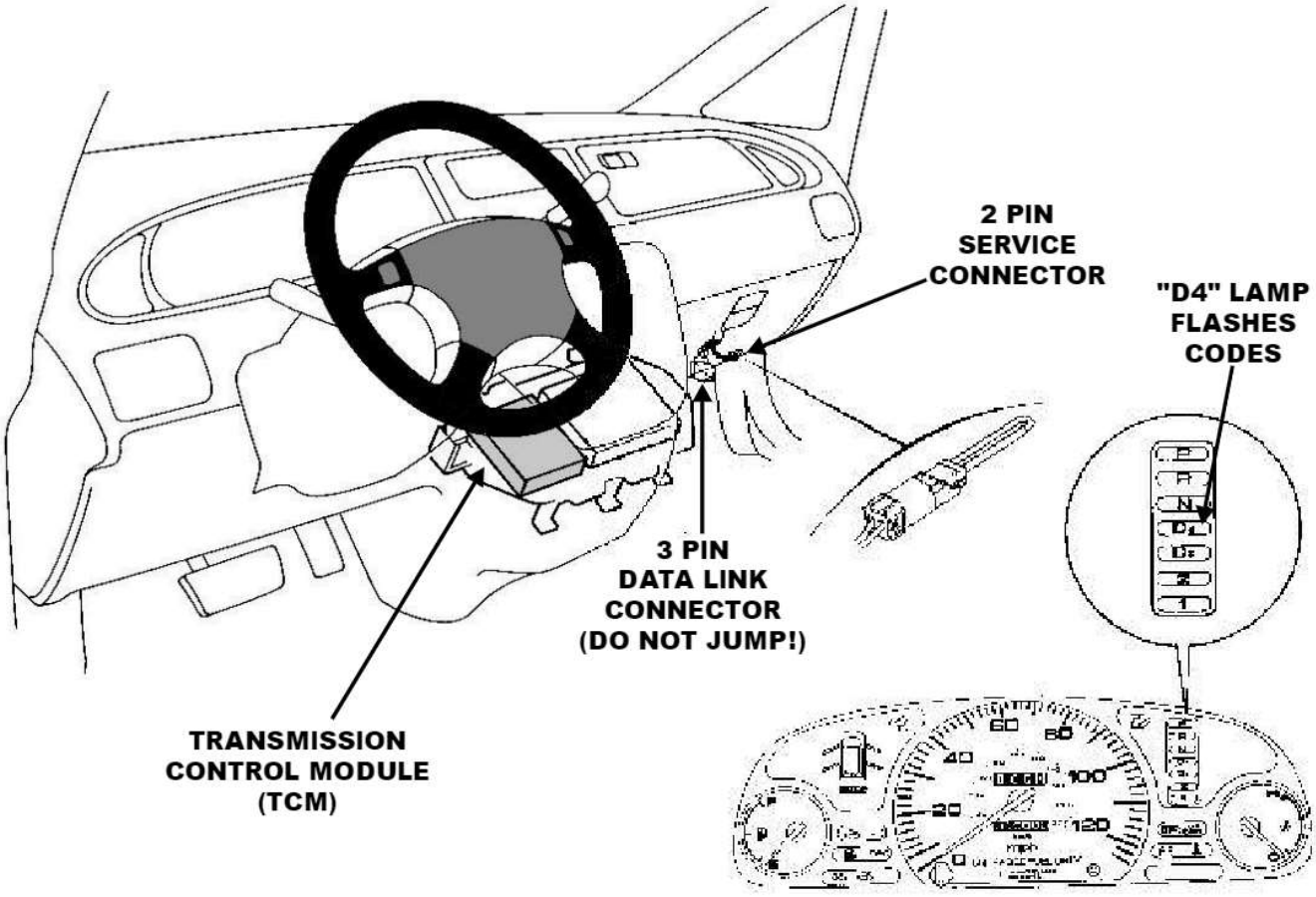
DO NOT JUMP THE DATA LINK CONNECTOR!

WARNING: The "D4" lamp and the "CHECK ENGINE" lamp may illuminate simultaneously. If so, the PGM-FI controller is storing a code and must be addressed ***FIRST.***

To clear codes, remove the 7.5 amp Radio Back-up fuse from the underhood relay box for 10 seconds.

CAUTION: Removing the 7.5 amp Radio Back-up fuse will cancel radio anti-theft codes.

Get the customer's code number FIRST. The radio preset stations and clock settings will also be lost.

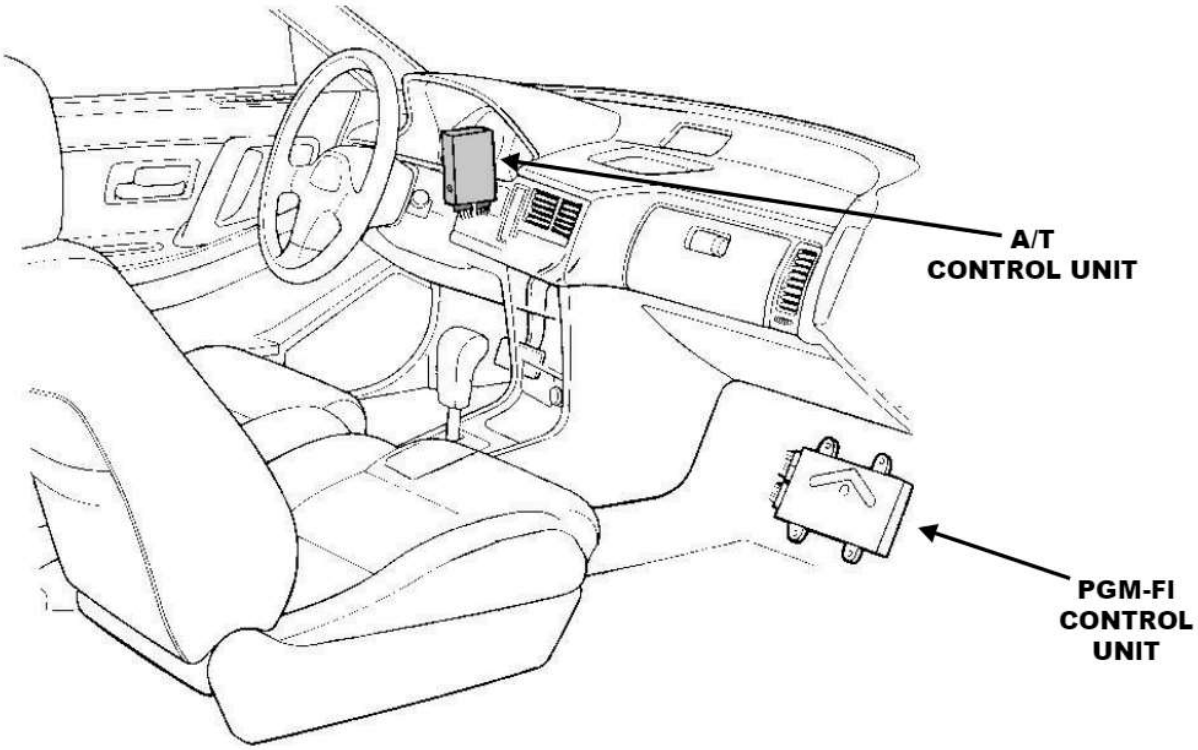


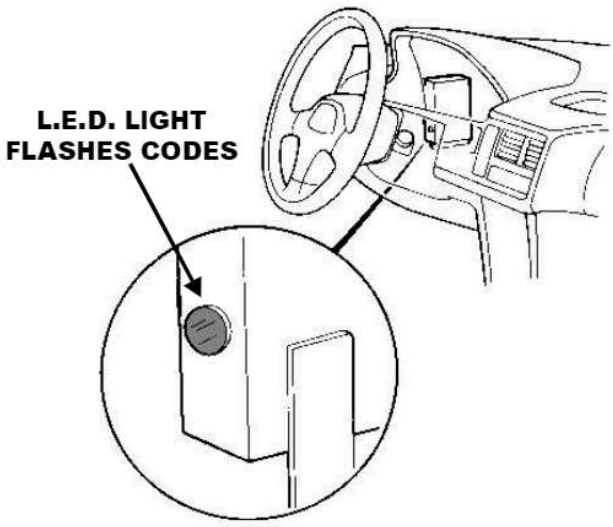
COMPUTER CONTROL

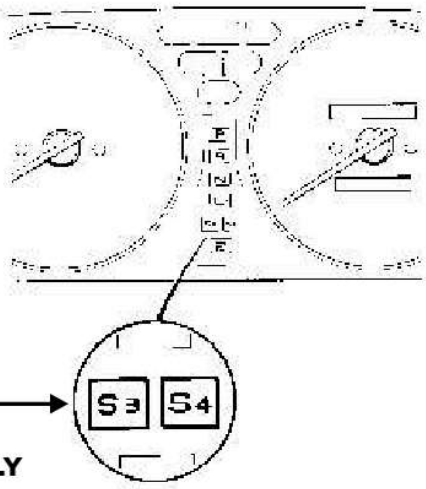
COMPUTER LOCATION/CODE INDICATOR LAMP

1990-93 ACURA INTEGRA

When the A/T Control Unit senses a problem, the S3 lamp will flash continuously.
To retrieve codes, locate the A/T Control Unit under the dashboard, to the left of the steering column.
The RED L.E.D. light in the side of the A/T control Unit will flash codes that have been stored.
To clear codes, remove the 10 amp Alternator Sense fuse for 30 seconds







COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1994-95 ACURA INTEGRA

When the Transmission Control module (TCM) senses a fault, the "D4" lamp will flash continuously.

In order to retrieve codes, locate the 2 pin service connector on the passenger side corner of the dashboard and put a jumper wire across the 2 pins.

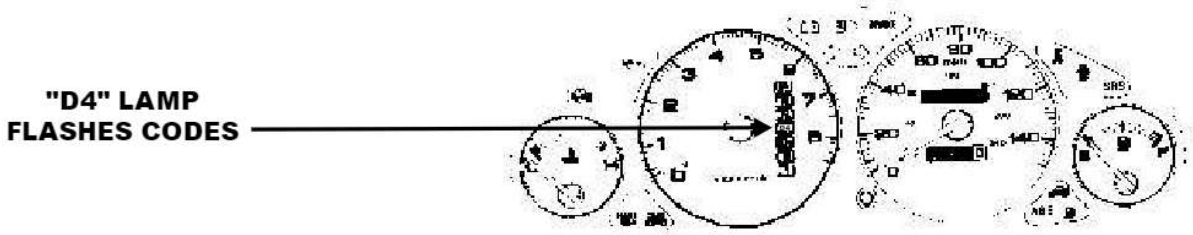
The "D4" lamp will now flash codes that have been stored by the TCM. A Data Link Connector (DCL) is also provided in the same area for scanner communication.

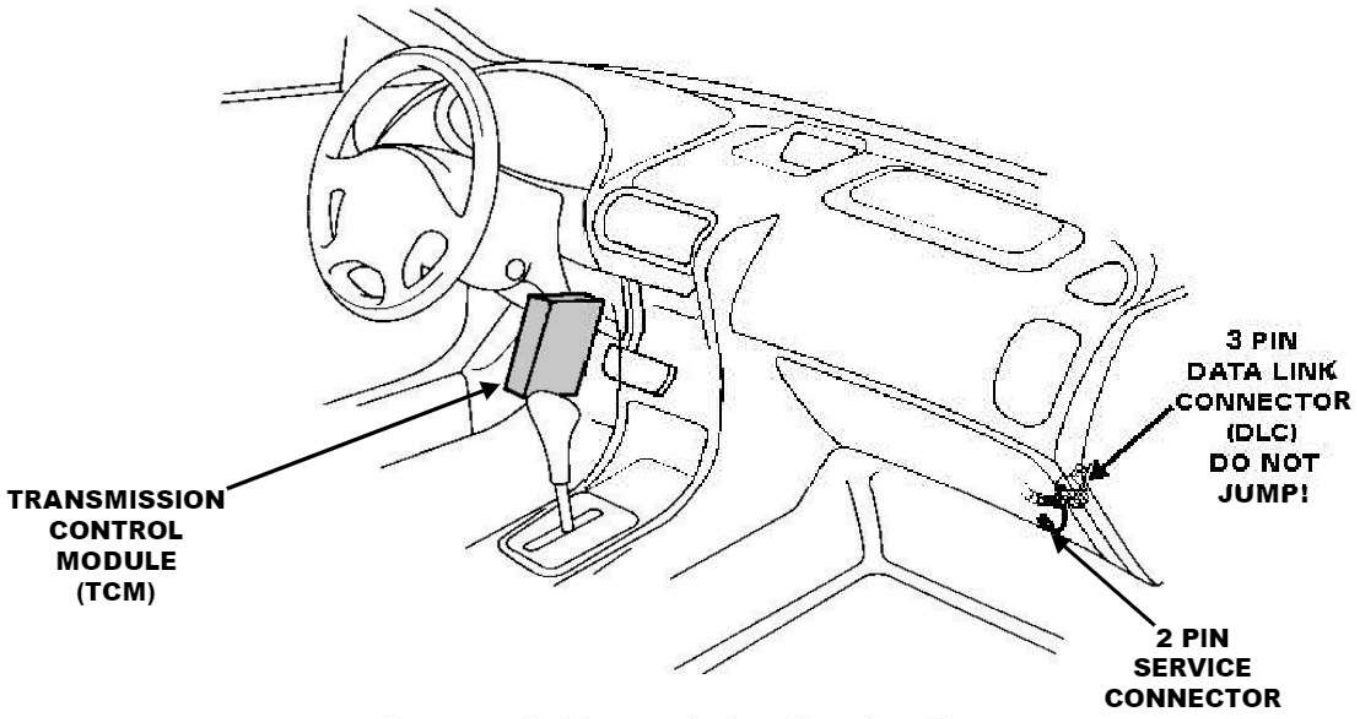
WARNING: DO NOT USE A JUMPER WIRE ON THE DATA LINK CONNECTOR.

To clear the codes, remove the 7.5 amp BACK-UP fuse from the under the hood relay box for 30 seconds.

WARNING: Removing the BACK-UP fuse will cancel anti-theft code, vehicle will not start. Get the code from the vehicle owner.

NOTE: Some PGM-FI problems will cause the D4 lamp to flash. In the event this happens these problems must be addressed **FIRST.**



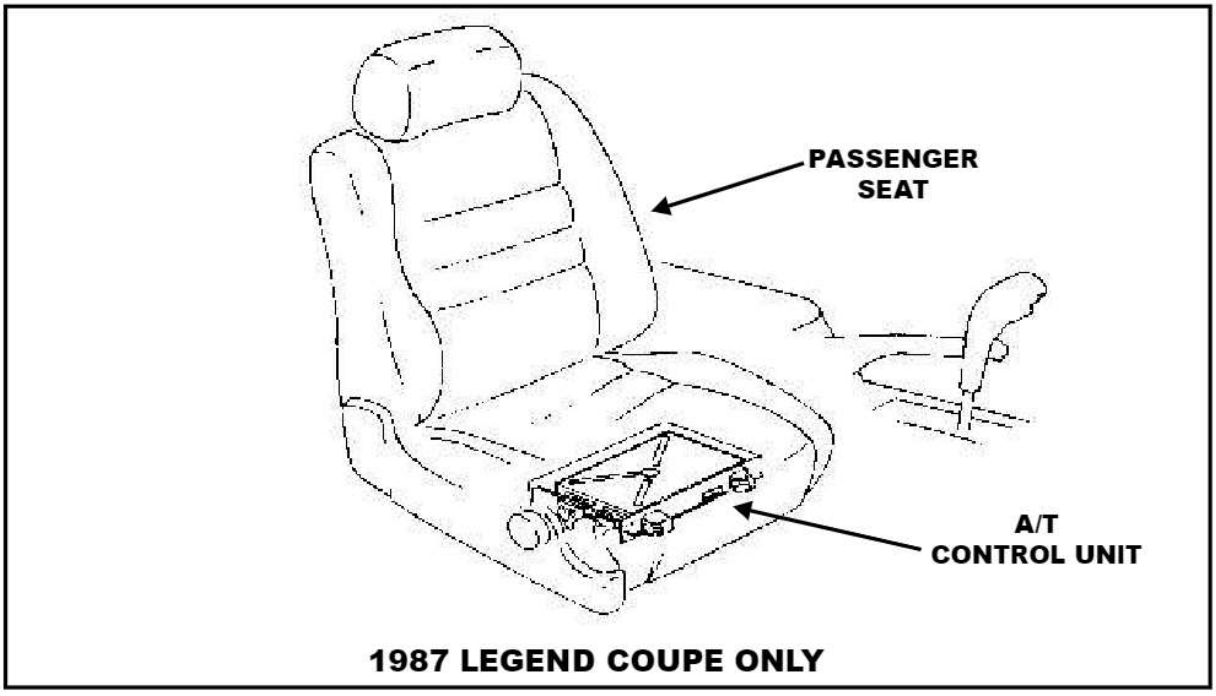


COMPUTER CONTROL

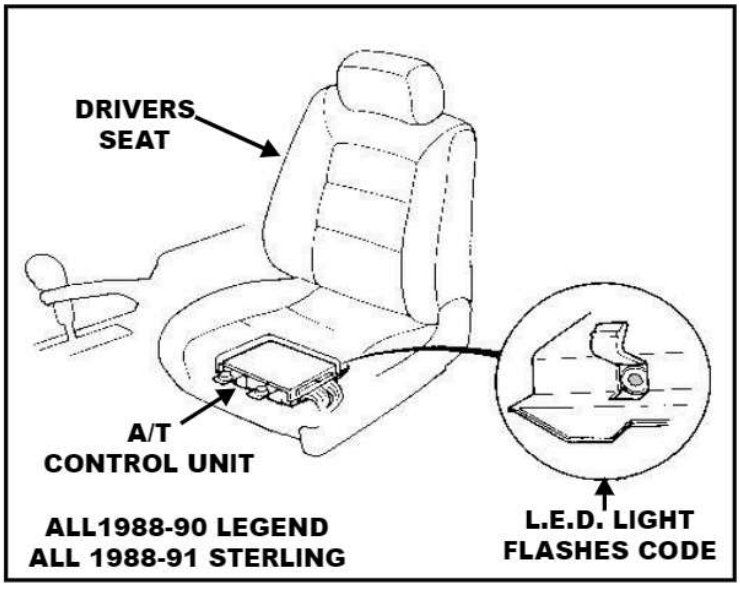
COMPUTER LOCATION/CODE INDICATOR LAMP

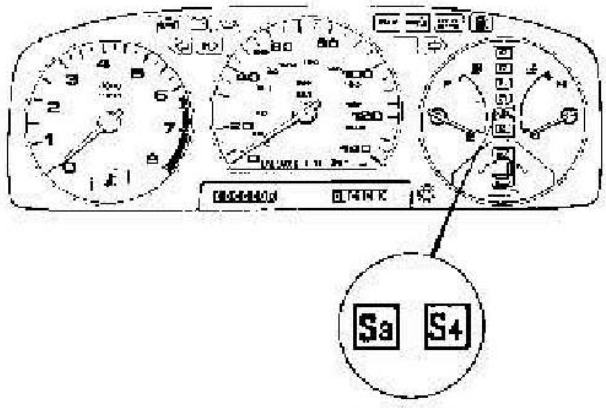
1987 ACURA LEGEND COUPE/1988-90 ACURA LEGEND /1988-91 STERLING

The S3 light will blink continuously when a code is stored in the computer.
In order to see what that code is on the 1987 COUPE ONLY, locate the A/T control unit under the PASSENGER SEAT. Flip up the small panel, the RED L.E.D. light will flash the codes.
To clear the codes pull the 7.5 amp alternator sense fuse for 30 seconds located in the under hood relay box.



1987 LEGEND COUPE ONLY





COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1991-95 ACURA LEGEND

The 1991 Acura Legend uses ONE computer to control the engine and the transmission.

When the ECU senses a problem, the D4 lamp will flash continuously.

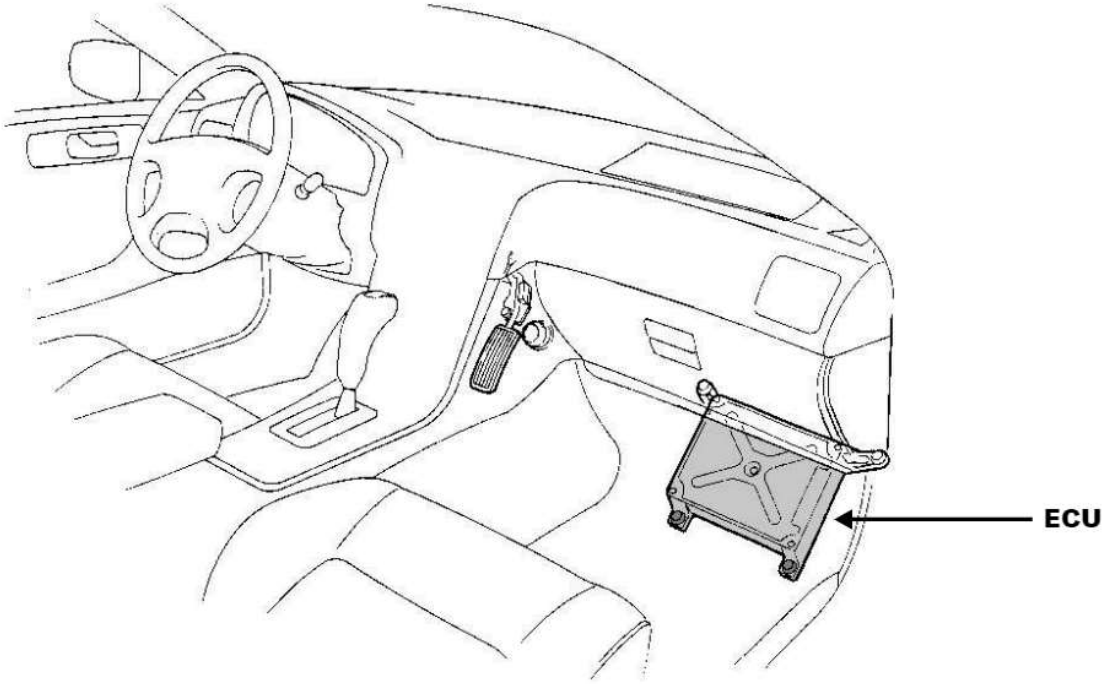
To retrieve codes, locate the 2 pin service connector on the ECU protective cover on the passenger side floorboard and put a jumper wire across the 2 pins.

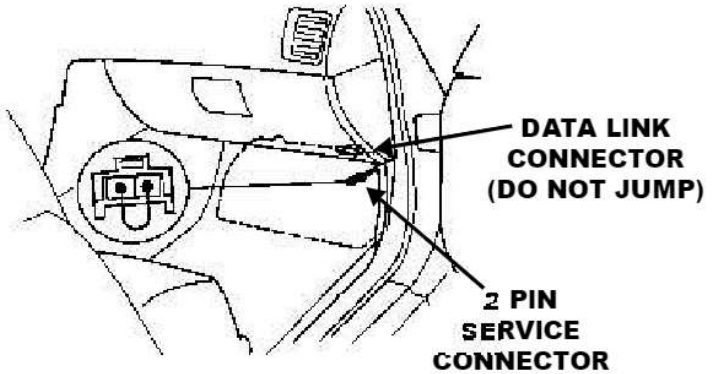
WARNING: DO NOT JUMP THE DATA LINK CONNECTOR (DLC).

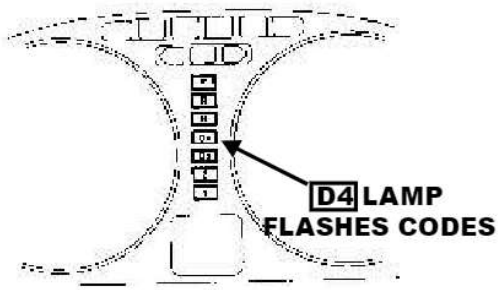
The D4 lamp will now flash codes that are stored by the ECU.

NOTE: Some engine control problems will cause the D4 lamp to flash. These faults will have to be addressed ***FIRST.***

To clear the codes, remove the 7.5 amp AGS fuse from the under dash fuse box for 30 seconds.







COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1992-94 ACURA VIGOR

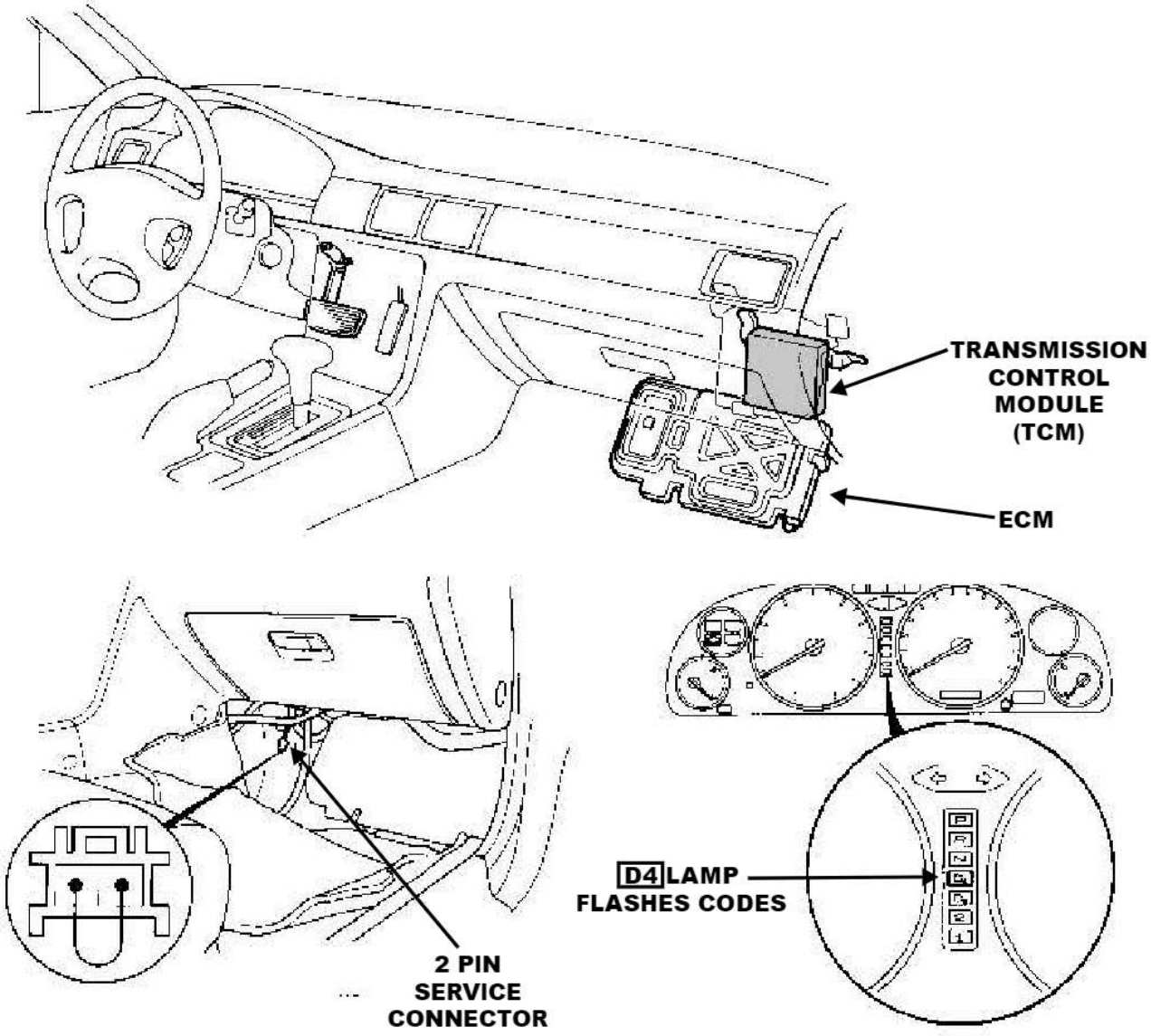
When the Transmission Control Module senses a problem the D4 lamp will flash continuously.

To retrieve codes locate the 2 pin service connector under the center of the dashboard on the passenger side of the console. Put a jumper wire across the 2 pins and the D4 lamp will now flash codes stored by the TCM.

NOTE: Some PGM-FI problems will cause the D4 lamp to flash. These problems must be addressed first.

To clear the codes, remove the 10 amp Back-up fuse from the under hood relay box for 30 seconds.

CAUTION: Removing the Back-up fuse will cancel radio anti-theft code.



COMPUTER CONTROL

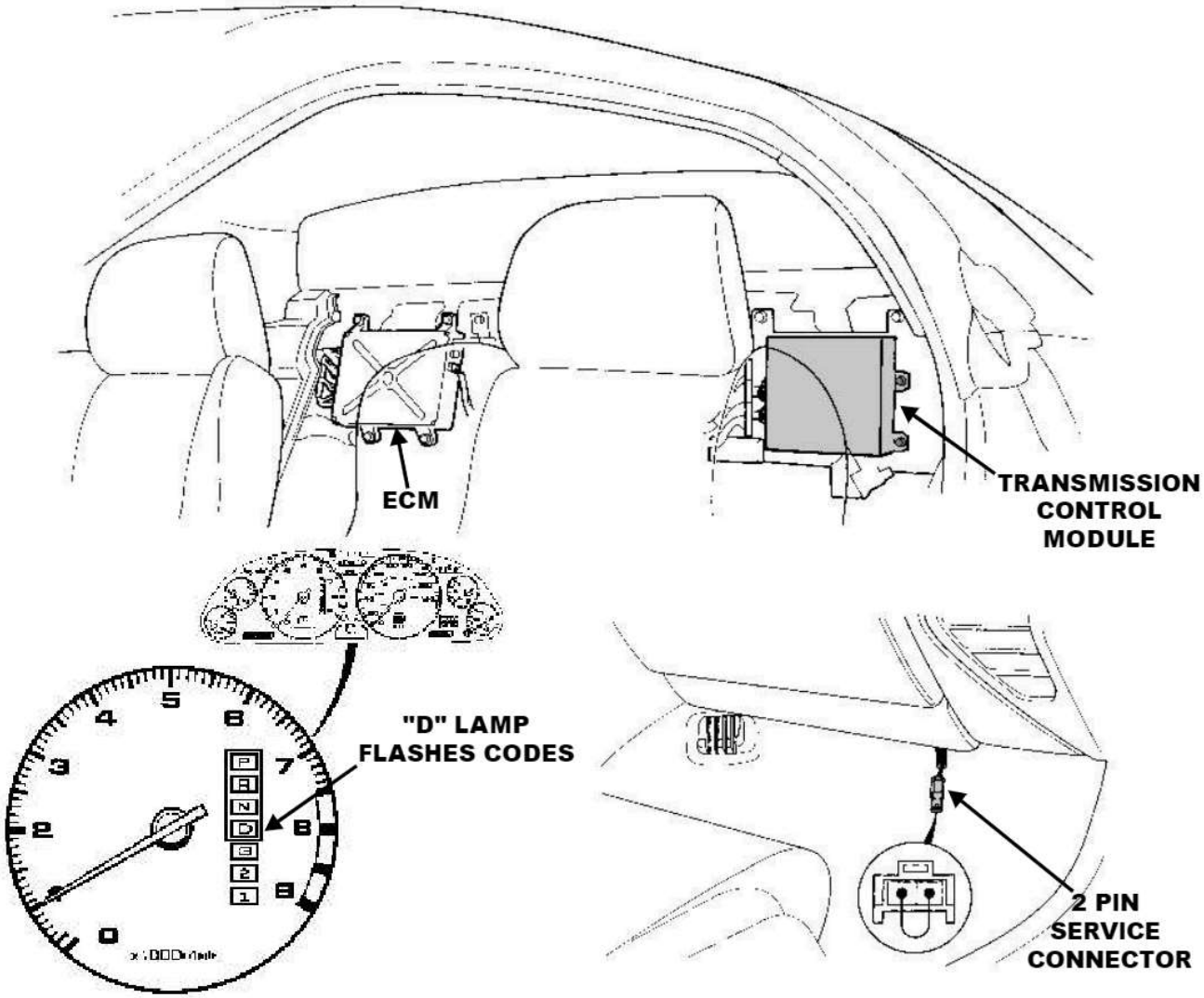
COMPUTER LOCATION/CODE INDICATOR LAMP

1991-93 ACURA NSX

When the Transmission Control Module (TCM) senses a fault, the "D" lamp will flash continuously.
In order to retrieve codes, locate the 2 pin service connector on the passenger side corner of the dashboard and put a jumper wire across the 2 pins.
The "D" lamp will now flash codes that have been stored by the TCM.
To clear the codes, remove the 7.5 amp CLOCK fuse from in the MAIN relay box for 10 seconds.

WARNING: Removing the CLOCK fuse will cancel radio preset station settings and clock settings

NOTE: Some PGM-FI problems will cause the "D" lamp to flash. In the event this happens these problems must be addressed **FIRST.**
If the "D" lamp is on without blinking, the TCM will require replacement.



COMPUTER CONTROL

COMPUTER LOCATION/CODE INDICATOR LAMP

1994-95 ACURA NSX

When the Transmission Control Module (TCM) senses a fault, the "D" lamp will flash continuously.

In order to retrieve codes, locate the 2 pin service connector on the passenger side corner of the dashboard and put a jumper wire across the 2 pins.

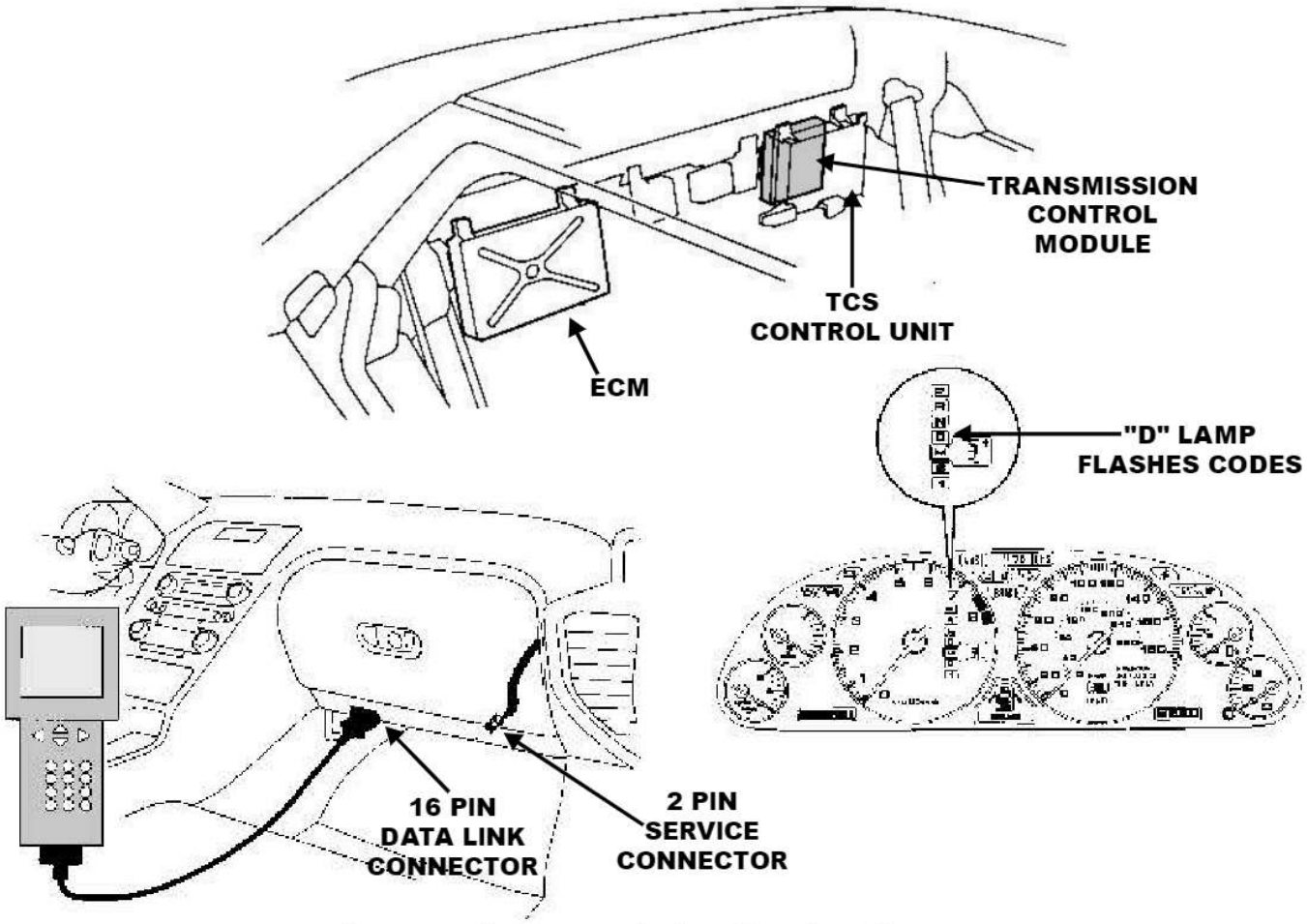
The "D" lamp will now flash the ***2 DIGIT*** codes that have been stored by the TCM.

To retrieve the ***5 DIGIT*** codes stored by the TCM, an OBDII capable scan tool must be connected to the 16 pin data link connector (DLC) located below and to the left of the glove box.

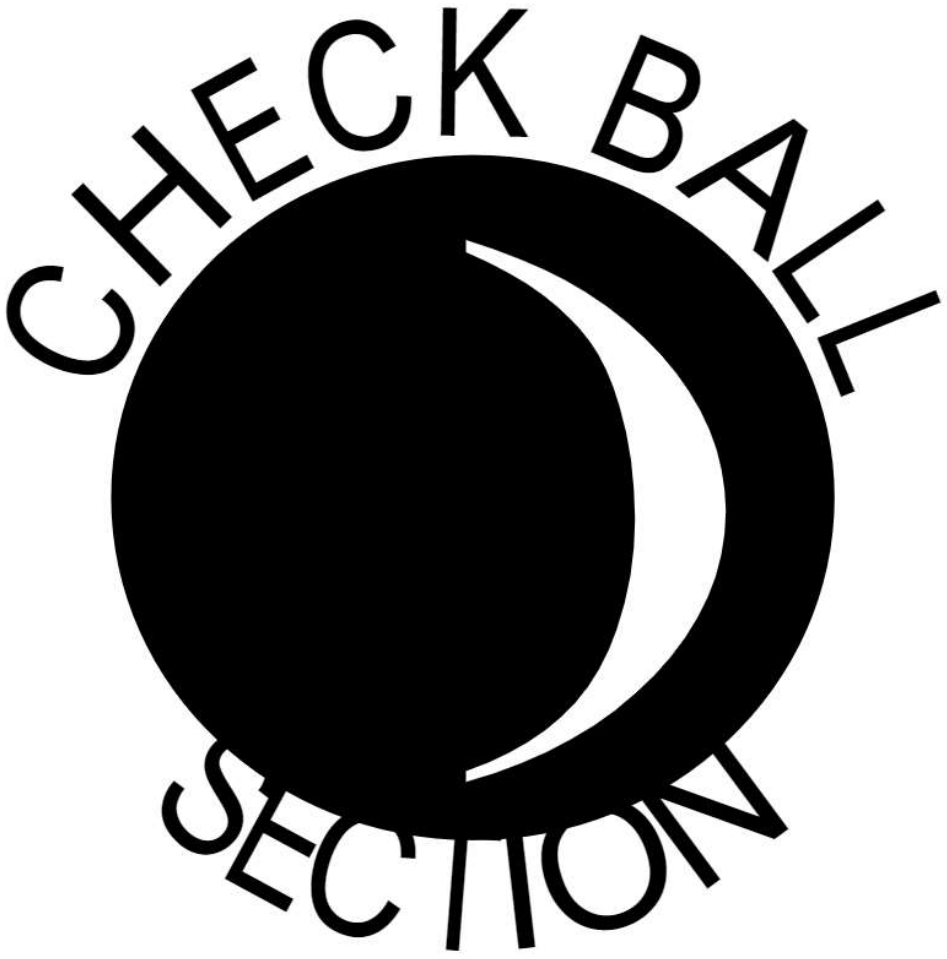
To clear the codes, remove the 7.5 amp CLOCK fuse from in the UNDERHOOD relay box for 10 seconds.

WARNING: Removing the CLOCK fuse will cancel radio preset station settings and clock settings

NOTE: Some PGM-FI problems will cause the "D" lamp to flash. In the event this happens these problems must be addressed **FIRST.**
If the "D" lamp is on without blinking, the TCM will require replacement.



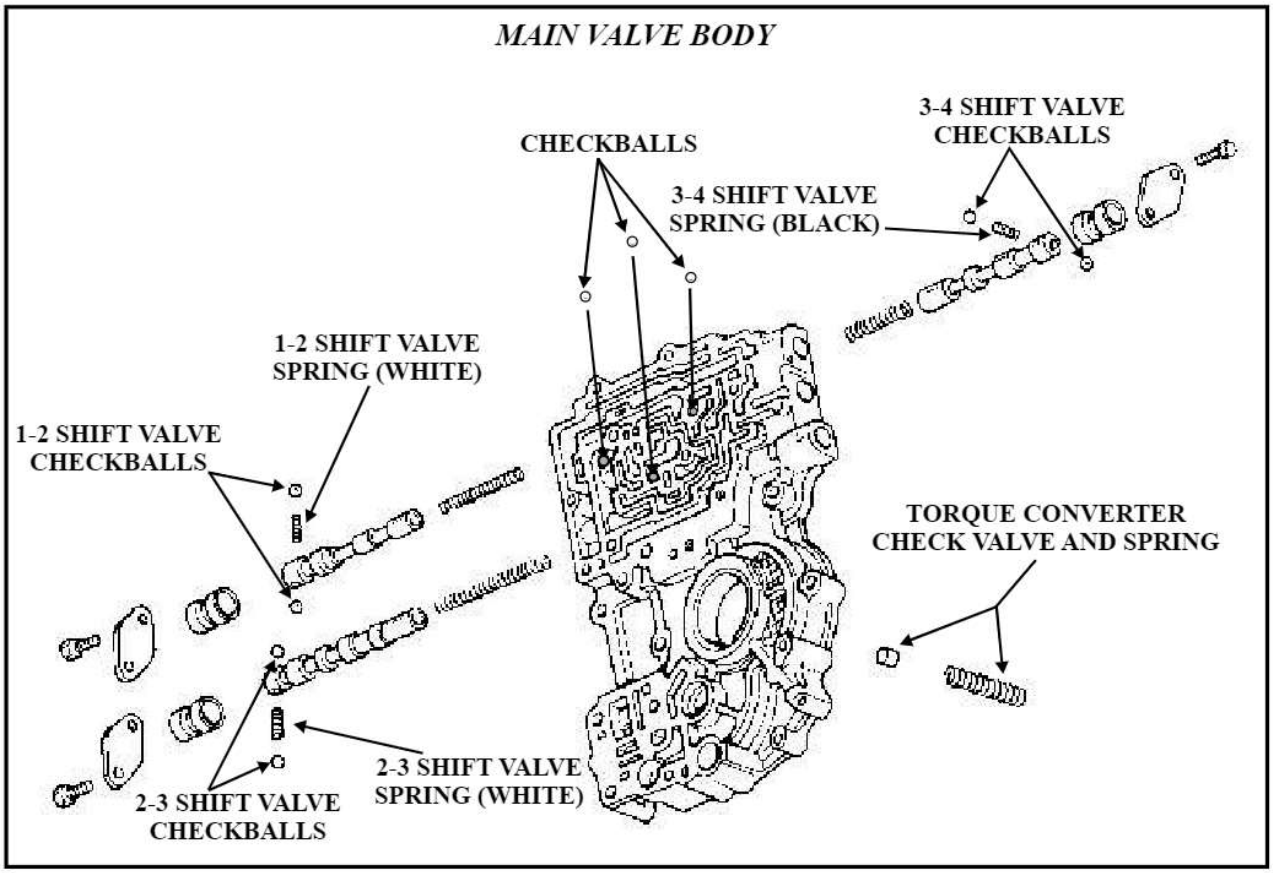
HONDA/ACURA



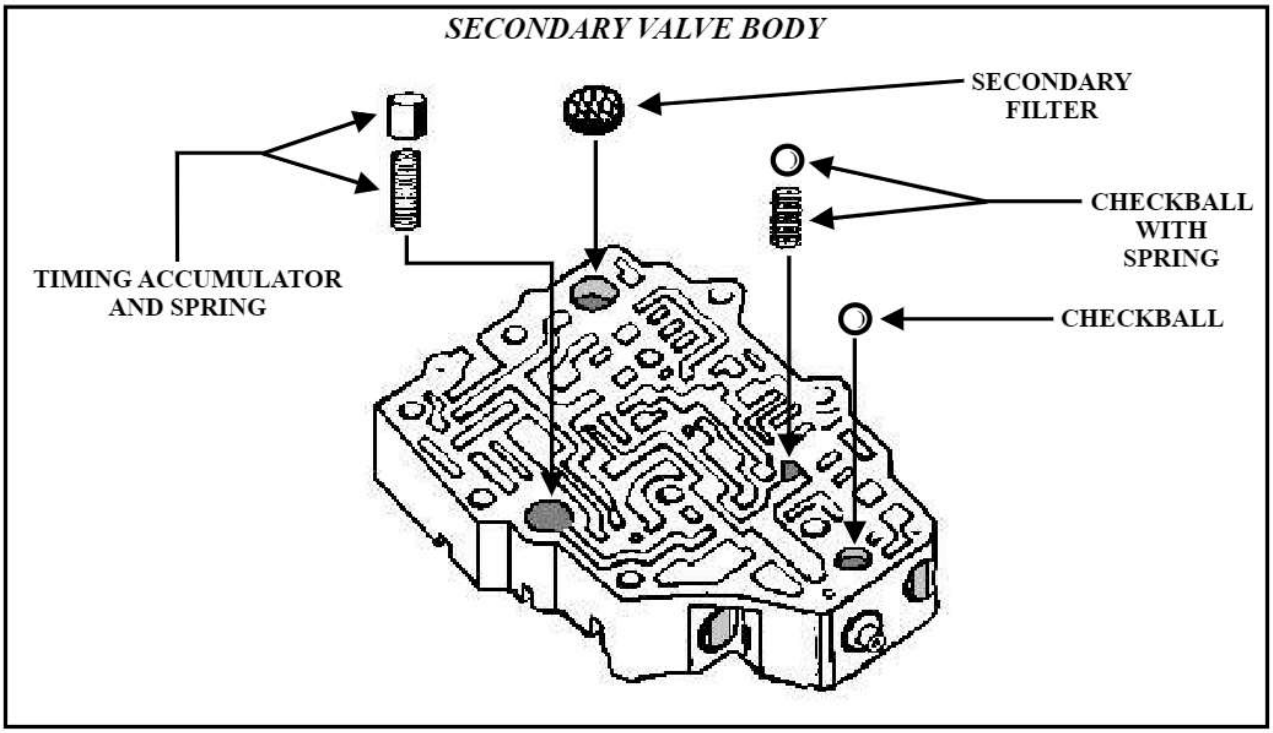
HONDA CIVIC CHECKBALL LOCATIONS

CA

MAIN VALVE BODY



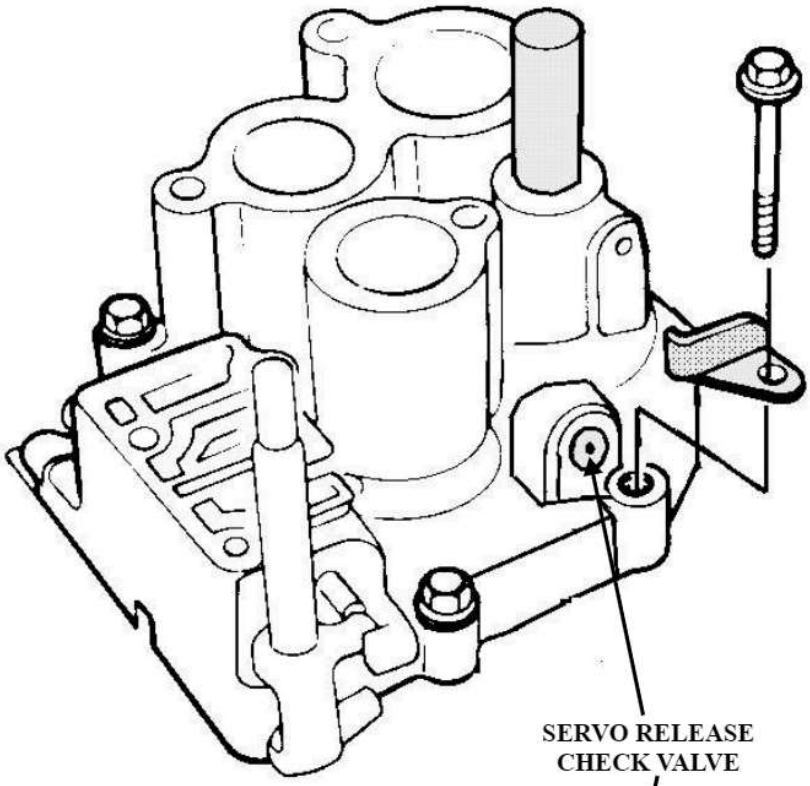
SECONDARY VALVE BODY



HONDA CIVIC CHECKBALL LOCATIONS

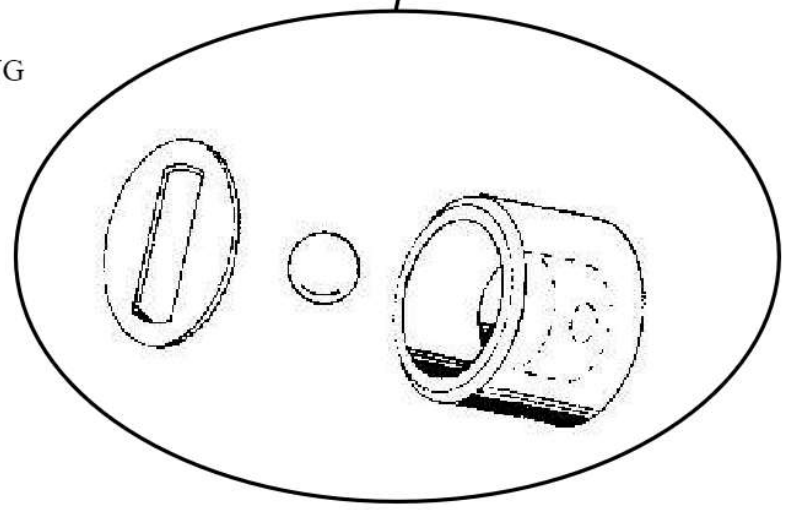
CA

SERVO VALVE BODY



SERVO RELEASE
CHECK VALVE

CAUTION:
THE SERVO RELEASE CHECK VALVE IS STAKED INTO THE SERVO VALVE BODY, BUT, IT CAN FALL OR BE BLOWN OUT DURING THE CLEANING PROCESS

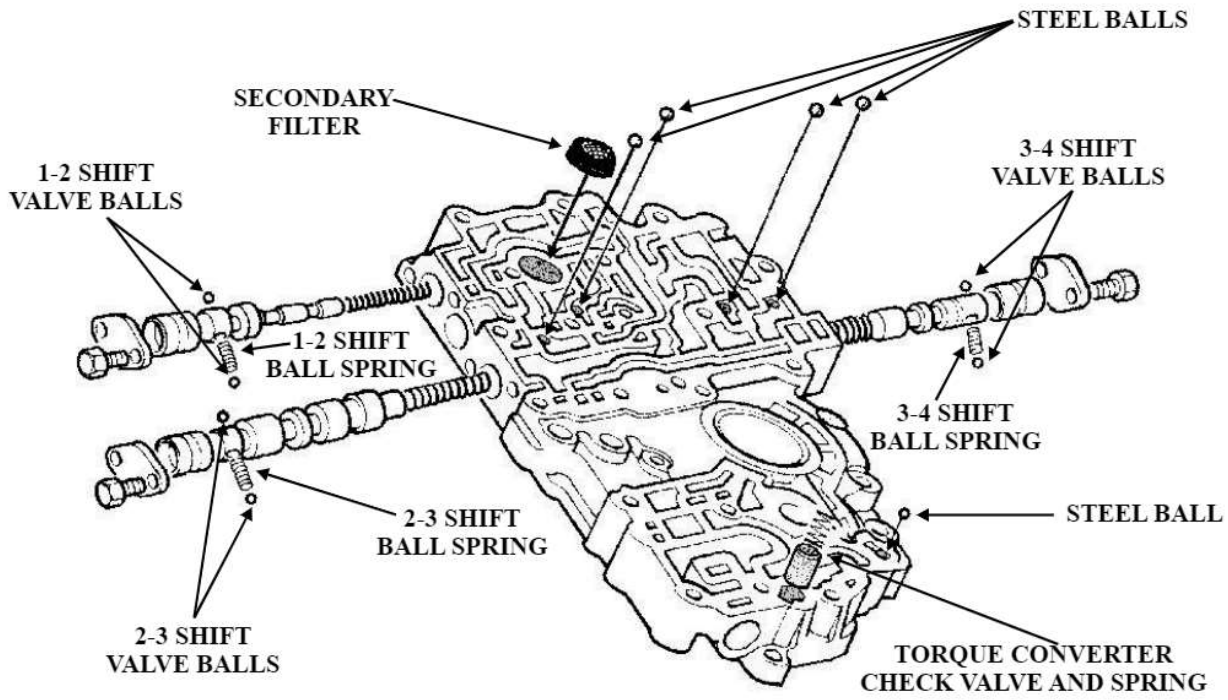


NOTE: MOST SERVO VALVE BODIES WILL HAVE THIS CHECK VALVE

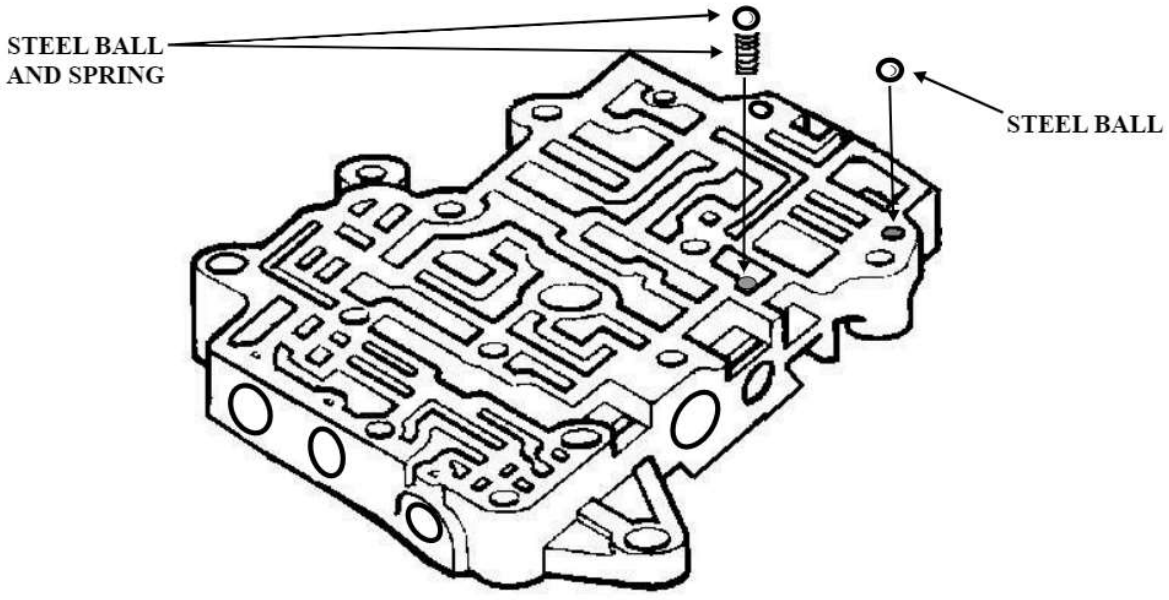
HONDA CIVIC CHECKBALL LOCATIONS

L4/ML4A

MAIN VALVE BODY

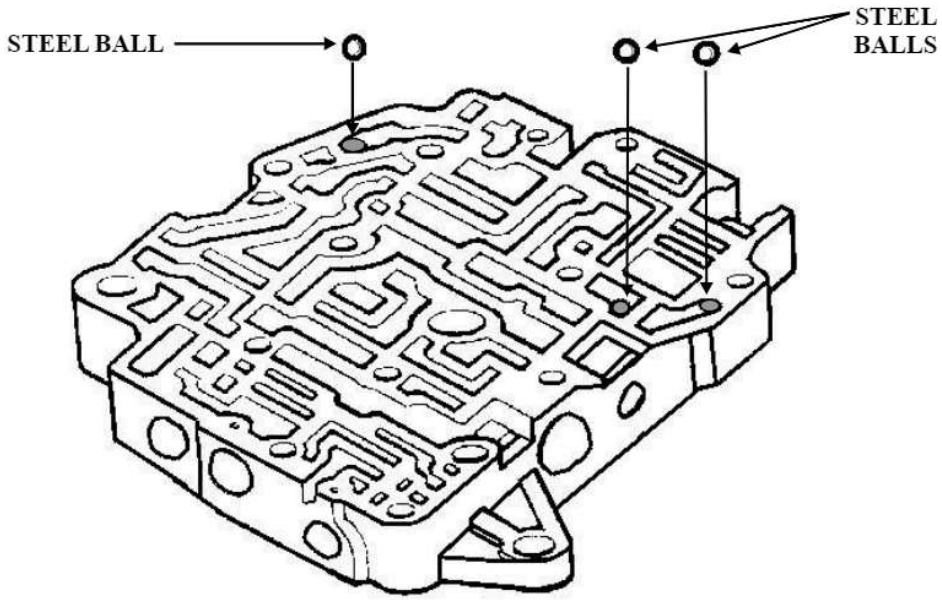


1988 L4 SECONDARY VALVE BODY

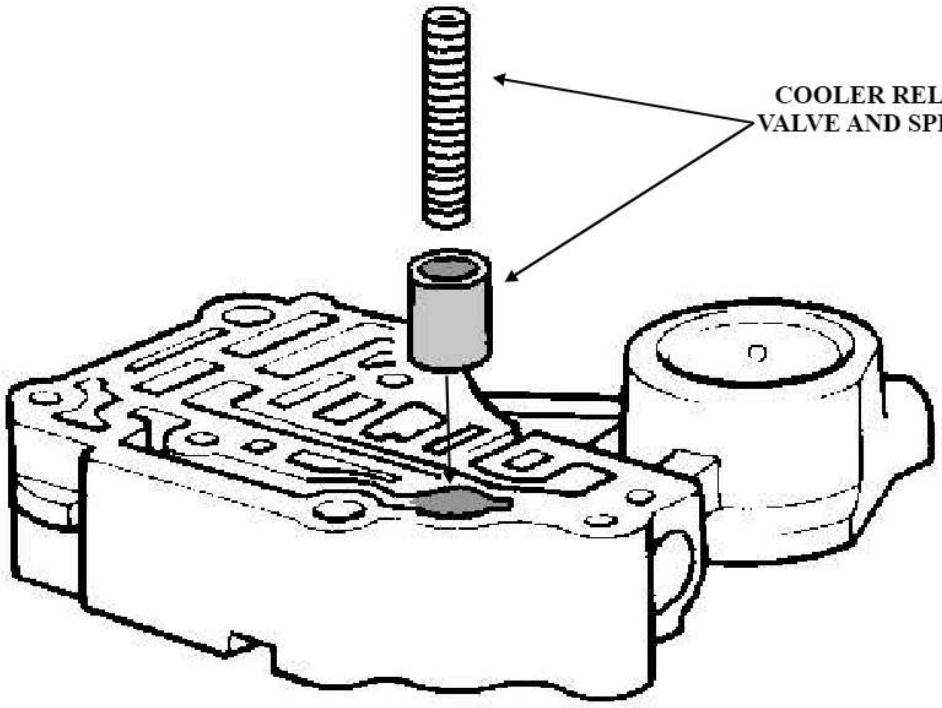


HONDA CIVIC CHECKBALL LOCATIONS
L4/ML4A

1989-90 L4 SECONDARY VALVE BODY



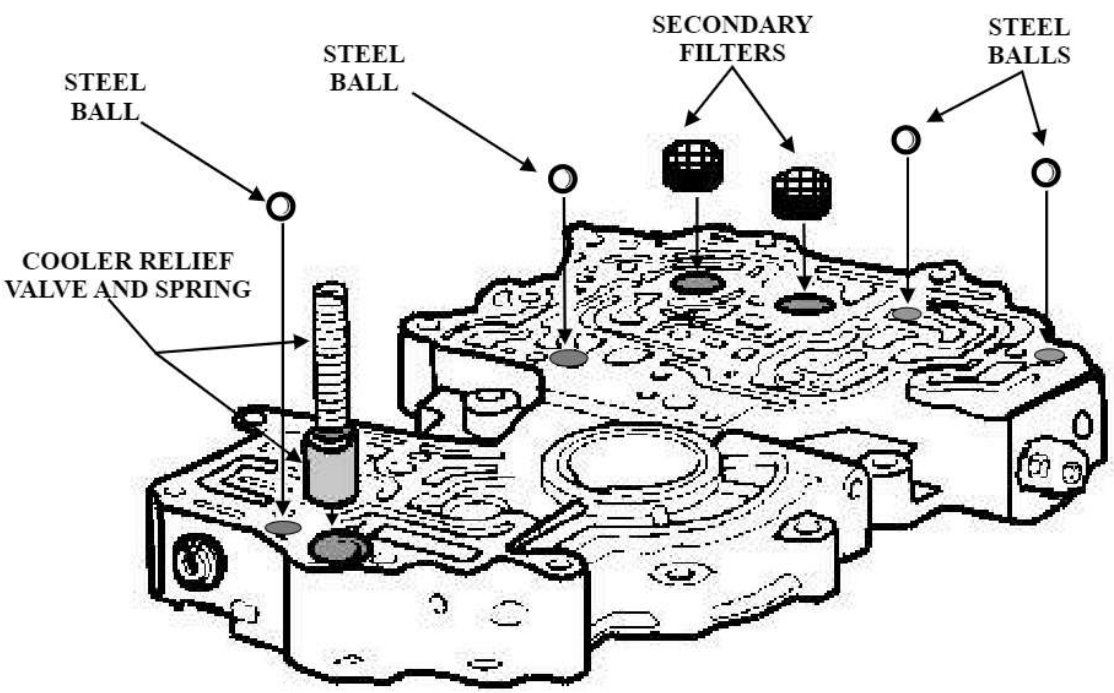
REGULATOR VALVE BODY



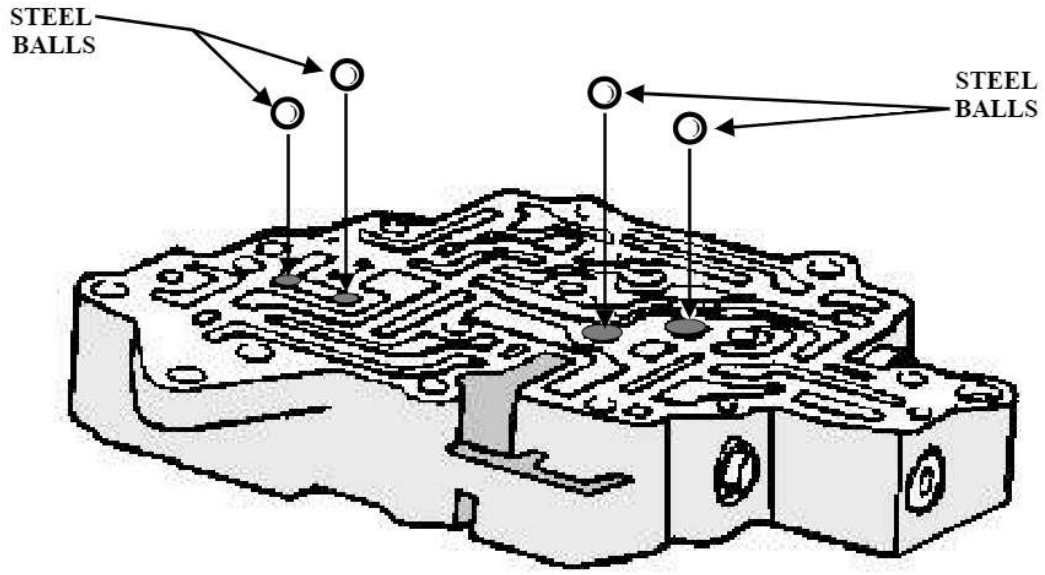
HONDA CIVIC CHECKBALL LOCATIONS

S5/MPSA

MAIN VALVE BODY

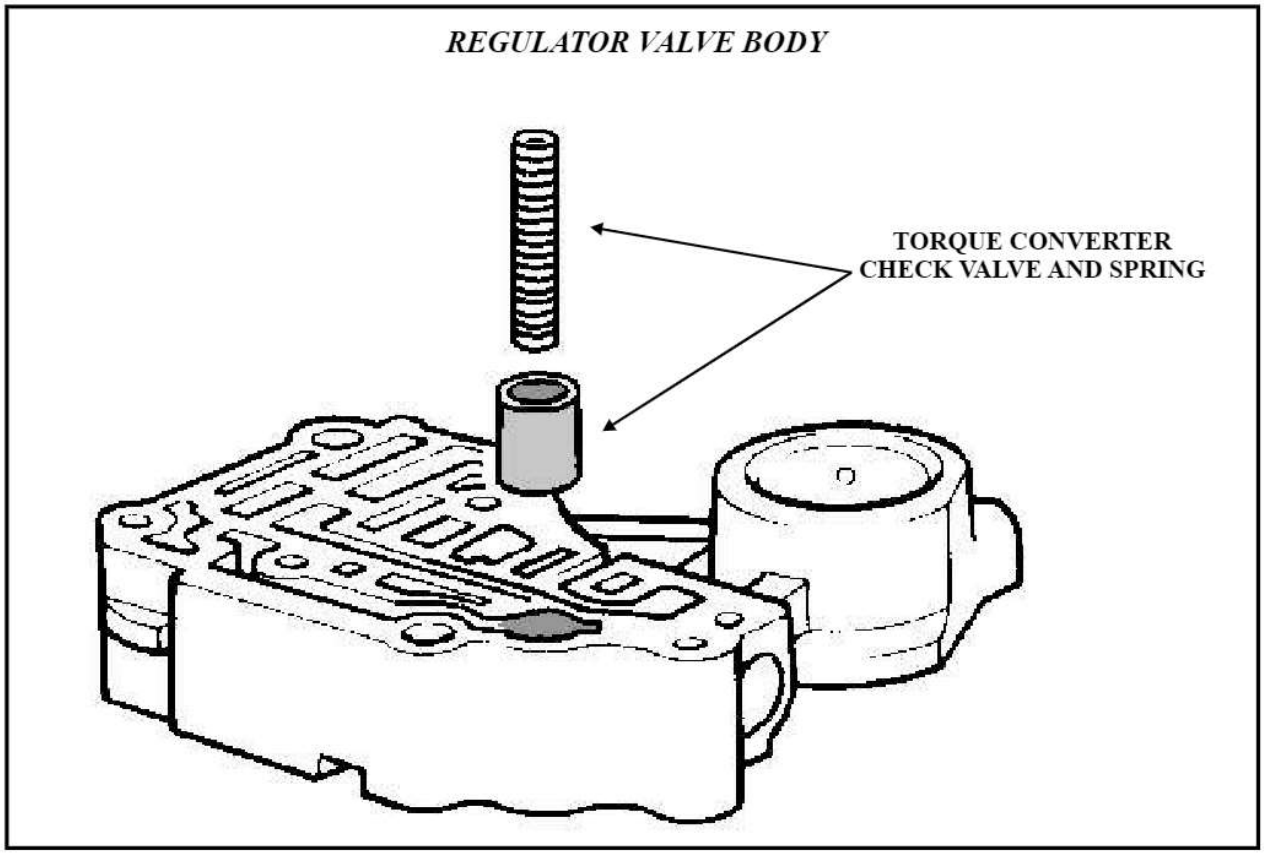


SECONDARY VALVE BODY



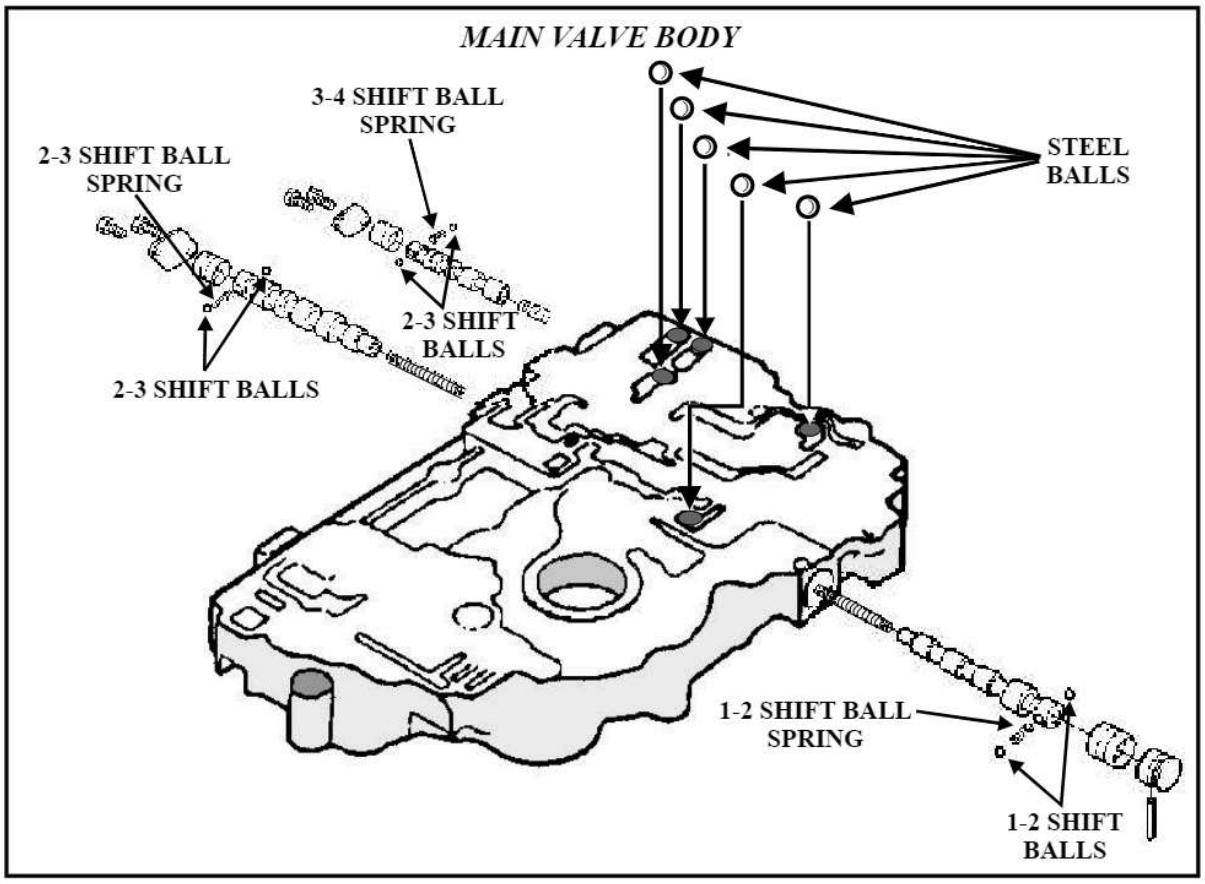
HONDA CIVIC CHECKBALL LOCATIONS

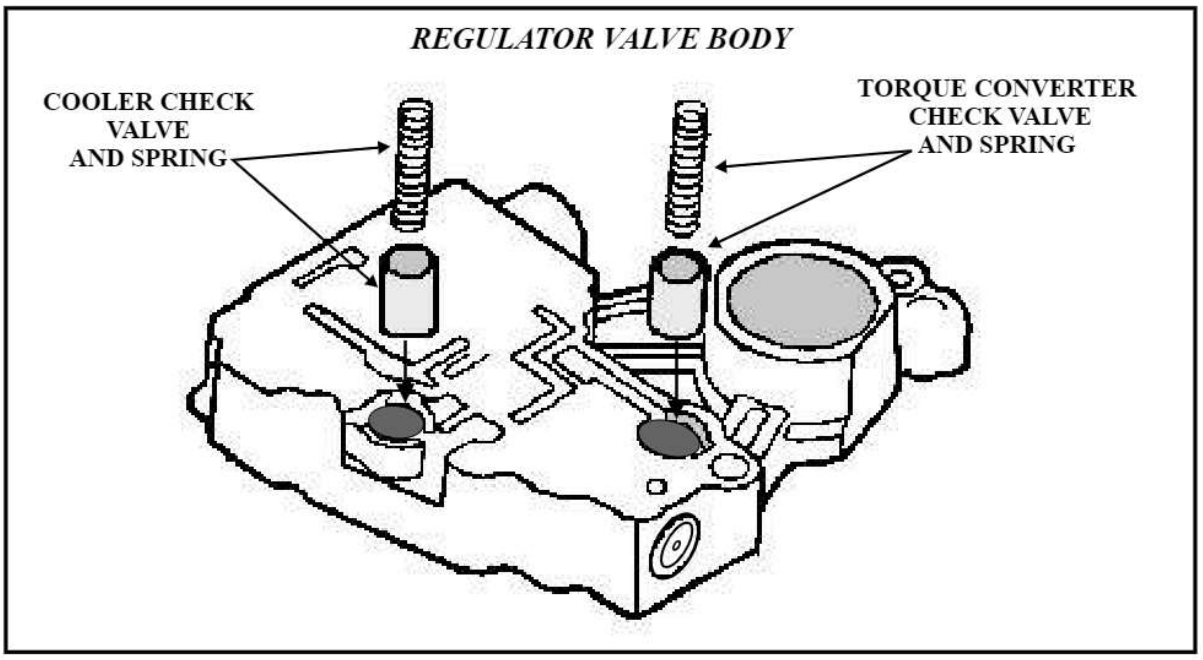
S5/MPSA



HONDA CIVIC CHECKBALL LOCATIONS

M24A/A24A

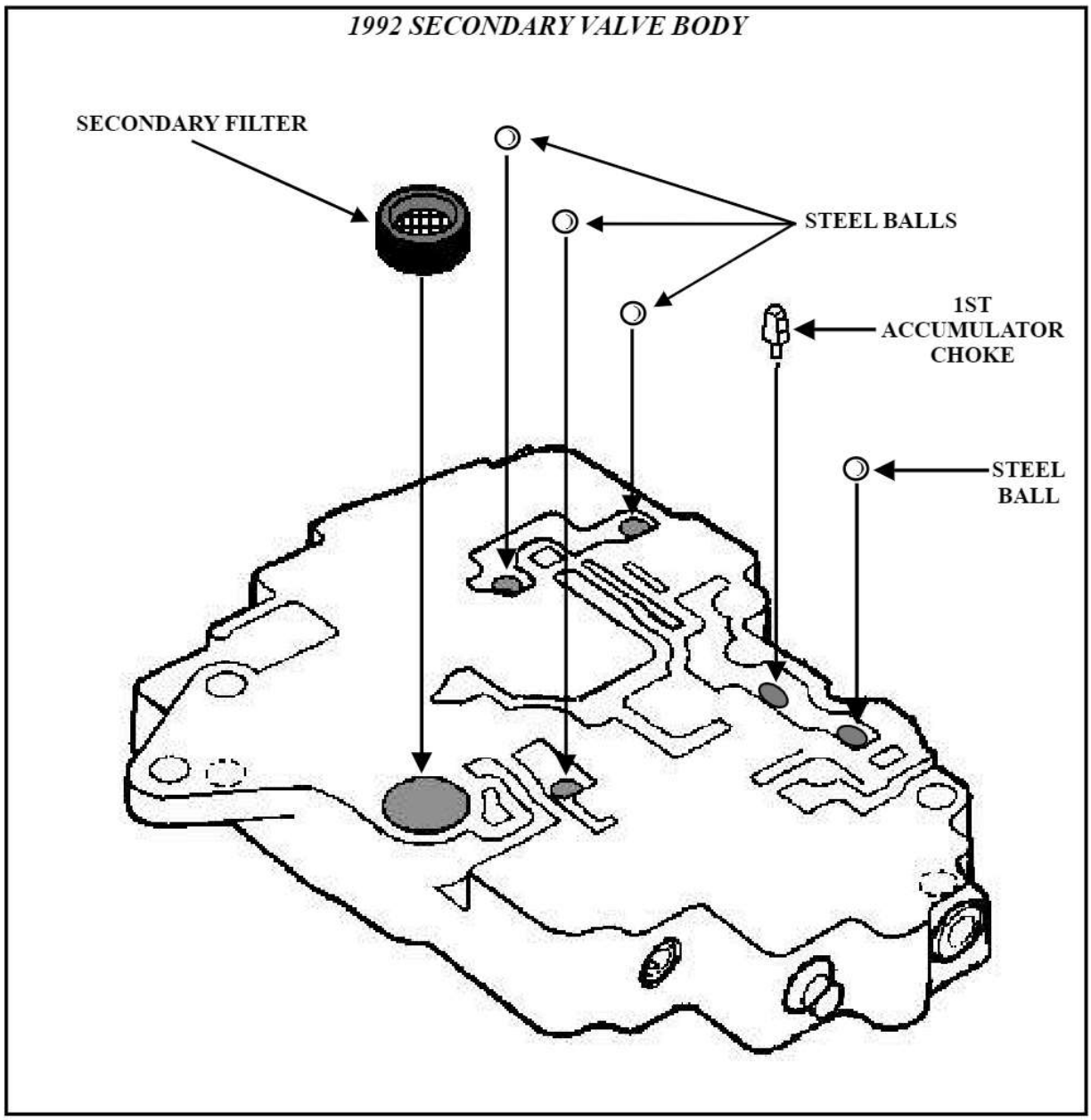




HONDA CIVIC CHECKBALL LOCATIONS

M24A/A24A

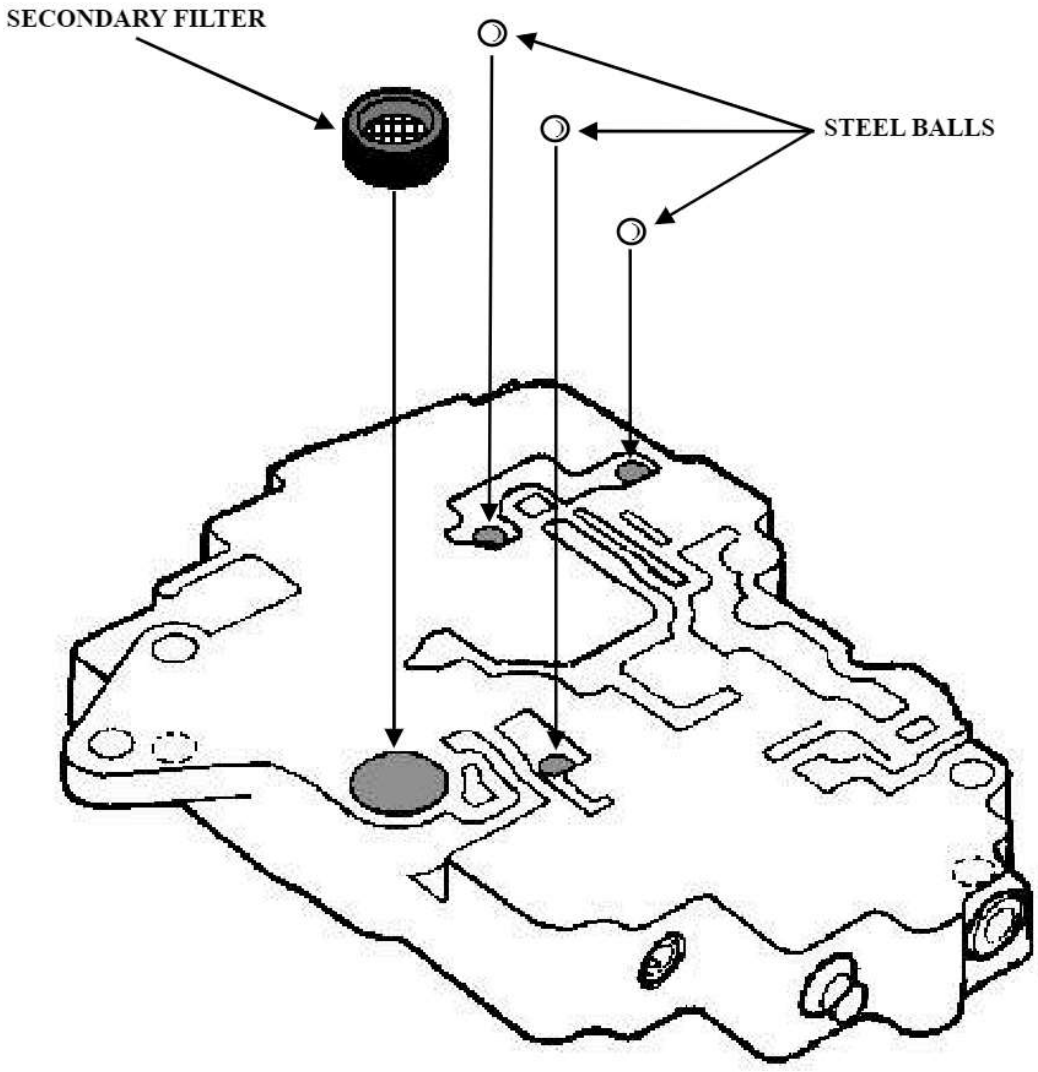
1992 SECONDARY VALVE BODY



HONDA CIVIC CHECKBALL LOCATIONS

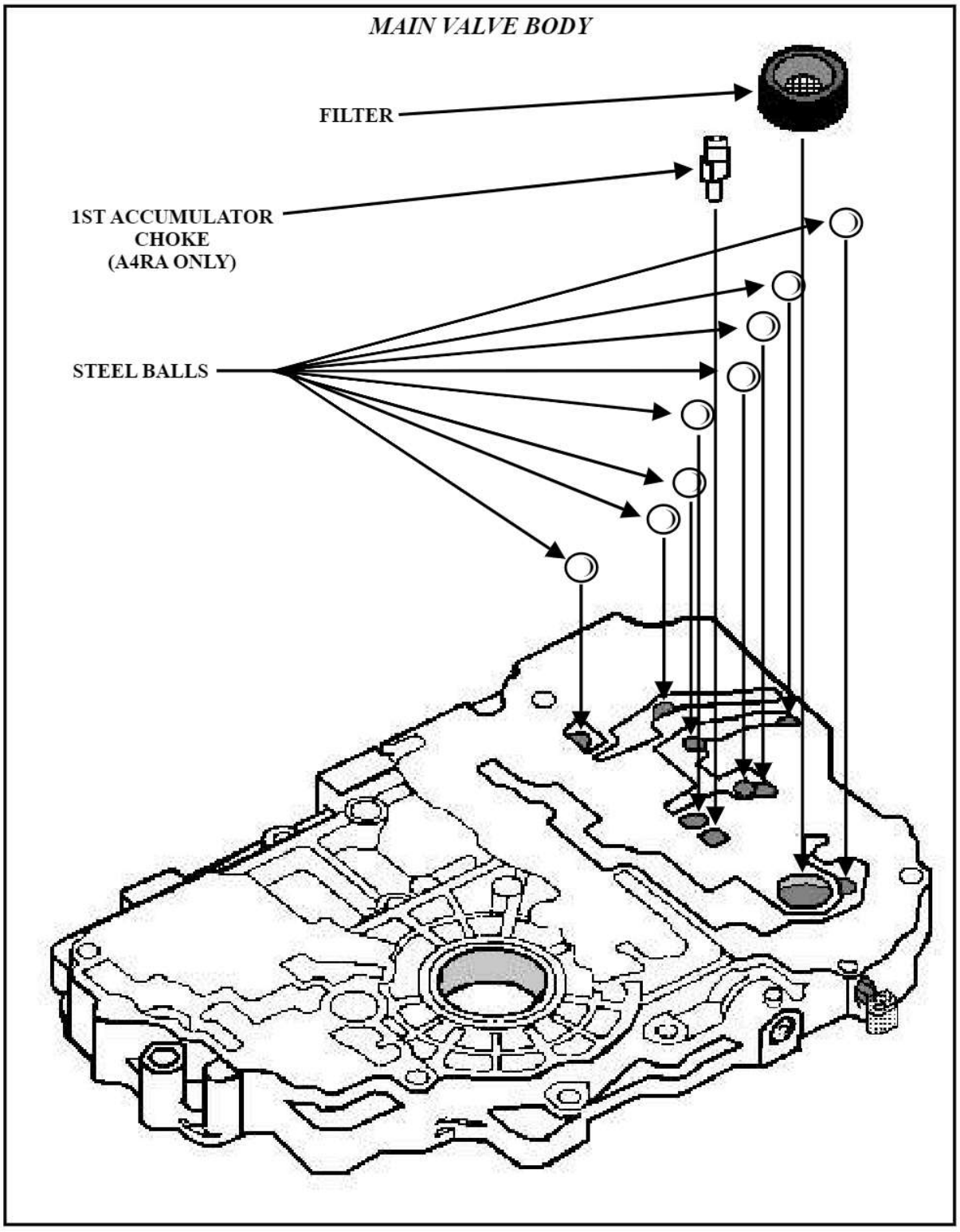
M24A/A24A

1993-95 SECONDARY VALVE BODY



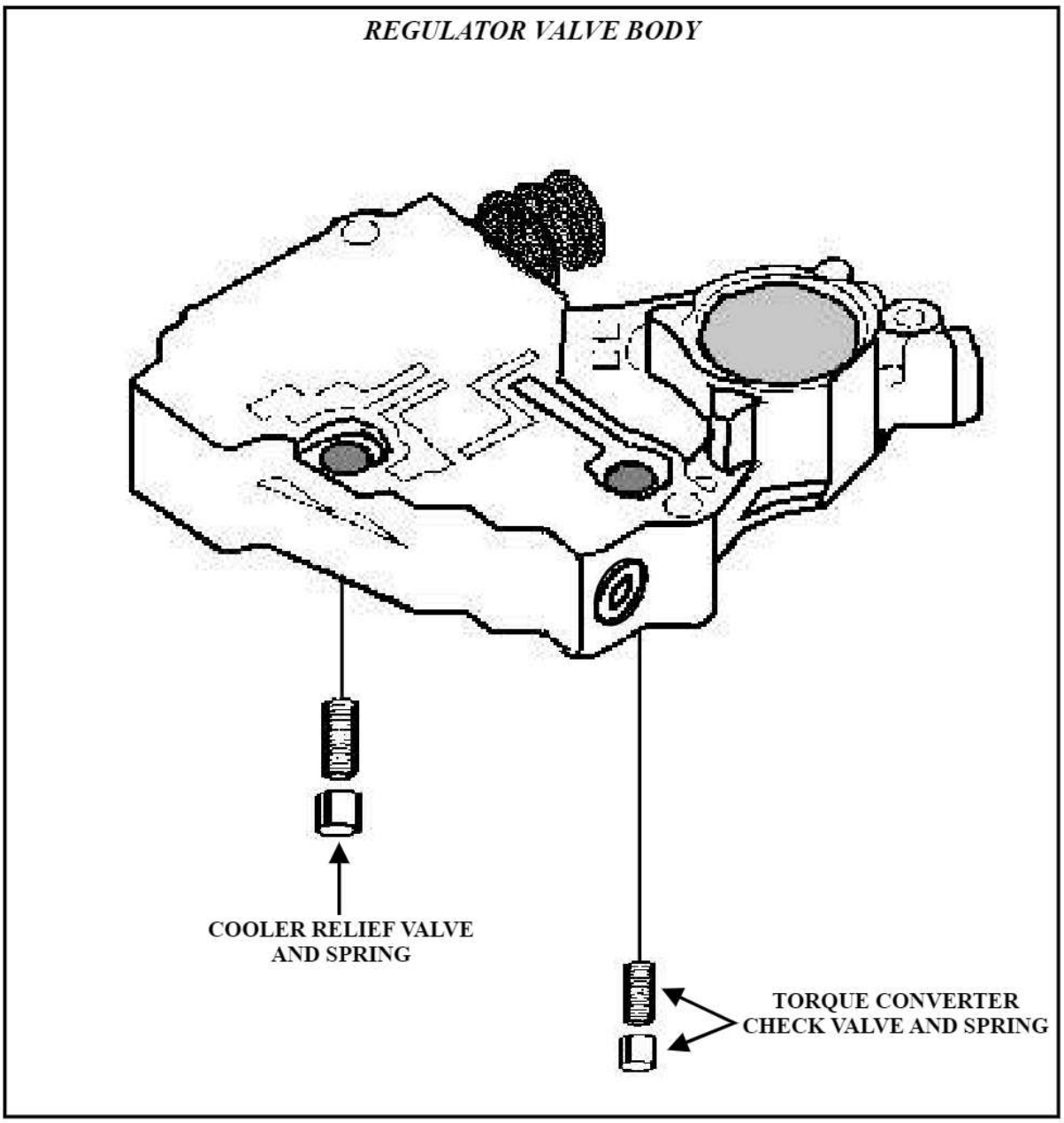
HONDA CIVIC CHECKBALL LOCATIONS

A4RA/B4RA



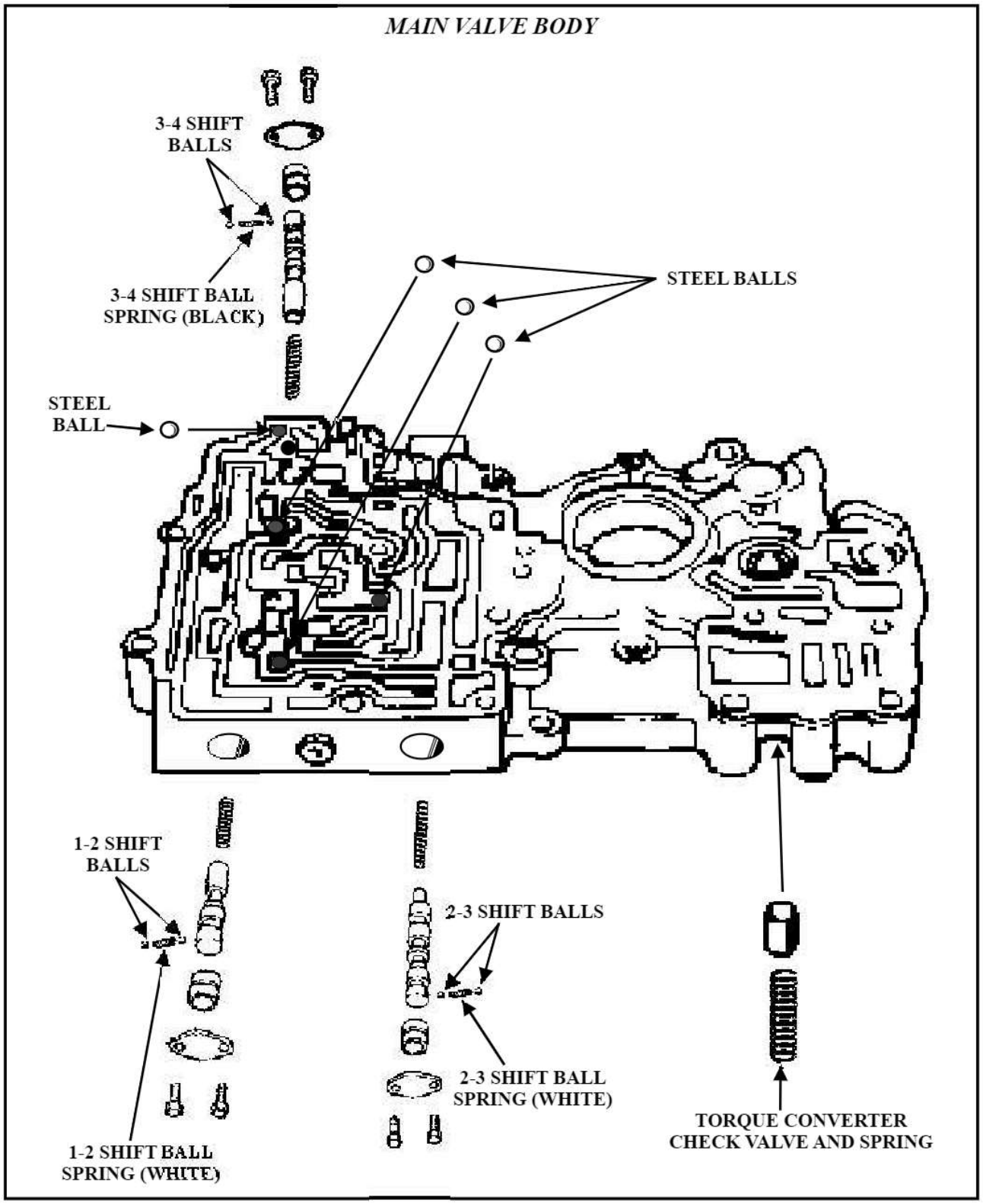
HONDA CIVIC CHECKBALL LOCATIONS

A4RA/B4RA



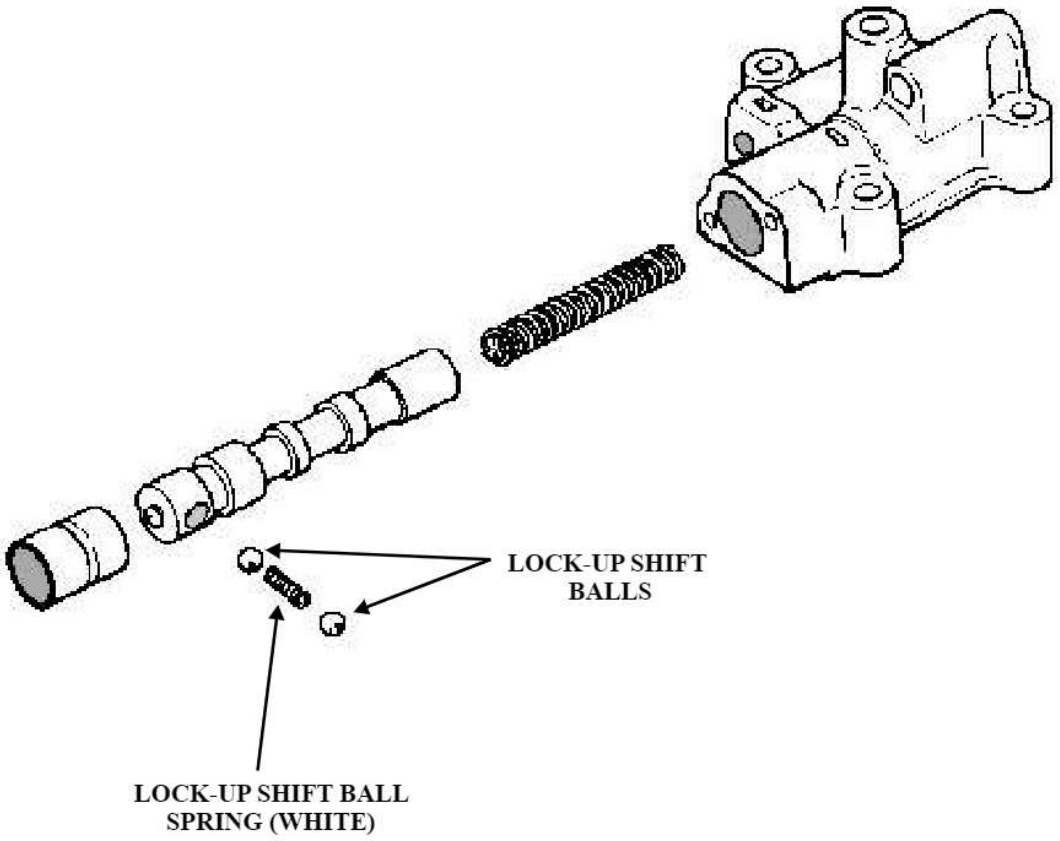
HONDA ACCORD CHECKBALL LOCATIONS

AK

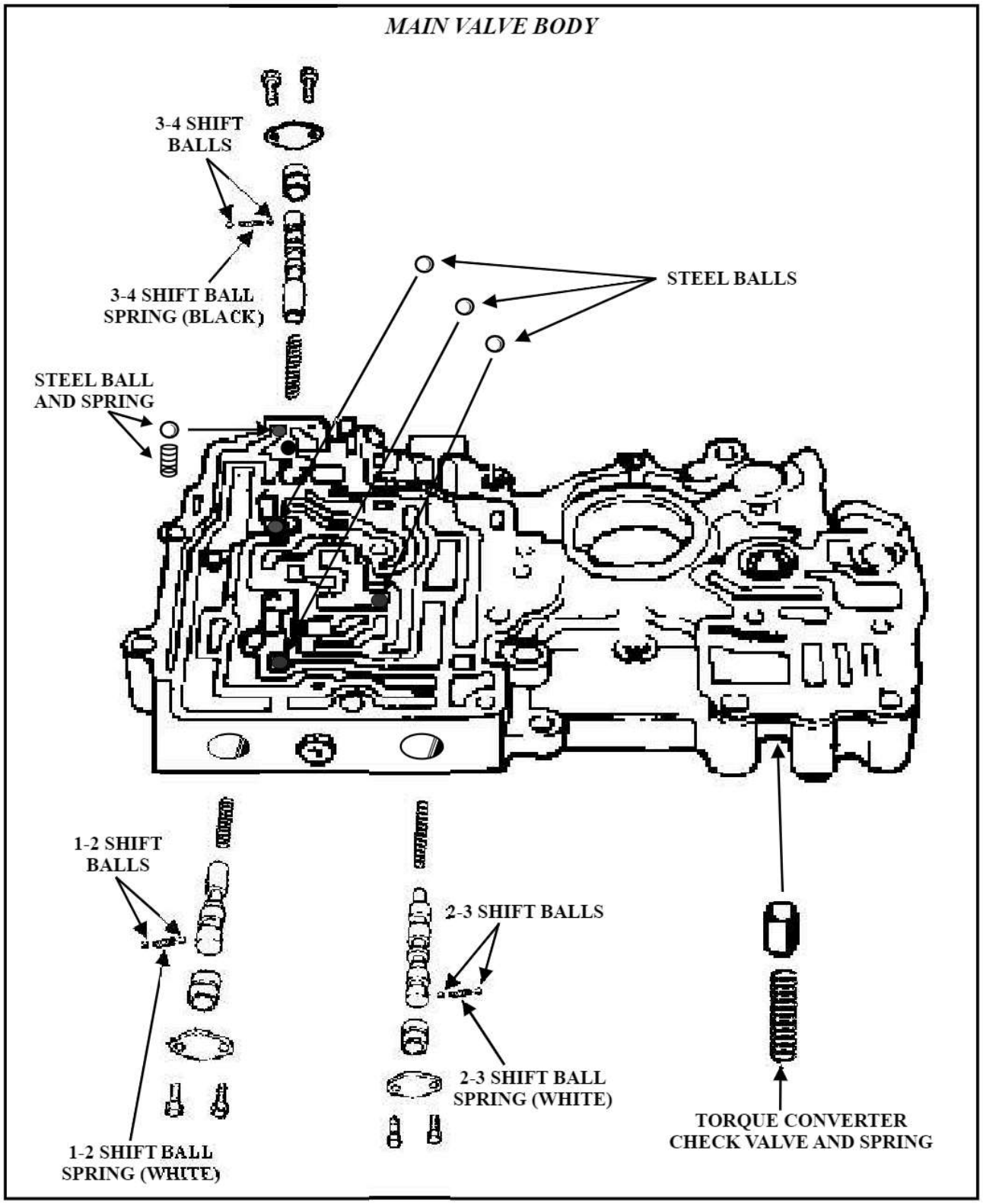


HONDA ACCORD CHECKBALL LOCATIONS
AK

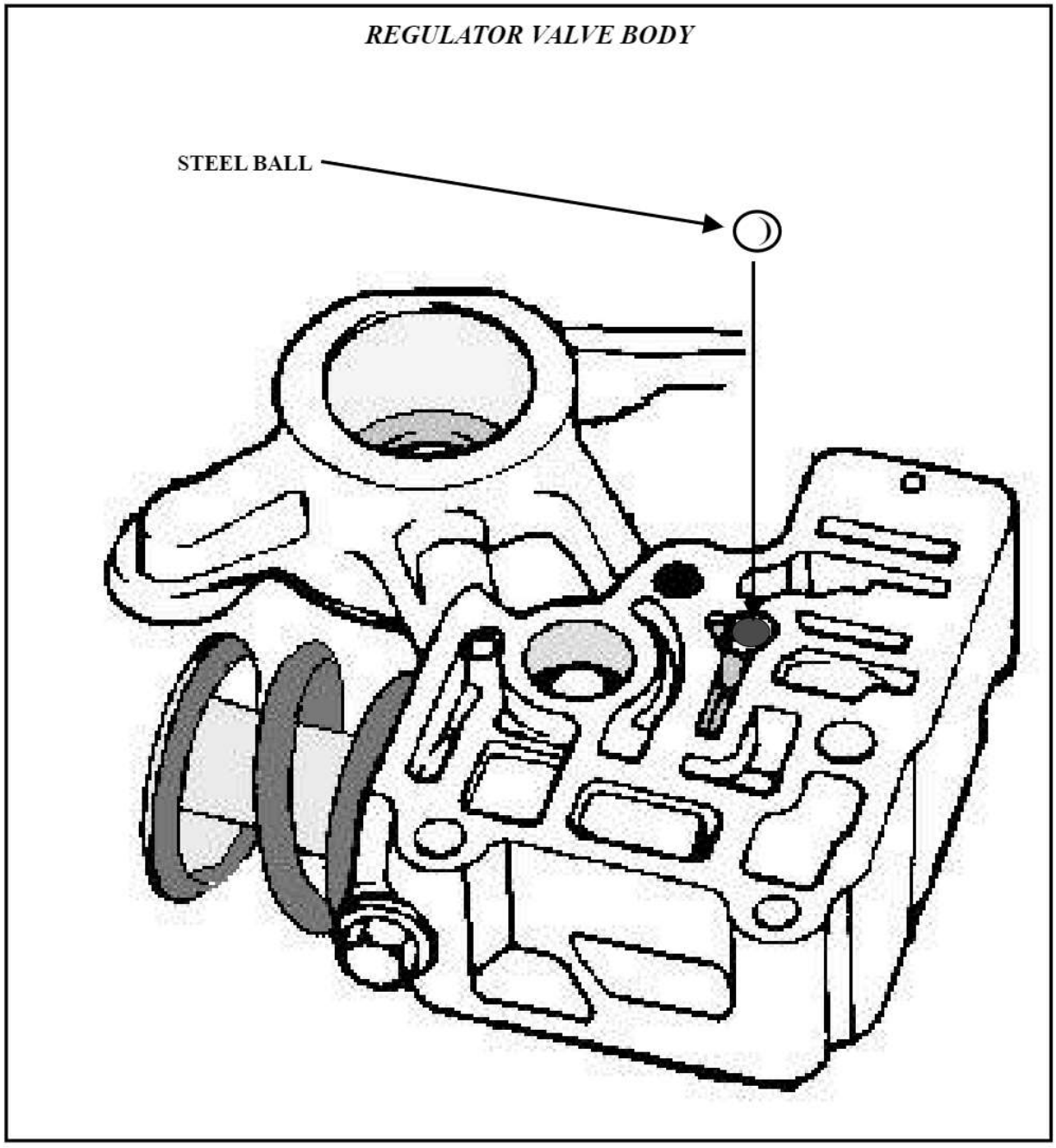
LOCK-UP VALVE BODY



HONDA ACCORD CHECKBALL LOCATIONS AS

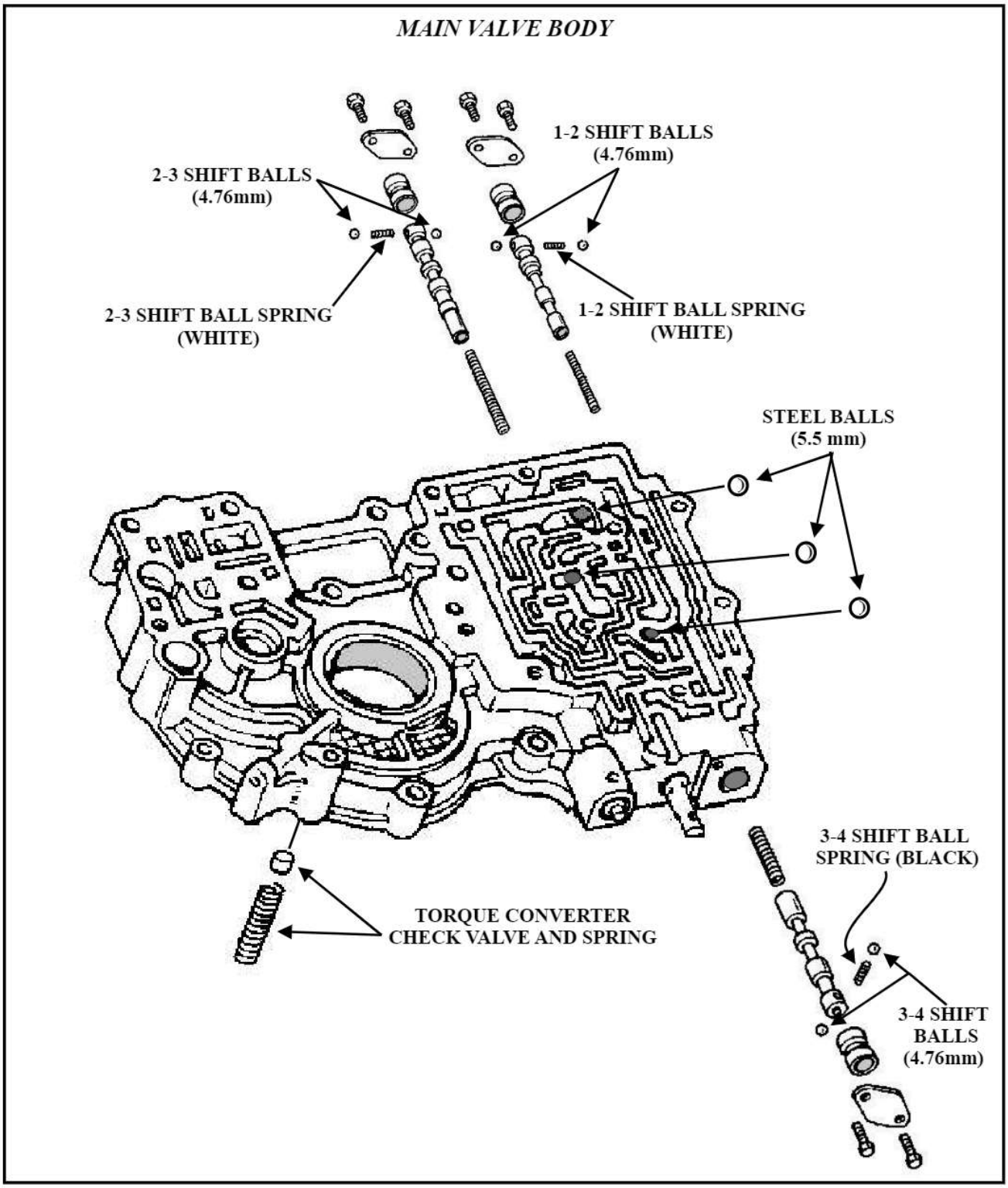


HONDA ACCORD CHECKBALL LOCATIONS
AS



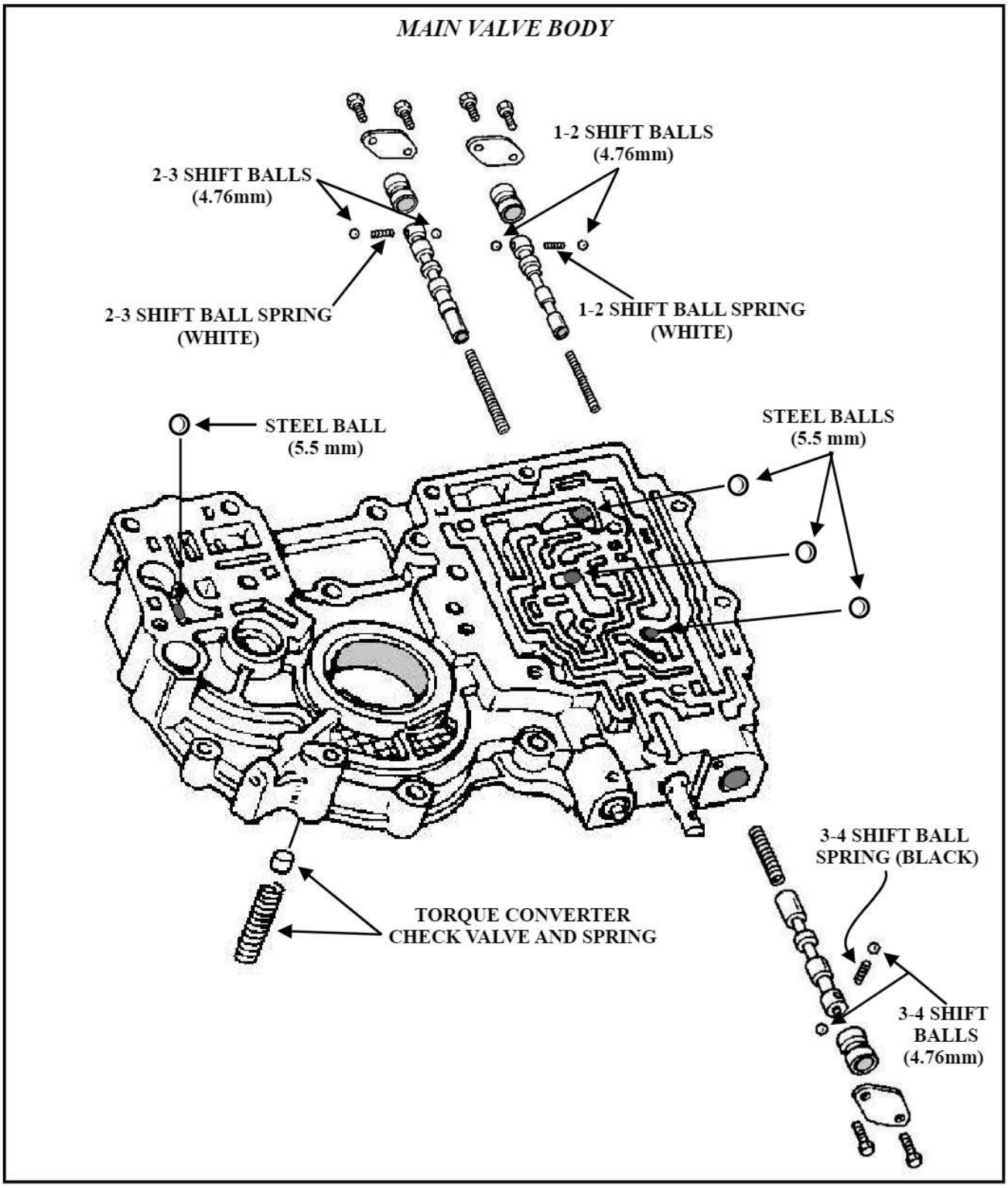
HONDA ACCORD CHECKBALL LOCATIONS

1985-1987 F4



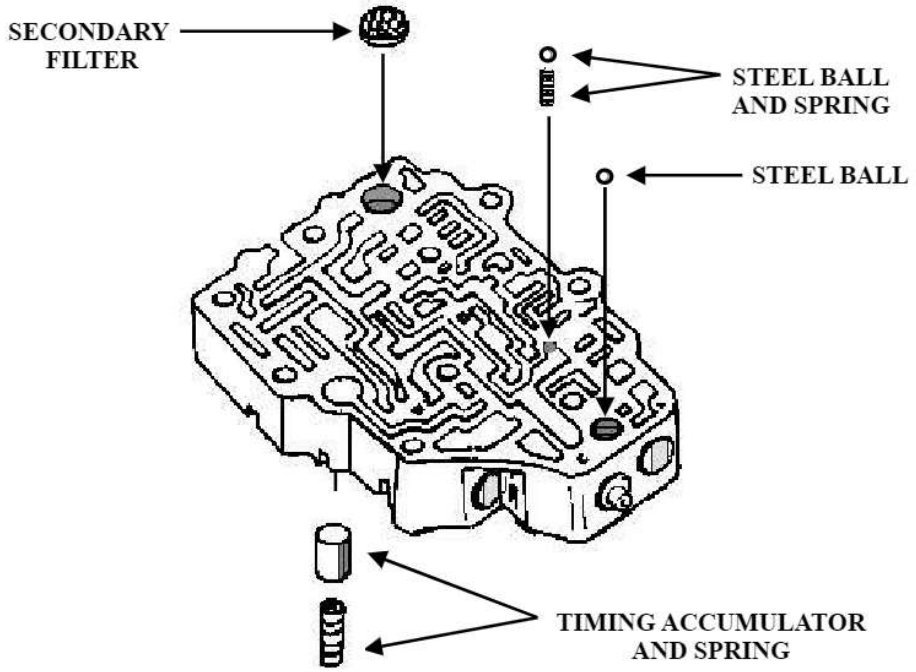
HONDA ACCORD CHECKBALL LOCATIONS

1988-1989 F4

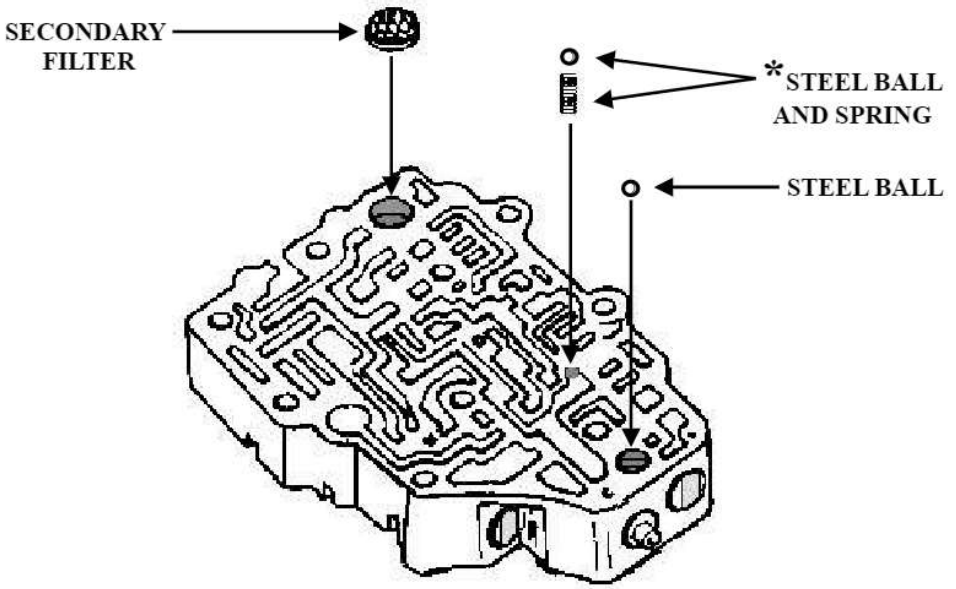


HONDA ACCORD CHECKBALL LOCATIONS
F4

1985-1987 SECONDARY VALVE BODY



1988-1989 SECONDARY VALVE BODY

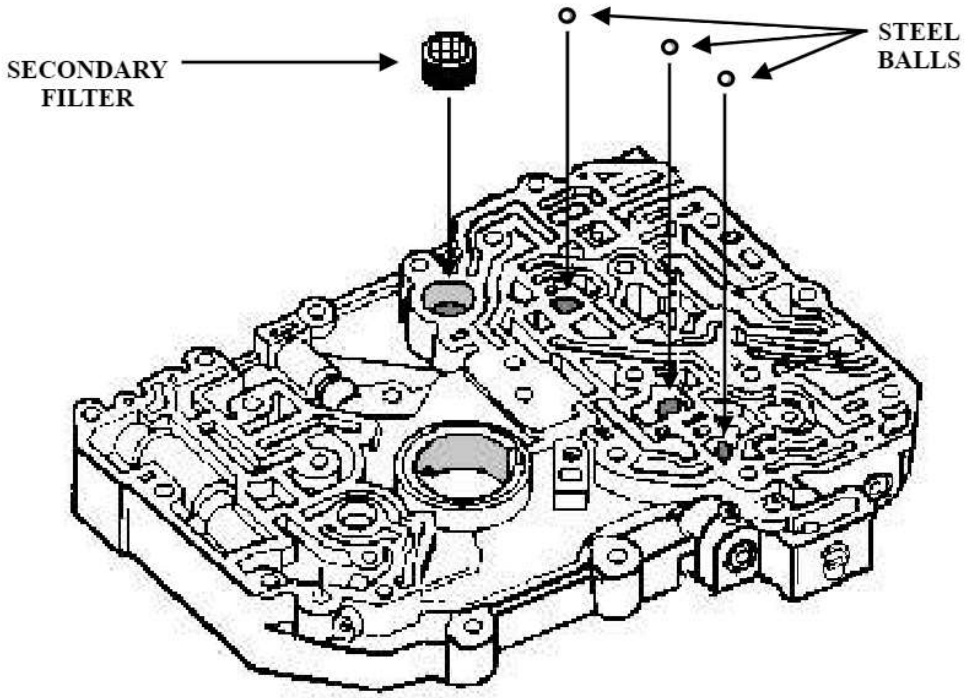


*1989 MODEL MAY *NOT* HAVE A SPRING

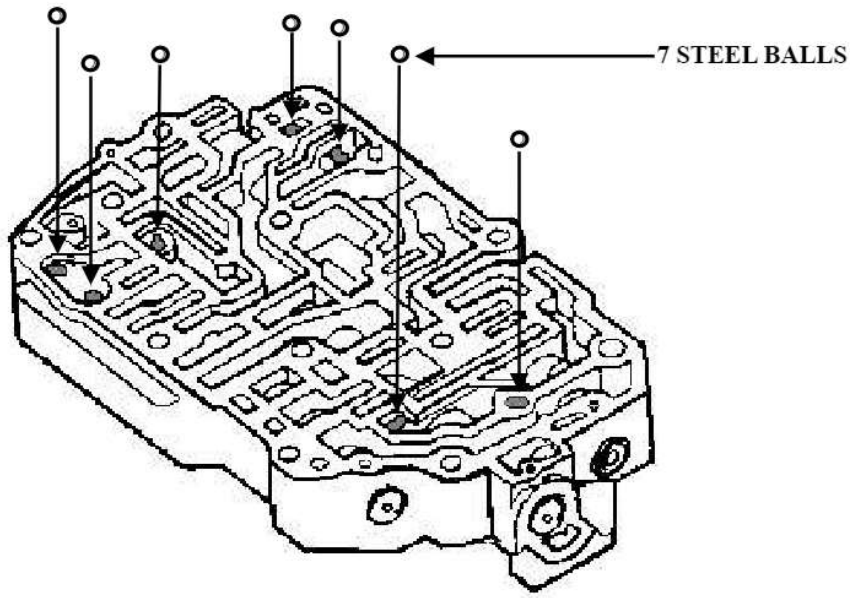
HONDA ACCORD CHECKBALL LOCATIONS

PX4B/APX4/MPOA/AOYA

MAIN VALVE BODY

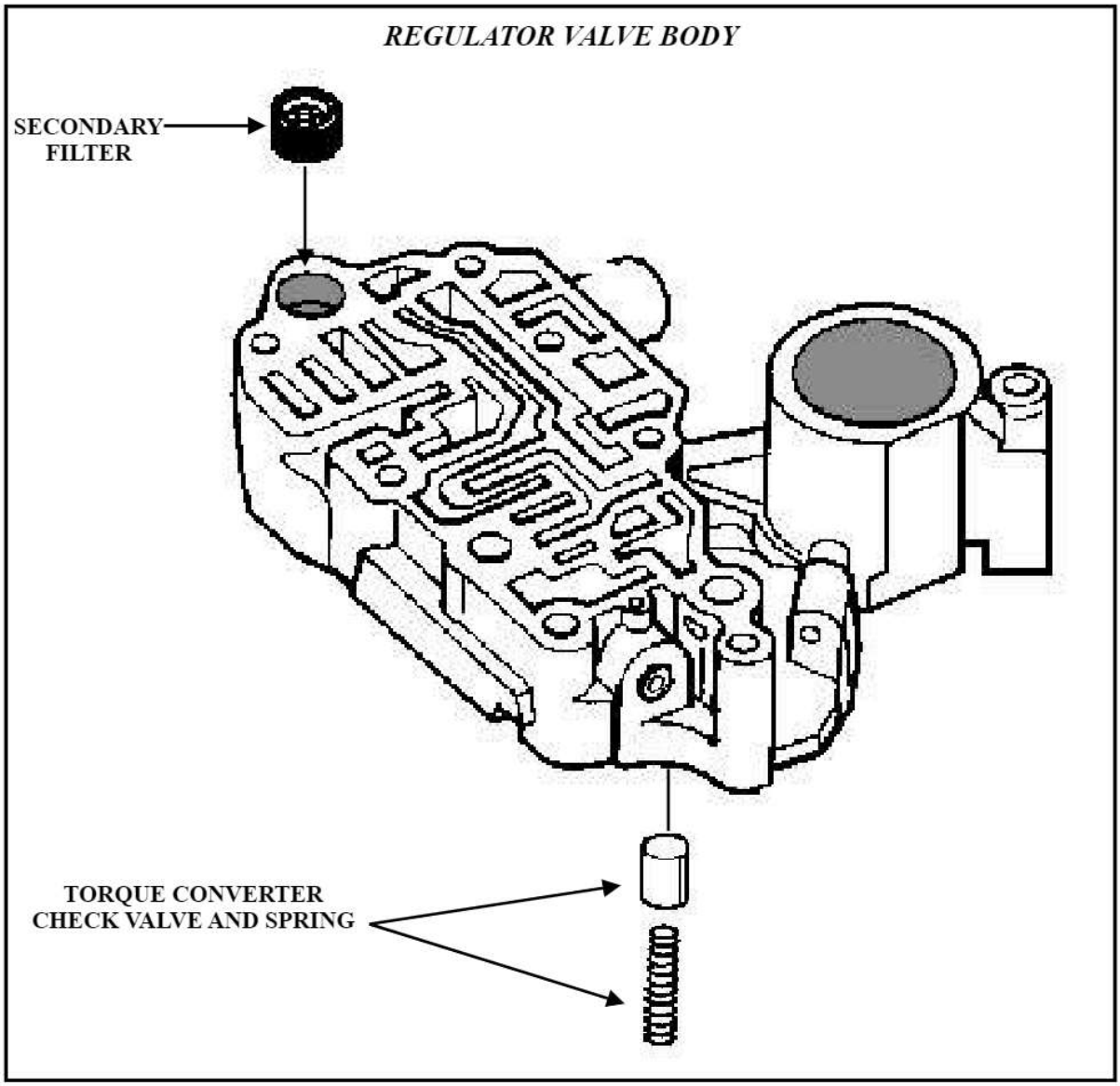


SECONDARY VALVE BODY



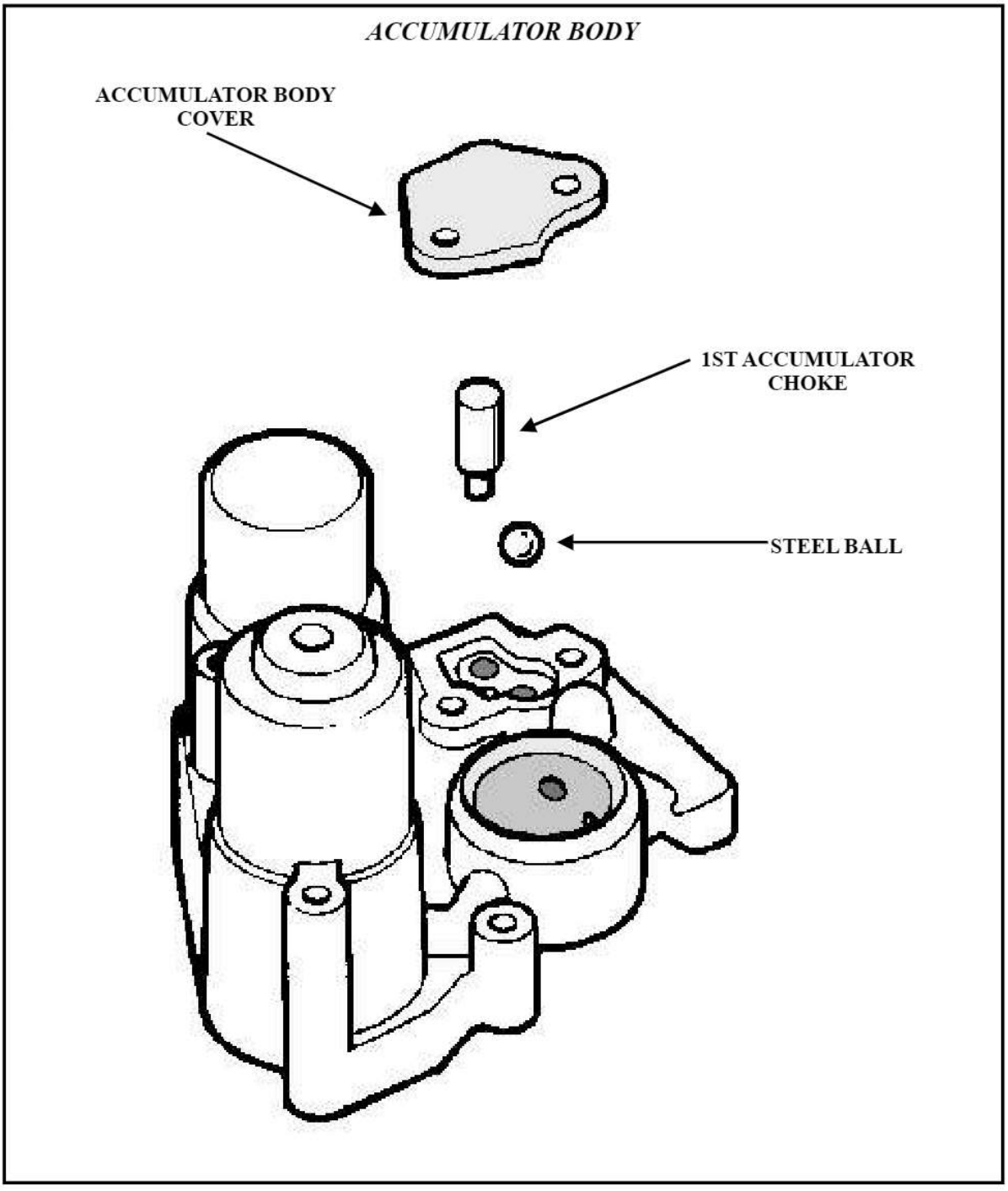
HONDA ACCORD CHECKBALL LOCATIONS

PX4B/APX4/MPOA/AOYA



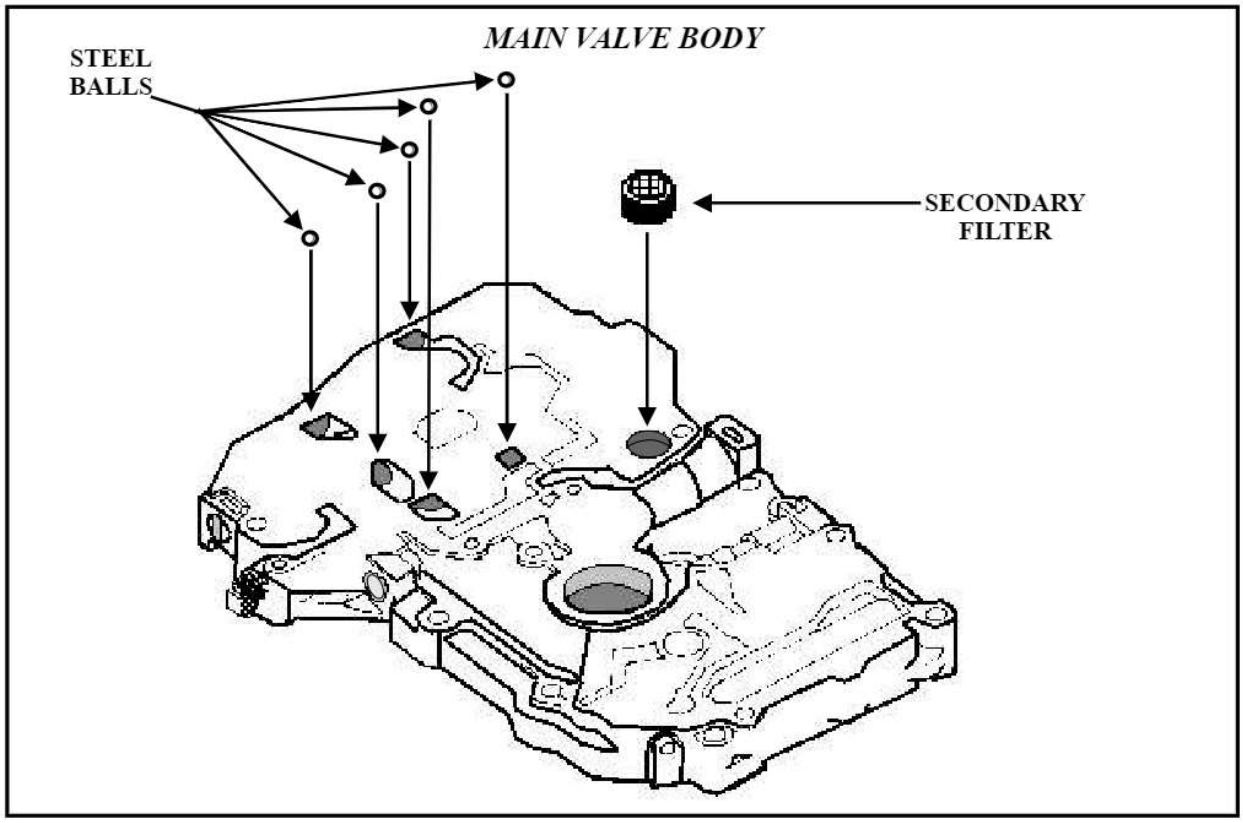
HONDA ACCORD CHECKBALL LOCATIONS

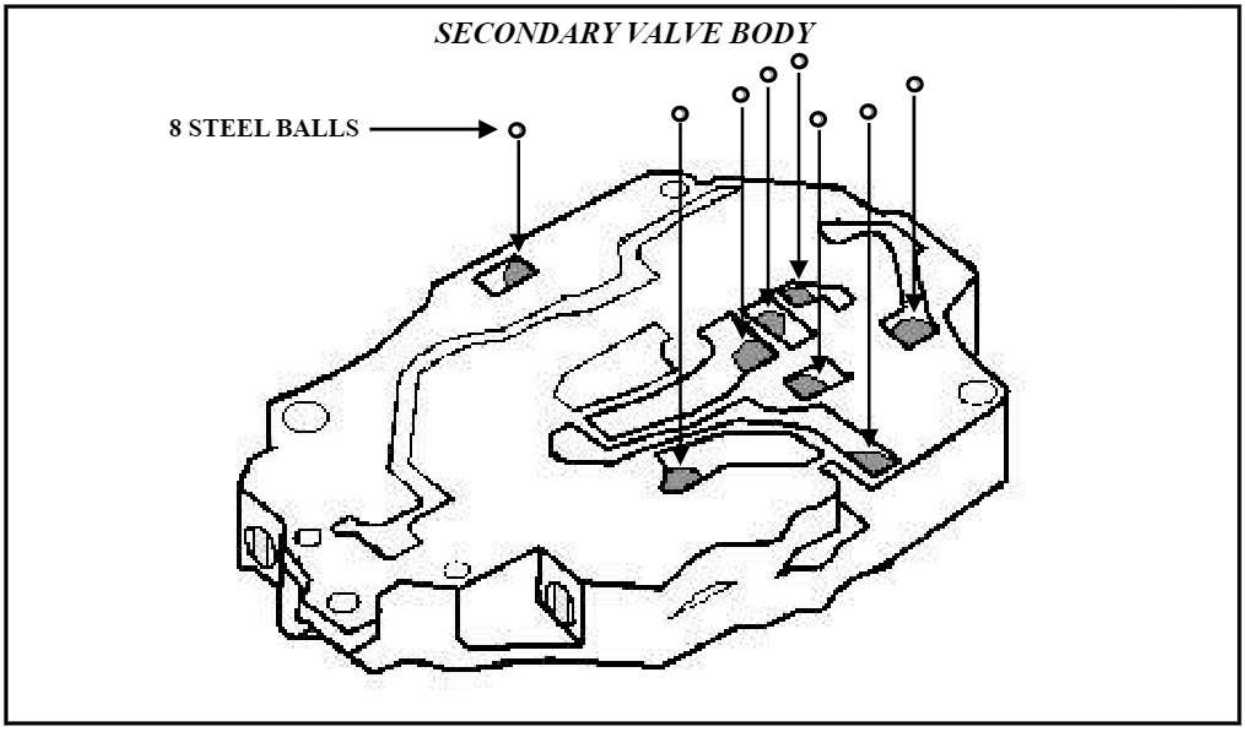
PX4B/APX4/MPOA/AOYA



HONDA ACCORD CHECKBALL LOCATIONS

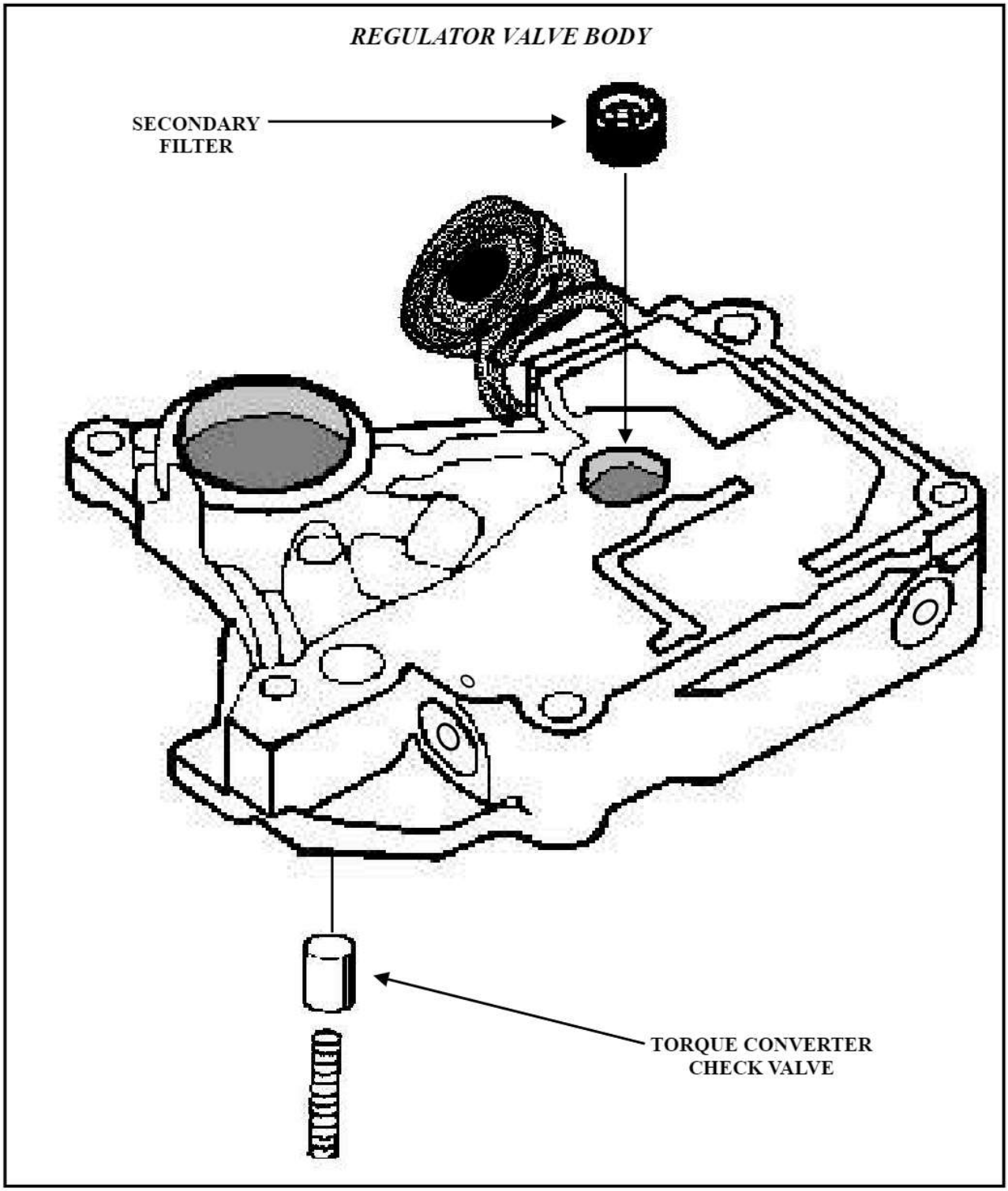
MPZA





HONDA ACCORD CHECKBALL LOCATIONS

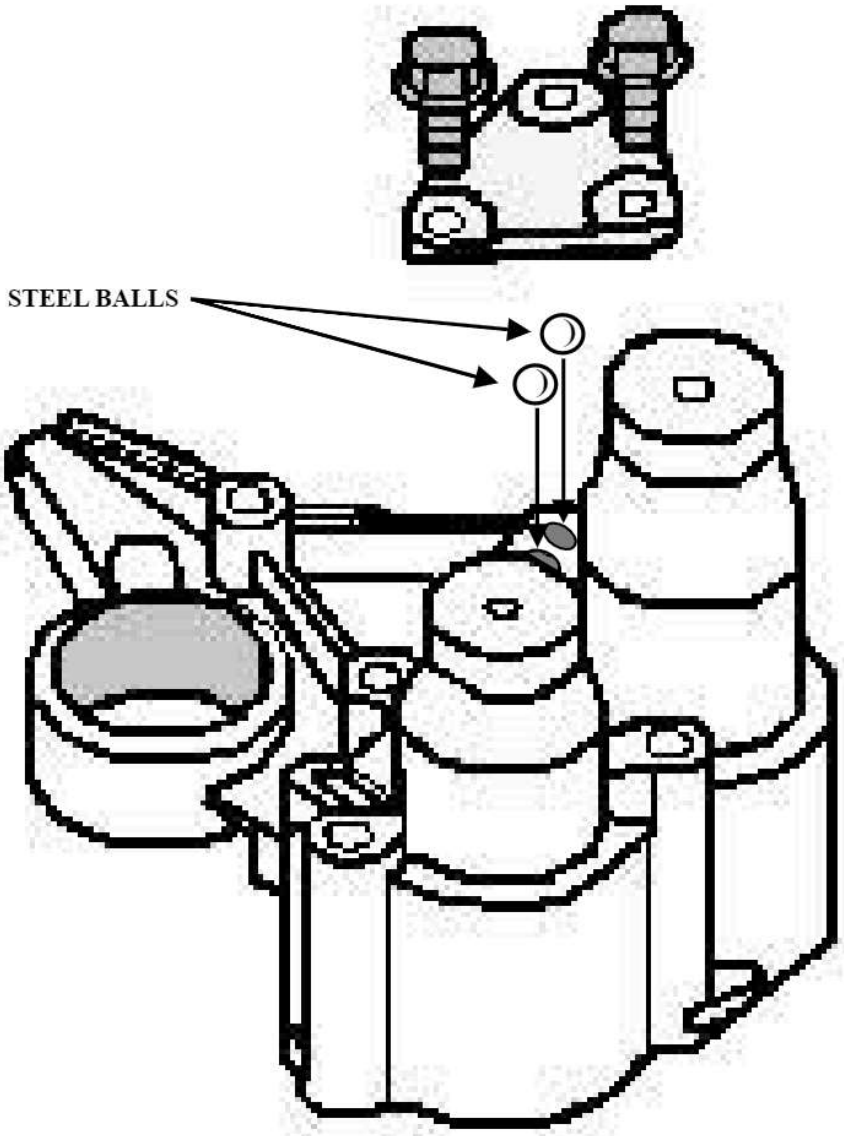
MPZA



HONDA ACCORD CHECKBALL LOCATIONS

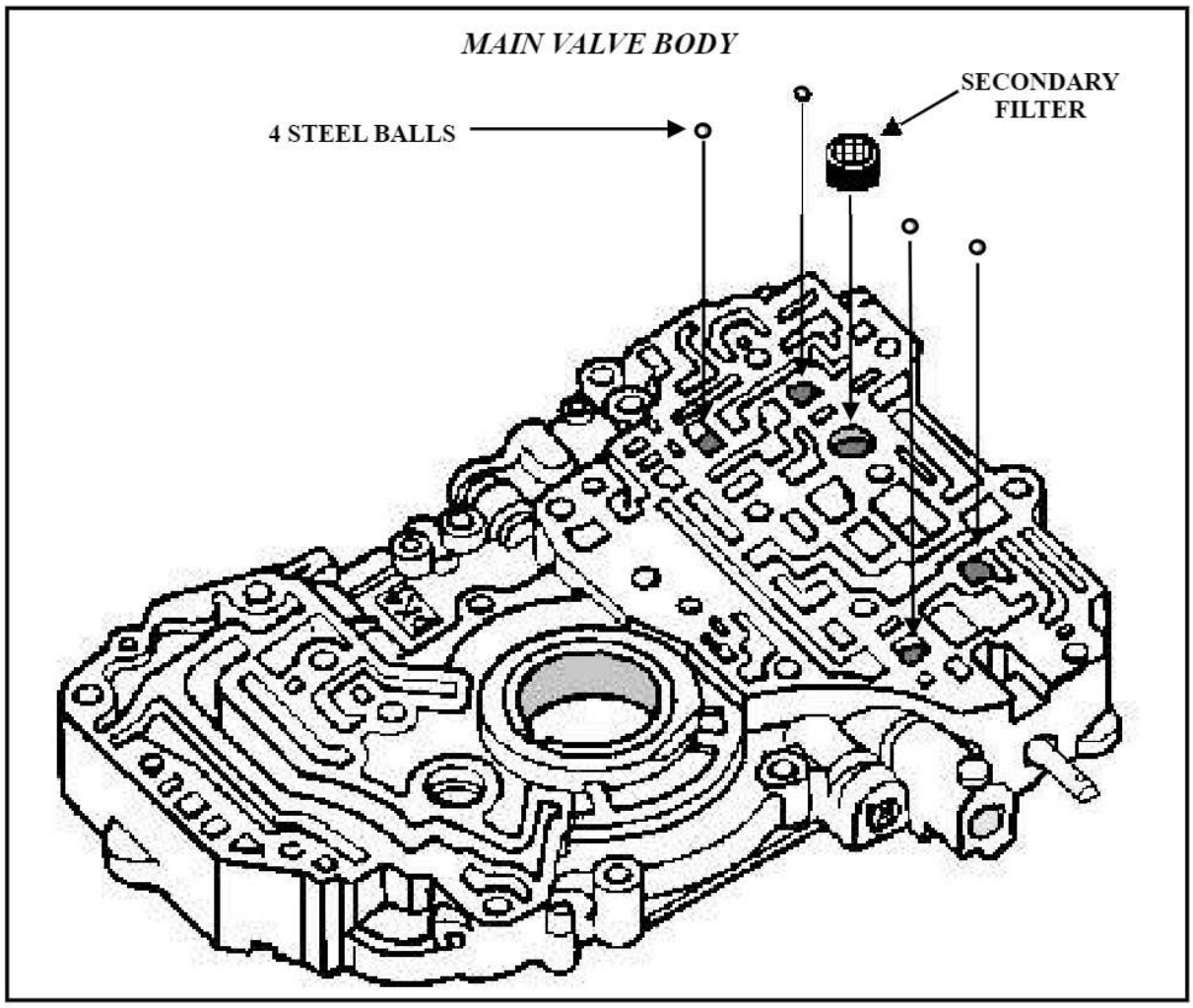
MPZA

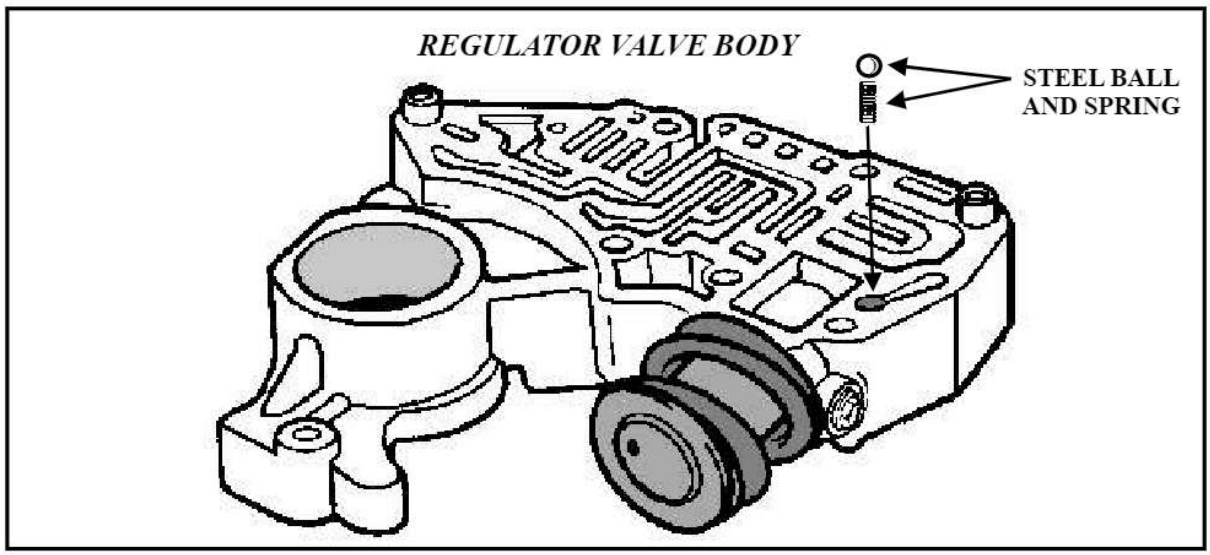
ACCUMULATOR BODY



HONDA PRELUDE CHECKBALL LOCATIONS

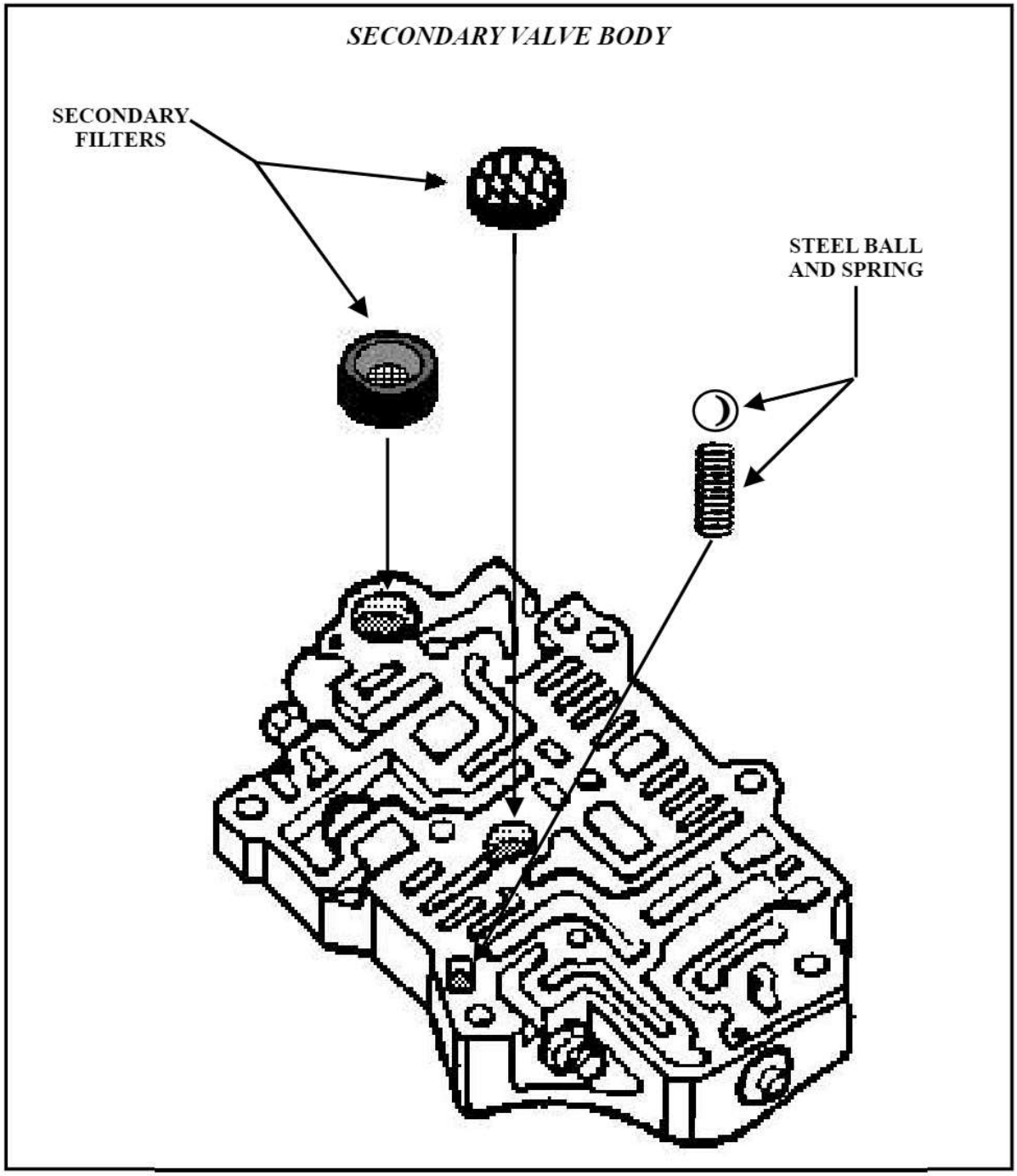
EARLY K4





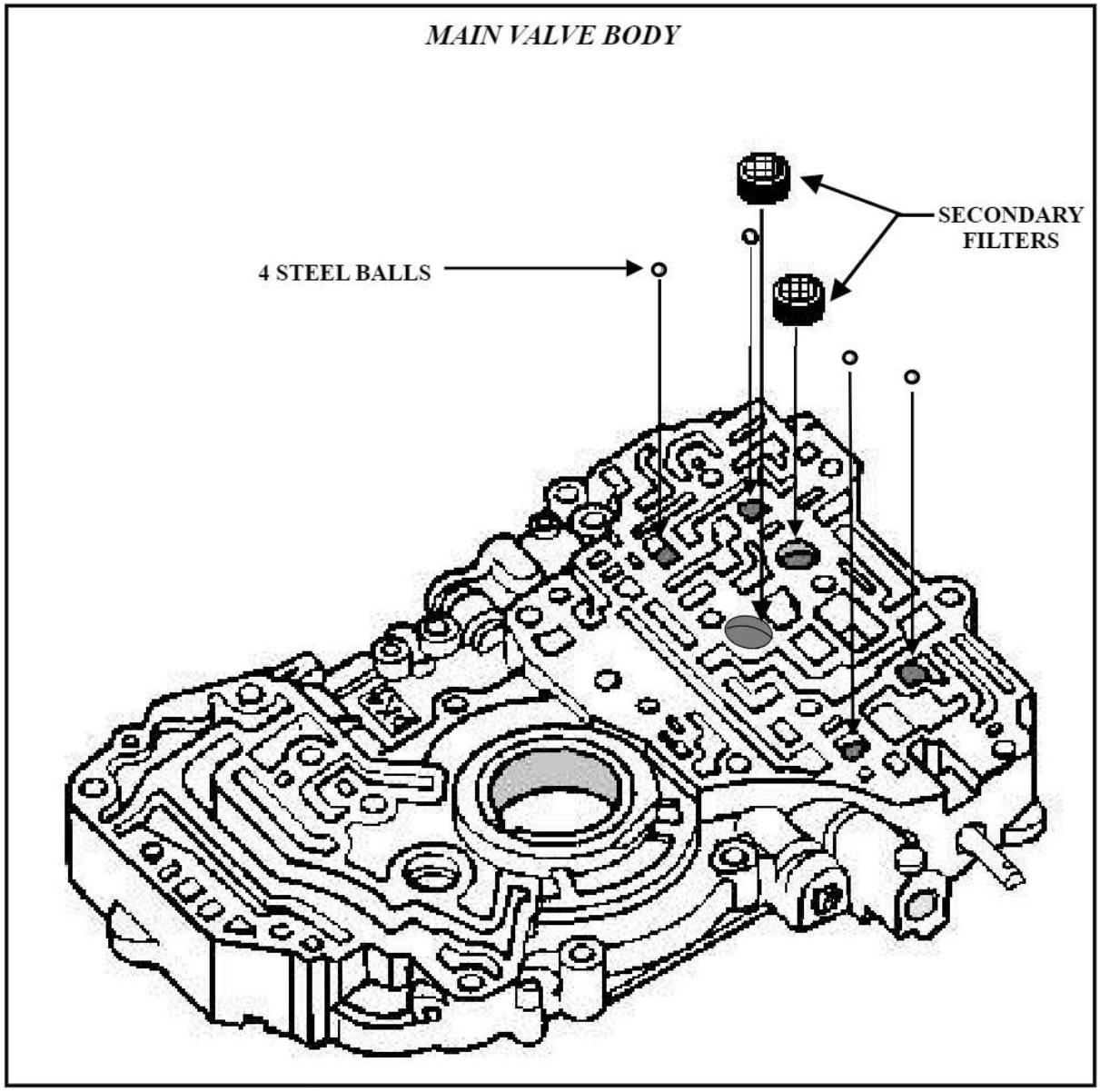
HONDA PRELUDE CHECKBALL LOCATIONS

EARLY K4



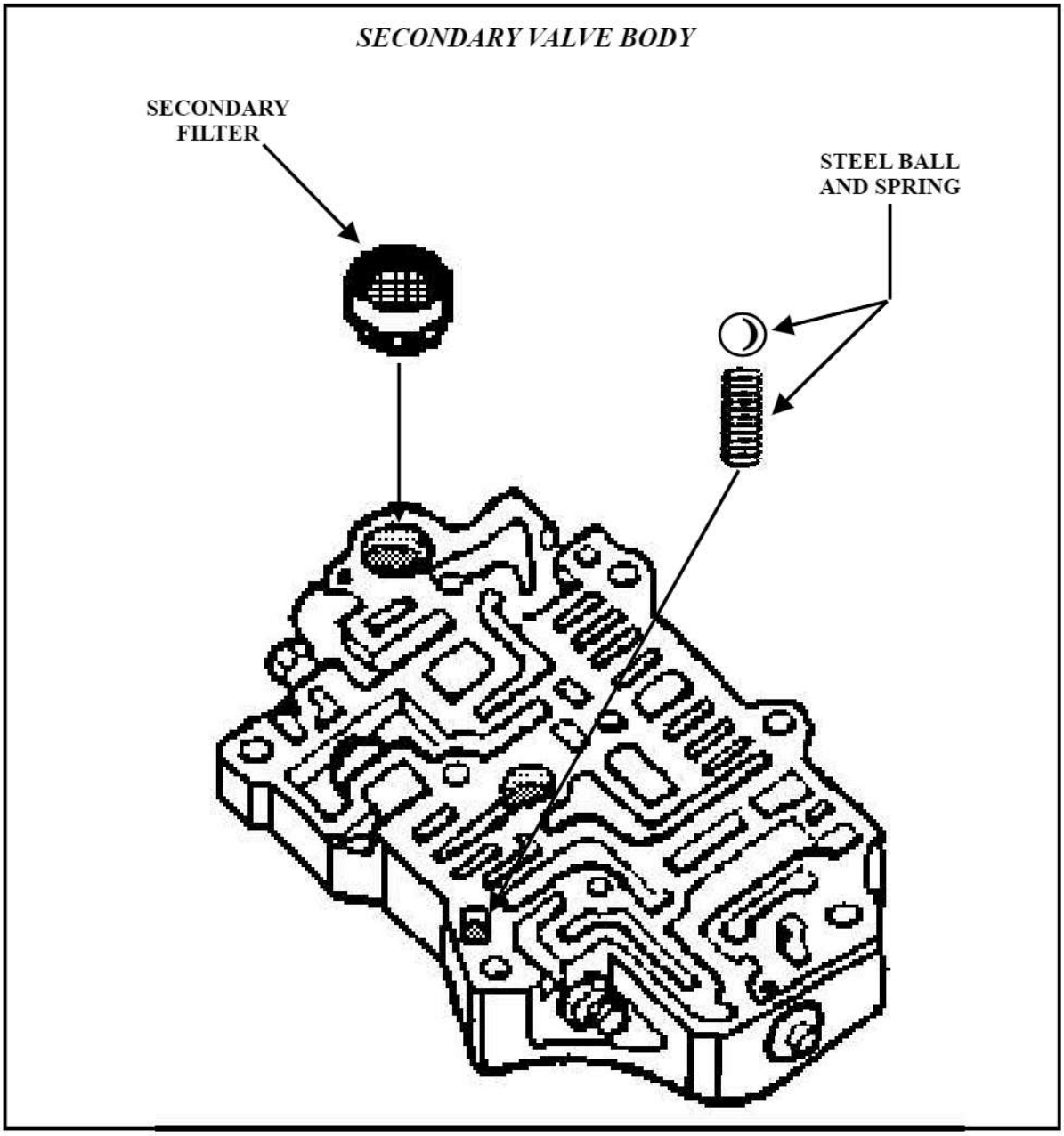
HONDA PRELUDE CHECKBALL LOCATIONS

LATE K4



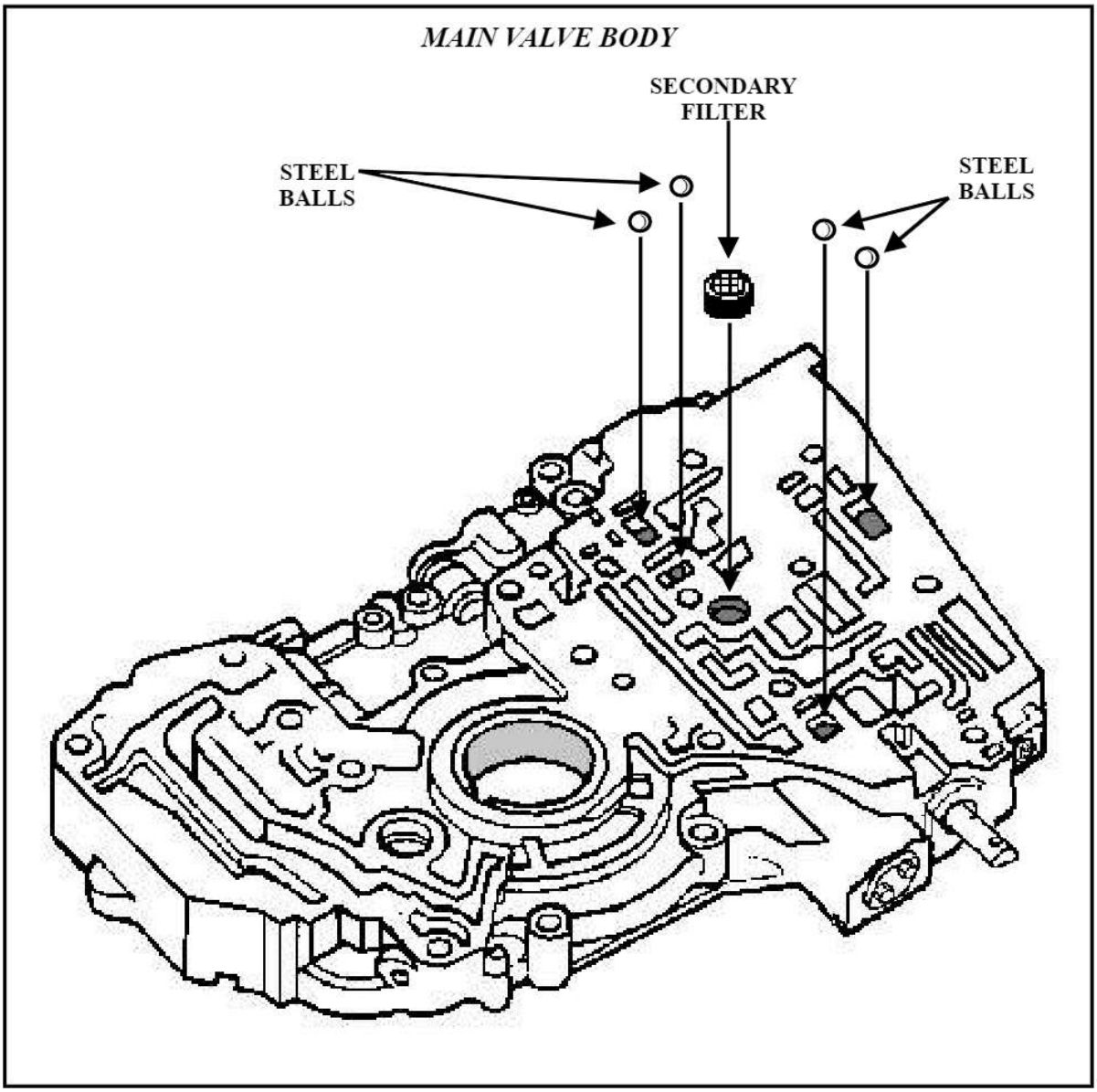
HONDA PRELUDE CHECKBALL LOCATIONS

LATE K4



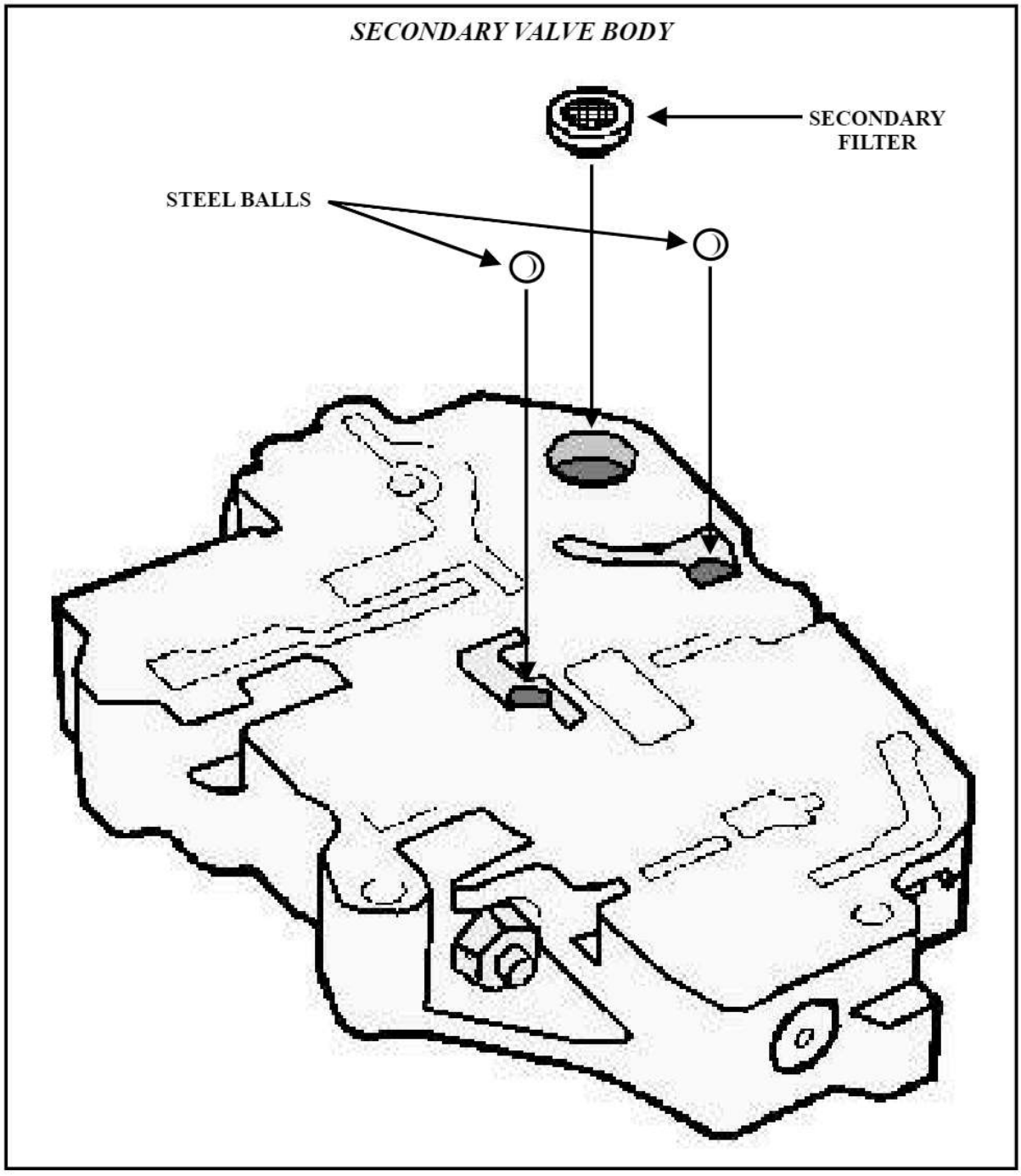
HONDA PRELUDE CHECKBALL LOCATIONS

PY8A/MY8A



HONDA PRELUDE CHECKBALL LOCATIONS

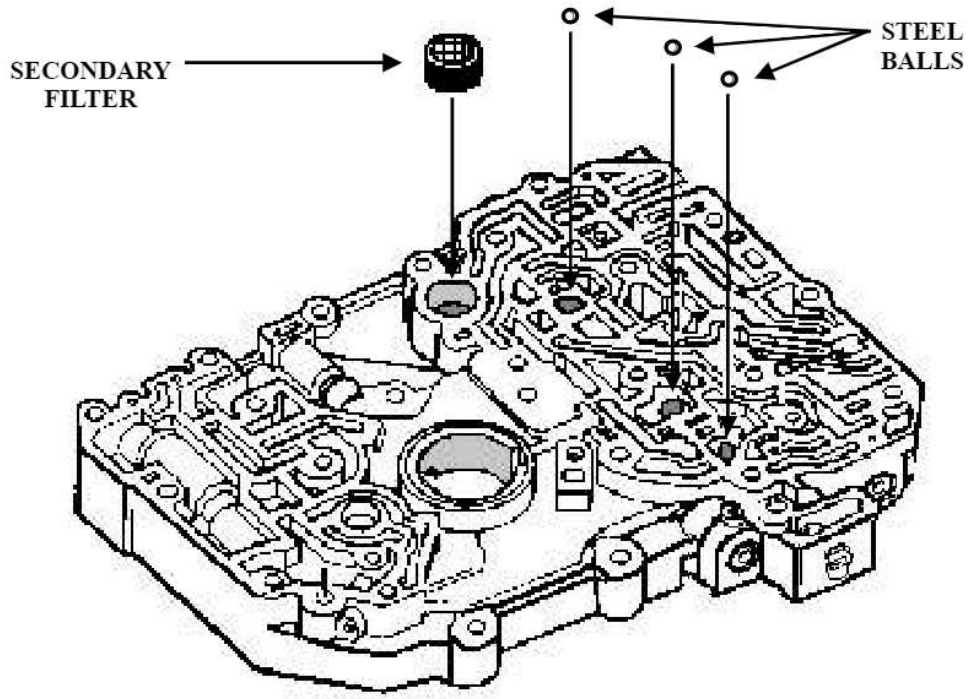
PY8A/MY8A



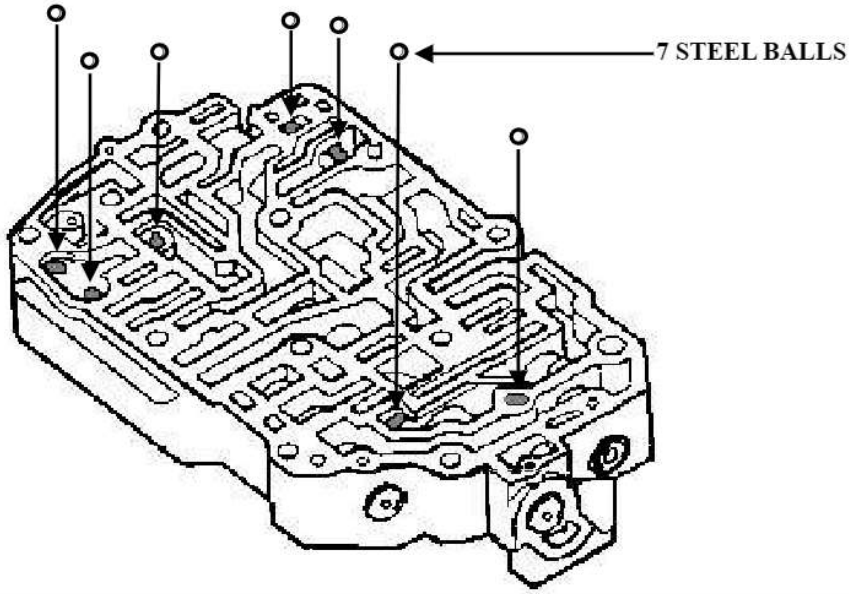
HONDA PRELUDE CHECKBALL LOCATIONS

MP1A

MAIN VALVE BODY

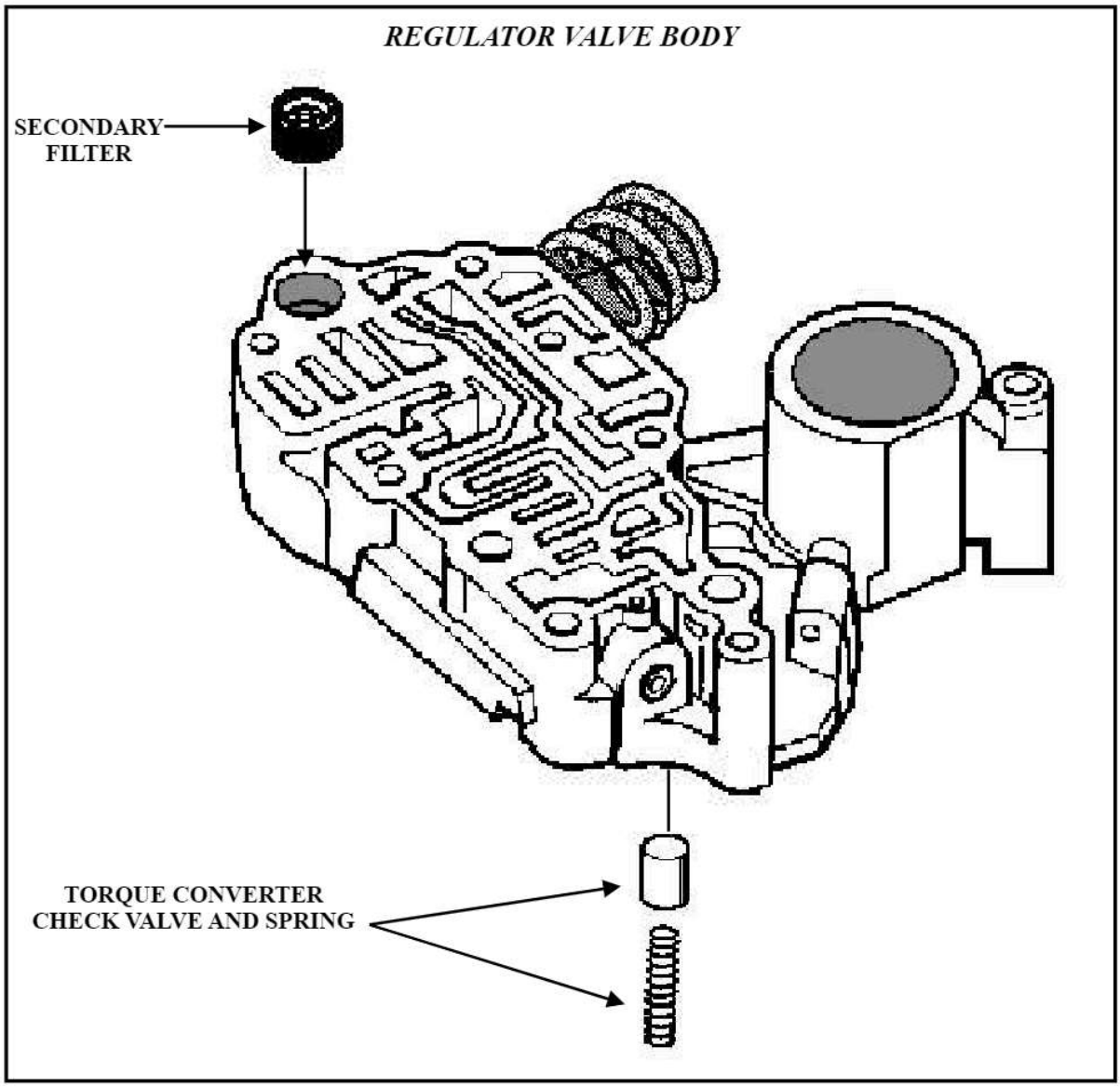


SECONDARY VALVE BODY



HONDA PRELUDE CHECKBALL LOCATIONS

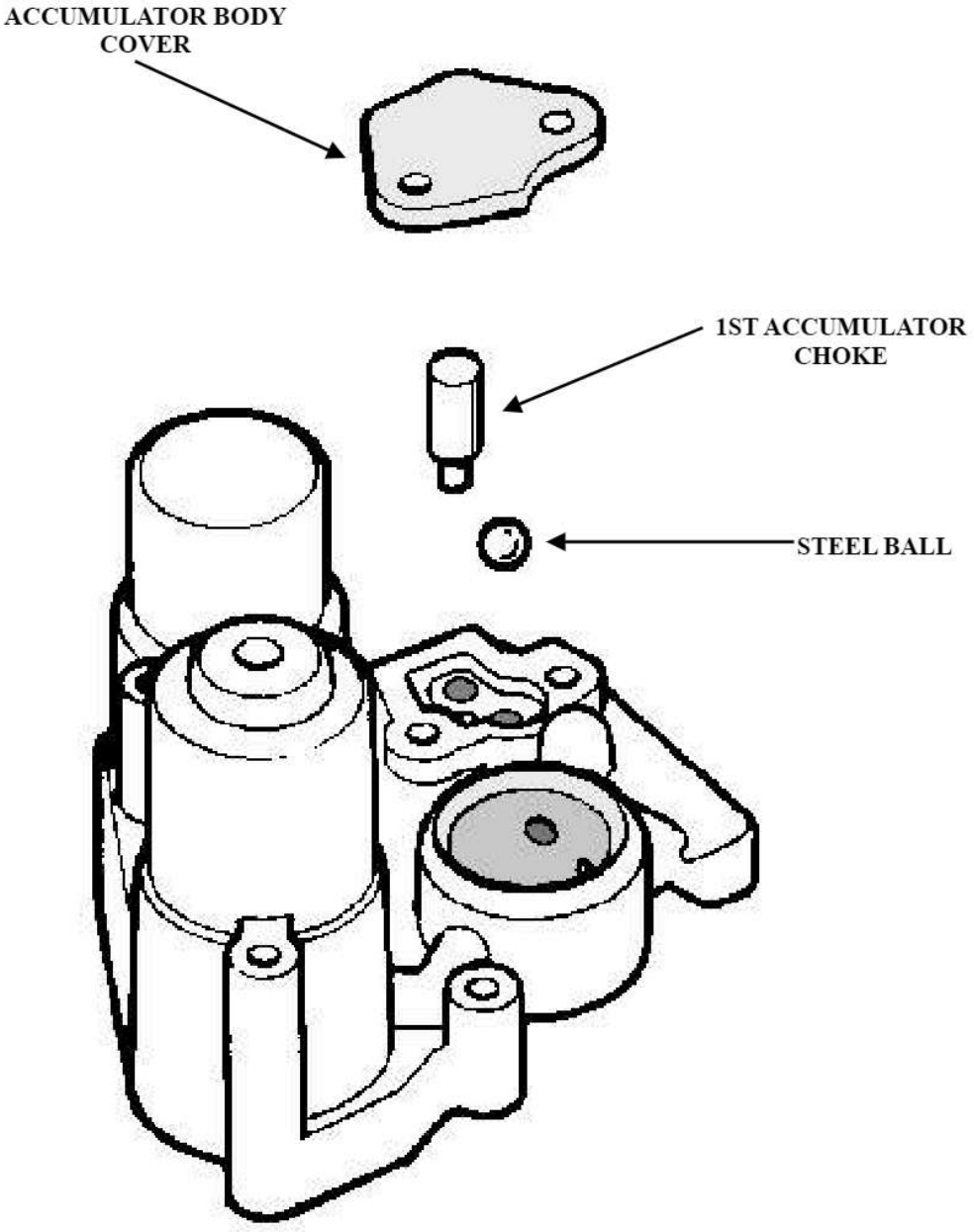
MP1A



HONDA PRELUDE CHECKBALL LOCATIONS

MP1A

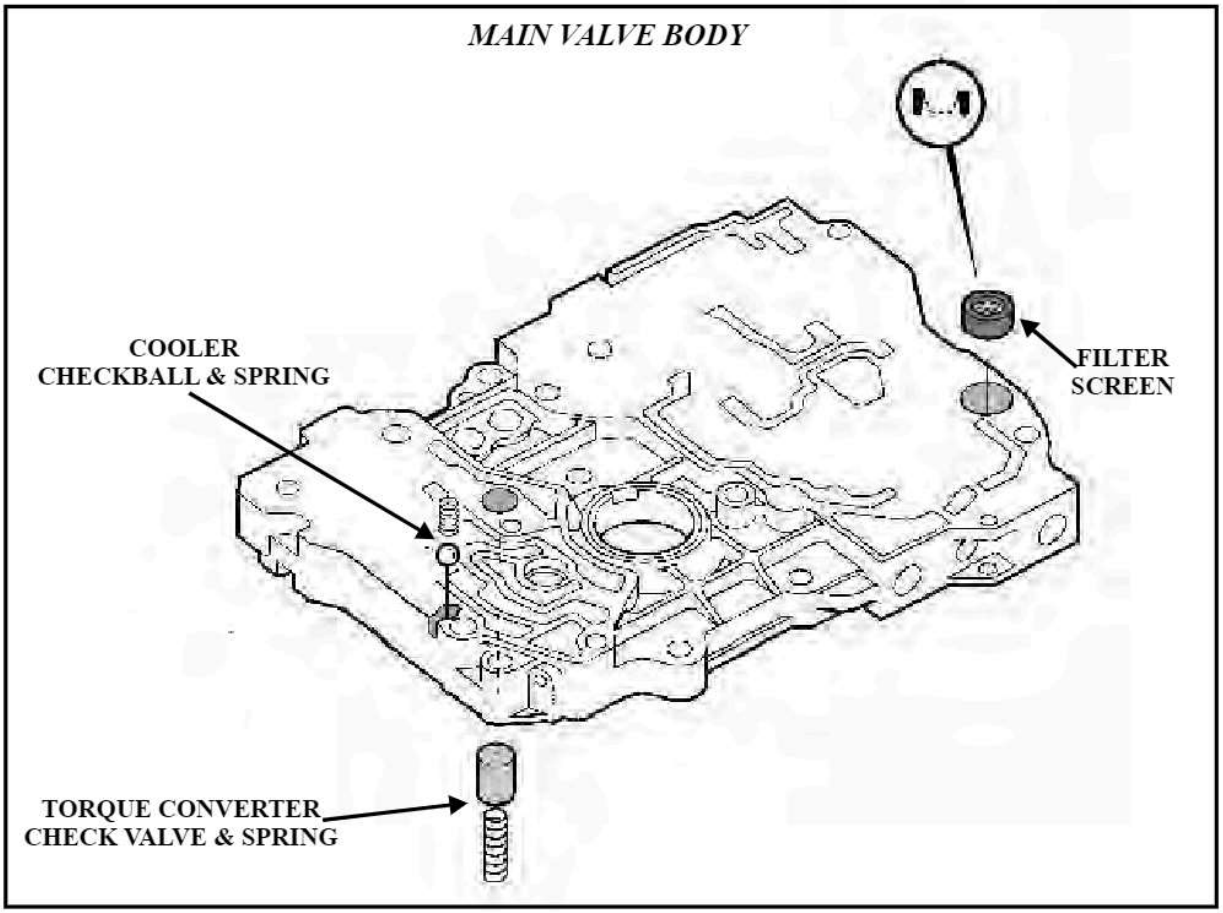
ACCUMULATOR BODY



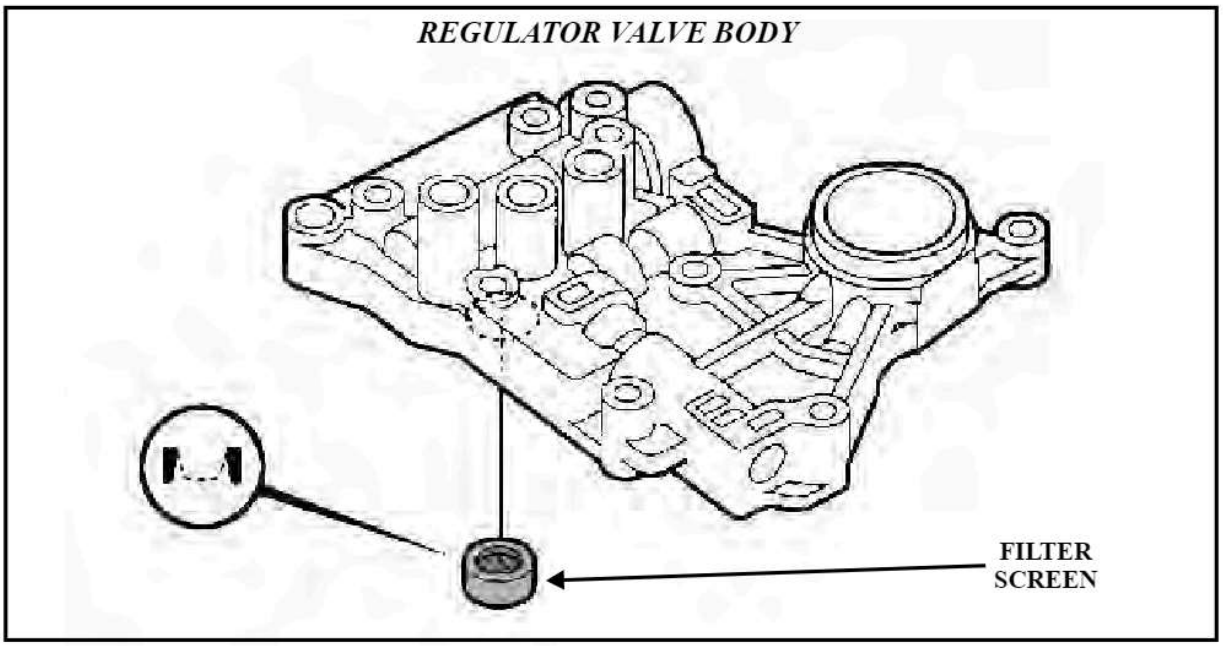
HONDA PRELUDE CHECKBALL LOCATIONS

M6HA

MAIN VALVE BODY



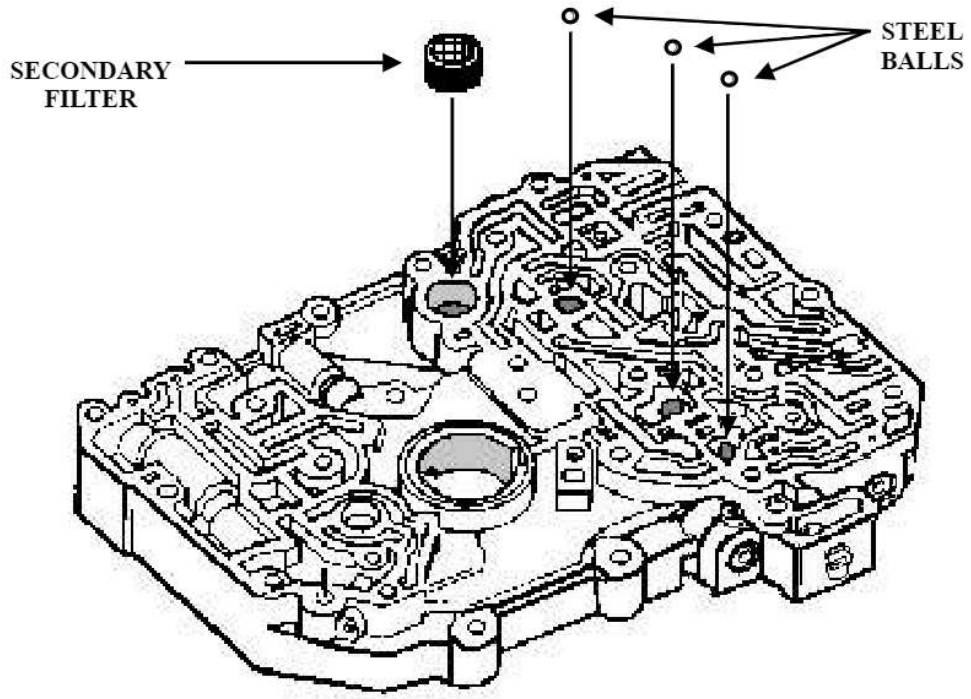
REGULATOR VALVE BODY



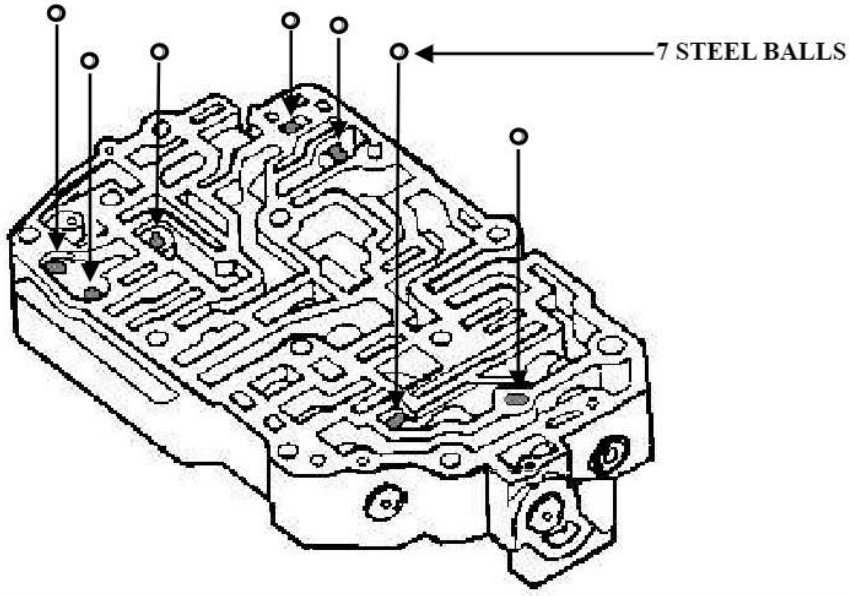
HONDA ODYSSEY CHECKBALL LOCATIONS

MPJA

MAIN VALVE BODY

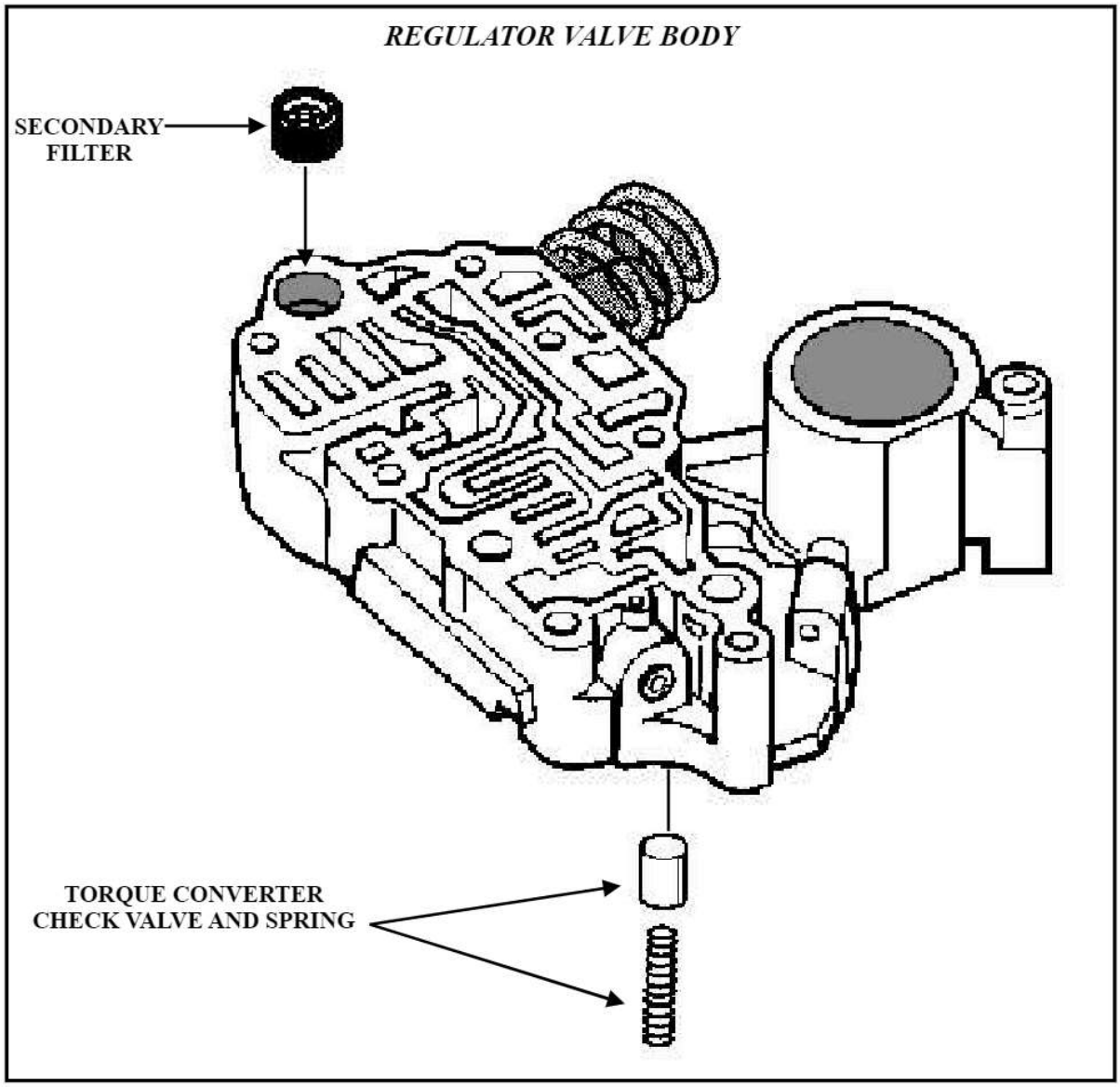


SECONDARY VALVE BODY



HONDA ODYSSEY CHECKBALL LOCATIONS

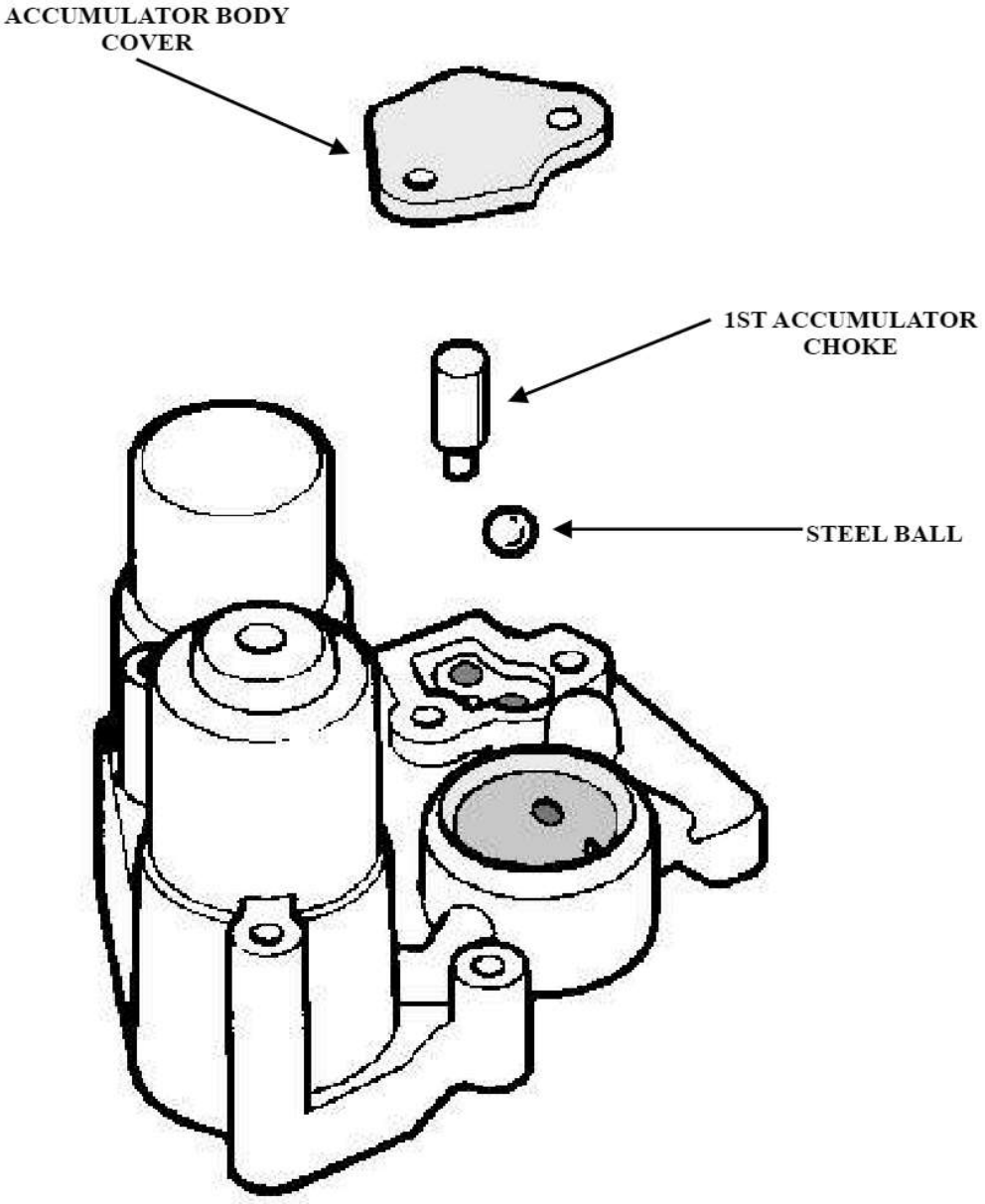
MPJA



HONDA ODYSSEY CHECKBALL LOCATIONS

MPJA

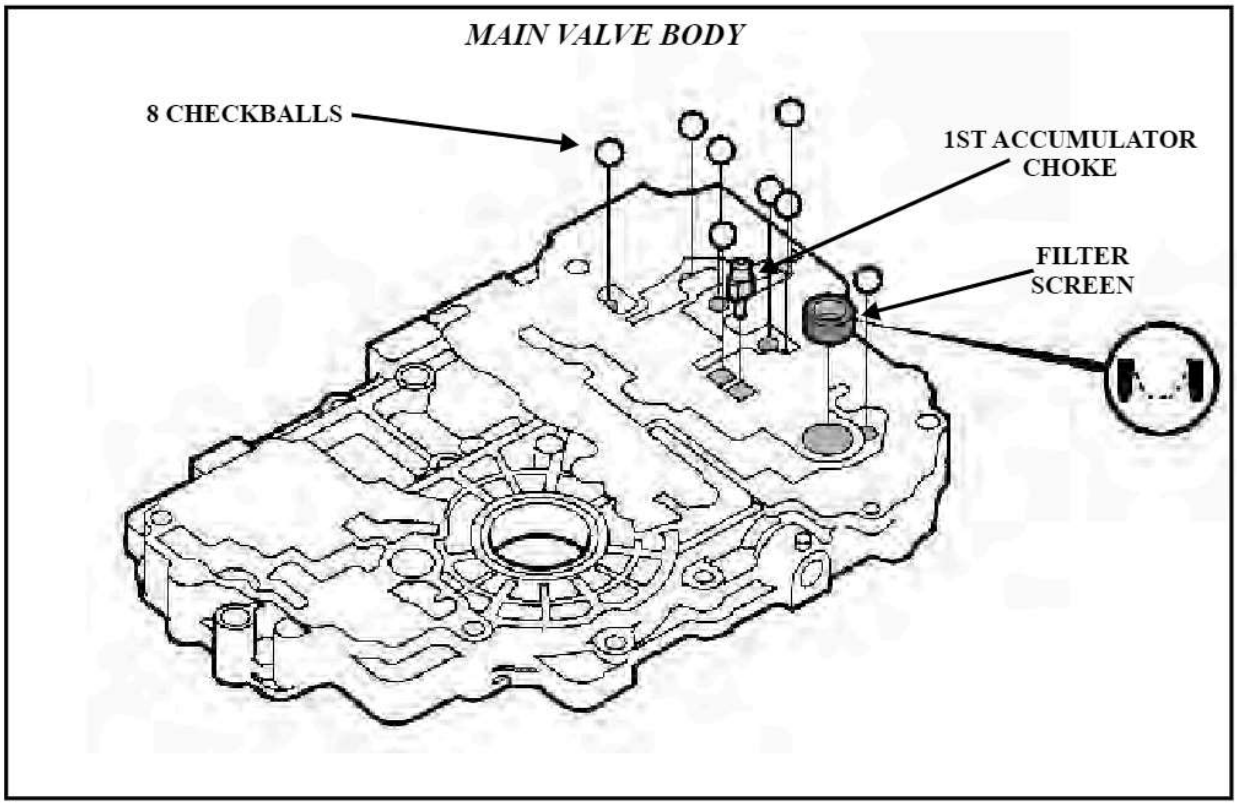
ACCUMULATOR BODY



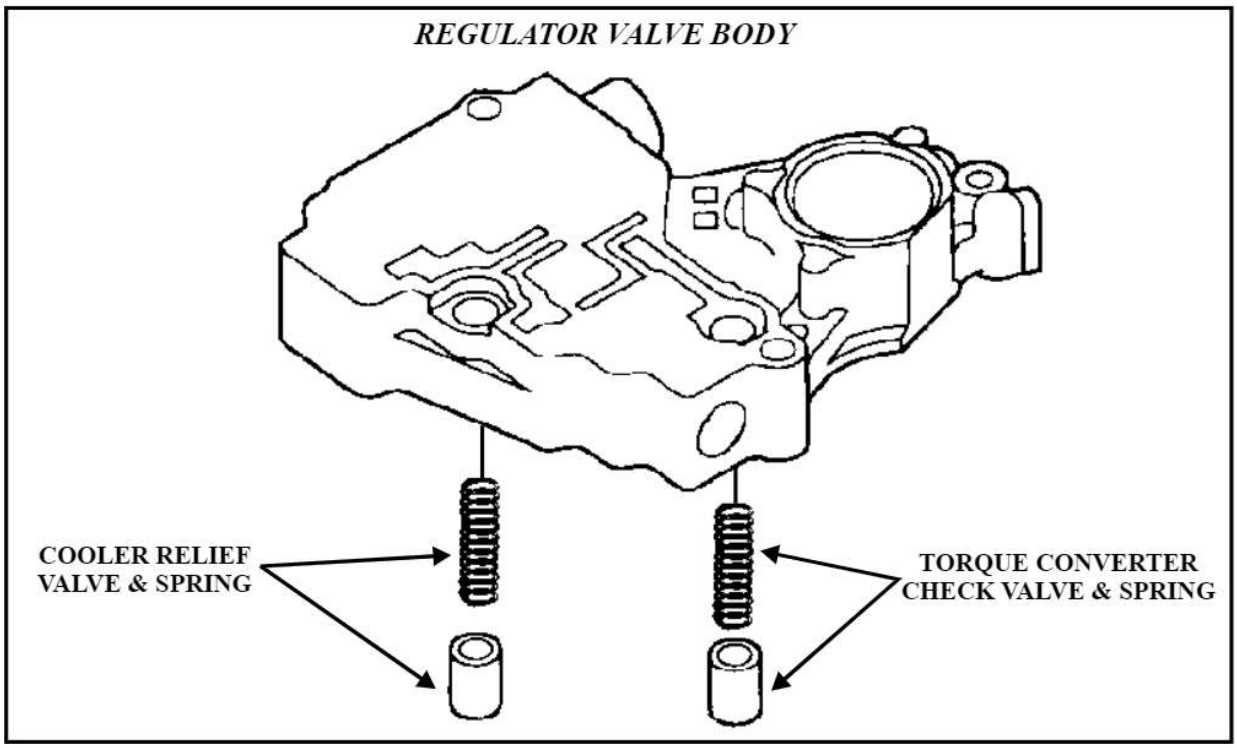
HONDA CRV CHECKBALL LOCATIONS

MDMA

MAIN VALVE BODY

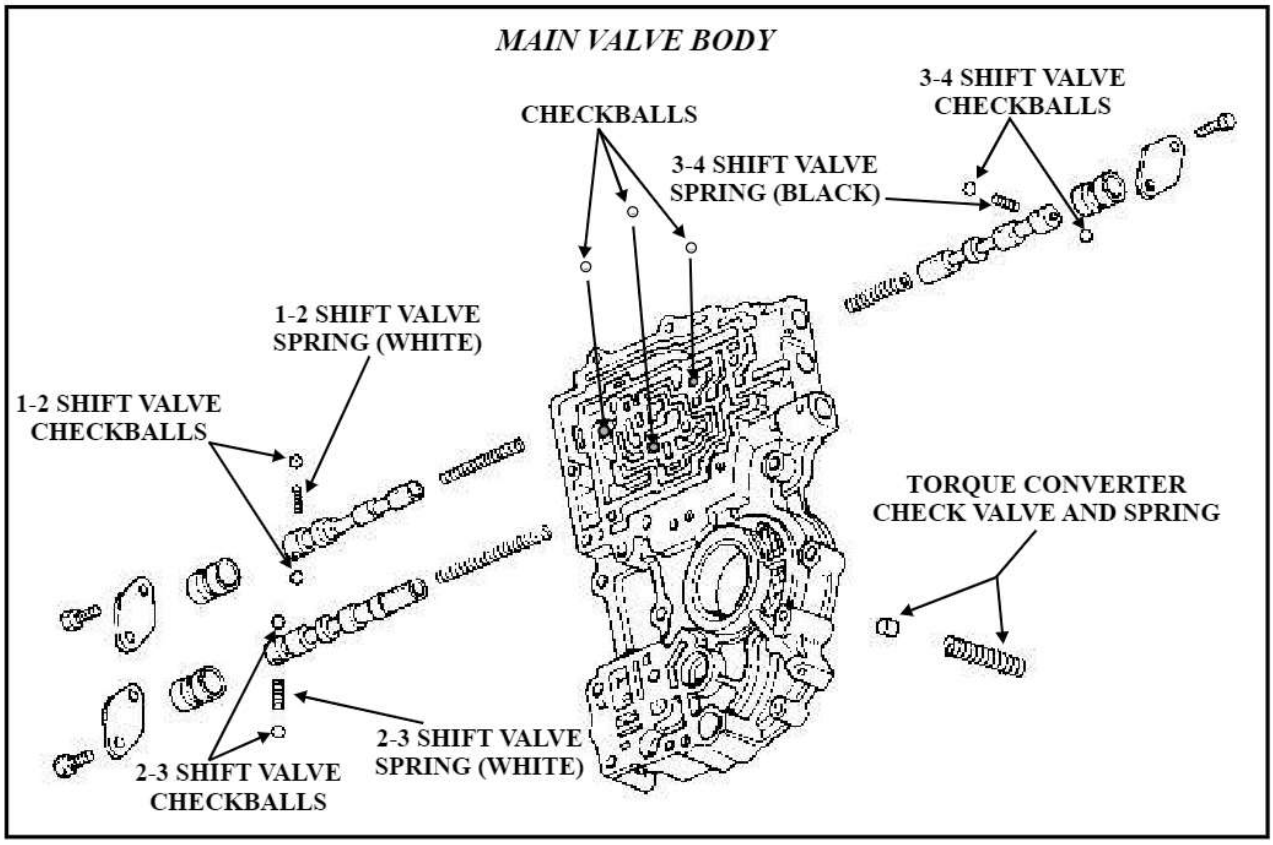


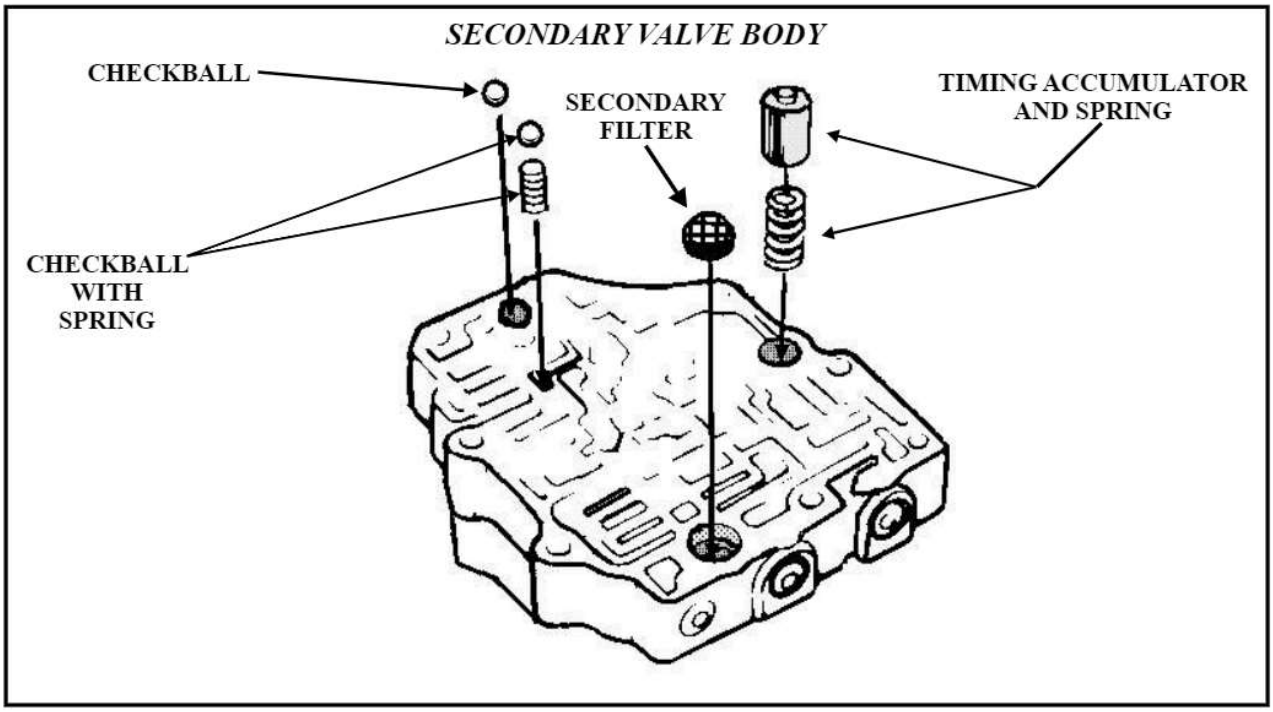
REGULATOR VALVE BODY



ACURA INTEGRA CHECKBALL LOCATIONS

CA

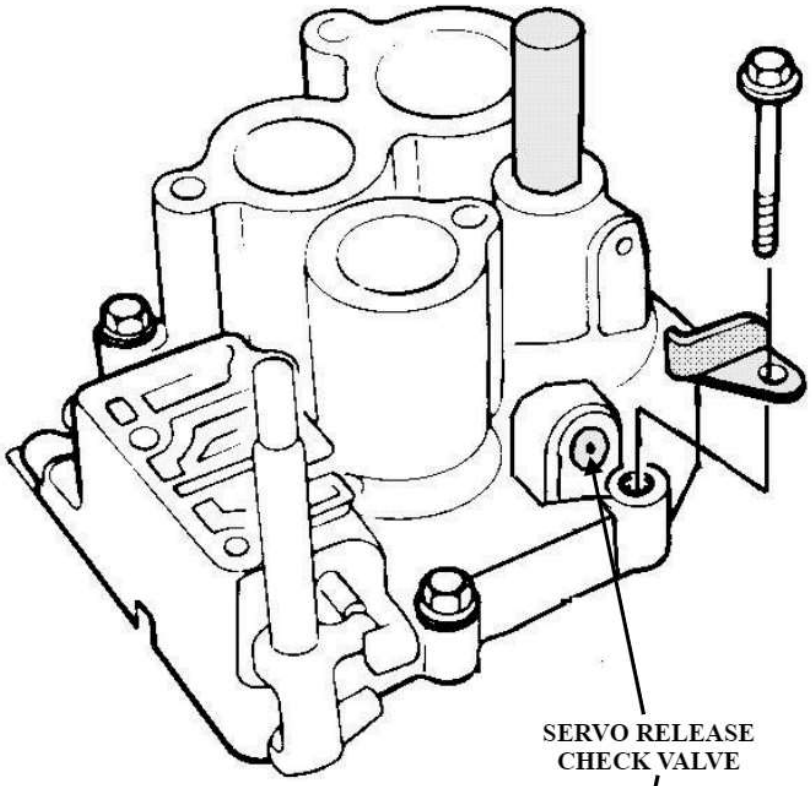




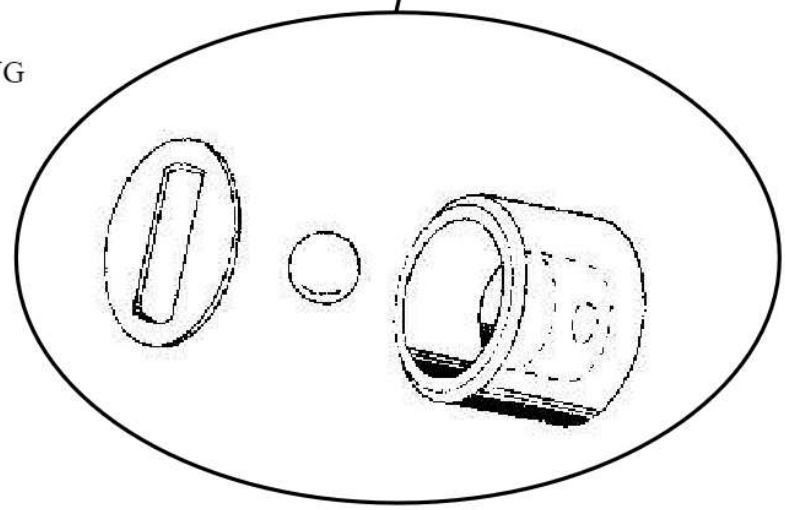
ACURA INTEGRA CHECKBALL LOCATIONS

CA

SERVO VALVE BODY



CAUTION:
THE SERVO RELEASE CHECK VALVE IS STAKED INTO THE SERVO VALVE BODY, BUT, IT CAN FALL OR BE BLOWN OUT DURING THE CLEANING PROCESS

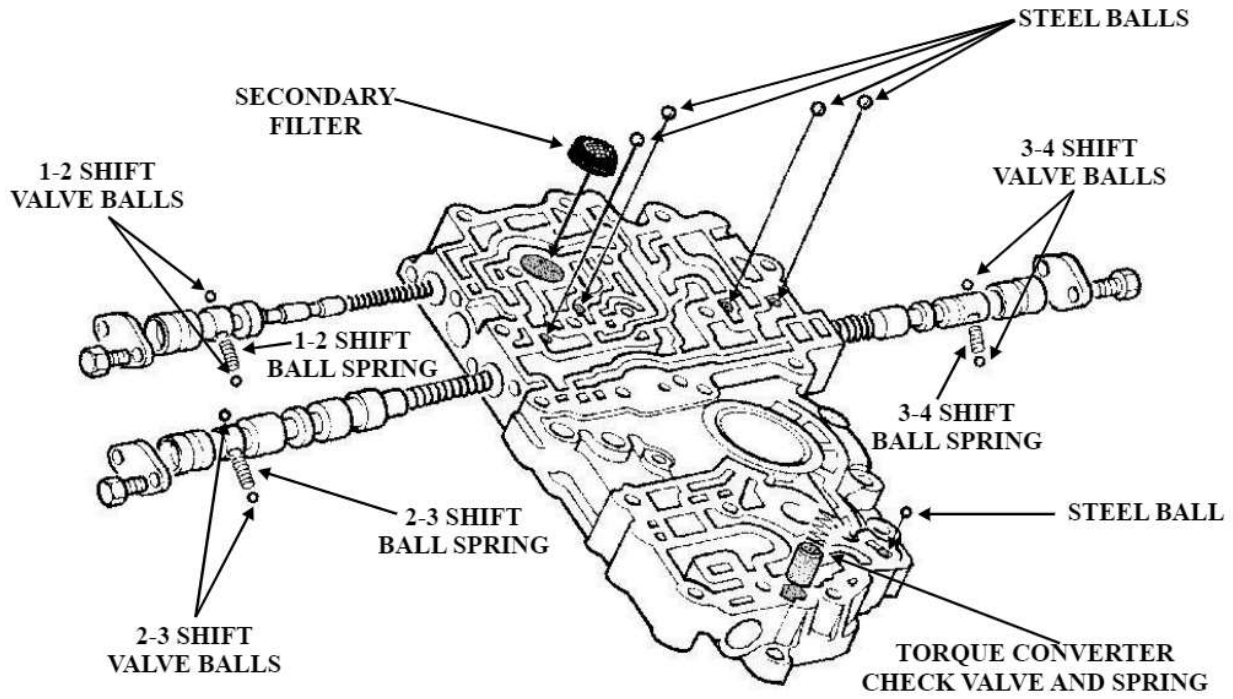


NOTE: MOST SERVO VALVE BODIES WILL HAVE THIS CHECK VALVE

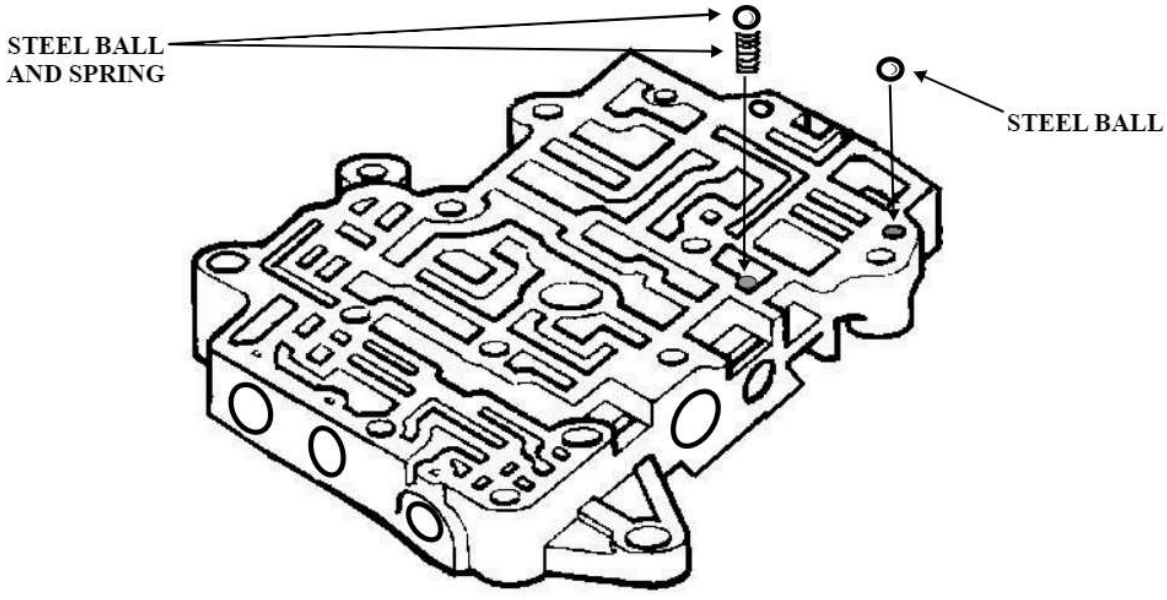
ACURA INTEGRA CHECKBALL LOCATIONS

P1

MAIN VALVE BODY

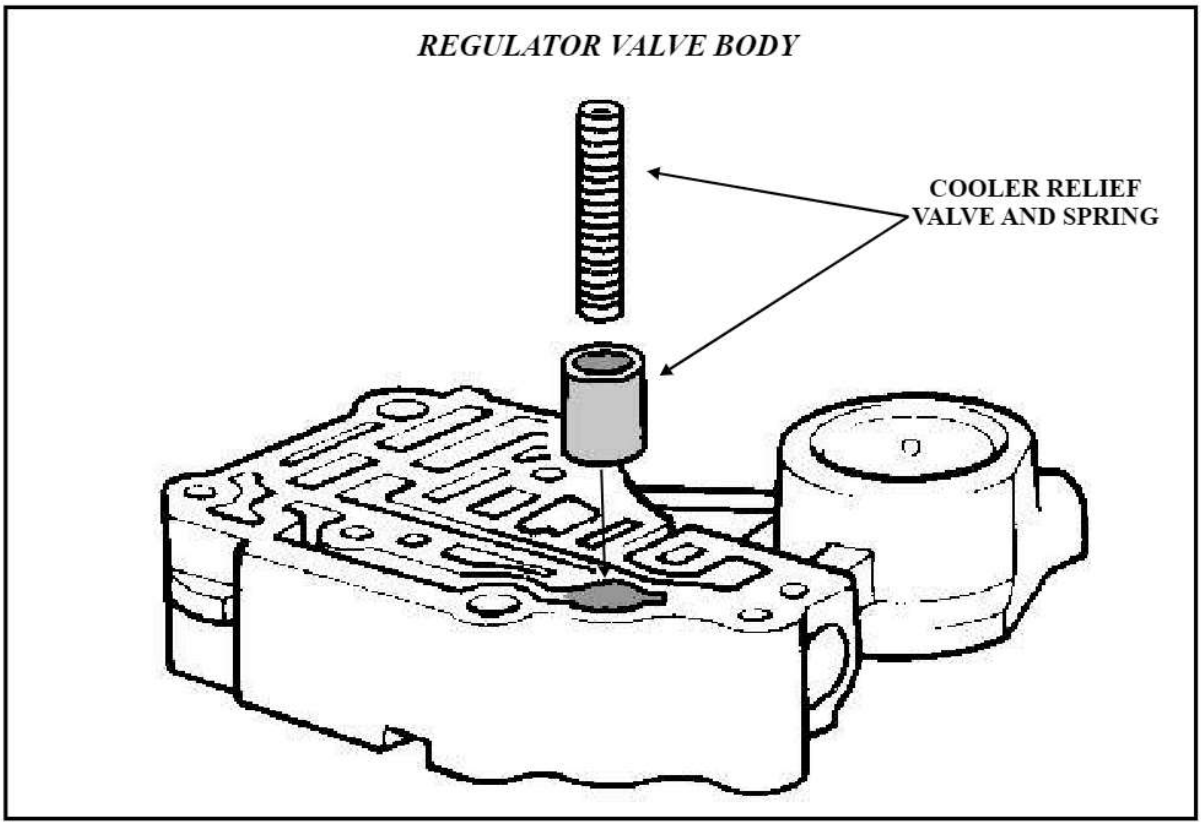


SECONDARY VALVE BODY



ACURA INTEGRA CHECKBALL LOCATIONS

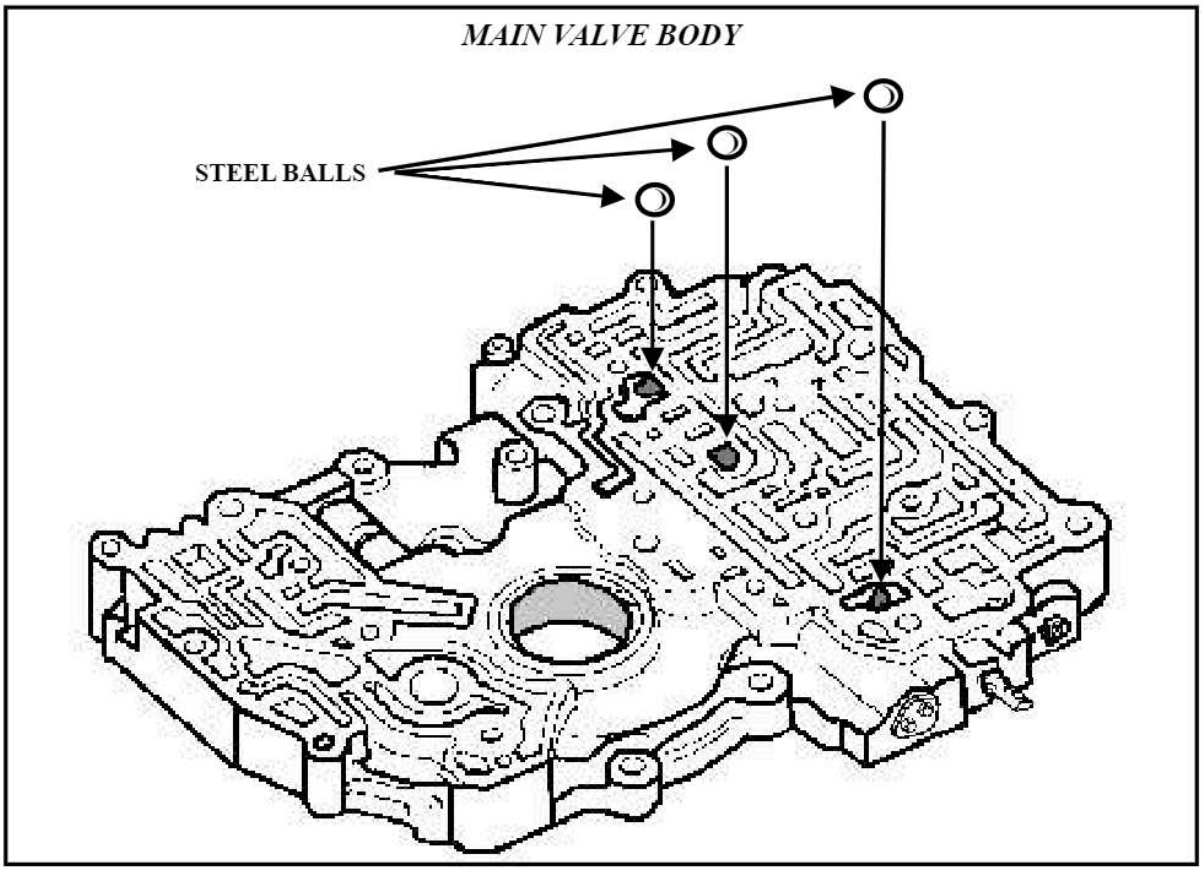
P1



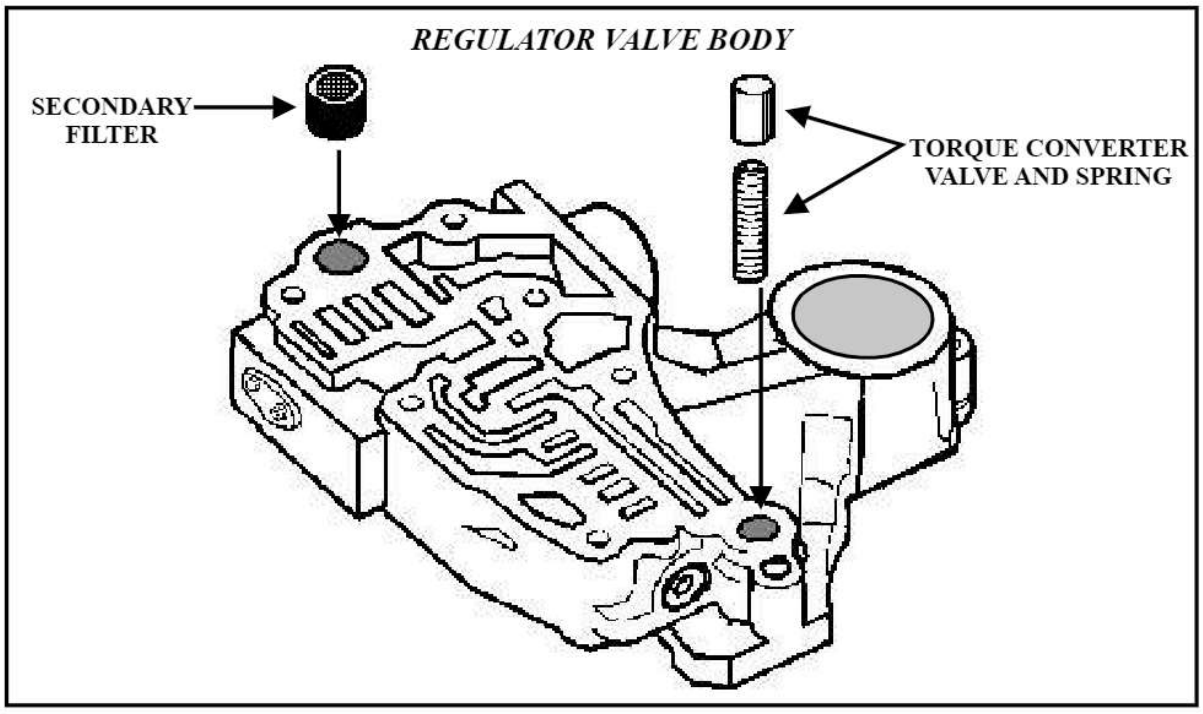
ACURA INTEGRA CHECKBALL LOCATIONS

RO/MPRA

MAIN VALVE BODY

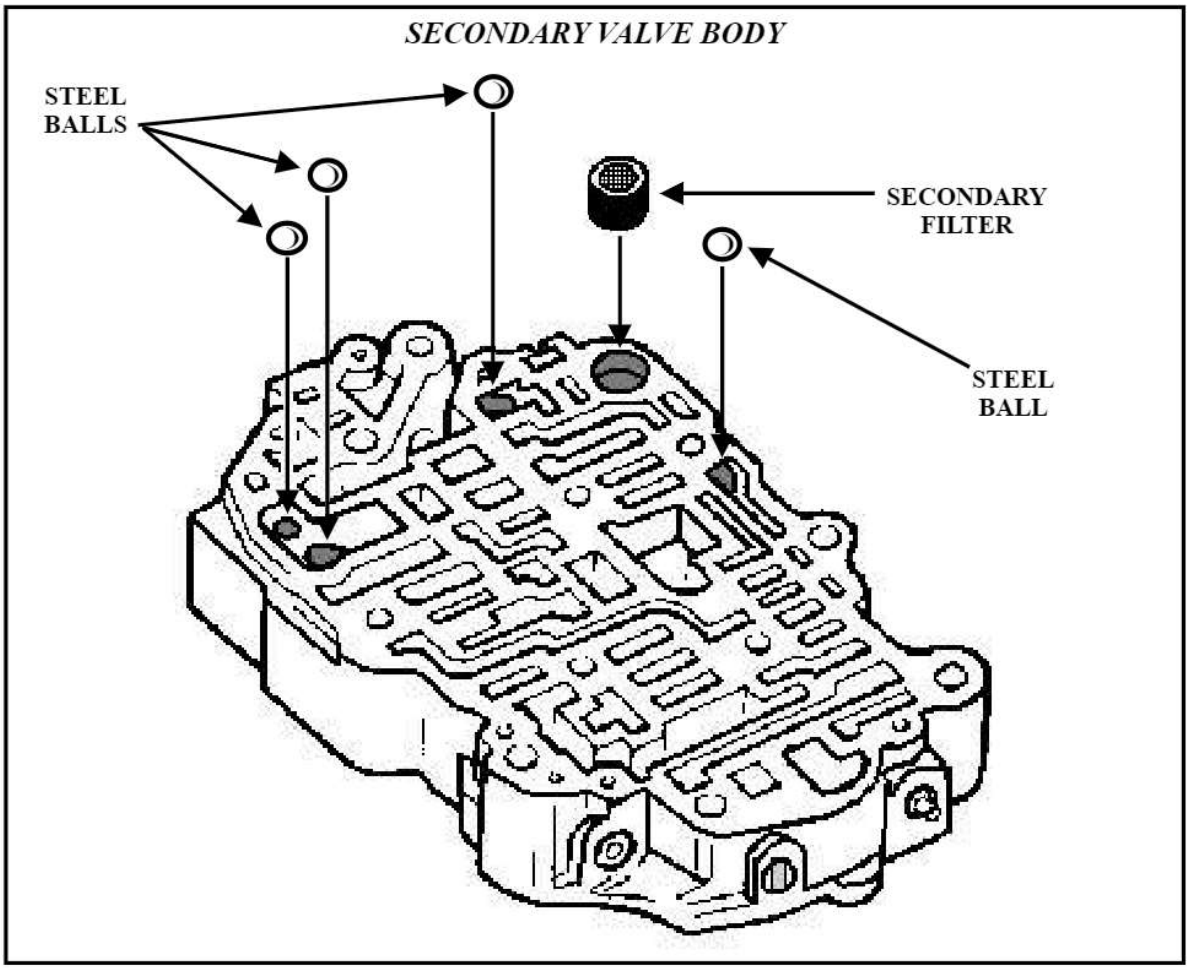


REGULATOR VALVE BODY



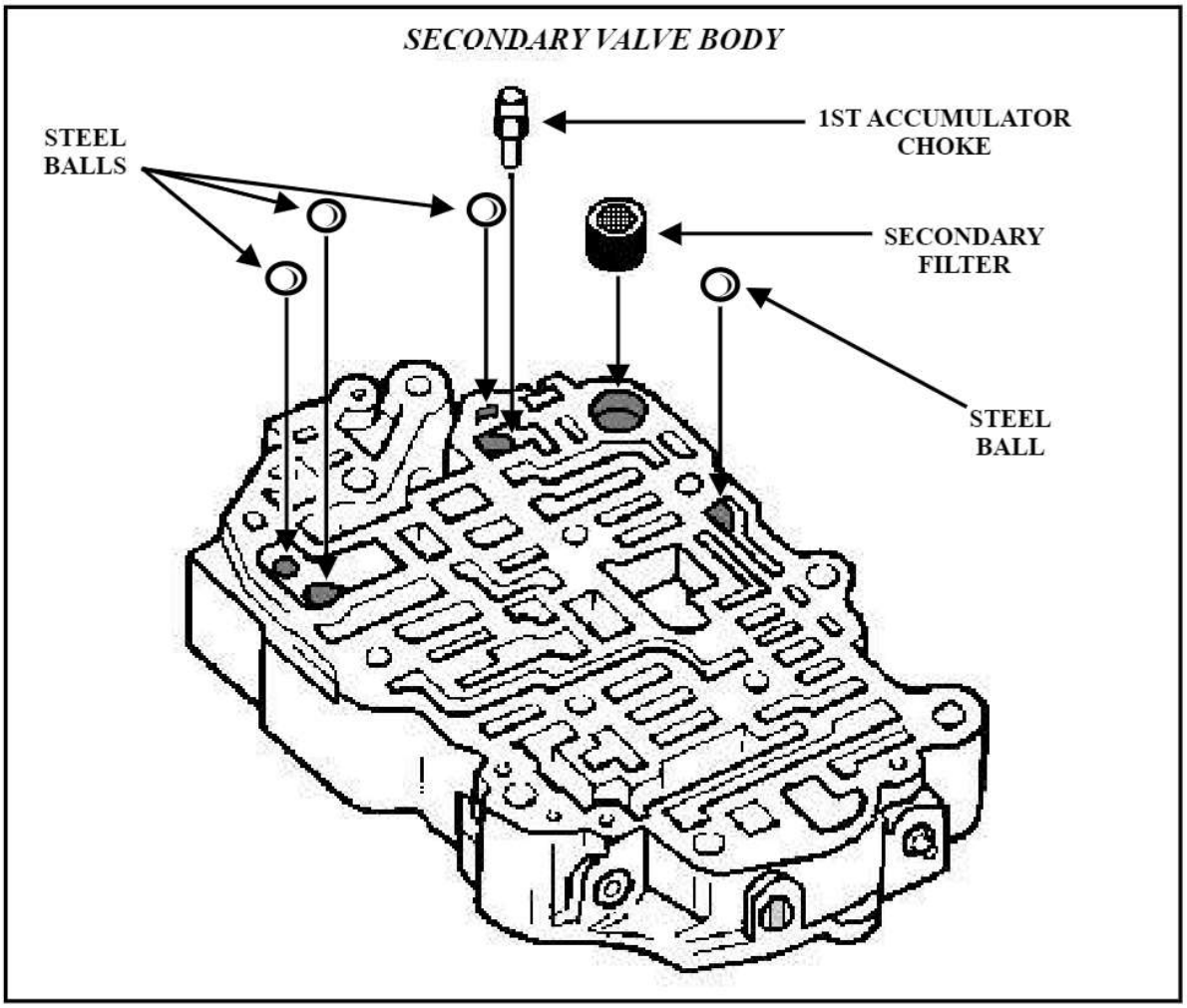
ACURA INTEGRA CHECKBALL LOCATIONS

RO



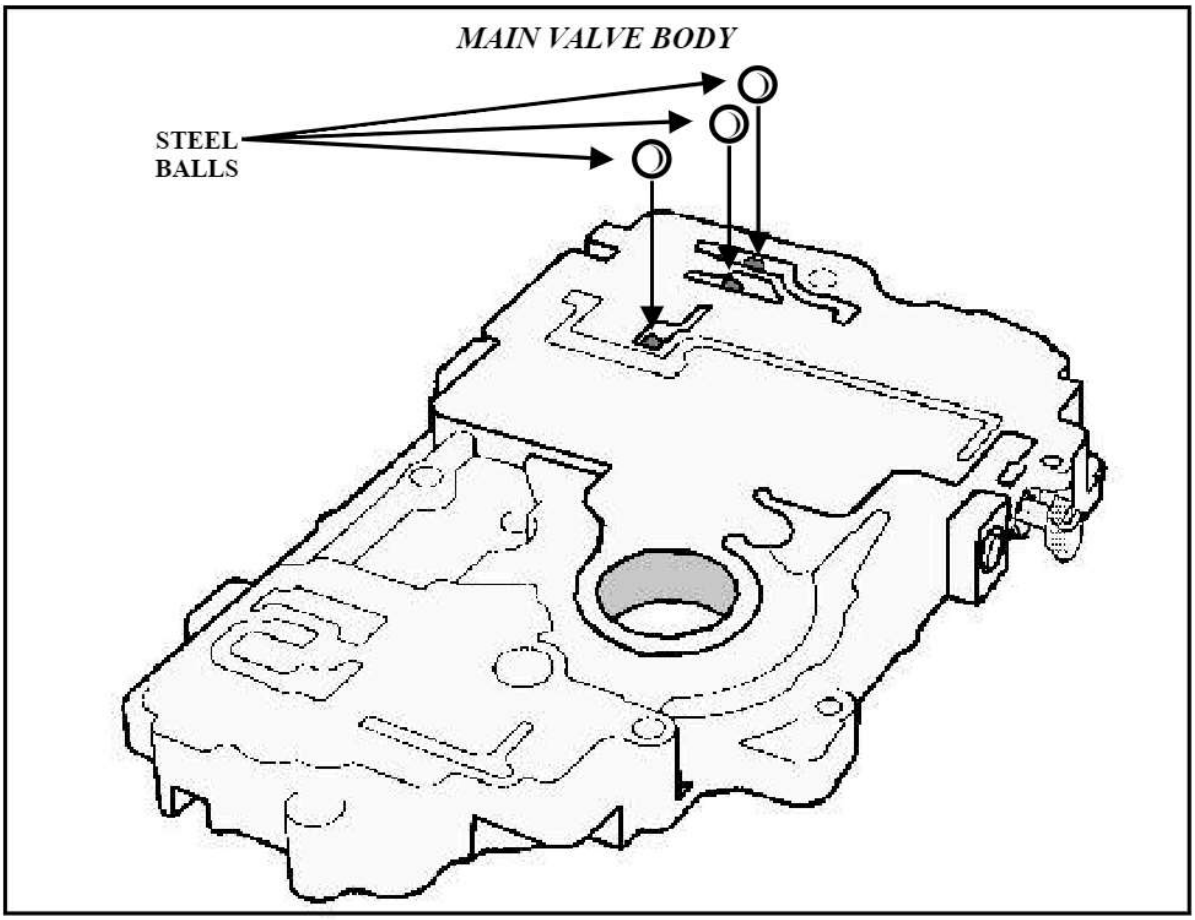
ACURA INTEGRA CHECKBALL LOCATIONS

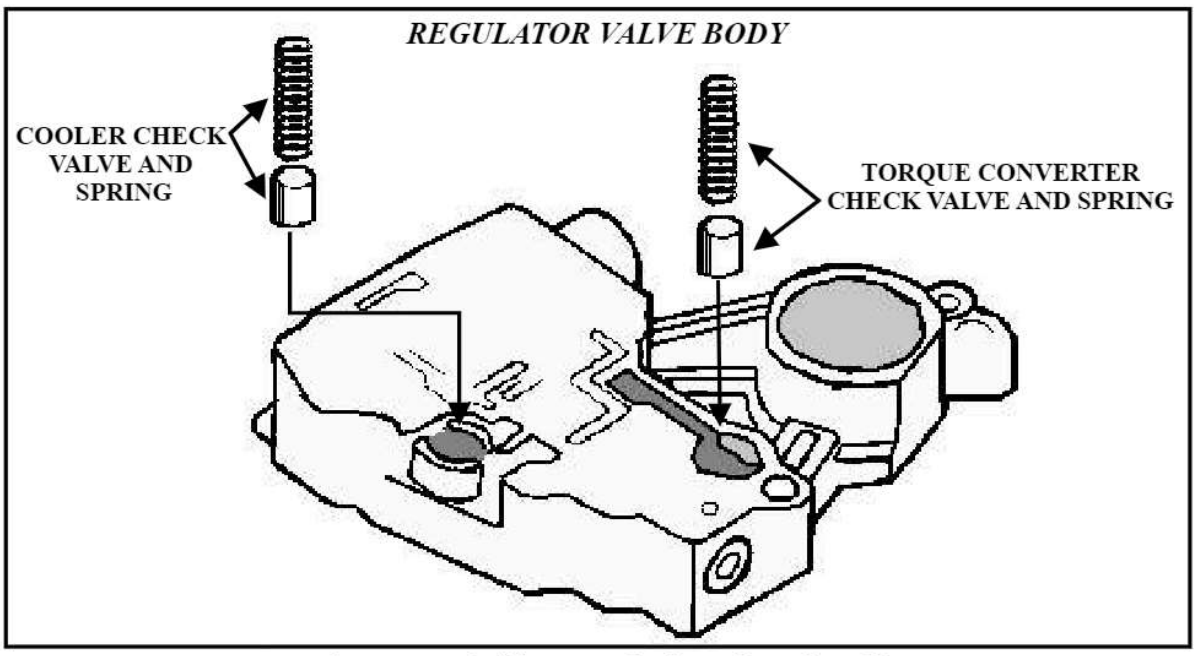
MPRA



ACURA INTEGRA CHECKBALL LOCATIONS

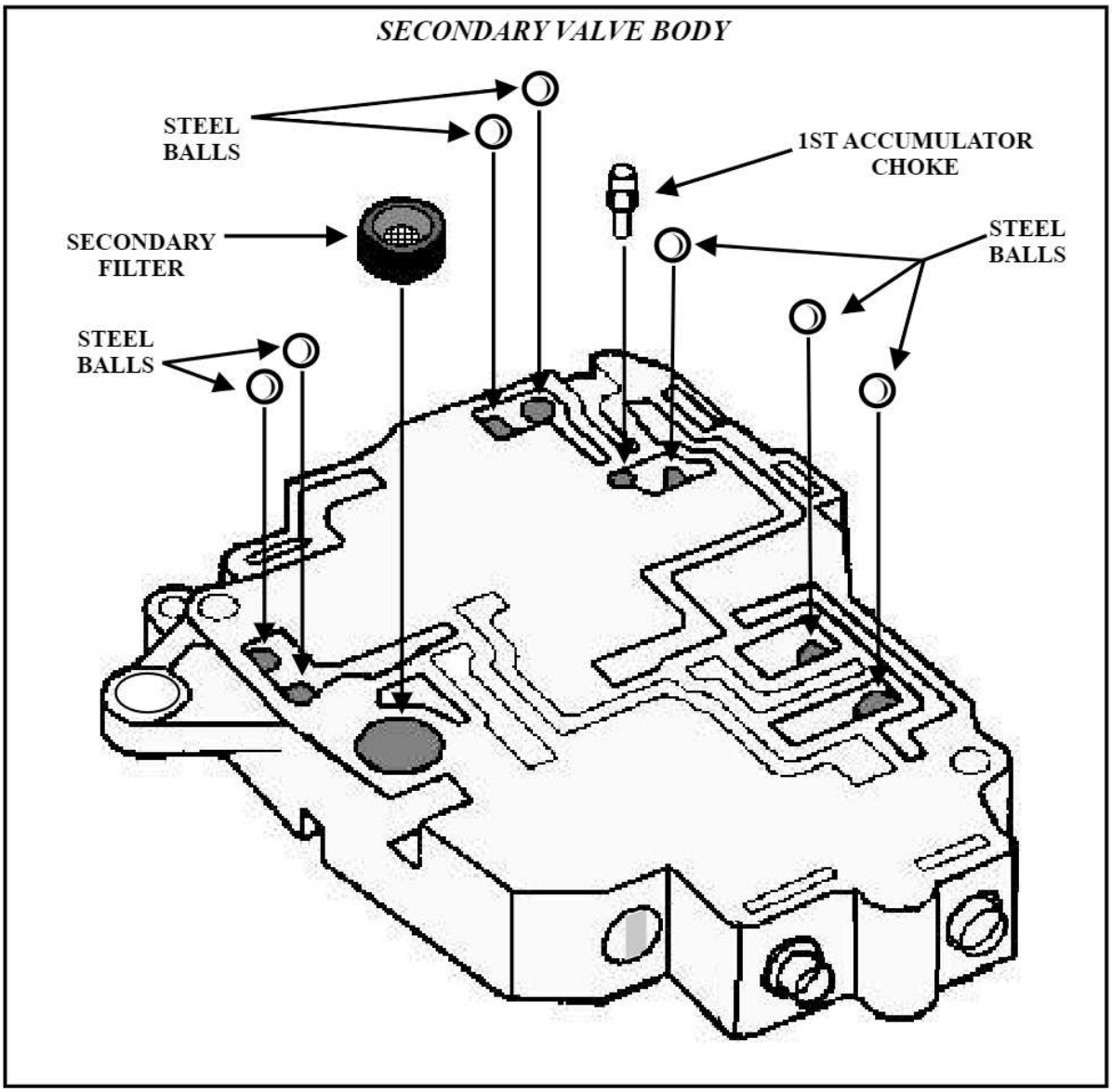
SP7A





ACURA INTEGRA CHECKBALL LOCATIONS

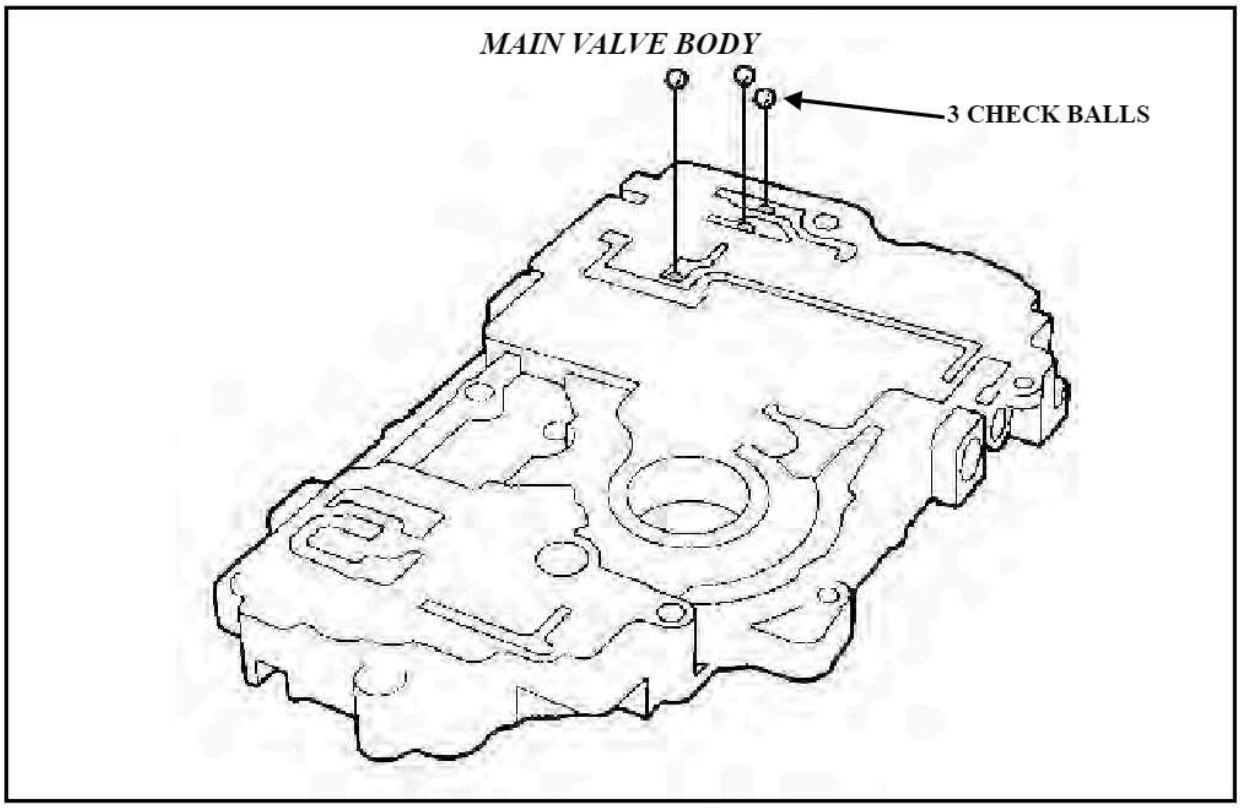
SP7A



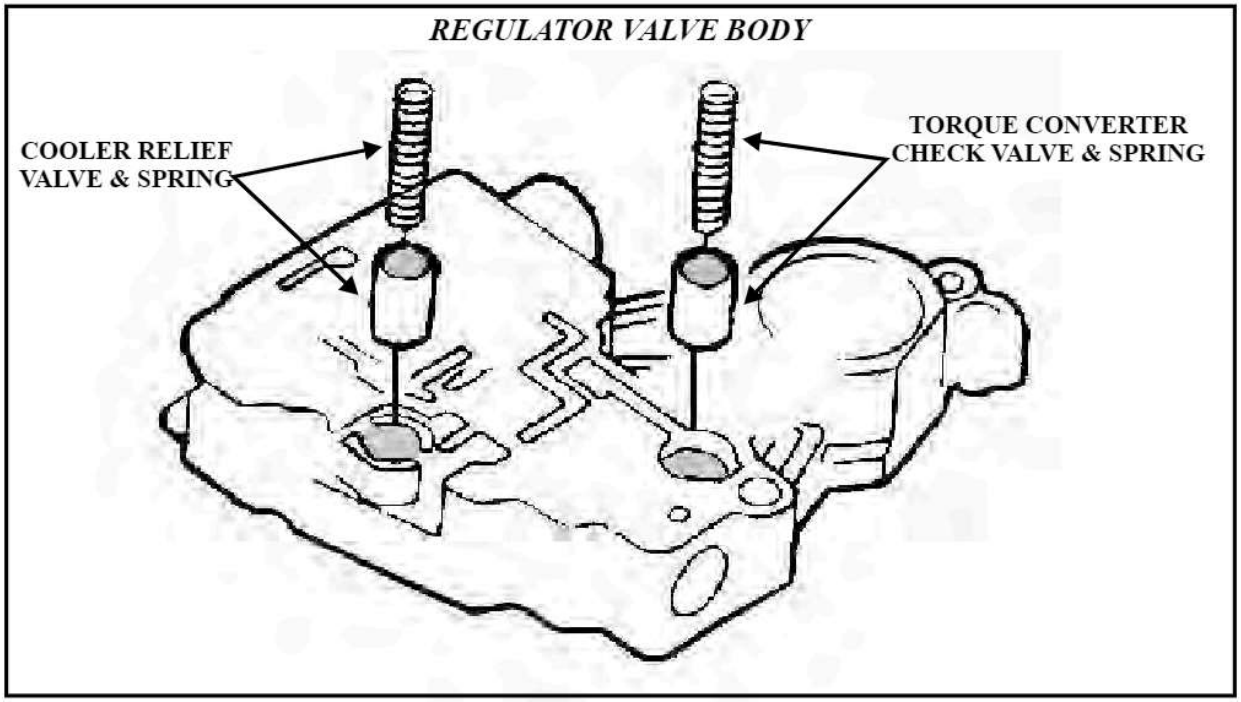
ACURA INTEGRA CHECKBALL LOCATIONS

S4XA

MAIN VALVE BODY

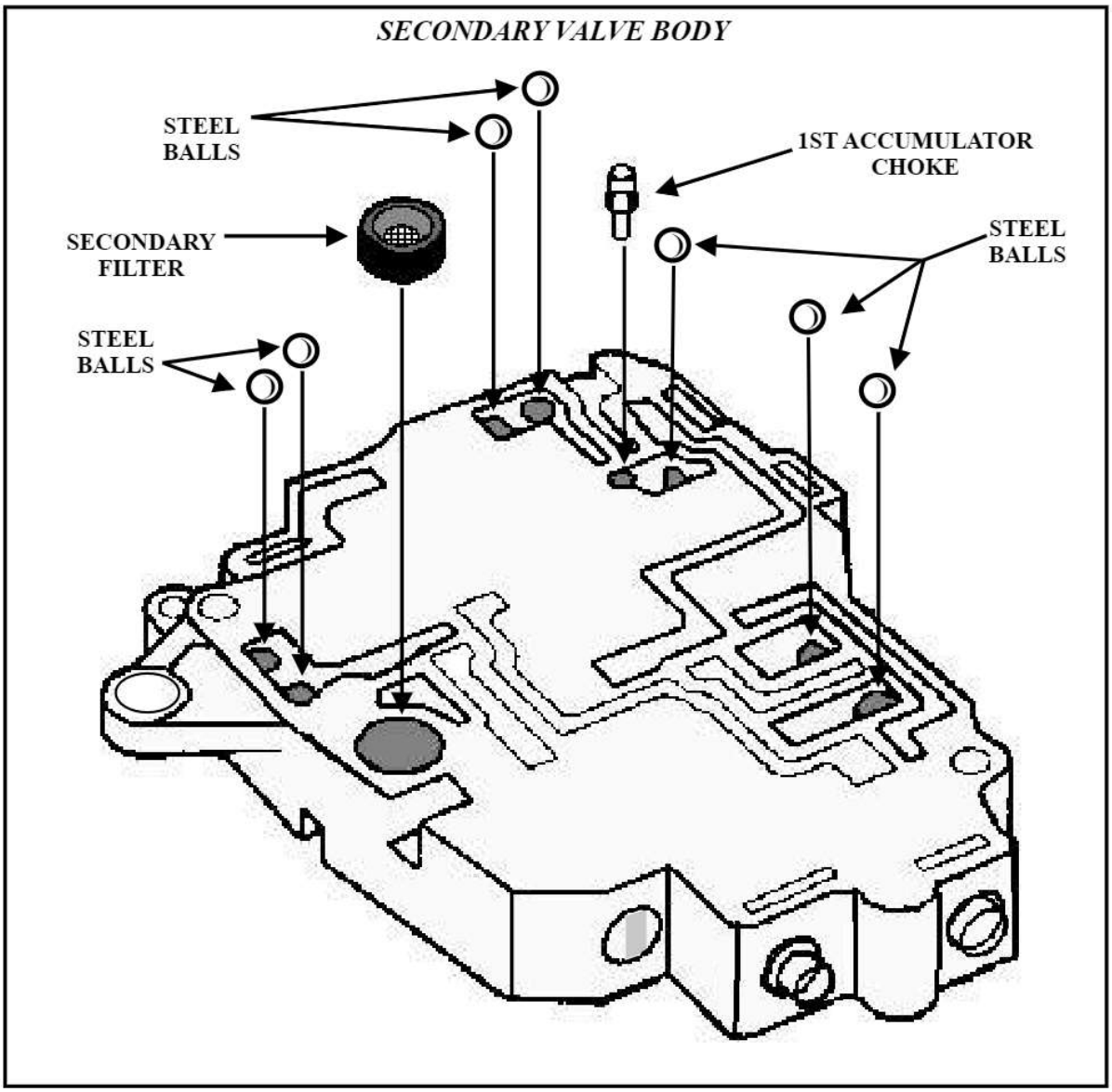


REGULATOR VALVE BODY



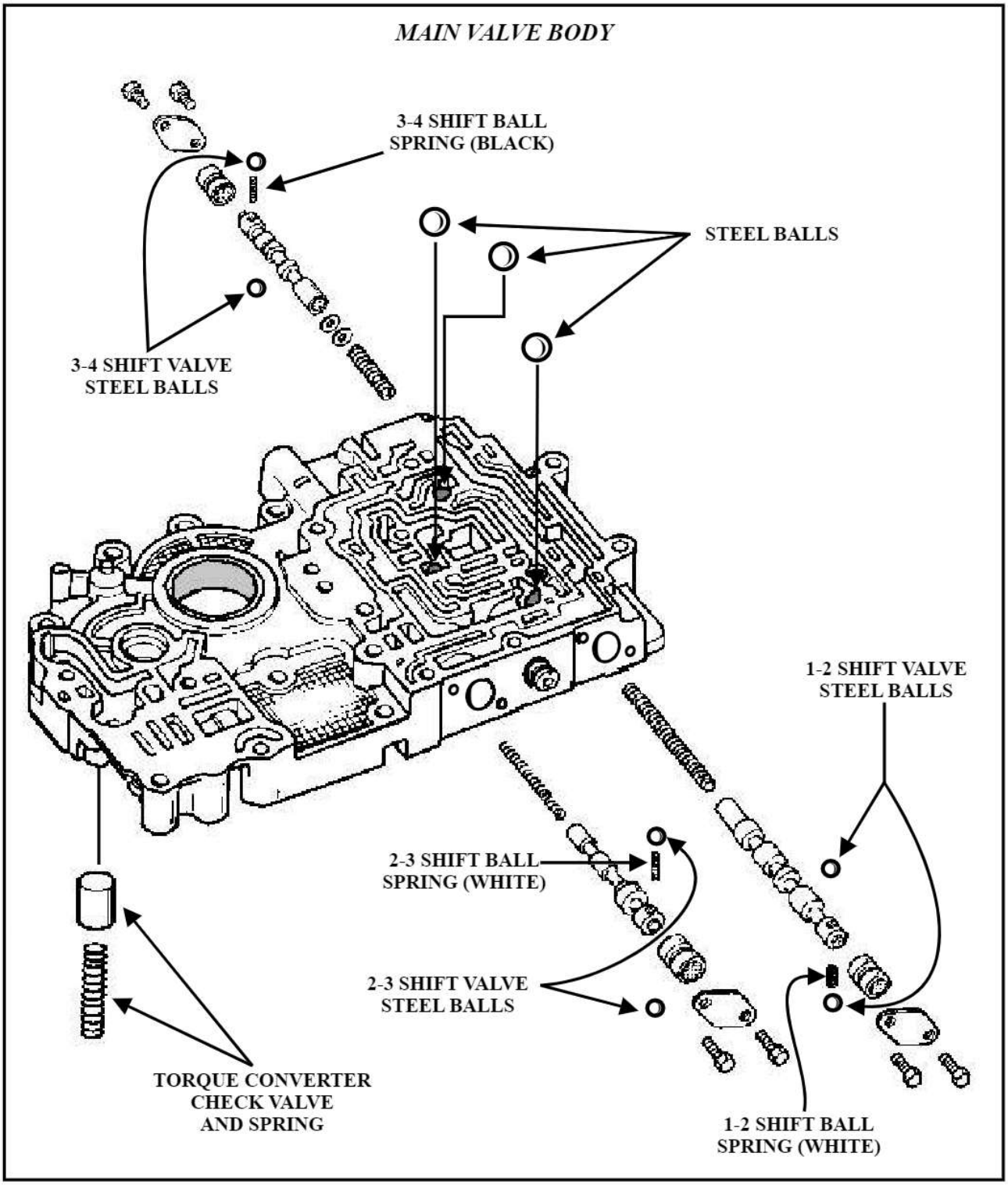
ACURA INTEGRA CHECKBALL LOCATIONS

S4XA



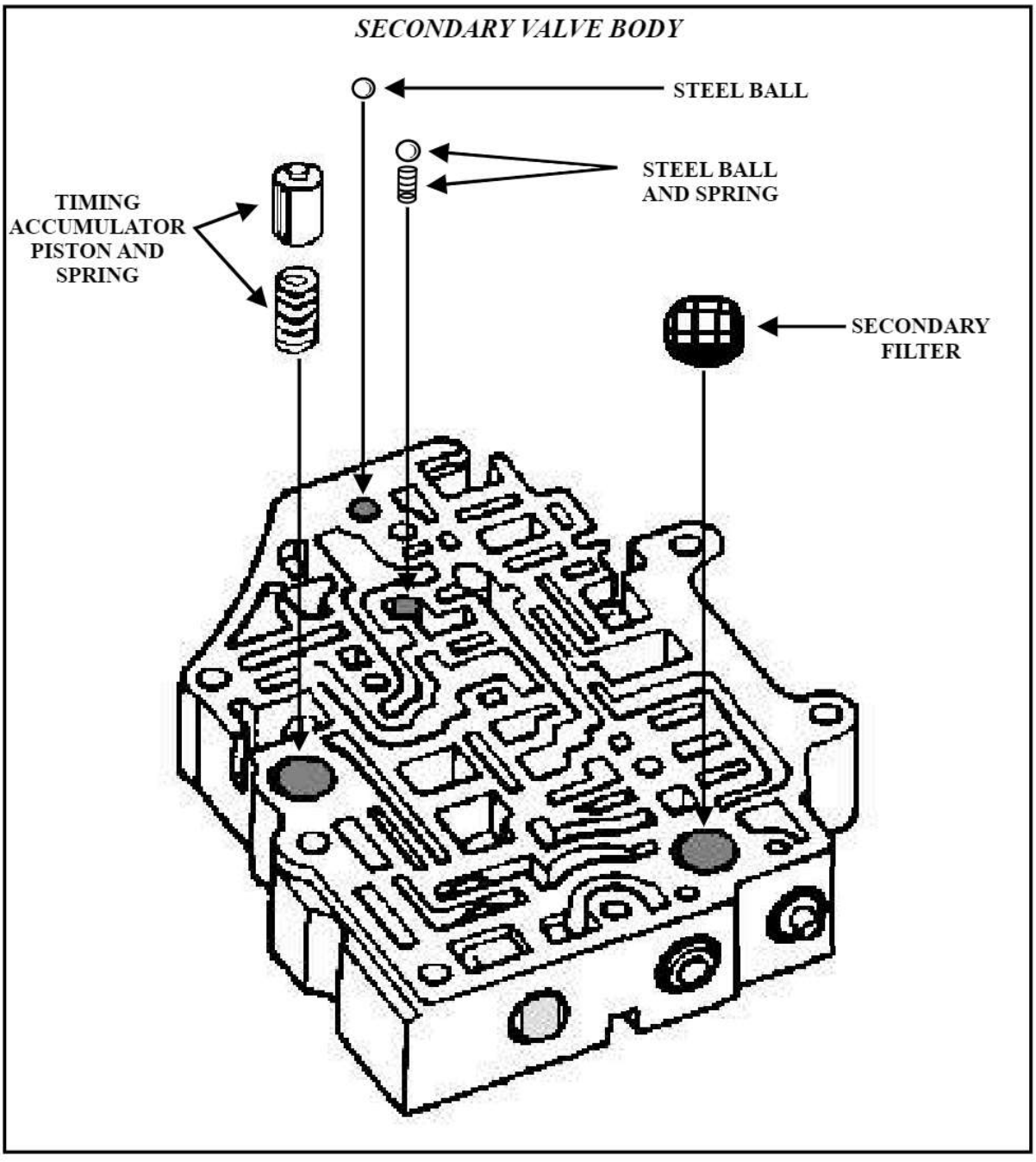
ACURA LEGEND CHECKBALL LOCATIONS

G4



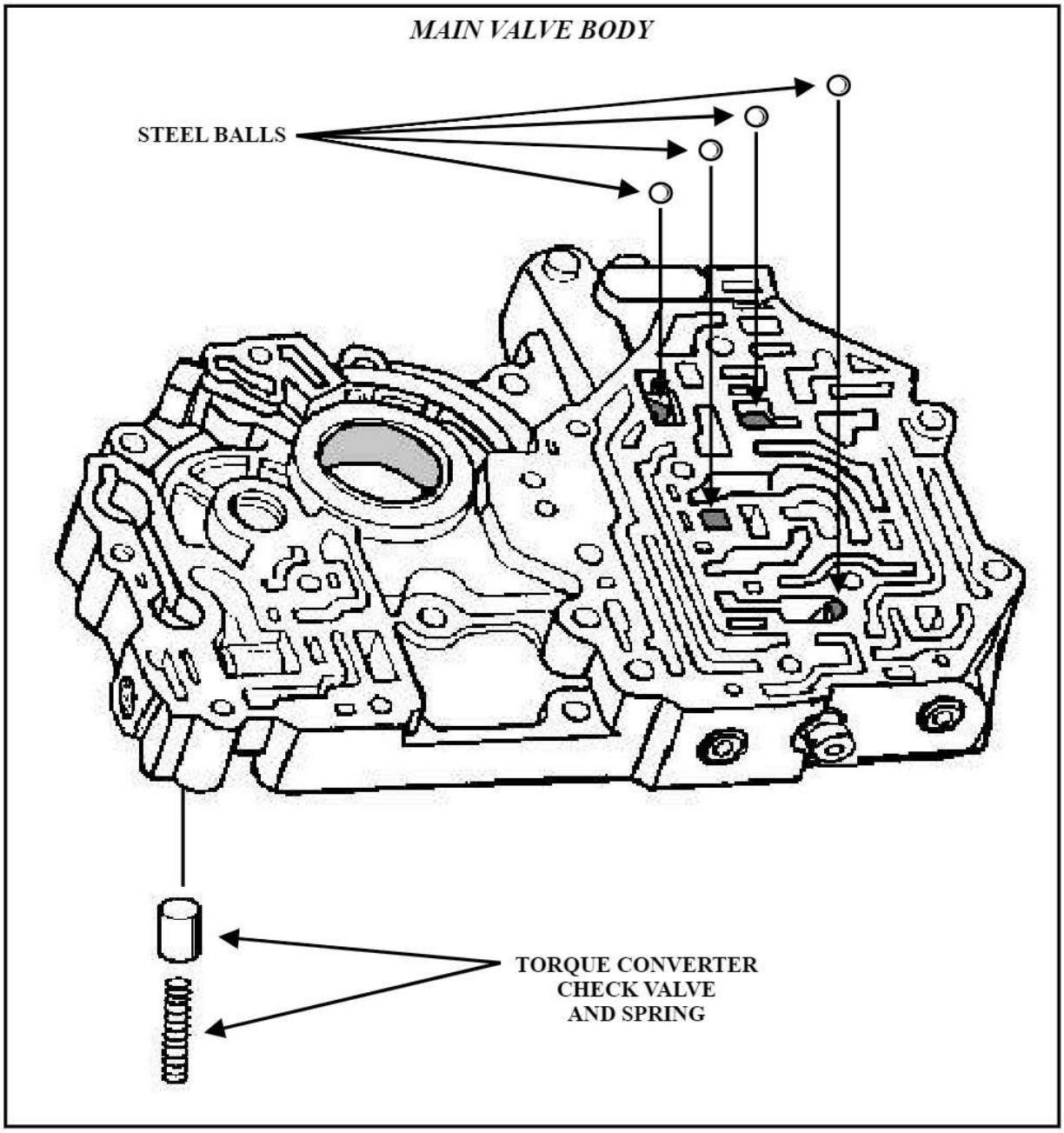
ACURA LEGEND CHECKBALL LOCATIONS

G4



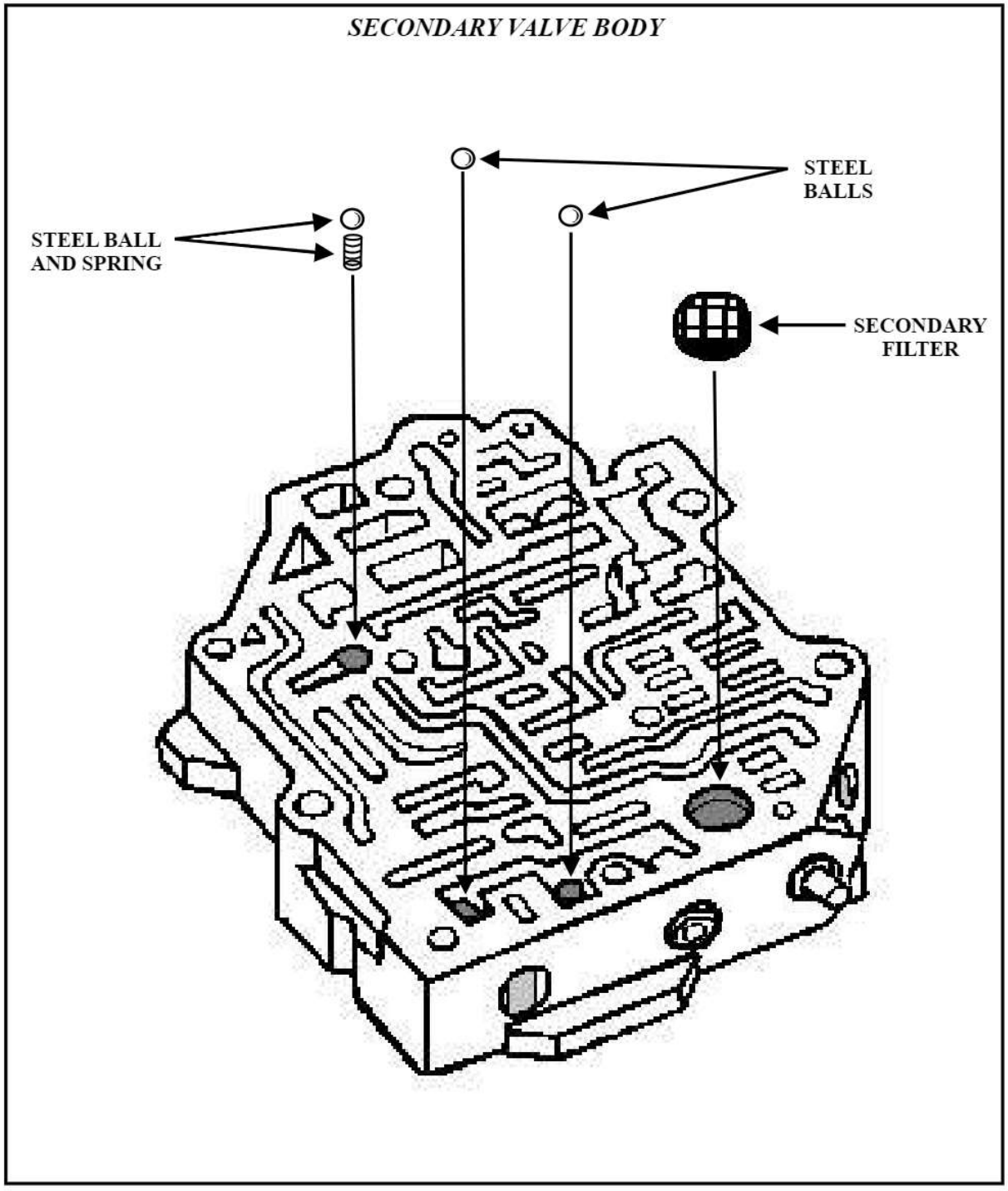
ACURA LEGEND CHECKBALL LOCATIONS

L5



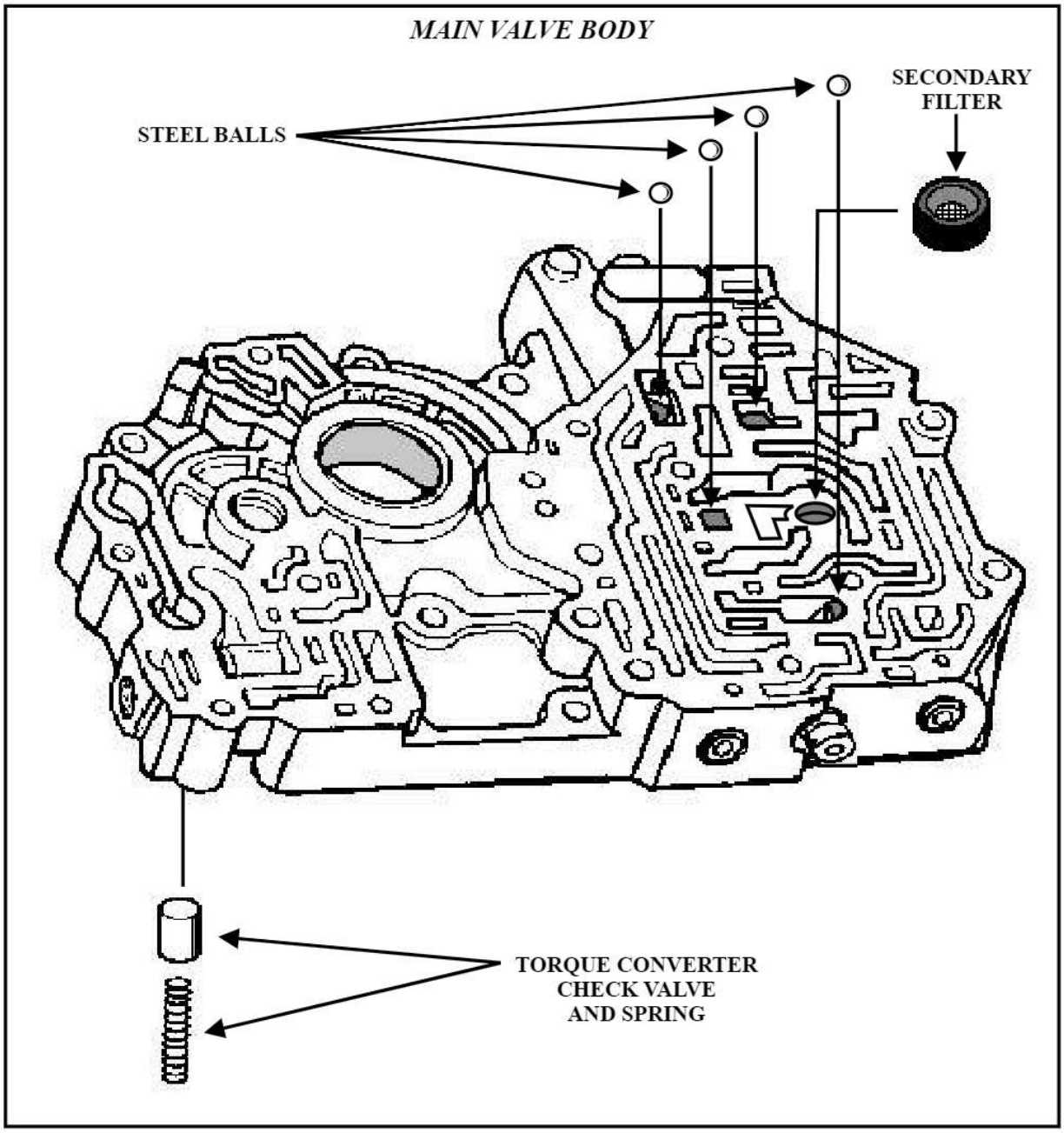
ACURA LEGEND CHECKBALL LOCATIONS

L5



ACURA LEGEND CHECKBALL LOCATIONS

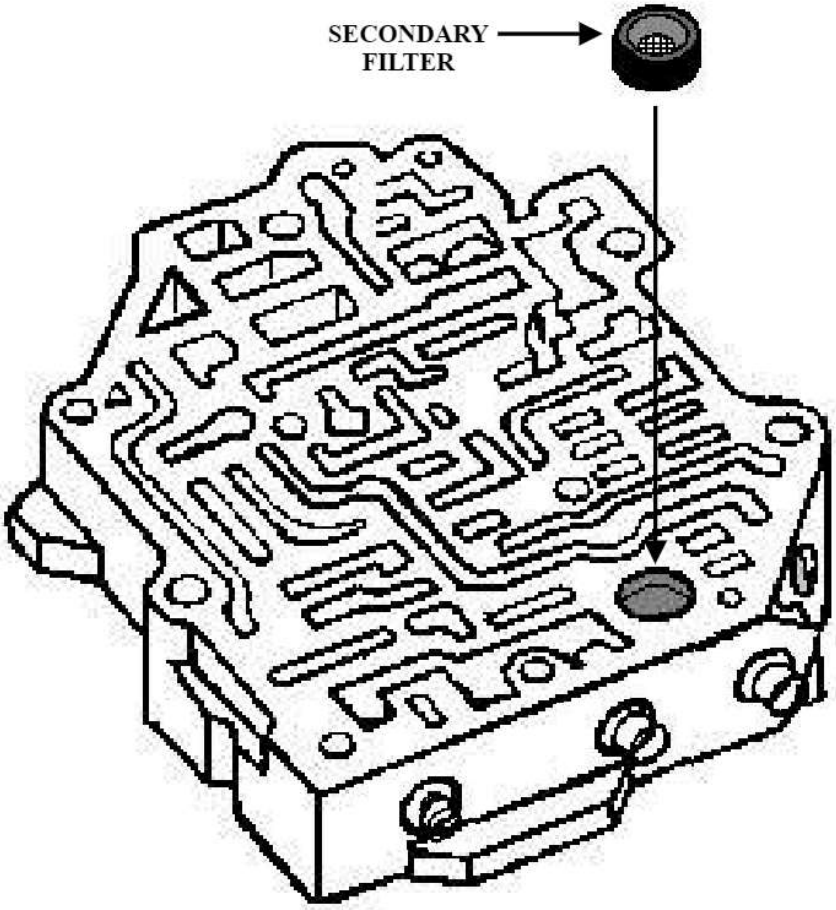
PL5X



ACURA LEGEND CHECKBALL LOCATIONS

PL5X

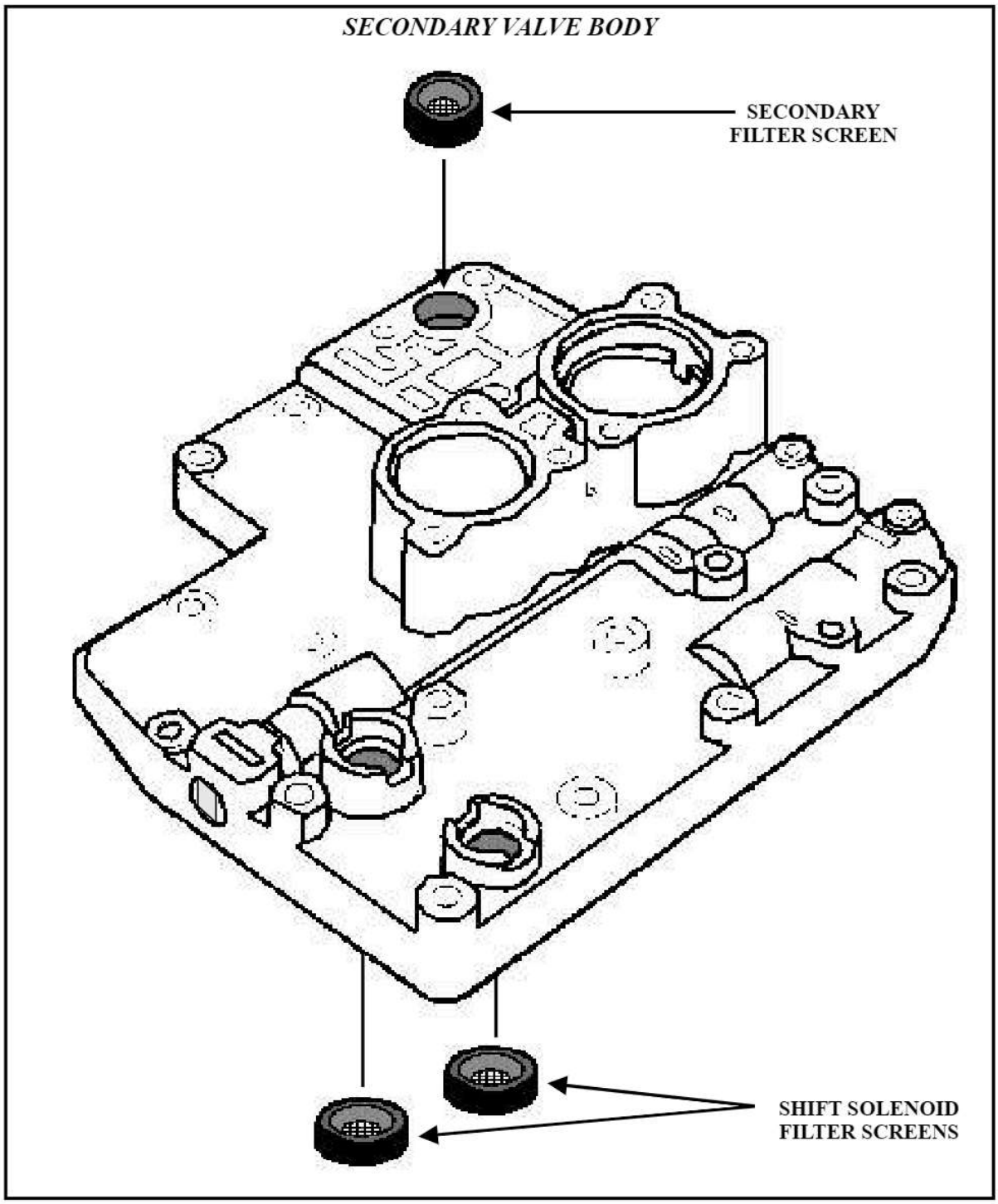
SECONDARY VALVE BODY



NOTE:** THE PL5X SECONDARY VALVE BODY CONTAINS ***NO CHECKBALLS

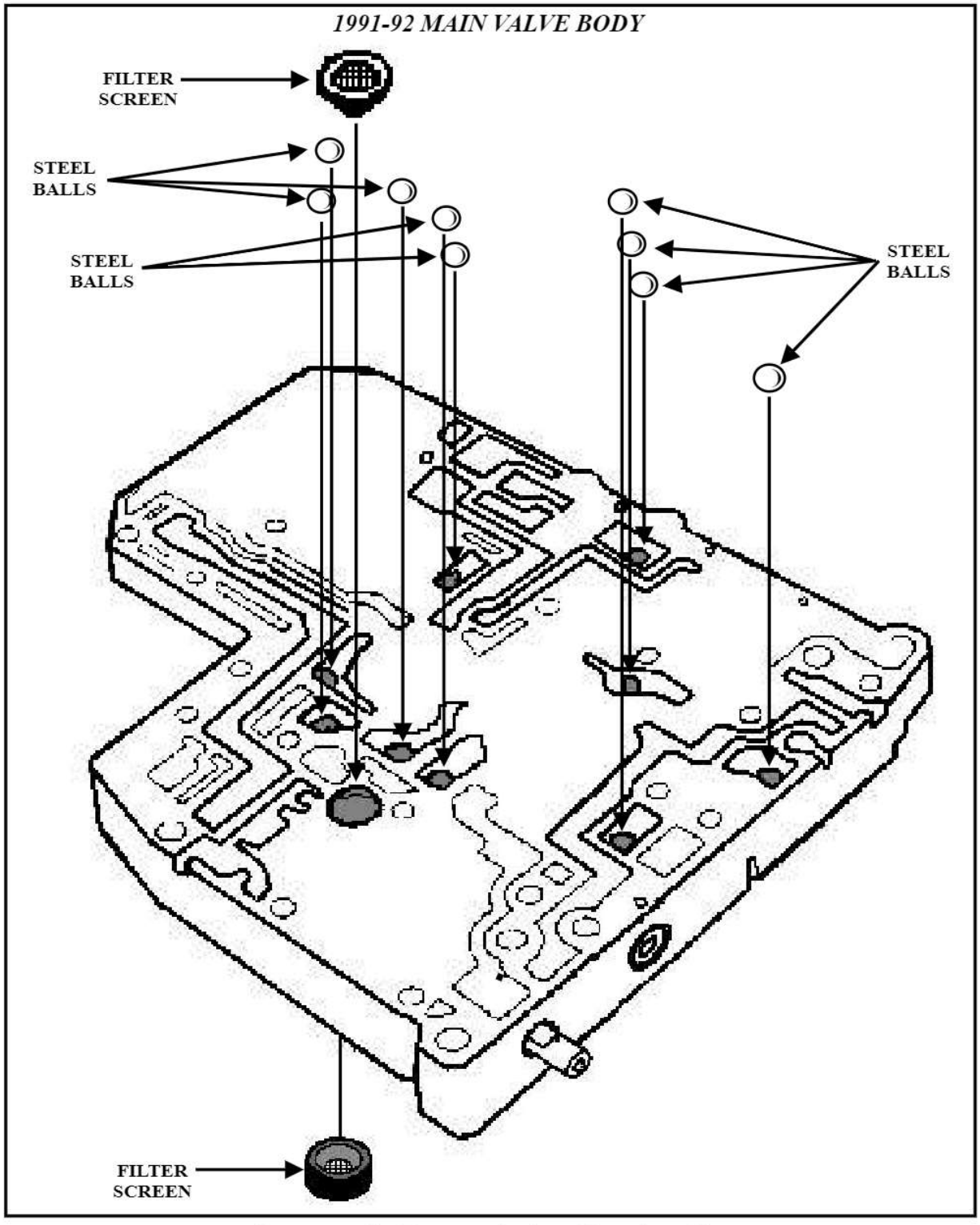
ACURA LEGEND CHECKBALL LOCATIONS
ACURA 3.5RL CHECKBALL LOCATIONS

MPYA
M5DA



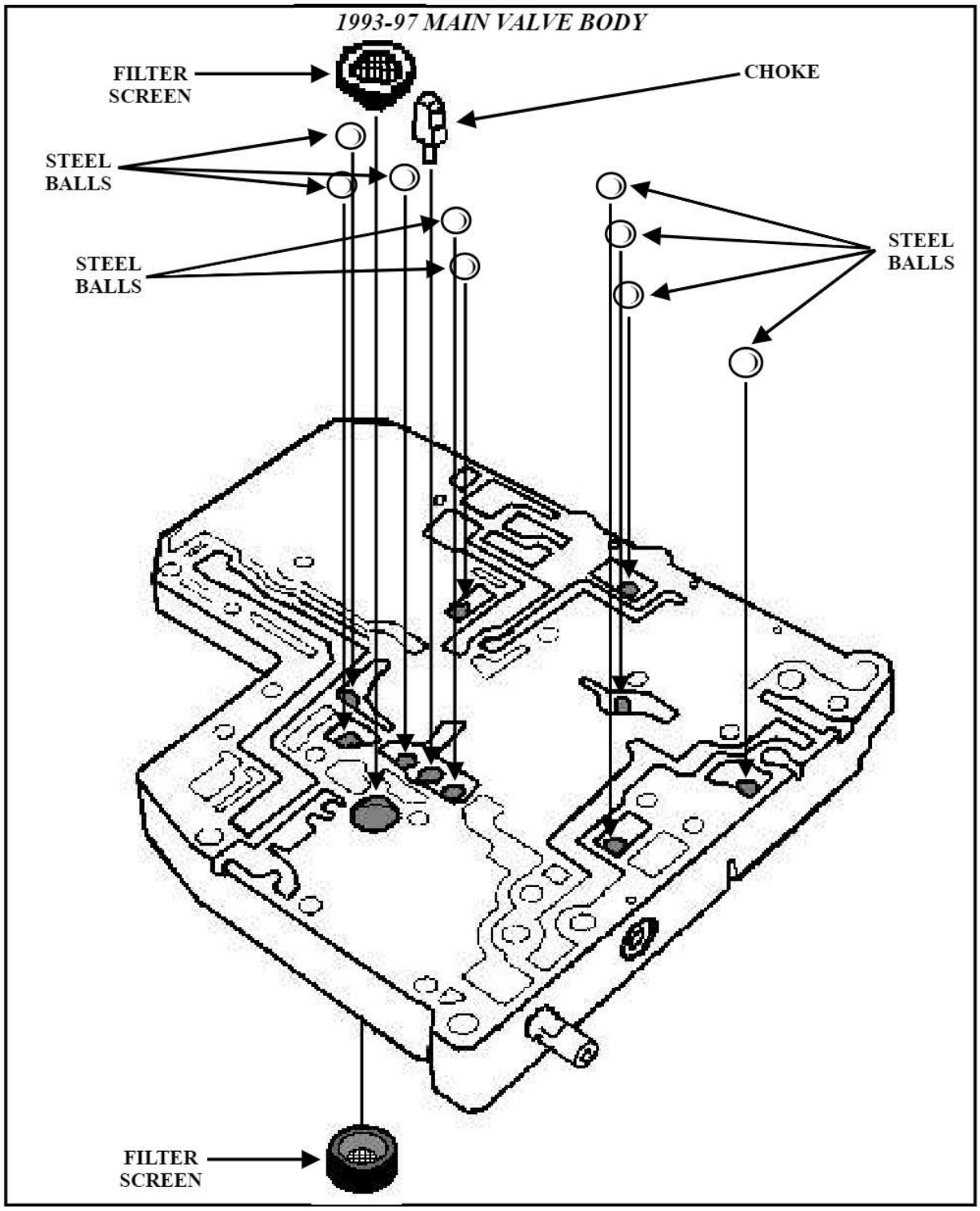
ACURA LEGEND CHECKBALL LOCATIONS

MPYA



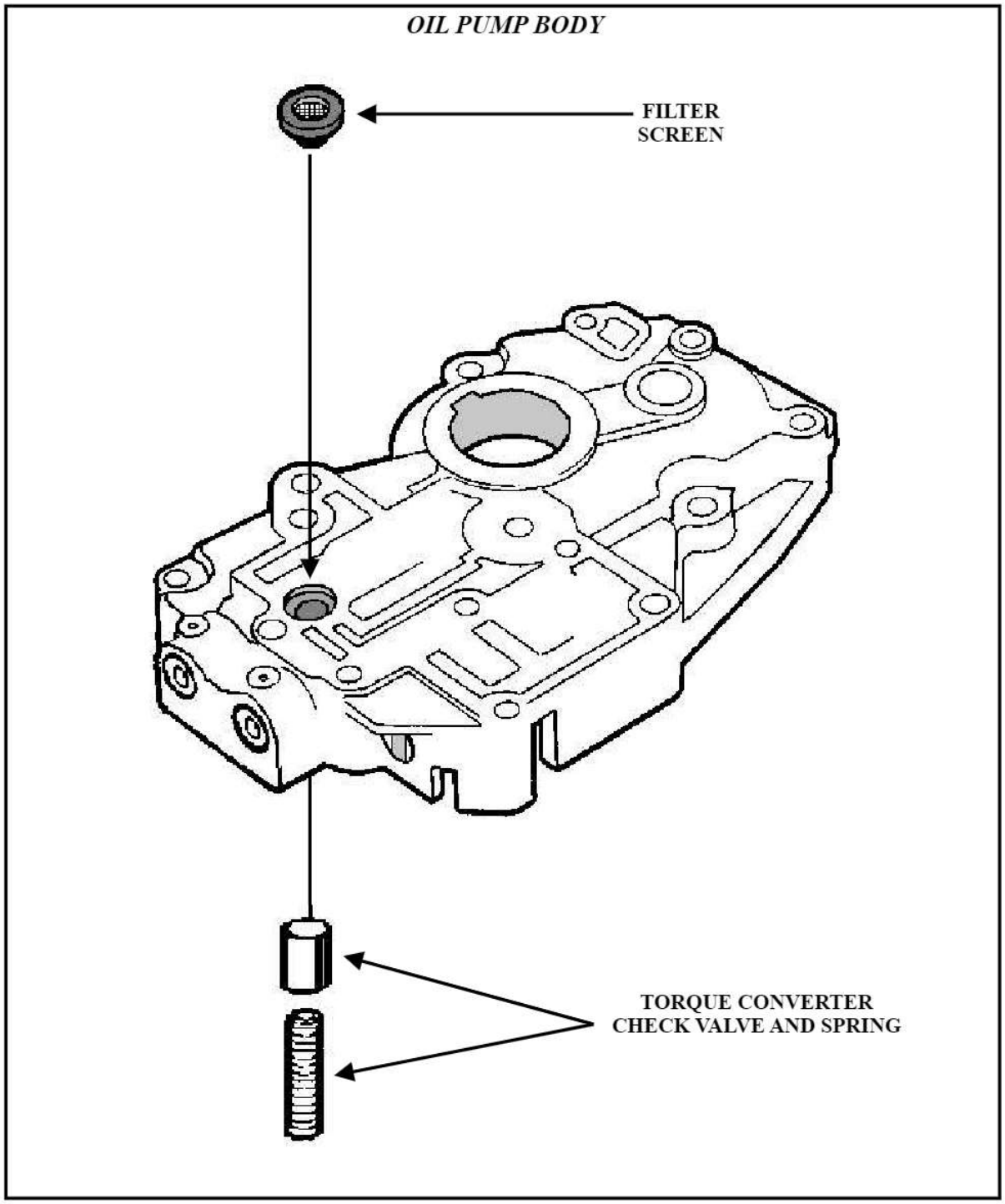
ACURA LEGEND CHECKBALL LOCATIONS
ACURA 3.5RL CHECKBALL LOCATIONS
MPYA
M5DA

1993-97 MAIN VALVE BODY



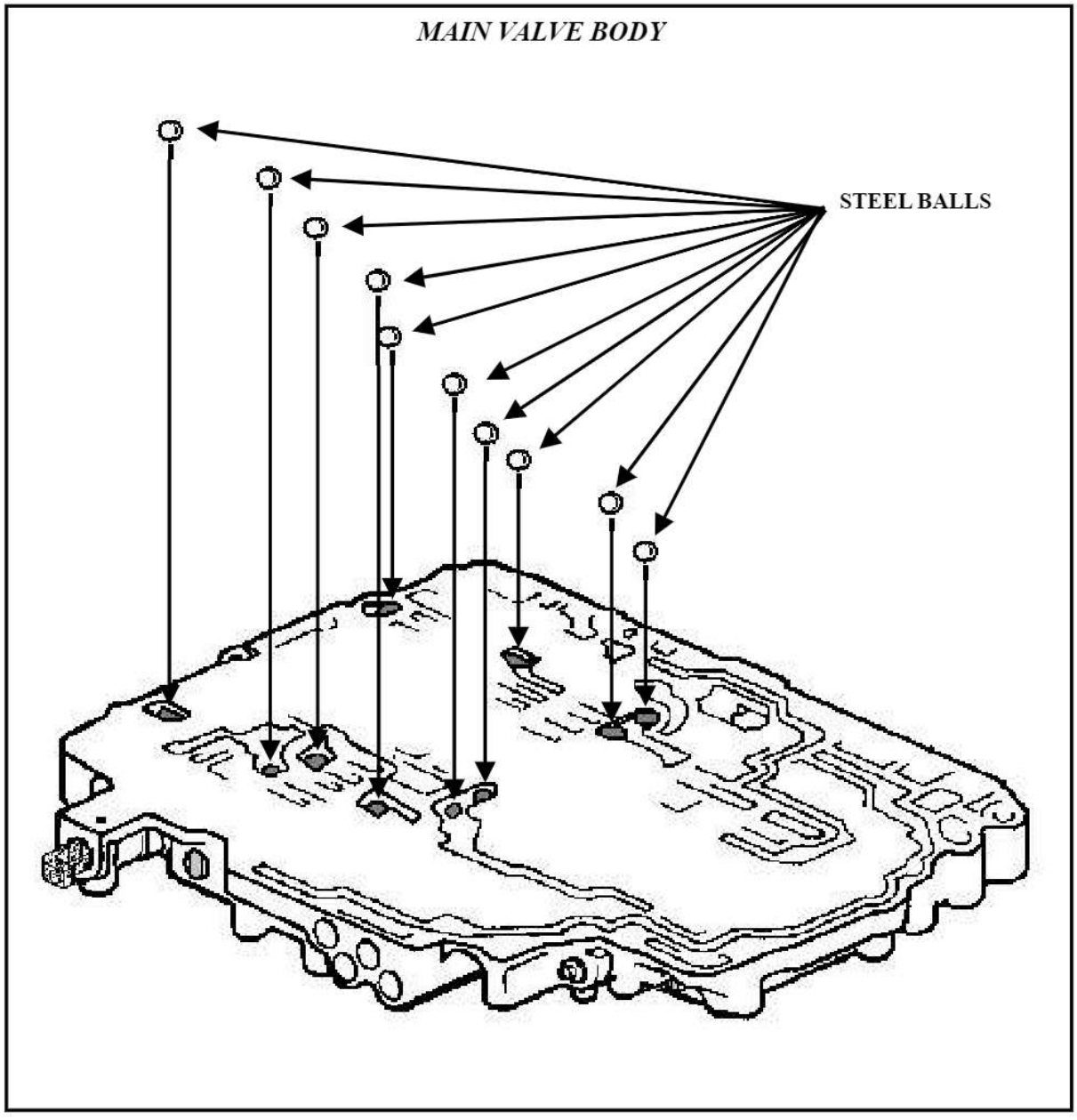
ACURA LEGEND CHECKBALL LOCATIONS
ACURA 3.5RL CHECKBALL LOCATIONS

MPYA
M5DA



ACURA VIGOR CHECKBALL LOCATIONS

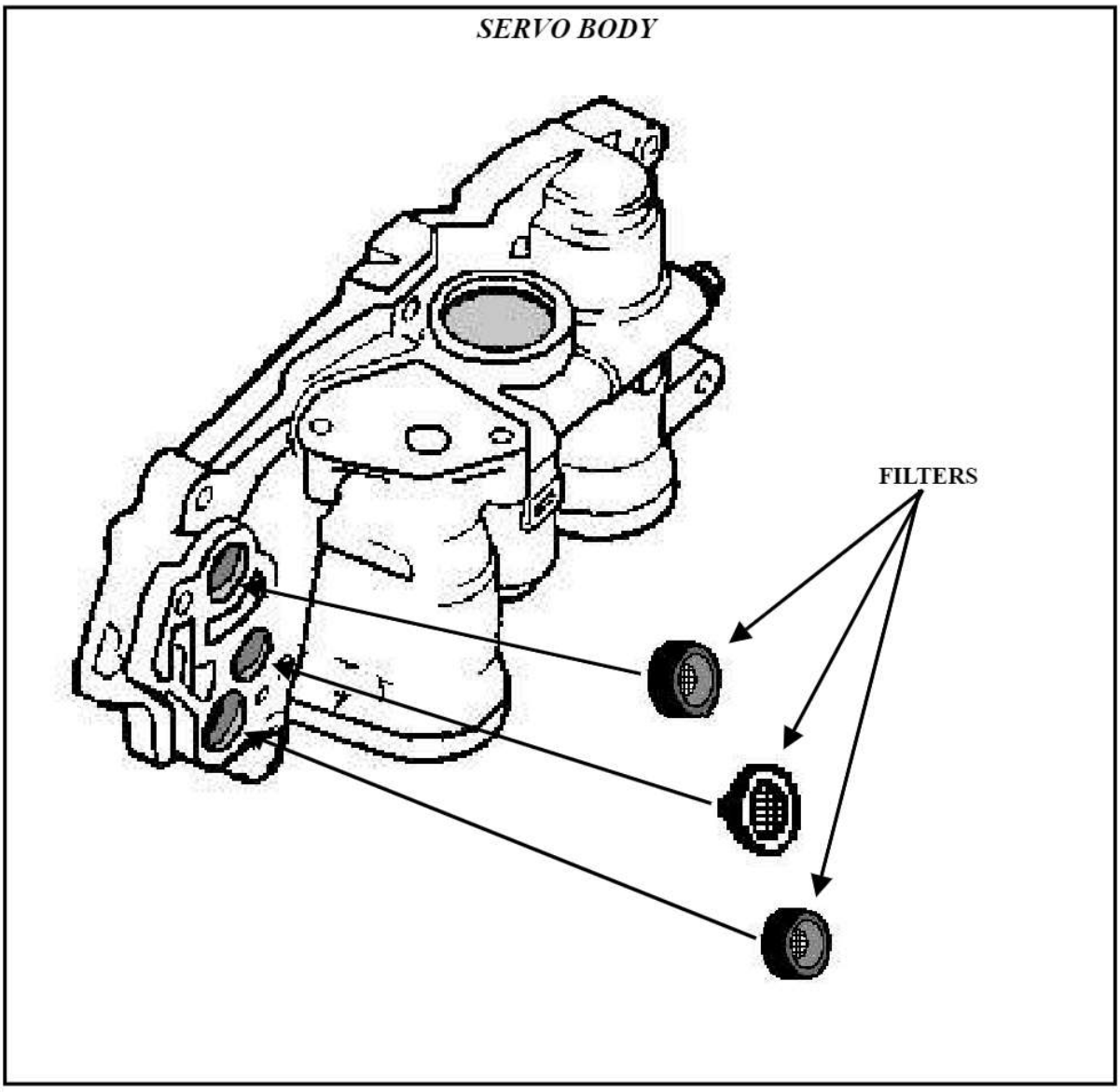
MPWA



ACURA VIGOR CHECKBALL LOCATIONS

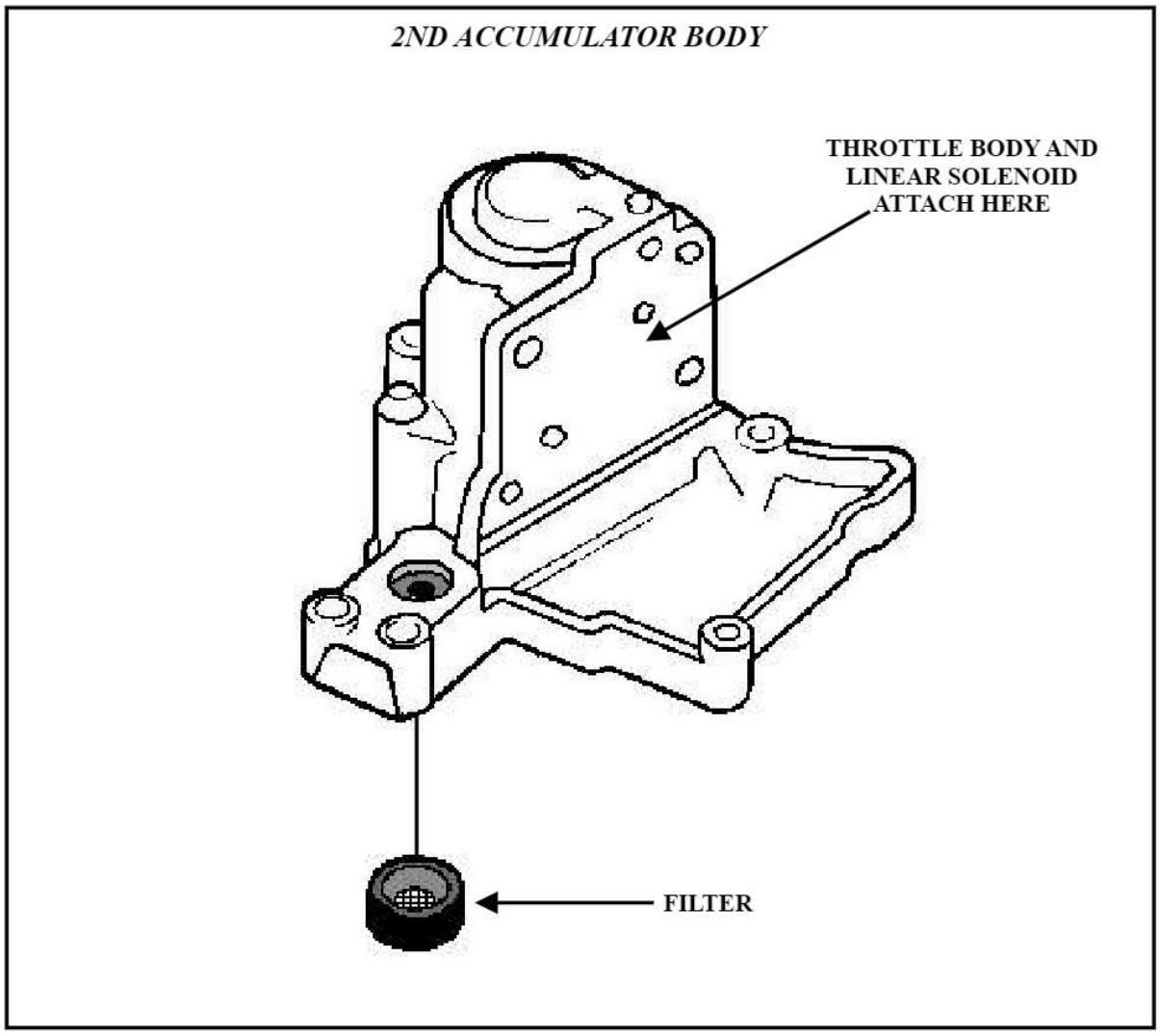
MPWA

SERVO BODY



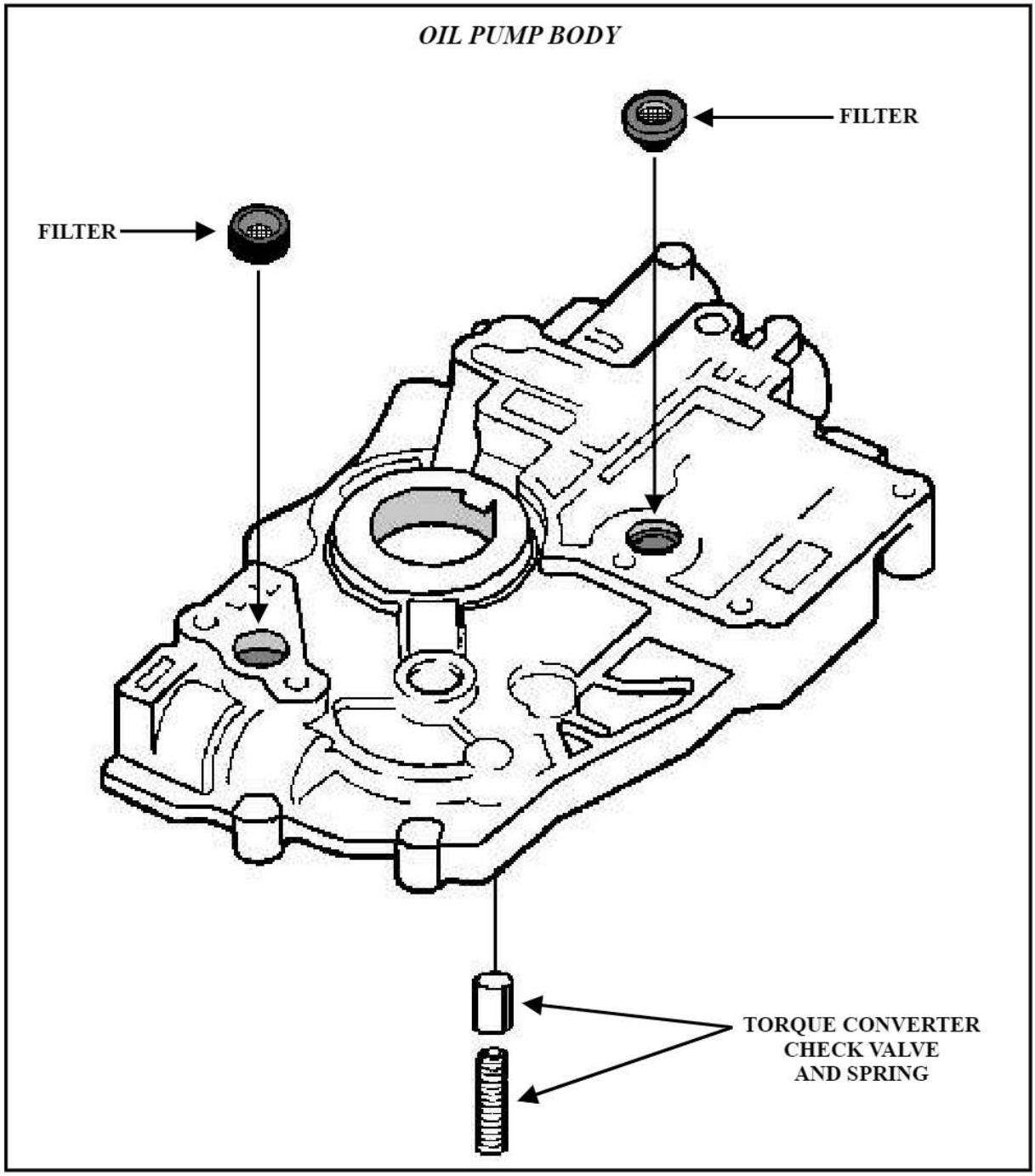
ACURA VIGOR CHECKBALL LOCATIONS

MPWA



ACURA VIGOR CHECKBALL LOCATIONS

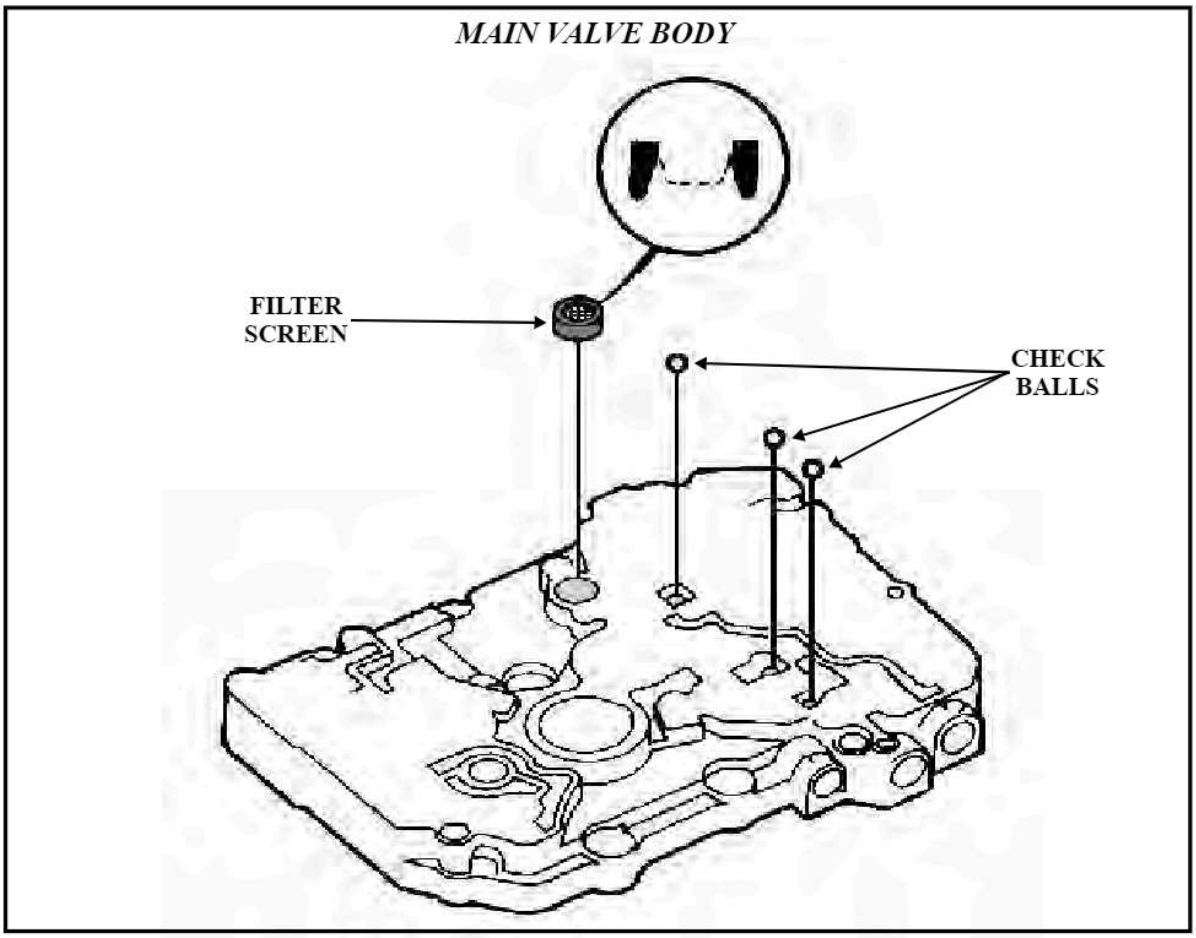
MPWA



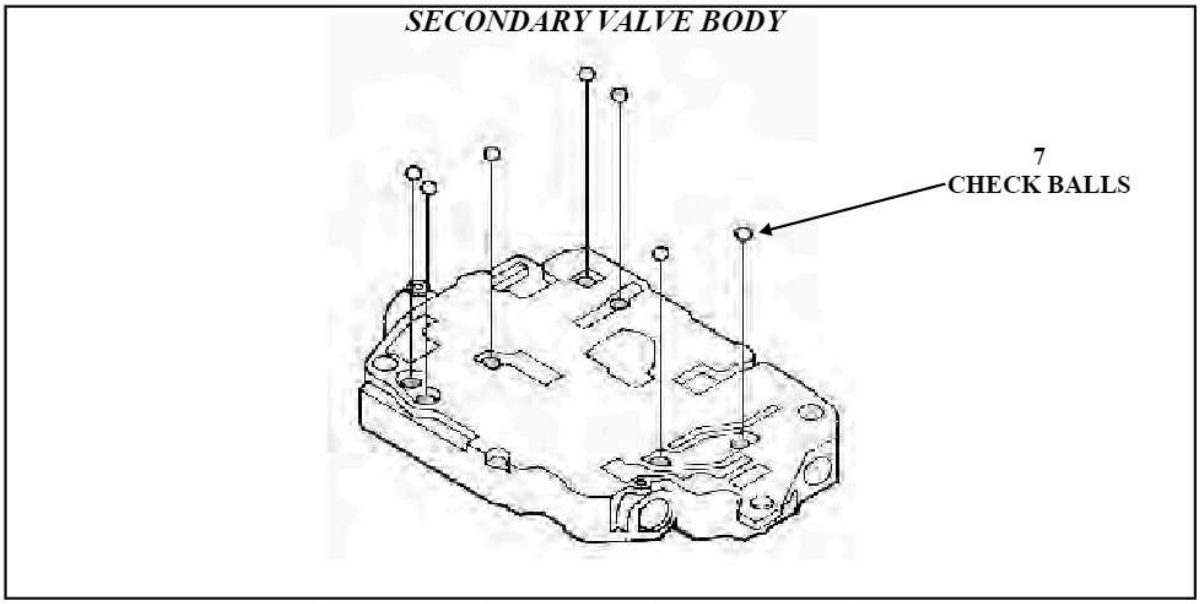
ACURA 2.2CL CHECKBALL LOCATIONS

A6VA

MAIN VALVE BODY



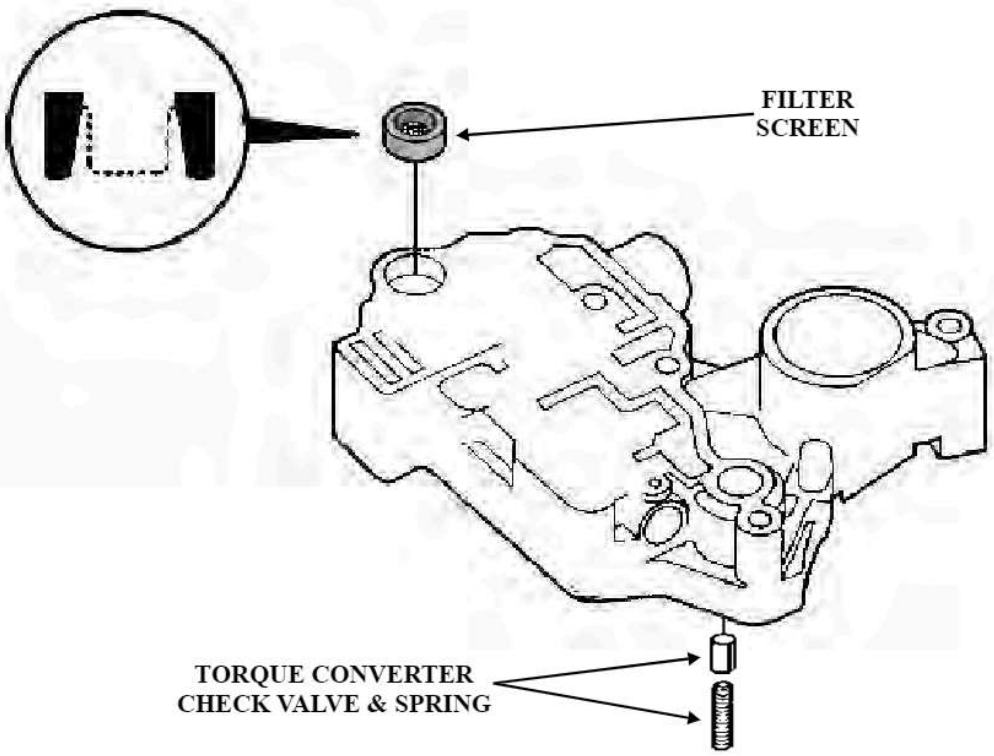
SECONDARY VALVE BODY



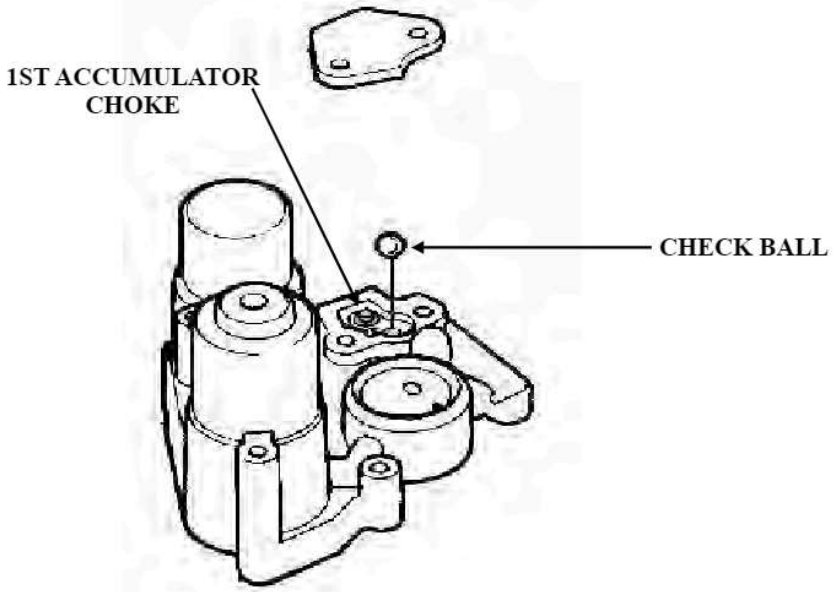
ACURA 2.2CL CHECKBALL LOCATIONS

A6VA

REGULATOR VALVE BODY



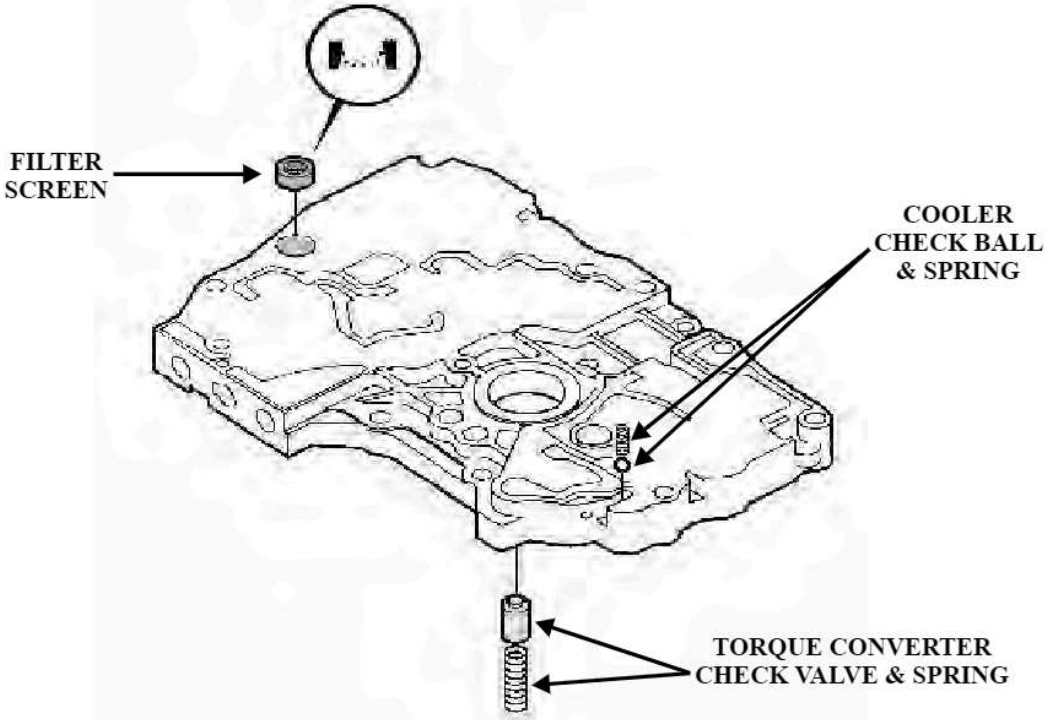
1ST/2ND ACCUMULATOR BODY



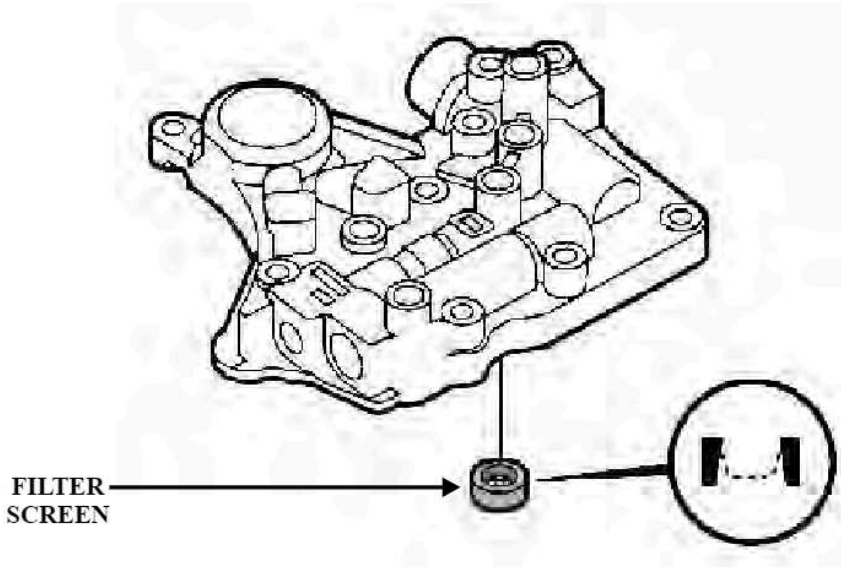
ACURA 3.0CL CHECKBALL LOCATIONS

M7ZA

MAIN VALVE BODY



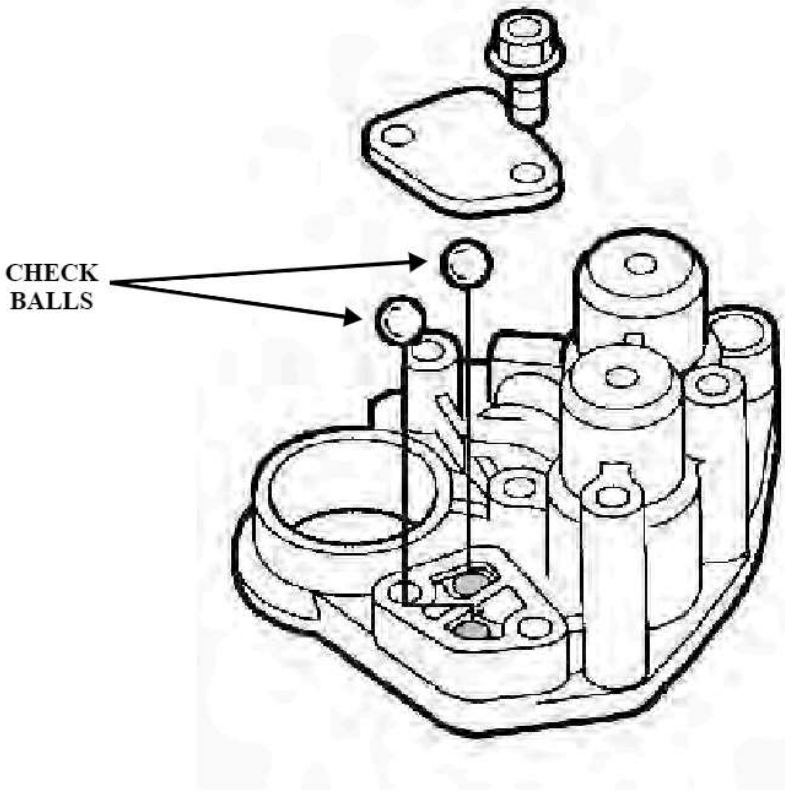
REGULATOR VALVE BODY



ACURA 3.0CL CHECKBALL LOCATIONS

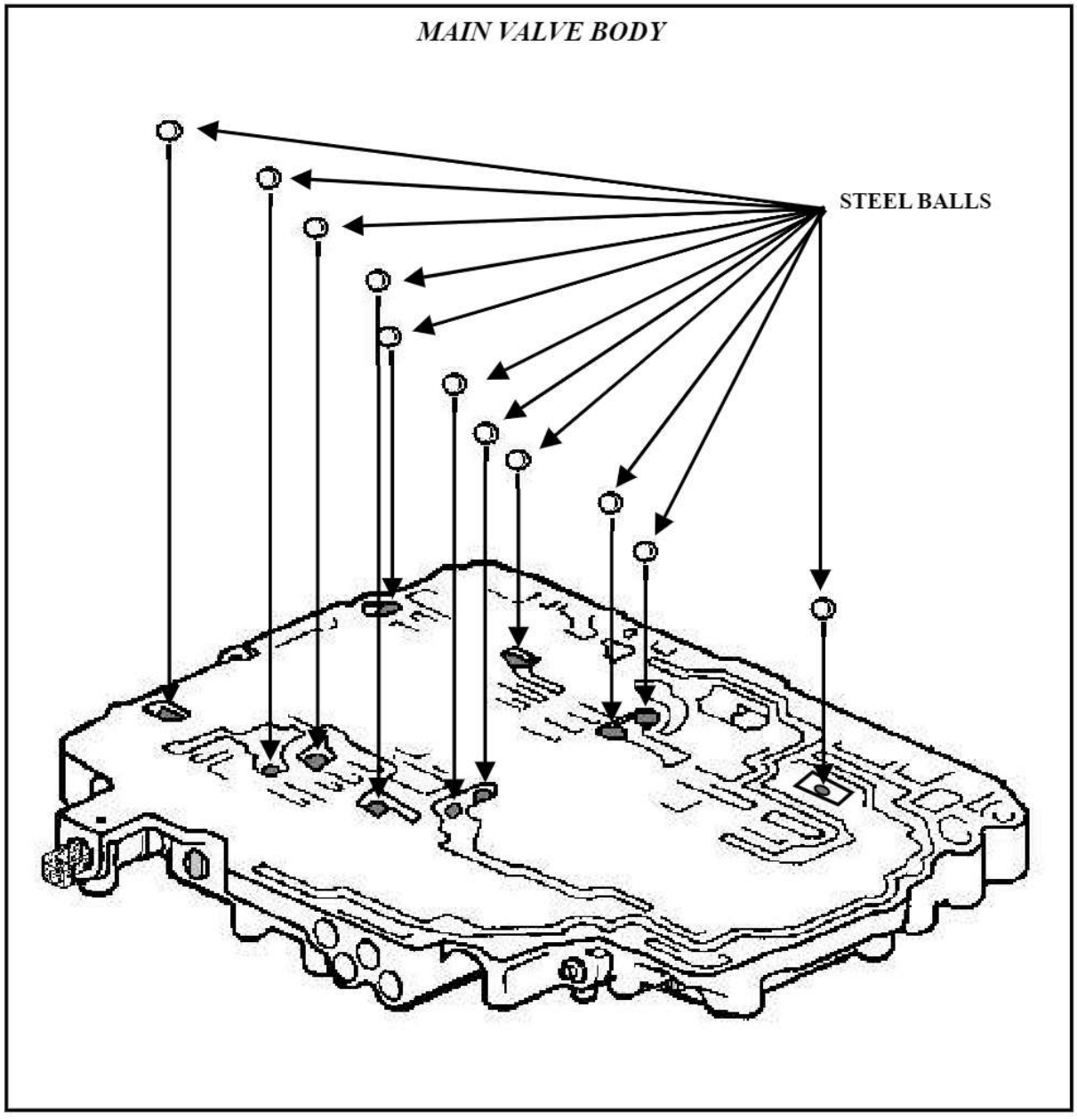
M7ZA

ACCUMULATOR BODY



ACURA 2.5TL CHECKBALL LOCATIONS

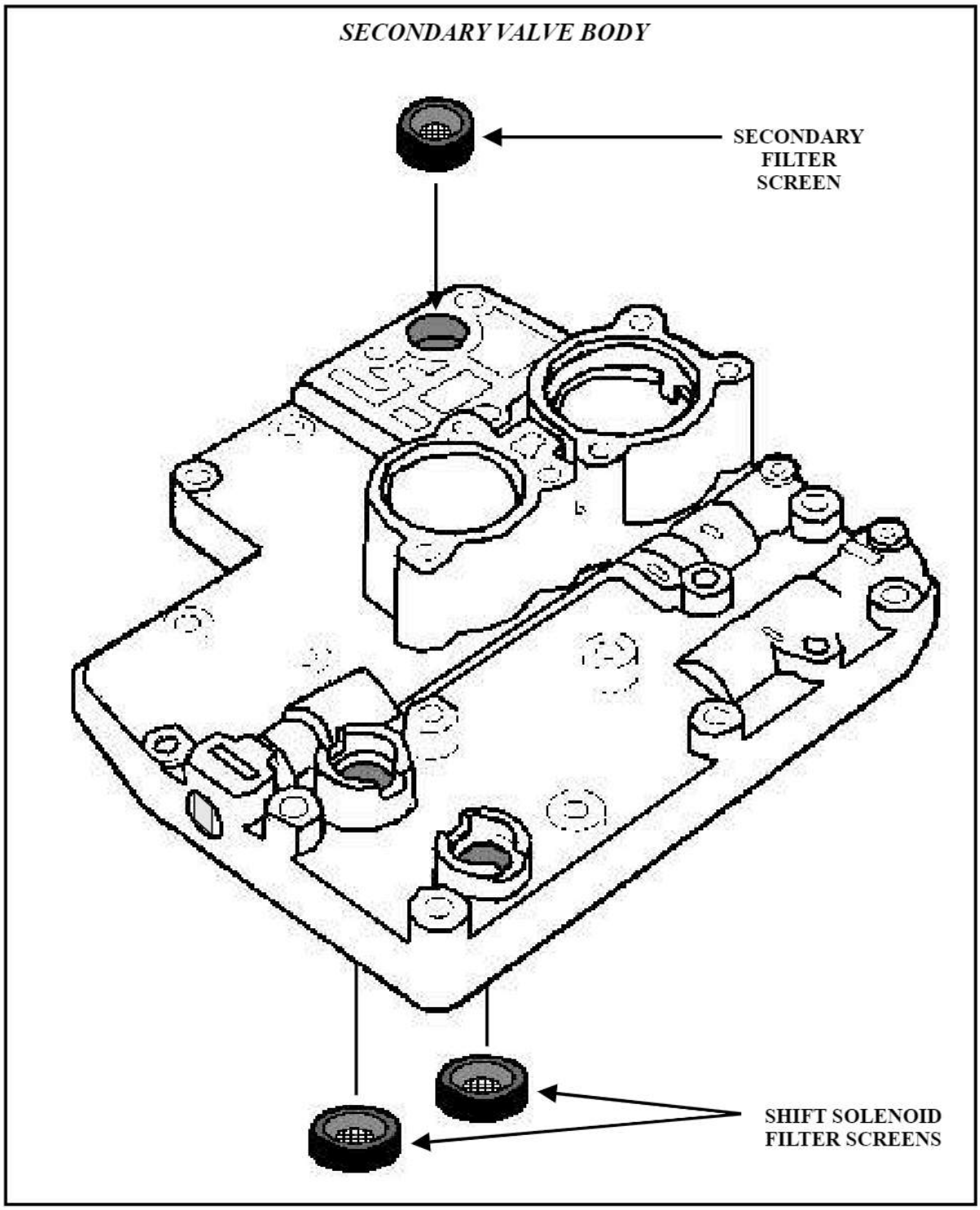
M1WA



NOTE: FOR CHECKBALL LOCATIONS IN THE OTHER VALVE BODY SECTIONS OF THE M1WA, REFER TO THE MPWA LOCATIONS

ACURA 3.2TL CHECKBALL LOCATIONS

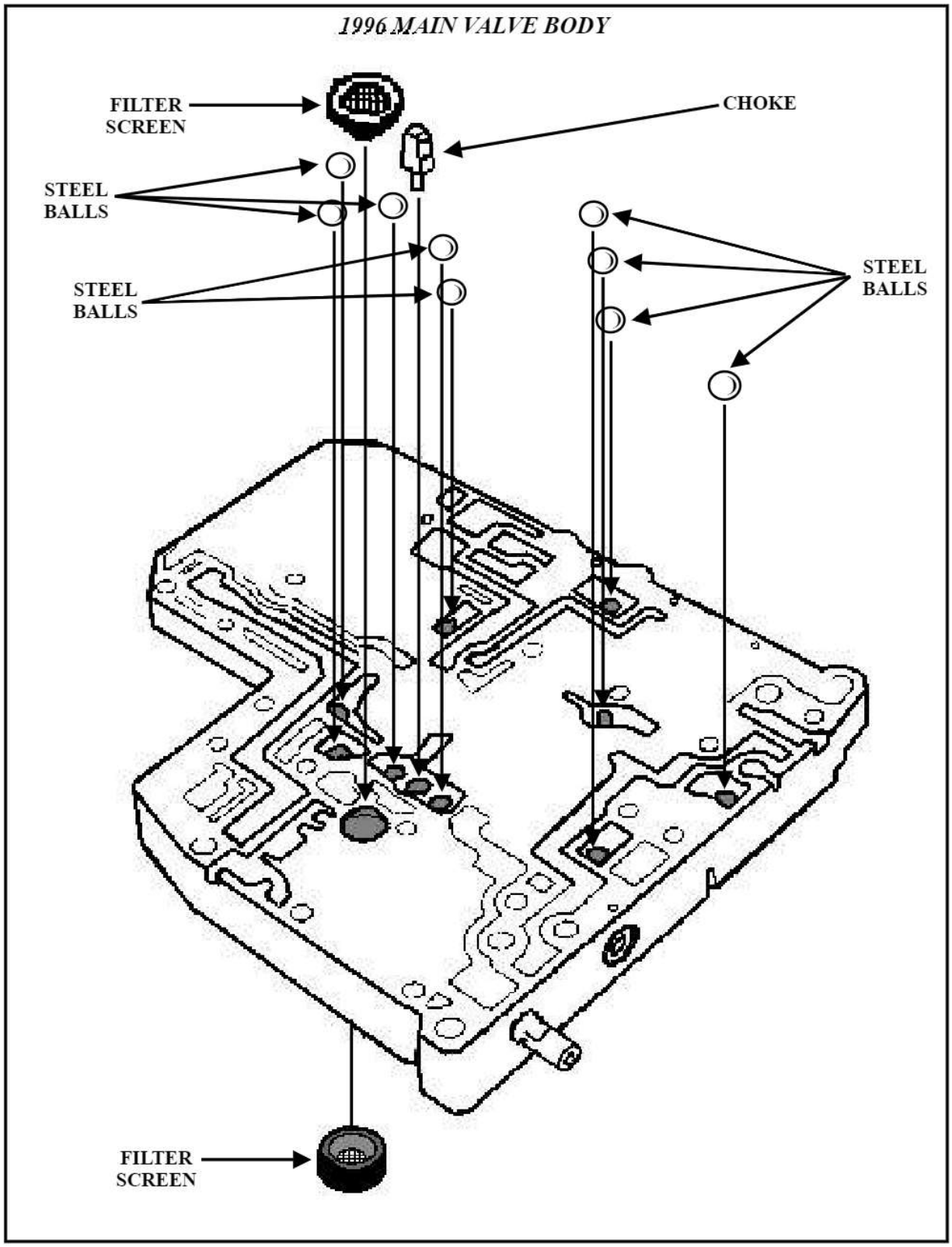
M5HA



ACURA 3.2TL CHECKBALL LOCATIONS

M5HA

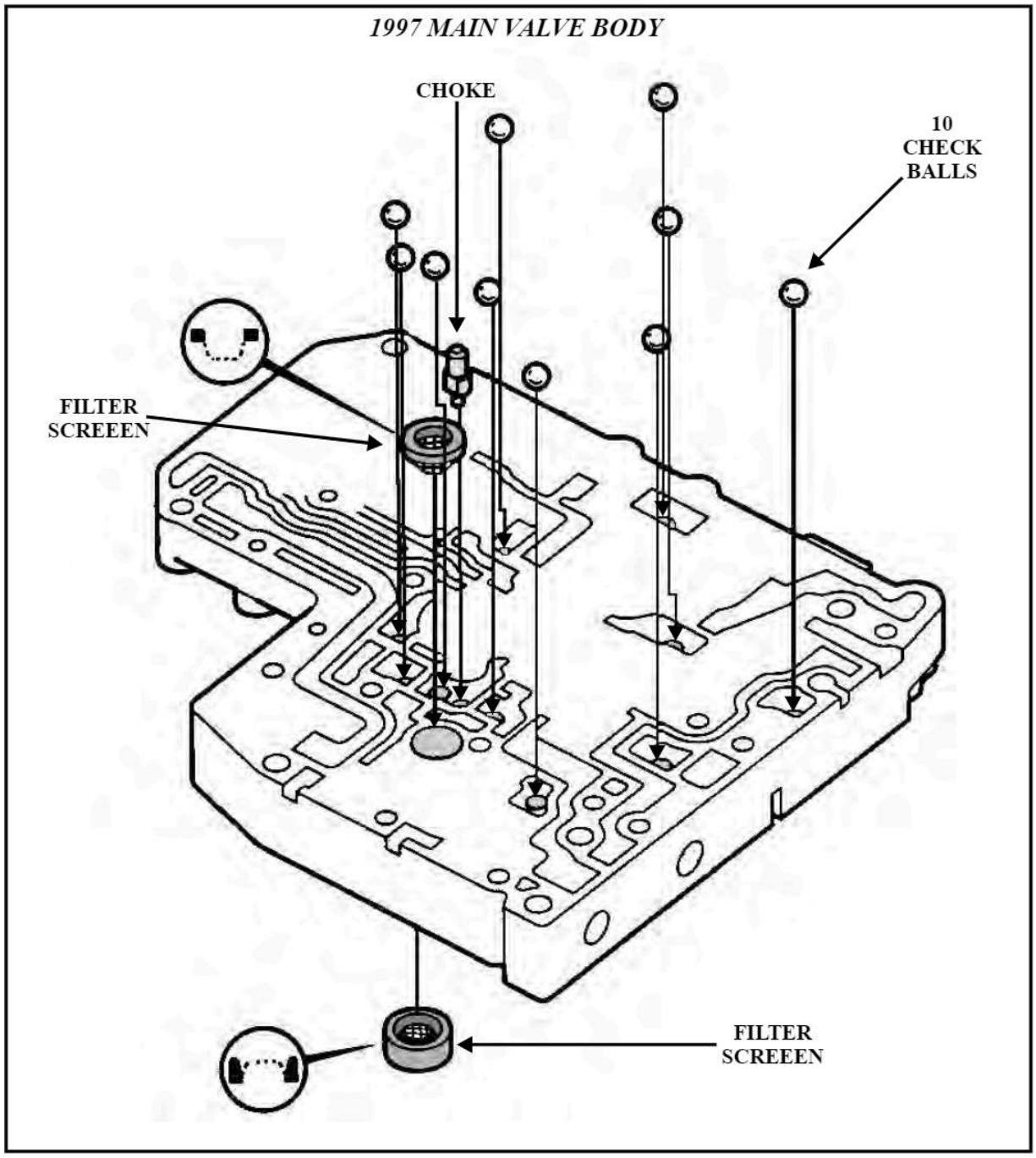
1996 MAIN VALVE BODY



ACURA 3.2TL CHECKBALL LOCATIONS

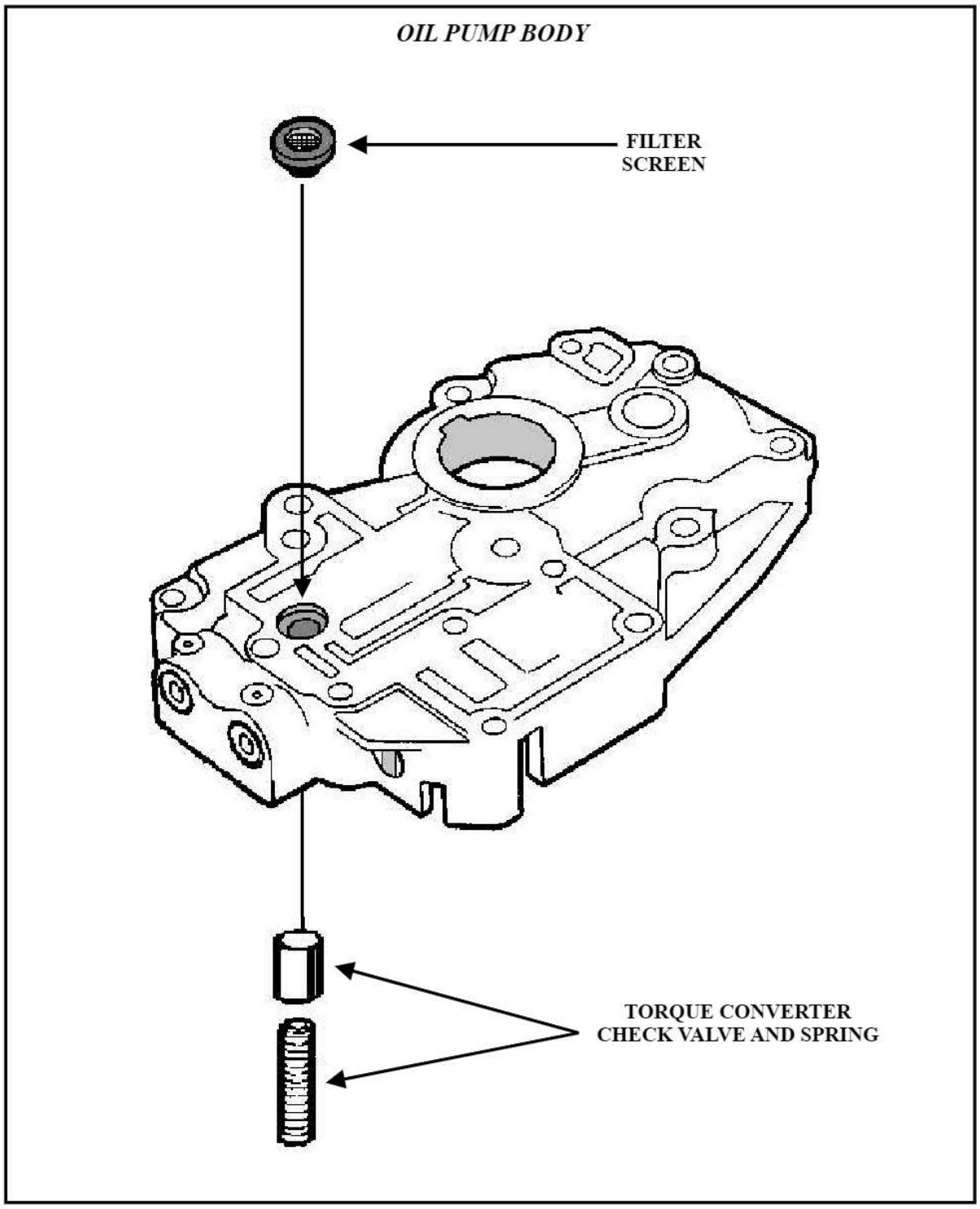
M5HA

1997 MAIN VALVE BODY



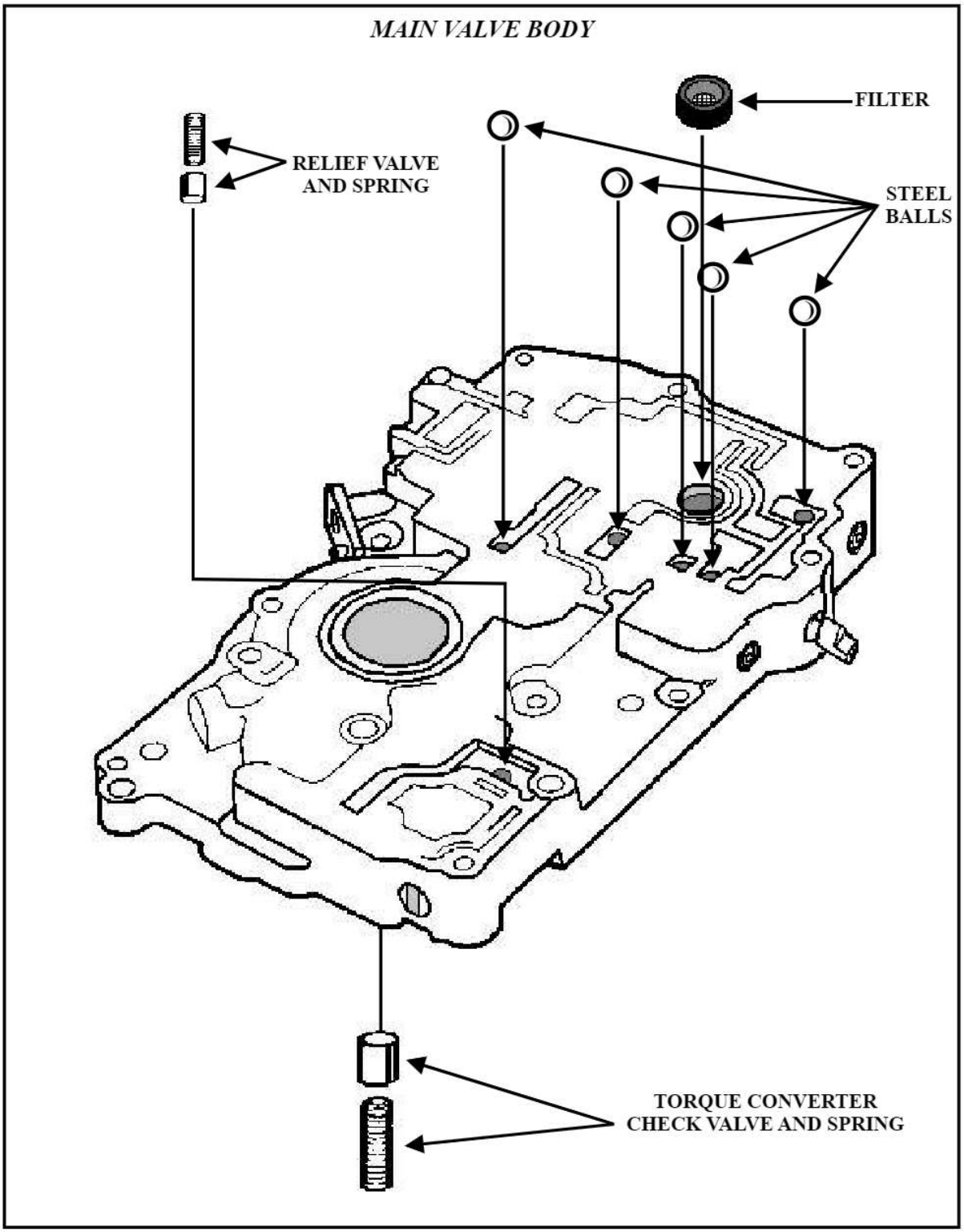
ACURA 3.2TL CHECKBALL LOCATIONS

M5HA



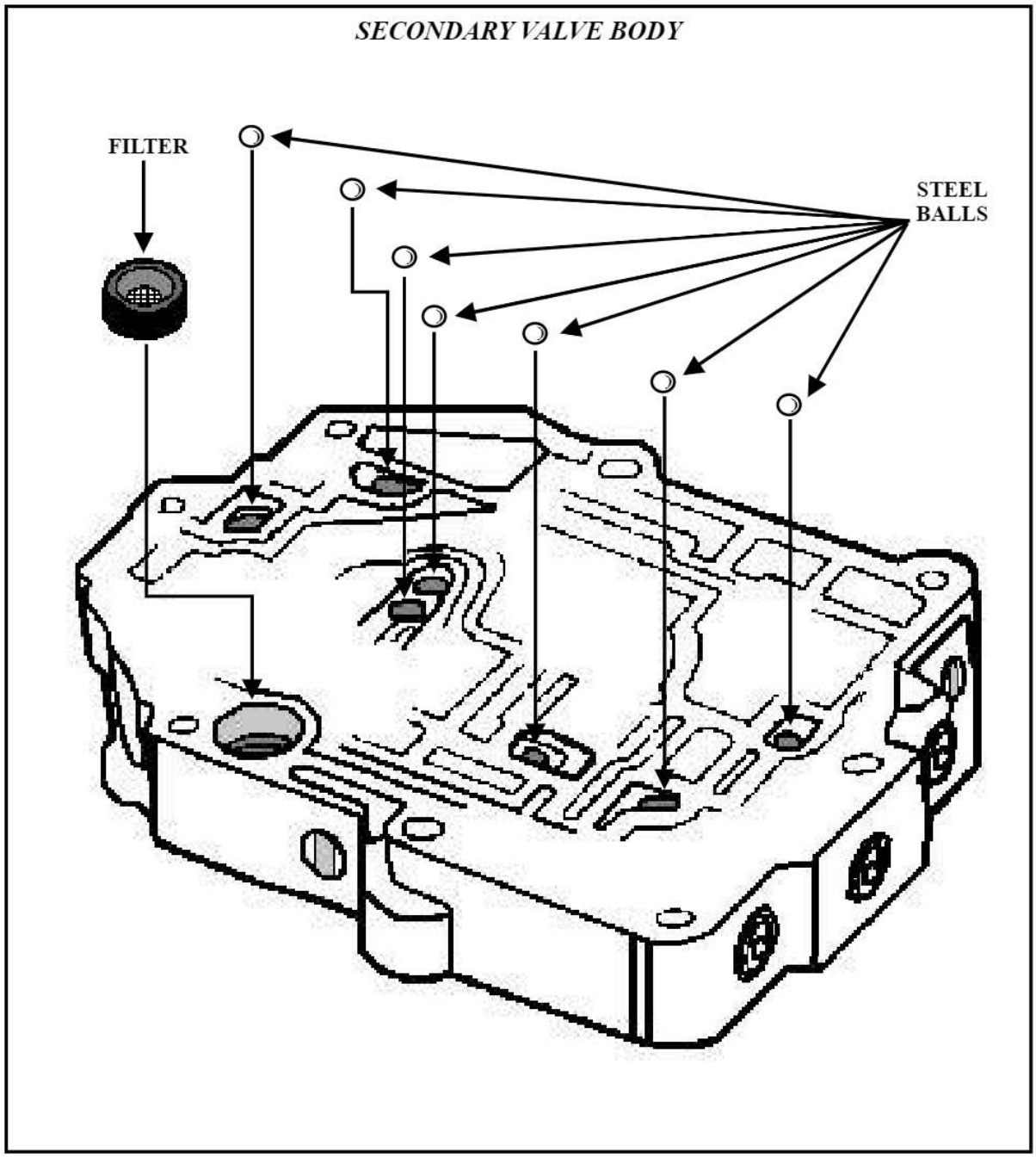
ACURA NSX CHECKBALL LOCATIONS

MR9A



ACURA NSX CHECKBALL LOCATIONS

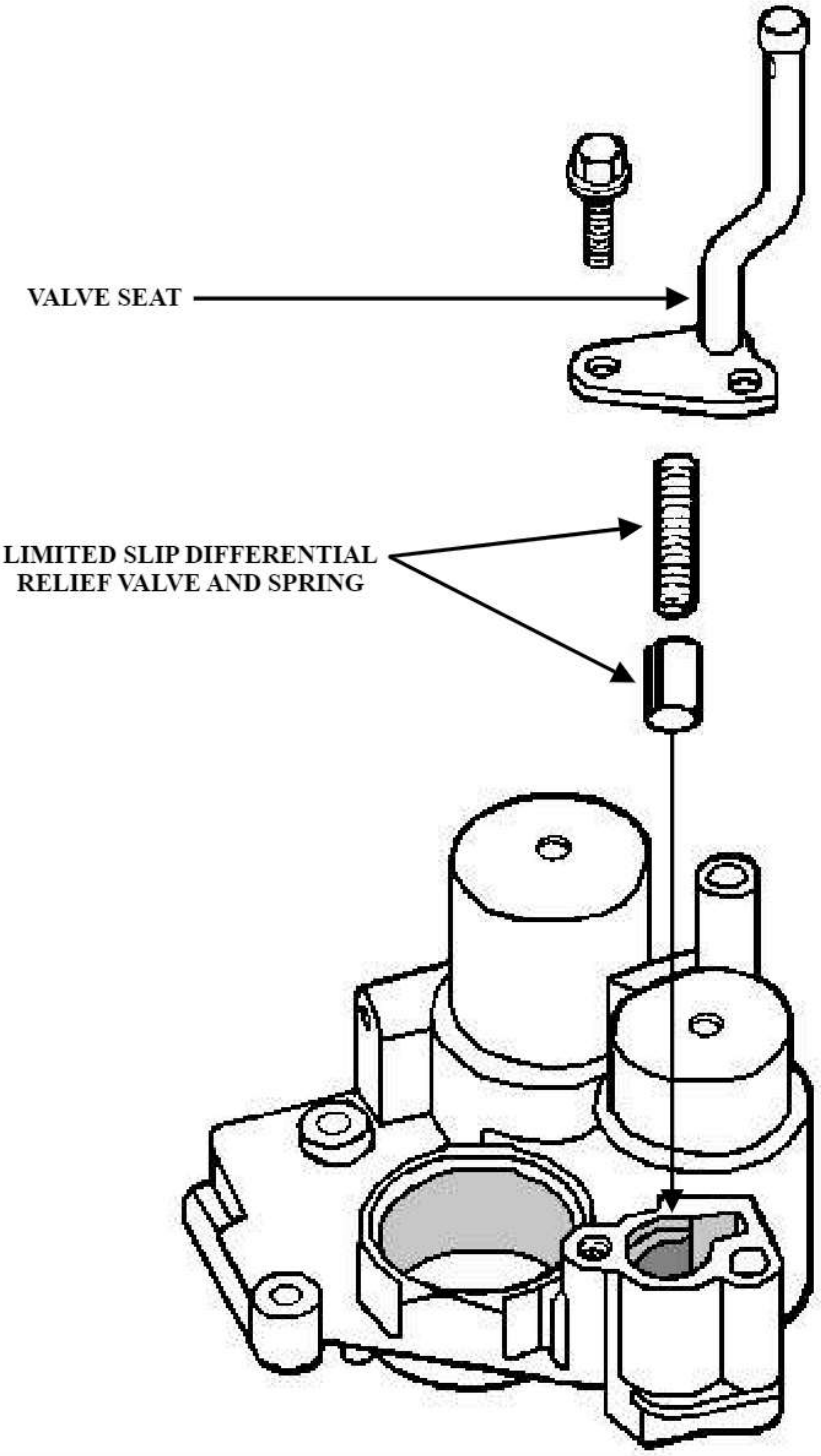
MR9A



ACURA NSX CHECKBALL LOCATIONS

MR9A

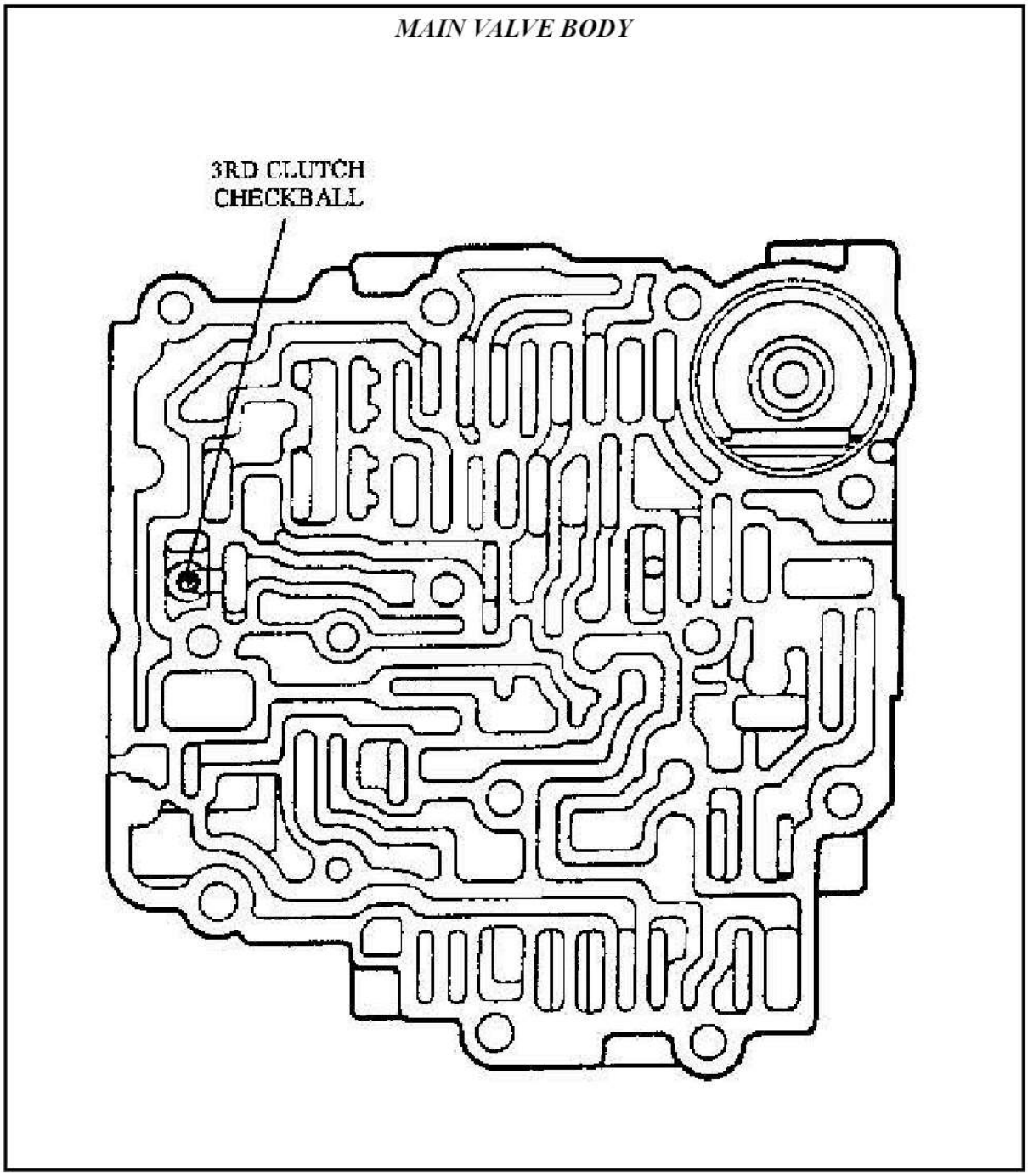
2ND ACCUMULATOR BODY



HONDA PASSPORT CHECKBALL LOCATIONS
ACURA SLX CHECKBALL LOCATIONS

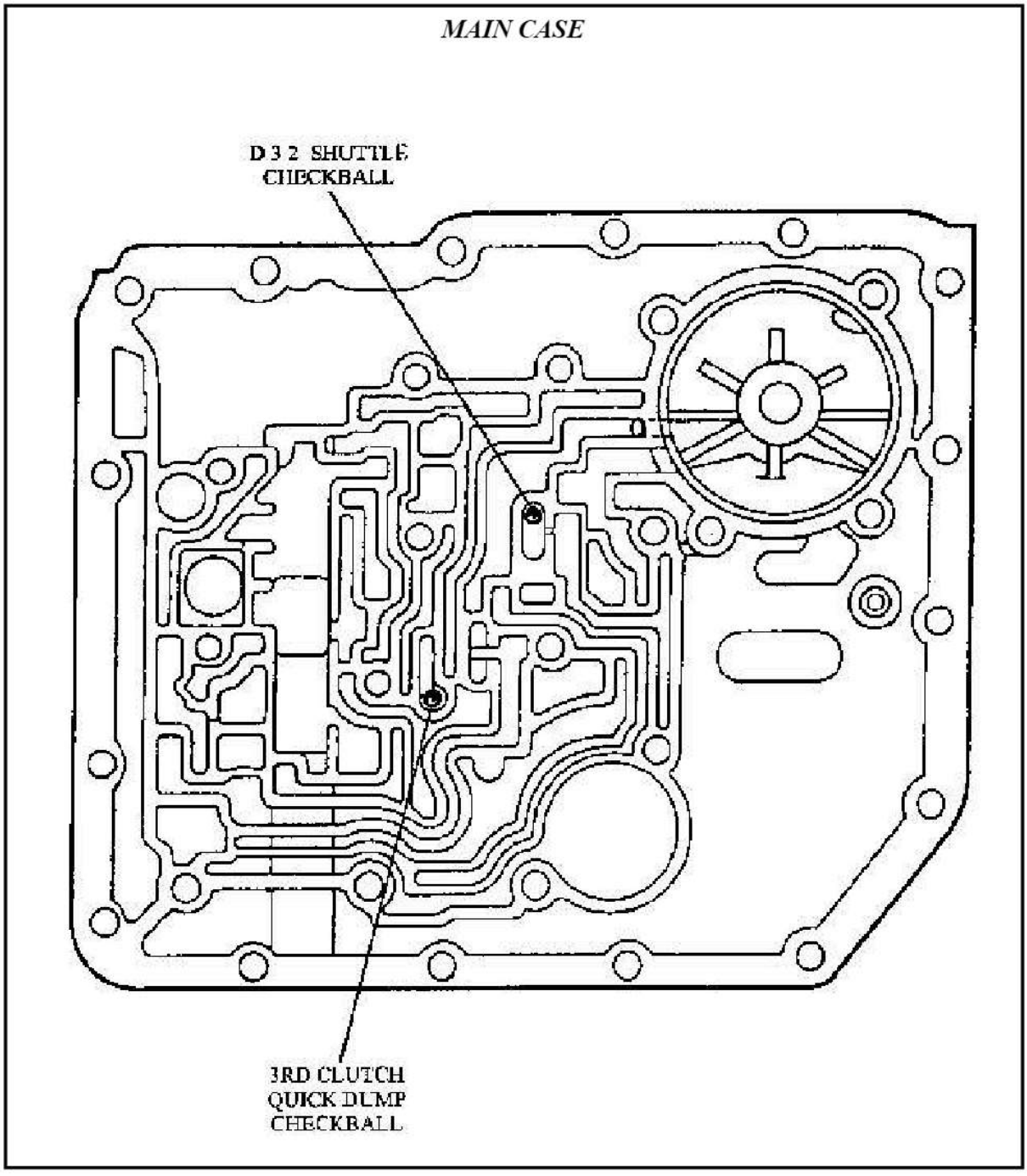
4L30E

MAIN VALVE BODY



HONDA PASSPORT CHECKBALL LOCATIONS
ACURA SLX CHECKBALL LOCATIONS
4L30E

MAIN CASE



HONDA PASSPORT CHECKBALL LOCATIONS
ACURA SLX CHECKBALL LOCATIONS
4L30E

OVERDRIVE CASE

