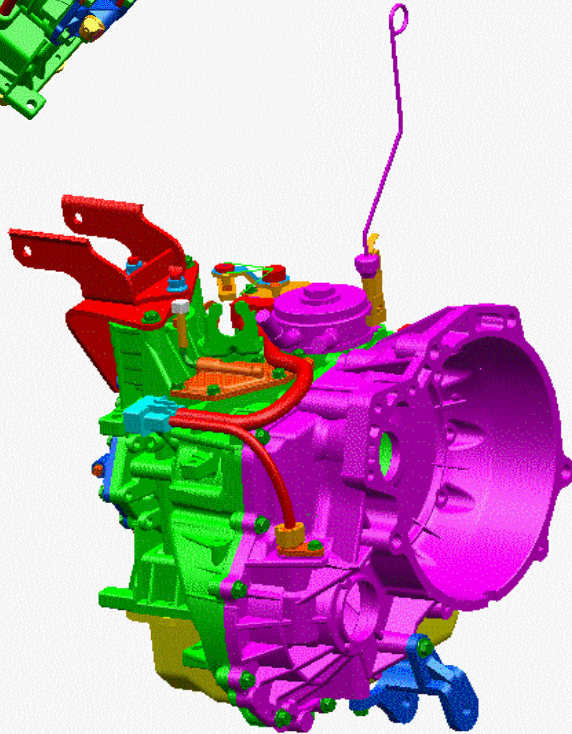
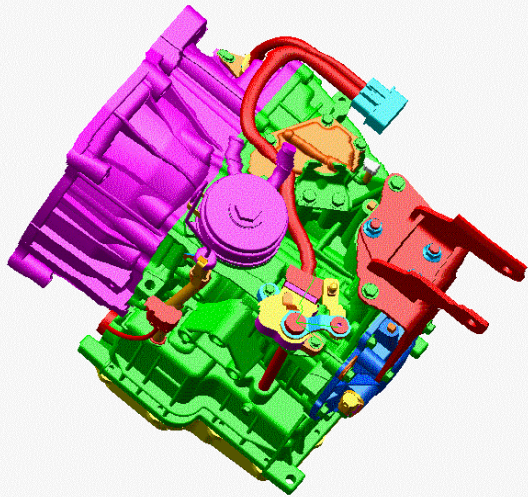


# JATCO

## Modelo FRA



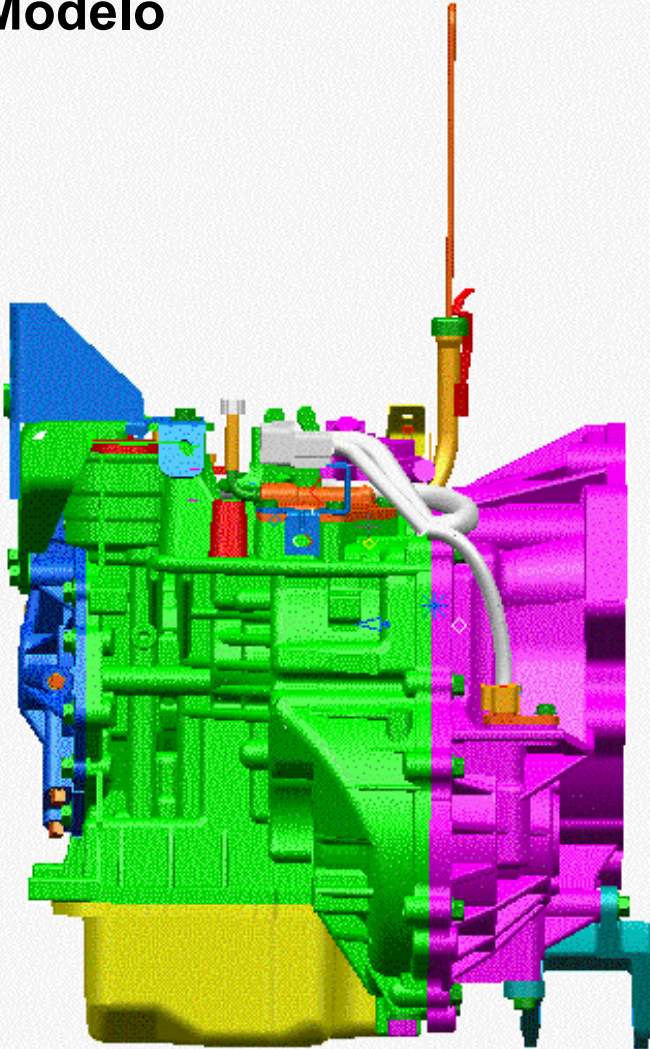
# GENERAL

## Aplicaciones

MOTOR		TM	Europe	General	Aust.
GSL.	$\epsilon$ -1.0	M/T	○	-	-
		A/T	-	-	-
	$\epsilon$ -1.1	M/T	○	○	○
		A/T	○	○	○

# GENERAL

## Modelo



- FRA (JATCO) 4velocidades A/T
- Se ha añadido un control de reducción de par para auamentar la suavidad del cambio.
- Par máximo: 11.2kgfm
- FGR: 3.977 ( $\varepsilon$ 1.1L/1.0L)
- Weight : 52kg

# GENERAL

## Modelo



- ATF:  
ESSO JWS 3114 (Japonés sólo)  
4.9L
- SP-III no está disponible

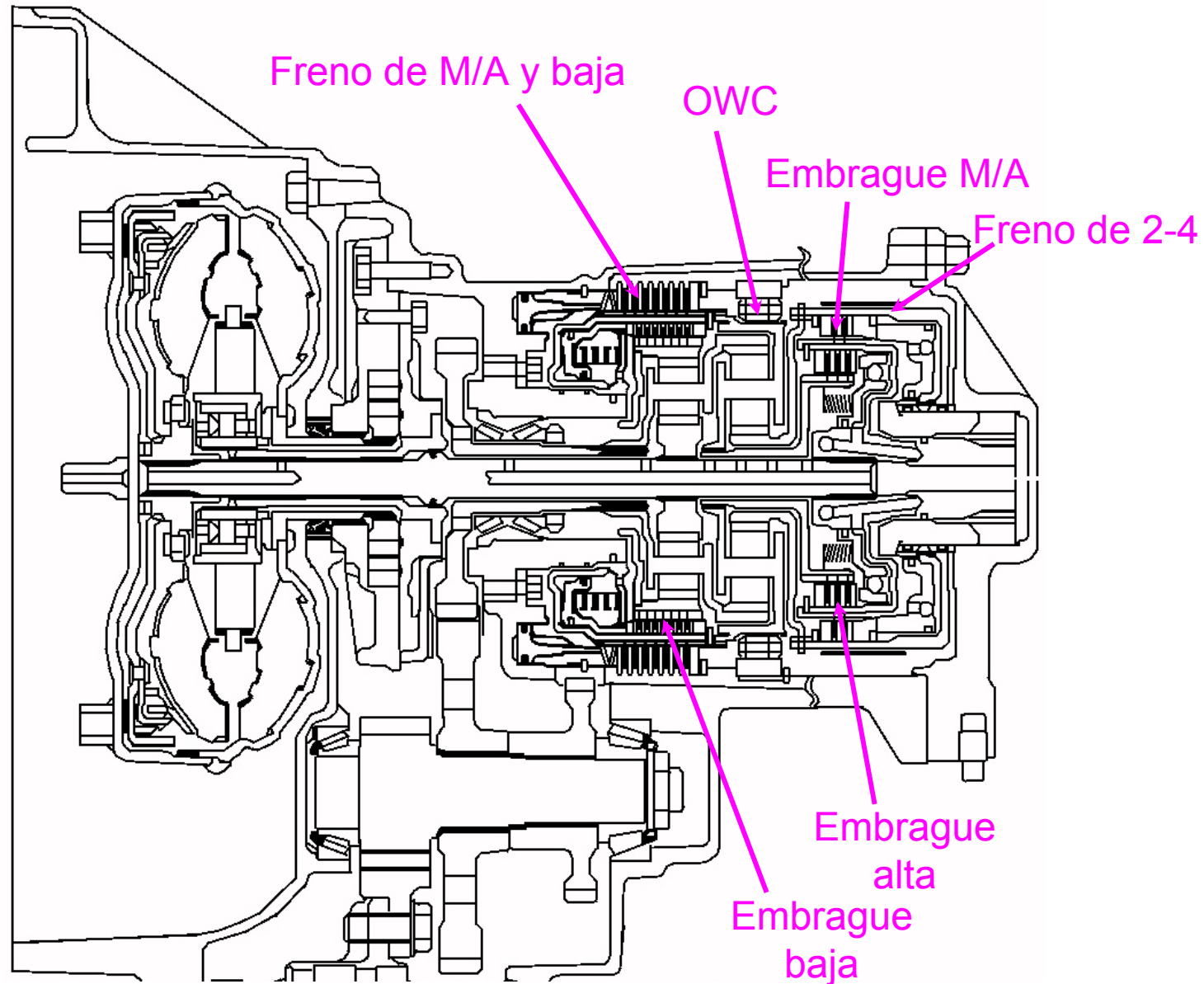
# GENERAL

## Prestaciones

elemento		ε-1.0		ε-1.1	
		M/T	A/T	M/T	A/T
Velocidad máxima (km/h)		149	-	154	144
Acel. (sec.)	0 → 100km/h	16,0	-	15,1	17,9
	60 → 100km/h (4TH,D)	16,2	-	14,5	11,0
Consumo (km/ℓ)		15,4	-	15,4	12,2
Peso (kg)		1.093	-	1.113	1.127
Neumáticos		155/70R13			

# PARTE MECANICA

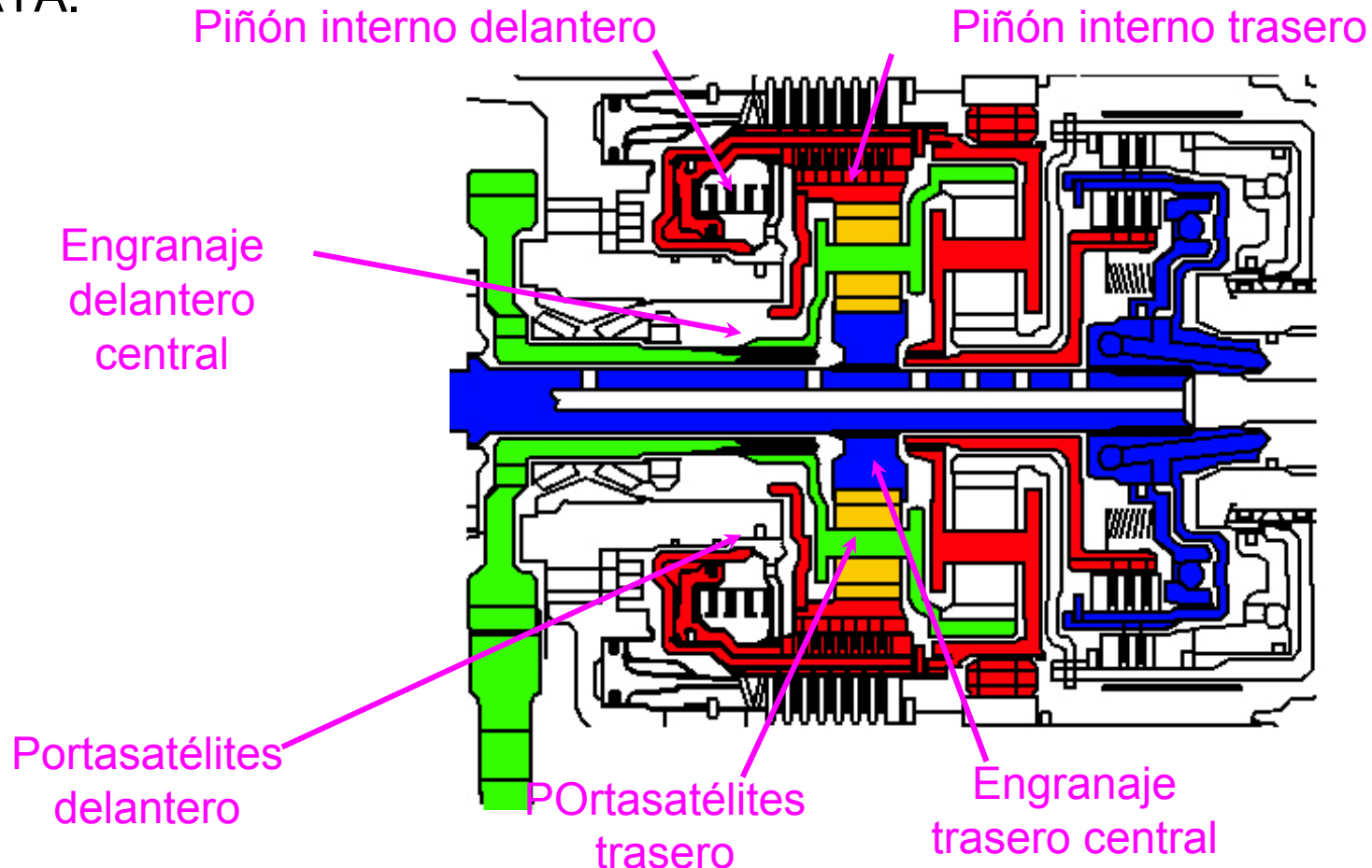
## Sección



# PARTE MECANICA

## Elementos

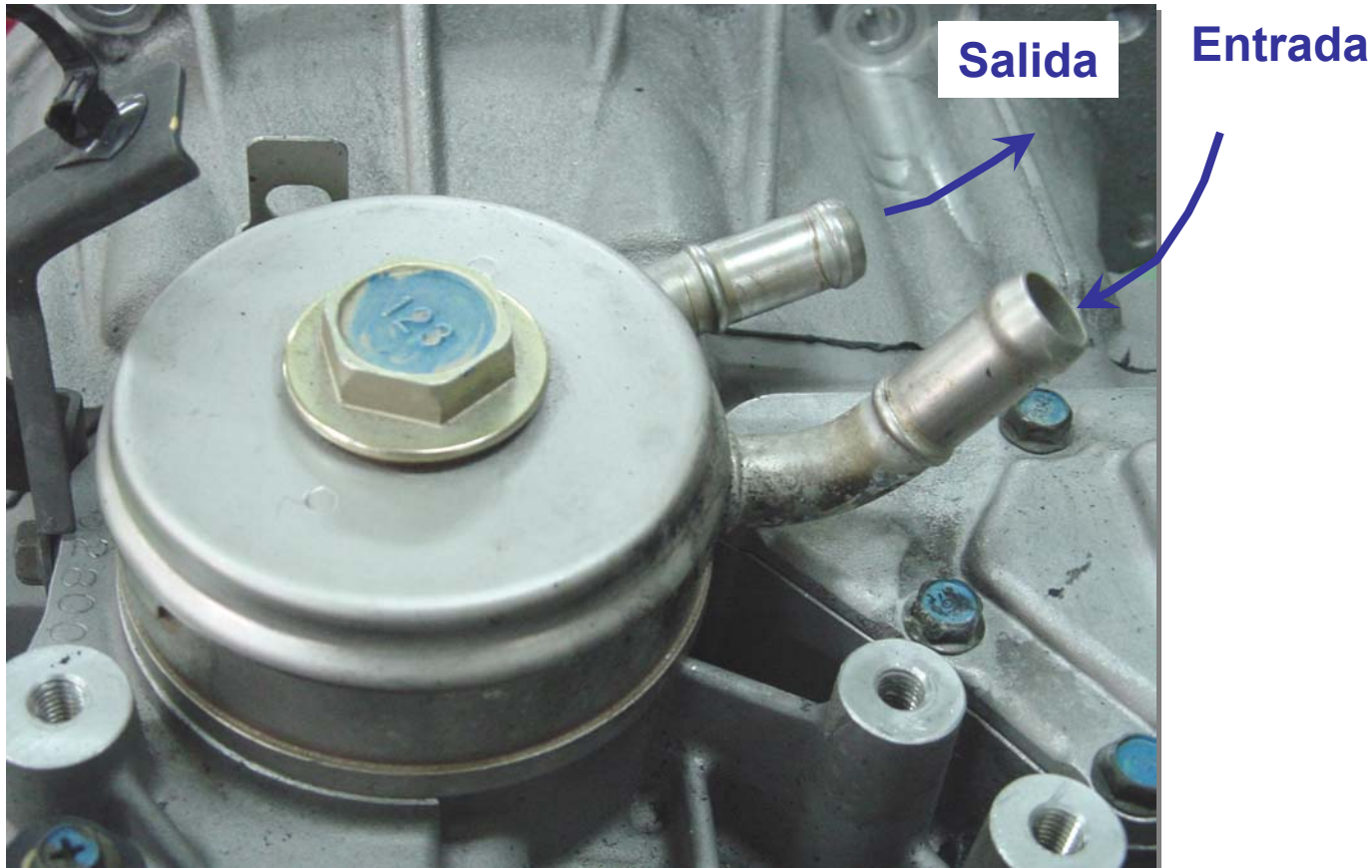
- Trenes epicicloidales  
lleva dos trenes epicicloidales tipo Simpson, igual que el cambio H-matic ATA.



# PARTE MECANICA

## Elemento

- El enfriador de agua del aceite del cambio está montado en la carcasa del cambio.



# MECHANICAL

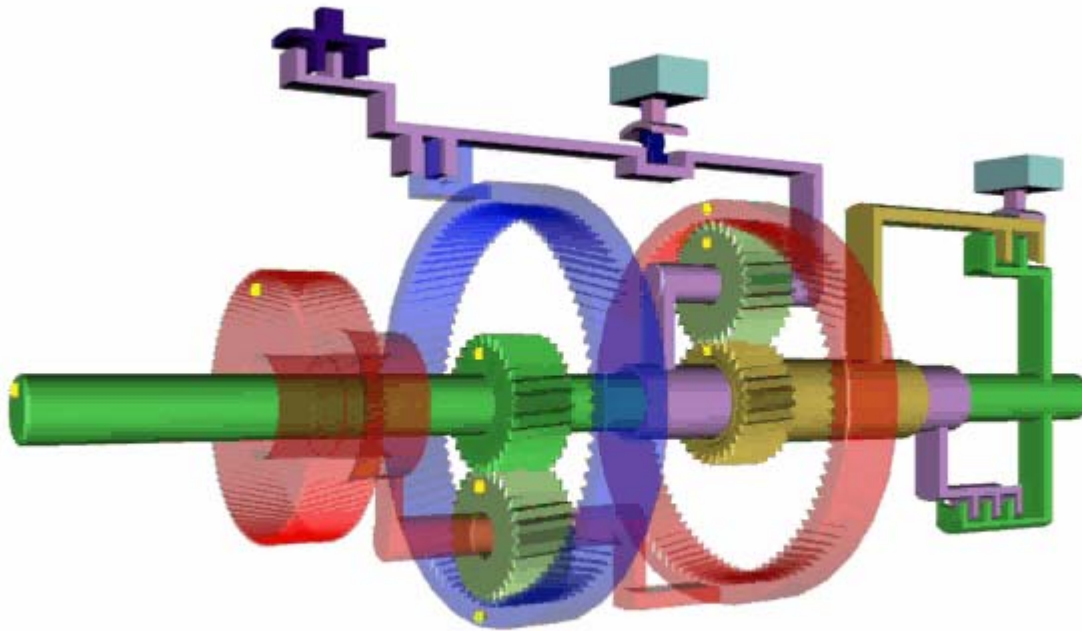
## Operating Element Chart in each Gear

Range	Reverse clutch	Low clutch	High clutch	2-4 Brake	L&R brake	OWC
P, N						
R	★				★	
1ST(D,2)		★				☆
1ST(L)		★			★	
2ND		★		★		
3RD		★	★			
4TH			★	★		

☆ : While acceleration only

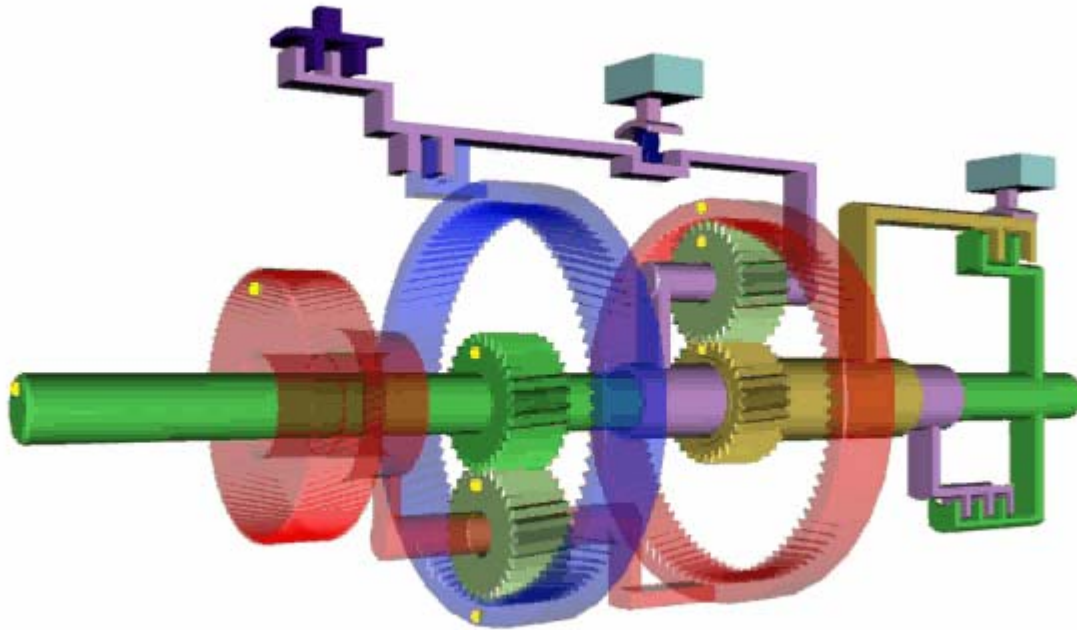
# MECHANICAL

## Power Flow - 1<sup>ST</sup> Gear



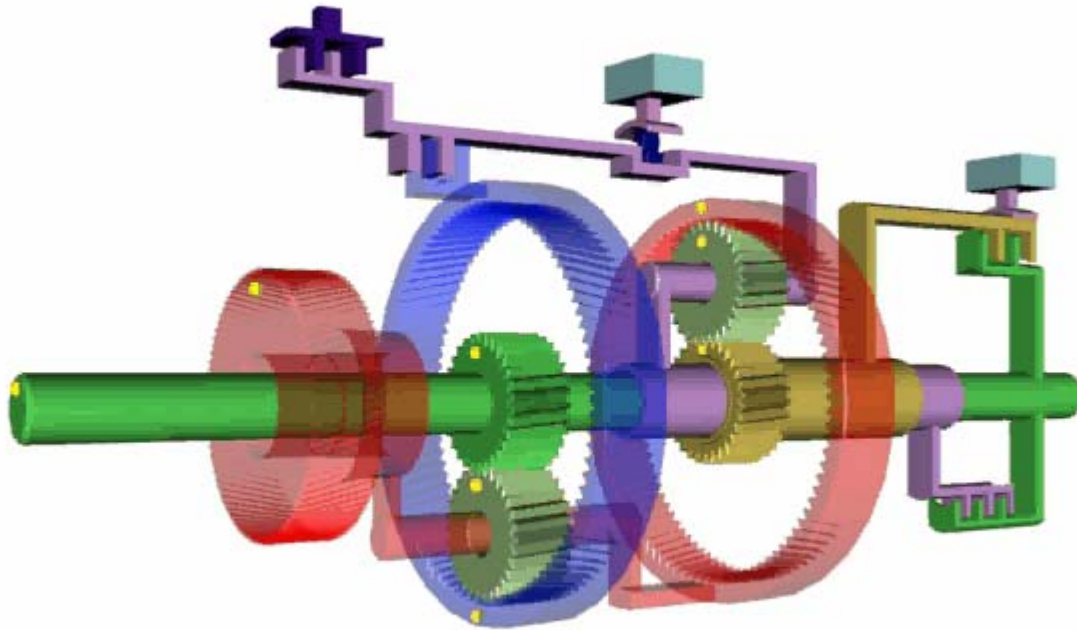
# MECHANICAL

## Power Flow - 2<sup>ND</sup> Gear



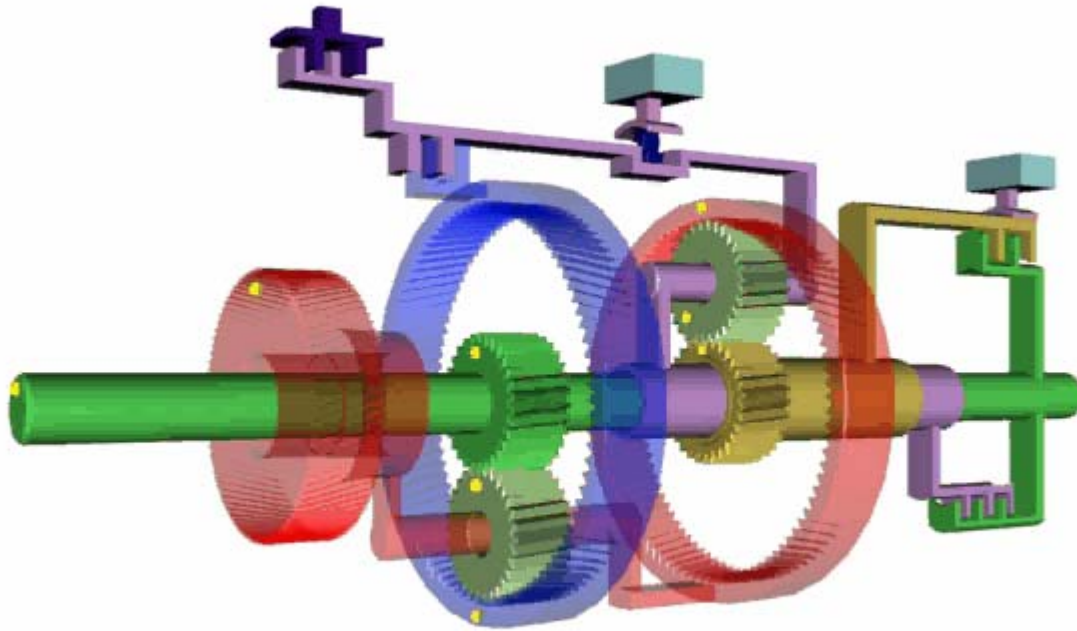
# MECHANICAL

## Power Flow - 3<sup>RD</sup> Gear



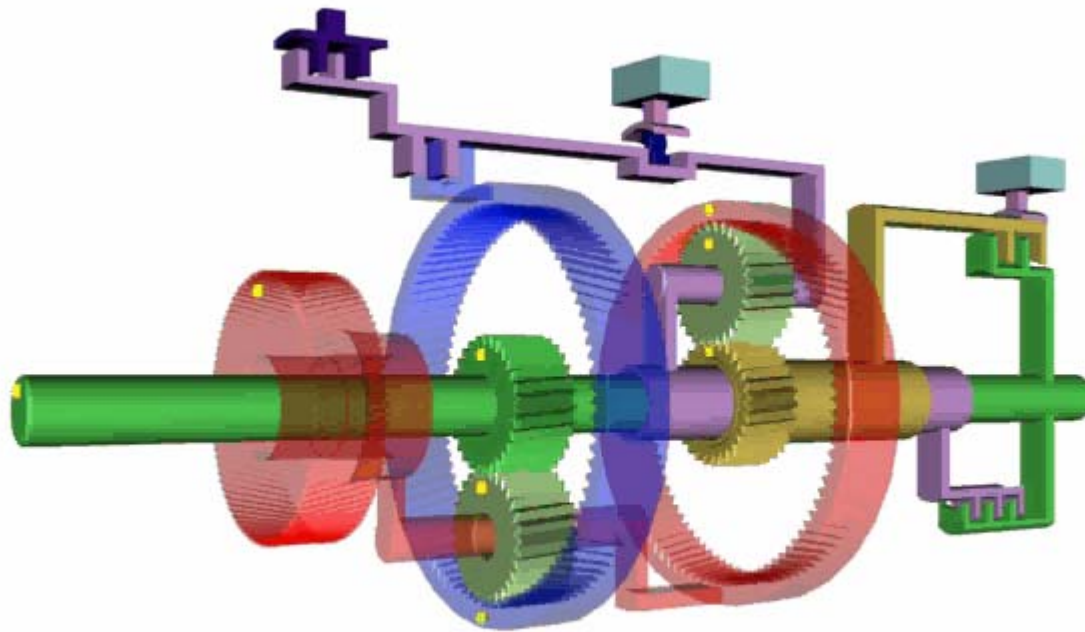
# MECHANICAL

## Power Flow - 4<sup>TH</sup> Gear



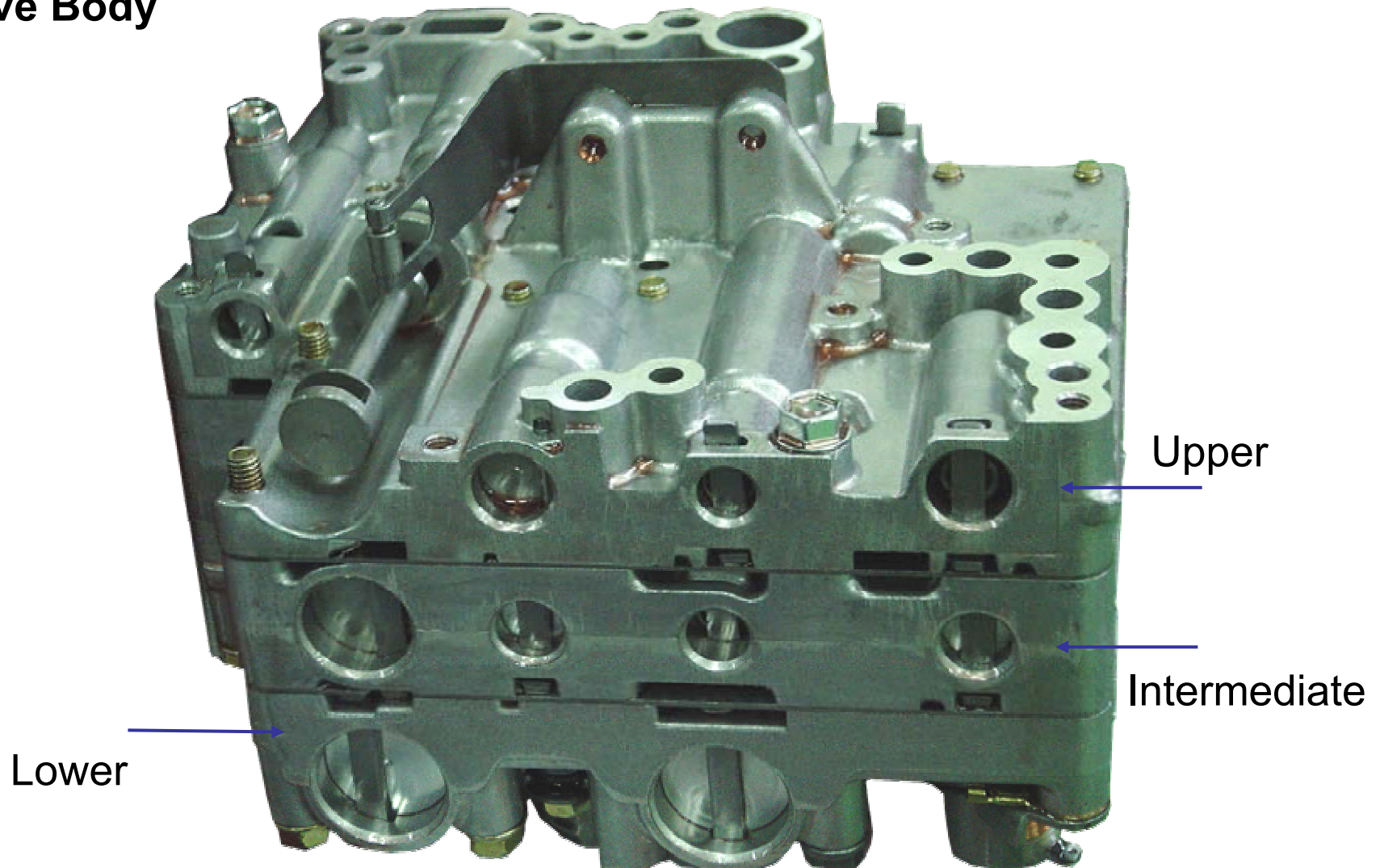
# MECHANICAL

## Power Flow - Reverse



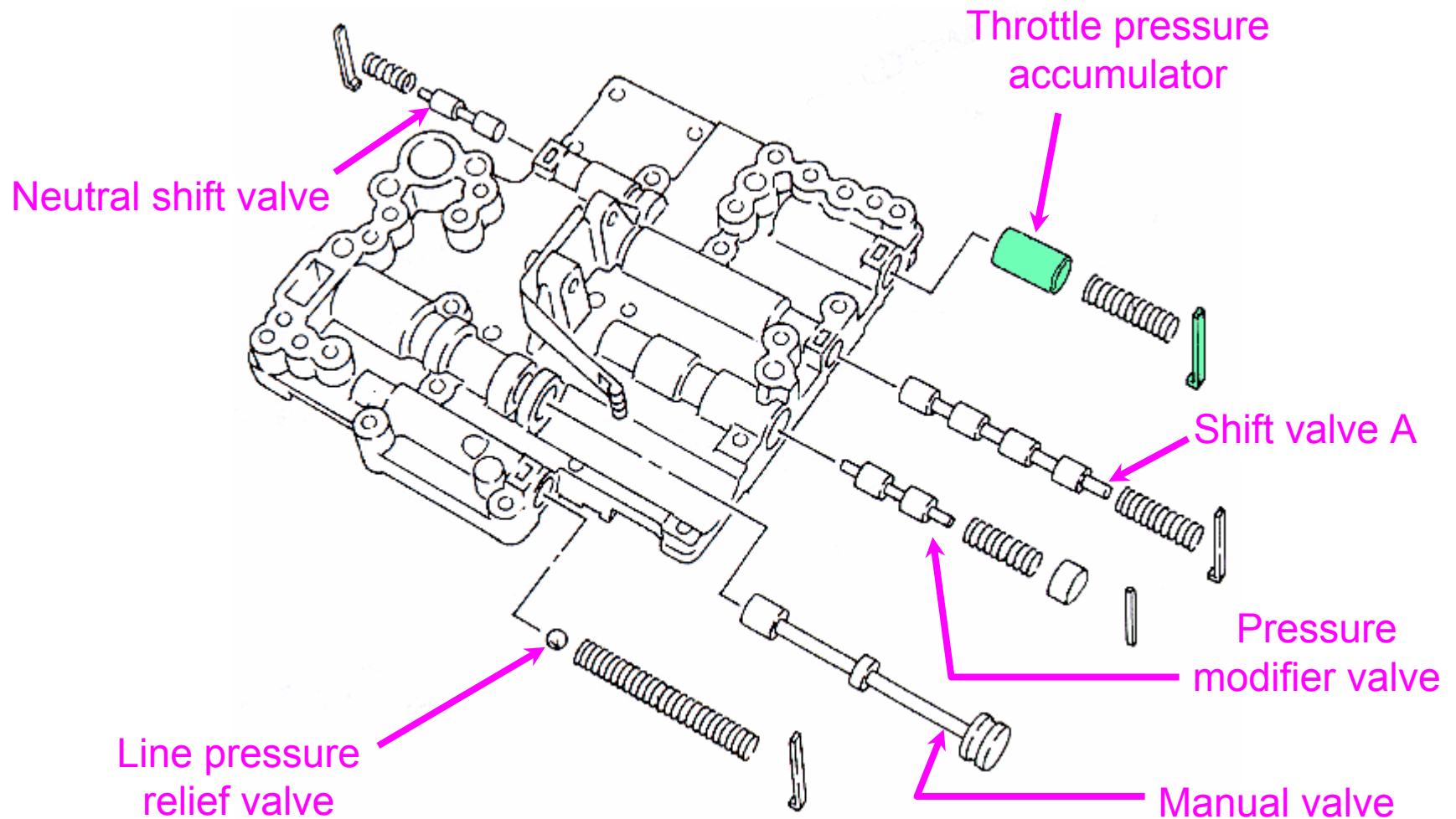
# MECHANICAL

## Valve Body



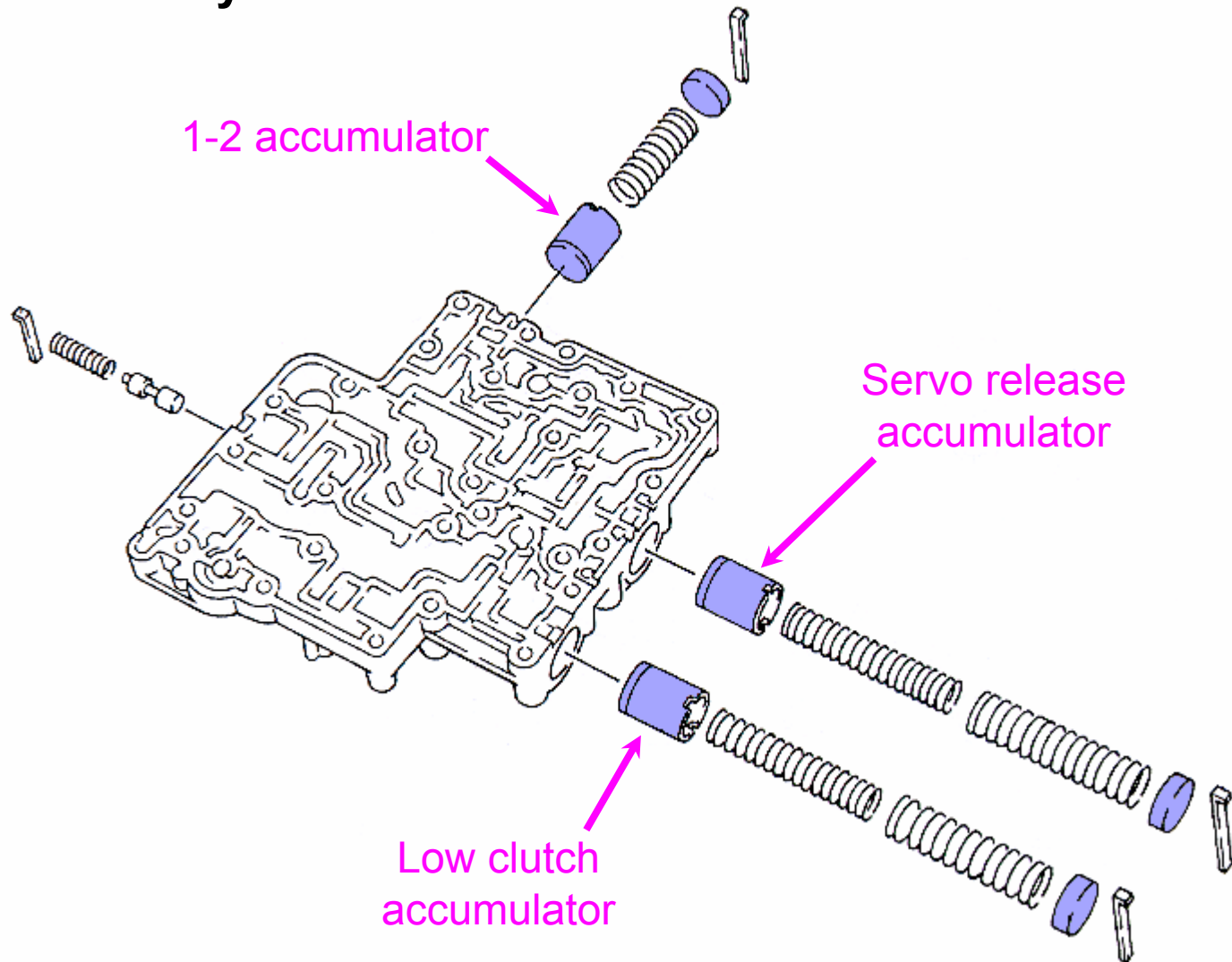
# MECHANICAL

## Upper Valve Body



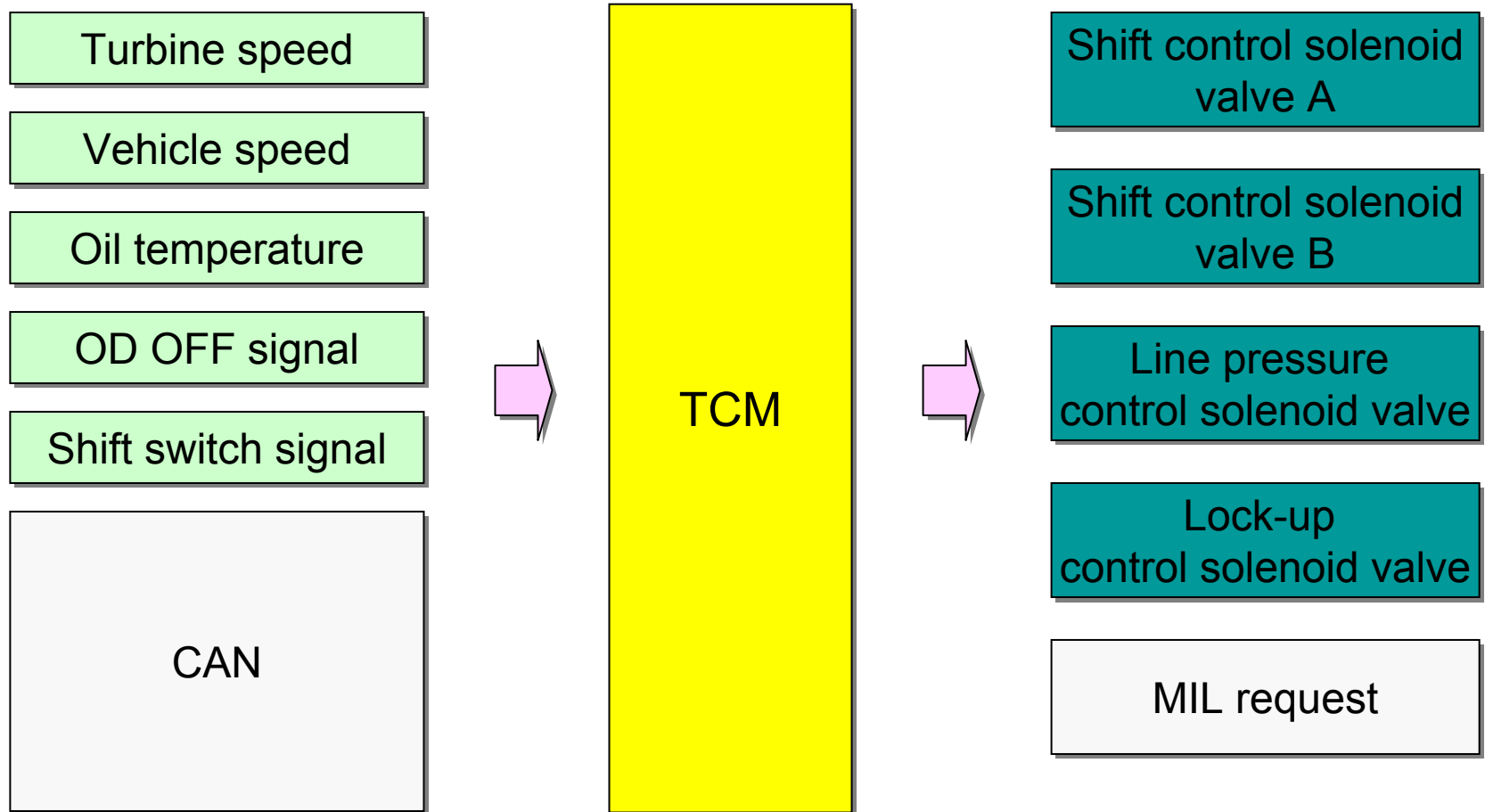
# MECHANICAL

## Lower Valve Body



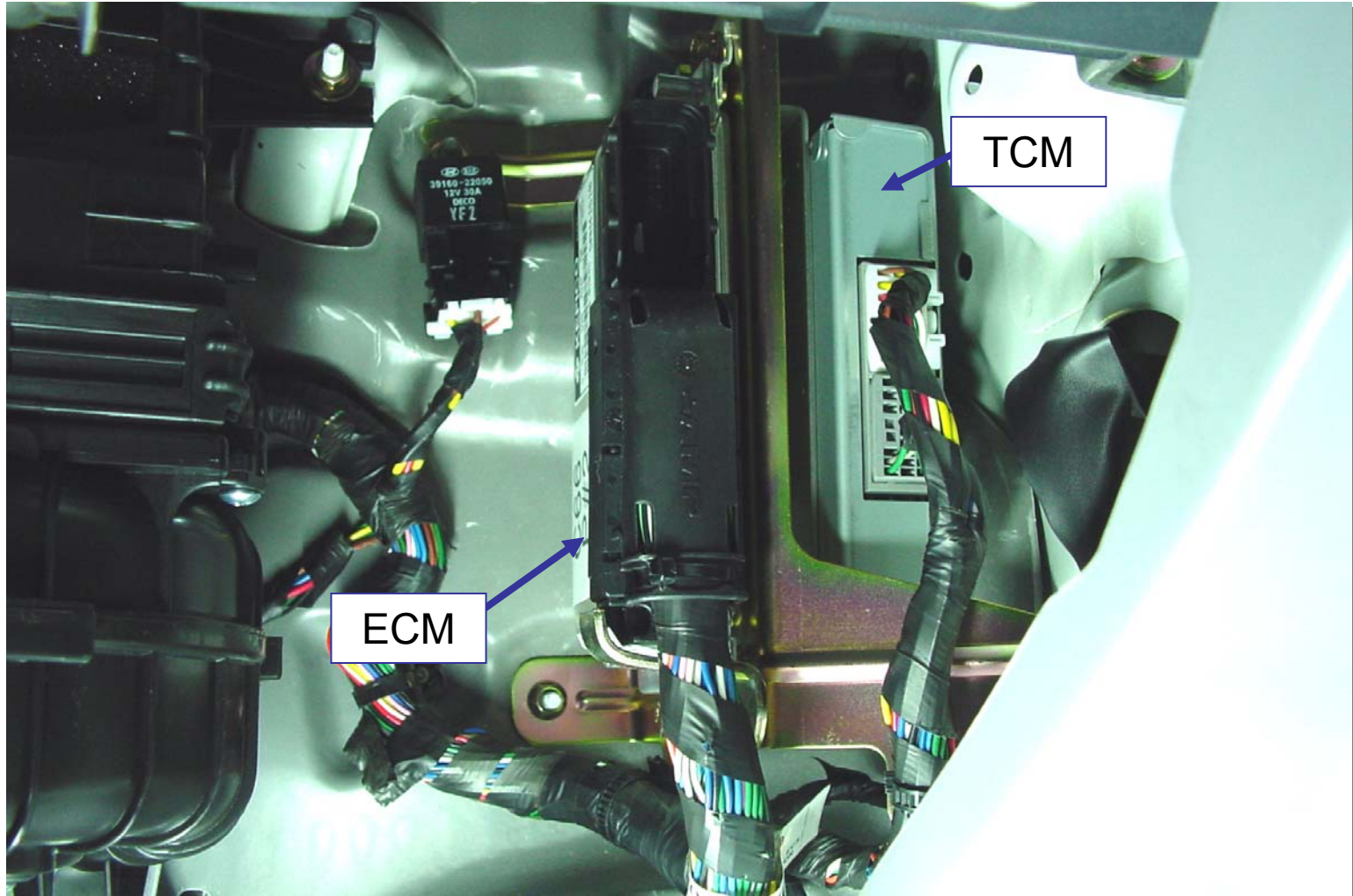
# ELECTRICAL

## Electronic Control Block Diagram



# ELECTRICAL

## TCM



# ELECTRICAL

## DTC & Fail safe

<b>P0720</b>	<b>Vehicle speed sensor</b>	<b>No input signal or signal input problem occurred when driving vehicle speed less than 5km/h</b>	<b>Line pressure is maximum Lock-up control is inhibited</b>  <b>The gear position is fixed as follows;</b> <b>“D” range→goes into 3rd gear</b> <b>“2” range→goes into 2nd gear</b> <b>“L” range→goes into 1st gear</b>  <b>Torque Down Control is inhibited</b>  <b>Mountain Mode is inhibited</b>
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