

TRANSMISSION/TRANSAXLE

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- SECTION 5B FIVE-SPEED MANUAL TRANSAXLE**
- SECTION 5C CLUTCH**

SECTION 5A2

CAUTION: Disconnect the negative battery cable before removing or installing any electrical unit or when a tool or equipment could easily come in contact with exposed electrical terminals. Disconnecting this cable will help prevent personal injury and damage to the vehicle. The ignition must also be in LOCK unless otherwise noted.

ZF 4 HP 14 AUTOMATIC TRANSAXLE

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SPECIFICATIONS

TRANSAXLE SPECIFICATIONS

Transaxle Capacity	
Input Torque	100-270 N•m (74-199 lb-ft)
Maximum Torque Multiplication of the Different Torque Converters	1.9-2.5
Torque Converter Diameter	260 mm (10.2 in.)
Ratios	
First Gear	2.412
Second Gear	1.369
Third GearMaximum	1.000
Fourth Gear	0.739
Reverse	2.828
Measurements	
Weight of Transaxle	55 kg (121.3 lb)
Weight of Torque Converter	10.5 kg (23.15 lb)
Fluid Capacity	5.4L (5.6 qts)
Automatic Transaxle Fluid	Dexron®-IID, III or Mercon®- M

LINE PRESSURE

Idle	at P, N, O, 3, 2, 1 range	7 ~ 10 kg/cm ² (995 ~ 1,421 psi)
	at R range	10 ~ 12 kg/cm ² (1,421 ~ 1,706 psi)
Stall	at D range	10 ~ 13 kg/cm ² (1,421 ~ 1,848 psi)
	at R range	10 ~ 12 kg/cm ² (2,274 ~ 2,843 psi)

FLUID LEVEL SET AFTER SERVICE

Repair	Amount of Fluid to Add After Repair
Bottom Pan Removal/Installation/Replacement	2.5L (2.6 qts)
New Converter Installation	2L (2.1 qts)
Complete Overhaul	5.4L (5.6 qts)

Important: Make sure to maintain the proper fluid level in the transaxle. After each repair or service procedure, add the amount of fluid specified and then check to confirm that the transaxle contains the appropriate fluid level. See “Transaxle Fluid Level Checking Procedure” in this section.

RANGE REFERENCE CHART

Application			P	R	N	D				3			2		1
			Parking	Reverse	Neutral	1st	2nd	3rd	4th	1st	2nd	3rd	1st	2nd	1st
Clutch	A	Forward Clutch				○	○	○		○	○	○	○	○	○
	B	2nd Clutch		○											
	E	Direct Clutch						○	○			○			
Brake	C	2nd Brake					○	○	○		○	○		○	
	C'	2nd/4th Brake					○		○		○			○	
	D	Lo/Reverse Brake		○											○
Free Wheel	No. 1					○				○			○		(○)
	No. 2						○				○			○	

FASTENER TIGHTENING SPECIFICATIONS

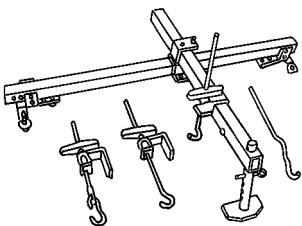
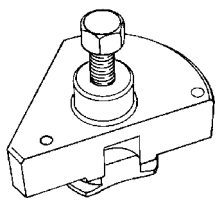
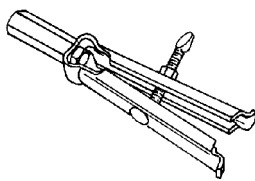
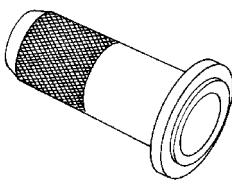
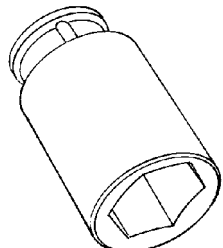
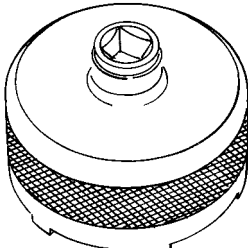
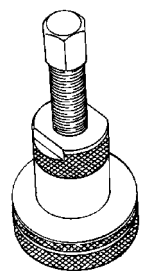
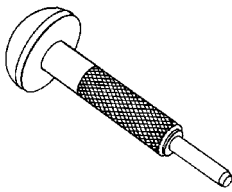
Application	N•m	Lb-Ft	Lb-In
Band C' Adjusting Bolt	10	-	89
Band C' Locking Nut	80	59	-
Bell Housing Bolts	23	17	-
Bell Housing-to-Engine Lower Bolts	75	55	-
Bell Housing-to-Engine Upper Bolts	75	55	-
Case Extension Housing Attachment Bolts	43	32	-
Clutch A and Brake D Housing Attachment Bolts	8	-	71
Cooler Pipe-to-Radiator Fastener Bolt	25	18	-
Cooler Pipe-to-Radiator Nuts	22	16	-
Cooler Pipe-to-Transaxle Case Bolts	22	16	-
Cooler Pipe-to-Transaxle Case Fastener Bolt	25	18	-
Coolant Surge Tank Mounting Bolts	25	18	-
Counterweight Bolt	10	-	89
Differential Adjustment Tool	7	-	62
Fluid Filter Housing Cover Attaching Bolts	8	-	71
Fluid Pan Connecting Bolts	10	-	89
Fluid Pan Drain Plug	15	11	-
Governor Housing Bolts	10	-	89
Grooved Nut	50	37	-
Intermediate Plate-to-Housing Bolts	10	-	89
Intermediate Plate-to-Pump Assembly Connecting Bolts	10	-	89
Large Spur Gear Securing Bolt	150	110	-

Fastener Tightening Specifications (Cont'd)

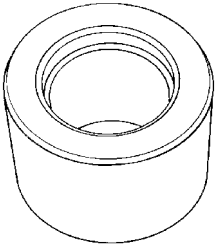
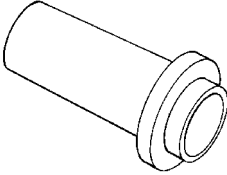
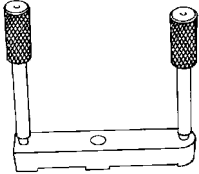
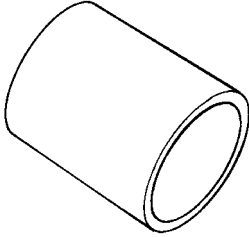
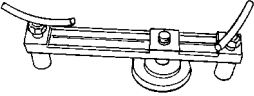
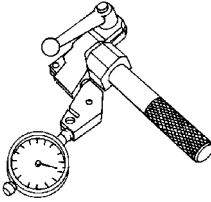
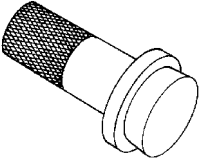
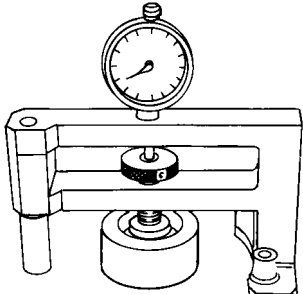
Application	N•m	Lb-Ft	Lb-In
Lower Cover Attachment Bolts	8	-	71
Lower Fluid Filler Tube Attachment Nut	15	11	-
Lower Valve Housing Attachment Bolts	8	-	71
Lower Valve Housing Exterior Cover Bolts	8	-	71
Lower Valve Housing Interior Cover Bolts	8	-	71
Neutral Start Switch Connecting Nut	40	30	-
Shift Control Cable Attachment Nut	6	-	53
Shift Control Cable Adjuster Pinch Bolt Nut	8	-	71
Shift Control Cable Mounting Bracket Nuts	6	-	53
Shift Interlock Solenoid Bolts	8	-	71
Shuttle Valve Cover Attachment Bolts	8	-	71
Side Cover Pan Connecting Bolts	10	-	89
Side Shaft Outer Ring Securing Bolts	20	15	-
Small Spur Gear Securing Bolt (First Torque)	10	-	89
Small Spur Gear Securing Bolt (Second Torque)	20	15	-
Spring Plate Detent Screws	10	-	89
Throttle Valve Cable Cam Detent Screw	10	-	89
Torque Converter-to-Flywheel Bolts	60	44	-
Transaxle Center Bracket-to-Engine Bolt	90	66	-
Transaxle Center Bracket-to-Transaxle Bolts	90	66	-
Transaxle Center Mount-to-Center Member Bolts	65	48	-
Transaxle Left Bracket Connecting Bolts	48	35	-
Transaxle Left Mount-to-Body Connecting Bolts	58	43	-
Transaxle Left Mount-to-Transaxle Left Bracket Connecting Bolt	48	35	-
Upper Fluid Filler Tube Attachment Bolt	20	15	-
Valve Body Bolts	8	-	71
Valve Housing Control Valve Side Cover Attachment Bolts	8	-	71
Valve Housing Damper Valve Side Cover Attachment Bolts	8	-	71

SPECIAL TOOLS

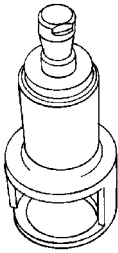
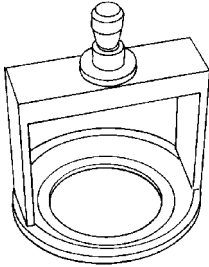
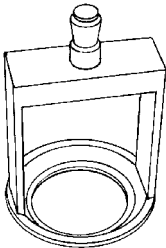
SPECIAL TOOLS TABLE

 <p>A102B152</p>	<p>J-28467-B Engine Support Fixture</p>	 <p>B103A216</p>	<p>KA-002-088 (KA-088) Differential Adjustment Tool</p>
 <p>B103A220</p>	<p>J29369-1 Ring Puller</p>	 <p>B103A207</p>	<p>KA-002-111 (KA-111) Bearing Race Installer</p>
 <p>B103A221</p>	<p>KA-001-023 (KA-023) Bolt Remover</p>	 <p>B103A222</p>	<p>KA-000-155 (KA-155) Grooved Nut Socket</p>
 <p>B103A213</p>	<p>KA-001-060 (KA-060) Bearing Remover</p>	 <p>B103A217</p>	<p>KA-000-187 (KA-187) Seal Ring Punch</p>

SPECIAL TOOLS TABLE (Cont'd)

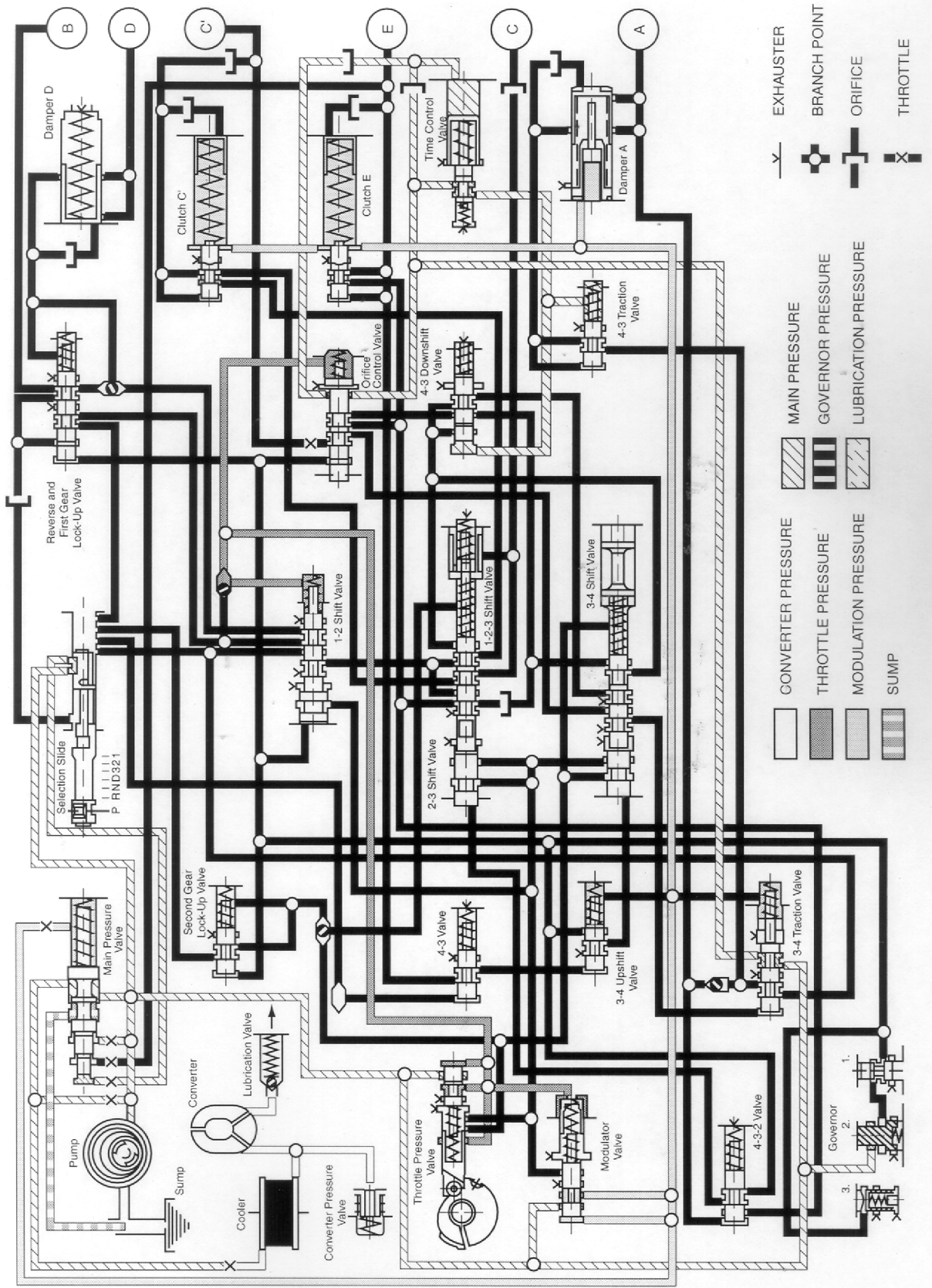
 <p>B103A212</p>	<p>KA-000-232 (KA-232) Bearing Remover</p>	 <p>B103A208</p>	<p>KA-000-299 (KA-299) Seal Ring Installer</p>
 <p>B103A210</p>	<p>KA-000-287 (KA-287) Securing Device</p>	 <p>B103A223</p>	<p>KA-000-300 (KA-300) Bearing Installer</p>
 <p>B103A219</p>	<p>KA-000-288 (KA-288) Side Shaft Retainer</p>	 <p>B103A211</p>	<p>KA-001-483 (KA-483) Axial Clearance Measurement Tool</p>
 <p>B103A209</p>	<p>KA-000-298 (KA-298) Bearing Ring Remover/Installer</p>	 <p>B103A224</p>	<p>KA-001-655 (KA-655) Spur Gear Clearance Measurement Tool</p>

SPECIAL TOOLS TABLE (Cont'd)

 <p>B103A215</p>	<p>KA-001-715-04 (KA-715-04) Bearing Remover</p>	 <p>B103A218</p>	<p>KA-000-914 (KA-914) Compression Adapter</p>
 <p>B103A214</p>	<p>KA-000-913 (KA-913) Compression Adapter</p>		

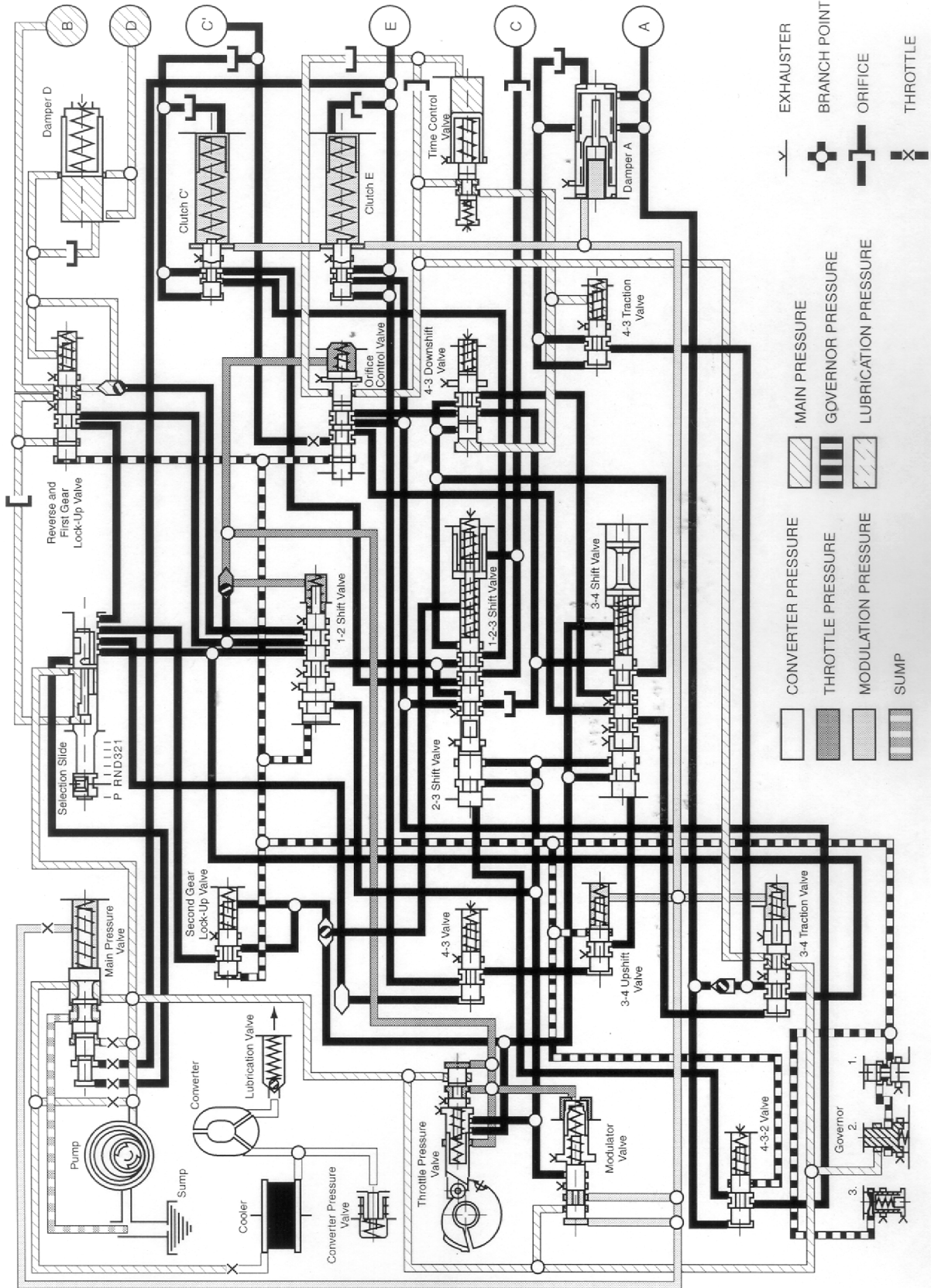
SCHEMATIC AND ROUTING DIAGRAMS

POSITION P - PARK



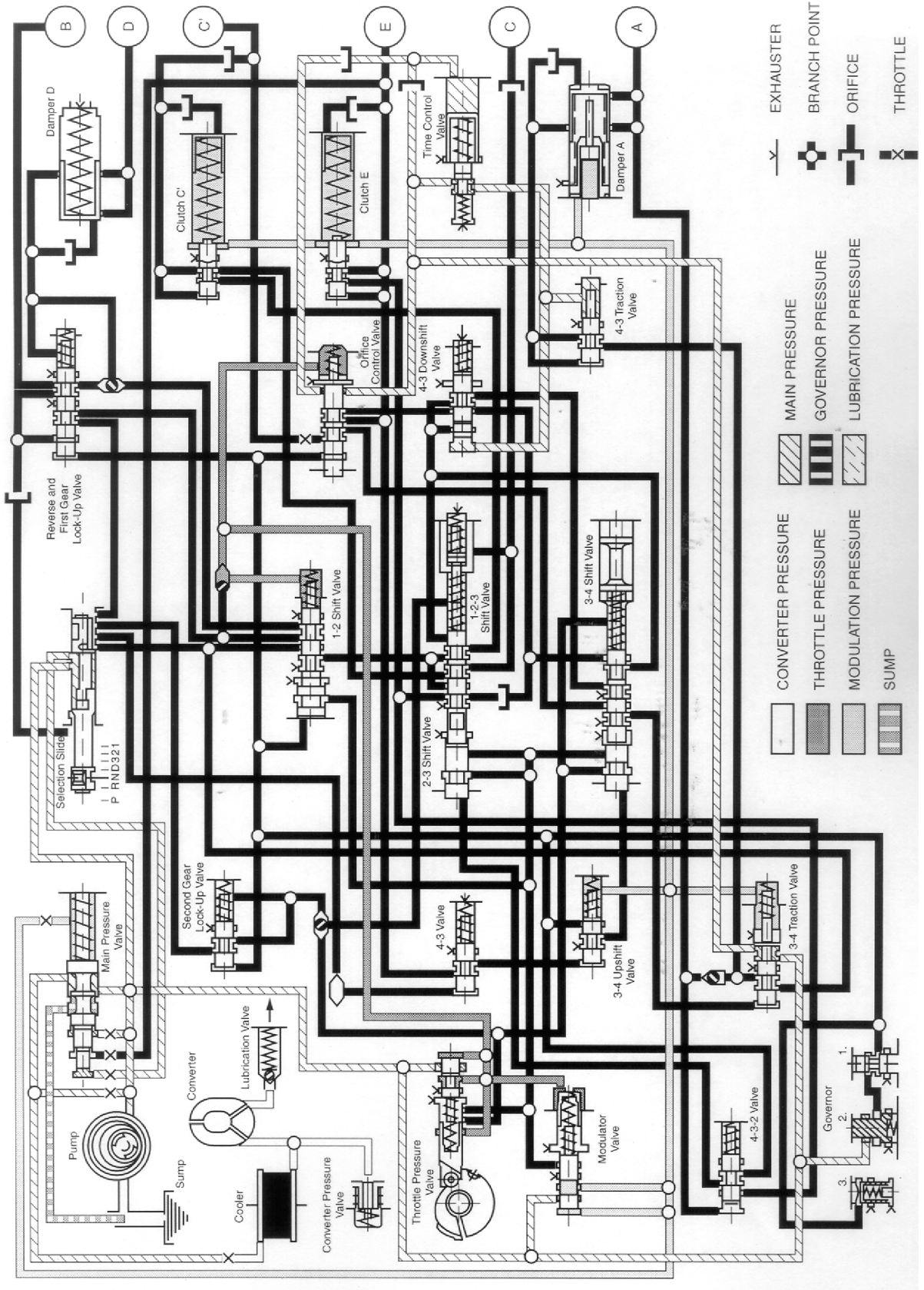
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POSITION R - REVERSE, IDLING



B103A311

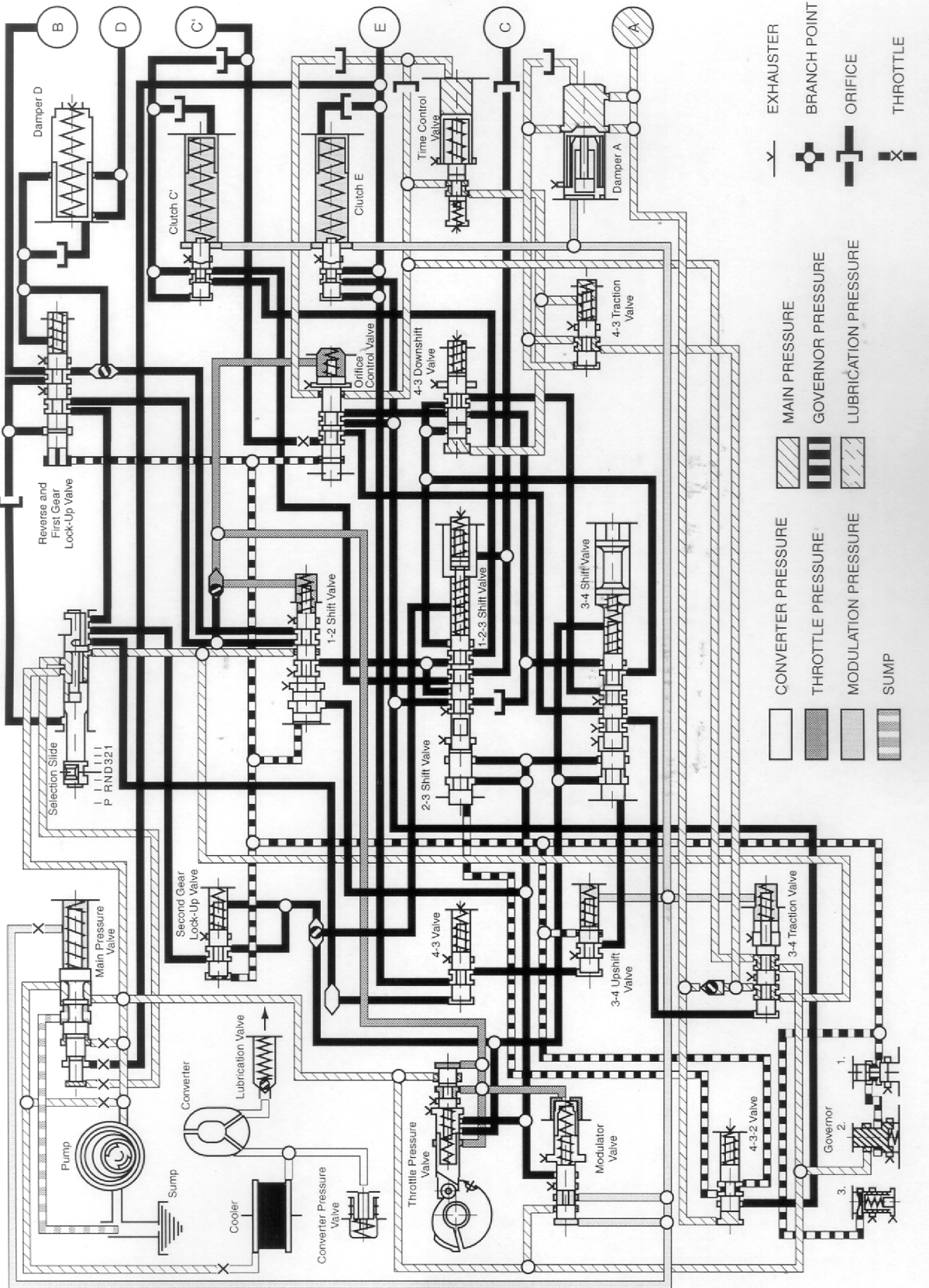
POSITION N - NEUTRAL



	EXHAUSTER		MAIN PRESSURE
	BRANCH POINT		GOVERNOR PRESSURE
	ORIFICE		LUBRICATION PRESSURE
	THROTTLE		CONVERTER PRESSURE
			THROTTLE PRESSURE
			MODULATION PRESSURE
			SUMP

B103A310

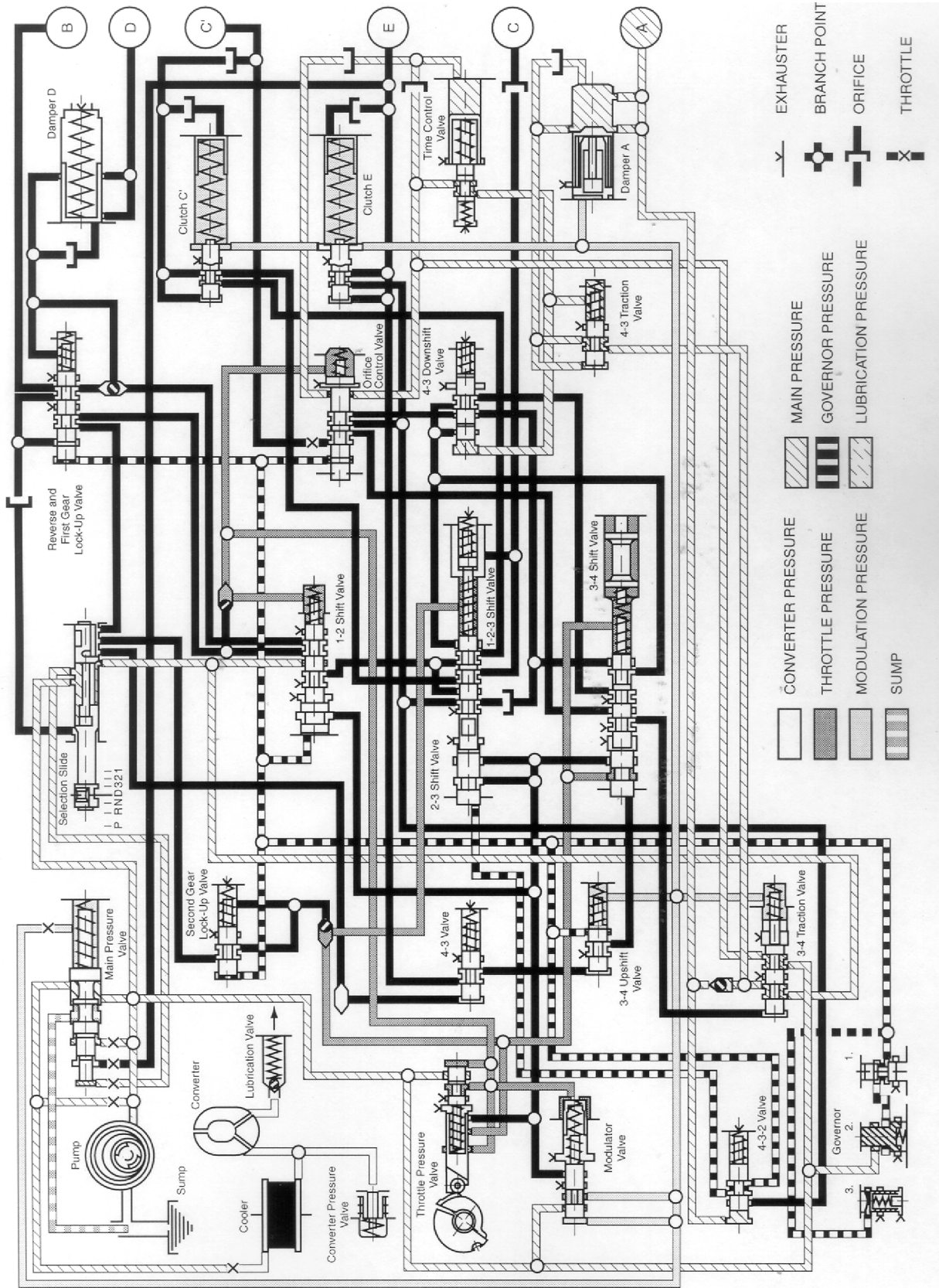
POSITION D - FIRST GEAR, IDLING



	CONVERTER PRESSURE		MAIN PRESSURE		ORIFICE
	THROTTLE PRESSURE		GOVERNOR PRESSURE		BRANCH POINT
	MODULATION PRESSURE		LUBRICATION PRESSURE		THROTTLE
	SUMP				

B103A313

POSITION D - FIRST GEAR, FULLY ACCELERATED



B103A314