



Critical Wear Areas & Vacuum Test Locations



NOTE: OE valves are shown in rest position and should be tested in rest position unless otherwise indicated. Test locations are pointed to with an arrow. Springs are not shown for visual clarity. Low vacuum reading indicates wear.

For specific vacuum test information, refer to individual part instructions included in kits and available at www.sonnax.com.

Lower Control Body • 4R100 Non-PTO Shown

NOTE: Worm tracks and test locations same for '96-'98 E40D.

Worm tracks and test locations different for '89-'95 E40D.

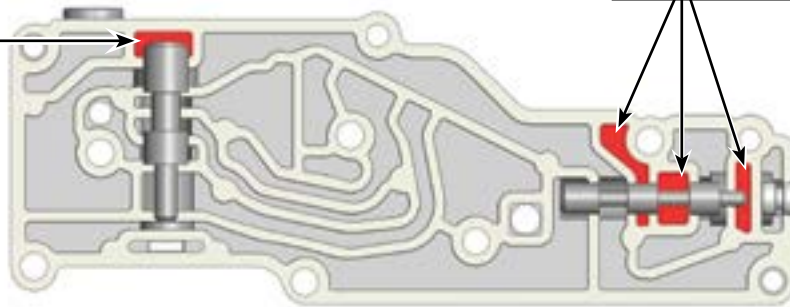
Worm tracks slightly different for PTO 4R100, test locations are the same.

Engagement Control Valve

- Delayed Forward & Reverse engagement
- Burnt Forward clutch
- Burnt Direct clutch

1-2 Manual Transition Valve

- Burnt intermediate band
- Manual low gear bind-up



Upper Control Body • 4R100 Non-PTO Shown

NOTE: Worm tracks and test locations same for '96-'98 E40D.

Worm tracks and test locations different for '89-'95 E40D.

Worm tracks slightly different for PTO 4R100, test locations are the same.

Low/Reverse Modulator Valve Plunger & Sleeve

- No engine braking
- Burnt Low/Reverse clutch
- Low pressure at Low/Reverse clutch

Replace with Sonnax Part No. **36947-06K**

Note: Check for wear at inside diameter of sleeve.

2-3 Shift Valve

- 2-3 Shift concerns
- Burnt Direct clutch

Note: Seal port on opposite side.

Low/Reverse Modulator & Low/Reverse Modulator Valves

- No engine braking
- Burnt Low/Reverse clutch
- Low pressure at Low/Reverse clutch

3-4 Shift Valve & 4-3-2 Timing Valve

- 3-4 Shift concerns
- Burnt Direct clutch
- Manual low concerns

Drive 2 Valve

- Reverse concerns

Coast Clutch Shift Valve

- Burnt coast clutch

1-2 Shift Valve

- No 2nd
- 1-2 Shift concerns

Solenoid Regulator Valve

- 2nd or 3rd Gear starts
- TCC cycling or slip
- Reduced lube oil from the center support

Replace with Sonnax Part No. **36947-14**

Requires F-36947-TL14 & VB-FIX

Test: Flip casting over and test at this orifice. Seal this side of casting with foam mat.

4-3-2 Timing Valve & Control Valve Shift Timing Plunger

- Manual low concerns



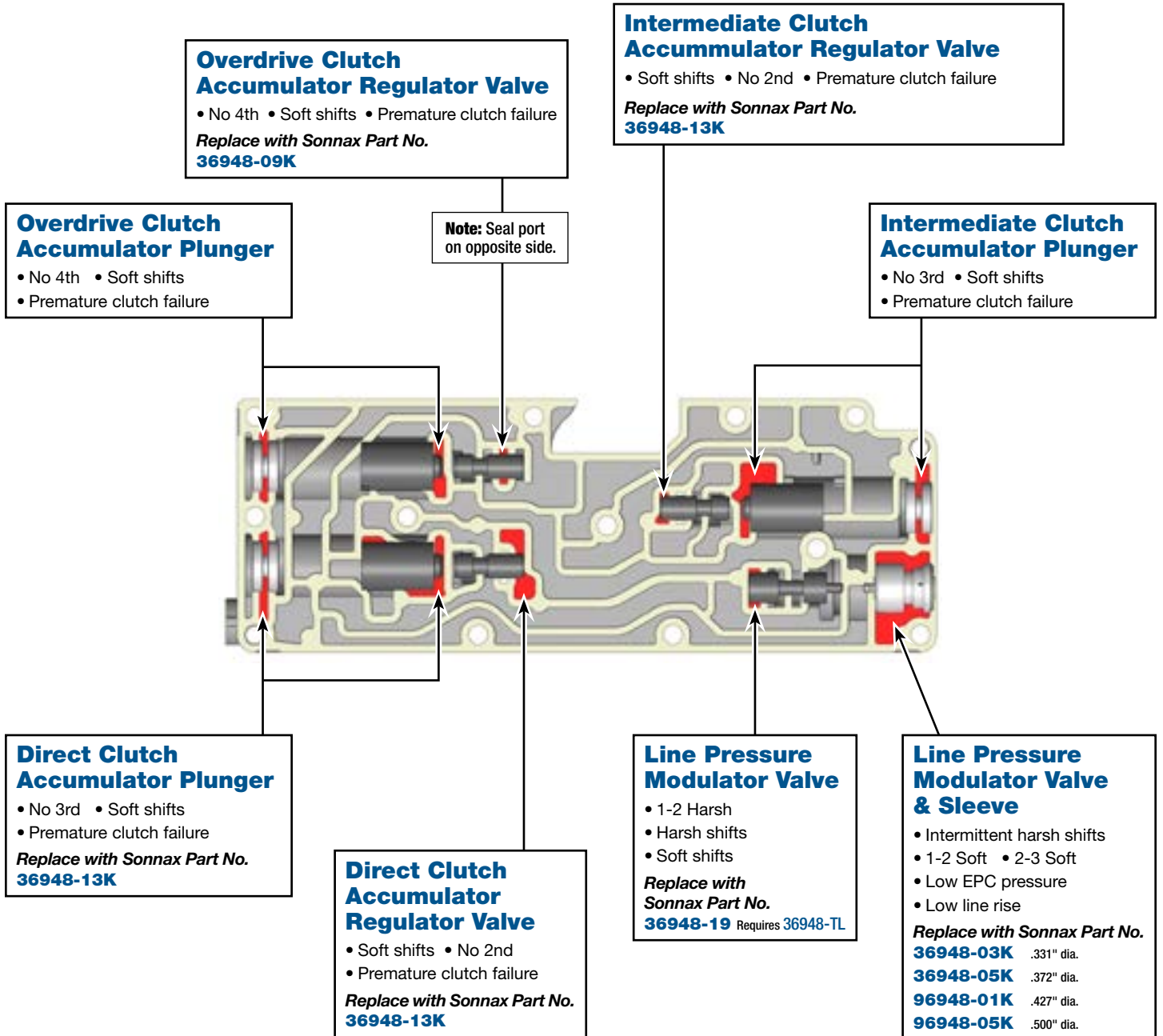
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Accumulator Control Body • 4R100 Non-PTO Shown





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Pump Body • E4OD Shown

NOTE: Test ports on 4R100 slightly different.

Main Regulator Valve

- Code 62, 628, 1744
- Engine stall on engagement in Reverse
- Engine stumble on engagement in Reverse
- High line pressure
- Overheated converter

Replace with Sonnax Part Nos.

- 36424-04K** Line-to-Lube Pressure Regulator Valve
 - 36424-16K** Oversized Line-to-Lube Pressure Regulator Valve Kit
- Requires **F-36424-TL16C & VB-FIX**

Main Regulator Valve & Sleeve

- Soft shifts • Delayed Reverse • Low line rise

Replace with Sonnax Part Nos.

- 36424-01K** Boost Valve Kit (with O-rings)
- 36424-03K** Boost Valve Kit (without O-rings)

Note: Test ports on opposite side while sealing this side against foam pad.

Note: 4R100 has air bleed here that will need to be sealed.

NOTE: 4R100 Port is different. Must seal indicated air bleed when testing these ports.

Note: Seal holes on opposite side.

Converter Regulator Valve

- Internal converter damage
- Excess converter pressure
- Low converter & converter clutch apply pressure

Replace with Sonnax Part Nos.

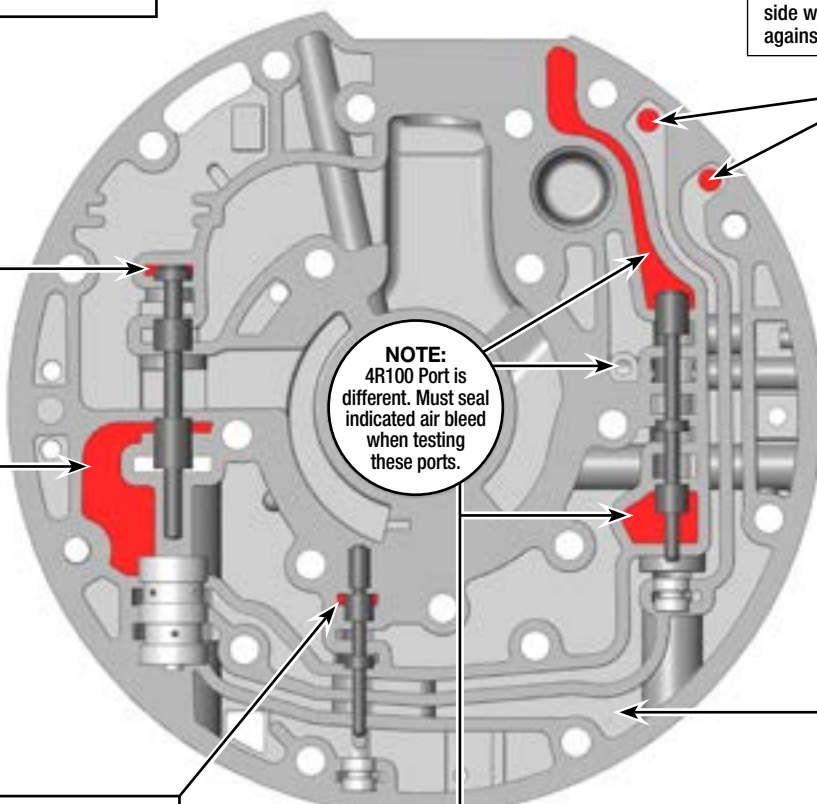
- 36424-11K** Oversized Converter Regulator Valve Kit
- Requires **F-36424-TL11C & VB-FIX**

Converter Clutch Control Valve

- Lockup shudder • TCC cycling

Replace with Sonnax Part Nos.

- 36424-08K** TCC Control Plunger Valve Kit (4R100 PWM Only)
 - 36424-15K** Oversized TCC Control Valve (4R100 PWM Only)
- Requires **F-36424-TL15C & VB-FIX**



OE Exploded View

Lower Control Body

4R100 Non - PTO Shown

NOTE: E40D is the same.



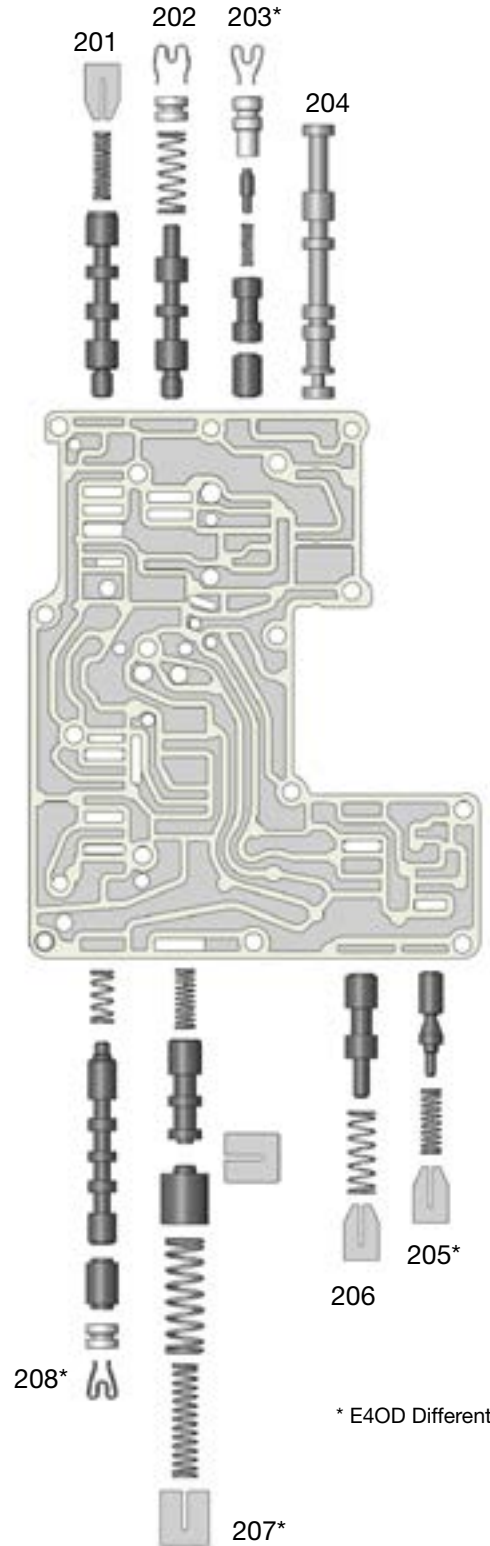
< Lower Control Valve Body Descriptions

I.D. No.	Description
101	Engagement Control Valve
102	1-2 Manual Transition Valve

Upper Control Body

4R100 Non - PTO Shown

NOTE: E40D Worm tracks and valves vary slightly.



Upper Control Valve Body Descriptions >

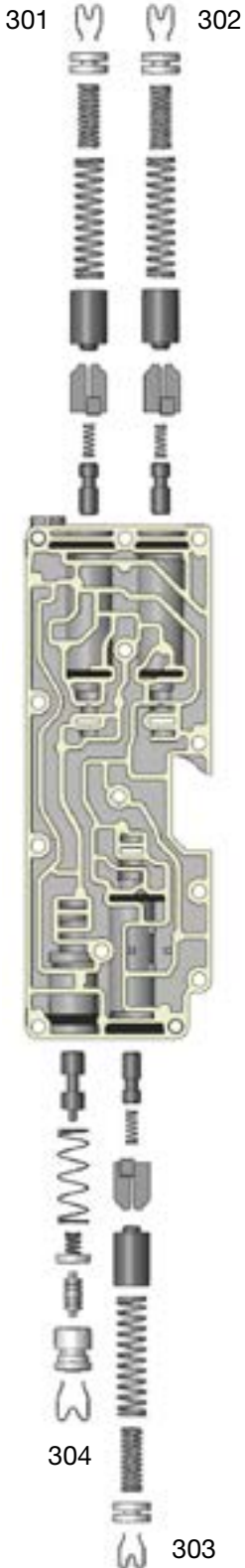
I.D. No.	Description
201	2-3 Shift Valve
202	3-4 Shift Valve
203*	Low/Reverse Modulator Valve (Inboard)
	Low/Reverse Modulator Valve (Center)
	Low/Reverse Modulator Valve Plunger & Sleeve (Outboard)
204	Manual Control Valve
205*	Solenoid Regulator Valve
206	Coast Clutch Shift Valve
207*	4-3-2 Timing Valve (Inboard)
	Control Valve Shift Timing Plunger (Outboard)
208*	Drive 2 Valve (Inboard)
	1-2 Shift Valve (Outboard)

* E40D Different

OE Exploded View

Accumulator Control Body 4R100 Non - PTO Shown

Pump Body E40D Pump Body Shown



< Accumulator Control Body Descriptions

I.D. No.	Description
301	Direct Clutch Accumulator Regulator Valve (Inboard)
	Direct Clutch Accumulator Plunger (Outboard)
302	Overdrive Clutch Accumulator Regulator Valve (Inboard)
	Overdrive Clutch Accumulator Plunger (Outboard)
303	Intermediate Clutch Accumulator Regulator Valve (Inboard)
	Intermediate Clutch Accumulator Plunger (Outboard)
304	Line Pressure Modulator Valve (Inboard)
	Line Pressure Modulator Plunger Valve & Sleeve (Outboard)

Pump Body Descriptions >

I.D. No.	Description
401	Main Regulator Valve (Inboard)
	Main Regulator Valve & Sleeve (Outboard)
402	Converter Regulator Valve
403A	E4OD Converter Clutch Control Valve
403B	4R100 Non-PWM Converter Clutch Control Valve
403C	4R100 PWM Converter Clutch Control Valve (Inboard)
	Converter Clutch Control Plunger Valve & Sleeve (Outboard)

