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.

Lower Valve Body • 09G Shown

Click on Sonnax part numbers to see more information.

**Secondary Regulator Valve**
- TCC codes/slip/surge
- TCC apply & release concerns
- Overheated fluid, bushings & converter

Replace with Sonnax Part No.
15741-11K Requires F-15741-TL11 & VB-FIX

**Solenoid Modulator Valve**
- Code 734, 735, 729 • Kickdown slip/shock
- 4th, 5th & 6th Slip

Replace with Sonnax Part No.
15741-18K Requires F-15741-TL18 & VB-FIX

**Main Pressure Regulator Valve**
- Low line in Drive/Reverse
- High line pressure in Reverse
- Overheated fluid & TCC lining
- Bushing failure

Replace with Sonnax Part No.
15741-01K Requires F-15741-TL & VB-FIX

**K2 Clutch Control Valve**
- 3-4 Flare • K2 Clutch burned
- Gear ratio & solenoid codes
- Erratic shift timing • Harsh shifts

Replace with Sonnax Part No.
15741-05K (Sleeve/valve style) Requires F-15741-TLS & VB-FIX or
15741-57K (Oversized valve style) Requires F-15741-TLS7 & VB-FIX

**O-Ringed End Plugs**
- Shift concerns associated with circuit pressure loss

Replace with Sonnax Part No.
15741-35K (Small, 9mm) =
15741-36K (Large, 11mm) =

NOTE: End plugs should be tested at the retainer port. Sealing on opposite side of casting is sometimes required.

**Spring Adjuster Plugs**
- Soft/Flare/Long shifts
- Shift quality gets worse as temperature increases
- Intermittent clutch/solenoid codes

Replace with Sonnax Part No.
15741-48K NOTE: Services Four Locations =

**Manual Valve**
- Delayed engagement
- Damaged valve body casting
- Low line pressure

Replace with Sonnax Part No.
15741-41 Requires F-15741-TL41 & VB-FIX

**Boost Valve**
- Delayed Reverse
- Low line rise in Reverse
- B2 Brake clutches burned
- K3 Clutch burned

Replace with Sonnax Part No.
15741-51K

**C1/K1 Clutch Control Valve**
- Coastdown Neutral
- Delayed Forward
- Gear ratio & solenoid codes
- K1/C1 Clutch burned
- Erratic shift timing
- Flare/Harsh shifts

Replace with Sonnax Part No.
15741-25K (Sleeve/valve style) Requires F-15741-TL25 & VB-FIX or
15741-55K (Oversized valve style) Requires F-15741-TL55 & VB-FIX

**B1 Clutch Control Valve**
- 1-2, 5-6 Flare • 2nd, 6th Slip
- Gear ratio & solenoid codes
- B1 Clutch burned
- Erratic shift timing
- Harsh shifts

Replace with Sonnax Part No.
15741-22K (Sleeve/valve style) Requires F-15741-TL22 & VB-FIX or
15741-61K (Oversized valve style) Requires F-15741-TL61 & VB-FIX

**K3 Clutch Control Valve**
- 2-3, 4-5 Shift concerns • Slipping gears
- Delayed Reverse • K3 Clutch burned
- Gear ratio & solenoid codes

Replace with Sonnax Part No.
15741-08K (Sleeve/valve style) Requires F-15741-TL8 & VB-FIX or
15741-59K (Oversized valve style) Requires F-15741-TL59 & VB-FIX

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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.

Middle Valve Body • 09G Shown

Main Relay Valve
- No 4-5-6
- Gear ratio codes
Replace with Sonnax Part No. 15741-70K
Requires F-15741-TL70 & VB-FIX

B2 Relay Valve
- No Manual 1st
- No engine braking in manual 1st

K3 Relay Valve
- Erratic shift timing
- Failsafe mode
- Harsh/Soft shifts
- Burnt clutches
- Overheated fluid
- Ratio codes
- Slipping gears
Replace with Sonnax Part No. 15741-63K
Requires F-15741-TL63 & VB-FIX

K2 Relay Valve
- Gear ratio & solenoid codes
- Various shift concerns
- No shift
Replace with Sonnax Part No. 15741-49K
Requires F-33741B-TL1 & VB-FIX

Pressure Cutback Valve
- Harsh/Flare shifts
- Harsh engagement

B2 M1 Engagement Valve
- No engine braking in Manual 1st
NOTE: Be sure the valve is in the rest position as there is no spring.

Lockup Relay Valve
- No lockup
- TCC slip
- Engine stall

K1 Switch Valve
- Erratic shift timing
- Failsafe mode
- Harsh shifts
- Overheated fluid
- Ratio codes
- Soft shifts
Replace with Sonnax Part No. 15741-63K
Requires F-15741-TL63 & VB-FIX

B1 Switch Valve
- Gear ratio & solenoid codes
- Various shift concerns
- No shift
Replace with Sonnax Part No. 15741-50K
Requires F-33741B-TL1 & VB-FIX

K1 Relay Valve
- Gear ratio & solenoid codes
- Various shift concerns
- No shift
Replace with Sonnax Part No. 15741-49K
Requires F-33741B-TL1 & VB-FIX

B2 Switch Valve
- Delayed Reverse
- No Manual 1st

O-Ringed End Plugs
- Shift concerns associated with circuit pressure loss
Replace with Sonnax Part No. 15741-35K
(Small, 9mm) = ©
15741-36K
(Large, 11mm) = ©

NOTE: End plugs should be tested at the retainer port. Sealing on opposite side of casting is sometimes required.
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.

Upper Valve Body #1 • 09G Shown

B1/K3 One Way Checkball Assembly
- No 2nd, 6th
- No 3-5-R

Tilt casting to the right to seat checkball.

Tilt casting to the left to seat checkball.

O-Ringed End Plugs
- Shift concerns associated with circuit pressure loss

Replace with Sonnax Part No. 15741-35K (Small, 9mm) = □
15741-36K (Large, 11mm) = △

NOTE: End plugs should be tested at the retainer port. Sealing on opposite side of casting is sometimes required.

B1 Relay Valve
- Gear ratio & solenoid codes
- Various shift concerns • No shift

Replace with Sonnax Part No. 15741-49K Requires F-33741B-TL1 & VB-FIX

K3 Control Valve
- Gear ratio & solenoid codes
- Various shift concerns • No shift

Replace with Sonnax Part No. 15741-50K Requires F-33741B-TL1 & VB-FIX

3-4 Transition Valve
- Erratic shift timing
- Harsh shifts
- Overheated fluid
- Slipping gears

Replace with Sonnax Part No. 15741-63K Requires F-15741-TL63 & VB-FIX

**K1 Accumulator also connected.

**K2 Accumulator also connected.

**B2 Accumulator also connected.

**K3 Accumulator connection.

**Accumulator Piston Locations
- Poor shift quality • Forward slip
- Delayed engagement
- Burnt clutches

Replace with Sonnax Part No. 15741-14K or 39741-42K

Upper Valve Body #2 • 09G Shown

Lockup Clutch Control Valve
- RPM surging on light acceleration
- TCC codes • TCC apply & release concerns
- RPM surge on light acceleration
- Harsh downshifts • RPM surge on coast
- Overheated fluid

Replace with Sonnax Part No. 15741-29K Requires F-15741-TL29, F-15741-TL29PL & VB-FIX

Accumulator Piston Kit
- Poor shift quality • Burnt clutches
- Forward slip • Delayed engagement

Replace with Sonnax Part No. 15741-14K

Lockup Clutch Control Plunger Valve
- TCC codes • RPM surge on coast
- TCC apply & release concerns
- RPM surge on light acceleration

Replace with Sonnax Part No. 15741-53K

Solenoid Modulator Valve 2
- Code 734, 735, 729
- Kickdown slip/shock
- 4th, 5th & 6th Slip

Replace with Sonnax Part No. 15741-18K Requires F-15741-TL18, F-15741-TL29PL & VB-FIX
**OE Exploded View**

**Lower Valve Body • 09G Shown**

**Lower Valve Body Descriptions**

<table>
<thead>
<tr>
<th>I.D. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Solenoid Modulator Valve</td>
</tr>
<tr>
<td>102</td>
<td>Secondary Regulator Valve</td>
</tr>
<tr>
<td>103</td>
<td>Main Pressure Regulator &amp; Boost Valve</td>
</tr>
<tr>
<td>104</td>
<td>C1/K1 Clutch Control Valve</td>
</tr>
<tr>
<td>105</td>
<td>K2 Clutch Control Valve</td>
</tr>
<tr>
<td>106</td>
<td>B1 Clutch Control Valve</td>
</tr>
<tr>
<td>107</td>
<td>K3 Clutch Control Valve</td>
</tr>
<tr>
<td>108</td>
<td>Manual Valve</td>
</tr>
</tbody>
</table>
OE Exploded View

Middle Valve Body (Bottom Side) • 09G Shown

Middle Valve Body Descriptions

<table>
<thead>
<tr>
<th>I.D. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Main Relay Valve</td>
</tr>
<tr>
<td>202</td>
<td>B1 Switch Valve</td>
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<tr>
<td>203</td>
<td>K1 Switch Valve</td>
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<tr>
<td>204</td>
<td>K2 Relay Valve</td>
</tr>
<tr>
<td>205</td>
<td>K1 Relay Valve</td>
</tr>
<tr>
<td>206</td>
<td>B2 Switch Valve</td>
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<tr>
<td>207</td>
<td>B2 M1 Engagement Valve</td>
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<tr>
<td>208</td>
<td>Lockup Relay Valve</td>
</tr>
<tr>
<td>209</td>
<td>Pressure Cutback Valve</td>
</tr>
<tr>
<td>210</td>
<td>K3 Relay Valve</td>
</tr>
<tr>
<td>211</td>
<td>B2 Relay Valve</td>
</tr>
</tbody>
</table>

Middle Valve Body (Upper Side) • 09G Shown

Plastic Check Valve
OE Exploded View
Upper Valve Body • #1 Exploded View • 09G Shown

**Upper Valve Body #1 Accumulator Descriptions**

<table>
<thead>
<tr>
<th>I.D. No.</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>301</td>
<td>K3 Accumulator</td>
</tr>
<tr>
<td>302</td>
<td>K2 Accumulator</td>
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<tr>
<td>303</td>
<td>K1 Accumulator</td>
</tr>
<tr>
<td>304</td>
<td>B2 Accumulator</td>
</tr>
</tbody>
</table>

**Upper Valve Body #1 Valve Descriptions**

<table>
<thead>
<tr>
<th>I.D. No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>305</td>
<td>3-4 Transition Valve</td>
</tr>
<tr>
<td>306</td>
<td>K3 Control Valve</td>
</tr>
<tr>
<td>307</td>
<td>B1 Relay Valve</td>
</tr>
<tr>
<td>308</td>
<td>B1/K3 One Way Checkball Assembly</td>
</tr>
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</table>

Steel Check Valves
OE Exploded View
Upper Valve Body • #2 Exploded View • 09G Shown

**Upper Valve Body #2 Accumulator Description**

<table>
<thead>
<tr>
<th>I.D. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>401</td>
<td>N93 Line Pressure Control Accumulator</td>
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**Upper Valve Body #2 Descriptions**

<table>
<thead>
<tr>
<th>I.D. No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>402</td>
<td>Lockup Clutch Control Valve</td>
</tr>
<tr>
<td>403</td>
<td>Solenoid Modulator Valve 2</td>
</tr>
</tbody>
</table>

Steel Check Valves
Checkball