

Automatic Transmission/Transaxle: Testing and Inspection Diagnosis By Symptom

Clunk or Squawk In 1-2 or 2-3

CLUNK OR SQUAWK IN 1-2 OR 2-3

1. Blocked intermediate bleed hole or bleed hole not at 12 o'clock position.
2. Incorrectly aligned anti-clunk spring.

Engine Overspeeds on 2-3 Shift

ENGINE OVERSPEEDS ON 2-3 SHIFT

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Improper control system pressure or clutch application.
4. Damaged or worn high clutch or intermediate servo.
5. Sticking or dirty valve body.
6. Broken converter damper hub.
7. Cut or leaking intermediate servo piston seals.

Erratic Shifts

ERRATIC SHIFTS

1. Improper fluid level.
2. Improperly tuned engine.
3. Damaged or improperly adjusted linkage.
4. Dirty or sticking valve body.
5. Sticking governor valve.
6. Damaged output shaft collector body seal rings.
7. Valve body bolts improperly torqued.

Forward Engagement Slips, Shudders, and/or Chatters

FORWARD ENGAGEMENT SLIPS, SHUDDERS AND/OR CHATTERS

1. Improper fluid level.
2. Incorrectly adjusted or damaged linkage.
3. Low main control pressure.
4. Valve body bolts improperly torqued.
5. Valve body dirty or valves sticking.
6. Forward clutch piston check ball leaking and/or not seating.
7. Cut and/or worn forward clutch piston seal.
8. Leaking forward clutch stator support seal rings Nos. 3 and 4.
9. Damaged low one-way clutch (planetary).

Harsh and/or Delayed 2-3 Upshift

HARSH AND/OR DELAYED 2-3 UPSHIFT

1. Incorrect engine performance.
2. Incorrectly adjusted, sticking, or damaged throttle linkage.
3. Plugged or missing 2-3 accumulator apply passage.
4. Cut or worn 2-3 accumulator piston seals.
5. Damaged 2-3 accumulator.
6. Valve body bolts improperly torqued.
7. Valve body dirty.
8. Sticking 2-3 capacity modulator valve.
9. Bent, sticking, or leaking vacuum diaphragm or TV control rod.

Harsh and/or Delayed 3-4 Upshift

HARSH AND/OR DELAYED 3-4 UPSHIFT

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Throttle return spring disconnected.
4. Valve body bolts improperly torqued.
5. Valve body dirty or valves sticking.
6. Incorrect engine performance.
7. Cut or worn 3-4 accumulator piston seals.
8. Clogged 3-4 accumulator piston drain passage.

Harsh Coasting Downshift Clunk

HARSH COASTING DOWNSHIFT CLUNK

1. Improperly seated anti-clunk spring.
2. Incorrectly adjusted throttle linkage.
3. Sticking throttle linkage return spring.

Harsh Downshift Coasting Clunk

HARSH DOWNSHIFT COASTING CLUNK

1. Improperly seated anti-clunk spring.
2. Damaged or improperly adjusted linkage.

Harsh Engagement W/Warm Engine

HARSH ENGAGEMENT W/WARM ENGINE

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. High engine idle.
4. Sticking or dirty valve body.
5. Throttle linkage return spring disconnected.
6. Valve body bolts improperly torqued, loose or too tight.

Harsh, Delayed, or No Upshifts

HARSH, DELAYED, OR NO UPSHIFTS

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Throttle return spring disconnected.
4. Damaged or incorrectly adjusted manual linkage.
5. Governor sticking.
6. High main control pressure.
7. Valve body bolts improperly torqued.
8. Sticking or dirty valve body.

High Shift Effort

HIGH SHIFT EFFORT

1. Damaged or improperly adjusted linkage.
2. Loose manual lever nut.
3. Damaged manual lever retainer pin.

Improper Shift Points

IMPROPER SHIFT POINTS

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Improper speedometer gear installed.
4. Improper clutch or band application.
5. Improper control system pressure.
6. Damaged or worn governor.
7. Sticking or dirty valve body.

Initial Drive In 2nd or 3rd

INITIAL DRIVE IN 2ND OR 3RD

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Oil pressure control system or improper clutch and/or band application.
4. Intermediate clutch pack clearance too tight.
5. Damaged, worn, or sticking governor.
6. Sticking or dirty valve body.
7. Valve body bolts too loose.
8. Cross leaks between valve body and case mating surface.

Initial Engagement Clunk W/Engine Warm

INITIAL ENGAGEMENT CLUNK W/ENGINE WARM

1. Engine idle speed incorrect.

2. Incorrectly adjusted throttle linkage.
3. Worn, damaged, or loose universal joints, slip yoke, rear axle, or suspension.
4. Excessive transmission endplay.

Mushy and/or Early Upshifts or Upshift Pileup

MUSHY AND/OR EARLY UPSHIFTS OR UPSHIFT PILEUP

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Low main control pressure.
4. Sticking throttle control valve or valve body.
5. Sticking governor valve.
6. Valve body bolts improperly torqued.

Mushy, Early, Soft, and/or Slipping 1-2 Upshift

MUSHY, EARLY, SOFT, AND/OR SLIPPING 1-2 UPSHIFT

1. Improper fluid level.
2. Improperly tuned engine.
3. Damaged or improperly adjusted linkage.
4. Incorrect main control pressure.
5. Sticking governor valve.
6. Valve body bolts improperly torqued.
7. Valve body dirty or valves sticking.
8. Worn or burned intermediate friction clutch.
9. Damaged intermediate servo.

No Drive, Slips, or Chatters In 1st Gear, In D, or Overdrive

NO DRIVE, SLIPS, OR CHATTERS IN 1ST GEAR, IN D, OR OVERDRIVE

1. Damaged planetary low one-way clutch.

No Drive, Slips, or Chatters In 2nd Gear

NO DRIVE, SLIPS, OR CHATTERS IN 2ND GEAR

1. Worn or damaged friction clutch or one-way clutch.
2. Intermediate clutch piston belled hole clogged or not positioned at 12 o'clock.
3. Control pressure or improper band or clutch application.
4. Internal leakage.
5. Dirty valve body or sticking valves.

No Engine Braking In Manual 2nd

NO ENGINE BRAKING IN MANUAL 2ND

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Improper clutch or band application.
4. Improper control system pressure.
5. Leaking intermediate servo.
6. Damaged intermediate one-way clutch.

No Forced Downshifts

NO FORCED DOWNSHIFTS

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Improper control system pressure or clutch application.
4. Sticking or dirty valve body.
5. Sticking or dirty governor.

No or Delayed Forward Engagement

NO OR DELAYED FORWARD ENGAGEMENT

1. Improper fluid level.
2. Damaged or improperly adjusted link age.
3. Low main control pressure.
4. Forward clutch stator support seal rings Nos. 3 and/or 4 leaking.
5. Burned and/or damaged forward clutch assembly.
6. Forward clutch cylinder check ball and/or piston seal rings leaking.
7. Valve body bolts improperly torqued.

8. Valve body dirty or valves sticking.
9. Clogged transmission filter.
10. Damaged or leaking pump.

No or Delayed Reverse Engagement

NO OR DELAYED REVERSE ENGAGEMENT

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Low main control pressure.
4. Leaking high reverse clutch or reverse clutch stator support seal rings Nos. 1 and/or 2.
5. Burned or worn reverse clutch assembly.
6. Leaking reverse clutch piston check ball and/or piston seal rings.
7. Valve body bolts improperly torqued.
8. Valve body dirty or valves sticking.
9. Clogged transmission filter.
10. Damaged pump.

No or Delayed Reverse Engagement and/or No Eng. Braking In Low

NO OR DELAYED REVERSE ENGAGEMENT AND/OR NO ENGINE BRAKING IN MANUAL LOW

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Leaking low reverse servo piston seal.
4. Burned or worn low reverse servo piston.
5. Damaged planetary low one-way clutch.
6. Endplay clearance too tight.

No 1-2 Upshifts

NO 1-2 UPSHIFTS

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Low main control pressure to intermediate friction clutch.
4. Sticking, leaking, or bent diaphragm unit.
5. Sticking or dirty valve body.
6. Burned intermediate clutch, band, or servo.
7. Valve body bolts improperly torqued.

No 2-3 Upshifts

NO 2-3 UPSHIFTS

1. Improper fluid level.
2. Low main control pressure to direct clutch.
3. Valve body bolts improperly torqued.
4. Sticking or dirty valve body.
5. Burned or worn direct or reverse-high clutch assembly.
6. Broken weld on converter damper hub.

No 3-4 Upshifts

NO 3-4 UPSHIFTS

1. Low fluid level.
2. Damaged or improperly adjusted linkage.
3. Direct clutch circuit leakage.
4. Sticking or dirty valve body.
5. Distorted main control gasket.
6. Distorted case.
7. Leaking governor.

Poor Vehicle Acceleration

POOR VEHICLE ACCELERATION

1. Improperly tuned engine.
2. Seized torque converter one-way clutch.

Reverse Shudders, Chatters, and/or Slips

REVERSE SHUDDERS, CHATTERS, AND/OR SLIPS

1. Improper fluid level.

2. Low main control pressure in reverse.
3. Leaking low reverse servo.
4. Damaged planetary low one-way clutch.
5. Damaged reverse clutch drum bushing.
6. Worn or damaged reverse clutch stator support seal rings or grooves.
7. Cut and/or worn reverse clutch piston.
8. Damaged reverse band.
9. Loose driveshaft, engine mounts or U-joints.

Rough Initial Engagement

ROUGH INITIAL ENGAGEMENT

1. Improper fluid level.
2. High engine idle.
3. Loose driveshaft, engine mounts, or U-joints.
4. Sticking or dirty valve body.
5. Improper clutch or band application, or low oil control pressure.
6. Incorrectly adjusted automatic choke.

Rough or Mushy 4-2 or 3-1 Shift

ROUGH OR MUSHY 4-2 OR 3-1 SHIFT

1. Improper fluid level.
2. Improperly tuned engine.
3. Damaged or improperly adjusted linkage.
4. Improper application of intermediate friction and one-way clutch.
5. Sticking or dirty valve body.

Rough Shudder 3-1 Shift at Closed Throttle In Overdrive

ROUGH SHUDDER 3-1 SHIFT AT CLOSED THROTTLE IN OVERDRIVE

1. Improper fluid level.
2. Improperly tuned engine.
3. Damaged or improperly adjusted linkage.
4. Improper control system pressure or clutch application.
5. Improper governor operation.
6. Sticking or dirty valve body.

Rough, Harsh, and/or Delayed 1-2 Upshift

ROUGH, HARSH AND/OR DELAYED 1-2 UPSHIFT

1. Improper fluid level.
2. Poor engine performance.
3. Incorrectly adjusted or damaged throttle linkage.
4. Main control pressure too high.
5. Sticking governor valve.
6. Valve body bolts improperly torqued.
7. Valve body dirty or valves sticking.

Shift Hunting 3-4 or 4-3

SHIFT HUNTING 3-4 OR 4-3

1. Improperly tuned engine.
2. Damaged or improperly adjusted linkage.
3. Worn or damaged EGR solenoid.

Shifts 1-3 In Overdrive

SHIFTS 1-3 IN OVERDRIVE

1. Improper fluid level.
2. Damaged or burned intermediate friction clutch.
3. Damaged intermediate one-way clutch.
4. Improper control system pressure or clutch application.
5. Sticking or dirty valve body.
6. Sticking governor valve.

Slipping Shift Followed By Sudden Engagement

SLIPPING SHIFT FOLLOWED BY SUDDEN ENGAGEMENT

1. Throttle valve linkage set too short.

Slipping 4TH Gear

SLIPPING 4TH GEAR

1. Overdrive circuit leakage or blocked passage.
2. Overdrive servo piston and/or band not applying.
3. Overdrive band incorrectly located.
4. Converter damper plate and hub damaged.
5. Distorted direct driveshaft splines.

Slow Initial Engagement

SLOW INITIAL ENGAGEMENT

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Contaminated fluid.
4. Low main control pressure or improper clutch and band application.

Soft, Early, and/or Mushy 2-3 Upshift

SOFT, EARLY, AND/OR MUSHY 2-3 UPSHIFT

1. Improper fluid level.
2. Improperly tuned engine.
3. Damaged or improperly adjusted linkage.
4. Valve body bolts improperly torqued
5. Burned or worn direct clutch assembly or reverse/high clutch.
6. Damaged accumulator.
7. Dirty or sticking valve body.
8. Bent, sticking, or leaking vacuum diaphragm or TV control rod.

Transmission Leaks

TRANSMISSION LEAKS

1. Case breather vent.
2. Leakage at gaskets or seals.

Transmission Noisy, Except Valve Resonance

TRANSMISSION NOISY, EXCEPT VALVE RESONANCE

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Contaminated fluid.
4. Loose converter to flywheel housing bolts or nuts.
5. Loose or worn speedometer driven gear.
6. Damaged or worn extension housing bushing seal or driveshaft.
7. Damaged or worn front or rear planetary and/or one-way clutch.

Transmission Noisy, Valve Resonance

TRANSMISSION NOISY, VALVE RESONANCE

NOTE: Gauges may aggravate any hydraulic resonance.

1. Improper fluid level.
2. Damaged or improperly adjusted linkage.
3. Improper control system pressure or clutch application.
4. Cooler lines contacting frame, floor pan or other components.
5. Sticking or dirty valve body.
6. Internal leakage or pump cavitation.

Transmission Overheats

TRANSMISSION OVERHEATS

1. Improper fluid level.
2. Improperly tuned engine.
3. Improper control system pressure or clutch application.
4. Restricted cooler or lines.
5. Seized converter one-way clutch.
6. Sticking or dirty valve body.

Vehicle Will Not Start

VEHICLE WILL NOT START

1. Incorrectly adjusted ignition switch.
2. Defective ignition switch.
3. Defective neutral start switch.