1989-94 AUTOMATIC TRANSMISSIONS

RE4F02A & RE4F02V Overhaul

APPLICATION

APPLICATION & LABOR TIMES

Vehicle Application	Labor Times (1) R & I	Labor Times (2) Overhaul	Trans. Model
Maxima GXE	6.0	9.0	RE4F02A
Stanza XE	6.5	9.0	RE4F02A
Stanza GXE & SE	6.5	9.0	RE4F02V

(1) Removal and installation of transmission from vehicle chassis.

(2) Bench overhaul time for transmission and differential. DOES NOT include removal and installation.

IDENTIFICATION

Transaxle model is located on vehicle identification plate in engine compartment area. See **Fig. 1** . Transaxle number is located on upper valve body cover area. See **Fig. 2** .

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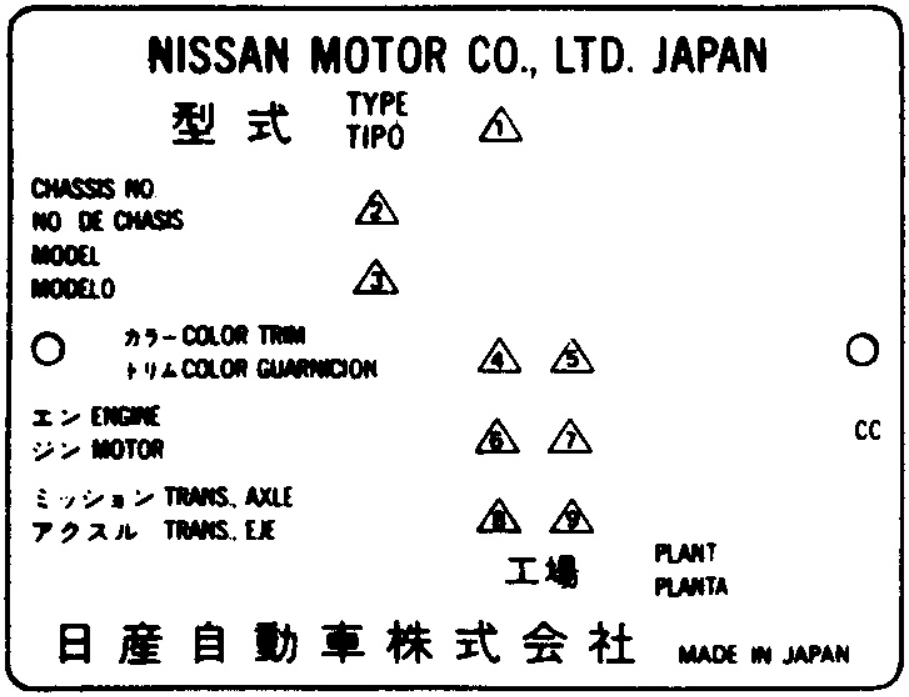

1. Type
2. Vehicle Identification Number (Chassis Number)
3. Model
4. Body Color Code
5. Trim Color Code
6. Engine Model
7. Engine Displacement
8. Transaxle Model
9. Axle Model

93E22362

Fig. 1: Identification Plate Information
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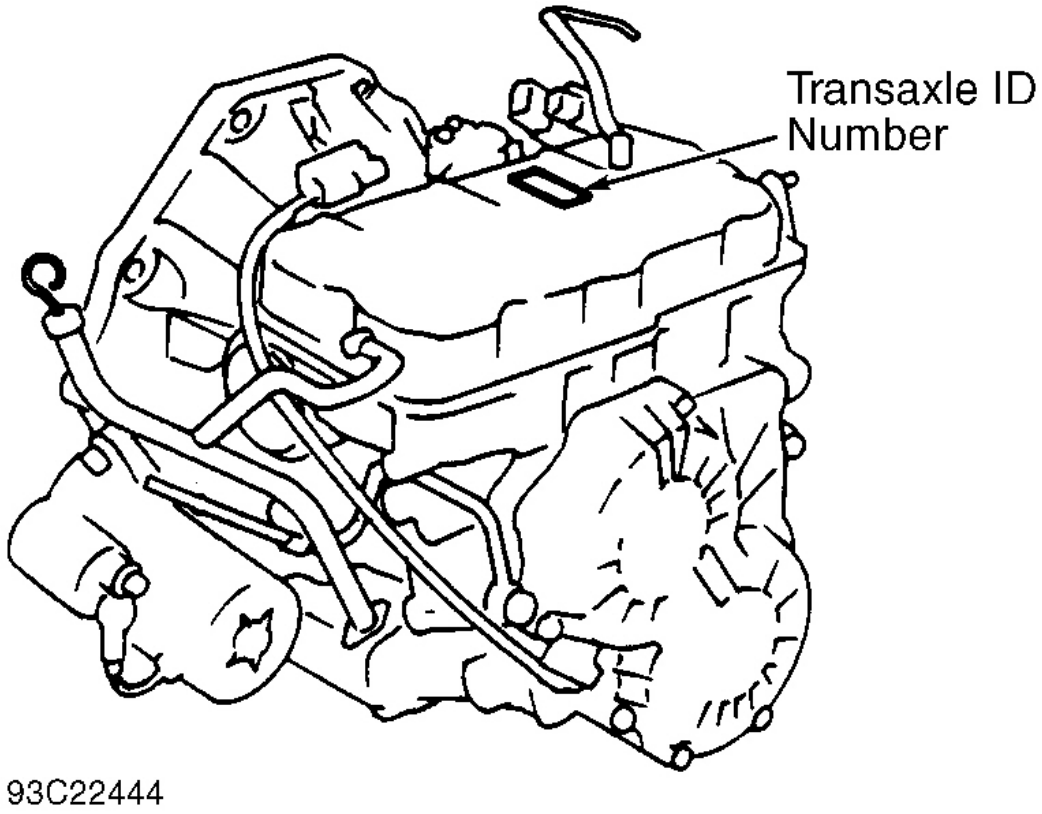

Fig. 2: Locating Automatic Transaxle Number
Courtesy of NISSAN MOTOR CO., U.S.A.

DESCRIPTION

Transaxle consists of 4 main units: automatic transaxle, torque converter, differential assembly and Automatic Transaxle Control Unit (ATCU). ATCU electrically controls shifting functions. Automatic transaxle consists of reverse clutch, low clutch, low and reverse brake, brake band servo, accumulator, high clutch and control valve assembly. See **Fig. 3** . RE4F02V transaxle incorporates a limited slip differential with viscous coupling.

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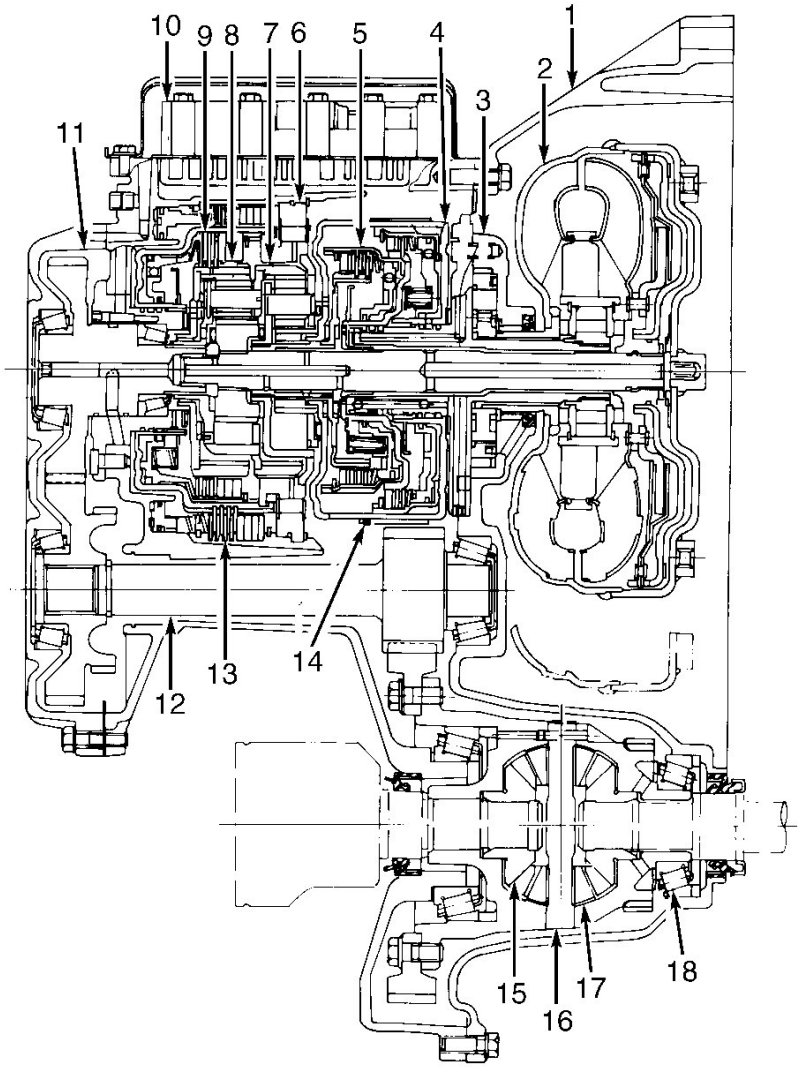

1. Converter Housing
2. Torque Converter
3. Oil Pump
4. Reverse Clutch
5. High Clutch
6. One-Way Clutch
7. Front Planetary Gear
8. Rear Planetary Gear
9. Low Clutch
10. Control Valve
11. Side Cover
12. Reduction Gear
13. Low & Reverse Brake
14. Band Brake
15. Side Gear
16. Pinion Shaft
17. Pinion Gear
18. Differential Side Bearing

93D22445

Fig. 3: Identifying Transaxle Component Locations
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LUBRICATION & ADJUSTMENTS

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See the TRANSMISSION SERVICING - A/T article in the AUTOMATIC TRANS SERVICING section.

ON-VEHICLE SERVICE

CONTROL VALVE ASSEMBLY

Remove air cleaner, battery and bracket. Remove control valve cover. Remove control valve assembly by removing mounting bolts and disconnecting wiring harness connector. See **Fig. 12** .

NOTE: DO NOT drop manual valve out of valve body.

Disassemble, inspect and reassemble control valve assembly. Set manual valve to "N" position. Align manual plate with groove in manual valve of control valve assembly. After installing control valve to transmission case, ensure selector lever can be moved to all positions.

DIFFERENTIAL SIDE OIL SEAL REPLACEMENT

Remove drive shaft assembly. Refer to AXLE SHAFTS & TRANSFER CASES section. Using appropriate puller, remove oil seal. Apply ATF to new oil seal. Install new oil seal and reinstall drive shaft assembly.

GEARSHIFT LINKAGE

See the TRANSMISSION SERVICING - A/T article in the AUTOMATIC TRANS SERVICING section.

INHIBITOR SWITCH

For inhibitor switch (neutral safety switch) adjustment, see the TRANSMISSION SERVICING - A/T article in the AUTO TRANS SERVICING section.

OIL COOLER FLUSHING PROCEDURE

Vehicles with tube type transaxle fluid cooler may be cleaned by using cleaning solvent and compressed air. Cooler lines must also be flushed to remove any foreign material.

TROUBLESHOOTING

NOTE: Always check fluid levels and linkage. Fluid level should be checked using HOT range on dipstick at fluid temperatures of 122-176°F (50-80°C) after vehicle has been driven approximately 5 minutes after initial warm-up. Use caution not to overfill. Ensure all computer control systems are operating properly before diagnosing shifting problems.

TROUBLESHOOTING

Engine Will Not Start In "P" Or "N"

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Faulty ignition switch, fuse, or starter. Inhibitor switch or control linkage misadjusted.

Engine Starts In Range Other Than "P" Or "N"

Inhibitor switch or control linkage misadjusted.

Transaxle Noise In "P" Or "N"

Incorrect fluid level or line pressure, faulty speed or revolution signal, torque converter or oil pump defect.

Park Will Not Engage Or Disengage

Control linkage misadjusted or defective parking components.

Vehicle "Creeps" In "N"

Control linkage misadjusted, damaged low or reverse clutches.

Vehicle Will Not Move In "R"; Okay In "D", "2" & "1"

Control linkage misadjusted, incorrect line pressure, faulty line pressure solenoid or control valve, damaged reverse clutch, low clutch or low and reverse brake.

Vehicle Brakes When Shifted To "R"

Incorrect fluid level, control linkage adjustment or line pressure, damaged line pressure solenoid, control valve, high clutch, low clutch or brake band.

Excessive Shift Shock From "N" To "D"

Engine idle RPM or throttle sensor misadjusted, incorrect line pressure, fluid temperature or engine RPM signal. Damaged or faulty timing solenoid, low clutch accumulator or low clutch.

Vehicle Will Not Move In "D" & "2"; Okay In "1" & "R"

Control linkage misadjusted, damaged or faulty one-way clutch.

Vehicle Will Not Move Or Slips In "D", "1" & "2"

Incorrect fluid level or line pressure, faulty line pressure solenoid or control valve, damaged low clutch accumulator, reverse clutch, high clutch, low clutch or one-way clutch. See **CLUTCH & BAND APPLICATION CHART** .

Slips When Accelerating

Incorrect fluid level, control linkage, line pressure or throttle sensor adjustment, damaged low clutch, low clutch accumulator, band servo piston, low and reverse brake, torque converter and/or oil pump.

Excessive "Creep"

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Incorrect engine idle RPM.

No "Creep"

Incorrect fluid level or line pressure, damaged control valve, torque converter, oil pump or low clutch.

No Gear Change

Blown fuse, no revolution sensor or speed sensor signal, throttle sensor misadjusted or shift solenoid "A" or "B" damaged.

No 1-2 Upshift

Inhibitor switch or control linkage misadjusted, damaged control valve assembly or shift solenoid "A", no revolution sensor or speed sensor signal or leaking band servo piston.

No 2-3 Upshift

Inhibitor switch or control linkage misadjusted, no revolution sensor or speed sensor signal, damaged control valve, shift solenoid "B", high clutch or brake band.

No 3-4 Upshift

Inhibitor switch or control linkage misadjusted, no revolution sensor, speed sensor or fluid temperature sensor signal, damaged overdrive switch, shift solenoid "A" or brake band.

Upshift Points Too High In All Gears

Throttle sensor misadjusted, improper revolution sensor or speed sensor signal, faulty transmission mode switch or shift solenoid "A" or "B".

Shifts From 1st To 3rd; Skips 2nd

Incorrect fluid level, faulty or leaking brake band or band servo accumulator.

Shifting Into "R", "D", "2", Or "1" Kills Engine

Improper engine idle setting or line pressure, damaged control valve assembly, lock-up solenoid or torque converter.

Excessive Shock During 1-2 Upshift

Incorrect line pressure or throttle sensor adjustment, no revolution sensor of fluid temperature sensor signal, damaged control valve assembly, timing solenoid, line pressure solenoid, binding or leaking band servo accumulator or brake band.

Excessive Shock During 2-3 Upshift

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Incorrect line pressure or throttle sensor adjustment, damaged line pressure solenoid, high clutch or band servo piston.

Excessive Shock During 3-4 Upshift

Incorrect line pressure or throttle sensor adjustment, damaged or leaking line pressure solenoid or band servo piston.

Vehicle Will Not Move In Any Range

Incorrect fluid level, control linkage adjustment, or line pressure, damaged line pressure solenoid, torque converter or oil pump, leaking or worn high clutch, low clutch, one-way clutch, band servo piston or parking components. See **CLUTCH & BAND APPLICATION CHART** .

CLUTCH & BAND APPLICATION CHART

Selector Lever Position	Elements In Use
"D" (Drive)	
1st Gear	Low Clutch & One-Way Clutch
2nd Gear	Band Servo & Low Clutch
3rd Gear (1)	Band Servo, High Clutch & Low Clutch
4th Gear (OD) (2)	Band Servo & High Clutch
"2" (Intermediate)	
1st Gear	Low Clutch & One-Way Clutch
2nd Gear	Band Servo & Low Clutch
"1" (Low)	
1st Gear	Low Clutch
2nd Gear	Band Servo & Low Clutch
"R" (Reverse)	Low-Reverse Brake & Reverse Clutch
"N" Or "P" (Neutral Or Park)	All Clutches & Bands Released Or Ineffective
(1) Lock-up operates in 3rd gear (lock-up) range when OD control switch is OFF (OD not allowed).	
(2) Lock-up operates in 4th gear (lock-up) range when OD control switch is ON (OD allowed).	

TESTING

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ROAD TEST

Preliminary Checks

Fluid level should be checked using HOT range on dipstick at fluid temperatures of 122-176°F (50-80°C) after vehicle has been driven approximately 5 minutes after initial warm-up. COLD range on dipstick is for reference only. Fluid level must be checked and adjusted using HOT range. Ensure the following procedures are followed:

- Check fluid level with vehicle on level surface and parking brake set.
- Check fluid level with engine running and selector lever in PARK.
- If fluid level is at low side of either range, add fluid.
- Check fluid condition.
- Check for fluid leakage at cases, pan, etc.

Check Before Engine Is Started

1. Park vehicle on flat surface. Set transmission mode switch to AUTO position, move selector lever to "P" position. Turn ignition switch to ON position. Power indicator light should come on for about 2 seconds.
2. Set transmission mode switch to POWER position. POWER indicator light should come on. Set transmission mode switch to COMFORT position. COMFORT indicator light should come on. Set overdrive switch to OFF position. Overdrive OFF indicator light should come on.
3. Move selector lever to "D" position and depress and release accelerator pedal quickly. POWER indicator light should come on for about 3 seconds.

Check With Engine Idling

1. With engine idling, move selector to "D", "2", "1", or " R" position. With parking brake off, verify PARK engagement by pushing vehicle backward or forward. Apply parking brake. Move selector to "N" position. Vehicle should not roll.
2. Apply foot brake. Move selector lever to "R" position. Release parking brake for several seconds. Vehicle should creep backward with parking brake released. Repeat to verify operation of forward gear ranges.

Road Test Procedure

1. Park vehicle on flat surface and set transmission mode switch to AUTO position. Set overdrive switch to ON position. Move selector lever to "P" position and start engine.
2. Move selector lever to "D" position. Depress accelerator pedal halfway. Vehicle should start from 1st gear. Verify 1-2, 2-3 and 3-4 upshifts occur at the specified speed. Refer to SHIFT SPEED CHARTS. See **Fig. 4** .
3. Lock-up occurs at speeds relative to throttle opening in D4. Specified speeds for lock-up are as follows: 78-84 MPH at 1/2 throttle, and 47-53 MPH at 1/4 throttle.
4. Lock-up condition should be maintained for more than 30 seconds. Lock-up state is released upon deceleration. Confirm transmission mode switch is in AUTO position, overdrive switch is in ON position and selector lever is in "D" position.

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5. Accelerate vehicle to approximately 50 MPH using half-throttle. Release accelerator pedal and then quickly depress pedal to floor. Transaxle should downshift from 4th to 2nd. Release accelerator and verify 2-3, and 3-4 upshifts. Check shift points and specified speeds. Refer to SHIFT SPEED CHARTS. See **Fig. 4** .
6. Confirm transmission mode switch is in AUTO position, overdrive switch is in ON position and selector lever is in "D" position. Accelerate vehicle to 4th gear using half-throttle. Release accelerator and switch overdrive to OFF position. Verify 4-3 downshift.
7. While still in 3rd gear, move selector lever from "D" to "2" position. Downshift should occur and deceleration by engine braking. While still in 2nd gear, move selector lever from "2" to "1" position. Downshift should occur and deceleration should occur by engine braking.

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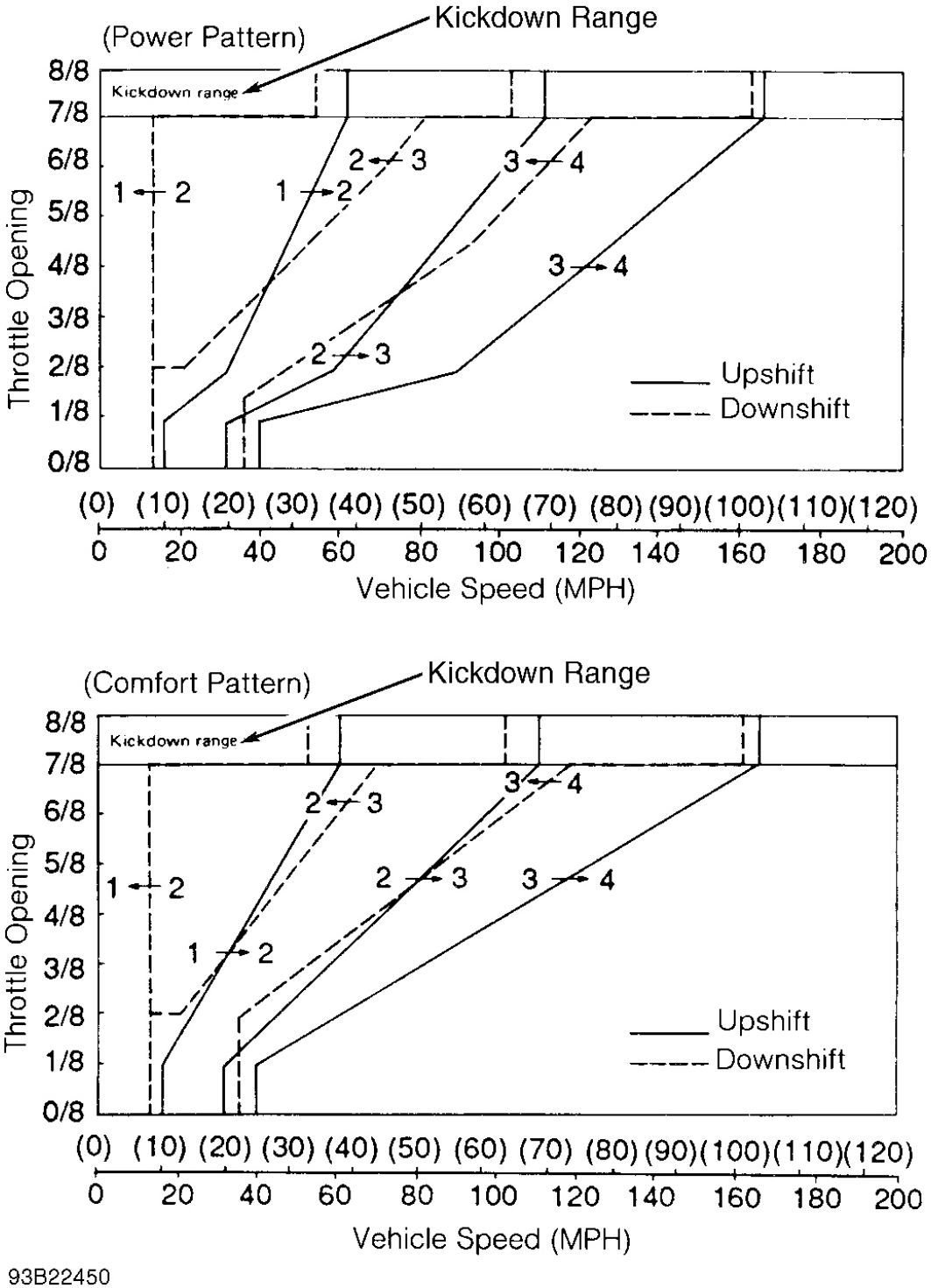

Fig. 4: Shift Speed Charts
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STALL SPEED TEST

To perform stall speed test, use the following procedures:

- Check transaxle and engine fluid levels.
- Warm engine and transaxle to operating temperature. Drive vehicle approximately 10 minutes.
- Set parking brake and block wheels.
- Install a tachometer where it can be seen by driver.
- Start engine, apply foot brake, move selector lever to "D" position.
- Accelerate to wide-open throttle gradually while applying foot brake.
- Note engine stall speed and immediately release throttle. Stall speed should be 2050-2350 RPM.

NOTE: During stall speed test, never hold wide-open throttle for more than 5 seconds.

- Shift selector lever to "N" position. Allow ATF to cool.
- Repeat previous procedures with selector lever in "1" and "R" positions. For test results, see **STALL SPEED TEST RESULTS** .

STALL SPEED TEST RESULTS

Low In "D"

Lock-up clutch is dragging, torque converter one-way clutch is faulty or engine is not performing properly.

Low In "R" ("D" Okay)

Lock-up clutch is dragging, torque converter one-way clutch is faulty or engine is not performing properly.

High In "D"

Low clutch or one-way clutch slips. Test in "1" position to determine if low clutch or one-way clutch is faulty. If okay in "1" position, one-way clutch is slipping. If high in "1" position, low clutch is slipping.

High In "R"

Road test vehicle with selector lever in "1" position. If effective engine braking occurs, reverse clutch slips. If no engine braking occurs, low-reverse brake is slipping.

NOTE: If torque converter one-way clutch is frozen, vehicle will have poor high speed performance and low engine RPM when raced in "N" position. If torque converter one-way clutch is slipping, vehicle will be sluggish up to 30-40 MPH.

HYDRAULIC PRESSURE TESTS

NOTE: Once pressure plugs are removed, always replace pressure plugs as they are

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self-sealing.

Line Pressure Test

1. Check transaxle and engine fluid levels. Warm up engine and transaxle to operating temperature. Drive vehicle approximately 10 minutes before testing.
2. Install pressure gauge to line pressure port. See **Fig. 5** . Set parking brake and block wheels. Continue to press brake fully while line pressure and stall speed tests are being performed. Start engine and measure line pressure at idle and stall speed. Refer to the **LINE PRESSURE SPECIFICATIONS** table.

NOTE: When measuring line pressure at stall speed, follow stall speed test procedure.

LINE PRESSURE SPECIFICATIONS

Application	psi (kg/cm^2)
At Idle	55-61 (382-422)
At Stall Speed	158-169 (1089-1167)

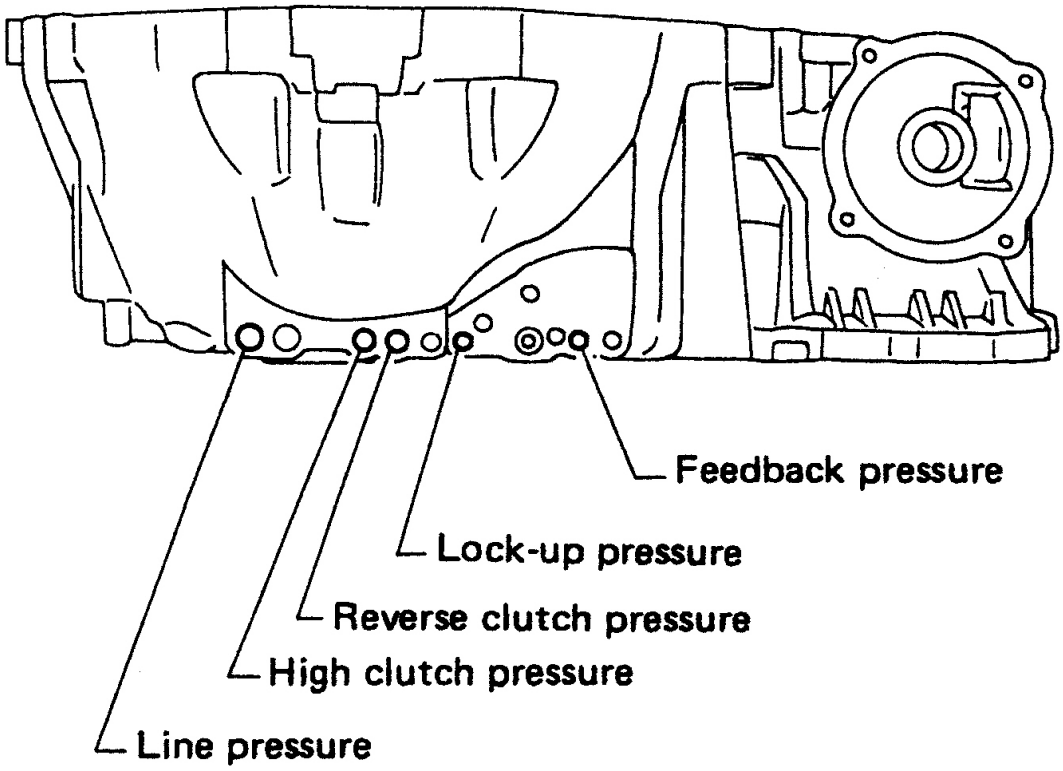

Fig. 5: Identifying Hydraulic Pressure Test Ports (1991 & Earlier)
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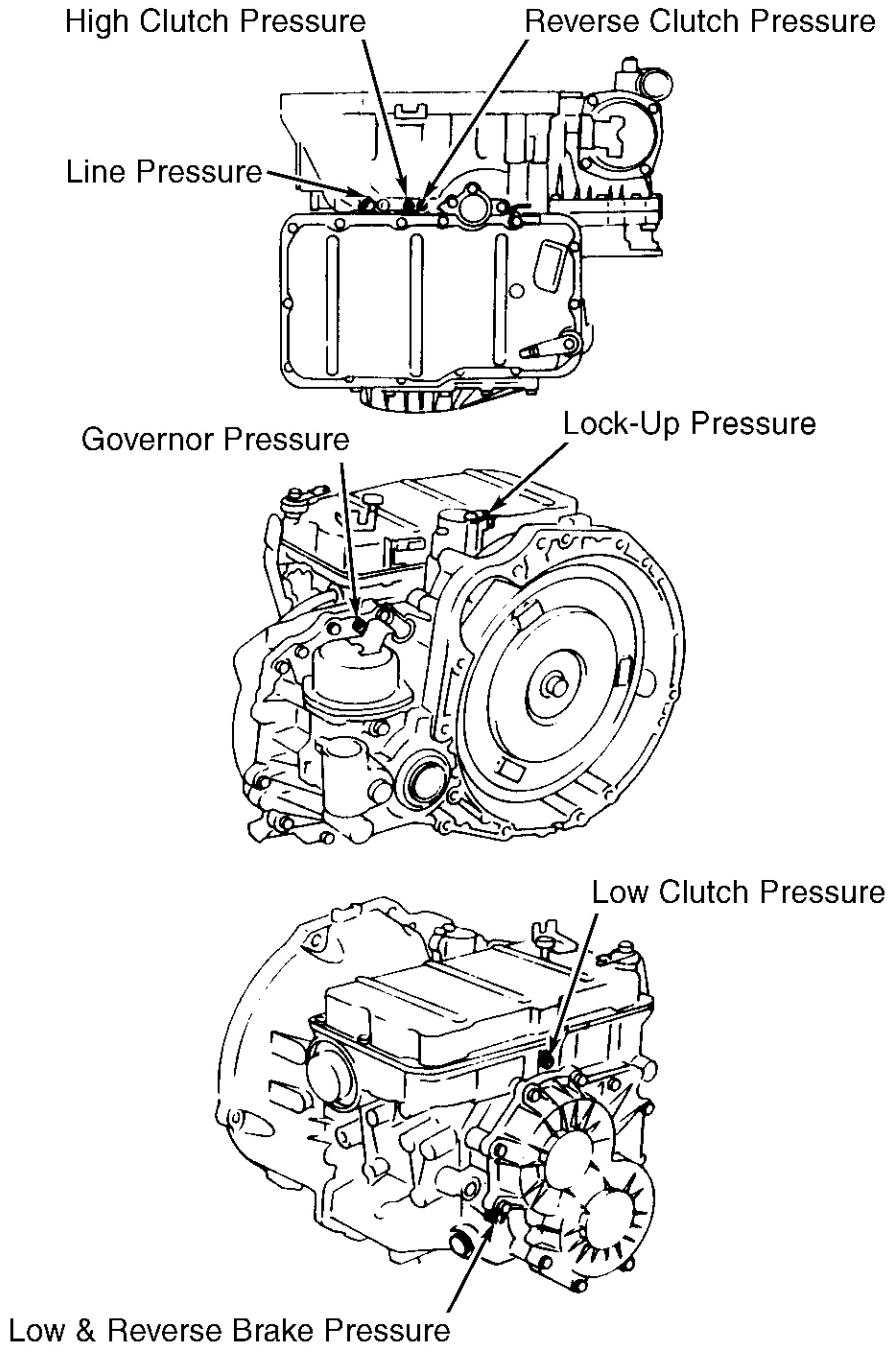

Fig. 6: Identifying Hydraulic Pressure Test Ports (1992)
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Line Pressure Test Results

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1. If line pressure is low at idle in all positions, possible causes are: oil pump wear, control piston damage, pressure regulator valve or plug sticking, spring for pressure regulator valve damaged, fluid pressure leakage between oil strainer and pressure regulator valve.
2. If line pressure is low at idle in a particular shift position, possible causes are: fluid pressure leakage between manual valve and a particular clutch.
3. If line pressure is high at idle, possible causes are: throttle sensor misadjusted, fluid temperature sensor signal out-of-limits, line pressure solenoid sticking, line pressure solenoid circuit shorted, pressure regulator valve or plug sticking.
4. If line pressure is low at stall speed, possible causes are: throttle sensor misadjusted, control piston damaged, line pressure solenoid sticking or shorted, pressure regulator valve or plug sticking or pilot valve sticking.

Lock-Up Test

Install pressure gauge to lock-up pressure test port. See **Fig. 5** . Shift selector lever to "D" position. Torque converter should lock-up when specified pressure is reached. See **LOCK-UP PRESSURE SPECIFICATIONS** table.

LOCK-UP PRESSURE SPECIFICATIONS

Application	psi (kPa)
Lock-Up On	7 (49) Or Less
Lock-Up Off	28 (196) Or More

ELECTRONIC SELF-DIAGNOSTICS

SELF-DIAGNOSTIC PROCEDURE

NOTE: Perform self-diagnostics with engine at normal operating temperature.

1. Ensure engine is at normal operating temperature. Turn ignition switch to OFF position. Set transmission mode switch to AUTO position, overdrive switch to ON position, and selector lever to "P" position. Turn ignition switch to ON position, but **DO NOT** start engine. POWER indicator light should come on for about 2 seconds.
2. Turn ignition switch to OFF position and move selector lever to "D" position. Set overdrive switch to OFF position. Turn ignition switch to ON position, but **DO NOT** start engine. Move selector lever to "2" position. Set overdrive switch to ON position, move selector lever to "1" position, and set overdrive switch to OFF position.
3. Depress accelerator pedal to floor and release pedal. Record POWER indicator light flashes and see the SELF-DIAGNOSTIC CODES charts. See **Fig. 7** - **Fig. 10** .

NOTE: The term "judgement flicker" refers to light flashes of the POWER indicator light. For additional wiring diagram information, See WIRING DIAGRAMS . See Fig. 30 and Fig. 31 .

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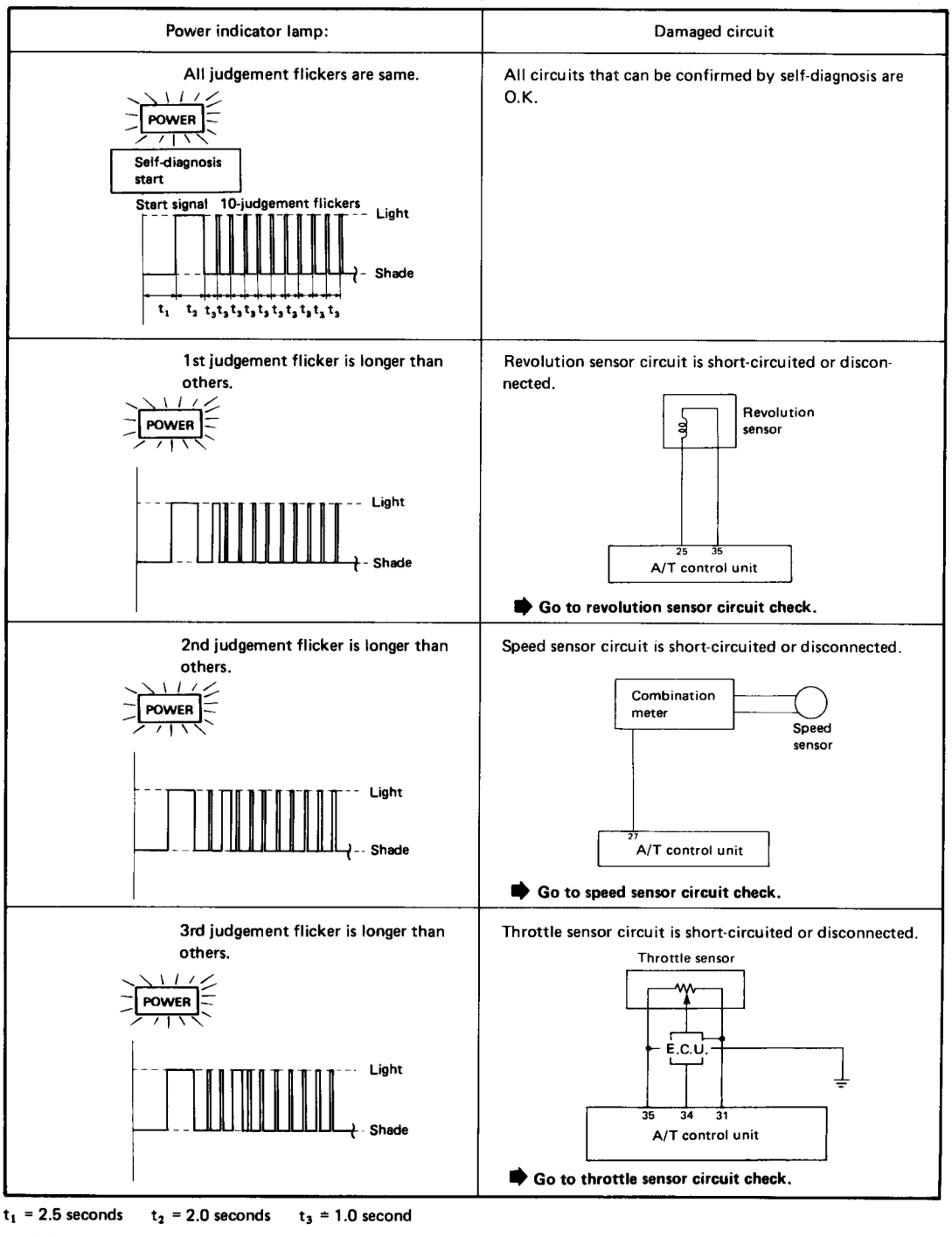

Fig. 7: Identifying Transaxle Self-Diagnostic Codes (1 Of 4)
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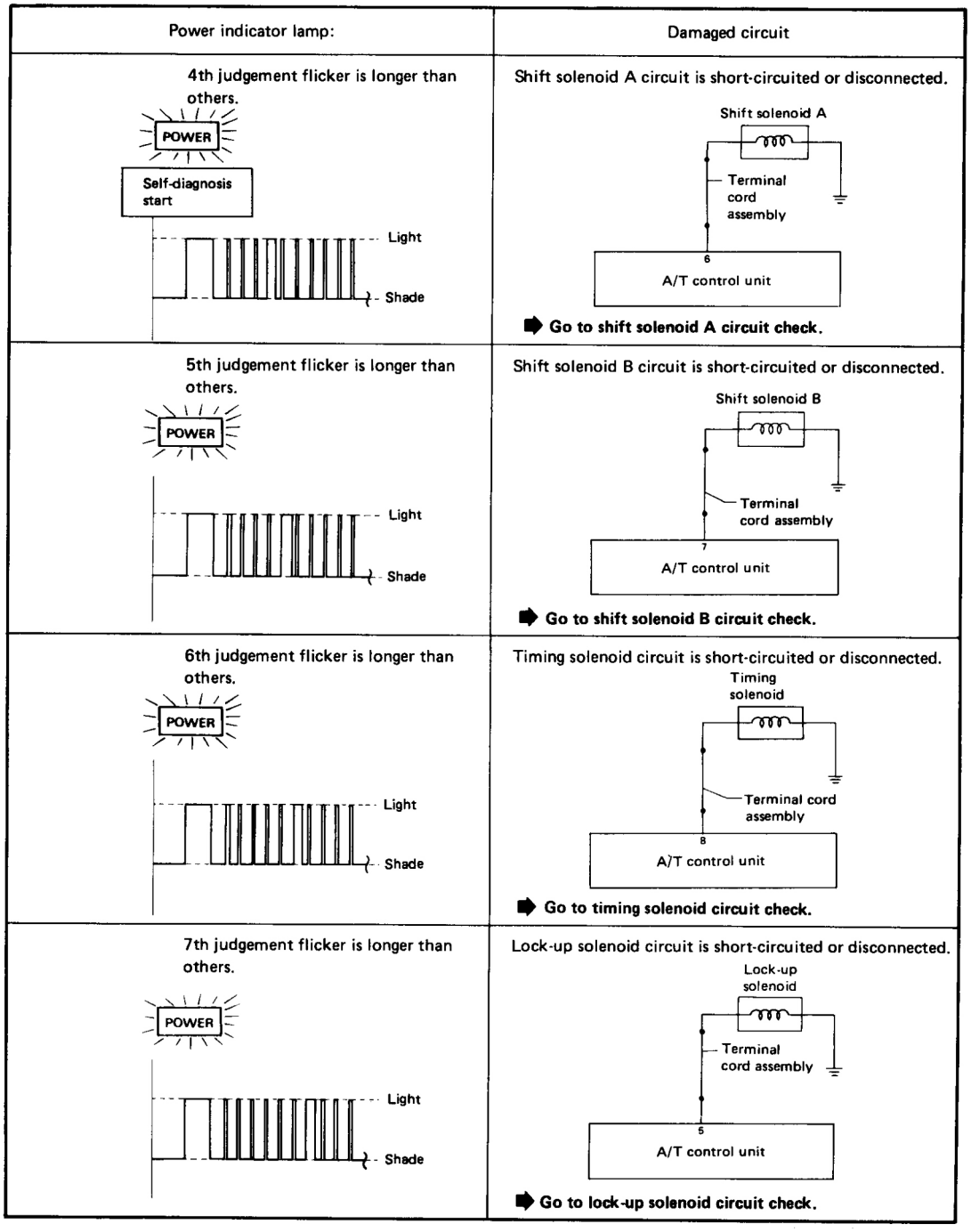

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Fig. 8: Identifying Transaxle Self-Diagnostic Codes (2 Of 4)
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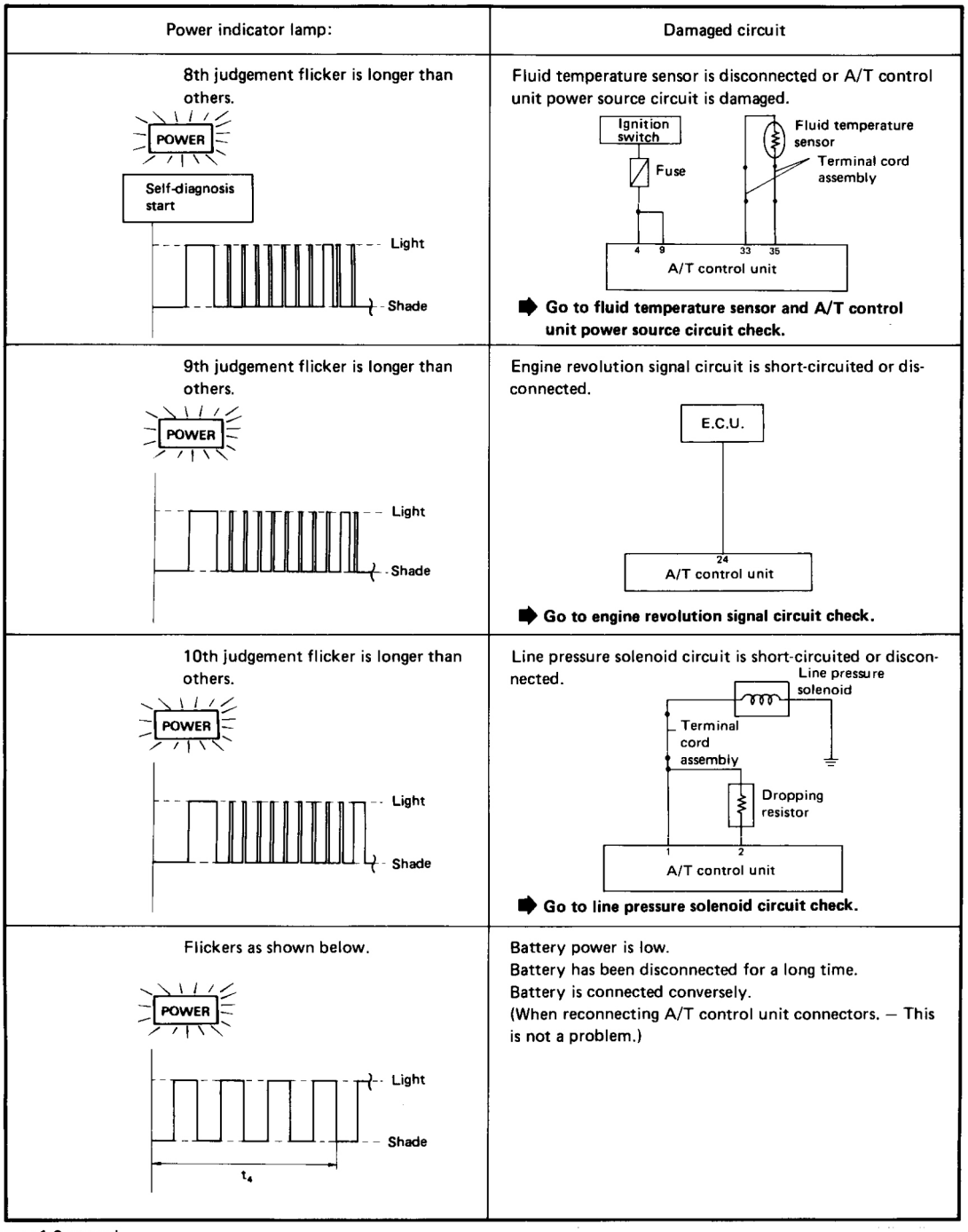

t_4 = 1.0 second

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Fig. 9: Identifying Transaxle Self-Diagnostic Codes (3 Of 4)
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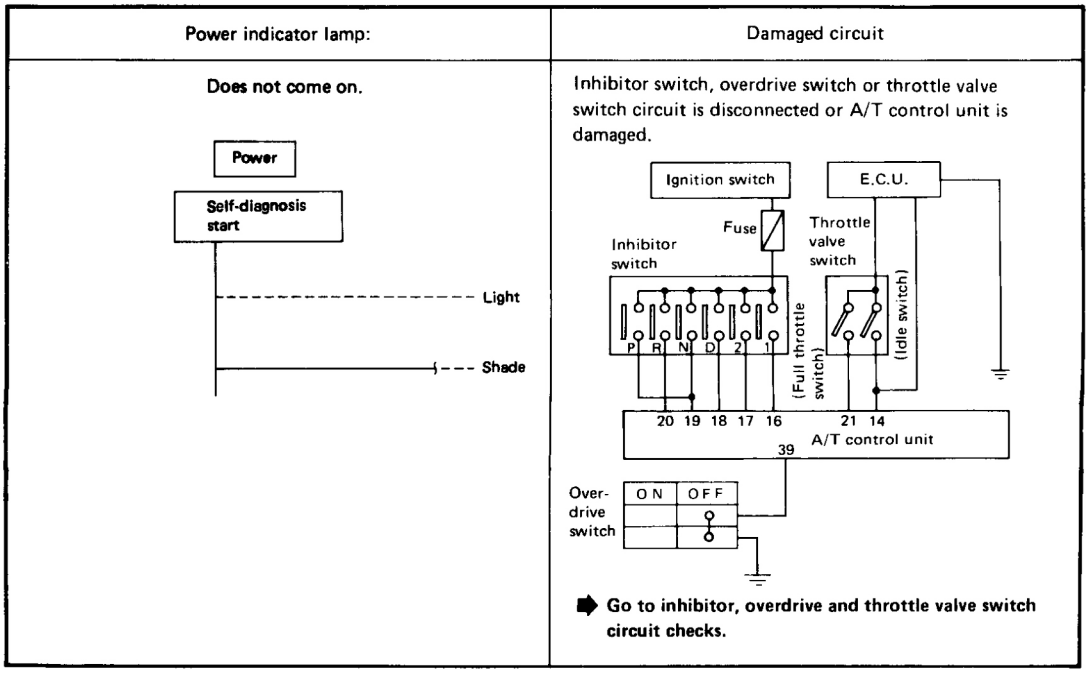

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Fig. 10: Identifying Transaxle Self-Diagnostic Codes (4 Of 4)
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ELECTRONIC CIRCUIT TESTING

NOTE: If the following circuit tests do not test as described, check wiring circuit between specified components to correct circuit malfunction. Repair as necessary. For wiring diagram information, see WIRING DIAGRAMS. See Fig. 30 and Fig. 31 .

ATCU POWER SOURCE TEST

Check voltage between ATCU terminals No. 4, 9 and ground. Battery voltage should be present.

ENGINE REVOLUTION SIGNAL CIRCUIT TEST

With ignition switch in ON position, and engine off, check voltage between ATCU terminal No. 24 and ground. Voltage should be 0.9-4.5 volts.

FLUID TEMPERATURE SENSOR CIRCUIT TEST

Disconnect solenoid harness connector in engine compartment. Check resistance between terminals No. 33 and 35 when transaxle is cold. See **FLUID TEMPERATURE SENSOR DIAGNOSIS** table. Check voltage between ATCU terminal No. 33 and ground, while warming up transaxle.

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FLUID TEMPERATURE SENSOR DIAGNOSIS

Terminal	Transaxle Temperature	Resistance	Voltage
33 To 35	Cold (1)	2500 Ohms	N/A
33 To Ground	Warming Up (2)	N/A	1.56-.45

(1) Cold 68°F (20°C).

(2) Cold 68°F (20°C); Hot 176°F (80°C).

INHIBITOR SWITCH CIRCUIT TEST

Check voltage between ATCU terminals No. 16, 17, 18, 19, 20 and ground, while moving selector lever through each gear position. Battery voltage should be present at specified terminal when selector lever is in specified position See **INHIBITOR SWITCH VOLTAGE** chart.

INHIBITOR SWITCH VOLTAGE

Position	Terminal No.
"P" & "N"	19
"R"	20
"D"	18
"2"	17
"1"	16

LINE PRESSURE SOLENOID CIRCUIT TEST

1. With ignition switch in OFF position, disconnect solenoid harness connector in engine compartment and check resistance between terminal No. 1 and ground. Resistance should be 2.5-5 ohms. Disconnect ATCU connector and check resistance between solenoid harness connector terminal No. 1 and ATCU terminal No. 2.
2. Resistance should be 11.2-12.8 ohms. Check resistance between solenoid harness connector terminal No. 1 and ATCU terminal No. 1. Resistance should be approximately zero ohms.

LOCK-UP SOLENOID CIRCUIT TEST

Disconnect solenoid harness connector in engine compartment. Check resistance between terminal No. 5 and ground. Resistance should be 10-20 ohms. Disconnect ATCU connector and check resistance between terminal No. 5 and solenoid harness connector terminal No. 5. Resistance should be approximately zero ohms.

OVERDRIVE SWITCH CIRCUIT TEST

Check voltage between ATCU terminal No. 39 and ground while overdrive switch is in ON position. Battery voltage should be present. With overdrive switch in OFF position, one volt or less should be present.

REVOLUTION SENSOR CIRCUIT TEST

Revolution sensor is a voltage generating sensor and should be tested using a voltmeter set on AC scale. Check

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voltage between ATCU terminal No. 25 and ground while driving vehicle. Voltage should rise gradually relative to vehicle speed. At zero MPH, voltage should not be present.

SHIFT SOLENOID "A" CIRCUIT TEST

With ignition switch in OFF position, disconnect solenoid harness connector in engine compartment. Check resistance between terminal No. 6 and ground. Resistance should be 20-40 ohms. Check resistance between solenoid harness connector terminal No. 6 and terminal No. 6 at ATCU. Resistance should be zero ohms.

SHIFT SOLENOID "B" CIRCUIT TEST

Perform shift solenoid "A" circuit test, except check terminal No. 7 at the solenoid harness connector and terminal No. 7 at the ATCU. Resistance readings should be the same as described in the **SHIFT SOLENOID "A" CIRCUIT TEST** .

SPEED SENSOR CIRCUIT TEST

Check voltage between ATCU terminal No. 27 and ground while driving 1-2 MPH for 3 ft. (1 m) or more. Voltage should vary from 0-5 volts. If voltage is not as described, check for continuity in wiring harness between ATCU and speed sensor. Check for poor ground.

THROTTLE SENSOR CIRCUIT TEST

Check voltage between ATCU terminals No. 34 and 35, while accelerator pedal is depressed slowly. At closed throttle, .2-.6 volt should be present. At wide open throttle, 2.9-3.9 volts should be present. Voltage rises relative to throttle valve opening.

THROTTLE VALVE SWITCH CIRCUIT TESTS

Checking Idle Switch Circuits

Check voltage between ATCU terminal No. 14 and ground while depressing accelerator slowly. When depressing accelerator pedal to wide open throttle, one volt or less should be present. When releasing accelerator pedal, 8-15 volts should be present.

Checking Full Throttle Switch Circuit

Check voltage between ATCU terminal No. 21 and ground. When depressing accelerator pedal to wide open throttle, 8-15 volts should be present. When releasing accelerator pedal, one volt or less should be present.

TIMING SOLENOID CIRCUIT TEST

Perform SHIFT SOLENOID "A" CIRCUIT TEST, except check terminal No. 8 at solenoid harness connector and terminal No. 8 at ATCU. Resistance readings should be the same as described in SHIFT SOLENOID "A" CIRCUIT TEST.

REMOVAL & INSTALLATION

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See the TRANSMISSION REMOVAL & INSTALLATION - A/T article in the AUTO TRANS SERVICING section.

TORQUE CONVERTER

Torque converter is a sealed unit and cannot be disassembled for service. Replace torque converter if damaged or contaminated.

TRANSAXLE DISASSEMBLY

1. Remove drain plug and drain ATF. Remove torque converter. Remove control cylinder and control valve cover. Disconnect wiring harness connectors on control valve and remove control valve assembly.
2. Remove accumulator and side cover. Remove output gear. Using appropriate puller, remove idler gear. Remove parking pawl, return spring, parking shaft and spacer. Remove speedometer case and speedometer gear. Remove governor cap, governor pin and governor shaft.
3. Remove converter housing. Remove final drive assembly and reduction pinion gear. After removing "O" ring from input shaft, pull out input shaft from converter housing. Remove oil strainer, differential lubrication tube and gutter.
4. Loosen band brake stem lock nut. Back off piston stem. Remove band brake, high clutch and reverse clutch pack. Remove one-way clutch, front carrier, rear carrier and low clutch as a set. See **Fig. 11** and **Fig. 12** . Remove low and reverse clutches. Detach low and reverse brake retainer snap ring by pushing retainer.
5. Use compressed air to remove low and reverse brake piston. See **Fig. 13** . Remove bearing retainer assembly. Remove band servo snap ring, band brake servo, retainer and return spring. Loosen manual shaft lock nuts and remove manual plate. Pull out retaining pin and remove manual shaft.

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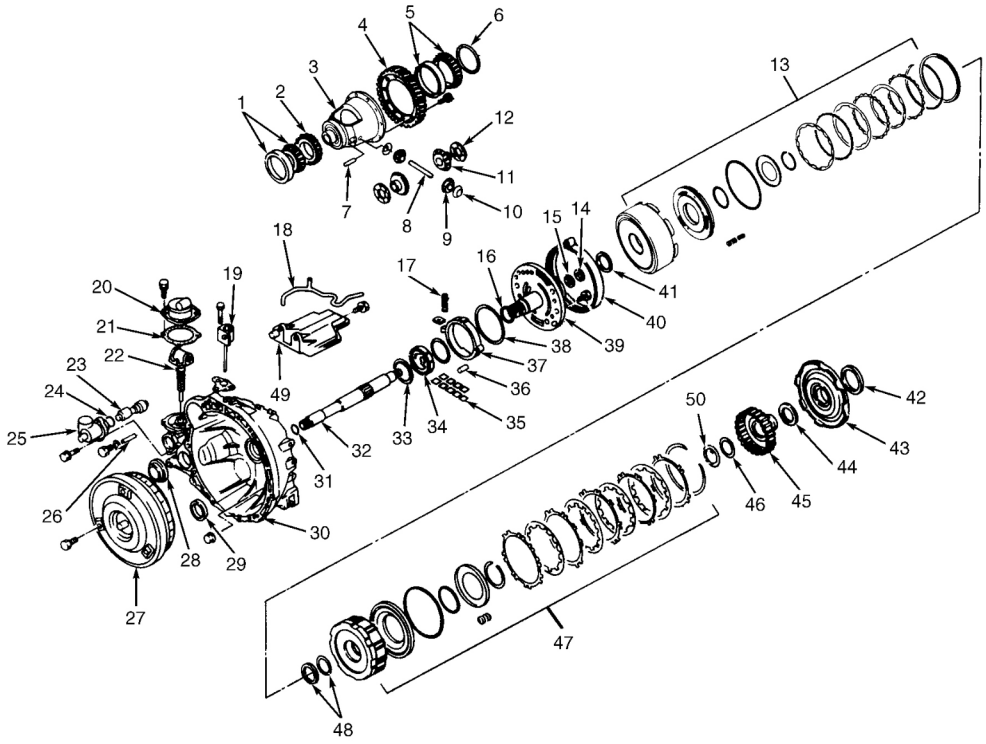

1. Differential Side Bearing
2. Governor Drive Gear
3. Differential Case
4. Ring Gear
5. Differential Side Bearing
6. Differential Adjustment Shim
7. Lock Pin
8. Pinion Shaft
9. Pinion Gear
10. Thrust Washer
11. Side Gear
12. Thrust Washer
13. Reverse Clutch Assembly
14. Bearing Race
15. Needle Bearing
16. "O" Ring
17. Return Spring
18. Lubrication Tube
19. Control Cylinder
20. Governor Cap
21. Gasket
22. Governor Valve & Shaft
23. Speedometer Gear
24. Seal Ring
25. Speedometer Case
26. Pin
27. Torque Converter
28. Oil Seal
29. Oil Seal
30. Converter Housing
31. "O" Ring
32. Input Shaft
33. Vane Ring
34. Rotor
35. Vane
36. Pivot Pin
37. Cam Ring
38. Friction Ring
39. Oil Pump Cover
40. Brake Band
41. Thrust Washer
42. Seal
43. High Clutch Carrier (Sun Gear)
44. Needle Bearing
45. High Clutch Hub
46. Needle Bearing
47. High Clutch Assembly
48. Needle Bearing
49. Oil Strainer
50. Bearing Race

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Fig. 11: Differential, Oil Pump, Reverse & High Clutch Assemblies
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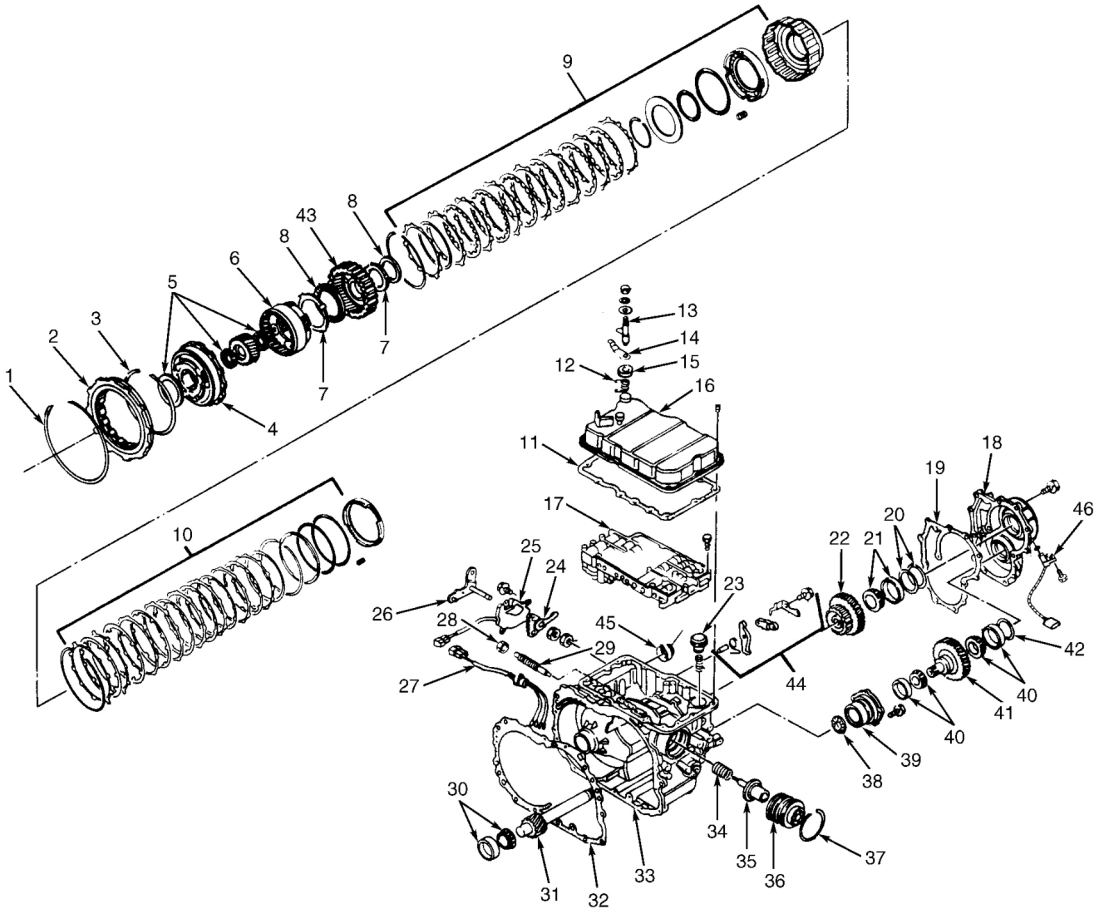

1. Snap Ring
2. One-Way Clutch
3. Snap Ring
4. Front Carrier
5. Needle Bearing
6. Rear Carrier
7. Bearing Race
8. Needle Bearing
9. Low Clutch Assembly
10. Low-Reverse Brake Assembly
11. Gasket
12. Return Spring
13. Throttle Shaft
14. Throttle Lever
15. Seal
16. Control Valve Cover
17. Control Valve Assembly
18. Side Cover
19. Gasket
20. Idler Shaft Adjustment Shims
21. Bearing & Race
22. Idler Gear
23. Accumulator Piston
24. Manual Plate
25. Inhibitor Switch
26. Manual Shaft
27. Terminal Assembly
28. Lock Nut
29. Anchor Pin
30. Bearing & Race
31. Reduction Pinion Gear
32. Gasket
33. Transaxle Case
34. Return Spring
35. Band Servo Piston
36. Band Servo Assembly
37. Snap Ring
38. Needle Bearing
39. Bearing Retainer
40. Bearing & Race
41. Output Shaft
42. Output Shaft Adjustment Shim
43. Rear Internal Gear
44. Parking Pawl Assembly
45. Oil Seal
46. Revolution Sensor

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Fig. 12: Front & Rear Carrier, Low Clutch, Low-Reverse/Brake Assembly
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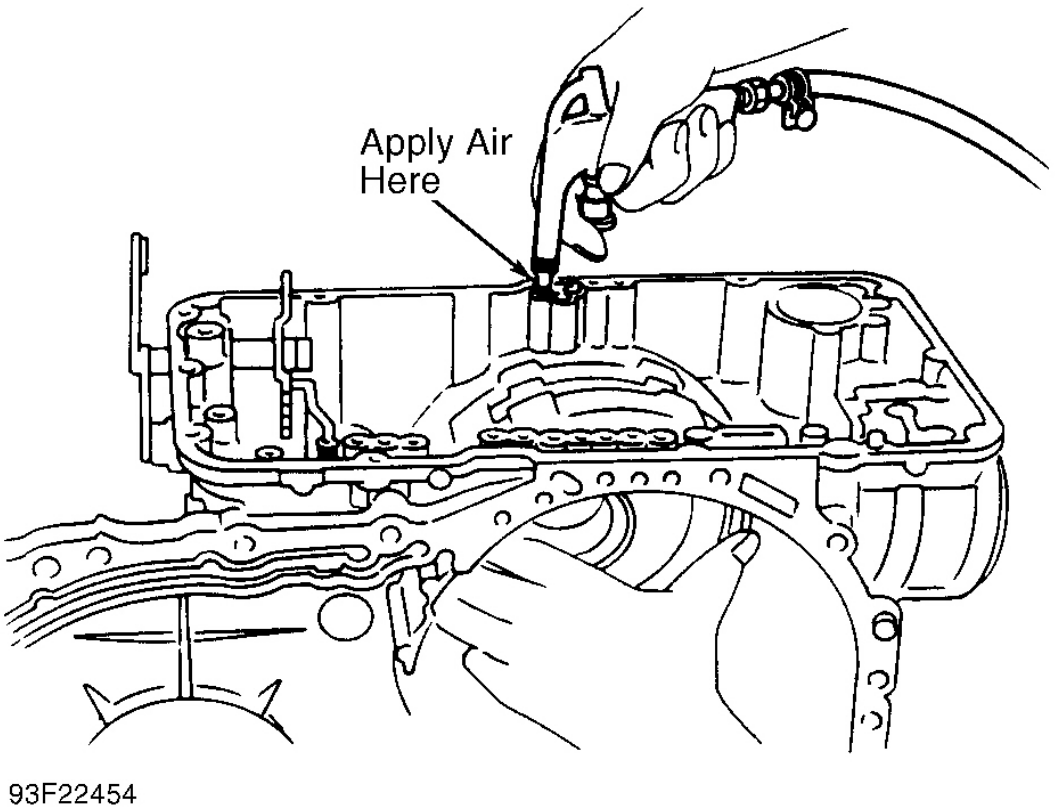

Fig. 13: Removing Low-Reverse Brake Piston
Courtesy of NISSAN MOTOR CO., U.S.A.

COMPONENT DISASSEMBLY & REASSEMBLY

OIL PUMP

Disassembly

Remove oil pump cover and return spring. **DO NOT** damage converter housing. Remove cam ring, "O" ring and friction ring. Disassemble rotor, vanes and vane rings. Note direction of rotor for assembly reference.

Inspection

Inspect oil pump cover, cam rings, rotor and vanes for damage or visible wear. See **Fig. 14** . Measure clearance between clutch housing and cam ring, rotor and vanes in at least 4 places along their circumference. Measure all oil pump components for mproper clearance. Refer to the **OIL PUMP CLEARANCE SPECIFICATIONS** table. Replace components as necessary if not within specification.

NOTE: Ensure friction ring and vane ring are removed when measuring clearance.

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OIL PUMP CLEARANCE SPECIFICATIONS

Application	In. (mm)
Cam Ring-To-Oil Pump Cover	.0004-.0009 (.010-.024)
Rotor-To-Oil Pump Cover	.0007-.0012 (.017-.031)
Vane-To-Oil Pump Cover	
New Or Rebuild	.0007-.0012 (.017-.031)
Wear Limit	.0013 (.034)
Seal Ring Side Clearance	.004-.010 (.10-.25)

Reassembly

1. Install cam ring, "O" ring and friction ring. Install return spring and spring retainer. See **Fig. 14** . Assemble rotor, vanes and vane rings. Note direction of rotor. Punch mark on rotor should face toward pump cover.
2. Install oil pump cover. Tighten cover evenly in a criss-cross pattern. Rotate pump to ensure correct assembly. Install seal rings. Ensure seal rings are in proper positions. Note 2 different diameters of seal rings. Install rings making sure rings fit into grooves is as tight as possible.

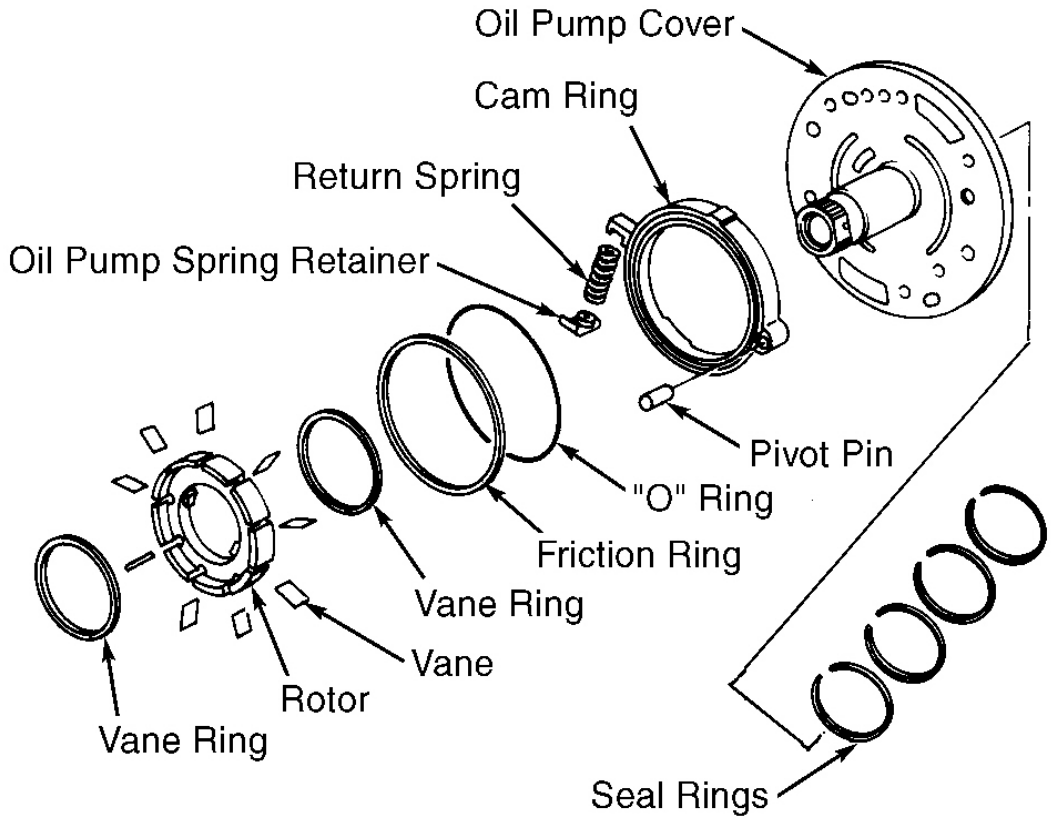

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Fig. 14: Exploded View Of Oil Pump Assembly
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CONTROL CYLINDER

Inspection & Reassembly

Inspect control cylinder body, control piston and cylinder plug for scratches or damage. Replace if damaged. When assembling, note direction of lip seal. After assembly, apply compressed air to check cylinder operation. See **Fig. 15** .

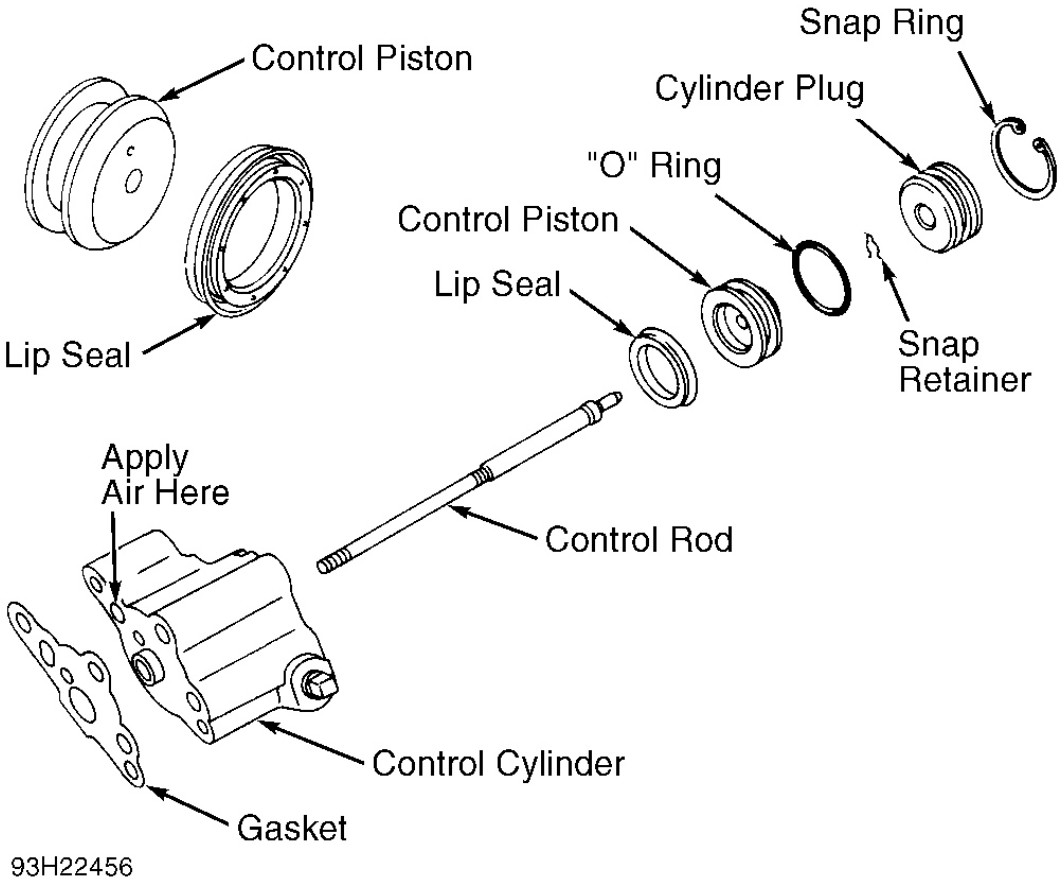

Fig. 15: Exploded View Of Control Cylinder
Courtesy of NISSAN MOTOR CO., U.S.A.

CONTROL VALVE ASSEMBLY

Disassembly

1. Remove 4-unit solenoid assembly and "O" rings. Remove timing solenoid and "O" ring. See **Fig. 16** .

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Place lower body face down and remove bolts. **DO NOT** drop solenoid body.

2. Place upper body face down and remove solenoid body with separator gaskets and separator plate. Remove separator gaskets, separator plate and oil filter from solenoid body. See **Fig. 16** .
3. Place lower body face down and remove bolts, reamer bolts and support plate. Position upper body downward. Remove lower body with separator plate and separator gasket attached to upper body. Remove oil filter, gaskets and plate.
4. Verify correct positioning of steel check balls and then remove balls. See **Fig. 18** . Remove parallel pins while pressing corresponding plugs and sleeves. Remove plugs slowly to prevent internal parts from springing out.

NOTE: DO NOT use a magnet to remove parallel pins or valves.

5. Place mating surface of control valve body face down and remove internal parts. See **Fig. 17** . **DO NOT** drop or damage valves and sleeves. Remove valves at retainer plates while pressing corresponding plugs, sleeves or springs. Place mating surface of valve face down and remove internal parts.

Inspection

Check all valve springs for damage or deformation. Replace valve springs if deformed or fatigued. Check sliding surfaces of all valves, sleeves and plugs. Ensure filters are not plugged. Inspect separator plate for damage. Replace the spring if specifications in the **VALVE BODY SPRING SPECIFICATIONS** table are exceeded.

VALVE BODY SPRING SPECIFICATIONS

ID No. (1)	Length In. (mm)	Diameter In. (mm)
1	2.23 (56.6)	.43 (10.9)
2	1.13 (28.8)	.35 (9.0)
3	1.21 (30.8)	.39 (9.8)
4	1.47 (37.3)	.51 (12.9)
5	1.48 (37.7)	.313 (7.95)
6	.98 (24.9)	.28 (7.0)
7	.98 (24.9)	.28 (7.0)
8	.98 (24.9)	.28 (7.0)
9	.854 (21.69)	.262 (6.65)
10	.854 (21.69)	.262 (6.65)
11	1.76 (44.7)	.28 (7.0)
12	1.92 (48.8)	.27 (6.8)
13	1.329 (33.75)	.250 (6.35)
14	1.646 (41.81)	.28 (7.0)
(1) See **Fig. 17** .		

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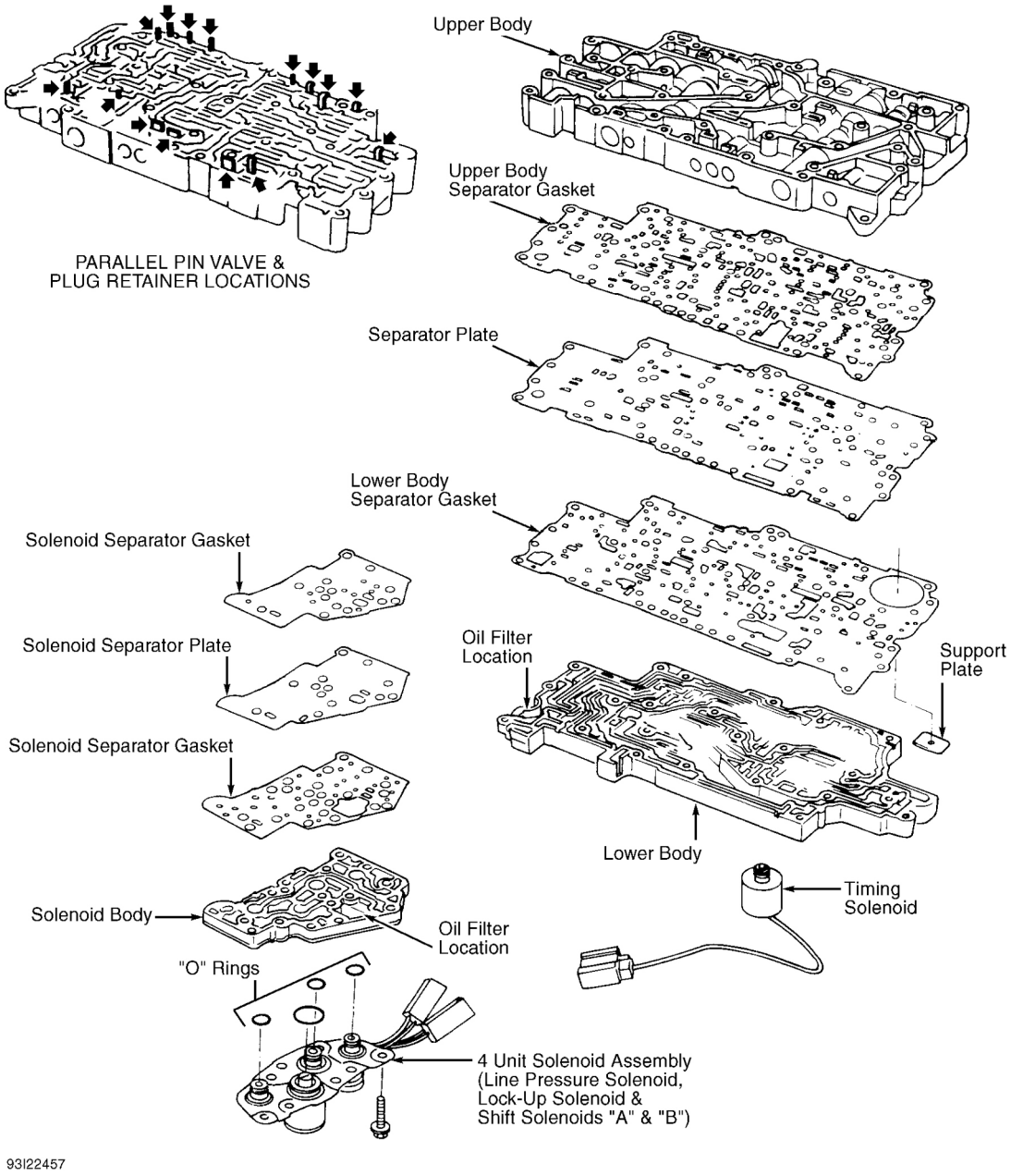

Fig. 16: Exploded View Of Control Valve Assembly
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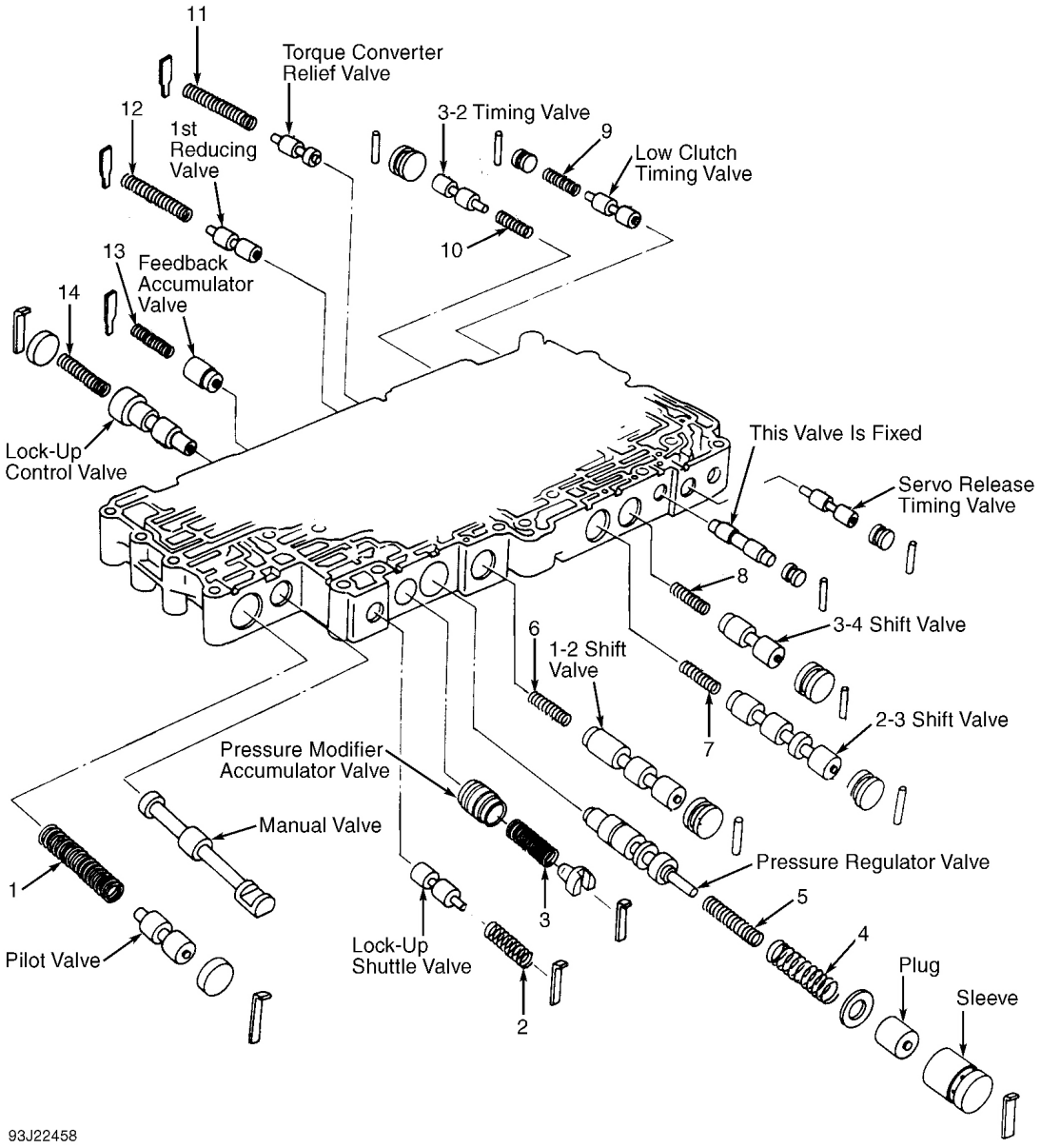

Fig. 17: Exploded View Of Control Valve Upper Body
Courtesy of NISSAN MOTOR CO., U.S.A.

Reassembly

1. Lubricate control valve body and all valves with ATF. Install control valves by sliding into valve bores. **DO NOT** scratch or damage valve body. Wrap a small screwdriver with vinyl tape to use when inserting valve into proper position.
2. Position plug in sleeve and install pressure regulator valve in upper valve body. Install parallel pins while pushing corresponding plugs, sleeves or springs. Install retainer plates while pressing corresponding plugs, sleeves or springs.

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3. Place oil circuit side of upper body face up. Install steel check balls in proper positions. See **Fig. 18** . Install upper body separator gasket, separator plate and lower body separator gasket on upper body. Install oil filter and lower body on upper body using reamer bolts as alignment guide.
4. Install oil filter and solenoid body separator gaskets and separator plate on solenoid body. Install solenoid body on control valve body and temporarily tighten bolts.
5. Install accumulator support plate and harness clips in proper locations and tighten all bolts. Attach "O" rings and install 4 unit solenoid assembly on solenoid body. Attach "O" ring and install timing solenoid.

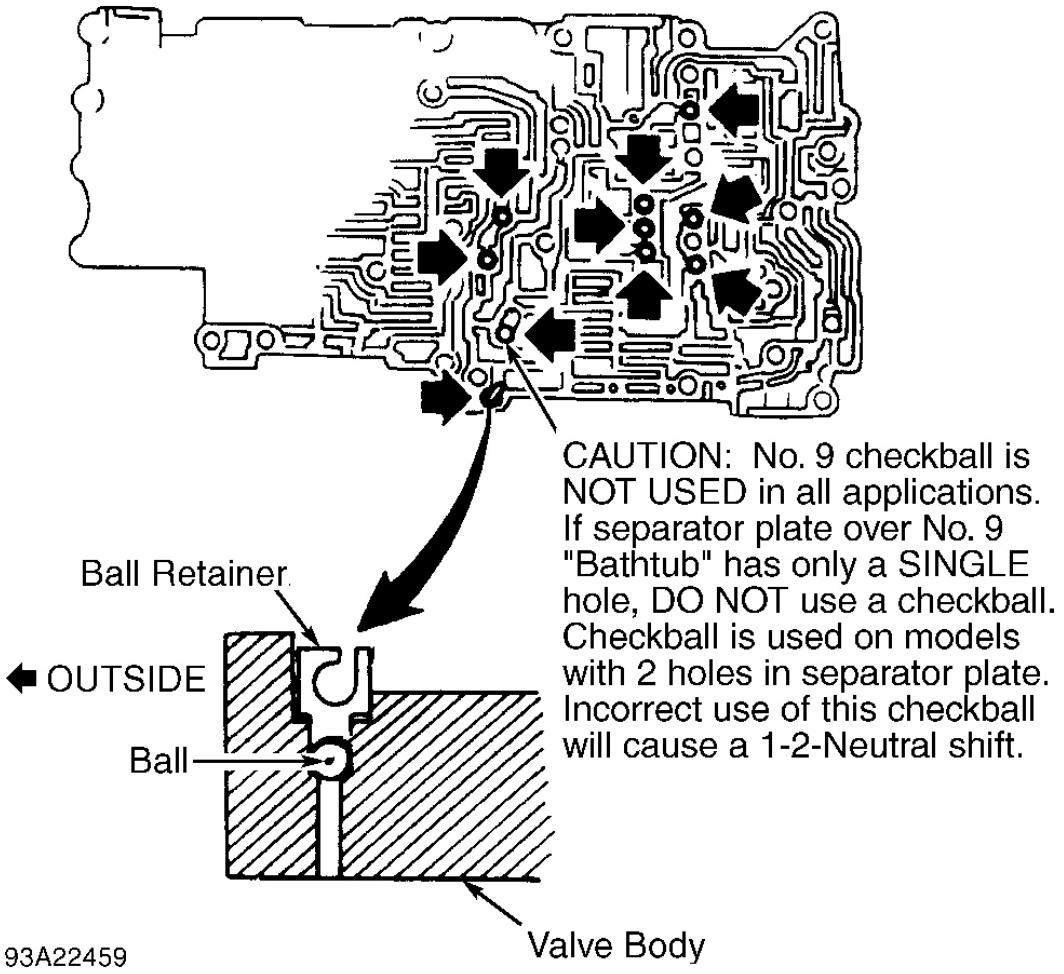

Fig. 18: Locating Check Balls
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HIGH CLUTCH

Disassembly

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Compress clutch springs and remove snap ring from spring retainer. Remove clutches and clutch piston. See **Fig. 12** .

Inspection

Inspect clutch drive plate facing for wear or damage. Standard drive plate thickness is .063" (1.60 mm). Inspect for snap ring wear, weak or broken coil springs or warped spring retainer.

Reassembly

1. Lubricate clutch drum bushing and install inner seal and piston seal. **DO NOT** stretch seals when installing. Turn piston by hand to ensure there is no binding. Install clutch springs. Reinstall snap ring and verify proper seating. Install driven plates, drive plates and secure with snap ring.
2. Measure clearance between retaining plate and snap ring. Measure minimum clearance since snap ring is wave type. Standard clearance is .055-.071" (1.40-1.80 mm). Allowable limit is .102" (2.60 mm). If clearance exceeds allowable limit, replace retaining plate. Retaining plate is available in selective thicknesses of .14-.19" (3.6-4.8 mm) in .008" (.20 mm) increments.

LOW CLUTCH

Service procedures for low clutch are the same as those for high clutch with exception of clearance. Standard clearance between retaining plate and snap ring is .020-.031" (.50-.80 mm). Allowable limit is .079" (2.00 mm). Retaining plate is available in selective thicknesses of .13-.17" (3.2-4.2 mm) in .008" (.20 mm) increments.

REVERSE CLUTCH

Service procedures for reverse clutch are the same as those for high clutch with exception of clearance. Standard clearance between retaining plate and snap ring is .020-.031" (.50-.80 mm). Allowable limit is .047" (1.20 mm). Retaining plate is available in selective thicknesses of .18-.24" (4.6-6.0 mm) in .008" (.20 mm) increments.

LOW & REVERSE BRAKE

Inspect low and reverse brake for worn or damaged clutch drive plate facing and worn snap ring. Replace if damaged. Standard clearance between retaining plate and snap ring is .047-.063" (1.20-1.60 mm). Allowable limit is .118" (3.00 mm). Retaining plate is available in selective thicknesses of .13-.20" (3.4-5.0 mm) in .008" (.20 mm) increments.

BRAKE BAND & BAND SERVO

Inspect brake band friction material for wear. If cracked, chipped or burnt spots are visible, replace band. Check band servo components for wear and scoring. Assemble band servo. See **Fig. 19** .

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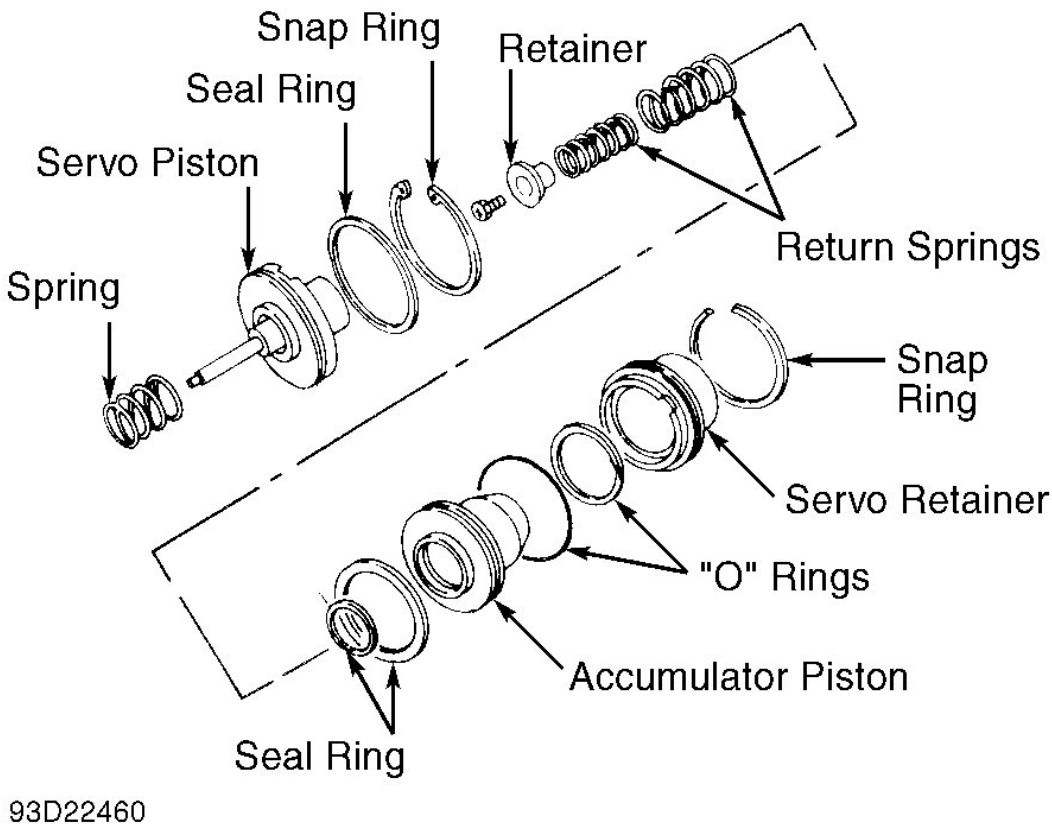

Fig. 19: Exploded View Of Brake Band Servo
Courtesy of NISSAN MOTOR CO., U.S.A.

PLANETARY CARRIER

Check clearance between pinion washer and planetary carrier with feeler gauge. See **Fig. 20** . Standard clearance for front carrier is .0059-.0276" (.150-.700 mm). Rear carrier clearance is .0079-.0276" (.200-.700 mm). Replace carrier if clearance exceeds .0315" (.800 mm). Check planetary gear sets and bearings for worn or damaged parts.

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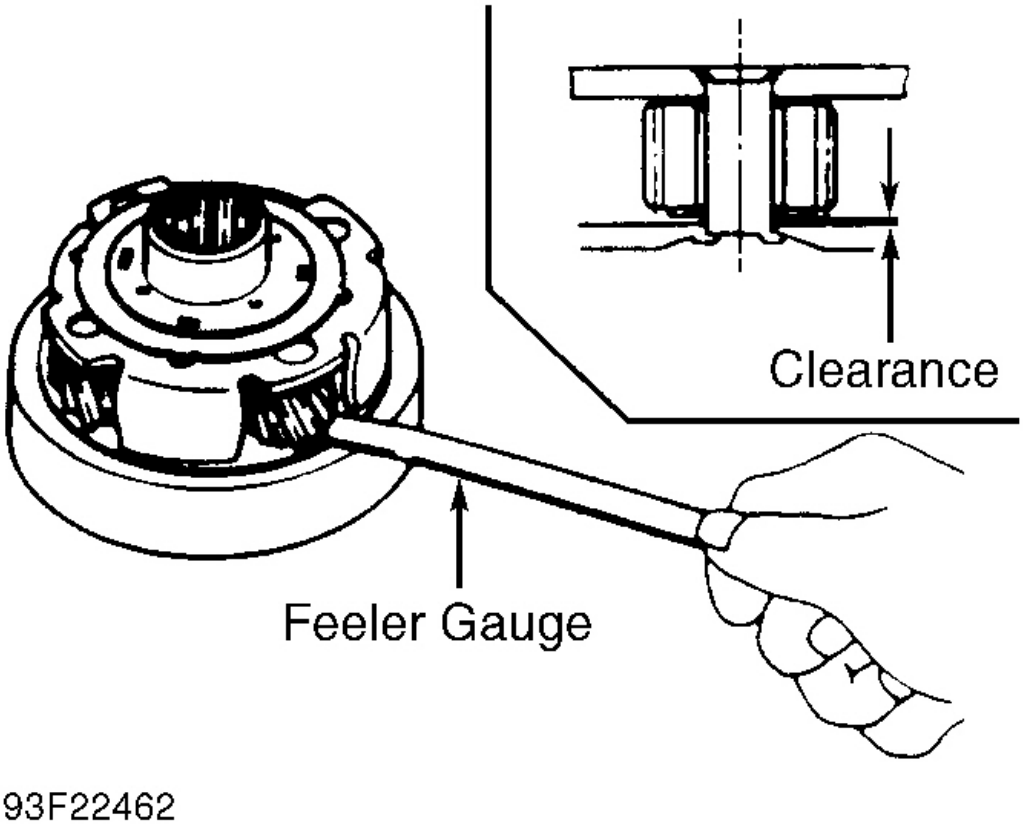

Fig. 20: Checking Planetary Gear Clearance
Courtesy of NISSAN MOTOR CO., U.S.A.

BEARING RETAINER & OUTPUT SHAFT

Measure side clearance between seal rings, ring grooves, output shaft and bearing retainer. Standard clearance should be .004-.010" (.10-.25 mm). Wear limit is .010" (.25 mm).

CONVERTER HOUSING & TRANSMISSION CASE

Preliminary Inspection

Inspect reduction pinion gear front bearing outer race, differential side bearing outer race and replace (as necessary). Replace torque converter oil seal and differential side oil seal.

Differential Assembly

1. Remove ring gear. Drive out pinion shaft lock pin and remove pinion shaft. Using puller, remove

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governor shaft drive gear. Drive out differential side bearing outer race and inner cone.

2. Check clearance between side gear and differential with washer in place. Set tool and dial gauge on side gear. See **Fig. 21** . Move side gear up and down to measure dial gauge deflection. Measure dial gauge deflection on both side gears. Clearance should be .004-.008" (.10-.20 mm). If clearance exceeds specified value, check for wear and replace necessary parts.
3. Check tapered roller bearings for wear, scratches, pitting or flaking. Install side gear and thrust washer in differential case. Install pinion gear and thrust washer in differential case while rotating them. Insert pinion shaft.
4. Measure clearance between side gear and pinion gear. Side gear to pinion clearance should be .004-.008" (.10-.20 mm). Install pinion shaft lock pin and ensure lock pin is flush with case. Install governor shaft drive gear. Install differential side bearing inner core and outer race. Install ring gear.

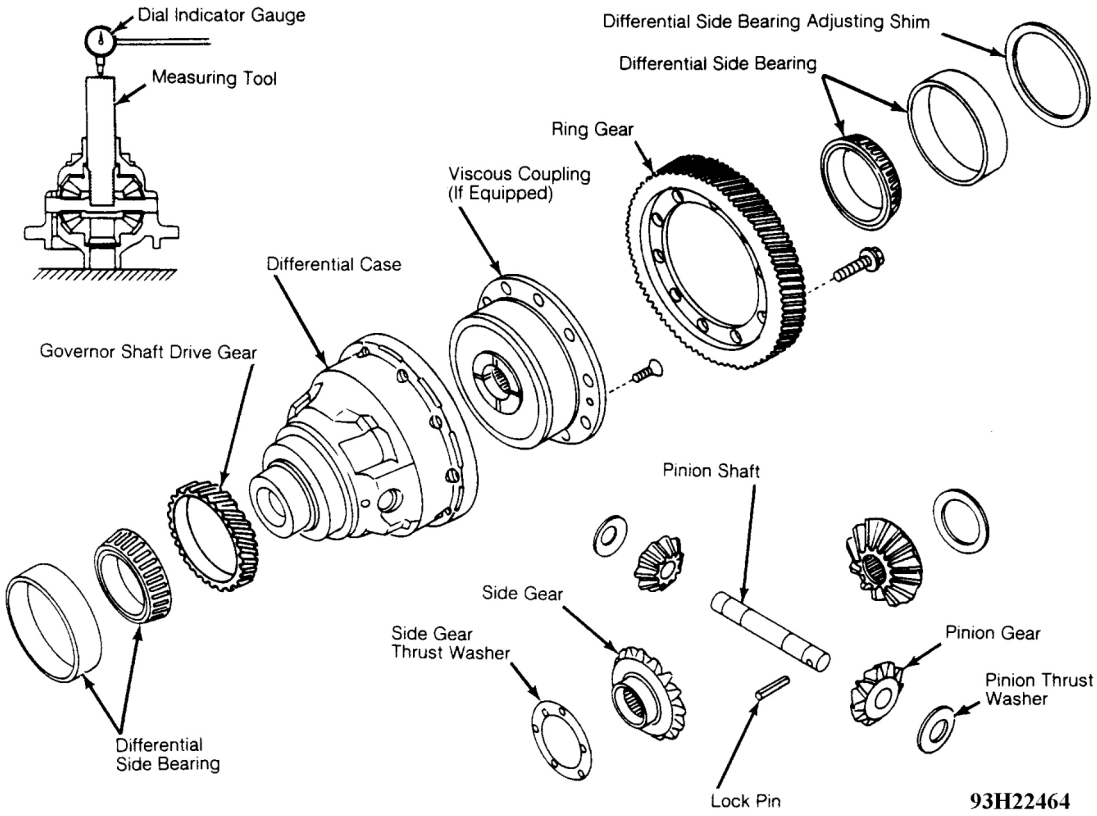

Fig. 21: Exploded View Of Differential Assembly
Courtesy of NISSAN MOTOR CO., U.S.A.

TRANSAXLE REASSEMBLY

1. Install differential lubrication tube and differential gutter to converter housing. Install oil strainer. Install detent spring assembly. Insert parking rod into hole in manual plate and install manual plate on manual shaft.
2. Install band brake servo, retainer, return spring and secure with snap ring. Position reduction gear in transaxle case so it meshes with idler gear. Press reduction gear into place using a drift and install idler

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gear.

3. Install seal rings into bearing retainer. Ensure grooves are clean prior to installation. Apply petroleum jelly to hold seal rings in place to avoid cutting when low clutch and carrier assembly are installed. Install bearing retainer.
4. Install parking pawl and parking shaft. Install spacer and return spring. Mesh with idler gear and install output gear. Temporarily install side cover and gasket. Lubricate low and reverse piston seal with ATF and install piston.
5. Install low and reverse brake retainer and secure with snap ring. Install low and reverse brake driven plates, drive plates, retaining plate and secure with snap ring.
6. After low and reverse brake has been completely assembled, measure the clearance between the snap ring and the retainer plate. Refer to **LOW & REVERSE BRAKE** under COMPONENT DISASSEMBLY & REASSEMBLY for specifications.
7. Assemble front carrier, rear carrier and low clutch. Install carrier assembly. Install one-way clutch assembly while rotating front carrier with high clutch hub. Remove high clutch hub and install clutch snap ring.
8. Assemble reverse clutch and high clutch. Install reverse and high clutch as an assembly. Install brake band and anchor pin. Temporarily tighten anchor bolt by hand.
9. To adjust total end play and clutch pack end play, remove thrust bearing race from high clutch drum and install needle bearing on top of oil pump cover. Place Bridge (J-34290-1) and gauging cylinder tools on machined gasket surface of converter housing and allow Gauging Cylinder (J-34290-2) to rest on needle bearing. See **Fig. 22** .

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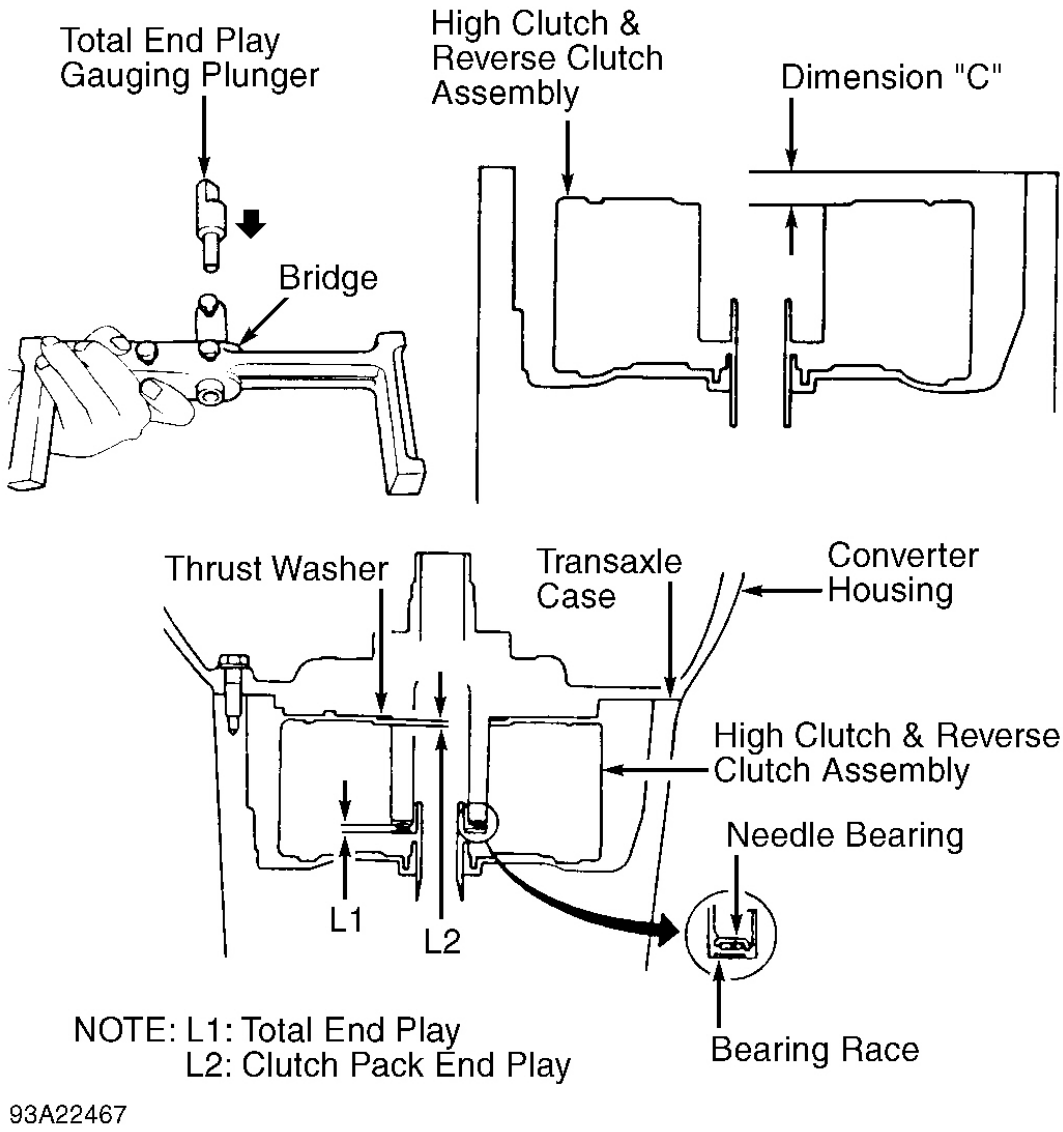

Fig. 22: Locating End Play Measuring Points
Courtesy of NISSAN MOTOR CO., U.S.A.

10. Insert Total End Play Gauging Plunger (J-34290-7) into Gauging Cylinder (J-34290-2). Place Bridge (J-34290-1), legs up, onto machined gasket surface of transaxle case, allowing total end play gauging plunger to rest on surface where bearing race was removed. Lock gauging plunger in place. Remove bridge and use feeler gauge to measure gap. Oil pump housing bearing races are available in selective thicknesses of .03-.08" (.8-2.0 mm) in .008" (.20 mm) increments.
11. To measure clutch pack end play, place bridge and gauging cylinder onto machined gasket surface of transaxle case and allow cylinder to rest on high clutch drum. Lock gauging cylinder in place. Measure dimension "C". See **Fig. 22** .
12. Insert clutch pack Gauging Plunger (J34290-6) into Gauging Cylinder (J-34290-2). Place Bridge (J-

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34290-1), gauging cylinder and gauging plunger onto machined gasket surface of converter housing. Ensure thrust washer is removed and lock gauging cylinder in place.

13. Use feeler gauge to measure gap. Clutch pack thrust washers are available in selective thicknesses of .03-.07" (.7-1.9 mm) in .008" (.20 mm) increments. See **Fig. 22** and **Fig. 23** . Clutch pack end play should be .016-.031" (.40-.80 mm). Total end play should be .010-.022" (.25-.55 mm).

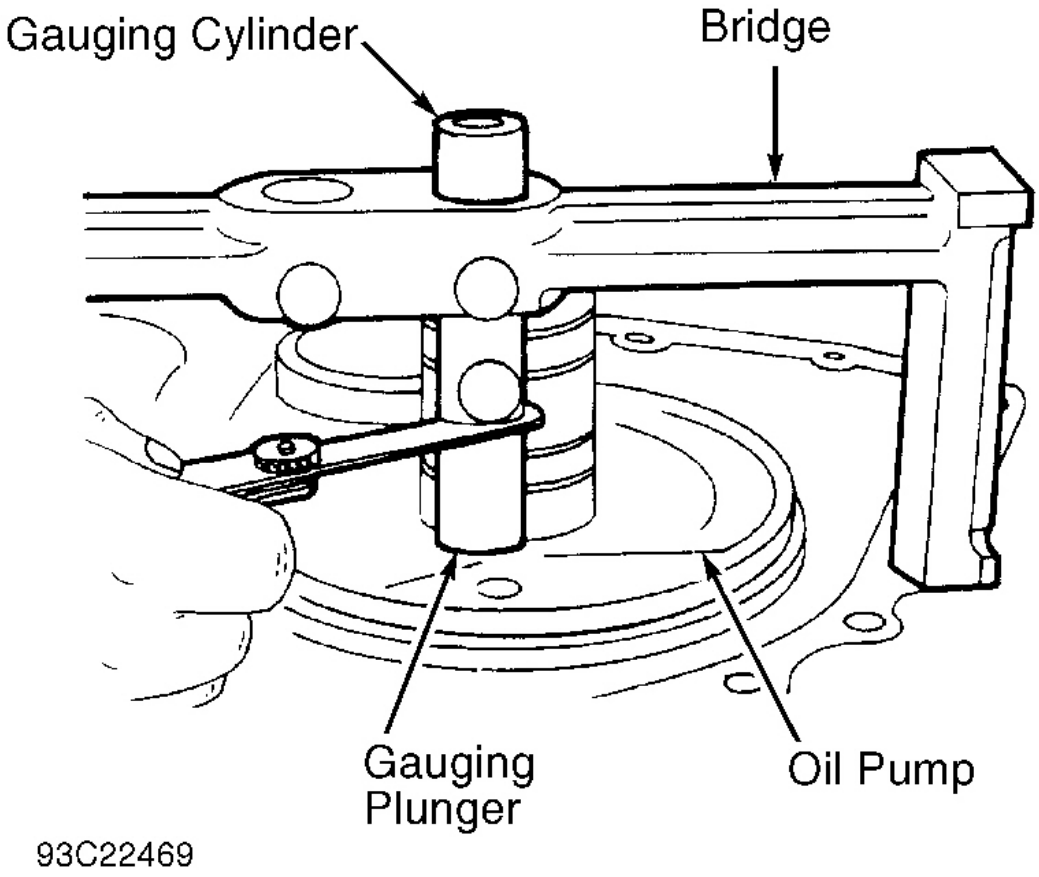

Fig. 23: Measuring Clutch Pack End Play
Courtesy of NISSAN MOTOR CO., U.S.A.

TRANSAXLE REASSEMBLY

Side Bearing Preload

1. Differential side bearing preload is adjusted by removing left side bearing inner race and shims from transaxle case. Place bridge and gauging cylinder on machined gasket surface of transaxle case and allow cylinder to rest on bearing mating surface.
2. Lock gauging cylinder in place. Install final drive assembly into converter housing. Install side bearing

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inner cone on differential case and hold in place while spinning final drive to seat bearings. Insert differential side bearing Gauging Plunger (J34290-3) into gauging cylinder.

3. Place bridge, gauging cylinder and gauging plunger on machined gasket surface of converter housing and allow gauging plunger to rest on surface of bearing inner race. Lock plunger in place. See **Fig. 24** . Use a feeler gauge to measure clearance between gauging cylinder and gauging plunger. Use feeler gauge to select correct side bearing preload adjustment shim.

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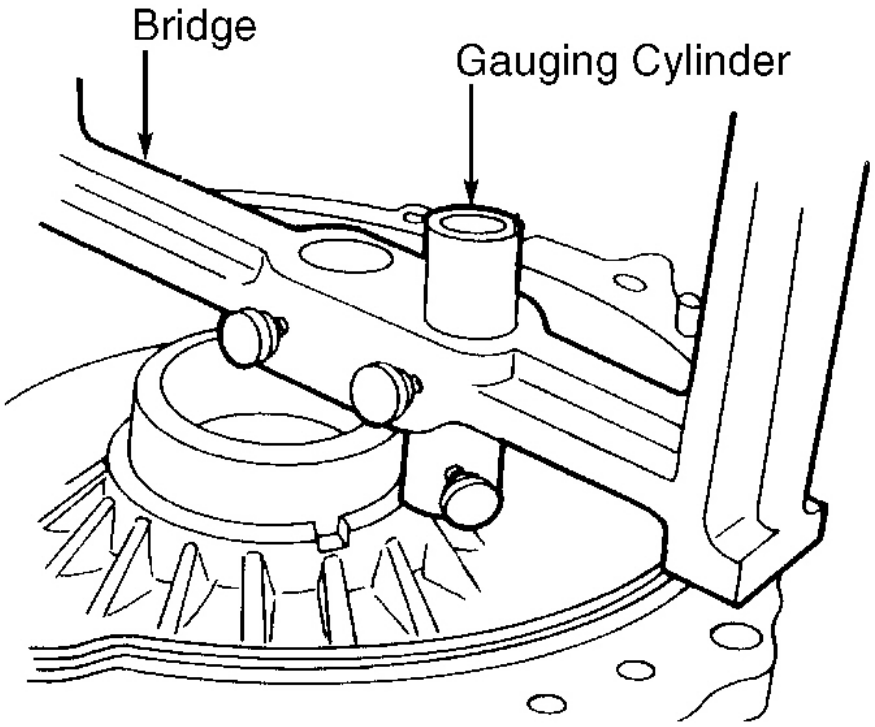

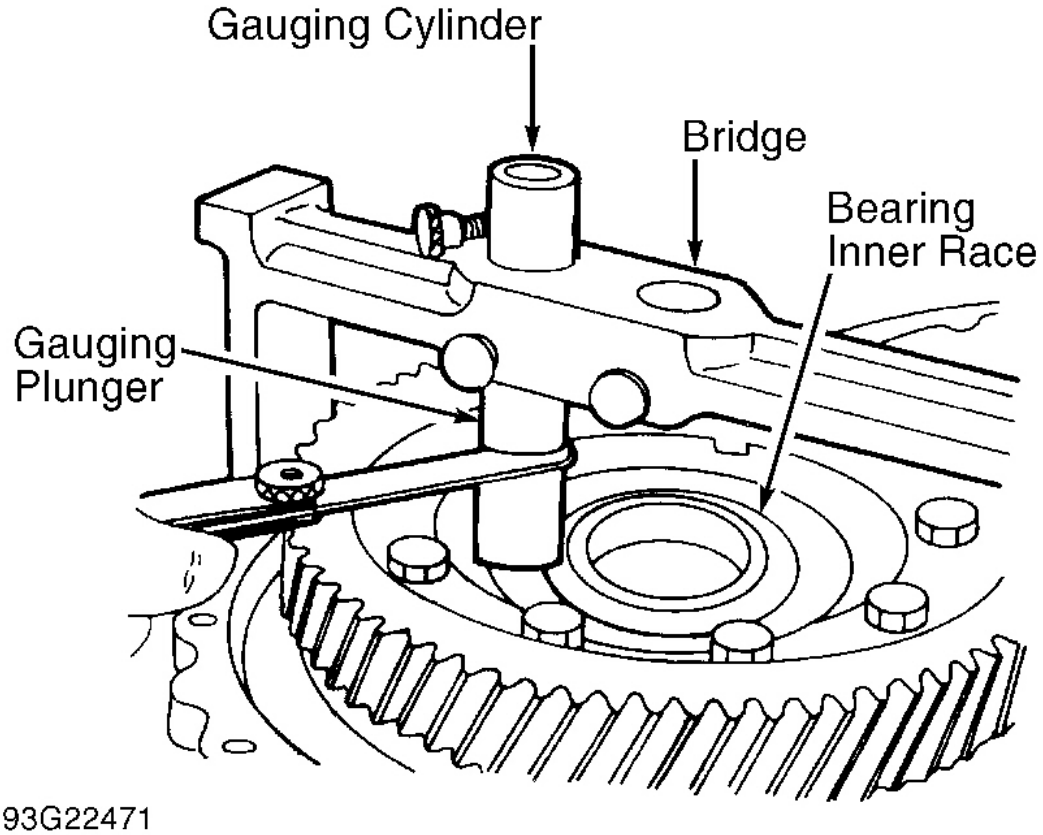

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Fig. 24: Measuring Differential Side Bearing Preload
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4. Shims are available in selective thicknesses of .005-.036" (.12-.92 mm) in .016" (.40 mm) increments. Install selected shim(s) and left bearing inner race in transaxle case. Install input shaft. Install thrust washer and bearing on oil pump cover.
5. Place gasket on transaxle case and install converter housing. Identify converter housing bolts. See **Fig. 25** . Tighten bolts to specification listed in **CONVERTER HOUSING BOLT SPECIFICATIONS** table. Install 'O" ring on input shaft.

CONVERTER HOUSING BOLT SPECIFICATIONS

Bolt (1)	Length In. (mm)	Ft. Lbs. (N.m)
"A"	1.24 (31.5)	15-17 (21-23)
"B"	1.06 (27.0)	15-17 (21-23)
"C"	1.06 (27.0)	14-17 (19-23)
"D"	1.24 (31.5)	14-17 (19-23)
"E"	1.38 (35.0)	32-35 (43-47)
"F"	1.97 (50.0)	15-19 (21-25)
"G"	1.54 (39.0)	32-35 (43-47)
"H"	1.54 (39.0)	33-35 (45-47)
"I"	1.38 (35.0)	33-35 (45-47)
(1) See **Fig. 25** for bolt identification.		

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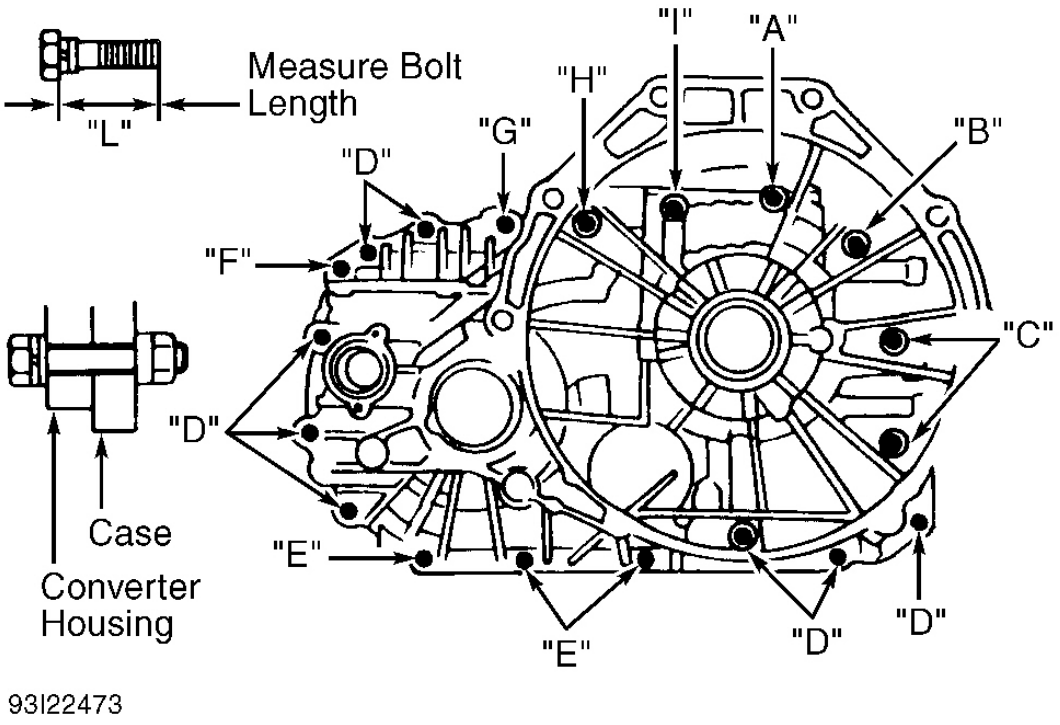

Fig. 25: Identifying Converter Housing Bolts
Courtesy of NISSAN MOTOR CO., U.S.A.

Output Shaft Preload

1. Remove temporarily installed side cover. Remove output gear and idler gear bearing outer races and shims.

NOTE: Output gear and idler gear bearing races will interchange. Ensure each race is with correct bearing.

2. Place bridge and gauging cylinder onto machined gasket surface of side cover and allow gauging cylinder to drop into output gear bearing race bore until it bottoms. Lock gauging cylinder in place. See **Fig. 26** . Put bearing races on output gear and idler gear bearings, and turn races to seat bearings.
3. Place bridge and output gauging plunger on machined gasket surface of transaxle case and allow plunger to drop onto rear surface of output gear bearing race. Lock gauging plunger in place. Measure gap with feeler gauge. Output shaft bearing adjusting shims are available in selective thicknesses of .005-.077" (.12-1.96 mm) in increments of .016" (.40 mm).

Idler Gear Bearing Preload

Follow output shaft preload procedure. See **Fig. 26** . Idler gear bearing adjusting shims are available in selective thicknesses of .014-.077" (.36-1.96 mm) in .016" (.40 mm) increments. Install selected shim and bearing outer

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races.

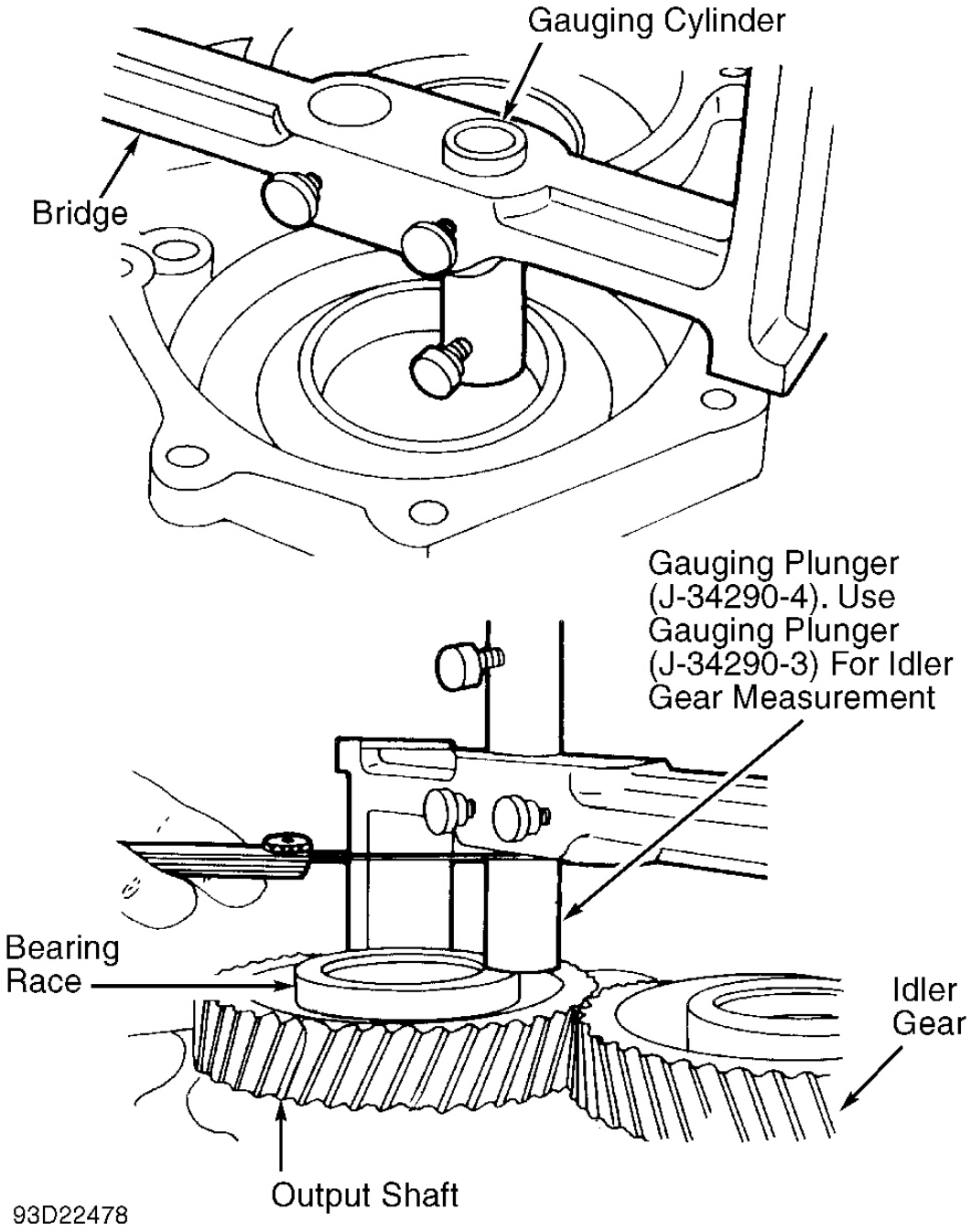

Fig. 26: Measuring Output Shaft & Idler Gear Preload
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Parking Pawl

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Move manual lever until parking pawl engages idler gear. Measure clearance between parking pawl and parking actuator with feeler gauge. Clearance should be .010-.020" (.25-.50 mm). Parking pawl is available in 3 selective sizes.

Final Assembly

1. Install side cover and gasket. Identify side cover bolts. See **Fig. 27** . Tighten retaining bolts to specification as listed in the **SIDE COVER BOLT SPECIFICATIONS** table.

SIDE COVER BOLT SPECIFICATIONS

Bolt (1)	Length In. (mm)	Ft. Lbs. (N.m)
"A"	1.24 (31.5)	14-17 (19-23)
"B"	1.97 (50.0)	15-17 (21-23)
"C"	2.17 (55.0)	14-17 (19-23)
"D"	1.24 (31.5)	15-17 (21-23)
(1) See **Fig. 27** for bolt identification.		

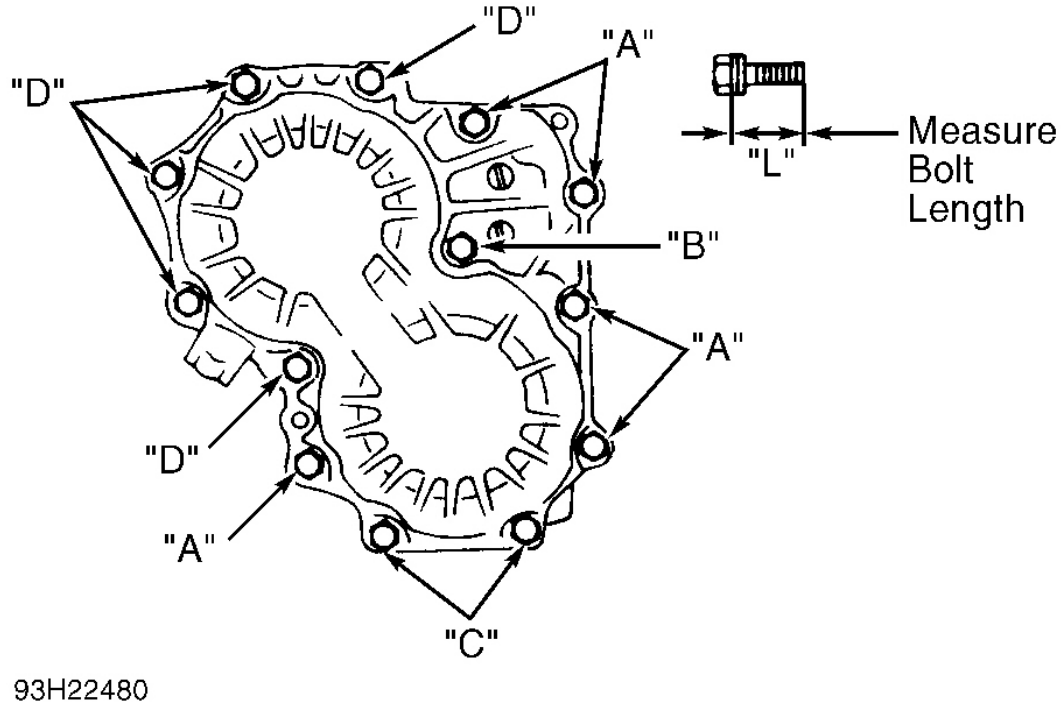

Fig. 27: Identifying Side Cover Bolts
Courtesy of NISSAN MOTOR CO., U.S.A.

2. Insert Preload Adapter (J-34284) into final drive portion and verify smooth rotation. Counterclockwise

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rotation will be slightly harder than clockwise rotation.

3. Adjust brake band by tightening anchor end pin to 35.4-53.1 INCH lbs. (4-6 N.m). Back off anchor end pin 5 1/4 turns. Tighten lock nut to 23-31 ft. lbs. (31-42 N.m).
4. Install wiring terminal assembly and note direction of hook. See **Fig. 28** . Install accumulator and spring. Insert manual valve to control valve body and assemble to transaxle case. Identify control valve body bolts. See **Fig. 29** . Tighten bolts A to 32.7-44.3 INCH lbs. (3.7-5.0 N.m). Tighten all other bolts to 62-80 INCH lbs. (7-9 N.m).
5. Connect wiring harness connectors between terminal assembly and solenoids. Install control valve cover and gasket. Install control cylinders. Install revolution sensor. Install governor shaft and speedometer gear assembly.
6. Fill torque converter with 2.1 qt. (2.0L) of ATF and install torque converter. Measure distance from drive plate mounting pad to engine mating surface of transaxle. Distance should be 0.71" (18 mm) for Maxima, and 0.75" (19 mm) for Stanza. Apply sealant to threads of drain plug and install plug. Install inhibitor switch. Adjust switch (if necessary). Ensure selector lever operates properly.

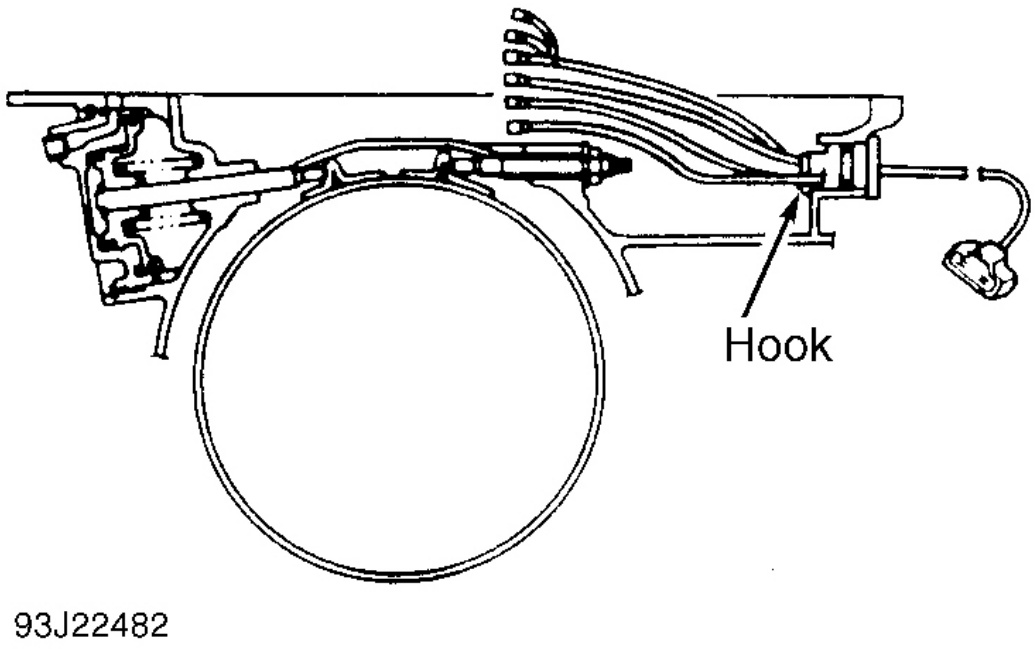

Fig. 28: Installing Terminal Assembly
Courtesy of NISSAN MOTOR CO., U.S.A.

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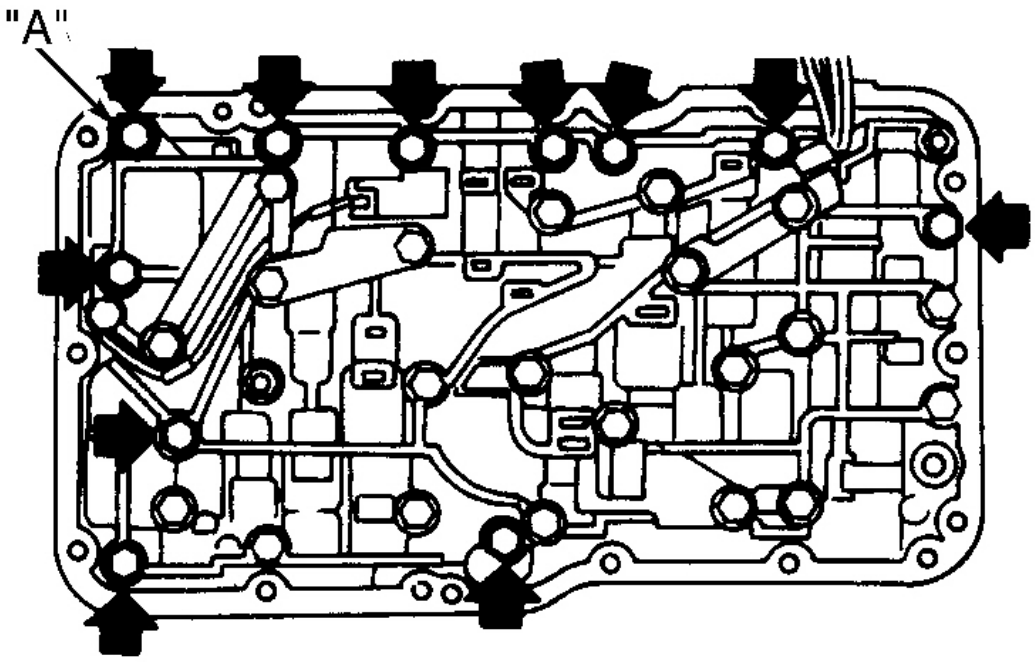

Fig. 29: Identifying Control Valve Bolts
Courtesy of NISSAN MOTOR CO., U.S.A.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs (N.m)
Control Valve-To-Case Bolt	(1)
Converter Housing-To-Case Bolt	(2)
Governor Shaft Retainer Pin Bolt	15-19 (20-26)
Manual Shaft/Oil Seal Retaining Nut	23-31 (31-42)
Oil Pump Cover Bolt	12-15 (16-21)
Output Shaft Bearing Retainer-To-Case Bolt	12-15 (16-21)
Parking Pawl/Actuator Bolt	12-15 (16-21)
Ring Gear-To-Differential Case Bolt	55-65 (74-88)
Side Cover-To-Case Bolt	(3)
Torque Converter-To-Flexplate Bolt	32-44 (44-59)
	INCH Lbs. (N.m)
Control Cylinder-To-Converter Housing Bolt	56-73 (6.3-8.3)

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Control Valve Cover-To-Case Bolt	44-62 (5-7)
Governor Cap-To-Converter Housing Bolt	44-62 (5-7)
Revolution Sensor-To-Side Cover Bolt	44-62 (5-7)
Speedometer Case-To-Converter Housing Bolt	56-73 (6.3-8.3)

(1) See **Fig. 29** .

(2) See **Fig. 25** .

(3) See **Fig. 27** .

TRANSAXLE SPECIFICATIONS

TRANSAXLE SPECIFICATIONS

Application	In. (mm)
Bearing Retainer & Output Shaft	
Side Clearance	
Standard Clearance	.004-.010 (.10-.25)
Allowable Limit	.010 (.25)
Clutch Pack End Play	.016-.031 (.40-.80)
Differential Assembly	
Differential-To-Side Gear Clearance	.004-.008 (.10-.20)
Pinion-To-Side Gear Clearance	.004-.008 (.10-.20)
High Clutch	
Drive Plate Thickness	.063 (1.60)
Retaining Plate-To-Snap Ring Clearance	
Standard Clearance	.055-.071 (1.40-1.80)
Allowable Limit	.102 (2.60)
Low Clutch	
Retaining Plate-To-Snap Ring Clearance	
Standard Clearance	.020-.031 (.50-.80)
Allowable Limit	.079 (2.00)
Low & Reverse Brake	
Retaining Plate-To-Snap Ring Clearance	
Standard Clearance	.047-.063 (1.20-1.60)
Allowable Limit	.118 (3.00)
Oil Pump	
Cam Ring-To-Oil Pump Cover	.0004-.0009 (.010-.024)
Rotor-To-Oil Pump Cover	.0007-.0012 (.017-.031)
Vane-To-Oil Pump Cover	
New Or Rebuild	.0007-.0012 (.017-.031)
Wear Limit	.0013 (.034)
Seal Ring Side Clearance	.004-.010 (.10-.25)

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Planetary Gear	
Pinion Washer-To-Planetary Carrier	
Standard Clearance	
Front	.0059-.0276 (.150-.700)
Rear	.0079-.0276 (.200-.700)
Allowable Limit	.0315 (.800)
Reverse Clutch	
Retaining Plate-To-Snap Ring Clearance	
Standard Clearance	.020-.031 (.50-.80)
Allowable Limit	.047 (1.20)
Total End Play	.010-.022 (.25-.55)

TECHNICAL SERVICE BULLETINS

SOFT SHIFT OR TRANSAXLE SLIPS

1991-92 RE4F02A (ATRA TSB 161)

1. A soft shift or slip complaint on a RE4R02A transaxle may be caused by a defective line pressure solenoid. To determine cause of soft shift or slip condition, perform stall speed test. If line pressure does not increase, or increases slightly, repeat stall speed test with solenoid wires disconnected.
2. If line pressure increases to maximum specification, go to step 4). If line pressure still does not increase as required, problem may be a stuck slide, leaking line pressure solenoid or "O" ring, faulty valve body or control cylinder. Remove control cylinder. Install a long screwdriver into control cylinder rod hole. Push screwdriver down. Slide should move and spring should compress. If not, repair slide as necessary.
3. To check solenoid for leakage, pour solvent down solenoid neck. Solenoid should not leak. Ensure "O" ring is okay. Replace as necessary. With solenoid removed, blow compressed air into solenoid port on valve body. Pressure regulator valve movement should be heard.
4. If line pressure increases to maximum specification, check voltage to line pressure solenoid with solenoid connected. See appropriate wiring diagram in **WIRING DIAGRAMS** . Voltage should be 1.5-2.5 volts at closed throttle and decrease to .5 volt at wide open throttle. If voltage is as specified, replace Solenoid Assembly (31940-27X66). If voltage is not as specified, problem is computer related (defective TPS, bad ground). Refer to appropriate service manual for computer testing.

NOTE: Most line pressure increase problems are solenoid related. If transaxle has had more than 50,000 miles of use, solenoids should be replaced during overhaul procedure.

WIRING DIAGRAMS

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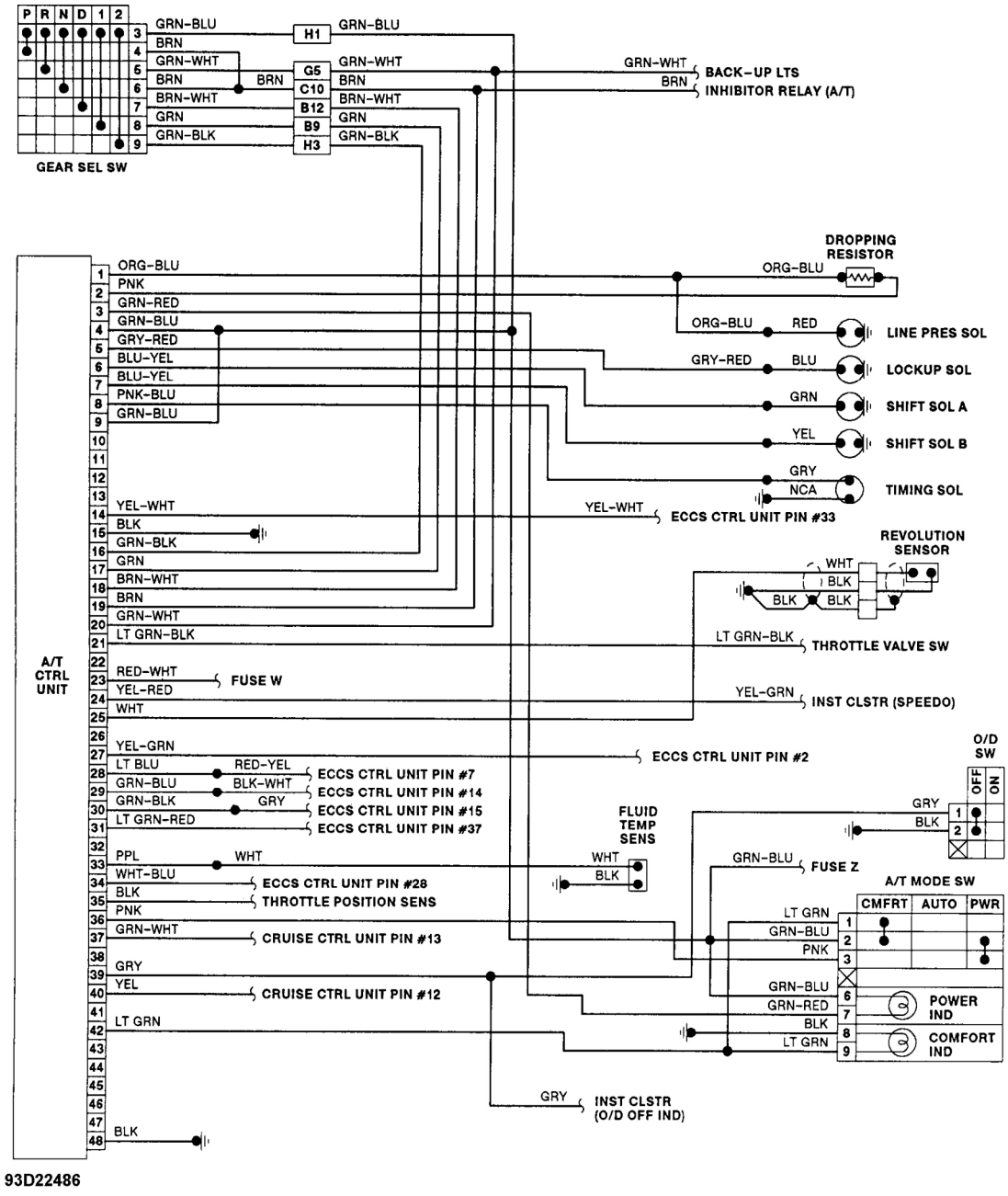

Fig. 30: Nissan Stanza ATCU System Wiring Diagram

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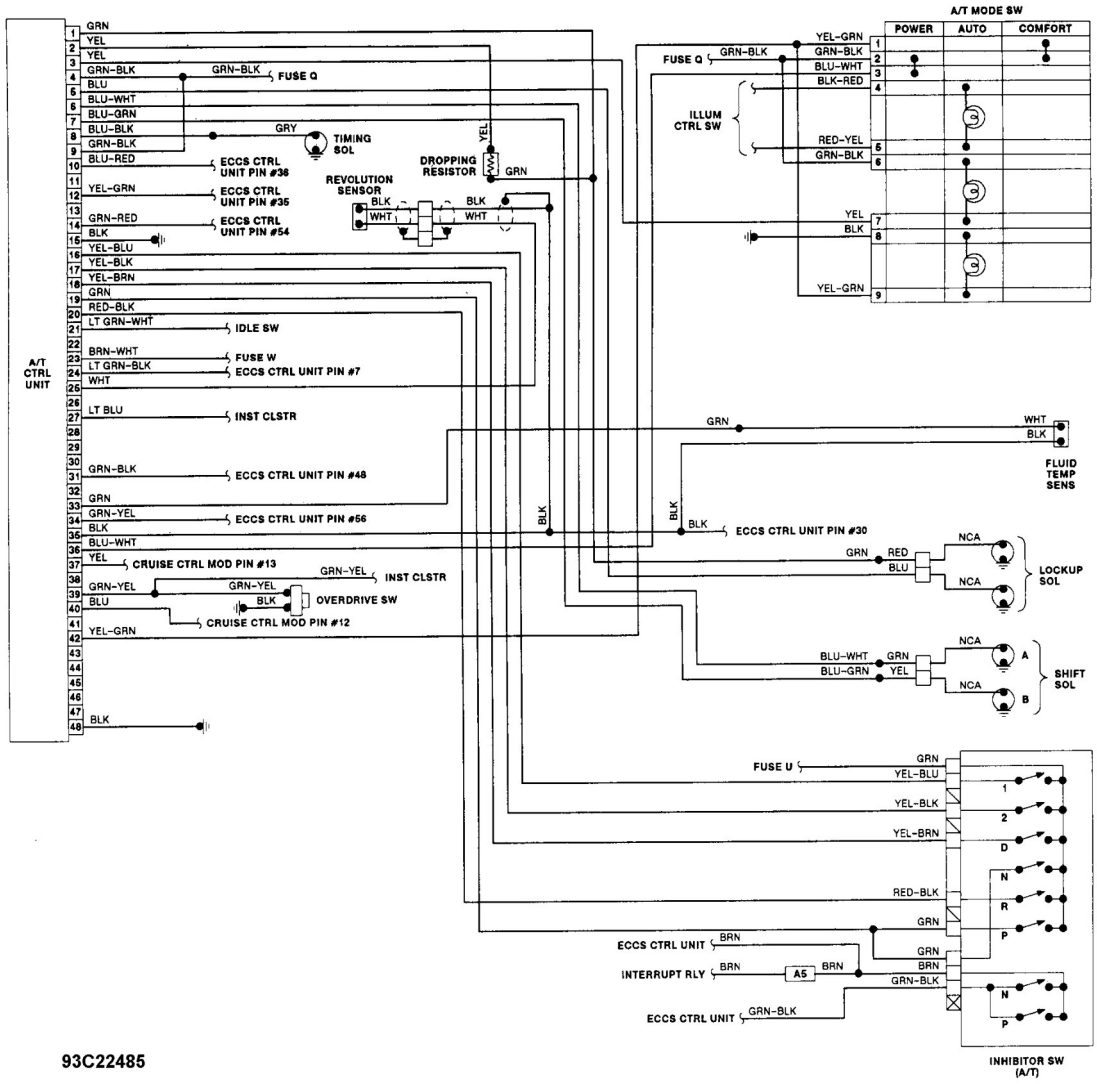

Fig. 31: Nissan Maxima ATCU System Wiring Diagram

OIL CIRCUIT DIAGRAM

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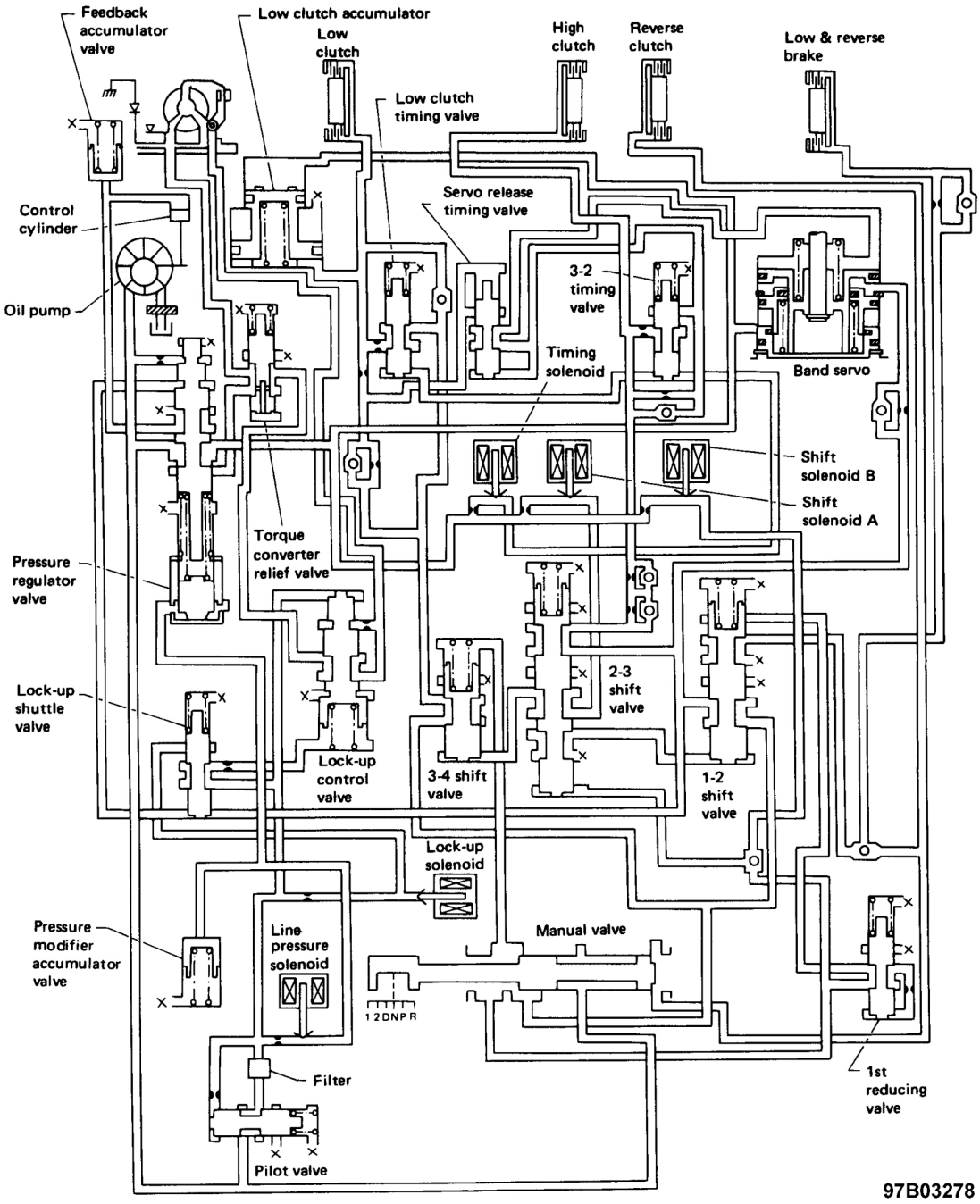

Fig. 32: Oil Circuit Diagram

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