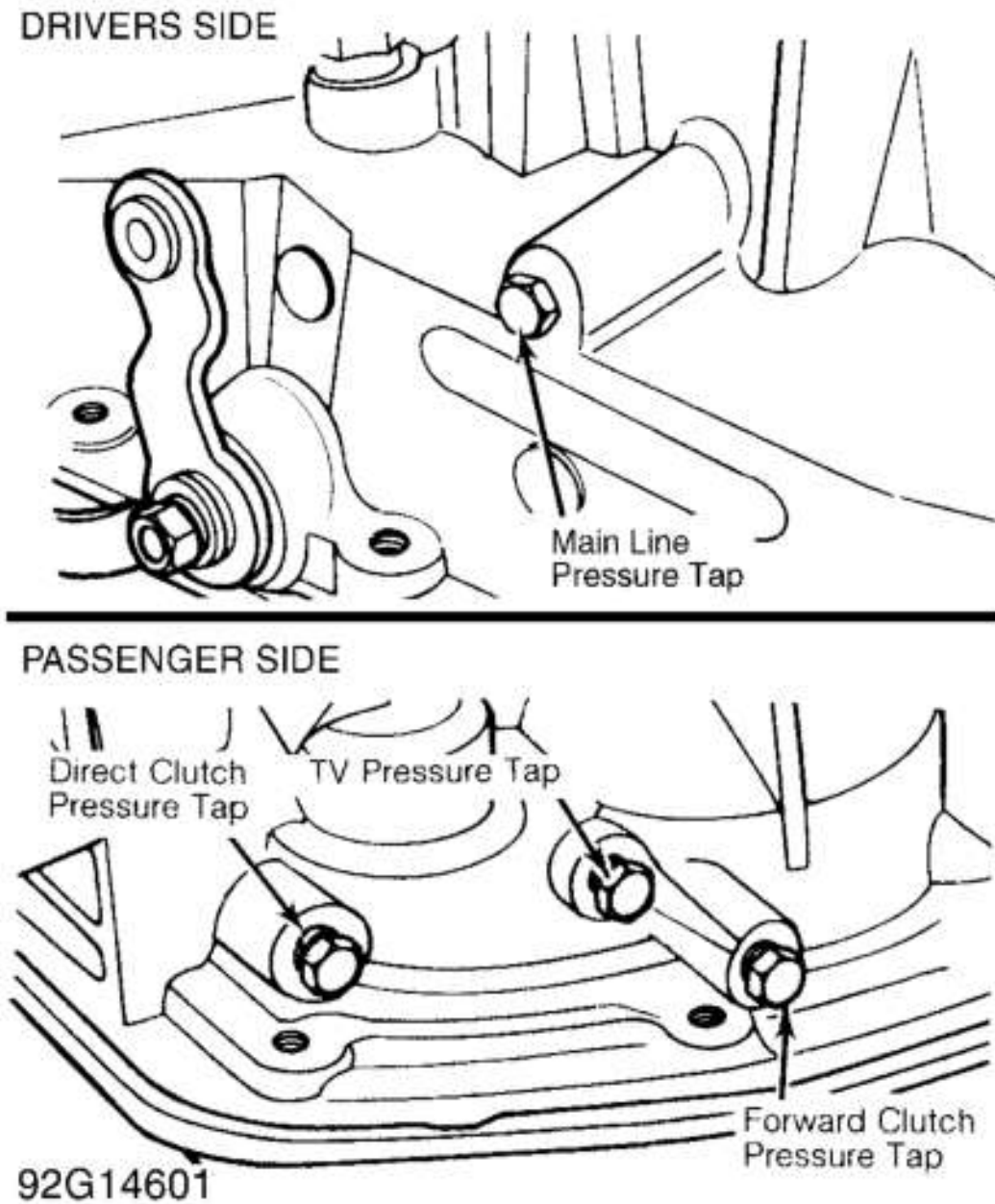


# TESTING

## ROAD TEST

**NOTE:** The AOD will not shift into Overdrive at wide open throttle, and will not make a 4th to 1st gear downshift. It will automatically downshift from Overdrive to 3rd gear when road speed drops below 35 MPH.

1. Check minimum throttle upshifts in Overdrive. Transmission should start in 1st gear, shift to 2nd, then shift to 3rd, and finally shift to 4th gear at approximately the speeds shown in **SHIFT SPEEDS SPECIFICATIONS (MPH)** tables.
2. With transmission in 4th gear (Overdrive), completely depress accelerator pedal. Transmission should downshift to 3rd or 2nd gear, depending on vehicle speed. See **SHIFT SPEEDS SPECIFICATIONS (MPH)** tables.
3. Since closed throttle downshifts are extremely difficult to detect, it may be necessary to attach 0-100 psi (0-7.0 kg/cm<sup>2</sup>) pressure gauges to forward and direct clutch pressure taps in order to detect Overdrive to 3rd gear and 3rd to 2nd gear coast downshifts. See **Fig. 7**.
4. With gauges attached, a 4th to 3rd gear coast (closed throttle) downshift is detected by the application of the forward clutch. Pressure will increase from 0-60 psi (0-4.2 kg/cm<sup>2</sup>). The 3rd to 2nd gear downshift is detected by release of direct clutch pressure. Pressure will decrease from 60-0 psi (4.2-0 kg/cm<sup>2</sup>).
5. When selector lever is moved from either Overdrive or Drive ranges to "1" position, transmission should downshift into 2nd gear if vehicle speed is above 25 MPH, and into 1st gear if speed is less than 25 MPH.



**Fig. 7: Identifying Control Pressure Taps**  
 Courtesy of FORD MOTOR CO.

### CONTROL PRESSURE TEST

**NOTE:** When testing line pressure, 2 readings must be taken: one at Idle position (zero T.V.) and the other at WOT (full T.V.).

1. Connect a 0-300 psi (0-21.1 kg/cm<sup>2</sup>) pressure gauge to main line pressure port tap on left side of transmission case just above control levers. See **Fig. 7**. Gauge hose must be long enough to read gauge while operating engine.

2. Connect a 0-100 psi (0-7.0 kg/cm<sup>2</sup>) pressure gauge to T.V. pressure tap at right side of transmission case. See **Fig. 7**. Gauge hose must be long enough to read gauge while operating engine. Ensure T.V. linkage is properly adjusted.

**CAUTION: Pressure gauges affect transmission shift quality. DO NOT accelerate or decelerate rapidly. Possible transmission failure could result.**

3. With engine at normal operating temperature, apply parking and service brakes. Check line pressure and throttle pressure in all ranges. Pressure should be approximately as specified. See **CONTROL PRESSURE SPECIFICATIONS**.

**NOTE: Pressure test at idle position must be taken with engine at warm idle speed. Pressure test at WOT position should be taken at full stall conditions. Run engine at a fast idle in "N" to cool fluid between tests.**

### CONTROL PRESSURE SPECIFICATIONS

Throttle Position	Line Pressure psi (kg/cm <sup>2</sup> )	T.V. Limit Pressure <sup>(1)</sup> psi (kg/cm <sup>2</sup> )
Idle		
"R"	75-90 (5.3-6.3)	0
All Other Ranges	55-65 (3.9-4.6)	0
WOT Stall		
In "R" - 3.8L & 4.9L	241-279 (16.9-19.6)	74-86 (5.2-6.0)
In "R" - All Others	250-290 (17.5-20.3)	79-91 (5.5-6.4)
All Other Ranges - 3.8L & 4.9L	176-204 (12.4-14.3)	74-86 (5.2-6.0)
All Other Ranges - All Others	180-215 (12.6-15.1)	79-91 (5.5-6.4)
(1) With governor pressure at zero.		

### CONTROL PRESSURE TEST RESULTS

#### Low In "P"

Valve body loose, faulty main oil regulator valve sticking or low-reverse servo leakage.

#### Low In "R"

Reverse clutch or low-reverse servo leakage. Valve body loose.

#### Low In "N"

Loose valve body or main oil regulator valve sticking.

#### Low In "O/D"

Faulty forward clutch, Overdrive servo, main oil regulator valve or loose valve body.

### **Low In "D"**

Forward clutch leakage. Overdrive servo leakage.

### **Low In "1st"**

Leakage at forward clutch or low-reverse servo or overdrive servo.

### **Low At Idle In All Ranges**

Low fluid level, restricted intake screen or filter, loose valve body bolts, pump leakage, case leakage, faulty valve body, excessively low engine idle, fluid too hot or main regulator valve sticking.

### **High At Idle In All Ranges**

Check for T.V. linkage adjustment and condition and for faulty valve body.

### **Pressure Okay At Idle But Low At WOT**

Internal leakage, pump leakage, restricted intake screen or filter, damaged or out of adjustment T.V. valve linkage. Also check for sticking T.V. or sticking T.V. limit valve in valve body.

### **Line Pressure And T.V. Pressure High**

Replace valve body.

### **Line Pressure and T.V. Pressure Low**

Check T.V. adjustment. If T.V. adjustment is okay, replace valve body.

## **DIRECT CLUTCH PRESSURE TEST**

1. Attach accurate 0-300 psi (0-21.1 kg/cm<sup>2</sup>) pressure gauges to the forward and direct clutch pressure taps on right side of transmission. See **Fig. 7**. Gauge hose must be long enough to read gauge while road testing vehicle.
2. Drive vehicle. When pressure is applied to direct clutch, note difference between line pressure on forward clutch gauge and direct clutch gauge. If difference is less than 15 psi (1.1 kg/cm<sup>2</sup>), direct clutch circuit is good.
3. If difference is greater than 15 psi (1.1 kg/cm<sup>2</sup>), there could be a leak in direct clutch pressure circuit.

## **SHIFT SPEED SPECIFICATIONS (MPH)**

**NOTE:** Shift speeds shown are approximate. All shift speeds may vary somewhat due to production tolerances and emission control equipment. See **Fig. 8 - Fig. 22**.

**NOTE:** Specifications given are for 1991 models; 1992 models are similar. 1992 specifications are not available at time of publication. Ensure all tires are

factory recommended size.

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1-2	9-12
	Ⓧ . D	2-3	20-24
	Ⓧ	3-4	33-46
	Ⓧ	4-3	38-25
	Ⓧ . D	3-2	23-17
	Ⓧ . D	2-1	10-8
Part Throttle	Ⓧ . D	1-2	18-23
	Ⓧ . D	2-3	33-46
	Ⓧ*	3-4	46-64
	Ⓧ*	4-3	46-29
	Ⓧ . D	3-2	36-19
	Ⓧ . D	2-1	17-14
Wide Open Throttle (WOT)	Ⓧ . D	1-2	35-51
	Ⓧ . D	2-3	69-80
	Ⓧ . D	3-2	67-55
	Ⓧ . D	2-1	41-21

92A15305

Fig. 8: 5.0L Crown Victoria & Grand Marquis PKA-ET (2.73 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	11 - 13
	Ⓧ . D	2 - 3	21 - 24
	Ⓧ	3 - 4	36 - 49
	Ⓧ	4 - 3	42 - 27
	Ⓧ . D	3 - 2	24 - 20
	Ⓧ . D	2 - 1	11 - 8
Part Throttle	Ⓧ . D	1 - 2	20 - 24
	Ⓧ . D	2 - 3	36 - 51
	Ⓧ .	3 - 4	47 - 68
	Ⓧ .	4 - 3	51 - 32
	Ⓧ . D	3 - 2	40 - 21
	Ⓧ . D	2 - 1	18 - 15
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	38 - 56
	Ⓧ . D	2 - 3	76 - 88
	Ⓧ . D	3 - 2	73 - 61
	Ⓧ . D	2 - 1	45 - 27

92B15306

Fig. 9: 5.8L Crown Victoria Police PKA-ER, ES (2.73 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	7 - 9
	Ⓧ . D	2 - 3	15 - 18
	Ⓧ	3 - 4	28 - 37
	Ⓧ	4 - 3	32 - 22
	Ⓧ . D	3 - 2	18 - 14
	Ⓧ . D	2 - 1	8 - 6
Part Throttle	Ⓧ . D	1 - 2	15 - 18
	Ⓧ . D	2 - 3	29 - 39
	Ⓧ *	3 - 4	35 - 50
	Ⓧ *	4 - 3	36 - 22
	Ⓧ . D	3 - 2	32 - 21
	Ⓧ . D	2 - 1	14 - 11
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	30 - 41
	Ⓧ . D	2 - 3	54 - 63
	Ⓧ . D	3 - 2	54 - 46
	Ⓧ . D	2 - 1	32 - 21

92C15307

Fig. 10: 5.0L Crown Victoria & Grand Marquis/Crown Victoria Police PKA-EU (3.55 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	8 - 11
	Ⓧ . D	2 - 3	17 - 20
	Ⓧ	3 - 4	33 - 43
	Ⓧ	4 - 3	37 - 22
	Ⓧ . D	3 - 2	18 - 15
	Ⓧ . D	2 - 1	9 - 7
Part Throttle	Ⓧ . D	1 - 2	18 - 21
	Ⓧ . D	2 - 3	33 - 45
	Ⓧ*	3 - 4	40 - 57
	Ⓧ*	4 - 3	42 - 26
	Ⓧ . D	3 - 2	37 - 24
	Ⓧ . D	2 - 1	17 - 11
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	34 - 47
	Ⓧ . D	2 - 3	63 - 73
	Ⓧ . D	3 - 2	63 - 53
	Ⓧ . D	2 - 1	37 - 24

92D15308

Fig. 11: 5.0L Crown Victoria & Grand Marquis Crown Victoria Police PKA-EU, EV, EY (3.08 Axle Ratio)



Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	8 - 10
	Ⓧ . D	2 - 3	17 - 20
	Ⓧ	3 - 4	30 - 41
	Ⓧ	4 - 3	35 - 24
	Ⓧ . D	3 - 2	18 - 14
	Ⓧ . D	2 - 1	9 - 7
Part Throttle	Ⓧ . D	1 - 2	16 - 20
	Ⓧ . D	2 - 3	31 - 42
	Ⓧ *	3 - 4	38 - 54
	Ⓧ *	4 - 3	39 - 24
	Ⓧ . D	3 - 2	35 - 23
	Ⓧ . D	2 - 1	15 - 12
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	32 - 44
	Ⓧ . D	2 - 3	59 - 69
	Ⓧ . D	3 - 2	59 - 49
	Ⓧ . D	2 - 1	35 - 23

92E15309

Fig. 12: 5.0L Crown Victoria & Grand Marquis Crown Victoria Police PKA-EU, EV, EY (3.27 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	⊙ . D	1 - 2	9 - 12
	⊙ . D	2 - 3	17 - 24
	⊙	3 - 4	39 - 49
	⊙	4 - 3	43 - 32
	⊙ . D	3 - 2	23 - 17
	⊙ . D	2 - 1	12 - 8
Part Throttle	⊙ . D	1 - 2	16 - 28
	⊙ . D	2 - 3	33 - 43
	⊙ *	3 - 4	46 - 61
	⊙ *	4 - 3	46 - 33
	⊙ . D	3 - 2	35 - 22
	⊙ . D	2 - 1	15 - 12
Wide Open Throttle (WOT)	⊙ . D	1 - 2	33 - 47
	⊙ . D	2 - 3	63 - 72
	⊙ . D	3 - 2	61 - 53
	⊙ . D	2 - 1	39 - 26

92H15310

Fig. 13: 3.8L SC Thunderbird PKA-EU (3.27 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	8 - 10
	Ⓧ . D	2 - 3	17 - 24
	Ⓧ	3 - 4	35 - 40
	Ⓧ	4 - 3	37 - 26
	Ⓧ . D	3 - 2	22 - 14
	Ⓧ . D	2 - 1	9 - 6
Part Throttle	Ⓧ . D	1 - 2	15 - 20
	Ⓧ . D	2 - 3	32 - 44
	Ⓧ*	3 - 4	40 - 57
	Ⓧ*	4 - 3	41 - 26
	Ⓧ . D	3 - 2	35 - 22
	Ⓧ . D	2 - 1	15 - 12
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	33 - 47
	Ⓧ . D	2 - 3	63 - 72
	Ⓧ . D	3 - 2	61 - 51
	Ⓧ . D	2 - 1	39 - 26

92I15311

Fig. 14: 5.0L HO Mark VII LSC PKA-EH (3.27 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	10 - 14
	Ⓧ . D	2 - 3	17 - 21
	Ⓧ	3 - 4	35 - 45
	Ⓧ	4 - 3	40 - 31
	Ⓧ . D	3 - 2	26 - 19
	Ⓧ . D	2 - 1	13 - 9
Part Throttle	Ⓧ . D	1 - 2	17 - 27
	Ⓧ . D	2 - 3	29 - 42
	Ⓧ *	3 - 4	43 - 61
	Ⓧ *	4 - 3	49 - 35
	Ⓧ . D	3 - 2	33 - 17
	Ⓧ . D	2 - 1	15 - 12
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	34 - 47
	Ⓧ . D	2 - 3	62 - 73
	Ⓧ . D	3 - 2	60 - 49
	Ⓧ . D	2 - 1	36 - 22

92J15312

Fig. 15: 3.8L Cougar & Thunderbird PKA-DV (3.27 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	10 - 13
	Ⓧ . D	2 - 3	16 - 26
	Ⓧ	3 - 4	35 - 43
	Ⓧ	4 - 3	40 - 24
	Ⓧ . D	3 - 2	27 - 18
	Ⓧ . D	2 - 1	15 - 11
Part Throttle	Ⓧ . D	1 - 2	19 - 30
	Ⓧ . D	2 - 3	38 - 47
	Ⓧ .	3 - 4	46 - 61
	Ⓧ .	4 - 3	53 - 31
	Ⓧ . D	3 - 2	42 - 23
	Ⓧ . D	2 - 1	18 - 13
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	39 - 51
	Ⓧ . D	2 - 3	70 - 78
	Ⓧ . D	3 - 2	64 - 56
	Ⓧ . D	2 - 1	42 - 30

92A15313

Fig. 16: 5.0L Cougar & Thunderbird PKA-FJ, FK (2.73 & 3.08 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	8 - 10
	Ⓧ . D	2 - 3	17 - 25
	Ⓧ	3 - 4	34 - 44
	Ⓧ	4 - 3	38 - 30
	Ⓧ . D	3 - 2	23 - 16
	Ⓧ . D	2 - 1	9 - 6
Part Throttle	Ⓧ . D	1 - 2	16 - 20
	Ⓧ . D	2 - 3	35 - 46
	Ⓧ *	3 - 4	41 - 57
	Ⓧ *	4 - 3	40 - 28
	Ⓧ . D	3 - 2	38 - 27
	Ⓧ . D	2 - 1	14 - 12
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	36 - 47
	Ⓧ . D	2 - 3	63 - 71
	Ⓧ . D	3 - 2	62 - 53
	Ⓧ . D	2 - 1	38 - 27

92B15314

Fig. 17: 5.0L HO Mustang PKA-FH (3.27 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	8 - 13
	Ⓧ . D	2 - 3	21 - 28
	Ⓧ	3 - 4	34 - 47
	Ⓧ	4 - 3	40 - 25
	Ⓧ . D	3 - 2	21 - 16
	Ⓧ . D	2 - 1	13 - 9
Part Throttle	Ⓧ . D	1 - 2	18 - 36
	Ⓧ . D	2 - 3	38 - 50
	Ⓧ .	3 - 4	44 - 64
	Ⓧ .	4 - 3	45 - 25
	Ⓧ . D	3 - 2	41 - 27
	Ⓧ . D	2 - 1	18 - 16
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	45 - 57
	Ⓧ . D	2 - 3	72 - 83
	Ⓧ . D	3 - 2	71 - 61
	Ⓧ . D	2 - 1	47 - 34

92C15315

Fig. 18: 5.0L HO Mustang PKA-FE (2.73 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	⊙ . D	1 - 2	9 - 13
	⊙ . D	2 - 3	17 - 25
	⊙	3 - 4	36 - 46
	⊙	4 - 3	40 - 30
	⊙ . D	3 - 2	23 - 17
	⊙ . D	2 - 1	12 - 8
Part Throttle	⊙ . D	1 - 2	16 - 28
	⊙ . D	2 - 3	33 - 44
	⊙ *	3 - 4	43 - 59
	⊙ *	4 - 3	44 - 30
	⊙ . D	3 - 2	36 - 22
	⊙ . D	2 - 1	15 - 12
Wide Open Throttle (WOT)	⊙ . D	1 - 2	34 - 48
	⊙ . D	2 - 3	64 - 74
	⊙ . D	3 - 2	62 - 52
	⊙ . D	2 - 1	39 - 26

92D15316

Fig. 19: 4.6L Town Car PKA-FF (3.27 Axle Ratio)



Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ . D	1 - 2	8 - 11
	Ⓧ . D	2 - 3	16 - 22
	Ⓧ	3 - 4	32 - 42
	Ⓧ	4 - 3	37 - 28
	Ⓧ . D	3 - 2	21 - 16
	Ⓧ . D	2 - 1	10 - 6
Part Throttle	Ⓧ . D	1 - 2	16 - 28
	Ⓧ . D	2 - 3	34 - 43
	Ⓧ*	3 - 4	40 - 54
	Ⓧ*	4 - 3	40 - 28
	Ⓧ . D	3 - 2	37 - 26
	Ⓧ . D	2 - 1	14 - 11
Wide Open Throttle (WOT)	Ⓧ . D	1 - 2	35 - 45
	Ⓧ . D	2 - 3	61 - 69
	Ⓧ . D	3 - 2	60 - 52
	Ⓧ . D	2 - 1	37 - 26

92E15317

Fig. 20: 4.6L Town Car PKA-FG (3.55 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ, D	1 - 2	8 - 12
	Ⓧ, D	2 - 3	16 - 21
	Ⓧ	3 - 4	28 - 42
	Ⓧ	4 - 3	36 - 21
	Ⓧ, D	2 - 3	19 - 15
	Ⓧ, D	2 - 1	10 - 7
Part Throttle	Ⓧ, D	1 - 2	15 - 25
	Ⓧ, D	2 - 3	27 - 43
	Ⓧ*	3 - 4	36 - 58
	Ⓧ*	4 - 3	46 - 27
	Ⓧ, D	3 - 2	34 - 16
	Ⓧ, D	2 - 1	15 - 11
Wide Open Throttle (WOT)	Ⓧ, D	1 - 2	28 - 47
	Ⓧ, D	2 - 3	56 - 74
	Ⓧ, D	3 - 2	62 - 46
	Ⓧ, D	2 - 1	38 - 21

92F15318

Fig. 21: Bronco, Light Truck & Van PKB-AW, AZ, AX (3.55 & 3.73 Axle Ratio)

Throttle Position	Drive Range	Shift	MPH
Idle (Closed Throttle)	Ⓧ, D	1 - 2	8 - 11
	Ⓧ, D	2 - 3	16 - 20
	Ⓧ	3 - 4	34 - 45
	Ⓧ	4 - 3	39 - 28
	Ⓧ, D	2 - 3	17 - 14
	Ⓧ, D	2 - 1	10 - 7
Part Throttle	Ⓧ, D	1 - 2	16 - 25
	Ⓧ, D	2 - 3	31 - 42
	Ⓧ*	3 - 4	40 - 57
	Ⓧ*	4 - 3	43 - 27
	Ⓧ, D	3 - 2	35 - 23
	Ⓧ, D	2 - 1	15 - 12
Wide Open Throttle (WOT)	Ⓧ, D	1 - 2	32 - 44
	Ⓧ, D	2 - 3	58 - 69
	Ⓧ, D	3 - 2	60 - 49
	Ⓧ, D	2 - 1	36 - 23

92G15319

**Fig. 22: Bronco, Light Truck & Van PKB-AY (4.10 Axle Ratio)**

**GOVERNOR CHECK**

Accelerate vehicle quickly to 25 MPH and back off throttle completely. If governor is operating properly, transmission will shift to 3rd gear.

**STALL SPEED TEST**

**Testing Precautions**

When performing stall test, **DO NOT** hold throttle open longer than 5 seconds. Allow a cooling period of 15 seconds with transmission in "N" and engine speed at 1000 RPM between each test. If engine speed exceeds maximum limits shown, release accelerator immediately, as this is an indication of clutch or band slippage.

**Testing Procedure**

Bring engine to normal operating temperature. Apply parking and service brakes. Stall test transmission in each driving range at WOT. Note maximum RPM obtained. Engine speed should be within limits. See **STALL SPEED SPECIFICATIONS** . If maximum RPM obtained is not within specifications, see **STALL SPEED TEST RESULTS** .

**STALL SPEED SPECIFICATIONS**

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<b>Application</b>	<b>Engine</b>	<b>1989 RPM</b>	<b>1990-92 RPM</b>
Cougar & Thunderbird	3.8L	2138-2493	2156-2510
Thunderbird	3.8L SC	2293-2668	2295-2676
Crown Victoria, Grand Marquis & Town Car	4.6L 2V	N/A	2000-2334
Mustang & Mark VII	5.0L HO+	2124-2509	2089-2465
Crown Victoria & Grand Marquis	5.0L SEFI	N/A	2073-2405
Crown Victoria Police	5.0L SEFI	N/A	2073-2405
Cougar & Thunderbird	5.0L HO	N/A	2017-2460
Crown Victoria & Grand Marquis	5.0L EFI	2035-2351	2014-2326
Crown Victoria Police	5.8L HO VV	1568-1885	1552-1862
"E" & "F" Series	4.9L	2042-2351	2055-2361
Bronco, "E/F" Series	5.0L EFI	2092-2449	2098-2456

## **STALL SPEED TEST RESULTS**

### **High Stall Speeds Or Slip**

- In "OD" or "D" position - Check planetary one-way clutch.
- In "OD", "D" and "1" position - Check forward clutch.
- In "R" position - Check reverse clutch and/or low-reverse band.
- In all ranges -- Check T.V. control adjustment and perform control pressure test.

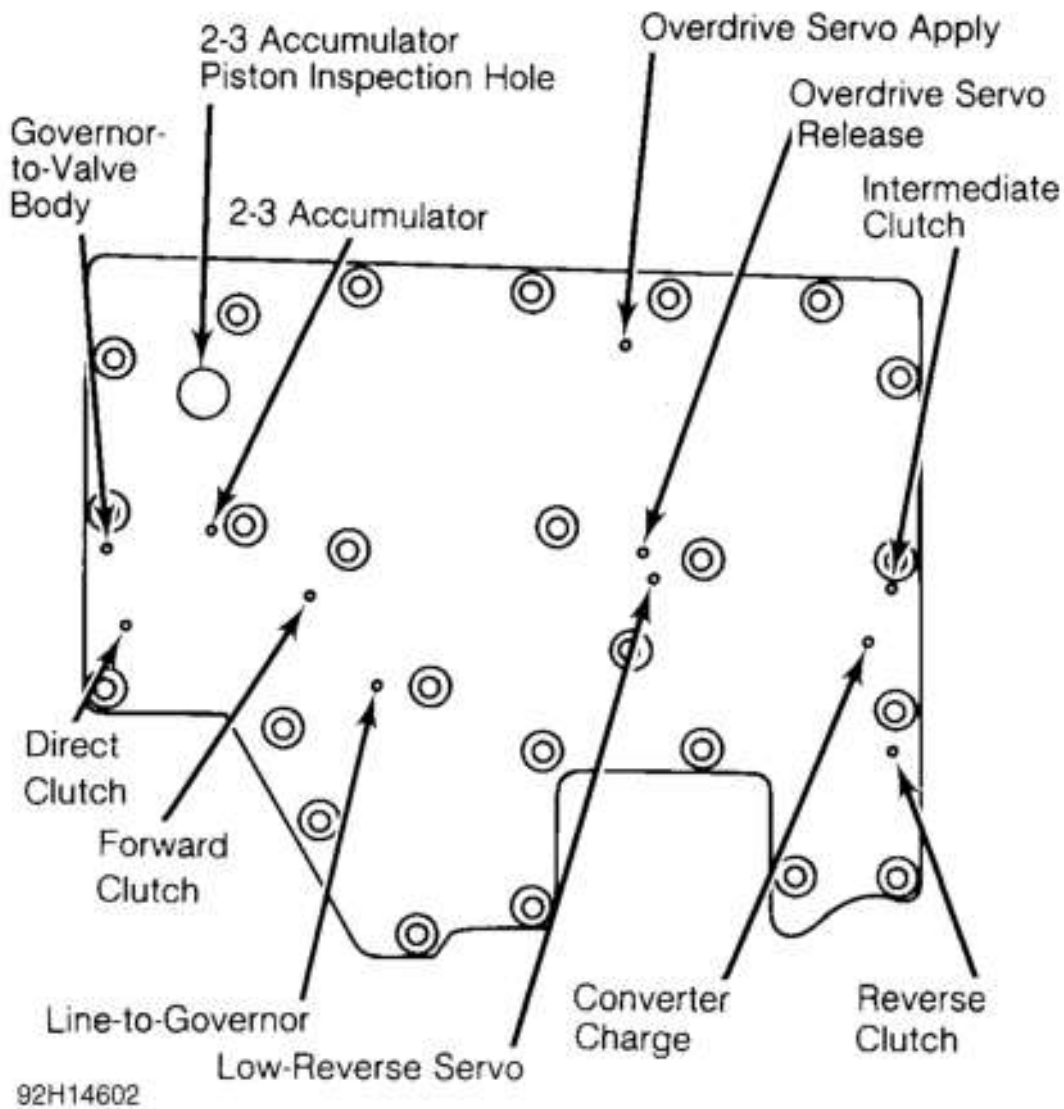
### **Low Stall Speeds**

- Check engine tune-up. If okay, go to next step.
- Check torque converter using bench test for stator one-way clutch slippage.

## **AIR PRESSURE TESTS**

1. A "No Drive" condition can exist even with correct transmission fluid pressure, because of inoperative clutches or bands. The inoperative units can be located by substituting air pressure for fluid pressure to determine location of malfunction.
2. To make air pressure checks, drain transmission fluid. Remove oil pan and control valve body assembly. Install Adapter Plate (T82L-7006-A), with Adapter Plate Attaching Screws (T82P-7006-C) and control valve body gasket in place of control valve body. Tighten attaching screws 80-100 INCH lbs. (9-11 N.m). With a rubber-tipped air nozzle, apply air pressure in indicated locations. See **Fig. 23**.
3. If servo or accumulator does not move when tested, clean and inspect servo or accumulator to locate cause. See appropriate component under **ON-VEHICLE SERVICE**. If during test 2 clutches apply or clutch fails to operate, check fluid passages in case and front pump for blockage or damage.

**NOTE:** Air pressure should be regulated between 40 psi (2.8 kg/cm<sup>2</sup>) and 90 psi (6.3 kg/cm<sup>2</sup>). Compressed air used for test should be filtered and dry to avoid contaminating transmission fluid.



**Fig. 23: Identifying Air Pressure Test Apply Ports on Adapter Plate**  
 Courtesy of FORD MOTOR CO.

### **Reverse Clutch**

Apply air pressure to reverse clutch passage. A dull thud can be heard when clutch piston is applied, or movement can be felt by placing fingertips on clutch drum.

### **Forward Clutch**

Apply air pressure to forward clutch apply passage in adapter plate. A dull thud can be heard when clutch piston is applied, or movement can be felt by placing fingertips on input shell.

### **Intermediate Clutch**

Apply air pressure to intermediate clutch apply passage in adapter plate. A dull thud can be heard or felt if

clutch is operating properly.

### **Overdrive Servo**

Apply air pressure to Overdrive servo apply passage. Operation of band is indicated by tightening of band around reverse clutch drum. A thud can be felt on servo cover when servo returns to release position as a result of spring force from release spring; band will then relax.

### **Low-Reverse Servo**

Apply air pressure to low-reverse servo apply passage. A dull thud can be heard when low-reverse band tightens around planetary drum. Movement of ring gear should also be detected.

### **Direct Clutch**

Apply air pressure to direct clutch passage in adapter plate. A dull thud can be heard or felt on drive shaft if clutch is operating properly.

### **2-3 Accumulator**

Apply air pressure to 2-3 accumulator passage. Accumulator piston should unseat and can be detected by inserting a metal rod into 2-3 piston hole. When piston unseats, rod will move.

### **Governor**

1. In order to check lines to governor passage and governor to valve body passage, drive shaft crossmember and extension housing must be removed. Apply air pressure to governor passage while holding finger near governor valve. Air should be felt exiting valve.
2. To air pressure check governor to valve body passage, governor must be removed. Apply air pressure to passage while holding finger over holes in output shaft. Air should be felt exiting one of the holes.

## **FLUSHING CONVERTER**

**NOTE:**        **Torque converter is a sealed unit and cannot be disassembled for service. Replace if found to be defective. The following tests will identify a defective converter.**

Whenever transmission has been disassembled to replace worn or damaged parts, or because valve body sticks due to foreign material, converter and oil cooler must be cleaned using a mechanically agitated cleaner (Rotunda 1400028). Under no conditions should converter or oil cooler be cleaned by hand agitation using solvent.

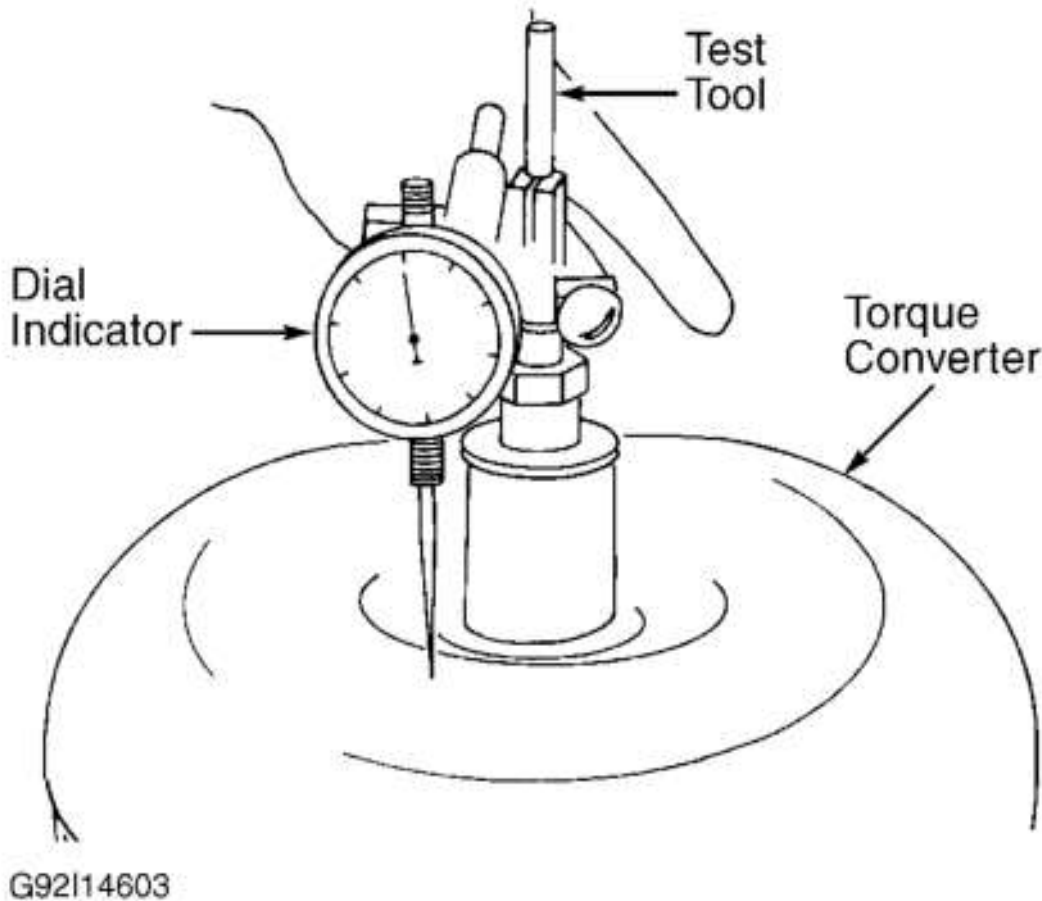
## **LEAK TEST**

If torque converter welds indicate leakage, attach Torque Converter Leak Detector (Rotunda 7200004) to converter and follow detector kit instructions.

## **END PLAY CHECK**

1. Insert Tester (T80L-7902-A) into converter pump drive hub until hub bottoms. Expand sleeve in turbine spline by tightening threaded inner post of tester until sleeve is securely locked into spline.

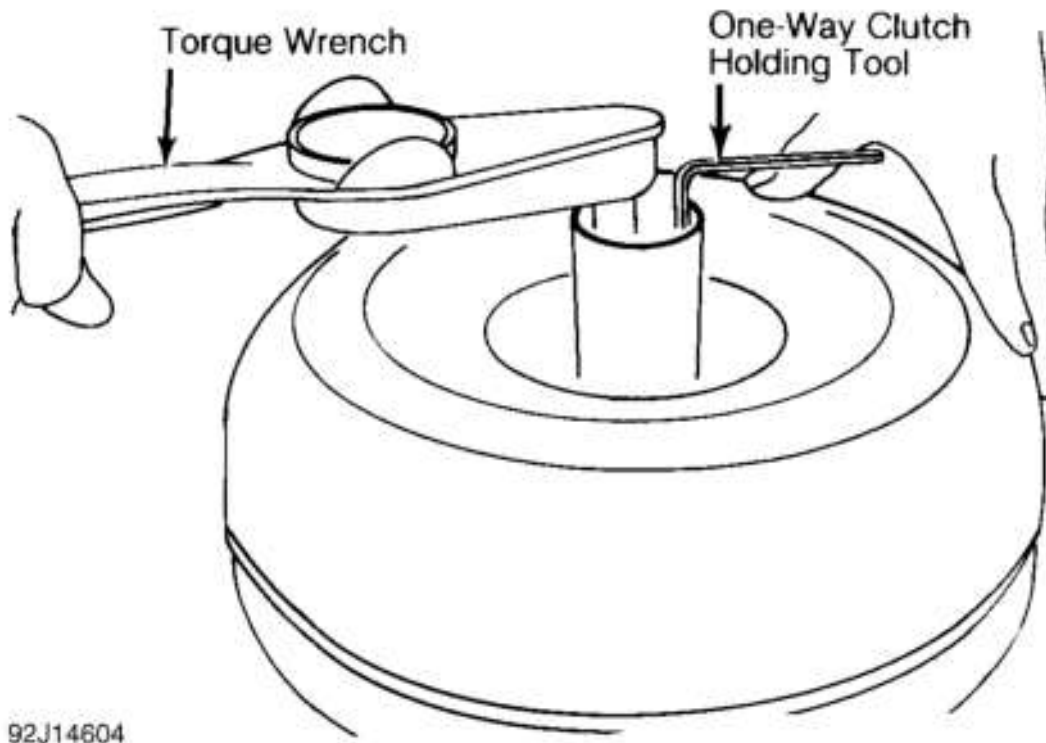
2. Attach a dial indicator to tool with button on indicator on converter pump drive hub. Zero dial face. Lift tool upward as far as tool will go and note indicator reading. See **Fig. 24** .
3. Reading is total end play of turbine and stator. If end play exceeds .023" (.58 mm) for new or rebuilt converter, or .050" (1.27 mm) for used converter, replace torque converter assembly.



**Fig. 24: Measuring Torque Converter End Play**  
 Courtesy of FORD MOTOR CO.

### STATOR ONE-WAY CLUTCH CHECK

1. Insert one-way clutch Holding Wire (T77L-7902-R) into one of the grooves in stator thrust washer. Insert Torque Adapter (T76L-7902-C) into converter pump drive hub so as to engage one-way clutch inner race.
2. Attach a torque wrench to torque adapter. With clutch holding wire held stationary, turn torque wrench counterclockwise. See **Fig. 25** . The converter one-way clutch should lock-up and hold a 10 ft. lb. (14 N.m) force. One-way clutch should rotate freely in a clockwise direction.
3. Repeat lock-up test in at least 5 different locations around torque converter. If clutch fails to lock-up and hold, replace torque converter.

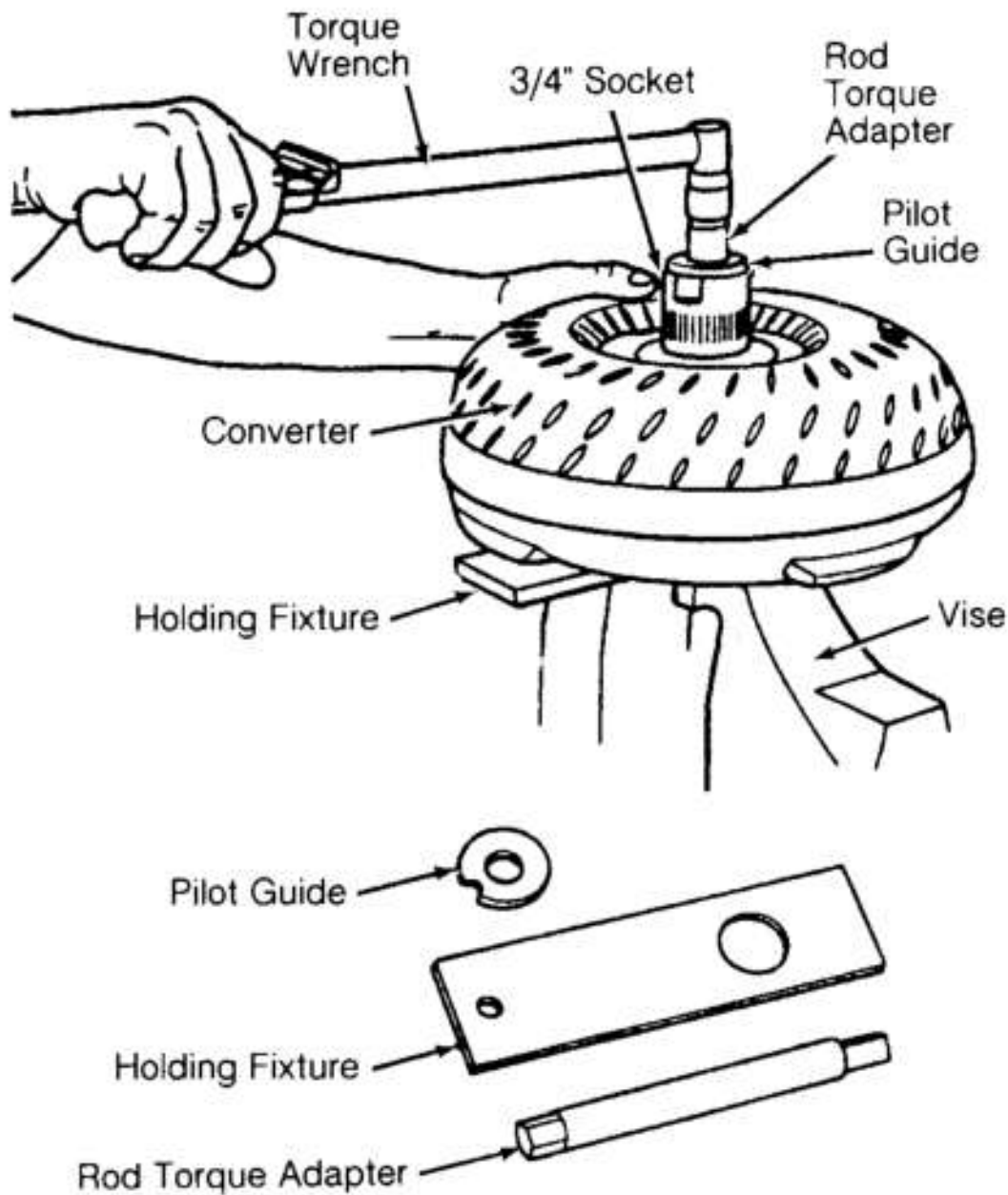


**Fig. 25: Checking Stator One-Way Clutch**  
Courtesy of FORD MOTOR CO.

### **DAMPER & HUB ASSEMBLY**

1. Place torque converter in Holding Fixture (T83L-7902-A3). Place Turning Device (T83L-7902-A1 ) in converter. Ensure splines are engaged. Install Pilot Guide (T83L-7902-A2) over turning device and onto impeller hub.
2. Hold converter snug in holding fixture and rotate shaft clockwise and counterclockwise with 50 ft. lbs. (68 N.m), using a 3/4" socket and torque wrench. See **Fig. 26** . Shaft should not move more than 4 degrees. If shaft exceeds specification or grinding noise is heard, replace converter.





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**Fig. 26: Checking Converter Damper & Hub**  
 Courtesy of FORD MOTOR CO.

## STATOR INTERFERENCE CHECK

### Stator-To-Impeller Interference Check

1. Position front pump assembly on bench with spline end of stator shaft pointing up. Mount converter on pump so splines of one-way clutch inner race engage splines of stator support and converter hub engages pump drive gear.

2. While holding pump stationary, rotate converter counterclockwise. Converter should rotate freely without interference or scraping within assembly. Should interference or a scraping condition exist, or if converter does not rotate freely, replace converter unit.

### **Stator-To-Turbine Interference Check**

1. Place converter on bench, front side down. Install front pump assembly to engage mating splines of stator support, stator and pump drive gear lugs.
2. Install input shaft, engaging splines with turbine hub. While holding pump stationary, rotate turbine with input shaft.
3. Turbine should rotate freely in both directions without interference or noise. If interference or noise exists, stator front thrust washer may be worn; converter should be replaced.