

# Ford 4R70W Technical Specifications

1993 1/2: Ford AODE transmission introduced for passenger cars. Ford also introduced the 4R70W transmission the same year which is basically the same transmission except has lower gear ratios in 1st, 2nd, reverse and more overdrive ratio for economy. (This is simply a computer controlled AOD first introduced in model year 1980)

2003: Ford changed the ring gear and gear set for durability as well as the pump and torque converter. They also added an input sensor for adapting over to fly-by-wire throttle controls and renamed the transmission the 4R75E or 4R75W.

## AODE Gear Ratios:

1st) 2.4:1  
2nd) 1.467:1  
3rd) 1:1  
4th) .667:1  
Rev) 2.00:1

## 4R70W/4R75W/E Ratios:

1st) 2.84:1  
2nd) 1.55:1  
3rd) 1:1  
4th) .70:1  
Rev) 2.23:1

Gear	Overdrive Band	Intermediate Clutch	Low/Reverse Band	Reverse Clutch	Forward Clutch	Direct Clutch
REVERSE	-	-	A	A	-	-
1st GEAR MANUAL LOW	-	-	A	-	A	-
2nd GEAR MANUAL LOW	A	-	A	-	A	-
1st GEAR (D) (Overdrive)	-	-	-	-	A	-
2nd GEAR (D) (Overdrive)	-	A	-	-	A	-
3rd GEAR (D) (Overdrive)	-	A	-	-	-	A
4th GEAR (D) (Overdrive)	A	A	-	-	-	A

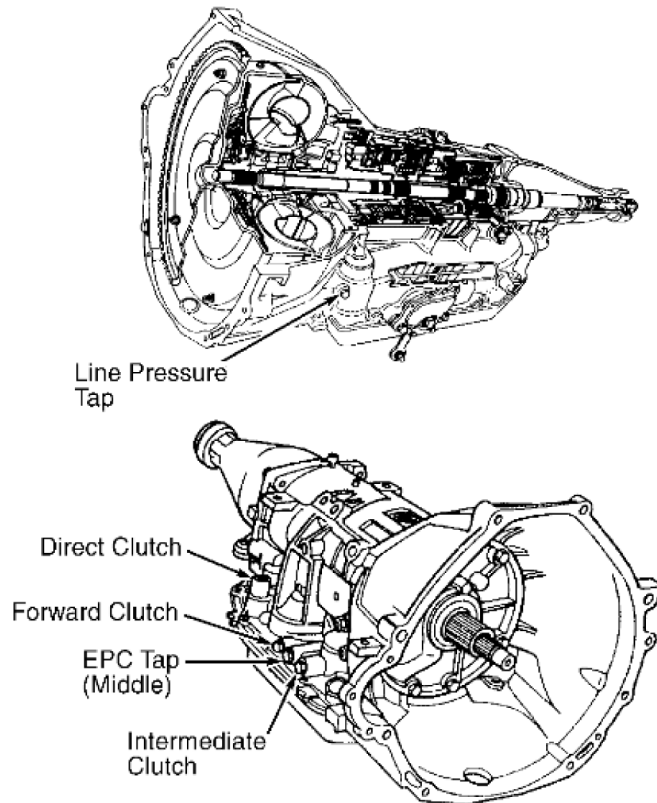
A = Applied

## Clutch apply chart.

Gear	Intermediate One-Way Clutch		Planetary One-Way Clutch		Solenoid States		
	Drive	Coast	Drive	Coast	SSA	SSB	TCC
PARK					ON	OFF	HD
REVERSE			NE		ON	OFF	HD
NEUTRAL					ON	OFF	HD
1st GEAR MANUAL LOW			H		ON	OFF	HD
2nd GEAR MANUAL LOW	H				OFF	OFF	EC
1st GEAR (D) (Overdrive)			H	OR	ON	OFF	HD
2nd GEAR (D) (Overdrive)	H	OR	OR		OFF	OFF	EC
3rd GEAR (D) (Overdrive)	OR	OR			OFF	ON	EC
4th GEAR (D) (Overdrive)	OR	OR	OR		ON	ON	EC

Solenoid and one way clutch chart (H: hold, OR: overrunning)

# Pressure Testing

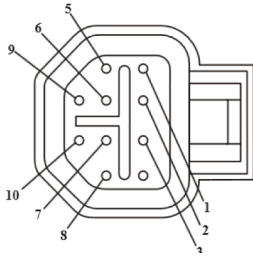


Application	Range	Idle		WOT Stall	
		EPC	Line Pressure	EPC	Line Pressure
4.6L	P, N, OD, 2, 1	68-276 kPa (10-40 psi)	330-689 kPa (48-100 psi)	689-792 kPa (100-115 psi)	1,172-1,861 kPa (170-270 psi)
4.6L	R	138-207 kPa (20-30 psi)	551-689 kPa (80-100 psi)	586-655 kPa (85-95 psi)	1,378-1,930 kPa (200-280 psi)
5.4L	P, N, OD, 2, 1	68-276 kPa (10-40 psi)	330-689 kPa (48-100 psi)	689-793 kPa (100-115 psi)	1,172-1,861 kPa (170-270 psi)
5.4L	R	138-207 kPa (20-30 psi)	551-689 kPa (80-100 psi)	586-655 kPa (85-95 psi)	1,379-1,931 kPa (200-280 psi)

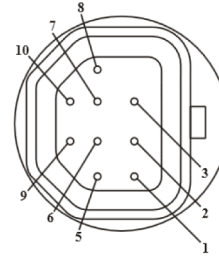
Use a 0-300 P.S.I. gauge for pressure testing. do not maintain wide open throttle test for more than 5 seconds at a time or transmission damage can result. Apply parking brake at all times and use wheel blocks. Apply service brake during all tests.

You can check forward, intermediate clutch and direct clutch pressure while driving vehicle with a helper to watch gauge. Do not drive and watch gauge!

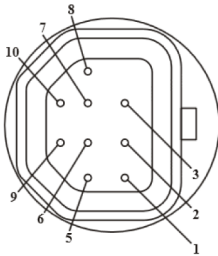
# Wiring terminal pin-outs



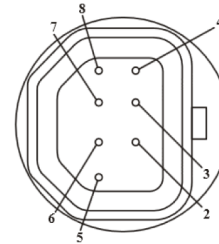
1992-1997 harness view



1998-2008 harness view



1992-1997 internal conector view



1998-2008 internal connector view

## 92-97 pin ID:

- 1: SS1 ground
- 2: shift sol power
- 3: TCC ground
- 4: not used
- 5: TOT sensor -
- 6: SS2 ground
- 7: EPC power
- 8: TCC power
- 9: TOT +
- 10: EPC ground

## 98-08 pin ID:

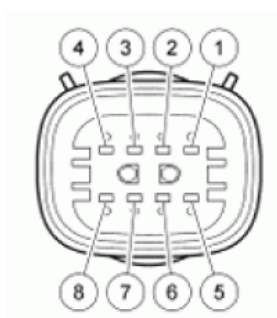
- 1: not used
- 2: TOT-
- 3: TCC ground
- 4: shift sol power
- 5: TOT +
- 6: EPC ground
- 7: SS1 ground
- 8: SS2 ground
- 9: not used
- 10: not used

## 92-97 tests:

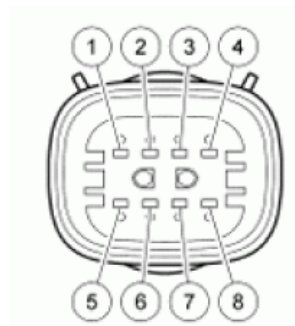
Shift sol 1, pins 1&2 20-30 Ohms.  
Shift sol 2, pins 6&2 20-30 Ohms.  
TCC solenoid, pins 3&8 1.0-3.0 Ohms.  
EPC sol, pins 7&10 2.48-5.66 Ohms.  
TOT

## 98-08 tests:

same pin numbers except  
different locations.



2009-up harness pins



2009-up internal connector view

#### 2009-up pin ID:

- 1: solenoid power
- 2: TCC solenoid ground
- 3: signal return
- 4: not used
- 5: shift sol B ground
- 6: shift sol A ground
- 7: EPC solenoid
- 8: TFT sensor

#### 2009-up tests:

- shift sol A, pins 1 & 6 20-30 Ohms
- shift sol B, pins 1 & 5 20-30 Ohms
- TCC sol, pins 1 & 2 10-16 Ohms
- EPC sol, pins 1 & 7 2.48-5.66 Ohms
- TFT sensor, pins 3 & 8

°C	°F	Resistance (Ohms)
-40 to -20	-40 to -4	967K-284K
-19 to -1	-3 to 31	284K-100K
0-20	32-68	100K-37K
21-40	69-104	37K-16K
41-70	105-158	16K-5K
71-90	159-194	5K-2.7K
91-110	195-230	2.7K-1.5K
111-130	231-266	1.5K-0.8K
131-150	267-302	0.8K-0.54K

TFT sensor values (good for testing all years)

Fluid requirement for all 4R70W and 4R75E/W transmissions is Mercon V only.