

# 1997 TRANSMISSION SERVICING

## Automatic - Ford Motor Co. (4R44E & 5R55E)

### APPLICATION

#### TRANSMISSION APPLICATION

Model	Transmission
2.3L & 3.0L	4R44E
4.0L	5R55E

### LUBRICATION

#### SERVICE INTERVALS

##### Transmission

Check fluid level at every engine oil change. Fluid and filter changes are not required under normal operation. Under normal operation, transmission is filled for life. If vehicle is operated under the following conditions, replace transmission fluid every 50,000 miles:

- In hot weather with temperature greater than 90°F (32°C), carrying heavy loads and/or in hilly terrain.
- Towing a trailer or using a car top carrier.
- In police, taxi or door-to-door delivery service.

##### Transfer Case

Under normal driving conditions, replace transfer case fluid every 60,000 miles. Under severe driving conditions, perform this service more frequently.

#### CHECKING FLUID LEVEL

1. Transmission or transaxle must be at normal operating temperature with vehicle on level ground. Apply parking brake, and run engine at curb idle. Shift gear selector lever through all positions, ending in PARK.

**WARNING: On 4WD models, ensure transfer case is in any gear range EXCEPT Neutral before checking transmission fluid level.**

2. Fluid level should be in crosshatch area on dipstick if checked at operating temperature. If transmission is at room temperature, fluid level should be between 2 dimples on bottom of dipstick.
3. **DO NOT** overfill. Check condition of fluid for contamination and burned smell. Fully reseal dipstick.

##### Transfer Case

Remove fill plug. If fluid drains out or is level with opening, reinstall drain plug. If not, fill until level.

#### RECOMMENDED FLUID

**NOTE:** For recommended transfer case fluid, see the **AUTO TRANS OVERHAUL** article in **AUTO TRANS OVERHAUL** section.

### TRANSMISSION FLUID APPLICATION

Application	Fluid Type
4R44E & 5R55E	Mercon V (XT-5-QM)

### FLUID CAPACITIES

**NOTE:** Transmission fluid capacities in **TRANSMISSION FLUID CAPACITIES** are approximate quantities. Correct fluid level should be determined using dipstick. See **CHECKING FLUID LEVEL**.

### TRANSMISSION FLUID CAPACITIES

Application	<sup>(1)</sup> Qts. (L)
4R44E	
2WD	9.5 (9.0)
4WD	9.8 (9.3)
5R55E	
2WD <sup>(2)</sup>	9.5 (9.0)
4WD <sup>(2)</sup>	9.8 (9.3)
(1) Includes oil cooler (if equipped).	
(2) On Explorer and Mountaineer models, add .25 qt (.9L) for vehicles equipped with 4.0L SOHC.	

### TRANSFER CASE REFILL CAPACITIES

Application	Pts. (L)
Borg-Warner 13-54	2.5 (1.2)
Borg-Warner 13-56	
With PTO	12.2 (5.8)
Without PTO	4.0 (1.9)
Borg-Warner 44-05	2.5 (1.2)
Borg-Warner 44-06	(1)
Borg-Warner 44-07	(1)
Borg-Warner 44-72	2.7 (1.3)
Dana TC-28	4.5 (2.1)
(1) Refill capacity not available at time of publication. Fill until fluid is level with filler plug opening.	

### DRAINING & REFILLING

**WARNING:** On vehicles with electrical air suspension, power to air suspension system must be shut off prior to hoisting, jacking or towing an air suspension vehicle. Air suspension switch is located behind right kick panel area. Failure to do so can result in inflation or deflation of air springs, which may cause vehicle to shift during these operations.

## Transmission

Raise and support vehicle. Loosen oil pan bolts to allow oil to drain. Remove oil pan bolts. Remove oil pan and gasket. Clean oil pan. Install pan using NEW pan gasket. Fill transmission through filler tube. Start engine and engage all gears. Check fluid level and add as required.

## Transfer Case

Remove drain plug from transfer case. Remove fill plug for easier draining. With fluid fully drained, reinstall drain plug. Fill transfer case to fill plug opening with Mercon ATF.

**NOTE:**        **Transmission oil cooler and lines should be thoroughly flushed if transmission is removed for any reason. Use appropriate line disconnecting tool when disconnecting cooler lines.**

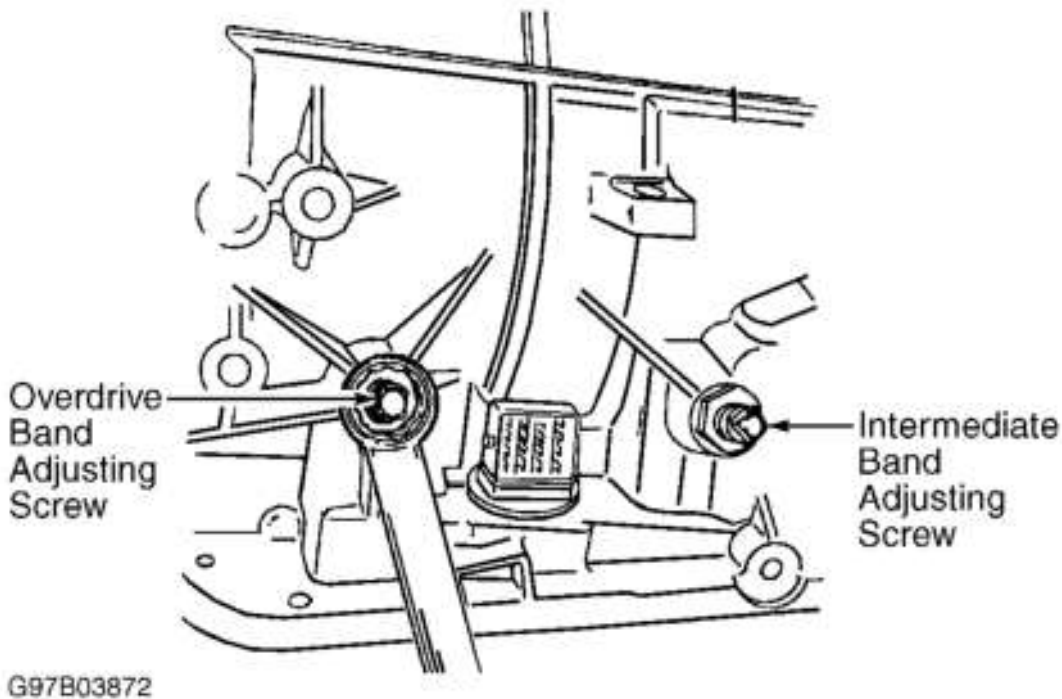
## ADJUSTMENTS

**WARNING:** On vehicles with electrical air suspension, power to air suspension system must be shut off prior to hoisting, jacking or towing an air suspension vehicle. Air suspension switch is located behind right kick panel area. Failure to do so can result in inflation or deflation of air springs, which may cause vehicle to shift during these operations.

## BAND

**CAUTION:** DO NOT allow adjustment screw to back out. Band strut could fall inside transmission assembly.

1. Remove overdrive and intermediate band lock nuts and discard nuts. See **Fig. 1**. Back off band adjusting screws. Install, but **DO NOT** tighten, NEW lock nuts. Using Band Adjustment Torque Wrench Set (T71P-77370-A), tighten adjusting screws to 10 ft lbs. (14 N.m).
2. Back off intermediate band adjusting screws exactly 2 1/2 turns. Back off overdrive band adjusting screw exactly 2 turns. While holding adjusting screw, tighten lock nut to 35-45 ft. lbs. (47-61 N.m).



**Fig. 1: Adjusting Intermediate And Overdrive Bands**  
 Courtesy of FORD MOTOR CO.

## **SHIFT CABLE/LINKAGE**

1. Place shift control select lever in "OD" position. Hold shift lever against rear overdrive stop with a constant force of about 3 lbs. (1.4 kg). Raise and support vehicle. Using a screwdriver, pry shift cable from manual control lever on transmission range sensor.
2. To unlock adjuster body, release lock tab on top side of cable by pushing down on 2 tangs. Move shift cable back and forth the full adjustment length a few times to remove any dirt. Ensure adjuster body moves freely.
3. Position manual control lever in "OD" position. This is 3 detents from front-most position with front position counting as one. Holding cable end, push cable rearward until end lines up with ball stud. Connect cable to ball stud.
4. Push up on lock tab to lock adjustment sleeve in position. Ensure shift cable is clipped to floor pan at White mark on cable and cable is routed into tunnel. Lower vehicle. Adjust shift indicator cable while still in OVERDRIVE position. See **SHIFT INDICATOR CABLE**.
5. Remove pressure from shift control selector. Check PARK engagement. Start engine and ensure transmission shifts through all gears. Verify vehicle only starts in "P" and "N" position and backup lights work. If not, check transmission range sensor adjustment. See **TRANSMISSION RANGE (TR) SENSOR/SWITCH**.

## **SHIFT INDICATOR CABLE**

### **Aerostar & Ranger**

1. Disconnect negative battery cable. Remove steering column release lever (if equipped). Remove

lower steering column cover. Turn ignition switch to RUN position. Depress ignition lock cylinder retaining pin. Remove ignition lock cylinder.

2. Remove upper steering column cover. Move shift control selector until in lowest gear position. Move shift control lever up 3 detent positions. Hold shift lever against rear of stop with a constant force of about 3 lbs. (1.4 kg).
3. Center pointer in middle of "OD" position, by rotating thumbwheel located on right side of steering column. Install upper steering column cover, ignition lock cylinder and lower steering column cover. Install tilt wheel handle and shank (if equipped). Connect negative battery cable.

### Explorer & Mountaineer

1. Remove upper and lower steering column covers. Place shift control selector in lowest gear. Move shift control selector up to detents. Hold shift lever against rear of stop with a constant force of about 3 lbs. (1.4 kg).
2. Rotate thumbwheel until pointer is centered in appropriate position. Cycle shift control selector through all gears to ensure proper operation. Install upper and lower steering column covers.

## TRANSMISSION RANGE (TR) SENSOR/SWITCH

### Aerostar & Ranger

1. Using a screwdriver, remove shift cable from manual control lever at Transmission Range (TR) sensor. Disconnect TR sensor harness connector. Remove manual control lever. Loosen 2 TR sensor retaining screws.
2. Install appropriate transmission range sensor alignment tool. Tighten 2 TR sensor retaining screws. Remove alignment tool. Install manual control lever and tighten to specification. See **TORQUE SPECIFICATIONS**. Install shift cable. Connect TR sensor harness connector.
3. Check PARK engagement. Start engine and ensure transmission shifts through all gears. If not, check shift cable adjustment. See **SHIFT CABLE/LINKAGE**. Verify vehicle only starts in "P" and "N" positions and backup lights work.

### Explorer & Mountaineer

1. Place shift control selector in NEUTRAL. NEUTRAL is 2 detents back from PARK. Loosen 2 transmission range sensor retaining bolts. Install appropriate transmission range sensor alignment tool. Tighten 2 sensor retaining bolts.
2. Check PARK engagement. Start engine and ensure transmission shifts through all gears. If not, check shift cable adjustment. See **SHIFT CABLE/LINKAGE**. Verify vehicle only starts in "P" and "N" positions and backup lights work.

## SHIFT INTERLOCK SYSTEMS

**NOTE:** For information on shift interlock systems, see the **SHIFT INTERLOCK SYSTEM** article in **AUTO TRANS DIAGNOSIS** section.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS

Transmission	Ft. Lbs. (N.m)
--------------	----------------

Manual Lever-To-TR Sensor Nut	31-40 (42-54)
	<b>INCH Lbs. (N.m)</b>
Filter Screen	71-98 (8-11)
Transmission Range (TR) Sensor/Switch Bolts	71-98 (8-11)
Oil Pan	115-133 (13-15)