

307-01A Automatic Transmission - 6-Speed Automatic Transmission - 6R80  
Specifications

2017 F-150  
Procedure revision date: 07/21/2016

## Specifications

### Lubricants, Fluids, Sealers and Adhesives

	Specifications
Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLVC	MERCON® LV

### Capacities

	Liters
Transmission fluid	13 qt (12.3 L)

### General Specification

**NOTICE: Transmission fluids are not interchangeable. The use of any other fluid or cleaning agents will cause internal transmission damage.**

Item	Specification
Transmission fluid	The transmission fluid should be changed every 241,000 km (150,000 mi) regardless of normal or special operating conditions.
-	Transmission fluid should be checked with the vehicle on a level surface and at normal operating temperature. (Normal operating temperature 96°C (205°F) to 101°C (215°F)). Coolant bypass valve opening temperature at 96°C (205°F).
Fluid Filter	Internal to the transmission

### General Specification

Item	Specification
Transmission Weight	185.19 lb (84 kg)

### Clutch Application Chart

Gear	Forward A (1, 2, 3, 4)	Direct B (3, 5, R)	Intermediate C (2, 6)	Low / Reverse D (1, R)	Overdrive E (4, 5, 6)	Low - OWC
Park				H		
Reverse		D		H		
Neutral				H		
1st Gear D	D			H <sup>a</sup>		H
2nd Gear D	D		H			O/R
3rd Gear D	D	D				O/R
4th Gear D	D				D	O/R
5th Gear D		D			D	O/R
6th Gear D			H		D	O/R
1st Gear Manual	D			H		
Planetary Component	Front planetary carrier-to-No. 3 sun gear	Front carrier-to-No. 2 sun gear	No. 2 sun gear	Rear planetary carrier	Input shaft-to-rear planetary carrier	Rear planetary carrier

- H = Holding
- D = Driven
- O/R = Overrunning

a. Clutch released when vehicle speed is above 3 mph.

### Solenoid Operation Chart

Base Selector Lever Position	PCM Commanded Gear	SSA NL (1,2,3,4)	SSB NH (3,5,R)	SSC NL (2,6)	SSD NH (L,R/C 4,5,6)	SSE (On/Off) NC	TCC NL
P	P	Off	On	Off	Off	Off	Off
R	R	Off	Off	Off	Off	Off	Off
N	N	Off	On	Off	Off	Off	Off
D	1	On	On	Off	Off <sup>b</sup>	Off	Off
	2	On	On	On	On	Off	Off
	3	On	Off	Off	On	On/Off <sup>a</sup>	On/Off
	4	On	On	Off	Off	On	On/Off
	5	Off	Off	Off	Off	On	On/Off
	6	Off	On	On	Off	On	On/Off

M <sup>c</sup>	—	—	—	—	—	—	—
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- CB = Clutch brake
  - NC = Normally closed
  - NH = Normally high
  - NL = Normally low
- a. Solenoid changes from off to on just after the 2-3 upshift and from on to off just before the 3-1 downshift.
  - b. Solenoid is on when vehicle is above 3 mph.
  - c. All gears available upon driver request.

### Gear Ratio Chart

Gear	Ratio
1st	4.17:1
2nd	2.34:1
3rd	1.52:1
4th	1.14:1
5th	0.87:1
6th	0.69:1
Reverse	3.40:1

### Clutch End Play

**NOTE:** All friction and steel plates use a wave design plate.

Item	Specifications
Forward Clutch (A)	0.028–0.043 in (.71–1.1 mm)
Direct Clutch (B)	0.020–0.051 in (.5–1.3 mm)
Intermediate Clutch (C)	0.028–0.043 in (.71–1.1 mm)
Low/Reverse Clutch (D)	0.039–0.063 in (1–1.6 mm)
Overdrive (O/D) Clutch (E)	0.020–0.035 in (.5–.9 mm)

### Forward Clutch, Direct Clutch and Intermediate Clutch Selective Snap Rings

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Part Number	Snap Ring Thickness
6L2Z-7D483-BA	0.118 in (3 mm)
6L2Z-7D483-CA	0.126 in (3.2 mm)
6L2Z-7D483-DA	0.134 in (3.4 mm)
6L2Z-7D483-EA	0.142 in (3.6 mm)
6L2Z-7D483-FA	0.150 in (3.8 mm)
6L2Z-7D483-GA	0.157 in (4 mm)
6L2Z-7D483-HA	0.165 in (4.2 mm)

#### Overdrive Clutch Selective Snap Rings

Part Number	Snap Ring Thickness
6L2Z-7D483-M	0.067 in (1.7 mm)
6L2Z-7D483-N	0.075 in (1.9 mm)
6L2Z-7D483-P	0.083 in (2.1 mm)
6L2Z-7D483-Q	0.091 in (2.3 mm)
6L2Z-7D483-R	0.098 in (2.5 mm)
6L2Z-7D483-S	0.106 in (2.7 mm)

#### Low/Reverse Clutch Selective Pressure Plates

Part Number	Pressure Plate Thickness
6L2Z-7B066-HA	0.201 in (5.1 mm)
6L2Z-7B066-M	0.209 in (5.3 mm)
6L2Z-7B066-JA	0.213 in (5.4 mm)
6L2Z-7B066-N	0.220 in (5.6 mm)
6L2Z-7B066-KA	0.224 in (5.7 mm)
6L2Z-7B066-P	0.232 in (5.9 mm)
6L2Z-7B066-LA	0.236 in (6 mm)

#### Clutch Plate Quantity 5.0L TiVCT

Component	Number of Frictions	Number of Separator Plates	Separator Plate Thickness	Number of Pressure Plates	Pressure Plate Thickness

Forward Clutch (A)	5	6	0.118 in (3 mm)	1	0.118 in (3 mm)
Direct Clutch (B)	5	5	0.083 in (2.1 mm)	1	0.154 in (3.9 mm)
Intermediate Clutch (C)	5	5	0.118 in (3 mm)	1	0.154 in (3.9 mm)
Low/Reverse Clutch (D)	5	5	0.083 in (2.1 mm)	Selective	Refer to: Low/Reverse Clutch Selective Pressure Plate Chart
Overdrive Clutch (E)	6	6	0.118 in (3 mm)	1	0.122 in (3.1 mm)

### Clutch Plate Quantity 3.5L TiVCT

Component	Number of Frictions	Number of Separator Plates	Separator Plate Thickness	Number of Pressure Plates	Pressure Plate Thickness
Forward Clutch (A)	3	4	0.118 in (3 mm)	1	0.118 in (3 mm)
Direct Clutch (B)	4	4	0.083 in (2.1 mm)	1	0.118 in (3 mm)
Intermediate Clutch (C)	4	4	0.118 in (3 mm)	1	0.154 in (3.9 mm)
Low/Reverse Clutch (D)	4	4	0.083 in (2.1 mm)	Selective	Refer to: Low/Reverse Clutch Selective Pressure Plate Chart
Overdrive Clutch (E)	6	6	0.118 in (3 mm)	1	0.122 in (3.1 mm)

### Clutch Plate Quantity 2.7L GTDI

Component	Number of Frictions	Number of Separator Plates	Separator Plate Thickness	Number of Pressure Plates	Pressure Plate Thickness
Forward Clutch (A)	4	5	0.118 in (3 mm)	1	0.118 in (3 mm)
Direct Clutch (B)	5	5	0.083 in (2.1 mm)	1	0.154 in (3.9 mm)
Intermediate Clutch (C)	5	5	0.118 in (3 mm)	1	0.154 in (3.9 mm)
Low/Reverse Clutch (D)	5	5	0.083 in (2.1 mm)	Selective	Refer to: Low/Reverse Clutch Selective Pressure Plate Chart

Overdrive Clutch (E)	6	6	0.118 in (3 mm)	1	0.122 in (3.1 mm)
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### Shift Speeds

Throttle Position	Shift	KM/H	MPH
Light Throttle	1-2	13-21	8-13
	2-3	26-34	16-21
	3-4	35-43	22-27
	4-5	56-64	35-40
	5-6	71-79	44-49
Closed Throttle	6-5	56-64	35-40
	5-4	40-48	25-30
	4-3	13-21	8-13
	3-2	3-11	2-7
	2-1	2-6	1-4
Wide Open Throttle	1-2	45-53	28-33
	2-3	87-95	54-59
	3-4	140-148	87-92

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