

SPECIFICATIONS

GENERAL SPECIFICATIONS

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Item	Specification
Fluid	
CAUTION: MERCON®, MERCON®V and MERCON®SP are not interchangeable transmission fluids. <ul style="list-style-type: none">• Use of any fluid other than the recommended fluid may cause transmission damage.• Refer to the fluid level indicator for the type of transmission fluid required.• The transmission fluid should be changed every 48,000 km (30,000 miles) regardless of normal or special operating conditions.	
Motorcraft MERCON®SP Multi-Purpose (ATF) Transmission Fluid	XT-6-QSP
Fluid Capacity	
<ul style="list-style-type: none">• The fluid capacities are approximate dry fill capacities and include the fluid coolers, fluid filter and fluid cooler tubes.• Fluid should be checked with the vehicle on a level surface and at normal operating temperature.	
Transmission Fluid	18.0L (19.2 quart)
Lubricants	
Silicone Brake Caliper Grease and Dielectric Compound XG-3 (Motorcraft WA-10)	ESE-M1C171-A
Multi-Purpose Grease D0AZ-19584-AA	ESB-M1C93-B
Premium Long Life Grease	ESA-M1C75-B

BAND, CLUTCH, SOLENOID & SWITCH APPLICATION CHARTS

Chart A

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	Engine Braking	Line Pressure PC-A (l)	Forward Clutch	Coast Clutch	PS-A	SSPC-A Coast Clutch (l)
P	P	—	HP/LA (a)	—	—	C	LP/HA
N	N	—	HP/LA (a)	—	—	C	LP/HA
R	R	—	HP/LA (a)	—	A	O	HP/LA
OD with Tow Haul OFF	1	—	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul OFF	2	—	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul OFF	3	—	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul OFF	4 (b)	Yes	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul OFF	5	—	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul OFF	6	Yes	HP/LA (a)	A	—	C	LP/HA

(a) PCM Calibration Controlled

(b) Cold Strategy

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(l) Inversely Proportional

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Fig. 3: Band, Clutch, Solenoid, Switch Application Chart A
 Courtesy of FORD MOTOR CO.

Chart B

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	OD Clutch	PS-B	SSPC-B OD Clutch (D)	Int. Clutch	PS-C	SSPC-C Int. Clutch (D)
P	P	—	C	LP/LA	—	C	LP/LA
N	N	—	C	LP/LA	—	C	LP/LA
R	R	—	C	LP/LA	—	C	LP/LA
OD with Tow Haul OFF	1	—	C	LP/LA	—	C	LP/LA
OD with Tow Haul OFF	2	A	O	HP/HA	—	C	LP/LA
OD with Tow Haul OFF	3	—	C	LP/LA	A	O	HP/HA
OD with Tow Haul OFF	4 (b)	A	O	HP/HA	A	O	HP/HA
OD with Tow Haul OFF	5	—	C	LP/LA	—	C	LP/LA
OD with Tow Haul OFF	6	A	O	HP/HA	—	C	LP/LA

(b) Cold Strategy

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(D) Directly Proportional

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Fig. 4: Band, Clutch, Solenoid, Switch Application Chart B
 Courtesy of FORD MOTOR CO.

Chart C

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	Direct Clutch	PS-D	SSPC-D Direct Clutch (I)	Low Reverse Clutch	PS-E	SSPC-E Low Reverse Clutch (D)
P	P	—	C	LP/HA	A (a) (c)	C (a) (c)	(a)
N	N	—	C	LP/HA	A (a) (c)	C (a) (c)	(a)
R	R	A (d)	O	LP/HA (d)	A (a)	O (a)	HP/HA (a)
OD with Tow Haul OFF	1	—	C	LP/HA	A (a) (c)	C (a) (c)	(a)
OD with Tow Haul OFF	2	—	C	LP/HA	—	C	LP/LA
OD with Tow Haul OFF	3	—	C	LP/HA	—	C	LP/LA
OD with Tow Haul OFF	4 (b)	—	C	LP/HA	—	C	LP/LA
OD with Tow Haul OFF	5	A	O	HP/LA	—	C	LP/LA
OD with Tow Haul OFF	6	A	O	HP/LA	—	C	LP/LA

(a) PCM Calibration Controlled

(b) Cold Strategy

(c) 207 kPa (30 psi) until mph reaches 5 km/h (3 mph)

(d) Clutch Applied Through Manual Valve Position

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(D) = Directly Proportional

(I) Inversely Proportional

02/19/2014

Fig. 5: Band, Clutch, Solenoid, Switch Application Chart C
 Courtesy of FORD MOTOR CO.

Chart D

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	TCC Torque Converter (D)	OD OWC	L/R OWC
P	P	LP/LA	X	X
N	N	LP/LA	X	X
R	R	LP/LA	X	—
OD with Tow Haul OFF	1	(a)	X	X
OD with Tow Haul OFF	2	(a)	O/R	X
OD with Tow Haul OFF	3	(a)	X	O/R
OD with Tow Haul OFF	4 (b)	(a)	O/R	O/R
OD with Tow Haul OFF	5	(a)	X	O/R
OD with Tow Haul OFF	6	(a)	O/R	O/R

(a) PCM Calibration Controlled

(b) Cold Strategy

O/R = Overrunning

LP = Low Pressure

LA = Low Current

X = Holding

(D) = Directly Proportional

02/19/07/06

Fig. 6: Band, Clutch, Solenoid, Switch Application Chart D
 Courtesy of FORD MOTOR CO.

Chart E

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	Engine Braking	Line Pressure PC-A (l)	Forward Clutch	Coast Clutch	PS-A	SSPC-A Coast Clutch (l)
P	P	—	HP/LA (a)	—	—	C	LP/HA
N	N	—	HP/LA (a)	—	—	C	LP/HA
R	R	—	HP/LA (a)	—	A	O	HP/LA
OD with Tow Haul ON	1	Yes	HP/LA (a)	A	A	O	HP/LA
OD with Tow Haul ON	2	Yes	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul ON	3	Yes	HP/LA (a)	A	A	O	HP/LA

02/19/07/06

Fig. 7: Band, Clutch, Solenoid, Switch Application Chart E (1 Of 2)
 Courtesy of FORD MOTOR CO.

Range Selector Lever Position	Gear	Engine Braking	Line Pressure PC-A (I)	Forward Clutch	Coast Clutch	PS-A	SSPC-A Coast Clutch (I)
OD with Tow Haul ON	4 (b)	Yes	HP/LA (a)	A	—	C	LP/HA
OD with Tow Haul ON	5	Yes	HP/LA (a)	A	A	O	HP/LA
OD with Tow Haul ON	6	Yes	HP/LA (a)	A	—	C	LP/HA

(a) PCM Calibration Controlled

(b) Cold Strategy

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(I) Inversely Proportional

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Fig. 8: Band, Clutch, Solenoid, Switch Application Chart E (2 Of 2)
 Courtesy of FORD MOTOR CO.

Chart F

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	OD Clutch	PS-B	SSPC-B OD Clutch (D)	Int. Clutch	PS-C	SSPC-C Int. Clutch (D)
P	P	—	C	LP/LA	—	C	LP/LA
N	N	—	C	LP/LA	—	C	LP/LA
R	R	—	C	LP/LA	—	C	LP/LA
OD with Tow Haul ON	1	—	C	LP/LA	—	C	LP/LA
OD with Tow Haul ON	2	A	O	HP/HA	—	C	LP/LA
OD with Tow Haul ON	3	—	C	LP/LA	A	O	HP/HA
OD with Tow Haul ON	4 (b)	A	O	HP/HA	A	O	HP/HA

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Fig. 9: Band, Clutch, Solenoid, Switch Application Chart F (1 Of 2)
 Courtesy of FORD MOTOR CO.

Range Selector Lever Position	Gear	OD Clutch	PS-B	SSPC-B OD Clutch (D)	Int. Clutch	PS-C	SSPC-C Int. Clutch (D)
OD with Tow Haul ON	5	—	C	LP/LA	—	C	LP/LA
OD with Tow Haul ON	6	A	O	HP/HA	—	C	LP/LA

(b) Cold Strategy

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(D) Directly Proportional

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Fig. 10: Band, Clutch, Solenoid, Switch Application Chart F (2 Of 2)
 Courtesy of FORD MOTOR CO.

Chart G

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	Direct Clutch	PS-D	SSPC-D Direct Clutch (I)	Low Reverse Clutch	PS-E	SSPC-E Low Reverse Clutch (D)
P	P	—	C	LP/HA	A (a) (c)	C (a) (c)	(a)
N	N	—	C	LP/HA	A (a) (c)	C (a) (c)	(a)
R	R	A (d)	O	LP/HA (d)	A (a)	O (a)	HP/HA (a)
OD with Tow Haul ON	1	—	C	LP/HA	A (a)	O (a)	(a)
OD with Tow Haul ON	2	—	C	LP/HA	A (a)	O	HP/HA
OD with Tow Haul ON	3	—	C	LP/HA	—	C	LP/LA
OD with Tow Haul ON	4 (b)	—	C	LP/HA	—	C	LP/LA
OD with Tow Haul ON	5	A	O	HP/LA	—	C	LP/LA
OD with Tow Haul ON	6	A	O	HP/LA	—	C	LP/LA

(a) PCM Calibration Controlled

(b) Cold Strategy

(c) 207 kPa (30 psi) Until mph Reaches 5 km/h (3 mph)

(d) Clutch Applied Through Manual Valve Position

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(D) = Directly Proportional

(I) Inversely Proportional

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Fig. 11: Band, Clutch, Solenoid, Switch Application Chart G
 Courtesy of FORD MOTOR CO.

Chart H

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	TCC Torque Converter (D)	OD OWC	L/R OWC
P	P	LP/LA	X	X
N	N	LP/LA	X	X
R	R	LP/LA	X	—
OD with Tow Haul OFF	1	(a)	X	X
OD with Tow Haul OFF	2	(a)	O/R	X
OD with Tow Haul OFF	3	(a)	X	O/R
OD with Tow Haul OFF	4 (b)	(a)	O/R	O/R
OD with Tow Haul OFF	5	(a)	X	O/R
OD with Tow Haul OFF	6	(a)	O/R	O/R

(a) PCM Calibration Controlled

(b) Cold Strategy

O/R = Overrunning

LP = Low Pressure

LA = Low Current

X = Holding

(D) = Directly Proportional

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Fig. 12: Band, Clutch, Solenoid, Switch Application Chart H
 Courtesy of FORD MOTOR CO.

Chart I

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	Engine Braking	Line Pressure PC-A (I)	Forward Clutch	Coast Clutch	PS-A	SSPC-A Coast Clutch (I)
Manual Third	3	Yes	HP/LA (a)	A	A	O	HP/LA
Manual Second	2	Yes	HP/LA (a)	A	—	C	LP/HA
Manual First	1	Yes	HP/LA (a)	A	A	O	HP/LA

(a) PCM Calibration Controlled

HP = High Pressure

LA = Low Current

LP = Low Pressure

HA = High Current

A = Applied

C = Closed

O = Open

(I) Inversely Proportional

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Fig. 13: Band, Clutch, Solenoid, Switch Application Chart I
 Courtesy of FORD MOTOR CO.

Chart J

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	OD Clutch	PS-B	SSPC-B OD Clutch (D)	Int. Clutch	PS-C	SSPC-C Int. Clutch (D)
Manual Third	3	—	C	LP/LA	A	O	HP/HA
Manual Second	2	A	O	HP/HA	—	C	LP/LA
Manual First	1	—	C	LP/LA	—	C	LP/LA

(a) PCM Calibration Controlled

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(I) Inversely Proportional

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Fig. 14: Band, Clutch, Solenoid, Switch Application Chart J
 Courtesy of FORD MOTOR CO.

Chart K

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	Direct Clutch	PS-D	SSPC-D Direct Clutch (I)	Low Reverse Clutch	PS-E	SSPC-E Low Reverse Clutch (D)
Manual Third	3	—	C	LP/HA	—	C	LP/LA
Manual Second	2	—	C	LP/HA	A	O	HP/HA
Manual First	1	—	C	LP/HA	A	O	HP/HA

HP = High Pressure

LP = Low Pressure

HA = High Current

LA = Low Current

A = Applied

C = Closed

O = Open

(D) = Directly Proportional

(I) Inversely Proportional

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Fig. 15: Band, Clutch, Solenoid, Switch Application Chart K
Courtesy of FORD MOTOR CO.

Chart L

NOTE: The PTO may operate in any gear including PARK and NEUTRAL, does not require OD OWC. The TCC may engage in PARK and NEUTRAL with PTO engaged.

Range Selector Lever Position	Gear	TCC Torque Converter (D)	OD OWC	L/R OWC
Manual Third	3	(a)	X	O/R
Manual Second	2	(a)	X	O/R
Manual First	1	(a)	X	X

(a) PCM Calibration Controlled

O/R = Overrunning

X = Holding

(D) = Directly Proportional

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Fig. 16: Band, Clutch, Solenoid, Switch Application Chart L
Courtesy of FORD MOTOR CO.

PRESSURE CHARTS

Pressure Chart A

NOTE: Actual and Commanded pressures will vary based on calibration and transmission adaptive strategies. All pressures listed are approximate.

Gear	Line Pressure — kPa (psi)		Commanded (a) — PC A pressure kPa (psi)	
	Idle Speed	WOT Stall	kPa	psi
P, N	344 (50)	—	172 (25)	—
R	689 (100)	2,206 (320)	413 (60)	1,407 (204)
(D)	483 (70)	2,206 (320)	276 (40)	1,379 (200)
3	551 (80)	1,793 (260)	331 (48)	1,172 (170)

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Fig. 17: Pressure Chart A (1 Of 2)
 Courtesy of FORD MOTOR CO.

Gear	Line Pressure — kPa (psi)		Commanded (a) — PC A pressure kPa (psi)	
	Idle Speed	WOT Stall	kPa	psi
2	551 (80)	1,482 (215)	338 (49)	952 (138)
1	551 (80)	1,861 (270)	338 (49)	1,213 (176)

(a) = commanded pressure as viewed on diagnostic equipment.

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Fig. 18: Pressure Chart A (2 Of 2)
 Courtesy of FORD MOTOR CO.

Pressure Chart B

NOTE: Actual and Commanded pressures will vary based on calibration and transmission adaptive strategies. All pressures listed are approximate.

Gear	Commanded (a) — SSPC-A pressure kPa (psi)		Commanded (a) — SSPC-B pressure kPa (psi)	
	Idle Speed	WOT Stall	Idle Speed	WOT Stall
P, N	0	—	0	—
R	758 (110)	2,068 (300)	0	0
(D)	0	0	0	0
3	572 (83)	1,765 (256)	0	0
2	0	0	586 (85)	1,461 (212)
1	572 (83)	1,765 (256)	0	0

(a) = commanded pressure as viewed on diagnostic equipment.

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Fig. 19: Pressure Chart B
 Courtesy of FORD MOTOR CO.

Pressure Chart C

NOTE: Actual and Commanded pressures will vary based on calibration and transmission adaptive strategies. All pressures listed are approximate.

Gear	Commanded (a) — SSPC-C pressure kPa (psi)		Commanded (a) — SSPC-D pressure kPa (psi)	
	Idle Speed	WOT Stall	Idle Speed	WOT Stall
P, N	0	—	0	—
R	0	0	0 (b)	0 (b)
(D)	0	0	0	0
3	572 (83)	1,765 (256)	0	0
2	0	0	0	0
1	0	0	0	0

(a) = commanded pressure as viewed on diagnostic equipment.

(b) = SSPC-D commanded pressure as viewed on diagnostic equipment will be zero. The manual valve controls pressure to the direct clutch in the R detent position. To confirm the presence of the direct clutch pressure monitor the pressure switch PS-D, PS-D should be open in the R position.

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Fig. 20: Pressure Chart C
Courtesy of FORD MOTOR CO.

Pressure Chart D

NOTE: Actual and Commanded pressures will vary based on calibration and transmission adaptive strategies. All pressures listed are approximate.

Gear	Commanded (a) — SSPC-E pressure kPa (psi)	
	Idle Speed	WOT Stall
P, N	207 (30)	—
R	758 (110)	0
(D)	207 (30)	0
3	0	0
2	586 (85)	1,461 (212)
1	572 (83)	1,765 (256)

(a) = commanded pressure as viewed on diagnostic equipment.

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Fig. 21: Pressure Chart D
Courtesy of FORD MOTOR CO.

SHIFT SPEEDS

NOTE: All shift speeds are for normal mode, not with tow/haul on.

Throttle Position	(D) Position Shift	Speed Tow/Haul OFF MPH	Speed Tow/Haul OFF Km/H	Speed Tow/Haul ON MPH	Speed Tow/Haul ON Km/H
Closed	6-5	21-28	34-45	40-53	64-85
	5-3	14-20	23-32	26-35	41-56
	3-2	—	—	18-24	29-39
	3-1	6-9	10-14	—	—
	2-1	—	—	8-11	13-18
Minimum Throttle TP Voltage 1.25 Volts	1-2	8-11	13-18	14-19	23-31
	2-3	12-16	19-26	19-26	31-42
	3-4 (a)	16-21	26-34	16-21	26-34
	3-5	16-21	26-34	28-37	45-60
	4-6 (a)	24-32	39-51	41-54	66-87
Wide Open	5-6	24-32	39-51	44-58	71-93
	1-2	20-28	32-45	20-27	32-43
	2-3	29-39	47-63	28-38	47-61
	3-4 (a)	41-55	66-89	41-55	66-89
	3-5	41-55	66-89	41-55	66-89
	4-6 (a)	61-81	98-130	62-81	100-130
5-6	66-87	106-140	66-88	106-142	

(a) indicates cold strategy

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Fig. 22: Shift Speeds
Courtesy of FORD MOTOR CO.

CLUTCH PACK SPECIFICATIONS

Forward Clutch

Clutch	Steel	Friction	Clearance mm (Inch)	Selective Snap Rings	
				Part Number	Thickness mm (Inch)
All	4	4	1.65-1.15 (0.065-0.045)	3C3P-7G367-FA	3.22-3.12 (0.127-0.123)
				3C3P-7G367-GA	2.92-2.82 (0.115-0.111)
				3C3P-7G367-HA	2.61-2.51 (0.103-0.099)
				3C3P-7G367-JA	2.30-2.20 (0.091-0.087)
				3C3P-7G367-KA	2.00-1.90 (0.079-0.075)

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Fig. 23: Forward Clutch Pack
Courtesy of FORD MOTOR CO.

Direct Clutch

Application	Steel	Friction	Clearance mm (Inch)	Selective Snap Rings	
				Part Number	Thickness mm (Inch)
All	4	4	1.73-1.28 (0.068-0.050)	377444-S	2.44-2.34 (0.096-0.092)
				377128-S	2.21-2.11 (0.087-0.083)
				377127-S	1.98-1.88 (0.078-0.074)
				377126-S	1.75-1.65 (0.069-0.065)
				377437-S	1.52-1.42 (0.060-0.056)

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Fig. 24: Direct Clutch Pack
Courtesy of FORD MOTOR CO.

Intermediate Clutch

Application	Steel	Friction	Clearance mm (Inch)	Selective Snap Rings	
				Part Number	Thickness mm (Inch)
All	3	3	1.81-0.88 (0.071-0.035)	—	—

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Fig. 25: Intermediate Clutch Pack
Courtesy of FORD MOTOR CO.

Coast Clutch

Application	Steel	Friction	Clearance mm (Inch)	Selective Snap Rings	
				Part Number	Thickness mm (Inch)
All	3	3	1.71-0.81 (0.067-0.032)	3C3P-7N169-AF	1.65-1.55 (0.065-0.061)

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Fig. 26: Coast Clutch Pack
Courtesy of FORD MOTOR CO.

Reverse Clutch

Application	Steel	Friction	Clearance mm (Inch)	Selective Snap Rings	
				Part Number	Thickness mm (Inch)
All	6	6	3.01-1.81 (0.119-0.071)	N805207-S	1.88-1.98 (0.074-0.078)

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Fig. 27: Reverse Clutch Pack
Courtesy of FORD MOTOR CO.

Overdrive Clutch

Application	Steel	Friction	Clearance mm (Inch)	Selective Snap Rings	
				Part Number	Thickness mm (Inch)
All	3	3	1.79-0.78 (0.070-0.031)	E9TP-7B421-CA	2.6-2.5 (0.102-0.098) 2.05-1.95 (0.081-0.077)

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Fig. 28: Overdrive Clutch Pack
Courtesy of FORD MOTOR CO.

GEAR RATIOS

Gear Ratio	
1st	3.09 to 1
2nd	2.2 to 1
3rd	1.538 to 1
4th	1.096 to 1
5th	1 to 1
6th	0.712 to 1
Reverse	2.88 to 1

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Fig. 29: Gear Ratios
Courtesy of FORD MOTOR CO.