

	8	Off	On	Off	On	On	On	On/Off
	9	Off	On	On	Off	On	On	On/Off
	10	Off	On	On	On	Off	On	On/Off
M1	1	On	On	Off	On ^a	On	Off	Off
M2	2	On	On	On	On	Off	Off	Off

- On to reduce frictional losses from a released clutch, but does not contribute to powerflow.

Clutch Plate Quantity 2.3L EcoBoost

Clutch	Number of Friction Plates	Number of Steel Plates	Number of Separating Springs	Number of Apply Plates	Number of Pressure Plates
A clutch (1, 2, 3, 4, 5, 6, M1, M2, R)	4	3	4	1	1
B clutch (2, 8, 9, 10, M1, M2, R)	4	3	4	1	1
C clutch (2, 3, 4, 5, 7, 9, 10, M2)	5	5	-	-	1
D clutch (2, 3, 4, 6, 7, 8, 10, M2, R)	6	6	-	-	1
E clutch (1, 3, 5, 6, 7, 8, 9, M1)	4	3	-	1	1
F clutch (4, 5, 6, 7, 8, 9, 10, R)	3	3	-	-	1

Clutch Plate Quantity 3.0L EcoBoost and 3.3L Duratec

Clutch	Number of Friction Plates	Number of Steel Plates	Number of Separating Springs	Number of Apply Plates	Number of Pressure Plates
A clutch (1, 2, 3, 4, 5, 6, M1, M2, R)	4	3	4	1	1
B clutch (2, 8, 9, 10, M1, M2, R)	4	3	4	1	1
C clutch (2, 3, 4, 5, 7, 9, 10, M2)	5	5	-	-	1
D clutch (2, 3, 4, 6, 7, 8, 10, M2, R)	6	6	-	-	1
E clutch (1, 3, 5, 6, 7, 8, 9, M1)	6	5	-	1	1
F clutch (4, 5, 6, 7, 8, 9, 10, R)	3	3	-	-	1

Clutch Clearance 2.3L EcoBoost

Clutch	Specifications
A clutch	0.055 â€”0.071 in (1.4 â€”1.8 mm)
B clutch	0.057 â€”0.073 in (1.46 â€”1.86 mm)
C clutch	0.053 â€”0.065 in (1.35 â€”1.65 mm)
D clutch	0.058 â€”0.070 in (1.47 â€”1.77 mm)
E clutch	0.059 â€”0.084 in (1.49 â€”2.14 mm)
F clutch	0.037 â€”0.049 in (.95 â€”1.25 mm)

Clutch Clearance 3.0L EcoBoost and 3.3L Duratec

Clutch	Specifications
A clutch	0.055 â€”0.071 in (1.4 â€”1.8 mm)
B clutch	0.057 â€”0.073 in (1.46 â€”1.86 mm)
C clutch	0.053 â€”0.065 in (1.35 â€”1.65 mm)
D clutch	0.058 â€”0.070 in (1.47 â€”1.77 mm)
E clutch	0.084 â€”0.102 in (2.13 â€”2.58 mm)
F clutch	0.037 â€”0.049 in (.95 â€”1.25 mm)

Transmission Front End Clearance

Transmission	Specifications
RWD Vehicles	0.026 â€”0.035 in (.65 â€”.89 mm)
Four- Wheel Drive (4WD) vehicles	0.008 â€”0.017 in (.2 â€”.44 mm)

A Clutch Selective Apply Plate Chart

Part Number	Apply Plate Thickness
7A406-GA	0.140 â€”0.148 in (3.55 â€”3.75 mm)
7A406-HA	0.148 â€”0.156 in (3.75 â€”3.95 mm)
7A406-JA	0.156 â€”0.163 in (3.95 â€”4.15 mm)
7A406-KA	0.163 â€”0.171 in (4.15 â€”4.35 mm)
7A406-LA	0.171 â€”0.179 in (4.35 â€”4.55 mm)
7A406-MA	0.179 â€”0.187 in (4.55 â€”4.75 mm)

B Clutch Selective Snap Ring Chart

Part Number	Snap Ring Thickness
HL3P-7M157-AA	0.089 â€”0.093 in (2.25 â€”2.35 mm)
HL3P-7M157-BA	0.100 â€”0.104 in (2.55 â€”2.65 mm)
HL3P-7M157-CA	0.112 â€”0.116 in (2.85 â€”2.95 mm)
HL3P-7M157-DA	0.124 â€”0.128 in (3.15 â€”3.25 mm)
HL3P-7M157-EA	0.136 â€”0.140 in (3.45 â€”3.55 mm)
HL3P-7M157-FA	0.148 â€”0.152 in (3.75 â€”3.85 mm)

C Clutch Selective Snap Ring Chart

Part Number	Snap Ring Thickness
HL3P-7H076-AA	0.059 in (1.5 mm)
HL3P-7H076-BA	0.067 in (1.7 mm)
HL3P-7H076-CA	0.075 in (1.9 mm)
HL3P-7H076-DA	0.083 in (2.1 mm)
HL3P-7H076-EA	0.091 in (2.3 mm)

D Clutch Selective Snap Ring Chart

Part Number	Snap Ring Thickness
HL3P-7B421-AA	0.071 in (1.8 mm)
HL3P-7B421-BA	0.079 in (2 mm)
HL3P-7B421-CA	0.087 in (2.2 mm)
HL3P-7B421-DA	0.094 in (2.4 mm)
HL3P-7B421-EA	0.102 in (2.6 mm)
HL3P-7B421-FA	0.110 in (2.8 mm)

E Clutch Selective Pressure Plate Chart

Part Number	Pressure Plate Thickness
HL3P-7B066-AB	0.083 â€”0.087 in (2.1 â€”2.2 mm)
HL3P-7B066-BB	0.091 â€”0.094 in (2.3 â€”2.4 mm)
HL3P-7B066-CB	0.098 â€”0.102 in (2.5 â€”2.6 mm)
HL3P-7B066-DB	0.106 â€”0.110 in (2.7 â€”2.8 mm)
HL3P-7B066-EB ^a	0.114 â€”0.118 in (2.9 â€”3 mm)
HL3P-7B066-FB	0.122 â€”0.126 in (3.1 â€”3.2 mm)
HL3P-7B066-GB	0.130 â€”0.134 in (3.3 â€”3.4 mm)
HL3P-7B066-HB	0.138 â€”0.142 in (3.5 â€”3.6 mm)

- Also used for the E clutch apply plate

F Clutch Selective Snap Ring Chart

Part Number	Snap Ring Thickness
HL3P-7P174-AA	0.059 in (1.5 mm)
HL3P-7P174-BA	0.067 in (1.7 mm)
HL3P-7P174-CA	0.075 in (1.9 mm)
HL3P-7P174-DA	0.083 in (2.1 mm)
HL3P-7P174-EA	0.091 in (2.3 mm)
HL3P-7P174-FA	0.098 in (2.5 mm)

Selective Fit Shim Chart RWD Vehicles

Selective Fit Shim Part Number	Selective Fit Shim Thickness
7J300-AB	0.114 â€” 0.118 in (2.9 â€” 3 mm)
7J300-BB	0.120 â€” 0.124 in (3.05 â€” 3.15 mm)
7J300-CB	0.126 â€” 0.130 in (3.2 â€” 3.3 mm)
7J300-DB	0.132 â€” 0.136 in (3.35 â€” 3.45 mm)
7J300-EB	0.138 â€” 0.142 in (3.5 â€” 3.6 mm)
7J300-GB	0.144 â€” 0.148 in (3.65 â€” 3.75 mm)
7J300-HB	0.150 â€” 0.154 in (3.8 â€” 3.9 mm)

Selective Fit Shim Chart Four-Wheel Drive (4WD) vehicles

Selective Fit Shim Part Number	Selective Fit Shim Thickness
7J300-DB	0.132 â€” 0.136 in (3.35 â€” 3.45 mm)
7J300-EB	0.138 â€” 0.142 in (3.5 â€” 3.6 mm)
7J300-GB	0.144 â€” 0.148 in (3.65 â€” 3.75 mm)
7J300-HB	0.150 â€” 0.154 in (3.8 â€” 3.9 mm)
7J300-JA	0.156 â€” 0.159 in (3.95 â€” 4.05 mm)
7J300-KA	0.161 â€” 0.165 in (4.1 â€” 4.2 mm)
7J300-LA	0.167 â€” 0.171 in (4.25 â€” 4.35 mm)

Gear Ratio Chart

Gear	Ratio
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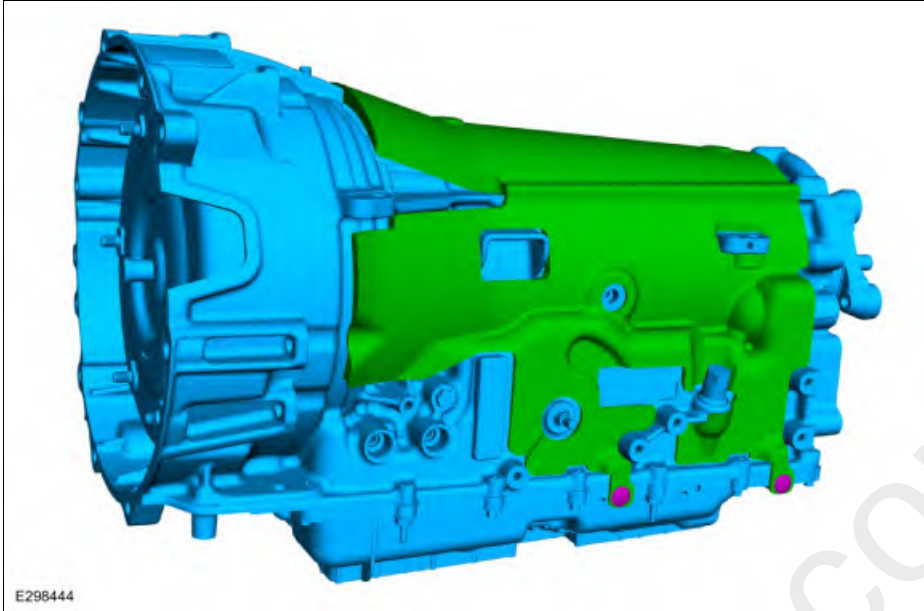
1st	4.71:1
2nd	2.99:1
3rd	2.14:1
4th	1.76:1
5th	1.52:1
6th	1.27:1
7th	1:1
8th	0.85:1
9th	0.68:1
10th	0.63:1
Reverse	4.88:1

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Description and Operation

Transmission Description - Overview

Overview



The 10R60 automatic transmission is a 10-speed electronically controlled transmission with a main control valve body unit with 8 solenoids and a torque converter. Gear selection is achieved by the control of transmission fluid to operate various internal clutches. The PCM operates the electrical components and provides control of gear selection, shift pressure and torque converter slip.

This transmission includes:

- Torque converter with an integral converter clutch
- Electronic shift and pressure controls
- Four planetary gearsets
- Two multi-disc holding clutches
- Four multi-plate drive clutches
- One one way holding clutch
- Main control valve body unit

The main control consists of a valve body assembly with solenoids inside the transmission and is controlled by a PCM. The PCM operates the electrical components to provide refined engagement feel, shift feel, and shift scheduling.

Engine power reaches the transmission by a torque converter with an integral clutch. The 10 forward gears and one reverse gear are obtained from 4 planetary gearsets.

Identification Tags

Identification Tag Location