## 10R80, 10R100, & 10R60 Valve Body Application Details

| Model Year | Vehicle Line: Mustang | F150 | Super Duty 10R100 | Bronco | Ranger | Expedition/ Navigator | RWD Transit | Explorer/ Aviator |
|---|---|---|---|---|---|---|---|---|
| **2017** | - | A | - | - | - | - | - | - |
| **2018** | D | C | - | - | - | Column Shift – C<br>E-Shift – E | - | - |
| **2019** | D | C | - | - | C | Column Shift – C<br>E-Shift – E | - | - |
| **2020** | D | C | - | - | C | Column Shift – C<br>E-Shift – E | K | E-Shift – F<br>10R80 – K |
| **2021** | J | F | - | K | C | Column Shift – C<br>E-Shift – E | K | E-Shift – F<br>10R80 – K |
| **2022** | J | F | - | K<br>F (Raptor) | C | F | K | E-Shift – F<br>10R80 – K |
| **2023** | J | F | K | K<br>F (Raptor) | C | F | K | E-Shift – F<br>10R80 – K |
| **2024** | K | F | K | K<br>F (Raptor) | E-Shift – F<br>M-Shift – K | F | K | E-Shift – F<br>10R80 – K |
| **2025** | K | F | K | K<br>F (Raptor) | E-Shift – F<br>M-Shift – K | F | K | E-Shift – F<br>10R80 – K |
| **2026** | K | | K | | | | K | E-Shift – F<br>10R80 – K |

| Type | Part Numbers | Sep. Plate PN. | Description and Features |
|---|---|---|---|
| A | HL3Z-7A100-A | HL3Z-7Z490-D (S)<br>HL3P-7Z490-CH (E) | Manual Shift, with Engine Start/Stop, TCC damper, and gain control valve. No thermal bypass valve. Different lube circuit. 2017 only. |
| C | JL3Z-7A100-C | JL3Z-7Z490-F (S)<br>JL3P-7Z490-CC (E) | Manual Shift, with Engine Start/Stop and gain control valve. No TCC damper or thermal bypass valve.<br>Previous PN., Valve Body: JL3Z-7A100-A, Sep plate: JL3Z-7Z490-E |
| D | JL3Z-7A100-D | JL3Z-7Z490-D (S)<br>JL3P-7Z490-DB (E) | Manual Shift, with TCC damper, gain control valve, and thermal bypass. No Engine Start/Stop. Previous PN.: JL3Z-7A100-B |
| E | JL1Z-7A100-A | JL1Z-7Z490-D (S)<br>JL1P-7Z490-AD (E) | Elect. Shift, with Engine Start/Stop and gain control valve. No TCC damper or thermal bypass valve. Other differences may prevent M-Shift conversion. Previous Sep plate PN.: JL1Z-7Z490-C |
| F | L1MZ-7A100-F | L1MZ-7Z490-M (S)<br>L1MP-7Z490-FB (E) | Elect. Shift, with Engine Start/Stop, No gain control Valve, TCC damper, or thermal bypass. Can be converted to Manual Shift.<br>Previous PN., Valve Body: L1MZ-7A100-B, Sep Plate: L1MZ-7Z490-B, -E |
| J | L1MZ-7A100-J | L1MZ-7Z490-J (S)<br>L1MP-7Z490-HB (E) | Manual Shift, with thermal bypass. No Engine Start/Stop, gain control valve, or TCC damper. Previous PN.: L1MZ-7A100-G |
| K | L1MZ-7A100-K | L1MZ-7Z490-F (E)<br>L1MP-7Z490-GB (E) | Manual Shift, with Engine Start/Stop. No gain control valve, TCC damper or thermal bypass. Previous PN.: L1MZ-7A100-A, -E |

Notes: The 10R140 and 10R80MHT (10R80 hybrid transmission) use different valve body designs that are not interchangeable with these parts.

Some applications can be either Manual Shift or Electric Shift, depending upon trim level, engine, transmission, etc.

Use of improved CDF drum began on 8/16/2022 for 10R80, and on 11/2022 for 10R60.

Quick 10 does not currently support 10R100 and 10R60 as of November 2025, but we are planning to add these transmissions.

Valve body part numbers are Ford service part numbers, and will differ from the numbers printed on the actual parts (engineering part numbers).

(S) = Service Part Number, as purchased from the dealership

(E) = Engineering Part Number, which is stamped on the actual part (see next page)

| Type | Separator Plate ID Notch Pattern and Engineering Part Number |
| --- | --- |
| A |   |
| C |   |
| D |   |
| E |   |
| F |   |
| J |   |
| K |   |

| Valve Body Feature: | Description (and its effect): |
|---|---|
| Manual Shift (M-Shift) | Manual Shift transmissions allow the use of a conventional shifter with linkage or cable control, including column, floor and aftermarket shifters. This allows a traditional driving experience and is currently the only method supported by Quick 10. |
| Electronic Shift (E-Shift) | Electronic Shift Transmissions require an electronic shift control module that replaces a mechanical shifter. This configuration uses a CAN bus connection to the shifter, instead of a manual cable or linkage to select Park, Reverse, Neutral, Drive, etc. Most of the OEM E-Shifters lack the tactile feel that racers and hot-rodders are used to in a performance-oriented vehicle. There are also concerns that a power failure could cause the transmission to engage park while the vehicle is at speed. Fortunately, the 2021 and later E-Shift valve bodies can be converted to manual shift operation with a simple parts kit. The previous Expedition and Navigator E-Shift valve bodies may be capable of this conversion, but this is not yet verified. We are also considering creating our own E-Shifter for the Quick 10, if demand warrants. |
| Gain Control Valve | The gain control valve reduces the pressure range of the D and E clutch regulator valves, based upon commanded line pressure. This allows finer control of the clutch pressures under low load conditions. This function was never implemented in GM valve bodies and was eliminated in 2021 and later Ford valve bodies. In OEM applications, it is important to use the correct valve body for the vehicle. The Quick 10 works with or without this valve, as is not utilized in our strategies. Therefore, it doesn't matter whether this valve is enabled or not. |
| TCC Damper | The TCC damper is used to smooth out dithering pulses from the TCC solenoid. Most 10R80 valve bodies do not have this feature, but it might be important for the OEM strategies. With Quick 10, the presence of this valve is not important, as it will work with or without it. If this valve is not needed for a specific OEM application, it is better to not have it, as it is prone to wear. |
| Thermal Bypass Valve | The Thermal Bypass valve is only used in 2018 to 2023 Mustang applications. It bypasses the transmission cooler when the transmission is cold to enable the transmission to warm up faster. This keeps the transmission fluid at a thinner viscosity for more consistent shift behavior and reduced drag. Other Ford applications, such as trucks, employ “Active Warm-Up”, which uses a coolant-to-oil heat exchanger to regulate temperature. You can use either type of valve body with Quick 10 and simply connect your transmission cooler directly to the cooler ports of the transmission. In applications without the thermal bypass valve, the transmission will take much longer to reach operating temperature and may not reach the full OEM operating temperature in many cases. This will result in slightly lower efficiency, due to the thicker fluid, but will also reduce thermal breakdown of the fluid. Therefore, this is mostly of a personal choice. In OEM 10-speed applications, it is critical to use the correct type of valve body to insure proper transmission operation and no fault codes. It is generally not practical to add this feature in the valve body, but you can install an external oil cooler thermostat, such as one of the Improved Racing units to provide stable transmission temperatures and quick warm-up for transmissions that don't have a thermal bypass valve. |