



# Technical Service Information

## FORD CD4E 3-2 TIMING VALVE CHANGE 02 & UP

**CHANGE:** In the 2002 model year, Ford Motor Company changed the 3-2 Timing Valve Hydraulics.

**REASON:** For quicker release of the Direct Clutch during a 3-2 downshift. Figure 3 shows the previous design 3-2 Timing Valve on a 3-2 downshift, notice that the 3-2/CCS Solenoid is at a lower duty cycle providing a regulated exhaust of the Direct Clutch. Figure 4 shows a 3-2 downshift at a higher duty cycle of the 3-2/CCS Solenoid, which will create a quicker "unregulated" exhaust of the Direct Clutch. Figure 5 shows the 2002 and Up Hydraulics, notice that the 3-2 Timing Valve is now held to the left by it's spring, which will created a quicker "unregulated" exhaust of the Direct Clutch regardless of 3-2/CCS duty cycle.

### PARTS AFFECTED:

**3-2 TIMING VALVE AND SPRING:** The 3-2 Timing valve was redesigned as shown in Figure 2 and is now installed into the valve body with the spring first, opposite the previous design. Refer to Figure 1 to see how to identify the Accumulator section of the Valve Body on 2002 and UP. The ink stamp of 2L8P designates 2002 and UP.

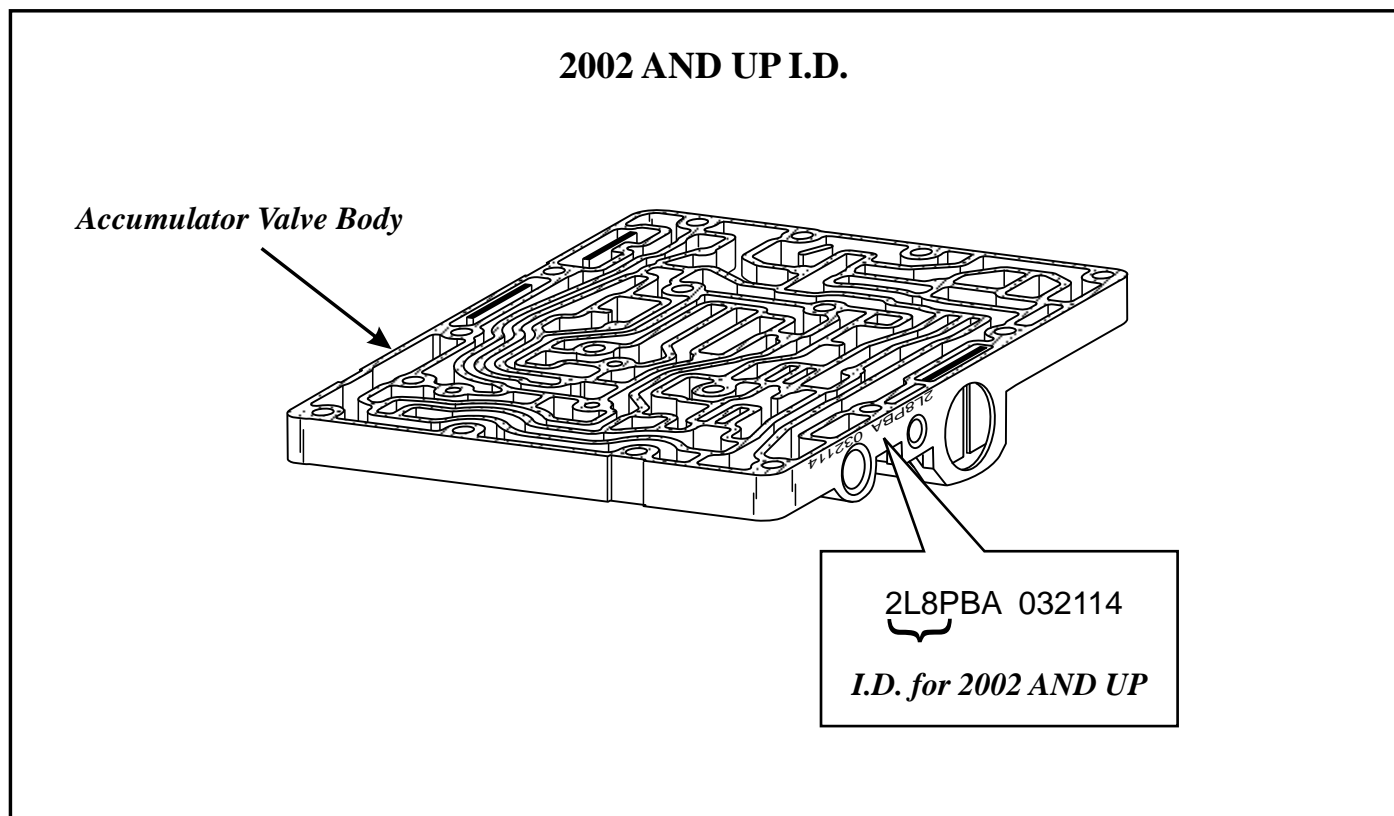
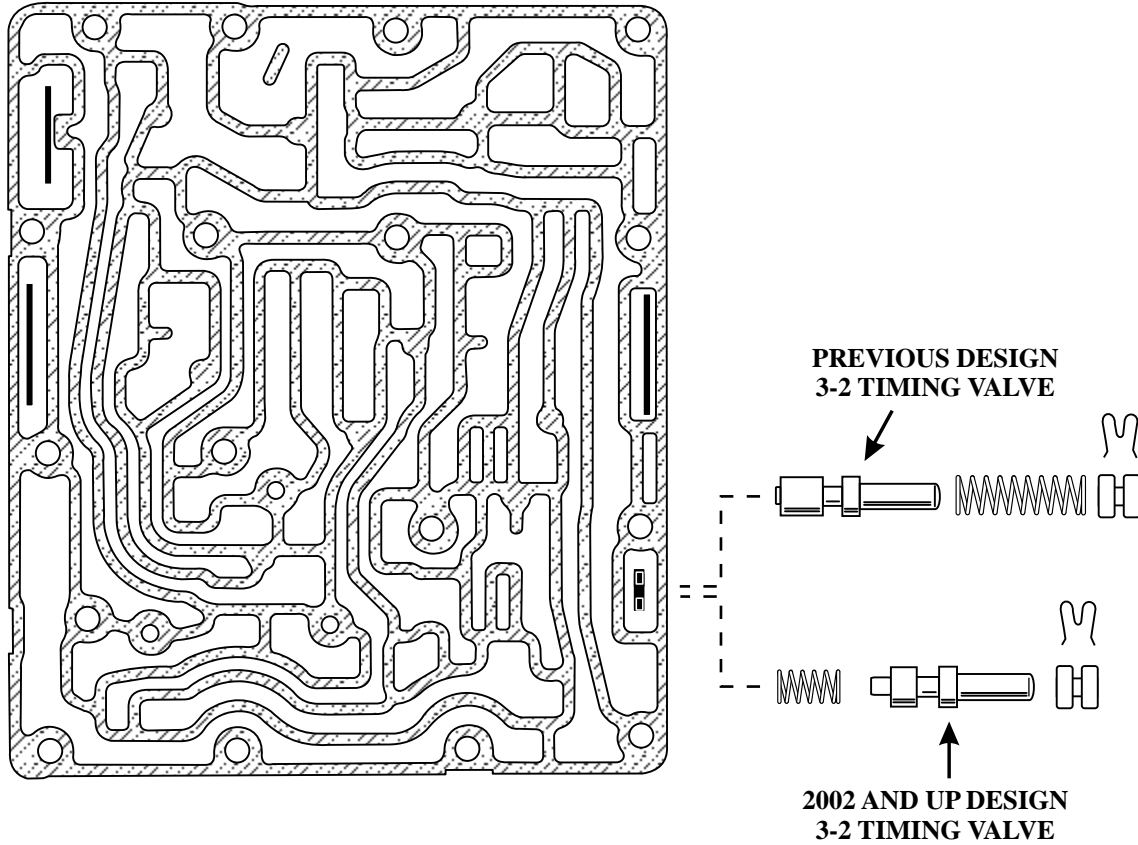


Figure 1

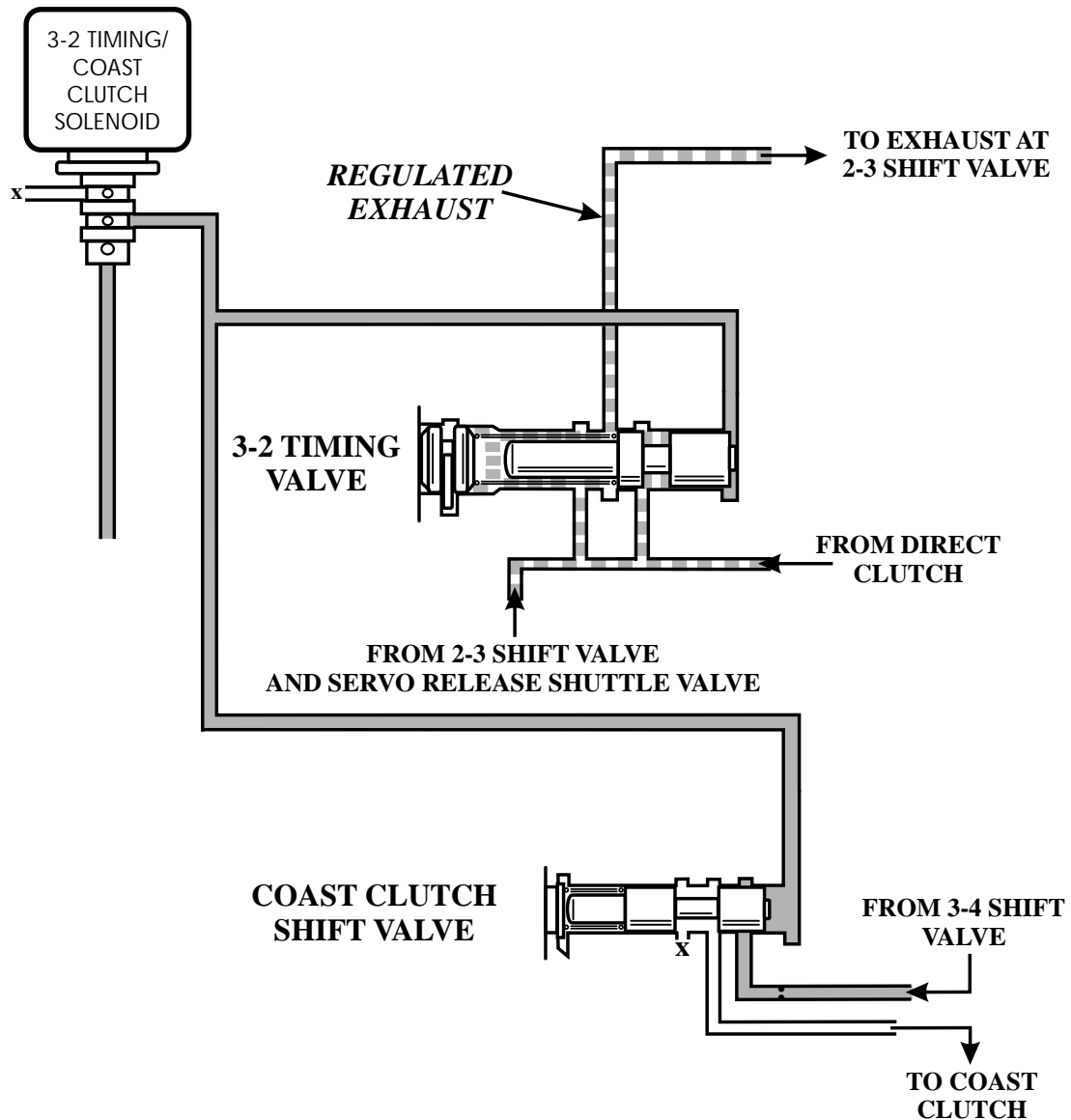
## 3-2 TIMING VALVE LOCATION



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Figure 2

## ***PREVIOUS VERSIONS PARTIAL HYDRAULIC CIRCUIT 3-2 TIMING VALVE POSITION ON A 3-2 DOWNSHIFT***

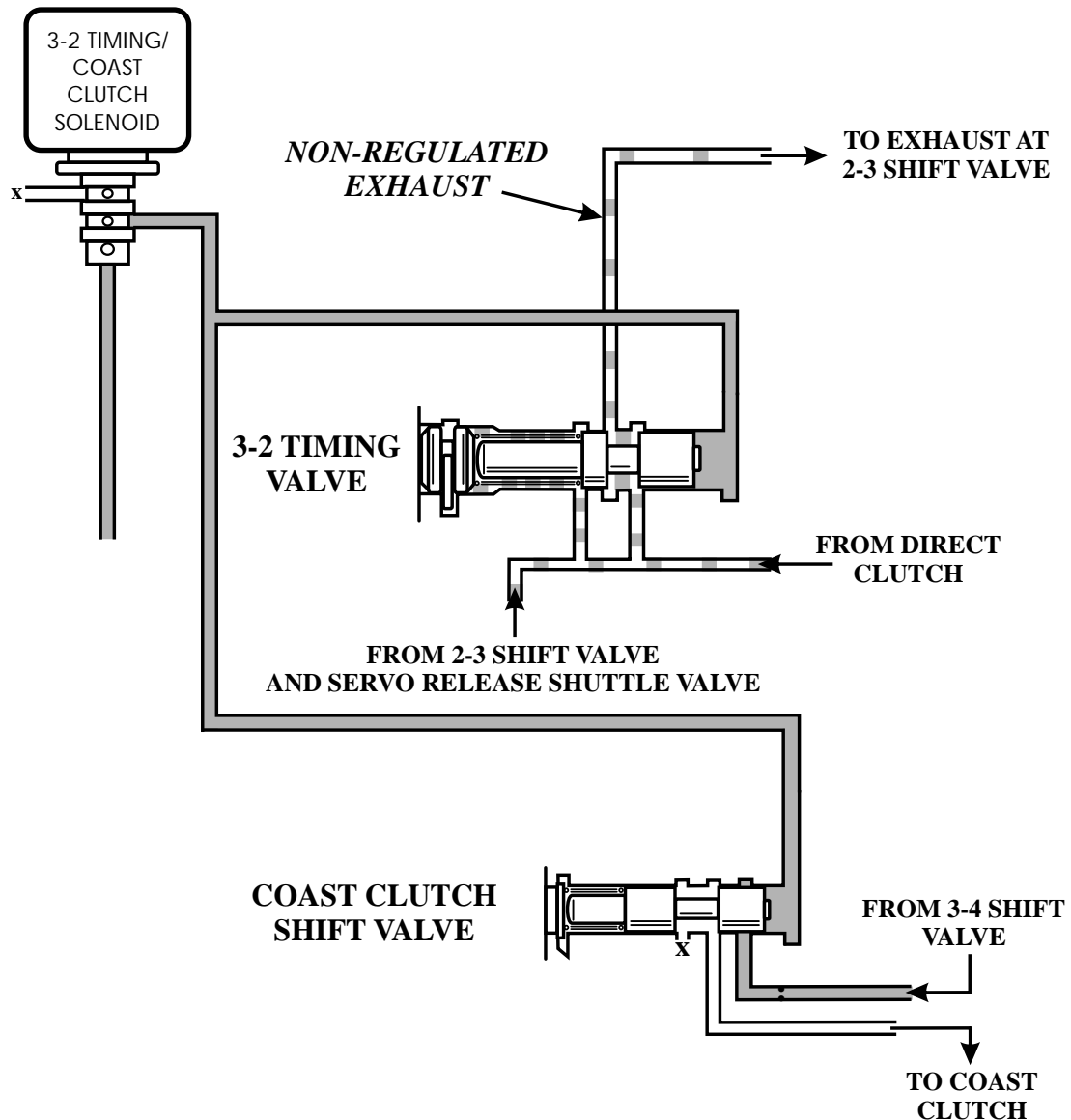


***Summary: The 3-2 Timing Valve is forced to the right by its spring tension and Low duty cycle of the 3-2 Timing solenoid to create a regulated exhaust of direct clutch pressure on a 3-2 downshift.***

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Figure 3

## ***PREVIOUS VERSIONS PARTIAL HYDRAULIC CIRCUIT 3-2 TIMING VALVE POSITION ON A 3-2 DOWNSHIFT***

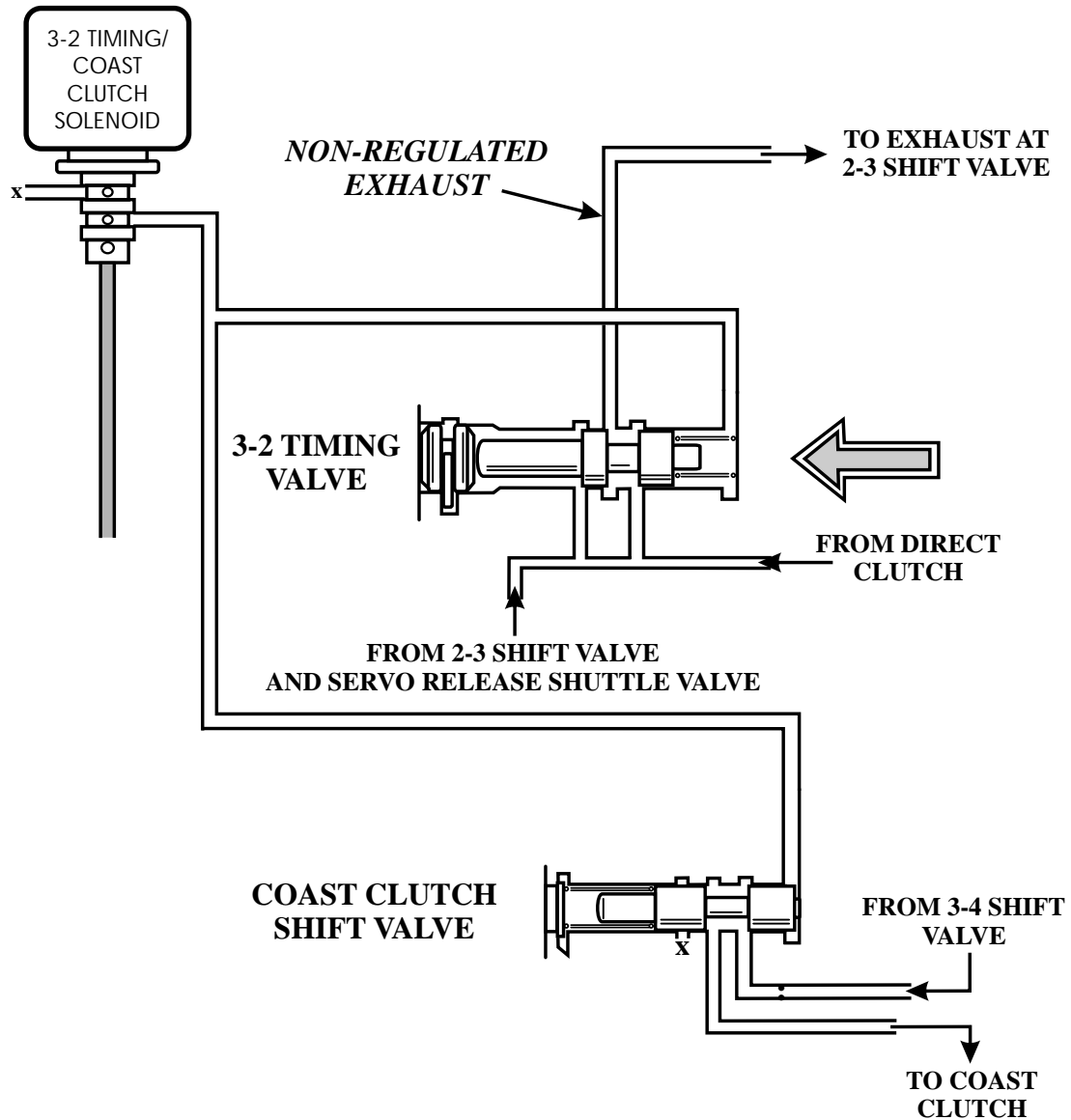


***Summary: The 3-2 Timing Valve is moved to the left by high duty cycle of the 3-2 Timing solenoid to create a quick and un-regulated exhaust of direct clutch pressure on a 3-2 downshift.***

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Figure 4

## 2002 & UP PARTIAL HYDRAULIC CIRCUIT 3-2 TIMING VALVE POSITION ON A 3-2 DOWNSHIFT



*Summary: The 3-2 Timing Valve is now moved to the left by the spring allowing a quick exhaust of direct clutch pressure regardless of the duty cycle of the 3-2 Timing Solenoid on a 3-2 downshift, creating a more consistent 3-2 downshift.*

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Figure 5