



Technical Service Information

GM 4L65E

NUMBER FIVE CHECKBALL ELIMINATED

CHANGE: The Number Five (5) Checkball was eliminated and the valve body spacer plate was modified. The manual gear selector and its components have also been modified and paddle shifters have been added to provide manual up and down shift capabilities when the selector is in the “S” position. The shift indicator quadrant without the number five checkball will have PRNDS. The shift indicator quadrant for the conventional shift pattern is PRND321.

REASON: With the PRND321 quadrant indicator and with the selector lever placed into the D3 position, the overrun clutch will not apply until the transmission shifts to third gear. When equipped with the PRNDS quadrant indicator, the changes in the spacer plate and the elimination of the #5 checkball will now allow the overrun clutch to apply in first, second and third gears. This not only allows engine braking on coast downshifts.

PARTS AFFECTED:

- (1) The valve body spacer plate.
- (2) The shift selector assembly and its related components.

INTERCHANGEABILITY:

None of the manual shift capable parts can interchange with conventional shift system parts.

SERVICE INFORMATION:

Figure 1 Is the spacer plate and Valve body checkball locations for the Non-M Shift Corvette. Figure 2 is the spacer plate used in the Corvette with the Manual Paddle Shift package. Using GM's Tech Guide numbering, hole 38c was blocked, hole 35c/39 was blocked, the number 5 ball is removed, and hole 35a was relocated. These changes blocked the D2 circuit to the 2-3 shift valve and the # 5 check ball (38c).

It connected Overrun Clutch feed to the D3 circuit (35a), which was routed through the revised # 5 check ball circuit. With the ball eliminated and the D2 hole blocked (35c/39), it forces the Overrun Clutch feed to be metered past the # 6 ball passing through the 4-3 sequence valve to apply the clutch. This configuration allows for D3 oil to immediately charge the Overrun Clutch circuit when the M range is selected by the driver for 1st, 2nd and 3rd gears. When a shift into 4th occurs, Overrun Clutch pressure is exhausted at the 4-3 sequence valve.

See figure 3 to compare the familiar non-M style hydraulics to the new M design seen in Figure 4. See figures 5-8 to see all 4 gears in the M position (Paddle Shift).

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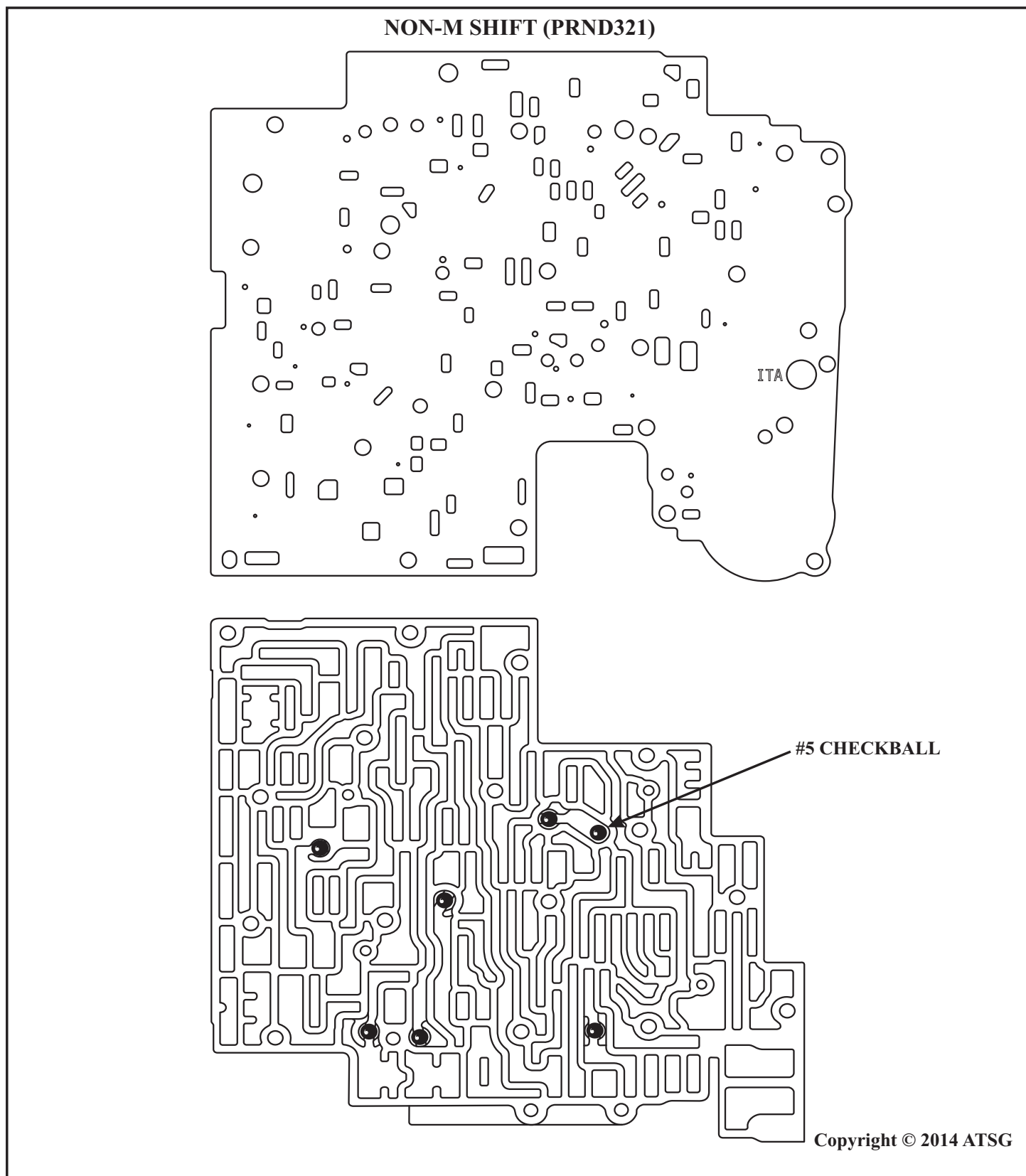


Figure 1

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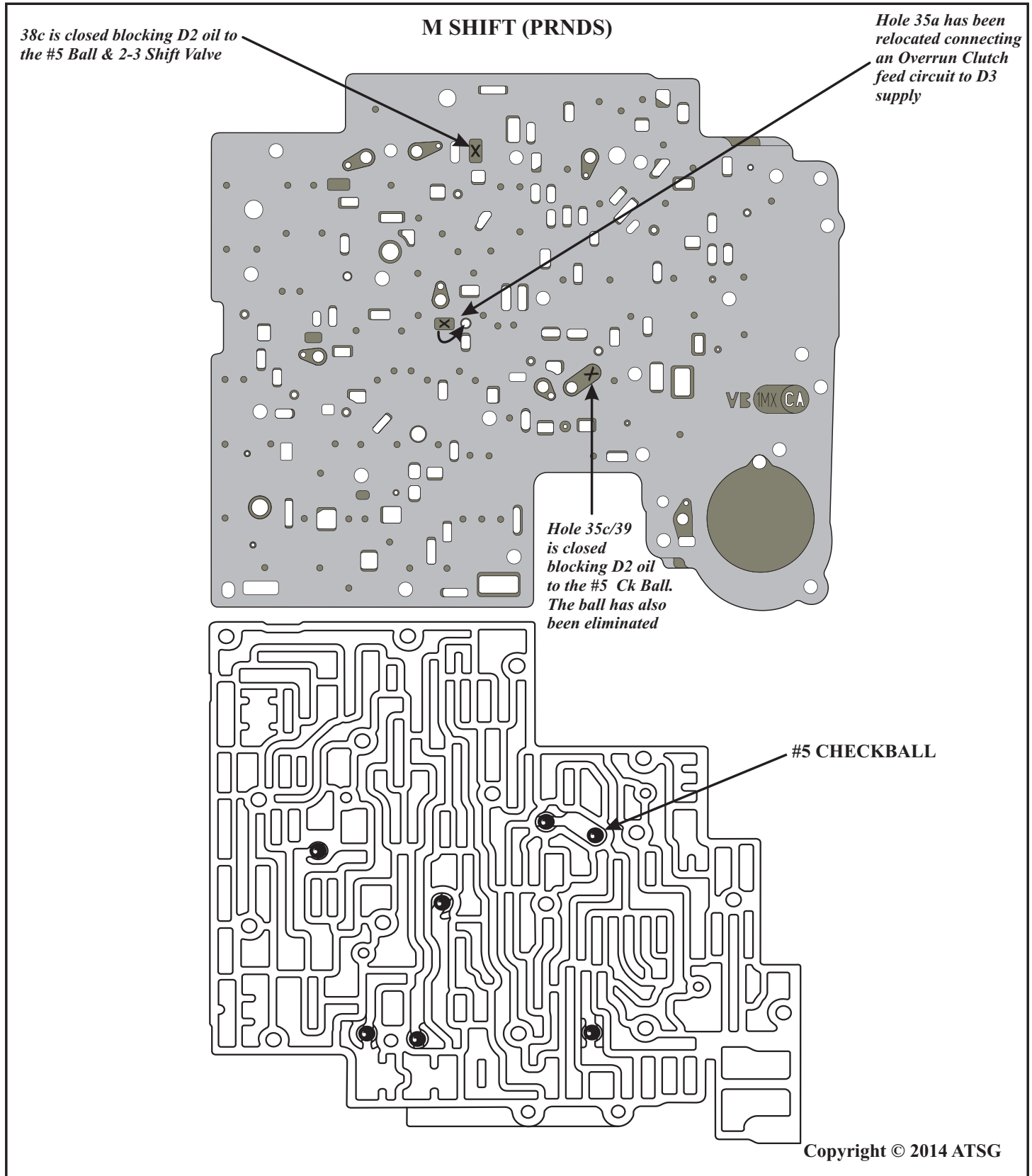


Figure 2



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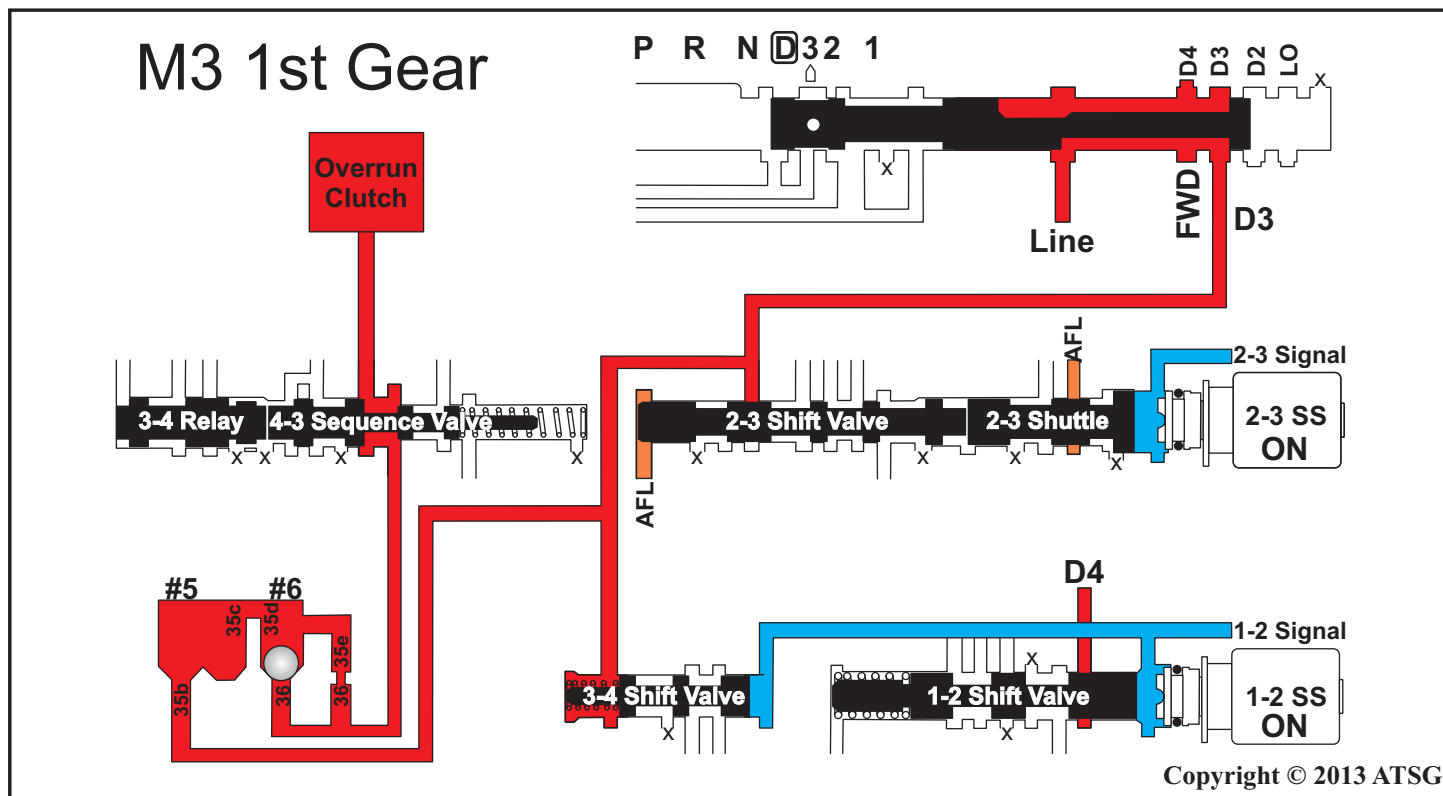


Figure 5

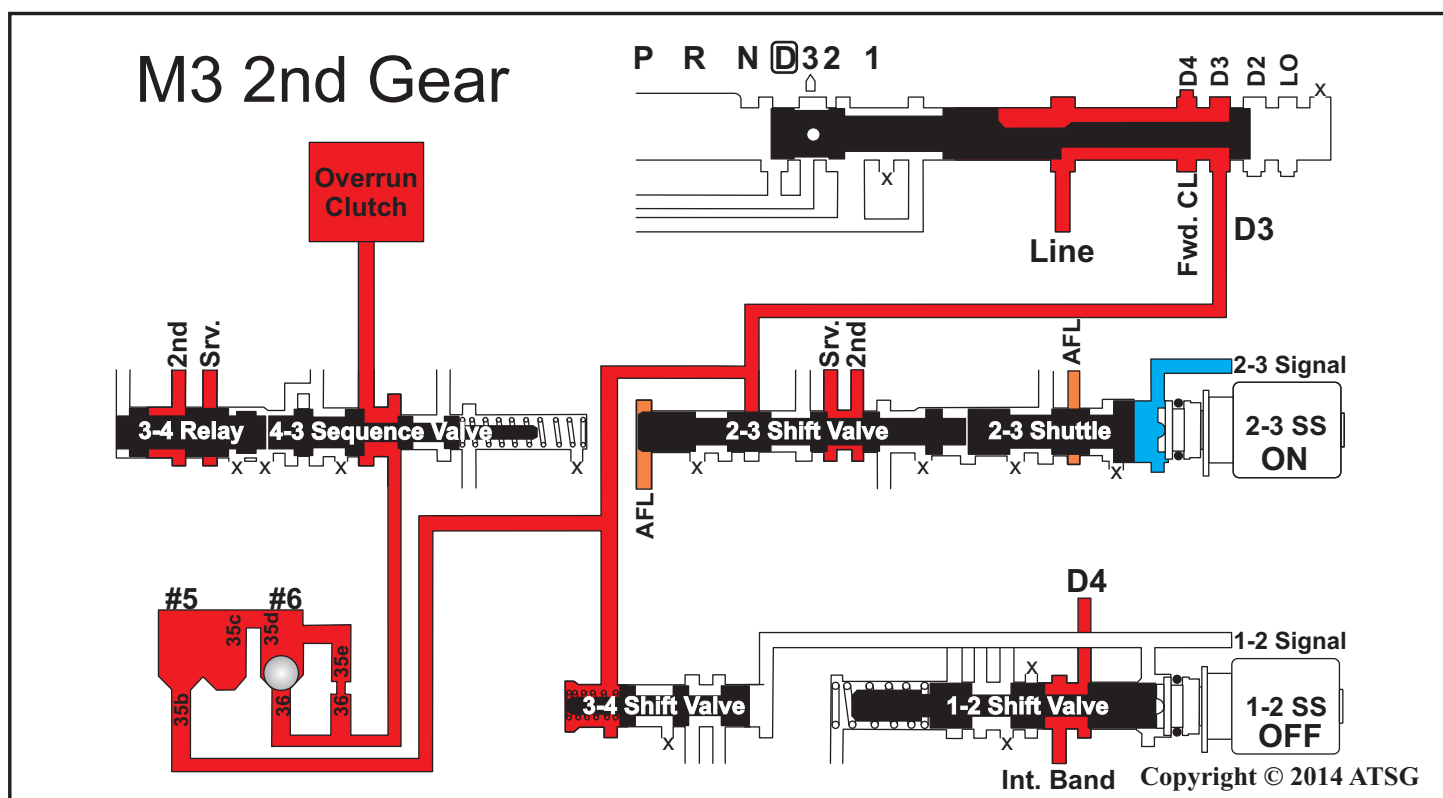


Figure 6

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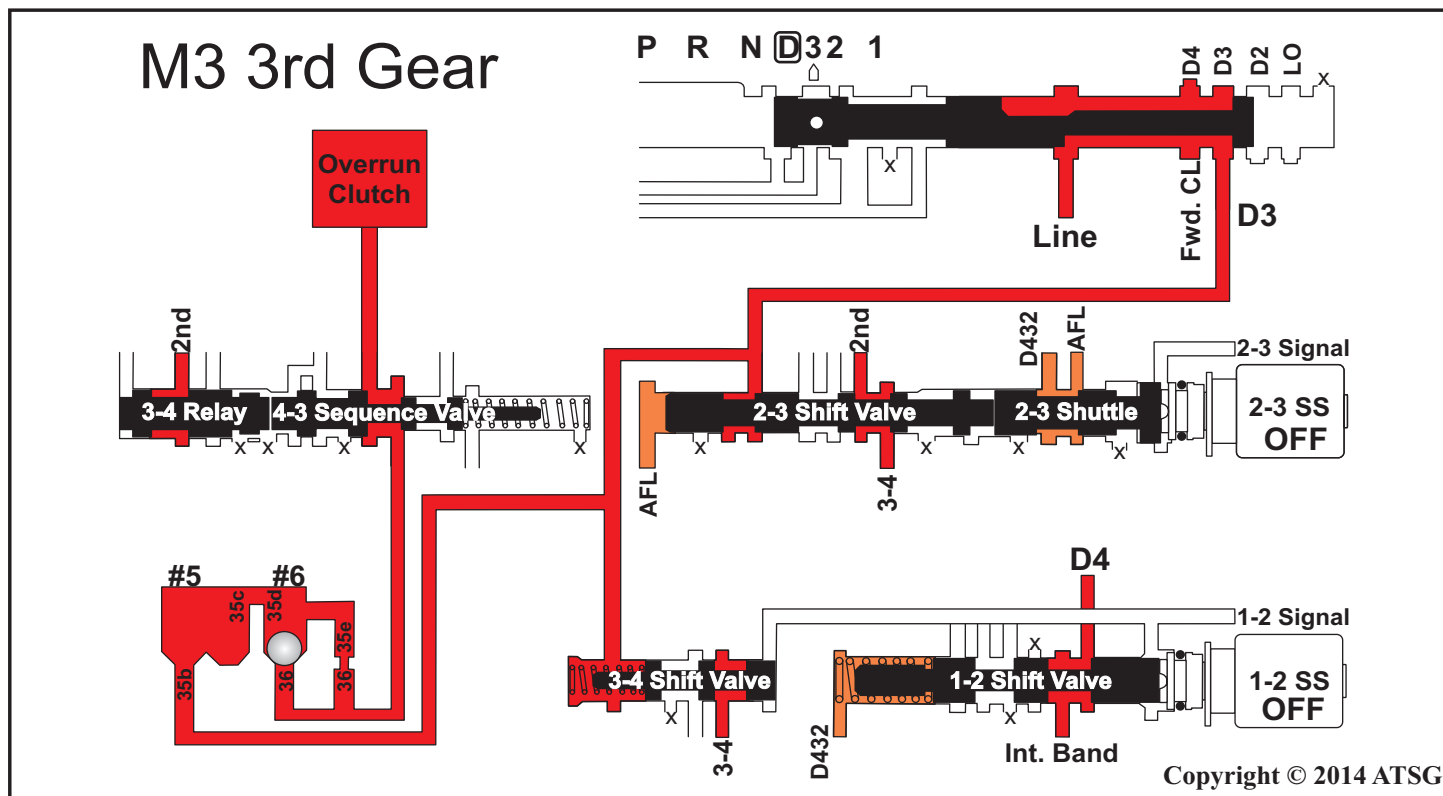


Figure 7

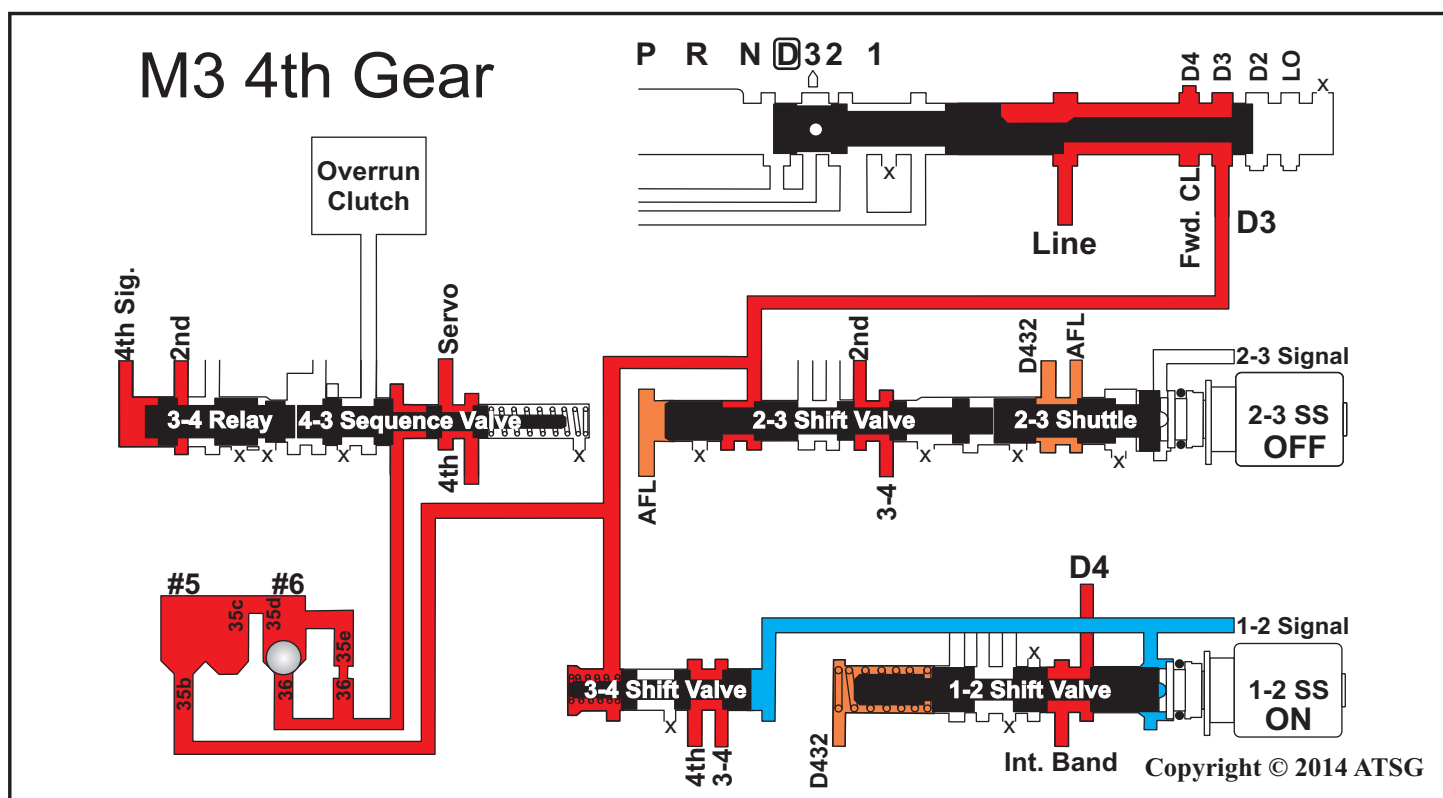


Figure 8