



Technical Service Information

ALLISON 1000/2000 SERIES SLIPPING ON INITIAL FORWARD TAKE-OFF

COMPLAINT: A truck equipped with an Allison 1000 or 2000 Series Transmission has a complaint of slipping on initial forward take-off. Main line pressure is checked and is verified as normal. The transmission is removed and disassembled for inspection, nothing obvious was found that could be attributed to the complaint.

CAUSE: With nothing found in the transmission that could be blamed for the slip complaint, the valve body was disassembled for inspection. The Control Main Regulator Valve located in the shift valve body was stuck closed, refer to figure 1.

The control main regulator valve provides a consistent pressure for shift solenoid operation which then allows control pressure to move through the valve passage into the various clutch apply circuits to apply a clutch. The hydraulic circuit diagram seen in figure 2 shows main control pressure as red and white. This circuit travels to all shift solenoid and shift valves that then can supply normal clutch apply pressure.

With the control main regulator valve stuck closed, the solenoids are starved of oil pressure used for clutch application. In this scenario not enough apply oil was sent to the C1 and C5 clutch to allow normal take-off in first range.

CORRECTION: The control main regulator valve and bore were cleaned up so the valve was now free. Once the transmission was reassembled and installed back into the vehicle, the truck returned to normal forward take-off.

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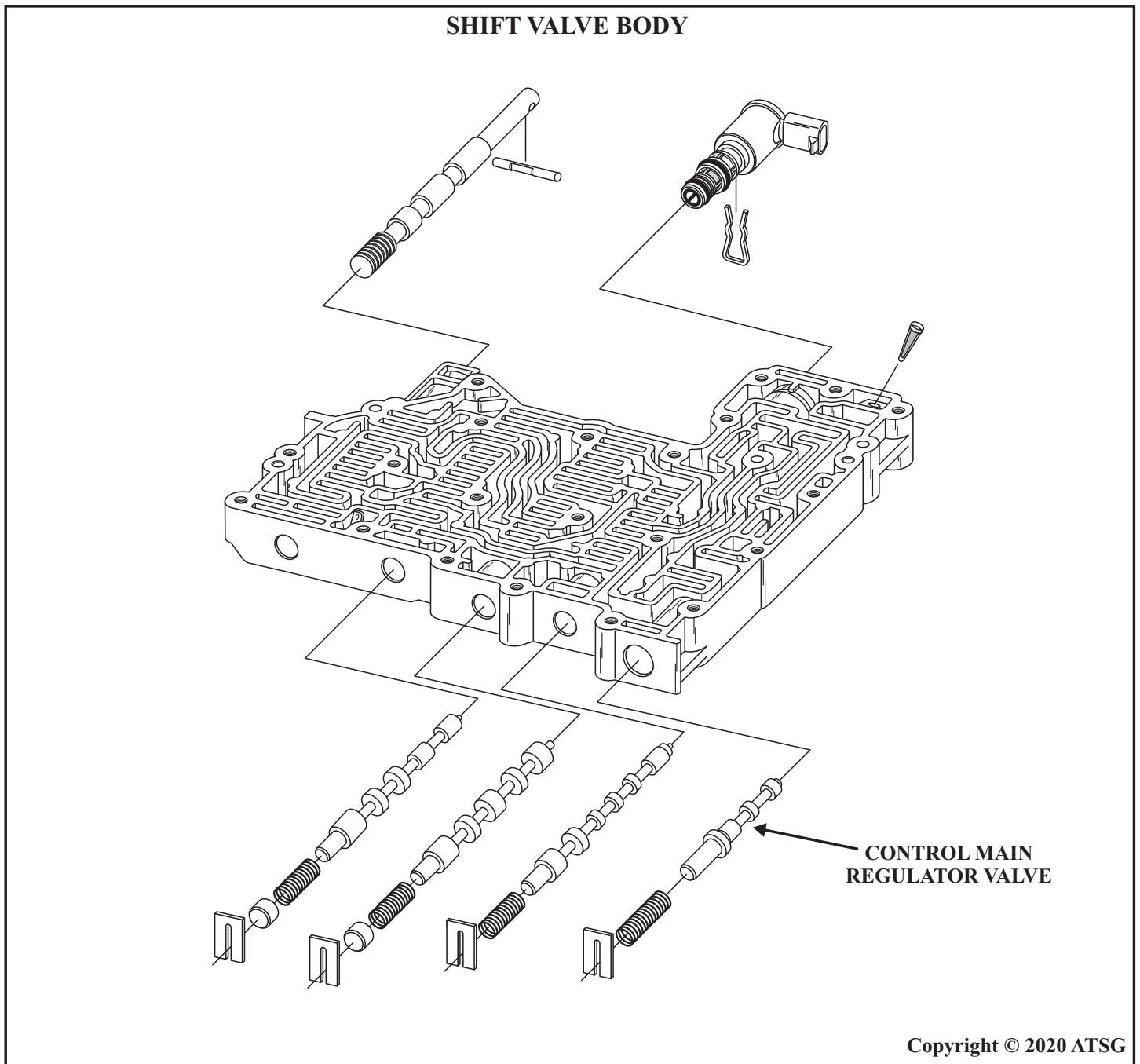


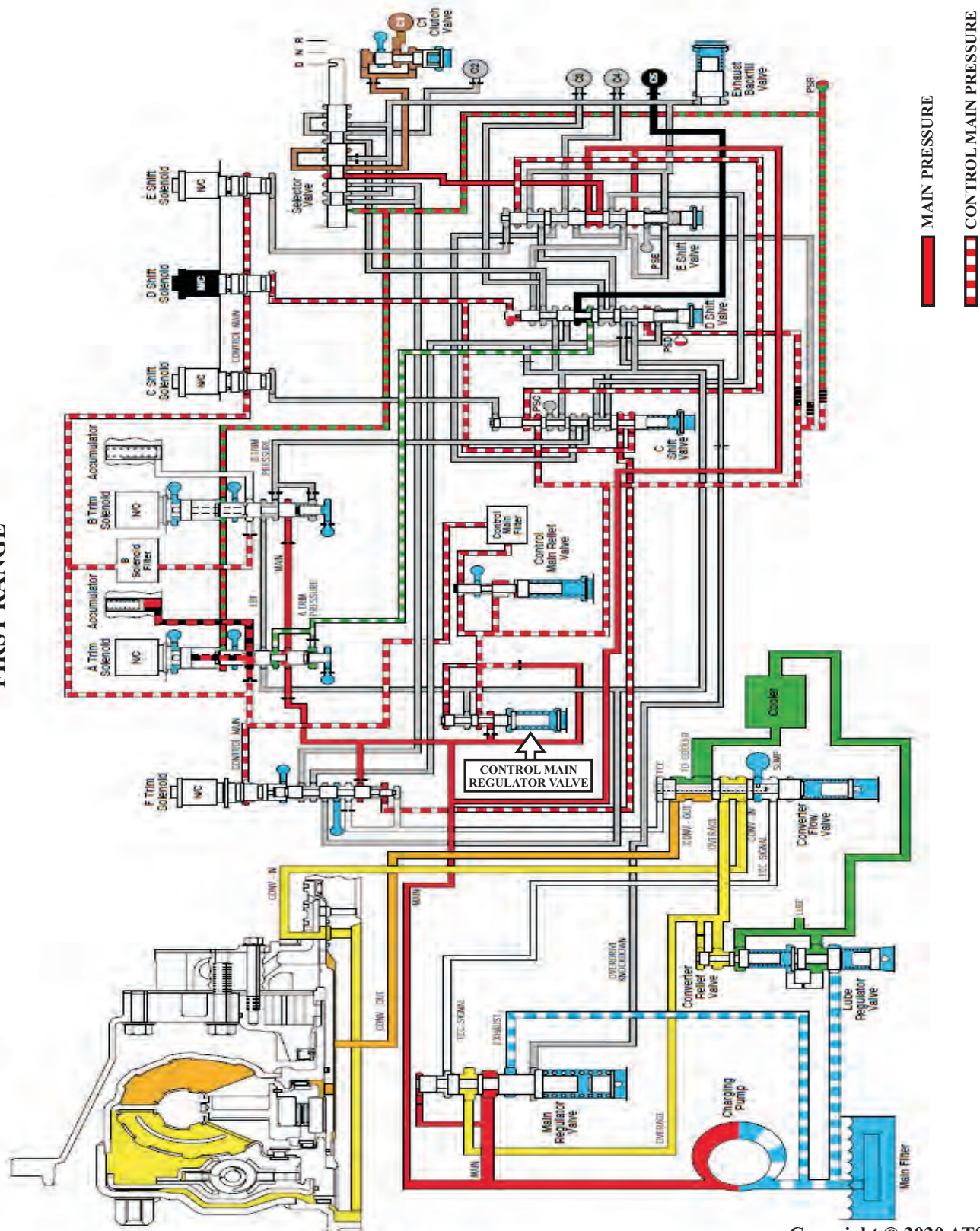
Figure 1

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ALLISON 1000/2000 SERIES FIRST RANGE



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Figure 2