



Technical Service Information

BMW/2000 AND LATER ISUZU 4L30E NO REVERSE, BINDS IN 2ND

COMPLAINT: After overhaul, a BMW or 2000 - Later ISUZU with the 4L30E transmission exhibits a complaint of No Reverse, and Binds in 2nd Gear.

CAUSE: One cause may be a missing check ball in the adapter case housing.

BMW and 2000 - Later ISUZU vehicles utilize a ***“Reverse Inhibit”*** feature to prohibit application of the reverse clutch and prevent the possibility of damage to transmission components while driving in forward ranges. If the computer detects that reverse gear has been selected while driving forward with vehicle speed above 7 miles per hour, the TCM will energize and activate the Torque Converter Clutch Solenoid allowing the ***“Reverse Inhibit”*** valve located in the center support to move into a position which will block reverse clutch oil from applying the reverse clutch.

Refer to Figure 1 for location of the check ball in the adapter case housing, and the spacer plate identification. Refer to Figure 2 for a diagram of the BMW and 2000 and later ISUZU center support housing assembly which utilizes the “Reverse Inhibit” valve.

If during overhaul the check ball that is located in the adapter housing is omitted, two things will occur. The transmission will have no engagement in reverse, and it will bind up on the shift into 2nd gear. To see how this occurs, refer to the partial hydraulic diagrams in Figures 3, 4, 5 and 6.

Figure 3 shows the ball properly installed in the adapter housing. Note the ball seats against the separator plate and forces oil into the reverse clutch circuit, through the reverse inhibit valve then applying the reverse clutch, while at the same time blocking oil from entering the 2nd clutch circuit.

Figure 4 shows a missing check ball in the housing. With no check ball to seat against the plate, reverse oil pressure passes into the 2nd clutch circuit. Oil pressure flows through the 1-2/3-4 shift valve and exhausts at the 2-3 shift valve giving the neutral condition.

Figure 5 shows the ball properly installed in 2nd gear. Note the ball seats against the plate, and blocks oil from entering the reverse clutch circuit.

Figure 6 shows the ball missing. Oil pressure is allowed to enter the reverse clutch circuit causing the reverse clutch and 2nd clutch to apply together which causes the bind up condition on the shift.

CORRECTION: Install the check ball in the adapter housing.

ADAPTER HOUSING CHECK BALL LOCATION AND SEPARATOR PLATE ID.

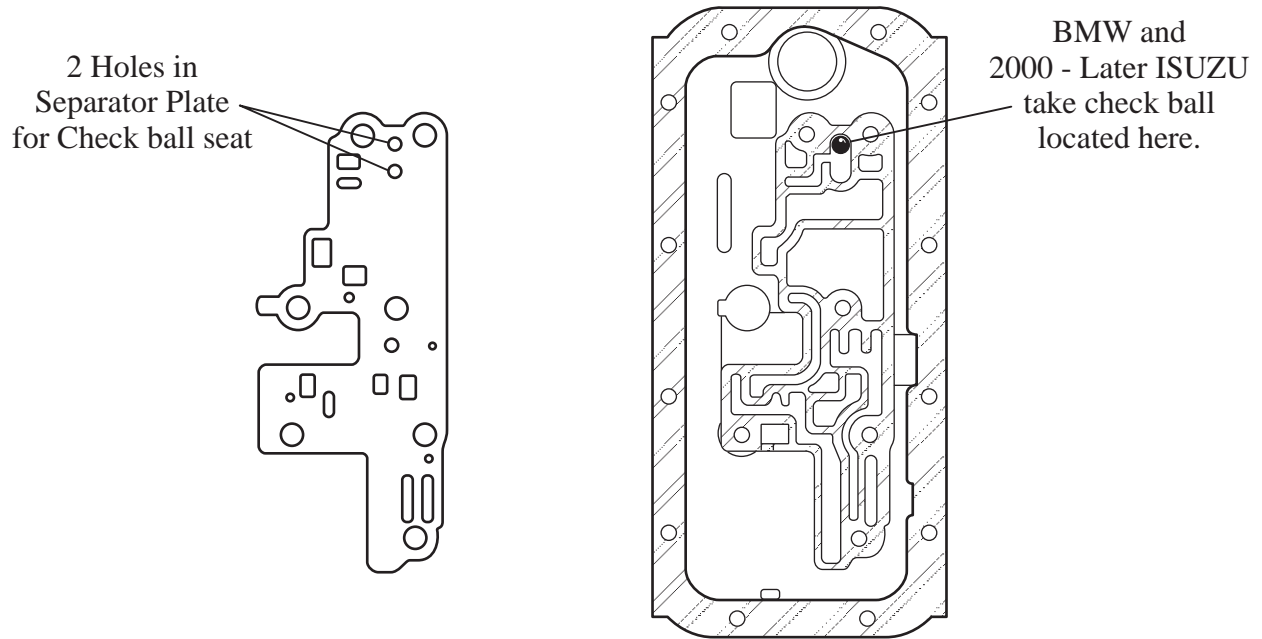
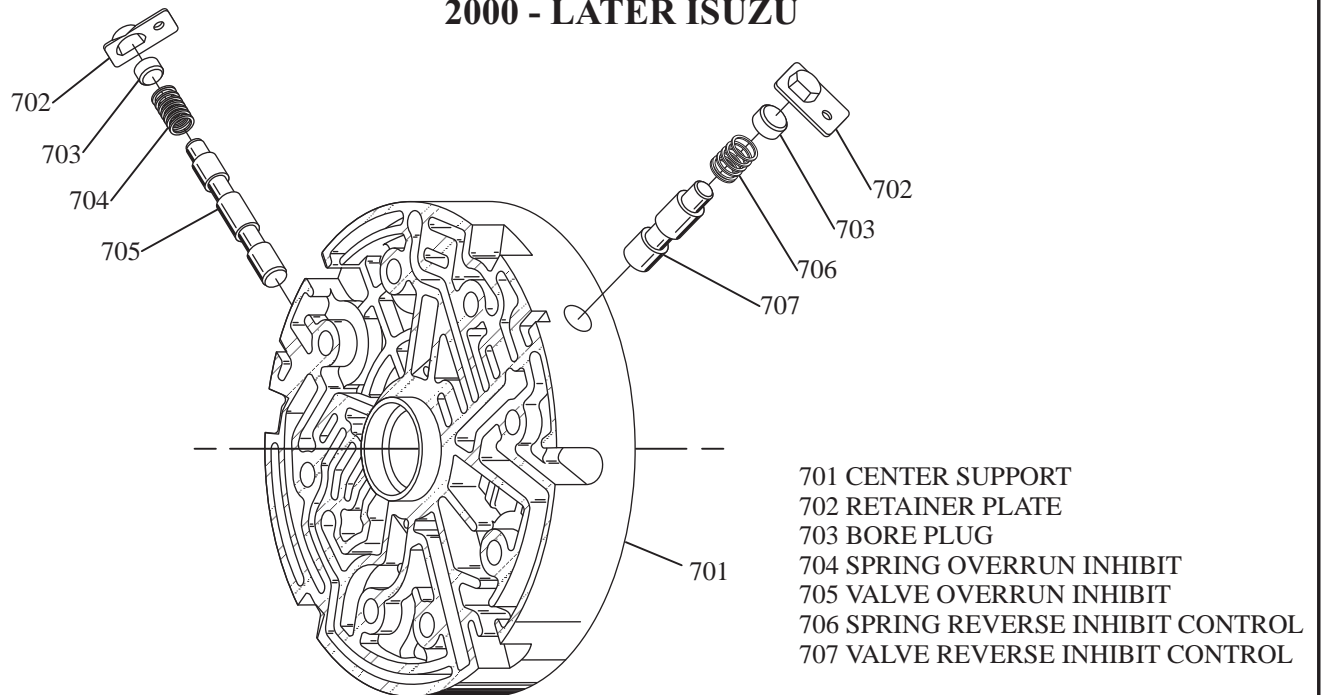


Figure 1

CENTER SUPPORT ASSEMBLY BMW AND 2000 - LATER ISUZU



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Figure 2

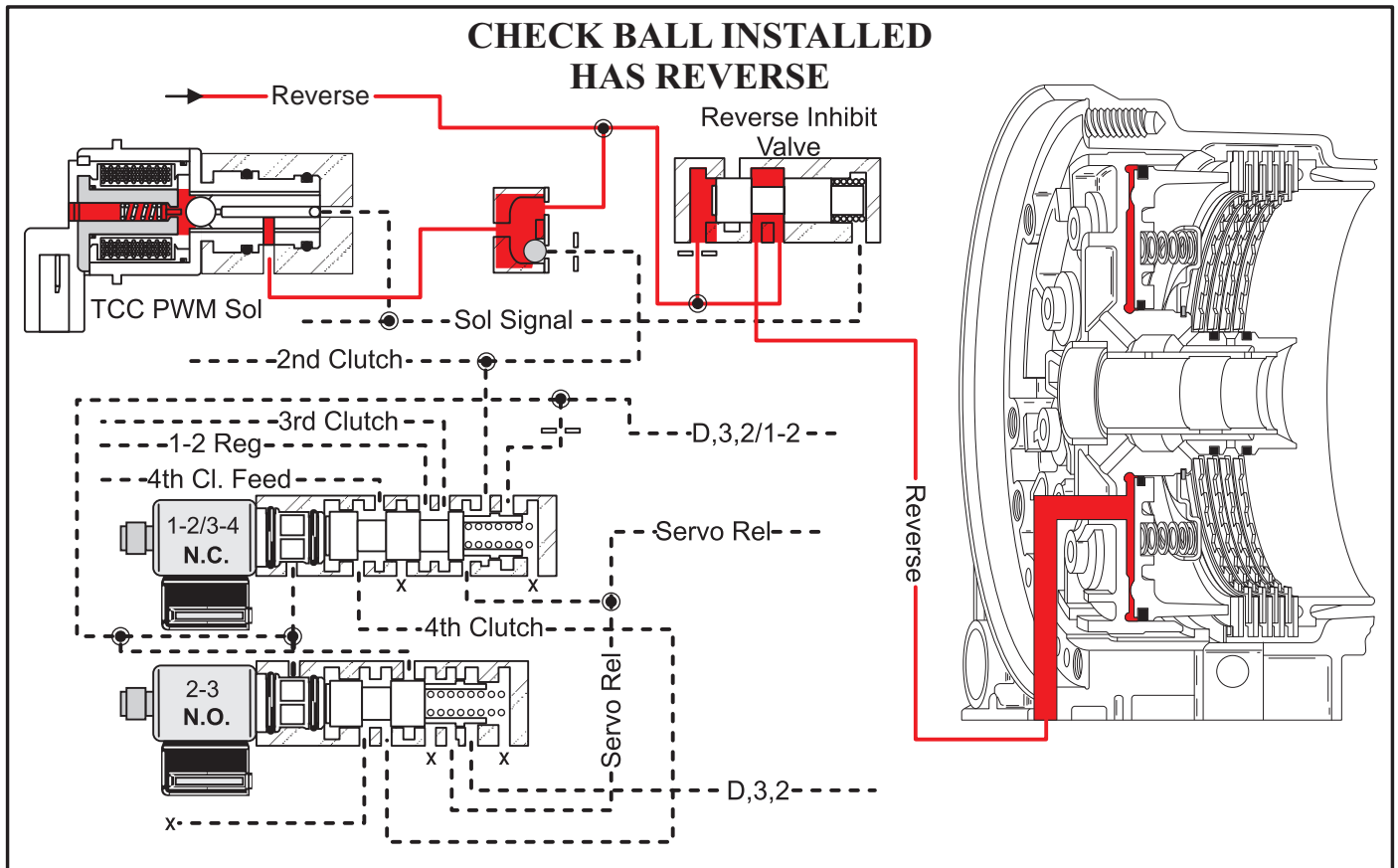
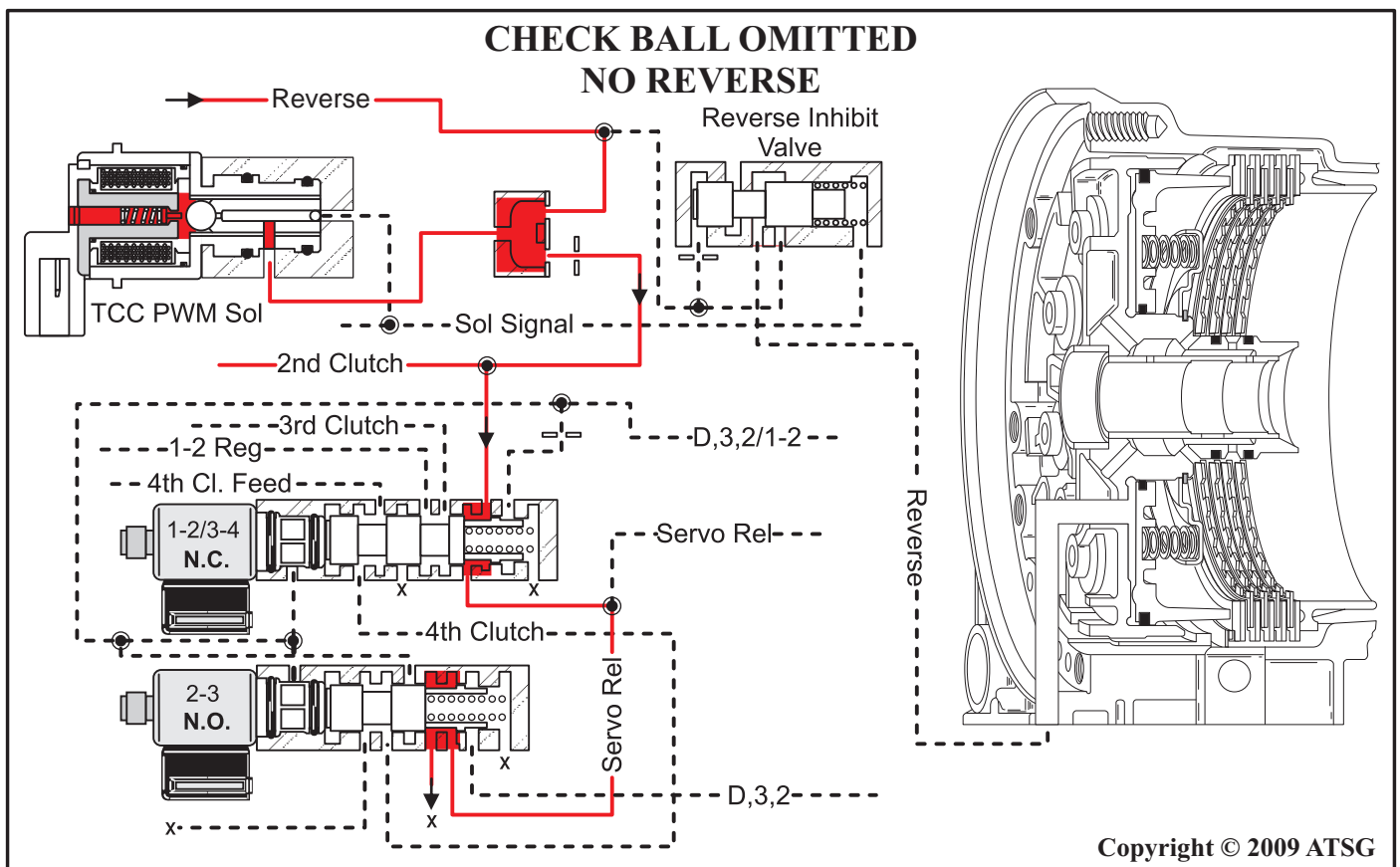


Figure 3



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Figure 4

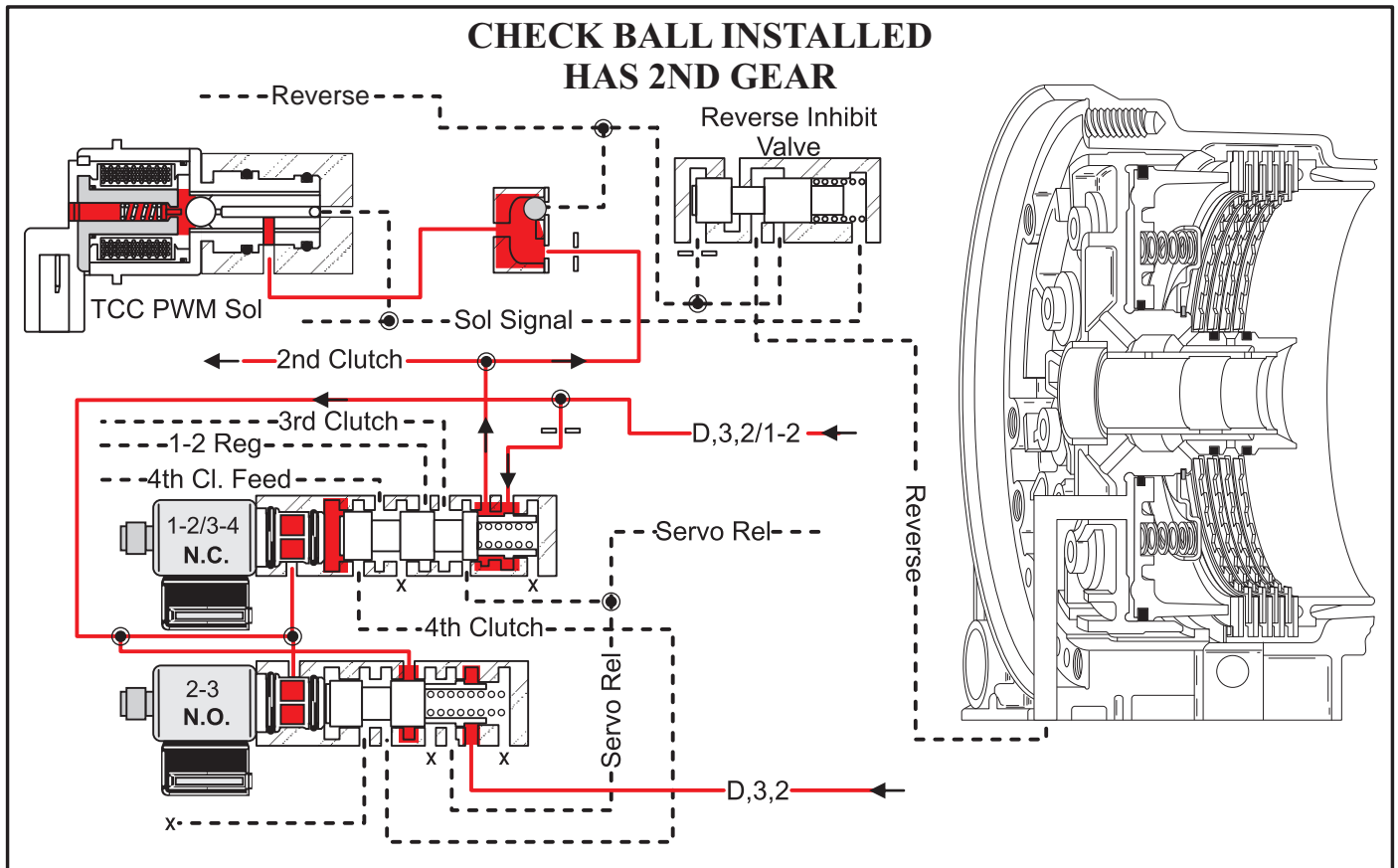
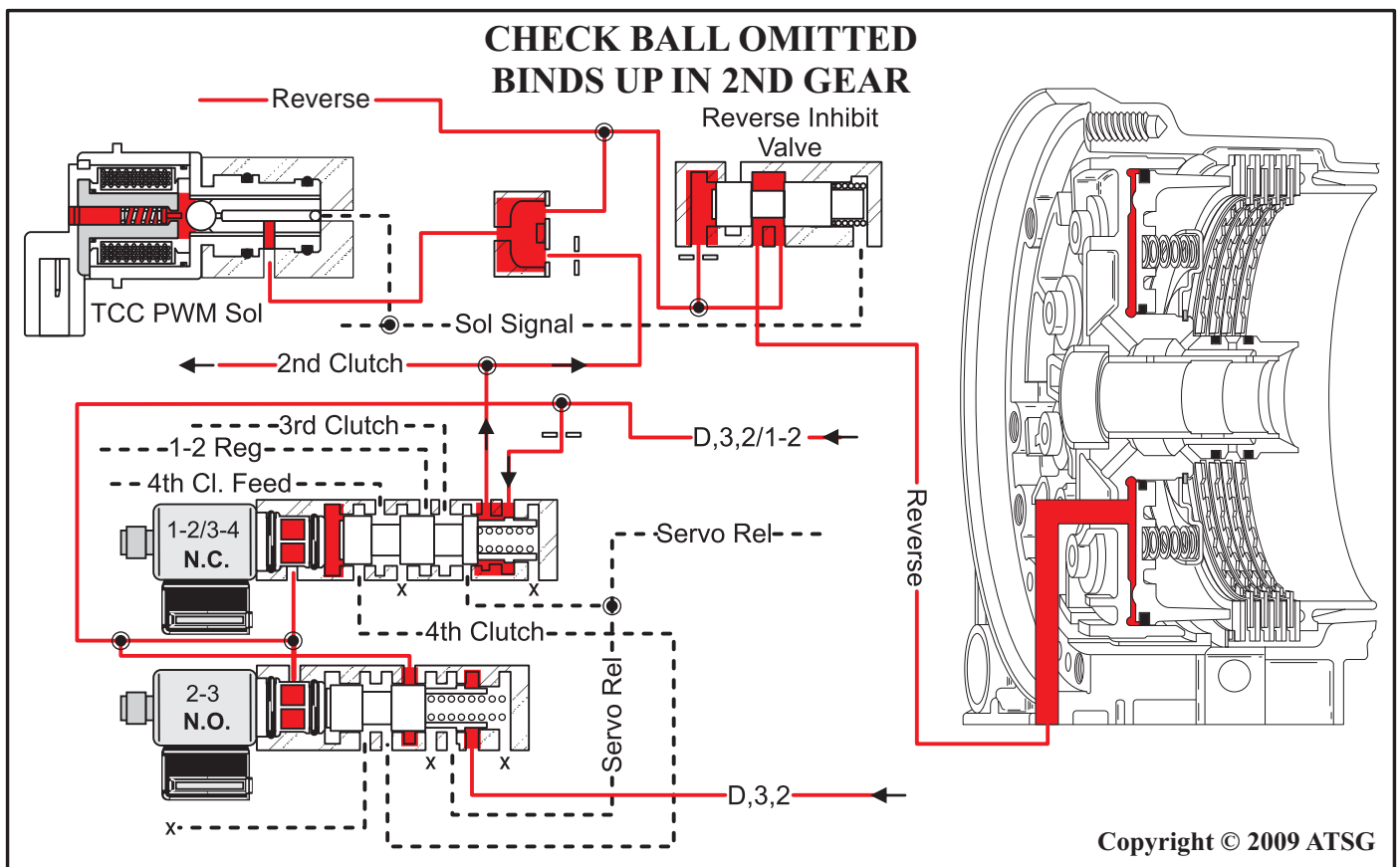


Figure 5



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Figure 6