



Technical Service Information

SATURN VUE VT20/25E

NO RATIO CHANGE

COMPLAINT: After overhaul or valve body removal, the transmission does not change ratio.

CAUSE: The Variable Control Valve lever has not been indexed correctly into the Drive Pulley Follower pocket, or the Ratio Control Motor lever has been wedged between the pintle and the housing.

CORRECTION: The Ratio Control Motor (Stepper Motor) is a bi-directional device which is located on top of the valve body as shown in Figure 1. The Ratio Control Motor indexes with a lever that is attached to the Variable Control Valve in the valve body as shown in Figure 2. The opposite end of this lever then sits inside a pocket of the Drive Pulley Follower as viewed from the valve body case side with the valve body removed as seen in Figure 3. This spring loaded follower rides on the movable drive pulley half and reacts to the movement of the drive pulley as it ratios as shown in Figure 4.

With one end of the lever being in the Ratio Control Motor and the other end being in the Drive Pulley Follower, (Refer to Figure 5), the follower acts as a movable pivot point for the lever. As a result of this action, it becomes a mechanical sensor influencing the variable ratio control valve tailoring the feed fluid into the drive pulley piston.

When the valve body is installed where the Variable Control Valve Lever misses the drive Pulley Follower pocket, the valve is unable to respond to the movement of the Ratio Control Motor which will prevent ratio changes of the pullys keeping the transmission in low range.

This can easily be corrected as the valve body is on top of the transmission, just remove the valve body and index the lever into the pocket and re-fasten the valve body to case. Then re-install the Ratio Control Motor being careful that the lever sits inside the pintle pocket and not wedged between the pintle and housing.

RATIO CONTROL MOTOR LOCATION

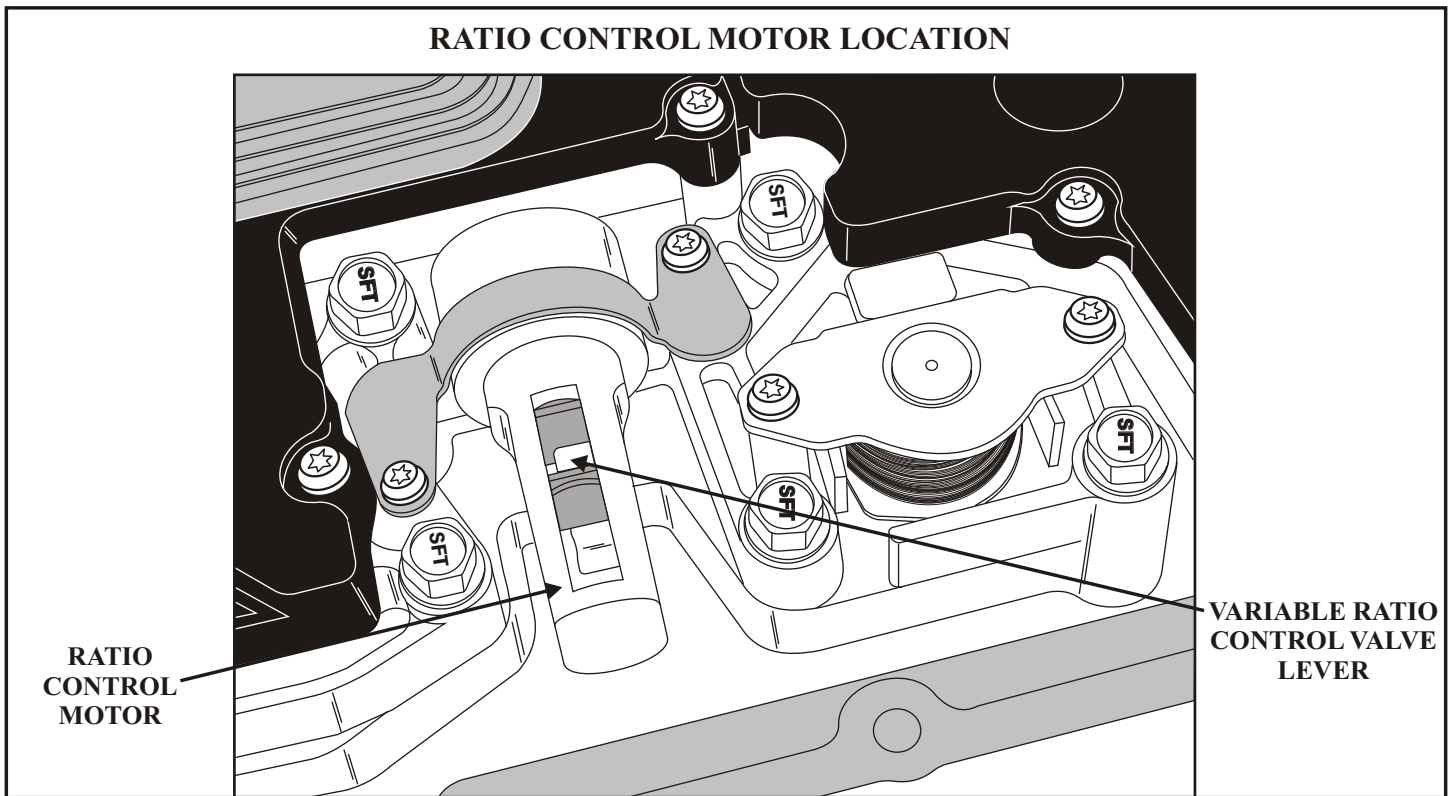


Figure 1

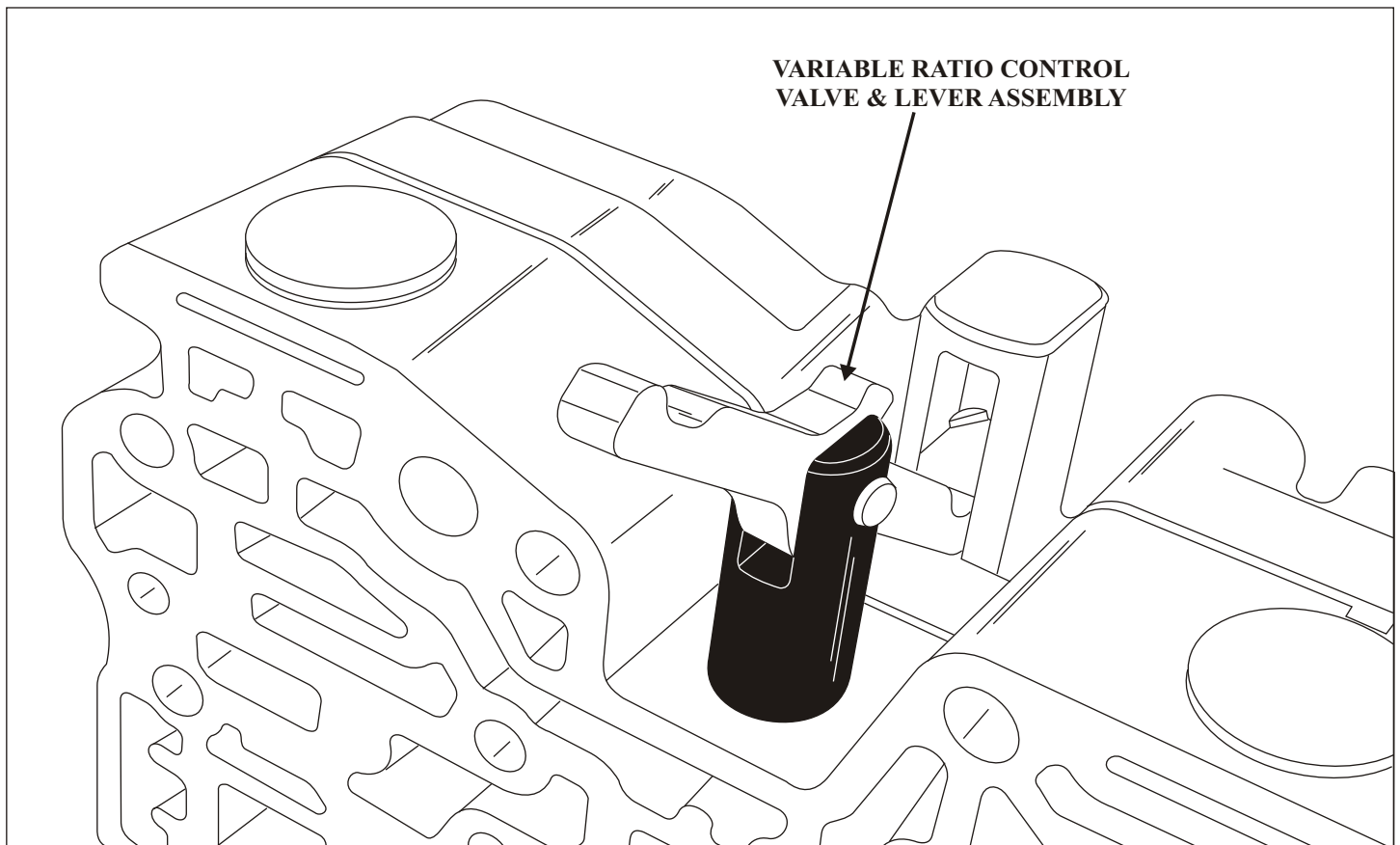


Figure 2

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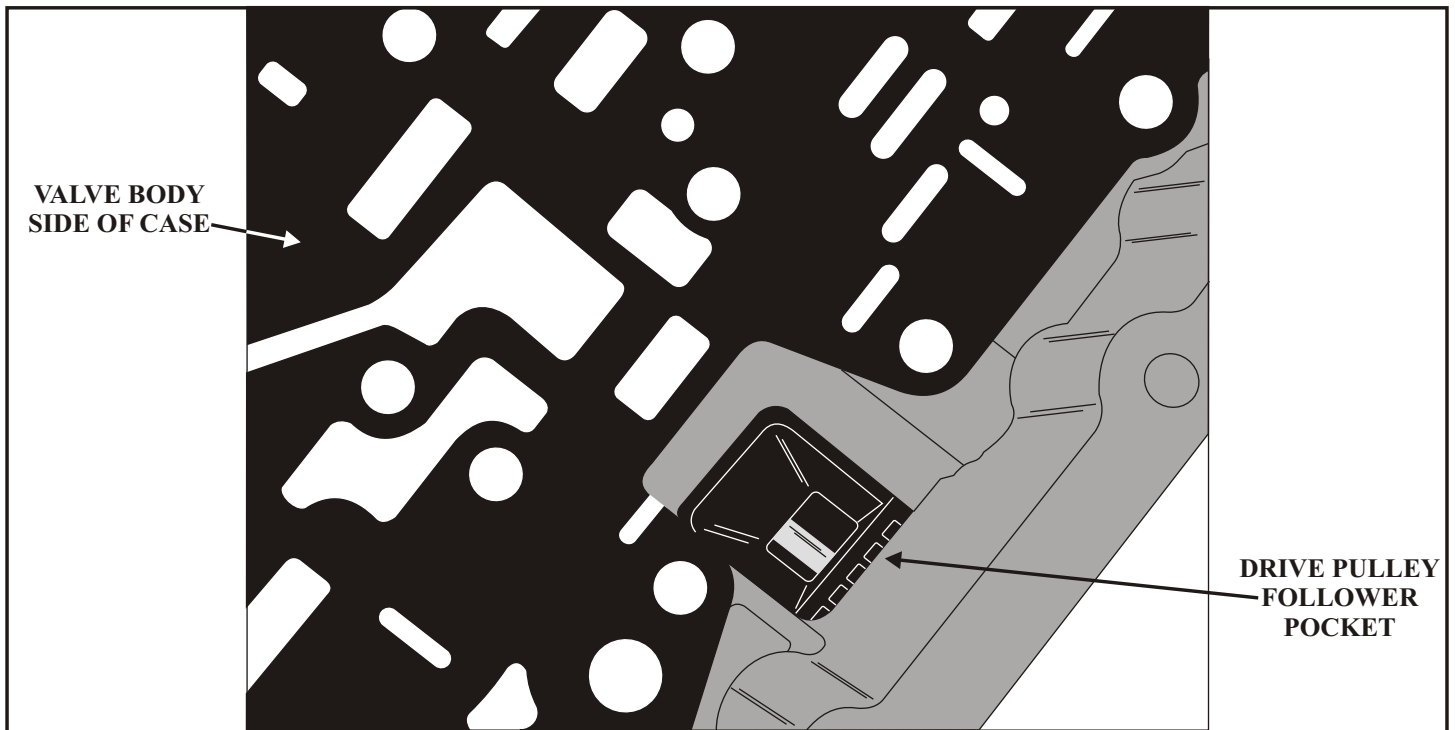


Figure 3

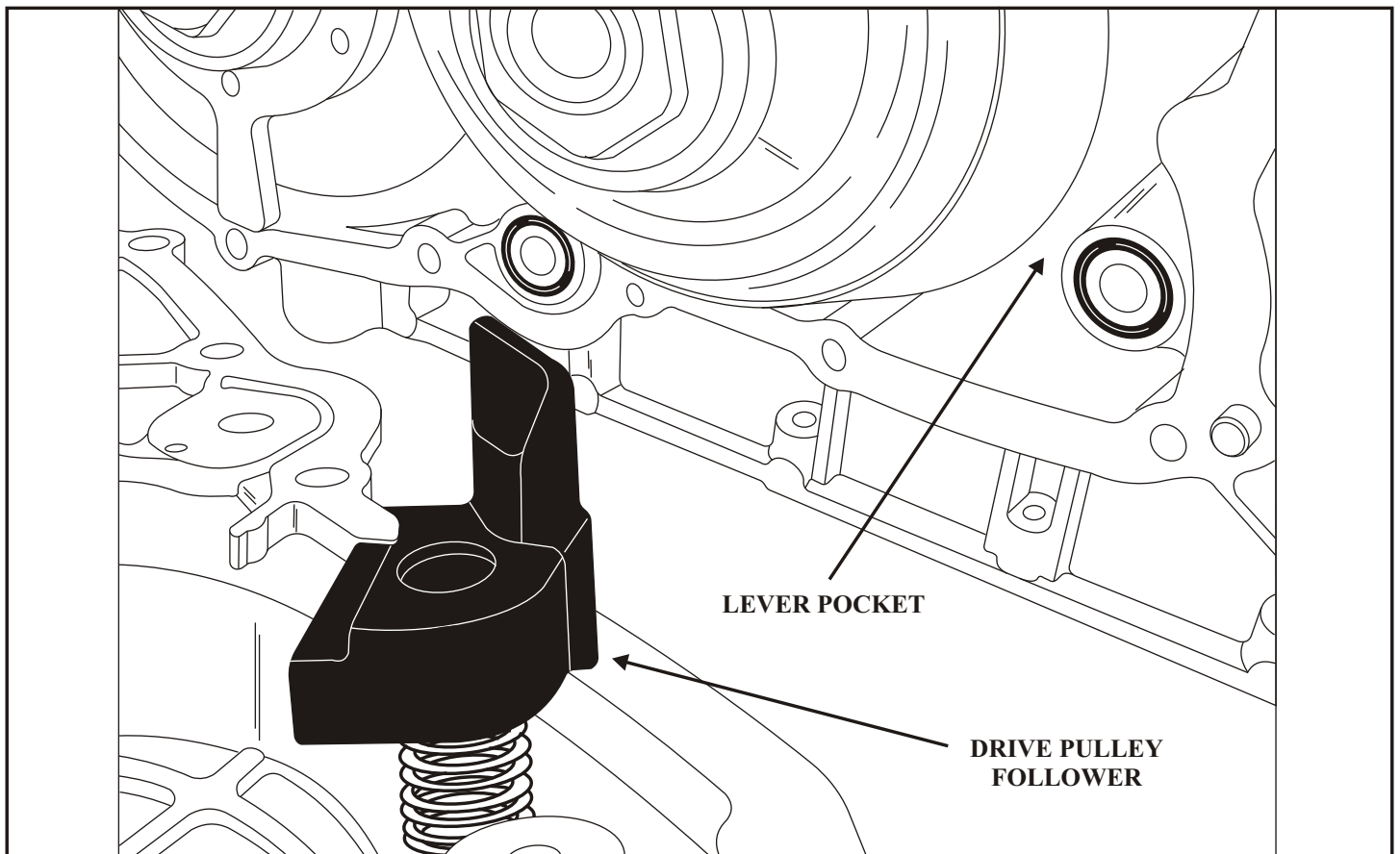
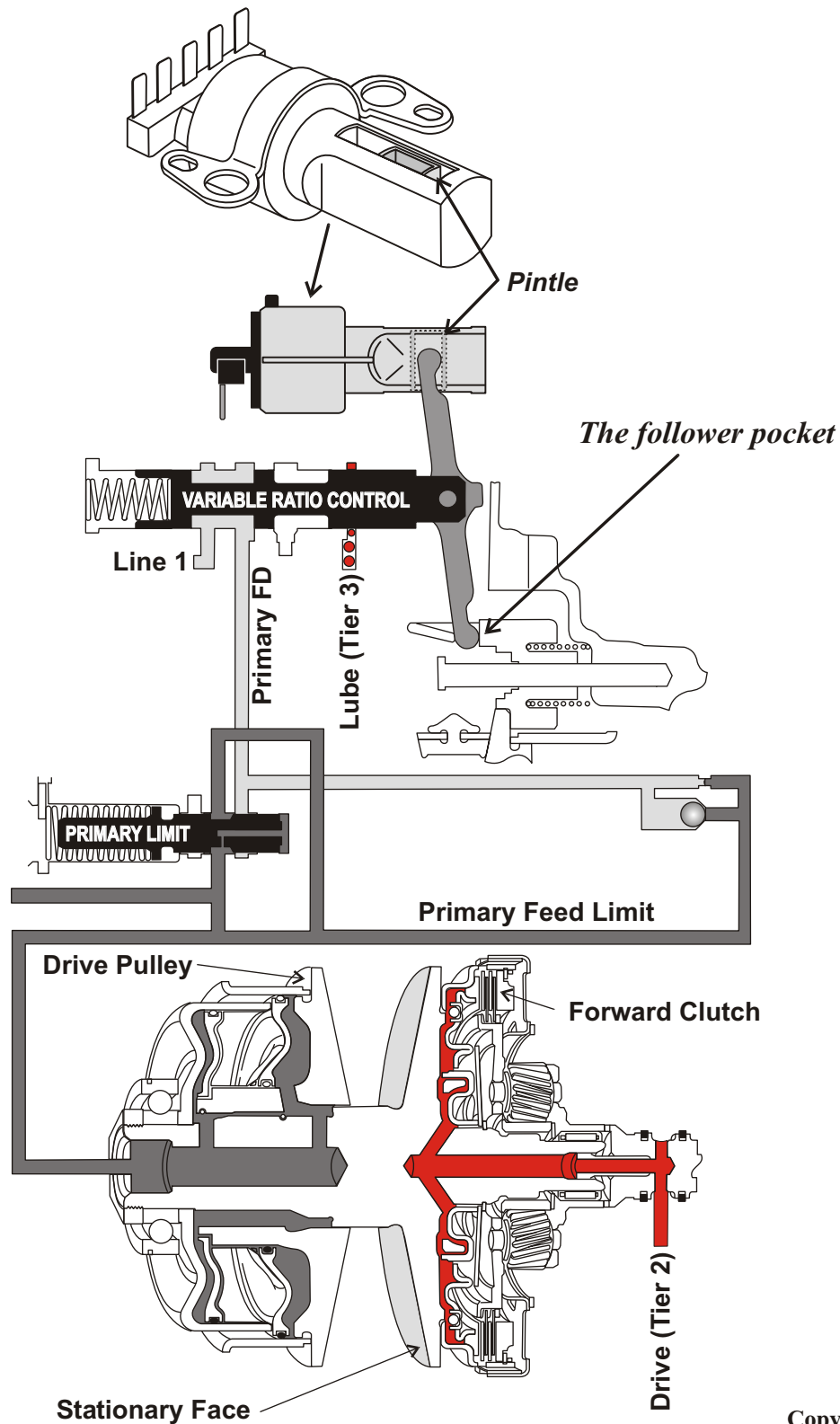


Figure 4

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RATIO CONTROL MOTOR (RCM) OVERVIEW



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Figure 5