



VT20/25-E NOISE IN FORWARD AND REVERSE AFTER REPAIRS

COMPLAINT: After internal repairs were made to the CVT VT20/25-E which required the disassembly of the Variable Drive Pulley Assembly, a pronounced rumbling noise is heard in both forward and reverse ranges accompanied with a jerking sensation of the vehicle.

CAUSE: The stationary sheave face of the Variable Drive Pulley Assembly has a shaft with three key way slots in it which is used to index and lock the moveable sheave face of the Variable Drive Pulley Assembly to the shaft. Two steel 6mm balls per slot are used as the key in these slots (Figure 1). But during disassembly, these balls fall away not giving the technician a chance to see their appropriate location as on this shaft there are three shorter slots with a passage connecting to the Drive Pulley Primary Feed Limit Apply fluid circuit.

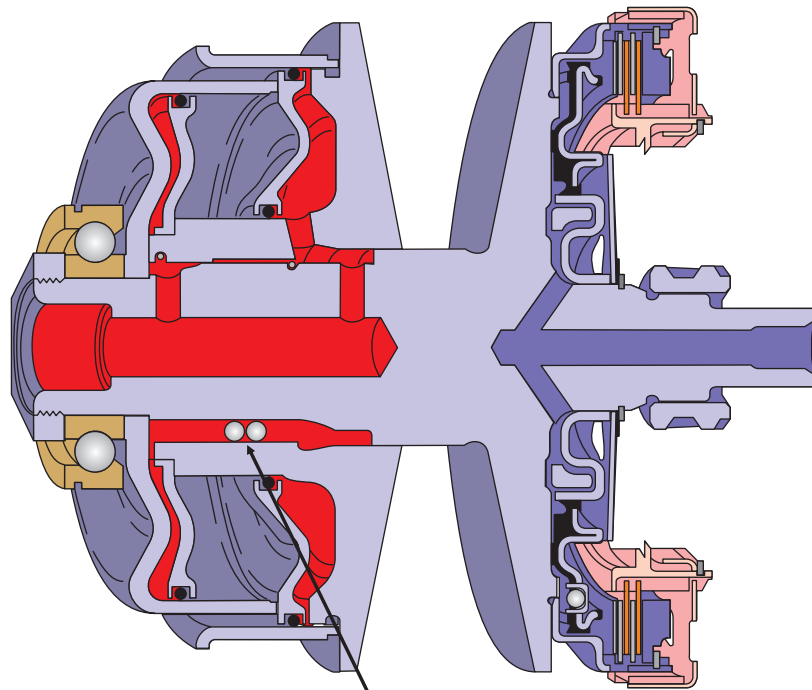
With the three key way slots being much longer in length than the slots connecting to the apply fluid circuit, it has caused some technicians to believe that the two balls per slot needs to be positioned in the shorter slots rather than the longer slots (Figure 2). When this occurs, some of the balls move out of position traveling through the Drive Pulley Primary Feed Limit Apply fluid circuit ending in an apply piston cavity. The pressure and force in this area causes the balls to roll around and beat against the piston making the rumbling noise and jerking sensation (Figure 3). Eventually the damage is severe enough to cause the piston seals to rip and drive pulley pressure drops. The belt then slips across the face of the sheaves damaging both the belt and sheave faces.

CORRECTION: A new or “good experienced” Variable Drive Pulley Assembly will need to be acquired along with a belt and if the “good experienced” pulley assembly is taken apart to install new seals, place the key way balls in the longer slots.

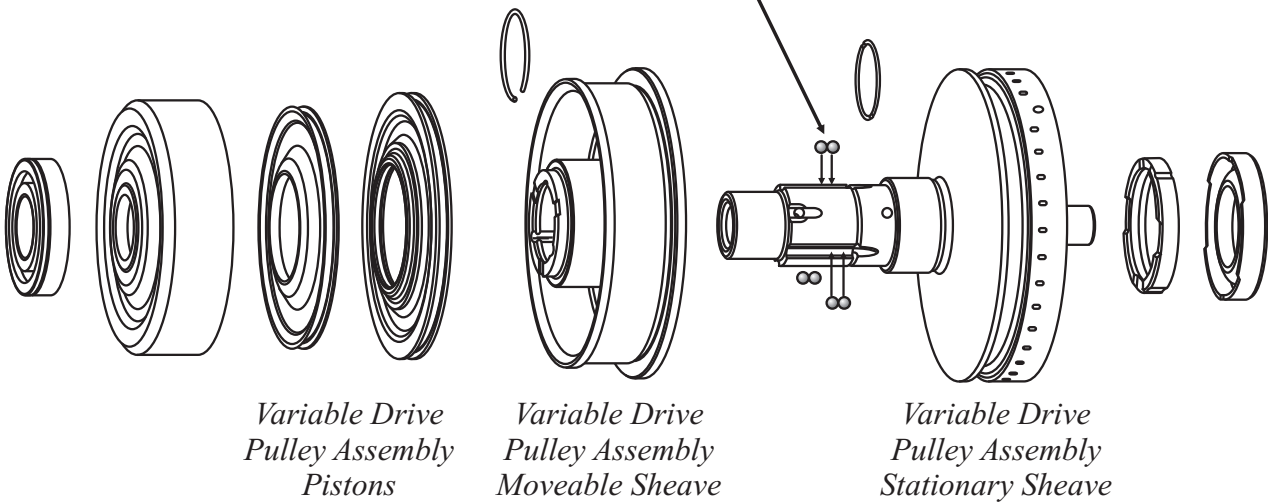
Note: Disassembly of the Variable Driven Pulley Assembly is also possible and it too uses 6mm steel balls as key ways in long slots. The difference here is that it uses three balls per slot (Figure 4).

Thanks goes to Mike at Lee Myels Transmissions in Miami, Florida

VARIABLE DRIVE PULLEY ASSEMBLY



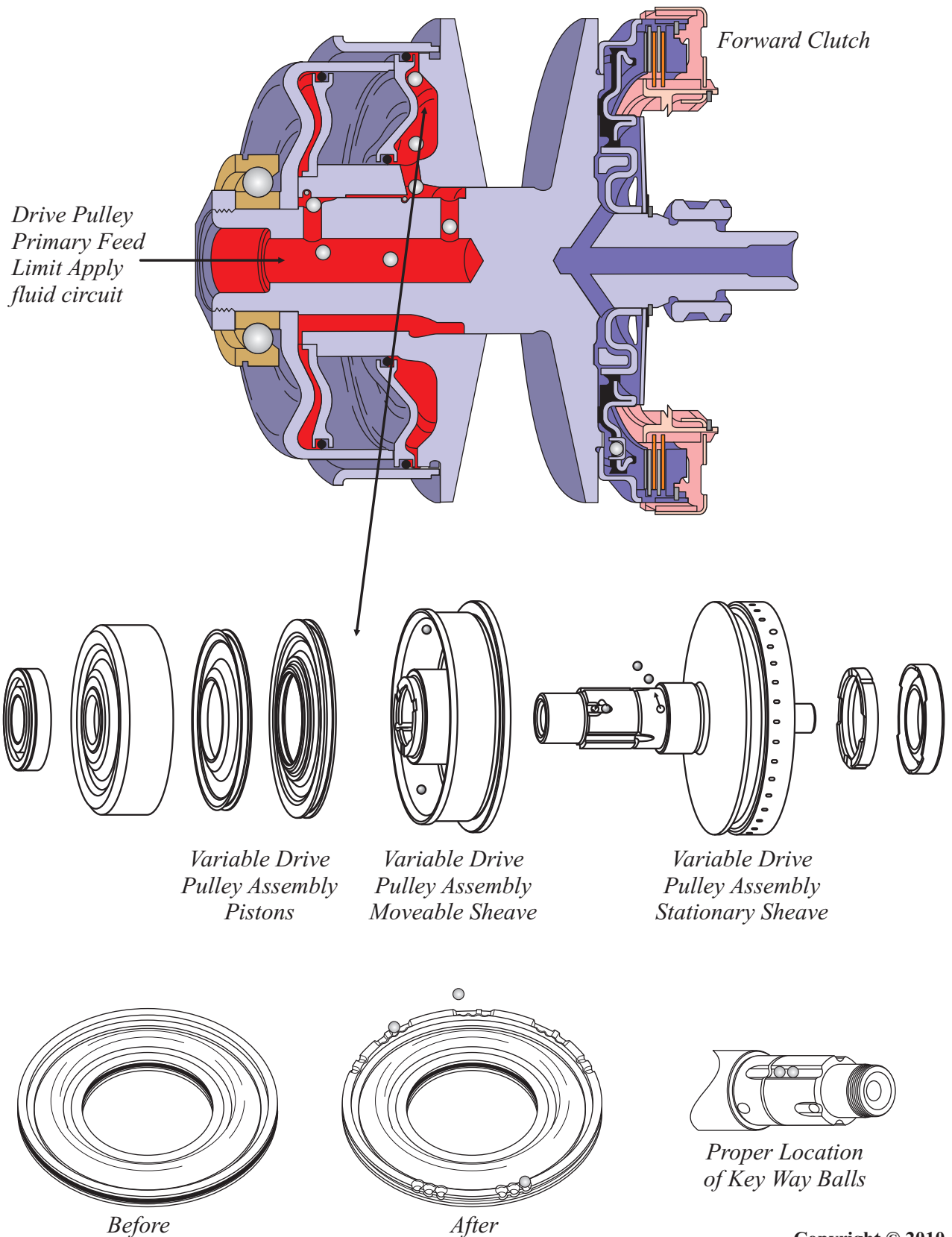
*6mm balls are used as
key ways 2 per long slot*



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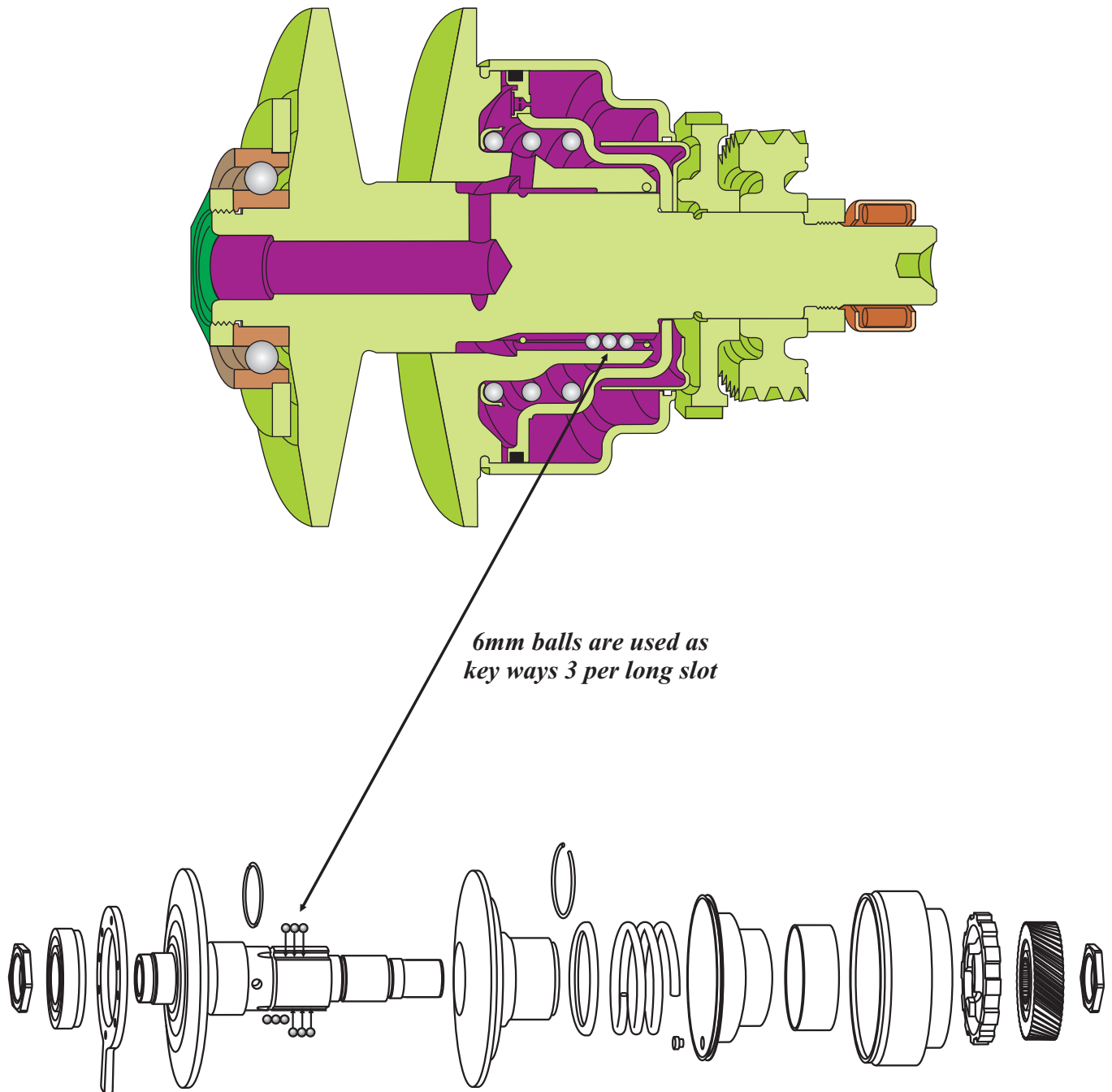
Figure 1

VARIABLE DRIVE PULLEY ASSEMBLY



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Figure 4