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**CASE STUDY: All or any one gear shifting hard**

<b>MODEL:</b>	Vitara Brezza (D)	<b>MILEAGE</b>	4753 kms	<b>SYSTEM:</b>	Transmission
<b>Other Models</b>	Ciaz (D & P), Baleno (D), S Cross 1.3, Ertiga (P&D), New Swift (P & D).				

PROBLEM	ROOT CAUSE	ACTION FOR RESOLUTION
Customer reported for 3 <sup>rd</sup> gear shifting hard.	Rubber cushion of control cable bracket found cut causing excessive play in control bracket, this lead to hard gear shifting problem.	Rubber cushion of control cable bracket replaced and problem was resolved.

**OBSERVATION:**

1. Customer complained that 3<sup>rd</sup> gear is hard to shift while driving.
2. Vehicle was road tested by workshop and problem was confirmed.

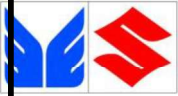
**INVESTIGATION CHECKS:**

Check Point	Observation/ Condition	Conclusion
Check gear cable for any damage / wear	No damage or abnormality observed	Problem may relate to cable mounting / Brackets
Check transmission control cable bracket for bend / distortion / Looseness	T/M control cable bracket found loose, which was leading to the gear shifting hard problem.	Check condition of T/M control cable bracket.
Check transmission control cable bracket cushion rubber for wear	One cushion rubber of transmission control cable bracket found cut due to which cable was loose.	Rubber cushion of control cable bracket replaced and issue was resolved

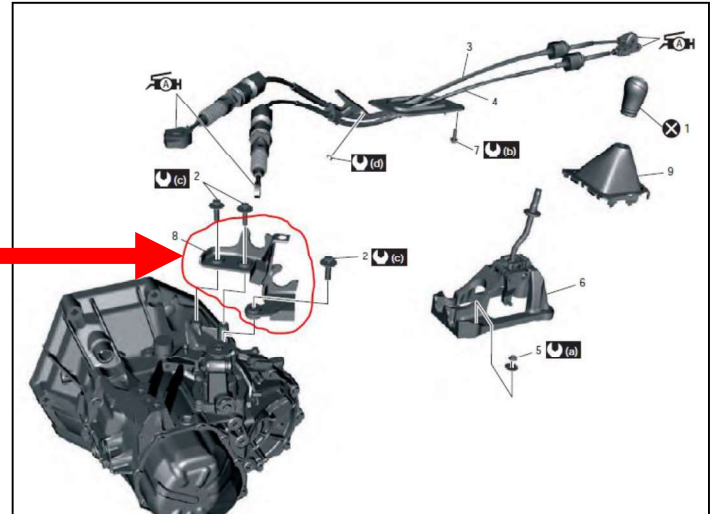
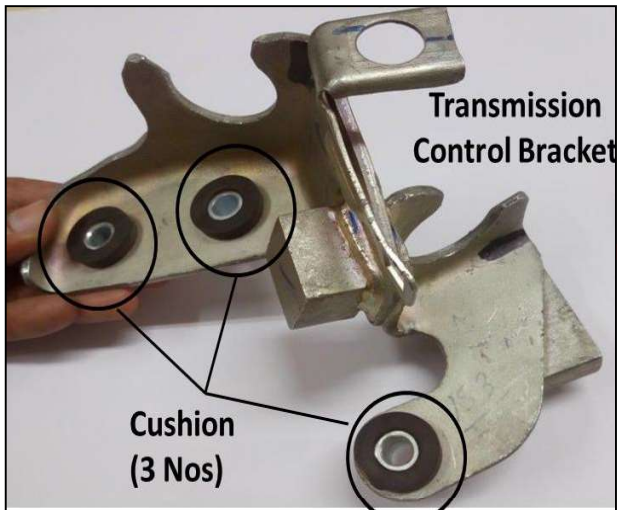
**Analysis:**

Gear shift and select cables are mounted on control cable bracket from transmission side. For control cable bracket mounting, there are 3 holes. Cushion rubber bushes are provided in these 3 holes to keep the bracket fixed in its place and to dampen the movement. Cushion rubber bush once worn out leads to excessive play in control cable bracket which can result to any of the following problems:

1. Gear shifting hard – All or any
2. Gear slippage – All or any
3. Cable coming out from transmission side bracket.



**Photographs**



**NG Cushion**



**OK Cushion**



**Cushion. control cable bracket**

**Action Taken:**

- Rubber Cushion (28393M79M00) of control cable bracket replaced and issue was resolved.
- Road test taken and all gears were engaging normally.

**Conclusion:**

For checking any mechanical issue, step by step investigation helps in finding the root cause of the issue.

**Abbreviations:**

(D) – Diesel

(P) - Petrol