

Your Ref: SND 2265C
Our Ref : CI/TP22001617/D

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AUTOMOBILE INSPECTION REPORT OF MOTOR CAR SND 2265C

1. I refer to your request on 14 January 2022 to conduct a physical inspection of a motor car bearing registration number SND 2265C (herein referred to as "**Motor Car**").
2. The purpose of this inspection was to primarily determine: -
 - a) whether the manual transmission on the Motor Car was fitted in a secure manner that will not affect the structural integrity of the Motor Car; and
 - b) whether there was any operational issue(s) to the manual transmission system of the Motor Car.
3. Following the request, I had carried out a physical inspection of the Motor Car on 24 January 2022 at the premises of No. 10 Kaki Bukit Road 2 #03-02/04 First East Centre, Singapore 417868. I also conducted a short test drive of the Motor Car during this inspection.
4. I now set out below my observations and comments with respect to this inspection and test drive.

Inspection of the Motor Car

5. The following general information of the Motor Car was first recorded at the time of my inspection: -

Vehicle Registration No.	: SND 2265C
Make / Model	: Mitsubishi Lancer Evolution Wagon 5A/T
Chassis No	: CT9W0002732
Year of Registration	: 2006 (September)
Mileage	: 91,510km

6. The Motor Car was fitted with a 5-speed manual transmission system, consisting of 2 main housings. The input side of the transmission, which houses the main shaft and various gear sets is bolted to the crankshaft side of the engine block. The gear set in the input side of the transmission connects to the transfer case, which is the second of the 2 main housings. The transfer case is also the output side of the Motor Car's transmission. The front left and front right drive shafts were observed to be securely fitted from the transfer case to the front left wheel and front right wheel respectively. The transfer case also connects to the propeller shaft, which leads to the rear differential of the Motor Car, providing the drive to the rear wheels of the Motor Car. There was no crack and/or hole observed on both housings.
7. The transmission of the Motor Car was supported by 3 brackets. One at the front of the transmission, one at the rear of the transmission and one at the top left of the transmission. The front and rear brackets were found to be mounted onto the Motor Car's longitudinal and lateral crossmembers respectively. The bracket at the top left of the Motor Car's transmission was found to be mounted onto the left side front chassis, adjacent to the left side front wheel house. The mounting of this bracket is the original mounting point for this bracket as the welding for the support of this bracket was of original weld. All brackets were with rubber bushing, which absorbs any vibrations arising from the rotation of the transmission gears, minimising any stress to the bracket and correspondingly also minimise any stress surrounding the locations where these brackets are mounted onto.
8. The Motor Car's transmission was operated by a clutch pedal, for engaging and disengaging the transmission gears, and a manual gear shifter for manually selecting the transmission gear to be engaged. See photo 1 – 13 below taken during my inspection of the Motor Car.



Photo 1 shows the Motor Car hoisted for checks on its undercarriage, in particular to its transmission.

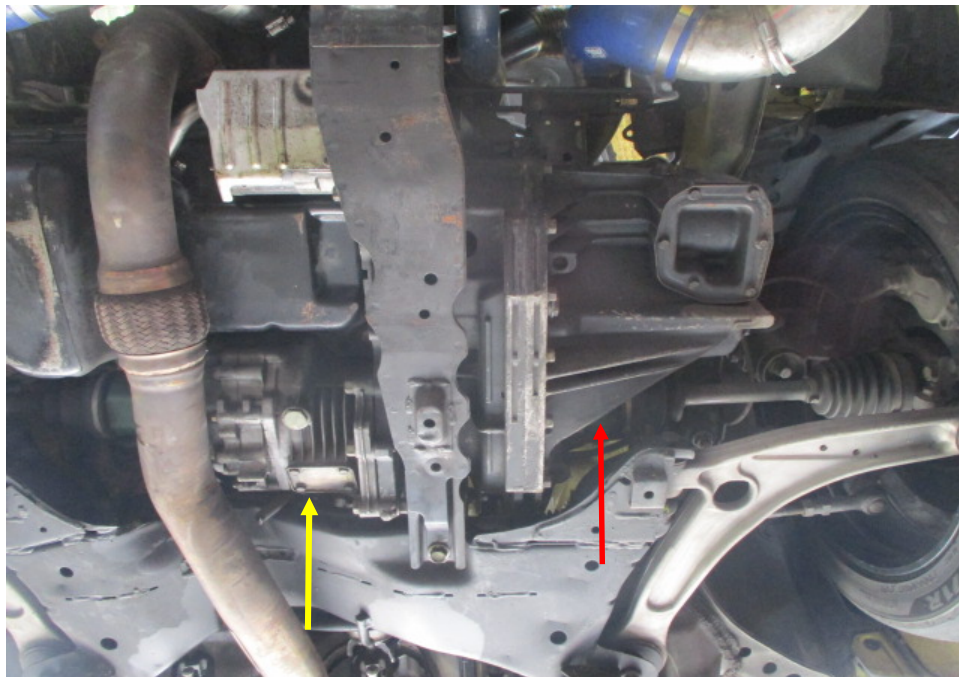


Photo 2 shows a general view of the transmission that was fitted on the Motor Car. The input side of the transmission (red arrow), which houses the main shaft and various gear sets, is bolted to the crankshaft side of the engine block. The gear set in the input side of the transmission connects to the transfer case (yellow arrow), which is the output side of the Motor Car's transmission.

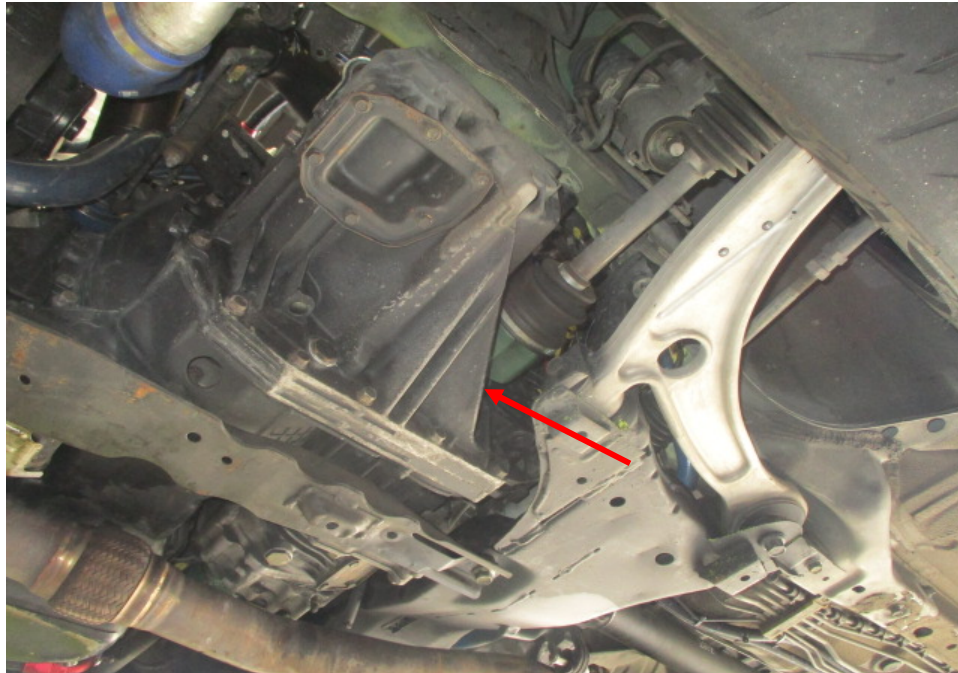


Photo 3 shows another view of the transmission (arrowed) that was fitted on the Motor Car. This was the input side of the transmission, which houses the main shaft and various gear sets. There was no crack and/or hole observed on the transmission housing.

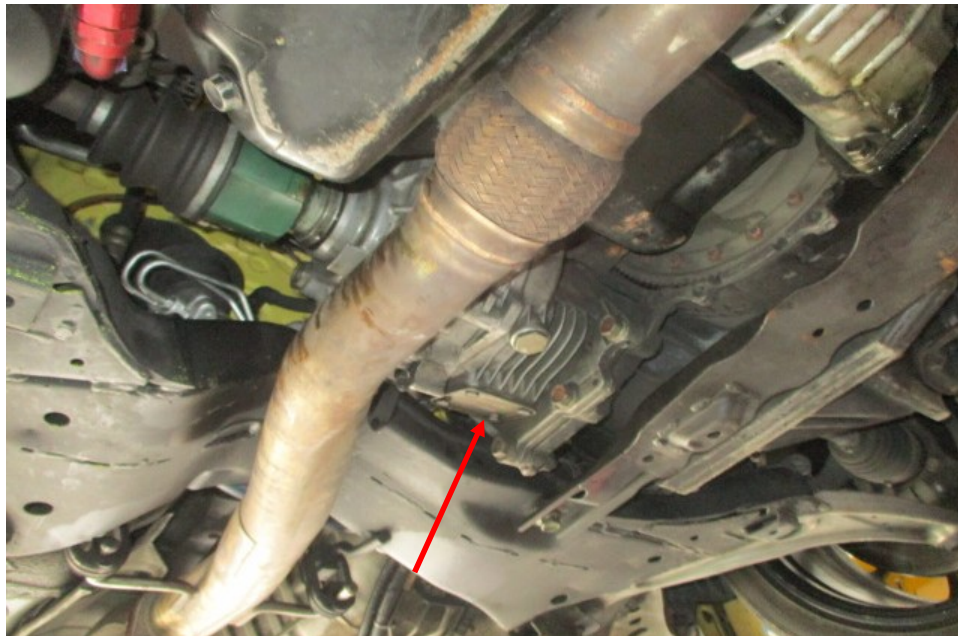


Photo 4 shows the transfer case (arrowed) of the Motor Car. The transfer case is also the output side of the Motor Car's transmission. The gear set in the input side of the transmission connects to this transfer case, which is the second of the 2 main housings of the Motor Car's transmission. Drive to the front wheels of the Motor Car is provided via drive shafts that are extended from this transfer case. The transfer case also connects to the propeller shaft, which leads to the rear differential of the Motor Car, providing the drive to the rear wheels of the Motor Car.

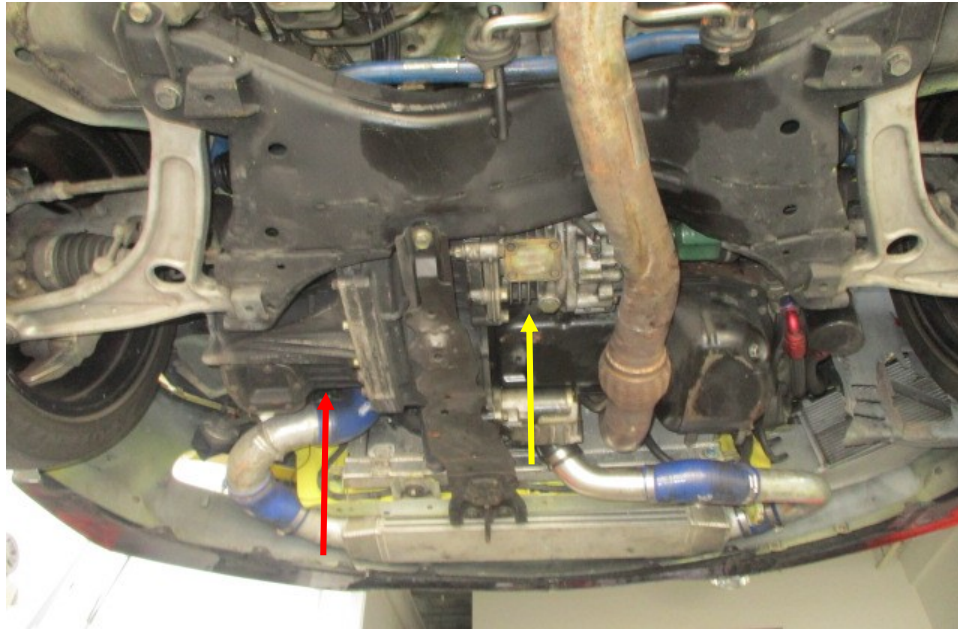


Photo 5 shows the transmission that was fitted on the Motor Car, as viewed from the rear to front. The input side of the transmission (red arrow), which houses the main shaft and various gear sets is bolted to the crankshaft side of the engine block. The gear set in the input side of the transmission connects to the transfer case (yellow arrow), which is the output side of the Motor Car's transmission.

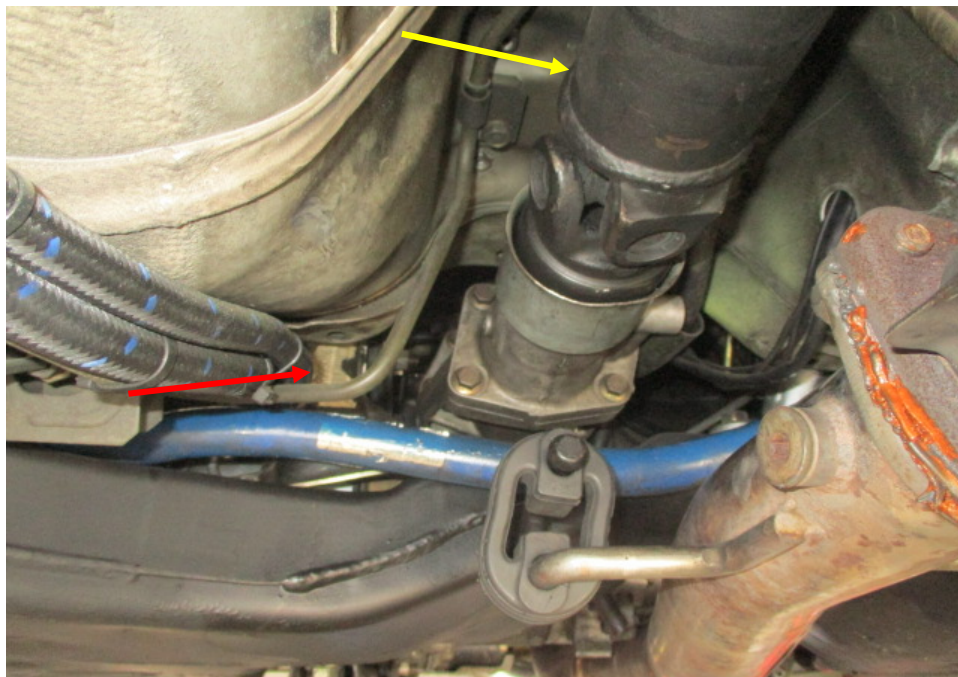


Photo 6 shows the propeller shaft (yellow arrow), which is connected to the transfer case of the Motor Car. This propeller shaft connects to the rear differential of the Motor Car, providing the drive to the rear wheels of the Motor Car. The transmission of the Motor Car is supported by 3 brackets. One at the front, one at the rear (red arrow) and one at the top left of the transmission.

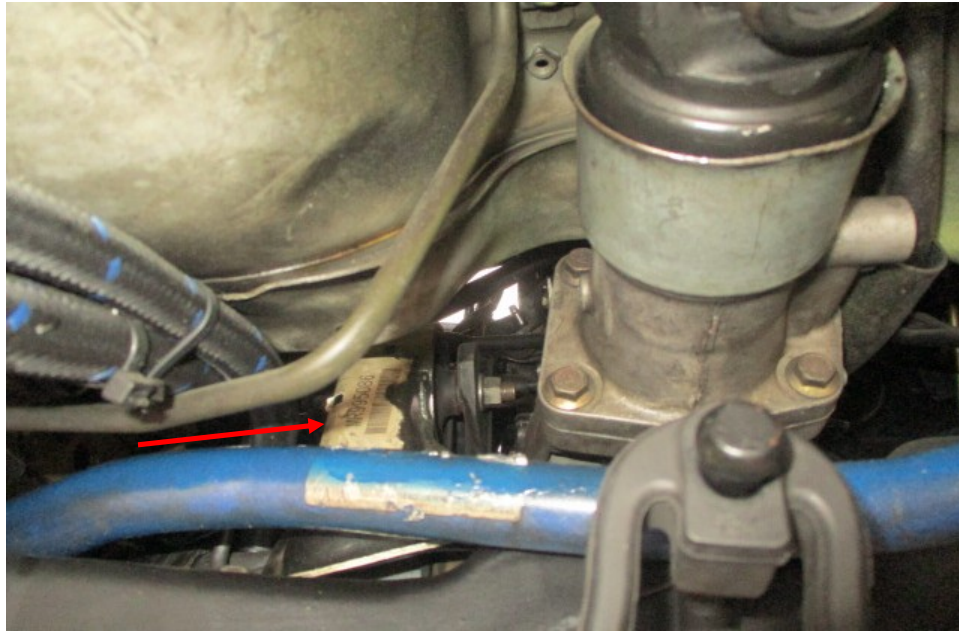


Photo 7 shows the bracket that supports the rear of the Motor Car's transmission. This bracket (arrowed) at the rear of the transmission was observed to be mounted onto the Motor Car's lateral crossmember. The bracket was with rubber bushing, which absorbs any vibrations arising from the rotation of the transmission gears, minimising any stress to the bracket and correspondingly also minimise any stress to the lateral crossmember that this bracket is mounted onto.



Photo 8 shows the bracket at the front of the Motor Car's transmission, which was observed to be mounted onto the Motor Car's longitudinal crossmember. Similar to the bracket at the rear, this bracket (arrowed) was also with rubber bushing, which absorbs any vibrations arising from the rotation of the transmission gears, minimising any stress to the bracket and correspondingly also minimise any stress to the longitudinal crossmember that this bracket is mounted onto.



Photo 9 shows a closer view of the bracket supporting the front of the Motor Car's transmission. Similar to the bracket at the rear, this bracket (arrowed) was also with rubber bushing, which absorbs any vibrations arising from the rotation of the transmission gears, minimising any stress to the bracket and correspondingly also minimise any stress to the longitudinal crossmember that this bracket is mounted onto.



Photo 10 shows the bracket (arrowed) supporting the top left of the Motor Car's transmission. This bracket was found to be mounted onto the left side front chassis, adjacent to the left side front wheel house. The mounting of this bracket is the original mounting point for the this bracket as the welding for the support of this bracket was of original weld.



Photo 11 shows a closer view of the bracket (arrowed) supporting the top left of the Motor Car's transmission. This bracket was found to be mounted onto the left side front chassis, adjacent to the left side front wheel house. The mounting of this bracket is the original mounting point for this bracket as the welding for the support of this bracket was of original weld. This bracket was also with rubber bushing, which absorbs any vibrations arising from the rotation of the transmission gears, minimising any stress to the bracket and correspondingly also minimise any stress to the left side front chassis.



Photo 12 shows the manual gear shifter (arrowed) that was fitted on the Motor Car, for manually selecting the transmission gear to be engaged.



Photo 13 shows the clutch pedal (arrowed) of the Motor Car, for engaging and disengaging the transmission gears.

9. I subsequently test drove the Motor Car to primarily determine whether there was any operational issue(s) to its manual transmission system. The Motor Car was driven around the arterial roadways surrounding First East Centre.
10. The general performance of the transmission system of the Motor Car was satisfactory throughout the Motor Car's short test drive. Operationally, I did not find any abnormal behaviour of the transmission system. I was able to engage the different transmission gears without any significant difficulty. Selecting the required transmission gear by manually upshifting and downshifting of the gear shifter was relatively smooth. The Motor Car was also able to reverse when the gear was manually shifted to reverse. The mileage of the Motor Car at the end of the test drive was 91,512km.
11. In summary, the transmission of the Motor Car was found to be secured properly. It was observed to be supported by 3 brackets with all related components forming a complete manual transmission system, securely fitted/attached. The structural integrity of the Motor Car is not compromised by the fitment of this particular transmission.

12. The operating condition of the Motor Car's manual transmission system was satisfactory throughout a test drive of the Motor Car that I had carried out.



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