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Unit Standard 920

Describe the construction and operation of manual and semi automatic transmissions used on light vehicles

Level 3 Credit 4 v4

Student Name:

School:

Date:

Marked By: _____ **Mark** _____%

Feedback: **Excellent work** ☐ **Please attempt all questions** ☐

Good work ☐ **Please resubmit** ☐

USEFUL WEBLINKS

Manual Transmission
http://youtu.be/IKywZ730JFs
http://youtu.be/QPaUJfA1KsY
http://youtu.be/vzYGcDZXgWQ?list=PLxyaRsQHmj8Z6BLsAb05RafeILvj-P8nD
http://youtu.be/MgmxydwmtTg
http://youtu.be/vOo3TLgL0kM

Synchromesh
http://youtu.be/r6hWAaE5VWY
http://youtu.be/MXsRfbOiBhE

Gear Ratios
http://youtu.be/B4j2VPHVm6o
http://youtu.be/odpsm3ybPsA

Motorcycle Transmissions
http://youtu.be/qgHjg3wUUxc
http://youtu.be/E2CybLSrN5Q

Gears
http://youtu.be/kUPjcKF3hA8
http://youtu.be/tOSQK5ZZzhg
http://youtu.be/aFvj6RQOLtM

Powerflow
http://youtu.be/RXdk6fNIBMI
http://youtu.be/vOW_Expv4vA

REVIEW QUESTIONS ONE

1. Explain the purpose of a transmission.

2. Name the three most common types of gears and describe the differences between each one.

3. Explain the term gear ratio.

4. Describe a typical process of how an electric gear shift would change into another gear once it is selected by the driver.

5. Describe the purpose and function of the interlock system.

6. If a gear with 48 teeth drives a gear of 18 teeth calculate the gear ratio.

7. Where are detents used in a manual transmission and explain how they operate.

8. What is a transaxle transmission?

9. Describe in your own words the purpose of a synchroniser sleeve.

10. Which of the following is made to slip into a groove that runs radially around the outer sleeve of the synchroniser. Please circle A,B,C or D.

- A. Shift linkage
- B. Shift fork
- C. Synchroniser inner hub
- D. Synchroniser baulk ring

11. Explain the terms select and shift when used in relation to transmission cables.

12. Explain the working principles of splash fed lubrication.

13. With meshed helical gears, how many pairs of teeth are always engaged?

14. List one advantage and disadvantage of using double helical gears.

15. Explain how the selector rail is held into the correct location.

16. Complete the following sentence.

As a _____ is being _____ the selector _____ moves upward causing the _____ _____ to move _____ the remaining _____ _____ into position preventing them from _____ and _____ another _____ at the same time.

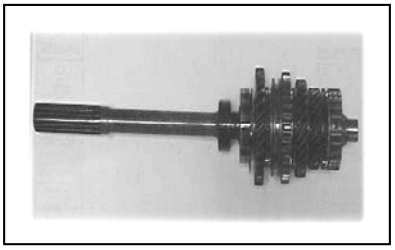
17. In which direction should the output shaft turn when reverse gear has been selected? Explain how this direction is obtained.

18. Describe the stages that occur during gear synchronisation.

19. Explain the purpose for using sealed bearings within a transmission.

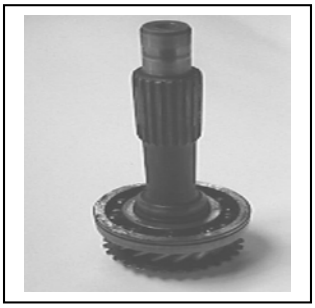
20. Identify each of the following components A-D.

A:



B:

C:



D: