DIFFERENTIALS AND JOINTS

14.1. Vocabulary

Ex. 1. *Match the words to their Russian equivalents.*

1. friction	a. стук
2. coupling	b. соединение
3. transmit	c. трение
4. rotary motion	d. шарнир равных угловых скоростей
5. clunk	e. ниппель
6. U-joint	f. тяжелый удар
7. CV boot	g. вращательное движение
8. hinge	h. пыльник
9. knocking	i. ведущий мост в блоке с коробкой передач
10. joint	j. карданная передача
11. transaxle	k. передавать
12. CV joint	l. шарнир

Ex. 2. *Complete the sentences with the given words:*

u-joint, knocking, clunk, joints, rotary, boots, coupling, cv, friction, transaxle

The _____(1) sound coming from my car's differential was getting more frequent with each passing day.

The mechanic quickly tightened the _____(2) on the _____(3) joint to ensure the wheels would continue spinning smoothly.

The repair shop recommended replacing the CV _____(4) on my car to prevent further damage and increase its lifespan.

My mother mistakenly hit a curb, causing the _____(5) in her vehicle to get damaged and affecting her ability to steer properly.

The _____(6) of the door hinges echoed through the garage as I tried to fix them myself.

A lack of proper lubrication can greatly increase the _____(7) between gears, potentially causing them to wear out and need replacement.

After inspecting the differential, the mechanic determined that a worn bearing was causing the _____(8) motion to feel jerky.

It was clear that the knocking sound was coming from the joint connecting the driveshaft to the _____(9).

As part of routine maintenance, the mechanic checked all the _____(10) and found a small crack in one of them.

14.2. Reading

Ex. 2. *Read the text.*

Differentials and Joints

The differential is a device that splits the power between the two front wheels. It allows them to turn at different speeds, for example when you are driving round a corner. The differential consists of a number of gears and if it gets damaged you will hear a clunking noise. In this case the differential needs to be replaced.

The CV joints are the ball-and-socket joints that allow the drive shafts to transmit the power from the transaxle to the wheels. The CV joint is protected by a flexible rubber boot. If the boot tears or gets damaged, the grease inside the boot leaks out and the joint starts to wear. This can cause a knocking sound when you are driving. If you don't replace the CV boot in time, the CV joint will need to be replaced too.

The universal joints (U-joints) on the front drive shaft connect the front axle to the transmission. They allow the front wheels to be driven when the four-wheel-drive system is engaged. U-joints consist of a cross-shaped body with bearings at each end. If the U-joints get worn or damaged, you may hear a squeaking noise when you are driving. In this case the U-joints need to be replaced.

The propeller shaft connects the transmission to the rear differential. It transmits the engine power to the rear wheels. The propeller shaft is supported by a number of bearings. If these bearings get damaged, they can cause a vibrating or shaking sensation when you are driving. If you don't replace the bearings in time, the propeller shaft may become loose and cause further damage.

The wheel bearings support the weight of the vehicle and allow the wheels to spin freely. They are usually sealed units that do not require any maintenance. However, if the wheel bearings get worn or damaged, they can cause a rumbling or grinding noise when you are driving. In this case the wheel bearings need to be replaced.

Ex. 2. *Answer the questions.*

1. What is the function of the differential in a vehicle?

2. How can you tell if the differential is damaged?

3. What are CV joints and what is their purpose?

4. What happens if the CV boot tears or gets damaged?

5. What do universal joints (U-joints) do in a four-wheel-drive system?

6. How can you identify worn or damaged U-joints?

7. What role does the propeller shaft play in a vehicle's drivetrain?

8. What symptoms may indicate damaged propeller shaft bearings?

9. What is the purpose of wheel bearings in a vehicle?

10. How can you determine if the wheel bearings are worn or damaged?

14.3. Communication

Ex. 1. *Make sentences using the following words:*

1. differential/transferring/power

2. functioning/joints/move

3. check/level/fluid

4. regular/exercise/strengthen

5. outer/inner/turning

6. important/stretch/before

7. identify/types/body

8. located/rear/axle

9. osteoarthritis/common/joints

10. change/oil/vehicle