


1 Problems

Start here

- 1 Work in pairs. Discuss these questions, then share your ideas with the class.

- 1 Why do companies sometimes have to recall their products?
- 2 What kind of products are more likely to be recalled than others?

Listening

- 2  08 Listen to this radio news item and complete the information.

- 1 The Komodo D25A uses _____ fuel and has an _____ gearbox.
- 2 The part which has the problem is the _____.
- 3 The problem is that when you release this part under certain conditions, it may _____.

- 3 Listen again and complete these statements.

- 1 More than ten million Komodo cars _____ around the world.
- 2 Komodo agencies _____ today about the recall.
- 3 Adverts _____ in newspapers, and all Komodo drivers _____ personally.



Language

Present continuous (passive)

subject	is / are	being	past participle
A product recall operation	is	being	mounted.
Ten million cars	are		recalled.

If you need to specify the agent, you can use *by*: *A product recall operation is being mounted this week **by** Komodo, one of the world's largest car manufacturers.*

Writing

- 4 Rewrite this text, changing all verbs in the present continuous from the active to the passive and making any necessary changes. Use *by* + agent only when it gives new or important information.

The MegaFarma pharmaceutical company has just announced that they are recalling all stocks of their new drug Zypo around the world. Pharmacies in Asia, Europe and Africa are returning about 25 million packets of the drug. The company is conducting the recall because the drug can cause dangerous levels of tiredness. They are currently gathering information about the drug from thousands of doctors. The company is contacting all hospitals, and a team of five specialists is carrying out an investigation. They are putting adverts in newspapers to warn everyone. The President of MegaFarma, Dr Hans Jorgen, is holding several news conferences today.

Speaking

- 5 Work in pairs. Tell each other about product recalls you know about, or other large-scale operations, which are currently being conducted somewhere in the world.

Examples: environmental clean-ups, military campaigns, peace-keeping operations, top-level negotiations, economic interventions, investigations.

- 6 Read the final draft (on the left) of this product recall notice and compare it with its first draft. Underline the differences between the two drafts. Make a note of how the differences affect you as the reader. Then briefly discuss your ideas with a partner.

Product recall: Komodo D25A

Komodo Motor Company announces the recall of the Komodo D25A due to a potential problem with the accelerator pedal.

There is a possibility that, under certain conditions, some accelerator pedals may not operate correctly.

The problem may arise because, in very rare instances, the accelerator pedal mechanism can become worn. There is a slight possibility that this could increase the friction in the mechanism, which might result in the accelerator pedal moving too slowly.

In the unlikely event that this happens, the driver may notice that the pedal returns too slowly to the idle position, or, in a few isolated cases, may remain in a partially depressed position.

Even though no accidents have been reported, we advise all our customers to contact their Komodo dealer, who will carry out a free inspection of their vehicle as a precaution.

At Komodo Motor Company, we take the safety of our cars very seriously and we would like to apologise for any inconvenience caused to our customers.

First draft of product recall notice

Komodo Motor Company announces the recall of the Komodo D25A due to a problem with the accelerator pedal. The problem is that some accelerator pedals do not operate correctly.

The problem arises because the accelerator pedal mechanism becomes worn. This increases the friction in the mechanism, which results in the accelerator pedal moving too slowly.

If this happens, the driver will notice that the pedal returns too slowly to the idle position, or remains in a partially depressed position.

Although no accidents have been reported, we advise all our customers to contact their Komodo dealer, who will carry out a free inspection of their vehicle.

Komodo Motor Company would like to apologise for the inconvenience caused to our customers.

- Vocabulary** 7 Group the words and phrases you underlined in 6 by writing A, B, C or D next to each one.

- A modal verbs indicating possibility (e.g. *may*)
- B other words or phrases indicating possibility (e.g. *potential*)
- C phrases suggesting that the fault is unusual or rare (e.g. *under certain conditions*)
- D phrases suggesting that the company is concerned about safety (e.g. *as a precaution*)

- 8 Discuss with a partner the different effect on the reader of these words and phrases in the final draft.

- 1 '*in the unlikely event that this happens*' (instead of '*if this happens*')
- 2 '*Even though no accidents have been reported*' (instead of '*Although no accidents*')
- 3 '*any inconvenience*' (instead of '*the inconvenience*')

- 9 Change these announcements to suggest that the negative events are very unlikely to happen. Use a variety of expressions from this page, or other similar ones that you know.

- 1 TransAm Airlines announces that flights are being cancelled or delayed due to bad weather. If your flight is delayed, please contact the check-in staff. We would like to apologise for the inconvenience that you have been caused.
- 2 Turino Cars announce that the Frodo D5 model (all years) is being recalled to check a fault in the engine filter. The fault is that engine oil enters the combustion chamber and acts as additional fuel. This leads to maintained or increased engine speed. When you take your foot off the accelerator, the car stays at the same speed, or speeds up. If you notice that your oil level has risen above the maximum, please contact your Turino agent.

2 Solutions

- Start here** 1 Work in small groups. Study the diagram on the next page and briefly discuss the following points.
- the purpose of the system
 - how it works
 - what the driver hears or feels when the system is working
- Scanning** 2 You have a few minutes before a meeting to gather the information you need. Scan the briefing documents on the next page quickly, and decide which documents do the following. (Some documents do more than one thing.)
- 1 describe customers' complaints about the Primaro Hybrid car Doc(s) A
 - 2 give technical information about the Hybrid braking systems Doc(s)
 - 3 suggest the cause of the problem Doc(s)
 - 4 suggest a solution to the problem Doc(s)
- Task** 3 Study the briefing documents more carefully, and write a summary of the main points. The purpose of the summary is to help you produce the product recall notice in 5 below. The total length of your summary should be no more than 200 words. Use headings to indicate topics.

Tips for writing your summary of main points:

- First, write some headings to reflect the topics covered by the briefing documents, e.g. *Problem*; *Test results*; *Technical background*; *Solution*.
- Read the documents and underline the key points.
- Omit examples and repeated or unimportant information.
- Express the key information using as few words as possible.
- Use bullet points and one or more main verbs; omit full stops and words like *a* and *the*. Example: *customers complain of slight delay using ABS on slippery roads.*

- 4 Work with your group from 1. Compare your summaries, check the main points and decide which ones to use in the product recall notice.
- 5 Produce your team's product recall notice for the Primaro Hybrid to solve the problem outlined in your group's summary of main points.

The product recall notice should be 250–300 words long. Use information from your summary of main points. Refer also to the product recall notice and the vocabulary on page 21. Aim to persuade the reader that, although the fault is rare and not dangerous in itself, the company is taking all necessary steps to make the customer feel safe. Explain technical information (about the braking systems, for example), using language that a non-technical reader can understand. To make the writing more concise, join shorter sentences into longer ones where appropriate. Examples:

Language Linking (non-defining relative clause + present participial phrase)

*Full tests have been carried out. **These tests confirm** that all components are working ...*

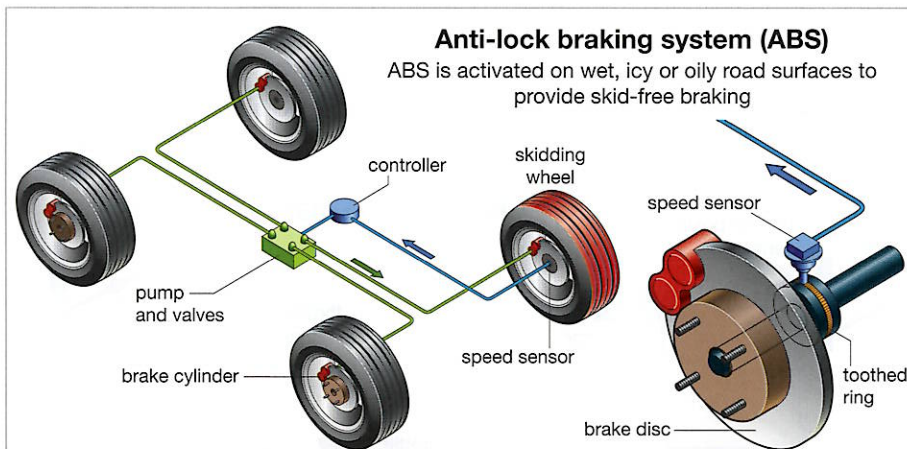
→ *Full tests have been carried out, **which / that confirm** that ...*

→ *Full tests have been carried out, **confirming** that ...*

Expressing contrast

The problem is not serious. The driver may experience some delay in braking.

→ ***Although** the problem is not serious, the driver may experience some delay in braking.*



- sensor: detects speed from toothed ring and transmits data to controller (computer)
- valve: controls flow of brake fluid into brake cylinder
- pump: applies and releases pressure in brake cylinder rapidly and continuously
- controller: collects data from sensors and controls valves and pumps

During ABS operation, driver experiences rapid pulsing sensation in brake pedal.

A REPORT ON USER FEEDBACK

Twenty-six drivers of the Primaro Hybrid have written to us complaining about braking problems on slippery roads. When they brake, according to their reports, they experience a slight delay before the ABS is activated. There have been no reports of accidents and tests confirm that there is no loss of braking power. Here's one example of customer feedback taken from a drivers' blog on the internet: *I love my Primaro Hybrid, but it gave me a bad scare last week. Driving down a hill at 50 kph, I hit a patch of oil on a bend in the road. I touched my brakes, but for a split second nothing happened. Aaargh! I almost panicked, then I heard the rumble of the ABS kicking in, then the car slowed down safely ...*

FROM: Chief Engineer, ABS

Our team has tested all the components of the Hybrid's ABS system (see illustration above). Our results indicate that all components are working correctly. We suggest that the problem is in all probability a software one.

C
From: Chief Engineer, Hybrid

You asked our team to check if the 'braking delay' problem could be caused by a conflict between the hydraulic and the regenerative braking systems.

It's possible. However, most hybrids - not only the Primaro - show slight delays while the controller switches from regenerative to ABS braking. The delay does not reduce braking power. I attach a 'Technical Note' with further details.

D Switching from regenerative to hydraulic braking

- The brakes in the Hybrid use three systems: *brake regeneration*, *hydraulic brakes* and *ABS* (anti-lock braking system).
- Under light braking, the callipers don't squeeze the brake discs. Instead, the resistance of the electric motors provides the deceleration. By the way, this is how the Primaro Hybrid collects the energy of the moving car and recharges the batteries.
- Harder braking engages the callipers in the usual way. Finally, maximum braking while driving on slippery roads engages the ABS system to keep the tyres from skidding. The computer receives inputs from various sensors and then determines the correct braking system.
- On a slippery road, there may be a momentary delay while the controller switches from regenerative to ABS braking. The brakes are powerful and the car will still stop. However, the driver may perceive this as a dangerous delay, although the delay is not in actual fact dangerous.

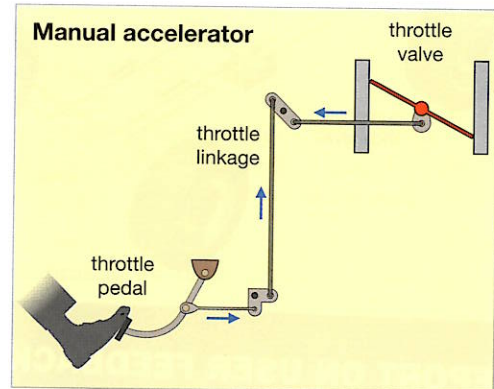
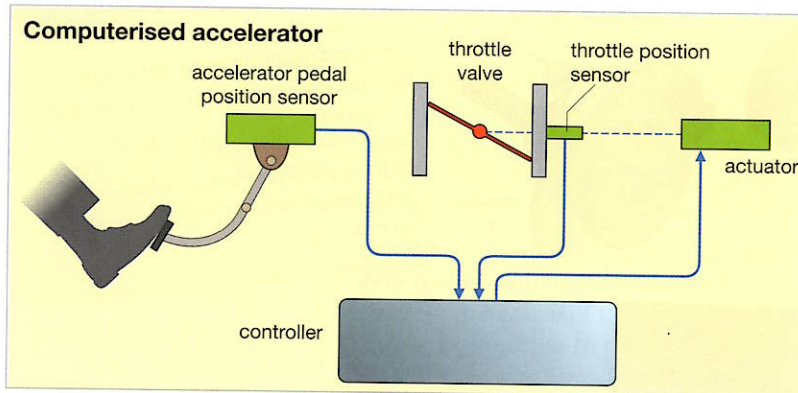
FROM: Chief Engineer, Software

You asked my team to devise a software fix for the 'delayed braking' problem.

We've designed a simple software solution that will speed up the controller's response when it switches between braking systems. A product recall will be needed, as we thought, but you can tell the customers that it will not require new parts to be fitted. The technician will simply connect a laptop to the car's controller and download the new software.

3 Controls

- Start here** 1 Work in pairs. Briefly discuss the similarities and differences between manual and computerised car acceleration systems.



- Reading** 2 Read this text, and answer the questions below.

COMPUTERISED CONTROL SYSTEMS

1 Cars

The illustrations show the difference between a manual (or physically controlled) accelerator system and a computerised one. Computerised systems in cars are sometimes called *drive-by-wire* systems. The word *wire* refers to the cable that carries electronic signals to and from the **controller**.

Both systems use the same input **mechanism** (the accelerator pedal) and output mechanism (the valve on the **throttle**). In the manual system, the pedal is directly connected to the throttle valve by cables and springs, which pull and release the valve using physical force.

In the computerised system, an electronic sensor detects the movement of the pedal, and sends a signal to the controller. The job of the controller is to **interpret** the data and send instructions to the **actuator**, which then adjusts the throttle using small precise movements in line with the driver's intention.

2 Aircraft

Computerised flight systems in aircraft (also called *fly-by-wire* systems) operate in a similar way. Sensors, controllers and actuators play a similar role in controlling the movement of wing surfaces, for example.

An automatic pilot (or *autopilot*) system is a special type of computerised system where a pilot can first **establish** details of the flight (such as altitude, speed and direction) in advance and then **relinquish** control of the flight to the computer.

If a pilot later wants to **regain** control of the aircraft, he can **override** the autopilot at any time. When he has control of the aircraft again, the pilot can **retain** that control for as long as he wishes until he activates the autopilot again.

- 1 What is the main similarity between the two car accelerator systems?
- 2 What is the function of the pedal in a *drive-by-wire* accelerator?
- 3 What example does the text give of an aircraft output mechanism?
- 4 How does an aircraft autopilot system 'know' how fast it should fly?

- Vocabulary** 3 Match these words and phrases with the words in the text (in bold) which have the same or similar meaning.

Nouns:

- 1 small motor
- 2 accelerator
- 3 moving part
- 4 central computer

Verbs:

- 5 take back (or take over again)
- 6 keep (or maintain)
- 7 counteract (or cancel)
- 8 process
- 9 give away (or hand over)
- 10 set (or fix)

Section 1:

fly-by-wire (aircraft) vs drive-by-wire (car)

Difference:

• fly-by-wire: _____

• drive-by-wire: _____

Similarity: _____

Section 2:

fly-by-wire vs automatic pilot

Difference:

• fly-by-wire: _____

• automatic pilot: _____

Similarity: _____

Section 3:

automatic pilot (aircraft) vs cruise control (car)

Difference:

• automatic pilot: _____

• cruise control: _____

Similarity: _____

Language

Ways of contrasting ideas

Conjunctions for linking clauses in the same sentence

- Cars use wheels **but** aircraft use wing surfaces.
- Cars use wheels **whereas** / **while** aircraft use wing surfaces.
- **Whereas** / **While** cars use wheels, aircraft use wing surfaces.
- Autopilot systems are useful, **but** some experts think they are dangerous.
- **Although** / **Though** autopilot systems are useful, some experts think they are dangerous.

Non-conjunction linkers for linking two different sentences

- Cars use wheels. **However**, aircraft use wing surfaces. Cars use wheels. Aircraft, **however**, use wing surfaces. ~~NOT Cars use wheels, however, aircraft use wing surfaces.~~
- Autopilot systems are useful. **Nevertheless**, some experts think they are dangerous. / Some experts **nevertheless** think they are dangerous.

5 Rewrite these sentences to express the same or similar contrasts, using the words in brackets.

- 1 A manual accelerator system uses cables and springs, but a computerised one uses sensors and actuators. (whereas)
- 2 While a manual pedal physically pulls and releases the valve, a computerised one simply provides information for the sensor. (however)
- 3 Both computerised and manual accelerators use throttles and valves. Only the computerised one uses actuators to control the valves. (although)
- 4 Whereas a car uses a steering wheel as an input mechanism to control direction, an aircraft uses a joystick. (however)
- 5 Pilots use throttle levers to control speed. Car drivers, however, use accelerator pedals. (while)
- 6 Although cruise control systems are very convenient, many car drivers avoid using them because they like to be in full control of the car. (nevertheless)

6 Study audio script [09] on page 119. Highlight examples of the forms in the language box.

Writing

7 Work in pairs. Look at your notes of the final two sections (sections 2 and 3) of the lecture in 4. Discuss ways of expanding the notes into two paragraphs.

8 Work individually. Write up your notes of sections 2 and 3 of the lecture in two paragraphs. Use contrasting linkers where appropriate.

Example:

Fly-by-wire vs Autopilot

Although both systems use computers, sensors and actuators, they differ in one important way: ...

Autopilot vs Cruise control

...