GLOSSARY

This glossary contains useful technical words from the texts and audioscripts which are *not* covered specifically in the exercises.

Word	Definition	Translation
Unit 1		
bearing	mechanism containing balls or rollers placed around a component which spins, e.g. a shaft, to reduce friction	
belt (drive belt)	closed band placed around two or more wheels (pulleys), allowing one wheel to drive the other(s)	
cable	rope made of many wires, usually metal	
component	individual part of an assembly/mechanism	
electromagnetic	has/uses an electrically generated magnetic field	
foundation	base supporting a building or structure, usually made of concrete	
gears	wheels with cogs (teeth) which mesh together to transfer drive from one wheel to the other where the wheels are side by side	
inertia	the resistance of an object to acceleration or deceleration due to its mass	
lubricant	liquid or viscous solid (e.g. oil) used to reduce friction between moving parts whose surfaces are touching	
(electric) motor	device which transforms electrical energy into rotary motion	
pile	foundation comprising a vertical column of concrete in the ground	
propeller	device with spinning blades used to push boats or aircraft through water or air	
reinforcement	networks of fibres or bars placed inside a material to strengthen it, e.g. steel reinforcement in concrete	
remote control	system used to control a device or vehicle from a distance, usually via a wireless connection	
sheave	alternative term for pulley (see *belt* above)	
solar power	energy from sunlight converted into electrical energy	
strength-to-weight ratio	toughness of a material (ability to resist breaking) relative to its density (density = mass/volume)	
structural engineer	engineer specialising in the design of structures, e.g. bridges	
wind load	force exerted on a structure by the wind	
wireless	signal transmission without a physical connection by wire, e.g. by radio waves or infrared waves	
Unit 2		
aggregate	solid particles or lumps of material used in a mixture, e.g. sand and gravel in concrete	
automotive	related to vehicle design and manufacturing	
blade	cutting device, often metal with a sharp or toothed edge	
cement	lime-based powder mixed with water to make concrete	
chassis	base of a vehicle to which all main components are fixed	
composite (material)	combined materials; consists of a bulk material (called a matrix) reinforced with fibres or bars, e.g. glass-reinforced plastic (plastic matrix with glass fibres)	
conductor	material that conducts (carries) electricity or heat – in engineering, usually refers to an electrical conductor	
electrolysis	passing an electrical current through a liquid or solid in order to separate chemical compounds	
exhaust	system for evacuating smoke or gases, e.g. from an engine	
galvanized	coated with zinc – used to protect steel from corrosion (rusting)	
insulation	protective layer to prevent or reduce conduction of heat or electricity	
ironmongery	collective term for small metal items commonly used in buildings, e.g. door handles, hinges, screws, nails	
kinetic energy	energy in the form of movement, e.g. a spinning wheel	
melt down	change a solid substance into a liquid by heating it	
membrane	thin layer of material, often acting as a barrier, e.g. to prevent water passing	
puncture	hole causing a leak of air or liquid, e.g. in a tyre	
rust	common name for iron oxide – produced when iron corrodes as a result of exposure to air and water	
scrap	used/recovered material intended for recycling; often refers to metal	

	Definition	Translation
ıe	gas commonly mixed with oxygen in welding (oxy-acetylene)	
	dense material used to add weight, e.g. as a counter-balance or to resist lift	
;	plastic strap used to fix several cables together side by side, or to fix cables to a supporting structure	
	pouring molten material into a mould	
	electrical connection between a circuit and the ground	
	in a mains electrical circuit, the wire through which current flows into an appliance – also means a circuit is energised (current is flowing)	
ng	collective term for processes involving cutting, drilling, etc.	
nachine	machine with cutting wheels used to cut away the surface of metal in thin layers	
	in a mains electrical circuit, the wire though which current flows out of an appliance	
olt	in construction, an ordinary bolt	
ay	long metal plate on which cables are laid – designed to support large numbers of cables	
	vertical support in a structure	
tion joint	joint between two sections of concrete that were poured at different times (where concrete structures are poured in several stages)	
	large section pipe, with a circular or square profile, for carrying air; or a protective cover for cables or hoses	
ion	making/assembling, often used to describe metalwork	
	collective term for bolts, screws, rivets and clips	
ength friction FG) bolt	bolt which holds plates together by friction (gripping them tightly together) rather than by shear force	
	abbreviation for *mechanical and electrical* – in construction, refers to electrical installations, water pipes, air-conditioning, etc.	
ncrete)	place/cast concrete	
	large flat area of concrete, for a floor or roof	
e	distance between components designed to fit together closely	
	friction mechanism allowing engine motion to be transferred to wheels progressively	
	liquid in a cooling system	
	resistance to movement through a gas or liquid, e.g. when a plane moves through the air	
l contact	point where two electrical conductors are connected	
	often refers to an *internal combustion engine* – i.e. one which burns petrol or diesel	
	spinning device with blades used to generate a flow of air	
	material with small holes located in a flow of gas or liquid; used to block solid particles, e.g. to prevent them from damaging a sensitive mechanism such as a pump	
	moveable panels on aircraft wings which increase lift to assist low-speed flight, e.g. during take-off and landing	
ire	aircraft controls which operate moveable devices (e.g. flaps) electronically, rather than mechanically	
ction	system for injecting fuel vapour into the piston cylinder of an engine	
ature gauge	device which shows a temperature reading	
	case containing shafts with gears, usually with a gearshift mechanism, allowing gears to be moved to change between different gear ratios	
ics	high-pressure oil circuits used to push pistons called hydraulic rams	
	separate an electrical component or part of a circuit from the rest of the circuit – e.g. by opening a switch – to prevent electricity from flowing through it	
gear	wheels of an aircraft	
nnection	electrical connection that is not fully tight, often causing the circuit to be broken, preventing current from flowing	
	when an engine is not running smoothly due to a fuel or ignition problem	
viceable	part that cannot be repaired by maintenance technicians, only by the manufacturer	
	mechanism which transfers linear motion (backward and forward movement) to rotary motion (turning movement), usually pushed by expanding gas	

Word	Definition	Translation
radiator	heat-exchange device that dissipates heat into the air, usually from a hot liquid (e.g. coolant) that is pumped through it	
spoilers	moveable panels on aircraft wings which increase drag and reduce lift; used to slow aircraft when descending and on landing	
starter motor	electric motor in an engine used to turn the engine in order to start it running	
suspension	moveable connection between a vehicle's chassis and its wheels, consisting of springs and dampers	
tank	container for storing liquid	
throttle	accelerator control on an engine	
turbine	transforms a flow of fluid (liquid or gas) into rotary movement, e.g. a wind turbine	
valve	mechanism for opening/closing/restricting the flow of gas or liquid along a pipe	
Unit 6		
beam	long, narrow horizontal component in a structure	
core drill	hole-saw for drilling through thick materials	
crane	machine for lifting heavy objects, able to reach significant heights and distances; includes mobile cranes (which wheel), tower cranes (which are supported by a fixed tower) and gantry cranes (which run along beams)	
dynamic	related to movement, e.g. a dynamic load (= a load generated by a moving object)	
G-force	force of acceleration or deceleration: 1 G is equivalent to the force of acceleration exerted by gravity	
jib	moveable arm of a crane	
lifting eye	ring fixed to a heavy object allowing a hook (e.g. of a crane) to be attached to enable lifting	
low-loader	truck with a low, flat trailer, used for transporting large heavy vehicles, especially construction plant	
slings	flat straps which can be attached to crane hooks and placed under objects in order to lift them	
thrust	pushing force, e.g. generated by expanding gases exiting a rocket	
Unit 7		
air inlet	point where air enters a device or process – the opposite is air outlet	
arc	electrical current travelling a short distance through the air to flow between two conductors	
blower	pump-like mechanism which generates airflow	
circuit breaker	electrical device which instantly breaks a circuit (switches off the power supply) as a safety measure if a variation in current is detected	
extinguisher (fire extinguisher)	device used for putting out fires; usually a metal container with a hose or nozzle containing water, CO_2, powder or foam	
gas bottle	metal container which contains compressed gas, often in liquefied form	
guardrail	safety rail designed to prevent people falling from high places	
handrail	(as guardrail, above)	
load-bearing	describes a part of a structure or assembly that is designed to resist/transmit force	
moisture-sensitive	can be damaged by water	
off-cuts	waste pieces left over after cutting	
shot-blasting	firing small metal balls propelled by compressed air as an abrasive cleaning process	
silo	large container for storing bulk granular materials such as grain	
strain	change in size/shape of a component (e.g. stretching) due to force	
switchboard	control panel containing several switches for all the individual circuits of an electrical installation	
switchgear	collective term for switching equipment	
transformer	electrical device for modifying current and voltage – a step-up transformer increases voltage and reduces current, a step-down transformer decreases voltage and increases current	
Unit 8		
AC	Alternating Current	
automation	automatic control of a system, device or process	
CAD	Computer Aided Design – computer software for producing engineering drawings	
conveyor belt	moving belt which transports objects horizontally; often used in manufacturing processes and warehouses	
downstream	further down the direction of flow (e.g. in a river); used in engineering to describe industrial processes and the flow of liquid/air in pipe/duct networks (opposite = upstream)	
electric utility	company which generates electricity at power stations	

ord	Definition	Translation
ctrical charge	stored electricity (potential electrical energy)	
thermic reaction	chemical reaction which produces heat (opposite = endothermic reaction, which absorbs heat)	
v	movement of a substance, usually a liquid or gas (e.g. along a pipe)	
no	slang term for a technical device, usually electronic – suggests the device is complex	
lroelectric power	electricity generated using water pressure (hydrostatic pressure)	
ins electricity	domestic electricity supply system	
nual	controlled by a person – the opposite is automatic	
igeration	process of cooling to temperatures below atmospheric temperature	
ervoir	man-made lake for storing water, usually for drinking water or hydroelectric power	
ndby (on standby)	when a device is ready to operate immediately, e.g. a TV that is ready to switch on when it receives a remote control signal	
sel	closed tank which can hold a pressure greater than the atmospheric pressure outside it	
it 9		
odynamics	study of airflow, e.g. over moving vehicles and aircraft	
onautical	related to the design and construction of aircraft	
tre of gravity	theoretical point on the cross-section of an object from which the object's mass is transmitted vertically downwards due to gravity	
npressor	device for pressurising gas (usually air) inside a vessel or network of pipes/hoses	
a gathering	collecting and recording the results of tests for later analysis	
ormable	can change shape	
loy	release/eject/open, e.g. when skydivers pull the cord of their parachute, the parachute is deployed	
tructible	can be / is designed to be broken/destroyed	
' store	*Do It Yourself* store – hardware / home improvements store selling building materials and tools to consumers	
ssure gauge	device which shows a pressure reading, e.g. in bar or psi (pounds per square inch)	
bulence	disturbed airflow – i.e. air not flowing smoothly around an object	
uum	volume containing no gas, e.g. space	
dshield	glass at front of a vehicle or aircraft which the driver or pilot looks through, also called a windscreen in British English	
it 10		
dywork	the external skin of a vehicle; usually consists of several panels	
nber	angle that is inclined from horizontal, usually at 90 degrees to the direction of travel, e.g. the camber of a road (the slope of the road across its width)	
enary	downward curved line of a cable when suspended between two supports	
stal defences	large walls, blocks, etc., constructed to protect the coast from sea/ocean erosion	
rode	degrade as a result of a chemical reaction, e.g. iron turning to iron oxide (rust) when exposed to water and air	
rosion	result of material corroding (see above)	
ail	come off the rails, e.g. trains can be derailed	
onate	trigger an explosion	
safe	cannot fail / go wrong – often used to describe safety systems	
sepower	historic unit of power, has been replaced by Watts but still used to describe power output from engines	
xial	not in a straight line	
posing forces	forces acting in opposite directions	
illation	wave pattern	
erse thrust	thrust directed in the opposite direction to that which a vehicle/aircraft is travelling in, intended to slow the vehicle/aircraft	
n	revolutions per minute, used to measure the speed of rotary motion	
d	vehicle that slides along (i.e. does not have wheels), e.g. a sled designed to travel over snow	
ss	the force(s) exerted on an object, e.g. tensile stress in a cable that is being pulled in opposite directions	
erstructure	the part of a structure that is above ground level – the opposite is the substructure	