Pre-drive checks

This handout describes how to conduct a pre-drive check, how to go through a systematic cockpit drill and then the start up procedure to be used prior to driving off.

Pre-Drive Checks

Visual examination of the exterior of the vehicle for:

1. Damage (Dents and scratches, wheel rims etc) Where did it happen?
2. Defects (wires hanging down, exhaust loose, plastic under trays not secure)
3. Leaks (fluids under the vehicle, what are they, you may not want to touch them. If the vehicle has been started be aware the air conditioning unit will release water. Can you see the brake calipers is there fluid on them)

Tyres

1. Condition (no cuts or bulges)
2. Tread (1.6 mm across the central ¾ around the whole circumference is legal. More tread is safer)
3. Pressure (check cold if possible with an accurate gauge, the recommended pressure will be found in the handbook and also on the bodywork somewhere. Fuel filler flaps or inside driver or passenger doors are favourites. Where is it on this car?

Under bonnet checks

1. How does the bonnet open (Key, one pull latch, two pull latch where is the secondary release).
2. Oil (does the oil require a physical check using the dipstick or is it checked via a computer)
3. Engine coolant (visual inspection of the header tank, if it is below the level required add the correct mixed coolant. Modern cooling systems contain a chemical mix which is more efficient than water alone and has corrosion inhibiting properties.) If it has lost fluid why, this may be a problem.
4. Brake fluid (a physical check of the reservoir will show the level) If the level is low why? Could it be the brake pads are close to the wear limit, or do you have a leak?
5. Clutch fluid (As above)
6. Screen wash (Keep level topped up with suitable mix to prevent freezing and assist in cleaning)
7. Is everything as you expect it to be, no loose items or leaks visible.

Lights/Electrics

1. Check operation of all lights, remember that some lights will require the ignition to be active. If possible get help to operate or check the lights, if this is not possible you may be able to see reflections in windows or may have to walk around. Don't forget the reversing lamps and fog lights. (Most modern cars will check bulbs when the ignition is activated and display a warning if a defect is found)
2. Check horn (be aware of not sounding it between 11.30pm and 7am)
3. Wipers/washers (do not operate on a dry screen as you may damage wiper blades)

How to conduct a Cockpit Drill

A good cockpit drill needs to include:

A static brake test (Firm pressure on the foot brake, release the parking brake, is the pressure maintained and is there space for travel below the pedal)

Seat and mirror adjustment (for control, comfort and vision)

A description of vehicle, transmission and how to select reverse. (I am driving a Volvo V40 which has a six speed gearbox driving the front wheels, reverse is "push down away and forward")

Controls of vehicle

Be logical and ordered but understand what you are trying to achieve, can we demist the car, can we find the hazard warning lights without taking our eyes off the road. How do we operate the fog lights, if we stop to let a passenger in where is the door lock.

Start in the centre console, particularly heating and ventilation controls, take time to understand them and how to direct the air or control the temperature. Where are the vents aiming? Minor controls (often fog lights will be controlled from here) and some window switches. Often a central locking button.

Move across to steering column stems, these will control indicators and windscreen wipers and often headlights and rear wash wipe systems.

Again take time to understand the functions and where the manual and auto settings are and which settings are appropriate for your journey. Is the horn here?

Some operating systems for cruise control or speed limiters may be on a secondary stem.

Move to the driver's door, mirror adjustment is normally found here, understand how it works.

Window switches if not already located and possibly the central locking button. If you still haven't found window switches you may have stepped back in time and have to wind the window (or really far back in time and have to slide it)

Onto the steering wheel you may have a number of functions or nothing. You can often control radios, mobile phones and navigation systems from the steering wheel, each system is different, know how yours works.

Startup Procedure

Check vehicle is in neutral or park

- Make ignition live
- Check warning lamps:
- What is on?
- What should be on?
- What goes out?
- What doesn't?
- Is everything as it should be?
- Are you left with the lights that should be illuminated?

Vehicle is in neutral (manual), or park (auto) Depress clutch pedal (manual) as this guards against false neutral and reduces strain on the starter motor. Most modern cars won't start without the clutch being depressed.

Firm pressure on the foot brake. When the engine starts the brake servo becoming active will be felt through the brake pedal.

Most autos won't start without the brake pedal being depressed.

Pull down on the steering wheel with the hand not turning the key or pressing the starter button. When the engine starts, the power steering becoming active will be felt through the steering wheel.

Press start or turn key to second stage and start engine.

All warning lights should now extinguish except for the parking brake warning light.

This is actually the brake failure warning light that is checked every time you apply the parking brake (if this illuminates whilst driving, stop and have the vehicle checked).

The steering should have become light (if power steering fitted). The brake servo should have become active (if fitted)

Gauges should read as you expect.

The rev counter (if fitted) should respond to the accelerator.

The fuel gauge should show sufficient fuel for your immediate journey.

Moving Brake Check

Check your brakes in a safe environment before getting into a situation where you may need them. Ideally achieve 30mph in a non-retarding gear and apply the brakes in a progressive manner. The vehicle should pull up evenly and as expected, you should now know the
required pressure to slow and stop your car. If it is not possible to conduct this check due to traffic conditions or other factors, you must ensure you introduce the brakes early for a hazard until you are satisfied with their performance.