

## Gear change worksheets

Start this project by assessing your own gear changing using the 'scaling' method.

Determine your personal gear changing goals and measure your progress against them as you complete the practise exercises.

Spend a minimum of one hour, practising gear changing, paying particular attention to the points listed in these notes. Ideally you should choose an out-of-town route. A quiet 'B' class road between 1 and 2 miles long and preferably made up of long straights would be just about perfect!

Notes about smooth gear changing (from the website) are reproduced on these pages. Although you might currently consider changing gear as 'just changing gear!' this is an area where a massive amount of improvement can be made for many people in terms of smoothness and fuel economy.

Take the notes out in the car with you to remind you about how to get the smoothest changes. Also read about gear changing in the DVSA Driving Manual and RoadCraft.

Using the worksheet provided, rate each aspect of your gear changing and then note the changes and action needed to increase your score by two points – note that it might take several practise sessions to achieve this goal.

When you have finished your initial practice, complete the marking assessment sheet and make a plan for further improvement.

Include any questions that you might need to ask during an assessment or training session with a trainer.

## Coordinating the accelerator and clutch while changing gear

The engine rev's should always match the road speed for the gear selected. That is, there should be no discernable jerk (vehicle weight-shift) as a direct result of a gear change.

To achieve 'perfect' balance while changing gear you will need to practice several gear changes. It is best to start with 3rd to 4th and 4th to 3rd.

1. Find a clear stretch of road where you can change freely between third and fourth gear. Build your speed up to about 45 m.p.h. in fourth gear and then change down to third.
2. To do this smoothly you will need to ease the pressure on the gas pedal very slightly before declutching (this should not noticeably slow the car down). This is done to prevent the car from 'pitching' forward as you declutch.
3. De-clutch and move the gear lever and start to press the gas pedal before you engage the clutch. Bring the clutch up smoothly as you apply more gas.

When the clutch is brought up fully you should be travelling at about 40 m.p.h.

One of the most common problems at this stage is a rushed gear change. Take your time with the gear change, if you have any problems slow down your hand and feet movements – make the action slow and deliberate, concentrating on what you can feel through the gas pedal and clutch.

Your aim is to keep the car balanced during the gear change. No pitching backwards or forwards and no clutch 'drag' on downward gear changes. You can recognise clutch drag by the sound of the engine - there should be no change in the engine sound as the clutch is engaged. If the engine 'drones' you need to either adjust the speed at which the gear change is made or increase the engine revs by light accelerator pressure as the clutch is engaged.

Feel free to make mistakes at this point - but not jerks! Temporary mistakes or over-revving or slipping the clutch slightly are OK – these things will sort themselves out with practise.

Now change back to 4th gear concentrating on smooth clutch control.

**Repeat this exercise several times until you are happy with the results.**

# Gear changing action worksheet

Name: ..... Date .....

Mirrors before gears - My self assessment score is: .....

*I always use my mirrors before changing gear*

The action required to improve my mirror use in relation to gears is:

Looking well ahead - My self assessment score is: .....

*I always look well ahead when making gear changes*

The action required to improve my observation when changing gear is:

Co-ordination of clutch and accelerator - My self assessment score is: .....

*I keep the car balanced without clutch drag or 'pitching' when changing up  
I keep the car balanced without clutch drag or 'pitching' when changing down*

The action required to improve smoothness when changing gear is:

Selective gear changes - My self assessment score is: .....

*I habitually make selective gear changes and avoid unnecessary gear changes*

The action required to my selective gear use is:

## Marking assessment sheet - Gears

Add the four scores from the action sheet and divide by four this will give you an adjusted overall assessment total for gear changing.

What do you now need to do in order to further improve your gear changing?

Write out (below) your aims and a plan of action for the rest of this week to help you achieve the necessary changes.

### Gear changing action plan

## Questions to ask a Trainer