

IMI Skills Competitions

Pre-Competition Activity Toolbox

Automotive Refinishing



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Overview:

These activities are intended to provide colleges and training centres with suitable tasks and guidance to use:

- As part of the process of identifying their champion
- As part of their competitor preparation prior to IMI Skills Competitions regional competitions
- In determining whether a prospective competitor is at the correct level
- In providing a different learning experience for vehicle paint technicians

While these sample tasks do not directly replicate the IMI Skills Competitions regional tasks, the skills tested do form an inherent part of the knowledge and expertise needed by skilled vehicle paint technicians and relate to the skills tested at regional and national competitions managed by IMI Skills Competitions.

In general regional, competitors are expected to have achieved as a minimum a Level 2 NVQ/SVQ/VCQ/VRQ and/or be working towards their Level 3. In the main the tasks are intended to be carried out in a practical situation but some testing of underpinning knowledge and problem solving can be included. Centres can devise their own additional tasks to replace or enhance the examples provided. You should adhere to the times suggested as performing under time constraints is an integral part of competitions.

Setting up the Tasks:

- The tasks should be arranged so that all materials and equipment needed to complete the tasks are available to competitors including any report sheets and explanatory task material.
- Expect the unexpected, consider each eventuality and how you'd deal with it. Breakages etc.
- Tasks should be strictly timed as time management is a skill that benefits competitors in gaining maximum marks at any competition, Timings should be challenging but not unachievable.
- Tasks can be "doubled up" where practical to enable more competitors to participate.
- There should be enough staff available to monitor progress, co-ordinate tasks and competitors and judge completed tasks.
- Maximum benefit for the competitors will be gained if the competition can be observed by an audience of fellow students and or staff/invited guests as this adds an extra pressure. The competition could form part of a college open day for example.
- Centres should run through the tasks themselves prior to the competition to ensure that tasks are of the correct timing and that they are able to be completed successfully.
- Health and safety should be maintained throughout the tasks.

Preparing Competitors:

Competitors should be encouraged to participate but not pressured into competing

- It should be explained beforehand that competitors should:
 - Concentrate on the task in hand and not get distracted
 - Think logically when a task involves a problem-solving element
 - Aim for excellence in their performance and not just competence
- Walk competitors through the tasks and task area outlining briefly what they are required to do and the results they are expected to achieve. They should check any points they are unclear about at this stage as minimum assistance will be available once the competition commences.

Assessing Task Results:

All marking is intended to be carried out on a purely objective basis and results obtained or witnessed will either be right or wrong. There are no half marks. Some tasks are processes which need to be monitored throughout and therefore a judge will need to be allocated throughout to such tasks. Judges need to be subject/skill specific but not necessarily have formal assessing qualifications e.g. local employers or technicians. They should however be briefed (preferably the day before the tasks are intended to be carried out) so that they can confirm the standards for each task. Centres are welcome to add their own marking criteria/make changes to those provided here to enhance their competition.

Standardisation

Standardisation is a process where a group of judges sets the standard, they require competitors to meet in order to gain the marks. e.g., acceptable tolerances for any measurements taken. These standards should be aiming for excellence but not be so high that no competitors can achieve nor to low that all quality is omitted. Once set these standards should be applied to EACH competitor equally and in the same way.

Above all the competition should be an enjoyable activity for those participating and enable them to experience what it is like to participate in a competitive arena with the pressures this brings. Their involvement will hopefully encourage them to move on to entering the online tests which lead to selection for the IMI Skills Competitions. <https://www.theimi.org.uk/landing/imi-skills-competitions/>

Further help and guidance on setting up and running your pre competition activity along with information on the IMI Skills Competitions please contact the IMI competitions team on 01992 511521 or email skillauto@theimi.org.uk

Have a great competition!

Competitors Instructions Task 1

Automotive Refinishing

Task 1 Prepare and Paint a New Panel

Time allowed – 1 ½ hrs

- Using the panel provided prepare it for the application of basecoat paint, according to the paint manufacturers Technical Data Sheet.
- Use a wet-on-wet system to paint the panel (Outside only) using the colour prepared for you. The panel should be painted as if it is to be fitted to a customer's vehicle.

Judges Marking Sheet Task 1

Task A – Preparation and Painting - Marking Schedule

Competitor name:

Type: Pre-Competition

Date:

Venue:

Aspect ID	Aspect of Criterion – Description	Max Mark	Requirement or Nominal Size	Mark Awarded
1.1	Uses correct / appropriate abrasive	1	Red scotch / 320 and red scotch	
1.2	Primer does not have excessive cut through	3	No cut = 3, 1-3 cuts = 2 3+ cuts = 1	
1.3	PPE observed throughout preparation	1	1 warning only	
Basecoat				
1.4	Panel is covered in required area (no thin parts/no OEM primer showing in painted parts)	1		
1.5	Basecoat is applied evenly (no banding/stripping)	1		
1.6	Free of sanding marks or smudges	1		
1.7	PPE observed throughout	1		
Clearcoat				
1.8	Free of dust inclusions	3	1-3 nibs = 2 More than 4 = 1	
1.9	Free of pinholes/reactions/runs/other faults	1		
2.0	Panel completely covered / no dry areas	1	No dry patches	
2.1	Gloss level above standard (standard set at 90)	2	1 mark (85-90) 0 mark > 85	
2.2	Finish texture (use orange peel standards if available)	4	10-9 = 4, 6-8 = 3 2-5 = 2, 1 = 1	
		20		

	Print	Sign
Judge 1		
Judge 2		
Moderator		

Judges' comments (if applicable):

Judges Guidance Sheet Task 1

Automotive Refinishing

Task 1 Prepare and Paint a New Panel

Judges Guidance Sheet

- ❖ One reminder to use PPE is permitted before deducting marks.
- ❖ One warning regarding safe practices permitted before deducting marks.
- ❖ Each section should be marked before competitor progresses to next step.
- ❖ Gloss meter will be used to assist checking of the standard of finish in at least 3 areas.
- ❖ Orange peel standards should be used if available.

N.B.

Where Gloss Meter and/or orange peel standards are not available then consensus must be agreed between at least 3 judges as to allocation of marks for elements 2.2 and 2.3 and applied consistently across all competitors.

Host Centre Brief Task 1

Host Centre Brief:

- ❖ The panel will have primer coat applied prior to the task commencing.
- ❖ A quantity of pre-mixed paint (non-metallic) will need to be made available for all competitors.
- ❖ Sufficient paint should be prepared to ensure all candidates use the same mix.

Item Description	Number per competitor	Number per competition (6 competitors)
Spray Booth capable of handling 2 competitors at once	1	1
Spraying equipment. Guns, hoses, extraction etc for 2 competitors	1	6
Air fed masks (competitors may wish to use their own)	1	6
Infra-red lamps (or drying equipment)	1	1
Paint and related products	Sufficient for task	
Paint manufacturers Technical Data sheets	1	1
Front wing panel (pre-primed)	1	6
Gloss meter	1	1
Orange peel standards	1 set	1 set
Cleaning systems for water based and solvent based paints	1	1
Sanding papers (range of grades)	selection	
Scotchbrite (range of grades)	selection	
Tack cloth	selection	
Polish and polishing cloths	selection	
Masking tape and paper	selection	

Competitors Instructions Task 2

Automotive Refinishing

Task 2 - Rectify Paint Defect

Time allowed – 30 minutes

You are provided with a painted panel that has been painted by another painter who is now left the company.

- **Assess the quality of the finish on this panel and using the materials and tools provided bring the paint finish to a quality standard suitable to allow the panel to be refitted to the vehicle and the customer to be satisfied.**

Judges Marking Sheet Task 2

Task 2 – Paint fault rectification - Marking Schedule

Competitor name:

Type: Pre-Competition

Date:

Venue:

Aspect ID	Aspect of Criterion – Description	Max Mark	Requirement or Nominal Size	Mark Awarded
1.1	Paint defect is identified	1	Scratch or run	
1.2	Uses appropriate tools and/or materials to reduce defect	1		
1.3	Successfully removes defect	2		
Polishing				
1.4	Polishes area of run without damaging surrounding area	1		
1.5	Assesses remaining area of panel and reduces orange peel appropriately/evenly over complete panel	1		
1.6	Completes polishing without damage to surrounding area/rest of wing	1		
1.7	Cleans panel of residue and leaves panel clean	1		
1.8	Holograms / scratches removed	1		
1.9	Safe working practices adhered to during process	1		
		10		

	Print	Sign
Judge 1		
Judge 2		
Moderator		

Judges' comments (if applicable):

Judges Guidance Sheet Task 2

Automotive Refinishing

Task 2 Paint fault rectification

Judges Guidance Sheet

- ❖ Supplied panels will need COB paint coat applied.
- ❖ Follow set procedure described in host centre brief to ensure consistency of scratches/runs.
- ❖ One warning may be given regarding PPE before deducting marks.
- ❖ One warning may be given regarding safe working practices before deducting marks.
- ❖ No marks should be seen on the finished panel.
- ❖ If the candidate breaks through the clear coat, then marks are deducted.

Host Centre Brief Task 2

Host Centre Brief:

A medium sized panel with a cured Clear Over Base (COB) finish must be available for the assessment and secured enable flatting and polishing to take place.

The panel must include either:

- ❖ A scratch in the clear coat which gives an opportunity for the scratch to be removed without causing break-through to the base coat. A section measuring 200 X10mm can be masked off and lightly rubbed with dry 320 grit paper.
- ❖ A run in the clearcoat of approximately 15 mm applied. This can be achieved using a syringe.

The work area must be clean and free from contaminates.

Workshop lighting must be of sufficient quality to successfully carry out the rectification work.

Infrastructure List:

Item Description	Number per competitor	Number per competition (6 competitors)
Painted COB panel, including a scratch in the clear coat	1	6
Various fine grade abrasives	selection	
Compounding and polishing equipment	1	1
Various grade compounds and polish	selection	
Supply of polishing cloths and paper roll	supply	
Material Technical and Safety Data Sheets	1	1
Compressed air supply	1	1
Panel wipes	supply	
Water/lubricant	supply	
PPE		

Competitors Instructions Task 3

Automotive Refinishing

Task 3 – Colour Matching

Time allowed – 30 minutes

Part 1

- ❖ Use the two standards and the spray out card to match the correct variant to the standard. Each spray out card has a letter on the back of it.
- ❖ Record your answers on the report sheet.

Part 2

- ❖ Use the two standards (sample A & B) and the colour chips to identify the name and code for the colour (include the variant shade designation) Record your answers on the report sheet.

Part 3

- ❖ Use the paint mixing computer system to identify tinters and quantities for the colour indicated by the judge. Record your answers on the report sheet.

Judges Marking Sheet Task 3

Task 3 – Colour Matching - Marking Schedule

Competitor name:

Type: Pre-Competition

Date:

Venue:

Aspect ID	Aspect of Criterion – Description	Max Mark	Requirement or Nominal Size	Mark Awarded
1.1	Identifies sample A colour correctly by name	1	See report sheet	
1.2	Identifies sample A variant correctly by code	1	See report sheet	
1.3	Identifies sample B colour correctly by name	1	See report sheet	
1.4	Identifies sample B variant correctly by code	1	See report sheet	
1.5	Recovers formulae for given colour correctly	1	See report sheet	
1.6	Correct list of tints for colour is retrieved (Deduct 0.5 for each incorrect answer)	5	See report sheet	
1.7	Correct amounts identified and retrieved (Deduct 0.5 for each incorrect answer) (Cumulative or otherwise)	5	See report sheet	
		15		

	Print	Sign
Judge 1		
Judge 2		
Moderator		

Judges' comments (if applicable):

Judges Guidance Sheet Task 3

Automotive Refinishing

Task 3 Colour Matching

Judges Guidance Sheet

- ❖ One reminder to use PPE is permitted before deducting marks.
- ❖ One warning regarding safe practices permitted before deducting marks.
- ❖ Judges should confirm and record the colour/shade of the samples prior to competition commences.
- ❖ Judges should verify and record the tinter specifications prior to competition commences.

Host Centre Brief Task 3

Host Centre Brief:

- ❖ Provide two paint samples (non-metallic/pearl colours).
- ❖ Shade cards will also be available to match paint manufacturer used to create samples.
- ❖ A paint mixing scheme will need to be available to enable correct identification of tinters for the colour specified.

Infrastructure List:

Item Description	Number per competitor	Number per competition (6 competitors)
2 paint colour samples marked A and B	1	1
Variant shade cards to match manufacturer of paint used in samples provided	1 set	1 set
Paint mixing scheme computer	1	1
PPE		

Competitor Report Sheet Task 3

Automotive Refinishing

Task 3 – Colour Matching

Competitor Name: _____

Colour and shade of sample **A** _____

Colour and shade of sample **B** _____

Use this table to record the formulae for the colour identified to you:

Manufacturer:		1 litre
Colour code:		
Variant Shade:		
Code	Colour	Weight (gram)

Competitors Instructions Task 4

Automotive Refinishing

Task 4 – Plastic Panel Repair

Time allowed – 30 minutes

- ❖ Repair the scratch on the bumper provided.

- ❖ The finished repair should be ready for masking and application of primer coat.

Judges Marking Sheet Task 4

Task 4 – Plastic Panel Repair - Marking Schedule

Competitor name:

Type: Pre-Competition

Date:

Venue:

Aspect ID	Aspect of Criterion – Description	Max Mark	Requirement or Nominal Size	Mark Awarded
1.1	Correctly prepares scratch for filling.	1	Good feathering In scratch area	
1.2	Fills scratch correctly (stopper or filler)	2	Maximum 2 fills or lose 1 mark	
1.3	Uses stopper over filler	1	Give mark if filled without stopper	
1.4	Achieves correct contour in repair area	2		
1.5	Achieves correct smooth finish on repair area	2	Finish of filler/stopper	
1.6	Prepares area around repair area for painting (feather repair/320/400,500, grey scotch)	2	Smooth area scratch free	
		10		

	Print	Sign
Judge 1		
Judge 2		
Moderator		

Judges' comments (if applicable):

Judges Guidance Sheet Task 4

Automotive Refinishing

Task 4 Paint fault rectification

Judges Guidance Sheet

- ❖ One reminder to use PPE is permitted before deducting marks.
- ❖ One warning regarding safe practices permitted before deducting marks.
- ❖ Judges to agree with lead judge acceptable answers to question paper prior to commencing competition.
- ❖ If more than one candidate will repair scratches on a single bumper each scratch must be in a similar position with regards to contour of the bumper to ensure no unfair advantage.

Host Centre Brief Task 4

Host Centre Brief:

- ❖ Bumpers should be pre painted, mounted on a stand and a scratch applied.
- ❖ The scratch can be applied with a flat bladed screwdriver and be no more than 50mm long and 0.5mm deep.
- ❖ If more than one candidate will repair scratches on a single bumper each scratch must be in a similar position with regards to contour of the bumper to ensure no unfair advantage.
- ❖ Bumper sections may be used where practicable.

Infrastructure List:

Item Description	Number per competitor	Number per competition (6 competitors)
Plastic bumper panel or bumper section	1	6
Plastic Filler	1	3
Stopper	1	3
Onion board	1	3
Spreaders	1	3
Abrasive sheets and discs	selection	
DA sander	1	3
Hot air gun or heat lamp	1	1
Scotchbrite (grey)	1	3
Degreaser	1	3
Masking tape/paper	selection	
General cleaning cloths	selection	
Plastic repair methods	1	1
PPE		

Overall Competitor Score Sheet

IMI Skills Competitions – Automotive Refinishing

Pre-Competition Activity

Consolidated Score Sheet

Competitor	Task A (20 marks)	Task B (10 marks)	Task C (15 marks)	Task D (10 marks)	Total Marks	Max Marks	Score %
						55	
						55	
						55	
						55	
						55	
						55	
						55	
						55	
						55	
						55	

Average for all competitors = _____ %

Judge (print name)	Signature	Task(s)	Date