

GRCC AUTOBODY
TECHNOLOGY

COMPETENCY PROFILE

INSTRUCTIONAL UNIT 108

17 CREDITS

(Tech Prep = 2 credits)

PAINTING AND REFINISHING

Packet Title:

- A. Surface Preparation
- B. Spray Gun Operation
- C. Paint Mixing, Matching, and Applying
- D. Solving Paint Application Problems
- E. Finish Defects, Causes, and Cures
- F. Safety Precautions in the Paint Environment
- G. Final Detail

Total NATEF Tasks = 78 (41 HP-I, 37 HP-G)

Approximate # of Tasks per Credits = 4
(# of tasks completed ÷ 4 = # of credits earned)

CREDITS EARNED:

FALL _____
WINTER _____
SPRING _____
SUMMER _____

1/2001

PAINTING AND REFINISHING

For every task in Painting and Refinishing, the following safety requirement must be strictly enforced.

Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.

Please list the project(s) you performed the following tasks on and date the task when you feel competent. Present this task sheet to your instructor for initialing frequently.

Safety Precautions

Instructor
Date Initials

____ _____ HP-I 1. Identify and take necessary precautions with hazardous operations and materials according to federal, state, and local regulations.
Project(s) _____

____ _____ HP-I 2. Identify personal health and safety hazards according to OSHA guidelines and “Right to Know” Act.
Project(s) _____

____ _____ HP-I 3. Inspect spray environment for cleanliness and safety hazards.
Project(s) _____

____ _____ HP-I 4. Select and use the NIOSH approved personal sanding respirator. Inspect condition and ensure fit and operation. Perform proper maintenance in accordance with industry/multiplier’s specifications.
Project(s) _____

____ _____ HP-I 5. Select and use the NIOSH approved (Fresh Air Make-up System) personal painting/refinishing respirator system.
Project(s) _____

_____ HP-I 6. Select and use the proper personal safety equipment for painting/refinishing and sanding (gloves, suits, hoods, eye and ear protection).
Project(s) _____

Surface Preparation

_____ HP-I 1. Remove, store and replace exterior trim and molding.
Project(s) _____

_____ HP-I 2. Remove dirt, road grime, and wax or protective coatings from the area to be refinished and adjacent vehicle surfaces; wash entire vehicle.
Project(s) _____

_____ HP-I 3. Inspect and identify substrate, type of finish and surface condition; develop a plan for refinishing using a total product system.
Project(s) _____

_____ HP-G 4. Remove paint finish.
Project(s) _____

_____ HP-I 5. Dry or wet sand areas to be refinished.
Project(s) _____

_____ HP-I 6. Featheredge broken areas to be refinished.
Project(s) _____

_____ HP-I 7. Apply suitable metal treatment or primer.
Project(s) _____

_____ HP-I 8. Mask trim and protect other areas that will not be refinished.
Project(s) _____

_____ HP-G 9. Mix primer, primer-surfacer or primer-sealer.
Project(s) _____

_____ HP-I 10. Spray primer onto surface of repaired area.
Project(s) _____

_____ HP-I 11. Apply two-component finishing filler to minor surface imperfections.
Project(s) _____

_____ HP-I 2. Dry or wet sand area to which primer-surface has been applied.
Project(s) _____

_____ HP-I 13. Dry sand area to which two-component finishing filler has been applied.
Project(s) _____

_____ HP-I 14. Remove dust from area to be refinished, including cracks or moldings of adjacent areas.
Project(s) _____

_____ HP-I 15. Clean area to be refinished using a final cleaning solution.
Project(s) _____

_____ HP-I 16. Remove with a tac rag, any dust or lint particles from the area to be refinished.
Project(s) _____

_____ HP-I 17. Apply suitable sealer to the area being refinished when sealing is needed or desirable.
Project(s) _____

_____ HP-I 18. Scuff sand to remove nibs or imperfections from a sealer.
Project(s) _____

_____ HP-G 19. Apply stone chip resistant coating.
Project(s) _____

_____ HP-G 20. Restore corrosion-resistant coatings, caulking, and seam sealers to repair areas.
Project(s) _____

_____ HP-I 21. Prepare adjacent panels for blending.
Project(s) _____

Spray Gun and Related Equipment Operation

_____ HP-I 1. Inspect clean and determine the condition of spray guns and related.
Project(s) _____

_____ HP-G 2. Check and adjust the operation of conventional spray gun.
Project(s) _____

_____ HP-I 3. Check and adjust spray gun operation for HVLP (high volume, low pressure) or LVLP (low volume, low pressure) guns.
Project(s) _____

_____ HP-I 4. Set-up (fluid needle, nozzle and cap), adjust, and test spray gun using fluid, air, and pattern control valves.
Project(s) _____

Paint Mixing, Matching, and Applying

_____ HP-I 1. Determine type and color of paint already on vehicle by manufacturer's vehicle information label.
Project(s) _____

_____ HP-G 2. Shake, stir, reduce, catalyze, and strain paint according to manufacturer's procedures.
Project(s) _____

_____ HP-I 3. Use spray technique (gun arc, gun angle, gun distance, gun speed, and spray pattern overlap) appropriate for finish being applied.
Project(s) _____

_____ HP-I 4. Apply selected product on test and let-down panel in accordance with manufacturer's recommendations; check for color match.
Project(s) _____

_____ HP-I 5. Apply single stage topcoat for refinishing.
Project(s) _____

_____ HP-I 6. Apply base coat/clear coat for spot and panel or overall refinishing.
Project(s) _____

_____ HP-I 7. Color, sand, buff, and polish finishes where necessary.
Project(s) _____

_____ HP-I 8. Identify the types of rigid, semi-rigid or flexible plastic parts to be refinished; determine the materials, preparation, and refinishing procedures.
Project(s) _____

_____ HP-I 9. Refinish rigid, semi-rigid or flexible plastic parts.
Project(s) _____

_____ HP-G 10. Clean, condition or refinish vinyl (e.g. upholstery, dashes, and tops).
Project(s) _____

_____ HP-G 11. Apply multi-stage (tricoat) coats for spot repair, panel blending or overall refinishing.
Project(s) _____

_____ HP-G 12. Identify and mix paint using formula.
Project(s) _____

_____ HP-G 13. Tint color using formula to achieve a blendable match.
Project(s) _____

Paint Defects - Causes and Cures

_____ HP-G 1. Identify blistering (raising of the paint surface); determine the cause(s) and correct the condition.
Project(s) _____

_____ HP-G 2. Identify blushing (milky or hazy formation); determine the cause(s) and correct the condition.
Project(s) _____

_____ HP-G 3. Identify a dry spray appearance in the paint surface; determine the cause(s) and correct the appearance.
Project(s) _____

_____ HP-G 4. Identify the presence of fisheyes (crater like openings) in the finish; determine the cause(s) and correct the condition.
Project(s) _____

- _____ HP-G 5. Identify lifting; determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 6. Identify clouding (mottling and streaking in metallic finishes); determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 7. Identify orange peel; determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 8. Identify an overspray; determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 9. Identify solvent popping in freshly painted surface; determine the cause(s) and correct the problem.
Project(s) _____
- _____ HP-G 10. Identify sags and runs in paint surface; determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 11. Identify sanding marks (sandscratch swelling); determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 12. Identify contour mapping (shrinking and splitting) while finish is drying; determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 13. Identify color difference (off-shade); determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 14. Identify tape cracking; determine the cause(s) and correct the condition.
Project(s) _____
- _____ HP-G 15. Identify low gloss condition; determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 16. Identify poor adhesion; determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 17. Identify paint cracking (crowsfeet or line checking, micro-checking, etc.); determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 18. Identify rust spots; determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-I 19. Identify dirt in the paint surface; determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 20. Identify water spotting; determine the cause(s) correct the condition.

Project(s) _____

_____ HP-G 21. Identify finish damage caused by bird droppings, tree sap, and other natural causes; correct the condition.

Project(s) _____

_____ HP-G 22. Identify finish damage caused by air born contaminants.

Project(s) _____

_____ HP-G 23. Identify die-back conditions (dulling of the paint film showing haziness); determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 24. Identify chalking (oxidation); determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 25. Identify bleed through (staining); determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-G 26. Identify pin-holing; determine the cause(s) and correct the condition.

Project(s) _____

_____ HP-I 27. Identify buffing-related imperfections (swirl marks, wheel
burns); correct the condition.
Project(s) _____

_____ HP-G 28. Identify pigment flotation (color change through film
build); determine the cause(s) and correct the condition.
Project(s) _____

_____ HP-I 29. Measure mil thickness.
Project(s) _____

Final Detail

_____ HP-G 1. Apply details, transfers, tapes, woodgrains, pinstripes,
(painted and taped), etc.
Project(s) _____

_____ HP-I 2. Buff and polish finish as required.
Project(s) _____

_____ HP-I 3. Clean interior, exterior and glass.
Project(s) _____

_____ HP-I 4. Clean body openings (door jams & edges, etc).
Project(s) _____

_____ HP-I 5. Remove overspray.
Project(s) _____

Approved 9/29/09