

DOCUMENT RESUME

ED 092 714

CE 001 443

TITLE Cost Estimating Collision Damage; Automotive Body Repair and Refinishing 3: 9037.03.
INSTITUTION Dade County Public Schools, Miami, Fla.
PUB DATE Jan 73
NOTE 20p.; An Authorized Course of Instruction for the Quinmester Program

EDRS PRICE MF-\$0.75 HC-\$1.50 PLUS POSTAGE
DESCRIPTORS Auto Body Repairmen; *Auto Mechanics; Course Content; Course Objectives; *Curriculum Guides; *Estimated Costs; *Evaluation Methods; Inspection; Job Skills; Motor Vehicles; Performance Criteria; Repair; *Technical Education
IDENTIFIERS Florida; *Quinmester Program

ABSTRACT

This document presents an outline for a 135-hour course planned to help the student to become employable and to provide them with the skills, knowledge, attitudes, and values necessary for performing the service expected of the automotive body repairman and to perform basic collision damage estimates. Emphasis is on utilization of manufacturer's manuals in all practical applications to learn the correct procedures used in the automotive body and refinishing trade. The behavioral objectives and performance standards necessary for a person to become an automotive body repairman are specified. A seven item bibliography, a list of information and assignment sheet titles, and a Quinmester post test sample are included. (KP)

ED 092714

VT

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

AUTHORIZED COURSE OF INSTRUCTION FOR THE

QUINMESTER PROGRAM



V-36

DADE COUNTY PUBLIC SCHOOLS

Course Outline
AUTOMOTIVE BODY REPAIR AND REFINISHING 3 - 9037
(Cost Estimating Collision Damage)
Department 48 - Quin 9037.03

DIVISION OF INSTRUCTION • 1973

05001443



ED 092714

D A D E C O U N T Y P U B L I C S C H O O L S
1 4 5 0 N O R T H E A S T S E C O N D A V E N U E
M I A M I , F L O R I D A 3 3 1 3 2

Course Outline/

AUTOMOTIVE BODY REPAIR AND REFINISHING 3 - 9037
(Cost Estimating Collision Damage)

Department 48 - Quin 9037.03

county office of
VOCATIONAL AND ADULT EDUCATION

THE SCHOOL BOARD OF DADE COUNTY

Mr. G. Holmes Braddock, Chairman
Mr. William H. Turner, Vice-Chairman
Mrs. Ethel Beckham
Mrs. Crutcher Harrison
Mrs. Phyllis Miller
Mr. Robert Renick
Dr. Ben Sheppard

Dr. E. L. Whigham, Superintendent of Schools
Dade County Public Schools
Miami, Florida 33132

January, 1971

Published by the School Board of Dade County

COURSE DESCRIPTION

<u>9037</u> State Category Number	<u>48</u> County Dept. Number	<u>9037.03</u> County Course Number	<u>COST ESTIMATING COLLISION DAMAGE</u> Course Title
---	-------------------------------------	---	---

This quinmester course is designed for the student to perform basic collision damage estimates. Emphasis is on utilization of manufacturer's manuals in all practical applications to learn the correct procedures used in the automotive body and refinishing trade. This course will be given in a nine-week quinmester period.

The student will receive the general information, technical knowledge, basic skills, attitudes and values that are required for job entry level as an auto body repair and refinisher helper.

Indicators of success: The applicant must demonstrate an eighth grade equivalency score in reading and mathematics. Also have average ability in mechanical aptitudes.

Clock hours 135

PREFACE

The following quinmester course outline is a guide to help students become employable with skills, knowledge, attitudes and values necessary for performing the required service of the automotive body repairman.

This course is designed as a foundation quinmester course for the auto body repairman and refinisher. This outline consists of 4 blocks of instruction which are subdivided into several units each. It is one of a series of quinmester outlines designed for the complete auto body repairman and refinisher. This course is 135 hours in length.

Prerequisites for this course is as follows: The student should have an eighth grade equivalency score in reading, comprehension, arithmetic fundamentals and mechanical aptitude. The student must be physically and mentally able to profit from this training.

Prior to entry into this course, the vocational student will display mastery of the skills indicated in Automotive Mechanics as Applied to Auto Body (9037.02).

Instruction will consist of demonstrations, lectures, group discussions, audio visual aids, and resource people from industry. Instructions will be flexible to meet individual needs and abilities.

The bibliography appearing on the last page of this outline lists several basic references with supplementary references and audio visual aids.

This outline was developed through the cooperative efforts of the instructional and supervisory personnel, the Quinmester Advisory Committee and the Vocational Curriculum Materials Service and has been approved by the Dade County Vocational Curriculum Committee.

TABLE OF CONTENTS
with Suggested Hourly Breakdown

	Page
PREFACE	i
GOALS	iii
SPECIFIC BLOCK OBJECTIVES	iv
BIBLIOGRAPHY	5
 BLOCK	
I. ORIENTATION (6 Hours)	
Objectives of The Course	1
Student Benefits	1
Student Responsibilities	1
 II. AUTO BODY REPAIR ESTIMATE (45 Hours)	
Purpose	1
Materials	2
Basic Mathematics	2
Parts Costs	2
Labor Costs	2
Material Costs	2
 III. ESTIMATING COST OF BODY DAMAGE (84 Hours)	
Customer Relations	2
Cost Estimating	2
 IV. QUINMESTER POST-TEST	
APPENDIX: QUINMESTER POST-TEST SAMPLE	7

GOALS

The auto body repair trainee must be able to:

1. Demonstrate an understanding of school and shop rules.
2. Demonstrate an understanding of safety rules and work habits.
3. Demonstrate an understanding of the purpose for an auto body repair estimate.
4. Demonstrate an understanding of preparing an auto body repair estimate.
5. Demonstrate an understanding of estimating cost of body damage.
6. Demonstrate an understanding of the correct diagnosis and procedure for writing an auto body repair estimate.
7. Satisfactorily complete the quinmester post test.

SPECIFIC BLOCK OBJECTIVES

BLOCK I - ORIENTATION

The student must be able to:

1. List the opportunities that are available for career in auto body and refinishing occupational field by written assignment.
2. Explain what will be expected of him as an auto body repairman by oral assignment.
3. Demonstrate skills and knowledge which will prepare him for a safe working life by actual shop practice.
4. Demonstrate pride and respect for workmanship by his performance.
5. Demonstrate an understanding and acceptance of personal responsibilities by his performance in the shop.
6. Explain the student benefits by oral assignment.

BLOCK II - AUTO BODY REPAIR ESTIMATE

The student must be able to:

1. Explain the purpose of a body repair estimate by oral assignment.
2. List the materials used in preparing a body repair estimate by written assignment.
3. Perform the basic mathematical operations used in preparation of a body repair estimate by written assignment.
4. Explain the parts, labor and material costs of a body repair estimate by oral assignment.

BLOCK III - ESTIMATING COST OF BODY DAMAGE

The student must be able to:

1. Explain customer relations when preparing a body repair estimate by oral assignment.
2. List the types of crash books, estimating guides, and factory manuals used in preparing a body repair estimate by written assignment.
3. Exhibit the ability to locate, refer to, and use estimating guides and manuals by performance in the shop.
4. Exhibit the ability to correctly inspect and analyze a damaged vehicle by performance in the shop.
5. Prepare a collision estimate properly listing in sequential order all parts, labor and materials to be used by written assignment.
6. Correctly compute all mathematics required for completion of a body repair estimate by written assignment.
7. Compute Florida State Sales Tax as it applies to charges for automotive repairs by written assignment.

BLOCK IV - QUINMESTER POST TEST

The student must be able to:

1. Satisfactorily complete the quinmester post-test by written assignment.

Course Outline

AUTOMOTIVE BODY REPAIR AND REFINISHING 3 - 9037 (Cost Estimating Collision Damage)

Department 48 - Quin 9037.03

I. ORIENTATION

A. Objectives of Course

1. Standards
2. Methods of evaluation
 - a. Oral test
 - b. Written test
 - c. Manipulation
 - d. Diagnosis and job performance
3. Teaching methods

B. Student Benefits

1. Opportunities for employment
 - a. Job opportunities
 - b. Scope of trade
2. Qualification for employment
 - a. Job competency
 - b. Attitude
 - c. Dependability
 - d. Pride of workmanship
 - e. Experience
 - f. Trade certificate
 - g. Foundation for more education and training

C. Student Responsibilities

1. Safety regulations
2. School policies
3. Shop rules and procedures
 - a. Use and care of equipment
 - b. Use and care of materials
 - c. Housekeeping
 - d. Record keeping
 - e. Reporting loss of materials
 - f. Appropriate dress
 - g. Employer-employee relations
 - h. Employee-customer relations

II. AUTO BODY REPAIR ESTIMATE

A. Purpose

1. Detailed list of repairs
2. Competitive prices
3. Commission wages
4. Record keeping
5. Insurance company
6. Sequential listing
7. Discounts

II. AUTO BODY REPAIR ESTIMATE (Contd.)

- B. Materials
 - 1. Estimate forms
 - 2. Crash books
 - 3. Estimate guides
 - 4. Factory manuals
- C. Basic Mathematics
 - 1. Addition
 - 2. Subtraction
 - 3. Multiplication
 - 4. Decimals
- D. Parts Costs
 - 1. Used
 - 2. New
 - 3. Manufacture manuals
 - 4. Crash books
- E. Labor Costs
 - 1. Hourly rates
 - 2. Flat rate time
- F. Material Costs
 - 1. Quality
 - 2. Quantity

III. ESTIMATING COST OF BODY DAMAGE

- A. Customer Relations
 - 1. Customer confidence
 - 2. Repair work time
 - 3. Job guarantee
 - 4. Customer service
 - a. Pick-up
 - b. Loan of car
 - c. Delivery
 - d. Charge account
- B. Cost Estimating
 - 1. Factors involved
 - a. Manufacture
 - b. Model
 - c. Year
 - d. Mechanical damage
 - (1) Labor
 - (2) Parts
 - (3) Supplies

III. ESTIMATING COST OF BODY DAMAGE (Contd.)

- e. Body damage
 - (1) Labor
 - (2) Parts
 - (3) Supplies
- f. Refinishing
 - (1) Labor
 - (2) Parts
 - (3) Supplies
- 2. Discounts
 - a. Purpose
 - b. Types
- 3. Work orders
 - a. Function
 - b. Types
 - c. Content
 - d. Importance
- 4. Diagnosing procedure
 - a. Correct inspection
 - b. Analyze damage
 - c. Sequential order of items
 - d. Hidden damages
 - e. Sub-let items
- 5. Taxes
 - a. Federal
 - b. State
 - c. Local

IV. QUINMESTER POST TEST

BIBLIOGRAPHY

(Cost Estimating Collision Damage)

Basic References:

1. Frazee, Irving, and Spicer, Edward D. Automotive Collision Work. Chicago: American Technical Society, 1963. Pp. 355.
2. Sargent, L. Robert. Automotive Sheet Metal Repair. Philadelphia: Chilton Co., 1963. Pp. 423.
3. Study Guide for Automotive Collision Work. Revised Ed. Chicago: American Technical Society, 1956. Pp. 67.

Supplementary References:

1. Motor's Crash Estimating Guide. New York City: The Hearst Corp., Latest Available Edition.
2. Toboldt, William K. Automobile Body Rebuilding & Refinishing. Scranton: International Textbook Co., 1950. Pp. 35-37, 83-86, 99-102, 259-264.
3. Venk, Spicer, Davies. Automotive Collision Work. Third Ed. Chicago: American Technical Society, 1964. Pp. 334-345.
4. Wohlfeil, Frisk, Saxman. Automobile Body Reconditioning. New York: McGraw-Hill Book Co., Inc., 1952. Pp. 135-151.

AUTO BODY REPAIR AND REFINISHING Lesson Plans - Course 104, 9035, 9037

No. 100 Title - Estimating for Auto Body Repair and Refinishing

Information Sheets - Course 104, 9035, 9037

<u>No.</u>	<u>Information Sheet Title</u>
101	Purpose of A Body Repair Estimate
102	Sample Auto Body Repair Estimate
103	"Truth in Motor Vehicle Repairs and Estimates"
104	Basic Math for Auto Body Repair Estimates
106	Figuring Cost of Labor for Estimating
108	Figuring Sales Tax for Auto Body Estimates
109	Writing a Body Repair Estimate

Assignment Sheets - Course 104, 9035, 9037

<u>No.</u>	<u>Assignment Sheet Title</u>
105	Cost of Parts and Labor for Body Repair Estimates
107	Estimating for Damage Repair Operations

A P P E N D I X

Quinmester Post-Test Sample

QUINMESTER POST-TEST

NAME _____ DATE _____ SCORE _____

The following items are multiple choice. Select the one you believe correct. Circle the letter provided at the left of item.

1. The main purpose of a body repair estimate is to provide the customer with a:
 - a. receipt
 - b. detailed list of repairs
 - c. manufacturer's manual
 - d. none of above

2. The estimate will include the cost of:
 - a. new, used, or reconditioned parts
 - b. labor, materials, and sub-let items
 - c. taxes
 - d. all of the above

3. Sub-let items are services which are:
 - a. performed in the repair shop
 - b. not included in the estimate
 - c. contracted out to specialized firms
 - d. all of the above

4. The body shop that submits the lowest estimate will:
 - a. get the work
 - b. not get the work
 - c. go out of business
 - d. lose customers

5. Insurance companies generally require:
 - a. no estimates
 - b. one estimate
 - c. two or three estimates
 - d. six estimates

6. Dade County car owners are protected from unfair and unscrupulous repair charges by:
 - a. Miami Dealers Association
 - b. Truth in Motor Vehicle Repairs and Estimates Ordinance
 - c. no one
 - d. major oil companies

7. A crash book is used as a reference to:
 - a. prepare a body repair estimate
 - b. describing total wrecked automobiles
 - c. auto racing crashes
 - d. none of the above

8. An auto body repairman is usually paid:
 - a. an hourly rate
 - b. a commission rate
 - c. a weekly salary
 - d. any one of the above

9. When the labor of an item is included in the labor charges of a replacement operation, it is called:
 - a. overcharge
 - b. no charge
 - c. discount
 - d. bargain

10. The Florida State Sales Tax (4%) on a repair bill of \$213.50 is:
 - a. \$.85
 - b. \$8.50
 - c. \$8.45
 - d. \$8.54

11. If the flat-rate labor charge for auto body repair work is \$8.00 per hour, how much would a job cost that takes 4.4 hours?
 - a. \$34.20
 - b. \$342.00
 - c. \$35.20
 - d. \$36.20

12. If the body man receives 50% of the labor charge, how much would he make in the problem above?
 - a. \$17.60
 - b. \$18.10
 - c. \$17.10
 - d. \$171.00

13. An example of a "sub-let" item would be:
 - a. repair left front fender -- \$12.00
 - b. replace left front door moulding -- \$3.75
 - c. tow charge -- \$20.00
 - d. replace right headlight door -- \$8.00

14. In the repairs listed below, which one would be a "no-charge" item for labor?

- a. replace left-rear quarter panel
- b. replace left tail light assembly
- c. repair left quarter panel moulding
- d. refinish left quarter panel

15. What is the correct price of this estimate? Figure labor at \$8.00 per hour. Add 4% sales tax:

	<u>Parts</u>	<u>Labor</u>
Replace left front fender	32.00	2.2 hours
Replace left front fender moulding	3.60	N.C.
Replace front face bar	44.35	1.1 hours
Replace front grille panel	18.75	1.0 hours
Repair hood panel		2.0 hours
Refinish damaged areas		4.5 hours

- a. \$185.00
- b. \$192.40
- c. \$191.36
- d. \$184.91

16. The amount in dollars and cents that are charged to customers for labor is the:

- a. net profit
- b. retail rate
- c. insurance cost
- d. discount

17. The cost of labor listed on the estimate is based on the:

- a. net profit of your shop
- b. discount allowed
- c. retail labor rate for your shop
- d. wholesale prices

18. Parts and labor should be listed on the estimate at their:

- a. discount price
- b. wholesale price
- c. retail price
- d. profit price

19. An estimate to the insurance company is:

- a. not binding
- b. flexible
- c. a discount
- d. firm pledge

20. Most collision jobs are paid by the:

- a. owner of the vehicle
- b. driver of the vehicle
- c. insurance company
- d. finance company

QUINMESTER POST-TEST ANSWER KEY

1. b
2. d
3. c
4. a
5. c
6. b
7. a
8. d
9. b
10. d
11. c
12. a
13. c
14. b
15. b
16. b
17. c
18. c
19. d
20. c