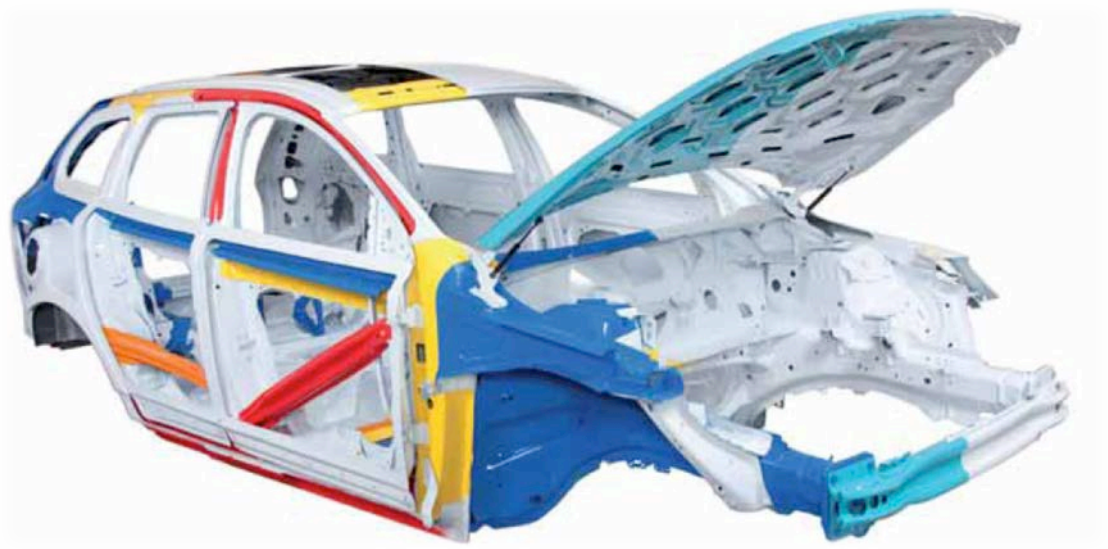
SPANISH INSTITUTE FOR EDUCATION AND TRAINING

Specialist Technician in Auto Body Repair and Painting



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Designed for

People seeking a career in the automotive industry, vocational training students, vehicle electromechanical technicians, and anyone interested in automotive topics.

We will explore tools, engine types and components, cooling and lubrication systems, transmissions, suspension, brakes, steering, wheels, and tires. In automotive electricity, we will examine vehicle electrical circuits, their operation, and repair techniques.

We will develop mechanical and electrical vehicle skills, enabling students to perform maintenance and repairs themselves.

Objectives

Upon completing the course, students will be able to identify vehicle body components, tools and their uses, body assembly and welding systems, and repair procedures. They will also learn to prepare a vehicle for painting and understand painting processes and colorimetry.

Career Opportunities

Automotive Technicians.
Vehicle Electromechanical Technicians.
Automotive Industry Professionals.

Learning Materials and Tutoring Services

Course materials include the theoretical manual "Automotive Mechanics and Electricity" and assessments. Students may contact instructors with questions and requests for additional information through the following channels:

In Person

The instructor will help answer students' questions.

By Email

Students may email questions to the instructor, who will respond as soon as possible.

By Phone

Telephone tutoring is available during scheduled hours for direct contact with the tutor.

Internships

Students who successfully complete the course will have access to internships at leading companies in the sector to support their entry into employment.

Diploma

"Specialist Technician in Auto Body Repair and Painting".

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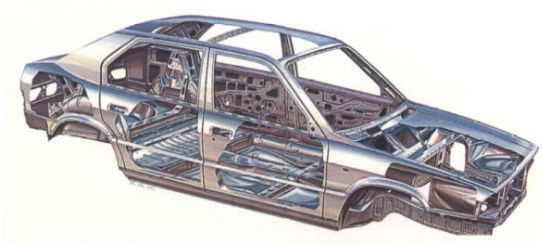
PROGRAMA FORMATIVO DEL CURSO

1. Automotive Bodywork

- History of the Automobile



- Evolution of the Automobile
- Vehicle Types and Segments
- Classification of Vehicle Bodies



2. Automotive Safety

- Road Traffic Accidents
- Automotive Safety
- Crash Testing
- Autonomous Emergency Braking (AEB)
- Safety Systems

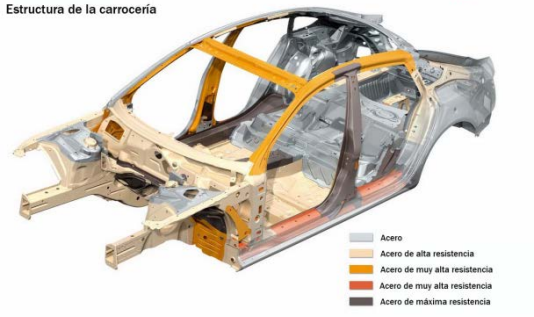




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3. Vehicle Body Construction Features

- Vehicle Body Characteristics
- Collision Resistance
- Materials Used in Manufacturing
  - Metals
  - Plastics



4. Auto Body Shop

- Auto Body Shop Equipment
- Specialized Machinery
- Paintless Dent Repair Equipment
- Body Repair Tools and Equipment



5. Welding

- Oxyacetylene Welding
- Electric Arc Welding
- TIG Arc Welding
- MIG Arc Welding
- MAG Arc Welding
- Resistance Welding



6. Frame Straightening Benches

- Vehicle Body Reference Dimensions
- Frame Straightening Benches
  - Fixture-Based Frame Benches
  - Measuring Frame Benches
  - Mini Frame Benches
- Tools and Accessories



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7. Damage Inspection and Assessment

- Vehicle Body Structure
- Damage Analysis
- Accident Damage Appraisals



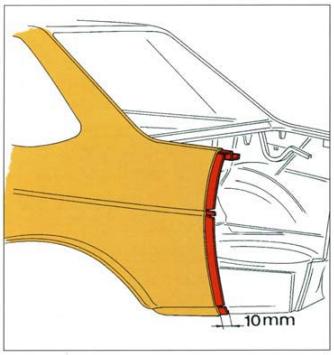
8. Vehicle Body Repair

- Frame Bench Operating Procedures
- Frame Bench Safety Risks
- Front-End Collision Repair on a Frame Bench
- Side-Impact Repair



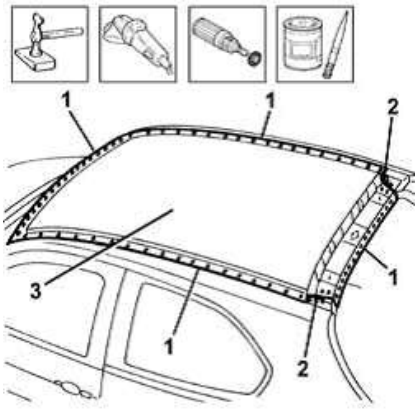
9. Body Component Repair 1

- Repair Procedures
- Lower Bumper Crossmember Repair
- Inner Front Fender Repair
- Frame Rail End Repair
- Front Pillar Repair



10. Body Component Repair 2

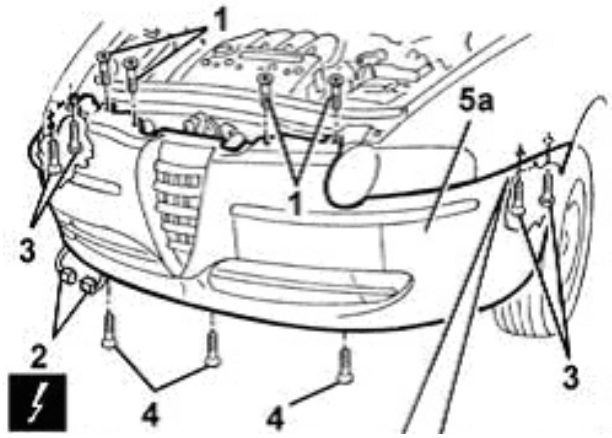
- Center Pillar
- Rocker Panel
- Outer Rear Wheel Arch
- Trunk Floor
- Rear Body Panel
- Roof
- Rear Quarter Panel (3- and 5-Door)



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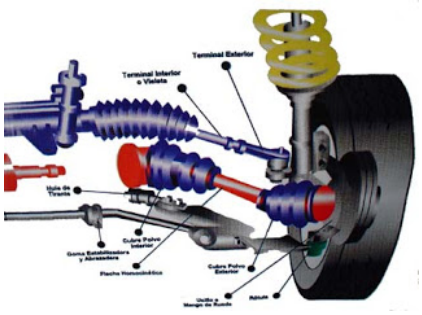
11. Removal and Installation of Body Panels

- Front Bumper
- Rear Bumper
- Front Fender
- Hood
- Front Door
- Rear Door
- Liftgate
- Windshield Cowl Panel



12. Suspension Geometry

- Steering Mechanism
- Tire Functions
- Wheel Alignment



13. Plastic Materials

- Guidelines for Repairing Plastic Components
- Thermoset Plastic Repair
- Thermoplastic Repair
- Plastic Repair Using Metal Staples



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14. Aluminum Vehicle Bodies



- Aluminum in Automobiles
- Joining Systems
- Cutting and Panel Separation Tools
- Component Replacement

15. Auto Glass Removal, Installation and Repair



- Automotive Glass
- Glass Replacement
- Laminated Glass Repair

16. History of Automotive Painting



- Early Automotive Painting
- Factory Painting Process
    - Corrosion Protection Treatments
    - Protective Coatings and Sealants
    - Finish Coats

17. Automotive Paint Shop



- General Equipment
- Extraction Floors and Plenums
- Sanding Tools
- Drying Equipment
- Paint Mixing Room
- Spray Booth
- Spray Guns
- Cleaning Equipment

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18. Surface Preparation Materials



- Refinishing Process in Vehicle Repair
- Products Used in the Repair Process
  - Primers
  - Body Fillers
  - Primer Surfacers
  - Abrasives

19. Surface Preparation



- Sanding
- Masking

20. Automotive Refinish Paints



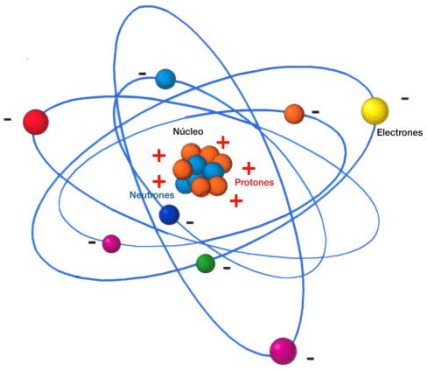
- Paint
  - Single-, Two-, and Three-Coat Systems and Special Effects
- Drying Processes
- Colorimetry
- Color Correction
  - Hue
  - Intensity
  - Saturation

21. Final Finish



- Functions of Finish Coats
- Spray Application
- Paint Defects

22. Basic Electricity



- Electricity
- Electron Theory
- Ohm's Law
- Electrical Networks
- Principles of Electrostatics

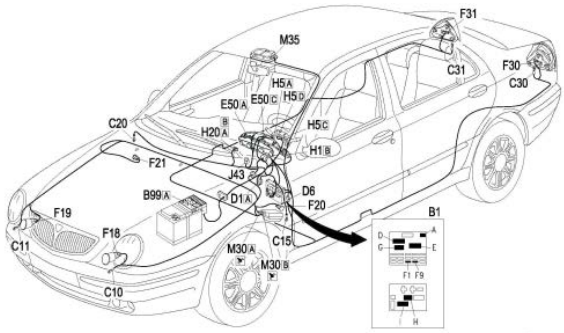
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23. Electrical and Electronic Measurements



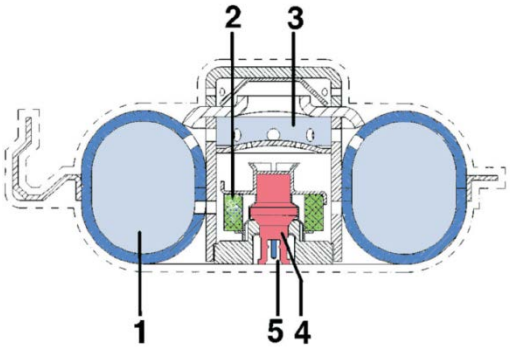
- Electrical and Electronic Measuring Instruments
- Multimeter
- Oscilloscope

24. Electrical and Electronic Components



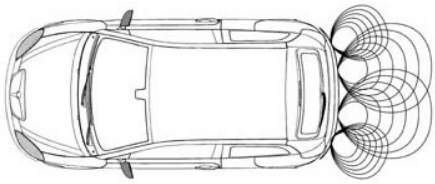
- Vehicle Wiring
- Safety Fuses
- Selector and Changeover Switches
- Latching Switches and Relays
- Vehicle Electrical System
- Graphical Representation of Electrical Diagrams

25. Airbags and Pretensioners



- Driver Airbag Module
- Passenger Airbag Module
- Pretensioners
- Side Airbag
- Curtain Airbag

26. Headlights and Parking Sensors



- Headlights
- Xenon Headlights
- Parking Sensors

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