Table Of Contents

Acknowledgments

Preface

Introduction

Chapter 1: First Considerations

A Wide Range of Possible Projects

Limits of Material, Skills and Imagination

Subtle Factors to Consider

Chapter 2: Auto Body Metal

Characteristics of Sheet Metal

Alloys: Steel and Aluminum

Work Hardening and Strengthening

Workability

Heating and Annealing

Selecting Metals and Their Alloys

Acquiring Metal Stock

Chapter 3: The Art of Making Sheet Metal Work With You

Basic Theories of Metal Forming

Bilateralism and Other Tricks

The Importance of Good Foundations

Chapter 4: Planning and Implementing

Choosing Constructions, Materials and Tools

Modeling, Patterning and Templating

Measuring, Drawing and Laying Out Work

Structural vs. Nonstructural Fabrications

Chapter 5: Major Forming and Fabricating Processes

Cutting

Simple Bending

Flanging

Creating the Correct Crown

Wheeling

Power Hammer Forming

Avoiding Unnecessary Damage

Chapter 6: Other Processes and Skills

Filing

Sanding

Edge Deburring

Drilling, Piercing and Punching

Edge Treatments and Bead Rolling

Louvers and Exotic Trim Formations

Using Tension

Chapter 7: Finishing Processes and Touches

Checking Final Dimensions, Contours and Attachments

Weld Finishing

Metal Finishing

Checking Metal Integrity

Chapter 8: Filling with Lead and Plastic

Four Types of Filler

Proper Filler Application

Proper Shaping and Smoothing Techniques

Proper Surface Preparation

Chapter 9: Tools and Equipment

Hand and Vise Tools

Specialty Tools

Clamping and Fixturing Tools

Making Special-Purpose Hand Tools

Small Equipment

Multi-Purpose Devices

Power and Hand Tools

Blacksmith Tools

Chapter 10: The Art of the English Wheel

Using an English Wheel

Effective versus Harmful Techniques

Chapter 11: Power-Operated Machines

Power Hammers

Big Machine Basics

Special Power Hammer Tooling

Chapter 12: Methods of Attachment

Non-Welding Jointure Techniques

Welding

Tips for Fabrication Welds

Chapter 13: Small Demonstration Project: The Little Black Box

Meet the Little Black Box

The Basic Plan

Preliminaries

Forming the Top Piece

Making the Skirt

Assembling the Two Pieces

Chapter 14: Large Demonstration Project: Fender Fabrication

Planning and Patterning

Fabricating the Side Section

Fabricating the Top Section

Joining the Two Pieces

Wire Edging the Fender Panel

Making Support and Base Brackets

Appendix

Radiated Colors

Gauge Specifications