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## **CHAPTER I INTRODUCTION - PARTS, TOOLS, AND SPECIFICATIONS**

### **BEFORE STARTING**

Thank you for choosing this quality product. We recommend that you read your Assembly Manual thoroughly before starting work. If you need any additional information, please call one of our technical representatives.

Rehearse the installation procedures before you do them so that you have a clear idea of what must be done at each step.

Have all the tools you need before you start.

Be sure your work space is large enough.

When obtaining used components, be sure that you save all related attachment parts and wiring connectors. If you try to buy all of these pieces separately, they may cost a lot more or may not be obtainable.

Have masking tape ready to label parts, attaching hardware, wires, fuel lines, clips, etc. It would also be a good idea to have a variety of small containers to hold small loose items such as nuts, bolts, and washers.

Keep records and receipts. You will need these when you register

your completed car. Call your state Department of Motor Vehicles and find out what their requirements are. We supply a manufacturer's state of origin (MSO) with each assembly kit.

Important information that you'll need to know is presented as follows:

#### **WARNING**

Describes procedure during which damage to vehicle may result.

#### **CAUTION**

Describes procedure during which care must be taken to avoid injury.

#### **NOTE**

Describes procedure which requires additional knowledge or help or alerts you to the possibility of using alternate parts.

#### **CHECK**

Describes procedure which should be followed by an inspection. Check completed part for fit and operation before going on to the next step.

### **CONSIDERATIONS WHEN BUYING YOUR COMPONENT PARTS**

Ford utilized a variety of gear ratios in their rear axles and while all of them will work, it is strongly recommended to use a rear axle that came from a car with a V8 engine.

Some late 1970's and early '80's Ford senior series cars used the same rear axle arrangement, which may be used. Axle widths vary from application to application, so before purchasing your rear axle, measure from hub to hub as shown in Figure 1-1. It should measure 59 1/2 inches for late model Mustangs or 60 1/2 inches for late model "T" Birds or Cougars.

The kit is designed to utilize a small block Ford V8. This type is among the most popular engines produced by the automobile industry and are still being manufactured at present. Cubic inch displacement varies.

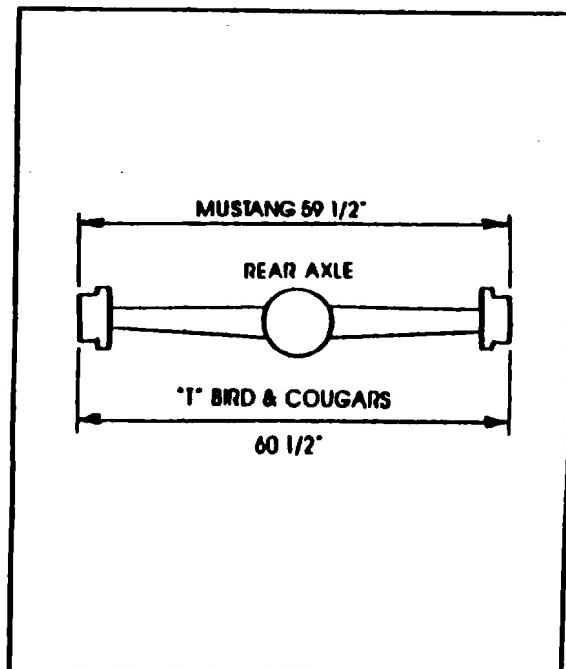


Figure 1-1

You can use any of the following five types of transmissions. For manual transmissions you may use the Ford Rad 4-speed which was used in the Mustang II from 1974 to 1979, or the Ford T-5 5-speed transmission, currently used in Mustangs. Both can be bolted to the small block Ford engine providing the appropriate bell housing and flywheel are used. Three types of automatic transmissions may be used, a C-4, a C-6 or an automatic overdrive transmission. The transmission support will fit all of these transmissions with the exception of the Rad 4-speed manual transmission. This type uses a different transmission mount and requires different transmission support. If you plan to use this type of transmission make sure that your customer service representative is aware that you require the Rad transmission support.

### MECHANICAL COMPONENTS CHECK LIST

COMPONENT	REFERENCE CHAPTER/SECTION
<input type="checkbox"/> Front Suspension	2 A
<input type="checkbox"/> Manual Rack & Pinion	2 A
<input type="checkbox"/> Power Rack & Pinion	2 A
<input type="checkbox"/> Front Springs	2 A
<input type="checkbox"/> Front Shocks	2 A
<input type="checkbox"/> Rear Axle & Suspension	2 B
<input type="checkbox"/> Rear Shocks	2 B
<input type="checkbox"/> Rear Springs	2 B
<input type="checkbox"/> Quad Shock	2 B
<input type="checkbox"/> Engine	2 C
<input type="checkbox"/> Transmission	2 C
<input type="checkbox"/> Emergency Brake Handle	2 D
<input type="checkbox"/> Fuel Lines	2 E
<input type="checkbox"/> Fuel Line Clamp	2 E
<input type="checkbox"/> Fuel Filter	2 F
<input type="checkbox"/> Shifters	2 F
<input type="checkbox"/> Pedal Cluster	2 F
<input type="checkbox"/> Clutch Cable	2 F
<input type="checkbox"/> Master Cylinder	2 G
<input type="checkbox"/> Brake Proportioning Valve	2 G
<input type="checkbox"/> Steering Column	2 H
<input type="checkbox"/> Gas Pedal	2 H
<input type="checkbox"/> Accelerator Cable	2 H
<input type="checkbox"/> Automatic Kick-down Linkage	2 H
<input type="checkbox"/> Radiator	2 I
<input type="checkbox"/> Radiator Hoses	2 I
<input type="checkbox"/> Electric Fan	2 J
<input type="checkbox"/> Brake Light Switch	2 J
<input type="checkbox"/> Driveshaft	2 K
<input type="checkbox"/> Wiper Assembly	3 E
<input type="checkbox"/> Speedometer Cable	3 F
<input type="checkbox"/> Horns	4 A
<input type="checkbox"/> Seat Belts	4 D
<input type="checkbox"/> Exhaust Headers	4 E
<input type="checkbox"/> Side Pipes	4 E
<input type="checkbox"/> Tires, Front	5 A
<input type="checkbox"/> Tires, Rear	5 A
<input type="checkbox"/> Wheel	5 A

## COMPONENTS CHECK LIST

**IMPORTANT:** Components are listed in order of installation. Be sure to have on hand all parts necessary for the task before you begin each section.

## WHERE TO FIND YOUR COMPONENT PARTS

Performance Publications, Local Newspaper Classified Advertisement, Automobile Salvage Yards and Dealerships, Neighborhood flyers/ Newspapers and Auto Resale Magazines.

Tell your friends and fellow workers about your project, they may be of help.

The quickest way to find most of the component parts required to build your Replica is to purchase a 1974 through 1978 Mustang II with a small block Ford engine and 4-speed transmission already in it.

If you plan to use this method, inspect every part required thoroughly before purchasing a donor vehicle. This will insure that you do not have to replace worn or damaged parts later on during assembly.

You may not have some of the tools needed to build the Classic Cobra. They can be rented or borrowed. Tell your friends and fellow workers about your car project; they may be of help. If you encounter difficulties acquiring a

CONSUMABLE CHECK LIST		QUANTITY
<input type="checkbox"/>	Flat black spray paint	6 cans
<input type="checkbox"/>	Glossy black spray paint	3 cans
<input type="checkbox"/>	Rust retardent spray paint	4 cans
<input type="checkbox"/>	3M spray 90 high strength adhesive	6 cans
<input type="checkbox"/>	Mineral spirits	1 gallon
<input type="checkbox"/>	Acetone	1 gallon
<input type="checkbox"/>	Penetrating oil	1 can
<input type="checkbox"/>	China markers (black & white)	6 (3 each)
<input type="checkbox"/>	2" brush (throw-away bristle type)	2 each
<input type="checkbox"/>	1 1/2 oz. fiberglass mat	5 sq. yards
<input type="checkbox"/>	Polyester fiberglass resin and hardener	1 gallon
<input type="checkbox"/>	3M Window-weld primer Pt#051135-08644	1 pint
<input type="checkbox"/>	3M Super weather strip adhesive Pt#051135-08008	1 tube
<input type="checkbox"/>	Sandpaper, 60 grit	10 sheets
<input type="checkbox"/>	Sandpaper, 80 grit	10 sheets
<input type="checkbox"/>	Sandpaper, 220 grit	4 sheets
<input type="checkbox"/>	Sandpaper, 400 grit	4 sheets
<input type="checkbox"/>	Sandpaper 600 grit	4 sheets
<input type="checkbox"/>	Plastic filler and hardener	2 quarts
<input type="checkbox"/>	3M Fine line tape Pt #06301	1 roll
<input type="checkbox"/>	3/4 inch masking tape	3 rolls
<input type="checkbox"/>	2 inch masking tape	2 rolls
<input type="checkbox"/>	Paint mixer stick (wooden)	6
<input type="checkbox"/>	Super glue (gel type)	2 tubes
<input type="checkbox"/>	Solder, electronic	1 roll
<input type="checkbox"/>	Heatshrink (shrinks to 16GA wire)	5 feet
<input type="checkbox"/>	Hog rings	80
<input type="checkbox"/>	3/16 and 1/8 pop rivets	

specific tool, contact a technical representative for recommendations.

Make sure your tools are in good shape. The Classic Cobra is a state of the art replica. The job you do is only as good as the tools you use.

## WORKING SPACE

You need a working space approximately the size of a two-car garage. The assembled chassis measures approximately 150 inches by 44 inches wide. The fiberglass body occupies approximately the

TOOL CHECK LIST	DETAIL
<input type="checkbox"/> Spring compressor	May be rented
<input type="checkbox"/> Hydraulic floor jack (rolling type)	May be rented
<input type="checkbox"/> Hydraulic engine hoist	May be rented
<input type="checkbox"/> 4 sturdy jack stands	
<input type="checkbox"/> Ball joint tool	May be rented
<input type="checkbox"/> Electric drill	Must be able to use up to 1/2" bit
<input type="checkbox"/> Sabre saw & fine tooth blade	Assorted sizes 1/8"-1/2" diameter
<input type="checkbox"/> "C" clamps	
<input type="checkbox"/> Set of drill bits	
<input type="checkbox"/> Rat, round, and rat tail files	
<input type="checkbox"/> Vise grips	
<input type="checkbox"/> Hole saw set	
<input type="checkbox"/> Metric wrench set	7/8, 1, 1 1/2, 2 1/8, 2 1/2, 3 1/4
<input type="checkbox"/> Standard wrench set	7mm to 21mm
<input type="checkbox"/> Metric socket set	1/4" to 1"
<input type="checkbox"/> Standard socket set	7mm to 21mm
<input type="checkbox"/> 1 1/16 socket	1/4" to 15/16"
<input type="checkbox"/> Torque wrench	Foot pounds
<input type="checkbox"/> Tape measure	
<input type="checkbox"/> Utility knife	
<input type="checkbox"/> Scissors	
<input type="checkbox"/> Hog ring pliers	
<input type="checkbox"/> Wire brush	
<input type="checkbox"/> Rotary wire brush	
<input type="checkbox"/> Hacksaw & fine tooth blades	
<input type="checkbox"/> Hammer	
<input type="checkbox"/> Screwdriver, common & Phillips	
<input type="checkbox"/> Allen wrench set	1/8 & 3/16 rivets
<input type="checkbox"/> Putty knife	
<input type="checkbox"/> Pliers	
<input type="checkbox"/> Pop rivet gun	
<input type="checkbox"/> Cold chisel	
<input type="checkbox"/> Center punch	
<input type="checkbox"/> Caulking gun	
<input type="checkbox"/> Tubing bender	
<input type="checkbox"/> 1/4-20 tap	
<input type="checkbox"/> 1/4-20 die	
<input type="checkbox"/> Solder iron or gun	
<input type="checkbox"/> Wire strippers	
<input type="checkbox"/> Crimping tool	

same space. During initial construction you will need room for both the chassis and the body

until both are finished. Once the fiberglass body is mated to the chassis, only half the original space is required.

Be sure to allow sufficient space for walking, storage of parts, and access to the car.

#### UNPACKING

Your Classic Cobra assembly is shipped in one or more crates and a number of cardboard cartons. The total number of items in the shipment is indicated on the shipping documents. Since you may have ordered options, the number of items in your shipment may differ from other customers. Be sure to sign the bill of lading noting any observable damages and any missing crates or cartons.

Carefully check each container for evidence of damage to container or contents. If you find damage, immediately call the shipper's local office and follow shipper's instructions for submitting a claim.

Become familiar with the parts. Save your packing lists. Tag parts as they are identified and mark the back side of fiberglass components with a grease pencil. This will enable you to locate parts quickly.

#### HARDWARE AND FASTENERS

**WARNING:** Check factory service manual for torque specifications when reassembling removed hardware. There are some bolts that the manufacturer suggests should not be used after removal.

Structural bolts and nuts should only be replaced with equivalent parts. Replacement parts must be of equal or better strength as indicated by standard bolt and nut markings (radial lines on bolt head, raised dots on nuts.)

Special chrome hardware is supplied with the deluxe kit. However, ordinary fasteners are not supplied since they can be obtained from hardware or automotive supply houses. For your convenience an optional nut and bolt package is available. (See Chapter 5 for nomenclature.)

## FOLLOW THESE DO'S AND DON'TS

### DO'S

Do keep a fire extinguisher in your work area.

Do keep a first aid kit in your work area.

Do disconnect the battery (negative) cable whenever working on electrical system.

Do use the proper tools.

Do clean and maintain your tools. Clean your work area often.

Do use approved containers for gasoline and flammable liquids. Put away and out of reach of children, when not in use.

Do wear safety glasses or goggles when grinding, drilling, sanding, painting, glassing, or when handling the battery.

Do read all instructions thoroughly.

Do pay attention to warning labels.

Do use adequate ventilation when using chemicals, spraying paint, or fiberglassing. Wear a mask over mouth and nose when necessary.

Do use electrical extension cords of proper gauge and with proper plugs in good condition.

Do wear proper clothing and shoes. Remove ties, jewelry, and other items that can get caught in moving components.

Do use jack stands to support vehicles. Only use a floor jack or hydraulic engine hoist for lifting.

### DON'TS

Don't smoke when working around gasoline or other flammable chemicals.

Don't use open flame heaters around gasoline or when using flammable chemicals.

Don't smoke when working around the battery.

Don't run engine in a garage without proper ventilation.

Don't leave tools where someone can trip over them.

## CAUTION: USE COMMON SENSE

Develop safe work habits. Take every possible precaution. Clean up any spilled fluids to prevent slips or falls.