



Welding procedures for Motor Vehicles

December 15, 1986

Before beginning welding operations on any motor vehicle, there are two very important steps to consider:

1. Disconnect the battery from the vehicle's electrical system:

This will reduce the possibility of damage to the electrical system (battery, wiring, diodes, etc.) due to arcing or welding current flow through the wiring. (See **FIGURE 1**.)

2. Location of the ground clamp:

The ground clamp should always be located to provide the smallest current path loop between the welder and the work. Particular care should be exercised when welding near bearings, springs, or plastic components. Bearings can be damaged by arcing when the current path goes through the bearing; and plastic components can be damaged when a poor ground or welding arc produces excessive heat.

EXAMPLE: Landing Gear Installation — When welding brace ears on trailer landing gear:

A. DO NOT locate the ground clamp on the landing gear foot. This location would cause the welding current to pass through the thrust bearing, resulting in potential arcing and damage to the bearing.

B. DO NOT locate the ground on either the crank or cross shaft. This location would cause the current loop to pass through the gears which will not provide an adequate ground. This will lead to excessive heat. (See **FIGURE 2**.)

The ground should be located either on a mounting bolt or on the trailer frame. (See **FIGURE 3**.)

FIGURE 1

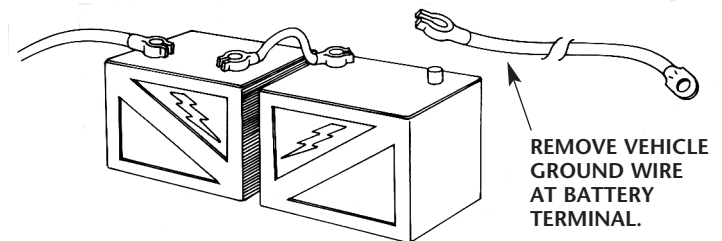


FIGURE 2

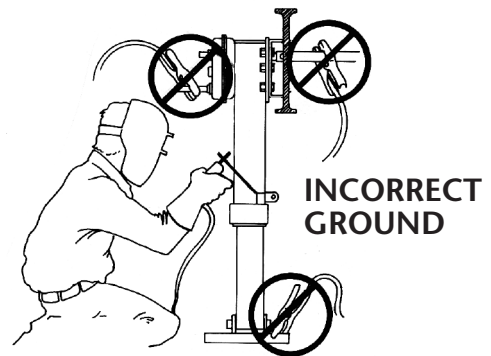
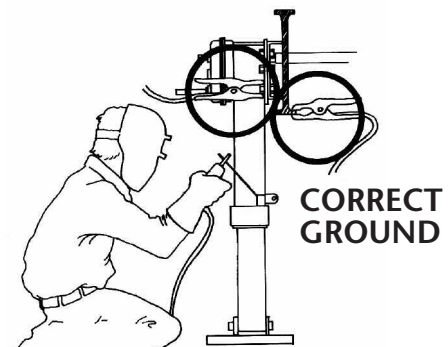


FIGURE 3



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