

# SECTION 2

## FRAME

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### GENERAL

The model 230 and model 260 Motor Home chassis use a channel type frame with a front frame extension, bolted cross members and a rear frame extension. An exploded view of the frame components is shown in Figure 1. A model 260 frame is shown; the model 230 frame differs in the length of the side rail and one less crossmember.

When supporting the Motor Home for servicing on a floorjack or jackstands the vehicle should not be supported at the extreme ends of the frame or at the center of a frame rail. Refer to Section 0 for hoisting and jacking instructions.

In the event the vehicle is damaged in a collision, carefully check for proper frame alignment in addition to steering geometry and wheel alignment.

### FRAME ALIGNMENT

The most convenient way to check frame alignment is to select various corresponding points of measurement on the outside of each side rail and then, by use of a plumb bob, transfer these points to a layout on a level floor. (Note: Flange width may vary and should not be used as a reference point.)

Since the frame is basically made of three different sections, the procedure for checking the frame is as follows:

### CHECKING ALIGNMENT

The diagram shown in Figure 2 can be used to check the alignment of a Motor Home frame that has been distorted.

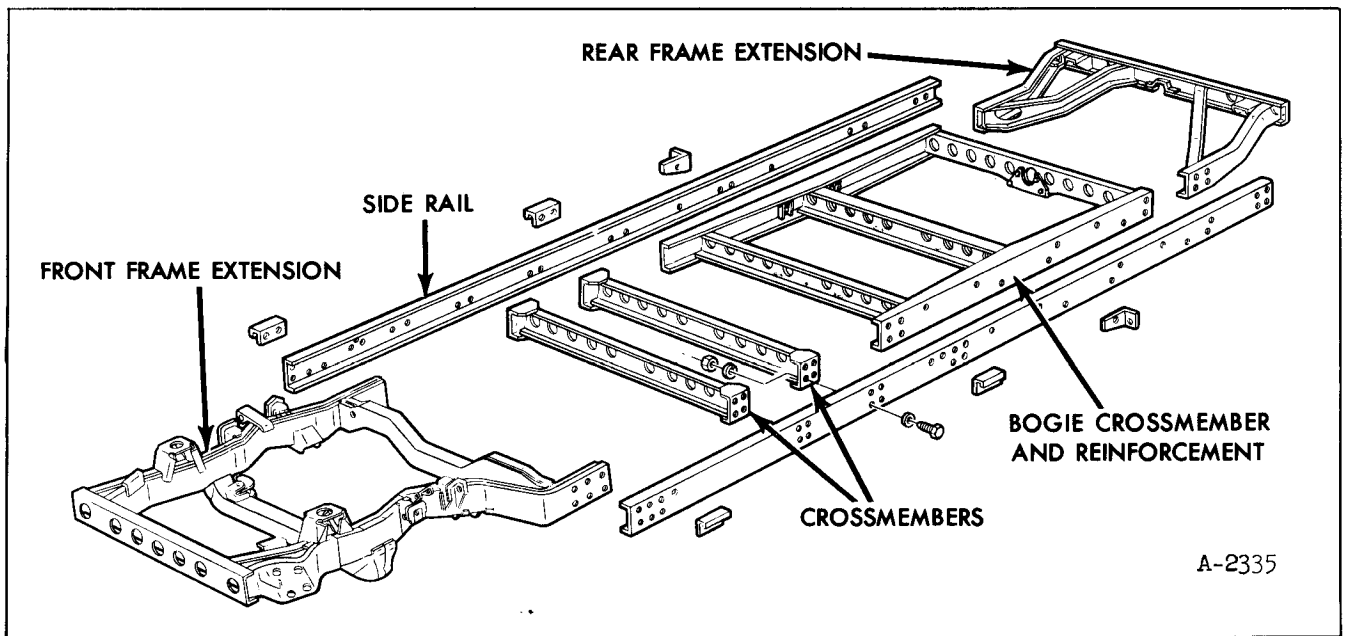


Figure 1-Frame Components

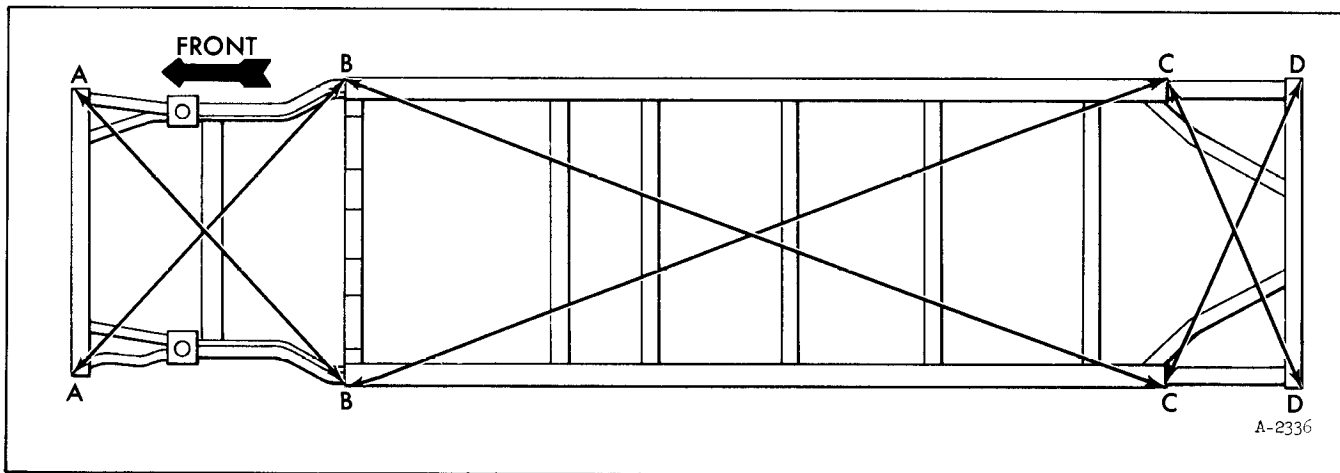


Figure 2-Frame Alignment

Corresponding measurements must be equal within 1/4".

1. Measure A-B. If not equal, front end of frame is misaligned.
2. Measure B-C. If not equal, center portion of frame is misaligned.
3. Measure C-D. If not equal, then rear suspension crossmember is misaligned.

### FRAME REPAIR

In case of collision, frame members can often be satisfactorily straightened to the required limits. However, the front suspension crossmember is made to unusually close limits necessary for proper front wheel alignment; therefore, straightening of this unit may not be successful.

It is possible that the ordinary straightening methods will suffice for minor damage to the front suspension crossmember; however, in case of serious damage or fracture, the entire front suspension crossmember or front frame extension must be replaced. Before the member is replaced, it is essential that the frame alignment be checked, and corrected if necessary.

### FRAME MATERIAL

The frame material is 950-1023-1080 steel. The frame may be welded if necessary using electrodes noted in table 1.

**NOTE:** It is NOT recommended that the frame be welded to repair. Replacement of major components is recommended if there is substantial frame damage – such as from collisions, etc.

### ELECTRODE USAGE WITH FRAME MATERIAL

Material .....	1023-950 steel
Type or Electrode .....	E7018

### REPLACING FRAME EXTENSION

The purpose of this section is to enable a technician to change a front or rear frame extension due to

extensive damage from a collision, etc. It is not recommended that this procedure be used until it is determined that the frame is definitely out of alignment and is unable to be fixed by the usual frame straightening operations.

## FRONT FRAME EXTENSION REMOVAL

The front frame extension should only be replaced if absolutely necessary due to the complexity and amount of labor involved.

**NOTE:** To drain, disconnect, or remove certain components it may be necessary to refer to additional sections in this maintenance manual (such as, draining gas tanks; Refer to Section 8 "Fuel Tank and Exhaust").

### Drain

1. Drain power steering fluid.
2. Drain brake fluid.
3. Release freon from A/C system.
4. Drain gas tanks.
5. Drain engine cooling system.

### Disconnect

1. Fuel Filler hose at front elbow.
2. Hose from tube going to charcoal canister.
3. If two canister are used, disconnect hoses from the one mounted on the stepper.
4. Rear brake line from combination valve.
5. Heater hoses and pre-heater at engine.
6. Vacuum lines at cruise control.
7. Power brake vacuum line.
8. Hose to thermasan switch.
9. Speedometer cable at cruise control (at transmission without cruise control).
10. Accelerator cable at carburetor.
11. Transmission shift cable at transmission.
12. Oil filler tube at front end.
13. Vacuum line at vacuum tank mounted on the side of the heater.
14. Brake lines at master cylinder.
15. Hydraulic lines to windshield wiper motor.

16. Air lines.

### Remove

1. Remove Engine, Transmission, and Final Drive Assembly.
2. Remove mufflers and Y-pipe.
3. Remove torsion bars and rear torsion bar support.
4. Take steering gear off of frame and remove front bumper assembly.
5. Remove batteries and battery box with air tank.
6. Remove parking brake cable from front frame section.
7. Remove thermasan hose from unit on exhaust pipe (if used).
8. Remove front body mount bolts.
9. Remove frame section bolts.
10. Air conditioning compressor and hoses (cap all A/C hoses).
11. Front wheels.
12. Front fender wells.
13. Grille.
14. Lower fiberglass section below grille.
15. Radiator.
16. After the bolts holding the front frame extension are removed it will be possible to pull it forward and down clearing the body. A high capacity floor jack should be used to move the front frame extension forward and down.

## FRONT FRAME EXTENSION INSTALLATION

Installation of the front frame extension is accomplished by reversing the removal procedures.

## REAR FRAME EXTENSION REMOVAL

1. Remove rear bumper by removing both

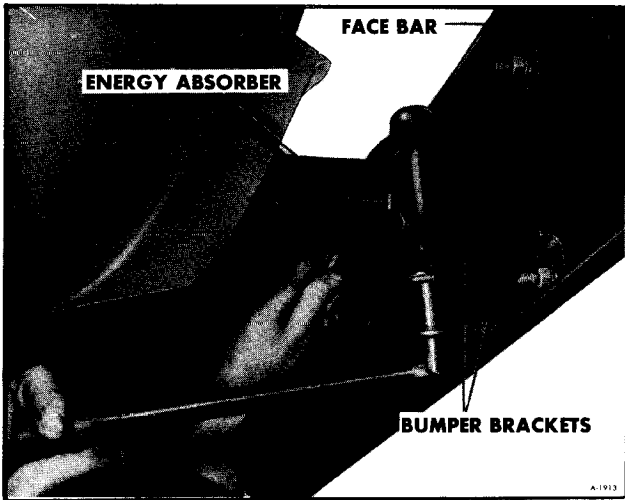


Figure 3-Removing Rear Bumper

bumper bracket thru bolts as shown in Figure 3. Then remove face bar assembly.

2. Remove the 4 bolts and nuts securing energy absorbers to the frame.

3. Remove spare tire carrier from rear crossmember by removing 8 bolts and nuts.

4. Using a small hydraulic or screw jack and a 3 foot wood 2x4, place jack in the middle of floor section using the 2x4 to support the floor weight, lengthwise.

5. Remove the bolt in each rear mounting pad. Location of mounts are shown in Figure 4.

**NOTE:** To reach bolt head inside rear of Motor Home some interior components may have to be removed.

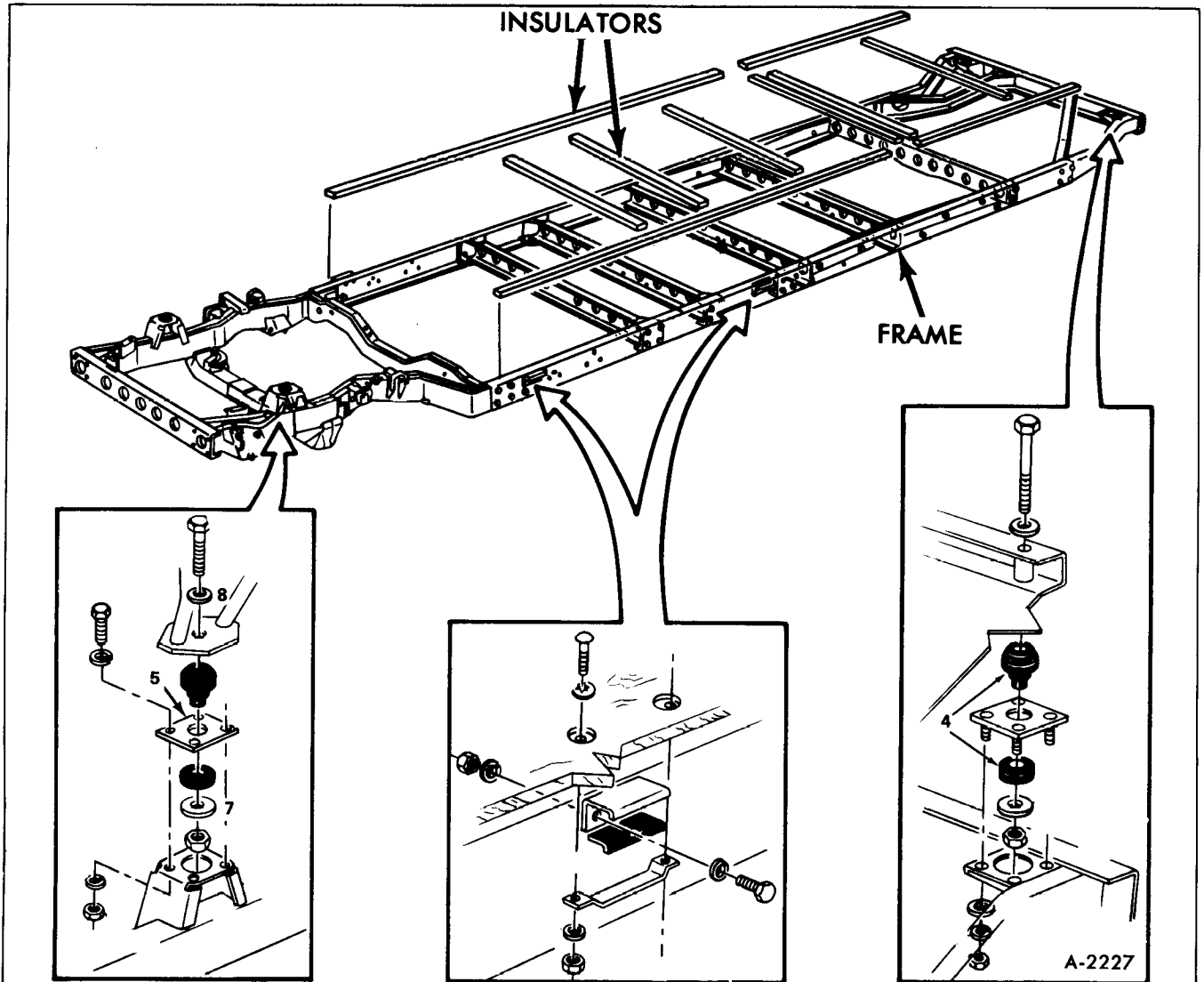


Figure 4-Body Mountings

6. Remove tailpipe from rear section by loosening clamp at slip joint.

7. Drain water from water supply tank.

8. Remove holding tank dump pipe from retaining clamp on rear crossmember.

9. Remove motor generator assembly (if so equipped).

10. Remove 8 nuts and bolts securing rear frame extension to side rails.

11. Slide out rear frame extension.

## REAR FRAME EXTENSION INSTALLATION

Installation of the rear frame extension is accomplished by reversing the removal procedures.

## BODY MOUNTING

Should it become necessary to replace any body mounting components, refer to figure 4. Front and rear body mount nut torque is 50 - 60 foot-pounds.

If any of the insulators between the frame and body must be replaced, be sure the old insulator is entirely removed. Then using a waterproof adhesive attach new insulator to frame in locations shown in Figure 4.