

SEVERE DUTY REAR FRAME REPAIR

AFFECTED VEHICLES: 1998 AND 2000 CROWN VICTORIA (POLICE, TAXI, NGV),
TOWN CAR (LIMOUSINE)

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OVERVIEW

This procedure is for repairing cracks and installing reinforcement brackets on the rear control arm mounts. Depending on the size of the cracks, some or all of the mounts will require coach welds. All of the control arm mounts will have reinforcement brackets installed on them.

INSPECTION

NOTE: All illustrations show the right side, the left side is similar.

1. Record radio stations.
2. Disconnect the battery ground cable.
3. NOTE: Upon reassembly, the control arms must be tightened with the vehicle suspension at ride height. Therefore, the shock absorbers must be marked while the vehicle is still on the ground to show ride height before the control arms are removed.

While parked on a level surface, mark the rear suspension shock absorbers relative to the position of their protective sleeves.

4. Raise the vehicle on a hoist and remove the rear wheels.

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5. NOTE: Inspect both sides of the vehicle.

Clean and inspect the areas of the upper and lower control arm mounts for cracks as indicated in the illustration. Measure the length of any cracks that are located. See Figure 1.

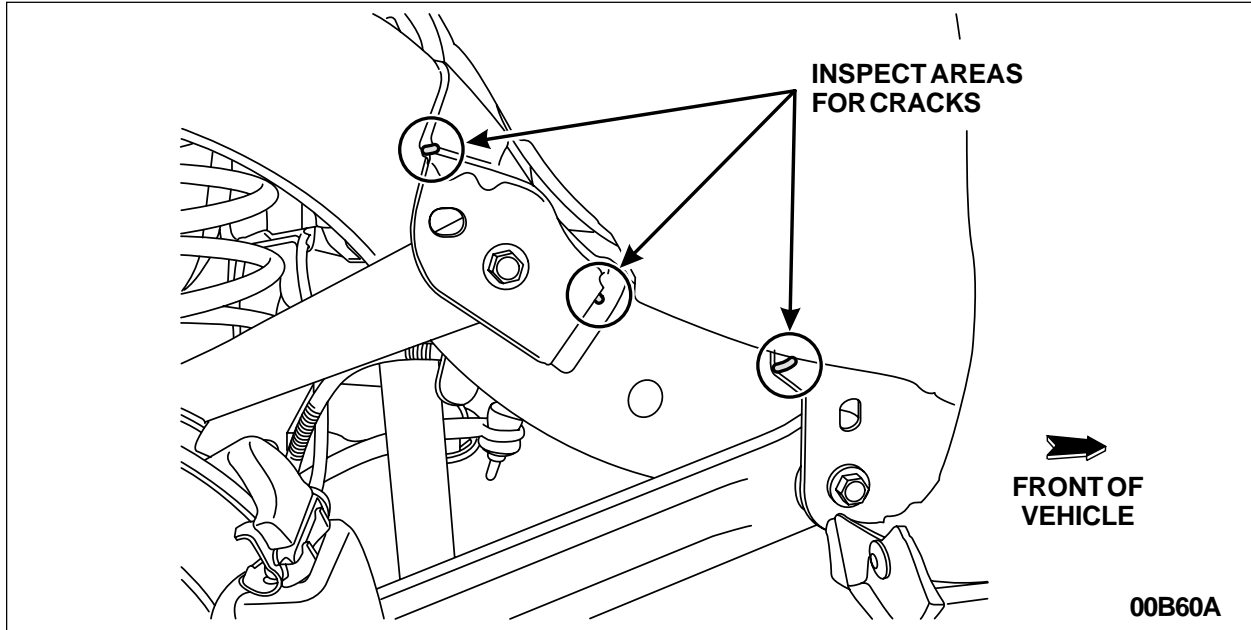


FIGURE 1

- A. If any of the control arm mounts have separated from the frame rail, do not continue with this procedure. Contact the recall hotline at 1-800-325-5621 for further instruction.
- B. If no cracks are located, install reinforcement brackets on ALL control arm mounts. Perform REINFORCEMENT BRACKET INSTALLATION.
- C. Vehicles with only cracks of less than one-half inch in length, proceed as follows.
- Perform CRACK REPAIR AND COACH WELD PLACEMENT, repairing all cracks and strategically placing coach welds on ONLY the control arm mount(s), which contain cracks.
 - Perform REINFORCEMENT BRACKET INSTALLATION, installing reinforcement brackets on ALL control arm mounts.
- D. Vehicles with any cracks 1/2 inch long or greater, proceed as follows.
- Perform CRACK REPAIR AND COACH WELD PLACEMENT, repairing all cracks and placing coach welds on ALL the control arm mounts.
 - Perform REINFORCEMENT BRACKET INSTALLATION, installing reinforcement brackets on ALL control arm mounts.

WELDING EQUIPMENT REQUIREMENTS

- MIG WELDER WITH 150 AMP MINIMUM RATING
- ER70 S6 OR S3 LIGHT COPPER CLAD WIRE
- 0.030 IN. MAXIMUM WIRE SIZE

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CRACK REPAIR AND COACH WELD PLACEMENT

NOTE: Removal of control arm(s) (steps 3 or 4) is not necessary for mounts that do not require coach welds.

1. Position safety stands under the rear axle housing.
2. If equipped with an air spring, wrap the air spring in a protective welding blanket.
3. Loosen the rear pivot bolt on the lower control arm, then remove the front pivot bolt. Rotate the lower control arm downward, away from the frame mount.
4. Remove the upper control arm pivot bolts, then remove the upper control arm.
5. **CAUTION: Grind only enough metal away to form the V-groove. Do not grind completely through the frame rail or mount parent metal.**

Grind a V-groove in all cracks, then remove the E-coat from around the cracks. Mig weld the groove, using standard mig welding procedures. See Figures 2 and 3.

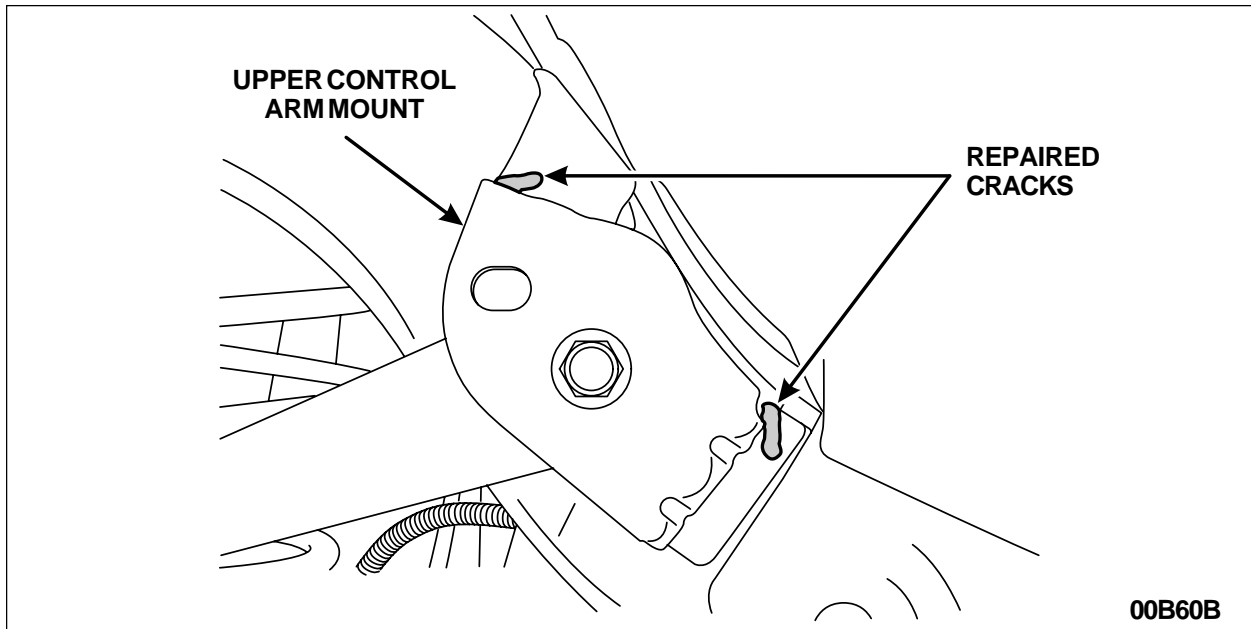


FIGURE 2

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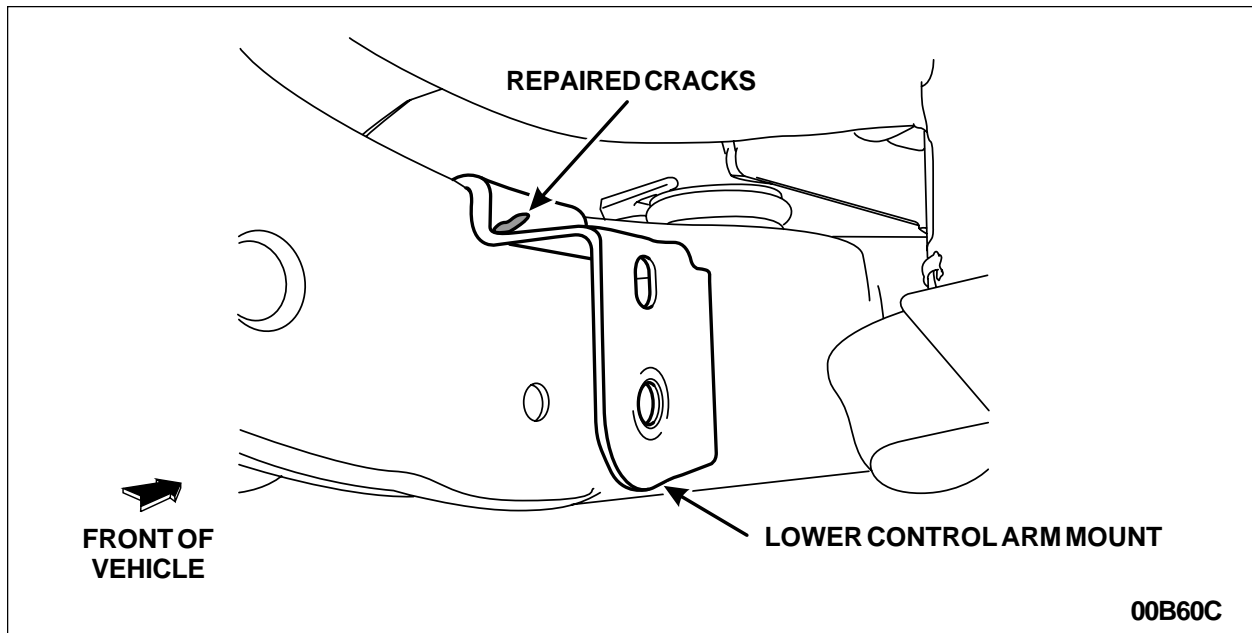


FIGURE 3

6. Remove the E-coat from the frame rail(s) and control arm mount(s) at the coach weld positions as indicated in the illustrations. See Figures 4 and 5.
7. Place one (1) inch coach welds onto the frame rail(s)/control arm mount(s) (starting at the edge of the mount) as indicated in the illustrations. See Figures 4 and 5.

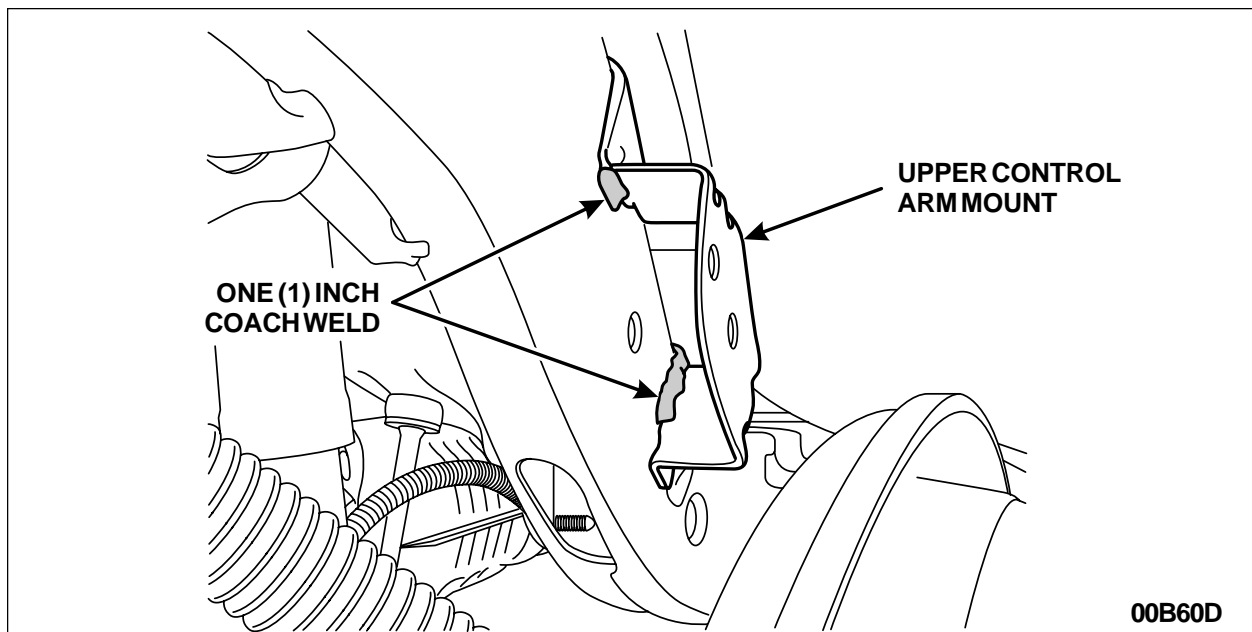


FIGURE 4

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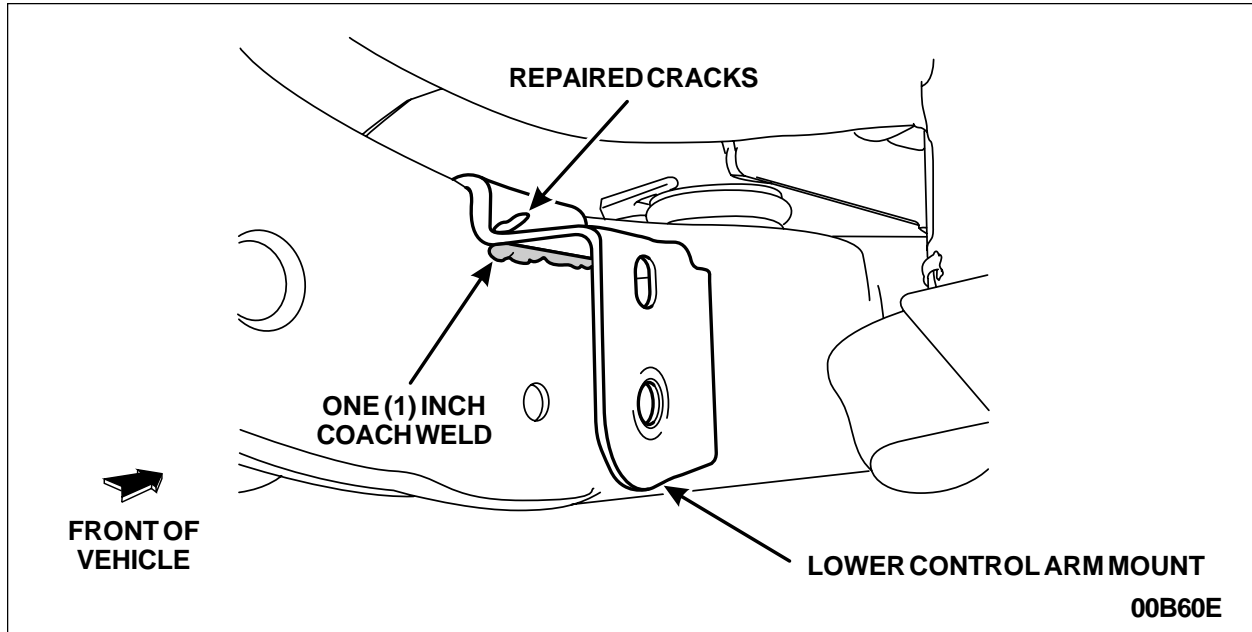


FIGURE 5

REINFORCEMENT BRACKET INSTALLATION

NOTE: If equipped with an air spring, wrap the air spring in a protective welding blanket (if not previously installed during crack repair).

NOTE: Reinforcement brackets MAY be welded onto mounts without removal of control arms.

CAUTION: Burn-through is not permitted. If any burn-through occurs, the hole must be filled.

CAUTION: Do not weld on the bends of the brackets.

1. **CAUTION: Only remove E-coat and any weld material that interferes with reinforcement bracket fit. Do not grind frame parent metal.**

Prep the frame rail/upper control arm mount by removing the E-coat in the reinforcement bracket mounting area. If necessary grind the weld on the front edge of the upper control arm mount. Grind this weld only if it interferes with the reinforcement bracket sitting flush to the frame rail (bracket must not rock). See Figure 6.

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2. Position the upper control arm mount reinforcement bracket with the slotted hole closest to the frame rail. The bracket must fit flush to the frame rail and must be centered vertically and flush with the outer face of the upper control arm mount. Clamp the bracket into place. See Figure 6.

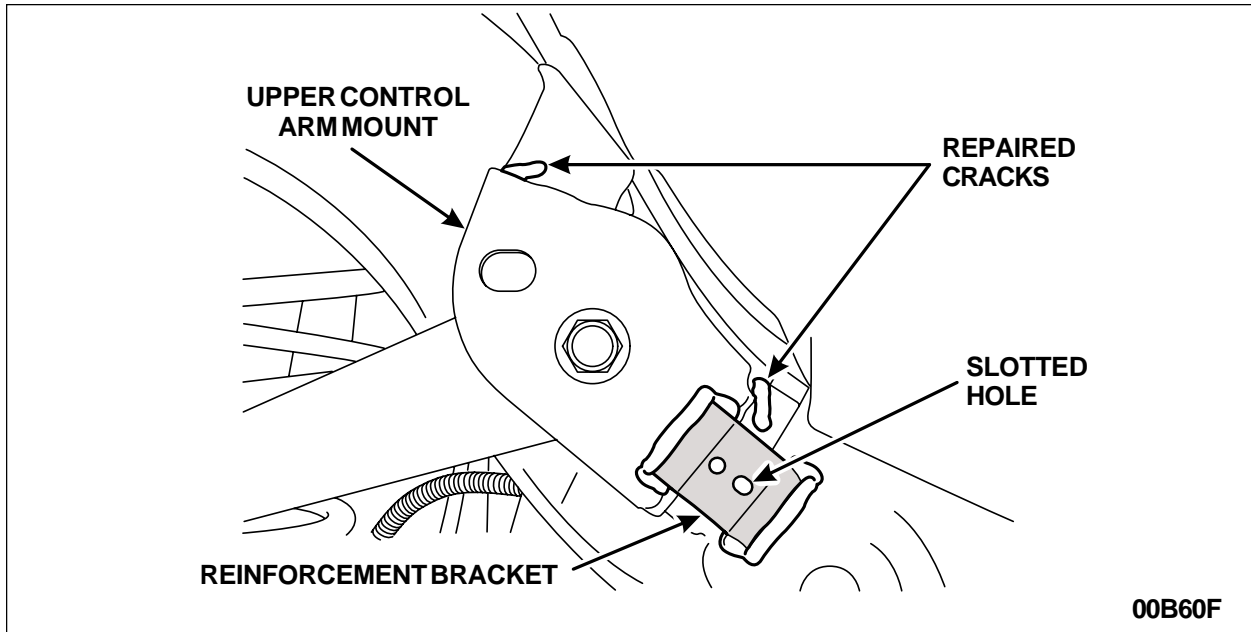


FIGURE 6

3. Tack weld the upper control arm mount reinforcement bracket into place. Remove the clamp(s). Then finish weld the bracket following the sequence and direction as indicated in the illustration. See Figure 7.

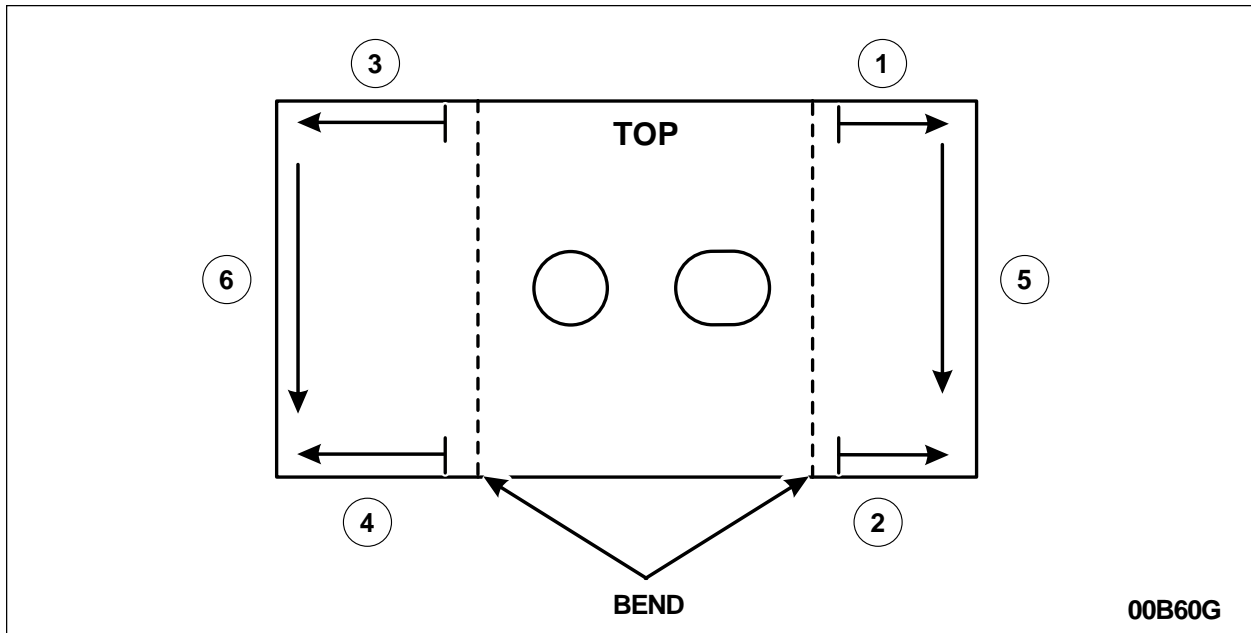


FIGURE 7

4. Prep the frame rail/lower control arm mount by removing the E-coat in the reinforcement bracket mounting area. See Figure 8.
5. Position the lower control arm mount reinforcement bracket. The bracket must fit flush to the frame rail and flush with the outer face of the lower control arm mount. To begin, clamp the bracket to the frame rail only. See Figure 8.

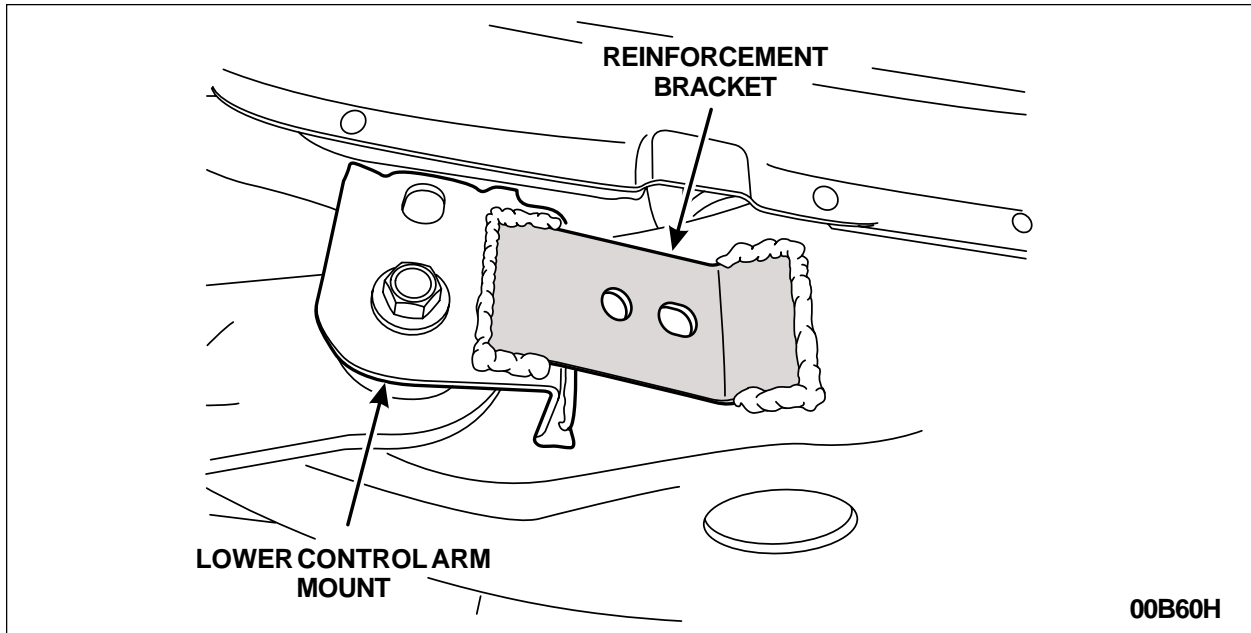


FIGURE 8

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6. Tack weld the lower control arm mount reinforcement bracket to the frame rail. Then clamp and tack weld the bracket to the lower control arm mount. Remove the clamp(s). Then finish weld the bracket following the sequence and direction as indicated in the illustration. See Figure 9.

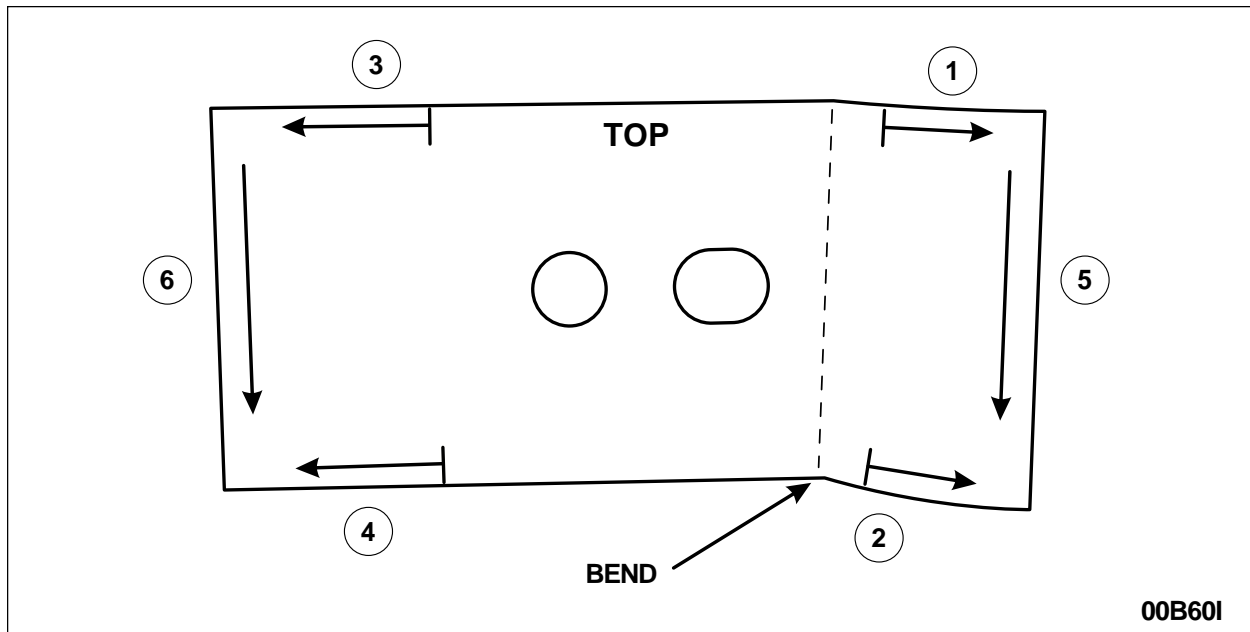


FIGURE 9

FINAL ASSEMBLY

1. Remove weld blankets, if previously installed.
2. Install all of the control arms and/or flag nut(s) that were removed. Do not final tighten at this time.
3. Remove the safety stands.
4. **WARNING: RIDE HEIGHT MUST BE ACHIEVED BY SUPPORTING THE REAR AXLE WITH SHORT SAFETY STANDS WITH THE FRONT WHEELS ON THE FLOOR. ATTEMPTING TO POSITION THE REAR AXLE TO RIDE HEIGHT WHILE THE VEHICLE IS STILL SUPPORTED BY THE HOIST MAY RESULT IN SUDDEN SHIFTING OF THE VEHICLE ON THE HOIST AND PERSONAL INJURY.**

Position two (2) short safety stands directly under the rear axle housing. Lower the hoist so the rear axle is supported by the jack stands and the front wheels fully contact the floor.

5. Verify the rear shock absorber ride height reference marks are in alignment.

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6. NOTE: Tighten all of the control arms that were removed.

Tighten both lower control arm pivot bolts and the upper control arm to frame mount pivot bolt to 150 Nm (111 lb-ft). Tighten the upper control arm to axle bracket pivot bolt to 103 Nm (76 lb-ft).

7. Raise the vehicle on a hoist, then remove the safety stands.
8. Spray undercoating on reinforcement brackets, welds and all bare metal (avoid excessive overspray).
9. Install the rear wheels. Tighten the lug nuts to 129 Nm (95 lb-ft).
10. Lower the vehicle, then connect the battery ground cable.
11. Program the radio stations.

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