



## Repair Standards

### 01-008 – Bent Bottom Rail Repairs

#### Disclaimer:

*Only a certified and experienced person using suitable tools should complete the repairs described below. Repairs should meet or exceed manufacturer's minimum specifications and should be in agreement with all safety and ecological regulations.*

#### Permissible upon return and does not require repair:

- Acceptable repairs.
- Scratches no more than 1/8" deep on rails or rivets
- Dents/bends (between crossmembers) that don't consist of any holes, cuts or cracks.
- Dents/bends (between crossmembers) that are no more than 1/2" deep.

#### Requires repair upon return:

- Unacceptable repairs.
- Scratches more than 1/8" deep on rails or rivets.
- Dents/bends (between crossmembers) that consist of any holes, cuts or cracks.
- Dents/bends (between crossmembers) that are more than 1/2" deep

#### Restrictions:

- Bottom rails must be sectioned if:
  - There is 3/4" or greater bend in the rail.
    - This extent of a bend is the furthest that a rail can bend and therefore it will not return to its original size/appearance.
  - The damage is greater than eight feet in length.

#### Note:

- The repairs listed below are ONLY for bends/dents in a bottom rail, between the crossmember or higher than the floor level, that are greater than 1/2" but less than 3/4" and don't consist of any cracks or holes.

#### Procedure: Lower Than Floor Level

1. Extract bolts and rivets holding the crossmember clips and bottom rail together.
2. Without heating, bend bottom rail and crossmember clips back to normal, or as close as possible.
3. Inspect crossmember clip welds to ensure that there are no cracks present.



- 1) If cracks are present, weld together.
4. Prior to installing the reinforcement, be sure to prime, paint and wrap it with Mylar tape.
5. Place the lower angled reinforcement in the middle of the crossmember clips and bottom rail, without shortening the crossmembers.
  - 1) This reinforcement should extend two crossmembers on either side of the damaged bottom rail.
6. Reinforcements should be fastened by 3/8" hard buck rivets. Grade 5 hex head stainless steel nuts/bolts are also acceptable, along with Fruehaul rail bolts (using flat washers and lock nuts).
  - 1) The 5 hex nuts/bolts should be used to return the stretched area of the bottom rail to a straight position.