



OUTER BODY PANEL SECTIONING
AUTOBODY REPAIR
SECONDARY

This tip sheet is meant to show the best practices when doing the Steel Sectioning project.

Tips When Sectioning Parts

Using a scratch awl for making the cut line will allow for a more accurate measurement of the sectioning location, rather than using a felt marker or some other tool.

In the body repair manual, highlight the location of the measurements.

When sectioning a part, mark all of the cut lines first, then go back and recheck the body repair manual measurements and recheck the cut location marks.

Mark which side of the cut line will be used to make sure that the part is initially cut at the correct location.

When cutting out the part being replaced, cut the part short of the final cut line. This will allow the competitor to grind the parts remaining on the vehicle down to the final cut line and have proper weld joint fit-up.

When cutting out a service part, cut the part longer, beyond the final cut line. This will allow the Competitor to grind the service part down to the final cut line and have proper weld-joint fit up.

Tack weld the sectioning joints and re-measure to ensure proper panel alignment.

Heat control is critical when making seam welds. In order to disperse the heat evenly, make a 25-38 mm (1 inch – 1 ½ inch) weld, then make the next weld on the seam as far away from the first weld as possible. Using this technique will help prevent panel warping and burnthrough.

Heat control is critical when making plug welds. Make the first plug weld, then move to a plug weld that is on a different flange. Continue this technique and keep each new weld that is made as far away from the previous weld as possible. Using this technique will help prevent panel warping and burnthrough.

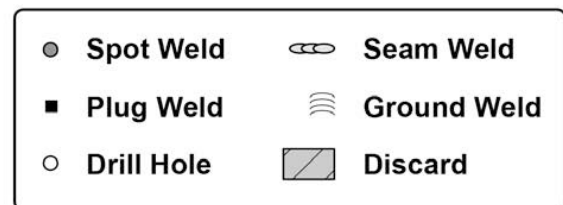
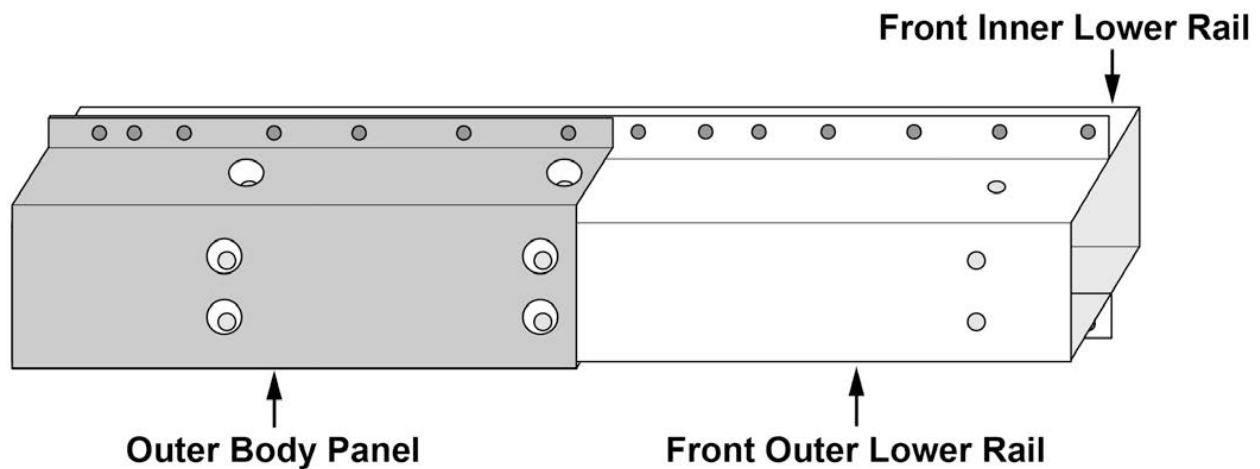
When welding a seam, the weld must have continuous fusion not necessarily a continuous weld.

What this means is the Competitor can use a stitch technique or continuous weld technique as long as the weld joint is fully fused together.

Outer Body Panel Sectioning

This procedure is to simulate removing a portion of an outer body panel to gain access to an inner reinforcement that has been damaged and requires replacement. Pay close attention to what position in the

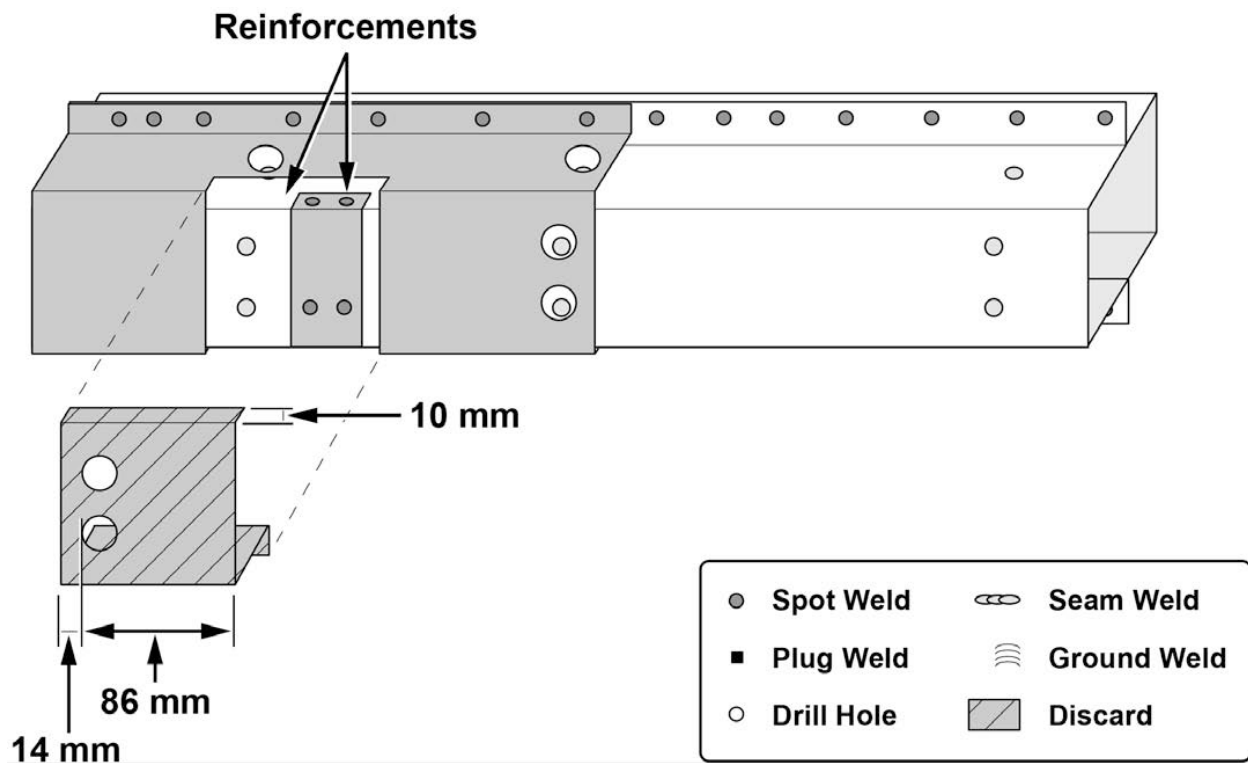
hole the measurements are taken from.



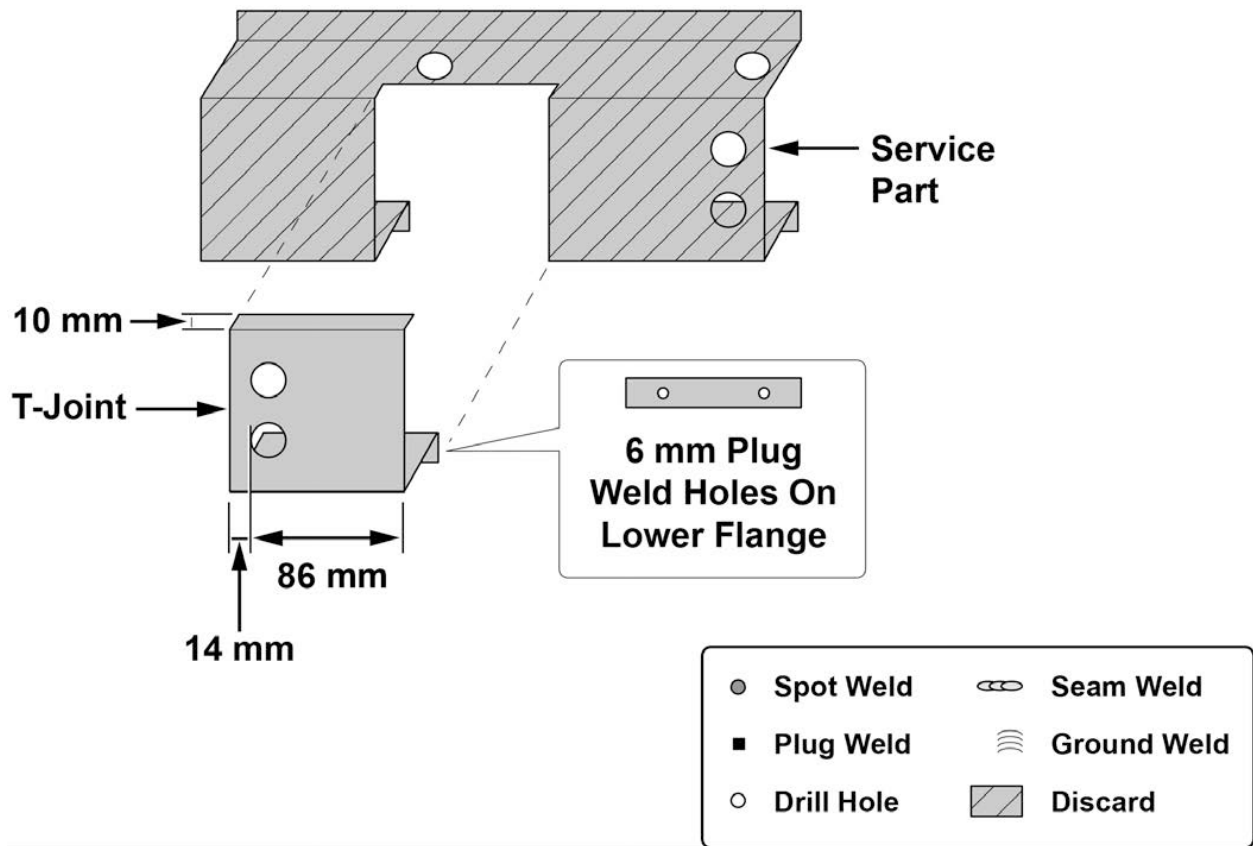
Outer Body Panel Sectioning (Cont'd)

Layout cut lines at indicated measuring locations.

1. With a marker or scratch awl, mark the appropriate cut locations. **STOP 1.**
2. Drill or grind two spot welds on the lower pinchweld flange.
3. Cut at the marked location.
4. Remove the access window. **STOP 2**
5. Remove any burrs and trim size.



Outer Body Panel Sectioning (Cont'd)



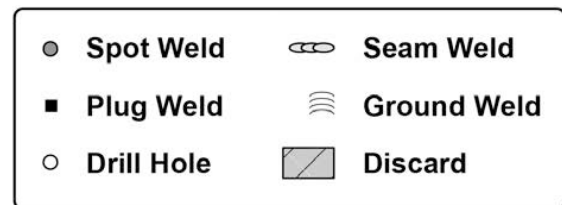
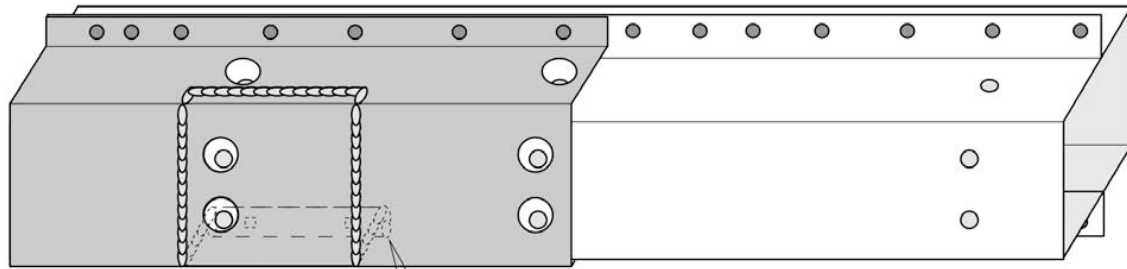
6. Mark the appropriate cut locations. **STOP 3**

7. Cut at the marked location.

8. Remove the access window.

9. Remove any burrs and trim to size. **STOP 4**

Outer Body Panel Sectioning (Cont'd)



10. Position the service part and tack weld into place.

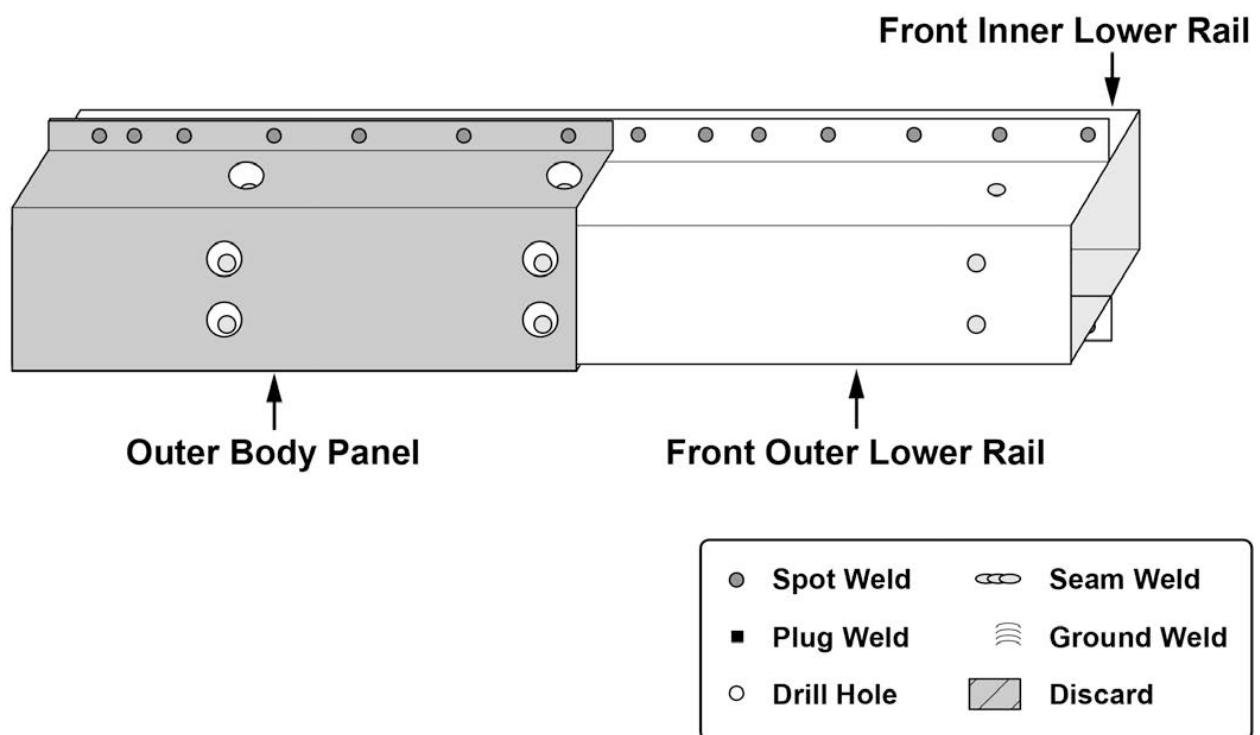
11. Verify dimensions. **STOP 5**

12. Complete the two plug welds.

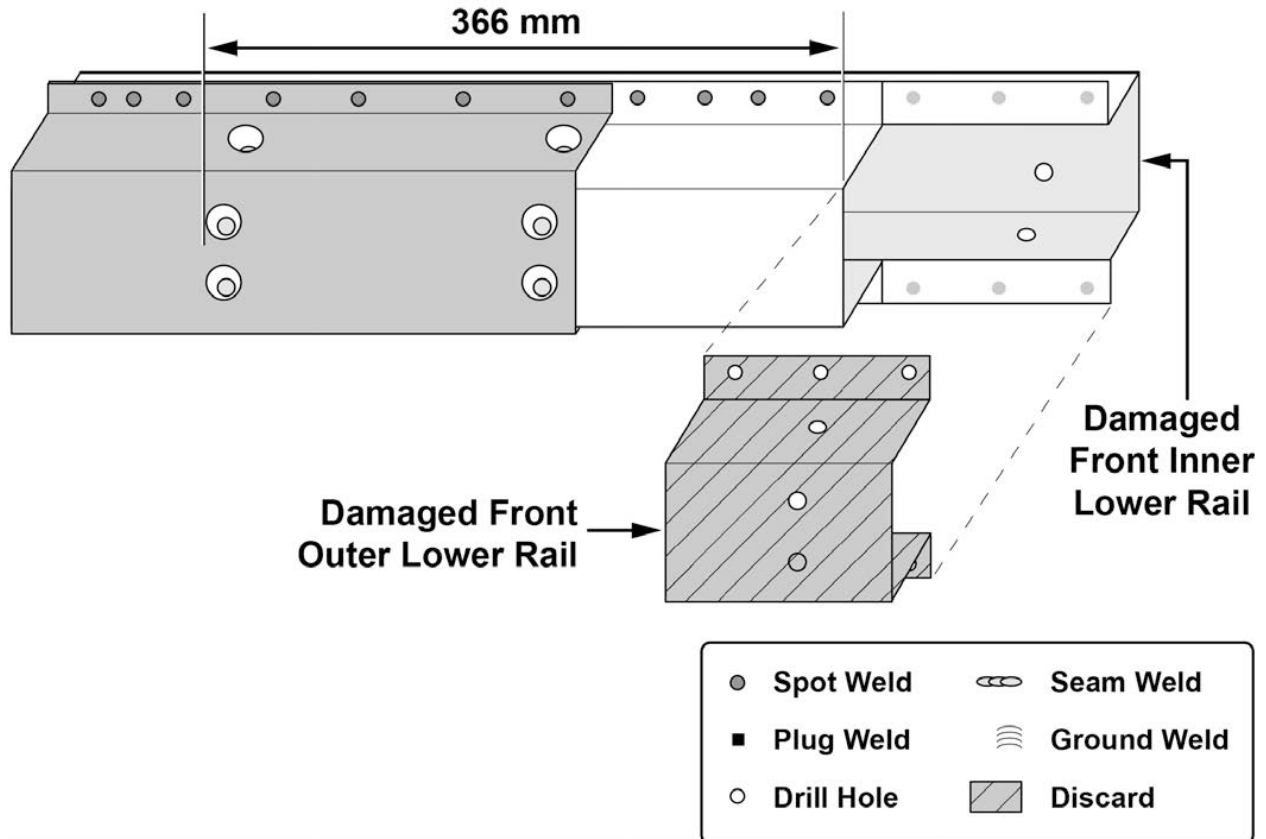
13. Fully weld all open butt joint seams.

Front Lower Rail Sectioning

The front lower rail sectioning procedure is to simulate removing a damaged lower frame rail tip with an offset repair joint. Pay close attention to what position in the hole the measurements are taken from.

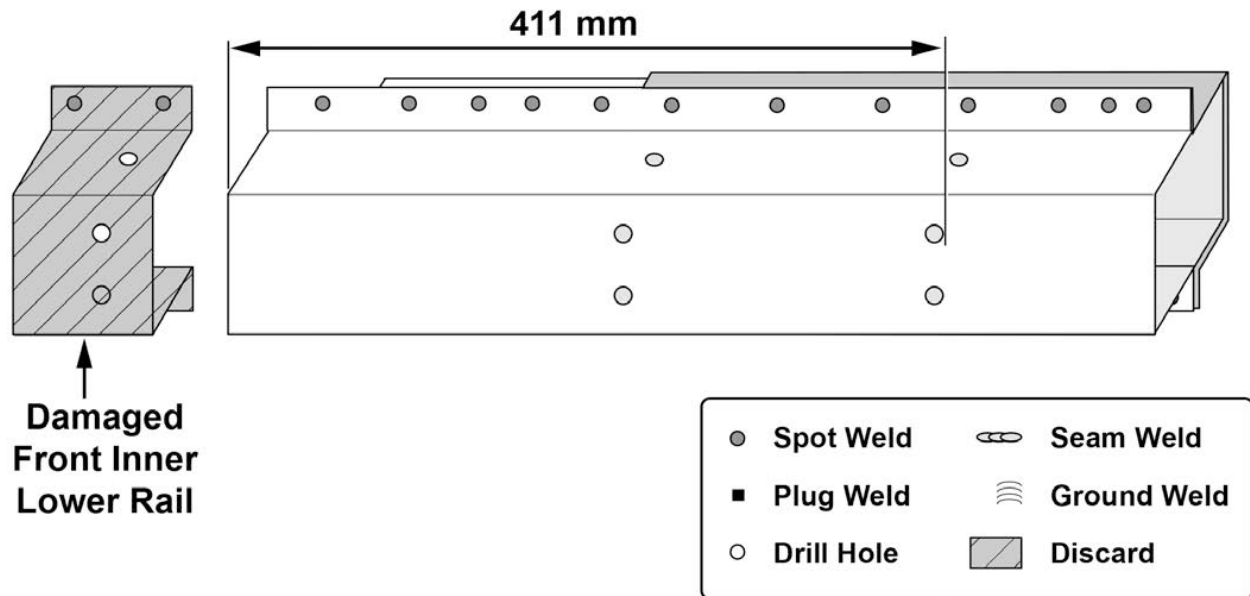


Front Lower Rail Sectioning (Cont'd)



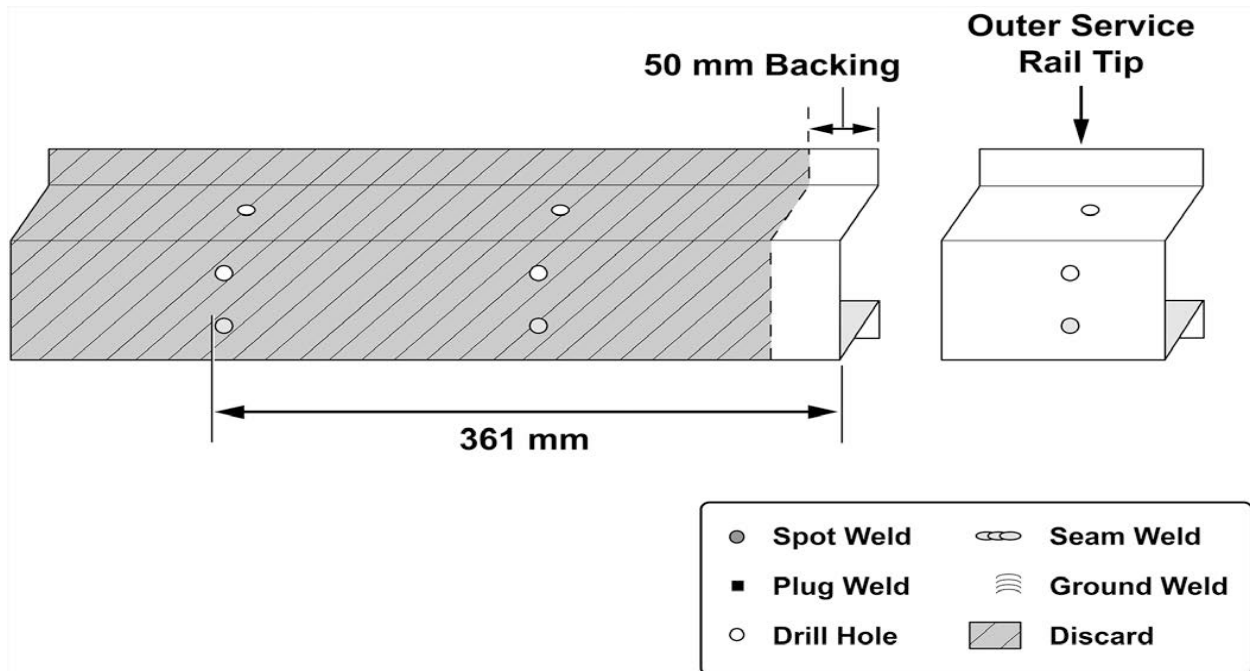
1. Mark the appropriate cut locations. **STOP 6**
2. Drill or grind three spot welds on both the upper and lower pinch weld flange.
3. Cut at marked location.
4. Remove the damage rail tip.
5. Remove any burrs and trim to size. **STOP 7**

Front Lower Rail Sectioning (Cont'd)



6. Mark the appropriate cut locations.
7. Cut at the marked location. **STOP 8**
8. Remove the damaged rail tip.
9. Remove any burrs and trim to size.

Front Lower Rail Sectioning (Cont'd)



10. Mark the appropriate cut locations on the service rail.

STOP 9

11. Cut the service rail tip at the marked location.

12. Remove the service rail tip.

13. Remove any burrs and trim to size.

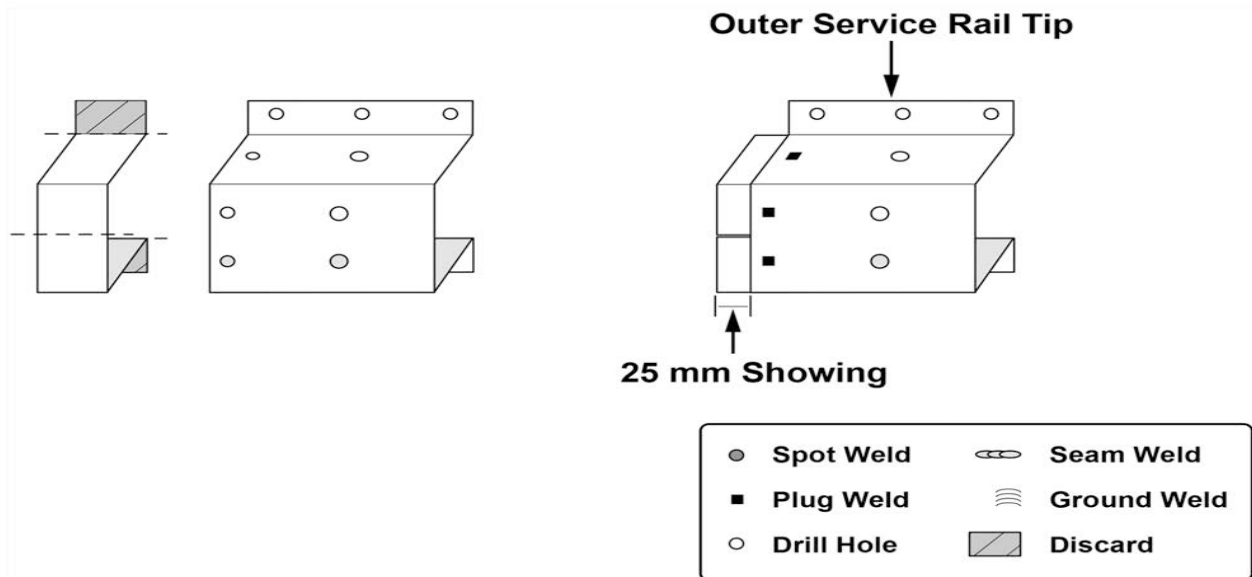
14. Mark the appropriate cut locations for the backer. **STOP 10**

15. Cut the backer at the marked location.

16. Remove the backer.

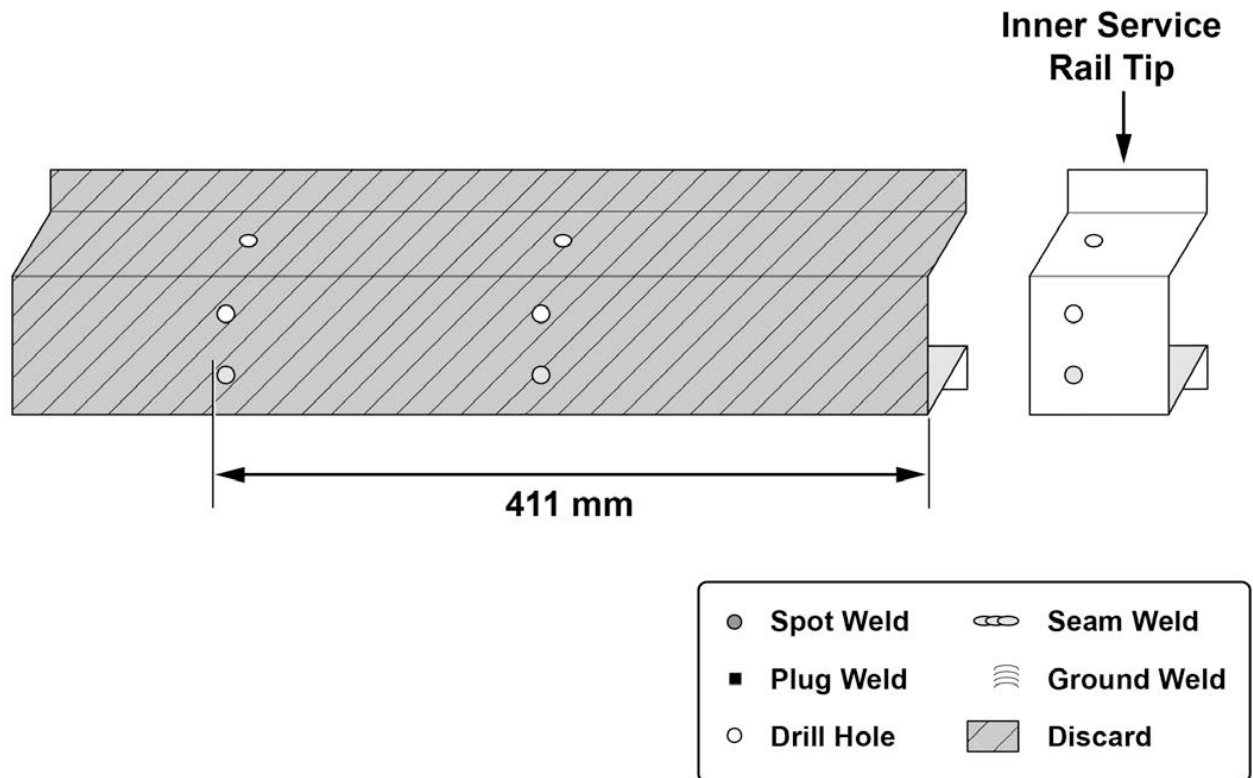
17. Remove any burrs and trim to size.

Front Lower Rail Sectioning (Cont'd)



18. Cut the backer so that it can sleeve into the service rail tip.
19. Drill one 8mm plug weld hole 15 mm from the edge on the top in order to attach the backer to the rail tip.
20. Drill two 8 mm plug weld holes 15 mm from the edge on the side in order to attach the backer to the rail tip.
21. Drill one 8 mm plug weld hole 15 mm from the edge on the bottom in order to attach the backer to the rail tip.
22. Drill three 8 mm holes on each flange in the same location as the original spot welds. **STOP 11**
23. Attach the backer with plug welds.

Front Lower Rail Sectioning (Cont'd)



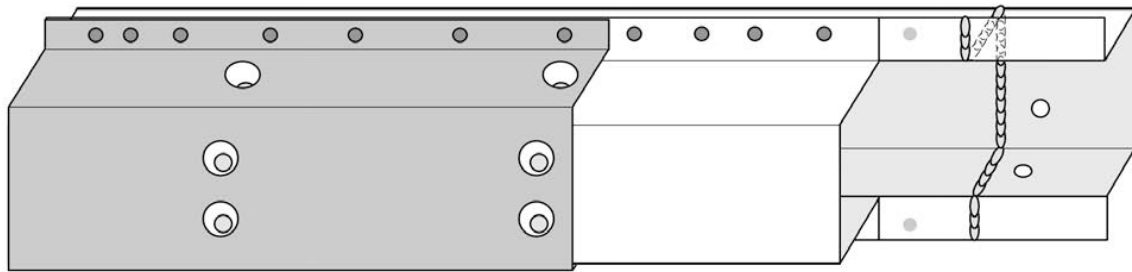
24. Mark the appropriate cut locations on the service rail.

25. Cut the service rail tip at the marked location.

26. Remove the service rail tip.

27. Remove any burrs and trim to size. **STOP 12**

Front Lower Rail Sectioning (Cont'd)



● Spot Weld	⌋ Seam Weld
■ Plug Weld	⋈ Ground Weld
○ Drill Hole	▨ Discard

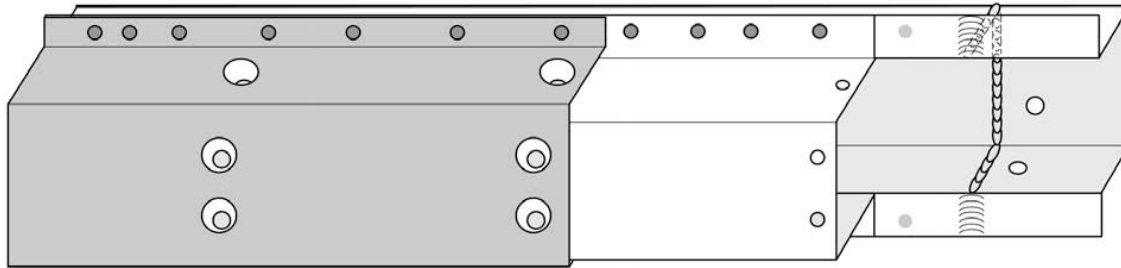
28. Position and clamp the inner rail tip service part.

29. Tack weld the part into place.

30. Verify dimensions.

31. Completely weld the open butt joint seam from the inside of the rail **ONLY**. **STOP 13**

Front Lower Rail Sectioning (Cont'd)



● Spot Weld	⊖ Seam Weld
■ Plug Weld	⋈ Ground Weld
○ Drill Hole	▨ Discard

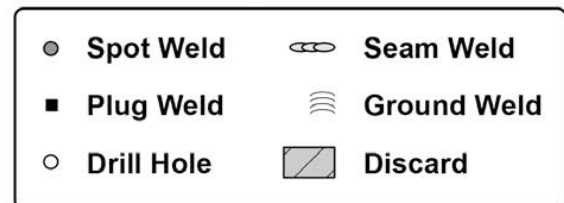
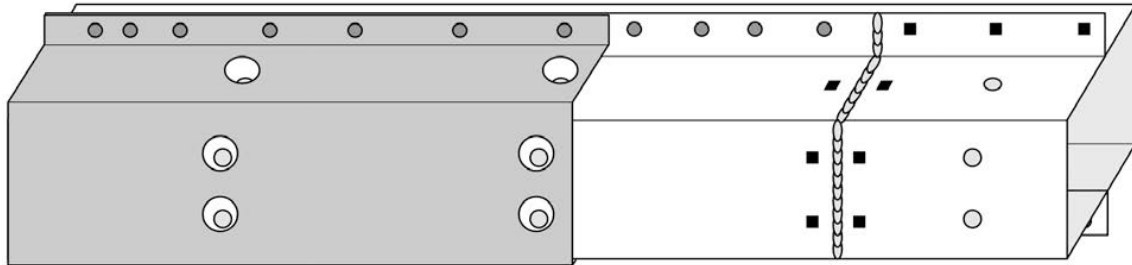
32. Grind the welds flat on both flanges. **STOP 14**

33. Drill one 8 mm plug weld hole 15 mm from the edge on the top in order to attach the backer to the rail tip.

34. Drill two 8 mm plug weld holes 15 mm from the edge on the side in order to attach the backer to the rail tip.

35. Drill one 8 mm plug weld hole 15 mm from the edge on the bottom in order to attach the backer to the rail tip. **STOP 15**

Front Lower Rail Sectioning (Cont'd)



36. Position and clamp the outer rail tip service part.

37. Tack weld the part into place.

38. Verify dimensions. **STOP 16**

39. Complete all plug welds.

40. Completely weld the butt with backing joint seam.

STOP 17

