

Lubricants in the Manufacturing of CVR – XMBR 2nd Row Seat Tub RR -

Introduction

The CVR – XMBR 2nd Row Seat Tub Rear is a cross member reinforcement in the vehicle's floor structure. It supports the 2nd row seating assembly, distributes loads during passenger use, and improves crash safety. Manufacturing involves blanking, stamping, bending, piercing, spot welding, and final assembly of high-strength steel sheets. To ensure durability, precision, and production efficiency, the use of appropriate lubricants is essential.

1. Importance of Lubricants in Seat Tub Cross Member Production

Tool & Die Protection: Prevents wear and galling on forming dies and cutting punches.

Formability: Reduces friction, enabling accurate stamping of complex seat tub shapes.

Surface Quality: Prevents scratches, dents, and visible defects.

Weldability: Low-residue lubricants allow strong spot and MIG welds without contamination.

Corrosion Prevention: Protects seat tub cross members before paint or e-coating.

2. Types of Lubricants Used

Stage

Lubricant Type

Key Benefits

Blanking & Stamping

Water-soluble stamping lubricants / semi-synthetics

Lower die wear, smooth forming, easy cleaning

Deep Drawing & Bending

Polymer-based drawing lubricants / dry-film coatings

Prevents tearing, maintains precision geometry

Trimming & Piercing

Light cutting oils or water-miscible coolants

Clean edges, burr reduction, longer tool life

Welding & Assembly

Low-residue lubricants

Strong spot welds, no porosity

Fitment & NVH Control

Greases with anti-squeak/anti-wear additives

Smooth assembly, reduced noise & vibration

Storage & Corrosion Protection

Rust preventive oils or solvent-cutback coatings

Short-term rust protection before coating

3. Benefits for Manufacturers

Extended Tool Life → Lower replacement and maintenance costs.

Consistent Quality → Accurate part geometry and clean weld zones.

Improved Safety → Stronger weld joints and corrosion protection.

Operational Efficiency → Less downtime, reduced rework, and optimized lubrication use.

Better Passenger Comfort → Anti-squeak greases minimize cabin NVH issues.

4. Latest Lubrication Trends in Seat Tub Manufacturing

Dry-Film Coatings on Steel Blanks → Reduce oiling and cleaning steps.

Eco-Friendly Lubricants → Biodegradable, low-VOC options for sustainability.

Automated Roller & Spray Systems → Precise lube application for stamping dies.

Minimum Quantity Lubrication (MQL) → Cost-efficient lubrication during piercing and trimming.



PRESS TYPE	: AIDA 1650 US ton mechanical, transfer press.
PART DESCRIPTION	: CVR – XMBR 2 ND ROW SEAT TUB RR
MATERIAL	: CR DPC340Y 590T, G60G60, minimum spangle,
no temper, no	
chemical treatment	high strength steel coil (CHRYSLER MS. 50002 CHG U 12-10-2020).
MATERIAL THICKNESS	: 1.397mm thickness.
PROCESS	: 8-stage transfer die – 4 th stage “idle”.
PRESS SPEED	: 10 SPM.
IRMCO LUBRICANT USED	: IRMCO FLUIDS® 980 109 or EV1@15%
METHOD OF APPLICATION	: Lubricant applied via SPRA-RITE spray applicators - nozzles at approximately stages 1-2 & 5-6 via two sets of nozzles (one in front & one in back) at those points. 4 spray nozzles total



BENEFIT
REPLACING OIL
PARTS NOT WASHED AND PACKED IMMEDIATELY, COMPLETELY DRY
FULL COMPATIBILITY ABOUT SEAT MATERIALS, DIRECT SPOT WELDING.