

Lubricants in the Manufacturing of Stay Side Mount Components

Introduction

Stay side mounts are structural brackets or supports used in vehicles to secure components along the body side or chassis. They must meet strict requirements for strength, dimensional accuracy, corrosion resistance, and surface quality. Manufacturing these parts involves metal forming, piercing, welding, and surface finishing — all processes where **lubricants** play a critical role.

1. Why Lubricants Are Essential in Stay Side Mount Production

Operations such as blanking, progressive stamping, bending, and welding produce high friction and heat. The right lubrication system:

- **Protects Dies and Tools:** Reduces friction and wear on expensive stamping dies and cutting tools.
- **Enables Accurate Forming:** Ensures smooth metal flow during bends and draws, preventing cracks or wrinkling.
- **Preserves Surface Finish:** Minimizes scratches and scoring on visible surfaces.
- **Simplifies Post-Process Cleaning:** Low-residue lubricants make it easier to degrease parts before welding, coating, or assembly.
- **Prevents Corrosion:** Temporary rust inhibitors safeguard unpainted parts during storage and handling.

2. Types of Lubricants Used

Process Stage	Typical Lubricant	Benefits
Blanking & Stamping	Water-soluble or synthetic emulsions, sometimes with extreme-pressure additives	Cooling, reduced die wear, consistent lubrication

Forming/Bending	Heavy-duty drawing lubricants (water-based or semi-synthetic)	Prevents galling and tearing on high-strength steels
Trimming & Piercing	Light cutting oils or water-miscible coolants	Clean edges, extended tool life
Welding Preparation	Low-residue lubricants	Minimizes weld contamination, better weld quality
Corrosion Protection	Temporary rust preventive oils or dry-film inhibitors	Keeps parts protected before painting or assembly
Assembly Fitment	Specialty greases for bushings or anti-vibration pads	Lower friction, squeak prevention at joints

3. Benefits for Manufacturers

- **Lower Maintenance Costs:** Extended die and tool life reduces downtime.
- **Higher Part Quality:** Cleaner surfaces mean stronger welds and better paint adhesion.
- **Improved Efficiency:** Easier cleaning and handling speed up production.
- **Environmental & Safety Gains:** Modern low-VOC, biodegradable lubricants support sustainability targets.

4. Current Trends

- **Pre-Coated Steel Sheets:** Dry film lubricants applied at the coil stage eliminate liquid oils and simplify degreasing.
- **Eco-Friendly Formulations:** Non-chlorinated, vegetable-oil-based lubricants reduce environmental impact.

Automated Application Systems: Roller or spray systems ensure precise lubricant use, reducing waste and variability.



PRESS TYPE	: 400-ton VERNON mechanical press.
PART DESCRIPTION	: STAY SIDE MOUNT.
MATERIAL	: JAC270C 45/45 - 1.16mm-1.27mm thickness
IRMCO LUBRICANT USED	: IRMCO FLUIDS® 980 109@15% or EV1@20%
METHOD OF APPLICATION	: Spray applied to the top of coil entering die, every stroke.
PROCESS	: 18-stage progressive die.
PRESS SPEED	: 33 SPM.



BENEFIT
REPLACING A SOLVENT PRODUCT
PRICE PER PART REDUCED OF 7 TIMES
PARTS NOT WASHED AND PACKED IMMEDIATELY, COMPLETELY DRY
NO TOOL BUILD UP