COLLISION REPAIR INFORMATION

FOR THE COLLISION REPAIR PROFESSIONAL

TITLE: CORROSION PREVENTION FOR COLLISION REPAIR

SECTION: EXTERIOR BULLETIN # 186

MODELS: ALL TOYOTA, LEXUS, and SCION MODELS

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Corrosion Prevention for Collision Repair

- Adherence to established Corrosion Prevention processes is very important during collision repairs. For example, insufficient application of corrosion preventative compounds (i.e. anti-chipping coatings, seam sealer, anti-rust agents, etc.) may contribute to the development of rust, reduction in vehicle value and other customer satisfaction concerns. In certain cases, the development and progression of rust may also affect vehicle operational components. This bulletin is intended to raise awareness and reduce the occurrence of corrosion resulting from collision repairs.

Bolt-On Component Replacement and Corrosion Prevention:

- Anti-Chipping Primer applied under top coats to the leading edge of hoods and fenders, Anti-Chipping PVC and Urethane coatings also applied under top coats to lower panel exposures, Seam Sealer applied to panel flange seams; and Anti-Rust Agent (Cavity Wax) applied to interior portions of hoods doors and hatches are all specified for bolt-on body components in model-specific Repair Manuals for Collision Damage.

Weld-On Component Replacement and Corrosion Prevention:

- Zinc-Rich Weld-Through Primer applied to the mating flanges of weld sites prior to welding is designed to coat bare metal at Squeeze-Type Resistant Spot Weld (STRSW) locations thereby reducing the potential of corrosive hot-spots (accelerated rusting) at the weld flanges.

- Gas Metal Arc/Metal Inert Gas (GMAW/MIG) Welding temperatures burn and vaporize Zinc-Rich Weld-Through Primer at plug and continuous weld locations and cause the granular structure of the steel to expand. These circumstances can lead to corrosive hot-spots if left untreated. Therefore, it is recommended to substitute factory-type STRSW for GMAW/MIG where applicable as outlined in CRIB #181 Welding Specifications and Substitutions.

- Frame Component Repair and Replacement does not require Zinc-Rich Weld-Through Primer however, does require cleaning of the Heat Affect Zone (HAZ) inside and out and application of corrosion prevention coatings after the repair or component replacement. Repaired and welded frame areas require application of a two-component DTM (Direct To Metal) or Epoxy Primer and single-stage topcoats to match the OE frame finish.

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- Electrophoretic-Deposition Primer (E-Coat) on production vehicles and service parts offers a high degree of corrosion prevention. Whenever possible, E-Coat should be left intact. When E-Coat is damaged or removed it should be replicated with a two-component DTM or Epoxy Primer. Etch Primer cannot exhibit the corrosion prevention characteristics of DTM or Epoxy Primer and E-Coat over the long-term, therefore is not recommended as a substitute for E-Coat or DTM or Epoxy Primer.
- Zinc-Rich Weld-Through Primer as explained earlier does provide corrosion protection but, not at the high-level E-Coat and DTM or Epoxy Primer can. Therefore, it is recommended to test and analyze the corrosion resistance performance of Weld-Through Primer being used with and without E-Coat. Tests should be conducted with STRSW and GMAW/MIG on sample flanges from OE or service part scraps. Subjecting test panels to simulated environmental conditions can provide factors for further analysis.
- Heat Affect Zones (HAZ) on panel interior surfaces should be cleaned to remove burned and loose material and coated with DTM or Epoxy Primer and Cavity Wax. Specialized cleaning and application equipment is often necessary for areas where access to weld HAZ is limited.
- Seam Sealer application specifications are provided in model-specific Repair Manuals for Collision Damage. The importance of Seam Sealer to corrosion prevention is also reinforced in Collision Repair Information Bulletin #163 Sealing Hem-Flanges & Body Seams. Seam Sealer should be applied over properly prepared and primed surfaces and not directly over bare metal.
- Glass Bonding Flanges that are bare metal or E-Coated after a repair or panel replacement should not be refinished with topcoats. Glass bond flanges should be properly prepared and coated with DTM or Epoxy Primer. Pinch-weld urethane primer should not be applied directly to bare metal. Before glass installation the DTM or Epoxy Primed flange should be coated with pinch-weld urethane primer by a certified glass installer in accordance with installation materials and methods approved by The Automotive Glass Repair & Replacement Safety Council (AGGR). This topic is reinforced in Collision Repair Information Bulletin #127 Glass Replacement.

Structural Repair Clamping and Corrosion Prevention:

- Rocker Panel Pinch Welds and Frames that have been clamped in a holding system for repairs require restoration of the removed and affected coatings to restore factory-type appearance and corrosion prevention. E-Coat, Chip-Resistant Coatings, Primer, and Topcoats all require restoration. This topic is reinforced in Collision Repair Information Bulletin #57 Pinch Weld & Frame Clamping.

Body Filler Application and Corrosion Prevention:

- Body Filler Materials applied directly over bare Toyota Excellite II metal may not adhere properly to the galvanizing, and can conceal an undetected layer of moisture that can cause corrosion with the oxygen present in body filler materials. Applying a two-component DTM or Epoxy Primer to properly prepared bare metal improves adhesion of filler materials and provides a sound foundation for corrosion prevention. This topic is reinforced in Collision Repair Information Bulletin #63 Repair Procedures for Rust-Resistant Sheet Metal.

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