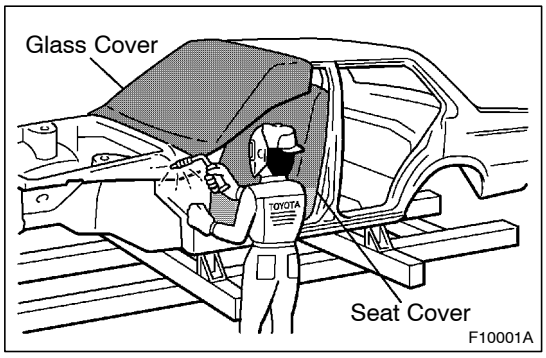
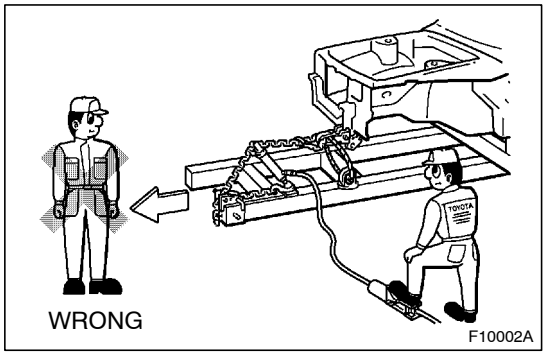
# GENERAL REPAIR INSTRUCTIONS

## 1. WORK PRECAUTIONS



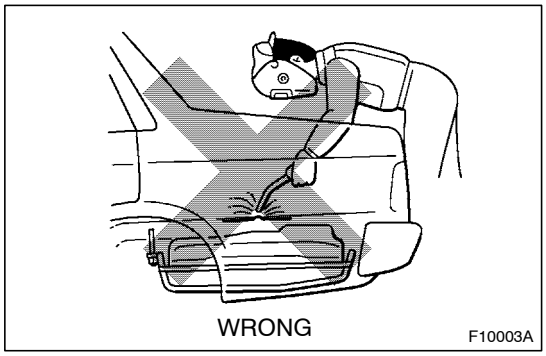

(a) VEHICLE PROTECTION

(1) When welding, protect the painted surfaces, windows, seats and carpet with heat resistant, fireproof covers.



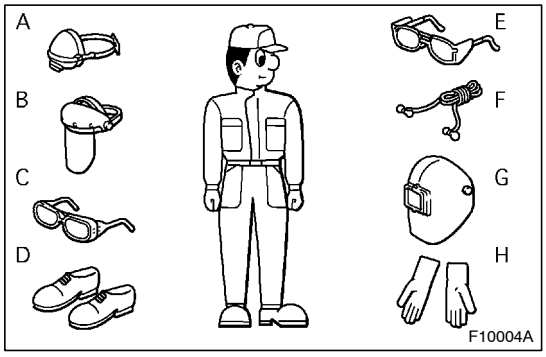

(b) SAFETY

(1) Never stand in a direct line with the chain when using a puller on the body or frame, and be sure to attach a safety cable.




(2) Before performing repair work, check for fuel leaks. If a leak is found, be sure to close the opening completely.

(3) If it is necessary to use a flame in the area of the fuel tank, first remove the tank and plug the fuel line.




(c) SAFETY WORK CLOTHES

(1) In addition to the usual mechanic's wear, cap and safety shoes, the appropriate gloves, head protector, glasses, ear plugs, face protector, dust-prevention mask, etc. should be worn as the situation demands.

| Code | Name |
|---|---|
| A | Dust-Prevention Mask |
| B | Face Protector |
| C | Eye Protector |
| D | Safety Shoes |
| E | Welder's Glasses |
| F | Ear Plugs |
| G | Head Protector |
| H | Welder's Gloves |

## 2. HANDLING PRECAUTIONS OF PLASTIC BODY PARTS

(1) The repair procedure for plastic body parts must conform with the type of plastic material.

(2) Plastic body parts are identified by the codes in the following table.

(3) When repairing metal body parts adjoining plastic body parts (by brazing, frame cutting, welding, painting etc.), consideration must be given to the properties of the plastic.

| Code | Material name | Heat* resistant temperature limit °C (°F) | Resistance to alcohol or gasoline | Notes |
|---|---|---|---|---|
| AAS | Acrylonitrile Acrylic Styrene | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| ABS | Acrylonitrile Butadiene Styrene | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| AES | Acrylonitrile Ethylene Styrene | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| ASA | Acrylonitrile Styrene Acrylate | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| CAB | Cellulose Acetate | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| EPDM | Ethylene Propylene | 100 (212) | Alcohol is harmless. Gasoline is harmless if applied only for short time in small amounts. | Most solvents are harmless but avoid dipping in gasoline, solvents, etc. |
| FRP | Fiber Reinforced Plastics | 180 (356) | Alcohol and gasoline are harmless. | Avoid alkali. |
| EVA | Ethylene Acetate | 70 (158) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| E/VAC | Ethylene/ Vinyl Acetate Copolymer Resin | 70 (158) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid gasoline and organic or aromatic solvents. |
| PA | Polyamide (Nylon) | 80 (176) | Alcohol and gasoline are harmless. | Avoid battery acid. |
| PBT | Polybutylene Terephthalate | 160 (320) | Alcohol and gasoline are harmless. | Most solvents are harmless. |
| PC | Polycarbonate | 120 (248) | Alcohol is harmless. | Avoid gasoline, brake fluid, wax, wax removers and organic solvents. Avoid alkali. |

*Temperatures higher than those listed here may result in material deformation during repair.

| Code | Material name | Heat* resistant temperature limit °C (°F) | Resistance to alcohol or gasoline | Notes |
|---|---|---|---|---|
| PE | Polyethylene | 80 (176) | Alcohol and gasoline are harmless. | Most solvents are harmless. |
| PET | Polyethylene Terephthalate | 75 (167) | Alcohol and gasoline are harmless. | Avoid dipping in water. |
| PMMA | Polymethyl Methacrylate | 80 (176) | Alcohol is harmless if applied only for short time in small amounts. | Avoid dipping or immersing in alcohol, gasoline, solvents, etc. |
| POM | Polyoxymethylene (Polyacetal) | 100 (212) | Alcohol and gasoline are harmless. | Most solvents are harmless. |
| PP | Polypropylene | 80 (176) | Alcohol and gasoline are harmless. | Most solvents are harmless. |
| PPF | Composite Reinforced Polypropylene | 80 (176) | Alcohol and gasoline are harmless. | Most solvents are harmless. |
| PPO | Modified Polyphenylene Oxide | 100 (212) | Alcohol is harmless. | Gasoline is harmless if applied only for quick wiping to remove grease. |
| PS | Polystyrene | 60 (140) | Alcohol and gasoline are harmless if applied only for short time in small amounts. | Avoid dipping or immersing in alcohol, gasoline, solvents, etc. |
| PUR | Polyurethane | 80 (176) | Alcohol is harmless if applied only for very short time in small amounts (e.g., quick wiping to remove grease). | Avoid dipping or immersing in alcohol, gasoline, solvents, etc. |
| PVC | Polyvinylchloride (Vinyl) | 80 (176) | Alcohol and gasoline are harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid dipping or immersing in alcohol, gasoline, solvents, etc. |
| SAN | Styrene Acrylonitrile | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid dipping or immersing in alcohol, gasoline, solvents, etc. |
| TPO | Thermoplastic Olefine | 80 (176) | Alcohol is harmless.<br>Gasoline is harmless if applied only for short time in small amounts. | Most solvents are harmless but avoid dipping in gasoline, solvents, etc. |
| TPU | Thermoplastic Polyurethane | 80 (176) | Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease). | Avoid dipping or immersing in alcohol, gasoline, solvents, etc. |
| TSOP | TOYOTA Super Olefine Polymer | 80 (176) | Alcohol and gasoline are harmless. | Most solvents are harmless. |
| UP | Unsaturated Polyester | 110 (233) | Alcohol and gasoline are harmless. | Avoid alkali. |

*Temperatures higher than those listed here may result in material deformation during repair.

## 3. LOCATION OF PLASTIC BODY PARTS

| Parts Name | Code |
|---|---|
| Front Bumper Cover | TSOP |
| Front Spoiler Cover | TSOP • TPO |
| Radiator Grille | AES |
| Headlight | PC/PP |
| Foglight | PBT/ASA |
| Front Pillar Upper Cover (Hatchback) | AES |
| Front Pillar Cover (Sedan) | AES |
| Side Turn Signal Light | PMMA/PC/ABS |
| Cowl Top Ventilator Louver | TSOP |
| Outer Rear View Mirror | PA/ABS • ASA • PP |
| Door Outside Handle | PA/PC/PBT |
| Mudguard | PP |
| Back Door Outside Handle (Hatchback) | PA |
| Luggage Compartment Door Outside Garnish (Sedan) | ABS |
| Rear Spoiler (Sedan) | ABS |
| License Plate Light | PC |
| Rear Combination Light | PMMA/ABS |
| Rear Bumper Cover | TSOP |

HINT:
- • Resin material differs depending on model.
- / Made up of 2 or more kinds of materials.