

# Toyota paint programme

## Technical news

### Working with 3-Stage Colors

**Repair process**

**Color matching**

**Fade in process**

**Three-coat color layers**

**Application guide**

**Tips for success**



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# 3-Stage Repairs

## Repairing 3-Stage colors

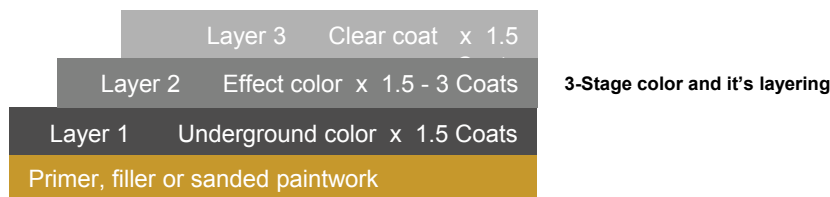
Toyota recently created a new series of 3-stage colors for its complete model range.

This addition is seen as an enhancement to vehicle selection through color effects.

Repairing these 3 layer effect colors can successfully be achieved by following various procedures and processes and the use of Toyota Co-Brand products. Always allow sufficient time for 3-stage repairs and never “rush” the job through the spray booth.

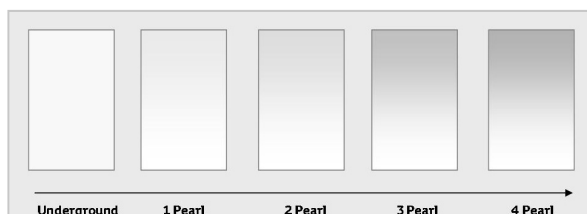


1. The first step is as always the identification of the color shade. 3-stage colors appear on the Wintoy system with 2 formulations (an underground color and usually a pearl color). These 3-stage colors are also indicated as “3-stage color” on the formulation and this signals the need to produce 2 mixes for the color match, plus over coating with clear coat.



2. When estimating the repair of 3-stage colors, remember to recover the cost for two equal quantities of basecoat color, mixing time of the colors and to adjust your pricing to accommodate this additional cost to the insurance company or the customer for retail sales.

3. After mixing, it is essential to create a series of color let-down panels in order to establish an accurate color match, by applying both the underground color and the pearl layers, to identify the number of coats required to reach the effect. In general, the underground color can be applied in a one-visit layer, with the pearl layer applied in either a one visit or in multiple layers. All color cards will need to be over coated with clear coat to accurately view the color shade.



4. Always view the color match to the vehicle in natural daylight. The let-down cards will help establish the size of the repair zone, the number of coats required and will help prepare you for a successful application ensuring a right “first time process”.



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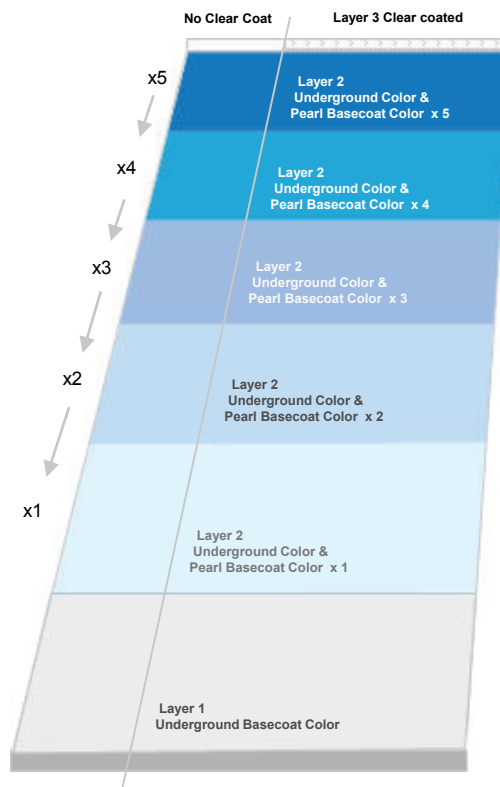
# 3-Stage Repairs

## Create a Let-Down Panel

The first step in repairing Toyota / Lexus 3-stage colors is to create a let-down panel which will help identify the number of mid-coats required to match the original finish.

This can be created on individual spray cards or on a color card / plate.

1. Apply the ground color basecoat to the entire panel.
2. Mask the panel in 5 sections leaving only the first section exposed.
3. Apply a medium coat of pearl basecoat over the exposed underground color.
4. Remove the masking from the next section & coat the exposed section & the original section with its second Pearl coat.
5. Repeat step 4 to the end of the panel coating each exposed section in the reverse direction as shown.
6. Leave the underground color exposed in section 6. This process will exhibit the change in color with multiple layers & help identify the number of layers required to "mimic" the OEM coating.
7. After drying the panel apply clear coat to  $\frac{3}{4}$  of the panel leaving a small section without clear to establish any color shift. This will aid your application during the painting process.
8. After drying completely, the panel can be compared to the vehicle in natural daylight or with the aid of a 3M PPS lamp. Select the best match & prepare to replicate the number of layers and application control on the actual repair.



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# 3-Stage Repairs

## Repair Process (partial panel repair)

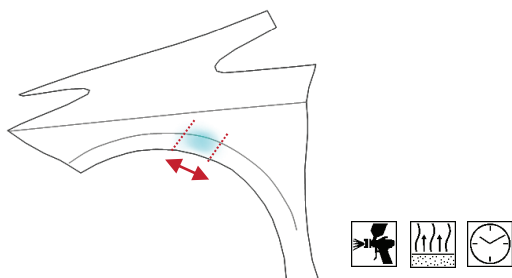
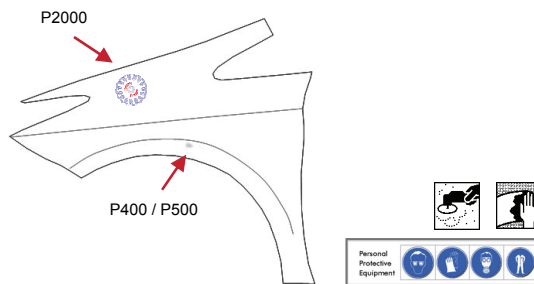
**Partial repairs should be prepared in the usual manner up to and as far as primer / filler sanding.**

Whenever possible avoid sanding through the primer as extra efforts will be needed to cover break-through areas with the underground color.

If possible use a similar coloured **Toyota Universal Primer** on the repair zones.

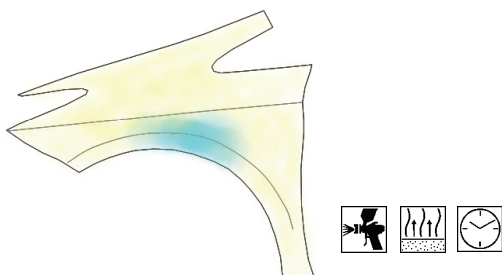
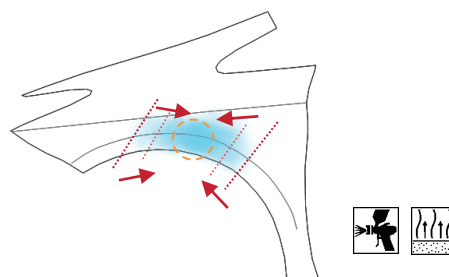


1. Small panel repairs where the color can be contained within in one panel can be easily processed.  
Prepare the damage in the usual manner with regard to primer / filler etc and sand the repairs with P400 then P500. The adjacent parts can then be matted with P2000 on a damp soft-back pad to provide adhesion for the blend area and the clear coat.  
Re-clean and mask ready for color.



2. Mix the underground color with **Toyota Basecoat Special Additive PZ469-A0004-05** according to the TDS and apply to the primed area extending slightly to give a soft-edge blend zone.  
Dry according to the TDS.  
After drying the underground color will be hard and can be tack-wiped prior to over coating with the pearl color layer and clear coat.

3. Mix the Pearl color according to the TDS and apply from the furthest outward point (starting with the blend first) then, work inwards in the direction of the repair.  
Spray to cover as required according to the let-down cards.  
Allow to flash off before drying according to the TDS.  
Avoid using a tack-wipe as the pearl basecoat may be easily damaged.



4. Mix **Toyota Clear Coat** according to the TDS and apply to the entire panel. Dry according to the TDS.  
After drying the clear coat dust particles or application defects can be removed by fine sanding and polishing.

Note:- Colors simulated for effect only.



# 3-Stage Repairs

## Repair Process (new replacement parts)

New replacement parts should be primed and color coated & clear coated on the inner edges before fitting to the vehicle.



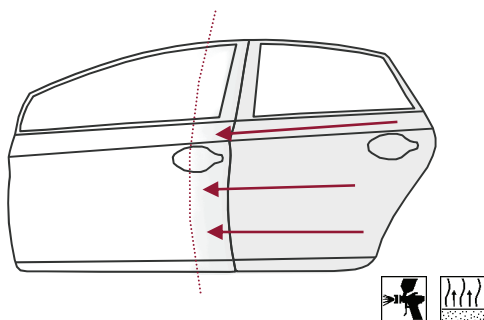
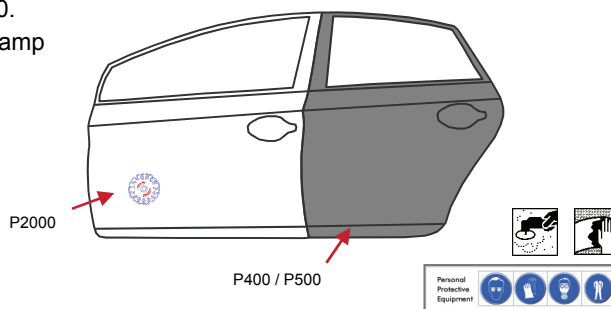
Whenever possible parts and bumpers should be painted on the vehicle to ensure an accurate color match. Allow extra space to blend the underground color and the pearl color.

This repair example will consist of a **two step drying process** to eliminate the potential risk of soft basecoat film build caused by thick multiple layers (to achieve the color match).



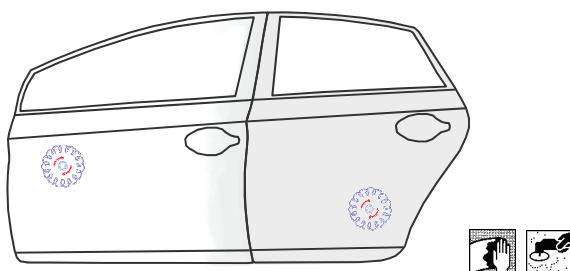
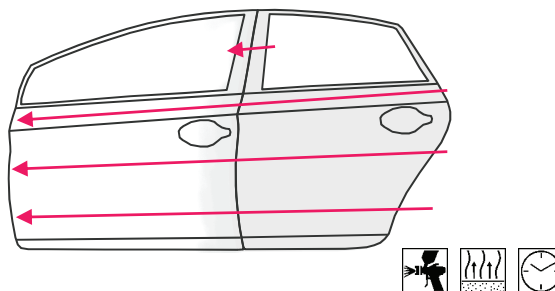
Example blend zone

1. Primed areas can be sanded with P400 / P500. Blend zones can be sanded with P2000 with a damp soft-backed pad. Re-clean the parts before and after masking.



2. Mix the underground color according to the TDS and apply to the primed area extending slightly into the adjacent parts to give a soft-edge blend zone. Dry until matt with blowers.

3. Mix a **Toyota 2K Clear** and apply a thin closed coat over all parts and dry according to the TDS. This will provide a good foundation for the Pearl application and clear coat layer.



4. Sand the dried and cooled clear coat with P2000 with a damp soft-backed pad. Take care to only matt the surface and do not sand through the clear coat layer.

Clean with **Toyota Panel Degreaser** then re-clean with **Toyota Hydro Cleaner** on a DuPont Sontara® lint free wipe.

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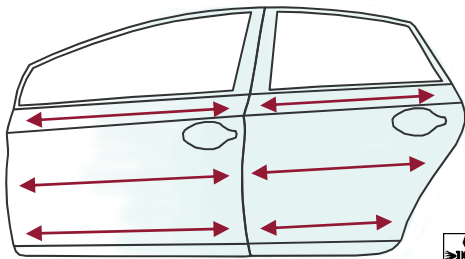
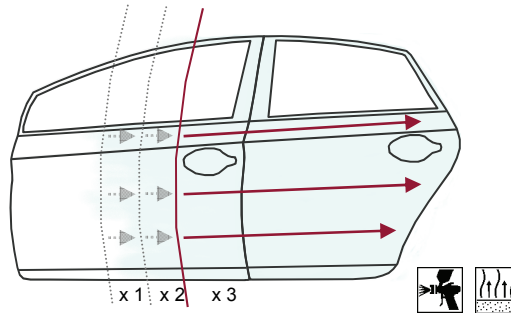
## Repair Process (new replacement parts)



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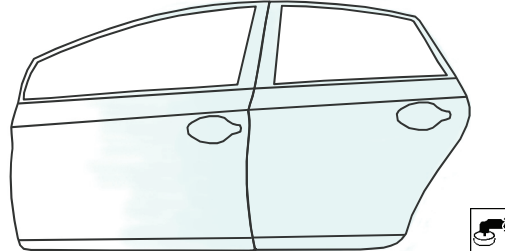
5, After masking and cleaning mix the Pearl color according to the TDS.  
Apply the Pearl color from the outside inwards i.e. Towards the new part creating the fade in zone first.  
Decrease the repair size (getting smaller) with each subsequent coat.  
Allow to flash off before blowing dry.



6. Avoid using a tack-wipe as the Pearl basecoat may be easily marked.

Mix a **Toyota Clear Coat** according to the TDS.  
Apply to the entire repair zone and dry according to the TDS.

7, After drying the clear coat dust particles and application defects can be removed by fine sanding and polishing.



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8, Blending on 3 or more adjacent panels is also possible with this technique. Simply follow this process with the addition of blending in to the next adjacent part i.e. the rear quarter panel in the above case.  
Always apply the required number of coats to achieve the color match which corresponds to the color let-down cards.

# 3-Stage Repairs

## Tips for Success

The following information will help in understating and executing a right first time repair.

### For let-down panels remember:-

- ✓ Use the information gathered in creating a let-down panel to establish the best process & number of layers needed to mimic the OEM color & finish.
- ✓ A separate let-down panel must be made for each OEM color.
- ✓ Store the let-down panels for future use and record the vehicle details.

### When applying the Pearl color:-

- ✓ Maintain the uniformity of the Pearl particles in the spray gun, by gently agitating if left unstirred for long periods.
- ✓ Use the same application distance & inlet air pressure (set-up) for creating the panel as you will use for the actual repair.
- ✓ Apply medium layers of Pearl basecoat. Avoid over wetting or dry dusty spray.
- ✓ Due to possible application fluctuations, never use a let-down panel created by someone else. Always create your own let-down panel.

### When performing the actual repair:-

- ✓ Clean the area well as dirt inclusions are a major enemy of a 3-stage repair.
- ✓ Plan the application routine and identify your maximum boundary points.
- ✓ Never rush a 3-stage repair. Always allow sufficient time & avoid pressure to complete the job in a short time.
- ✓ Remember to allow enough space to complete the task in hand.



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