

## SECTION : 501-32 Paint Preparation and Application

**VEHICLE APPLICATION :** 2008.0 Falcon

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## DESCRIPTION AND OPERATION

### Paint Preparation and Application

#### Paint Colour Codes

The paint colour code is indicated on the vehicle Compliance Plate and the corresponding colour is shown on the chart below.

Name	Colour	Code
Winter White	(A1)	SBA
Breeze	(BR)	(BGA)
Conquer	(CN)	(HKA)
Dash	(DS)	(DXA)
Ego	(EG)	(BKA)
Bionic	(FF)	(CVA)
Flare	(FL)	(ABA)
Fever	(FV)	(BSA)
Grace	(GR)	(CSA)
Kashmir	(JV)	(CMA)
Neo	(NE)	(BHA)
Nitro	(NT)	(SHA)
Lightning Strike	(O9)	AWA
Octane	(OT)	(EWA)
Platinum Haze	(PZ)	(CDA)
Seduce	(SD)	(ANA)
Silk	(SL)	(SGA)
Sensation	(SN)	(EVA)
Silhouette	(ST)	32A
Steel	(TT)	(DVA)
Vixen	(VX)	PNA

#### Checking Paint Condition

Before attempting repainting, determine the surface and overall condition of the existing paint.

Horizontal surfaces usually show the greatest surface deterioration. Carefully inspect the hood and roof panel to determine the overall condition of the paint.

Clean the areas to be inspected and look carefully for any signs of surface deterioration, or any other form of film breakdown such as checking, cracking, or humidity blistering. In particular, note the gloss level.

Low gloss indicates surface irregularities caused by such defects as checking or blistering.

Look for evidence of brittleness or poor adhesion, or excessive chipping. If in doubt about the condition of the paint, scrape the finish slightly with a pen knife and examine further.

If a complete repaint job is necessary, plan a painting sequence, primarily for the sake of continuity so as to avoid dry joint overlaps and minimize unnecessary work, before beginning to spray.

#### Repair by Polishing

Repair of minor dirt or fallout, sags, mars, scratches, dry spray, overspray and orange peel can be accomplished by machine without the necessity of repainting.

Repairs of this type should apply to an entire panel while spot repairs should be attempted only in isolated areas.

The suggested polish repair procedure consists of:

1. Remove the defect by light sanding with 1200 grit paper, using water or mineral spirits as a lubricant.
2. Apply a white or light coloured medium grit machine polishing compound to the painted surface with a brush.
3. Polish the entire panel surface using an 1850 rpm wheel and a carpet pad (approximately 16mm nap) or lambswool pad.
4. Buff the surface with a clean lambs wool pad.

Normally, modern paint finishes do not need polishing to improve their gloss; however, the foregoing procedure can be used to restore the original luster to the film after weathering, or to improve the surface smoothness of the finish on the entire car.

#### Safety Precautions

Follow the safety directions supplied by the paint manufacturer.

Products containing isocyanates may cause skin irritations or respiratory complaints.

#### Personnel

Persons with a history of asthma or other respiratory problems or known to be sensitised to isocyanates should not be engaged in any work involving the handling of isocyanates. Spray painters required to handle isocyanate-containing products should be made aware of this fact. Any person showing symptoms of possible reaction to isocyanates should obtain immediate medical advice.

#### Protective Clothing and Equipment

Wear a positive pressure air supplied respirator meeting the requirements of AS1716-1984 and impervious gloves at all times when spraying paint products containing isocyanates. The respirator must include a face mask fully protecting the eyes, otherwise chemical goggles complying with Australian Standard AS 1337-1974 "C" are required.

Dust respirators must not be relied upon at any time and chemical absorption type canisters are not recommended due to their limited effective life.



## Handling

Both base and hardener must be stored and handled in compliance with the current regulations applying to flammable or highly flammable liquids.

All mixing and handling of hardener and paint containing hardener is to be carried out under working conditions that prevent skin contact and inhalation of vapours, e.g. wear impervious gloves in a ventilated booth fitted with an effective filtered exhaust system.

In addition, any paint product containing isocyanates, for example hardener or mixture of hardener and base, must be dealt with in the following manner.

Containers must be kept tightly closed when not in use and not allowed to come into contact with water at any time. Isocyanates react with water, which destroys their effectiveness. Gas is involved when the isocyanate reacts with water. If a closed container shows signs of internal pressure, cover it completely with a cloth and remove the lid slowly to prevent splashing or violent expulsion of the lid. If using only portion of the hardener in a can, reseal and use the balance of the contents within 36 hours, as it will deteriorate on exposure to air. Store in a cool, dry place.

Accidental spillages should be absorbed into dry sand or earth, removed from the work area and covered with water for 24 hours. Treat empty hardener containers in the same manner. Do not allow materials of this type to enter drains. Dispose of treated waste as directed by the relevant waste disposal authorities.

## Application

Isocyanate paint must only be applied in a spray booth fitted with an effective filtered exhaust system. The operator must wear the protective equipment prescribed in these guidelines and comply with local legislation applicable to the spray painting of motor vehicles.

Additionally, particular care must be paid to other people in the vicinity. The work area should be isolated from other people during all activities associated with the mixing, handling and application of isocyanate paint until all vapour and spray mist, etc. has been effectively dissipated.

Whenever unloading, mixing or the clean-up of liquid residues is taking place, the area in use must be well ventilated by an exhaust system sufficient to capture all vapour or spray mists generated and conduct them away to a safe discharge point. Where the air flow velocity in the work area is below 1 metre per second, at least one hour should be allowed before the exhaust ventilation is switched off.

Wet sanding is the preferred method. Sanding of isocyanate films should be carried out under the same conditions as apply to spraying, as the dust may irritate operators susceptible to isocyanate contact.

## First Aid

If affected by inhalation of vapour or spray mist, remove to fresh air. If breathing difficulty persists or occurs later, consult a doctor and have label information available.

In case of eye contact, flush immediately with plenty of water for 15 minutes; call a doctor. In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water. Immerse contaminated clothing in water for 24 hours and do not re-use until it has been laundered.

## Factory Finish

The vehicle is finished in either baked polyester solid colour or baked acrylic clear over base coat colour; all refinishing is to be the in-field equivalent of the factory finish. Two part urethane finishes are recommended.

## Two Pack Paints - Surface Preparation

### Essential Requirements and General Hints

1. Wash door jambs, engine compartment, etc with high pressure hose before sanding and priming. This will remove all dust and dirt likely to contaminate the top coat.
2. Wash surface thoroughly with a grease and wax solvent before sanding and application of primer. Sanding will not remove wax and grease. Instead, it spreads it from one panel to another, leading to poor adhesion, and cratering if sealed in the primer.
3. Strain lumpy primers and filler before adding hardener. Lumps will not catalyze and will remain soft. These soft areas will show after top coating.
4. Wet sand primers and top coats containing isocyanates. Dust particles containing isocyanates can be hazardous to health.
5. Use solvents sparingly over primers and fillers. It can take up to two hours for cleaning solvents to evaporate. If sealed in with the top coat it can cause "whirl" marks to appear in the paint film.
6. Mask off vehicle openings, door jambs, engine compartments, wheel arches, etc. This will reduce the risk of dust and dirt blowing out during top coat spraying.
7. Never apply two pack primers over unsanded surfaces, especially existing finishes. Adhesion will be poor. The primer edge will not feather properly and will lift or swell when top coated.
8. Never use conventional etch primers under two pack primers. Two pack primers have good adhesion to all bare metals but not to conventional etch primers.



9. Never attempt to use two pack primers or fillers to seal down cracked or crazed surfaces or film thicknesses exceeding 250 microns. Unless stripped, this type of surface will continue to crack under any primer and will eventually pull open the new top coat.
10. Never use polyester spray fillers on wet or humid days. Polyester spray fillers are very moisture absorbent and will blister easily. They should be dry sanded and primed as soon as possible after application.
11. Never use too coarse a paper on final sand of primer before application of top coat. They have low film build and will not fill coarse scratch marks.
12. Do not exceed these levels of coarseness.
  - Base coat .....800 grit weld
  - 2K acrylic enamel ..... 600 grit weld
13. Never allow water to dry on panel before application of any paint material. When water evaporates, it leaves behind mineral salts. In wet weather, these salts absorb moisture and will swell under the paint film causing blistering.
4. Apply clear coat over base coat as soon as possible as adhesion between base and clear may be reduced, if delay is excessive, i.e. more than about 12-15 minutes. (Refer to paint supplies literature for optional timing between base coat and clear coat).
5. Wear the correct safety equipment when spraying materials containing isocyanates. Contact with isocyanates may result in respiratory problems.
6. Never apply transparent sealer over fresh acrylic lacquer top coats or lacquer primers, a minimum of one month is required to release all solvents from these materials. Sealed in solvent, prevented from evaporating by the sealer will result in sink back, possible blistering and lack of adhesion.
7. Never allow transparent sealer to dry longer than two hours before top coating. Excessive drying can cause "fry"; first recoat with sealer then top coat.
8. Never attempt to alter colour after hardener has been added. This will throw out mixing ratios resulting in poor product performance.
9. Never wash base coats with solvent before application of clear. Base coat will wash off.
10. Never apply heavy wet coats. This can result in possible "solvent boil" and "runs".
11. Never recoat base coat with itself after two hours, without detail sanding. Adhesion between the two layers of base coat will be very poor.
12. Never apply more than four full coats of base coat. As there is no hardener in base coat, thick film build will remain soft, with the result that the clear coat will remain soft and spongy.
13. Never apply two pack materials at temperatures below 7 degrees C. Two pack materials cease to cure below 7 degrees C, but will recommence as the temperature rises, resulting in possible loss of gloss.
14. Never apply two pack materials in excessive humidity outside a spray booth. This practice could result in loss of gloss and/or humidity blistering.
15. Never attempt to spray material which has started to "gel". Pot life has ended. Application properties and product performance will be poor, even if extra reducer is added.

## Mixing

1. Use a measuring gauge when adding hardener and reducer. Ratios either under or over will lead to poor product performance.
2. Replace lids on cans of hardener immediately after use. Hardeners are hydro-sopic (will absorb moisture from the air), sometimes going "milky" and causing top coats to look "gritty" or "seedy" when sprayed.
3. Strain two pack top coats and sealers through a 150 micron filter before application. This will remove any foreign matter that may be in the paint, eliminating the need to denib and buff later.

## Application

1. Use correct air pressure (normally 350-420 KPa). Too low an air pressure will give poor atomization and will result in a peely finish. Too high leads to excessive overspray and dry finishes.
2. Use the recommended drying speed of hardener and reducer for different temperatures. This will give the best application results. Always check the product data sheets.
3. Give transparent sealer time to "tack off" before applying top coat. Top coats may split if applied too soon.



## After Spraying

- Never leave a newly painted vehicle in the rain or dew for at least:
  - 24 hours .....Air Dry
  - 6 hours .....After full bake cycle
- Failure to observe these times may result in loss of gloss and/or "humidity blistering" and water spotting.
- Never let respray stand for more than 5 minutes before baking. Surface will "skin" trapping in solvent. Heat will not reflow the surface but will force the solvent out too quickly, resulting in possible "solvent boil".
- Never bake for more than 40 minutes or at temperatures above 70 degrees C as this will damage plastic parts and fillers and cause failure of electronic components.
- Do not use polishes containing wax or silicone for at least:
  - 1 month .....After Air Dry
  - 1 week .....After full bake cycle

- While solvent is still evaporating from a paint film, the surface is "open", risking penetration from silicone, waxes, etc., resulting in possible loss of gloss.

## Painting Plastic Bumper Bars

### Recommended Materials

- The following procedures have been performed using the PPG line of products referred to below. Other commercial equivalents may be satisfactorily substituted.
- Front and rear bars installed on falcon are made from high impact strength Polypropylene/EPDM plastic.
- It is essential that approved methods, materials, paints, etc. or the equivalent of these be employed when paint repair operations are performed and when preparing new parts for installation.

### The approved products are:

PPG - GRS BODYKLEEN	- 920 - 35609
PPG - GRS DEGRESING AGENT FOR PLASTICS	- 499 - D0846
PPG - GRS PLASTIC ADHESION PROMOTER	- 499 - D8020
PPG - GRS PLASTICISER FLEXIBLE ADDITIVE FOR TWO COMPONENT PRODUCTS	- 499 - D0814
PPG - GRS B.C. BASECOAT	- 452 LINES
PPG - GRS MEDIUM THINNER	- 920 - D0871
PPG - GRS 2K CLEARCOAT	- 455 - D0800
PPG - GRS D.G 2K ACRYLIC ENAMEL	- 402 - LINE
PPG - GRS 2K MEDIUM HARDENER	- 980 - D0841
PPG - GRS MEDIUM THINNER	- 920 - D0871
PPG - GRS D839 PRIMA PRIMER	- 467 - D0839
PPG - MIRLON ABRASIVE PADS.	- 947 - 48673
PPG - A652 IVIPLAST FILLER	- 468 - A652

\*PPG and GRS are registered trade marks of PPG industries Australia Pty. Ltd.

- Correct cleaning is important prior to painting plastic parts. It will be necessary to remove dirt, grease, mould release agents (if part is new) and other contaminants prior to painting.
- Lightly scuff all parts that are to be painted.
- Rinse the part with clean water and dry off.
- Apply D846 Degreasing agent for plastics directly from container on a clean cloth, washing the entire surface.
- Allow 15-20 seconds contact time then dry off with a separate clean cloth.
- Repeat the process three times.
- NOTE:** Do not allow Bodykleen or D846 to dry on surface.

### Preparation

- Remove any waterborne contaminants with PPG Bodykleen 920-35609. Mix 1 part Bodykleen to 4 parts warm water.
- Apply mixed Bodykleen to plastic part with a non-metallic pad such as PPG Grey Mirlon pad or equivalent.





### Colour Finishing of Replacement Bumper bars

1. Replacement bumper bars are supplied with front cover unpainted and require refinishing from primer to topcoat before installation.
  - The valance should be cleaned by wiping with a clean rag soaked in D846 Degreasing Agent for Plastics allowing contact with the surface for 10-15 seconds then wiping dry with a new dry clean cloth.
  - Repeat procedure.
  - Apply a double coat of D820 Plastic adhesion promoting primer. Allow 15-20 minutes drying time before top coating.

**NOTE:** Correct cleaning is important prior to painting plastic parts. Observe safety procedures and obtain the required respirator as these products contain isocyanate.

### Solid Colour

1. To the matched colour add D814 Plasticiser then hardener and reducer in the following ratios:

402 line colour	—	3 parts by volume
D814 Plasticiser	499 - D0814	1 parts by volume
D841 medium hardener	980 - D0841	2 parts by volume

- Stir thoroughly and strain. Put on the air supplied respirator.
- Using a 1.3-1.6 fluid nozzle on a conventional or H.V.L.P spray gun apply one medium wet coat.
- Allow a 3-5 minute flash off and apply 1 full wet coat. If low baking, this can be done immediately at 60° for 30 minutes. If air drying allow 8 hours to dry. (Correct film thickness is 40-50 microns).

### Base coat Metallic/Pearl Colour and Clearcoat

1. Thin the matched Basecoat colour with 100% D871 Thinner 920 line and stir thoroughly.
2. Strain material and using a 1.3-1.6 fluid nozzle on a conventional or H.V.L.P spray gun apply one even, medium wet coat. Allow to flash for 10-15 minutes.
3. Spray two to three medium wet coats to achieve coverage. Allow 15-20 minutes prior to clear coating.
4. Mix clearcoat with D814 Plasticiser then hardener and reducer in the following ratios:

D800 Clearcoat	455 - D0800	3 parts by volume
D814 Plasticiser	499 - D0814	1 parts by volume
D841 medium hardener	980 - D0841	2 parts by volume

5. Stir thoroughly and strain. Put on the air supplied respirator.
6. Using a 1.3-1.6 fluid nozzle on a conventional or H.V.L.P spray gun apply one even, medium wet coat to the Base coat. Allow to flash for 3-5 minutes.
7. Apply a further full wet coat. Allow a 3-5 minute flash off and apply 1 full wet coat. If low baking, this can be done immediately at 60° for 30 minutes. If air-drying, allow 8 hours to dry. (Correct film thickness is 40-50 microns).

### Repairing Color Coat Plastic Bumpers

Superficial damage to the paint film and or plastic surface may be rectified by sanding and repainting. For shallow paint damage, follow the procedure listed under colour finishing of replacement Bumper Bars using P800 paper to sand down imperfections and using, a Grey Mirlon pad with soapy water or P1200 paper scuff, and key existing paint work.

GRS Base coat and clear coat can be spot repaired by blending away the base coat colour but spraying the complete bumper with clear coat. Solid colour are sprayed as complete panels.

If the damage extends to the plastic surface this must be primed with D820 Plastic adhesion primer after the correct cleaning procedure. Any small nicks or scrapes can be filled with PPG Iviplast 66 (A652) filler for plastics applied over the D820 Adhesion primer. Final sand the Iviplast 66 with P240-320 dry.

If Primer filler is required, use D839 Prima Primer flexibilised, in the ratio of:

D839 Prima	467 -D0839	4 Parts
D814 Plasticiser	499- D0814	1 Part
D841 medium hardener	980- D0841	1 Part

Use a 1.6-2.0 mm gun set up. Apply 2 coats maximum with 5-7 minutes flash off between coats. Bake for 30 minutes at 60 degrees or air dry for 8 hours prior to sanding. Final Sand with, P600 wet or P400dry for solid colours, and P800 wet or P500-600 dry for metallic or pearl colours.

**CAUTION:** ⚠ Drying of all products may be accelerated by heat but to avoid distortion unsupported bumpers should not be heated in an oven or by infrared lamp above 60 degrees.

It will be necessary to remove dirt, grease, mould release agents (if part is new) and other contaminants prior to painting.



**Preparation**

1. Remove any waterborne contaminants with PPG Bodykleen 920-35609. Mix 1 part Bodykleen to 4 parts warm water.
2. Apply mixed Bodykleen to plastic part with a non-metallic pad such as PPG Grey Mirlon pad or equivalent.
3. Lightly scuff all parts that are to be painted.
4. Rinse the part with clean water and dry off.
5. Apply D846 Degreasing agent for plastics directly from container on a clean cloth, washing the entire surface.
6. Allow 15-20 seconds contact time then dry off with a separate clean cloth.
7. Repeat the process three times.  
**NOTE:** Do not allow Bodykleen or D846 to dry on surface.

**Painting Plastic Components - General Hints**

It will be necessary to remove dirt grease, mould release agents (if part is new) and other contaminants prior to painting.

**Preparation**

1. Remove any waterborne contaminants with Dulux Body Kleen 920-35609 1 part Body Kleen:9 parts warm water.
2. Apply mixed Body Kleen to plastic part with a non metallic pad (3M Scotchbrite pad -or equivalent).
3. Lightly scuff all parts that are to be painted.
4. Rinse the part with clean water and dry off.
5. Apply Universal Cleaner (920-39237) directly from container on a clean cloth, washing the entire surface.
6. Allow 15-20 seconds contact time then dry off with a separate clean cloth.
7. Repeat process three times.  
**NOTE:** Do not allow Body Kleen or Universal Primer to dry on surface.  
**NOTE:** Process to remove solvent borne contaminants.

**Plastics Including Nylon**

D820 Plastic adhesion Primer 449-D0820 (Primer is transparent red colour)

Gun Setup	Gravity: 1.4-1.8mm
	Air Pressure: 350-400 kpa
Mixing	Not required, supplied ready for use.
Application	Apply to 2 uniform light coats to all parts to be top coated. Allow to air dry for 15-20 mins. (20°C) Before applying 2k topcoats.

Do not apply heavy builds.

Does not require priming. Apply topcoat direct to the scuffed and cleaned surface.

**Top Coat - DG Solid Colors**

402 line colour	402 line
D814 Plasticiser	499- D0814
D841 medium hardener	980- D0841

Selection of Reducer and Hardener will depend on application conditions. Refer to paint manufacturers recommendations.

Spray Gun Set up	Gravity: 1.3-1.5mm	
	Air Pressure: 350-400kpa	
Mixing	Mix as follows using a 2K measuring stick.	
402 line colour	—	3 parts by volume
D814 Plasticiser	499 - D0814	1 parts by volume
D841 medium hardener	980 - D0841	2 parts by volume

Bake for 30 minutes at 60°C or air dry over night at 20°C.

**NOTE:** When catalysed these products contain isocyanate. Refer previous Safety Precautions in this section.

**Pearl/Metalic Clear Over Base**

PPG - GRS B.C. BASECOAT	- 452 LINE
PPG - GRS MEDIUM THINNER	- 920 - D0871

Selection of Thinner will depend on application conditions. Refer to paint manufacturers recommendations

Spray Gun Set up	Gravity: 1.3-1.5mm
	Suction: 1.4-1.8mm
	Air Pressure: 350-400kpa
Mixing	1 part GRS B.C. Basecoat with 1-part GRS Medium thinner by volume. Flexible additive is not required for the base coat.
Application	Apply light to medium coats of colour to achieve coverage allowing 10-15 minutes between coats at 20°C. Allow 15-20 minutes air flash before applying clear coat.



## Clear Coat

D800 Clearcoat	455 - D0800
D814 Plasticiser	499 - D0814
D841 medium hardener	980 - D0841

Selection of Reducer and Hardener will depend on application conditions. Refer to paint manufacturers recommendations.

Spray Gun Set up	Gravity: 1.3-1.5mm
	Air Pressure: 350-400kpa
Mixing	Mix as follows using a GRS 2K measuring stick. Flexibalised D800 (455-D0800)
Application:	Apply 2 wet even coats keeping air flash times to 3-5 minutes. Bake for 30 minutes at 60°C or air dry over night at 20°C.

D800 Clearcoat	455 - D0800	3 parts by volume
D814 Plasticiser	499 - D0814	1 parts by volume
D841 medium hardener	980 - D0841	2 parts by volume

**NOTE:** When catalyzed these product contain isocyanate. Observe previous Safety Precautions in this section.

