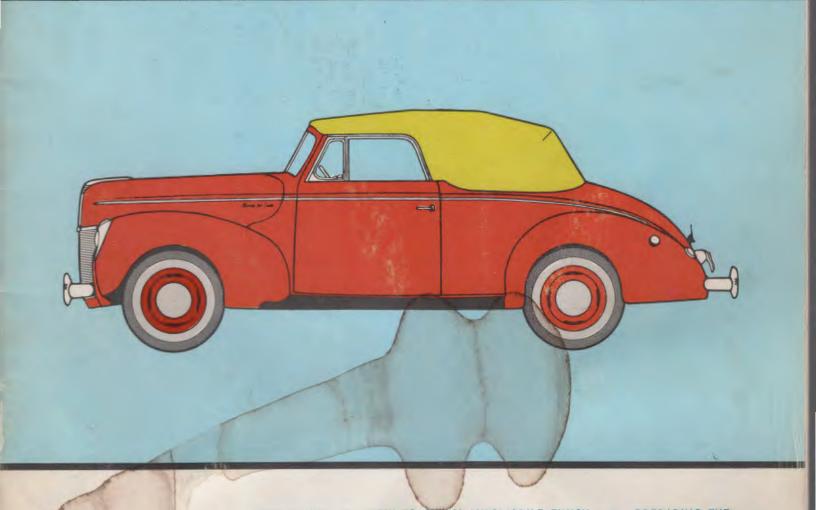
REFURBISHING MANUAL FOR EARLY FOR V-8 CARS

YEARS 1937 to 1941 and 1945 to 1948





LET'S PAINT • HOW TO SPRAY AUTOMOBILE FINISH • PREPARING THE SURFACE • GENERAL PAINT INSTRUCTIONS • REFINISH NOMENCLATURE • FORD FACTORY PAINT SCHEDULES • REFINISH SCHEDULES — LACQUER, ACRYLIC AND ENAMEL SYSTEMS • SAND SCRATCHES AND HOW TO AVOID THEM • PAINT TROUBLES, CAUSES AND REMEDIES • SPRAYING ENAMELS

HOW TO CORRECT DISTORTED PATTERNS.

LET'S PAINT

It is an undisputable fact that any attempt to refinish the exterior paint of the antique Ford must be done by an experienced individual . . . or a restorer who has made a complete study of the process.

It was the year 1934 that Ford V-8 car finishes were changed from lacquer to enamel. Fortunately, some color formulas still exist for the compounding of both types of paint. It is gratifying to the novice painter that he can choose a lacquer finish instead of enamel for his car . . . a much easier handling medium.

There can be no guarantee that a lacquer and an enamel color by the same name will match completely in shade and hue.

Colors after World War II years (DAL and DQE) can be augmented from Ditzler Jobber records. Such jobbers and antique auto stores can also be the suppliers for black lacquer, enamel and engine colors.

Ditzler Color Division files do reveal all code numbers of colors for the early V-8 Ford cars, altho the formulas for some appear to be non-existent (such have been eliminated from color chips of this manual).

The evolution of auto finishes continues to advance, from early carriage finishes in Japans and piano varnish of the Horseless Carriage era that took two weeks to cure and dry, until today, with acrylics that dry nearly on contact into more durable surfaces.

As the acrylic colors become widely used today in auto refinishing, toners (mixing colors) for the antique auto colors have suffered obsolescence with the manufacturer. There has been some assurance that some quantities of these toners will continue to be supplied by special arrangement . . . and possibly some colors re-formulated in acrylic.

To completely cover the interior fabric and refinishing of ten years of Ford built cars would be a gargantuous task. This manual gives what basic information it has available on interior finishes. No small amount of research is left to the restorer from Ford literature such as body parts lists, etc., circa the model year of his car. Wood grain finishing is a task to be left to the expert.

Most antique auto stores and interior refinishing specialists have valuable information concerning the various painting needs . . . they are the ones to contact.

On February 10, 1942, Ford Motor Company halted civilian production of autos and placed the entire effort toward a speedy conclusion of World War II. Cars for civilian use were again in production on July 3, 1945. This accounts for a deletion of years, 1942 through 1945, in this manual.

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HOW TO SPRAY AUTOMOBILE FINISHES

Spraying an automobile is a skilled job and calls for considerably more experience and knowledge than just holding down the trigger and hoping that the gun will put the paint where it is supposed to be and in the right amount.

Kind of Gun

There are several types of spray guns in use. The gun commonly used in refinishing work, however, is the syphon cup gun. The trigger action controls both air and fluid. It is very important to have a good gun and one that is designed for automotive work. In fact, in any shop where there are sufficient jobs going through to justify it, there should be at least three guns. One gun to be used primarily for spraying undercoats like primer-surfacers, another for spraying lacquers and acrylics, and a third gun for spraying synthetic enamels. If these guns are kept clean and in good working order, much time will be saved over trying to make one gun serve and having to adjust it each time that the operation is changed.

Spraying Viscosity

Thin material to spraying viscosity according to the directions on the can.

No method other than measurement of the thinner will do the job adequately. Because appearance is affected by the temperature, the way the paint runs off the stirring paddle is not a reliable method of

determining viscosity.

The amount of reduction should be the same regardless of temperature (see directions on DTE-303 for special spraying technique). At a higher temperature the viscosity of the reduced material will actually be slightly lower but this is offset by the faster evaporation of the thinner as it travels between the gun and the surface being painted. The result is that the paint reaches the surface at the correct viscosity.

The reverse is true in a cold shop. The reduced paint is a little thicker but evaporation in the air is less so that the paint reaches the surface being sprayed at the proper

viscosity.

Automotive finishes are manufactured to spray ideally at varying viscosities. For instance, lacquer primer-surfacer sprays best at 15 seconds viscosity, acrylic lacquer at 12 seconds and alkyd enamel colors, lacquer colors and synthetic primer-surfacers all at 19 seconds.

In the laboratory this viscosity is carefully measured with a viscosity cup such as the Ford Viscosity Cup shown on page 21. If this cup is filled to the brim with DQE enamel reduced 25% with DTE reducer it will take 19 seconds to run thru the hole in the bottom of the cup.

Laboratory equipment such as the Ford Viscosity Cup is not practical in the refinish paint shop. The cost of the equipment is too high and the time required to operate it

is too long.

To take the guesswork out of thinning the product for use and yet to insure the painter that he can spray the paint at exactly the viscosity that will give the best results, all DITZLER products are carefully controlled so that they are canned at the same viscosity every time.

It can be demonstrated that at a given temperature, a three second difference in spraying viscosity will have a distinct influence on the flow of the material being sprayed. It can therefore be seen that exact reduction is essential if the painter is going to spray at the viscosity at which the paint will spray the easiest and the best results can be obtained.

In factory operations, where new cars are sprayed, spraying viscosity is held within a tolerance of one second at a given temperature.

A simple kitchen measuring cup or a graduate is an inexpensive piece of shop equipment that will pay for itself many times over in thinning automotive finishes in amounts that will make them work most efficiently.

Hot Cup

If DAR acrylic enamel or DQE enamel is thinned 10% with the recommended long flow reducer, and is then heated to 160° F. in a hot cup, it will bring the enamel down to the spraying viscosity recommended.

The advantages of so called "hot spray" are the saving in the amount of reducer used, and, if it is applied just right, one coat application.

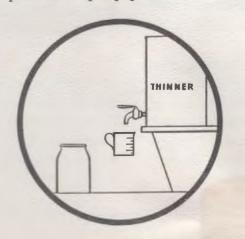
There are more things to control in "hot spraying" and, therefore, more caution must be used in preparing the material for spraying

and in applying it.

If the enamel is not heated to a full 160° F., or less than 10% of a long flow reducer is used, the viscosity will be too high and improper atomization will result. If the material is overheated, or heated over too long a period, it may cook out some of its properties and cause the enamel to perform improperly. A third caution is safety. Never heat material over or near an open flame! Use only a hot cup or heating device that has been safety approved.

Temperatures

The temperature at which material is sprayed and dried has great influence on smoothness of the finish. This involves not only the air temperatures of the shop but the temperature of the work as well. A job should be brought into the shop long enough ahead of spraying time to arrive at approximately the same temperature as the shop. Spraying warm paint on a





cold surface or spraying cool material on a hot surface will completely upset flow characteristics. The rate of evaporation on a hot summer day is approximately 50% faster than it is on an average day with a shop temperature of 72°. Appropriate thinners or reducers should be used for warm and cold weather applications.

Film Thickness

Lacquers and acrylic lacquers dry by evaporation only. Alkyd and acrylic enamels dry by both evaporation and oxidation.

The thicker the film applied, the

longer the drying time.

The difference in film thickness shows up plainly in primer-surfacer and in enamel colors. A lacquer primer-surfacer that can be sanded in 30 minutes at 75° will take over an hour if sprayed twice as heavy.

Alkyd enamel of normal film thickness should dry tack free in 6 hrs. at 75°. If sprayed twice normal thickness, it will take close to 16

hours for tack free dry.

The reason is that the thicker the film the greater the depth of paint from which the thinner or reducer must work its way out, and, in enamels, the greater the distance the oxygen from the air must penetrate. This process is complicated in thick coats by a surface skinning or crusting as the paint dries.

The painter should develop a technique so that the coat he sprays on a surface will remain wet long enough for proper flow-out, and no longer. Heavier coats are not necessary, and they may produce sags, curtains or wrinkles. The amount of material sprayed on a surface with one stroke of the gun will depend on width of fan, distance from gun, air pressure at the gun, reduction, speed of stroke, and selection of thinner or reducer.

Distance From Work

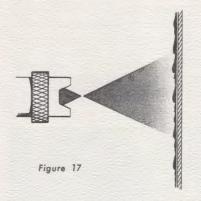
Spray guns are designed to give the best performance at a distance of eight to twelve inches from the surface to be sprayed. If the spraying is done from a shorter distance, the high velocity of the spraying air tends to ripple the wet film. If the distance is increased beyond that there will be a greater percent of thinner evaporated, resulting in orange peel or dry film. A slower evaporating thinner will permit more variation in the distance of the spray gun from the job, but will produce runs, if the gun gets too

WRONG (Fig. 16)

Thin Coat, rough, dry, no lustre.

REASONS

Fluid control not open enough. Gun too far away. Paint too thin. Too much air. Stroke too fast. Not enough overlap.

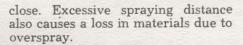


RIGHT (Fig. 18)

Medium Coat, good flow-out with hardly any orange peel and no sags.

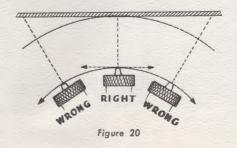
REASONS

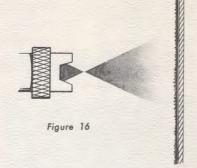
Gun clean and properly adjusted.
Gun distance okay.
Proper thinning.
Right amount of air.
Stroke okay.
Overlap 50%.
Correct reducer or thinner.



Strokes and Overlaps

If the gun is tilted toward the surface so that the fan pattern is not uniform, or if the gun is swung in an arc, varying the distance from the nozzle to the work, the paint will go on wetter where the spray is closer to the surface and drier where it is farther away. The gun should be at right angles to the job at all times. Do not fan the gun or



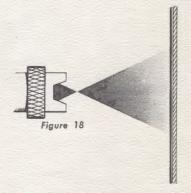


WRONG (Fig. 17)

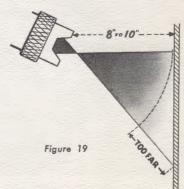
Heavy Coat with sags, ripples or orange peel.

REASONS

Dirty air nozzle.
Gun too close.
Paint to thin or too thick
Low air pressure.
Stroke too slow.
Too much overlap.



do not use wrist motions if you want a uniform film. The only time it is permissible to fan the gun is on a small spot spray where the paint film at the edges of the spot should be thinner than the center portion. Work to a wet edge by using a fifty percent overlap and direct the center of the spray fan at the lower or nearest edge of the previous stroke.





The life of a finish and the appearance of that finish will depend considerably upon the condition of the surface over which the paint is applied.

What Do We Mean By Surface?

We are going to define the "surface" as the stage in the painting just before the application of the final color coats. To get a smooth, level surface is therefore going to involve the steps necessary to get good adhesion and also the subsequent filling and sanding operations. Any painter knows that the color coat does little filling of rough areas and that the finished job is no smoother than the surface over which these materials are applied.

Checking the Condition of the Old Paint Surface

It must be determined that the old finish has good adhesion and that rust is not developing under the paint film. To test adhesion, sand through the finish and feather edge a small spot. If the thin edge does not break or crumble, it is reasonable to assume the old paint will stay on when the refinish color is applied over it. Developing rust can be detected by a roughness or pitting of the surface. The paint on those areas where either poor adhesion or rust is found, must be removed to bare metal.

Grease and Wax Must Come Off

Be sure there is no wax, grease, or other contamination imbedded in the old finish. Gasoline is a poor

wax solvent and may itself deposit contaminating substances on the surface. It is ill advised to use synthetic reducers for cleaning up a surface, particularly acrylic. Acrylics will absorb reducer into the paint film and blistering or lifting may result.

PREPARING THE SURFACE

Before the job is sanded, use a specially blended wax and grease remover to thoroughly clean the surface and repeat the operation after sanding. Maximum effectiveness will be achieved by wiping up the wax and grease remover while it is still wet. Always use new wiping cloths as laundering may not remove all oil or silicone residue.

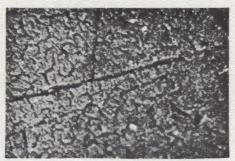


Figure 28—A microphotograph of an old lacquer surface that looked smooth. Magnified 300 times the surface reveals mony crevices where wax and grease can lodge. To clean such surface use DXA-330 ACRYLI-CLEAN wax and grease remover.

Removing the Old Finish

The old finish is usually removed by grinding. A #16 open coat disc removes paint with minimum clogging of the paper. The exposed metal should be finished off with #50 and then #220 and all edges of the paint film should be feathered starting with #320 and finishing off with #400.

On large areas and complete panels it is sometimes more efficient to use paint remover. Be certain to

select a paint remover that is supplied by a reputable manufacturer so that you will be sure it is water neutralizing for shop use.

Sand blasting is an excellent method of removing paint, particularly on complete jobs and large areas. It is advisable to take the vehicle to a shop specializing in this work. Sand blasting in your own shop can cause a good many dirt and contamination problems.

If only lacquer or acrylic lacquer finishes need to be removed and not the original synthetic baked undercoat, DX-567 FEATHEREDGER is often the most effective means for spot repairs. However, for larger areas or full panels of acrylic lacquer, use DXA-525 ACRYLIC LACQUER PAINT REMOVER.

Testing for the Old Finish

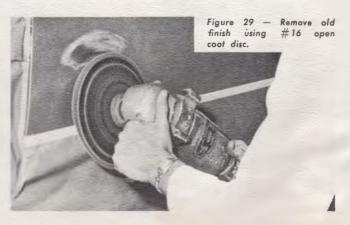
The next step is to determine whether the old finish is Acrylic Lacquer, Lacquer, Alkyd Enamel, or Acrylic Enamel. The easiest method, if the car has not been repainted, is to consult your DITZLER Production Color Book.

A test to determine the type of finish on the car can be made with Lacquer Featheredger. When Lacquer Featheredger is rubbed on the old finish it dissolves lacquer very quickly, dissolves acrylic lacquer with considerable rubbing, but does not dissolve alkyd enamel or acrylic enamel.

Sand Old Finish

If the finish is lacquer, a minimum of sanding should be done. Either lacquer, alkyd enamel, or acrylic enamel may be applied over it.

If the finish is acrylic lacquer, sand thoroughly using a minimum of 400 grit, wet or dry sandpaper. Acrylic lacquer, alkyd enamel, or acrylic enamel may be applied directly on the old sanded finish.



Sand Old Enamel Finishes Carefully

The Super Enamels supplied for original equipment finishes since 1958 are very hard and require a very thorough sanding to obtain good adhesion.

Putting enamel over old enamel will cover the sand scratches, provided the surface has been finished off with a paper of 360 or finer grit. Because of the difficulty of blending the edge of an enamel spot, it is necessay to spray a complete panel.

Lacquer will tend to show sand scratches in enamel, unless the surface is very carefully finished with a fine paper of 400 grit or finer.

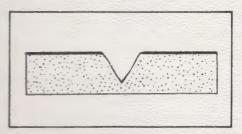


Figure 30-Enlarged deep scratches in old

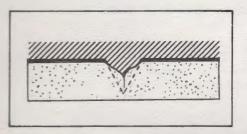


Figure 31—Cross section with thinner still in the fresh lacquer film. Note depth over sand scratch.

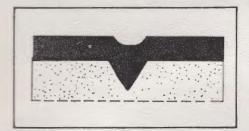


Figure 32—Thinner evaporates and lacquer shrinks tight to metal shrinking into deep scratch and showing scratch on surface.

To reduce the sand scratches and minimize compounding the new finish, a sealer can be used, but in that case an entire panel must be finished or the sealer edge may show. Synthetic primer-sealers such as DPE-1020, DPE-1202, or DPE-1338 may be used over the enamel if alkyd or acrylic enamel is to be the finish coat. If acrylic lacquer is used over the enamel, apply a light coat of DZL Primer-Surfacer first to minimize sand scratches.

Watch Out for Fingerprints

Sometimes painters rub their hands over an area to determine the effect of the sanding without realizing that they are transferring oil from their hands to the surface. Oil comes from the skin and from shop tools, and even if one's hands are freshly washed, a fine oily film will be left on the surface because there are not many people who have oilfree skin. If you have any doubts about this, take hold of your eye glasses or a clean drinking glass with your bare hand and see if you can avoid leaving fingerprints or a smudgy spot. Wiping off the surface with a good wax and grease remover, just before applying the finishing coat, is excellent insurance against peeling.

How to Check Rust

No priming should be done until all bare metal has been treated with an acid that will neutralize rusting action and etch the metal. In the car factories, bodies are bonderized and the sheet metal is also treated in this manner to prevent the spreading of microscopic rust. The factories have learned that this is essential if peeling is to be avoided and would not add this cost to body painting if it were not warranted. DITZLER Metal Conditioner has an action very similar to bonderizing and can be applied at room temperature rather than at a boiling temperature as used in the

factories. Its use requires very little time and is well worth the short delay. The etching action of this material also results in maximum adhesion to the steel. Be sure to dilute it with water as specified in the directions for maximum results.

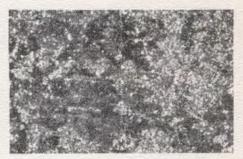


Figure 34—Rust-pitted sheet steel, sanded clean to the naked eye. Under microscope (enlarged 125 diameters) traces of rust still appear in pits.

Thorough Sanding of Metal is Essential

A word here about sanding the metal may be timely. Modern primer-surfacers and glazing putties will fill almost any rough surface, but much time and material can be saved if the metal is quite smooth before these materials are applied. A good practice is to use three or four grades of paper from coarse to fine and to take off most of the ridges left by the coarser papers with each of the succeeding finer papers. In other words, if you start with a No. 24 disc, follow this with a No. 50 close coated disc and finally sand with No. 220 paper. There are no good short cuts. The surface will always reflect the care used in its preparation.

Featheredge, slope the edge of the paint film where metal is exposed, using 360 grit paper and finishing

with 400 or 600.



Figure 33-Sand and Featheredge

REFINISH NOMENCLATURE

COMMON TERMS USED IN CONNECTION WITH AUTOMOTIVE REFINISHING WORK

- ADHESION How well paint sticks to the surface to which is it applied. Surface preparation has considerable effect on adhesion.
- ATOMIZE... The extent to which the air at the gun nozzle breaks up the paint and solvent into fine particles.
- DIE BACK... The loss of gloss in a finish coat usually caused in an acrylic or lacquer by continued thinner evaporation after the color has been polished.
- DOUBLE COAT... A term used in acrylic and lacquer application. A single coat followed immediately by a second coat (often the second coat is sprayed in the opposite direction to the first—one horizontal and one vertical).
- DRY SPRAY... The atomized paint that does not dissolve into the material being sprayed. Presents a rough, dull appearance. Usually caused by too fast a reducer or thinner for the temperature, holding gun too far from the surface so that too much of the solvent evaporates in the air, or too high an air pressure.
- EVAPORATION . . . The escape of the solvents from the paint into the air.
- FEATHEREDGE... When a paint surface is broken by stone bruises, grinding etc., it usually leaves a sharp edge. This edge must be slanted or tapered with sandpaper or Featheredging Solvent. This tapered edge of the paint is called the featheredge.
- FOG COAT... A thin, highly atomized coat to obtain fast flashoff of the thinner and therefore minimum penetration of thinner into the old finish. Usually achieved by reducing the fluid feed while leaving air pressure at 45 lbs. at the gun.
- MIST COAT . . . Overthinning the color and spraying very wet. Usually the final coat for flow with lacquer or acrylic polychromatic colors.
- ORANGE PEEL . . . A nubby surface looking like the skin on an orange. It may or may not have good gloss. Caused by poor flow because of too fast a reducer or lack of atomization.
- ORIGINAL FINISH . . . The paint applied at the factory by the car manufacturer.
- OVERLAP . . . That part of the spray band that goes on

- top of the previous swath of paint. A 50% overlap on each stroke is recommended. Also that part of the spray that overlaps onto a previously painted area.
- OXIDATION . . . Combining the oxygen from the air with the paint film. This process dries and continues to harden enamel for several weeks. The chalking (surface powder) of a paint film, that takes place in the aging of the film, is also a form of oxidation.
- PAINT FILM . . . The thickness of the paint on a surface.
- POLYCHROMATIC . . . Ditzler's trade name for metallic effect. Produced by aluminum powder in the paint.
- PRIME COAT . . . Primer or Primer-Surfacer applied to bare metal to obtain adhesion.
- REDUCER The solvent combination used to thin enamel is usually referred to as a reducer.
- SAND SCRATCHES . . . The marks made in metal or the old finish by abrasives. Also those showing in the finish coat due to lack of fill or sealing.
- SINGLE COAT . . . Usually just referred to as coat of paint. Once over the surface to be painted with each stroke overlapping the previous stroke 50%.
- SOLIDS . . . That part of the paint that does not evaporate and stays on the surface.
- SOLVENTS . . . That which puts a paint into solution for application; a single such ingredient. Thinners and reducers are composed of one or several solvents.
- SHRINKAGE . . . All automotive paints shrink as they dry. If scratches or other surface imperfections have not been properly filled, the paint shrinks into them, showing up in the finish coat.
- TACK COAT... The first coat with enamel. This is a full coat and is allowed to dry until quite sticky (from 10 to 30 minutes, depending on drying conditions and reducer used).
- THINNER . . . The solvent combination used to thin lacquers and acrylics to spraying viscosity is usually called thinner.
- WEATHERING... The change or failure in paint caused by exposure to the weather.

GENERAL PAINTING INSTRUCTIONS

FOR FINISHING PASSENGER CARS OR COMMERCIAL VEHICLES

I. REMOVING OLD FINISH

A. From Metal

Mechanical Methods

- 1. Power sanding wheel with grinding disc.
- 2. Mechanical block sanders.
- 3. Sand blast.
- 4. Dry scrape and sand.

Other Methods

- Hot caustic removers and pressure equipment.
- 6. Liquid Paint Removers.

Precautions:

Removers should be used in well ventilated rooms because many of them contain toxic vapors.

Care should be taken NOT to use caustic solutions on aluminum or zinc metals.

For proper adhesion of new paint films, when caustic solutions are used, thorough steam cleaning is recommended. Blow out all crevices and mouldings with compressed air and wash with Wax and Grease remover.

B. From Wood or Composition Material

Paint removers containing wax and caustic solutions should not be used on porous surfaces where foreign substances can be absorbed. For jobs to be painted in color the burn-off or torch method is most satisfactory, although there is a certain fire risk. Work done outside the shop can be successfully accomplished. Start burning off at top of the job and work down, removing burnt paint film as you go.

C. Fiber glass

Special precautions should be taken in removing finishes from fiber glass. To prevent damaging or destroying the fiber glass, it is safer to sand most finishes off. However, acrylic lacquer finishes can be removed with DXA-525 Acrylic Paint Remover.

II. METAL AND ITS PREPARATION

The clean-up and preparation of metal is very important as poor adhesion of finishes can, in most cases, be traced to improper preparation.

Care should be taken to remove all traces of obvious corrosion and a final treatment should be made with DITZLER metal conditioner and rust inhibitor.

In replacing metal body panels always use the same metal from which the body is built. Contact of dissimilar metals can cause serious electrolytic corrosion.

A. Steel-Body Metal (Including Blue Annealed)

- 1. Sand metal. Remove all visible scale or rust.
- 2. Wash with DITZ-O wax and grease remover using plenty of clean rags.
- 3. Use DITZLER metal conditioner and rust inhibitor to remove microscopic rusting. (See Sec. III for proper use). This will produce greater adhesion and inhibit rust formation under the paint film.
- 4. For Commercial bodies, where filling is required, use DITZCO synthetic SPEED-SAND primer surfacers (DPS). Apply two coats of primer surfacer and allow two to three hours drying time before dry sanding and applying enamel color. For Passenger cars use All Purpose Primer Surfacer, DZL. Allow to dry 30 minutes or longer, depending on the thickness of coat and room temperature. (When no filling is required, spray one wet coat of non-sanding primer sealer). Allow primers and surfacers to dry normally.
- 5. Blow out cracks and tack rag the entire surface.
- 6. Spray alkyd or acrylic enamel, or acrylic lacquer of desired color.

B. Galvanneal-Plymetal-Galvanized or Other Zinc Coated Metals

- Wash with Wax and Grease Remover, using plenty of clean rags.
- 2. Apply DITZLER metal condi-

- tioner and rust inhibitor. (Refer to Sec. III for proper use.)
- Apply one light coat of DPE-1202 FERROCHROME primer or DPE-1338 SATIN PRIME primer-sealer and proceed with next step.
- 4. Enamel Top Coating
 - a. If filling is required, allow primer to dry overnight and apply DPS SPEED-SAND primer-surfacer.
 - b. Sand surfacer when dry.
 - c. Apply enamel color coats.

Acrylic Lacquer Top Coating

- a. Follow "B" 1. thru 3.
- b. Allow primer to dry overnight.
 - (alternate) 1. If filling is required, apply DZL-A·L·E primer-surfacer.
 - 2. Sand surfacer when dry.
- c. Apply DDL DURACRYL acrylic lacquer.

GENERAL PAINTING INSTRUCTIONS (continued)

C. "Paint Grip" Metal

"Paint Grip" is a metal manufactured by the American Rolling Mills. A chemical treatment is given the metal at the mill and this should never be sanded or scuffed.

Wash off with Wax and Grease Remover and proceed as in B-3 and 4 above.

D. Aluminum

New Anodized Aluminum

(Characterized by a gray and mottled appearance)

- 1. Wash with Wax and Grease Remover using plenty of clean rags.
- 2. Clean and treat metal. (See Sec. III for proper use.)
- 3. Clear Coating
 - a. Apply DCA-400 Acrylic Clear.

Enamel Color Coating

- a. Apply zinc chromate primer. Let dry 15 to 30 minutes.
- b. Apply alkyd or acrylic enamel top coats.

Untreated Aluminum & Refinishing Oxidized Aluminum

- Wash with Wax and Grease Remover using plenty of clean rags.
- 2. Scuff oxidized aluminum with No. 320 paper.
- 3. Reclean with Wax and Grease Remover.
- 4. Proceed as in D-2 and 3 above.

E. Chromium Plating

Chromium presents a very difficult problem and at best the adhesion of a finish to this metal is not very lasting.

Where painting is desired, prepare

the surface by cleaning and sanding and, proceed with system shown for steel in A, 3-6.

F. Stainless Steel

DITZCO synthetic primer-surfacer (DPS) is recommended for best adhesion to stainless steel.

- Clean metal with Wax & Grease Remover.
- Scuff metal, using No. 320 wet or dry sandpaper.
- 3. Re-clean as in step #1.
- Apply DITZLER metal conditioner and rust inhibitor. (See Sec. III for proper use.)
- Spray two coats of DPS Primer Surfacer. Allow two to three hours drying time before sanding.
- 6. Blow out cracks and tack rag entire surface.
- 7. Spray alkyd or acrylic Enamel.

III. PROPER USE OF METAL CONDITIONERS

A. General Preparation

- 1. All base metals should be free of greases, oils, waxes, etc.
- 2. All visible corrosion must be removed. Red oxide rust on steel surfaces and whitish gray oxidation or salts on aluminum and zinc coated metal surfaces are generally present. Heavy corrosion should be removed by sanding. Metal conditioner will remove light surface corrosion and inhibit invisible corrosive salts in the pores of the metal.
- All metal conditioners are cut with one to four parts water. (Refer to specific type of metal conditioner label for proper ratio of water.)
- Generally, these conditioners are applied with a brush or clean white rags. Best protection against prolonged contact with skin is a pair of neoprene coated gloves.

The treated bare metal surfaces should be coated with the recommended primer, primer-surface or clear coating immediately after the surface is water free.

B. Selection of Proper Conditioners

Metal	Code	Reaction	Rinse	Dry
Steel, stainless steel, chromium plating	DX-579 DX-453	1-2 min.	Water dampened cloth	Clean cloth
then use	DX-550	3-4 min.	Water dampened cloth	Clean cloth
Galvanized, Galvaneal, Plymetal, other zinc coated metals	DX-512	1 min.	Water dampened cloth	Clean cloth
	DX-533	2-3 min.		
***	DX-501	2-3 min.	(On large areas	Air pressure
*Aluminum	DX-544	1-2 min.	On small areas rinse with water dampened cloth)	Clean cloth

^{*}New aluminum surfaces will require only a mild wash with DX-533. Immediately following, apply DX-501 Alodine.

In cases of oxidized aluminum, a concentrated cleaning and brightening should be done with DX-533, followed by DX-501 as above.

GENERAL PAINTING INSTRUCTIONS (continued)

IV. PREPARATION OF OLD FINISH

- 1. Wash entire surface with Wax and Grease Remover.
- Sand out any checking in old finish. If checking has progressed too far, remove old finish.
- 3. Feather edge broken areas.
- 4. Re-clean surface.
- Treat bare metal areas. (See Sec. III for proper use.)
- 6. Prime and seal entire surface with DPE Primer-Sealer if no filling is required. If filling is necessary and:
 - a. If old finish is enamel use SPEED-SAND (DPS) primer surfacer followed by DITZCO enamel, or All Purpose DZL primer surfacer followed by alkyd or acrylic enamel or acrylic lacquer.
- b. If old finish is lacquer, prime and surface with All Purpose DZL and finish with enamel or lacquer or use DPS and finish with DITZCO alkyd or DELSTAR acrylic enamel.
- c. If old finish is acrylic use All Purpose DZL primer surfacer and finish with DURACRYL acrylic lacquer (for greatest durability) or enamel.

V. FIBER GLASS FINISHING

Fiber glass should be treated much the same as body steel; however, it is non-corrosive and does not require chemical conditioners.

Replacement or new panels may contain contaminates on the surface due to the mold release used in the molds. Several common release agents are composed of silicone oils. These contaminates must be removed.

Step System of Finishing

- New molded parts should be washed with alcohol used liberally on a clean cloth.
- 2. Thoroughly clean the surface with Wax and Grease Remover.
- 3. Sand the exposed fiber glass with 220 to 280 grit paper by hand or 80D to 120 grit with sander. (Note: Do not attempt to sand down to the glass fibers that are used to re-enforce the plastic. There is generally sufficient gel coating to allow thorough sanding for finishing.)
- Re-clean surface and wipe dry with clean rags.

Alternate Step:

If there are joints to be filled or the sanding operation exposes air pockets or glass strands, glaze a coat of ALUM-A-LEAD body filler over the entire surface. Allow to cure, sand and re-clean.

 Apply DZL primer surfacer as directed on the label. Allow to dry and sand smooth with fine sandpaper to minimize sand scratches. Blow off with air and tack rag surface.

Alternate Step:

DPS SPEED-SAND synthetic primer surfacer is also recommended if top coats are to be enamel.

Apply color coats as recommended.

VI. PRIMING WOOD SURFACES

A. New Wood

Because of the natural porosity of new wood or composition products used in construction of bodies, it is necessary to fill the grain or pores to get a smooth painted surface. The following system is used by many of the larger truck and trailer manufacturers:

- Apply one dripping brush coat of Wood Preserver and Sealer, heavy for soft woods but reduced for hardwoods. Saturate end grain repeatedly. Do not spray.
- Use a clean lintless rag to wipe up excess material after 10 or 15 minutes soaking.
- 3. After the Sealer has dried, fill

open-grained hardwoods with Glazing Putty.

- Apply DITZCO primer-surfacer over all wood and metal surfaces.
- 5. Sand surfacer when dry.
- 6. Apply enamel color.

B. Old Wood

If the old paint film is in good condition, with no cracks or breaks, sand with No. 320 wet or dry paper and coat both wood and metal parts with DITZCO primer-surfacer (DPS SPEED-SAND).

Where the film is badly checked or split, the old paint should be completely removed (see Section 1-B) and System VI-A should be followed in refinishing.

- C. Natural Wood Finishing System (Interior and Exterior)
- Tack rag new wood to pick up all mill dust.
- Apply one dripping wet coat of Wood Preserver and Sealer, heavy for soft woods but reduced for hardwoods. Saturate end grain repeatedly. Do not spray.
- Use a clean lintless rag to wipe up excess after 10 to 15 minutes.
- 4. Stain, if necessary, to change or make uniform the color of the wood.

GENERAL PAINTING INSTRUCTIONS (continued)

- Fill grain of wood with wood filler, in color required, and allow to dry overnight.
- Spray one coat DITZCO clear finishing DCE-340 reduced 20%

with DTE-202 and allow ten to twenty minutes before applying a second full coat. For brush application use DITZCO clear finishing DCE-340 as is or add DTE-450 brushing reducer as desired. This coat will dry tack free in from four to six hours. Improved protection will be provided if this step is repeated after the clear has dried overnight.

VII. COMPOSITION SURFACES—MASONITE, ETC.

- Wash with DITZ-O wax and grease remover.
- 2. Apply one double coat DITZCO synthetic DPS primer surfacer.
- Spray one light coat followed immediately with a second heavier coat.
- 3. Allow three hours drying time
- fibrous nature of composition board dry sanding should be used.

before sanding. Because of the

4. Apply alkyd or acrylic enamel.

VIII. THINNING DITZ-LAC lacquers, DURACRYL acrylic lacquer and REDUCING DELSTAR acrylic and DITZCO alkyd enamels

The kind and the quantity of thinners and reducers is very important. For thinning DITZ-LAC lacquers and DURACRYL acrylic there are a number of DITZLER thinners for special purposes.

The most commonly used are:

For Lacquer

DTL-113 A high solvency thinner that produces an exceptionally high lustre.

For Acrylic

- DTL-135 A high gloss DURA-CRYL thinner for acrylic colors.
- DTL-151 For spot repair of acrylic finishes and general use with acrylics in a cold shop. Reduces to a minimum the chances of

swelling sand scratches or crazing.

DTA-105 Extra high gloss DURA-CRYL thinner for acrylic colors. Provides excellent flow and initial gloss. For use in spot and panel repair of original acrylic enamel, as well as, original acrylic lacquer and overall work.

For Acrylic or Lacquer

- DTL-16 A fast All Purpose Thinner for use in colors or undercoats.
- DTL-876 All Purpose Thinner for both DURACRYL acrylics and DITZ-LAC lacquer. An all around thinner for either color or undercoats.

For alkyd and acrylic Enamels

Several reducers are made available to enable the user to select the type that will allow the enamel to perform consistently at varying shop conditions. The chart, shown below, indicates the recommended reducer by temperature range:

DELSTAR ac	rylic enamel	DITZCO alkyd	enamel
50-70°F	DTR-601	35-70°F D	TE-101
70-85°F	DTR-602	50-85°F *D	TE-303
80-95°F	DTR-607	60-95°F D	TE-202
90-110°F	DTR-609	85-110°F D	TE-447

* See label directions for special use. NOTE: DTR-609 and DTE-447 can also be used to lengthen out or retard the other associated reducers.

For DITZCO synthetic SPEED-SAND primer surfacers (DPS line) use DTE-202 to get maximum flowout and minimum dusting.

IX. BAKING DELSTAR and DITZCO enamels

Force drying enamels by means of heat convection ovens or infra-red lights will greatly reduce the drying period but care must be exercised to avoid wrinkling, blistering, pinholing or discoloration. It is generally better to bake at lower temperatures for longer periods rather than to run high temperatures for shorter periods. The following will serve as a guide for baking times and temper-

atures for alkyd enamels: 125° for 90 min., 150° for 45 min., 175° for 30 min., 200° for 15-20 min. DEL-STAR acrylic enamel will dry in 15-20 minutes at 150°F. While DEL-STAR enamel can be force dried up to 200°F maximum care should be taken to allow sufficient flash off time for solvent to escape or too much reflow is likely. Generally speaking pastel colors are heat sensitive and

extreme caution must be used in force drying them.

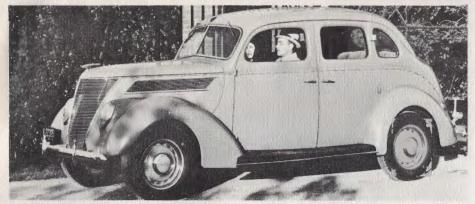
It is especially necessary to avoid heavy coats of enamel in hot weather or when force drying or baking. The temperature at which the enamel is sprayed, rather than the temperature at which it is dried, determines the reducer selected as in Article VIII above.

X. HOT SPRAY DELSTAR and DITZCO enamels

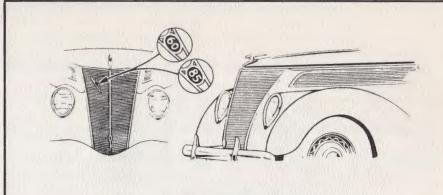
These enamels should be heated to 160°F after proper reducer is added. DELSTAR acrylic enamel should be

thinned 10-15% with DTR-609 and DITZCO alkyd enamel 10% with DTE-447. Avoid multiple coatings as

the gun solids are extremely high when being sprayed.

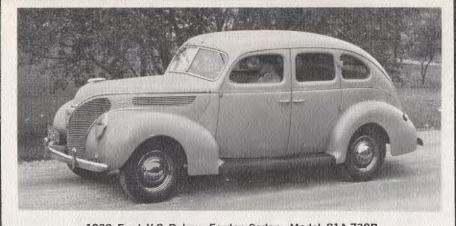


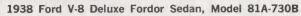
1937 Ford V-8 Deluxe Fordor Sedan, Model 78-730B. Last year for body-side paint stripe . . . green, red, cream and gray to complement body color. One-half inch below top-body sectional mold, see dotted line. Formed "U" around body, grill-to-grill.

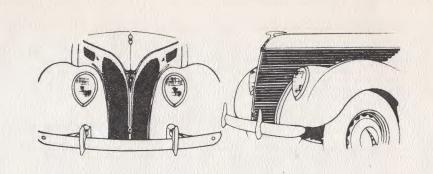


1937 MODEL 78 (74) FORD PASSENGER CAR

TYPE	DESCRIPTION		STANDARD	DELUXE
(1937) 78-700-A	Standard Tudor Sedan	BODY AND FENDERS	All one color as production chip selected. Grill and wind- shield frame painted. Station Wagon clear varnish wood.	All one color as production color chip selected. Grill and windshield frame chrome.
78-700-B 78-700-C	Deluxe Tudor Sedan Touring Tudor Sedan (Standard)	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford green.	Frame and running gear black enamel. Wheels color of body with chrome hub covers. Engine, Ford green.
78-700-D 78-710 78-720	Touring Tudor Sedan (Deluxe) Roadster (Deluxe) Club Coupe (Deluxe)	SOFT TOPPING	Leather, Station Wagon.	Tan canvas cover with bows covered in harmonizing bow drill cloth, top irons painted to compliment cover, wood in clear varnish.
78-730-A 78-730-B 78-730-C	Standard Fordor Sedan Deluxe Fordor Sedan Touring Fordor Sedan (Standard)	ROOF, CLOSED CARS	Napped Cotton headlining.	Napped Cotton headlining.
78-730-D 78-740 78-750	Touring Fordor Sedan (Deluxe) Convertible Sedan (Deluxe) Phaeton (Deluxe)	FABRIC TRIM	Taupe Mohair, Bark cord.	Flat Wale cord, Bedford cord, grey Mohair and Leather
78-760-A 78-760-B 78-770-A	Cabriolet (Deluxe) Club Cabriolet (Deluxe) Standard Coupe (5-window)	WINDOW STRIP, DASH	Mahogany grain.	Walnut grain.
78-770-B 78-780	Deluxe Coupe (5-window) Sedan Delivery	FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
78-790-A 78-790-B	Station Wagon with curtains Station Wagon with glass	COWL, REAR PANELS	Luggage, black cardboard, Cowl, grey, brown cardboard.	Luggage, black cardboard, Cowl, grey, brown cardboard.
		REFERENCE	BAF titles: V-20, V-34, V-37 and PF-2	

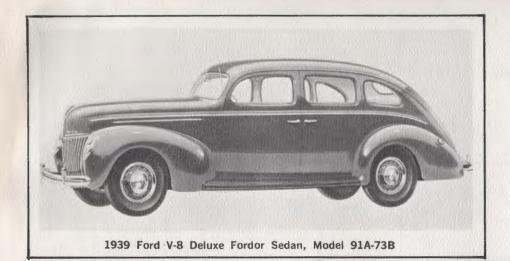


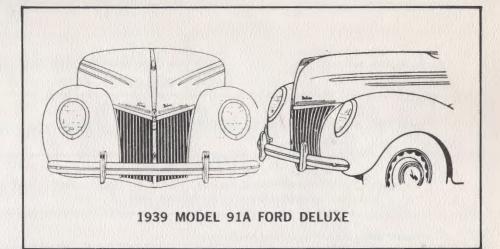




1938 FORD DELUXE 81A (82A) 1938 FORD STANDARD

TYPE	DESCRIPTION		STANDARD	DELUXE
(1938) 700-B	Deluxe Tudor Sedan	BODY AND FENDERS	All one color as production chip selected. Grill and wind- shield frame painted. Station Wagon clear varnish wood.	All one color as production color chip selected. Grill and windshield frame chrome.
700-C 720	Standard Tudor Sedan Club Coupe (Deluxe)	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford green.	Frame and running gear black enamel. Wheels color of body with chrome hub covers. Engine, Ford green.
730-B 730-C 740	Deluxe Fordor Sedan Standard Fordor Sedan Covertible Sedan (Deluxe)	SOFT TOPPING	Leather, Station Wagon.	Tan canvas cover with bows covered in harmonizing bow drill cloth, top irons painted to compliment cover, wood in clear varnish.
750 760-A 760-B	Phaeton (Deluxe) Convertible Coupe (Deluxe) Convertible Club Coupe (Deluxe)	ROOF, CLOSED CARS	Standard headlining cloth.	Deluxe headlining cloth.
770-A 770-B 770-C	Standard Coupe (5-window) Deluxe Coupe (5-window) Standard Coupe (5-window) with Pickup	FABRIC TRIM	Standard Mohair, standard Broadcloth, standard side wall cloth.	Bedford cord, Deluxe Mohair, Deluxe Broadcloth, Deluxe side wall cloth and Leather.
780 790	Sedan Delivery (Standard)	WINDOW STRIP, DASH	Burl Mahogany.	Straight Walnut grain.
		FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR PANELS	Luggage, black cardboard, Cowf, grey, brown cardboard.	Luggage, black cardboard, Cowl, grey, brown cardboard.
		REFERENCE	BAF titles: V-21, V-37, V-38 and PF-2	

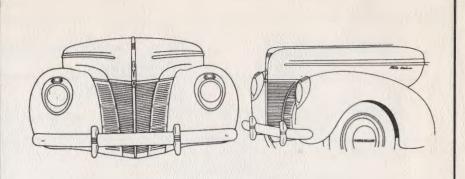




TYPE	DESCRIPTION		STANDARD	DELUXE
(1939) 70A	Standard Tudor Sedan	BODY AND FENDERS	All one color as production chip selected. Grill and wind- shield frame painted. Station Wagon clear varnish wood.	All one color as production color chip selected. Grill and windshield frame chrome.
70B 73A	Deluxe Tudor Sedan Standard Fordor Sedan	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford green.	Frame and running gear black enamel. Wheels color of body with chrome hub covers. Engine, Ford green.
73B 74 76	Deluxe Fordor Sedan Convertible Sedan (Deluxe) Convertible Coupe (Deluxe)	SOFT TOPPING	Leather, Station Wagon.	Tan canvas cover with bows covered in harmonizing bow drill cloth, top irons painted to compliment cover, wood in clear varnish.
77A 77B 78	Standard Coupe (5-window) Deluxe Coupe (5-window) Sedan Delivery (Standard)	ROOF, CLOSED CARS	Standard headlining cloth.	Deluxe headlining cloth.
79	Station Wagon (Deluxe)	FABRIC TRIM	Standard Mohair, standard Broadcloth, standard side wall cloth.	Deluxe side wall Mohair, Deluxe Mohair, Deluxe Broad- cloth, Deluxe side wall cloth and Leather.
		WINDOW STRIP, DASH	Antique Mahogany grain.	Golden Birch grain.
		FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR PANELS	Luggage, black cardboard, Cowl, grey, brown cardboard.	
		REFERENCE	BAF titles: V-22, V-38 and V-39	



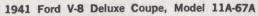
1940 Ford V-8 Deluxe Fordor Sedan, Model 01A-73B (Prototype)

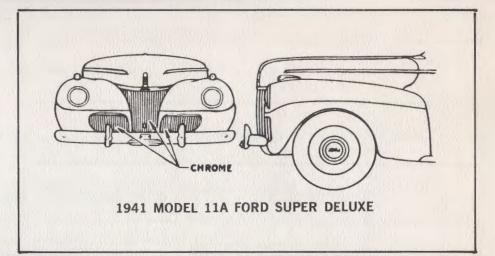


1940 MODEL 01A FORD DELUXE PASSENGER CAR

TYPE	DESCRIPTION		STANDARD	DELUXE
(1940) 66	Convertible Club Coupe (Deluxe)	BODY AND Fenders	All one color as production chip selected. Grill and wind- shield frame painted. Station Wagon clear varnish wood.	All one color as production color chip selected. Grill and windshield frame chrome.
67A 67B	Standard Business Coupe Deluxe Business Coupe	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford green (some V-60 engines black).	Frame and running gear black enamel. Wheels color of body with chrome hub covers. Engine, Ford green.
70A 70B 73A	Standard Tudor Sedan Deluxe Tudor Sedan Standard Fordor Sedan	SOFT TOPPING	Leather, Station Wagon.	Black or drab canvas cover with bows covered in drab bow drill cloth. Top irons painted gray or tan, wood in clear varnish.
73B 77A 77B	Deluxe Fordor Sedan Standard Coupe (5-window) Deluxe Coupe (5-window)	ROOF, CLOSED CARS	Standard headlining cloth.	Deluxe headlining cloth.
78 79	78 Sedan Delivery (Standard)	FABRIC TRIM	Standard Mohair, standard Broadcloth, standard side wall cloth.	Deluxe Mohair, Deluxe side wall Mohair, Deluxe side wall cloth, Deluxe Broadcloth, red and brown Leather.
		WINDOW STRIP, DASH	Solid dark Maroon or Brown (#1796 or #2830).	Burl Walnut grain, dark Maroon with Cream.
		FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR PANELS	Luggage, black cardboard, Cowl, grey, brown cardboard.	
		REFERENCE	BAF titles: V-15 and V-39	



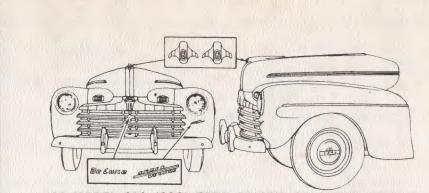




TYPE	DESCRIPTION		DELUXE AND SPECIAL	SUPER DELUXE
(1941) 67-A	Deluxe Coupe (with auxiliary seats)	BODY AND FENDERS	All one color as production chip selected. Grill and wind- shield frame painted. Station Wagon clear varnish wood.	All one color as production color chip selected. Grill and windshield frame chrome.
67-B 70-A	Super Deluxe Coupe (with auxiliary seats) Deluxe Tudor Sedan	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford blue.	Frame and running gear black enamel. Wheels body color with chrome hub covers. Engine, Ford blue.
70-B 70-C 72	Super Deluxe Tudor Sedan Special Tudor Sedan Super Deluxe Sedan Coupe	SOFT TOPPING	Leather, Station Wagon.	Black or drab canvas cover with bows covered in drab bow drill cloth. Top irons painted gray or tan, wood in clear varnish.
73-A 73-B 73-C	Deluxe Fordor Sedan Super Deluxe Fordor Sedan Special Fordor Sedan	ROOF, CLOSED CARS	Deluxe headlining cloth.	Super Deluxe headlining cloth.
76 77-A 77-B	Super Deluxe Convertible Club Coupe Deluxe (5-window) Coupe Super Deluxe (5-window) Coupe	FABRIC TRIM	Deluxe side wall cloth, Deluxe Mohair, Broadcloth side wall cloth, Deluxe Broadcloth.	Super Deluxe side wall cloth, Super Deluxe Broadcloth, Super Deluxe side wall Mohair, Super Deluxe Mohair, Super Deluxe side wall Broadcloth, tan, blue and red Leather.
77-C 78 79-A	Special Coupe (5-window) Sedan Delivery Deluxe Station Wagon	WINDOW STRIP, DASH	Cotswold Grey Poly. 30059 (DAL: 46=48 - 27=128 - 6=356 - 41=1064).	
79-B	Super Deluxe Station Wagon	FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR PANELS	Luggage, black cardboard, Cowl, grey, brown cardboard.	
		REFERENCE	BAF titles: V-23 and V-38	



1946 Ford V-8 Deluxe Fordor Sedan, Model 69A-73A



1946 MODEL 69A (6GA) FORD DELUXE OR SUPER DELUXE

TYPE	DESCRIPTION		DELUXE	SUPER DELUXE
(1946) 70-A	Deluxe Tudor Sedan	BODY AND FENDERS	All one color as production color chip selected. Grill and windshield frame chrome.	
70-B 71	Super Deluxe Tudor Sedan Sportsman Coupe	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford blue.	
72-B 73-A 73-B	Super Deluxe Sedan Coupe Deluxe Fordor Sedan Super Deluxe Fordor Sedan	SOFT TOPPING	Leather, Station Wagon.	Black or drab canvas cover with bows covered in drab bow drill cloth. Top irons painted gray or tan, wood in clear varnish.
76 77-A 77-B	Super Deluxe Convertible Club Coupe Deluxe (5-window) Coupe Super Deluxe (5-window) Coupe)	ROOF, CLOSED CARS	Cloth, Mohair, Broadcloth and artificial leather.	Broadcloth, cloth and Mohair.
78 79-B	Deluxe Sedan Delivery Super Deluxe Station Wagon	FABRIC TRIM	Side wall cloth, Mohair and Broadcloth.	Side wall cloth, Super Deluxe Mohair, Super Deluxe Broad- cloth, red, tan and grey Leather.
		WINDOW STRIP, DASH	Maplewood grain, Slate Grey Poly. #30190 (DQE: 123=68 - 103=170 - 120=444 - DX200=462 - 127=1000)	
		FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR PANELS	Luggage, black cardboard, Cowl, grey, brown cardboard.	
		REFERENCE	BAF titles: V-24 and V-46	Nagara da

ACRYLIC LACQUER OFFSET FORMULAS

Ford Products — 1937-1941 and 1945-1948

COLOR	DITELLITIES.
Barcelona Blue	10361
Avon Blue	
Vermillion*	
Dearborn Blue	
Cordoba Tan	
Gunmetal Gray	
Washington Blue	
Vineyard Green	
Coach Maroon	
Autumn Brown	
Turquoise Blue	
Dalmation Green	
Dove Gray	
Silver Wing Gray	
Adobe Tan	
Wren Tan Dark*	
Dartmouth Green	
Jefferson Blue	
Folkstone Gray	
Tropical Green	
Cloudmist Gray	
Manderin Maroon	
Como Blue Poly	1798
Yosemite Green	40205
Taffy Tan	20375
Tucson Tan	
Thorne Brown	283
Feather Gray	
Blue Gray Poly	
Lochaven Green	
Mayfair Maroon	
Harbor Gray	
Capri Blue Poly	
Florentine Blue	
Sheffield Gray Poly	
Nile Blue Green	
Fathom Blue	
Moselle Maroon	
Light Moonstone Gray	
Navy Blue	
Dynamic Maroon	
Dark Slate Poly	
Silver San Poly	
Glade Green*	
Pheasant Red	
Ford Red	
Maize Yellow	
Demo Yellow*	80011

Ditzler Automotive Finishes



^{*}Commercial colors.





- **Chicle Drab #91 1930-31** DMA: 333—99.6, 329—274.1, 358—323.9, 311—361.3
- Bonnie Grey #116—1929 DMA: 375—14.4, 322—154.4, 311—432.5, 358—463.4
- Rock Moss Green #117—1929 DMA: 322—40.0, 375—40.0, 358—110.0, 354—300.0, 317—490.0
- **Seal Brown #118—1928-29-30** DMA: 311=19.4, 333=126.5, 354=408.9, 358=447.9
- Rose Beige #119—1928-29 DMA: 311—106.0, 333—140.0, 329—400.0, 358—400.0
- Chelsea Blue #120—1929 DMA: 311—20.0, 358—120.0, 322—110.0, 375—740.0
- Andalusite Blue #121—1928-29-30 DMA: 311—2.0, 317—220.0, 358—100.0, 375—340.0, 310—320.0
- Vagabond Green #122—1929 DMA: 311—38.3, 317—38.3, 358—182.3, 322—153.5, 375—604.6
 - Duchess Blue #123—1928-29 DMA: 317—147.9, 311—197.2, 358—256.4, 375—414.2
- Balsam Green #124—1929 DMA: 383—80.3, 358—132.5, 311—100.4, 322—301.2, 375—431.7
 - Medium Cream #125—1929 DMA: 322=113.0, 346=8.7, 329=321.7, 311=660.8
- Valley Green #161—1928-29 DMA: 322=26.6, 311=35.5, 375=71.1, 329=80.0, 317=106.7, 346=685.0
- Tunis Gray #180—1932 DMA: 311—15.9, 333—31.8, 317—29.8, 358—79.5, 354—298.2, 310—536.7
- Thorne Brown #283—1929-30-31 DMA: 311=10.1, 360=10.1, 333=121.2, 358=454.5, 310=404.0
 - Old Ivory #295—Trim Color DMA: 346—71.7, 329—307.3, 311—717.2
- Arabian Sand Lt. #432—1928 DMA: 358—149.3, 309—8.7, 333—8.7, 311—289.9, 329—439.3, 310—158.1

- Dawn Gray #434—1928 DMA: 375—47.8, 309—3.8, 358—90.0 329—273.9, 311—411.8, 310—229.8
- Gunmetal Blue #436—1928 DMA: 311=88.4, 360=9.8, 329=88.4 317=117.8, 358=707.2
- Niagara Blue Lt. #438—1928-29 DMA: 311—130.0, 358—250.0, 375—260.0, 317—370.0
- Copra Drab #440—1928,30-31 DMA: 354—144.4, 311—206.4, 329—227.0, 358—454.0
- **Apple Green #519—1929-31, 35-36**DMA: 358—32.6, 375—42.3,
 329—298.0, 322—730.7
 - **Straw #526—1929-30** DMA: 346=59.8, 322=106.1, 329=250.9, 311=685.3
 - Poppy Red #536—1934-35-36 DMA: 361=931.1, 363=111.7
- Elkpoint Green #543—1929-30-31 DMA: 311=84.9, 317=98.8, 354=197.6, 329=345.8, 358=296.4
- Moleskin Brown Lt. #544—1929-30 DMA: 311—49.3, 333—78.9, 329—147.9, 358—738.6
- Bronson Yellow #545—1929-30-31 DMA: 346—52.3, 311—373.8, 329—650.4
- Kewanee Green #546—1929-30-31 DMA: 317—99.1, 311—117.1, 358—252.2, 383—180.1, 329—387.3
- French Silver Gray #586—1928, 30-36 DMA: 329—70.6, 317—5.7, 354—190.8, 358—190.8, 311—610.6
- Winterleaf Brown Light #986—1932 DMA: 333—120.2, 311—130.2, 329—460.9, 358—330.6
 - Lombard Blue #1009—1931 DMA: 311=6.0, 317=170.0, 346=420.0, 375=400.0
- Ford Maroon #1011—1929-30, 32 DMA: 333—150.0, 360—230.0, 358—640.0
 - Rivera Blue #1013—1931 DMA: 311=119.0, 317=9.1, 358=320.5, 373=549.4

- Stone Deep Gray #1015—1931 DMA: 375—20.0, 329—50.0, 311—90.0, 317—120.0, 358—710.0
- Brewster Green Medium #1017—1932 DMA: 311 = 10.0, 322=40.0, 333=40.0, 317=100.0, 358=400.0, 310=400.0
 - Old Chester Gray #1027—1933 DMA: 333—86.0, 311—106.0, 329—350.0, 358—490.0
- **Orange #1166—1929-30**DMA: 360—10.0, 311—4.0, 329—80.0
 336—1000.0
- **Tacoma Cream #1245—1931, 33-36** DMA: 346—20.4, 329—296.5, 311—787.3
- Washington Blue #1246—1931-32, 36 DMA: 311=22.0, 317=60.0, 346=424.0, 375=490.0
- Brewster Green Lt. #1247—1929-30-31 DMA: 311=27.7, 317=110.9, 329=73.9, 322=120.1, 358=471.3, 310=212.5
- Emperor Brown Med. #1295—1933-34 DMA: 333—76.2, 311—237.1, 358—298.9, 329—319.5, 310—113.4
- **Duncan Blue #1296—1933** 317—260.0, 375—300.0, 346—430.0
- **Vermilion Red #1412—1929—35** 311=10.2, 354=40.9, 360=102.4 361=891.3
- **Dearborn Blue #1442—1934-35**DMA: 317—166.9, 311—3.3, 358—250.4, 342—250.4, 310—320.5
- Cordoba Gray #1469—1934, 39 DMA: 333—32.1, 358—62.2, 311—160.6, 329—160.6, 310—602.4
- Vineyard Green #1470—1931, 34-36 DMA: 317=51.3, 311=61.6, 329=355.2, 358=369.6, 310=184.8
- Cordoba Tan #1549—1936 DMA: 333—20.2, 329—121.4, 311—192.3, 346—364.3, 310—323.8
- Gunmetal Gray #1551—1935-36 DMA: 329—103.0, 311—195.8, 383—247.4, 358—484.5
- Manila Brown #2000—1928-31 DMA: 333=70.0, 311=260.0, 346=260.0, 329=260.0, 310=180.0



INDUSTRIES

PPG Antique Automotive, Acrylic Lacquer Formula

DDL No. — DMA = Parts Per Qt.

- **91** 333 = 99.6, 329 = 274.1, 358 = 323.9, 311 = 361.3
- 116 375=14.4, 322=154.4, 311=432.5, 358=463.4
- 117 322 = 40.0, 375 = 40.0, 358 = 110.0, 354 = 300.0, 317 = 490.0
- 118 311= 19.4, 333= 126.5, 354= 408.9, 358= 447.9
- 119 311= 106.0, 333= 140.0, 329= 400.0, 358= 400.0
- 120 311=20.0, 358=120.0, 322=110.0, 375=740.0
- 121 311=2.0, 317=220.0, 358=100.0, 375=340.0, 310=320.0
- **122** 311=38.3, 317=38.3, 358=182.3, 322=153.5, 375=604.6
- **123** 317 = 147.9, 311 = 197.2, 358 = 256.4, 375 = 414.2
- 124 383 = 80.3, 358 = 132.5, 311 = 100.4, 322 = 301.2, 375 = 431.7
- 125 322=113.0, 346=8.7, 329=321.7, 311=660.8
- **161** 322=26.6, 311=35.5, 375=71.1, 329=80.0, 317=106.7, 346=685.0
- 180 311=15.9, 333=31.8, 317=29.8, 358=79.5, 354=298.2, 310=536.7
- **283** 311 = 10.1, 360 = 10.1, 333 = 121.2, 358 = 454.5, 310 = 404.0
- 295 346 = 71.7, 329 = 307.3, 311 = 717.2
- **432** 358= 149.3, 309= 8.7, 333= 8.7, 311= 289.9, 329= 439.3, 310= 158.1
- **434** 375—47.8, 309—3.8, 358—90.0, 329—273.9, 311—411.8, 310—229.8
- **436** 311 = 88.4, 360 = 9.8, 329 = 88.4, 317 = 117.8, 358 = 707.2
- **438** 311=130.0, 358=250.0, 375=260.0, 317=370.0
- **440** 354= 144.4, 311= 206.4, 329= 227.0, 358= 454.0
- **519** 358=32.6, 375=**42**.3, 329=298.0, 322=730.7
- **526** 346=59.8, 322=106.1, 329=250.9, 311=685.3
- 536 361 = 931.1, 363 = 111.7
- **543** 311=84.9, 317=98.8, 354=197.6, 329=345.8, 358=296.4

DDL No. — DMA = Parts Per Qt.

- **544** 311 = 49.3, 333 = 78.9, 329 = 147.9, 358 = 738.6
- 545 346 = 52.3, 311 = 373.8, 329 = 650.4
- **546** 317=99.1, 311=117.1, 358=252.2, 383=180.1, 329=387.3
- **586** 329=70.6, 317=5.7, 354=190.8, 358=190.8, 311=610.6
- **986** 333 = 120.2, 311 = 130.2, 329 = 460.9, 358 = 330.6
- **1009** 311=6.0, 317=170.0, 346=420.0, 375=400.0
- 1011 333 = 150.0, 360 = 230.0, 358 = 640.0
- 1013 311=119.0, 317=9.1, 358=320.5, 373=549.4
- 1015 375=20.0, 329=50.0, 311=90.0, 317=120.0, 358=710.0
- **1017** 311= 10.0, 322= 40.0, 333= 40.0, 317= 100.0, 358= 400.0, 310= 400.0
- **1027** 333=86.0, 311=106.0, 329=350.0, 358=490.0
- 1166 360 = 10.0, 311 = 4.0, 329 = 80.0, 336 = 1000.0
- 1245 346 = 20.4, 329 = 296.5, 311 = 787.3
- **1246** 311= 22.0, 317=60.0, 346= 424.0, 375= 490.
- **1247** 311=27.7, 317=110.9, 329=73.9, 322=120.1, 358=471.3, 310=212.5
- 1295 333=76.2, 311=237.1, 358=298.9, 329=319.5, 310=113.4
- 1296 317 = 260.0, 375 = 300.0, 346 = 430.0
- **1412** 311 = 10.2, 354 = 40.9, 360 = 102.4, 361 = 891.3
- 1442 317 = 166.9, 311 = 3.3, 358 = 250.4, 342 = 250.4, 310 = 320.5
- **1469** 333=32.1, 358=62.2, 311=160.6, 329=160.6, 310=602.4
- **1470** 317=51.3, 311=61.6, 329=355.2, 358=369.6, 310=184.8
- **1549** 333= 20.2, 329= 121.4, 311= 192.3, 346= 364.3, 310= 323.8
- 1551 329=103.0, 311=195.8, 383=247.4, 358=484.5
- **2000** 333=70.0, 311=260.0, 346=260.0, 329=260.0, 310=180.0



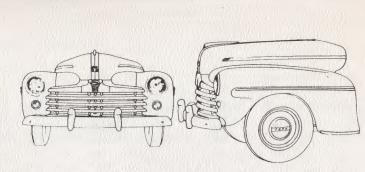


- Barcelona Blue No. 1036 1947-48 DAL: 6=8-2=20-46=40-49=1054. DQE: 104=4—109=30— 102=88—DX200=112— 111=1064.
- Avon Blue No. 1088 1938 DAL: 43=60—42=120—6=270— 2=508—46=1036.
- Vermillion No. 1412 1937-40 DAL: 46=36—28=202—29=1108.
- **Dearborn Blue No. 1442 1937-38** DAL: 46=10—25=84—45=238—49=1044.
- Cordoba Tan No. 1549 1937-1938 DAL: 46=763—6=974— 25=1037—27=1100.
- Gunmetal Gray No. 1551 1937-38 DAL: 27=128—6=330— 46=682—25=1094.
- Washington Blue No. 1747—1937-38 DAL: 17=30—25=90—46=164— 49=1060. DQE: 109=22-120=152-102=338-DX200=358-111=1048.
- Vineyard Green No. 1751 1937-38 DAL: 46=8-42=78-25=438-6=1070. DQE: 123=16—104=274— 109=634—DX200=654— 108=1074.
- Coach Maroon No. 1758 1937-8-9 DAL: 27=82—2=716—48=1058.
- Autumn Brown No. 1759 1937 DAL: 25=88—6=220—46=486— 20=1084.
- Turquoise Blue No. 1761 (C) 1937 DAL: 24=4—50=14—36=38— 43=132—6=256—46=1100.
- Dalmation Green No. 1762 (C)—1937 DAL: 43=2—42=50—25=144— 6=586—46=1100.
- Dove Gray No. 1763 1938 DAL: 27=20—25=88—6=234—46=1102.
- Silver Wing Gray No. 1764 (C)—1937 DAL: 42=10—6=114—2=346—46=1090.
- Adobe Tan No. 1769 (Com.) 1937 DAL: 25=28—27=56—6=316— 46=1100.
- Wren Tan Dark No. 1771 1938 Station Wagon (lite) DAL: 6=266-27=608-25=1056.
- Dartmouth Green No. 1772-1938-39
- DAL: 4=112—10=314— 25=656—49=1076. Jefferson Blue No. 10188 DAL: 6=128—25=262— 46=404—49=1060.
- Folkstone Gray No. 1776 —1939-40 DAL: 27=48—6=120—2=232— 46=1098. DQE: 123=24—108=94— 120=160—DX200=172— 102=1072.

- Tropical Green No. 1780 1939 DAL: 49=112—4=242— 25=478—17=764—46=1082.
- Cloudmist Gray No. 1787—'39-40-41 DAL: 6=72—25=172—46=360— 36=1068. DQE: 144=24—147=124— 110=292—120=512— DX200=532—102=1052.
- Manderin Maroon No. 1796 1940 DAL: 46=12—25=54—29=262—32=480—30=1044.
- Como Blue Poly No. 1798 1940 DAL: 6=24—46=76—42=132— 41=340—25=618—43=1040.
- Yosemite Green No. 1800 1940 DAL: 42=230—2=620—6=1066.
- Taffy Tan No. 2037 1947-1948 DAL: 46=744-6=1004-27=1078-2=1104. DQE: 120=12-123=50-108=225-DX200=245-102=1080.
- Tucson Tan No. 2038 1947-1948 DAL: 2=14—20=58—6=174— 46=1114. DQE: 120=14—123=31— 108=138—DX200=158— 102=1078.
- Thorne Brown No. 2830—1937-9, 40 DAL: 48=190—27=410—2=1060.
- Feather Gray No. 3004 1947-1948 DAL: 27=10—6=48—25=100— 46=1108. DQE: 123=2-108=18-120=66—DX200=86—102=1076.
- Blue Gray Poly No. 3040 1947-48 DAL: 2=40—43=136—27=348— 34=668—41=1052. DQE: 104=4—125=18— 123=132—127=494—112=736— DX200=756-103=1016.
- Lochaven Green No. 3925 1941 DAL: 42=14—43=56—2=204—46=598—6=1088. DQE: 110=112—133=468—120=618—DX200=638— 108=1098.
- Mayfair Maroon No. 3927 1941
 DAL: 46=20—25=60—28=200—
 48=426—47=678—30=1048.
 DQE: 102=10—117=70—
 118=282—128=514—
 DX200=534—125=1024.
- Harbor Gray No. 3929 1941 DAL: 27=2-25=56-6=172-46=1106. DQE: 120=48-108=126-DX200=138-102=1086.
- Capri Blue Poly No. 3930 1941 DAL: 46=46— 25=178— 43=402—41=642—34=1046.
- Florentine Blue No. 3937 1941 DAL: 6=62-43=156-25=314-46=1090. DQE: 120=202—112=482— DX200=502—133=1075.

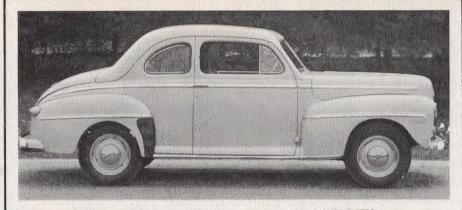
- Sheffield Gray Poly No. 3939 1941 DAL: 43=24—42=54—25=340— 41=686—46=1066.
- Nile Blue Green No. 3946 1942 DAL: 25=78—42=170—6=316—46=1098. DQE: 110=34—120=86—112=194—108=316—DX200=328—102=1076.
- Fathom Blue No. 3947 1942 DAL: 46=38—25=88—49=406-34=1058. DQE: 120=36—102=204— 125=396—DX200=416—
- Moselle Maroon No. 3948 1942 DAL: 25=12-46=30-32=50-47=162-30=1030. DQE: 125=14—102=48— 123=184—DX200=204— 118=1030.
- Lt. Moostone Gray No. 3981—1946-7 DAL: 27=16—25=64—6=154— 46=1106.
- Navy Blue No. 3982 1946-1947 DAL: 46—46—45—228—49—1058. DQE: 125—26—120—70— 102=190-111=398-DX200=418-124=1046.
- **Dynamic Maroon No. 3989—1946-47**DAL: 25=24—29=154—30=1038.
 DQE: 114=26—104=98—
 117=508—DX200=536— 125=1066.
- Dark Slate Poly No. 3991 1946-47 DAL: 46=4—59=18—27=78— 41=196—34=482—25=856— 100=1038.
- Silver San Poly No. 3992 1946 DAL: 25=78—16=196—6=360— 27=532—41=1058.
- Glade Green No. 4046 1947-1948 DAL: 46=18-25=76-10=144-6=256-4=404-49=1064. DQE: 102=88—108=224— 140=360—120=646— DX200=666—111=1072.
- Pheasant Red. No. 5010—1947-1948 DAL: 46=2—2=36—47=122— 48=470—28=1082. DQE: 104=16—102=48— 117=192—125=554— DX200=574—128=1018.
- Ford Red No. 7007 1937-1938 DAL: 46=10—28=54—30=220— 29=1100. DQE: 120=2—128=24— 122=274—DX200=294— 117=1134.
- Maize Yellow No. 8027—1947-1948 DAL: 2=14—10=70—4=136— 6=226—46=1116. DQE: 144=16—108=64-126=152-DX200=172-102=1070.
- Demo. Yellow No. 8037-1937-8, 48 DAL: 46=8-55=28-10=110-4=1100. DQE: 104=5—140=42— 134=138—DX200=158— 144=1347.

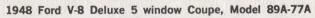


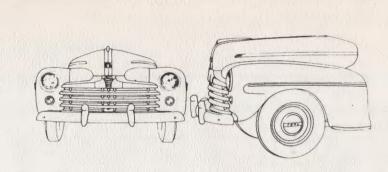


1947 MODELS 79A, 7GA, 7HA FORD DELUXE OR SUPER DELUXE

TYPE	DESCRIPTION		DELUXE	SUPER DELUXE
(1947) 70-A	Deluxe Tudor Sedan Super Deluxe Tudor Sedan Sportsman Coupe	BODY AND FENDERS	All one color as production color chip selected. Grill and windshield frame chrome.	
70-B 71		CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford blue.	
72-B 73-A 73-B	Super Deluxe Sedan Coupe Deluxe Fordor Sedan Super Deluxe Fordor Sedan	SOFT TOPPING	Leather, Station Wagon.	Black or drab canvas cover with bows covered in drab bow drill cloth. Top irons painted gray or tan, wood in clear varnish.
76 77-A 77-B		ROOF, CLOSED CARS	Cloth, Broadcloth and artificial leather.	Broadcloth, cloth and Mohair.
78		FABRIC TRIM	Side wall cloth, Mohair, Broadcloth and artificial leather.	Side wall Mohair, side wall Broadcloth, tan, red and grey Leather, Bedford cord, blue and maroon Broadcloth.
		WINDOW STRIP, DASH	Maplewood grain, rustless steel, Grey Blue Poly. (DAL-DQE #3040)	
		FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR Panels	Luggage, black cardboard, Cowl, grey, brown cardboard.	
W. W.		REFERENCE	BAF titles: V-24 and V-47	

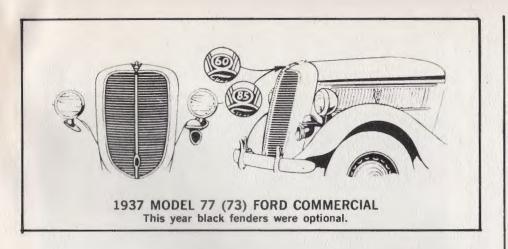


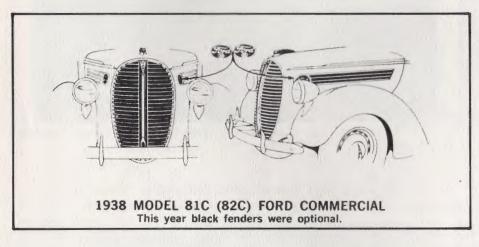


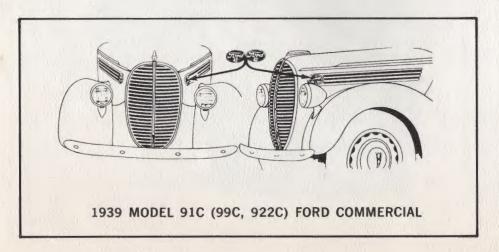


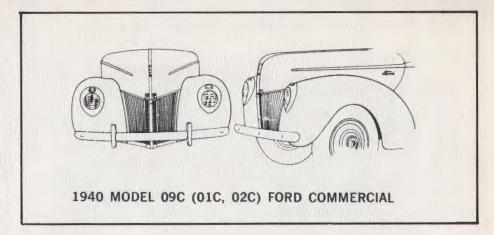
1948 MODEL 89A or 8HA FORD DELUXE OR SUPER DELUXE

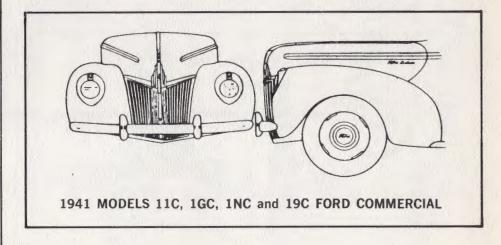
TYPE	DESCRIPTION		DELUXE	SUPER DELUXE
(1948) 70-A	Deluxe Tudor Sedan	BODY AND FENDERS	All one color as production color chip selected. Grill and windshield frame chrome.	
70-B 72-B	Super Deluxe Tudor Sedan Super Deluxe Sedan Coupe	CHASSIS AND WHEELS	Frame and running gear black enamel. Wheels black with chrome hub covers. Engine, Ford blue.	
73-A 73-B 76	Deluxe Fordor Sedan Super Deluxe Fordor Sedan Super Deluxe Convertible Club Coupe	SOFT TOPPING	Leather, Station Wagon.	Black or drab canvas cover with bows covered in drab bow drill cloth. Top irons painted gray or tan, wood in clear varnish.
77-A 77-B 78	Deluxe (5-window) Coupe Super Deluxe (5-window) Coupe Deluxe Sedan Delivery	ROOF, CLOSED CARS	Mohair, Broadcloth and artificial leather.	Broadcloth, Mohair and cloth.
79-B	Super Deluxe Station Wagon	FABRIC TRIM	Broadcloth and side wall cloth.	Tan and red pebble grain Leather, blue and maroon broad- cloth.
		WINDOW STRIP, DASH	Maplewood grain, rustless steel, Grey Blue Poly. (DAL-DQE #3040)	
		FLOOR COVER	Matt, front compartment, carpet rear compartment, commercial cars matt only.	Matt front compartment, carpet rear compartment.
		COWL, REAR PANELS	Luggage, black cardboard, Cowl, grey, brown cardboard.	
		REFERENCE	BAF titles: V-24 and V-48	

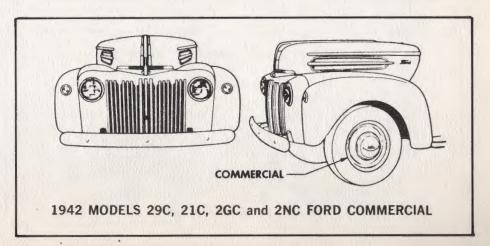










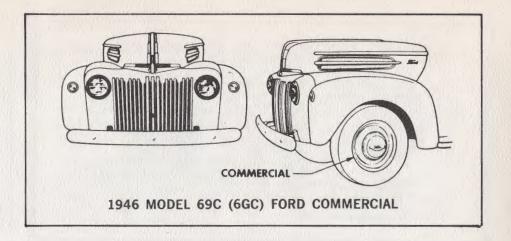


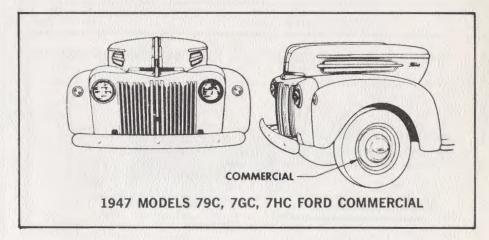


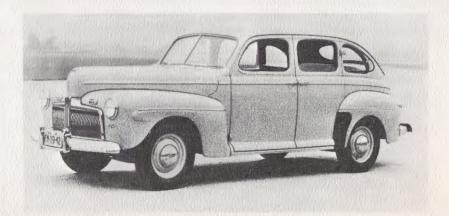
1944-47 SEDAN DELIVERY (BODY TYPE 78)



1946-48 STATION WAGON (BODY TYPE 79)







1942 Ford V-8 Super Deluxe Fordor Sedan, Model 21A-73B

REFINISHING SCHEDULES

FOR FIRST CLASS TOUCH-UP OR COMPLETE ALL-OVER JOBS

ACRYLIC ENAMEL SYSTEMS

SCHEDULE A

ACRYLIC ENAMEL SYSTEM OVER BARE METAL

Operation

Methods and Materials

- 1. Remove old finish... Use one of the methods shown
- 2. Clean entire surface... Use DXA-330 ACRYLI-CLEAN wax & grease remover.
- 3. Sand the metal . . . Use 220 paper.
- 4. Remove rust . . . Use DITZLER Metal Conditioner, wipe off (with wet rag) and follow immediately with Step 5.
- 5. Apply Undercoats... For general work, use one of DITZLER DZL Lacquer Primer-Surfacers. The best undercoat for fleet work is SPEED-SAND Synthetic Primer-Surfacer.
- Spot Putty or Glaze... Use DITZLER DFL-1
 Spot Putty for nicks or dents and DFL-40 Blue
 Glaze for file marks and scratches.
- Sand Undercoats . . . wet or dry with 360 or finer grit paper.
- Respray Primer-Surfacer . . . to cover spots sanded through to the metal.
- 9. Resand Undercoats... Touch up spots with 360 paper. Blow off and tack rag surface.
- 10. Apply Sealer Coat... spray the entire area with DPE-1020 transparent Primer-Sealer for maximum gloss and color hold-out.
- 11. Spray Enamel . . . Apply one full wet coat or one even double coat, using DELSTAR (DAR) Acrylic Enamel with versatile DELSTAR (DTR) Reducers. Allow sufficient time to dry and form a good color seal, (normally 20 minutes). Follow with two full wet coats with flash time in between for best results. Air dry or allow solvents to flash off (normally 10-15 minutes) and force dry for a maximum of 30 minutes at 180°F. Note: Recoating a DELSTAR finish can be done anytime before the cure stage has reached a sensitive state. Under normal conditions (approx. 75°F.) a DELSTAR finish should not be sensitive for the first day. Should recoating be necessary during the sensitive period, DXR-1050 Recoat Sealer must be used first. To avoid adverse reactions caused by variable climatic conditions, it is advisable to use Recoat Sealer up to a week. After baking a DELSTAR finish, DXR-1050 must be used before recoating, during the first week.
- 12. Wheels . . . Spray wheels with the appropriate DELSTAR Acrylic Enamel color.
- 13. Tires, Mats, etc.... Dress with DITZLER DX-9008 Black Rubber Dressing.

SCHEDULE B

ACRYLIC ENAMEL SYSTEM OVER OLD FINISHES

Operation

Methods and Materials

- Remove silicone polish or wax... Treat the entire surface with DXA-330 ACRYLI-CLEAN wax & grease remover.
- Sand Old Finish.. Wet or dry sand old finish with 360 or finer grit paper, being careful not to gouge the finish.
- Clean Entire Surface . . . With Wax & Grease Remover.
- 4. Apply Undercoats To Bare Metal... See operations 4, 5, 6, 7, 8 and 9 under Schedule A.
- 5. Apply Sealer Coat... spray the entire area with DPE-1020 transparent Primer-Sealer for maximum gloss and color hold-out.
- 6. Spray Enamel . . . See operation 11, Schedule A.
- Wheels and Tires... See operations 12 and 13, Schedule A.

REFINISHING SCHEDULES—ALKYD ENAMEL SYSTEMS

SCHEDULE C

ALKYD ENAMEL SYSTEM OVER BARE METAL

Operation

Methods and Materials

- 1. Remove old finish... Use one of the methods shown
- 2. Clean entire surface... Use DXA-330 ACRYLI-CLEAN wax & grease remover.
- 3. Sand the metal . . . Use 220 paper.
- 4. Remove rust... Use DITZLER Metal Conditioner, wipe off (with wet rag) and follow immediately with step 5.
- 5. Apply Undercoats... The best undercoat for fleet work is SPEED-SAND line of Synthetic Primer Surfacers. For general work, use one of DITZLER DZL lacquer primer surfacers.
- 6. Spot putty or glaze... Use DITZLER DFL-1
 Spot Putty for nicks and dents. Use DFL-40
 Blue Glaze for file marks and scratches.
- 7. Sand undercoats . . . Water sand with 320 paper.
- 8. Respray primer surfacer . . . To cover spots sanded through to the metal.
- 9. Resand Undercoats . . . Touch up spots with 320 paper.
- 10. Blow out and seal all cracks . . . Spray a light coat of enamel over all cracks and crevices.
- 11. Clean the surface... Wipe off the entire area with DXA-330 ACRYLI-CLEAN wax & grease remover to eliminate any hand marks, etc.
- 12. Tack rag the job ... Use DITZLER Tack Rag, DX-50.
- 13. Spray enamel... Apply the first coat, allow sufficient tack time and follow with a full second coat of the chosen color in DQE Enamel. Allow to dry overnight or accelerate the drying with oven or lights, when adding DX-1765 booster to the enamel.
- 14. Wheels . . . Spray wheel with appropriate color in DITZCO (DQE) Enamels.
- 15. Tires, Mats, etc.... Dress with DITZLER DX-9008 Black Rubber Dressing.

SCHEDULE D

ALKYD ENAMEL SYSTEM OVER OLD FINISHES

Operation

Methods and Materials

- 1. Remove silicone polish or wax... Treat the entire surface with DXA-330 ACRYLI-CLEAN wax & grease remover according to instructions on the can.
- 2. Sand old finish... Water sand old finish with No. 360 paper being careful not to gouge the finish especially if it is enamel.
- Clean entire surface ... With wax & grease remover,
- 4. Apply undercoats to bare metal... See operations 4, 5, 6, 7, 8 and 9 under Schedule C.
- 5. Blow out and seal ... Spray a light coat of enamel over all cracks and crevices.
- 6. Clean entire surface... Wipe entire area with rag wetted with DXA-330 ACRYLI-CLEAN wax & grease remover.
- 7. Tack rag the job ... Use DITZLER Tack Rag DX-50 to pick up lint and dust.
- 8. Spray enamel . . . See operation 13, Schedule C.
- 9. Wheels and tires . . . See operation 14 and 15, Schedule C.

REFINISHING SCHEDULES—ACRYLIC LACQUER SYSTEMS

SCHEDULE E

ACRYLIC LACQUER OVER BARE METAL

Operation

Methods and Materials

- Remove old finish... Use one of the methods shown
- 2. Clean entire surface... Use DXA-330 ACRYLI-CLEAN wax & grease remover.
- 3. Sand the metal . . . Use 220 paper.
- 4. Remove rust . . . Use DITZLER Metal Conditioner and follow with Step 5 as soon as dry.
- Spray Primer Surfacer... Spray two or three coats of All Purpose ALE type primer surfacer on all bare metal.
- 6. Spot putty or glaze . . . Use DFL-1 Spot Putty for nicks and dents. Use DFL-40 Blue Glaze for file marks and scratches.
- Sand undercoats... Water sand with 320 paper to get a smooth surface.
- 8. Respray with primer surfacer... To cover spots sanded through to the metal.
- 9. Resand undercoats... Touch up spots with 320 paper.
- 10. Blow out all cracks . . . Use air hose.
- Clean surface... Wipe off with DXA-330 ACRYLI-CLEAN wax & grease remover to remove any hand marks, etc.
- 12. Apply DURACRYL Color ... Spray from 4 to 6 double coats depending on transparency of the color. Thin only with DURACRYL or All Purpose (DTL-876) thinner.
- 13. Sand color coat ... Water sand acrylic with 400 paper.
- 14. Touch up . . . Respray spots that have been sanded through to surfacer.
- 15. Resand color coat ... Water sand areas that have been touched up.
- 16. Compound the finish... Allow to dry a minimum of 24 hours to prevent loss of gloss after compounding. Then compound by hand with DRX-25 Polishing Compound or mechanically with DRX-16 Wheel Polishing Compound.
- 17. Polish . . . To obtain highest lustre.
- 18. Wheels . . . Spray with appropriate color in DITZCO or DELSTAR enamel.
- 19. Tires . . . Use DX-9008 Black Rubber Dressing on tires and floor mats.

SCHEDULE F

ACRYLIC LACQUER OVER OLD ACRYLIC LACOUER OR ENAMELS

Operation

Methods and Materials

- Prepare old finish... Clean with DXA-330 ACRYLI-CLEAN wax & grease remover. If old finish is enamel, sand thoroughly.
- 2. Blow out cracks . . . Use air hose.
- Clean surface . . . Use DXA-330 ACRYLI-CLEAN wax & grease remover to remove hand marks, etc.
- 4. Spray surfacer on bare metal parts . . . See operations 4, 5, 6, 7, 8, 9, 10 and 11 of Schedule E.
- 5. Apply DURACRYL Color . . . Spray 4 to 6 double coats of DURACRYL color.
- 6. Sand color coats . . . Water sand with 400 paper.
- Compound color coats . . . Allow to dry a minimum of 24 hours. Use DRX-25 Polishing Compound for hand compounding or DRX-16 for Mechanical Wheel Compounding.
- 8. Polish . . . For highest lustre
- 9. Tires . . . Use DX-9008 Black Dressing on tires and mats.

HOW TO CORRECT DISTORTED PATTERN



Figure 3



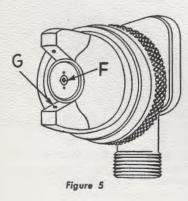
When the gun is in proper adjustment and held at the right distance from the work, the pattern should look like Figure 3, an elongated ellipse with a uniform distribution of material over the entire area.

A fan spray pattern that is heavy in the middle (like Figure 4) or has a splatter effect in a shape like either Figure 4 or Figure 3, indicates that the atomizing pressure is not sufficiently high. Increase pressure at air transformer.





Figure 4



Dry material in a wing port "G" (Figure 5) restricts air passage through it and produces a crescent shaped pattern like Figure 7. To correct, dissolve material in the wing port with thinner, and clean out the port, but do not use metal instruments.



Figure 7

A split spray (Fig. 6) or one that is heavy on each end of a fan pattern and weak in the middle is usually caused by too high an atomizing air pressure. Reduce pressure at air transformer.

Where the air pressure is correct, a split may be caused by attempting to get too wide a spray with thin material. To correct, open material control "B" (Figure 1) by turning to the left. At the same time turn spray width adjustment "A" to right. This reduces width of spray but will correct split spray.





Figure 6

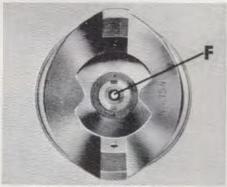


Figure 8

A spray pattern heavy and wider, at either top or bottom (See Figure 9), indicates that material has dried around the outside of the fluid tip at position marked "F" (Figure 8), thus restricting the passage of the atomizing air at this point. Remove air cap and fluid tip and clean with thinner. A loose air cap will also cause this condition. Also check wing ports.



Figure 9

SAND SCRATCHES...HOW TO AVOID THEM



Start With Smooth Metal

The first requisite for a good paint job is smooth metal. The metal finisher or bump man can make it doubly hard for the painter if the metal is not properly fin-ished. The best practice is to use a 24 disc for restoring the contours and finish off the metal with 50 and then 80 paper. Even this method will not eliminate some sources of sand scratches because there are often little burrs or fins on the crests of the scratches, and these cause uneven shrinkage in the surfacer coat-see figure No. 54. To eliminate them, sand with 220 paper to round off the tops of these crests —see figure No. 55. Don't worry about getting the metal too smooth. Sanded metal which looks and feels smooth will still have plenty of "tooth" for the surfacer.



Figure 54—Enlarged section of metal sanded with No. 24 grit and followed with No. 50 grit still shows small combs or burrs on top of ridges.



Figure 55—Light scuffing with No. 220 paper will remove combs and will round tops of ridges eliminating much trouble with sand scratches.

Spray Two or Three Coats of Surfacer

Modern primer surfacers will do a lot of filling in one coat. It isn't hard to understand, however, that the thicker the coat the slower the drying, so spray two or three coats with five to fifteen minutes between them, and you will actually save time over spraying a real heavy coat and having to wait a long time for it to dry through. It is difficult to tell when a thick coat is really dry because the surface will appear to be dry while there is still a lot of thinner trapped below the surface and shrinkage is still going on. Where the imperfections or scratches in the metal are unusually deep, the use of a lacquer glazing putty will save time in getting a smooth surface.

Use Fine Paper For Sanding Primer Surfaces

After the primer-surfacer has dried thoroughly, the next thing to consider is the sanding operation. The use of coarse sandpaper, such as 220 or 240 will produce scratches in the primer-surfacer that will be hard to fill by the final finish coats. With the present day surfacers, sanding is so easy it is not necessary to use paper coarser than 320 to 360.

In order to get the smoothest finish, the use of 400 paper as a final sanding is recommended.

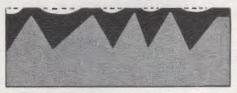


Figure 56—Primer surfacer applied over sanded metal similates the contours of the metal, shrinkage being more over deeper fills.

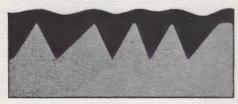


Figure 57—If sanded level before all solvents have evaporated further evaporation of solvents will cause a shrinkage leaving furrows over sand marks in metal.

What Happens When Acrylic Lacquer or Lacquer Color is Applied

When a lacquer or acrylic lacquer finish coat is used the thinner penetrates and swells the undercoat and where the undercoat is the heaviest, as in the deep scratches, the swelling will be the greatest. If the color is compounded and polished before all of the thinner has evaporated from the primer-surfacer, there will be further shrinkage at the point of deepest fill. Therefore, it is important to give finish coats plenty of dry time before sanding and polishing.

The danger of sand scratch swelling is greatest on the feather edge. The spraying of a light fog coat for the first color coat keeps the solvent content on the low side when it first comes in contact with the old feather-edged finish.

It will be seen from the diagrams—figures 58, and 59, that the shrinkage and swelling of lacquer undercoats is an important point to consider in the elimination of sand scratches. If the undercoat is not allowed to dry down to its final position before sanding or applying finish coats, scratches are likely to result.

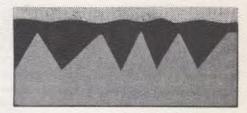


Figure 58—The thinner in the lacquer or acrylic color swells primer surfacer.

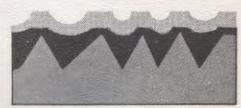


Figure 59—If color coat is polished before all thinner evaporates from primer surfacer and color it will shrink back showing sand scratches.

Scratches in the Finish Coat

Scratches can be produced on the final finish by the use of coarse rub-

bing compounds. There are a number of grades of rubbing compounds on the market, some contain a coarse abrasive and others a fine abrasive and some contain both fine and coarse. The finer the abrasive used, the less the scratching and the higher the gloss. Avoid compounds with variable sizes of abrasives and choose one that is uniformly fine. DITZLER DRX-16 Power Buffing Compound is a fast cutting compound that is very uniform, but for extremely fine work DRX-25 Polishing Compound will produce a very high lustre.

Problems in Refinishing Over Old Lacquers and Acrylic Lacquer

In spot repair work the old finish's should be featheredged around the bare metal with fine sandpaper 360 to 400. Rubbing compounds may also be used to produce even a smoother edge. If rubbing compounds are used, it is always good practice to clean up with a solvent such as DXA-330 ACRYLI-CLEAN wax and grease remover before applying undercoats because rubbing compounds usually contain some lubricant.

Old lacquer and acrylic lacquer surfaces should not be sanded with paper coarser than 360. When such surfaces are sanded with sandpaper that is too coarse, the solvents penetrate the sand scratches and cause a swelling of the old film. Scratches can be eliminated by the use of a sealer over the old lacquer or acrylic. If this is allowed to dry thoroughly, the thinners in the color coat will not penetrate and swell the old finish.

Select the Right Thinner

There are many thinners on the market—some with strong solvents, some with weak solvents, some with fast solvents, and some with slow solvents, and some with hardly any solvents at all.

If you are doing a spot job on enamel, it is best to use a thinner carrying a good percentage of slow solvents so that the overspray will blend and flow into the surrounding enamel.

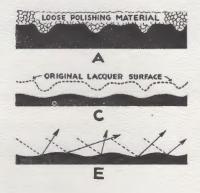
If you are repainting an old lacquer or acrylic lacquer job, you should not use a thinner with solvents that are too strong because it will cause the old finish to swell and again you will be reproducing the sand scratches.

The temperature in your shop, and also the humidity of the air, are determining factors in the evaporation of thinners. On a cold, humid day, the thinners will stay in the freshly sprayed film longer and will have a tendency to penetrate the old paint. On a hot, dry day they will evaporate so fast that not much penetration will take place unless you spray a very wet

Sand Scratches in Alkyd Enamel Systems

Enamels dry with such a high lustre that scratches otherwise hardly noticeable will show up. Even more care must be exercised, therefore, to get a smooth undercoat job. Careful water sanding and the use of fine grits for the final operation are a must if you want a job free from sand scratches. These are the factors that influence sand scratches, and if you will keep them in mind you will save many headaches:

- 1. Grade of sandpaper.
- 2. Thickness of coats.
- 3. Reduction with thinner.
- 4. Kind of thinner.
- 5. Drying time between coats.
- 6. Temperature and humidity of shop.
- 7. Kind of old finish.



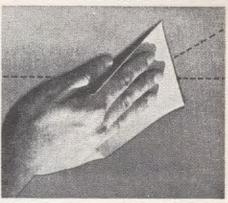


Figure 60

Sanding For Greater Lustre

The use of high gloss thinners like DTL-113 in lacquer and DTA-105 in DURACRYL acrylic lacquer will produce a high lustre finish quite free of orange peel. The use of DRX-25 Polishing Compound or DRX-16 Buffing Compound will quickly bring the finish to a high gloss.

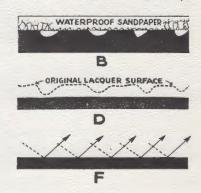
If orange peel is prominent, however, sanding the color will bring the gloss up with less work than compounding alone.

Orange peel and other irregularities in the finish color diffuse the light rays as in "E" figure 61, causing a dull appearance. When there is an even reflection as in "F", the greatest possible brilliance results.

It will be noted that in "A" of figure 61, the compound sinks into the depressions, giving some cutting action there as well as on the high spots and ridges. In "B", however, using sandpaper, the cutting area is only on the high spots bringing them down to the level of the low spots faster.

The recommended procedure is to first use 400 or, better yet, 600 paper and water sand and then finish off with compound.

Sanding should be done in one direction and preferably with a sanding block (rubber or felt).



Blushing

(Acrylics & Lacquer)

Appearance

The finish turns milky looking.

a. Fast thinners in high humidity.

b. Unbalanced thinners.

c. Condensation on old surface.

a. Add retarder to thinner and respray.

b. Sand and refininsh.

Prevention

a. Keep paint and surface to be painted at room temperature.

b. Select a good quality thinner. c. Use a retarder or reflow sol-

c. Use a retarder or reflow solvent when spraying in high humidity and warm temperatures.

Runs

Appearance

a. Running of wet paint film in rivulets.

Cause

a. Over reduction.

b. Extra slow thinning solvents.

c. Cold surface being painted.

d. Improperly cleaned surface. Remedy

Wash off or sand and refinish.

Prevention

- a. Clean surface thoroughly.b. Do not paint over cold surface.
- c. Reduce as recommended using specified thinning solvents.



Figure 104-Runs and sags

Sags

Appearance

Partial slipping of paint but much heavier thickness in the form of curtains.

Cause

- a. Under reduction.
- b. Applying successive coats without allowing dry time between coats.

PAINTING TROUBLES ...

c. Low air pressure (lack of atomization).

d. Gun too close.

e. Gun out of adjustment.

Remedy

Sand or wash off and refinish.

Prevention

a. Reduce materials as recommended.

b. Use proper thinning solvent.

c. Adjust air pressure and gun for correct atomization.

d. Keep gun at right distance from work.

Pitting and Cupping

Appearance

a. Like dry spray or over spray.

b. Small craters.

Cause

Same as Blistering (except blisters have broken).

Remedy

Same as Blistering.

Prevention

Same as Blistering.



Figure 105-Pitting or Cupping

Orange Peel

Appearance

- a. Ball peen hammer dents in paint.
- b. Resembles the skin of an orange.

Cause

a. Under reduction.

b. Improper thinning solvent.

- c. Lack of proper flow.
- d. Surface drying too fast.
- e. Improper air pressure.

Remedy

a. (Enamel) Rub surface with a mild polishing compound. (Lacquer) Sand or use rubbing compound. b. Sand and refinish.

Prevention

a. Proper air and gun adjustment.

b. Proper thinning solvents.



Figure 106-Orange Peel

Wrinkling

Appearance

a. Puckering of enamel.

b. Prune skin effect.

c. Loss of gloss as it dries (minute wrinkling not visible to the naked eye).

Cause

a. Under reduction or air pressure too low causing excessive film thickness.

b. Excessive coats.

c. Fast reducers creating overloading.

d. Surface drying trapping solvents.

e. Fresh film subjected to heat too soon.

Remedy

Break open top surface by sanding and allow to dry thoroughly, then sand completely and refinish.

Prevention

a. Reduce enamels according to directions.

b. Apply as recommended.

c. Do not force dry until solvents have flashed off.

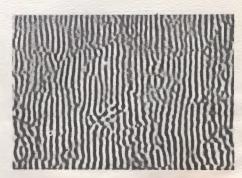


Figure 107-Wrinkling (Enlarged).

... Their CAUSES and REMEDIES

Wet Spots

Appearance

Discolored and/or slow drying spots of various sizes.

Cause

a. Improper cleaning.

b. Excessively heavy undercoats not properly dried.

 Sanding with gasoline or other chemically contaminated solvent.

Remedy

Sand or wash off thoroughly and refinish.

Prevention

a. Clean surface with DX-440 Wax and Grease Remover.

b. Allow undercoats to dry thoroughly.

c. Use only water as a sanding lubricant.

Dulled Finish

Appearance

Gloss retards as film dries.

a. Compounding before thinner evaporates.

b. Using poorly balanced thinner or reducer.

c. Poorly cleaned surface.

d. Top coats put on wet subcoats. e. Washing with caustic cleaners.

f. Inferior polishes.

Remedy

a. Allow finish to dry hard and rub with a mild rubbing compound.

b. Sand and refinish.

Prevention

a. Clean surface thoroughly.b. Use recommended materials.

c. Allow all coatings sufficient drying time.

Stone Bruises

Appearance

Small chips of paint missing from an otherwise firm finish.

Cause

a. Flying stones from other vehicles.

b. Impact of other car doors such as in a parking lot.

Remedy

a. Sand and feather affected areas and refinish.

b. Lacquer or Acrylic-Wash with Featheredger and refinish.



Figure 108-Stone Bruises.

Undercoats Showing

Appearance

Variations in surface color.

a. Insufficient color coats.

Repeated compounding removes layers of top coats.

Remedy

a. Sand and refinish.

Water Spotting

Appearance

a. Dulling of gloss in spots.

b. Small circles imprinted in finish.

Cause

 a. Spots of water drying on finish that is not thoroughly dry.

b. Washing finish in bright sunlight.

Remedy

a. Wash surface with cold water.

b. Wash with wax and grease remover.

c. Compound with a mild polishing compound (DRX-25).

d. Sand and refinish.

Prevention

a. Keep fresh paint out of rain.

b. Do not allow water to dry on new finish. (Wipe off)



Figure 109-Water Spotting.

Alcohol Spots

(Lacquer)

Appearance

Finish around radiators bleaching out in spots.

Cause

a. Radiator boiling over.

 Anti-freeze spilling on paint surface.

Remedy

a. Sand and refinish.

Alkali and Acid Spotting

Appearance

Spotty discoloration of the surface. (Various pigments react differently when in contact with these chemicals.)

Cause

Chemical change of pigments resulting from atmospheric contamination, some of these are, cement dust, chemical fumes, bird dung, tree sap, road tars, etc.

Remedy

a. Compound with a mild polishing compound (DRX-25).

b. Sand and refinish.

Prevention

 Keep affected finish away from areas where atmospheric conditions are contaminated.

 b. Change to color not so subject to discoloration by chemicals.

Pin Holes or Blistering Over Plastic Filler

Appearance

a. Pin point holes in finish.

b. Air bubbles raising the film causing craters when erupted.

Cause

a. Excessive amounts of hardeners.

b. Excessive vigorous stirring or beating in of hardener.

Kemedy

a. Sand thoroughly and recoat with a glaze coat of Body Filler.

b. Feather and re-surface.

Prevention

a. Mix in recommended quantities of hardeners.

Stir mildly, the hardener goes in quickly.

c. Work out possible air traps when applying filler.

Plastic Filler Not Drying

Appearance

a. Stays soft after applying. Cause

a. Insufficient amount of hardener.

b. Hardener exposed to sunlight.

a. Scrape off.

b. Get new supply of hardener.

c. Add sufficient amount of hard-