Angel Chrome Starter Kit Instructions

Starter Spray Chrome Kit

A1120

ANGEL CHROME

Kit contains

Tools

- Pump Spray Assembly
- 1.5 Liter Spray Bottle
- Measuring Cylinder, 500 mL
- (3) Measuring Cylinders, 25 mL
- Resin Measuring Cup + Lid, 1 pint
- (2) Spray Bottle, High Volume Trigger, 16 fl oz
- Crown Spra-Tool
- Respirator Set

Supplies

- Angel Chrome Silver 120 mL
- Tin Activator, 60 mL
- Prep Coat, 120 mL
- Dawn Cleaner
- Base Coat Resin, 1 qt.
- Chrome Tinted Top Coat Resin, 1 qt.
- Universal Hardener 8 oz
- Large Waste Treatment Kit
- Silver Remover, 60 mL
- Gloves Nitrile X-Large, 6 pairs
- Crown Spra-Tool Refill Canister
- (3) White “Speed Shapes” for practice

You supply

- The objects you want to spray chrome
- A few gallons of steam-distilled or de-ionized water
- Two large buckets to process mirror waste water
- A clock or timer with a second hand
- A gram scale to measure the Base Coat/Top Coats
- A well-ventilated work space away from children

Spray Chrome is not paint. It is a chemical process.

These procedures are *important*

- **Cleanliness -** The surface must be absolutely clean, including the edges.
- **Careful measurements -** Too much or too little can make a big difference.
- **Distilled Water -** Use steam distilled, de-ionized or reverse osmosis water. The minerals in tap water or other types of bottled water will ruin the mirror. For a simple way to test your water, see our Knowledge Base page on *Water Purity*.
- **Timing -** Use a timer to time the tinning process.
- **Location -** Mirroring is a wet, odorous process and overspray of the chemicals will happen. Choose your location with this in mind. Basements and garages are better than living areas.
- **Temperature –** The process works best at room temperature – 70 °F (20 °C)
- **Concentration** - Arrange your time so you can work without interruption.

SAFETY

- **Storage -** Store all chemicals in a cool, dark place away from children and pets.
- **Breathing -** Silver mist and Base and Top Coat solvents are not good to breathe. Our Kit includes an NIOSH approved respirator. Be sure to adjust the mask to fit firmly but comfortably to your face.
- **Staining -** Silver creates brown stains on your skin and work surface. which can be removed with Silver Remover if you work quickly. Wear rubber gloves and cover your bench with several layers of newspaper.
- **Disposal -** The silvering chemicals contain heavy metals. Follow the instructions in your Waste Treatment Kit to keep heavy metals *out of the public sewer system.*

A Few Rules about Spray Chrome

1. The silver chemistry does not work when applied to a bare metal surface. Metal surfaces must be coated with metal primer and Base Coat before the silvering process will work.
2. Silver does not make a dull surface reflective. The surface must look like glass if you want the silver to look like a mirror. One coat of Base Coat provides the glassy surface you need.
3. The mirroring process works better with slow, gentle passes- speed is the enemy of perfection.
4. Color is subjective. Colors look different in different light. Color is best judged outdoors in full sunlight. Our tinting recommendations are just recommendations. Clear Top Coat is colorless so you can use your practice pieces to create a tinting formula that looks right to you. Our Chrome Tinted Top Coat is what we believe works best for a chrome finish in one coat.

Skill is a combination of knowledge and experience. Plan to make numerous practice pieces before you try to spray chrome your masterpiece.

Working with Our Base & Top Coats

- The Resin for our Base and Top Coats is NOT the same. Do not interchange them in the process.
- This kit comes with Pre-tinted Top Coat. We also have available Clear Top Coat that you can combine with our Candy Colors.
- Both the Base and Top Coat dry tack free in 5 to 15 minutes depending on temperature and humidity. Allow it to cure for 24 hours before silvering. Allow Top Coat to cure 3 days before wrapping it for shipment or subjecting it to harsh chemicals or heavy abrasion.
- For complete information on these products, see our Product Data Sheets.

Applying Base Coat

- Base Coat is supplied ready to use – *do not thin this product*. Thinning harms its gloss and durability.
- Apply *one double wet coat* base coat only. It builds quickly; a single thin coat has better adhesion than multiple coats.
- Clean your spray equipment immediately after use with clean lacquer thinner. Do not allow paint to dry in the sprayer.
- Mixed Base Coat has a pot life of 4 to 6 hours. Mix only what you need for one day. Pour unused product into a paper cup and allow to dry hard. You can then dispose of it in the solid trash.

Silvering Base Coat

- Allow Base Coat to cure for at least 12 to 24 hours before silvering. Leaving it longer – even days or weeks – is fine.
- Wash the dried Base Coated surface well with a clean, gloved hand, Dawn Cleaner and warm tap water before silvering to remove accidental fingerprints and dust. Wear gloves at all times to keep the natural oils in your skin from contaminating the surface.
- Rinse off ALL of the wash water with steam-distilled, de-ionized or reverse osmosis water and plan to begin silvering over this clean, wet surface.

Using the Pump Spray Assembly

Cleaning the Bottles

Rinse the bottles with steam distilled water before adding fresh silver and reducer. If you find that you have a heavy silver deposit inside, you can clean the bottles with Silver Remover. Be sure to flush the bottles, hoses and wand at least twice with distilled water after cleaning with Silver Remover.

Pumping the Bottles

To get a good silver layer, you must spray on equal amounts of Silver and Reducer at the same time. To get an equal spray, the bottles *must be fully pressurized*. Pump each bottle until you feel firm resistance – until you cannot push the plunger more than half-way down the rod without forcing it. Do NOT force the pump.

Re-pump both bottles before you begin *each new piece*. Keeping the bottles fully pumped up is the key to getting a good silver deposit. The maximum liquid capacity for each bottle is 500ml. You must leave at least half of the space in the bottle for the pressurized air.

Release the pressure in both bottles *at the end of every day* to preserve the air and water seals. Hold the blue top firmly in one hand and unscrew the white bottle with the other hand until all the compressed air has escaped.

Shelf Life of Mixed Chemicals

Diluted Chrome Spray Silver and Reducer have a shelf life of about 1 week. Freshly mixed chemicals always work best. Do not mix up more than you can use in a few days.

Diluted Tin Activator has a shelf life of 6 to 8 hours. You must discard all of the old Tin and *mix up fresh* Tin *every day.*

Prep Coat

Add 15 ml of concentrated Prep Coat to 500 ml of Distilled Water and pour into your labeled trigger spray bottle.

Measuring Cylinders

Your kit includes three 25 ml measuring cylinders – for the Silver, the Reducer and the Prep Coat. Mark each cylinder “S”, “R” and “P” with a felt tip pen. Mark the 500 ml cylinder “DW” for distilled water.

Step-by-Step Instructions

Part 1 – Applying Base Coat

Step 1 - Set-Up Your painting Spray Area

1. Set up a “spray booth” for applying Base & Top Coats. It can be as simple as a cardboard box and newspapers to protect your bench.
2. Support the object in a way that easily allows you to turn it to view and spray all sides.
3. Ensure that the area has an active ventilation system to remove vapors. Wear your respirator to prevent breathing the vapors.

Step 2 - Clean the Object

1. Clean your object carefully with Dawn Cleaner and dry it fully. Your object must be clean and dry before applying Base Coat

Clean plastic objects with denatured or rubbing alcohol to remove any mold release from manufacturing.

Step 3 - Measure and mix the Base Coat

1. Use the measuring cup to mix and measure Base Coat by weight or volume
2. To mix 80 grams. add 1 part (i.e. 10 grams) of Universal Hardener to 7 parts (i.e. 70 grams) of Base Coat Resin.
3. Mix and pour into the plastic bottle of the Crown Spra-Tool

Step 4 - Spray on the Base Coat

1. Apply one double wet layer to all surfaces. For best results, do NOT apply a mist coat first.
2. Be careful not to have runs, sags or any dry, misted areas.

Step 5 - Clean Your spray gun

1. When you are done spraying, pour all unused material back into your resin mixing cup.
2. Pour a small amount of clean lacquer thinner (from the hardware store) into the spray bottle.
3. Aim the spray gun at the wall of your spray booth and spray out the lacquer thinner to clean the gun and spray tip. Do not allow the resin to dry in the sprayer.

Step 6 - Allow the Base Coat to Cure

Set the sprayed part in a dust free area to cure for at least 12 hours.

You can force dry it by allowing it to flash off for 10 minutes and then baking it at 140-200°F for 30 minutes. Allow it to cool completely before proceeding.

Part 2 – Mixing the Chemicals

Step 1 - Set-Up Your Silvering Area

1. Spray Chroming is a very wet process. Set up an area that is suitable for the size of the object you want to silver. Use a tray to catch the chemicals and rinse water
2. Support the object in a way the keeps it above the level of any waste chemicals that are created. Our **Bench Kit** works well for this.
3. Make sure that you can easily reach the object from all sides and be aware of overspray.

Step 2 - Measure and Mix Silver and Reducer

1. Measure out 485 ml of Distilled Water and pour it into the Silver bottle.
2. Measure out 15 ml of concentrated Silver Solution and pour it into the bottle.
3. Close the bottle tight and rock it gently to mix the chemicals.
4. Repeat this process to measure and mix the Reducer.

Step 3 - Measure and mix the Tin Activator

1. Use the syringe included with the Tin Activator to measure out 1 ml of concentrate.
2. Measure out 250 ml of distilled water.
3. Pour the water into the trigger spray bottle, add the Tin Activator and rock the bottle to mix.
4. Our high volume trigger spray bottle holds 300 ml (10 fluid ounces). Mix up fresh Tin Activator every day.

Step 4 - Measure and mix the Prep Coat

1. Measure out 10 ml of Prep Coat and pour it into your trigger spray bottle.
2. Measure out 300 ml of distilled water.
3. Pour the water into the trigger spray bottle and rock the bottle to mix.

Part 3 – Applying the Silver

Step 1 - Clean the cured Base Coat

1. Wash the surface with Dawn Cleaner, hot tap water and a newly gloved hand. Clean all the detailed areas and focus on the edges.
2. Rinse thoroughly with distilled water.

Step 2 – Flame the basecoat (optional)

We recommend flaming for car parts and other objects that will receive hard use. Our Prep Coat allows you to chrome objects successfully without flaming.

For detailed instructions, see **Flaming the Base Coat** in the Knowledge Base section on our website.

To test your flaming process, spray the surface with distilled water. If it beads up anywhere, flame the area again.

Step 3 – Spray on Prep Coat

1. Spray the clean, wet object all over with diluted Prep Coat.
2. *Do **not** rinse* off the Prep Coat before you activate the surface. Allow the Prep Coat and Tin Activator to mix together on the surface.

Step 4 – Spray on Tin Activator

1. Spray the surface thoroughly with diluted Tin Activator.
2. Wait about 30 seconds for the Tin to attach.

Step 5 – Rinse off Tin Activator

1. Rinse off all of the unused Tin Activator and Prep Coat with distilled water.

** You will not be able to rinse off the Tin layer. Extra Tin Activator left on the surface will stain the silver. Be sure to rinse out any crevices, inside corners and holes.

Step 6 - Pump Up the Bottles

Grasp the bottle firmly and pump the plunger until you cannot press the plunger more than half-way down.

Be sure to pump up both bottles equally. Do not over pump.

Step 7 - Silver the Object

1. Hold the wand about 1 foot away from the surface.
2. Spray on a single, light, even layer of silver.
3. Wait 10 seconds for the silver to develop and then spray again.
4. Examine the silver to see if a third layer is required.

Spraying on too much silver can produce a white, cloudy surface that can only be repaired by cleaning the piece with Silver Remover and re-silvering it. Light passes with the silver are best.

Step 8 - Rinse the Silver

Rinse the silver very thoroughly with distilled water.

You should be able to touch the silvered surface carefully with clean gloved hands without harming the silver.

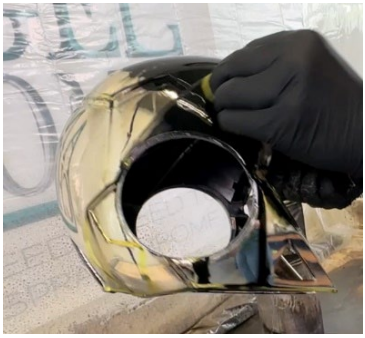
Step 9 - Dry the Silver

Set the object aside to air dry completely. Do not allow the water to dry in puddles.

Use a heated fan or hair dryer to speed up the process

The silver must be completely dry before applying the Top Coat

Fixing a mistake



If you decide that the silver layer is not good enough, you can easily remove it with Silver Remover.

Mix equal amounts of Silver Remover Parts A and B in a separate container and rub the mix on the silver with a cotton ball.

Resilver starting with Step 1.

Part 4 – Applying the Top Coat

Silver metal has an optical property that makes it appear pale gold when it is covered with a clear film. To preserve the white-blue appearance of pure silver, the top coat is pre-tinted with transparent dye.

Step 1 – Mixing the Top Coat

1. Use the measuring cup in your Kit to measure Base Coat by weight or volume
2. Add 1 part of Universal Hardener to 7 parts Top Coat Resin. (This is the same as mixing the Basse Coat.)
3. Mix together and pour into the plastic bottle on the Crown Spra-Tool.

Step 2 - Apply the Top Coat

1. As with the basecoat, apply one double wet layer to all surfaces. For best results, do NOT apply a mist coat first.
2. Apply layers of Clear Top Coat to increase durability if desired.

Part 5 – Clean Up

Step 1 - Clean your spray gun

1. Pour a small amount of clean lacquer thinner (from the hardware store) into the spray bottle.
2. Aim the spray gun at the wall of you spray booth and spray out the Lacquer thinner to clean the gun and spray tip. Do not allow the Paint to dry in the sprayer.

It is almost impossible to remove dried resin/hardener mix from a spray gun.

Step 2 - Process the Waste Water

Empty the waste chemicals into a waste bucket. Follow the instructions in your Waste Treatment Kit.

It is *irresponsible and potentially illegal* to pour heavy metal waste into the public sewer system.

NOTE: Our Waste Treatment Clay binds to the heavy metals in the waste water which allows you to purify the waste. Prep Coat leaves the purified water blue-green. It is safe and legal to pour the clarified blue-green water down the drain.

Troubleshooting Guide for Spray Chrome

How to fix any of these problems: Clean off all of the silver with Silver Remover and start over by re-cleaning and re-tinning the piece. Silver Remover will not harm your base coat, paint, plastic or glass. Be sure to rinse off *all* of the Silver Remover with distilled water.

Appearance	Cause	Solution
Gray and speckled	The surface did not "wet" evenly and so the Tin did not deposit evenly	Be sure that the surface is 'chemically' clean. Apply a generous amount of diluted Prep Coat and apply the Tin directly over the Prep Coat. Prep Coat allows the Tin to attach firmly to the surface. Read Flaming the Base Coat page in our Knowledge Base section.
Matte white areas	Too much silver	Hold the wands at least 1 foot away from the surface and spray light, even layers. Rinse very well after silvering. Dilute the Silver and Reducer by using 15 ml in 1000 ml instead of 30. This works well in warm environments.
Dark or gray areas	Not enough silver	Examine the piece from all sides in good light and spray a small amount of silver on the dark areas before you dry it.

Yellow or brown stains	Too much Tin Activator	Rinse off the Tin very thoroughly. You will not be able to rinse off the sensitizing layer that attaches to the surface.
Blue areas	Not spraying equal amounts of chemicals	Pump up both bottles fully and equally. Be sure you have mixed the chemicals properly.
Thin and gray	Too little Tin, old Tin or bad water	If the Tin looks yellow, it is timed out. Use fresh, clear Tin Activator. See the Water Purity page in the Knowledge Base section of our website for a simple way to test the purity of your water
Matte gray all over	Non-glossy substrate	The surface must look like glass if you want the silver to look like a mirror. No amount of silver will make a matte surface look shiny. Angel Chrome Base Coat provides a glass-like surface.
Pale gold color after top coating	You used a non-tinted Top Coat	This is a known problem with all clear lacquers. To counteract this effect, you need to use Chrome Tinted Top Coat.

ANGEL CHROME

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