

## HANDHELD UNIT

Training Manual





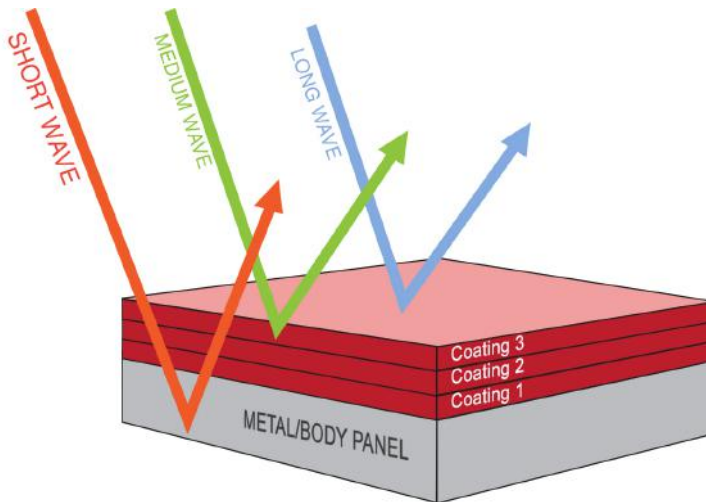
**Faster Repairs. Better Results.**

# CONTENTS

How it Works . . . . .	3
Handheld Unit . . . . .	4
Powering On . . . . .	5
Overview . . . . .	6
Using REVO Handheld Unit:	
Body Filler . . . . .	7
Primer Surfacer . . . . .	8
Basecoat . . . . .	9
Clearcoat . . . . .	10
Single Stage Paint . . . . .	11
Plastic Repair . . . . .	12
Other Uses . . . . .	13
Maintenance . . . . .	14
Parts Breakout . . . . .	15

## HOW IT WORKS

REVO Systems use short wave infrared light to cure coatings from the inside out. Traditional methods of curing use medium or long wave infrared. Medium and long wave infrared light cures from the outside in — which can trap solvents or only cure the surface — leaving coatings wet on the inside. Short wave differs from these other methods by penetrating the applied coating and heating the substrate beneath, forcing all of the solvents out and resulting in a uniform and complete cure. Since it works from the inside out, REVO can cure up to three full coats of a product in one curing cycle with no need to cure between coats. Additionally, the infrared technology works on nearly all substrates including steel, aluminum, fiberglass, plastic, carbon fiber, etc.



## HANDHELD UNIT



Main Power Switch

Infrared Bulb

Handle



Heat Shield

Parameters Decal



## POWERING ON

First time Powering On the REVO Handheld Unit:

1. Inspect the bulb and unit to ensure there was no damage during shipping.
2. Plug the unit into a 110V outlet rated for at least 10 amps.
3. Flip the power switch to the on position. The indicator light will light up red and the lamp will turn on.



**Note:** If any of these things aren't working, contact GFS or your local distributor for support.

## OVERVIEW

### Using the REVO Handheld Unit

- In order to use REVO on a top coating, all under coatings should also be cured with REVO before applying the top coat. If you don't use REVO to cure your primer, you shouldn't use REVO to cure your basecoat. If you don't use REVO to cure your basecoat, you shouldn't use REVO to cure your clearcoat.
- **Coverage Area:** The Handheld unit is best suited for small repairs and spot repairs. The unit works best on areas under 4 square feet in area.
- **Incompatible Products:** 1K products are not intended to be heated and do not work well with REVO with the exception of basecoat. Basecoat works fine but avoid 1K putties and aerosol primers.
- **Mixing on a Scale:** All sprayable coatings should be mixed on a scale to ensure accurate ratios. Too much hardener will not speed up the curing process, it will only cause failure of the products.
- **No Accelerators:** Do not use any accelerators. REVO cures from the inside out and accelerators will skim the surface of the coating. When the REVO pushes out the solvents it can cause solvent popping.
- **Hardener and Reducer Selection:** Use only medium or slow hardeners and reducers. Fast hardeners will cause the same issues as accelerators.
- **Cure Times Are Adjustable:** The REVO comes with a decal that lists times and temperatures that are safe for a wide range of products. Contact GFS to get product specific recommendations. Some products can withstand greater temperatures and cure in shorter times.
- **Checking Temperature:** Infrared thermometers can give inaccurate readings due to the interference from the infrared light produced by the REVO. Check temperatures on the backside of the panel or in between flashes of infrared light.

# BODY FILLER

Using the REVO Handheld Unit for Body Filler:

1. Mix and apply the body filler.
  - **Be sure to mix your body filler properly!** Many people put too much hardener in the filler. Follow the directions on the can. Too much hardener can cause pinholes or bubbling.
  - Automix filler systems are recommended to ensure mixing accuracy.
  - Always use two part fillers and putties. One part glazing putties and fillers are not compatible with REVO.
2. Turn on the Handheld and wave the unit back and forth over the repair area at a distance of 2 inches from the surface until target temperature is achieved (140° F).
3. Move unit 2-3 feet away from the surface and continue to wave back and forth to maintain the target temperature for the recommended amount of time.
4. The temperature should be constantly monitored with an infrared thermometer.
5. The target time and temperatures are listed on the decal on the machine (picture 2).
6. When the panel has returned to ambient temperature you can begin sanding the body filler.
  - Cooling can be accelerated by using a blow gun to force air over the panel.



Recommended Parameters	MATERIAL	CURE		These are ONLY Recommendations  Parameters could vary depending on paint brand, film thickness, climate, substrate material, etc.
		Time (Min.)	Temp. (°F)	
	Metallic Filler (Putty)	1	120 - 130	
	Primer	2 - 3	170 - 190	
	Base Coat	1	130 - 140	
	Clear Coat	3	185 - 200	

# PRIMER SURFACER

Using the REVO Handheld Unit for Primer Surfacers:

1. Mix and apply the Primer Surfacers.
  - **Always use slow or medium hardener and reducers. Do not use fast products.**
  - Mix primer on the scale to ensure proper mixing.
  - You can use the REVO between coats to speed up flash time.
2. Turn on the Handheld and wave the unit back and forth over the repair area at a distance of 2 inches from the surface until target temperature is achieved (185° F).
3. Move unit 2-3 feet away from the surface and continue to wave back and forth to maintain target temperature for the recommended amount of time.
4. The temperature should be constantly monitored with an infrared thermometer.
5. The target time and temperatures are listed on the decal on the machine (picture 2).
6. When the panel has returned to ambient temperature you can begin sanding the primer.
  - Cooling can be accelerated by using a blow gun to force air over the panel.
6. If re-priming is needed after sanding, primer can be reapplied immediately and the same curing procedure should be followed.



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		Time (Min.)	Temp. (°F)	
	Metallic Filler (Putty)	1	120 - 130	
	Primer	2 - 3	170 - 190	
	Base Coat	1	130 - 140	
	Clear Coat	3	185 - 200	



# BASECOAT

Using the REVO Handheld Unit for Basecoat:

1. Apply all coats of basecoat per manufacturer's recommendations.
  - Drying with REVO between coats is not required, but can be done to speed up flash times.
  - For tri-coats: Dry with REVO after last coat of basecoat, and again after last coat of midcoat.
2. Turn on the Handheld and wave the unit back and forth over the repair area at a distance of 2 inches from the surface until target temperature is achieved (140° F).
3. Move unit 2-3 feet away from the surface and continue to wave back and forth to maintain target temperature for the recommended amount of time.
4. The temperature should be constantly monitored with an infrared thermometer.
5. The target time and temperatures are listed on the decal on the machine (picture 2).
6. When the panel has returned to ambient temperature you can begin applying clearcoat.
  - Cooling can be accelerated by using a blow gun to force air over the panel.
  - If nibbing or any additional coats of base are needed, reapply basecoat and follow the same drying procedure.

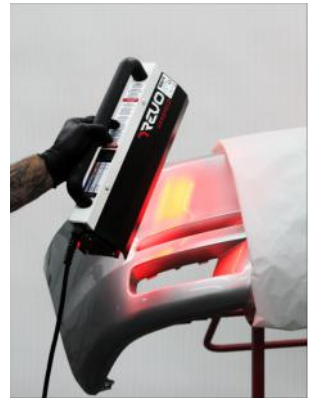


Recommended Parameters	MATERIAL	CURE		These are ONLY Recommendations  Parameters could vary depending on paint brand, film thickness, climate, substrate material, etc.
		Time (Min.)	Temp. (°F)	
	Metallic Filler (Putty)	1	120 - 130	
	Primer	2 - 3	170 - 190	
	Base Coat	1	130 - 140	
	Clear Coat	3	185 - 200	

# CLEARCOAT

Using the REVO Handheld Unit for Clearcoat:

1. Mix and apply all coats of clearcoat per manufacturers recommendations.
  - There is no need to cure with REVO between coats.
  - **Only use slow or medium hardeners and reducers!**
  - **Be sure to use a “Baking Clearcoat.”** Air dry clears are not designed to handle heat and curing them with REVO could result in solvent popping or bubbling.
2. Turn on the Handheld and wave the unit back and forth over the repair area at a distance of 2 inches from the surface until target temperature is achieved (200° F).
3. Move unit 2-3 feet away from the surface and continue to wave back and forth to maintain target temperature for the recommended amount of time.
4. The temperature should be constantly monitored with an infrared thermometer.
5. The target time and temperatures are listed on the decal on the machine (picture 2).
6. When the panel has returned to ambient temperature you can begin assembling parts or start the buffing process. Cooling should not be accelerated, let it cool naturally.



Recommended Parameters	MATERIAL	CURE		These are ONLY Recommendations  Parameters could vary depending on paint brand, film thickness, climate, substrate material, etc.
		Time (Min.)	Temp. (°F)	
	Metallic Filler (Putty)	1	120 - 130	
	Primer	2 - 3	170 - 190	
	Base Coat	1	130 - 140	
	Clear Coat	3	185 - 200	

# SINGLE STAGE PAINT

Using the REVO Handheld Unit for Single Stage Paint:

- Mix and apply all coats of the single stage paint per manufacturers recommendations.
  - There is no need to cure with REVO between coats.
  - Only use slow or medium hardeners and reducers!**
- Turn on the Handheld and wave the unit back and forth over the repair area at a distance of 2 inches from the surface until target temperature is achieved (185-200° F).
- Move unit 2-3 feet away from the surface and continue to wave back and forth to maintain target temperature for the recommended amount of time.
- The temperature should be constantly monitored with an infrared thermometer.
- Treat single stage paint like clearcoat. The target time and temperatures are listed on the decal on the machine (picture 2).
- When the panel has returned to ambient temperature you can begin assembling parts or start the buffing process. Cooling should not be accelerated, let it cool naturally.



Recommended Parameters	MATERIAL	CURE		These are ONLY Recommendations  Parameters could vary depending on paint brand, film thickness, climate, substrate material, etc.
		Time (Min.)	Temp. (°F)	
	Metallic Filler (Putty)	1	120 - 130	
	Primer	2 - 3	170 - 190	
	Base Coat	1	130 - 140	
	Clear Coat	3	185 - 200	

## PLASTIC REPAIR

Using the REVO Handheld Unit for Plastic Repair:

1. Turn on the Handheld and wave the unit back and forth over the repair area at a distance of 2 inches from the surface until target temperature is achieved (200-225 degrees Fahrenheit). Plastic parts become very malleable at this temperature.
2. Push out any major dents and continue to warm the plastic to relieve any stressed areas.
3. The temperature should be constantly monitored with an infrared thermometer.
4. Overheating of the plastic can warp, damage or melt it beyond repair.
5. Follow all the curing and cooling procedures listed for the other products used to finish the plastic repair.

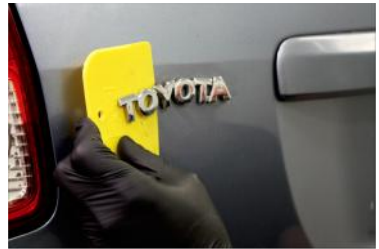


## OTHER USES

Using the REVO Handheld Unit for Other uses:

1. There are several other uses for the Handheld unit. (Contact GFS for product specific recommendations)

- A second type of clearcoat or primer
- Plastic repair material
- Seam sealers
- Rock or chip guard
- Decal removal
- Emblem removal
- Soft set glass removal
- PPF removal
- Panel bond adhesive



2. A safe temperature to be used over any already cured paint is around 200 degrees Fahrenheit. This is a good starting point for any of the procedures listed on this page. Temperature can be gradually increased from there if needed.



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# MAINTENANCE

## 1. Cleaning the bulbs and machine

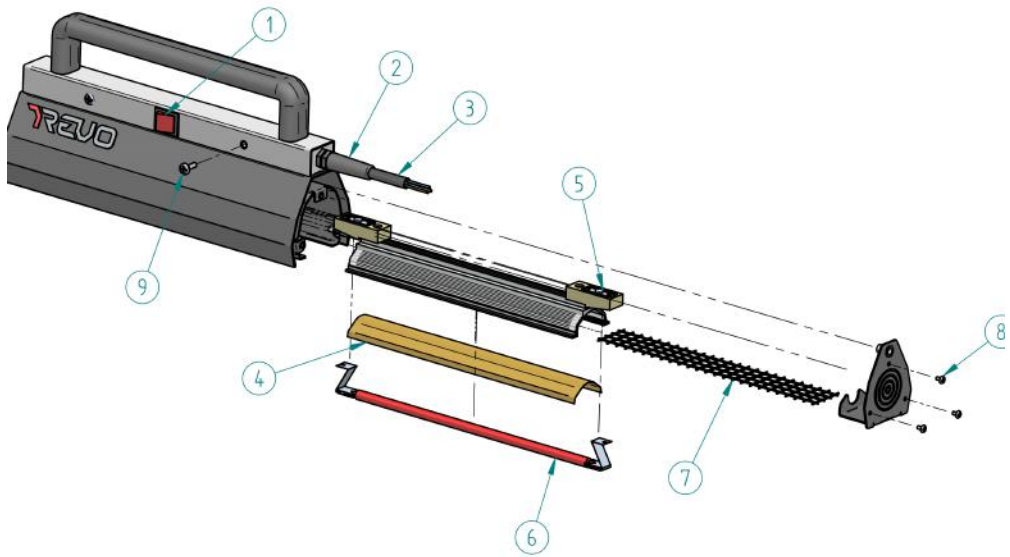
- The machine can be cleaned with compressed air and mild detergents when dirty
- Blow off bulb with compressed air daily
- Mild solvents and detergents can also be used to clean bulbs of overspray when needed

## 2. Changing bulbs

If a bulb is broken contact GFS or your distributor for replacement parts. They will provide instructions for changing a bulb (it is very simple)

## 3. Replacement parts

Available from GFS or your local distributor, see parts breakout on the following page.



Position	Code	Description
1	8109266	SWITCH ON/OFF
2	8172363	CABLE CLAMP
3	8172108	CABLE SJT 3CAWG16
4	8136152	REFLECTIVE FOIL IR 1KW
5	296350	CERAMIC LAMP HOLDER
6	332734	LAMP 1KW 110V 12" LENGHT FOR UNITS IR110
7	352207	GRILL UNITS IR110
8	8100828	UNI7687 SCREW TCB 4X10 STANDARD
9	8115776	UNI7687 SCREW TCB CROCE 5X16 ZNT



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