Automatic Battery Charger

1. IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

1.1 SAVE THESE INSTRUCTIONS- This manual contains important safety and operating instructions.
1.2 This charger is not intended for use by children.
1.3 Do not expose the charger to rain or snow.
1.4 Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock or injury to persons.
1.5 To reduce the risk of damage to electric plug and cord, pull by the plug rather than the cord when disconnecting charger.
1.6 An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure: The pins on plug of extension cord are the same number, size and shape as those of plug on charger. The extension cord is properly wired and in good electrical condition. The wire size is large enough for AC ampere rating of charger as specified in section 8.
1.7 Do not operate charger with damaged cord or plug - replace the cord or plug immediately.
1.8 Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
1.9 Do not disassemble charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
1.10 To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

1.11 WARNING: RISK OF EXPLOSIVE GASES.
a. WORKING IN VICINITY OF A LEAD ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.
b. To reduce risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of battery. Review cautionary markings on these products and on engine.

2. PERSONAL SAFETY PRECAUTIONS

2.1 Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
2.2 Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or

eyes.
2.3 Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
2.4 If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention immediately.
2.5 NEVER smoke or allow a spark or flame in vicinity of battery or engine.
2.6 Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
2.7 Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery. A lead-acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
2.8 Use charger for charging LEAD-ACID (STD, AGM, GEL or deep-cycle) rechargeable batteries with recommended rated capacities of 12 Ah (6V) and 22-75Ah (12V). It is not intended to supply power to a low voltage electrical system other than in a starter-motor application. Do not use battery charger for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and damage to property.
2.9 NEVER charge a frozen battery.
2.10 WARNING: This product contains one or more chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

3. PREPARING TO CHARGE

3.1 If necessary to remove battery from vehicle to charge, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
3.2 Be sure area around battery is well ventilated while battery is being charged.
3.3 Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
3.4 Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. Do not overfill. For a battery without removable cell caps, such as valve regulated lead acid batteries, carefully follow manufacturer's recharging instructions.
3.5 Study all battery manufacturer's specific precautions while charging and recommended rates of charge.
3.6 Determine voltage of battery by referring to car owner's manual and make sure that output voltage selector switch is set at correct voltage. If charger has adjustable charge rate, charge battery initially at lowest rate.

4. CHARGER LOCATION

4.1 Locate charger as far away from battery as DC cables permit.
4.2 Never place charger directly above battery being charged; gases from battery will corrode and damage charger.

4.3 Never allow battery acid to drip on charger when reading electrolyte specific gravity or filling battery.
4.4 Do not operate charger in a closed-in area or restrict ventilation in any way.
4.5 Do not set a battery on top of charger.

5. DC CONNECTION PRECAUTIONS

5.1 Connect and disconnect DC output clips only after setting any charger switches to "off" position and removing AC cord from electric outlet. Never allow clips to touch each other.
5.2 Attach clips to battery and chassis, as indicated in sections 6 and 7.

6. FOLLOW THESE STEPS WHEN BATTERY IS INSTALLED IN VEHICLE

WARNING: A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:
6.1 Position AC and DC cords to reduce risk of damage by hood, door, or moving engine part.
6.2 Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
6.3 Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has larger diameter than NEGATIVE (NEG, N, -) post.
6.4 Determine which post of battery is grounded (connected) to the chassis. If negative post is grounded to chassis (as in most vehicles), see (6.5). If positive post is grounded to the chassis, see (6.6).
6.5 For negative-grounded vehicle, connect POSITIVE (RED) clip from battery charger to POSITIVE (POS, P, +) ungrounded post of battery. Connect NEGATIVE (BLACK) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
6.7 When disconnecting charger, turn switches to off, disconnect AC cord, remove clip from vehicle chassis, and then remove clip from battery terminal.
6.8 See Operating Instructions for length of charge information.

7. FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE VEHICLE

WARNING: A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:
7.1 Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has a larger diameter than NEGATIVE (NEG, N, -) post.
7.2 Attach at least a 24-inch-long 6-gauge (AWG) insulated battery cable to NEGATIVE (NEG, N, -) battery post.
7.3 Connect POSITIVE (RED) charger clip to POSITIVE (POS, P, +) post of battery.
7.4 Position yourself and free end of cable as far away from battery as possible - then connect

NEGATIVE (BLACK) charger clip to free end of cable.
7.5 Do not face battery when making final connection.
7.6 When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while as far away from battery as practical.
7.7 A marine (boat) battery must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use.

8. GROUNDING AND AC POWER CORD CONNECTIONS

8.1 This battery charger is for use on a nominal 120 volt circuit and has a grounded plug. The charger must be grounded, to reduce the risk of electric shock. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. The plug pins must fit the receptacle (outlet). Do not use with an ungrounded system.
8.2 DANGER: Never alter the AC cord or plug provided - if it does not fit the outlet, have a proper grounded outlet installed by a qualified electrician. An improper connection can result in a risk of an electric shock or electrocution.
NOTE: Pursuant to Canadian Regulations, use of an adapter plug is not allowed in Canada. Use of an adapter plug in the United States is not recommended and should not be used.

8.3 USING AN EXTENSION CORD

The use of an extension cord is not recommended. If you must use an extension cord, follow these guidelines:
· Pins on plug of extension cord must be the same number, size, and shape as those of plug on charger. Ensure that the extension cord is properly wired and in good electrical condition.
· Wire size must be large enough for the AC ampere rating of charger, as specified:

Length of cord (feet)	25	50	100	150
AWG* size of cord	16	14	14	12

*AWG-American Wire Gauge

9. ASSEMBLY INSTRUCTIONS

9.1 Remove all cord wraps and uncoil the cables prior to using the battery charger.

10. CONTROL PANEL

DIGITAL DISPLAY

The Digital Display gives a digital indication of voltage, % of charge or time. The display will show the battery VOLTAGE when the charger is not charging a battery. When it goes into charging mode, the display will automatically change to on (to show charging has started) and then show the percent-of-charge of the battery being charged and either 6 or 12 (the battery voltage determined by the charger). If you manually stop the charging process (by pressing the START/ STOP button) before the battery is fully charged, the display will show OFF.
NOTE: During charging, the display will go into sleep mode and will not show the percentage of charge or voltage of the battery. To turn the display back on, press any button.

LED INDICATORS

Digital Display LEDs:
· % - The digital display shows an estimated charge percentage of the battery connected to the charger's battery clamps.
· Voltage - The digital display shows the voltage at the charger battery clamps, in DC volts.

Charging Status LEDs:
CHARGING (yellow/orange) LED lit: The charger is charging the battery.
CHARGED/MAINTAINING (green) LED lit: The battery is fully charged and the charger is in maintain mode.
NOTE: See Operating Instructions for a complete description of the charger modes.
CLAMPS REVERSED (red) LED flashing: The connections are reversed.
BAD BATTERY (red) LED lit: The charger has detected a problem with the battery. See Troubleshooting for more information.

RATE SELECTION BUTTON

Use this button to select one of the following:
6<>2A CHARGE - For charging small and large batteries. Not recommended for industrial applications.
30A BOOST - For quickly adding energy to a severely discharged or large capacity battery prior to Engine Start.
100A ENGINE START - Provides additional amps for cranking an engine with a weak or run-down battery. Always use in combination with a battery.

START/STOP BUTTON

Press to immediately begin charging your properly connected battery. If the button is not pressed, charging should begin in ten minutes.

BATTERY TYPE BUTTON

Use this button to select the battery type.
· STANDARD - Used in cars, trucks and motorcycles, these batteries have vent caps and are often marked "low maintenance" or "maintenance-free". This type of battery is designed to deliver quick bursts of energy (such as starting engines) and has a greater plate count. The plates are thinner and have somewhat different material composition. Regular batteries should not be used for deep-cycle applications.
· AGM - The Absorbed Glass Mat construction allows the electrolyte to be suspended in close proximity with the plate's active material. In theory, this enhances both the discharge and recharge efficiency. The AGM batteries are a variant of Sealed VRLA (valve regulated lead-acid) batteries. Popular uses include high-performance engine starting, power sports, deep-cycle, solar and storage batteries.
· GEL - The electrolyte in a GEL cell has a silica additive that causes it to set up or stiffen. The recharge voltages on this type of cell are lower than those for other styles of lead-acid battery. This is probably the most sensitive cell in terms of adverse reactions to overvoltage charging. Gel batteries are best used in VERY DEEP cycle application and may last a bit longer in hot weather applications. If the wrong battery charger is used on a gel cell battery, poor performance and premature failure will result.

11. OPERATING INSTRUCTIONS

WARNING: A spark near the battery may cause an explosion.

CHARGING A BATTERY IN THE VEHICLE

1. Turn off all the vehicle's accessories.
2. Keep the hood open.
3. Clean the battery terminals.
4. Place the charger on a dry, non-flammable surface.
5. Lay the AC/DC cables away from any fan blades, belts, pulleys and other moving parts.
6. Connect the battery, following the precautions listed in sections 6 and 7.
7. Connect the charger to a live grounded 120V AC outlet.
8. Select the battery type and charge rate.
9. Press the START button to begin charging immediately. If START button is not pressed within ten minutes after unit was first powered up, and the charger detects a battery that is properly connected, the charging process will automatically begin and finish. Unit will automatically switch between BOOST and CHARGE rates as needed.

10. When charging is complete, or if you are done using ENGINE START or BOOST modes, press STOP button, disconnect the charger from the AC power, disconnect the clamp attached to vehicle's chassis, and finally remove the clamp from battery terminal.

CHARGING A BATTERY OUTSIDE OF THE VEHICLE

1. Place battery in a well-ventilated area.
2. Clean the battery terminals.
3. Connect the battery, following the precautions listed in sections 6 and 7.
4. Connect the charger to a live grounded 120V AC outlet.
5. Select the battery type and charge rate.
6. Press the START button to begin charging immediately. If START button is not pressed within ten minutes after unit was first powered up, and the charger detects a battery that is properly connected, the charging process will automatically begin and finish. Unit will automatically switch between BOOST and CHARGE rates as needed.
7. When charging is complete, or if you are done using ENGINE START or BOOST modes, press STOP button, disconnect the charger from the AC power, disconnect the clamp attached to vehicle's chassis, and finally remove the clamp from battery terminal.
8. A marine (boat) battery must be removed and charged on shore.

CHARGE RATE

The charger will automatically adjust the charging current, based on battery size, in order to charge the battery completely, efficiently and safely.

BATTERY CHARGING TIMES

Times are based on a 50% discharged battery and may change, depending on age and condition of battery.

AUTOMATIC CHARGING MODE

When an Automatic Charge is performed, the charger switches to the maintain mode automatically after the battery is charged.

ABORTED CHARGE

If charging cannot be completed normally, charging will abort. When charging aborts, the charger's output is shut off and the BAD BATTERY (red) LED will light. The digital display will show an error code (see Troubleshooting for a description of the error codes). Do not continue attempting to charge this battery. Have it checked or replaced.

DESULFATION MODE

Desulfation could take 8 to 10 hours. If desulfation fails, charging will abort and the BAD BATTERY (red) LED will light.

COMPLETION OF CHARGE

Charge completion is indicated by the CHARGED/MAINTAINING (green) LED. When lit, the charger has switched to the maintain mode of operation.

MAINTAIN MODE (FLOAT MODE MONITORING)

When the CHARGED/MAINTAINING (green) LED is lit, the charger has started maintain mode. In this mode, the charger keeps the battery fully charged by delivering a small current when necessary. If the charger has to provide its maximum maintain current for a continuous 12 hour period, it will go into abort mode (see Aborted Charge section). This is usually caused by a drain on the battery or the battery could be bad.

MAINTAINING A BATTERY

The SC1281 charges and maintains 6-volt and 12-volt batteries.
NOTE: The maintain mode technology allows you to safely charge and maintain a healthy battery for extended periods of time. However, problems with the battery, electrical problems in the vehicle, improper connections or other unanticipated conditions could cause excessive current draws. As such, occasionally monitoring your battery and the charging process is required.

USING THE ENGINE START FEATURE

Your battery charger can be used to jump start your car if the battery is low. Follow all safety instructions and precautions for charging your battery. Wear complete eye protection and protective clothing.
WARNING: Using the ENGINE START feature WITHOUT a battery installed in the vehicle could cause damage to the vehicle's electrical system.
NOTE: If you have charged the battery and it still will not start your car, do not use the Engine Start feature, or it could damage the vehicle's electrical system. Have the battery checked.

1. With the charger unplugged from the AC outlet, connect the charger to the battery following the instructions given in Follow These Steps When Battery is Installed in Vehicle.
2. Connect the charger to a live grounded 120V AC outlet.
3. With the charger plugged in and connected to the battery and chassis, press the RATE SELECTION button until the ENGINE START LED is lit, and then press the START button.

4. Crank the engine until it starts or 3 seconds pass. If the engine does not start, wait 3 minutes before cranking again. This allows the charger and battery to cool down.
5. NOTE: During extremely cold weather, or if the battery is under 2 volts, charge the battery for 5 minutes before cranking the engine.
6. If the engine fails to start, charge the battery for 5 more minutes before attempting to crank the engine again.
7. After the engine starts, unplug the AC power cord before disconnecting the battery clamps from the vehicle.
8. Clean and store the charger in a dry location.

NOTE: If the engine does turn over but never starts, there is not a problem with the starting system; there is a problem somewhere else with the vehicle. STOP cranking the engine until the other problem has been diagnosed and corrected.

ENGINE STARTING NOTES

During the starting sequence listed above, the charger is set to one of three states:
Wait for cranking - The charger waits until the engine is actually being cranked before delivering the amps for engine start and will reset if the engine is not cranked within 15 minutes. (If the charger resets, it sets itself to the default start up settings). While waiting for cranking, the digital display shows r d .
Cranking - When cranking is detected, the charger will automatically deliver up to its maximum output as required by the starting system for up to 3 seconds or until the engine cranking stops. The digital display shows a countdown of the remaining crank time.
Cool Down - After cranking, the charger enters a mandatory 3 minute (180 second) cool down state. The digital display indicates the remaining cool down time in seconds. It starts at 180 and counts down to 0. After 3 minutes, the digital display will change from displaying the countdown to displaying r d . The CHARGING LED will then be lit.

TESTER AND CHARGER MODES

When first powered up, the unit operates only as a TESTER, not as a charger. Pressing the START/STOP button deactivates the tester mode and activates the CHARGER mode. Pressing the START/STOP button again will shut-off the charger mode and activate the TESTER mode.

USING THE BATTERY VOLTAGE TESTER

1. With the charger unplugged from the AC outlet, connect the charger to the battery, following the instructions given in sections 6 and 7.
2. Connect the charger to a live grounded 120V AC outlet.
3. If necessary, press the BATTERY TYPE button until the correct battery type is indicated.

4. Read the voltage on the digital display. Keep in mind that this reading is only a battery voltage reading; a false surface charge may mislead you. Compare the reading to the following chart.

6V Battery Voltage Reading	12V Battery Voltage Reading	Battery Condition
6.4 or more	12.8 or more	Charged
6.1 to 6.3	12.2 to 12.7	Needs charging
Less than 6.1	Less than 12.2	Discharged

NOTE: The battery tester is only designed to test batteries. Testing a device with a rapidly changing voltage could yield unexpected or inaccurate results.

POWER-UP AUTO-START

When charger is first powered up, if START button is not pressed within 10 minutes, but a battery is properly connected, the unit will automatically switch from TESTER mode to CHARGER mode. In that case, unit will set the battery type to GEL, and the RATE will automatically switch between BOOST and CHARGE rates as needed.

USING THE ALTERNATOR PERFORMANCE TESTER

1. With the charger unplugged from the AC outlet, connect the charger to the battery, following the instructions given in previous sections.
2. Connect the charger to a live grounded 120V AC outlet.
3. Start the vehicle, rev the engine at 2000 rpm for 30 seconds and turn on the vehicle's headlights or other accessories.
4. Read the voltage on the digital display. If you get a reading between 13.4 volts and 14.6 volts, the alternator is working properly. If the reading is less than 13.4 volts or more than 14.6 volts, have the charging system checked by a qualified technician.

12. MAINTENANCE AND CARE

A minimal amount of care can keep your battery charger working properly for years.
Clean the clamps each time you are finished charging. Wipe off any battery fluid that may have come in contact with the clamps to prevent corrosion. Occasionally cleaning the case of the charger with a soft cloth will keep the finish shiny and help prevent corrosion.
Coil the input and output cords neatly when storing the charger. This will help prevent accidental damage to the cords and charger. Store the charger unplugged from the AC power outlet in an upright position. Store inside, in a cool, dry place. Do not store the clamps clipped together, on or around metal, or clipped to the cables.

13. TROUBLESHOOTING AND ERROR CODES

Error Codes

CODE	DESCRIPTION	REASON/SOLUTION
F01	The battery voltage is still under 10V (for a 12V battery) or 5V (for a 6V battery) after 2 hours of charging.	The battery could be bad. Have it checked or replaced.
F02	The charger cannot desulfate the battery.	The battery could not be desulfated; have it checked or replaced.
F03	The battery was unable to reach the "full charge" voltage.	May be caused by trying to charge a large battery or bank of batteries on too low of a current setting. Try again with a higher current setting or have the battery checked or replaced.
F04	The connections to the battery are reversed.	The battery is connected backwards. Unplug the charger and reverse the connections to the battery.
F05	The charger was unable to keep the battery fully charged in maintain mode.	The battery won't hold a charge. May be caused by a drain on the battery or the battery could be bad. Make sure there are no loads on the battery. If there are remove them. If there are none, have the battery checked or replaced.
F06	The charger detected that the battery may be getting too hot (thermal runaway).	The charger automatically shuts the current off if it detects the battery may be getting too hot. Have the battery checked or replaced.

If you get an error code, check the connections and settings and/or replace the battery.

Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Battery clamps do not spark when touched together.	The charger is equipped with an auto-start feature. It will not supply current to the battery clamps until the START button is pressed. The clamps will not spark if touched together.	No problem; this is a normal condition.
The charger will not turn on when properly connected.	AC outlet is dead.	Check for open fuse or circuit breaker supplying AC outlet.
	Poor electrical connection.	Check power cord and extension cord for loose fitting plug.
Short or no start cycle when cranking engine.	Drawing more than the Engine Start Rate.	Crank time varies with the amount of current drawn. If cranking draws more than the Engine Start Rate, crank time may be less than 3 seconds.
	Failure to wait 3 minutes (180 seconds) between cranks.	Wait 3 minutes of rest time before the next crank, to allow the battery and charger to cool down.
	Clamps are not making a good connection.	Check for poor connection at battery and frame.
	AC cord and/or extension cord is loose.	Check power cord and extension cord for loose fitting plug.
	No power at receptacle.	Check for open fuse or circuit breaker supplying AC outlet.
	The charger may be overheated.	The thermal protector may have tripped and needs a little longer to close. Make sure the charger vents are not blocked. Wait and try again.
	Battery may be severely discharged.	On a severely discharged battery, use the 30A Boost setting for few minutes, to help assist in cranking.
I cannot select a 6V or 12V setting.	The charger is equipped with Auto Voltage Detection, which	No problem; this is normal.

	automatically detects the voltage and charges the battery.	
I plug in the charger, but do not see the percentage of charge.	When first connected to a battery, the display shows voltage only.	This is normal. The percentage of charge is only displayed during charging.
The battery is correctly connected, but the CHARGING LED did not light immediately.	If the START/STOP button is not pressed, charging should begin in ten minutes.	No problem; this is normal.
The battery is properly connected, but the CHARGING LED never lit.	The battery voltage is low.	Press the START/STOP button to start charging.
The BAD BATTERY LED is lit.	The battery voltage is still below 10V (for a 12V battery) or 5V (for a 6V battery) after 2 hours of charging.	The battery may be defective. Make sure there are no loads on the battery. If there are, remove them. If there are none, have the battery checked or replaced. To reset the charger, unplug from the AC outlet, wait a few moments and plug it back in.
	In maintain mode, the output current is more than 1.5A for 12 hours.	The battery may be defective. Have battery checked or replaced.
	The battery may be overheated.	If so, allow the battery to cool. The battery may be too large or have a short circuit. Have battery checked or replaced.
	The battery capacity is too low, or the battery is too old.	Have it checked or replaced.
	The battery won't hold a charge.	May be caused by a drain on the battery or the battery could be bad. Make sure there are no loads on the battery. If there are remove them. If

		there are none, have the battery checked or replaced.

14. SPECIFICATIONS

Input Voltage 120V AC @ 60Hz, 4A continuous/19A intermittent
Output Voltage 6V or 12V, with Auto Voltage Detection
Output Current Rating 2A/6A/12A continuous; 30A/100A intermittent

15. BEFORE RETURNING FOR REPAIRS

If these solutions do not eliminate the problem, or for more information about troubleshooting, contact customer service for assistance: services@schumachelectric.com
www.batterychargers.com or call 1-800-621-5485 Monday-Friday 7:00am to 5:00pm CST
For REPAIR OR RETURN, contact Customer Service at 1-800-621-5485. DO NOT SHIP UNIT until you receive a RETURN MERCHANDISE AUTHORIZATION (RMA) number from Customer Service at Schumacher Electric Corporation.

16. LIMITED WARRANTY

WARRANTY NOT VALID IN MEXICO.
SCHUMACHER ELECTRIC CORPORATION, 801 BUSINESS CENTER DRIVE, MOUNT PROSPECT, IL 60056-2179, MAKES THIS LIMITED WARRANTY TO THE ORIGINAL RETAIL PURCHASER OF THIS PRODUCT. THIS LIMITED WARRANTY IS NOT TRANSFERABLE OR ASSIGNABLE.
Schumacher Electric Corporation (the "Manufacturer") warrants this battery charger for two (2) years from the date of purchase at retail against defective material or workmanship that may occur under normal use and care. If your unit is not free from defective material or workmanship, Manufacturer's obligation under this warranty is solely to repair or replace your product with a new or reconditioned unit at the option of the Manufacturer. It is the obligation of the purchaser to forward the unit, along with proof of purchase and mailing charges prepaid to the Manufacturer or its authorized representatives in order for repair or replacement to occur.
Manufacturer does not provide any warranty for any accessories used with this product that are not manufactured by Schumacher Electric Corporation and approved for use with this product. This Limited Warranty is void if the product is misused, subjected to careless handling, repaired, or modified by anyone other than Manufacturer or if this unit is resold through an unauthorized retailer. Manufacturer may void this Limited Warranty if a "warranty void if removed" label is removed from the product.
Manufacturer makes no other warranties, including, but not limited to, express, implied or statutory warranties, including without limitation, any implied warranty of merchantability or implied warranty of fitness for a particular purpose. Further, Manufacturer shall not be liable for any incidental,

special or consequential damage claims incurred by purchasers, users or others associated with this product, including, but not limited to, lost profits, revenues, anticipated sales, business opportunities, goodwill, business interruption and any other injury or damage. Any and all such warranties, other than the limited warranty included herein, are hereby expressly disclaimed and excluded. Some states do not allow the exclusion or limitation of incidental or consequential damages or length of implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and it is possible you may have other rights which vary from this warranty.
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17. WARRANTY CARD

2 YEAR LIMITED WARRANTY PROGRAM REGISTRATION
MODEL: DESCRIPTION: This is the only express limited warranty, and the manufacturer neither assumes nor authorizes anyone to assume or make any other obligation. There is no other warranty, other than what is described in the product owner's manual.