

## Installation Instructions for ATVs models with the following part numbers

475-875-ATV, 525-875-ATV, 575-875-ATV, 424-100-ATV and 525-100-ATV

**IMPORTANT: Read through entire instructions before proceeding.**

Protected under one or more of the following patents: USA: 4,471,209 4,937,429 4,990,753 Canada: 1,299,621

**If you do not have the ability to install these grips then hire a professional mechanic to do the installation.**

These Hot Grips® are for any *ATV* with .875" (22.22 mm) handlebars and a thumb throttle. If you have a twist throttle you must purchase our model for motorcycles instead, because the throttle tube requires a larger *right side* grip I.D. To pre-check the resistance each grip is between 8 and 10 ohms depending on the grip's overall length. You may temporarily wire the two grips in parallel and test with 12v.

**End weights or other need to open the ends:** If the model you have purchased is not supplied with open ends, and you need to open them, you may bore out the outboard ends of the grips for installation of end weights or other purpose, if you use a fine tooth hole saw and do not go larger than the handlebar's inside diameter. We have molded in a visual guide on the grip's ends, and we recommend at most 7/8"(22 mm) diameter and be sure to center drill carefully.

**DO NOT** use a hacksaw or you will destroy the grip, because there are resistance wires molded into the grip outboard of the handlebar diameter.

These Hot Grips® have a heat output of 7 watts on "low" and 13 watts on "high" per grip. As a pair they will consume 18 watts of electrical power on "low" and 26 watts on "high. They consume more than 7 x 2 on "low" because the resistor consumes a little electrical current.

**PREPARATION:** Remove old grips and any adhesive residue from the handlebars with solvent. There is a slight variation in handlebar diameters, so some may be loose, and some may be tight. Better to file a tight handlebar down until it fits than to force the Hot Grip® over it. **DO NOT** rely on a press fit since the grips will expand when heated up, and could become loose, and thus unsafe. **They rely on epoxy bonding to remain secure.**

**WIRING:** The wires should be secured to the handlebars. On the throttle side, make sure that the lead wires do not interfere with the thumb throttle action. Also make sure the wires do not interfere with the handlebar clutch and/or brake

levers before epoxying the grips on.

**Epoxy:** We recommend only slow curing (generally considered 6+ hours, or overnight) two-part epoxy because it is generally rated at 250 degrees F ( 120 degrees C.). The quicker curing epoxy is generally rated at 200 degrees F (94 degrees C.). **DO NOT** use other types of adhesives. **DO NOT** use silicone sealant, crazy glue, superglue, other cyanoacrylate adhesives, weather-strip adhesives, or anything else. Just use two-part epoxy of the type we recommend. There are many brands out there, and some of them are DURO, DEVCON, POXY-WELD, JB WELD, Borden, etc. Out of the USA they may be called by another name. They are commonly available at auto parts stores, hardware stores, and is often found in hardware or automotive departments. *(The reason we do not want you to use anything other than epoxy is because of the temperature these grips may reach in service, and because other types of adhesives rely on solvent evaporation, which may take a tremendous amount of time. Most other adhesives will soften with elevated temperatures, and you don't want these grips to loosen while riding.)*

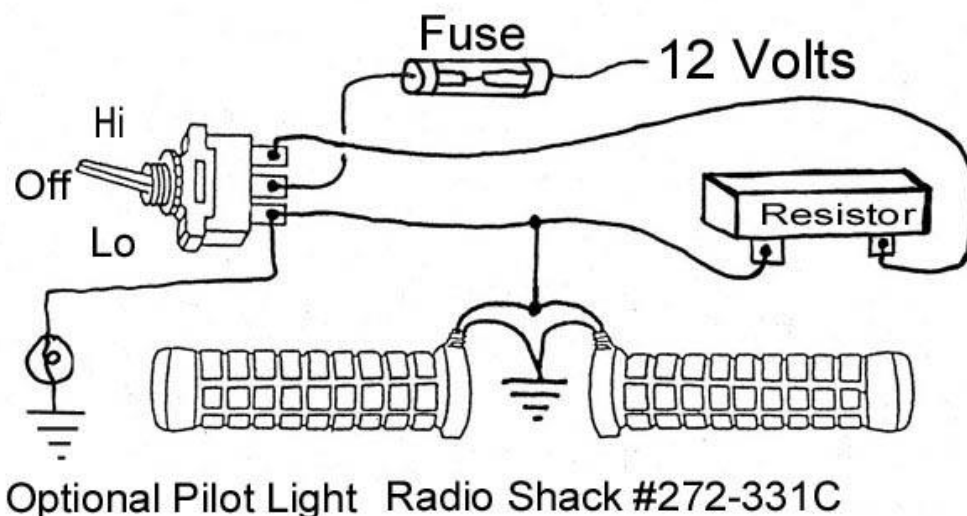
**After you have pre-determined** your grip's external lead wire orientation in relation to the throttle housing and thumb throttle lever, then you can proceed to use the epoxy. Mix the epoxy per the manufacturer's instructions. It is important to mix in the correct ratio or the epoxy will be weakened. Use a long slender object such as a pencil to get the epoxy spread evenly on the exterior of the grip, **BUT NOT INSIDE THE GRIP**. The pencil can be rolled around the handlebar to ensure the layer of epoxy is even or uniform thickness. **DO NOT PUT EPOXY IN THE GRIP INTERIOR** , instead allow the epoxy on the handlebar to find its way inside the grip as it is pushed on. The epoxy will mesh with the inside ribs, locking the grip in place once the epoxy cures. While aligning the external lead wires where you want them, push the grip on the handlebar fully, and you should clear away epoxy as it is slid on if it builds up excessively as the grip moves fully into position. Again make sure you have clearance for your levers and thumb throttle movement so no interference will exist. This is extremely important, since once the epoxy cures, you won't be able to adjust later.

If you are in a hurry for it to cure, it is OK to quicken the cure by temporarily wiring the two grips in "parallel" as shown in our wiring diagram, and applying 12 volts using a car battery or battery charger capable of at least 3 amps. 45 minutes will do it, and **do not leave the grips heated unattended**. Let it cool for another 15-20 minutes. That heat will have accelerated the cure from the normal 6-8 hours down to about an hour. If the epoxy hasn't cured you may need to give it heat again. If the second time doesn't cure it, then you probably mixed the epoxy in the wrong ratio, which prevents the epoxy from curing.

Do not test the epoxy bond while it is curing by twisting the grip. If you want to check if the epoxy had cured, check it at the area where a tiny amount of epoxy has squeezed out next to the inboard end of the grip. Wait until the epoxy is very hard.

Follow similar instructions above when installing the other grip.

**Wiring:** Follow our wiring diagram, there is no polarity to the two external wires coming from each grip, no positive nor negative. **IMPORTANT: These models are wired in "Parallel", meaning each grip gets 12 volts.** Your ground connection is important, so scrape the paint off immediately under the contact point you make. Ground shouldn't be to the handlebars since some are rubber mounted and perhaps electrically isolated from your system. The two Hot Grips® must be wired in "parallel". Connect one of the two conductors from each grip to positive 12 volts coming off the switch as illustrated, and each remaining wire to ground. Pilot light (not supplied with kit) is Radio Shack item and can be installed if you want it. #272-345 or #272-334A or #272-331C. Wire it for 12 v. in parallel as indicated (see dotted line) and ground one of the leads of the pilot lamp.



Optional Pilot Light Radio Shack #272-331C

**SWITCH:** Locate a suitable site for your switch and drill a 1/2" or 13 mm hole in a safe convenient location that does not interfere with anything on the ATV. In some cases you will have to improvise a mounting area.

**RESISTOR:** Mount the resistor securely in an area where it can give off some heat, since it warms up during "low" heat operation, not on plastic as it may damage lower temperature plastics. Ideally mount it on a "pad" of silicone sealant on a metal area and mount it in open air. Secure it with plastic wire ties and/or plastic tape. The resistor may be located any distance away from the switch or grips, however do not leave the resistor dangling by it's lead wires, or they will eventually fail. You can use any extra lead wire from the grips to wire the resistor. Solder all connections as a precaution against copper oxidation in the future. Be sure no interference exists during full range of handlebar motion. Use care in locating the lead wires to avoid wear.

**Power Source:** Many ATVs come with an accessory electrical terminal, Ask your dealer's service department if in doubt. Often your owner's manual will include a wiring diagram, and may have information on where to obtain power for accessories. In any case you will want a power source that does not remain "On

or electrically hot" when the ignition switch is turned off. You should use a 4 or 5 amp fuse if there are other fuses on your electrical system (not included with this kit.). (The grips normally will draw 2.5 to 3 amps on high). Wire into an accessory terminal if available or into a power lead that will not be left "hot" or energized when the ignition is shut off. Otherwise leaving the heated grips on while the engine is off will drain the battery as quickly as if you left your headlight on. If your electrical system doesn't use fuses to protect the headlights then you don't need them for the Hot Grips®. Solder all connections to prevent copper oxidation in the future. **DO NOT** use the crimp-on terminals if you want your connections to remain reliable. They tend to oxidize and corrode over time and create problems. Wrap all exposed connections with vinyl electrical tape. Also, the commonly available blue ones are the wrong size.

**HEAT CONTROL:** The Hot Grips® do not automatically regulate their heat output, and rely on the rider to adjust the heat by moving to "lo" or center-off switch position if the grips get too hot. The grips should not be left on when unattended as they may get too hot. In an unregulated electrical system the heat output may be greater than 7 watts on low and 13 watts on high per grip. These wattage figures assume a voltage regulator is in use. Be sure to check and correct for any interference with vehicle controls and proper throttle operation and throttle return before starting or operating your ATV. The large rubber inboard guard can be trimmed up to 1/4" in diameter with a NEW single edge razor blade, but do not trim in the area within 1/2" of the black lead wires that exit the grip. Note that inside that rubber guard may also be a rigid plastic which will be very tough to cut through- Use care.

**End Weights:** If the model you have purchased is not already supplied with open ends, you may bore out the outboard ends of the grips for installation of end weights, if you use a fine tooth hole saw and do not go larger than the handlebar's inside diameter. We have molded in a visual guide on the grip's ends, and we recommend at most 7/8" (22 mm) diameter and be sure to center drill carefully. **DO NOT** use a hacksaw or you will destroy the grip, because there are resistance wires molded into the grip outboard of the handlebar diameter.