

Installation Instructions for ATVs -model 301

Read through entire instructions before starting installation. If you can not comfortably install this product, hire a professional mechanic to do it.

Hot Grips® can be installed on any 3 or 4 wheeler ATV with 7/8" handlebars and a 12 volt electrical system capable of powering a headlight. It must have a thumb-throttle, not a twist-throttle. Some electrical systems cannot handle the power requirements of heated grips and the headlights at the same time. If you have modified your ATV thumb-throttle to a motorcycle twist-throttle, then you must use a motorcycle HOT GRIPS® kit instead. The difference is that the twist throttle inside diameter is 1.000" diameter instead of .875" and the shape of the grips in-board end is different. To pretest these grips, use a V.O.M. and check that each Hot Grip's® resistance measures approximately 2.4 ohms. You may temporarily wire them in series and test on a 12 volt car battery or (battery charger of minimum 3 amps) if you desire. Do not leave them unattended, and do not heat them up for more than a few minutes without the heat sink effect available from the metal handelbars.

PREPARATION: Remove old grips and remaining residue on handlebars with solvent. Roughen handlebars with sandpaper or the edge of a steel file. This will create an aid to the epoxy bonding.

EPOXY INSTALLATION ONLY: Obtain a two part slow curing epoxy, such as Duro, Devcon, Borden, JB Weld, etc. Make sure it is not the quick cure type, such as a 5-minute epoxy. We need the slow cure (24 hours +) because generally these are good for service up to 250 degrees F., whereas the 5-minute quick cure type epoxies are generally good for only 200 degrees. Do not use any other method to install. We have tested everything else , and they don't hold up under the stress and strain, torque loads and heat that is present. (Do not use silicone seal, crazy glue, gasket cement, weatherstrip adhesive, etc. None of them will hold! We have read stories on the internet where folks have their grips installed with a grip-glue or hairspray and the grip can slowly rotate when hot, which could tear the wires out of the grips. Check that the grip will slide onto the handlebar without effort. It is designed to be a loose fit, to have the gap filled with the epoxy.

If it is not a loose fit, do not force the grip on. Your handlebar diameter isn't .875" and must be filed down until the grip fits on without force. Some metric handlebars we have noted are up to .020" diameter oversize. Drill the center end of one of the grips with a small drill, to allow the air in the handlebars to vent as the grips are installed. Generally best to put the epoxy on the bars, and then as the grip is pushed on, wipe away the excess. A pencil is helpful as a tool to spread the mixed epoxy inside the grip interior, and on the handlebar. Use a very light coat, and push the grip on 75% and remove, redistributing the epoxy with the pencil, removing any excess quantity. Then install fully, again removing excess epoxy. Be sure the grips do not interfere with any of the handlebar controls or the thumb-throttle lever. If there is interference, use a new single edge razor blade to trim the grip as necessary, using care not to cut near the black lead wires that exit the grip. Allow to fully cure per the epoxy instructions, or you may quicken the cure by temporarily wiring the grips in "series" per the diagram below, and wiring them to a car battery, or battery charger with a minimum of 3 amps charge rating. Caution: Heated curing epoxy can give off fumes so work with adequate ventilation or do the epoxy curing outdoors. The epoxy will set up firm in about 30-45 minutes. Allow grips to cool off, and test epoxy for hardness where it had oozed out of the grip. Do not twist the grip to test the epoxy as it is curing. If working in the cold, preheating the epoxy in a hot cup of water will soften the epoxy and make it easier to mix and to spread, and also preheating the handlebar end with a heat gun or hair dryer will help in the same way.

SWITCH AND RESISTOR: The switch can be located in the headlight shell if there is room inside, or other convenient location that doesn't interfere with safe vehicle operation. Drill a 13mm or 1/2" hole to install it. The resistor may be remotely mounted from the switch, using any length wires you need. Mount it securely in an area where there can be air moving around the resistor to dissipate heat. It will warm up during "low heat" operation. It is not in use during off or "high". The resistor should be secured with common nylon wire ties as nylon can take the heat. Never mount the resistor on plastic, or it can melt it. **WIRING:** There is no polarity to the wires on each grip, no positive or negative. Follow the wiring diagram below. A good ground is important so be sure to scrape the paint off the "ground connection" as even a layer of paint will create a problem. Ground should be to the engine or frame, not the handlebars, since some of them are rubber mounted and may reduce the good ground connection.

Some machines use a wire or common wire ground instead of frame ground. Check with your vehicle dealer. The grips must be wired in "series", with one grip being connected to the other. One grip's remaining wire goes to ground, and the other as shown in the wiring schematic on this page.

POLARIS: Use their brown wire for ground, don't use the chassis ground, it's not reliable. If installing on a Bombardier ATV, it may be the same as snowmobile design, ground may be the black/yellow wire. This color coding may change from year to year and model to model. We have also seen their three wire printed circuit heated grips color coding: black=ground, orange=high, orange with blue stripe = low. Please consult your owner's manual or call your dealer to be sure.

POWER SOURCE: Use the vehicle's accessory terminal if available, one that will not have voltage when the engine is off. (Otherwise your battery will be drained if the grips were left on, just as if you left your headlight on.) If your electrical system uses fuses for protection, then use a 3 amp fuse (not Included). On non-battery systems, generally if they don't use fuses in the system for other electrical uses, then a fuse isn't necessary for the Hot Grips®. Some ATV's do not have enough electrical power to run both the headlights and heated grips. Ask your vehicle dealer service department if in doubt. In such a case, you would have to turn off the headlight during daylight hours when the heated grips are on. (Check with your state and local laws on legality). You should not use the heated grips in the dark if it causes your headlights to dim appreciably. Solder all connections. Do not be tempted to use the plastic 3M® scotchlok connectors for splicing into wires, as they will make poor contact and eventually oxidize and corrode. Cover all connections and exposed switch and resistor terminals with electrical tape .

FUSE: It is not included in this kit, and if your accessory fuse is already in use, you can fit an aftermarket type of 4 or 5 amps.

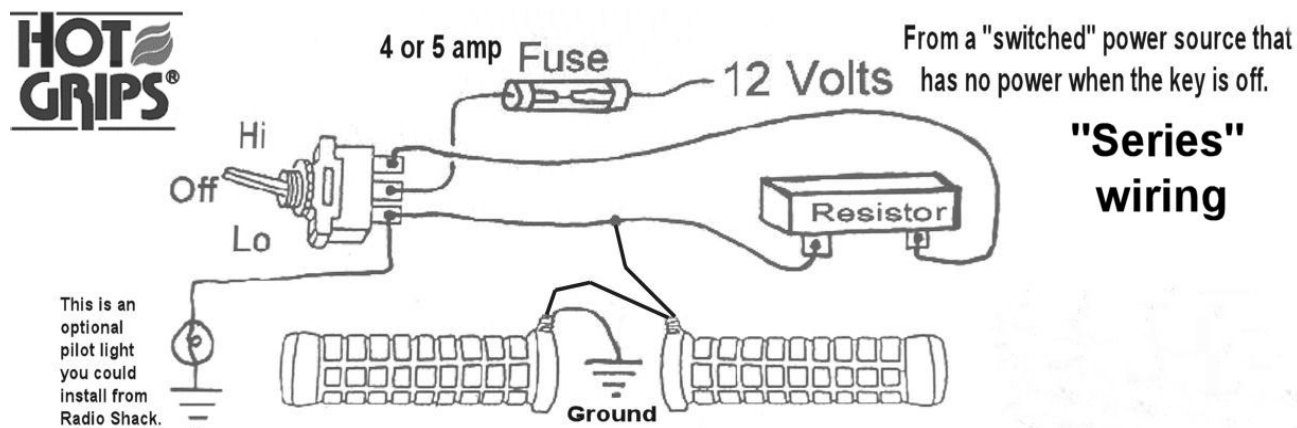
HEAT CONTROL: The heated grips do not have automatic temperature regulation. They rely on rider to adjust the heat to "high", "off", or "low" as needed. The grips should not be left energized unattended as they might become too hot. Heat output on a 12 volt regulated system is 15 watts per grip on "high" and 8 watts per grip on "low". Current draw is 2.5 amps for the set on "high" and 1.66 amps on "low" at a typical 12vdc. Higher volts will raise the amps slightly. On "low" the ceramic resistor will heat up so always mount it on metal, never on plastic.

CRASHGUARDS: Some ATV's have "crashguards" installed inside the end of the handlebars. The Hot Grips® end may be drilled out (do not use a hacksaw or you will ruin the grip's internal heating wires). Use a fine toothed steel hole-saw with a centering pilot drill. Do not use a two bladed fly-cutter type hole saw or it will grab the rubber and ruin the grip. Do not drill larger than necessary (max. 3/4") to install the crash guards.

CAUTION: Be sure to check for interference with vehicle controls, levers, and throttle operation before starting or operating vehicle. Correct any interference condition.

LIMITED WARRANTY: Guaranteed against defects in materials and workmanship. Grips should be checked prior to installation, as they cannot be removed without damage. We do 100% testing here at the factory before packaging grips. Installing them without epoxy will very quickly destroy them, as the black lead wires will be pulled out when the grips heat up, expand, and rotate on handlebars.

TRADEMARKS: Hot Grips® is a Registered Trademark listed on the United States Principal Register both as words: "Hot Grips" # 2929362 and Design Plus Words # 1264872. Hot Grips® is a Registered Trademark in words "Hot Grips" listed at the Canadian Trademark Office: TMA304887. **PATENTS:** Protected under one or more of the following patents: USA: 4,471,209 4,937,429 4,990,753 Canada 1,299,621 Hot Grips® Mfg., Inc. -166 Methodist Hill Rd. - Plainfield, NH 03781 USA Tel. 603-448-0303 - email: support@hotgrips.com website: www.hotgrips.com



The wiring shown is in "series", where one of the 4 wires goes to ground, one wire goes between grips, and the 4th wire goes to your power source.