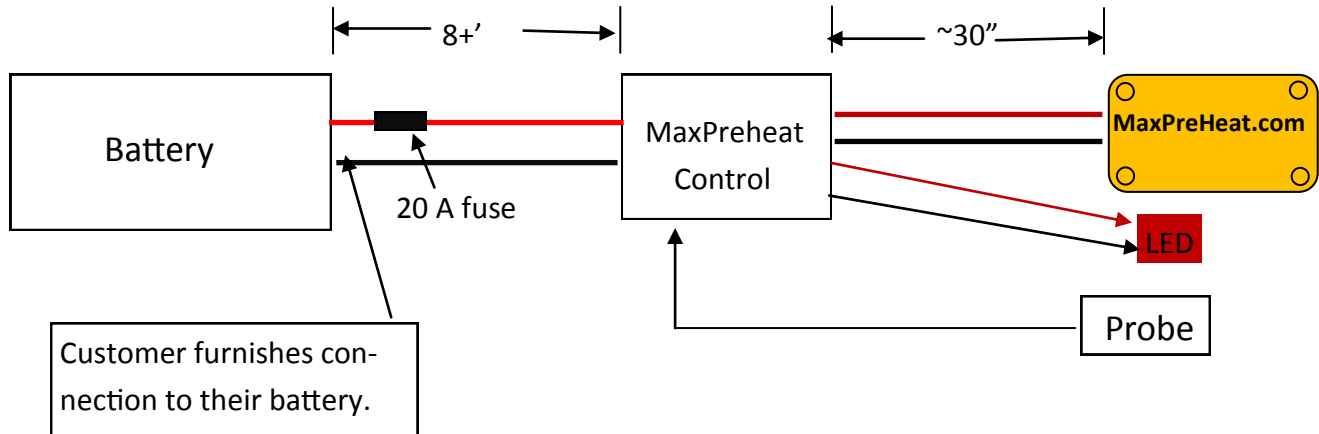


MaxPreHeat Operating Instructions

The MaxPreHeat (MPH12VDC or MPH24VDC) is designed to rise and /or maintain temperatures. For use in enclosed areas or to bring the temperature of a metal object upwards when the outside air temperature (OAT) is lower than the desired target temperature. And to be “off” when not needed.

This is accomplished with a proprietary thermostat that uses power in an efficient manner by cycling the heating pad within a preset range of customer determined temperatures. The MPH12 unit operates @ +12VDC 125 Watts and the MPH24 @24VDC @ 100W at full on settings. Pad “on” is monitored by an external Red LED that can be located outside the enclosure via a 30” lead on the LED from the heating pad.

See “Preparations” on sheet 3 for preliminary probe instructions

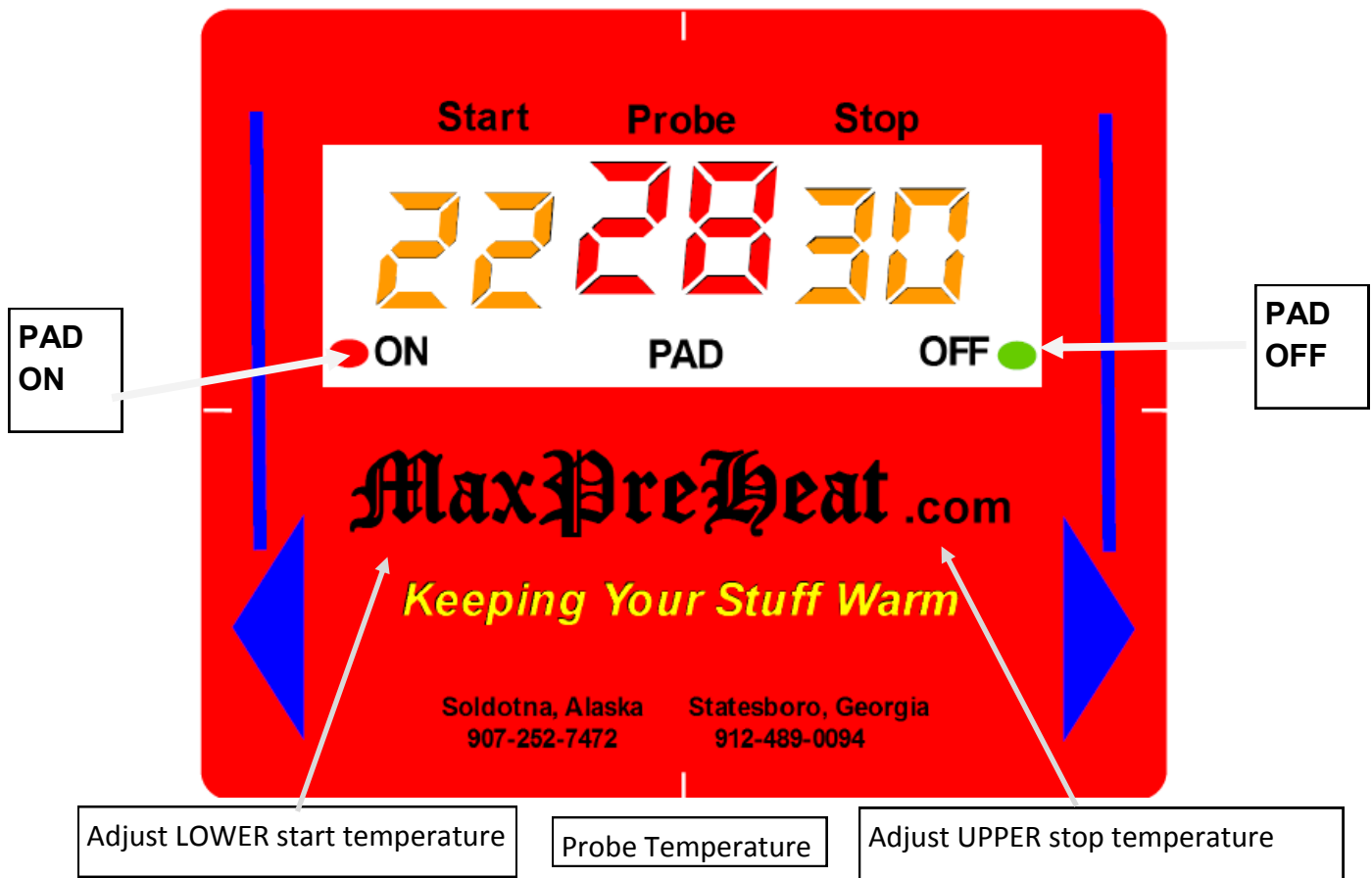


1. Attach the assembly to the battery with the probe outside the space. If the OAT is lower than the preset range on the controller the LED for the heating pad should be “on”. When you can feel the heating pad raising in temperature you know everything is working. Exercise care here as the pad can get quite hot. When satisfied unit is working, remove battery leads.
2. Move the Pad and Control to the area to be heated and attach pad on the item to be heated using furnished springs or other method. Put battery in it’s location.
3. Put the MaxPreHeat Control in a location inside the heated area. Locate the probe that is inside the oil tube alongside the dip stick. Position the pad. A wooden dowel 15-20 inches can aid in pad placement, especially when engine is warm. Ensure pad is not contacting anything that can be malformed by pad temperatures.
4. Locate Red LED indicator outside the space to monitor when the power to the pad is “on”.
5. The probe will detect the temperature of the oil directly. Better heating of metal objects will occur when the pad is in close contact with the metal area.

Cautions

Use caution with this unit. Pad temps can be hot to the touch. Do not use this system where combustible materials are present or where materials could be malformed by the pad temperature. Pad should be securely mounted on area to be heated. **Unit will not work with reversed battery connections.**

Operation of MaxPreHeat Control



The **MaxPreHeat** control will cycle between the LOWER temperature and the UPPER temperature . Slight overshoot and undershoot may occur.

If the PROBE temperature is 'equal to or lower than' the LOWER temperature setting, the PAD will be on as indicated by the RED LED labeled "PAD ON".

If the sensed PROBE temperature is 'equal to or higher than' the UPPER temperature setting the PAD will be off as indicated by the Green LED labeled "PAD OFF".

The high and low settings create a zone of temperatures during which the PAD will be on or off and will attempt to bring the Probe into this zone by heating the pad.

Example—The probe is reading 12, the LOWER start temp. is set for 13C and the UPPER temp. is set for 15C. When the power is applied the PAD will be 'on' until the probe detects 15C then it will turn off. It will turn on again when the Probe reaches the LOWER setting. It will then go back and forth between the LOWER and UPPER settings maintaining temperature in the Zone.

Limited Warranty/Disclaimer

MaxPreheat (MPH) will repair or replace, at its expense and at its option any device manufactured by MPH which in the normal use has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to MPH along with proof of purchase of the product within one year and provides MPH with reasonable opportunity to verify the alleged defect by inspection. MPH will not be responsible for any asserted defect which has resulted from misuse, abuse or over stressing above the published specifications. MPH will under no circumstances be liable for incidental or consequential damages resulting from the defective products This warranty is MPH's Sole warranty and sets forth the customer's exclusive remedy, with respect to defective products; all other warranties, express or implied, whether of merchantability, fitness for purpose, or otherwise, are expressly disclaimed by MPH . Under no circumstances is MPH responsible for any damage or injury in the use of our products. Use or misuse is the buyers responsibility.

What's in the box

1. Prewired MaxPreHeat Control and MaxPreHeat Pad
2. Over 8 feet of wire between battery and MaxPreHeat control
3. In-line 20 Amp fuse to protect wiring with fuse
4. Wire disconnects near Control to allow disconnect of MaxPreHeat Pad from the control
5. Proprietary Heating pad, 12VDC @ 125W or 24VDC @ 100W unit, 100mm X 200mm
6. Red LED on 30 inches of wire to remotely indicate voltage is applied to MaxPreHeat Pad
7. Probe on 36 inches of wire inside tubing for oil sump.
8. Water resistant re-sealable plastic bag to store wire, Control, Pad and parts

Everything is furnished to just hook this unit to your battery and start warming the item up. Connections to your battery will be customer furnished due the wide selection of possible terminations. You will have to decide how you want to do this with and terminate the wires going to the battery connections. The connections should be capable of 10A+ to ensure maximum heating to the Pad. Use caution when hooking up battery and be sure not to reverse connections. We have added additional protection for battery reversal.

Preparations

The dipstick temperature probe comes packaged in a "U" shape. Gently straighten it out. You will then need to place a slight bend near the top after reading the following instructions.

The adjustment for this is to initially measure from the top of the dipstick down to the oil level on the dipstick and then just add one inch. Bend the top end of the temperature probe dipstick so that when inserted into the dipstick tube it will not go too deep into the oil sump and, the tip will be at least one inch into the oil in the oil sump. The adjustment for this is to initially measure from the top of the dipstick down to the oil level on the dipstick and then just add one inch. Bend the top end of the temperature probe dipstick so that when inserted into the dipstick tube it will not go too deep into the oil sump and the tip will be at least one inch into the oil in the oil sump.

Good cowling covers, propeller covers, and spinner covers are a considerable advantage to achieving the successful preheat oil temperatures you desire, especially in severe cold temperatures.

Other info

The MaxPreHeat was designed keep your engine warm longer once you land in a remote area. Exact time extensions depend on many variables, OAT, initial start temp. of heated item, insulation around area, size and charge state of battery etc. We have made some tests and the results can be seen on

<http://www.maxpreheat.com/testing.html>

other information on results, procedures, our suggestions and suggestions from users can be found at

<http://www.maxpreheat.com/uploads/4/3/4/7/43479643/moreinfo.pdf>