

Please read this data sheet completely before you install your Cheetah

NOTE: The use of rechargeable batteries/packs will void your warranty

Please replace the blue tape that is covering your EYES with BLACK ELECTRICAL TAPE

This monster control system is a new approach in handling the feeding system you are currently using. Curt designed the Cheetah to monitor the motor and the eyes to keep a steady, super fast, flow of balls feeding into your gun. If the Cheetah senses a jam it will reverse immediately to clear up the problem and let you continue on with your killing spree. Using a new reflective eye logic black and even clear paint cannot sneak past this Predator's eyes. No longer will you be limited at what type of paint you use because your loader cannot see it. This board carries a lifetime upgrade policy so you will never have to pay for software revisions again. When you use a Predator you are using the fastest and most advanced code in the industry.

Function and Design:

- Eye is digitally sampled with a 10-bit Analog to Digital converter. No more "on/off", the Cheetah can detect the tiniest bump in voltage, allowing it to detect the darkest/clearest paint. This is done automatically and does not require you to fiddle with a potentiometer.
- Eye can actually SEE THE PAINT MOVE with its ADC and uses that information to refine its feeding levels to match your guns firing pattern exactly. No overdriving. No broken paint.
- Advanced motor-control circuitry can turn the motor on full speed if your gun shoots that fast, ever hooked your battery up directly to the motor? Yeah we can go that fast. This board can handle roughly 6 times the current draw of a Halo, you'll never burn it out.
- Precise digital speed control on the motor, from a crawl to 38 bps and all speeds in between, the Cheetah watches your gun, and feeds it as fast as it can fire, but no faster.
- Precise current sense allows near instantaneous detection of motor slowdown and stall conditions, we won't break your paint.
- Current sense also allows the Cheetah to keep the spring just barely wound, we keep a little pressure on the ball stack at all times without shooting balls past weak detents.
- Advanced anti-jam detection and clearing. The Cheetah can reverse the motor at FULL SPEED to unwind the spring and clear a jam in less than a second once detected.
- No special drive cones, no lubricated belts, its all in the board and hands-free, you just fire.
- "Chameleon" LED tells you exact loader state, battery level, and status.
- Battery use is optimized, when this board is off its really off, and won't drain your cells when not running. Even when its on, the board 'sleeps' when not feeding to be sure the power is there when you need it.
- Turn loader on with a 2 second push and hold of the front button.
- Turn loader off with a 3 second push and hold of the button. All lights will turn off when the Cheetah is no longer active.
- The Cheetah will timeout after 20 minutes of non use

Cheetah Calibration (original programming) This must be done without paint in the HALO:

Hold the button for 4 seconds or until the LED turns green. When you release the button it will turn RED to indicate that the cheetah is now calibrated. A simple tap of the button will turn the Cheetah off after it has been calibrated.

Cheetah boards flashed/purchased after 8/24/05

Motor Torque Calibration (hopper must be empty):

- 1) Hold switch down until the light turns green (or white depending on version of code you have) then release. The light will turn yellow/amber.
- 2) Hopper assumes no paint is in it and begins spinning the motor with super-minimal settings that will continuously reverse
- 3) Tap the button until the reversing stops and the hoppers drive cone runs continuously as it would when feeding paint. This could be several taps depending on how the motor is working to turn the drive cone. This tells the Cheetah what an empty hopper looks like so it can anti-jam and run correctly.
- 4) Press and hold to exit once you have found the setting that causes the motor to reverse only during long spin times.

We strongly suggest the use of lithium or good alkaline batteries when using your new Cheetah board. The few extra bucks you spend will give you much more run time and greater performance. It is important to prepare your HALO for its new brain. We suggest cleaning it completely and making sure that the EYES are clean enough to eat off of. If this is not done your HALO will have a hard time seeing black paint.

LED Operation:

- RED PULSING LED: replace battery
- YELLOW LED: battery warning
- GREEN LED: seeing movement
- BLUE: loaded but not running (normal operation)
- PURPLE: manual mode (you must push the button to unjam the loader)
- ORANGE: feed tube empty

Button functionality:

- Push and hold to turn on
- Push for less than 4 seconds to force the unjam sequence (while running)
- Push for more than 4 seconds and it will change modes
- Push for more than 6 seconds and the loader turns off

The Rip-Switch:

If you touch the on/off switch it "kicks" the hopper, running the unjam sequence and re-priming itself. In other words its a software-rip drive that can be used in the event the eyes have become fouled or damaged. No more thumbing the wheel, one touch of the button will clear jams and auto-feed.

When it first starts up its in "automatic" mode (blue light when loaded) but if it runs the unjam sequence more than three times in a row, it assumes it can't see the paint, and drops into "sweet spot" mode, which assumes that it has been fed dark paint and the eye is on a ball intersection (this happens when the eyes are looking into the point where the 2 balls meet instead of the center of a ball). It can still detect motion and feed properly, the only thing it can't do is unjam itself and detect when its out of paint. No problem, thats what the rip-switch functionality is for!

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