

WFTF Target Checker

The WFTF target checker provides a consistent means for verifying target function before and during matches. It's correct use is imperative to get valid readings. When used correctly, it should be the definitive test used to qualify targets and to address targets that are “called” during a match.

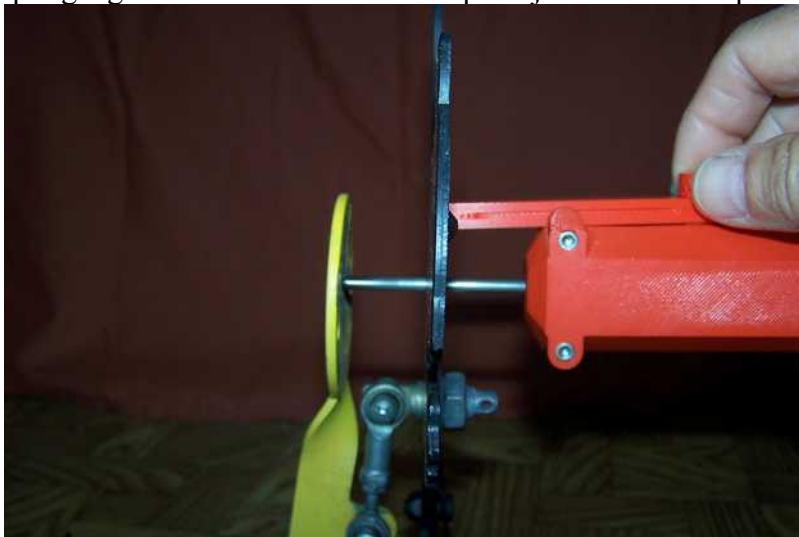
Use by course marshals on “called” targets

Paddle distance can vary on different targets. You will need to set the depth gauge before testing the target. When setting the depth gauge, the checker should be in the **uncocked** position.



Adjusting the depth gauge:

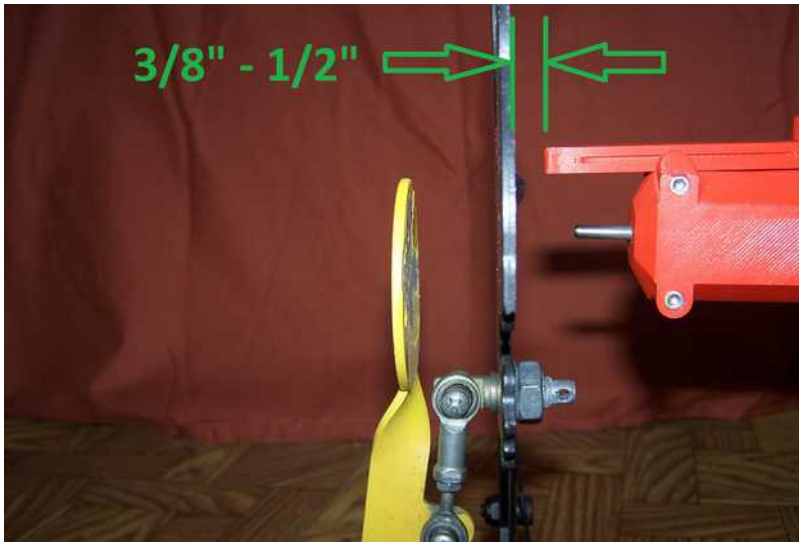
Point the checker upward temporarily to let the steel probe drop back to just contact the internal spring. Position the checker so that the depth gauge is set to contact the face-plate just as the steel probe contacts the paddle.



Note: At the maximum setting, the checker's probe tops out at about 3” extension. Most targets have a paddle to face plate distance of about 1/2” to 1-1/2”. The target checker should not be used on targets where the paddle to face-plate distance is greater than 2”.

Testing the target:

Cock the checker for the actual test of the target. Depending on the target type/brand/setting, the face-plate needs to rock forward a small amount as the target mechanism goes over center. To prevent the possibility of a false negative, position the checker so that there is approximately 3/8"-1/2" between the front of the depth gauge and the face-plate.



From that position, fire the checker at the paddle. If the target falls, it passes. For targets with full size kill-zones, test the paddle in the middle, near top, and near bottom. For targets with reduced size kill-zones, test in the middle.

Note:

False positive – target is “pushed” down. The target checker works by momentum transfer from the probe to the paddle. The probe should be in “free-flight” when it strikes the paddle. The target checker’s spring force should never push on the paddle through the probe.

False negative – face-plate rocks forward enough to contact the depth gauge. The most common target types use a four bar linkage that must go over center. The face plate must rock forward freely. If any contact it made with the depth gauge when testing and the target fails to fall, the test is invalid.

Calibrating the target checker

Each target checker should be calibrated to a predetermined threshold. That threshold is currently between 4fpe and 5fpe equivalent. Two field targets should be set aside and adjusted to act as “go” and “no-go” samples. The “go” sample must be adjusted to consistently fall when hit with an 8.4gr pellet at a maximum of 464fps. The “no-go” sample must be adjusted so that it will only fall when hit with an 8.4gr pellet at 518+fps.

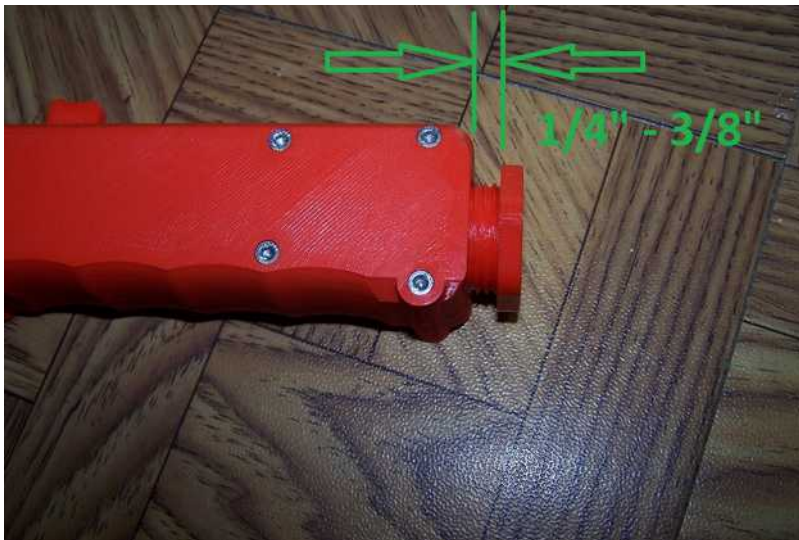
The “go” and “no-go” targets are for bench calibration of each target checker. The target checker used by the marshals should always take down the “go” sample. But that same checker should never take down the “no-go” sample.

The spring in the target checker can be stretched slightly in order to increase the preload and fpe equivalency. Coils can be clipped off the spring in order to decrease the preload and fpe equivalency. It is easy to overdo it, so best to do small incremental changes.

Note: The target checker works by momentum transfer. If a variety of target types with paddles of different mass are used, each target checker should be calibrated for the specific type of target that will be tested.

Calibrating targets

Each target should be calibrated on the bench before being allowed in a regional match or a championship match. Targets that are marginal may appear to satisfactorily pass a test with the marshal's target checker, but they will subsequently fail to pass after just a little bit of abuse. In order to allow for some tolerance during the match, the target must qualify at a lower threshold than provided by the standard checker. When bench testing the targets, the technician can back out the end cap on the target checker by approximately 1/4" to 3/8" in order to qualify a target. That will simulate approximately a 3fpe hit with an 8.4gr pellet. If the target falls with that test, it should have sufficient leeway to make it through an entire championship match.



Note: The parts for the WFTF target checker were designed to be 3D printed. A common 3D printed plastic used is PLA (polylactide). It has a relatively low melting point compared to some other engineering plastics. When subjected to unusually high heat (direct sun or inside a hot enclosed case/vehicle), it can deform to the point where it's function is impaired. It's best not to subject the target checker to temperatures over 120°F. Be aware.

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