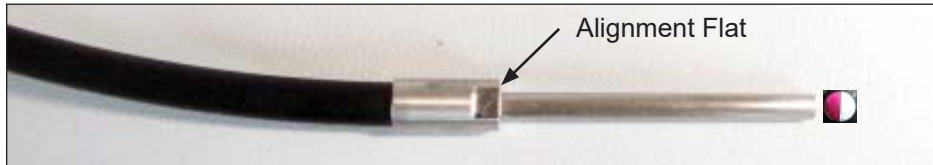


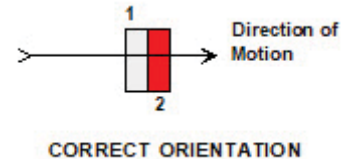
RC SENSOR TIP ORIENTATION NOTES



An alignment flat found on the probe collar can be used as an aide to get proper alignment. The flat is ground parallel to the split between the adjacent fiber bundles.

UNIFORMLY REFLECTIVE TARGETS

If there is no lateral motion, no tip alignment is required. With lateral motion, the sensor should be oriented as shown here. With this orientation, reflectance compensation is most accurate.

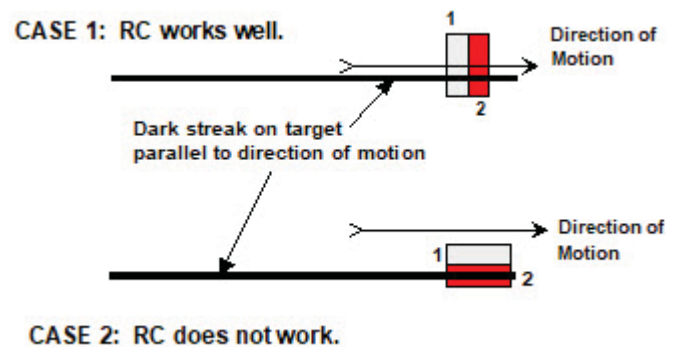


VARIABLE REFLECTANCE TARGETS

LATERAL MOTION

CASE 1:

Scoring, streaks or bands on the target that have different reflectance than the rest of the surface will not have a major effect on sensor performance *if they are parallel to the direction of target motion*.



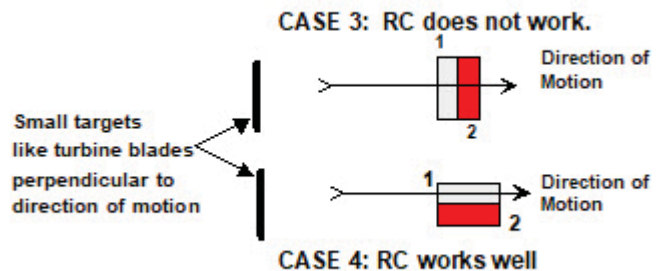
CASE 2:

Sensor area 1 "sees" a different reflectance level than sensor area 2, and reflectance compensation does not work accurately.

TURBINE BLADES (THIN TARGETS)

CASE 3:

Sensor areas 1 and 2 "see" the leading and trailing edges at different times, thereby causing voltage spikes in the sensor output.



CASE 4:

Voltage spikes are avoided by orienting the sensor so the part edges are perpendicular to the direction of motion.

LARGE ROTATING TARGETS

CASE 5:

With large diameter rotors and discs, the radius of curvature is much greater than the diameter of the fiber optic probe and calibrations to a flat target will be accurate.

- Preferred orientation is same as Case 1.

SMALL ROTATING TARGETS

CASE 6:

With small diameter rotors, the radius of curvature is small and the sensor output can be altered. It is best to mount the sensor with the alignment flat perpendicular to the cylindrical axis as shown below. The sensor should not be mounted with the flat parallel to the shaft axis.

The standard factory calibration to a flat target will not apply accurately. A calibration to a target having the same diameter as the small rotor should be used.

