



SURFACE VEHICLE RECOMMENDED PRACTICE

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Film Analysis Guides for Dynamic Studies of Test Subjects

RATIONALE

This technical report is being stabilized because it covers technology, products, or processes for which technical expertise no longer resides in the owning committee.

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Foreword—This Document has not changed other than to put it into the new SAE Technical Standards Board Format.

1. **Scope**—This SAE Recommended Practice is intended to provide guidelines for the identification of subjects used in dynamic tests. It establishes recommendations for location and description of target areas on test subjects or test devices, as well as recommendations for photographic calibration and timing.
2. **References**—There are no referenced publications specified herein.
3. **Target Description**—Target size should be at least 1/100 of the field width covered by the camera, and of contrasting colors or contrast with background. Yellow and black or white and black are preferable. The center of the target must be easily discernible.
4. **Target Mounting**—Target should be mounted or painted on the test fixture and to the subject's skin or firmly attached to tightly-fitting clothing which minimizes target movement with respect to the subject.
5. **Target Locations and Body Dimensions**—It is suggested that targets be located on test subjects in a uniform manner. Figure 1, Figure 2, and Figure 3 show two methods that can be used for locating the test subject's targets and a:
 - a. seating-fixture reference for test devices (Figure 1).
 - b. anatomical landmarks for human volunteers and cadavers (Figure 2).
 - c. minimum external body dimensions for human volunteers and cadavers (Figure 3).

If A-P photometrics are used, additional targets should be located on the mid-curve.

6. **High-Speed Camera Description**—Lens focal length, camera make and model, and a sketch showing dimensions from camera to subject should be included with each test series. An alternate method may be used wherein the camera location can be determined from targets viewed by the camera.
7. **Photograph Calibration Description**—Description of photograph calibration boards or scales within the camera field should be supplied with each test series. A ground-mounted target or targets is often of great benefit.
8. **Photograph Timing Description**—An appropriate description of photo timing marks on each film should be supplied. Both timing mark frequency and image to corresponding timing mark offset should be included.