



Use of a Headlight Aiming Wall Screen

The wall screen is an out dated and extremely time consuming method of aiming headlights. It requires a long, flat, work bay and *is simply not practical for the majority of repair shop applications*. This page describes the proper use of a headlight aiming wall screen and explains why the screen is impractical for use in most shops.

(1) Space

One of the first considerations a shop must make when determining whether an aiming screen is suitable for their operation, is the amount of space required for the screen. The SAE (Society of Automotive Engineers) provides that the screen be at least 10' wide and tall enough for all headlights (about 5'). In addition, the shop **must** have approximately 45' of flat floor space with space on the wall at the end for the aiming screen. This distance is based on the need for the screen to be located 25' from the headlights and allowing 20' for the length of the vehicle. ($25' + 20' = 45'$). *In the vast majority of shops, this space requirement alone is enough reason to prevent the use of a wall mount screen.*

(2) Floor

The floor **must** be completely flat, level and plumb over the 45' length and at 90 degrees to the wall on the full 45' length of the aiming bay. Any deviation from this will result in the vertical aim being too high or too low.

(3) Aligning the vehicle to the screen

The vehicle **must** be aligned at exactly 90 degrees to the aiming screen. Any deviation from this will result in left-right variation in headlight aim. This alignment is difficult because in addition to being 90 degrees from the screen, the vehicle must also be exactly 25' from it. Many have tried to accomplish this by painting a straight line on the floor that is measured to be at 90 degrees from the screen. They then try to drive the car on the line so that both front and rear tires are **exactly** centered on the line (this process is much more difficult than it sounds, try it).

(4) Placing the aiming lines on the screen at the center of the headlights Based on each vehicle being tested, a vertical and horizontal line **must** be indicated on the screen that has been aligned exactly with the center of the right and left headlight on the vehicle. Although aligning the horizontal line is easy, the vertical lines are much more difficult. They **must** be aligned with the left and right center of the each headlight. This is very difficult to do because the screen is 25' from the lamp and (unlike the floor for the horizontal line) there is no reference point to measure from. **Any** deviation or miscalculation in measurement will result in miss-aligned headlamps

The vehicle alignment to the screen must be performed for EACH VEHICLE BEING TESTED. When all three lines are positioned on the screen as explained, the screen is ready to aim the headlights. The difficulty with all of these measurements is that they must be taken at the car and then transferred to the aiming screen, which is 25' away. In addition, it is considered good practice to repeat the measurements to confirm their accuracy after the screen is set-up. This entire process is very difficult and extremely time consuming to do.

(5)Aiming the headlamp

If all measurements are performed and transferred to the wall screen perfectly, the aiming screen works very well. You simply view the beam pattern on the wall and aim the pattern using the lines on the screen as reference points. The advantage of a wall screen is it's low cost. However, they are very difficult to set up and use for each vehicle and the floor space requirements make them impractical for most shops.

The Panther OPTICAL Headlight Aimer provides all of the advantages of the aiming screen with none of the disadvantages. It is a visual system that is fast and easy to use with none of the space restrictions of the wall screen and works with all vehicles that operate legally over the road.