

Guidelines for Alternative Driving Systems

ACTSAFE SAFETY BULLETIN #42



This bulletin provides guidelines for safely working on or around an alternative driving system (ADS), such as a pod, car topper, or topper. An ADS is typically a custom-built device that is connected to a vehicle so it can be driven safely by someone who is not sitting in the normal driving position. The ADS operator controls the steering, accelerator, brakes, and other driving components.

This bulletin does not cover wireless-controlled vehicle systems or ADS design, fabrication, and assembly.

PERSON WITH AUTHORITY

Production should assign a stunt coordinator who will have authority over all ADS operations.

GENERAL CONSIDERATIONS

- Type of vehicle the ADS will be installed on
- Intended speed and manoeuvres
- Other vehicles operating in close proximity to the ADS-rigged vehicle
- Aircraft flying in close proximity
- Scene action (e.g., stunts, performance, special effects)
- Whether to disengage the vehicle's original systems (e.g., ignition, accelerator, brakes, steering, airbags)
- A secure area for performers and crew riding in or on the ADS vehicle
- Load capacity, centre of gravity, and counterbalance
- Equipment weight, placement, and use (e.g., camera, lighting, props)
- Visibility conditions for the ADS operator (e.g., dust, spray, smoke, blinding lights, restrictive coverings over the windshield)
- Emergency-stop system
- Communication system (e.g., walkie-talkies)
- Allowing time for proving/testing the system

RIGGING

Communicate the capabilities and limitations of the ADS to all applicable departments.

A qualified person should perform all rigging of the ADS and equipment, including cameras and lights. This should be done in an area secured for the purpose of rigging and free of known hazards, including other vehicle traffic. Only authorized persons should be in the secured area.

Rigging must be discussed with the stunt coordinator and the ADS operator before using the vehicle. The stunt coordinator and ADS operator must inspect the vehicle after any rigging change to ensure that it will not adversely affect the safe operation of the vehicle. When the ADS vehicle is not in operation, take steps to ensure that it can't move inadvertently.



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SAFETY MEETINGS

The first assistant director and stunt coordinator should hold a shot-specific safety meeting, as needed. Include everyone who will be in, on, or near the ADS vehicle (e.g., stunt personnel and background performers).

Discuss the shot sequence and route, including stunt action such as crossovers, head-ons, and near misses. Include information on vehicle speed, number and proximity of other vehicles, crew and camera placement, background performers, and property.

Other topics for safety meetings

- Walk-through or dry-run
- Environmental conditions (e.g., weather, wet or slippery surfaces)
- Route conditions (e.g., curves, inclines, crowns, and clearances; obstacles; length and width; paved, gravel, or dirt surfaces; flat or hilly topography)
- Possible changes due to hazards

- Authority to abort, including signals to be used
- Equipment considerations (e.g., rigging, exposed controls, drive systems, airbags, automatic roll bar, fuel-cell position)
- Communication systems (e.g., intercom, designated channel)
- Signalling system to alert workers that the ADS will be moving
- Visibility
- Special effects
- Personal protective equipment (e.g., harnesses, seat belts, helmets, eye protection)
- Traffic and pedestrian control (e.g., street closures, intermittent traffic control [ITC])
- Emergency plan (e.g., escape routes, contingency plan)

If there is a change in the choreography or personnel involved in the shot, hold a safety meeting with everyone involved to ensure they understand the changes.

WALK-THROUGHS AND REHEARSALS

Conduct a walk-through with the performers to let them know which of the vehicle's original systems are operational and which have been disengaged. Consider having a rehearsal to familiarize performers with the characteristics of the vehicle and its controls.

Review the emergency evacuation plan with the performers and crew.

INSPECTIONS

The ADS and the connected vehicle must be inspected before and after each run. Examples of vehicle inspection items are:

- Brakes
- Steering
- Tires
- Engine
- Drive train
- Electrical system
- Connection points
- Towing equipment
- Safety equipment

Any items that are not fully functioning must be repaired by a qualified person before use.



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OPERATION

During rehearsals and takes:

- The stunt coordinator and the ADS operator have the authority to suspend operation of the ADS vehicle, including the ability to abort.
- The stunt coordinator and/or ADS operator need to approve any changes.
- The first assistant director, stunt coordinator, or ADS operator needs to give permission before anyone can approach, enter, or exit the ADS.
- Only essential personnel required for the shot should be allowed on or in the ADS vehicle.
- Performers and crew riding on or in the ADS vehicle must be provided with a safe and secure place to ride.

REGULATORY REFERENCES

- [Section 4.3, Safe Machinery and Equipment](#)

Actsife Safety Association

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