SAN DIEGO FIRE-RESCUE DEPARTMENT

BULLETIN:

NO.: **15-074**

DATE: May 14, 2015

TO: All Personnel

FROM: Brian Fennessy, Assistant Chief, Emergency Operations

SUBJECT: Green Sheet – Near Miss / Rolling Apparatus Incident

Please find attached the *Informational Summary Report of Serious SDFD Injuries, Illnesses, Accidents and Near-Miss Incidents* from a vehicle accident involving a rolling apparatus. Any questions should be directed through the normal chain of command.

GREEN SHEET

(Factual Report)

San Diego Fire-Rescue Department (SDFD)

Informational Summary Report of Serious SDFD Injuries, Illnesses, Accidents and Near-Miss Incidents

Near Miss / Rolling Apparatus Incident

April 2, 2015

This report is intended as a safety and training tool, and aid to preventing future occurrences. Information contained herein is subject to revision as further investigation is conducted and additional information is developed.

SUMMARY

On Thursday, April 2, 2015, an engine company parked on an uphill grade during a medical aid response had a near miss incident. At the completion of the call, the engineer removed the wheel chocks to store them back in their cradle and the apparatus proceeded to roll backward, and struck an ambulance parked directly behind the engine.

The grade of the street, the layout of homes in the neighborhood and time of night the incident occurred, could have led to a tragic event.

SEQUENCE OF EVENTS

The crew was assigned to a Ready Reserve engine, a 1997 Saulsbury Type I engine. The incident occurred just after midnight. The engine company parked in front of the home where the request for service originated, on a moderate uphill (12.8%, a little over 7 degrees of slope) grade. An AMR ambulance arrived soon after and parked approximately 6 feet behind the engine company.

After loading the patient into the ambulance, the captain and engineer returned to the apparatus and began preparations to leave the scene. As the engineer removed the wheel chock from the back of the rear wheels, easily and without resistance, and placed it back in its cradle, the captain prepared to enter the cab by grasping the door handle. The opening of the door and the slight movement of the apparatus may have contributed to the inertia that overcame the holding force of the parking brakes that were applied and the apparatus rolled back into the AMR ambulance. The damage was limited to minor bumper and tailboard damage.

The engineer employed both the regular parking brake and wheel chocks per department policy, however neither the auxiliary front wheel lock nor the ratcheting procedure for the parking brake system for this apparatus were utilized.

The Fleet Services duty-mechanic was called to the scene to evaluate the brake system of the apparatus. During his evaluation, he recreated the roll of the apparatus when only the regular parking brake system was used. However, when the ratcheting function of the parking brake system was utilized, the apparatus did not roll. When the auxiliary front wheel lock was utilized in conjunction with the regular parking brake system, the apparatus also did not roll. The service brakes were also inspected and found to be operating properly.

The apparatus was taken out-of-service and driven to the Miramar Repair Facility. A complete inspection of the brake system was conducted the following day by Fleet Services. It was determined that the service, parking and front wheel lock brake systems were operating normally. It was found that both rear brake slack adjusters were out of adjustment for stroke.

INJURIES/DAMAGES

- There were no injuries reported;
- There was minor damage sustained by both the engine and the ambulance.

SAFETY ISSUES FOR REVIEW

- Currently, most SDFD apparatus are outfitted with an auxiliary front wheel lock system that provides additional parking brake capacity when used in conjunction with the rear spring brake system. As these systems are 'air-supplied', it is critical that the engine be left running when these systems are in use;

    - The use of front wheel lock systems may no longer be uniformly understood or used in Operations;
    - Documentation appears limited to the manufacturers operational manuals, and are not found in every fire station;
    - No documentation was found in Target Solutions on the use of these brakes;

- Additionally, all Saulsbury apparatus are equipped with DD-3 brake cans, commonly known as a "ratcheting brake system". These brakes require a full service brake application by the driver after the parking brake has been set to provide increased parking brake capacity;

    - The proper use of DD-3 ratcheting brake systems, and the ability to "ratchet down" the system after parking brake application when additional braking force is required, may no longer be uniformly understood or used in Operations;
    - This system is installed on 21 Saulsbury apparatus (17 Type I's and 4 trucks), and 2 Type III's (1574 & 1575, BR24 & BR37). Documentation appears limited on the ratcheting parking brake system to Bulletin 99-062, still found in some Saulsbury engineers manuals;
    - No documentation was found in Target Solutions on the use of these brakes;

- There may be misinformation concerning maximum allowable brake stroke;

- There are multiple styles of brake measurement aids ("brake sticks") in use for different style brake systems that may or may not be accurate for use;

- Brake stroke measurements are critical. This effects the braking force applied to the brake rotors and must be accurately measured daily.

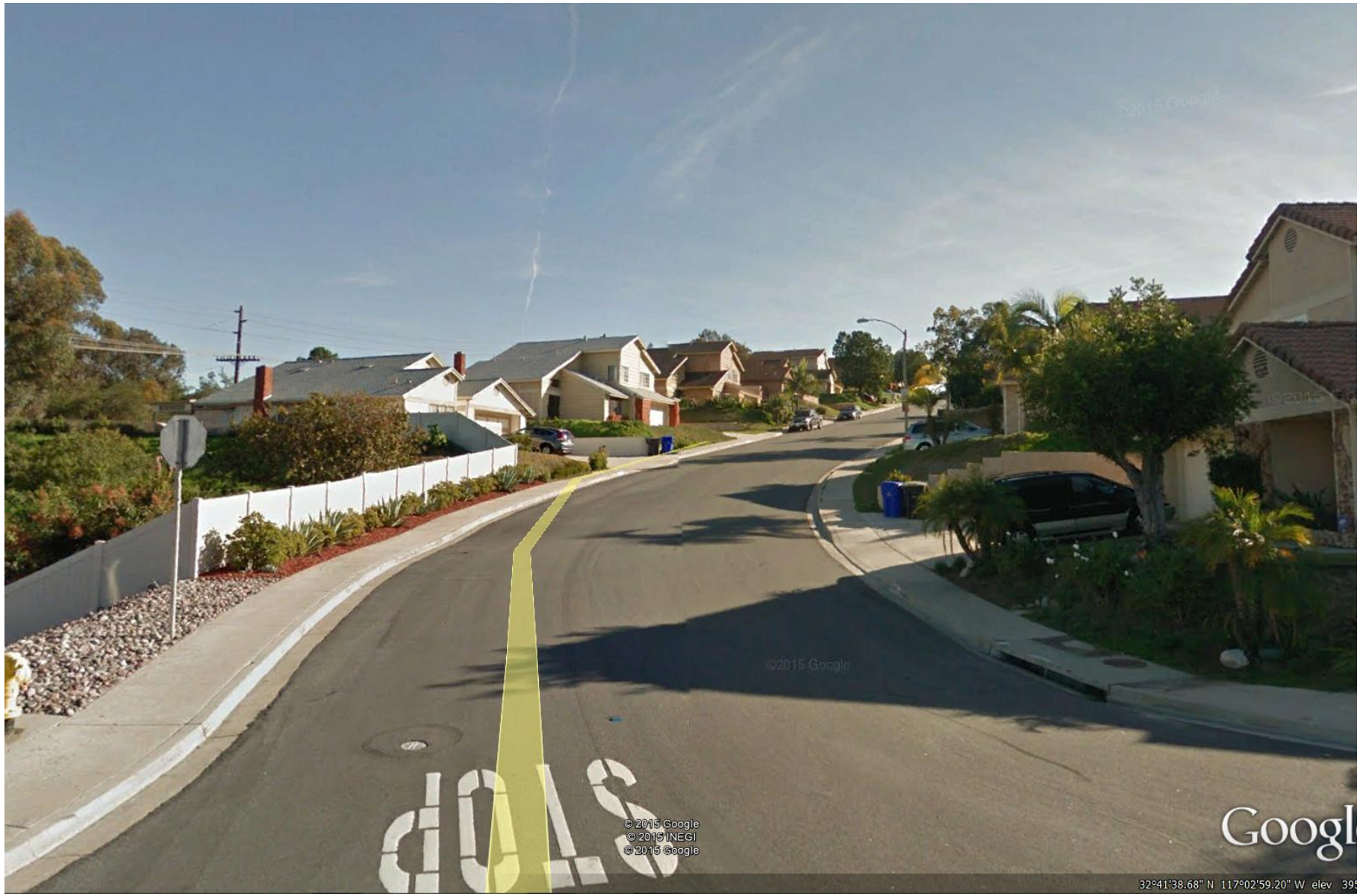
LESSONS LEARNED

- Need to examine the current state of operator training, actual practice and ongoing refresher training as it relates to brake inspection and operation;
- Need to determine a go-forward standardized process for air brake inspection, including the tools to be used;
- Need to ensure that all appropriately certified personnel are trained to:

    - Determine what parking braking system is installed on the apparatus they are operating;

- Properly inspect and measure air brake systems on so-equipped apparatus in the fleet;
- Properly park apparatus on a grade;
- Determine when and how to properly utilize front wheel locks;
- Determine when and how to properly utilize the ratcheting brake system on apparatus so equipped;
- Properly secure an apparatus in or out of quarters when not actually in the driver's seat.

Training is being developed at this time and will be assigned to all appropriate personnel. Personnel shall review Bulletin 99-062 in the meantime as a refresher. Questions should be directed to the Driver Training Officer, at 619-692-4981.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