

# TRAFFIC ACCIDENT HAPPENED ON 01.02.2013, A ROUD 22.00 PM IN RADOVISH, STR. "ST. SPASO RADOVISKI" BEFORE LTS "INTERPLAST" AND EMPLOYMENT BUREAU RADOVISH



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## I. INTRODUCTION (FINDING – GENERAL DATA)

According to the minutes for an insight on the spot no. OID.br.12 / 13 the investigating judge Ivan Atanasov Basic Court Radovish, the accident occurred on 01.02.2013 around 22:00 in Radovis Street "St. Spaso Radovski" in front of LTC "Interplast" and Employment Bureau in Radovish.

### 1.1. Participants in the accident

Evident from the records for inspection on site, in the accident in question involved parties were:

1. Passenger vehicle "Volkswagen Lupo" with registration number RA-088 AB, driven by Stefan Mitev born 30.07.1994 year, from Radovish, driving license "B" kategorija, a valid registration, insured at "Sava Tabak" AD. Passenger vehicle "Volkswagen Lupo" were Alexander Hristov, rod..17.01.1994 yr., who sat forward in the vehicle (front passenger seat) and Stoyan Martinov born 07.22.1996 years. who sat on the back bench seating in the vehicle. The vehicle was heading down the street "Spas Radovski" from the direction of town to Radovis Employment Service.
2. Working forklift machine-like "Balkan Car" with a payload of 3.5 tons, which at the time of the accident was driven by Vasil Pocev rod.1967 years. from Radovish. At the critical time it performed unload metal plates from a parked truck.
3. Parked LT "" Mercedes LP 810, "which the site of the accident was parked by Petre Kotev from Radovish, and which at the time of the accident was parked on the right side of the road Street. "St. Spaso Kuchevishki" with the front facing towards the city Radovish.

### 1.2. Description of the accident, road and weather conditions

The street at the site of the accident is straight and clear, designed to move vehicles in two directions. Pavement of the street has a width of 6,60 [m], built by the road structure with surface of asphalt, which during the accident was dry. The speed limit on the street at the site of the accident is 50 [km/h]. As stated in the report from the crime scene, the road at the site of the accident was illuminated by street lighting which at the time of the accident was operational.

### 1.3. Injured persons

As a result of the accident the driver Mitev Stefan sustained injuries (head injury with tears to the skin of the skull), passenger Alexander Ristov (bruises lacerations to the head and bruises on the wrist of the left hand). The passenger who was sitting on the back bench, Stoyan Martinov, as a result of severe injuries in the head died.

### 1.4. Analysis of the damage to the vehicle

According to report from the scene, as a result of the accident passenger vehicle "Volkswagen Lupo" is visible damage to the front bumper, front grille, front door lev, left pillars, damage to the roof of the vehicle seats. Loading trailer "brothers" has been damaged in the area of hand and deformation of sheet metal by the left. The forklift, which at the time of the inspection, the working device-fork be at a height of 1,72 [m] from the ground, there is no visible damage as a result of the accident. Based on the damage to the passenger vehicle "Volkswagen Lupo", it appears that the primary contact of the vehicle was left to the front part of the roof which crashed into the metal plate at the time of the accident has been raised on the forks of the forklift. Viewing from the photographs of the vehicle in the attached documentation in the previously prepared expert, the resulting shot was disassociated left front pillars in place of the junction with the roof of the vehicle, the front part of the roof was deformed up and torn from vehicle, while the rear part of the roof was suppressed down (towards the inside of the passenger compartment or the back seat). Damage to the passenger vehicle "Volkswagen Lupo" the volume and location of occurrence undoubtedly point to the conclusion that the metal tray at the point of impact was in the tilted position at an angle of 30 to 40 that has been tilted toward the asphalt surface with a tendency of slipping the forklift that was shipped



Fig.1- Damaged roof in passenger vehicle "Volkswagen Lupo" in contact

with a metal panel

### Accident analysis

In the case of question it was done unloading the metal panel load the vehicle with Load Truck-LT "A" platform from the ground was the height of 1,10m. The amount of PMV "Folsfagen Lupo" is 1,46m, and where was realized the primary contact with the metal panel is the height of 1,40m starting from the ground.

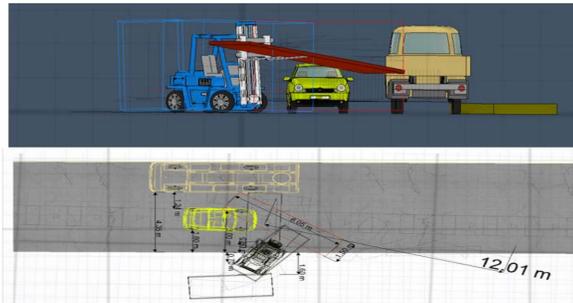


Fig.2 - a contact / contact mechanism

PMV "Folsfagen Lupo" with metal panels realized physical contact of the substrate height of about 1,40m, with metal panels from the scene of the collision on a parabolic trajectory rejected the substrate at a distance of about 12m. Hence that the moment of contact with the metal panels, PMV "Folsfagen Lupo" had contact speed of not less than 81,5 km/h.

$$t_n = \sqrt{\frac{2 \cdot 1,40}{9,81}} = 0,534 \text{ sek} \quad V_{\text{sub-Lupo}} = \frac{12}{0,534} = 22,472 \text{ m/s} \approx 81,5 \frac{\text{km}}{\text{h}}$$

For more technical documentation forklift average acceleration in reverse load is absorbed 0,5 m/s<sup>2</sup> while at raising viljushkarite raise the load by 0,25-0,3 m/s, in the case adopted is 0,25m/s.

At the moment of contact between the metal panels and PMV "Folsfagen Lupo", the forklift only with the front left wheel was on the road surface of 0,8m from the edge of the road, with the front right wheel was on the edge of the road, with the rear left wheel it was of uneven clay of 0,7m, and the rear right wheel of 1,6m all this starting from the right edge of the roadway (see Fig.2)



Fig. 2.1 - Mechanism Contact

According to the defined collision position of the forklift and correlated with all the other evidence found at the scene, it appears that in reversing backwards from the lifting position, and onwards to the place of contact, the forklift driver has passed a distance of 2 m moving backwards with a graduate left turn maneuver In a period of time no longer than 2,6 sek. Forklift driver at all times while reversing performed raising of the metal pannel after it huck it with the forks and effectively lift it on a high additionally on a hight of 0,6 (60cm) calculating from the height of the initial hung from the platform of the truck t .E of 1,1m, which means the place of collision position the part where contact with the metal pannel was made, of the asphalt surface was raised to 1,40m, the other part of the metal board was at a height of no less than 1,7m.

Forklifts at the site of the collision was a collision speed of 5,0 km/h, a distance of about 2,0 m achieved with acceleration of 0,5 m/s exercised for a period of about 2,6 sek.

t = 2,6sek. - Elapsed time from the place of lifting loads to place conflicts

h = 0,25 \* 2,6 = 0,6m-height raised load (metal plate-panel)  
H = 1,1 + 0,6 = 1,7m-built maximum amount of metal-plate board of the asphalt surface.

The mechanism of contacts made between the metal panels with top-plate roof of the left by PMV Lupo to the conclusion that, just before contact, the metal dashboard plate was tilted from side lev 0,3 m (30 cm) and mean was slipping under the forks of a forklift that was broadcast.

The driver of the passenger vehicle "Folsfagen Lupo" vehicle traveling at irregular and unsafe speed in the specific time road conditions for traffic.

The dangerous situation for the driver of "Folsfagen Lupo" begun to unfold to the point of pre-collision moment, in no less than 2,6 sec. before the moment of impact.

When the forklift began the move back with the metal tray-plate moving away from the LV, then the PMV "Folsfagen Lupo" was on a distance of 58,8 m from the point of impact.

$$S_{\text{sz-Ww-Lupo}} = 2,6 \cdot \frac{81,5}{3,6} = 58,861 \text{ m}$$

The braking distanc for PMV Folsfagen Lupo speed of 81,5 km/h would be 56,7 m

$$S_{\text{sz-Ww-Lupo}} = \frac{81,5^2}{26 \cdot 7,5} + 1,0 \cdot \frac{81,5}{3,6} = 56,702 \text{ m}$$

Hence, the driver of the passenger vehicle "Folsfagen Lupo" was technically possible with intensive stop-brake to stop the car at about 2,0 m in front of the site of the collision.

## CONCLUSION

1. In the present case, where are contacted between the metal panels with top-plate roof of the lev by PMV Folsfagen Lupo, longitudinally located at the height where a fixed position of the parked truck where appropriate unloading the metal-plate board and in the transverse sense point of conflict is 3,0m left from the right edge of the roadway seen in the direction of movement of passenger vehicle Folsfagen Lupo.
2. It is working on bias eccentric collision, primarily made between upper lev roof of the passenger vehicle Folsfagen Lupo on his speed not less than 81,5 km/h with a metal tray plate transported by forklift at the moment of collision had speed not less of 5,0 km/h.
3. The dangerous situation for the driver of Folsfagen Lupo launched to develop speaking time not less than 2,6 sec. before the moment of impact, and that's when the forklift effectively commenced moving backwards with the metal tray-plate moving away to TMB. Then PMV Folsfagen Lupo longitudinal pre place of any conflict is around 58,8 m, a forklift that was load metal tray plate, about 2,0 m. The braking time for LT Folsfagen Lupo speed of 81,5 km/h would be 56,7 m. Hence, the driver of the passenger vehicle Folsfagen Lupo had the technical possibility of intense stop-brake to stop the car at about 2,0 m in front of the site of the collision.
4. Based on defined collision position of the forklift and PMV Folsfagen Lupo in correlation with all the other evidence found at the scene, it appears that a forklift in reverse from a place pick Matala panels - plate to where he was contacted PMV Folsfagen Lupo elapsed time in reverse from about 2,0 m with gradual maneuver of turning left at not less than 2,6 sek. The driver of the forklift when moving the forklift backwards all the time performed raising the metal tray after it hung forks from the starting height of 1,10 m TMB and effectively managed to raise additional metal tray height of 0,6 m (60 cm) or a total of 1,7 m.
5. The collision position, a portion of the metal panels - panel who was in contact with PMV Folsfagen Lupo was raised to 1,40m, the other part of the metal board was elevated above the road surface at a height of not less than 1,7m. All this leads to the conclusion that, just before contact, the metal dashboard plate was tilted side of the lev 0,3m (30sm) It means that while it was under slipping from forks of forklifts that were transported. Reasons for slipping of the metal panel in such a manner could be the following:
  - Incorrectly and unsafe transport of metal panel, without being adequately attached to the forks of the forklift to prevent it from slipping or falling from the forklift to the substrate during its transportation under all conditions, circumstances and mode of movement of the forklift as well as it hopping while moving on uneven surfaces.
  - eccentric loading of metal panels - the forks of forklift
  - Incorrectly management of forklift manifested by sharp maneuver left-right
  - While moving forklift off the road surface, ie when driving on uneven dirt surface by the right edge of the road
  - combination of the above reasons
6. In the present case, unloading metal trays, plates are performed at night, part of the road structure intended for development of dynamic traffic without being reserved for maximum security reasons of traffic on that stretch of road. The security reasons require the truck from which the unloading is done unloading the metal trays plaques using a forklift, for the enterprise LLC "Interplast" be done in a way that truck will be parked in the economic yard of a business entity or if the certain reasons it was not possible then the truck should be parked off the road surface to the expansion of the right side of the road, starting in the direction of movement of passenger vehicle Folsfagen Lupo, but in no way the unloading metal pannels should have been performed as in this specific case. For these reasons, our opinion is that workers in charge and the enterprise LLC "Interplast" along with the driver of improperly parked truck made significant gaps in terms of endangering the safety and smooth flow of traffic on that stretch of road.
7. The term "accident" according to traffic rules and regulations means any event in which at least one motor vehicle is in motion, participates. Thus, from the traffic technical aspect in the present case an "accident" is in question.

## REFERENCES

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