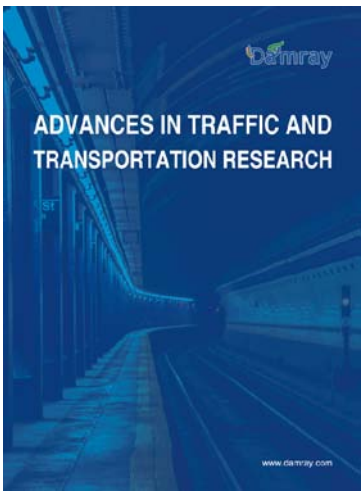
On the Actual Combat Methods and Technical Application in Vehicle Accident Rescue Tasks



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Abstract

This article mainly starts with the experience and methods summarized in vehicle accident rescue tasks, focusing on the relevant knowledge of "*Vehicle Accident Rescue Technology* (Third Edition)" and the vehicle accident rescue training class held by China Fire Rescue Bureau in Xuzhou, Jiangsu in 2016 as the main theoretical support and source, on the basis of the theoretical knowledge and practical experience mastered, based on personal learning understanding, training knowledge and rescue experience, briefly discuss the main methods and methods currently used frequently, and make a basic summary and introduction.

Keywords

Vehicle Accident Rescue, Safety, Equipment, Demolition, Jacking, Rescue, Stable Support

1. Rescue capability requires business foundation and accumulation of practical experience

The actual combat methods and technologies of vehicle accident rescue cannot be ignored. Only by improving the efficiency and success rate of vehicle accident rescue can we effectively save people's lives. Scientific theoretical knowledge, safe operating procedures, and standardized operating methods must be used as guidance, and then combined with According to the actual situation on site, rationally use disposal procedures and technical methods to implement rescue safely, quickly and efficiently. If you don't usually carry out professional training on the subject of vehicle accident rescue, then when the front-line police officers encounter a real vehicle accident rescue task, they will be helpless in the face of the rescue scene and have no way to start. The correct methods and lessons learned are obtained from the task site. It is tantamount to doing "living experiments" with the safety of the people's lives.

1.1. Set up simulated scenarios and carry out actual combat training

(1) Correct methods and techniques are essential for rescue work. In daily work, real vehicle demolition and rescue should be carried out frequently to simulate rescue difficulties in different scenarios. Only in real tasks can you be light-hearted, be proficient, and solve problems smoothly.

(2) Vehicle accident rescue work must be unremitting. During the on-site rescue process, fire rescue personnel are skilled in operating professional rescue tools and equipment, with the help of effective construction machinery vehicles and equipment from road administration, road rescue and other departments, in accordance with the scientific disposal procedures and methods to create a life-saving space and open up a life-saving channel to rescue people.

1.2. Facing problems and difficulties head-on, summarizing methods and experiences

Rescue time and rescue space are the two major problems we face first. Safety control during the rescue process ensures the smooth development of the rescue work. Time is life, and every minute and second of the rescue scene is crucial to the injured. Rescuers should always adhere to the principle of "saving people first, scientific rescue", not only to control and ensure the safety of the entire rescue work, It is also necessary to ensure the speed of rescue progress. Vehicle accident rescue work must overcome obstacles and solve difficulties, and hard work is indispensable. More skills and methods are needed.

(1) Time is a race against death and life for rescue work, how to solve practical problems as quickly and effectively. From the dispatch of the police to the on-site disposal, there is a race against time. Dispatch the nearest fire station or two-way dispatch to the nearest fire station. The commander and liaison officer of the police should ask the insider on the scene or push the information from the command center to understand the nature, extent and severity of the accident. The development and changes of the accident scene, the determination of the driving route, and the uncertainty factors of encountering traffic jams.

(2) For the rescue work, the space is to overcome all difficulties, and try every means to open up the closed and squeezed space while protecting the personal safety of the rescued. Whether the rescue work is successful or not, everything that happens will directly affect the results of the subsequent medical rescue and physical rehabilitation. In response to various accident rescue situations, it is necessary not only to follow the rescue and rescue regulations, but also to develop ideas to formulate different rescue plans. In the selection of plans and technical methods for creating life-saving spaces and opening life-saving channels, seek safe, controllable, fast One of the effective and reliable insurance operations, specific analysis of specific problems, special methods to solve special situations, in the face of different risks, formulate different rescue plans, the only purpose is to quickly, safely and effectively rescue trapped people.

(3) Safety rescue is to eliminate various unfavorable factors and hidden dangers and ensure the smooth development of rescue.

1) Act quickly and ensure safety. From the dispatch of the police to the on-site rescue, the whole process of rescue must be fast and safe, and the on-site safety control after arrival, the elimination of hidden dangers, the setting of warnings, the blockade of roads and other links should be carried out in an orderly, tense and orderly manner, and all actions must be in accordance with Rescue safety regulations require that the personal safety of rescuers and rescued be guaranteed at all times.

2) Rescue workers must be proficient in business skills, formulate scientific, reasonable and effective rescue plans on the spot, and protect injured persons in accordance with operating procedures to avoid secondary injuries during the rescue process. Efforts should be made to stabilize the body and protect the wounded, and reduce or reduce the shaking of the wounded when using various equipment to create a life-saving space.

3) There is no professional medical rescue system in the fire rescue team, and there is a shortage of qualified medical rescue personnel among the team members. They cannot give correct rescue at the first time, and can only cooperate with the medical staff of the hospital emergency center participating in the rescue. During the rescue process, it is necessary to continuously maintain good communication with the injured, reduce panic, and cooperate with the rescue with peace of mind. Do a good job in medical rescue and protection, and implement rescue plans quickly and effectively.

2. The main contents of the vehicle accident rescue mission

2.1. Basic disposal procedures

The following is a method quoted from "Technology for Vehicle Accident Rescue (Third Edition)" [1], an effective procedure for general passenger vehicle rescue, which may of course need to be modified for the specific situation encountered.

A- Evaluation Scenario (starting with scheduling, internal and external evaluation, etc.)
Verbal interview with casualty (do not enter vehicle until stabilized! Obtain emergency medical services information)
Explain to the injured (evacuation, number of injured and priority for emergency medical services)
Laying the hose line
Hazard reduction (bystanders, oil spills, etc.)
B-Balance (to stabilize the vehicle)
break (control) glass
stop any interference
C- Cut or move the roof, if necessary (reduces patient anxiety, gives more room to operate)
D- Remove the door, if necessary
E- Enlarged openings (third door, bump displacement, pedals, etc.)
rescue the wounded
F- Done (Prepare tools for next call, comment/post-action review, assist other agencies as appropriate)

2.2. Programming of rescue vehicles

Preliminary vehicle programming should be carried out according to the information obtained by the police, dispatching fire stations in the nearest jurisdiction or two-way dispatching of the nearest fire stations, and rationally equipping the vehicles and equipment of the independent combat unit are the decisive factors for the strength of independent combat capability. The programming of normal vehicle accident rescue is an emergency rescue vehicle and a foam water tanker, and other vehicles may be added according to special circumstances.

2.3. Division of on-site tasks

Shift shifts are carried out every day, and the division of rescue tasks for the on-board personnel is determined in advance every day, so as to avoid normal police calls due to tolerances, duties or vacation delays, and the temporary assembly of personnel is prone to problems. Each number member is familiar with the operation of equipment and maintains the equipment that he is responsible for maintainance.

(1) The on-site commander should evaluate the scene according to the on-site situation and formulate a rescue plan;

(2) Medical personnel (hygienists) are mainly hospital first aid personnel, or sanitation personnel who have obtained medical aid qualifications from fire stations. The whole rescue process will provide medical assistance to the trapped people from time to time according to the situation of the vehicle and the rescue space;

(3) Technical tool operators 2) to stabilize and demolish the vehicle to create a rescue space. After the safety officer arrives at the scene, he will enter the scene with a fire extinguisher to check for oil leakage; power off the vehicle; do a good job of safety throughout the rescue process to prevent accidents.

(4) After the safety officer arrives at the scene, bring a fire extinguisher into the scene to check for oil leakage; power off the vehicle; do a good job of safety throughout the rescue process to prevent accidents.

(5) After the driver (equipment coordinator) arrives at the scene, he will guard the rescue scene. During the rescue process, he will coordinate the equipment according to the needs of the scene, and keep the cleaning work of the rescue scene in progress, and transfer the dismantled glass fragments, vehicle debris, etc., which will affect the rescue. The work is carried out, and it is easy to cause injuries to rescuers and trapped people during the rescue process.

(6) The correspondent is responsible for the communication of rescue.

2.4. Initial rescue management and control

The commander and communication liaison officer of the dispatched fire and rescue station shall maintain uninterrupted contact with the command center and the alarm person at the accident scene. Ask the insiders at the scene or push the information from the command center to understand the nature and extent of the accident and the development and changes of the accident scene. Know in advance the type of vehicles involved in the accident, the method and state of the collision (tail-collision, stacking, upright, rollover, tipping over, or other states), the number of vehicles involved in the accident, casualties, whether explosions and combustions occurred, and whether they carried dangerous chemicals, whether there is leakage, burning, and the situation of surrounding units and residents on the site, and the difficulty of rescue. After arriving at the scene, the on-site commander and security officer conduct an initial investigation on the scene and evaluate the scene. All the participating personnel have a reasonable division of labor according to the situation on the scene, have a preliminary judgment, and prepare equipment.

(1) Driving and stopping. Choose the best route, national highways, national highways or urban expressways for res-

cue, especially for highway accidents, should choose the appropriate entrance and direction of travel, the first emergency rescue vehicle arrives at the accident site as soon as possible, and must stop at In a safe and reasonable location, choose to park behind the accident site. In terms of theory and requirements, the rescue vehicle should be no less than 50 meters away from the accident vehicle. During the rescue on the downhill road, the vehicle should stop on the slope of the visible position in the direction of oncoming vehicles, and take stable anti-rolling measures. In the actual rescue process, the vehicle should be parked as close as possible to the accident area on the basis of the requirements and depending on the situation. The fire truck should be used as a cover to park the vehicle diagonally across the road and occupy 1.5-2 lanes of the accident site (The accident lane and the side driving lane half or the entire lane), provide shelter for all persons on the scene. The parked vehicle should not be too close or too far from the accident vehicle, which is convenient for the equipment to be used at any time. It can not only serve as the last protective barrier for rescuers to avoid secondary collisions and cause casualties on the rescue site, but also facilitate "receiving materials nearby". It can be used at any time to ensure the efficiency of rescue time, avoid wasting time in carrying equipment back and forth, and consume the physical strength of rescuers.

(2) Warning distance. In order to prevent accidents, rescuers should get off from the safer side, and first implement safety control on the rescue scene. If the traffic control department is not present and the road has not been set up with complete warnings, fire rescue personnel should first conduct on-site road traffic control, according to the scene conditions. If the accident scene is serious and complicated, the road should be blocked immediately. The personnel behind the foam water tanker should carry warning equipment such as guard piles and warning lights to guard the road and be guarded by special personnel. The warning distance for ordinary roads is not less than 200 meters, for expressways is not less than 500 meters, and a second warning line is set up at 200 meters; in case of rain, snow, fog and other weather or at night, warnings with reflective or light signs should be used The warning distance should be expanded by 1-1.5 times, and multiple warning signs can be set. In the rescue of highway traffic accidents, the warning range should be expanded, and the road can also be closed according to the on-site situation, prohibiting the passage of vehicles, keeping the vehicle's warning lights and double flashing lights on, and reminding the rear approaching vehicles of an accident ahead, even if the traffic management department personnel When they arrive at the scene, the rescuers cannot hand over all the road control powers, and they still have to maintain the road control rights at all times. In order to protect all the people at the rescue site, the traffic control department should cooperate with the rescuers. Parking of vehicles should reserve entry and exit passages for other emergency and rescue vehicles, such as ambulances, to prevent them from being parked too close to hinder access to the accident site.

2.5. On-site security control

According to the mastery and understanding of the form and characteristics of the accident, predict in advance, conduct a scientific on-site safety assessment, and formulate different rescue plans in the face of different risks. After ensuring that the road traffic control work is completed, the driver (equipment coordinator) will alert the rescue scene, and coordinate the equipment according to the needs of the scene during the rescue process. Set up an inner and outer cordon on the accident vehicle, set up a work area around the vehicle, set up a temporary storage area for tools, set up a debris pile, and place vehicle parts.

(1) Delineate a 5-meter zone. This area is the area where rescue operations are carried out (generally within a radius of 5 meters from the accident vehicle). Only rescue and medical personnel can enter this area, and this area must be kept clean. Delineate a 10-meter area, which is a preparation area to assist rescuers with their work scope and equipment, such as firefighters operating hydraulic tool power units, providing emergency lighting and water cannon cover;

(2) Delineate a 10-meter zone. This area is a preparation area for assisting rescuers to work and equipment, such as operating hydraulic tool power units, emergency lighting and water gun cover in this area;

(3) Set up debris piles 3.10 meters away. This area should not be too far away from vehicles to prevent the burden of rescuers; the outer edge of this area should be guarded to prevent people from entering. Eliminate any existing and latent unfavorable factors that may cause danger, demarcate rescue areas, create safe and secure space for rescue work, and prevent some unfavorable factors from affecting and hindering rescue work.

(4) According to the situation and on-site needs, as the case may be delineated. The initial investigation of the accident scene should be carried out. After the driver of the rescue vehicle arrives at the scene, he will immediately alert the rescue scene, and delineate a 5-meter rescue area and a 10-meter equipment preparation area according to regulations. Eliminate all potential safety hazards and observe the safety situation inside and outside the rescue site, and do a good job in the disposal of hidden dangers and safety precautions in the entire rescue work, specifically to find out whether there is oil leakage, electricity leakage, fire, power off the vehicle, and prevent accidents occur.

3. Application of technologies and methods for manufacturing life-saving spaces and life-saving passages

3.1. Stable support of the vehicle

First check the surrounding and road conditions of the site. In order to ensure that the vehicle is in a stable environment and prevent the vehicle from shifting and changing during the rescue, the technical tool operator should protect the vehicle body with a stable support, use the key to turn off the flame, pull the Handbrake, disconnecting power lines, placing anti-slip devices, deflating tires, raising the vehicle and placing pads, etc., to prepare for the next step of demolition and life-saving, and create a rescue space. In the case of guaranteeing the time, all rescue work must be carried out around the protection and rescue of trapped people. Once there are unexpected situations and signs of hidden dangers, the rescue operation should be stopped immediately, and the rescue work can be continued after the potential safety hazards are eliminated. If secondary injuries are caused by brute force and wrong methods during the rescue process, the rescue work will be a complete failure. In any case, our rescuers must carry out rescue work in an orderly and rapid manner in accordance with the fire rescue standard procedures for vehicle accidents.

3.2. Demolition, lifting and rescue

(1) Turn off the power. There were people trapped in the car at the scene of the accident. Before rescue, it is necessary to understand and find the location of the battery, dismantle the hood, and cut off the power supply. Use tools such as hydraulic spreaders, hydraulic cutters, seam openers, power cut shears, insulating gloves, and crowbars. Cars, off-road vehicles and other small household vehicles use a slot opener or a crowbar at the hood lock to create the entry point of the expander, such as the vehicle in other states, depending on the situation; find the best entry point for the expander and crowbar until the hood opens. Cut off a section of the connecting wire of the negative pole of the power supply with a power-cut scissor, fix the wire end and take insulation protection measures. Be careful when breaking and dismantling. The rescuer should stand in a safe position. If the breaking and breaking are improper, it will cause sparks to splash around, resulting in burns and scald accidents; when breaking and breaking, it is necessary to prevent personal injury from battery leakage, short circuit or high temperature of the engine, and break the hood. Pay attention to the temperature of the engine, because the temperature of the engine will be very high when the vehicle is running for a period of time to prevent burns.

(2) Clear the glass. Softly protect the trapped inside the window to avoid secondary injury. Place the glass blanket or glass collection box on the ground below the broken window, catch the falling glass, and aim at the corner of the window to break the glass; use Soft protection pushes out to push broken glass to glass collection bin or ground on the glass blanket, use a fitter tool to remove the remaining glass from the sash, move the glass blanket or glass collection bin, remove the next piece of glass or move to the debris pile. Give a verbal warning before breaking the glass, check whether the glass is installed with a protective film before breaking, if not, put tape on the glass before breaking, remove the broken glass with a fitter, and lower the glass to the door as much as possible , and cover the remaining glass with a protective cover. When the glass breaks, most of the glass will be inside the door, and the protective cover will prevent the glass from splattering.

(3) Remove the door. After removing the glass from the accident vehicle, if there is still not enough space to enter the vehicle, other means must be used. The most obvious way is to open the door. If the door is locked and cannot be opened, the lock inside the car can be reached through the window to unlock it. When the locks inside and outside the car cannot be opened at the same time, the door must be forcibly opened or the door must be completely removed.

First, remove the front doors. Most of the trapped people are the front row drivers. The front doors are often broken and dismantled, and the rear doors can also be used in the same way. To remove the front door, first squeeze the flap, pull the flap away from the edge of the door, you can use a hydraulic spreader to pry the door from the side of the door axle, open the spreader and place one arm of the spreader on the front flap between the wheels on the top, the other arm of the expander is placed over the bezel and the machine is closed, closing the expander squeezes the bezel and creates an opening between the door and the bezel, creating an entry point, First open the hinge or cut off the hinge, and squeeze the door panel with expansion pliers. When the door panel is deformed, there will be an opening at the door lock, and then the door lock is lifted. After the front door is removed, the rear door hinge can be removed. Remove, then remove the rear door.

(4) Folding roof. The vehicle collided, and the trapped person could not be rescued from the car door due to injuries to the cervical and lumbar spine. It was necessary to use a fixed lift plate for the injured to rescue from the top of the vehicle. First remove the glass and door of the accident vehicle, cut the column farthest from the trapped person, when

the column is relatively wide, it can be cut gradually and deeply; finally, cut the column closest to the trapped person; Cut the two sides of the roof (about 10 cm from the front windshield) to destroy its structural stability; use the casualty fixing lift plate to create creases, fold the roof, and create a life-saving space. Precautions: Before expanding or cutting operations, the trim and plastic inside the vehicle should be stripped to determine the location of the airbag; when cutting the B-pillar and C-pillar, do not cut the seat belt warning located on the B-pillar and the side that may be located on the C-pillar Airbag inflation cylinder; when cutting the pillars, arrange personnel to support the roof to prevent the roof from falling into the passenger compartment; when lifting the roof, tie a rope for traction and protection, and provide necessary protection to the rescued when lifting the roof to avoid being Rescuers were injured twice; the folded roof was secured with ropes.

(5) Move, remove the seat. The vehicle was trapped due to the impact, and the dashboard could not move. At this point the seat needs to be moved or removed to create space for rescue. Remove the trim on the seat first, and use the seat adjustment device to place the backrest horizontally; if the seat adjustment device is damaged, cut the roots on both sides of the backrest to remove the seat backrest; use universal cutters to cut the seat back. The frame is cut and the seat is removed.

(6) Move the instrument panel and lift the steering column and steering wheel. Due to the impact of the vehicle, the calf of the trapped person was stuck under the dashboard, the upper body was stuck between the steering wheel and the seat, and the door was damaged and could not be opened.

The first step is to remove the front door. Squeeze the flap, pull the flap away from the edge of the door, you can use the hydraulic spreader to pry the door from the side of the door axle, open the spreader and place one arm of the spreader between the wheels on the front fender, spread Closing the machine by placing the other arm of the spreader over the fender, closing the expander squeezes the fender and creates an opening between the door and the fender, creating an entry point.

There are three methods that are often used in the second step. Each rescue encounters a different situation. Different situations require different choices. According to the extrusion situation, analyze and determine the direction and angle of the created space, choose a reasonable and correct method, and avoid choosing the wrong method to cause more serious extrusion to the trapped person

The first method: use the cutter to cooperate with the hydraulic ejector. Use hydraulic shears to cut the bottom of the A-pillar to weaken the A-pillar; take the foot pedal as the fulcrum, first determine the fulcrum and the position of the top support, first strengthen the fulcrum, or use the shears to clamp the foot pedal to use The hydraulic jack supports the A-pillar and lifts the instrument panel.

The second method: Use cutting pliers to cut an opening of about 10 cm above the A-pillar, and then use a dilator to open the opening to a larger scale. While supporting the opening of the A-pillar, it also lifts the instrument panel. The A-pillar is supported by the hydraulic ejector rod. Use hydraulic shears to cut the bottom of the A-pillar to weaken the A-pillar;

Method 3: Pull the A-pillar with a rescue vehicle and rope traction. If the premise and steps are basically the same, ensure that the vehicle is braked with the handbrake, and firmly support it with a slip stopper and sleeper block to prevent the accident vehicle from moving with the rope. Bind one end of the rope above the opening of the A-pillar, and then start the vehicle slowly at idle speed. After the life-saving passage is opened, park the vehicle and use a jack or sleeper for a firm support to prevent the rope from losing strength or slipping and causing rebound. And back type, secondary damage occurs.

Matters needing attention: Necessary protection should be given to the rescued during demolition to avoid secondary injury to the rescued; the shearing part should avoid the hinge position, and a skid should be used to support the chassis below the shearing part during the shearing process; When operating the hydraulic ejector rod, prop up the instrument panel slowly, and always observe the change of the contact point between the ejector rod and the vehicle to prevent injury.

(7) Remove the B-pillar. In order to safely remove the casualty from the seat, the B-pillar needs to be removed. After the seat is removed and the casualty is leveled, use hydraulic shears to cut from the root of the B-pillar, and then place the fixed lift plate on the casualty. Casualty being lifted out of the front driver's seat.

(8) During the demolition process, you need to open the seam first, then support the top, and finally make a support setting to keep it stable. If the first support cannot open the life-saving space, it is necessary to raise the fulcrum with a pad, fix it and then support it. If the space that has been opened cannot reach the preset position, a stable support should be carried out first, and then further support should be carried out. In addition to using sleepers, pads and bases as fulcrums, hydraulic expanders or hydraulic shear expansion pliers can also be used to clamp solid objects to make support fulcrums for secondary support.

(9) Towing and lifting. The traction and lifting methods are mostly used to mobilize various construction machinery vehicles and equipment in road administration, road rescue and other departments. It needs to be operated by other departments or social personnel under the command of fire rescue personnel. On the one hand, if the trapped person has completely lost their vital signs, they do not need special protection. On the other hand, if the vehicle is severely squeezed and deformed, the equipment can no longer be opened. situation, this method must be chosen.

(10) Cutting seat belts

The seat belt system fails due to the impact of the vehicle, and people are trapped in the car. At this time, the seat belt needs to be cut. Use a V-shaped cutting knife to cut the seat belt, and protect the rescued when cutting to avoid secondary injury to the rescued.

(11) Rescue of the wounded

Due to the impact of the vehicle, the legs were squeezed by the instrument panel, the cervical spine was injured, and the people were trapped. Training equipment: glass breaker, hydraulic shear insert, hydraulic expander, hydraulic rescue ejector rod, V-shaped cutting knife, wounded fixed lift plate, neck brace, etc. Use a neck brace to protect the neck of the trapped person (this step should be carried out immediately when the rescuers arrive at the scene); eliminate the hidden danger of the accident vehicle according to the traffic accident rescue procedure, cut off the power supply of the accident vehicle, remove the glass, and tear down the door. Fold the roof, move the instrument panel, cut the seat belt, remove the seat, etc., to create enough space to rescue the trapped and wounded; use the wounded fixing lift plate to insert the seat back, and fully fit the back of the trapped; two rescuers The personnel insert their hands into the underarms of the rescued and work together to move the rescued upwards as a whole; use the wounded fixed lift plate to slowly lift the rescued out. The neck of the rescued must be immobilized before the operation; in the case of more than one injured person, the severity, location, vital characteristics and the degree of damage to important organs of the injured person must be correctly judged and confirmed. To rescue the injured from the accident vehicle; to protect the cervical vertebra and fractured limbs when transporting the injured, and to deal with the injured before transporting the injured. Install a neck sleeve on the neck of the injured person, and use the limb fixation airbag to fix the fractured limb. When moving the rescued, the movement must be slow and consistent to prevent secondary injury to the injured person's cervical spine and limbs during the movement.

3.3. Risk factors and precautions

(1) Hazardous factors of the working environment. Potential physical hazards caused by the immediate environment, such as uneven ground, slopes that may cause vehicle displacement, unstable buildings or trees

(2) Vehicle hazards. Potential hazards caused by damaged vehicles, such as broken glass and sharp edges Fuel or loaded flammable, explosive, corrosive, toxic and dangerous goods overflow or leak Vehicles catch fire, burn high-voltage lines on the ground, and lead to electrification on the road, new energy The high-voltage battery module equipped with the vehicle leaks or catches fire

(3) Dynamic risk factors

Constantly changing factors during rescue, such as weather conditions or fire, vehicle stability, vehicle structure (result of creating space),

(4) Risk factors for the injured. Problems caused by the injured patient, such as blood and body fluids, the injured person may be resistant (due to head injury), and the injured person may have difficulty lifting due to obesity.

4. Conclusion

(1) The needs of the people, the needs of the times

At present, due to the rapid economic development, people's material living standards have improved significantly, and people's living rhythm has become faster and faster. The logistics and express delivery business prompted by the online shopping economy has developed rapidly, and the number of vehicles on the road is increasing day by day. There are more and more vehicles and hazardous chemicals tankers. In the fast-paced life, there are frequent road safety accidents. Although the performance of vehicles is getting better and better, the safety driving skills of drivers have generally improved. China's road traffic system Significant achievements have been made in the supply of transportation capacity, the total scale of facilities, and the quality of services, and road safety regulations have been increasingly improved. Especially since drunk driving and drunk driving have been severely investigated and punished, the number of traffic accidents has also decreased year by year, and the number of various traffic accidents has occurred. It can be effectively controlled, but the base of road vehicles is large, and there are still many phenomena of driving without traffic rules, such as fatigue driving, dangerous driving, driving hero cars, malfunctioning cars on the road, and overloading modified cars. Factors still exist objectively. According to data from the Ministry of Public Security, in 2020, the num-

ber of motor vehicles in China will be 372 million, of which the number of cars will be 281 million, and the number of motor vehicle drivers in China will be 456 million. Taking 2019 as an example, the number of traffic accidents in China was 248,000, with 62,763 deaths and 256,101 injuries. 86.8%, the death toll was 56,934, the death toll accounted for 90.7%, and the injured number was 221,309 (including 159,335 automobile traffic accidents, 43,413 deaths and 157,157 injuries). [2]

Traffic accidents, disasters or other extraordinary situations (including natural disasters, accidents, sudden and dangerous events, etc.) occur from time to time when vehicles are driving on the road. Some accidents are inevitable and unpredictable. The car body was squeezed and deformed, causing people to be trapped in distress. After the accident, the first thing to consider is the emergency rescue work. It is necessary to turn to fire rescue personnel to carry out vehicle accident rescue at the scene. The purpose of vehicle accident rescue is to create a life-saving space and open a life-saving channel to rescue people, so it is efficient and effective. A successful rescue can directly and effectively save people's lives. Rescuers should be guided by scientific theoretical knowledge, safe disposal procedures, and standardized operation methods, and then combine the actual situation on the site, scientifically, rationally, and flexibly use them to implement rescues safely, quickly and efficiently.

(2) Daily work, always ready and unremitting

The vehicle accident rescue work has a long way to go and must be ready and unremitting. Fire rescue personnel must be proficient in operating professional rescue tools and equipment, and with the help of the effective construction machinery vehicles and equipment of the road administration, road rescue and other departments, in accordance with the procedures and methods of scientific disposal, Create life-saving spaces and open life-saving channels to rescue people.

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[1] "*Vehicle Accident Rescue Technology* (Third Edition).

[2] Source: China Statistical Yearbook, Wisdom Research Consulting.