APPROVED
by Order of the General Director
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RULES FOR THE OPERATION OF AUTOMOBILE TIRES

FE LLC «Birinchi rezinotexnika zavodi»

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1. PURPOSE, SCOPE, AND GENERAL PROVISIONS

1.1. The "Rules for the Operation of Tires of FE LLC Birinchi rezinotexnika zavodi" (hereinafter "the Rules") is the primary document defining the maintenance and operation procedure for automobile tires manufactured by FE LLC Birinchi rezinotexnika zavodi.

1.2. These Rules are intended for a wide range of individuals and legal entities.

1.3. Compliance with these Rules is mandatory for all tire owners.

1.4. The terms "Driver," "Tire Owner," "Vehicle Owner," "Consumer," "Applicant," and "Tire Fitter" are considered identical subjects regarding the obligation to follow these instructions. If a tire owner transfers tires or rights to them to another party (e.g., a driver or tire fitter), the owner is responsible for informing them of these Rules.

1.5. The word "Vehicle" applies to any type of transport, including trailers or other chassis using these tires.

1.6. The manufacturer reserves the right to amend this document without third-party approval. The latest version is available at www.brz.uz.

2. DEFINITIONS

Tire: An elastic casing on a wheel rim designed to support the vehicle's mass and absorb road shocks.

Carcass: The main structural element consisting of rubberized cord layers.

Breaker (Belt): An internal detail between the carcass and tread to soften impact loads.

Nylon Bandage: A rubberized textile cord tape wound over the breaker to tighten the structure.

Tread: The outer rubber part with a pattern for road grip and carcass protection.

Sidewall: The protective rubber layer on the side of the tire.

Bead: The rigid part that ensures the tire is secured to the rim.

Wheel: A rotating element consisting of a **Rim** (tire seat) and a **Disc** (hub connector).

3. TIRE MARKING

3.1. Tire marking must comply with the requirements of the regulatory document under which the tire is manufactured or the terms of the supply contract. As a rule, the following markings are applied to each tire:

- 3.1.1. Tire designation: Symbols for dimensions and construction. Radial tires include the "R" index; diagonal tires have no letter index. For low-profile tires, the series (aspect ratio) is shown as a percentage.
- 3.1.2. Load Index (LI): Symbols for carcass strength determining the maximum allowable load for single and dual wheels. "PR" or "Ply ratio" may also be used.
- 3.1.3. Speed Index (SI): An alphabetical symbol for the maximum speed at which the tire can carry its rated load (e.g., "T" = 190 km/h; "Y" = 300 km/h).
- 3.1.4. Approval Mark: The "E" mark with the country code that issued the type approval.
- 3.1.5. Country of manufacture.
- 3.1.6. Trademark or manufacturer name.
- 3.1.7. Trade brand (tire model).
- 3.1.8. Standard designation (if applicable).
- 3.1.9. Serial number (if applicable).
- 3.1.10. Date of manufacture: Four digits (first two are the week number, last two are the year).

- 3.1.11. "Radial" for radial tires.
- 3.1.12. Rotation arrow or "ROTATION" for directional patterns.
- 3.1.13. "Tubeless" for tubeless tires.
- 3.1.14. "Steel" for tires with a metal breaker.
- 3.1.15. "Reinforced," "Extra Load," or "XL" for reinforced tires.
- 3.1.16. "Run Flat," "RFT," "ZP," or "Flat Run" for tires that can operate when deflated.
- 3.1.17. "M+S" or "M.S" for winter tread patterns.
- 3.1.18. "TWI" or symbols indicating the location of tread wear indicators.
- 3.1.19. National conformity mark (if applicable).
- 3.1.20. Letter "C" after the size for light commercial vehicle tires.
- 3.1.21. Pressure "psi" or "kPa" for light truck/truck tires.

3.2. **Decoding example (Passenger Tire):** *195/55 R16 Bars UZ200 Steel Radial 87 H Tubeless 0225 Made in Uzbekistan*:

- **195:** Nominal section width in mm.
- **55:** Series (aspect ratio in %).
- **R:** Radial construction index.
- **16:** Rim diameter in inches.
- **Bars:** Brand/Trademark.
- **UZ200:** Tire model/commercial name.
- **Steel:** Metal breaker cord.
- **Radial:** Radial tire.
- **87:** Load index.
- **H:** Speed index.
- **Tubeless:** Tubeless tire.
- **0225:** Week 02 of the year 2025.
- **Made in Uzbekistan:** Country of origin.

4. TIRE ACCEPTANCE

4.1 Tire acceptance is carried out in accordance with existing regulations and instructions on the supply of production and technical products, the requirements of national standards and technical conditions, as well as the terms of the tire supply contract.

4.2 The receiving party is obliged to provide the necessary conditions for tire acceptance and proper inspection of the state of the accepted tires for defects in quality and quantity

5. TRANSPORTATION AND STORAGE

5.1 During storage and transportation, tires should not be unlimitedly influenced by the following factors: oxygen, ozone, light, heat, petroleum products, organic solvents, mineral oils, lubricants, fuel, acids, alkalis ; long-term contact with copper or corroding substances; prolonged one-sided load, bends, compression, piling of products on each other, resting of products on sharply protruding surface irregularities.

5.2 When transporting in open trucks and open rolling stock, tires must be protected from the effects of sun and moisture (with tarpaulin, polyethylene film, or other covering material providing protection from this influence). The used packaging method (if applied) should not cause the formation of condensate.

5.3 Tire movements must be ensured in such a way as to exclude deformation of beads and sidewalls of tires. When transporting tire packages, i.e., tires collected in stacks, the tires must be in a vertical position.

5.4 Tires transported at temperatures below -30 °C must be particularly protected from impacts and deformations

6 LOADING AND UNLOADING AT THE WAREHOUSE

6.1 6.1 During loading and unloading, it is not allowed to throw tires from a height of more than 1.5 meters. Falling tires from such a height can cause damage and bends of bead rings. Tires with such damage are forbidden to be mounted and used for their intended purpose.

6.2 Loading and unloading processes must be organized in such a way as to exclude contact of tires with dirty, rough surfaces and devices capable of leaving marks on tires.

6.3 Lifting, tilting, and moving tires by gripping with a hook/cable/chains behind the tire bead is prohibited.

6.4 When transporting and performing loading and unloading works at very low ambient temperatures (below -30 °C), special care should be taken and operations causing strong tire deformations (throws, compression, storage in high stacks, impacts against sharp objects, etc.) should be avoided , as this can be the cause of tire damage.

7. TIRE STORAGE

7.1 Tires should be stored in a closed, dry, cool, and well-ventilated room. Warehouse rooms must be free of extraneous objects, darkened, comply with fire safety requirements, and ensure the possibility of using lifting mechanisms.

7.2 Tires not mounted on rims should optimally be stored in a vertical position on racks, pallets, or a flat floor. Vertical stacking in metal cages or “herringbone” stacking is allowed. For any type of stacking in cages, the tire stacking height should not exceed the upper dimension of the cage to avoid deformations when placing cage on cage.

7.3 Tires mounted on rims are allowed to be stored horizontally in a stack on pallets with a maximum stack height of 1.6 meters.

7.4 It is allowed to store unmounted tires in stacks of no more than 1.6 m in height vertically. At the same time, tire overhang beyond the pallet dimensions over 10 cm

should be excluded. When storing tires in stacks, stacks of 4 and more tires in height must be fixed with polyethylene film.

7.5 The load-bearing surface for tire storage (bottom of the cage, pallet, rack depending on the type of storage) must be clean, even, without sharp edges, broken elements, chips, protruding nails, unfastened elements, sharp edges, and other malfunctions that can lead to mechanical damage to tires during storage, without dirt, rust, and other extraneous substances. After contact of the tire with the surface, no traces and extraneous substances should remain on the tire.

7.6 Rack systems, cages, pallets, and other structures used for tire storage and transportation must be stable, securely fastened, and in good repair. Stacking must ensure the stability of the tire position during storage and exclude their accidental fall or sliding.

7.7 The use of forklifts must be performed according to existing national legislation in this field of activity.

7.8 Tires that have been in operation and are suitable for further use must be thoroughly cleaned of dirt before storage, as well as checked for extraneous objects (stones, nails, and other elements) that can damage the carcass or tread. All detected objects must be removed before placing tires in storage.

7.9 Storing tires outdoors is prohibited. Direct influence of atmospheric precipitation, sunlight, dust, moisture, and pollution on tires must be excluded. The used packaging method (if applied) should not cause the formation of condensate.

7.10 The temperature in the tire storage zone should be maintained no higher than + 35°C, preferably from 5 to 25°C. Optimal is storing tires in a dark place at a temperature of about +15°C. Rubber properties can change and affect the functional characteristics of tires during long-term storage at temperatures outside the established limits.

7.11 Humidity. When storing tires, high humidity and the appearance of condensate should be avoided. Humidity should not exceed 80%.

7.12 Tire storage rooms must be equipped with devices for recording temperature and humidity. Regular monitoring and registration of climatic parameters should be ensured. Temperature and humidity control is performed by a calibrated registration system capable of covering the entire warehouse area with automatic data collection at least once a week. In the absence of automatic registration, fix the temperature in the checklist once a week for each warehouse room. In case of temperature deviations from the established norms, it is necessary to immediately take measures to normalize it, including but not limited to adjusting heating, ventilation, or air conditioning systems, as well as monitoring the room tightness. It is important to ensure that the temperature does not go beyond the allowable range to prevent a negative impact on tire storage quality.

7.13 Tires during storage should be located no closer than 1 m from heating devices. Heating devices located in warehouse rooms must be shielded. It is forbidden to direct the flow of hot air at tires when heating the room with heat guns.

7.14 Lighting. Tires must be protected from direct sunlight, as well as intense artificial lighting, especially with a high ultraviolet component.

7.15 Oxygen and ozone. Ozone has a strong destructive effect on tires. There should be no equipment in the warehouse that emits ozone, for example, fluorescent or mercury lamps, high-voltage electrical equipment, electric motors, or any other electrical equipment that can cause a spark or electrical discharges. Welding works in tire storage areas must be strictly limited and used only in exceptional situations. Tires must be protected from welding spatters. It is forbidden to ventilate warehouses during a thunderstorm and within 2–3 hours after it due to a sharp increase in the ozone content in the air.

7.16 Deformation. If possible, tires should be stored freely, i.e., without external influence on them from any other objects. External deformation caused by long-term storage can disappear after inflating tires with air.

7.17 Solvents, fuel, lubricants, chemicals, acid-containing, disinfecting agents, and other aggressive substances should not be stored together with tires in the warehouse room. Tires must be protected from any, even short-term, influence of any solvents, oils, and lubricants.

7.18 During long-term storage of passenger or light truck tires in cages in a “herringbone” manner or in stacks – in cages or on pallets – it is necessary at least once every 6 months to organize a selective visual inspection of tires that have been in storage for more than 12 months, with the involvement of specialists possessing the necessary competencies to assess the state of the tires. Based on the conclusion of these specialists, if necessary, take a decision on rearranging tires.

7.19 Tires must be kept clean, with undamaged labels during all warehouse operations.

8. VEHICLE TIRE CONFIGURATION

8.1 Selection and configuration of a vehicle with pneumatic tires by sizes, models, load capacity (load index, ply rating), speed, tread pattern type for each specific make and model of vehicle, trailer for serial vehicles, must be conducted in accordance with the vehicle operation manual (instruction).8.2 Tires installed on a transport vehicle must match the rim width recommended by the tire manufacturer. The use of tires with an incompatible rim width can lead to changes in vehicle handling characteristics, uneven tread wear, increased load on suspension elements, and premature tire failure. Tire manufacturers and suppliers do not accept claims for tires whose operation was conducted in violation of these Rules.

8.2.1 Rim and minimum distance (Dmin) for dual installation: The rim seat width must be within the range specified by the tire manufacturer or ETRTO standard (usually ±½ inch from the recommended one). For a pair of tires on one hub, the minimum distance D between internal sidewalls is determined by the formula : $D \geq S + 2\times T + 10$ mm, where: S — actual tire width on the recommended rim, mm;T — normative “sidewall work clearance” (6–8 mm for passenger, 10–13

mm for truck);10 mm — dynamic runout margin.Example: for tire 295/80 R22.5: S ≈298 mm, T = 13 mm →Dmin ≈ 298 + 2·13 + 10 ≈ 334 mm. When using snow chains, 25 mm is added to the value of D.

8.3 It is not allowed to install tires with different characteristics on one axle of a transport vehicle, including dimension, construction (radial, diagonal, tube-type, tubeless), speed category, load index, tread pattern type, seasonality (winter and non-winter), as well as origin (new, retreaded, with regrooved tread pattern).

8.4 To ensure normal operation of tires on dual vehicle wheels, it is recommended to select tires so that the difference in tread wear and outer diameter is minimal to avoid uneven load distribution and accelerated wear.

8.5 When configuring vehicles with tires having an off-road tread pattern and a directional tread pattern, it is necessary to ensure wheel rotation in accordance with the direction of the arrow located on the tire sidewall. When configuring a vehicle with tires having an asymmetric non-directional tread pattern, it is necessary to ensure installation with the outer side toward the outside of the vehicle, while the rotation direction does not matter.

8.6 For better traction on snowy and icy roads, it is recommended to use winter tires equipped with anti-skid studs.

8.7 Anti-skid studded tires, when used, are installed on all wheels (including the spare) of the vehicle. Rearranging studded tires for technical necessity is performed without changing the wheel rotation direction.

8.8 Vehicles operated on soft soils and off-road must be configured with tires having an off-road tread pattern. Long-term use of these tires on hard-surfaced roads is not recommended.

8.9 Tires installed on vehicles of legal entities should be assigned to these vehicles and this fact should be recorded in tire operation log cards according to Appendix №5 or in cards of another type per the internal requirements of these enterprises. At the same time, the tire owner independently establishes the

operational mileage norms of tires based on the average mileage of tires removed from operation.

8.10 During tire operation, it is necessary to comply with the limits for maximum load, speed, or rollback distance established by the manufacturer. Exceeding the established parameters can lead to tire overheating, reduction in carcass strength, and deterioration of road traction characteristics. Responsibility for complying with these limits rests with the transport vehicle owner.

9 RULES FOR MOUNTING AND DEMOUNTING OF TIRES

9.1 Mounting and demounting works for tires must be performed in a tire mounting department using special equipment, devices, and tools, as well as the instructions specified in Appendix №7 of these rules.

9.2 Only serviceable, clean, dry tires, tubes and rim tapes, rims and their elements, corresponding in sizes and types, are subject to mounting.

9.3 Tires stored at sub-zero temperatures must be held under normal conditions at room temperature for 3–4 hours before mounting.

9.4 Before mounting, tires are subject to inspection from the outside and inside using a bead spreader or other devices. If production or operational defects are found in tires, they are not allowed to be used for mounting. Extraneous objects must be removed from the tire (stones, nails, etc.).

9.5 Before mounting the tire on the rim, it is necessary to lubricate the tire bead and the rim seat with tire mounting paste (lubricant).

9.6 Rims and their elements are not allowed for mounting if defects are found on them: bends, deformations, cracks, sharp edges and burrs, rust in places of contact with the tire. The surface of rims in the zone of contact with the tire must be cleaned of dirt, extraneous substances, rust, and painted with varnish or metal paint.

9.7 It is necessary to balance wheels as an assembly after each tire mounting, and it is also recommended at every second technical maintenance. Balancing is performed with the removal of wheels from the vehicle or directly on the vehicle using

stationary or mobile machines. Before balancing, tires must be washed and cleaned of dirt and extraneous objects.

9.8 To protect valve cores from pollution and damage, all valves must be equipped with metal, plastic, or rubber caps.

9.9 Valve requirements (working pressure > 6 bar). Tubeless tires designed for a working pressure over 6.0 bar must be equipped with either metal valves or rubber valves of the “HP” class with a declared limit of at least 10 bar. The use of standard rubber valves (type TR413/TR414) is allowed only at a pressure ≤ 4.5 bar. For the intermediate range of 4.5–6.0 bar, a rubber valve TR600HP or its equivalent with a passport limit of ≥ 8 bar is allowed (see ETRTO Valve-04 standard).

9.10 When installing dual wheels on a vehicle axle, it is necessary to align the disc windows of both wheels to ensure the possibility of access to the tire valve of the internal wheel when measuring or pumping up internal tire pressure without removing the external wheel.

9.11 When performing mounting-demounting works, it is necessary to comply with the following safety rules:

9.11.1 specialists in tire maintenance and driving staff (if involved) must undergo training on mounting-demounting works;

9.11.2 perform assembly of the rim with the tire only of the established size for a given make of vehicle;

9.11.3 before demounting the tire from the rim, it is necessary to completely release the air from the tire;

9.11.4 before inflating tires on detachable rims with bolt connections, it is necessary to ensure that all nuts are tightened equally, in accordance with the vehicle technical maintenance instruction ; rims are not allowed for operation if even one nut is missing;

9.11.5 inflation of the tire as an assembly with the rim in the tire mounting department is performed in several steps with monitoring of the state of the wheel

assembly after completion of each inflation stage. ATTENTION! Inflating tires to a pressure above 3.5 bar must be conducted only in a special metal enclosure (cage) capable of protecting maintenance personnel during spontaneous demounting of the wheel assembly;

9.11.6 when inflating the tire, it is necessary to use special nozzles connecting the tube (tire) valve with the hose from the air distribution point and ensuring air passage through the valve core;

9.11.7 in case of loose seating of tire beads on rim shelves after air inflation, it is necessary to release the air from the tire, demount it, and eliminate the cause that produced the loose seating of tire beads, after which perform tire mounting on the rim again, tire inflation, and bead seating tightness check;

9.11.8 in order to reduce axial and radial runout of the wheel, the tightening of rim and wheel bolt connections must be performed in the following sequence: first tighten the upper nut, then the one diametrically opposite it, tighten other nuts also in pairs (crosswise), gradually in the same sequence tighten all nuts in accordance with the vehicle technical maintenance instruction;

9.11.9 before hoisting the wheel being removed using a jack, it is necessary to brake the vehicle with the handbrake, engage first gear in the gearbox (in the case of a manual gearbox), and place stops under other wheels to prevent the vehicle from rolling when lifting with a jack, loosen the wheel mounting nuts, after that hoist the wheel with the jack, unscrew the nuts, and remove the wheel.

9.12 During tire mounting works, it is prohibited:

9.12.1 demounting tires from the rim that are under pressure;

9.12.2 correcting the position of bead and lock rings if the tire is under pressure;

9.12.3 demounting one of the dual wheels from the vehicle without using a jack, by driving the second dual wheel onto a protruding object;

9.12.4 the use of sledgehammers and similar objects during mounting-demounting works that can deform wheel parts is not allowed;

9.12.5 replacing valve cores with various kinds of plugs.

10. TIRE CARE FOR VEHICLE OWNERS

10.1 Upon receiving a new vehicle, full or partial replacement of tires on the vehicle, the driver is obliged:

10.1.1 check the correctness of vehicle tire configuration in accordance with Section 8 of the Rules;

10.1.2 in case of partial tire replacement, perform their selection and installation on axles based on the technical state of the tires;

10.1.3 check the correspondence of entries in tire operation log cards (Appendix №5) and sign the cards (for legal entities);

10.1.4 check the tire pressure and if necessary bring it to the recommended norm, and in the spare tire - to the maximum allowable for a given tire model;

10.1.5 abstain from abrupt starts, emergency braking, and dynamic maneuvers during the first three days after performing tire mounting works (this time is necessary for the tire mounting paste to dry and to prevent the rim from slipping relative to the tire).

10.2 When installing a spare tire on a running vehicle wheel, it is necessary to check its correspondence with tires standing on this axle, record the odometer reading to account for the spare tire mileage in the tire operation card (for legal entities), if necessary bring the pressure in the spare tire to the norm.

10.3 Before starting a trip, the driver is obliged:

10.3.1 visually inspect tires;

10.3.2 check rim and wheel mounting;

10.3.3 in case of air leakage from the tire, identify and eliminate the cause of the leakage;

10.3.4 perform internal pressure check in cooled tires at least once a week.

10.4 Overcoming obstacles : When moving on an uneven road, crossing obstacles (rails, curbs, potholes), it is recommended to reduce speed and overcome them smoothly, without sharp impacts and skidding. Sharp overcoming of obstacles can lead to tire damage, reduction of road traction, and loss of control. The driver must take into account the vehicle weight, road conditions, and tire type for choosing a safe speed.

10.5 During the process of using the vehicle, the driver is obliged:

10.5.1 start the vehicle from a standstill smoothly to avoid wheel skidding;

10.5.2 in case of vehicle pulling to the side, immediately stop it, identify and eliminate the cause of its pulling;

10.5.3 not allow driving on tires with incorrect internal pressure;

10.5.4 monitor the road state, in difficult-to-pass sections (deep rut, railway crossing, road obstacles, and others) reduce moving speed;

10.5.5 not allow abrupt braking when approaching stopping places, near traffic lights, barriers, and other obstacles, smoothly reduce and gain speed when maneuvering;

10.5.6 avoid sharp wheel impacts against sharp metal and other protruding objects, not drive up close to the curb edge or other protruding objects so as not to damage tires;

10.5.7 at parking lots, inspect tires with the purpose of removing extraneous objects stuck in the tread, sidewall, between dual tires (stones, glass, etc.);

10.5.8 not allow vehicle overloading beyond the indicated load capacity, monitor even cargo placement and its secure fastening (Appendix №3) ; place heavy small-sized cargo in the body taking into account even load on all tires;

10.5.9 monitor and timely organize tire changes, according to seasonality and current road situation. Winter tires must be installed on the vehicle in autumn as low positive temperatures approach until the probability of frosts and ice formation on the road appears. Summer tires must be installed in spring after the temperature is

stably in the positive zone and the probability of ice formation on the road is excluded. Regardless of the seasonality of tires installed on the vehicle, in transition periods, the driver must be attentive and adapt the vehicle control style to the road situation.

10.6 Daily after completing vehicle use, the driver is obliged:

10.6.1 inspect tires, rims, as well as valves for the presence of caps ; remove extraneous objects from the tread, sidewalls, and between dual tires;

10.6.2 remove tires subject to repair, disposal;

10.6.3 in case of uneven tread wear, identify and eliminate the cause of its appearance. The suitability of tires for further operation during uneven wear is determined by a commission, in the case of legal entities, or by the driver independently for individuals or by organizational decision.

10.7 For maximum tire resource use, the driver is obliged to comply with tire operation and care rules:

10.7.1 storage, configuration, mounting-demounting works must be performed in accordance with the instructions of sections 7, 8, and 9 of these Rules, as well as recommendations of transport vehicle manufacturing plants;

10.7.2 regular vehicle parking places must be cleaned of dirt, petroleum products, oils, chemicals, and other substances destroying rubber. The possibility of tires freezing to the road surface due to water accumulation near the vehicle must be excluded. No sharp objects and facts of road surface damage should be at the regular vehicle parking place. Clearances between road surface elements (if present) must be minimal in distance from each other and in height differences;

10.7.3 when using covered parking lots, vehicles must not be located closer than one meter from the heating system;

10.7.4 not allow prolonged vehicle parking in one place with full load for more than two days, unloaded – for more than 10 days. If more prolonged vehicle parking is necessary, tires should be unloaded using supports or the vehicle moved;

10.7.5 vehicles subject to mothballing (prolonged storage for a period of more than 6 months) should be installed on supports with full tire unloading ; cover tires from direct sunlight and precipitation;

10.7.6 parking vehicles on tires whose internal pressure is below the established norm is prohibited;

10.7.7 tire air pressure must comply with values established by the vehicle operation manual (instruction) or other normative document approved in the established procedure, as pressure violation leads to a reduction in tire resource (Appendix №4 Influence of pressure standard violations on tire resource usage);

10.7.8 in a motor transport enterprise, a table of internal tire pressure norms for all vehicles operated by the enterprise must be posted at the tire mounting section, at sections for technical maintenance and the checkpoint;

10.7.9 tire operation must be conducted exclusively on a technically serviceable transport vehicle;

10.8 Tire technical maintenance must be performed during each vehicle technical maintenance. When performing vehicle technical maintenance, the following tire and rim works are simultaneously performed:

10.8.1 tire inspection to determine their suitability for further operation: extraneous objects stuck in the tread, sidewall, between dual wheels are removed;

10.8.2 tires having mechanical damage are identified;

10.8.3 serviceability of valves, valve cores, presence of caps is checked;

10.8.4 tire suitability by tread wear and tire selection by vehicle axles is determined; rim inspection to determine further suitability for operation; check wheel mounting and their elements;

10.8.5 internal pressure measurement in all vehicle tires, including the spare; if necessary, tire pressure should be brought to the norm. Internal pressure measurement is performed in completely cooled tires with a pressure gauge whose readings must be verified with the readings of a control pressure gauge;

10.8.6 upon detecting any deficiencies in tires and rims, it is necessary to take measures to eliminate them;

10.8.7 wheel alignment and balancing check is performed.

10.9 Rearranging wheels on one axle and by vehicle axles is recommended when technical necessity is identified. Possible tire rearrangement schemes are given in Fig. 1, 2, and 3 of Appendix №1.

10.10 Basis for tire rearrangement can serve:

10.10.1 necessity of tire selection by axles and dual wheels;

10.10.2 necessity of installing more reliable tires on the front axle (without mechanical damage, etc.);

10.10.3 identified uneven or intensive tread pattern wear;

10.10.4 mileage of more than 15,000 km from the moment of the last rearrangement or primary installation.

10.11 Upon identifying intensive or uneven tread pattern wear, operation should be stopped, causes of uneven wear appearance identified, and measures taken to eliminate these causes, regardless of vehicle technical maintenance timing. Simultaneously with this, the driver must determine the possibility of further operation of these tires.

10.12 In motor transport enterprises, to prevent premature tire failure and ensure safety, it is necessary to organize observation of the state of tires and wheels and air pressure in them (maintain a pressure control log).

10.13 Use of the vehicle and its release on line (for motor transport organizations) is prohibited if discovered:

10.13.1 installation of tires by size, allowable load, and speed category index not corresponding to the transport vehicle model;

10.13.2 installation of tires of diagonal and radial construction, tires with different tread pattern types on one axle, as well as dual wheels;

10.13.3 air pressure not corresponding to established norms;

10.13.4 replacing valve cores with plugs, stoppers, and other devices;

10.13.5 tread pattern height less than the limit allowed;

10.13.6 local tire damage (punctures, сквозные and non-сквозные cuts and others) that expose the cord, as well as separations in the carcass, breaker, bead (bulges), local tread, sidewall, and sealing layer separation;

10.13.7 absence of tire valve caps;

10.13.8 foreign objects stuck in the sidewall, tread, and between dual wheels (stones, glass, etc.);

10.13.9 absence of even one bolt or nut for mounting wheel discs and rims, as well as loosening of their tightening;

10.13.10 visible violations of the shape and sizes of holes in wheel discs for mounting details;

10.13.11 deformed rims;

10.13.12 discrepancy between tire seasonality and current time of year (or road situation);

10.13.13 fact of air leakage from the tire through the valve, as a result of tire damage or for other reasons.

10.14 Upon discovering any tire defects, the driver is obliged to take measures to eliminate them.

10.15 Maximum tread pattern wear (for previously manufactured tires not having wear indicators) is considered wear when the residual height of tread pattern protrusions has a minimum allowable value on a rectangle area whose width is equal to half the tread running track width, and length is equal to 1/6 of the tire circumference length in the middle of the tread running track with even wear, and with uneven wear - on several sections with different wear on a total area of the same size (Fig. 2 of Appendix №2).

10.16 Minimum allowable residual tread pattern height at which the tire must be removed from operation is established at the rate of:

10.16.1 for non-winter passenger car tires - 1.6 mm; for winter passenger car tires - 4.0 mm;

10.16.2 for tires on trailers and semi-trailers - the same as for vehicle tires with which they work.

10.17 Measurement of residual tread pattern height is performed in places of greatest wear outside the location zone of semi-bridges, protrusions, or steps at the tread pattern base (Fig. 1, 2, and 3 of Appendix №2):

10.17.1 for tires having a continuous rib in the running track center, measurement of tread pattern height is performed along the edges of this rib;

10.17.2 for off-road tires, measurement of tread pattern height is performed between lugs in the center or in places least distant from the running track center, but not along steps at the lug base and not along semi-bridges;

10.17.3 on tires with wear indicators, maximum allowable tread pattern height is determined by the appearance of indicators (protrusions along the bottom of running track grooves whose height is equal to the minimum allowable tread pattern height);

10.17.4 for tires having wear indicators, with even tread pattern wear, maximum wear is determined by the appearance of one indicator, with uneven wear - by the appearance of two indicators in each of two sections.

10.18 When preparing vehicles for transition to winter or summer operation, a full volume of vehicle technical maintenance works is performed.

10.19 When installing studded tires on a vehicle, it is necessary to perform tire run-in within 0.8–1.0 thousand km, during which the driver should abstain from abrupt starts, emergency braking, and dynamic maneuvers.

10.20 Installation of tires of different seasonality on one vehicle is prohibited; as well as the same seasonality, but studded and non-studded simultaneously.

10.21 Summer tire tread rubber compound composition is designed to provide an optimal level of traction at plus temperatures (Celsius) and is very sensitive to temperature. Use of summer tires in very low temperatures can lead to damage due

to reduction in rubber compound elasticity, that is, the tread rubber compound can become brittle at low temperatures (reaching the so-called glass transition point). If under such conditions the tire experiences loads and deformations, then the rubber compound can crack. Therefore, it is not recommended to use summer tires at very low ambient temperatures.

10.22 Run Flat tire operation limits:

10.22.1 Run Flat tires are allowed for operation only in the presence of a serviceable tire pressure monitoring system (TPMS), which signals pressure loss no later than 10 min or 5 km from the start of leakage. Use of such tires without TPMS can lead to unnoticeable pressure loss and tire carcass damage;

10.22.2 after puncture, Run Flat tires are allowed for further movement only within the recommended mileage, which is specified by the manufacturer (usually no more than 80 km at speed up to 80 km/h);

10.22.3 after operation in a deflated state, the tire is subject to mandatory diagnosis or replacement, as hidden damage to the internal carcass structure not visible during visual inspection is possible;

10.22.4 installation of Run Flat tires is allowed only on transport vehicles whose construction allows their use (determined by car manufacturer recommendations).

11. LIST OF DEFECTS PROHIBITING TIRE OPERATION

11.1 Tire operation must be stopped and tires must be removed from operation for the following reasons:

11.1.1 tread pattern wear above the limit allowed;

11.1.2 premature uneven tread wear;

11.1.3 mechanical damage (сквозные punctures, cuts to cord, damage exposing internal threads of tire construction);

11.1.4 tearing and separation of the sealing layer along the inner carcass surface and on beads;

11.1.5 carcass destruction or breakage for any reasons, including due to driving with reduced or completely absent pressure in tires;

11.1.6 intensive wear of the running track middle part due to driving with increased pressure in tires, carcass rupture due to vehicle or wheel overload through incorrect cargo placement in the vehicle body, as well as due to impact against road obstacles when driving at high speed;

11.1.7 loss of tire tightness for any reasons;

11.1.8 bulge along the bead toe and heel with transillumination and carcass exit;

11.1.9 separations in carcass, breaker, and bead; tread and sidewall and sealing layer separations;

11.1.10 pressing in foreign inclusions into the tire;

11.1.11 transillumination of tire construction elements in the sub-groove layer;

11.1.12 cracks or deep scratches on protective rubbers;

11.1.13 threads exiting outside or falling behind;

11.1.14 wrinkles along the bead base and toe from bead tape pressing, exposure of bead tape edges, tearing and separation of the sealing rubber layer on the inner carcass surface and on beads;

11.1.15 crest along the tread with fabric pressing out;

11.1.16 pressing in of hard inclusions on the inner carcass surface with damage to the first layer;

11.2 Necessity of tire disposal, possibility of repair or further tire operation is determined by the tire owner. In this decision, the tire owner bears their own responsibility and takes all associated risks on themselves.

12. COMPLAINTS (CLAIMS)

12.1 The procedure for relations arising between buyers, consumers, and manufacturers of products (performers, sellers) is regulated by contract terms and national legislation. In Uzbekistan, this procedure is regulated mainly, but not exclusively, by the “Civil Code of the Republic of Uzbekistan” and the Law of the Republic of Uzbekistan “On Protection of Consumer Rights”.

12.2 Claims for new tires can be considered within the service life and/or warranty period (if declared).

12.3 Procedure for presenting claims:

12.3.1 in case of premature tire failure for reasons that, in the tire owner's opinion, relate to the manufacturer's responsibility or its affiliated persons, within the service life and/or warranty period (if present), tire owners can present a claim (complaint, claim act, or other document with requirements associated with product quality) according to existing normative acts. The claim (complaint, claim act) form can be free, however, the presented claim (or other document) must contain information specified in Appendix №6;

12.3.2 along with the claim, as requested by the claim recipient, the applicant is obliged to provide the tires that are the basis for presenting the claim. Absence of tires and/or impossibility of provision or refusal to provide tires exclude the possibility of considering the claim on the merits;

12.3.3 also along with the claim, the applicant needs to present purchase documents (cash or sales receipt, universal transfer document, or other document or information confirming ownership).

12.4 The claim recipient must:

12.4.1 accept the claim and tires (if present) for consideration. Upon receiving tires, issue the applicant a confirmation of tire receipt;

12.4.2 consider the claim for the tire in accordance with contract terms or national legislation and upon expiration of periods specified there issue consideration results;

12.4.3 in case of satisfying claim requirements, perform either tire replacement with new ones or perform satisfaction of declared requirements in another way provided by legislation and/or agreed with the claim applicant in periods established by national legislation, contract terms, or other agreement of the parties;

12.5 As necessary, when resolving disputes, a methodology for calculating physical tire wear can be used for transition to residual value.

13. METHODOLOGY FOR ASSESSING PHYSICAL TIRE WEAR

13.1 Physical tire wear is assessed by the following parameters:

13.1.1 manufacturing date (established by marking on the sidewall);

13.1.2 tread pattern depth;

13.1.3 mechanical damage, including cord damage with change in tire geometric parameters.

13.2 In the general approach, physical wear is determined as follows:

Wear = (GP new - GP) / (GP new – GP min) * 100% , where:GP – tread depth of the assessed tire GP new – tread depth of the assessed tire in a new state GP min – minimum allowable tread depth for operation of the assessed tire, according to its seasonality assignment

13.3 Wear value increases as the following circumstances are present:

13.3.1 By 10% for tires from 1 to 3 years from the production moment

13.3.2 By 25% for tires from 4 to 5 years from the production moment

13.3.3 By 50% for tires more than 5 years from the production moment

13.3.4 By 25% for tires with any external deficiencies or violations of construction integrity, associated with the presence of punctures, cuts, ruptures, bulges, uneven wear, separation of tire elements, wear (damage) of the sealing layer and traces of

other mechanical damage and natural influences during operation and other circumstances. At the same time, the presence, degree, and quality of repair execution do not matter.

13.3.5 tire wear is counted as the sum of values per items

13.2 and 13.3. Upon obtaining a value of 100% and more, it can be stated that the tire has completely exhausted its resource and the tire manufacturer's responsibility is exhausted.

14. MANUFACTURER'S LIABILITY

14.1 The manufacturer bears responsibility for tire compliance with national and other standards, and other normative documents applied to tires while complying with operation, transportation, and storage conditions provided including by these Rules.

14.2 The manufacturer bears responsibility for the absence of production defects and tire performance until maximum tread pattern wear, corresponding to the wear indicator height, within the service life.

14.3 Tire service life, i.e., the period during which the manufacturer undertakes to ensure the possibility of using the product for its intended purpose and bear responsibility for significant deficiencies arising in the product through the manufacturer's fault or caused by manufacturer's actions while complying with these operation, storage, and transportation rules - is 5 (five) years from the tire production moment (starting from the first day of the week following the week of its manufacture specified on the tire sidewall).

14.4 Possibility of further operation (after service life expiration) is determined by the consumer (owner) under their own responsibility and in accordance with the tire technical state.

14.5 Responsibility for tire repair : After performing repair, responsibility for tire serviceability and possible consequences of its operation falls on the tire owner or

organization that performed the repair; tire manufacturer does not bear responsibility for repair consequences.

14.6 Responsibility for repeated studding. Repeated studding is a tire modification not provided by factory conditions; the manufacturer does not bear responsibility for consequences of repeated studding, as it can change tire characteristics, lead to uneven wear and deterioration of traction properties.

15. TIRE DISPOSAL

15.1 Enterprises, institutions, organizations, drivers using automobile tires for production and/or personal purposes are obliged to perform all necessary actions in the field of correct tire disposal: hand them over for recycling to licensed enterprises engaged in centralized collection and/or disposal of automobile tires, as well as fulfill other requirements provided by local or national legislation in the field of waste management.

16 Appendix №1: Possible tire rotation schemes for vehicles

Fig 1. Rearrangement of tires with a directional tread pattern

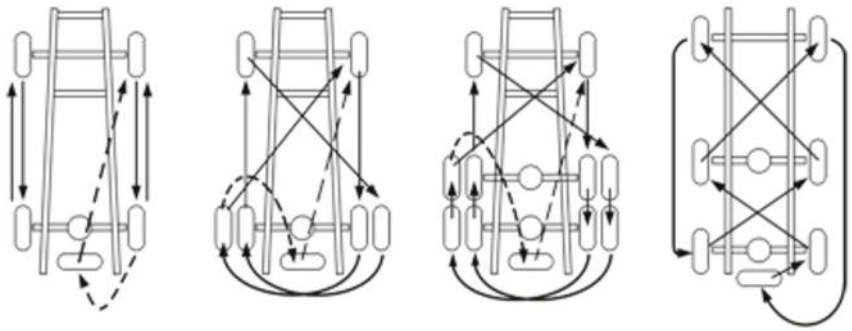


Fig. 2. Rearrangement of tires with a non-directional tread pattern

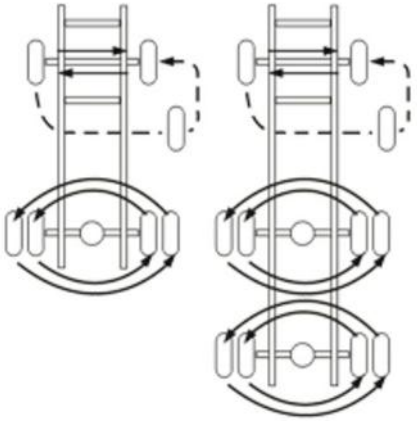
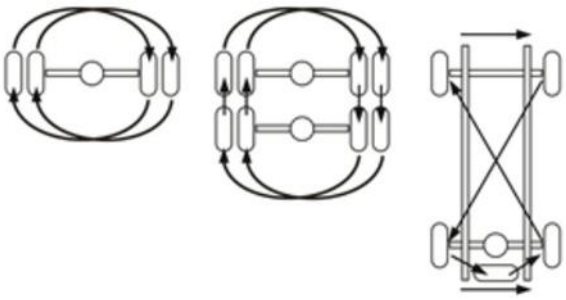


Fig. 3. Rearrangement of tires on trailers and semi-trailers



17 Appendix №2: Determining maximum tread wear area and measurement points

Fig. 1 Zone of maximum tread pattern wear (hatched). Width of zone 'в' must be equal to half the running track width 'б', i.e., в=0.56б. Length of zone 'a' must be equal to 1/6 of circumference length, i.e., a = 2πR/6, where R is free tire radius.

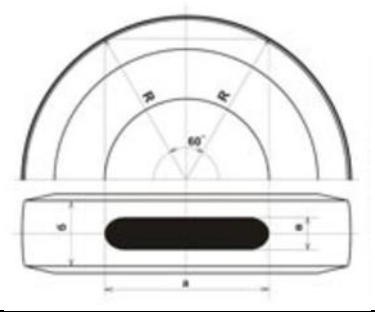


Fig. 2 Tread pattern with steps at the base of blocks in the running track central belt.

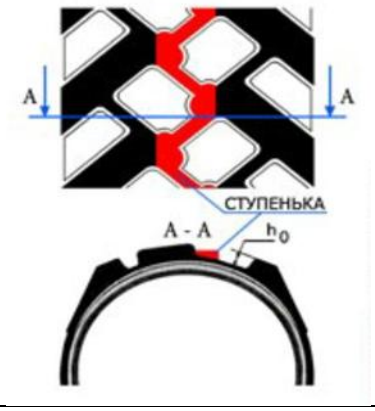
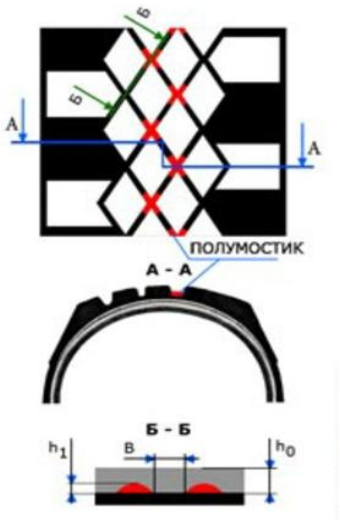


Fig. 3 Universal tread pattern with semi-bridges at groove crossing places.



18 Appendix №3: Cargo placement on vehicles and influence of overloading on tire life

Fig. 1. Cargo placement on vehicles. А - correct placement of small-sized heavy cargo; Б - incorrect placement of small-sized heavy cargo; В - correct placement of long cargo; Г - incorrect placement of long cargo.

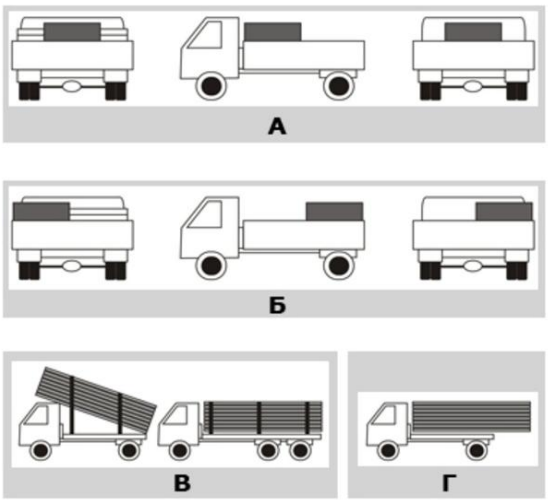
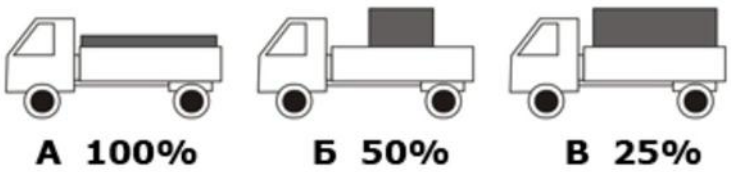


Fig. 2. Tire resource usage (in %). А - at normal load (100%); Б - at 40% overload (50%); В - at 100% overload (25%).



19 Appendix №4: Influence of pressure deviations on tire life

		
Fig showing 100% resource at normal pressure	80% resource at pressure increased by 20%	and 70% resource at pressure reduced by 20%

20 Appendix №5: Log card

Vehicle tire operation log card

New, used (underline as needed)

Tire serial number or manufacturing date: _____
(in case of its loss, the number assigned at the plant is indicated)

Tire size and model: _____

Brand, trademark or manufacturer: _____

State registration plate, vehicle make and model:
_____

Enterprise name and address:
_____

Date		Tire mileage, thousands of km (accurate to 0.1 km)		Tire condition: defects, type and extent of damage, tread depth in mm (including date)	Reason for tire removal sent for repair, transfer to another vehicle or spare, return to warehouse, write-off	Driver's signature
Mounting on the vehicle	Removal from the vehicle	Per month	total mileage			

Responsible for tire work accounting: _____

Conclusion for tire decommissioning _____

Commission members: _____
(Position, Signature, Surname)

_____
(Position, Signature, Name)

"__" _____ 202_ г.

21 Appendix №6: Information for claims

List of main information necessary for provision when filing a complaint (claims).

21.1 Applicant's contact data (Full Name)

21.2 Date and place of birth

21.3 Registration address

21.4 Information on the main identity document

21.5 Region, as well as city of residence and tire operation

21.6 Trade name of tire model(s)

21.7 Size, speed index, load index of tire(s)

21.8 Reason for application (declared deficiency)

21.9 Requirements in connection with application

21.10 Tire purchase place and purchase date (number and date of purchase document)

21.11 Date and place of primary tire(s) mounting

21.12 Vehicle make, model, year of manufacture, state number

21.13 Tire mileage at the moment of application

21.14 Photo materials clearly showing: details in p 21.7, general tire view, tread with wear indicator, DOT code, and declared deficiency.

List is not exhaustive.

22 Appendix №7: Instructions for performing tire mounting works

22.1 Tire mounting works must be carried out in strict accordance with safety requirements and occupational health and safety requirements, according to the legislation of the region where the works are performed.

22.2 Mounting and demounting of automobile wheels must be performed in the area established at the enterprise, equipped with the necessary equipment, fixtures, and tools, on a clean floor using safety guards.

22.3 Before carrying out the works, it is necessary to ensure the working temperature in the room, it should not be below +15°C. In the case of performing works in the winter period of time, the tire must rest in a warm room for at least 3 (three) hours.

22.4 Before carrying out the works, it is necessary to inspect the tire to be mounted for the presence/absence of operational damage.

22.4.1 The tire must not have traces of violation of the operation rules such as deep cuts and punctures, bulges including repaired ones, traces of operation at reduced or absent pressure, uneven wear of the tread pattern;

22.4.2 The tire must not have traces of violation of storage/transportation rules, such as jams and creases in the area of the bead ring.

22.4.3 The tire must be clean, without dirt, dust, stones stuck in the tread, and other foreign objects.

22.5 Before carrying out the works, it is necessary to prepare and inspect the wheel on which the tire will subsequently be mounted:

22.5.1 The wheel for testing must match the size of the tested tire. It is necessary to pay attention to the seat width of the wheel rim and select it in accordance with the size of the tested tire (tabular tolerance values), as well as to select the appropriate seat diameter.

22.5.2 The wheel rim (especially on the rim flange, bead seat, hump, and near it) must not have traces of corrosion, dirt, and other foreign substances. If there is any

contamination, it must be removed; if the contamination cannot be removed, replace the wheel;

22.5.3 It is necessary to check the condition of the wheel rim for damage: there should be no dents, cracks, traces of welding or repair, geometry correction. In case of detecting one of the listed signs, the wheel must be replaced.

22.5.4 It is necessary to check the condition of the central hub hole of the wheel disc; it must be even, without damage, dirt, traces of corrosion, paint and varnish sags, and other substances. In the presence of damage, the wheel must be replaced. If there is any contamination, it must be removed; if the contamination cannot be removed, replace the wheel.

22.5.5 It is necessary to make sure that the wheel does not have any corrective weights installed on it. In the presence of installed corrective weights on the wheel surface, it is necessary to demount them.

22.6 Before carrying out the works, it is necessary to make sure that all equipment used for performing tire mounting works is in working condition, serviced, and has passed all calibration procedures, if this is implied by the equipment operation manual.

22.7 After checking the wheel and the tire to be mounted, you can proceed to perform tire mounting works:

22.7.1 it is necessary to place the wheel on the tire mounting machine;

22.7.2 apply mounting paste to both tire beads and rim flanges, the hump, and the part of the rim mounting well adjacent to the hump;

22.7.3 after applying the mounting paste, it is necessary to perform mounting of the tire onto the wheel, taking into account all operating instructions of the tire mounting machine;

22.8 After successfully completed works on mounting the tire onto the wheel, it is necessary to ensure full seating of the tire bead zone relative to the bead seat and the wheel rim flange. For this, it is necessary to inflate the tire in two stages:

22.8.1 without a valve core up to 3.5 bar of overpressure, which will ensure full seating of the tire on the rim. ATTENTION! Inflating tires to a pressure above 3.5 bar must be carried out only in a special metal enclosure (cage) capable of protecting maintenance personnel in case of spontaneous demounting of the wheel assembly;

22.8.2 then release the overpressure, screw in the valve core, and bring the tire pressure to the target one provided by the vehicle configuration manual.

22.9 After removing the wheel assembly from the tire mounting table, it is additionally recommended to tap it against the floor for better seating of the tire bead on the wheel rim.

22.10 Next, the wheel assembly must be correctly installed on the balancing stand. The installation process and procedure must be performed as follows:

22.10.1 First, a centering cone is put on the shaft of the balancing stand in such a way that the cone is on the inner side of the central hole of the wheel assembly.

22.10.2 Next, the wheel assembly is installed on the balancing stand shaft, with the already installed centering cone.

22.10.3 After installing the wheel assembly and fitting the hub hole to the cone, a clamping nut is installed on the shaft, after which everything is tightened according to the operating instructions of the balancing stand.

22.11 The process of checking the wheel assembly for the need to use corrective weights, as well as their installation, should be performed in accordance with the operating manual of the balancing stand.

22.12 The amount of weights proposed by the stand required for installation should be evaluated - if necessary, an "adjustment" (optimization) of the tire position relative to the rim should be implemented.

22.13 Before installing stick-on type weights, they should be shaped to the reverse side of the rim. The place for installing the weights must be additionally cleaned and degreased. Install the weights. After installation, the weights should be additionally secured with a few hammer blows.

22.14 Before installing the wheel on the vehicle, it is necessary to check and, if necessary, clean the hub surface to which the wheel assembly will fit.

22.15 Additionally, it is necessary to make sure that the real rotation direction and the one specified by the tread pattern match. Install the wheel assembly on the vehicle.

22.16 Install the wheel assembly on the vehicle.

22.17 During fastening, it is necessary to check the fastening elements: nuts or bolts must match: in thread size - to the vehicle ; in type of fastening surface (cone, sphere, flat) - to the wheels; in their length - nuts or bolts must be screwed on at least 6–8 turns until full tightening ; the thread must be clean, without dirt, thread lines without dents and burrs.

22.18 Tighten the bolts. Tightening of the bolts should be done by sequentially tightening the opposite bolts from the central hole.

22.19 Final tightening of the fasteners must be performed using a torque wrench to the required torque specified in the specific vehicle's owner's manual.

23 Change Log

Rev. No.	Description of Change	Reason for Change	Revised by		
			Position	Full Name	Date