

Размер шин	215/90-15С (Я-245-1); 225/85R15С (И-502); 215/90R15С 99N (ЯИ-357А); 225R16С (К-151 или К-152); 225/75R16 108Q (К-153); 225/75R16 (Я-435А)
Размер камеры	8,40-15 или 225-16 в зависимости от используемых шин.

СИСТЕМЫ УПРАВЛЕНИЯ

Рулевое управление

Рулевое управление	травмобезопасное, рулевой вал - разрезной, с карданным шарниром
Рулевой механизм	типа "глобоидальный червяк с двухгребневым роликом" без гидроусилителя или "винт-шариковая гайка-сектор" с гидроусилителем
Передаточное число рулевого механизма	20,5 (винт-шариковая гайка-сектор) или 20,3 (глобоидальный червяк с двухгребневым роликом)

Тормоза

Рабочая тормозная система	барабанная, с колодочными тормозами на каждое колесо
Привод	гидравлический с вакуумным усилителем и двумя отдельными контурами на передние и задние колеса
Запасная тормозная система	каждый контур гидравлического привода
Стояночная тормозная система	барабанный тормозной механизм, действующий на задний карданный вал
Привод	ручной, механический

ЭЛЕКТРООБОРУДОВАНИЕ

Система проводки	однопроводная, отрицательный полюс соединен с "массой" автомобиля
Напряжение в сети (номинальное), В	12
Генератор	переменного тока со встроенным выпрямителем и интегральным регулятором напряжения 16.3771 или 665.3701
Аккумуляторная батарея	6СТ66А
Стартер	42.3708, или 4211.3708-01, или 62.3708, с дистанционным управлением
Система зажигания	бесконтактная, транзисторная
Выключатель зажигания	оборудован противоугонным устройством, блокировкой повторного включения стартера
Переключатель подрулевой	многофункциональный, двухрычажный
Стеклоочиститель	электрический, с нижним приводом, двух или трехрежимный, с двумя щетками
Звуковой сигнал	электрический
Наружное освещение	головные фары; противотуманные фары (УАЗ-31514, УАЗ-31519); передние и боковые указатели поворота; задние фонари
Приборы	спидометр со счетчиком пройденного пути, указатель уровня топлива в баках, указатель температуры охлаждающей жидкости с сигнальной лампой аварийного перегрева охлаждающей жидкости, указатель напряжения, указатель давления масла с сигнальной лампой аварийного давления масла
Контрольные лампы	включения дальнего света фар, включения указателей поворота, разряда аккумуляторной батареи, аварийного давления масла, аварийного перегрева охлаждающей жидкости

КУЗОВ

Тип	цельнометаллический, четырехдверный, со съемным мягким верхом и задним откидным бортом (УАЗ-31512, УАЗ-31519) или металлический, четырехдверный со съемной металлической или пластмассовой крышей, задним откидным бортом и крышкой багажного отделения (УАЗ-31514, УАЗ-31519). Кузов оборудован смывателем стекла ветрового окна, двумя противосолнечными козырьками, двумя наружными и внутренними зеркалами заднего вида, подлокотниками на дверях, дугами безопасности (на автомобилях со съемным мягким верхом)
Сиденья	передние - раздельные, имеющие три фиксированных перемещения в продольном направлении; заднее - трехместное, с укладываемой на подушки спинкой и складывающееся вперед для организации грузовой площадки; задние боковые - одноместные, откидные. Передние и заднее (каждое из трех посадочных мест) сиденья оборудованы ремнями безопасности
Отопление кузова	воздухом, поступающим снаружи через воздухозаборник и проходящим через радиатор отопителя, включенный параллельно в систему охлаждения двигателя, с помощью вентилятора
Стекло ветрового окна	плоское, безопасное, трехслойное
Дополнительное оборудование	ограждение для защиты от повреждений облицовки радиатора и фар, решетки для защиты задних фонарей, чехол для запасного колеса. Согласно комплектации кузов может иметь улучшенную отделку: мягкие сиденья, имеющие съемные, регулируемые по высоте подголовники, вентиляционный люк в крыше, прикуриватель, напольный контейнер, мягкую обивку из ковровой дорожки, стеклопластиковые накладки на панели приборов, передних крыльях, порогах пола, дверях, панелях боковин и облицовке радиатора

HOW TO USE THIS CATALOGUE?

This Catalogue familiarizes with automobiles of the YA3-31512 family and is an aid in drawing up orders for spare parts. The Catalogue is based on the technical documents as of October 15, 2000.

Units and parts are grouped in the Catalogue according to their design and function. Groups and subgroups are arranged in the increasing order of their numerals. The units and parts in Figures are arranged according to the assembling procedure and their interaction in the assembly which helps understand better the automobile design and proper disassembly and assembly of units. Stated next to the name of an illustration is the numeral of the subgroup to which the illustration is related. The Catalogue sections "List of Groups and Subgroups" and "List of Illustrations" facilitate the finding of required illustrations and parts in the Catalogue.

Units and parts shown in illustrations are given designations and reference numbers.

The Catalogue proper is actually a table giving number of illustration, reference number in illustration, designation of units and parts, code of OKП (all-Russian classifier of products), quantity in subgroup per automobile, and description. Interrelated location of unit and part designations in illustrations and in the text substantially simplifies the finding of the required designation. Some units and parts are selected specially for spares, for example: sets of piston rings, sleeve with piston, set of connecting rod and main shells, etc.

A code of the all-Russian classifier of product (OKП) of some fastening parts could be used for designation of a product. For example: 45 93XX XXXX - bolt...

The first two figures (on the right) denote a class of product:

45 denotes the automotive industry product.

The third figure denotes the subclass:

9 denotes the unified products.

The fourth and fifth figures denote the product type:

30-39 - bolts;

40-49 - screws;

50-54 - studs;

55-59 - nuts;

60-65 - self-tapping screws;

66-69 - wood screws;

70-79 - rivets;

80-81 - washers;

82 - stoppers;

83 - spring rings;

84-85 - set pins;

86 - pins;

87-89 - cotters, yokes;

90-99 - couplings

The sixth figure denotes the classes or groups of strength, of material mark, of heat treatment.

The seventh figure denotes code of coating:

0 - without coating (П)

1 - zink-plating and chromatizing (П29)

2 - cadmium-plating with chromatizing (П21)

3 - multilayer copper-nickel (П6)

4 - multilayer copper-nickel-chrome (П13)

5 - oxydation (П15)

6 - phosphation with oiling (П2)

7 - zink-plating with phosphation (П53)

9 - zink-plating (П8)

The eighth, ninth, tenth figures denote the ordinal-registration number of a product.

The standard products could be provided with six-digit numbers at the end of which is one of the above-mentioned in the brackets anti-corrosion coating code.

Also used the same as the six-digit designation of standardized parts is the eight-digit designation consisting of three groups divided by a slant line, for example: 1/32742/01. The part can be manufactured in various versions differing in material and coating. The main five-digit number determines the part and its size. The last, but one numeral in the eight-digit designation, is the code of material and the last numeral designates the coating.

All parts and units are designated according to the common seven-digit system. For example, shock absorber reservoir in assy has the following designation: 31512-2905670, where:

31512 - first numerals before a hyphen denote the basic vehicle model or, in the parts of engine, chassis or body, respectively: model of engine, chassis or body.

29 - first two numerals of seven-digit number denote the number of subgroup, "Suspension" in the given case.

05 - two following numerals of seven-digit number denote the number of subgroup, "Front shock absorbers" in the given case.

670 - last three numerals of seven-digit number denote the ordinal number of part, "Shock absorber reservoir in assy" in the given case.

To indicate whether parts and units are interchangeable or not at all subsequent alterations the following numerical indices are used.

01 - first interchangeable version;

02 - second interchangeable version;

09 - ninth interchangeable version;

10 - first non-interchangeable version;

11 - first interchangeable version of non-interchangeable version10;

12-19 - subsequent interchangeable versions of non-interchangeable version10;

20 - second non-interchangeable version;

21-29 - interchangeable version of second non-interchangeable version 20 etc.

Simultaneously with numerical indices are used letters suffixes A, Б, В, etc. Letters A, A1, A2, , etc. indicate that the modified parts retain their interchangeability with the main part (having no suffix) and between each other. Parts with suffixes Б, Б1, Б2, etc. are not interchangeable with earlier made parts without letter suffix or with parts having

A, A1, A2, etc. but they are interchangeable with each other.

Units and parts borrowed from other models of vehicles retain their initial designations.

Parts and units used only for repair are given letter suffixes P, P1, P2 or AP, AP1, etc. For example, BK-24-1000100-AP - a set of piston rings oversized by 0.50 mm.

Sometimes an other designations are given which not correspond to an industry branch standards. These designations are given by the associate Manufacturers.

Sign +” indicates that the part or unit can be manufactured in versions.

SPECIFICATIONS

The automobile A3-31512 (Fig. 1) is a combination passenger/cargo, two-axle, all-wheel drive (4x4 wheel arrangement) cross-country vehicle with soft open-top all-metal four-door body and tail gate.

The automobiles YA3-31514 and A3-31519 (Fig. 2) are combination passenger/cargo, two-axle, all-wheel drive (4x4 wheel arrangement) cross-country vehicles with hard four-door body ,

tail gate and cargo compartment cover.

On the automobile YA3-31519 with four-door body a soft open-top could be installed. These automobiles could be equipped with the five-speed gearbox (model 3153).

The vehicle is intended for carrying passengers and cargo on hard-surfaced and earth roads as well as off-the-road.

GENERAL DATA

Description	Automobile Models		
	YA3-31512	YA3-31514	YA3-31519
Seating capacity	7		
Load carrying capacity (driver and passengers included), kg	750		
Curb mass, kg	1600	1750	1600* (1750**)
Gross mass, kg	2350	2500	2350* (2500**)
Curb mass distribution, kg:			
front axle	880	950	880* (950**)
rear axle	720	800	720* (800**)
Gross mass distribution, kg			
front axle	965	1000	965* (1000**)
rear axle	1385	1500	1385* (1500**)
Permissible total tow weight***, kg			
with brakes	1500		
without brakes	750		
Maximum speed, k/h	110	110	120

Description	Automobile Models		
	YA3-31512	YA3-31514	YA3-31519
Braking path with full load at initial speed of 80 km/h (without trailer), not more, m	43.2		
Minimum turning radius to front bumper extreme), m	6.8		
Maximum upgrade of full laden automobile, deg.	31		
Maximum slope of maximum laden automobile without trailer, deg.	20		
Maximum depth of ford, m			
without preparation	0.5		
with preparation	0.7		
Fuel consumption at speed of 90km/h, l/100km	16.2		
Overall dimensions:			
length	4025	4025	4025
width	1785	1785	1785
height (empty)	1990	2020	1990

Note. The reference fuel consumption is intended for determination of the technical condition of automobile, and it is not a specification

* - When the soft top is installed

** - When the hard top is installed

*** - When the draft gear of ball type is installed

Engine

Description	4178.10	4218.10	4021	Description	4178.10	4218.10	4021
Firing order	1-2-4-3			Maximum torque at crankshaft speed of 2200-2500 min ⁻¹ , N · m (kgf · m): net ГОСТ 14846:	-	-	156.8 (16.0)
Cylinder bore, mm	92	100	92	Maximum low idle speed of crankshaft, min ⁻¹	700-750	700-750	550-650
Piston stroke, mm	92			Carbon monoxide content (CO) in exhaust gases at min. low idle speed, %, not more	1.5		
Displacement, l	2.445	2.89	2.445	Lubrication system	combination: forced and splash		
Compression	7.0	7.0	6.7	Crankcase ventilation	closed		
Guaranteed gross power at crankshaft speed of 4000 min ⁻¹ , kW				Fuel system	with forced fuel feed		
net to ГОСТ 14846:	55.9 (76)	61.8 (84.0)	55.1 (75)	Fuel	gasoline A-76		
to DIN 70020	57.4 (78)	63.2 (86.0)	-	Cooling system	liquid, closed, forced circulation		
Maximum torque at crankshaft speed of 2200-2500 min ⁻¹ , N · m (kgf · m):				Exhaust system	rear l.h. exhaust pipe with neutralizer and muffler		
net to ГОСТ 14846:	159.8 (16.3)	189.0 (19.3)	-				
to DIN 70020	164.8 (16.8)	193.0 (19.7)	-				

POWER TRAIN

Clutch

Type	dry, single-plate, driven disk provided with friction linings and torsional, vibration damper
Clutch release device	hydraulic

Gearbox

Clutch release device	hydraulic
Type	mechanical, four-speed (with synchronizers in all forward gears (1st version) or for 3rd and 4th gears (2nd version)) or five-speed (3rd version)
Gear ratios:	1st version 2nd version 3rd version
1st gear	3.78 4.12 3.78
2nd gear	2.60 2.64 2.60
3rd gear	1.55 1.58 1.55
4th gear	1.00 1.00 1.00
5th gear	- - 0.82
Reverse	4.12 5.22 4.12

Transfer Box

Type	mechanical, two-range, installed on gearbox rear end
Control	gear shifting and front axle engagement by levers on transfer box cover
Gear ratios:	
direct gear	1.00
underdrive gear	1.94

Propeller Shaft Drive

Type	two open propeller shaft; universal joints with needle bearings
Front propeller shaft	combination (tube and solid shaft), with two universal joints
Rear propeller shaft	tubular, with two universal joints

Front and Rear Drive Axles

Type	single-stage drive with unsplit housings or Π-type with hub drive; front axle is provided with wheel disengaging device
Axle drive	spiral bevel gearing
Gear ratio	4.925 (2.77*)
Differential	bevel with four differential pinions
Hub drive	gear with internal gearing
Axle shafts	full floating
Steering knuckle joints of front axle	constant-velocity universal joints of ball-type

CHASSIS

Frame

Type stamped, channel-section side members with stiffeners; provided with front and rear bumpers; two front and one rear tow hooks

Suspension

Type dependent: front - spring with transverse stabilizer, hydraulic telescopic shock absorbers of double action, with two longitudinal arms and transverse arm;
rear - on two semielliptic small-leaf springs and hydraulic telescopic shock absorbers of double action

Tyres and Wheels

Wheels stamped of plate steel, with deep unsplittable rim, size 6Lx15 or 6Jx16 depending on tyres in use
Attachment with five nuts
Tyres pneumatic, with inner tubes
Tyre size 215/90-15C (Я-245-1),
225/85R15C (И-502),
215/90R15C 99N (ЯИ-357A),
225R16C (K-151 or K-152),
225/75R16 108Q (K-153),
225/75R16 (Я-435A)
Tube size 8.40-15 or 225-16 depending on tyres in use .

CONTROL SYSTEMS

Steering Arrangement

Steering arrangement safety, steering shaft - split, with universal joint
Steering mechanism type "globoid worm and double-cam roller " without hydraulic steering booster or "screw-ball nut-sector" with hydraulic steering booster
Transmission ratio of steering mechanism 20.5 (screw-ball nut-sector) or 20.3 (globoid worm with double-cam roller)

Brakes

Service drum, with shoe brakes for each wheel
Wheel drive hydraulic with vacuum booster and two separate circuits for rear and front wheels
Reserve brake each circuit of hydraulic drive
Parking drum, actuated on rear propeller shaft
Drive hand-driven

ELECTRICAL EQUIPMENT

Circuitry single-wire, negative earth return
Rated voltage 12
Alternator built-in rectifier and integrated voltage regulator 16.3771 or 665.3701
Storage battery 6CT66A
Starter 42.3708, or 4211.3708-01, or 62.3708, with remote control
Ignition system contactless, transistorized
Ignition switch equipped with antitheft device, locking of starter repeating switching
Switch under steering wheel multifunctional, with two levers
Windshield wiper electrical, with lower drive two-or three-modes, with two blades
Horn electrical
Outer lighting headlights; fog lamps; front and side direction indicators, rear lamps
Instruments speedometer with odometer, fuel level gauge, cooling temperature gauge with pilot lamp, voltage indicator, oil pressure gauge with pilot lamp
Pilot lamps high-beam pilot lamps, direction indicator pilot lamps, storage battery charge state pilot lamp, oil emergency pressure pilot lamp, coolant emergency overheating pilot lamp

BODY

Type all-metal four-body with removable tarpaulin and tail gate (YA3-31512, YA3-31519) or metal four-door with removable metal or plastic top, tail gate and cargo compartment cover (YA3-31514, YA3-31519). Body is equipped with windshield washer, two sun visors, two outer rear view mirrors and inner rear view mirror, arm rests, safety bows (for automobiles with removable tarpaulin)
Seats front seats are to-and-fro adjustable (three fixed positions);
rear seat for three persons can be folded towards front seat backs; additional single-person rear seats are located along body sides; front and rear seats (each of three seats) are provided with safety belts
Body heating by outside air went through air intake and went through heater radiator parallel connected to engine cooling system, with fan
Windshield glass plane, safety, triplex
Additional equipment guard for radiator shell and headlights, guards for rear lamps, spare wheel cover; also body can be equipped with seats with removable adjustable headrests, roof hatch, cigarette lighter, floor box, carpet upholstery, glass-plastic cover plates for instrument board, front fenders, floor side sill, doors, body sides and radiator shell