Maintenance Manual of Karry

（Chassis）

Service Department of Chery Automobile International CO., Ltd

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Chapter 1 Brake system

Section 1 Parameter of brake system

1. Inspection on surface of brake disc

Rubbing surface of brake disc should be flat and have no obvious dent, or replace it.

2. Inspection on thickness of brake disc

Check thickness of brake disc with caliber rule.
Standard thickness of front disc (ventilation disc) is **22**mm, and using limit is **20**mm; Replace it if the limit is exceeded.

3. Inspection on throb of brake disc

Check throb quantity of terminal face of brake disc with dial gauge, and using limit of front disc is **0.03**mm.

4. Inspection on thickness of brake friction wafer

Standard thickness of front brake friction wafer is 13mm and using limit is 3mm,in which remnant thickness of thickness limit of brake pad should not less than 1mm. (Not include backboard.)
Standard thickness of friction wafer of rear brake hub is 5mm and using limit is 1mm, in which remnant thickness of thickness limit of brake pad should not less than 1mm.

5. Remark

Please inspect thickness of outer brake friction wafer via hole of wheel spoke before disassemble the wheel, or check it after disassembled the wheel.

Important prompt:

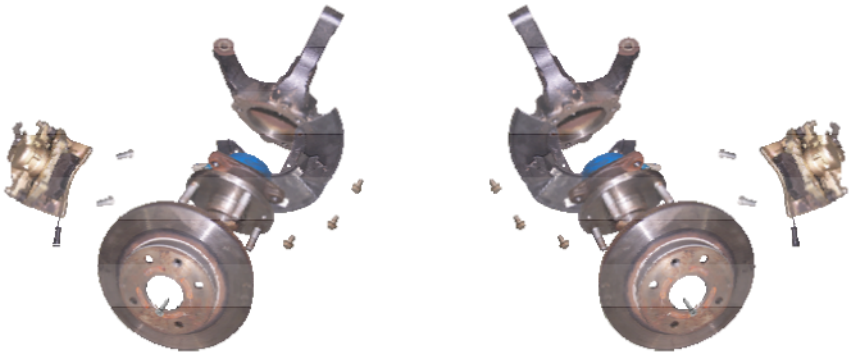
⑦ After replaced friction wafer or brake disc, tread the brake for some times to make brake friction wafer fit up brake disc and ensure safety!

⑦ After replaced brake friction wafer, please check if liquor level of brake fluid is between MIN and MAX.

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Section 2 Disassembly and assembly of front wheel brake

1. Assembly diagram of front wheel brake



2. Preparation of disassembly and assembly

Tools: Ratchet wheel, ratchet pole, 11#, 17#, 19#, 30# sleeve, 14#, 17#, 19# box wrench, jaw vice, torque wrench.
Supplementary materials: Brake fluid

3. Precautions

3.1 Please wear necessary appliances for labor protection to avoid of accident.

3.2 Brake fluid is poisonous liquid, please clean with clean water if contacts it with skin or eye in careless, and take medical treatment in time if it is necessary.

3.3 Load dumped brake fluid into container. Do not empty it into water drain or pile it up with consumption residues.

3.4 Do not tread the brake pedal or move the vehicle during disassembly and assembly.

3.5 Never make friction wafer or friction disk contact with material of fat liquor, to avoid of reducing brake performance.

4. Disassembling step

4.1 Loosen drive nut of front wheel with torque wrench and 30# sleeve, but disassembling it completely is not necessary.
Moment of force: 265±5 N.m



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4.2 Disassemble five fixed bolts of tire with torque wrench and 19# sleeve and take down tire.
Moment of force: 110±10 N.m



4.3 Disassemble brake hose with 11# and 14# box wrench; do not spatter brake fluid on body. (It is needless to disassemble brake hose if no inspection should be conducted with brake wheel cylinder.)





4.4 Loosen two bolts connecting with brake tongs assembly and knuckle with torque wrench and 19# sleeve, and take off brake tongs.
Moment of force: 80N.m



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4.5 Disassemble fixed screw of brake disc with Philips driver.

Moment of force: 8±2N.m



4.6 Loosen off drive nut with 30# sleeve wrench.



4.7 Take off brake disc. Check thickness of brake disc and replace it if the thickness is less than minimum thickness.

Note: Please replace the brake disc in pairs.



4.8 Disassemble fixed bolt of buttonhead with 17# socket wrench and box wrench.

Moment of force: 75±3N.m

4.9 Disassemble fixed bolt of buttonhead with 19# socket wrench and box wrench.

Moment of force: 70±3N.m



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4.10 Disassemble fixed bolt of tie bar and knuckle with 19# box wrench.
Moment of force: 35±3 N.m



4.11 Take off knuckle with hands.



5. Assembling step

Conduct assembly by referring to disassembling step.



6. Disassembly of brake tongs of front wheel

6.1 Disassemble two fixed bolts of brake tongs with 19# socket wrench.
Moment of force: 74-91N.m

6.2 Disassemble brake hose with 14# box wrench, and take off brake tongs.
Moment of force: 16-19N.m

6.3 Disassemble one fixed bolt on brake tongs shell with 13# box wrench.
Moment of force: 32-36N.m



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6.4 Lift brake tongs shell and take out brake friction wafer. Check the thickness of friction wafer, and replace it if requirement is not matched.

Note: Please replace friction wafer in pairs.

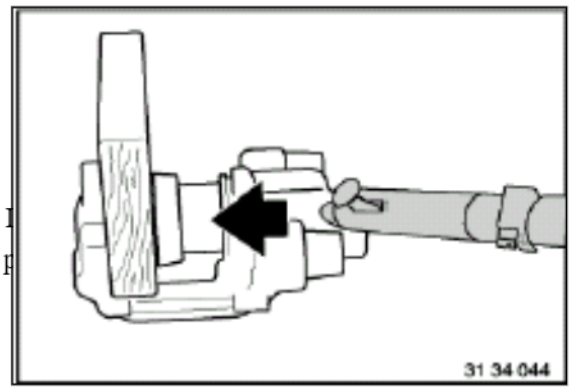


6.5 Disassemble spacer of brake cylinder with flatheaded screwdriver.



6.6 Prepare one plank to ward piston, put plank between pistons, and insert gasket from one side. Press out piston with compressed air carefully via articulate hole. Put cover sheet (hardwood etc) on notch of brake tongs to protect headed piston.

Note: Do not hold piston with finger- dangerous, clipping! I
tongs. Disassembly and assembly could be conducted only by p



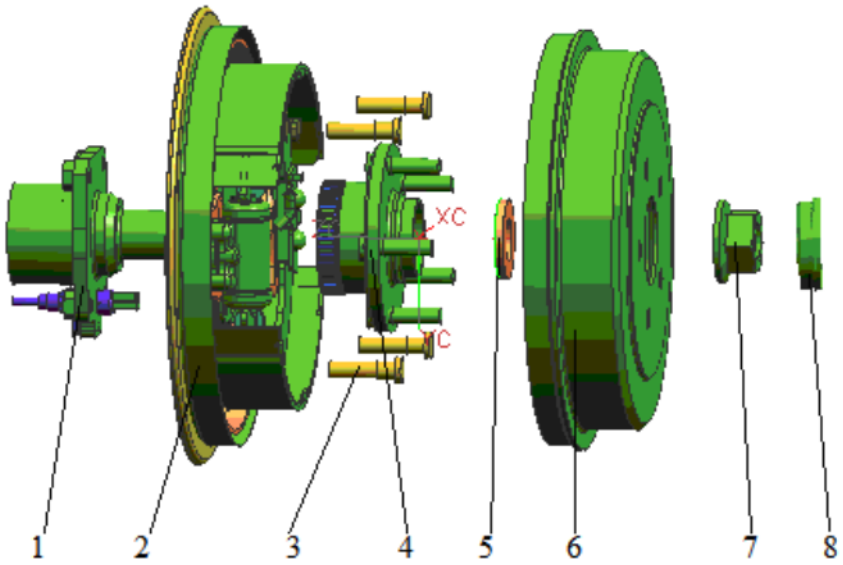
7. Assembly of brake tongs

Assembling step is contrary to disassembling step.

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Section 3 Disassembly and assembly of rear brake assembly

1. Assembly diagram of rear wheel brake



1-Half axle 2-Rear brake 3-Bolt 4-Bearing unit of rear wheel hub
5-Spacer 6-Brake drum 7-Nut 8-End housing

2. Preparation

Tools: Ratchet wheel, ratchet pole, 8#, 13#, 15#, 20# sleeve, 13#, 14#, 17#, 19# box wrench, jaw vice, torque wrench, flatheaded screwdriver.
Supplementary materials: Brake fluid

3. Precautions

3.1 Please wear necessary appliances for labor protection to avoid of accident.
3.2 Brake fluid is poisonous liquid, in case that contacts it with skin or eye in careless, please clean with lots of water, if necessary take medical treatment in time.
3.3 Dumped brake fluid should be loaded into container. Do not empty it into water drain or pile up with consumption residues.
3.4 Do not tread the brake pedal and move the vehicle during working of disassembly and assembly.
3.5 Never bring friction wafer or friction disk in contact with material of fat liquor style, it can reduce brake performance.

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4. Disassembling step

4.1 Disassemble rear wheel (refer to disassembling step of front wheel).

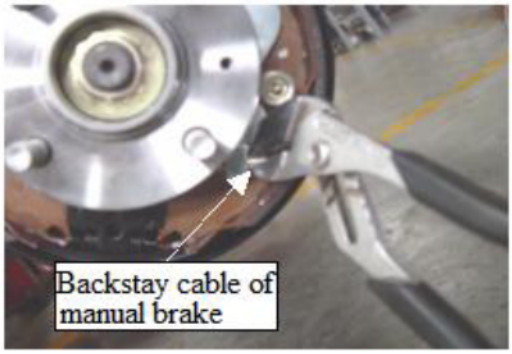
4.2 Shake brake drum and take it down.



4.3 Observe structure of rear brake



4.4 Disassemble backstay cable of manual brake with calipers.



4.5 Disassemble upper reposition tension spring with calipers



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4.6 Disassemble lower reposition tension spring with calipers.



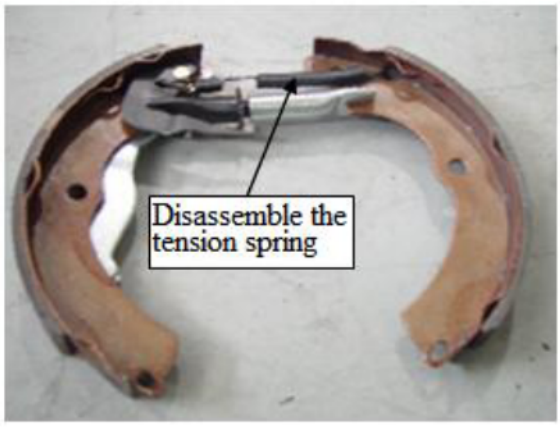
4.7 Press spring leaf of localized slide rod of brake shoe with hands (wear glove) and rotate clockwise or anticlockwise for 90°, disassemble localized slide rods of the two brake shoes.



4.8 Take out two brake shoes.



4.9 Take down tension spring and disassemble brake shoe.

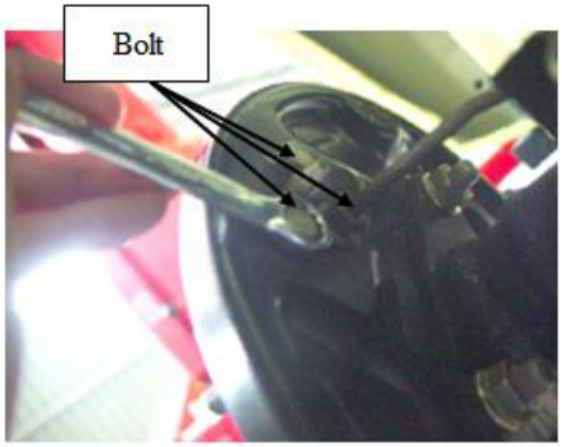


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4.10 In case that condition of "rear brake is too tight" is found during running, please adjust pusher length: Rotate clockwise to eliminate friction.



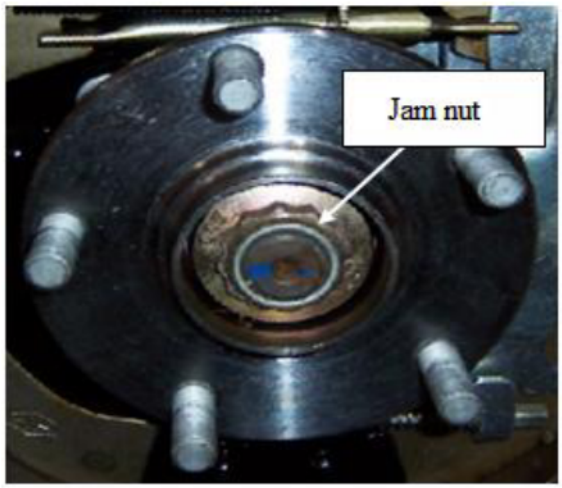
4.11 Disassemble bolts on these three positions shown in figure with 10# box wrench.



4.12 Take down brake wheel cylinder and check if it is in good condition.



4.13 If it is necessary to check bearing of brake drum, please disassemble jam nut shown in figure with 30# sleeve and torque wrench and take down bearing of brake drum.
Moment of force: 230-260 N.m



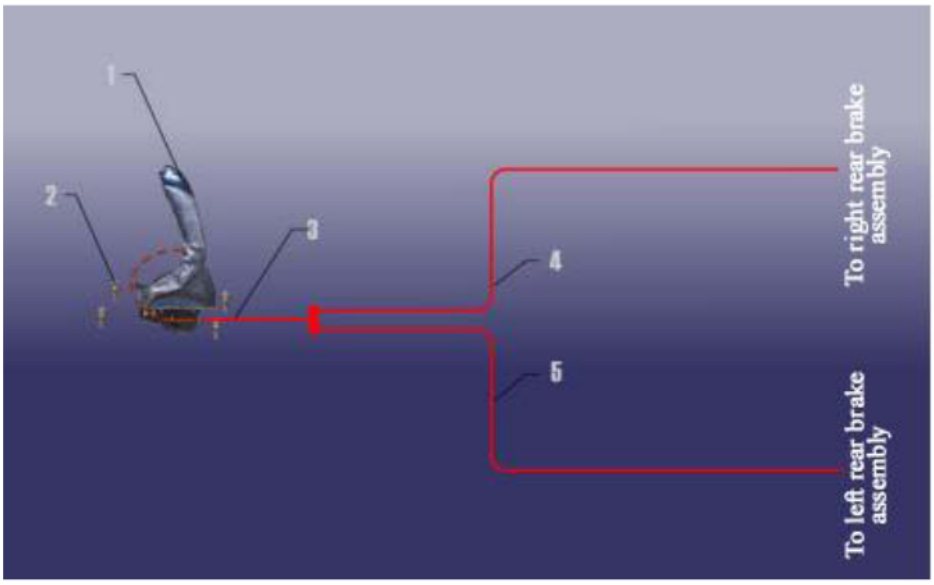
5. Assembling step

Conduct assembly by referring to disassembling step.

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Section 4 Adjustment and replacement of manual brake

1. System constitution diagram



1-Handle 2-Fixed bolt 3-Bracing wire 4, 5-Bracing wire of left and right rear wheel

2. Preparation

Tools: Ratchet wheel, ratchet pole, 10#, 13#, 14#, 16# sleeve, 10#, 13#, 14# box wrench, jaw vice, torque wrench, flatheaded screwdriver.

3. Precautions

3.1 Please wear necessary appliances for labor protection to avoid of accident.

3.2 While disassembling or assembling elastic cell, please prevent it springing out to injure human as much as possible.

3.3 While disassembling and assembling near blast pipe, please wait for refrigeration to avoid of scald.

4. Disassembling and assembling step

4.1 Referring to disassembly and assembly of rear brake, loose manual brake cable of rear wheel.



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4.2 Disassemble circlip on position shown in the figure and pull out brake bracing wire.



4.3 Disassemble steady rest bolts of manual brake cable on position shown in figure with inner hexagonal socket

Moment of force: 9-12 N·m







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4.4 Disassemble the manual brake cable on another side in same method.

4.5 Disassemble fixed bolt of driver seat with 17# sleeve and bring out seat.
Moment of force: 25±3N·m



4.6 Pry up protecting cover of screw nail of rear cover sheet with flatheaded screwdriver and disassemble screw nail of coversheet of amplitude-panel assembly.
Bolt moment: 6±1 N·m





4.7 Disassemble leather sheath of manual brake.



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4.8 Loosen fixing nuts of two backstay cables with 10# box wrench. (Adjust hand-braking path via adjust bracing wire of the position.)
Moment of force: 20-26 N·m



4.9 Disassemble fixed nuts of brake handle with 15# box wrench.
Moment of force: 30±3 N·m



4.10 Pull out sensor wire of manual brake.



4.10 Draw out manual brake cable from underside of vehicle body.



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4.11 (Another method of manual brake adjustment)

Length design of manual brake cable of the vehicle is fixed-length, it is possible to adjust effect of hand brake by referring to disassembly part of rear brake, and achieve adjustment of manual brake by adjusting length of jogger (clockwise, loose; anticlockwise, tight).



5. Assembling step

Conduct assembly in contrary step of disassembling step.

Note: Please adjust parking brake after replaced shoe plate of brake or bracing wire of manual brake:

⑦ Loosen parking brake handle

⑦ Tread brake pedal once forcibly.

⑦ Draw parking brake handle for four teeth.

⑦ Fasten adjusting nut until these two wheels cannot be turned by hand.

⑦ After completed abovementioned procedure, please loosen parking brake to check if two rear wheel can rotate freely, or repeat the above adjustment procedure.

Section 5 Addition of brake fluid and air exhaust

1. Tools requirement

Diagnostic tools, 10# open end wrench.

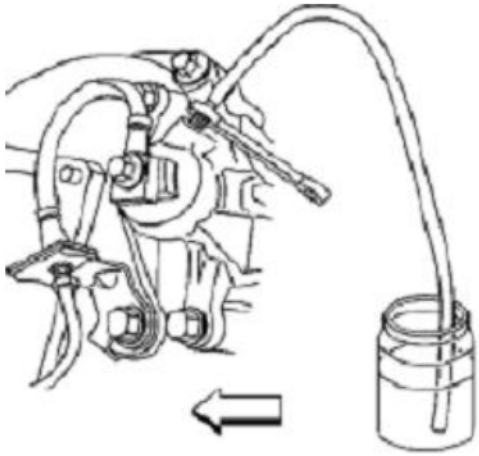
2. General information

In case that air enters into brake system while repairing or replacing brake parts, please conduct complete exhaust process. Before brake exhaust, please make cylinder pistons front and rear exhaust return to highest position, and select using diagnostic tools to reset program in advance. In case diagnostic tools could not be used, please adopt the second kind of program and conduct operation according to described order strictly.

In case that air enters because too low liquid level or disconnection of brake tube of primary cylinder, please exhaust air in hydraulic systems of the four brakes; in case that brake tube or brake hose breaks from any connectors between primary cylinder and brake, it is necessary to exhaust brake system relating to tube or hose only.

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3. Exhausting process of brake system



3.1 Exhausting step

1) Lift and support vehicle properly.
2) Assemble exhaust hose of transparent plastic on exhaust valve of brake tongs.
3) Immerge another side of exhaust hose of transparent plastic to cleaning case that filled some clean brake liquid.
4) Tread the brake pedal for five to six times, open exhaust valve to make brake fluid flow.
5) Repeat the forth step all long until no bubble produces from brake fluid, and feeling of treading brake pedal is plenary, close exhaust valve.
6) Disassemble exhaust hose made from transparent plastic from exhaust hose.

Note: Above steps adapt to exhaust of brake pipelines of all brakes.

3.2 Exhausting step of brake system is: left rear→right front→right rear→left front, for vehicle has ABS system, please connect it to fault-diagnosing device and exhaust air from ABS system according to liquid adding and air exhausting process.

3.3 Conduct exhaust with brake loop

Connect exhausting hose that has a container with exhausting valve of left rear brake tongs. Open exhausting valve, and tread brake pedal to bottom in five times at least. Brake liquid flew from exhausting valve should be clear and have no bubble, hold brake pedal at position of bottom and close exhausting valve. Release brake pedal, and conduct same operation with brakes of other wheels.

3.4 Adding brake fluid

For ensuring reliability of running brake, do not forget to check fluid level of brake fluid every few time or after exhaust of brake system, and add brake fluid in time if it is lacking.

Note:

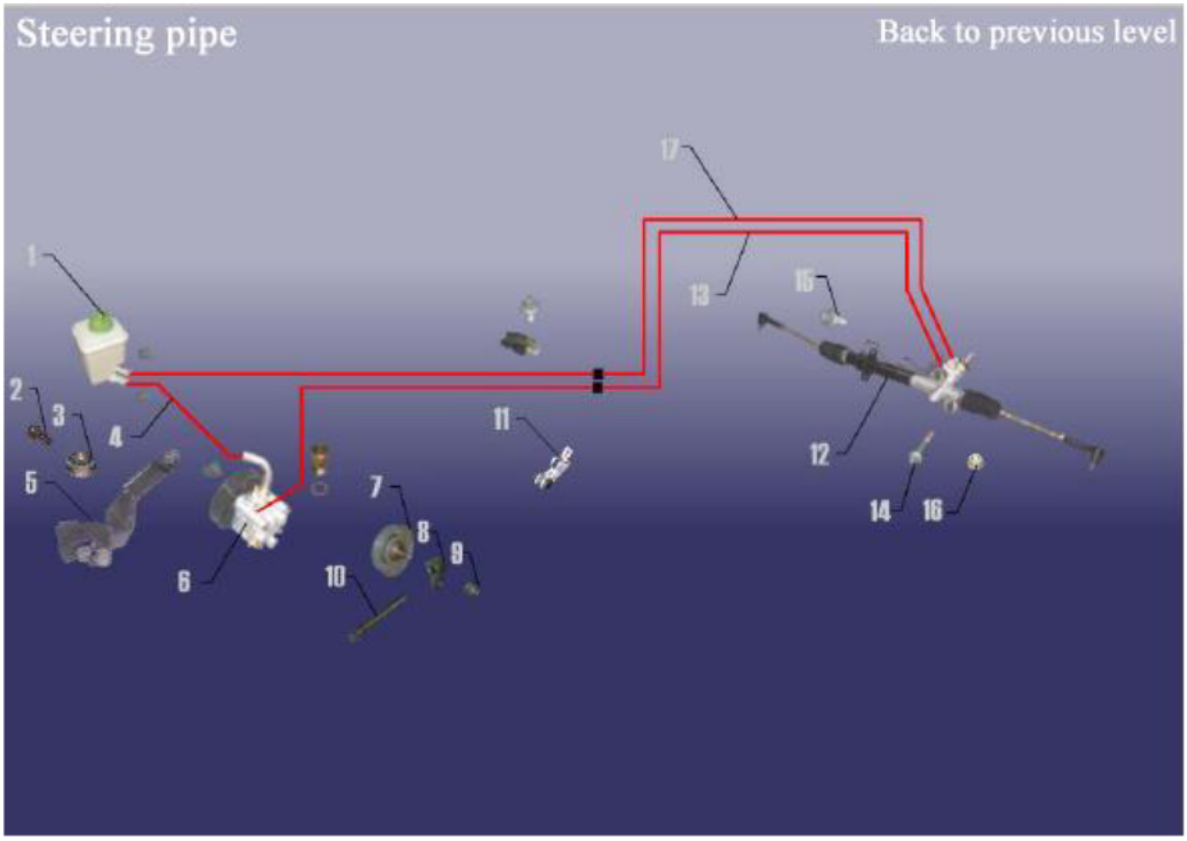
(1) Please use brake liquid that assorts with standards regulated by DOT (use DOT4) only, do not use brake liquid mixed with other type.
(2) Brake fluid has strong water absorption, please put it in sealed container of original packaging.
(3) Brake fluid has strong corrosiveness, if spatters it on skin in careless, please wipe brake fluid on skin with water cloth and clean with soap and water. Brake fluid has strong corrosiveness to oil paint of vehicle body, do not spatter brake fluid on lacquer finish of vehicle body, please clean it with water immediately after spatter it on.
(4) Observe fluid level of brake fluid in fluid reservoir during air exhaust, and add in time if it is lacking.
(5) Repeat process of exhaust for several times during manual exhaust until air in brake system is exhausted completely.
(6) Check if leakage is existing with brake system after liquid adding and exhaust are completed, and eliminate the problem in time to ensure safe running.

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Chapter 2 Disassembly, assembly, and overhaul of steering system

I. Disassembly and assembly of steering engine

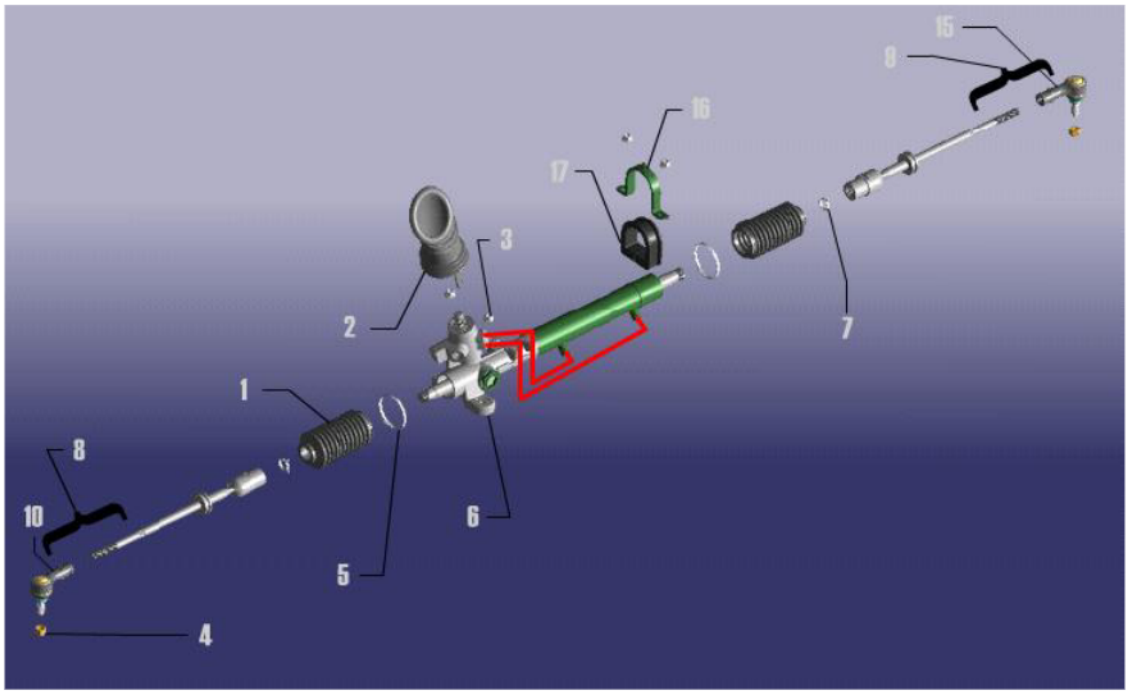
1. System constitution diagram



1-Fluid reservoir of power assisted steering 2-Fixed bolt of plank
3-Plank fixed nut 4-Oil outlet pipe
5-Fixed plank of fluid reservoir 6-Steering pump
7-Tension gear 8-Self-locking nut
9-Adjusting nut 10-Slide rod
11-Pipe clamp 12-Steering engine
13-Oil outlet pipe 14, 15-Fixed bolt
16-Fixed nut 17-Oil return pipe

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2. Exploded view of steering gear assembly



1-Sheath of tie rod 2-Power steering universal joint sheath 3-Nut 4-Nut-connecting rod
5-Clip-sheath of tie rod and steering gear 6-Power steering gear with tie rod assembly
7-Clamp ring-sheath and slide rod 8-Left steering tie rod assembly 9-Right steering tie rod assembly
10-Left buttonhead latch assembly 11-Left steering tie rod assembly
12-Universal joint sheath of power steering 13-Steering gear assembly 14-Right steering tie rod assembly
15-Right buttonhead latch assembly 16-Retaining clip 17-Rubber sheath

2. Preparation

Tools: 15#, 19# sleeve, 13#, 18# fixing wrench.
Supplementary materials: Power steering fluid.

3. Precautions

3.1 Please wear necessary appliances for labor protection to avoid of accident.
3.2 Avoid of contacting skin or eye with steering fat liquor while disassembling steering system.

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4. Disassembling or assembling step

4.1 Disassemble fixed nuts on left and right sides of steering buttonhead latch with 19# sleeve.
Moment of force: 40±5 N.m



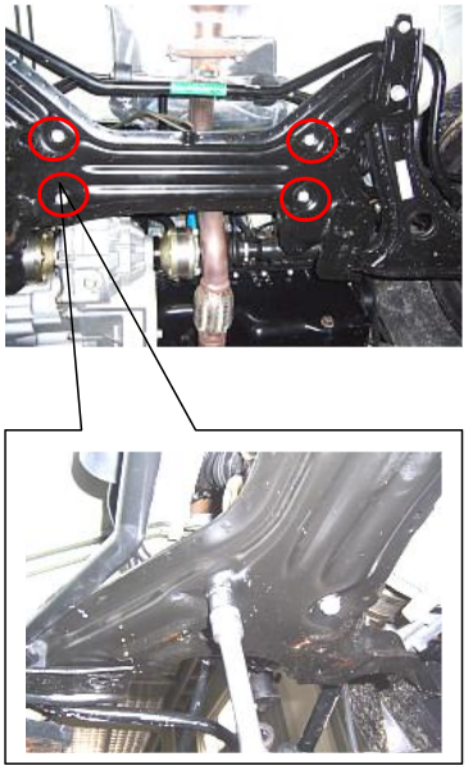
4.2 Loosen fixed nut on rear side of oil pipe of power assisted steering with 18# fixing wrench
Moment of force: 25±5 N.m



4.3 Loosen fixed nut on front side of oil pipe of power assisted steering with 13# fixing wrench.
Moment of force: 25±5 N.m



4.4 Disassemble four fixed bolts and nuts of Steering engine on underframe with 15# sleeve.
Moment of force: 100±10 N.m



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4.5 Disassemble fixed bolt of gear plank on power steering engine with 13# open-end wrench.



4.6 Disassemble another fixed bolt of gear plank on power steering engine with 13# open-end wrench.



4.7 Disassemble fixed bolt of steering universal joint with 13# sleeve.



4.8 Disassemble steering assembly after brought out steering universal joint in cabin.



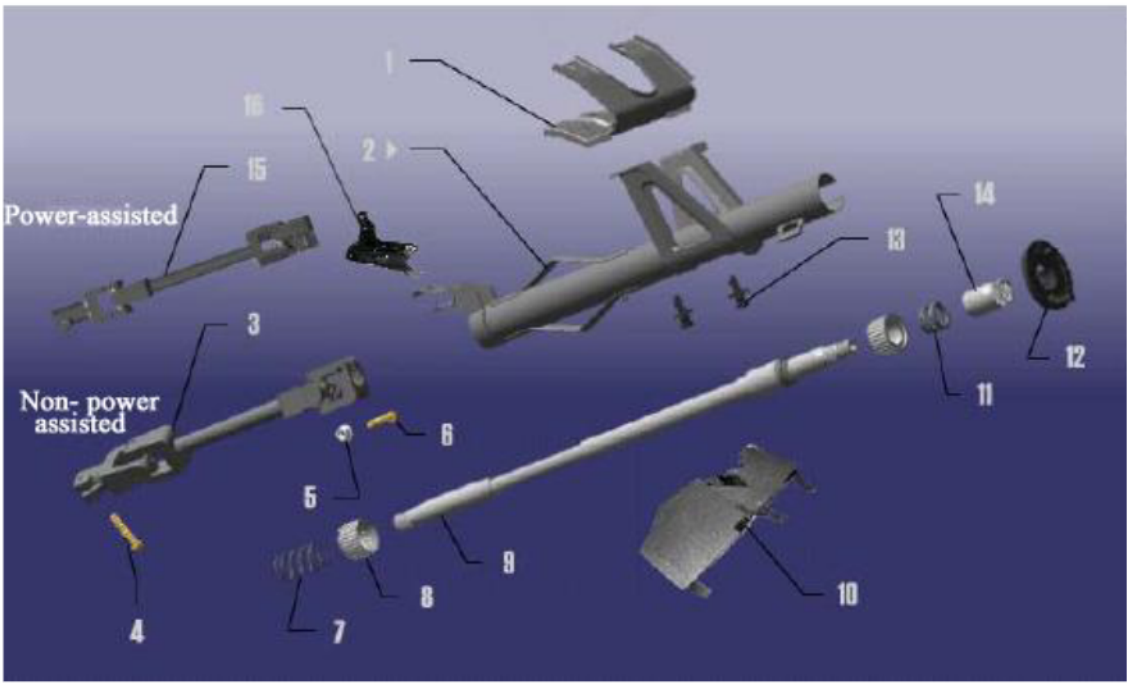
5. Assembling step

Conduct assembly by referring to disassembling step.

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II. Disassembly and assembly of steering column

1. System constitution diagram



1-Plank 2-Steering column assembly 3-Assembly of power steering universal joint
4-Bolt- fixing gear of steering gear 5-Nut-steering engine and underframe 6-Bolt-fixing steering column
7-Compression spring-steering column 8-Lower bearing of steering column 9-Assembly of steering shaft
10-Assembly of steering column cover sheet 11-Compression spring 12-Contact ring of loudspeaker cover
13-Safety bolt 14-Tooth profile sleeve 15-Assembly of steering universal joint
16-Assembly of lower plank of steering column

2. Preparation

Tools: Flatheaded screwdriver, Philips driver, 5.0 hexagonal socket, 8#、10#、13#、22# sleeve.

3. Precautions

3.1 Please wear necessary appliances for labor protection to avoid of accident.

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3.2 Avoid of contacting skin or eye with steering fat liquor while disassembling steering system.

3.3 Please switch off cathode of battery before disassemble steering wheel, to prevent safety airbag from puffing.

4. Disassembly and assembly of steering wheel and combination switch



4.1 Bring out loudspeaker cover of steering wheel by hand.



4.2 Pull out pin of loudspeaker line on rear side of loudspeaker cover by hand.



4.3 Disassemble fixed nut of steering wheel with socket wrench.



4.4 Take out steering wheel with hands.



4.5 Disassemble fixed bolt of cover sheet on combination switch with Philips driver.

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4.6 Pull out pin of combination switch.





4.7 Disassemble fixed bolt of combination switch with Philips driver.



4.8 Take out combination switch.



5. Disassembly and assembly of body and core of ignition lock

5.1 Fit special tools over steering shaft from side face.



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5.2 Disassemble tooth profile sleeve and compression spring with socket wrench.

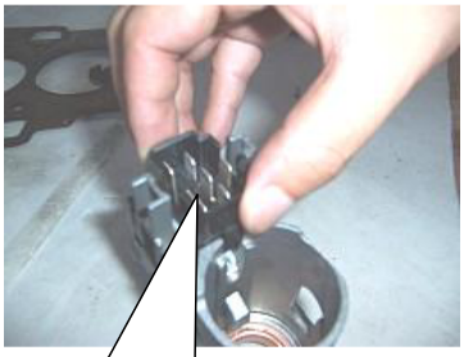


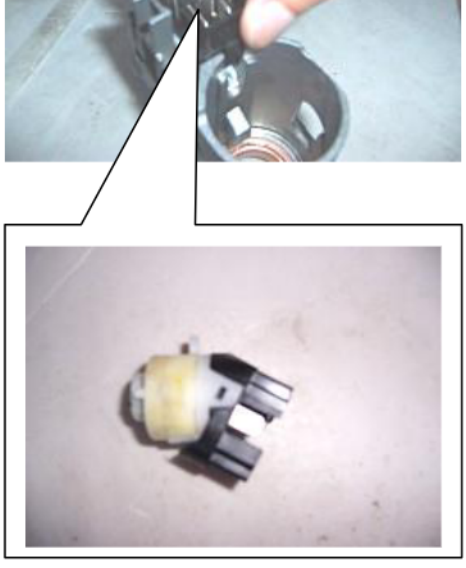
5.3 Take out ignition lock assembly.



5.4 Disassemble fixed screw of backseat of ignition switch with Philips driver, and take backseat of ignition switch out.

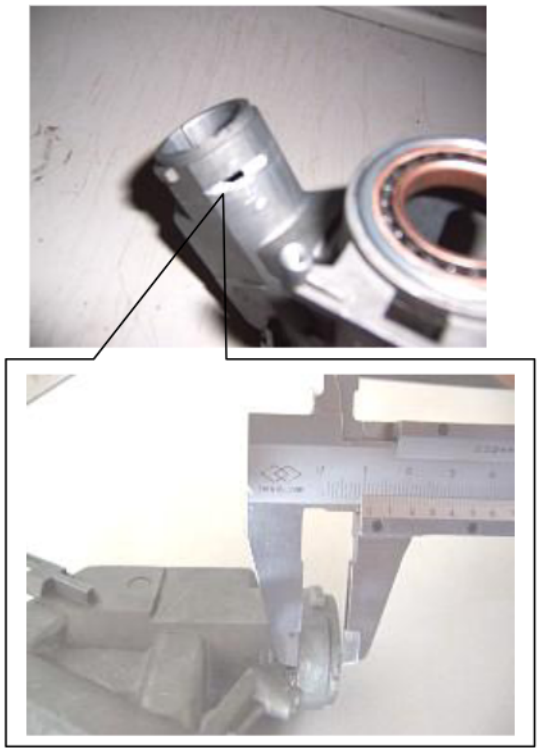






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5.5 Open a bore on one side of ignition lock body 9cm from lock core, it is possible to take ignition lock core out by pressing spring of lock core via the bore.



5.6 Some ignition lock body already has the bore, which is used for taking out ignition lock core by pressing spring of lock core.



5.7 Take out ignition lock core.



6. Disassembly and assembly of steering shaft

6.1 Disassemble bolt and nut connecting universal joint under steering shaft with socket wrench.



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6.2 Take out steering shaft.



7. Disassembly and assembly of steering column

7.1 Disassemble assembly of instrument desk (refer to disassembly and assembly of instrument desk), disassemble fixed bolt from steering column with socket wrench



7.2 Take down assembly of steering column.



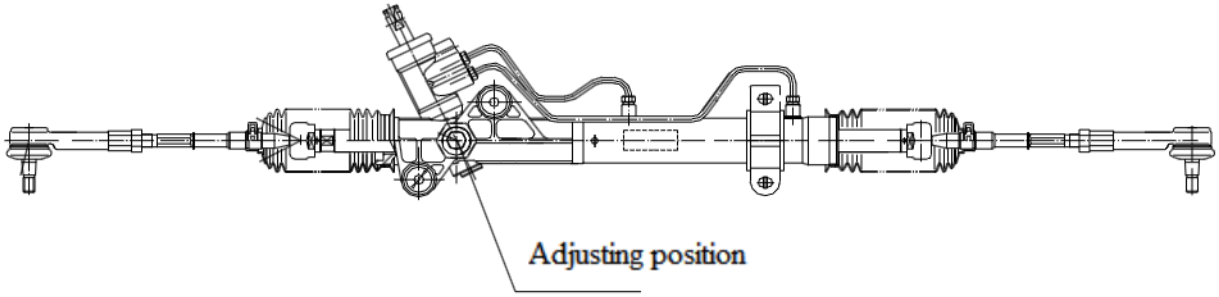
8. Assembling step

Conduct assembly by referring to disassembling step.

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III. Adjustment of steering gear clearance

1. Locate wheel on position of straightline driving;
2. Rotate steering wheel to both sides;
3. In case that phase noise occurs from steering engine, please adjust bolt shown in figure until no noise sending out while rotating steering wheel;
4. Screw down bolt for 1/8 circle (about 45°);
5. Road test;
6. In case that steering mechanism could not return to central position by itself, please loosen bolt for 15°;
7. Road test.



IV. Adjustment of power steering system

1. Connect power steering fuel pipe correctly, of which fasten moment between oil return pipe, high pressure oil pipe and connecting interface of steering engine is 35±3Nm, fasten moment of hole bolt connecting fuel injection pipe and power steering pump is 45±3Nm; It is recommended to add fluid after vacuumized with special tools while adding power steering oil; criterion for adding hydraulic oil of power steering, and air exhausting is shown as following:
   Add hydraulic oil of power steering to maximum limit level of steering oil tank assembly, start engine and drive steering pump in low speed (idle speed) to fill hydraulic oil in steering system. In process of adding oil, it is necessary to drive vane pump by making engine operate in state of idle speed only, and add hydraulic oil continuously and duly to prevent oil level from dropping, to make vane inhaust air.
2. In case that hydraulic oil in oil tank offers state of emulsify or too big pump noise occurs (under normal condition, it is 80DB in maximum), it is necessary to exhaust air according to following sequence:
   Jack up forepart of vehicle to hang up two front wheels, start engine, and turn steering wheel leftwards and rightwards to limiting position on left and right sides (note: do not make any staying as mush as possible after limiting position is achieved, and do not stay for two seconds above if it is necessary); exhaust air in system out form oil tank progressively by repeating above step for several times. In the process, please add hydraulic oil along with dropping of liquid level of oil tank until oil level achieves the indicated height.
3. Inspect, adjust tension of power steering belt regularly: impress 100N force on middle section of belt vertically, maximal flexibility of belt should be less than 5mm, or adjust tension of belt to abovementioned requirement via adjusting tension bolt.
4. Do not turn steering wheel to limiting position during operation, or hold at the position for 10 second above if it is necessary. Do not perform power steering pump in state of no oil. Please stop the vehicle to perform overhaul inspection and maintenance immediately if turning becomes difficult during operation.

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V. Inspection content of steering system

Check if steering column is winding, or if safety coupling is abraded or damaged, or if springiness of spring is ineffective; please repair or replace new one if it is damaged.

1. Basal inspection
   (1) Check if fixed bolt of steering system is loose.
   (2) Check if free travel of steering wheel is suitable, please check, adjust or replace part of steering system if it is unsuitable.
2. Overhaul of steering tie rod
   (1) Check if buttonhead of steering tie rod is loose in globe joint, please replace buttonhead of steering tie rod if it is loose.
   (2) Check if dust cap of tie rod buttonhead is damaged, please repair or replace if it is damaged.
3. Overhaul of steering gear
   (1) Check if dust cap of steering gear is broke, please replace if it is broke, otherwise water and dust can enter easily to make part damaged on early stage. Check if clip of dust cap is fixed well.
   (2) Check if clearance of steering gear is suitable; and adjust it if it is unsuitable.
4. Overhaul of hydraulic strengthener
   (1) Check if hydraulic strengthener is blocked, and replace it with new one if it is blocked.
   (2) Check if bearing of hydraulic strengthener has abnormal noise, and replace it with new one if abnormal noise occurs.
   (3) Check if leakage is existing in hydraulic system, and replace it with new one if leakage occurs.

VI. Inspection on leakproofness of power steering system

Conduct inspection on leakproofness of power steering system while prerunning. Conduct inspection in following step:

(1) Turn steering wheel to limiting position of left side or right side quickly and hold it to makes press in system reach maximum.
(2) Visually check if leakage is existing with steering controlling valve, seal of rack, sliding vane pump (steering power pump), fuel pipe connector.
(3) Check if oil tank is lack of ATF oil, and check if leakproofness of power steering system is in good condition if abovementioned condition occurs.
(4) If sealing member of gear and rack in shell of power steering gear is unsealed, ATF oil could flow into corrugation pipe sleeve, in this case, it is necessary to disassemble turning gear and replace all sealing rings.
(5) Check if fuel pipe terminal of power steering system is leaking, please find out the reason if leakage occurs and reconnect it again.

VII. Inspection and replacement of hydraulic power oil

1. Inspection on oil mass
   (1) Drive engine to operate in idle speed, turn steering wheel from one side of limiting position to the other limiting position frequently to raise temperature of power steering oil and make oil temperature achieve around 40-80℃.
   (2) Check oil mass in oil tank in which oil level should be on position of “max”. In case of shortage of oil, please add power steering oil to position of “max” if no leakage found.

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Note: It is recommended to add oil after vacuumized with special tools while adding power steering oil, or (for example in state of rework) criterion for adding oil of power steering, and air exhausting is shown as following: Add oil of power steering to maximum limit level of steering oil tank assembly, start engine and drive steering pump operating in low speed (idle speed) to fill hydraulic oil in steering system. In process of adding oil, it is necessary to drive vane pump by making engine operate in state of idle speed only, and add hydraulic oil continuously and duly to prevent oil level from dropping, to make vane inhaust air.

2. Replacing of hydraulic oil

(1) Lift front axle of vehicle and exhaust old oil from oil tank and return tube.

(2) Drive engine operating in idle speed, exhaust oil in same time of turning steering wheel to a limit until exhaust hydraulic oil completely.

Note: Please complete this process as soon as possible to avoid of damaging hydraulic power pump.

(3) Add power steering oil.

(4) Exhaust air in steering hydraulic system completely.

3. Exhaust of steering hydraulic system

(1) Check highness of liquid level, add hydraulic oil if it is necessary.

(2) Drive engine operating in idle speed, turn steering wheel from left limiting position to right limiting position frequently until no blister or bubble existing in oil tank. If liquid level drops, please add hydraulic oil until oil level achieves the indicated height.

(3) Exhaust of this vehicle type is more difficult. Blister existing in system should cause abnormal noise with hydraulic power pump.

VIII. Fault diagnosis and debugging of power steering system

General faults of hydraulic power steering system include oil spilling, air inleakage of hydraulic driving part, failure of power steering pump, damaged of steering control valve and damaged of mechanical drive mechanism. Fault manifestation is multifarious, for example, steering heaviness, steering noise, steering hindering and steering bouncing etc. Please conduct fault diagnosis immediately if fault of power steering system occurs, and conduct debugging in time.

(I) Difficult Steering

1. Fault condition

Steering of vehicle assembled with power steering ought to be lightness, but it is felt heavy while steering or it is difficult to turn steering wheel.

2. Fault reason

In generally, it is caused by failure of hydraulic steering power system or shortage of power, damaged of mechanical drive mechanism or unsuitable adjustment. The major reasons are shown as following:

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(1) Leak of oil tank or highness of oil is below defined demand.
(2) Terminal of fuel pipe isn't sealed perfectly, and leak condition occurs.
(3) Air infiltrates in loop of steering hydraulic.
(4) Fuel pipe is distorted and oil duct is blocked.
(5) Tension of driving belt of power steering pomp is powerless, and driving belt is sliding.
(6) Internal abrasion and leak of steering oil pump are serious that cause output press of oil pump cannot reach the standards.
(7) Voltage regulator in oil pump is ineffective and make output pressure become too low.
(8) Internal leakage of steering control valve and power hydraulic cylinder.
(9) Steering gear mechanism is damaged or adjusted inappropriately.

3. Fault diagnosis and debugging

(1) Check if tire pressure is normal, and fill air according to formulary pressure.
(2) Check if fuel pipe terminal of power steering system leaks, and check if fuel pipe is damaged, distorted and crackled. Please replace new one with faulted fuel pipe; if fuel pipe terminal leaks, please fasten it. Adjust pretightening force of top block of rack or replace rack mechanism of steering gear if it is necessary.
(3) Check rack mechanism of steering gear, as well as turning condition of wheel at returning position and other position. Please check winding of rack and adjusting condition of top block of rack, and adjust tightening force of top block of rack or replace rack mechanism of steering gear if it is necessary.
(4) Check if steering control valve is in condition of locking or NG-position returning, and replace steering control valve if it is necessary.
(5) Disassemble and check hydraulic power cylinder, and replace damaged parts in it.
(6) Adjust buttonhead latches on each connecting position of steering driving mechanism to ensure free operation of them.

(II) Whipping of steering wheel occurs during steering

1. Fault condition

During operation of engine, steering wheel will shake while turning it, especially in case that turn steering wheel to limit position.

2. Fault reason

(1) Driving strap of steering oil pump skids.
(2) Liquid level of oil tank is too low.
(3) Air infiltrates into oil channel of steering hydraulic system.
(4) Output pressure of steering oil pump is inadequate.
(5) Piston of voltage regulator steering oil pump is blocked.

3. Fault diagnosis and debugging.

(1) Check if driving belt of steering oil pomp is sliding or driving belt is damaged. Fasten tightness of driving belt or replace disabled driving belt if it is necessary.
(2) Check if liquid level of oil tank meets the specification, add steering oil according to demand.
(3) Inspect all duct terminals of steering hydraulic system, eliminate leakage of steering liquid, and exhaust air infiltrated in oil duct.
(4) Conduct inspection on output pressure of steering oil pump. Please disassemble oil pump if pressure is lack, and check if oil pump is abraded, or if internal leakage is serious, or if pressure limiting valve and piston of voltage regulator is serious leakage or broke, or if blenometer of pressure regulator is attenuated, or if

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sealing member of oil pump is damaged. Please find out fault and repair it, and replace new one if it is necessary.

(III) Waving of steering wheel or wandering occurs during straightline driving of vehicle

1. Fault condition

It is difficult to drive vehicle running to right ahead direction, while wander to one side during straightline driving of vehicle.

2. Fault reason

(1) Torsion bar of steering control valve is damaged or too soft that makes it is difficult to cope reverse driving drag of steering gear, and makes valve pocket cannot return to position in time.

(2) Moment of valve core and valve pocket are blocked because of dirty of oil liquid.

(3) Valve core of steering control valve deviates from middle position.

(4) Adjusting piston of voltage regulator of steering pump is blocked that makes oil flow quantity of pomp oil become too big, and makes pressure difference of left and right chamber of power cylinder become too big.

(5) Terminal clearance of steering driving mechanism is too big, or connecting piece is loose, or damaged seriously.

3. Fault diagnosis and debugging

(1) At first, check if connecting piece of steering driving mechanism is loose, each part clearance is too big, and driving is loose. Eliminate fault of steering driving mechanism.

(2) Check if oil is dirty. For new vehicle or vehicle that has been repaired generally, oil liquid might be dirty because uncompleted implement of oil-replacing regulation in service period. In generally, it is necessary to replace dirty oil in this case

(3) Inspect steering control valve, turn steering wheel before starting engine, and judge if steering control valve could open and operate freely by mode of hand feeling

(4) At last, check if work of voltage regulator of steering oil pump is normal, and if relief piston of voltage regulator is blocked, and conduct judgment by checking output pressure of steering oil pump if it is necessary.

(IV) Steering noise

1. Fault condition

Too loud noise occurs while steering vehicle.

2. Fault reason

During steering, too loud noise occurring from steering system is normal, in cold season (-20℃ or more cold), noise occurs from steering pump in 2-3 minutes after starting engine is normal. But in case that noise is too loud and impact steering capability, the noise should be considered as fault, reasons of the fault mostly include:

(1) Steering driving mechanism is loose and makes steering noise become too loud.

(2) Power steering pump is damaged or heavy worn, or air interfuses into liquid, and make noise become too loud.

(3) Driving belt of power steering pomp is loose or driving belt skids, and makes noise become too loud.

(4) Capability of steering control valve is bad.

(5) Fuel pipe terminal is loose or fuel pipe is broken.

(6) Strainer screen of fuel strainer is blocked or too many deposit deposited in hydraulic loop.

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3. Fault diagnosis and debugging

(1) If sound of "chick" occurs while steering, it is possible that bearing terminal of steering column is loose, tie rod is loose, or ball joint spherical joint is loose. Please check above parts, fasten or replace damaged parts if it is necessary; replace steering column assembly if bearing of steering column tramps seriously; fasten steering gear if it is assembled too loose; conduct necessary lubrication with connector. Otherwise, sound of "chick" maybe caused in loose of driving belt of steering pomp, please check if belt wheel of steering pump is loose, fasten or replace belt wheel if it is necessary, to avoid of noise fault.

(2) In case that "quack" sound occurs while steering, and louder noise occurs while turning steering wheel from one limit side to the other limit side, it is possible to be caused in skidding of driving belt of power steering pomp skids. In this case, please check tension and abrasion condition of driving belt, and replace driving belt according to demand.

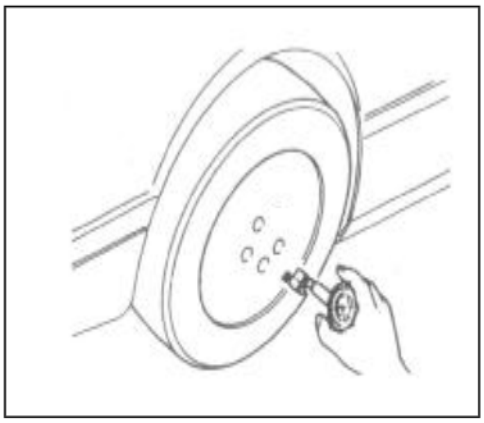
(3) In case that sound of "cackle" sends out from steering pump while steering, it is possible that blister enters into oil liquid and makes flowing oil liquid occur aerodynamic noise. In this case, please check highness of oil liquid, if oil level is too low, please add oil liquid into oil tank to right position, check and eliminate fault of leakage. Then check if hose is broken down or clip is loose that make air enter into system, conduct replacing damaged hose or clip if it is necessary. After affirming that air infiltrated into liquid of power steering system, please exhaust air from power steering system to avoid of aerodynamic noise. If sound of "sizzle" or squeal occurs from steering pump, but hydraulic system is no phenomena of air leakage, and tension of driving belt is normal, then it is indicated that oil duct is blocked or oil pump is heavy worn or damaged, please repair of replace it.

(4) If sound of "sizzle" occurs from steering gear while steering wheel locating at limiting position or turning steering wheel slowly in site. If abnormal noise is serious, it is possible to be caused in capability of steering control valve, please replace control valve and conduct contrastive inspection to eliminate fault.

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Chapter 3 Position fixing inspection and adjustment of four wheels

Section 1 Basal inspection



I. Inspection before fix position of wheel

1. Inspect tire pressure, and adjust it to regulated pressure

Standard inflation pressure of cool tire (Kpa)

Item	185/70R14-92H	Standby tire
Front wheel	250（unload）	300
Rear wheel	270（unload）	

2. Check height of vehicle body

Please add pressure of tire to standard value before check height of vehicle body. (Note: Air pressure of right and left tires should be consistent)

(1) Measuring point on front part

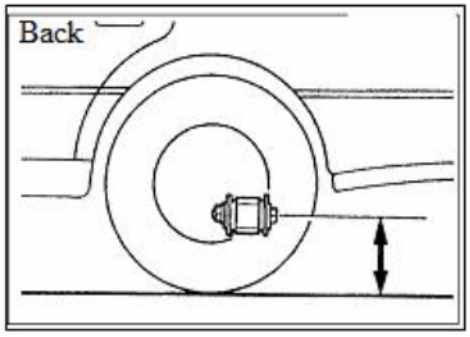
Measure height from ground to center point of connecting bolt between lower control arm assembly and front knuckle, height of vehicle body measured from right and left wheel should be consistent basically.

(2) Measuring point on rear part

Check height from ground to center point of connecting bolt between rear axle and absorber, height of vehicle body measured from right and left wheel should be consistent basically.

Note: Please adjust vehicle to regulated height before inspect position fixing of wheel.

Please check if damage or distortion existing on front and rear suspension of vehicle.



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3. Check clearance between bearings of vehicle, and replace bearings of front wheel if it is necessary.
4. Check state of felloe and tire.
5. Check loosing degree of steering drive rod system and buttonhead.
6. Park vehicle without any load on level ground
7. Shake wheel to check loosing degree of front suspension.
8. Check if absorber could operate normally.
   (1) Check if leakage occurs;
   (2) Check if assembly sleeve is worn;
   (3) Check damping force of absorber, and replace with a new one if it is unqualified.

Note: Oil tank is half filled, cooling water of water tank and engine oil of engine is in regulated level, jack and driver tools are positioned at pointed position.

II. Inspection on rim and tire

1. Visual inspection

Inspection（tire and rim）

Please replace a new one if crack, damage, distortion, and other problem are found on rim or tire. Shown as figure

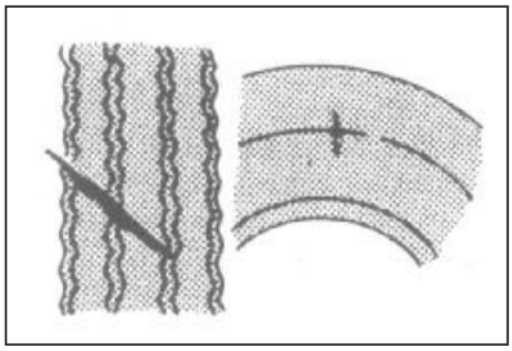


Fig. Abrasion of tire

2. Inspection on abrasion of tire

(1) Check depth of remained tire tread. Standard tire shown in figure:
1.6mm at least
Snow tire: 50% tire tread.

(2) It is necessary to replace a new tire if abrasion indicator appears.

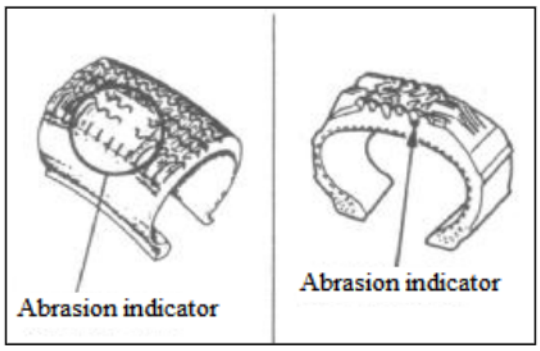


Fig. Abrasion indicator of tire

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3. Inspection on abnormal abrasion of tire

Abnormal abrasion of tire shown in right figure might occur. For possible reason and processing mode, please refer to following sheet. Shown as figure.

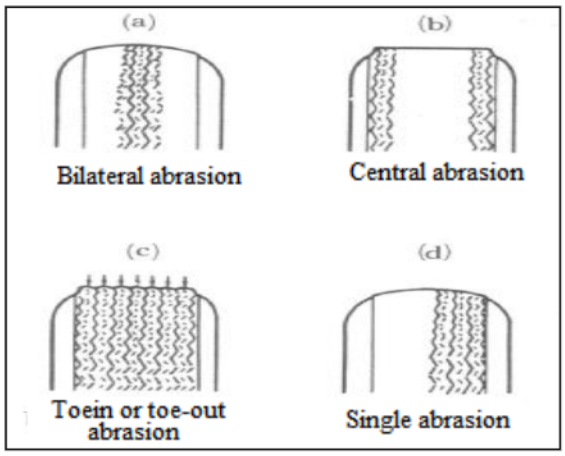


Fig. Abrasion of tire

	Possible reason	Processing mode
(a)	* Tire pressure is lacking (both sides is abraded) * High speed cornering * Tire has not been adjusted complexly.	* Measure and adjust tire pressure * Reduce speed * Adjust tire
(b)	* Tire pressure is too high (middle part is abraded) * Tire has not been adjusted complexly.	* Measure and adjust tire pressure * Adjust tire
(c)	*Toein is incorrect	* Adjust toein
(d)	* Camber angle or caster angle is incorrect * Suspension system fault * Tire is unbalanced * Brake drum or brake disc is out of round * Other mechanical problems * Adjust tire	* Adjust, repair or replace parts of axle shaft and suspension system. * Repair or replace * Perform tire balance or replace it. * Calibrate or replace * Calibrate or replace * Adjust tire

4. Precautions relating to rim and tire

(1) Do not use unqualified rim or tire.

(2) Aluminum alloy ring is easy to be scratched, please clean it with soft cloth while not steel brush. Do not contact boiled water with the ring while cleaning vehicle with steam.

(3) In case that Basal compound (such as earth water, mud on ground) attach on aluminum alloy ring, please clean out them with neutral cleanser to avoid of damaging ring.

5. Replacement of tire

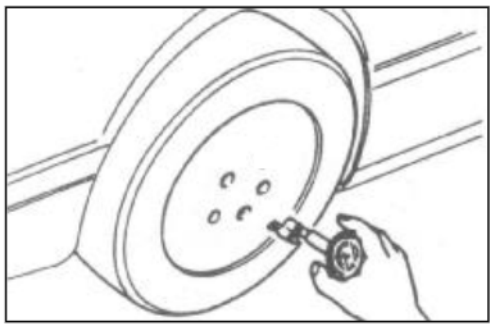
(1) Before assembly of tire valve, please check if air valve on wheel is sleek and has no burr, then wipe glycerin on surface of rubber part of air valve or dip air valve in glycerin, and at last, assemble position ring of air valve into hole of wheel with special tools and pressure of 200-400N (replacing glycerin with soapy water is allowable).

(2) Before assemble wheel, please wipe glycerin or soapy water around tire bead, and note: point uniformity test mark on wheel to symmetry point mark if one symmetry point mark is existing. Point uniformity test mark on wheel to air valve if no symmetry point existing. Please point air valve to static balance test mark if neither symmetry point, or dynamic balance test mark existing on wheel, while a static balance test mark is existing.

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6. Inspection on tire pressure

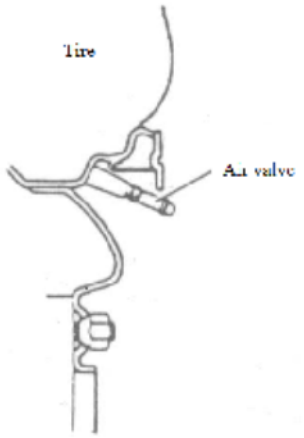
Inspect air pressure of all tires (include spare tire) with barometer and adjust it if it is necessary. Charge tire according to regulation strictly, and do not make air pressure exceed 10% above rated pressure during charging. During split charging, rated charging pressure of spare tire assembly that is stored separately from the four assembled wheels is 3.0bar. Before conduct position fixing with the four wheels please check air pressure of tire of them, and adjust air to: front wheel 2.5bar, rear wheel 2.7bar. Shown as figure.



Inspection on tire pressure

7. Inspection on leakage

Confirm if air valve is leaking, shown as figure.



8. Inspection on plainness of rim

(1) Jack up vehicle, and support it safely.

(2) Fix dial gauge that has columnar contactor （Φ10） on edge of circular rim, and measure depth of plainness. Shown as figure

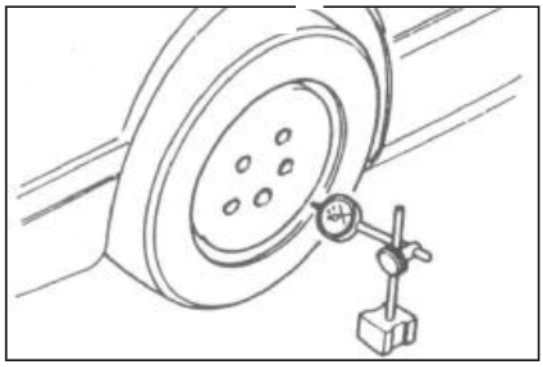
(3) Replace rim if it is necessary.

Note: Distortion with circular rim is allowable:

Max allowable value of average value of plainness depth on two edges of circular rim should not exceed:

Circular rim made of steel: 5mm

Circular rim made of aluminum alloy: 3mm



Inspection on plainness of rim

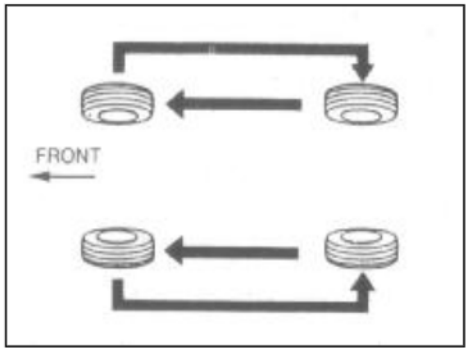
9. Positional adjustment of tire

For extending service life of tire, as well as confirming abrasion condition, it is necessary to adjust position of tire every 6,000km, shown as figure.

Note:

*Use best tire as front tire.

*After positional adjustment, please adjust air pressure of tires to regulated value.

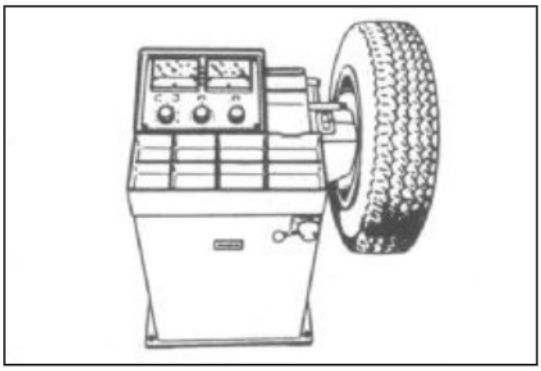


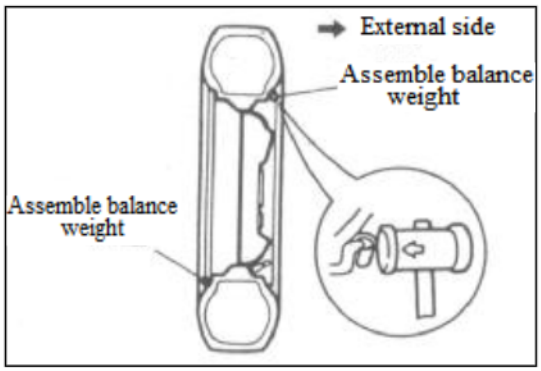
Tire adjustment

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10. Balance adjustment of wheel

After charged, screw up protective cap of air valve and conduct balance test. Assemble balance weight of proper weight on external edge of circular rim, it is required to adjust balance degree to value that is less than 100g.cm, which is equivalent to 5g balance weight on internal and external edge of circular rim. Note: it is allowable only to use one balance weight that is lighter than 70g on each side of wheel. During assembly, please prevent balance weight from too stronger beat, and replace the balance weight if too stronger beat is felt. Do not use replaced balance weight repeatedly.





11. Disassembly and assembly of wheel:

Disassembling steps:

(1) Disassemble fixed bolt of wheel;

(2) Take down the wheel.





Assembling step

(1) While assembling wheel and tire assembly, please screw wheel bolt onto wheel hub and fasten it with hand, then fasten it with special tools according mode of diagonal line, with fastening moment of **110±10 Nm.** Do not use impact wrench to prevent wheel from damage, or fastening too tightly or loosely. Do not wipe grease on wheel bolt. (it is necessary to fasten wheel bolt while drove for the first 100km after installation of wheel and tire assembly to ensure fastening moment, which is one content of daily maintenance).



(2) Fasten fixed nuts to approximate degree in mode of decussating; after fastening, steering should rotate freely, and locate at grounding.

(3) Assemble and position decorated cover according to requirement. Please assembling locking type decorated

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cover by flapping it with hands or striking it with rubber tools.

Section 2 Position fixing of front wheel

I. Standard positional parameter of front wheel

Criterion: Requirement on position fixing of front wheel is shown as below:

Caster angle of king pin	3°±20′
Camber angle of front wheel	-30′±20′
Toein of front wheel	0°±10′(or 2mm)

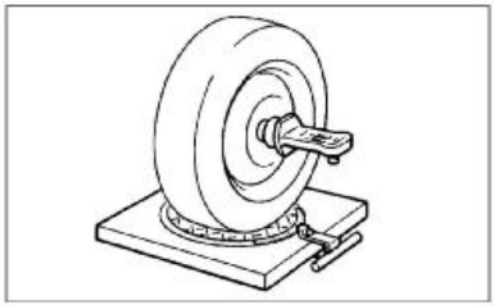
II. Adjusting mode of toein of front wheel and caster angle

1. Toein of front wheel

It is possible to conduct adjustment with toein by using optical tester and mechanical toein adjustor. Install wheel locator or localized tester on wheel, and conduct assembly according to detailed illumination of equipment manufacturer.

(1) Fix position of wheel according to requirement of tester: fix steering wheel to position of dead ahead with steering wheeling stopper bought from market.(it is necessary to fix steering wheel in range of ±5° of center position, and position upper clamping flange bolt of steering bearing horizontally)

(2) Loose locking nut and spring cover snap ring of right steering cross tie, screw toein regulator rod to adjust length according to requirement until regulated value is achieved.





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(3) Fasten locking nut and assemble spring cover snap ring again, check if locking nut is fastened, and if cover is positioned correctly.

(4) After adjusted toein of front wheel, check if steering wheel is horizontal. Or loose locking nut of steering wheel to adjust steering wheel to horizontal position, and fasten locking nut of steering wheel to required moment (**30±3Nm**).



2. Inspection on caster angle of front wheel

Please check caster angle after replaced cross tie connector or adjusted toein, check and adjust length of right and left cross ties if caster angle of front wheel is not assort with standard.

Max corner of external wheel	33°
Max corner of internal wheel	39°

III. Caster angle of king pin

Caster angle of king pin is pledged in design structure, which requires no adjustment during operation.

Infection of caster angle

Major function of caster angle is to ensure vehicle to run in direction of dead ahead. In case that caster angle is positive value, internal side of vehicle should step down, while chassis should rise during rotation of front wheel; in case that caster angle of two wheel are uniform, vehicle should return to direction of dead ahead after steered. Adding degree of caster angle should increase stability of steering wheel, and increase steering strength; reducing degree of caster angle should decrease stability of steering wheel, and reduce steering strength. Degree of caster angle should not effect abrasion of tire; it is used to stabilize running direction of vehicle and return to right direction automatically after steered. If the vehicle is equipped with traditional and mechanical steering device, for smoothing the way of steering, the caster angle should be very small, even incline to a negative value. If vehicle is equipped with power steering device, for increasing feeling of driver, caster angle is set to a bigger positive value generally, which should increase steering strength, and increase stability of straightline driving.

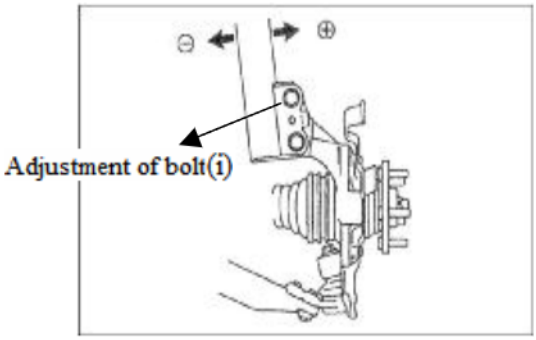
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IV. Camber angle of front wheel

It is needless to adjust camber angle after assembled absolute suspension and steering knuckle. And it is possible to calibrate it by using connecting bolt of absolute suspension and steering knuckle if camber angle exceeds tolerance range because of other reasons:

(1) Check (visual inspection) if parts of driving system is damaged before calibration and replaced damaged parts.

(2) Loose connecting bolt (i) between front absorber and steering knuckle, and move wheel to calibrate it if camber angle of front wheel exceeds deviation.



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Section 3 Position fixing of rear wheel

I. Standard positional parameter of rear wheel

Toein of rear wheel	0°±30′
Camber angle of rear wheel	1.4°±30′

Note: Toein and camber angle of rear wheel is nonadjustable, which is ensured in design and assembly. Please check if any abrasion and distortion existing if abnormal abrasion of tire of rear wheel occurs, or positional parameter of rear wheel is incorrect.

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Section 4 Debugging

Problem	Possible reason	Debugging
Excessive or unbalanced abrasion of tire	Shown as below	
Tire is abraded in advance	Tire pressure is incorrect Position fixing parameter is incorrect	Adjust Adjust
Noise of tire	Tire pressure is incorrect Abrasion of tire	Adjust Inspect, adjust and replace
Noise of ground or vibration of vehicle body	Lack of tire pressure Tires are unbalanced Distortion of rim or tire Abrasion of tire is unbalanced	Adjust Adjust Repair or replace Inspect, adjust and replace
Steering wheel vibrates upwards and downwards	Excessive deflection of tire and rim Nut or axle head of wheel is loose Tires are unbalanced Damage or abrasion of suspension rubber of engine Damage or abrasion of plank rubber of transmission	Replace Fasten Adjust Replace Replace
Steering wheel vibrated in circle	Excessive deflection of tire and rim Nut or axle head of wheel is loose Tires are unbalanced Abrasion of tire is unbalanced Lack of tire pressure Damage or abrasion of bearing of front wheel Fault of steering system Fault of suspension system	Replace Fasten Adjust Inspect Adjust Replace Inspect Inspect
Steering wheel deflects to one side	Tire pressure is incorrect Excessive or unbalanced abrasion of tires Fault of steering system Fault of brake system Fault of suspension system	Adjust Inspect Inspect Inspect Inspect
Running is unstable	Tire pressures of two sides are unequal Distortion of rim or tire Wheel nut is loose Fault of steering system Fault of suspension system	Adjust Repair or replace Fasten Inspect Inspect
Brake deflects to one side	Tire pressures of two sides are unequal Fault of brake system	Adjust Inspect
Steering wheel is too heavy	Lack of tire pressure	Adjust

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	Fault of steering system Fault of suspension system Position fixing parameter is incorrect	Inspect Inspect Inspect
Reposition of steering wheel is NG	Lack of tire pressure Fault of steering system Fault of suspension system Caster of king pin of front wheel is incorrect	Adjust Inspect Inspect Adjust

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Chapter 4 Suspension driving and axles

Section 1 Front suspension

I. Construction features

Front suspension adopts Macphersan absolute suspension, which consists of stabilizer bar, spiral spring and telescopic type absorber.

Shape of Macphersan suspension construction: Macphersan suspension is aggregation of spiral spring and absorber, in which lower terminal of front strut connect with knuckle directly so that the strut rotates along with knuckle while wheel is rotating. The upper terminal connects with vehicle body directly via rubber vibration Isolator, which could isolate some noise, and buffer vibration from grounding. As a result, upper terminal of strut is fixed on vehicle body, which moves slightly along with movement of vehicle body, while lower terminal jumps upwards and downwards along with rotation of wheel, so that strut is impacted by lateral force during operation of it. Middle part of strut connects in series with spiral spring and parts of buffer block and bearing that are used for position limiting. Such kind of construction will save more cost, provide more space for collocation of engine, as well as offer a simple and compact institution.

II. Disassembly and assembly of front absorber

1. Disassembling step

1.1 Disassemble five fixed bolts of tire with torque wrench and 19# sleeve, and take down tire.
Moment of force: 110±10N.m



1.2 Lift vehicle, disassemble two bolts for connecting absorber and steering knuckle with 19 #socket wrench and box wrench.
Moment of force: 70±3N.m



1.3 Take down cover on absorber.



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1.4 Lay down vehicle and open front cover, disassemble nuts from upper terminal of absorber with 22# torque wrench, and then take down absorber.
Moment of force: 60±10Nm



2. Assembling step

2.1 Conduct assembly according to disassembling step.

2.1 Precautions:

(1) Please fasten bolt to regulated moment after installation.

(2) Please check position fixing of these four wheels.

III. Disassembly and assembly of control arm

1. Disassembling step

1.1 Disassemble tire, left vehicle and disassemble bolts and nuts for connecting control arm and knuckle with 19# torque wrench and box key.
Moment of force: 75±5Nm (The left is the same as the right)



1.2 Disassemble nut for connecting control arm and underframe with 19# torque wrench.
Moment of force: 130±10N.m (The left is the same as the right)



1.3 Disassemble fixed nut for connecting control arm and stabilizer bar with 19# torque wrench
Moment of force: 35N.m about (The left is the same as the right)



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1.4 Disassemble nut for connecting control arm and vehicle body with 19# torque wrench, and then take down control arm.

Moment of force: 130±10N.m (The left is the same as the right)

Note: Prevent control arm from falling down while loosing bolt.



2. Assembling step

2.1 Conduct assembly according to disassembling step.

2.2 Please fasten bolt to regulated moment after installation.

IV. Disassembly and assembly of knuckle

1. Disassembling step

1.1 Disassemble tire bolts, then take down tire.

Moment of force: 110±10N.m



1.2 Disassemble these two bolts for connecting brake tongs and knuckle with 17# torque wrench

Moment of force: 95N.m

Note: It is possible to hang the disassembled brake tongs with rope.



1.3 Disassemble nut for connecting knuckle and cross tie with 19# wrench.。

Moment of force: 35N·m



1.4 Disassemble these two connecting bolt for connecting knuckle and absorber with19# socket wrench and box wrench.

Moment of force: 70±5Nm



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1.5 Disassemble nut for connecting knuckle and control arm with 17# box wrench and 19# torque wrench.
Moment of force: 75±5Nm



1.6 Disassemble driving nut with 30# torque wrench.
Moment of force: 265±5Nm



1.7 Disassemble screws of drive disc with Philips driver.
Moment of force: 8±2Nm



1.8 Disassemble knuckle with hands.



2. Assembling step

2.1 Conduct assembly in contrary step of disassembly.
2.2 Precautions:
(1) It is necessary to renew brake fluid to brake system and adjust it in mode of air exhausting.
(2) Please check and adjust value of toein.
(3) Pay attention to fastening moment

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V. Disassembly and assembly of underframe and stabilizer bar

1. Disassembling step

1.1 Please disassemble fixed bolt of left suspension with 13# wrench.。
Moment of force: 55±5 Nm。



1.2 Disassemble these three suspending bolts on right side with 10# wrench.
Moment of force: 55±5Nm.



1.3 Please left vehicle with lifter, and hold engine with lifting jack to avoid of falling.



1.4 Disassemble bolt for connecting underframe and vehicle body with 18# box wrench.
Note: There is one bolt on each side of left and right.
Moment of force:130±10Nm。



1.5 Please disassemble bolt for connecting underframe and stabilizer bar with 13# wrench.。
Note: There is one bolt on each side of left and right.
Moment of force: 35±3N·m



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1.6 Please disassemble these two bolts for connecting steering engine and underframe with 13# box wrench.

Note: There are two bolts on each side of left and right.

Moment of force: 30N·m



1.7 Disassemble nut for connecting stabilizer bar and control arm with 19# wrench.

Note: There is one bolt on each side of left and right, stabilizer bar is di

Moment of force:180±15Nm.



1.8 Please disassemble bolt for connecting underframe and control arm with 19# torque wrench, and then take down underframe and stabilizer bar.

Note: There is one bolt on each side of left and right.

Moment of force:130N·m



2. Assembling step

Conduct assembly in contrary step of disassembly.

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Section 2 Rear suspension

I. Construction features

Rear suspension adopts leaf spring non-absolute suspension, which consists of leaf spring and absorber.
Rear bearing and leaf spring of rear suspension are connected to one integration, it is a kind of non-absolute suspension construction, of which wheels on one side jump upwards and downwards while wheels on the other side should be impacted correctively. During up/down jumping process of wheels, leaf spring should store energy momentarily, and then release energy step by step. In this process, the device should absorb the energy via damping effect of absorber and release them in other mode of energy to achieve damping effect. In additional, comparing to spiral spring used by our Company, the leaf spring also has function of receiving and transiting lateral force and longitudinal force.

II. Disassembly and assembly of rear suspension

1. Disassembling step

1.1 Note: Jack up rear shaft to avoid of falling with hydraulic jack.



1.2 Disassemble bolts and nuts of rear hanger plate of steel plate with 19# and 22# wrench.
Moment of force: 180±5Nm



1.3 Disassemble bolts and nuts of front hanger plate of steel plate with 19# box wrench and 22# torque wrench.
Moment of force: 180±5Nm.



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1.4 Disassemble bolts on upper side of absorber with 18# wrench。
Moment of force: 90±5Nm



1.5 Disassemble bolt on bottom of absorber with 16# torque wrench, and take down absorber.
Moment of force: 80±5Nm



1.6 Disassemble these four nuts that used for fixing bottom of steel plate with 18# torque wrench, and take off steel plate.
Moment of force: 110±5Nm



2. Assembling step

Conduct assembly according to contrary step of disassemble.

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