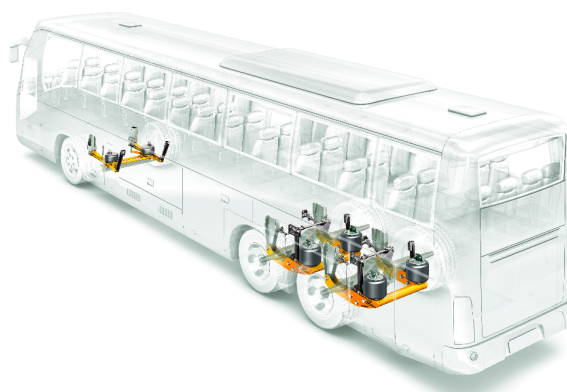




# Maintenance & Repair Manual of

YDA10650042/YDA21300060  
Air suspension system



**Yangzhou Dongsheng Automotive Co., Ltd**  
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The company reserves the right to change this manual!

**Please contact with YDA if there is any difficulty in maintenance.**

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## 1. Preface

The maintenance manual provides users with the necessary information for maintenance, inspection and safety use of YDA10650042/YDA21300060 air suspension system.

The technical data, part (component) codes and quantities, etc. in this maintenance manual are only suitable for standard configurations of current YDA10650042/YDA21300060 air suspension system. Please contact with YDA if there are some data different from the standard configurations. Please follow the maintenance manual for use and maintenance, and you will get the best return of "Benefit + safety".

## 2. Technical Parameters

See Main Technical Parameter Table of YDA10650042/YDA21300060 Air Suspension

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System.

### 3. Quality Warranty

YDA provides following quality warranty period for the products (from the data of vehicle sales from the vehicle production factory):

Product name	Warranty period	Mileage	Remark
Main structural parts	2 years	200000	Mileage or time (whichever occurs first)
shock absorber, air bag	1 year	100000	
Thrust rod	1 year	80000	
Valves	1 year	50000	
Wearing parts	Only for accessories		

During the quality warranty period, if there is a product quality problem, the company provides free supply, maintenance and replacement, agented by after-sales service website of each vehicle production factory entrusted by YDA or YDA service station.

#### 3.1 Additional responsibilities:

3.1.1 Provide information or explanatory materials on installation, maintenance, operation and repair of products.

3.1.2 Provide parts that need to be replaced and freight charges.

#### 3.2 Responsibilities of product installer:

3.2.1 Install the product according to specifications and installation instructions.

3.2.2 Ensure correct and safe operation.

3.2.3 Inform the vehicle owner to correctly use, maintain and repair the product according to the product requirements, and provide the information.

**3.3 Additional restrictions for warranty:** when YDA air suspension system is used together with the parts that are not agreed by YDA, or the suspension product is assembled with replacement parts that are not quality goods of YDA, YDA is irresponsible for the warranty of the product.

### 4. Installation and Debugging

4.1 Installation and debugging quality control parameters and methods of air suspension system

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4.1.1 Deflection of front axle center line (overlook): not more than 5mm;

Offset of front axle center and the center line of vehicle frame (left-right direction): not more than 5mm.

1) Adjustment method

Adjust the ball pin forks on two ends of transverse thrust rod of the front suspension system, and add or reduce gaskets between the brackets, or add or reduce gaskets at the connecting part of the front plate spring bracket and the plate spring.

2) Detection method

Based on two bolt holes of the front axle plate support, find two symmetric holes on the left and right longitudinal beams of the vehicle frame to measure the diagonal error from the two bolt holes of the plate support to the two symmetric holes on the left and right longitudinal beams of the vehicle frame.

The diagonal error shall not be more than 5mm for every 1000mm of length.

4.1.2 Deflection of rear axle center line (overlook) : not more than 5mm;

Offset of rear axle center and the center line of vehicle frame (left-right direction): not more than 5mm.

1) Adjustment method

Adjust the longitudinal thrust rod (lower) and brackets on the two ends of the rear suspension system, or add or reduce gaskets at the connecting part of the V-shaped thrust rod (upper) and the V-shaped base plate.

2) Detection method

Based on two bolt holes of the rear axle plate support, find two symmetric holes on the left and right longitudinal beams of the vehicle frame to measure the diagonal error from the two bolt holes of the plate support to the two symmetric holes on the left and right longitudinal beams of the vehicle frame.

The diagonal error shall not be more than 5mm for every 1000mm of length.

4.1.3 Axle distance diagonal error: not more than 10mm.

Detection method

Park the vehicle on horizontal hard ground;

Suspend lines to the ground with line sagging at the center of the front and rear axle hubs and then mark;

Drive the vehicle and measure the diagonal error of the two marking points not more than 10mm.

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4.1.4 Installation height of air bag:  $H \pm 5\text{mm}$  (Installation height of front and rear shock absorbers:  $H \pm 5\text{mm}$ )

1) Adjustment method

Adjust the front and rear height control valves of the suspension system.

2) Detection method

Based on the bottom surface of air bag piston, measure the distance  $H$  from the bottom surface of the piston to the upper plane of the air bag, the height of the air bag requires the error shall not be more than  $\pm 5\text{mm}$ .

4.1.5 Fully inflate the air spring in full load, and there should still be more than 25mm of clearance space around.

Note: For air spring of chassis, especially air spring of front suspension, due to too light carrying, the air spring can be supported to the suspension height with a very low pressure, and appears under-inflated, even shrivelled, which belongs to the normal phenomenon.

## 5. Use

The air suspension system has excellent performance, reliable use and long failure-free driving mileage. In case of minor failures, such as leakage of air pipeline or accidental damage of air bag, etc., the pressure protection valve in air circuit still can keep the vehicle with enough brake pressure. And buffer blocks in the air spring can form a rubber pad bearing, so vehicles can still be driven safely to the nearest maintenance service station under low speed.

Proper use can reduce and prevent unexpected failures of air suspension. The use requirements of YDA air suspension system are as follows:

**5.1 The vehicle cannot be overloaded.** When driving on the expressways, first-class highways and other good roads, the overload also cannot be greater than 10%.

**5.2 The air supply pressure of the air suspension system is maintained at about 6.0 bar** (the pressure protection valve will open at more than 6.0 bar, and the maximum allowable pressure of the air control system is 7.0 bar).

**5.3 No lubricating oil or grease shall be used in any part of the air suspension system, especially rubber parts.**

**5.4 Maintain as required** (see chapter 6-Maintenance).

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## **6. Maintenance**

### **6.1 Routine inspection and maintenance**

6.1.1 Carry out routine inspection before driving the vehicle every day or every time.

6.1.2 Contents of routine inspection include:

- 1) Visually inspect whether the air spring is inflated enough and balanced.
- 2) Normal suspension height and no leakage in system.

A simple inspection method is as follows: when receive the vehicle from the production factory, park the vehicle in a good condition on the horizontal ground, measure the distances from the center of four wheels to a fixed point that is easy to be determined on the upper vehicle body, and record the four data values. In every subsequent inspection, just park the vehicle on the ground, measure and inspect the four data values. If the values have no big changes, the suspension height is normal, and the system has no air leakage.

6.1.3 If the inspection is unqualified, it is necessary to find out the reason, eliminate the failure and repair when necessary.

### **6.2 Regular safety inspection**

6.2.1 Regular safety inspection can be carried out in first-class maintenance at intervals of (1500 to 2000) kilometers or carried out in accordance with the safety inspection time stipulated by the team.

6.2.2 In inspection, park the vehicle on a clean and flat ground, best on the maintenance pit, and brake to fix the vehicle (this provision is omitted in following inspection and maintenance).

6.2.3 Safety inspection items:

- 1) All fasteners are not loose, no dirt, rust or metal wear produced by loosening around the bolt heads and nuts.
- 2) Under the air supply pressure of more than 6.0 bar, the inflation of air spring is normal, the solid degrees of air bags on the two sides of the same axle are consistent, and inspect the air spring with no wear, damage and improper bulges and its surroundings have more than 25mm of clearance space.
- 3) The shock absorber is free of oil leakage and damage, and in normal operation.

Simple method to determine the normal operation of the shock absorber: the shock absorber is in normal operation if it heats after driving the vehicle.

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Note: The shock absorber may burn hands.

4) All parts (components) and welds have no cracks.

### **6.3 Second-class maintenance**

6.3.1 After the initial 8000 kilometers of stroke, carry out one time of inspection and maintenance according to the second-class maintenance period of the vehicle.

6.3.2 Contents of second-class maintenance:

- 1) Inspect the tightening torque of the air suspension and its installation fasteners, replace the failed self-locking nuts or lock washers when necessary.
- 2) The inspection of air spring is the same with item 2) of 6.2.3.
- 3) The inspection of shock absorber is the same with item 3) of 6.2.3.
- 4) Release the water vapor in the air storage reservoir.
- 5) Inspect and maintain the height valve (see 8.4.3 and 8.4.1).
- 6) Inspect the height of the suspension must meet the design value  $H$ , and the error shall not be more than  $\pm 5\text{mm}$ . Adjust the height control valve to adjust the height of the suspension when necessary (see 8.4.2 Adjustment of height control valve).

## **7. Failure Analysis**

Although YDA air suspension system has excellent quality, reliable operation and long failure-free driving mileage, it still may occur some failures due to the influences of installation, debugging, vehicle driving and maintenance, and many other factors. In order to help users do "Giving treatment with syndrome differentiation" in maintenance and repair, save time and reduce the maintenance cost as far as possible, the possible failure phenomenon or condition of the air suspension system as well as the possible causes are listed as follows:

### **7.1 Failure of shock absorber**

#### **A. Leakage**

- The height of the suspension height is improper, which is too high or too low.
- The shock absorber is installed incorrectly, for example, the installation position of bracket on the shock absorber is incorrect.
- The model of the shock absorber is incorrect.
- The clearance around the shock absorber is not enough.

B. The installation ring of the shock absorber is stretched or pulled apart, or the shock absorber is pulled apart.

- The height of the suspension is too high.

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·The shock absorber is installed incorrectly, for example, the installation position of bracket on the shock absorber is too high.

·The model of the shock absorber is incorrect.

C. The bushing of the shock absorber is damaged.

·The height of the suspension is too high or too low.

·The shock absorber is installed incorrectly, installation bolts are not tightened or loosened.

·The model of the shock absorber is incorrect.

·Normal wear.

D .The shock absorber is bending.

·The model of the shock absorber is incorrect.

·The shock absorber is installed incorrectly, the installation position of bracket on the shock absorber is too low.

·The model of air spring is incorrect.

**Explanation: The shock absorber is wearing parts, the warranty period is one year or 100,000 kilometers. For repeated damage with unknown reasons and not in a short period of time, it should be considered as a normal phenomenon.**

## **7.2 Failure of air spring**

A. The air spring is shriveled (uninflated).

·The air pressure of the air storage reservoir is too low to open the pressure protection valve.

·The pressure protection valve fails or the pipeline is too dirty.

·The air control pipeline has leakage or blockage.

·The height control valve fails or its flexible connecting rod is loose.

B. Air bag wear:

·The clearance around the air spring is not enough 25mm.

·The positioning adjustment block on the bracket of the vehicle frame is open welded or the rubber bushing of the guide rod is damaged to cause suspension drift, so that the air bag and the tire are in equal-phase friction.

·Damage of shock absorber and loosening of pipeline cause interferential friction with the air bag.

·The air spring base piston is externally adhered with sand, glass slag and so on.

C. The air spring is concave upward.



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·The height of the suspension is too low, and the air spring has been working under low pressure for a long time.

·The height control valve fails or its flexible connecting rod is loose.

·The model of air spring is incorrect (the height is too high).

·The air supply pressure is low and the vehicle is seriously overloaded.

D. The upper cover plate of the air spring is raised.

·The shock absorber fails, is damaged or the model is incorrect.

·The height control valve does not work.

·The height of the suspension is too high and the air spring has been working under hypernormal pressure for a long time.

E. The model of air spring is incorrect (the height is too low).

·The connecting part of the air bag with the upper margin or the piston is cracked and leaky, or the root parts of the screws and bolts are leaky.

·The air supply pressure is too high and the overload is serious.

·The shock absorber fails, is damaged or the model is incorrect, and the air bag is stretched too long.

·The buffer cushion is eccentrically contacted to form local wear at the connecting part of the air bag with the upper cover plate or the piston.

F. The air spring is deflected, and the buffer cushion is eccentrically contacted.

·The air spring is installed incorrectly, and the air spring is longitudinally deflected.

·The suspension is installed incorrectly, and the air spring is transversely deflected.

·The positioning adjustment block on the bracket of the vehicle frame is open welded or the rubber bushing of the guide rod is damaged to cause suspension drift.

G. The air bag is wrinkled.

·The air bag is coated with grease and other substances to cause premature aging.

·Normal aging.

H. The elasticity is decreased, and gets harder and harder.

·The water vapor in the air storage reservoir is not released in time, and the air spring is accumulated with more and more water inside.

Explanation: With normal use, the service life of air spring can be more than 3 to 5 years.

### **7.3 Failure of height control valve**

A. The vehicle is inclined.

·The height control valve is not adjusted properly. If the difference between the height of

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the front and rear axle suspensions and the design value A is large, the vehicle is inclined longitudinally. If the height difference of the suspensions on both sides of the same axle controlled by the double height valves is too large, the vehicle is inclined transversely.

·A certain height control valve fails or pipeline is clogged to cause the air bag shrivelled.

B. The connecting rod is pulled apart and the valve control arm is flipped backward.

·The valve is installed incorrectly.

·The length of the connecting rod is incorrect.

C. The valve is slowly responded.

·The air supply pressure is too low.

·The height control valve is dirty and/or the pipeline is dirty and deformed.

·The water vapor in the air storage reservoir is not released in time. In the cold weather, the valve and/or pipeline are frozen due to water vapor in the air.

·The inner diameters of pipeline and/or joint are too small.

#### **7.4 Failure of suspension structural parts**

A. Deviation of wheel track, excessive tire wear

·Front axle and/or rear axle positioning is incorrect.

·The positioning adjustment block on the bracket of the vehicle frame is open welded and the pin axle bolts are loose.

·The installation bolts of the thrust rod are loose. The rubber bushing of the thrust rod is worn or damaged.

B. The vehicle is driven unstably and operated difficultly.

· The bolts or connecting parts of the vehicle frame are loose.

· The installation fastening bolts of vehicle axles are loose.

·The positioning adjustment block on the bracket of the vehicle frame is open welded or the rubber bushing is worn and damaged (the installation bolts of the thrust rod are loose), and the suspension is drifted.

#### **7.5 Failure of rubber bushing**

The rubber bushing is cracked.

·The vehicle is seriously overloaded.

·Rubber and metal core bond or rubber vulcanization is not good (belonging to product quality problem).

·Use of lubricating grease causes premature aging.

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## **8. Maintenance Instructions**

### **8.1 Condition of vehicle maintenance**

In vehicle maintenance, unload the vehicle and park on a clean flat ground, best maintenance pit, brake and clog the wheels. Determine proper jacks or supports according to the maintenance content to support the vehicle frame to the proper height and whether to unload the tire.

### **8.2 Replacement of shock absorber**

8.2.1 Remove the upper and lower installation bolts and remove the shock absorber.

8.2.2 Replace the new shock absorber, and tighten according to the required tightening force.

8.2.3 Inspect whether the shock absorber is working normally after driving for a certain mileage.

Note: Shock absorber and air spring are used in pairs according to the suspension model, the correct model of shock absorber must be replaced, otherwise it will reduce the performance and service life of the air suspension system, and is easy to damage the air spring and shock absorber faster.

Explanation: if the self-locking nut fails, a new nut should be replaced. (In the following maintenance instructions, the requirements for the fasteners are the same, and no repeat again.)

### **8.3 Replacement of air spring**

8.3.1 Support the vehicle frame about 90mm higher than the normal suspension height with jacks or supports.

8.3.2 Deflate the air spring: remove the joint on the lower end of flexible connecting rod of the height valve (don't loosen the hose clamp to keep constant flexible connecting rod length when reassemble), turn down the control arm of the height valve, and deflate the air in the air spring.

8.3.3 Remove the damaged air spring.

8.3.4 Install a new air spring. The upper and lower edges of the air spring are respectively fitted to the cover plate spigot and the air bag piston, and tightly attached to the bottom of the spigot.

8.3.5 Connect the joint on the lower end of flexible connecting rod of the height control valve.

8.3.6 Remove the jacks or supports.

8.3.7 Start the engine to make the air pressure of the system reach the pressure of closing

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the air compressor, inspect the system without air leakage, and the air spring inflation normal (the maximum allowable pressure of the system is 7.0 bar).

#### **8.4 Maintenance, adjustment, inspection and replacement of height control valve**

##### **8.4.1 Maintenance of height control valve**

8.4.1.1 Regularly and visually inspect there is sufficient clearance around the valve, the valve control arm and connecting rod are free of any interference within the limit of the moving stroke of the axle.

8.4.1.2 Maintain the air supply system regularly, eliminate the dirt in the air pipeline, and forbid using grease to lubricate the valve.

8.4.1.3 Release the water vapor in the air storage reservoir regularly. In cold weather condition, it is recommended to use a dryer to avoid freezing or damaging the height valve.

##### **8.4.2 Adjustment of height control valve**

8.4.2.1 In vehicle maintenance, if the suspension height value is higher than  $H \pm 5\text{mm}$ , under the condition of excluding other reasons and confirming the reason of adjusting the height control valve, the height control valve should be adjusted to the correct suspension height.

8.4.2.2 Adjustment methods and steps of height control valve:

- 1) Loosen the installation bolts of the height valve vertical rod.
- 2) Remove the joint on the lower end of flexible connecting rod of the height valve (for axle controlled by double valves, the two valves are carried out synchronously). Place the valve control arm in "upward" position. If the air supply pressure is sufficient, the air spring will be inflated more enough to rise the vehicle.
- 3) Put bearing supports (one on each side) with appropriate height (measuring in normal suspension height) under the vehicle frame, then push the valve control arm to "downward" position, deflate the air in the air spring to make the vehicle frame slowly fell to the supports.
- 4) Continue to push the valve control arm downward, stop for 10 to 15 seconds, then slowly return the control arm back to the middle position. At this time, the height of the suspension should be in accordance with  $H \pm 1.5$ . Otherwise, repeat the above operation, adjust the height of bearing support or add gaskets under the support until the suspension height is adjusted correctly.
- 5) Adjust the length of the flexible connecting rod to connect the lower connecting end hole

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of the flexible connecting rod with the connecting rod bracket hole after alignment.

- 6) Supply air to the system with the pressure of more than 6.0 bar, remove the supports under the vehicle frame, then inspect that all air springs should be inflated to the correct suspension height and the system has no air leakage.

#### 8.4.3 Inspection of height control valve

Use this method to inspect the height control valve and determine whether it is invalid to avoid unnecessary replacement. The inspection method is as follows:

8.4.3.1 The air supply pressure of the system exceeds 6.0 bar.

8.4.3.2 Loosen the connection on the lower end of the flexible connecting rod.

8.4.3.3 The valve control arm is upward, stay for 10 seconds, the air spring is inflated more enough to rise the vehicle.

8.4.3.4 The control arm is in the middle position, the valve should can be closed, the air bag is not inflated nor deflated.

8.4.3.5 The control arm is downward, stay for 10 seconds. Deflate the air spring to descend the vehicle.

8.4.3.6 The control arm is in the middle position again, and the valve is closed.

8.4.3.7 Connect the joint on the lower end of the flexible connecting rod, then the air spring will be inflated to reach the correct suspension height. If the height control valve cannot reach the requirements above, the valve has been damaged and shall be replaced.

#### 8.4.4 Replacement of height control valve

8.4.4.1 Support the vehicle frame with jacks or supports, and the vehicle is in the state of approximate suspension height.

8.4.4.2 Remove the joint on the lower end of the flexible connecting rod, turn the valve control arm downward, and deflate the air in the air bag. Remove the air inlet and outlet pipes on the height valve, remove the installation bolts and take down the height valve.

8.4.4.3 Install air inlet and outlet pipe joints on the new height valve.

8.4.4.4 Install the new height control valve by in situ (the tightening torque of two installation bolts shall be according to the instructions of the vehicle factory). Connect the air outlet pipe (connected with the air bag), and then connect the air inlet pipe (connected with the pressure protection valve and the air storage reservoir).

8.4.4.5 Assemble the flexible connecting rod.

8.4.4.6 Install the assembled flexible connecting rod on the valve control arm and connecting rod bracket, and keep the lever in level.

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8.4.4.7 Remove the jacks or supports.

8.4.4.8 Supply air with the pressure of more than 6.0 bar, inspect the system (especially the newly connected pipeline joints) without air leakage, and normally inflate the air spring to the correct suspension height. If the suspension height is correct, tighten the clamps of the two flexible joints. If the suspension height is incorrect, please refer to 8.4.2 to adjust the height control valve.

8.4.5 Assembly of flexible connecting rod

8.4.5.1 Determine the length of the connecting rod assembly.

Measure the length of the removed connecting rod assembly, or measure the center distance  $A$  of the valve control arm and the installation hole on the connecting rod bracket. Ensure that the length of the swinging rod is greater than or equal to  $A+30\text{mm}$ , and the straight rod is greater than or equal to 40mm.

Note: The measurement must be carried out under the correct suspension height.

8.4.5.2 Dull and polish the connecting rod end.

## **8.5 Replacement of thrust rod**

8.5.1 The vehicle is in the correct suspension height.

8.5.2 Remove the damaged thrust rod.

8.5.3 Install the new thrust rod.

See tightening torque for installing the fasteners.

8.5.3.1 The difference value between the length of the new thrust rod and the length of the old one (center distance of the front and rear bushings) should be measured, so as to determine whether the adjusting gaskets and the thicknesses thereof should be increased or decreased between the thrust rod and the bracket of vehicle frame when the new thrust rod is installed.

8.5.3.2 According to the above measurement, place gaskets with appropriate thickness on the installation surface of the frame bracket, install the new thrust rod, temporarily twist the fasteners until no clearance between the parts, inspect the axle position should be correct (according to the instructions of vehicle factory), and then tighten the fasteners to specified torque.

## **8.6 Replacement of rubber bushing**

### **8.6.1 Replacement of transverse stabilization rod rubber bushing**

8.6.1.1 Removal of old bushing

1) Remove the pin axle bolts of the transverse stabilization rod.

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- 2) Remove the old bushing.
  - 3) Remove the dirt in the pin axle holes of the transverse stabilization rod and clean.
  - 4) Inspect the transverse stabilization rod for damage and crack. The transverse stabilization rod with cracks shall not be repaired, and should only be replaced.

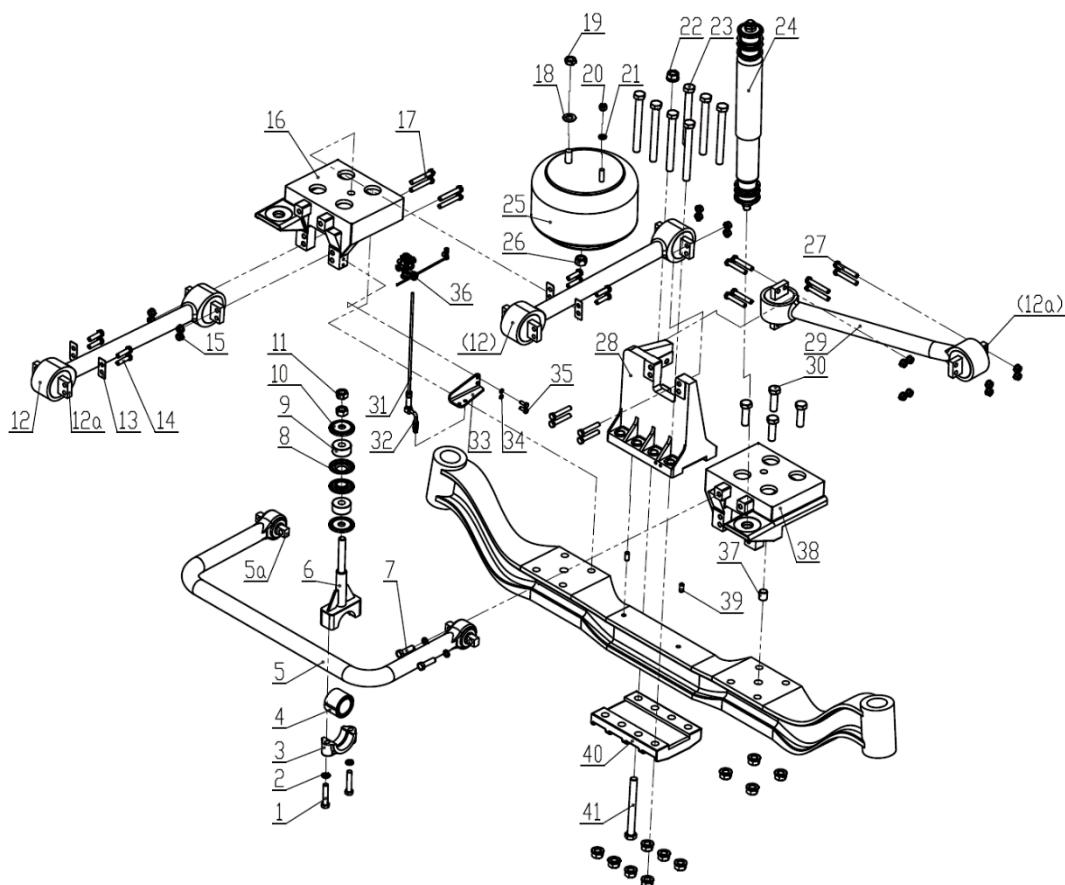
#### 8.6.1.2 Installation of new bushing

- 1) Install the new bushing, and align the bushing with the lifting lug of the transverse stabilization rod.
- 2) Reassemble the transverse stabilization rod on the bracket.

#### 8.6.1.3 Final inspection

- 1) In the condition of the air supply pressure greater than 6.0 bar, inspect the system has no air leakage, and the air spring is normally inflated to the correct suspension height.
- 2) Inspect the vehicle is driven in balance, the wheel track is straight and not deflected.

## 9. Maintenance Part Drawing of YDA10650042 Air Suspension System



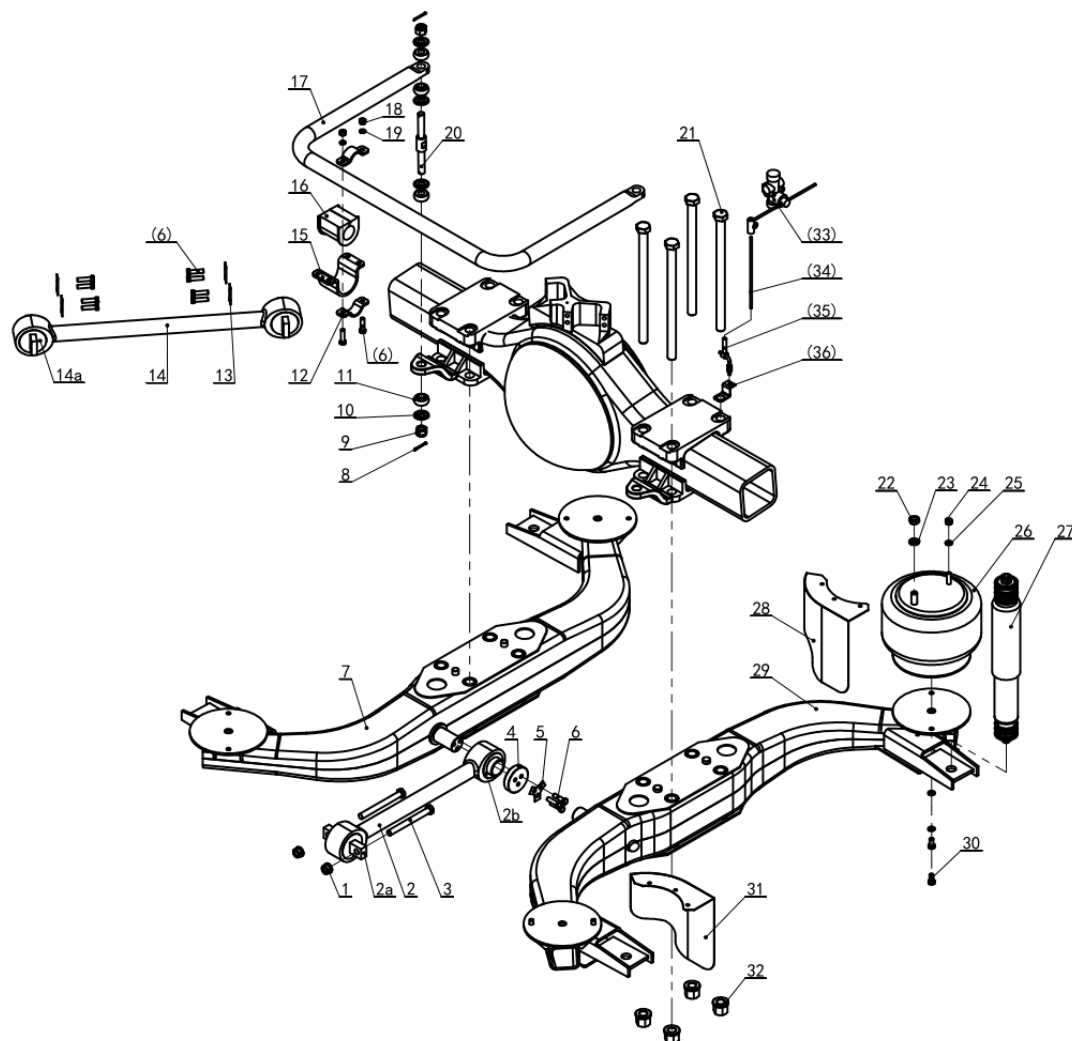
## 10. Maintenance Part Table of YDA10650042 Air Suspension System

Item	Part Number	Description	Qty	Notes (Tighting Torque Unit N·m)
1	Q151B1470TF2	Hex-bolts	4	M14×1.5×70, Degree 10.9, 210
2	Q40514	Spring Washer	8	
3	160116010	Cover	2	



4	160206610	Rubber busing	2	
5	161000040	Stabilizer bar assy	1	
5a	261206010	Rubber busing	2	
6	162100040	Hanging rod assy	2	
7	Q151B1450TF2	Hex-bolts	4	M14×1.5×50, Degree 10.9, 210
8	260146050	Gasket	4	
9	260156010	Rubber Stopper	4	
10	260166010	Stopper blocks	4	
11	Q341B20T13F2	Hex-nuts	4	M20×1.5, Degree 10, 440
12	191000040	Traction rod	3	
12a	391206810	Rubber joint	2	
13	390346810	Gasket	6	
14	Q150B1245TF2	Hex-bolts	12	M12×45, Degree 10.9, 140
15	STM12175	Hex-nuts	20	Degree 10, 100
16	131120040	Air bag base (R )	1	
17	Q150B1270TF2	Hex-bolts	16	
18	Y3112	Gasket	4	
19	Y161216TA	Hex-nuts	2	50
20	Y110813TB	Hex-nuts	2	50
21	Y2108	Spring wahser	2	
22	STM20250	Hex-nuts	16	Degree 10, 450
23	Q150B20190TF2	Hex-bolts	7	M20×190, Degree 10.9
24	251000020	Shock absorber assy	2	
25	121000040	Air spring assy	2	
26	Y171210TB	Hex-nuts	2	50
27	Q150B1280TF2	Hex-bolts	4	M12×80, Degree 10.9
28	132110040	Traction rod base	1	
29	193000040	Traction rod	1	
30	Q150B2065TF2	Hex-bolts	8	M20×65, Degree 10.9
31	180113011	Link rod	3	
32	182003010	Levelling valve accessories	3	
33	180320041	Levlling valve bracket	1	
34	Q40308	Spring wahser	2	
35	Q150B0820	Hex-bolts	2	Degree 8.8, 25
36	281002020	Levelling valve	1	
37	181003010	Levelling valve	2	Rear assy
38	130120041	Positioning pin	2	
39	131110040	Air bag base (L )	1	
40	132120040	Traction rod base	1	
41	Q5221226	Pin	2	
42	Q150B20195TF2	Hex-bolts	1	M20×195, Degree 10.9
43	283000020	Protecting valve	1	Not showed

## 11. Maintenance Part Drawing of YDA 21306020 Air Suspension System



## 12. Maintenance Part Table of YDA 21306020 Air Suspension System

Item	Part Number	Description	Qty	Notes (Tighting Torque Unit N·m)
1	STM18150	Hex-nuts	4	10级, 320
2	292006030	Traction Rod assy	2	
2a	191100010	Rubber joint	1	
2b	292202610	Joint	1	
3	Q151B18180TF2	Hex-bolts	4	

4	290212610	Cover	2	
5	290362610	Gasket	2	
6	Q150B1245TF2	Hex-bolts	26	M12×45, 10.9级, 140
7	234000060	C beam assy (R )	1	
8	Q5004045	Pin	4	
9	Q381C20T13F2	Hex-nuts	4	
10	262120060	Gasket	8	
11	262130060	Rubber washer	8	
12	260160060	plate	4	
13	390346810	Gasket	8	
14	291000050	Traction rod assy	2	
14a	391206810	Rubber joint	2	
15	260136010	Clamp	2	
16	260126010	Rubber busing	2	
17	261110060	Stabilizer bar	1	
18	Q340B12T13F2	Hex-nuts	4	M12, 10级, 140
19	Q40312	Spring wahser	4	
20	262110060	Hanging rod	2	
21	Q151B27440TF2	Hex-bolts	8	
22	Y161216TA	Hex-nuts	4	3/4"-16, A级, 50
23	Y3112	Gasket	4	3/4"
24	Y110813TB	Hex-nuts	4	1/2"-13, B级, 50
25	Y2108	Spring wahser	12	1/2"
26	321006810	Air spring assy	4	
27	251000020	Shock-absorber assy	4	
28	223200060	Dust cover (R)	2	
29	233000060	C beam assy (L)	1	
30	Y01081316T2	Hex-bolts	8	1/2"-13×1", 2级, 50
31	223100060	Dust cover (L)	2	
32	332146810	Hex-nuts	8	M27×3, 10级, 1200
36	-	Levelling valve accessorie	2	主机厂自备

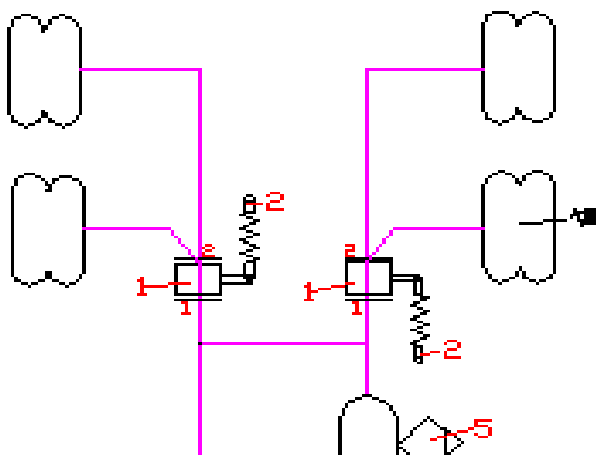
### 13. Tightening Torque Table of YDA10650042/YDA21300060

#### Air Suspension System

Thread	Part number	Torque N·m		
		Degree 8.8/8	Degree 10.9/10	Spiralock nuts Degree 10
M6×1	Q150B/Q340B	10		

M8×1.25	Q150B/Q340B	25		30
M8×1	Q151B/Q341B	25		
M10×1.5	Q150B/Q340B	60	75	55
M10×1.25	Q151C/Q341C	65	80	
M10×1	Q151B/Q341B	65	80	
M12×1.75	Q150B/Q340B	95	140	100
M12×1.5	Q151C/Q341C	100	140	
M12×1.25	Q151B/Q341B	100	145	
M14×2	Q150B/Q340B	160	175	160
M14×1.5	Q151B/Q341B	180	210	
M16×2	Q150B/Q340B	220	280	230
M16×1.5	Q151B/Q341B	240	310	
M18×2.5	Q150B/Q340B	270	440	320
M18×1.5	Q151B/Q341B	320	470	
M20×2.5	Q150B/Q340B	430	530	450
M20×2	Q151C/Q341C		540	
M20×1.5	Q151B/Q341B	440	560	
M22×2.5	Q150B/Q340B		700	630
M22×2	Q151C/Q341C		730	
M22×1.5	Q151B/Q341B		760	
M24×2	Q151B/Q341B		960	780
M27×2	Q151B/Q341B		1400	1200
M30×3.5	Q150B/Q340B		1750	1450
Inch		Torque		Notes
1/2"		50		Air spring
3/4"		50		Air spring
M18		200		Air spring
M14×1.5	Sachs	70		Shock absorber
M16×1.5	Sachs	90		Shock absorber

#### 14. Height Valve and Overflow Valve Piping Layout of YDA10650042/YDA21300060 Air Suspension System



Serial No.	Name	Remark
1	Height valve assembly	
2	Adjusting rod joint	
3	Pressure protection valve	

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4	Air storage reservoir	Self-equipped by OEM
5	Drain valve	Self-equipped by OEM
6	Pipeline and pipe joint	Self-equipped by OEM