SERVICE MANUAL

Articulated Dump Trucks AD300

NEW HOLLAND
CONSTRUCTION

REPAIR MANUAL

AD 300

PROPRIETARY NOTICE

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COMPANY POLICY

Company policy, which is one of continuous improvement, reserves the right to change prices and to make changes in design and specification at any time without notice and without obligation to modify units previously built.
All data given in this book is subject to production variations. Dimensions and weights are approximate only and the illustrations do not necessarily show machines in standard condition. For exact information about any particular machine please consult your New Holland Construction Dealer.

PARTS AND ACCESSORIES

Genuine parts and accessories have been specifically designed for these machines.
We would like to point out that “non-genuine” parts and accessories have NOT been examined and released by the Company. The installation and or use of such products could have negative effects upon the design characteristics of your machine and thereby affect its safety. The company is not liable for any damage caused by the use of “non-genuine” parts and accessories.

MODEL CODES

The range of machines listed may not be available in all countries or markets therefore, for the latest information consult your local New Holland Construction Dealer.

MODEL	ENGINE TYPE - H.P.
AD300	MTA11-C300 (300H.P.)

OWNER ASSISTANCE

We at New Holland and your New Holland dealer want you to be completely satisfied with your investment. Normally any problems with your equipment will be handled by your dealer's Service Department. Sometimes, however, misunderstandings can occur. If your problem has not been handled to your satisfaction, we suggest the following.

1. Contact the owner or General Manager of the dealership, explain the problem, and request assistance. When additional assistance is needed, your dealer has direct access to our office.

2. If you cannot obtain satisfaction by doing this, contact the New Holland Construction office and provide them with:

- Your name, address, and telephone number
- Machine model and serial number
- Dealership name and address
- Machine purchase date and amount of use
- Nature of problem

NEW HOLLAND CONSTRUCTION

245 E North Ave

Carol Stream, IL 60188

Ph # (630) 260-4000

When contacting New Holland, be aware that your problem will likely be resolved in the dealership using the dealer's facilities, equipment, and personnel. So it is important that your initial contact be with the dealer.

SPARE PARTS

To maintain operating efficiency, use NEW HOLLAND original spare parts.
When ordering parts, give the following information:

- Machine model
- Machine and engine serial numbers
- Part number from the Parts Catalog

TO THE OWNER:

The warranty coverage that is extended to your machine is explained in the Warranty and Limitation of Liability form. Your dealer will provide you with a copy of the warranty and retain a copy which you have signed. After you read the warranty, ask your dealer to explain any points that you may not understand.

The machine was designed to power and propel itself. It is intended to move material in the normal and customary applications.

Do not modify or alter or permit anyone else to modify or alter this machine or any of its components mechanical function with first consulting an authorized New Holland Construction dealer. If you have any questions regarding machine modifications, contact New Holland Construction, 245 E. North Ave., Carol Stream, IL 60188.

Your safety and the safety of those around you depend upon the care and good judgment you use while operating this equipment. Read the safety precautions carefully.

After you have operated the machine for 50 hours, take your machine and this manual to your selling dealer. He will perform the factory recommended 50-hour service. You will be responsible for the cost of lubricants, fluids, filters and other items replaced as part of normal maintenance. Prior to taking the machine to your selling dealer for service, it is recommended that you contact them to determine any other charges for which you may be responsible.

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CAUTION: THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER PERSONAL SAFETY IS INVOLVED. TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS. BE CAREFUL!

CAUTION: PICTURES IN THIS MANUAL MAY SHOW PROTECTIVE SHIELDING OPEN OR REMOVED TO BETTER ILLUSTRATE A PARTICULAR FEATURE OR ADJUSTMENT.

BE CERTAIN, HOWEVER, TO CLOSE OR REPLACE ALL SHIELDING BEFORE OPERATING THE MACHINE.

IMPROVEMENTS

New Holland Construction is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.

CAUTION: THE WORD "CAUTION" IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.

WARNING: THE WORD WARNING DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.

DANGER: THE WORD "DANGER" DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.

FAILURE TO FOLLOW THE "CAUTION", "WARNING", "DANGER", AND "STOP" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

Additional precautionary statements ("ATTENTION" and "IMPORTANT") are followed by specific instructions. These statements are intended for machine safety.

ATTENTION: The word "ATTENTION" is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

SAFETY RULES

This symbol is your safety alert sign. It means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

Read and heed all safety instruction carrying the signal words **WARNING** and **DANGER**.

STUDY THE OPERATION AND MAINTENANCE INSTRUCTION MANUAL THROUGHLY BEFORE STARTING, OPERATING, MAINTAINING, FUELING OR SERVICING THIS MACHINE.

MOST ACCIDENTS ARE CAUSED BY FAILURE OF SOME INDIVIDUAL TO FOLLOW SIMPLE AND FUNDAMENTAL SAFETY RULES OR PRECAUTION. FOR THIS REASON MOST ACCIDENTS CAN BE PREVENTED BY RECOGNIZING THE REAL CAUSE AND DOING SOMETHING ABOUT IT BEFORE ACCIDENT OCCURS. REGARDLESS OF THE CARE USED IN THE DESIGN AND CONSTRUCTION OF ANY TYPE OF EQUIPMENT THERE ARE MANY CONDITIONS THAT CAN'T BE COMPLETELY SAFEGUARDED AGAINST WITHOUT INTERFERING WITH REASONABLE ACCESSIBILITY AND EFFICIENT OPERATION.

CALIFORNIA

PROPOSITION 65 WARNING

Diesel engine exhaust and some of its constituents are know to the State of California to cause cancer, birth defects, and other reproductive harm.

SAFETY PRECAUTION INFORMATION

UNSAFE OPERATING PRACTICES AND IMPROPER USE OF THE MACHINE AND ITS ATTACHMENTS ON THE PART OF THE OPERATOR OR SERVICE TECHNICIAN CAN RESULT IN INJURIES. OBSERVE THE FOLLOWING SAFETY PRECAUTIONS AT ALL TIMES:

1. **FOR SERVICING, THE MACHINE SHOULD BE ON LEVEL TERRAIN, ENGINE STOPPED WITH THE WHEELS BLOCKED OR THE ENTIRE MACHINE SOLIDLY SUPPORTED WITH THE WHEELS OFF THE GROUND BEFORE SERVICING ANY COMPONENT OF THE DRIVETRAIN.**

2. **FOR SERVICING UNDER THE MOVABLE EQUIPMENT, SUCH AS OPERTOR'S SEAT, ENGINE HOODS, ETC. MOVE THE EQUIPMENT ASSEMBLY TO THE LATCHED POSITION AND SECURELY LATCH.**

3. **DO NOT OPERATE THE MACHINE UNLESS ALL MOVABLE EQUIPMENT IS LATCHED IN THE OPERATE POSITION.**

4. **DO NOT SERVICE THE MACHINE WITH A RAISED HYDRAULIC EQUIPMENT UNLESS THE HYDRAULIC EQUIPMENT IS RESTING ON LOCK PINS OR CYLINDER LOCKING TOOLS OR FIXTURES.**

5. **DO NOT SERVICE THE MACHINE WITH THE ENGINE RUNNING UNLESS THE MACHINE IS PROPERLY AND SECURELY SUPPORTED WITH ALL FOUR WHEELS OFF THE GROUND.**

6. **USE CAUTION WHEN SERVICING THE UNIT AROUND MOVING PARTS.**

7. **DO NOT TILT ANY MOVABLE EQUIPMENT WITHOUT PROPER INSTRUCTION.**

8. **DO NOT TILT ANY MOVABLE EQUIPMENT WITHOUT USING THE PROPER TOOLS.**

9. **REINSTALL ALL SHIELDS REMOVED FOR SERVICE.**

10. **NEVER LOOSEN ANY HYDRAULIC CONNECTIONS BEFORE RELIEVING THE PRESSURE IN THE HYDRAULIC SYSTEM.**

11. **WEAR EYE PROTECTION SUCH AS GOGGLES, ETC.**

12. **WEAR EAR PROTECTION SUCH AS EARPLUGS, ETC. WHEN YOU FEEL THE NOISE LEVEL IS UNCOMFORTABLE.**

13. **IF ANY SERVICING OR ADJUSTMENTS REQUIRE THE BATTERY TO BE DISCONNECTED, DISCONNECT THE (-) NEGATIVE GROUND CABLE.**

14. **WHEN SERVICING ELECTRICAL COMPONENTS, DISCONNECT THE (-) NEGATIVE GROUND CABLE.**

15. **IF AN ELECTRONIC EQUIPMENT REQUIRES REMOVAL FROM THE DASH AREA OR THE MACHINE, DISCONNECT THE (-) NEGATIVE GROUND BATTERY CABLE. THIS WILL SHUT OFF POWER TO THE ELECTRICAL SYSTEM AND PREVENT DAMAGE TO THE ELECTRICAL SYSTEM.**

16. **IF WELDING IS REQUIRED ON THE MACHINE, DISCONNECT THE (-) NEGATIVE GROUND CABLE. FAILURE TO DISCONNECT THE BATTERY MAY RESULT IN DAMAGE TO THE ELECTRICAL SYSTEM, MONITORING SYSTEM AND/OR OTHER ELECTRICAL COMPONENTS.**

17. **IF WELDING IS REQUIRED ON AN ATTACHMENT, REMOVE THE ATTACHMENT FROM THE MACHINE.**

18. GIVE COMPLETE AND UNDIVIDED ATTENTION TO THE JOB AT HAND SO THAT COMPLETE CONTROL OF THE MACHINE IS MAINTAINED AT ALL TIMES.

19. DRIVE SLOWLY OVER ROUGH GROUND AND ON SLOPES; KEEP ALERT FOR HOLES, DITCHES AND OTHER IRREGULARITIES THAT MAY CAUSE THE MACHINE TO OVERTURN.

20. AVOID STEEP HILLSIDE OPERATION WHICH COULD CAUSE THE MACHINE TO OVERTURN.

21. NEVER TRANSPORT A LOADED BUCKET AT FULL HEIGHT. OPERATE THE MACHINE WITH THE LOAD AS LOW AS POSSIBLE UNTIL IT BECOMES NECESSARY TO RAISE THE BOOM TO DISCHARGE THE LOAD INTO A TRUCK, CONTAINER, ETC.

22. REDUCE SPEED WHEN TURNING SO THERE IS NO DANGER OF OVERTURNING.

23. NEVER DRIVE UP OR BACK UP A HILL OR INCLINE WITH A RAISED BOOM OR THE MACHINE COULD OVERTURN.

24. ALWAYS LOOK BEHIND YOU BEFORE BACKING UP THE MACHINE.

25. MAINTAIN PROPER FLUID LEVELS TO PREVENT LOSS OF POWER, BRAKING OR OTHER FUNCTIONS.

26. DO NOT ALLOW PASSENGERS TO RIDE ON THE MACHINE AT ANY TIME.

27. DO NOT ALLOW CHILDREN TO OPERATE THE MACHINE OR RIDE ON THE MACHINE AT ANY TIME.

28. DO NOT ALLOW ANYONE TO OPERATE OR SERVICE THE MACHINE WITHOUT PROPER INSTRUCTION.

29. OSHA REQUIRES THAT ALL OPERATORS BE INSTRUCTED ON THE PROPER OPERATION OF THE MACHINE BEFORE THEY OPERATE THE UNIT.

30. DO NOT OPERATE THE LOADER IN ANY POSITION OTHER THAN WHILE IN THE OPERATOR'S SEAT WITH THE SEAT BELT SECURELY FASTENED.

31. BEFORE STARTING THE ENGINE, BE SURE THAT ALL OPERATING CONTROLS ARE IN NEUTRAL AND THE PARKING BRAKE IS ENGAGED.

32. NEVER OPERATE THE ENGINE IN A CLOSED BUILDING WITHOUT ADEQUATE VENTILATION.

33. REFUEL THE MACHINE OUTDOORS WITH THE ENGINE SHUT OFF. REPLACE THE FUEL CAP SECURELY. USE AN APPROVED FUEL CONTAINER. DO NOT SMOKE WHEN HANDLING FUEL. AVOID SPILLING FUEL.

34. AFTER OPERATING THE ENGINE, NEVER TOUCH THE MUFFLER, EXHAUST PIPE, ENGINE OR RADIATOR UNTIL THEY HAVE HAD TIME TO COOL.

35. DRESS APPROPRIATELY – WEAR RELATIVELY TIGHT-FITTING CLOTHING WHEN OPERATING OR SERVICING THE MACHINE. LOOSE OR TORN CLOTHING CAN CATCH IN MOVING PARTS OR CONTROLS.

36. BEFORE SERVICING THE MACHINE, OR ANY OF ITS ATTACHED EQUIPMENT, BE SURE THAT THE ATTACHMENTS ARE LOWERED TO THE GROUND OR ARE SUPPORTED.

37. DO NOT WORK UNDER OVERHANGS, ELECTRIC WIRES, OR WHERE THERE IS DANGER OF A SLIDE.

38. WEAR AN APPROVED SAFETY HAT WHEN OPERATING THE MACHINE AND WHILE IN ANY WORK AREA.

39. WHEN DRIVING THE MACHINE ON A ROAD OR HIGHWAY, USE WARNING LIGHTS OR WARNING DEVICES AS MAY BE REQUIRED BY LOCAL OR STATE GOVERNMENT REGULATIONS. HEADLIGHTS, WARNING LIGHTS AND SMV SIGNS ARE AVAILABLE THROUGH YOUR NEW HOLLAND DEALER.

40. KEEP THE MACHINE CLEAN. DO NOT ALLOW TRASH, DEBRIS OR OTHER ARTICLES TO ACCUMULATE IN THE CAB, FLOOR OR FOOT CONTROL PEDAL AREA THAT MAY HINDER SAFE MACHINE OPERATION.

41. NEVER OPERATE THE MACHINE WITH ANY OF THE SHIELDING REMOVED.

42. NEVER OPERATE THE MACHINE WITHOUT WINDOWS AND/OR SCREENS IN PLACE.

43. NEVER EXTEND ANY PART OF THE BODY OUTSIDE OF THE OPERATOR'S AREA.

44. ALWAYS PROPERLY TIE DOWN THE MACHINE TO A TRUCK OR TRAILER BEFORE TRANSPORT.

45. MAKE SURE ALL BYSTANDERS ARE AT A SAFE DISTANCE AWAY FROM THE MACHINE BEFORE STARTING THE ENGINE.

46. DO NOT ALLOW ANYONE NEAR THE MACHINE WHILE THE ENGINE IS RUNNING AND THE MACHINE IS OPERATIONAL.

47. WHEN USING THE MACHINE TO CRANE OBJECTS, DO NOT ALLOW ANYONE TO RIDE ON OBJECTS BEING CRANED.

48. DO NOT USE THE MACHINE AS A WORK PLATFORM FOR SUPPORTING MATERIALS.

49. DO NOT LIFT PERSONNEL OR ALLOW PERSONNEL TO WORK WHILE STANDING IN THE BUCKET OR ON OTHER ATTACHMENTS. THIS IS NOT A MAN-LIFT.

OSHA REQUIREMENTS NOW MAKE IT THE EMPLOYER'S RESPONSIBILITY TO FULLY INSTRUCT EACH OPERATOR IN THE PROPER AND SAFE OPERATION OF ALL OPERATIVE EQUIPMENT. BOTH EMPLOYER AND EMPLOYEE SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH THE MACHINE OPERATION.

CAUTION!

SOME PICTURES IN THIS MANUAL SHOW SAFETY SHIELDS REMOVED OR OPEN TO SHOW PARTS BEING SERVICED OR FOR CLARITY. ALL SHIELDS SHOULD BE CLOSED OR REPLACED PRIOR TO OPERATING THE MACHINE.

DANGER!

FASTEN SEAT BELT

BEFORE STARTING ENGINE!

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INTRODUCTION

This manual contains a series of repair procedures relating to the articulated trucks.

Read this manual carefully before carrying out any repairs on the vehicle.

Scrupulous observance of the rules and instructions herein will ensure that repairs are carried out safely and efficiently.

GENERAL INSTRUCTIONS

INTENDED USE

The vehicle described in this manual was designed and made for the following use:

1. To haul excavation material in general.
2. To haul material resulting from demolition on industrial or civilian structures in general.
3. To haul material required for construction and/or industrial or civilian structures in general.

The vehicle must be used for such purposes.

The vehicle must be in proven and checked conditions of efficiency for the said use, in full consideration of the envisaged criteria and restrictions of use.

Specific care must be paid to the following aspects:

1. Do not exceed the payloads specified by the manufacturer.
2. Do not exceed the gradients specified by the manufacturer.
3. Do not drive the vehicle on loose terrain which can compromise stability.
4. Do not use the vehicle to remove objects or products.
5. Use the vehicle paying special care to the safety instructions and specifications.
6. Carry out the ordinary maintenance interventions specified by the manufacturer.
7. Carry out the extraordinary maintenance interventions which are required, specifically those related to safety of use.

IMPORTANT: *The manufacturer declines liability for injury to persons and for damage to the vehicle and/or to the transported goods in the event of other use or use in other conditions than those specified.*

VEHICLE REPAIR SERVICEPERSONNEL

Any repairs to the vehicle must be carried out exclusively by qualified repair servicepersonnel with the necessary ability and technical knowledge.

Vehicle servicepersonnel must:

1. Have the operative skills required for construction site vehicle maintenance.
2. Be fully aware of all appropriate safety instructions and precautions.

The servicemen must be made able to work in total safety by means of suitable training periods or courses, so that they are fully aware of the rules of professional conduct that must be followed during repairs to the vehicle.

The direct reporting manager must ensure respect of general safety instructions, specifically those contained in this handbook.

The manager will also assess the suitability of operating personnel, in terms of technical skills and psychological-physical conditions.

WASTE DISPOSAL

Collect and properly dispose of replaced material (brake pads, filters, etc.) and waste material, resulting from maintenance operations and repairs (material soaked in fuel, oil, powder, etc.) according to the laws in force, separately from normal waste.

Collect and dispose of used lubricants and fluids, according to the laws in force.

Collect and dispose of used batteries according to the laws in force.

Drain and recharge the air conditioning system using the specific devices, according to the laws in force.

Furthermore, you are advised to separate ferrous materials, light alloys and waste plastic materials for separate recycling.

SCRAPPING THE VEHICLE

The vehicle must be scrapped according to the laws in force, at the end of the vehicle's working life.

Demolish and recycle the vehicle according to the laws in force.

The vehicle must be demolished by expert personnel using suitable working tools to ensure the required safety conditions.

Demolish the vehicle by separating and collecting the various materials by type to allow recycling and disposal.

It is forbidden to abandon an obsolete vehicle at a quarry, building site, dump or in the environment.

Specific attention must be devoted to certain components and substances which can pollute the environment and/or cause injuries, i.e.:

1. Presence of fuels, coolant fluids, hydraulic oil and lubricating oils on board.
2. Presence of batteries and respective electrolyte;
3. Presence of pressurized gas (tires, suspension components, air conditioner).
4. Presence of solid polluting materials (tires, brake pads, plastic parts, filters) or hazardous materials (glass, windows).

Dispose of these materials according to the laws in force.

GENERAL OPERATING RULES

PRE-DISASSEMBLY PREPARATION

Cleaning before bringing the vehicle into the service shop

Remove mud and dirt completely before bringing the vehicle into the service shop. Carrying mud and dirt into the service shop impedes cleaning operations when disassembling and increases the possibility of contamination of parts during reassembly.

Preliminary survey before disassembly

Before disassembly, make an accurate preliminary survey and make a note of the results. This will save unnecessary labor and component costs and will be useful to give advice to the user to prevent problems in the future.

In particularly:

1. Check the type and number of the machine and hourmeter reading.
2. Check the reason for disassembly.
3. Check the symptom, location and cause of the problem and make another visual check if necessary.
4. Check for any contamination of the air cleaner and air leakage.
5. Check the characteristics of the fuel being used, contamination of the fuel filter and for any water in the fuel, loss of fuel, deformed pipes.
6. Check the oil level, oil contamination (viscosity, color and impurity) and the absence of any water in the oil, oil leakage and oil filter restriction.
7. Check the tension of the V belts.
8. Check for any faulty components or loosened connections.

Disassembly preparation

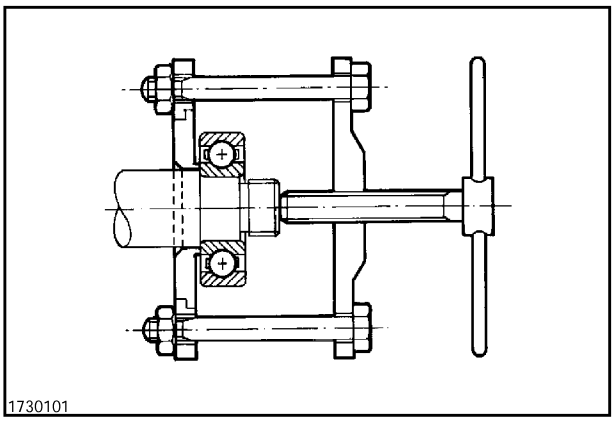
To save unnecessary labor, make sure that the equipment, area and space on the shelves is available, according to the specific type of disassembly to be carried out, and clean the area beforehand.

DURING DISASSEMBLY

Removal of parts

1. Before removing parts, check the assembly conditions and front/rear, left/right and up/down relationship, along with the removal procedures.
2. Make sure there are the relevant matching marks indicating the mounting positions and if necessary mark components clearly to avoid errors during reassembly.
3. Use the special disassembly tools where specified.
4. If it is difficult to remove a part even after the mounting screws have been removed, do not force it, but check the part to find where the problem lies.
5. All units, especially those which look alike, should be placed in order and tagged or marked when necessary.
6. Standard parts such as nuts and screws are to be kept, noting the assembly position and the quantity.
7. Shims and washers used to adjust clearances are to be kept so they can be re-assembled in the same conditions.
8. During disassembly, carefully inspect for any seizure, interference or contact with moving parts to find the cause of the problem.
9. When measuring, record all the values, such as end clearances, backlash or projection which only have significance if measured during disassembly.
10. Keep the same adjustment values for rods as far as possible. If it is necessary to disassemble adjustment devices, measure the length before disassembly and make a note of the value so as to be able to reassemble in identical conditions.
11. If tapered or fitted parts that should fit tightly come out easily, inspect the parts involved to find the cause so that the same problem does not occur again when reassembling.

12. Use an appropriate jig and do not try to force them.



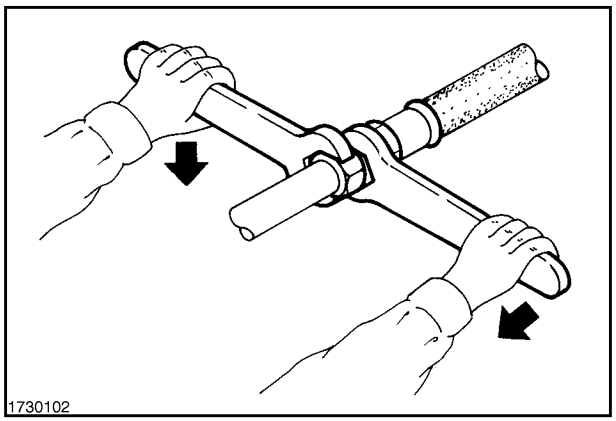
1

Disconnecting hydraulic lines

⚠ WARNING

Operate each control lever several times to relieve any pressure in the lines to be removed. Open the air bleeder cap on the hydraulic tank.

1. To disconnect a rigid tube from another, or a rigid tube from a hose, grasp the male end with a wrench and loosen the female nut side.
2. Plug the end of the removed tube or hose and the oil port on the part, to prevent foreign matter from entering.
3. Since the tube or hose to be removed contains oil, pour this off into a suitable container.
4. Clean up any oil spills in the working area.
5. Attach a tag with an appropriate marking to each tube, hose and hydraulic component line connection for easier reassembly.



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AFTER DISASSEMBLY

⚠ WARNING ⚠

When using detergents, make sure you fully understand the use instructions and take care not to bring them into contact with your eyes or skin. Dispose of used detergents correctly.

Cleaning

1. Clean the disassembled parts and arrange them in order. Completely remove sludge and dust from the oil ports of each part.
2. To clean more efficiently, divide the detergent into two containers; one to remove the dirt and one for finishing. When cleaning more significant parts, divide the containers further to avoid using dirty detergent.
3. When cleaning large castings, such as the cylinder head or block, immerse them in a container for 5 to 10 minutes with a pH 10-12 detergent, at a temperature of 50°C to 70°C (122 to 158°F), then rinse thoroughly.

Rust and dust prevention

1. Cover clean parts to avoid rusting.
2. Place caps on the ends of tubes and hoses.
3. If it will be some time before assembly, use rust inhibitor.

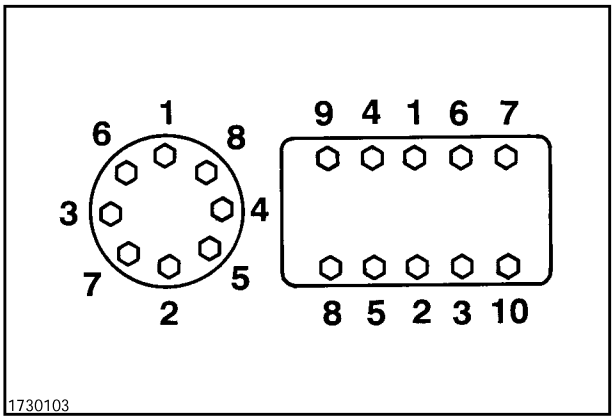
DURING ASSEMBLY

Installing the parts

1. Before starting to assemble, clean all the components and repair any damage. Dirt and dust have adverse effects on moving parts and can shorten the machine life, so take all precautions to limit their penetration.
2. Before assembly, remove the layer of rust inhibitor if present on new parts.
3. Parts with matching marks are to be mounted so that the marks are correctly aligned.
4. Use a press and appropriate tools when installing bearings, bushings, oil gaskets etc. When mounting special parts, use the specific special tools.
5. Coat the surface of press-fit parts with molybdenum disulphate grease or other specific lubricant, as prescribed.

Screw and nut tightening

1. Tighten screws and nuts alternately so that average torque can be applied evenly. The numbers on the figure indicate the order of tightening.
2. Unless otherwise indicated, apply lubricant to the threaded surfaces, so as to obtain even tightening.



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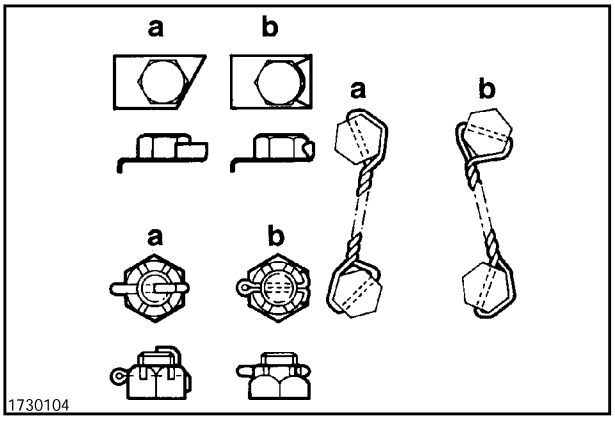
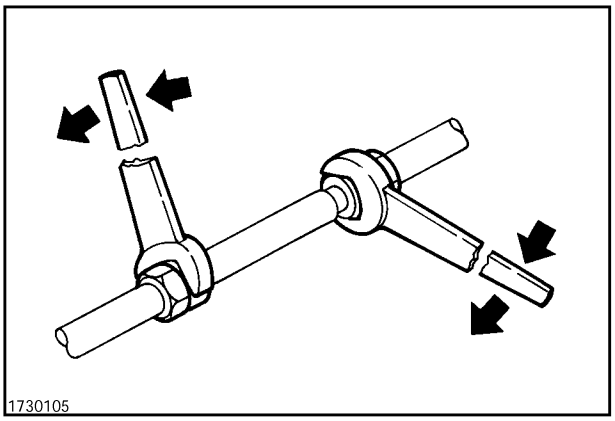
3. The nuts and screws that cannot be inspected externally, or those for more important parts are to be installed and locked with an appropriate device to prevent loosening (locking wire, split pin, caulked washer).
   (a). correct assembly
   (b). incorrect assembly
4. Screws on which a thread locking product has been applied (residue can be seen when removed) are to be cleaned with light oil and dried before tightening. Apply 2 or 3 drops of thread locking product to the threaded surface, then tighten.



4

Connecting hydraulic lines

1. Clean all rigid tubes with a suitable detergent and blow dry with compressed air.
2. Do not use coupling liquids (three components).
3. When installing high pressure hoses, avoid any torsion. Avoid other parts interfering with the hoses if they have no protective coil.
4. Install correctly, checking the tags on each rigid tube or hose and on hydraulic component connections.
5. When connecting the lines, slightly tighten the nuts at both ends, then tighten alternately.
6. After completing the line connections, run the engine at low speed and from the operator's seat activate each hydraulic component using the control levers. Make a further inspection, then add oil in the hydraulic reservoir if necessary.
7. Points such as end clearances, end plates, projections, steps and backlash that cannot be checked except during the assembly process, are to be checked and measured before passing on to the next step.



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