

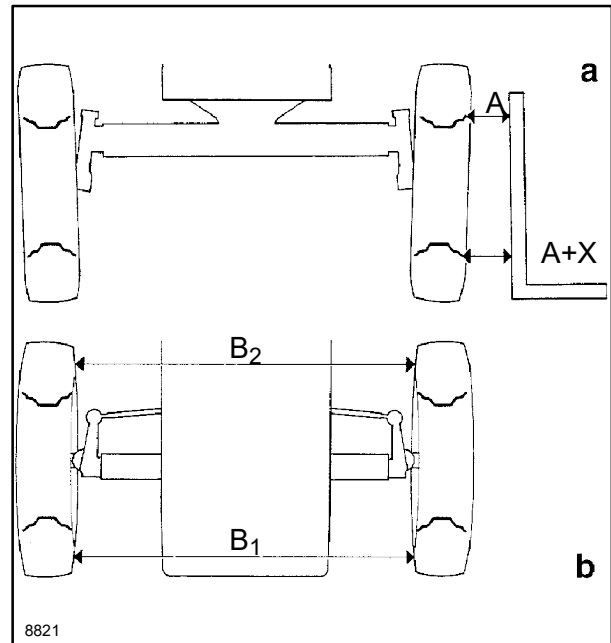
CHECKING THE ALIGNMENT OF THE FRONT WHEELS (Op. 44 511 80)

Check the alignment of the front wheels, bearing in mind that for driving in a straight line, the wheels must be at an angle of 2° to the vertical. This corresponds to a difference of approximately 15 mm (0.5906 in.) for 16 in. wheels, between the top edge of the rim (A) and bottom edge (A + X).

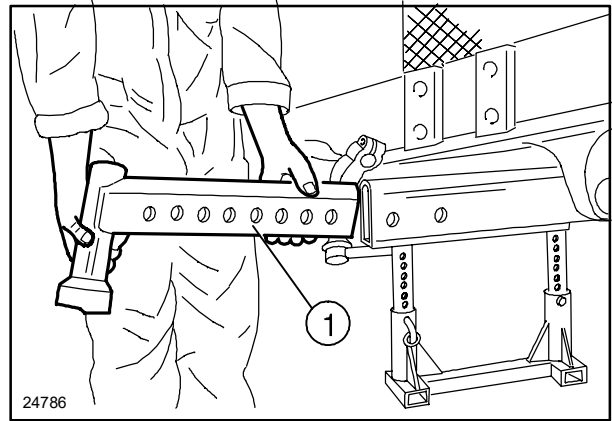
When driving in a straight line, the wheels must be parallel to the longitudinal axis of the tractor or have a maximum of 5 mm (0.1968 in.) toe-in at the front, measured between the wheel-rims.

To check the toe-in, proceed as follows:

1. Inflate the front tyres to a pressure of 2.5 bar (36.25 psi).
2. Position the steering wheel in the middle of its travel, with one spoke along the longitudinal axis of the tractor.
3. Check that the wheels are parallel with the longitudinal axis of the tractor.
4. With the tractor parked on a flat, level surface, measure the distance (B_1) between the **front** of the wheel rims, at hub height. Make a chalk mark on the rims where the measurement has taken place. Move the tractor forward to rotate both wheels exactly 180° and check the measurements again at the chalk marks B_2 (now positioned at the rear of the wheels). This will eliminate wheel rim run-out errors.
5. Correct the toe-in, if necessary, by adjustment of the end of the transverse steering tie-rod.

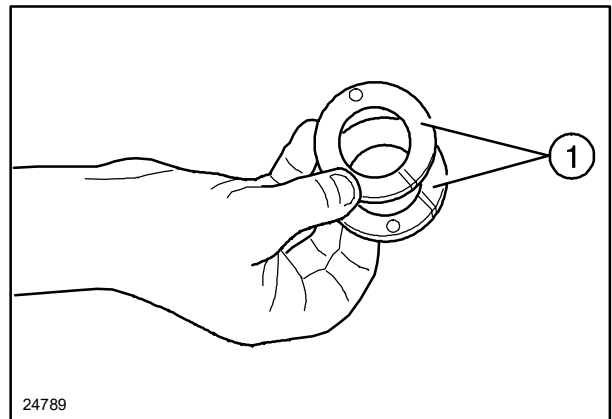


12. Fit the axle end (1).



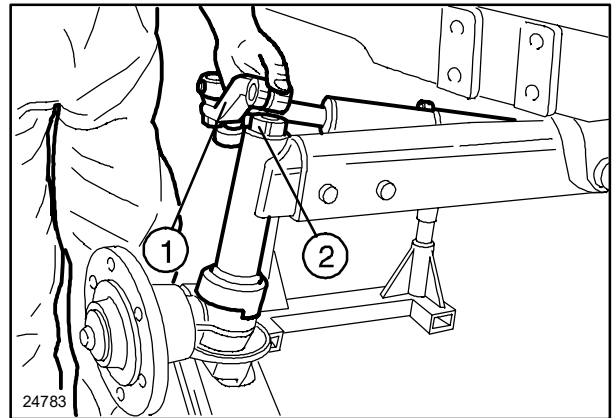
51

13. At the base of the stub axle refit the cap (9, fig. 2), then the levelling rings (1), inserting them on the stop grub screws (8 and 14, as shown in figure 2).



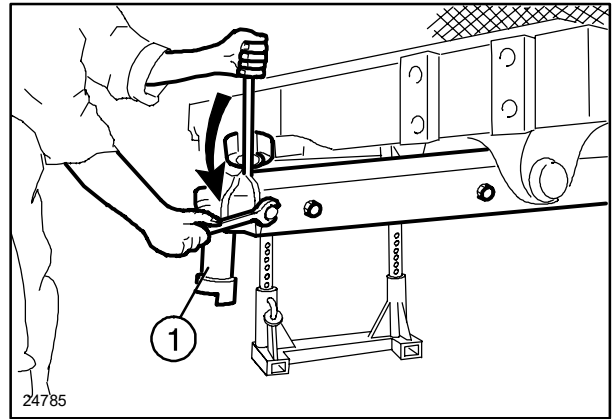
52

14. Fit the stub axle on the axle end.
15. Position the control lever (1) on the stub axle pin (2) and tighten the securing screw.



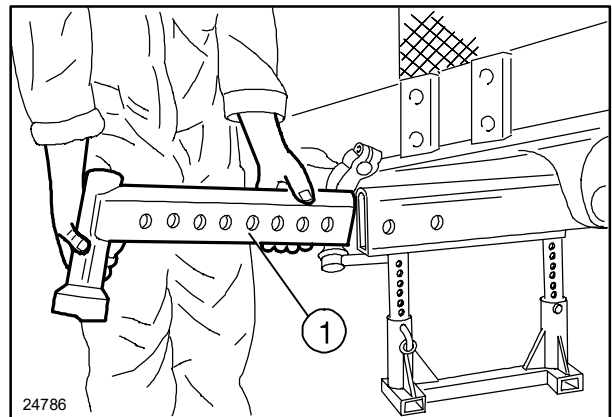
53

8. Unscrew the axle end securing bolts (1).



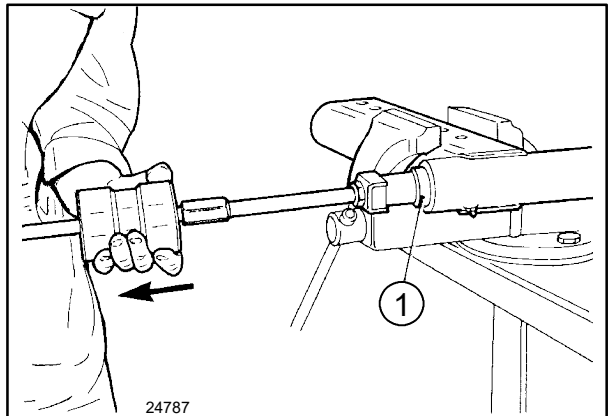
47

9. Remove the axle end (1).



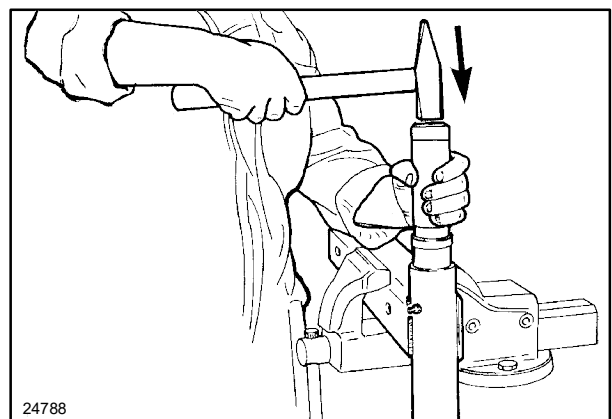
48

10. Clamp the end of the axle in a vice and using a slide hammer, take out the stub axle pin articulation bushing (1).



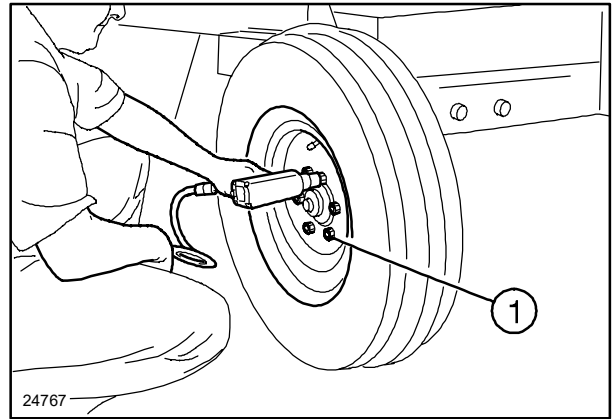
49

11. To refit the stub axle, follow the disassembly procedure in reverse order, using a suitable hammer to fit the new bushings on the axle ends.



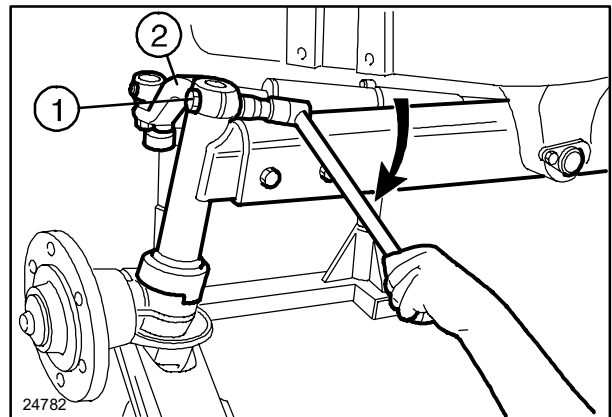
50

4. Remove the front wheel fixing bolts (1).



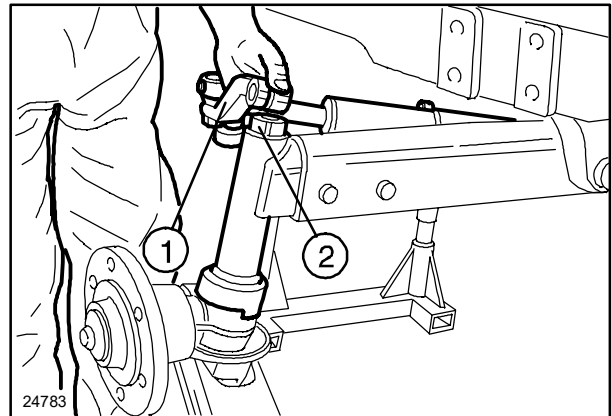
43

5. Place a hydraulic jack beneath the stub axle and unscrew the bolt (1) fixing the control lever (2) to the stub axle pin.



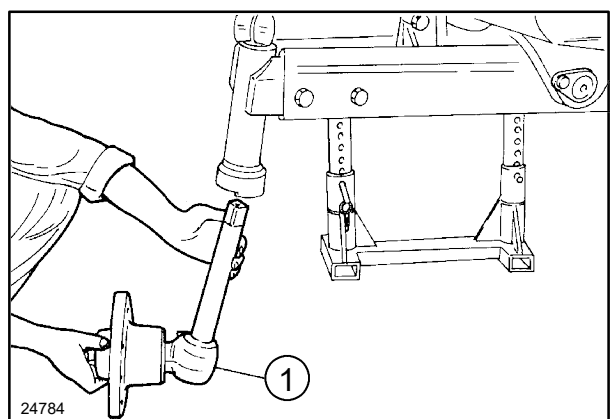
44

6. Withdraw the control lever (1) from the stub axle pin (2).



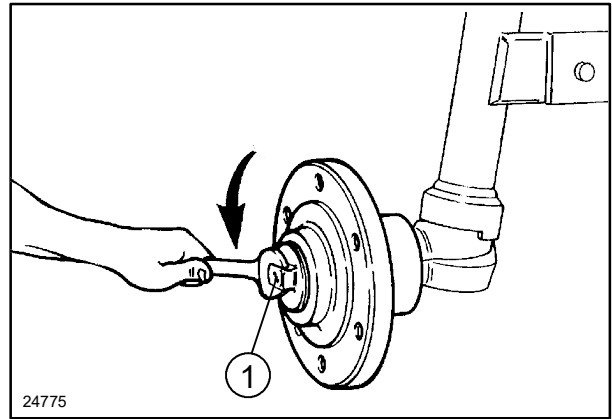
45

7. Lower the hydraulic jack and remove the stub axle (1).



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31. Install the wheel hub bearing cover (1).



40

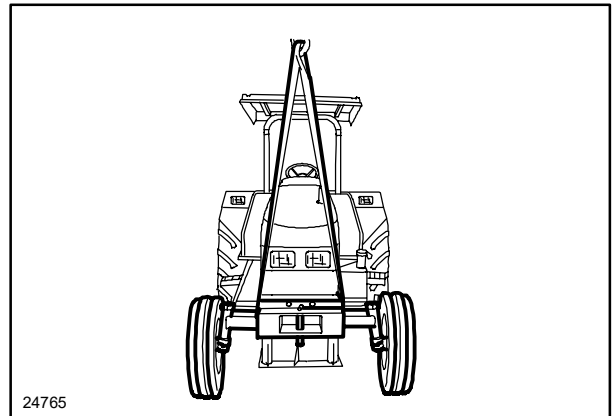
STUB AXLE Overhaul (Op. 44 101 46)

⚠ WARNING ⚠

Handle all parts with great care. Do not put your hands or fingers between one part and another. Wear the recommended safety clothing such as goggles, gloves and safety boots.

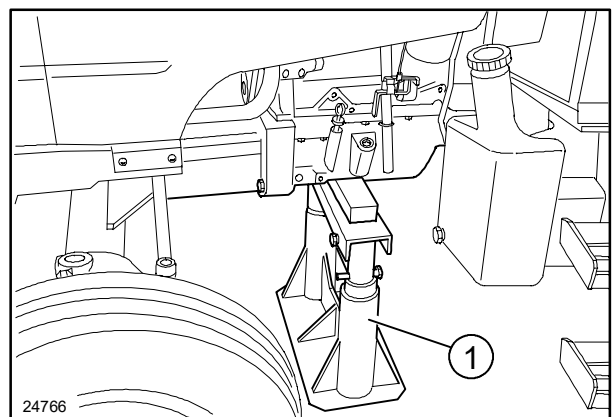
The stub axles can be removed with the axle installed on the tractor. Proceed as follows for each wheel.

1. Disconnect the negative cable of the battery and isolate it; chock the rear wheels.
2. Lift the front of the tractor.



41

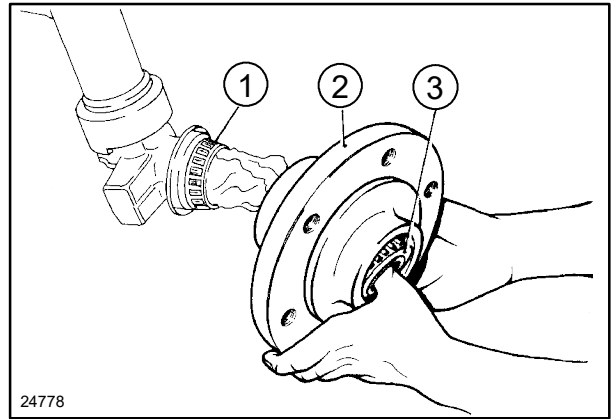
3. Place a stand (1) beneath the engine sump, inserting a block of wood between the engine sump and stand.



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24. Pack the wheel hub with **AKCELA NEXPLORE** grease.

25. Refit the wheel hub (2) complete with bearings (1 and 3).

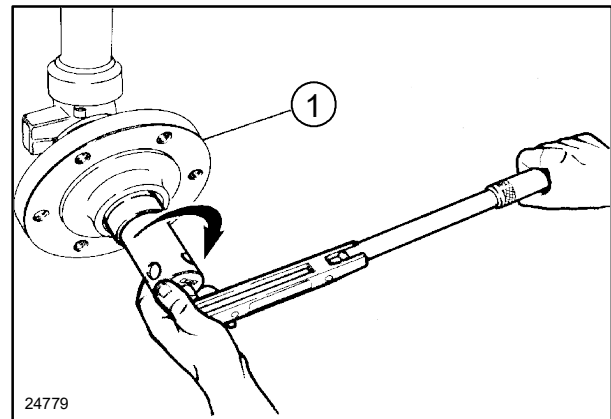


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26. Install a new nut and, using a torque wrench, tighten the nut to a torque of 196 Nm (265.7407 ft lb), turning the wheel hub (1) simultaneously in order to settle the bearings.

27. Loosen the nut slightly and tighten it again to a torque of 24 - 29 Nm (32.5397 - 39.3188 ft lb) while continuing to turn the wheel hub.

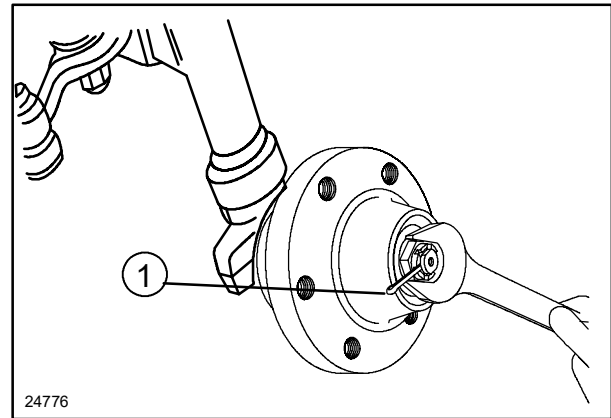
Note - the nut must be changed each time the wheel hub is fitted.



37

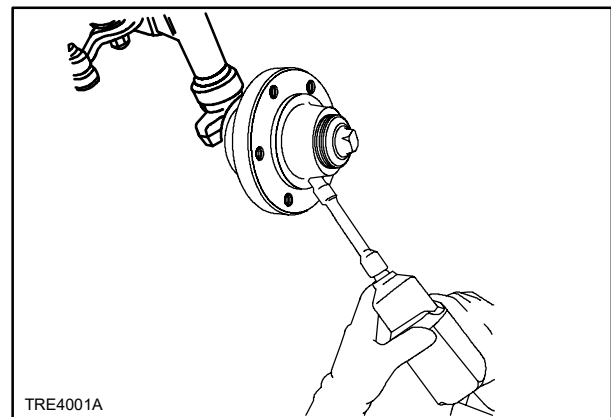
28. Check the rolling torque R, bearing in mind that:
 $R \leq 5.7864 \text{ ft lb}$

29. Install the split pin (1) securing the wheel hub bearing adjuster nut and bend it over the nut to prevent turning the nut.



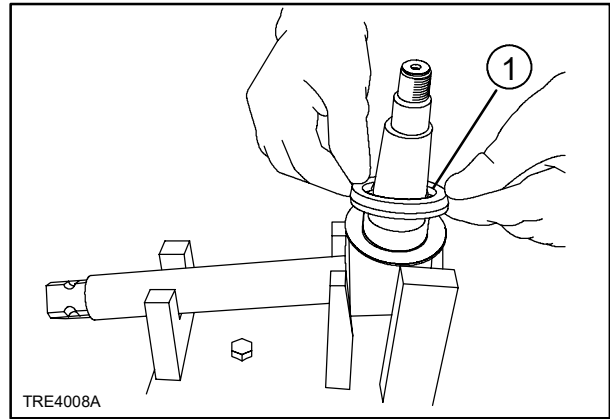
38

30. Install the grease nipple as shown in figure.



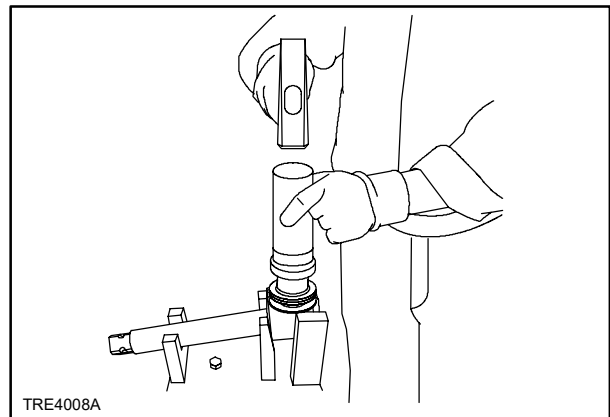
39

20. Install black (Twin lip) wheel bearing seal (1).



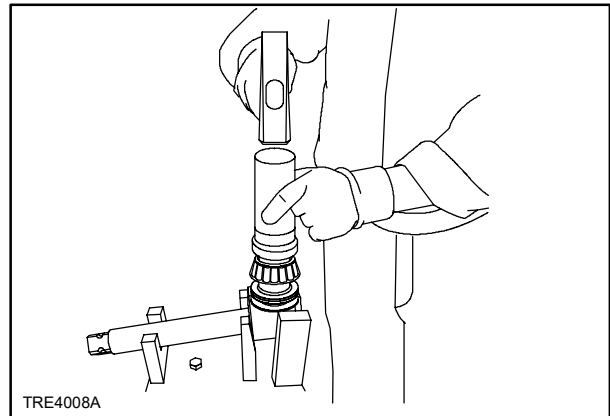
32

21. Install both black (Twin lip) wheel bearing seal and white back up ring together with a suitable installer and a hammer.



33

22. Install bearing with a suitable installer and a hammer.

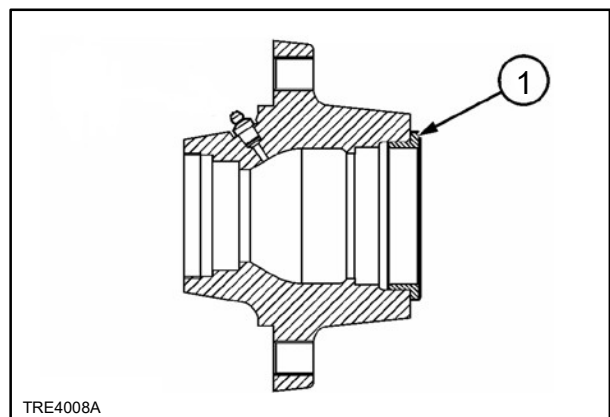


34

23. The wear sleeve (1) for the seal must be installed in the hub with a high strength bearing fit adhesive compound (loctite) to ensure the secure retention in the hub.

The hub and the wear sleeve must be thoroughly clean and dry. Apply high strength bearing fit compound. Press in the wear sleeve, using a suitable press.

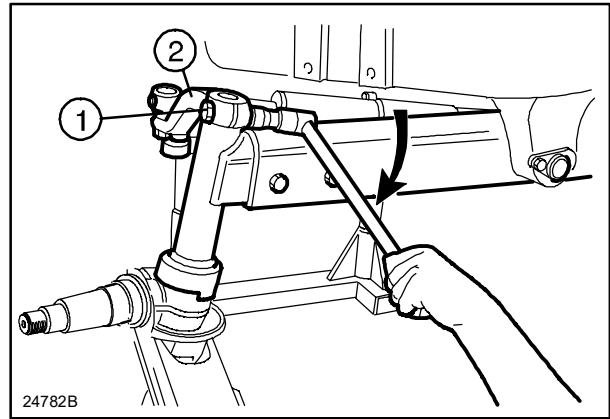
After installing the wear sleeve, the compound must be allowed to cure for a minimum of three hours prior to assembling the bearings and seals in the hub.



35

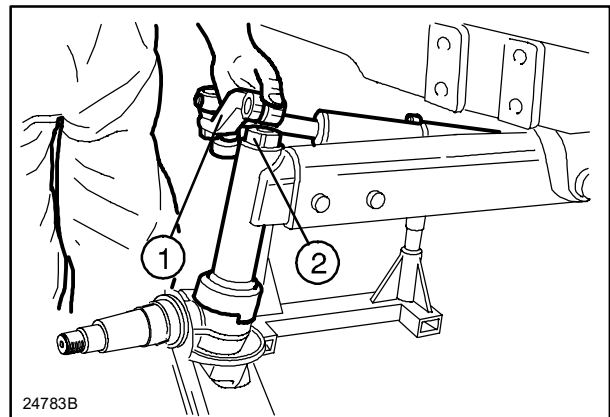
AXLE WHEEL HUB**Removal-Refitting (Op. 44 101 22)****Refitting:**

16. Place a hydraulic jack beneath the stub axle and unscrew the bolt (1) fixing the control lever (2) to the stub axle pin.



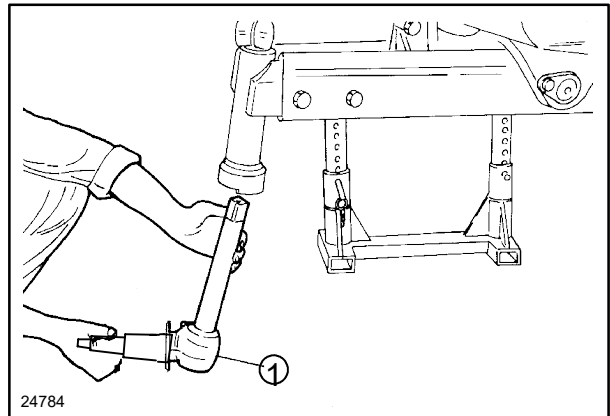
28

17. Withdraw the control lever (1) from the stub axle pin (2).



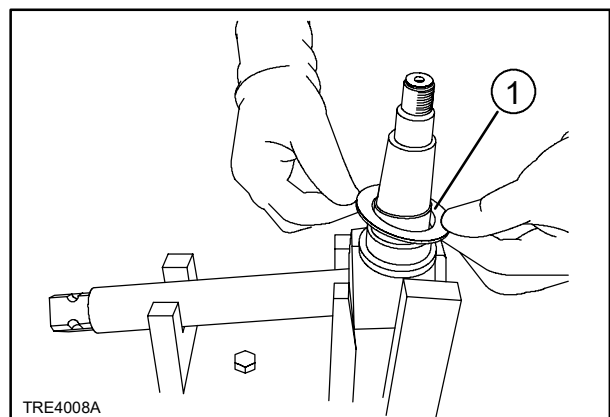
29

18. Lower the hydraulic jack and remove the stub axle (1).



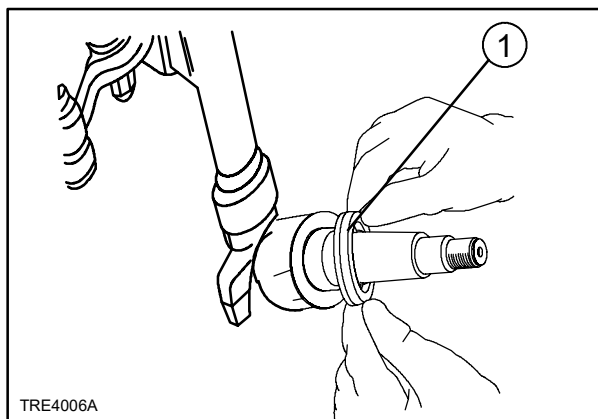
30

19. Put the stub axle on a suitable vice and install white back up ring (1).



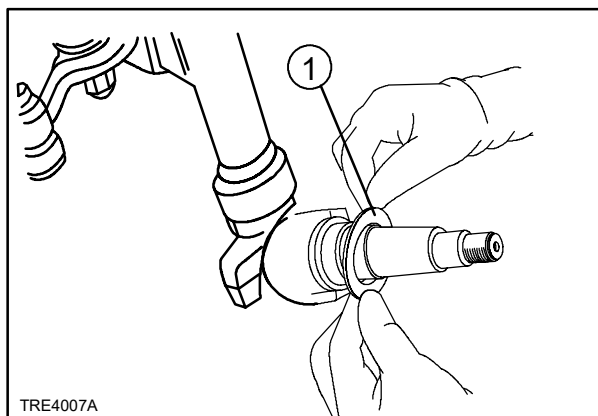
31

13. Remove black (Twin lip) wheel bearing seal (1).



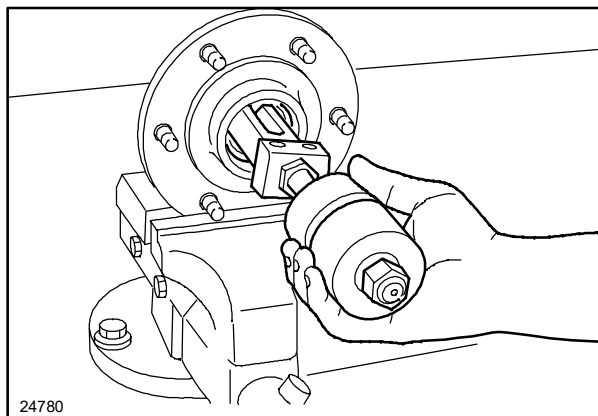
25

14. Remove white back up ring (1).



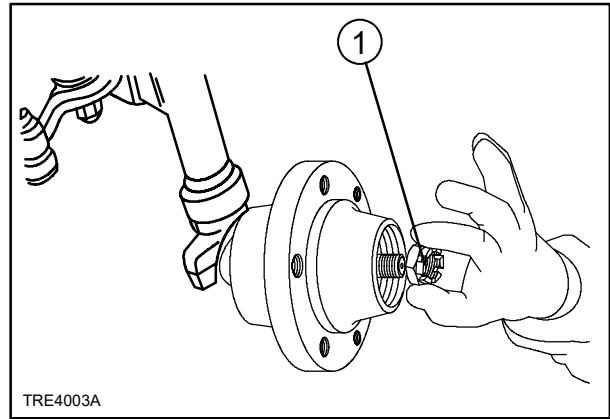
26

15. Renew worn bearings and seals, using suitable extractors and punches.



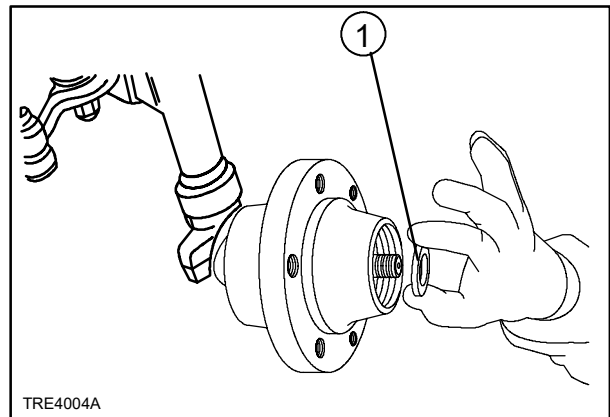
27

9. Remove the wheel hub bearing adjuster nut (1).



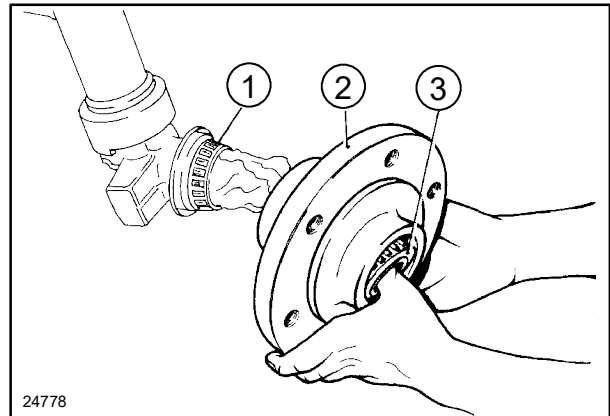
21

10. Remove the wheel hub bearing washer (1).



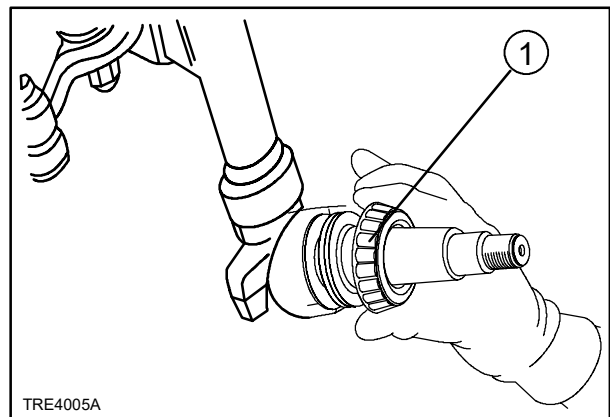
22

11. Remove the wheel hub (2) and take out the bearings (1 and 3).



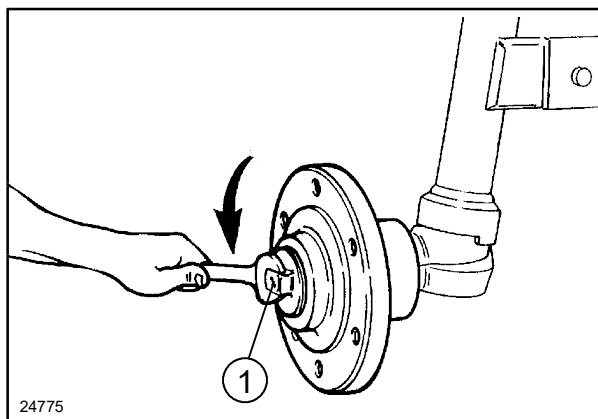
23

12. Remove the bearing (1).



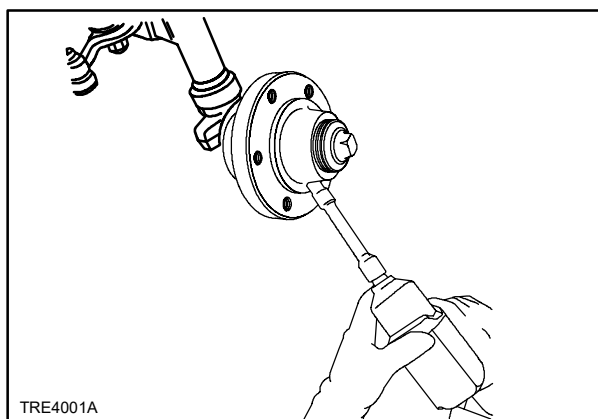
24

5. Remove the wheel hub bearing cover (1).



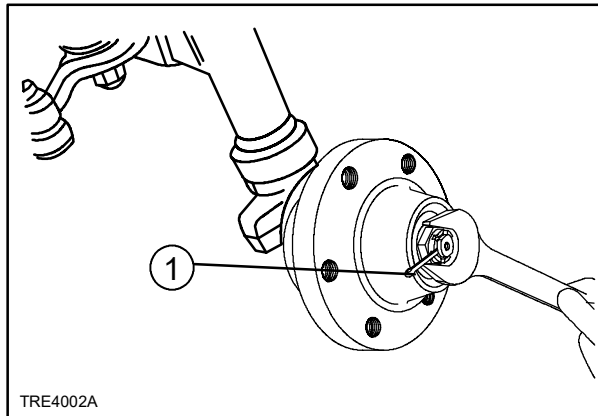
17

6. Remove the grease nipple as shown in figure.



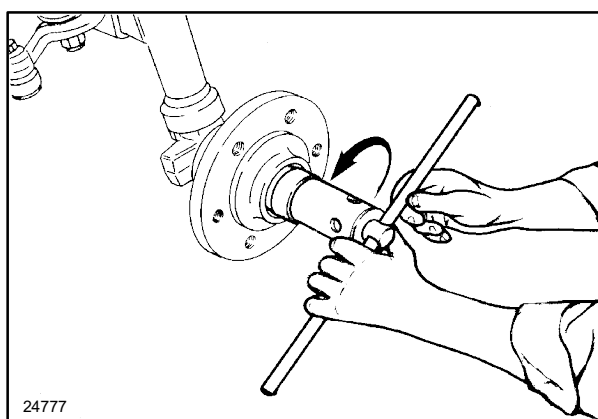
18

7. Remove the split pin (1) securing the wheel hub bearing adjuster nut.



19

8. Using a socket wrench, unscrew the wheel hub bearing adjuster nut.



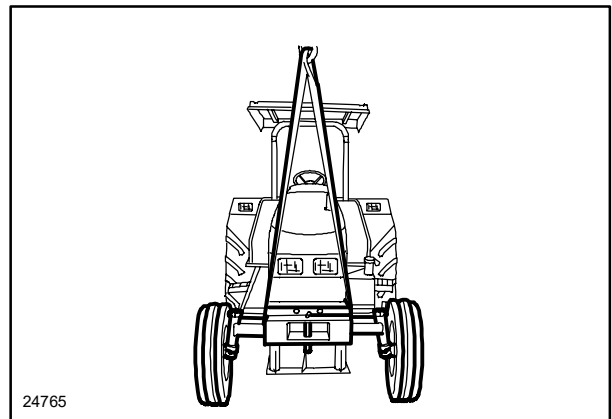
20

AXLE WHEEL HUB**Removal-Refitting (Op. 44 101 22)****Removal:****WARNING**

Handle all parts with great care. Do not put your hands or fingers between one part and another. Wear the recommended safety clothing such as goggles, gloves and safety boots.

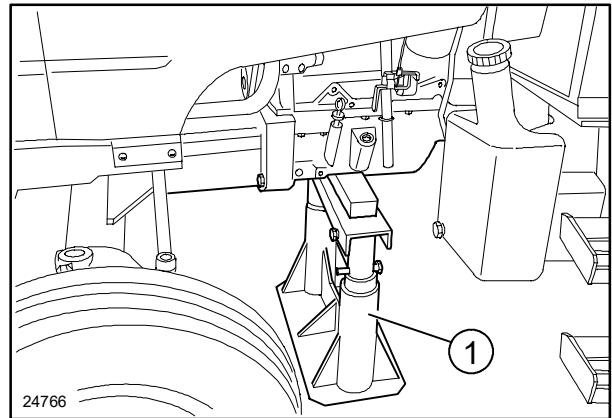
The wheel hubs can be removed with the axle installed on the tractor. Proceed as follows for each wheel.

1. Disconnect the negative cable of the battery and isolate it; chock the rear wheels.
2. Lift the front of the tractor.



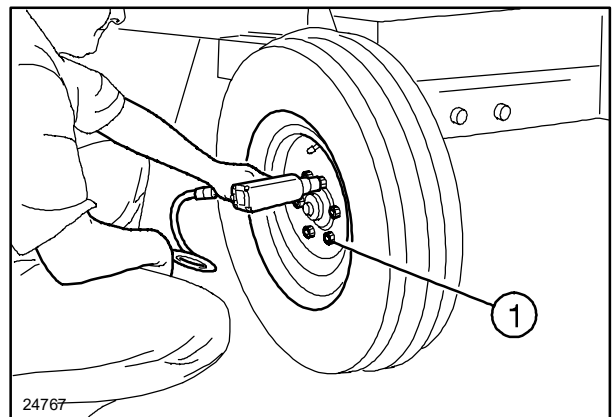
14

3. Place a stand (1) beneath the engine sump, inserting a block of wood between the engine sump and stand.



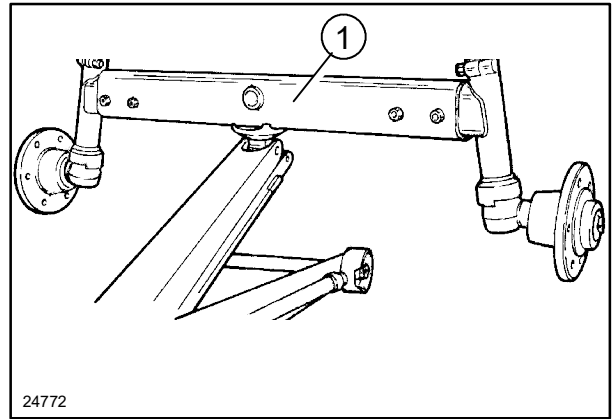
15

4. Remove the front wheel fixing bolts.



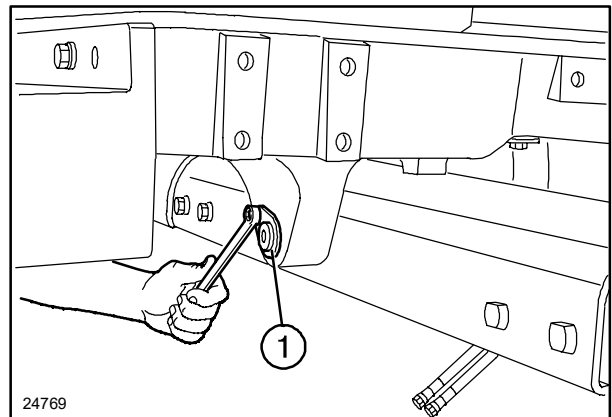
16

9. Remove the complete axle (1).



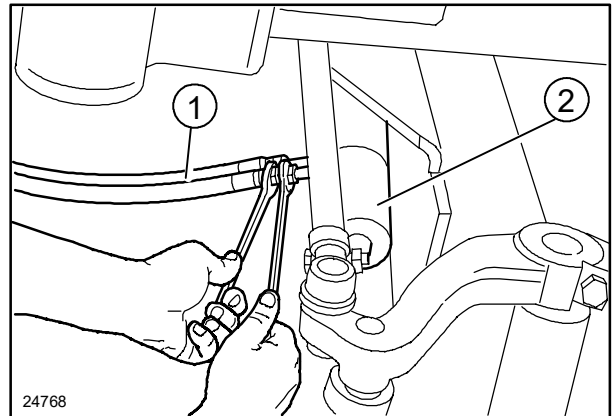
11

10. To refit the complete axle, follow the disassembly procedure in reverse order. Install the axle articulation pin (1) using a bronze punch.
11. Fit the screw fixing the axle articulation pin.



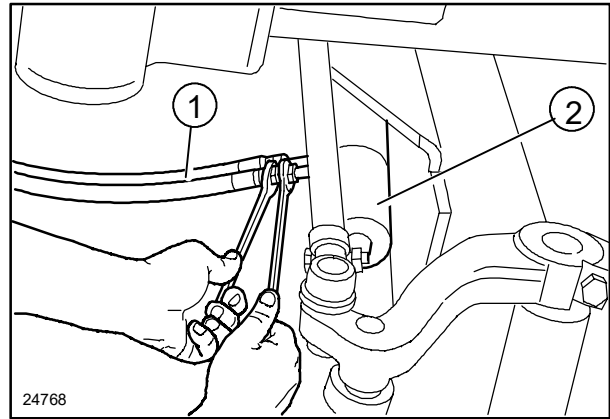
12

12. Reconnect the hoses (1) of the power steering cylinder (2).



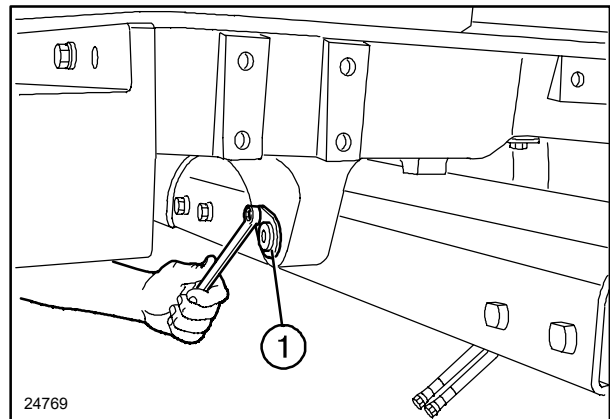
13

5. Disconnect the hoses (1) of the power steering cylinder (2).



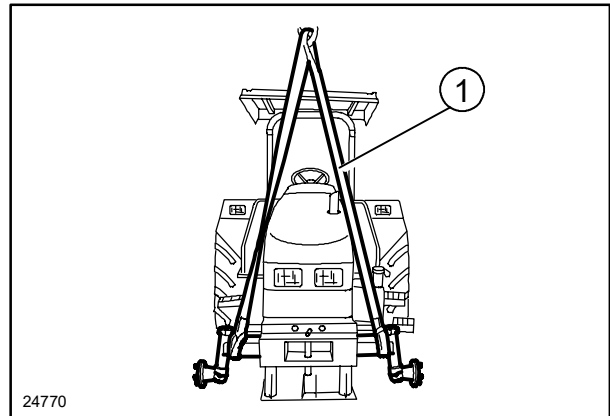
7

6. Remove the axle articulation pin securing bolt (1).



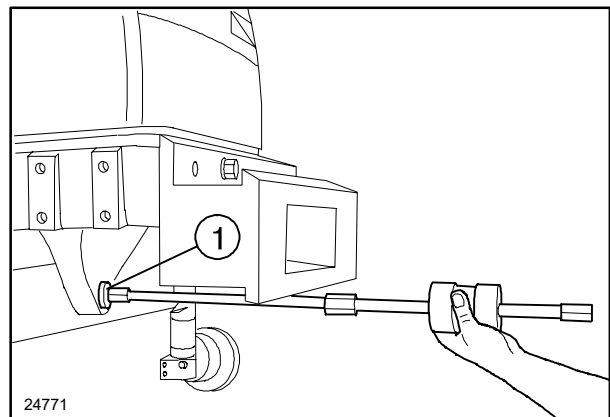
8

7. Secure the axle by means of a sling (1).



9

8. Take out the axle articulation pin (1) using slide hammer **380000549**, equipped with adaptor **380000541** and extension.



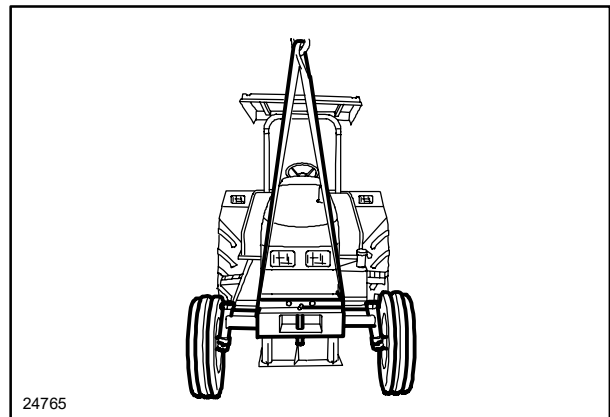
10

FRONT AXLE**Removal-Refitting (Op. 44 101 30)****DANGER**

Lift and handle all heavy parts with lifting equipment of suitable capacity. Make certain that the units or parts are supported by appropriate slings and hooks. Ensure that there are no persons in the vicinity of the load to be lifted.

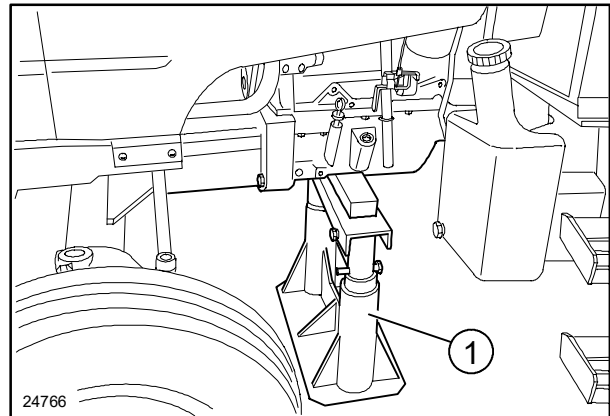
To remove the complete axle from the tractor, proceed as follows:

1. Disconnect the negative cable from the battery and isolate it; chock the rear wheels.
2. Lift the front of the tractor.



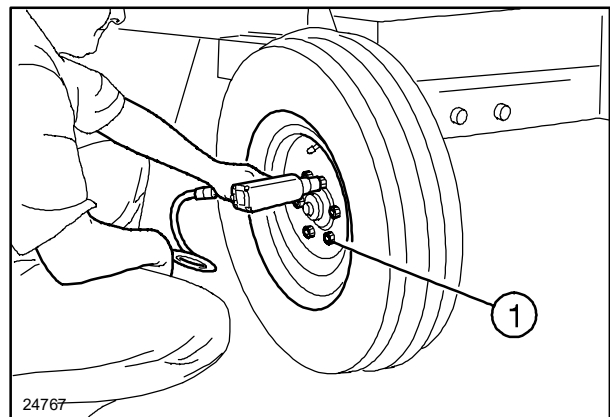
4

3. Place a stand (1) beneath the engine sump, inserting a block of wood between the engine sump and stand.



5

4. Remove the front wheel fixing bolts (1).



6

TORQUE SETTINGS

PART	Thread	Torque setting	
		Nm	ft lb
Front axle			
Bolt securing axle to engine (5)	M 18 x 1,5	353	478.6045
Bolt securing axle articulation pin (9)	M 10 x 1,25	49	66.4352
Nut for axle end fixing screw	M 16 x 1,5	211	155.6256
Nut securing LH and RH levers on the stub axles (4)	M 16 x 1,5	294	216.8433
Nut securing ball end for transverse steering tie rod	M 14 x 1,5	118	87.0323
Nut securing transverse steering tie rod	M 20 x 1	176	129.8109
Screw securing front wheel to hub (3)	M 18 x 1,5	314	231.5945

EQUIPMENT

WARNING: The operations described in this section must be performed only with the **ESSENTIAL** equipment marked with (X).

To operate safely and achieve best results, while saving time and effort, essential equipment must be used in conjunction with the special tools recommended below and tools which you must make yourself and for which you will find the design in this manual.

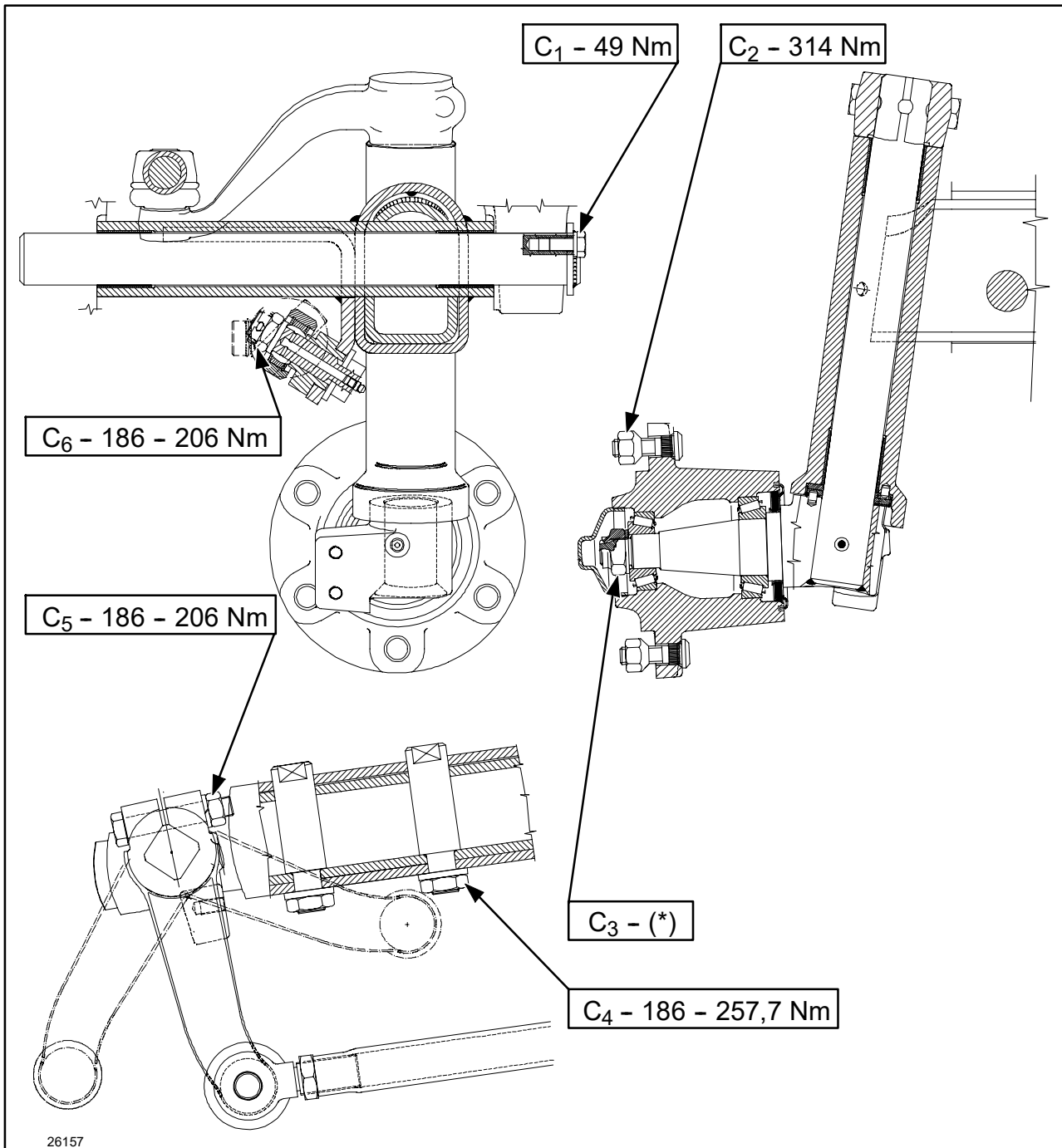
List of special tools necessary for the various operations described in this section.

X 380000541 Adaptor (M12x1.25) for axle articulation pin (use with slide hammer **380000549**)

380000237 Wheel lifting hook.

FAULT DIAGNOSIS

Problem	Possible cause	Corrective action
Abnormal wear of tyres.	1. Incorrect tyre pressure. 2. Incorrect toe-in of front wheels.	Inflate the tyres to the correct pressure, referring to the pressures recommended in the Use and Maintenance handbook, and more especially, to the pressures recommended by the manufacturer of the tyres fitted. Correct the toe-in.
Poor stability of tractor.	1. Incorrect tyre pressure.	Inflate the tyres correctly as detailed above.

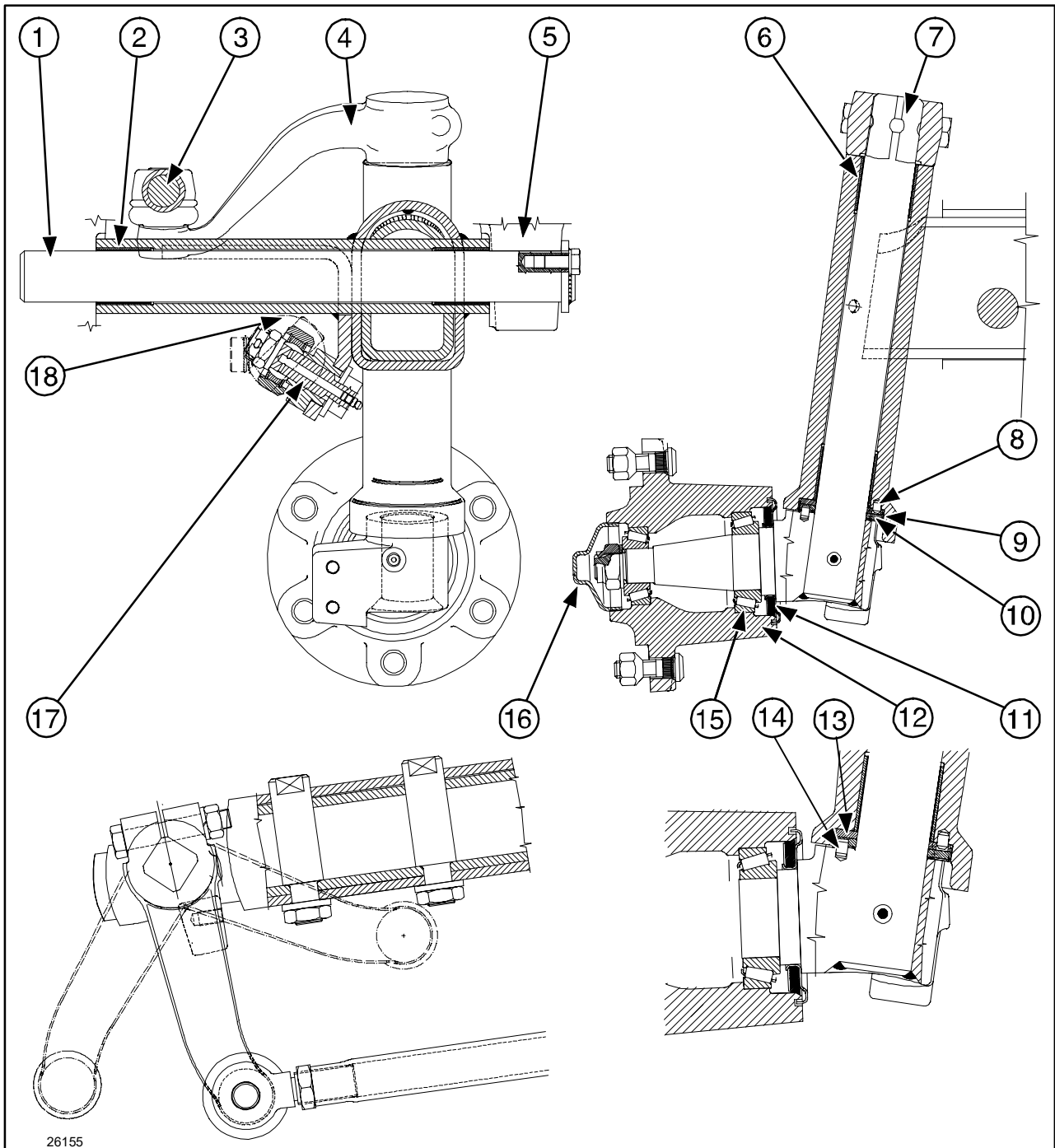


Front axle torque settings

- C1 Axle articulation pin fixing screw
- C2 Nut securing disc to wheel hub
- C3 Bearing adjuster nut
- C4 Axle end fixing nut

- C5 Nut for stub axle pin control lever fixing screw
- C6 Nut securing cylinder to fulcrum pin

* See operations 12 and 13, page 15.



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2

Sections of stub axle, articulation pin and front axle

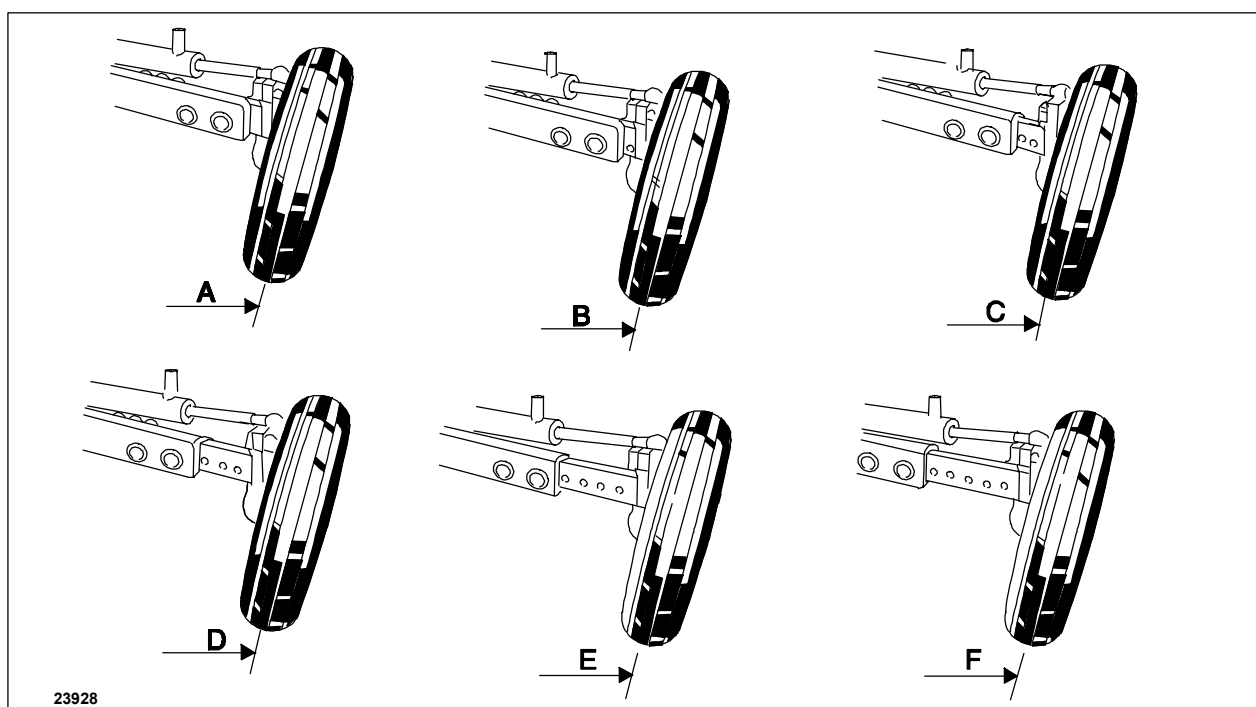
- | | |
|---------------------------------|--|
| 1. Axle articulation pin | 10. Bronze thrust ring |
| 2. Axle articulation bushing | 11. Seal |
| 3. Steering transverse tie rod | 12. Wheel hub |
| 4. Stub axle control lever | 13. Steel thrust washer |
| 5. Axle support | 14. Grub screw for cap (11) and thrust washer (12) |
| 6. Bushing | 15. Taper roller bearing for wheel |
| 7. Stub axle pin | 16. Bearing cover for greasing and adjustment |
| 8. Support ring grub screw (13) | 17. Cylinder fulcrum pin (18) |
| 9. Cap | 18. Power steering cylinder installation position |

MAIN DATA

(cont.)

MODEL	Tyres	Standard wheel tracks mm (in.)	Alternative track settings mm (in.)					
			A	B	C	D	E	F
JX60 JX70	7.50-16 in.	1500 (59.0550)	1400 (55.1180)	1500 (59.0550)	1600 (62.9920)	1700 (66.9290)	1800 (70.8660)	1900 (74.8030)
JX80 JX90 JX95	7.50-18 in.	1510 (59.4487)	1410 (55.5117)	1510 (59.4487)	1610 (63.3857)	1710 (67.3227)	1810 (71.2597)	1910 (75.1967)

DIAGRAM OF 2WD FRONT WHEEL TRACKS



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SECTION 44 - FRONT AXLE AND WHEELS

Chapter 1 - Front axle and wheels

CONTENTS

Section	Description	Page
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	Torque settings	4
	Equipment - Fault diagnosis	5
44 101 30	Removal-Refitting-Overhaul	6
44 101 22	Wheel hub disassembly-assembly	9
44 101 46	Stub axle overhaul	16
44 101 80	Checking wheel alignment	20

PRINCIPAL DATA

Type	inverted U-section, telescopic and oscillating at centre	
Wheel angle	2°, corresponding to 15 mm (0.5906 in.) for 16 in. wheels	
Toe-in mm (in.)	0 - 5 (0 - 0.1969)	
Stub axle articulation		
Diameter of stub axle pin (7, page 3) at bushing mm (in.)	37.961 - 38.000 (1.4945 - 1.4961)	
Bore of installed bushings (6) mm (in.)	38.050 - 38.140 (*) (1.4980 - 1.5016)	
Clearance between stub axle pin and relative bushings mm (in.)	0.050 - 0.179 (0.0020 - 0.0070)	
Axle articulation		
Diameter of axle articulation pin (1, page 3) mm (in.)	37.961 - 38.000 (1.4945 - 1.4961)	
Bore of installed bushings (6) mm (in.)	38.050 - 38.140 (*) (1.4980 - 1.5016)	
Clearance between stub axle pin and bushing mm (in.)	0.050 - 0.179 (0.0020 - 0.0070)	

(*) Value to be obtained without refacing.