



Service Manual

Serie 17 Country

Tigre Country 3700

Tigre Country 4300





Introduction

This shop manual on the series 17 Tigre Country has been written by Antonio CARRARO Spa to help service the tractor properly and in the shortest possible time. It contains all the general information on tractors, with particular regard to adjustment operations, detachment and attachment, disassembly and assembly instructions.

To improve comprehension, this manual has been supplied with a great number of illustrations showing the consecutive phases of detachment/attachment, disassembly/assembly and adjustment, and also explaining the use of the tools and gauging instruments.

Many drawings and diagrams allow a full view of the tractor components and their operation, providing the servicing technician with a good reference on how to proceed.

Safety and accident prevention

Most accidents and injuries occurring in shops are caused by failure to comply with a few simple and basic safety and accident prevention codes.

The observance of basic safety and accident prevention regulations does not hinder production processes in shops; on the contrary, it improves personnel and machine performance, to the advantage of individual workers and the entire community.

Data contained in this manual is merely indicative and may not be current due to modifications introduced by the Manufacturer at any time, for technical or commercial reasons, or in order to comply with local laws.

General safety and accident prevention standards



Observe the triangular danger sign found in this manual: it warns of situations or a set of circumstances which may be harmful to people and property.

General information

- When performing operations, follow all the safety and accident prevention procedures carefully.
- Do not wear loose clothing, wrist watches, rings, etc. We recommend you wear proper protective clothing such as gloves, goggles and safety shoes.
- Use the proper tools, not your hands, to align holes and slots.
- To lift, use only lifting devices of adequate capacity.
- Dispose of oils in compliance with environmental regulations.
Do not pollute the environment.
- Do not use gasoline, diesel oil or other flammable liquids to degrease or clean parts; use non-toxic solvents available on the market.
- Wear protective gloves to handle metal cables or chains.
- Handle hydraulic oil carefully because it is poisonous and corrodes paint.
- Do not perform any servicing of the tractor while the motor is running, unless otherwise indicated.
- Watch out for shearing.
- Watch out for crushing.
- Watch out for tangling.
- Watch out for collisions.
- Watch out for high pressure spraying of fluids.
- Always disconnect the battery before attempting any servicing.
- Do not operate the tractor in unventilated areas.
- Do not pollute the environment with spent fluids, used filter cartridges, oils, lubricating greases and products used to clean them. The collection of waste oils must be performed by authorized centers.
Do not pollute the environment.
- Operations requiring special care may be dangerous for the operator if not correctly performed.



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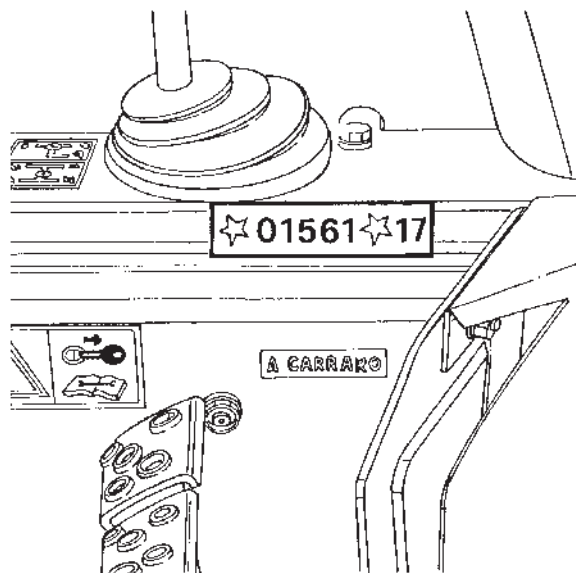


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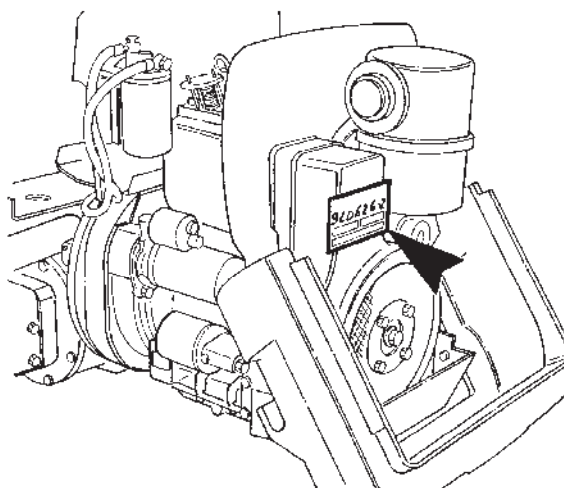


IDENTIFICATION DATA

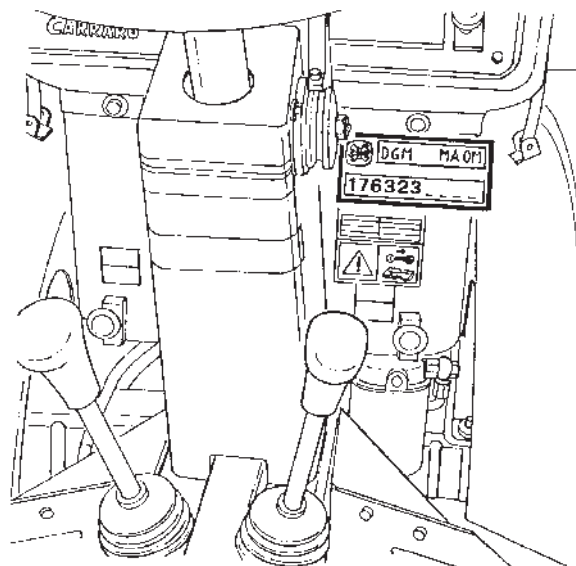
Location of identification data



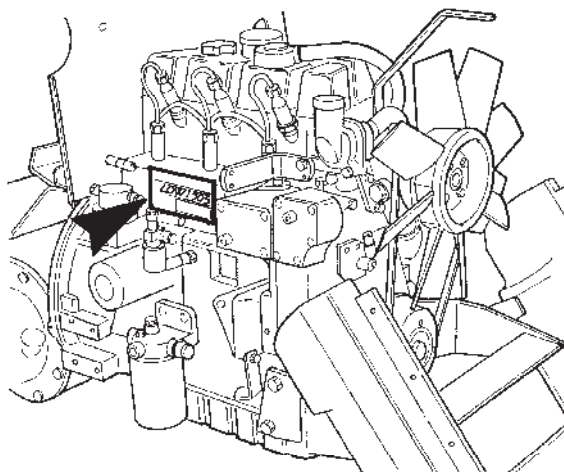
1 - Chassis type and number.



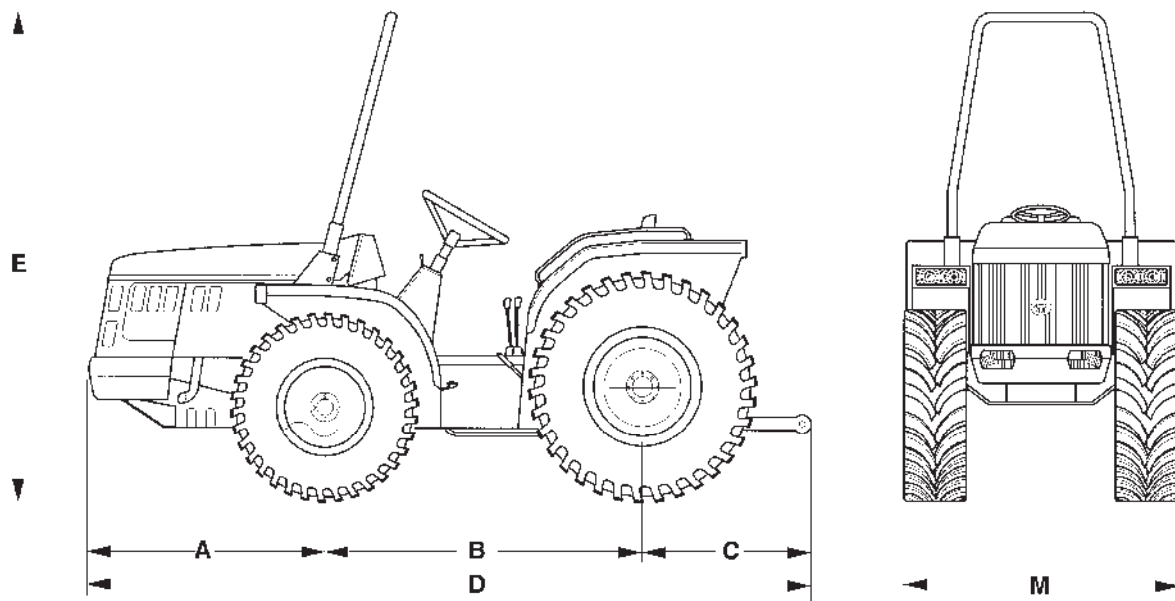
3 - 9 LD 626-2 engine type and identification number.



2 - Identification data plate.



4 - LDW 1503 CHD engine type and identification number.

**MAIN DIMENSIONS**

Tigre Country main dimensions (in mm).

	TIGRE COUNTRY	
	3700	4300
A	800	925
B	1240	1240
C	755	755
D	2795	2920
E	2010	2010
M	1110 ÷ 1430	1110 ÷ 1430

WEIGHTS**Weight of tractor in running order with full tank and driver**

Type of tractor	Total weight (kg)	Weight of front axle (Kg)	Weight of rear axle (Kg)	Standard wheels		
				Front	Rear	
Country 3700	1045	615	430	7.50 - 16"	9.5 R 20	300/70 R 20
Country 4300	1115	675	440	7.50 - 16"	9.5 R 20	300/70 R 20

**ENGINE FEATURES****Lombardini**

Type of engine		9 LD 626-2	LDW 1503 CHD
Cylinders	No	2	3
Bore	mm	95	88
Stroke	mm	88	85
Displacement	cm ³	1248	1551
RPM	Max	3000	3000
Power	KW/HP	22/30	26.5/36
Max. torque	Nm (rpm)	80 (2200)	99 (2100)
Cooling		Air	Water

DRIVING TORQUES**SPECIAL SCREWS**

Description	Pitch diameter mm	Driving torque	
		Nm	Kgm
Differential carrier ring gear fastening screws	M10 x 1.25	83	8.5
Rear wheel nuts or fastening screws	M16 x 1.5	176	18
Front axle shaft fastening nuts	M18 x 1.5	88	9
Coupling bar ball articulation fastening nuts	M14 x 1.5	140	14.2

UNIONS

Rated diameter	Hex wrench (mm)	Driving torque	
		Nm	Kgm
M 14x1.5	17-19	44	4.5
M 18x1.5	24-27	59	6
M 22x1.5	27	59	6
Gaz 1/2"	27	59	6

**DRIVING TORQUES**

Indicative values for maximum driving torques in Nm - Kgm

Expected friction factor = 0.14

NAME	RESISTANCE CLASS					
						
Diameter x p (mm)	Nm	Kgm	Nm	Kgm	Nm	Kgm
M 5 x 0.8	5.9	0.6	7.84	0.8	9.9	1.01
M 6 x 1	10.1	1.03	14.3	1.46	17.2	1.75
M 8 x 1	25.5	2.6	36.3	3.7	43.1	4.4
M 8 x 1.25	24.3	2.48	34.2	3.49	41.1	4.19
M 10 x 1.25	50.9	5.2	71.5	7.3	85.3	8.7
M 10 x 1.5	48.7	4.97	68.6	7	82	8.37
M 12 x 1.5	87.2	8.9	122.5	12.5	147	15
M 12 x 1.75	82.9	8.46	116.6	11.9	140.1	14.3
M 14 x 1.5	140.1	14.30	196	20	235.2	24
M 14 x 2	131.9	13.46	195.2	19.92	222.5	22.70
M 16 x 1.5	210.7	21.5	294	30	352.8	36
M 16 x 2	199.9	20.4	282.2	28.80	339.1	34.6
M 18 x 1.5	303.8	31	421.4	43	509.6	52



LUBRICANTS

- ESSO UNIFARM 15 W 40 oil
Front transmission case
Engine
- ESSO GX80 W 90 oil
Rear gearbox
- Rear gearbox
- ESSO GP GREASE
Grease nipples
- FIAT ZETA 2 GREASE
Splined sections
Axle shaft joints
- TECNOLUBE POLIMER 400 GREASE
Bushings in general
Roller cages
- ESSO BEACON 2 GREASE
Accelerator control cables - locking

GISTEDA-FLU' ANTIFREEZE

Use percentage:

- 18% GISTEDA FLU' for temperatures up to 8° C
- 28% GISTEDA FLU' for temperatures up to 13° C
- 36% GISTEDA FLU' for temperatures up to 20° C
- 40% GISTEDA FLU' for temperatures up to 24° C
- 50% GISTEDA FLU' for temperatures up to 38° C

THREADLOCKERS AND SEALANTS

For the assembly use the products indicated below or others having equivalent characteristics.

ANGST-PFISTER RTV 1473 BLACK sealant

Seals - gaskets
Speed gear cover
Caps - front axles - rear axles
Flanges - covers

LOCTITE 242

Medium strength - sealing of threaded parts in general
Anchoring dowels - joints

LOCTITE 270

High resistance fastening, locking and sealing of stud bolts, nuts and screws

LOCTITE 510

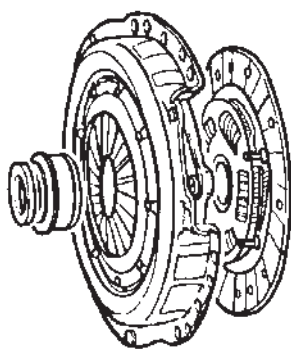
flange sealant
unthreaded plugs

Better - AREXONS

Liquid sealant
Threaded plugs
Water temperature indicators on engine radiator



Clutch plate and mechanism



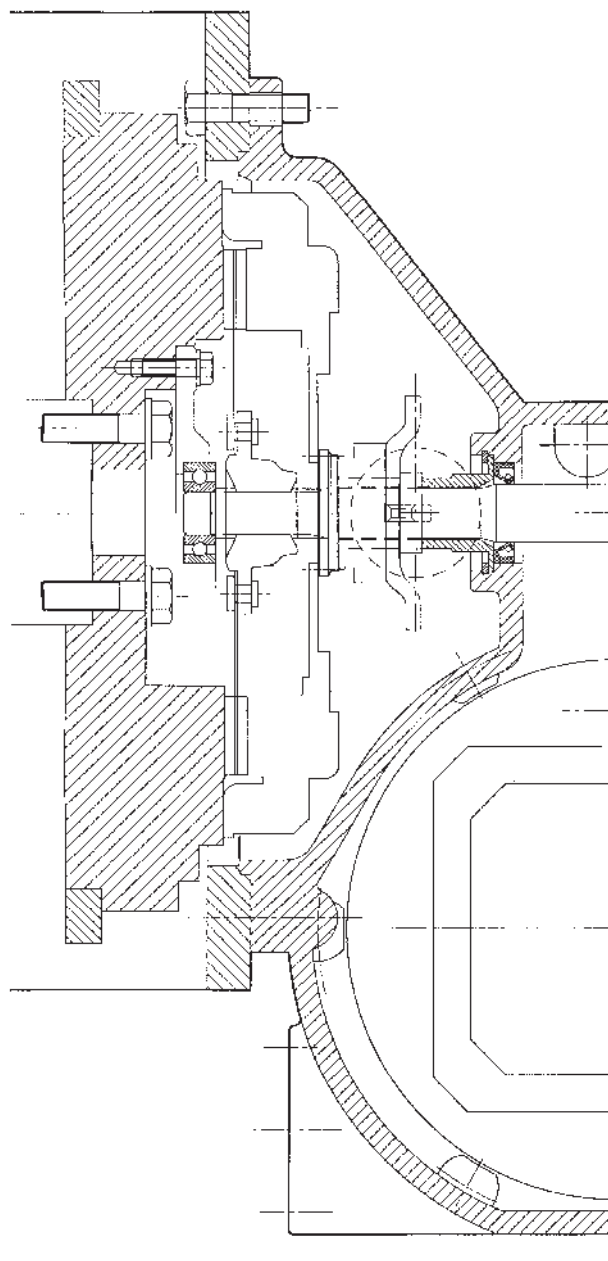
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Description

Single dry-plate clutch with diaphragm spring.

Features mechanical clutch release

Maintenance consists simply of the adjustment and periodic lubrication of the clutch release controls.



- Engine clutch assembly

Technical features

Tractor type		3700-4300
Clutch plate	code name	40211010 VALEO 176676 AD
Clutch mechanism	code name	40210004 VALEO 742906 FD
Thrust bearing	code	5073504
Plate diameter	mm	181,5
Rated thickness	mm	8,6 ± 0,1
Admitted thickness	mm	6,0
Type of friction material		VALEO F 202

**CLUTCH**

Troubleshooting

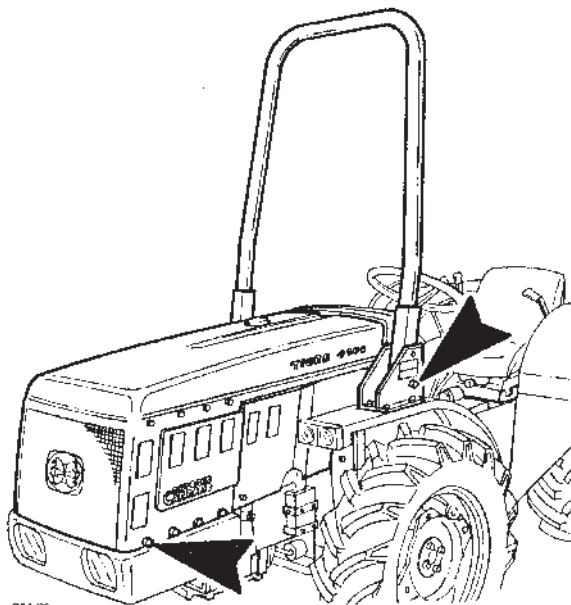
Problem	Probable cause	Checks	Remedy
Clutch slips	Lubricant residues on clutch plate	Check O-rings on gearbox main drive shaft	Use gasoline to clean the parts in contact with clutch gaskets and replace seals. Replace the plate
	Worn clutch plate	Check thickness of clutch plate and condition of clutch mechanism	Replace plate and mechanism
Clutch does not release while engine is running, the gears do not engage smoothly	Faulty clutch mechanism	Check mechanical controls, cables, sheaths	Adjust the clutch pedal stroke. Replace mechanism and plate
The clutch jerks	Deformed plate surfaces	Check plate efficiency and check for burns on surfaces in contact with plate. (Engine flywheel and mechanism)	Replace clutch plate and mechanism and recondition the engine flywheel
Noisy clutch	Faulty clutch plate or worn parts in clutch mechanism	Check clutch plate flexible coupling springs	Replace plate
Hard clutch pedal	Hardening of external controls. Hardening of pedal hinge	Check hinges and lubricate	Lubricate the controls



Disconnecting and connecting the clutch

- To access the clutch the whole engine must be separated from the front transmission case.

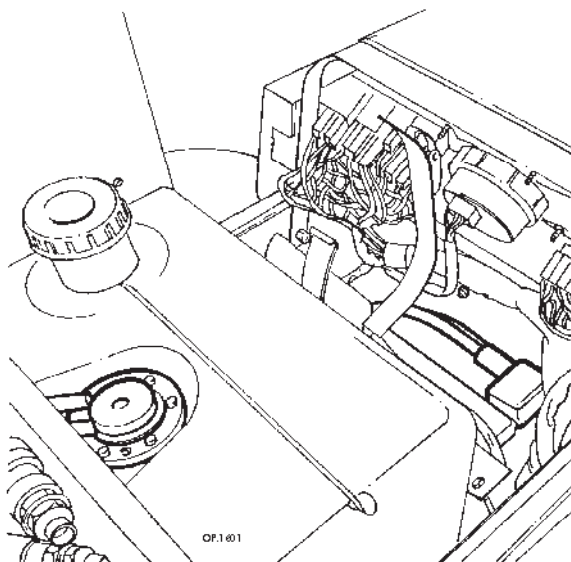
Proceed as follows:



OP.1.600

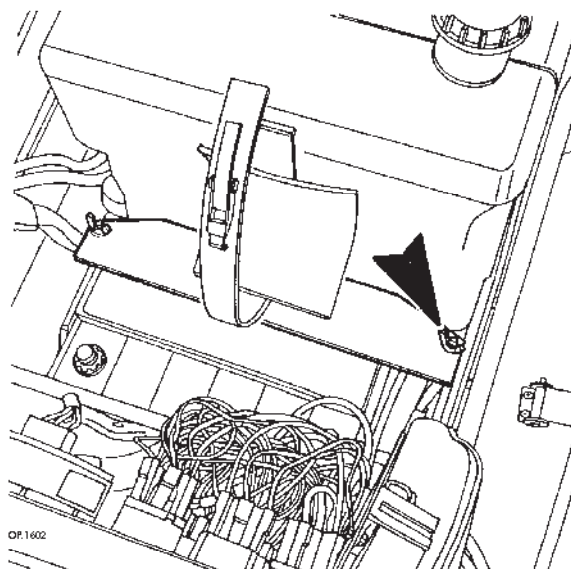
1 - Loosen the screws and remove the protection arch, the front body side panels and the hood.

2 - Remove the air filter (only on 4300).



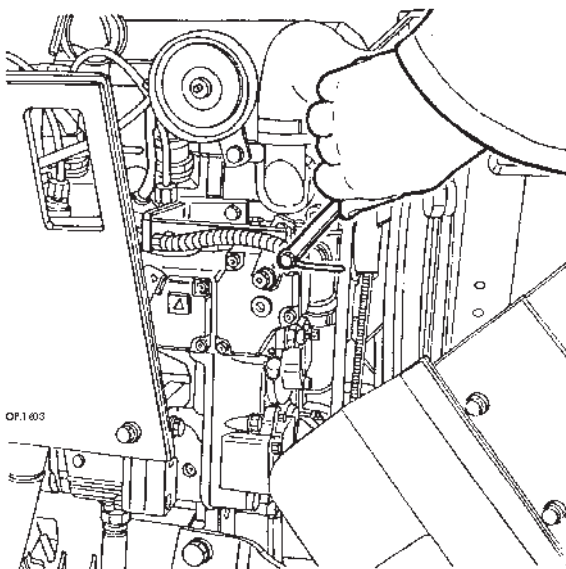
OP.1.601

3 - Disconnect the battery cables, the electrical connections for the fuel reserve level indicator and the complete dashboard.



OP.1.602

4 - Loosen the air filter bracket screws and remove the battery.



OP.1.603

5 - Loosen the accelerator cable terminals and pull them out partially.

6 - Loosen the screws and remove the tool box.

7 - Disconnect the electrical connections for the running lights and front turn indicator lights.

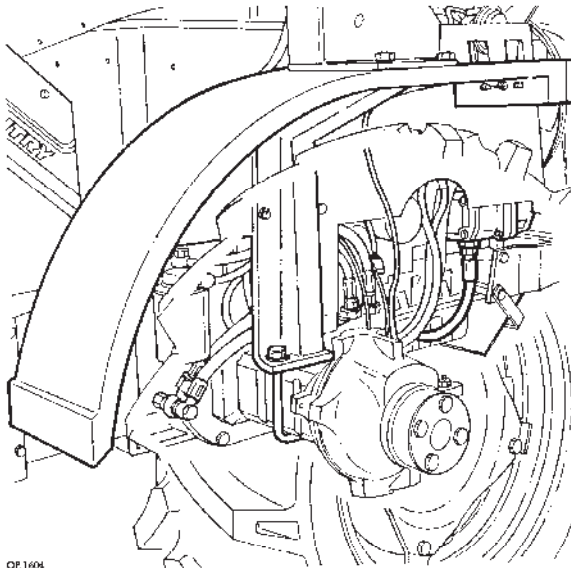


WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

- Wear proper protective clothing such as gloves and safety shoes.

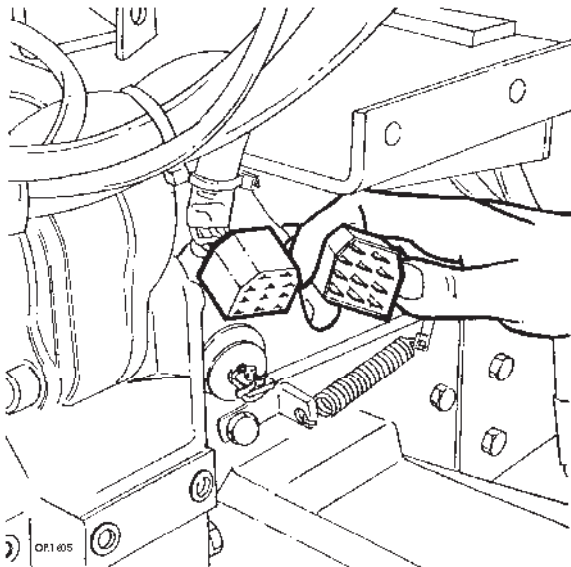


OP.1604

8 - Remove the pump delivery tube and remove the fenders.

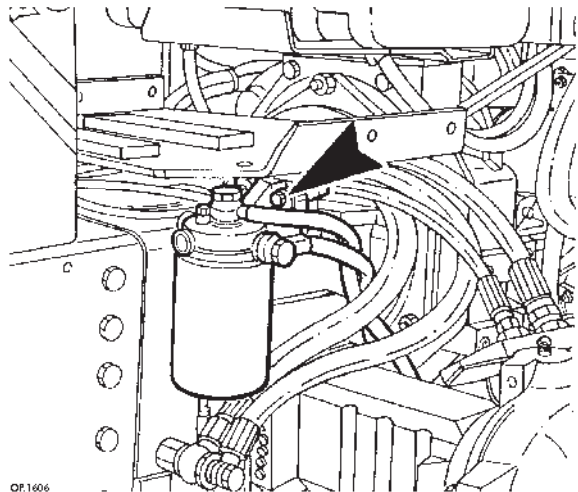
9 - Remove the clutch release and front differential locking cables.

10 - Remove the body side.



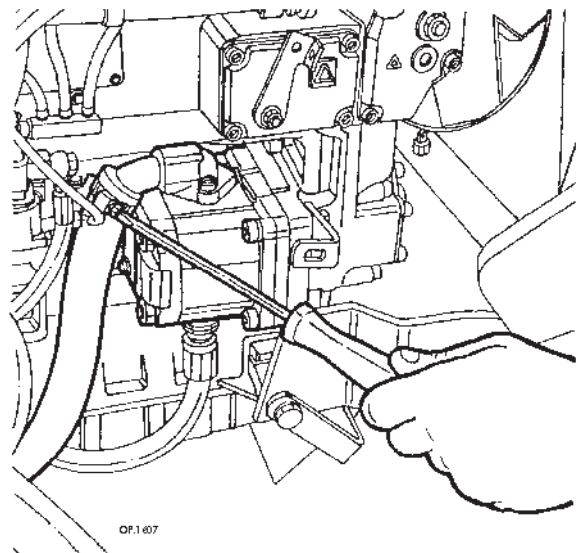
OP.1605

11 - Disconnect the front electrical system from the rear electrical system.



OP.1606

12 - Loosen the screws and move the fuel filter, securing it to the engine.



OP.1607

13 - Disconnect the pump intake tube.

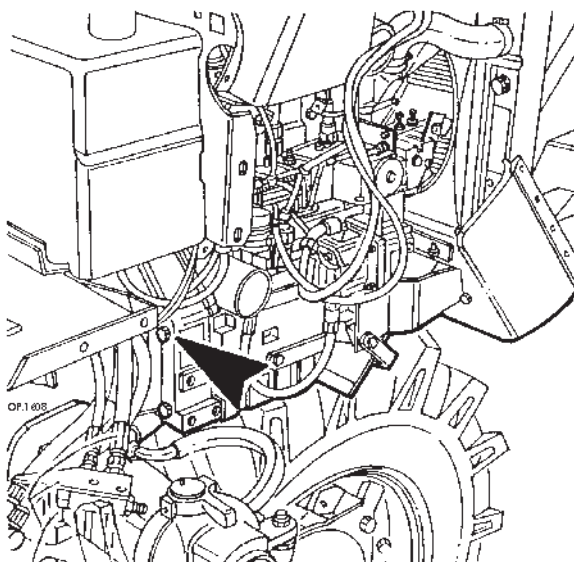


WARNING - DANGER

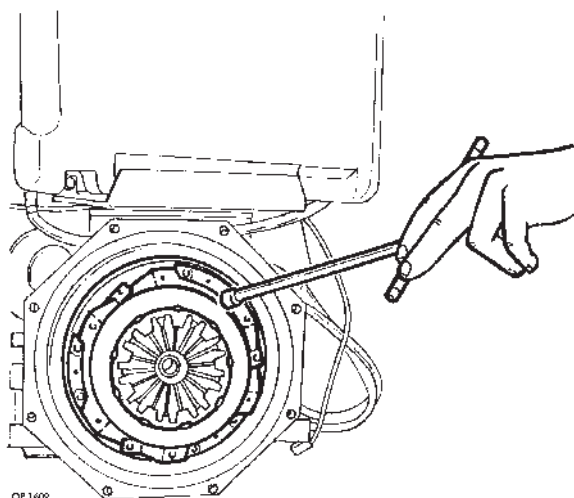


When performing operations, follow all the safety and accident prevention procedures carefully.

- Use the proper tools, not your hands, to align holes and slots.



14 - Hook the engine to a hoist by means of a chain, loosen the bolts and separate the engine from the front transmission case.



15 - Loosen the bolts and separate the clutch plate mechanism from the engine flywheel.

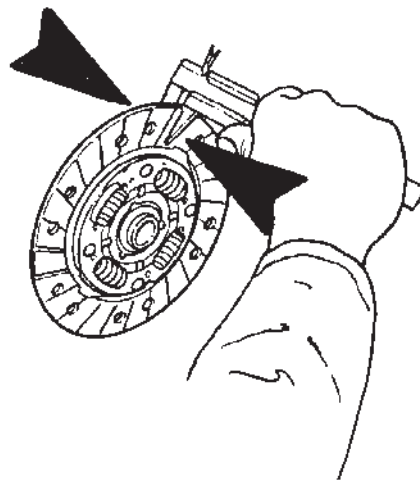
**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

- Do not use gasoline, diesel oil or other flammable liquids to degrease or clean parts; use non-toxic solvents available on the market.

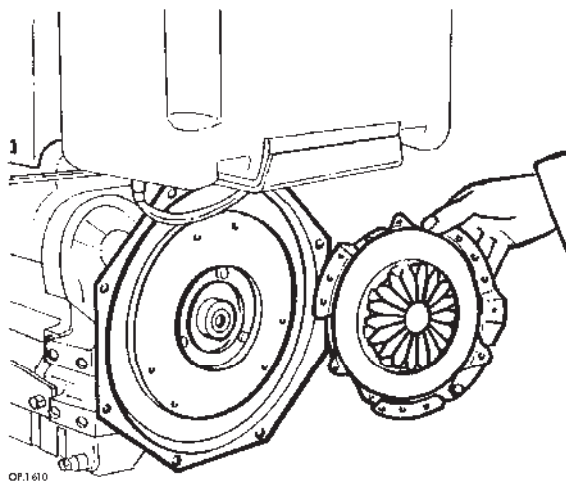
Checking the clutch

1 - Make sure that the plate friction linings are not too worn or scratched.



OF 810

- Check allowable thickness (see table page 6).



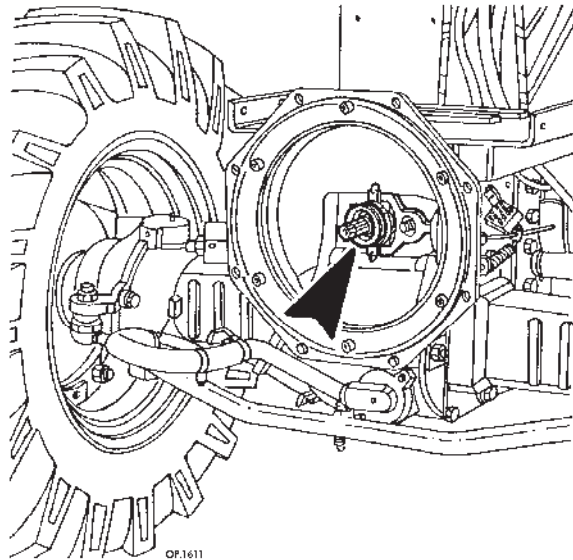
OF 1610

2 - Make sure that the pressure plate and engine flywheel sliding surfaces are free of scoring or burns. Otherwise, we recommend replacing the clutch plate and mechanism and reconditioning the engine flywheel.

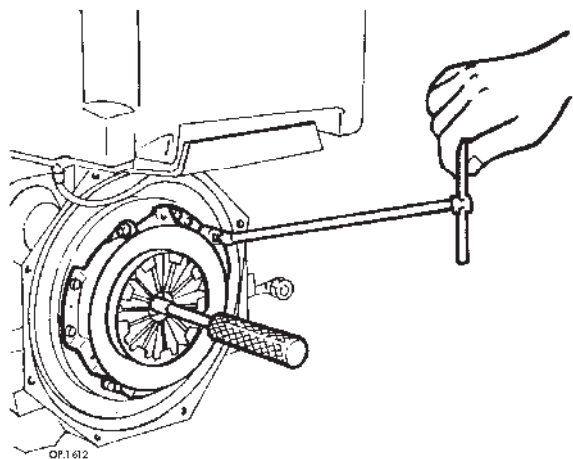


Reconnecting the clutch

Before reconnecting the clutch, proceed as follows:



a - Check the condition of the thrust bearing and of the gear shaft support bearing inserted in the flange attached to the engine flywheel. These bearings must not be damaged or noisy while rotating, otherwise they must be replaced;



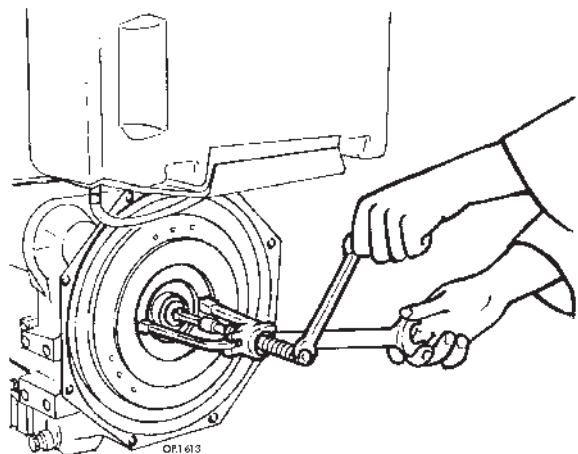
b - Assemble the clutch unit onto the flywheel using tool AT 37981073 to align the driven plate;

c - Observe the driving torques listed on page 4;

d - To re-assemble, follow the disassembly instructions in the reverse order;

e - Apply a film of FIAT ZETA 2 grease on the thrust bearing fork driving shaft and the hub on which it slides.

Support bearing removal and installation



1 - Extract the bearing using the AT 37981216 puller and the AT 37981222 adapter.

2 - Assemble the bearing using the AT37981820 driver



WARNING - DANGER



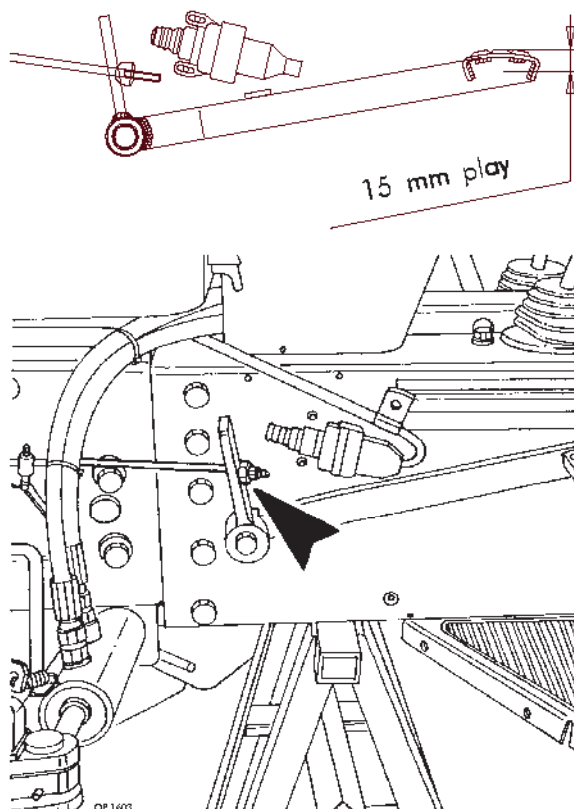
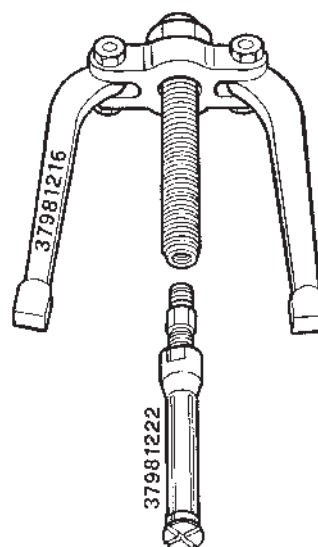
When performing operations, follow all the safety and accident prevention procedures carefully.

- Dispose of oils in compliance with environmental regulations.

Do not pollute the environment.

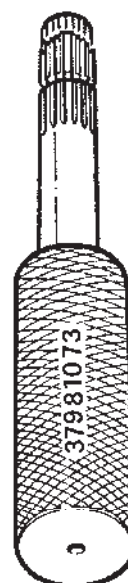
**Adjustment of clutch pedal stroke**

The play of the clutch pedal is about 15 mm, corresponding to a space of about 1 mm between the thrust bearing and the friction ring of the clutch disengagement control flange. If the play is less than required due to the wear of the driven plate, the original operating conditions must be restored by adjusting the tie rods.

**EQUIPMENT**

AT280

1 - Combined puller for extraction of bearing on driving shaft.



AT281

2 - Tool to align the clutch unit to the engine-gearbox axis.



AT37981820



FRONT TRANSMISSION ASSEMBLY

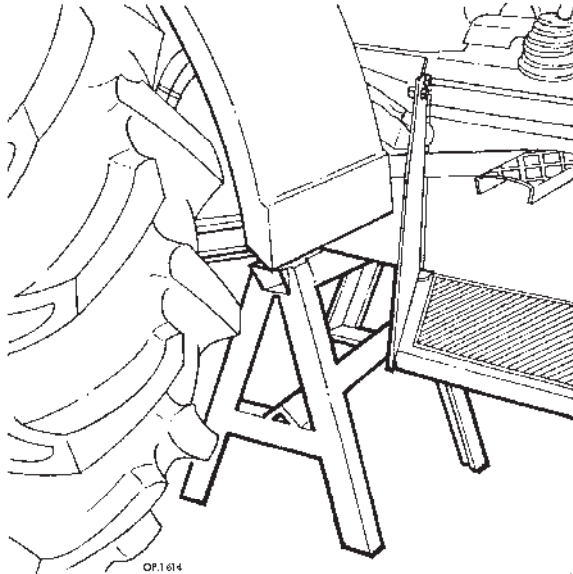


FRONT TRANSMISSION

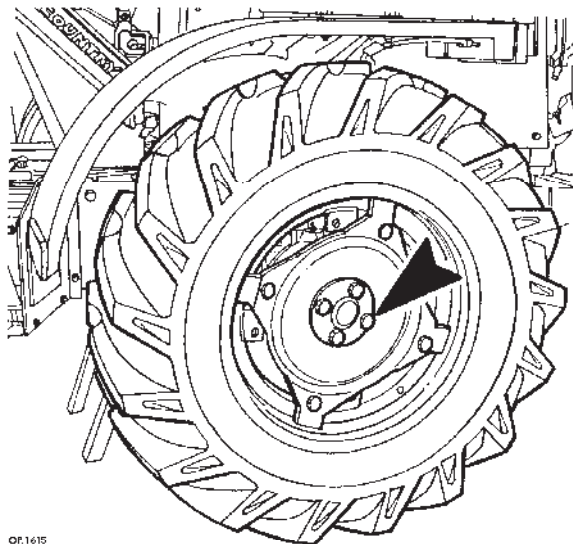
Instructions for disconnection and connection

To access the front drive unit proceed as follows:

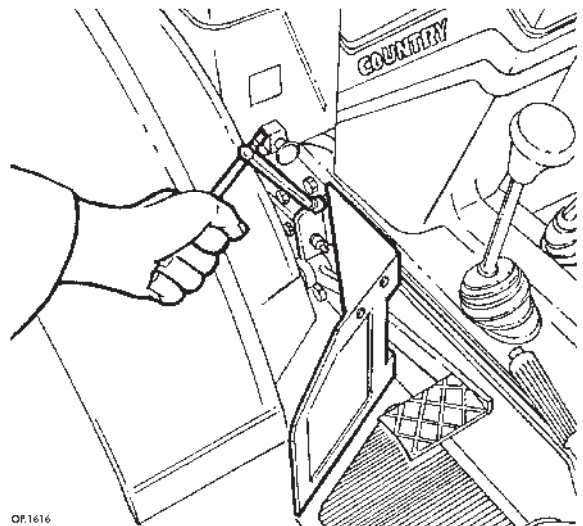
1 - Proceed as indicated in the illustrations for clutch unit removal, steps 1-6.



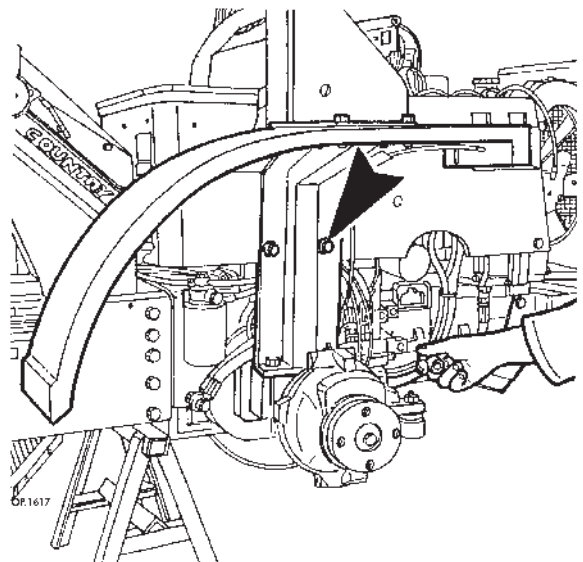
2 - Place a stationary support under the main frame.



3 - Unbolt and remove the front wheels.

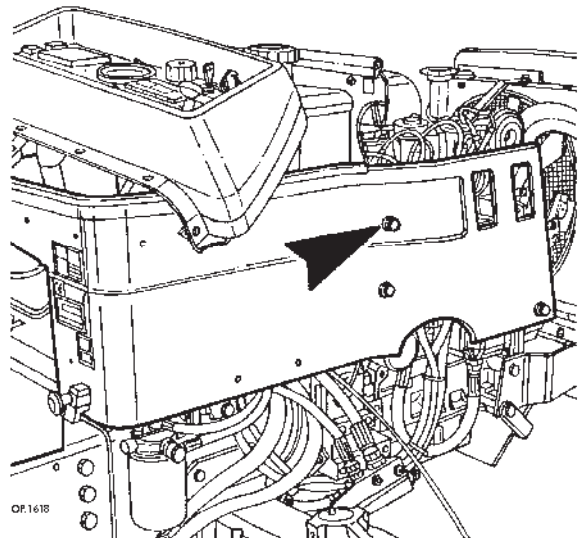


4 - Remove the footboard protections and the starter enable device.

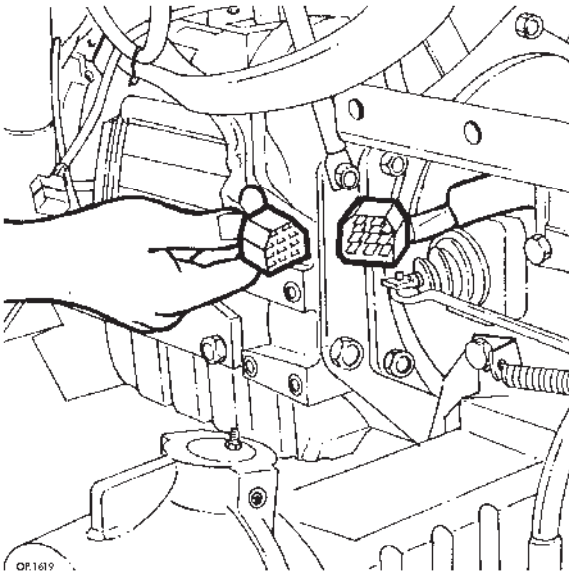


5 - Remove the mudguards (for the r.-h. mudguard, the hydraulic duct shown in the figure must be removed).

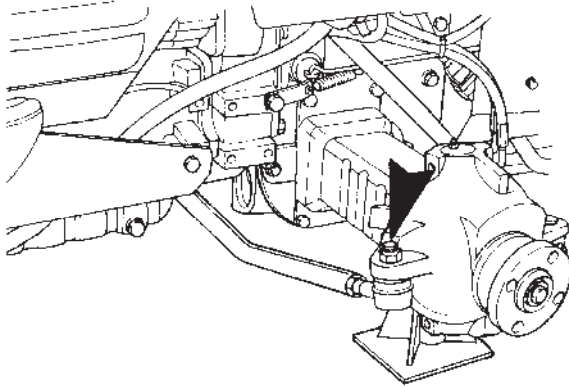
6 - Remove the front differential disengagement and locking cables.



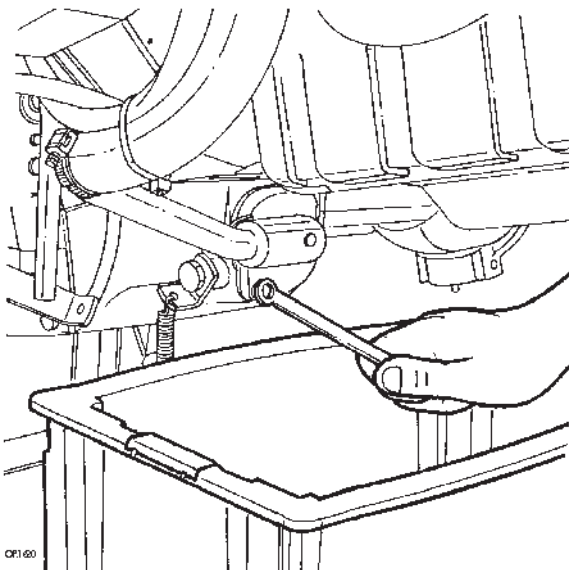
7 - Loosen the screws and remove the body side panel.



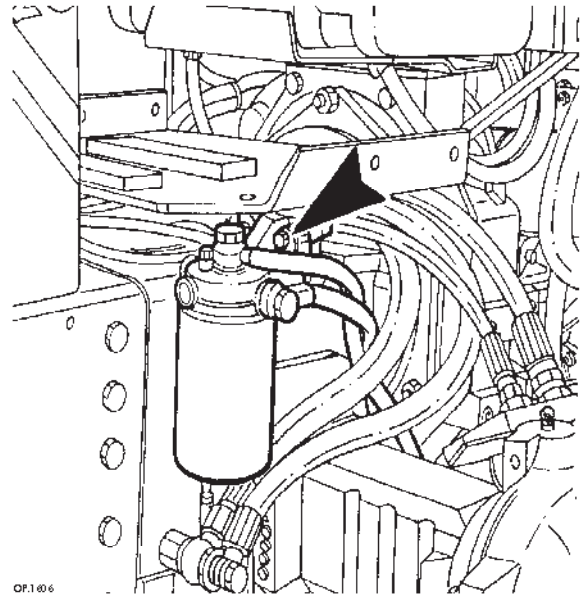
8 - Disconnect the front from the rear electrical system.



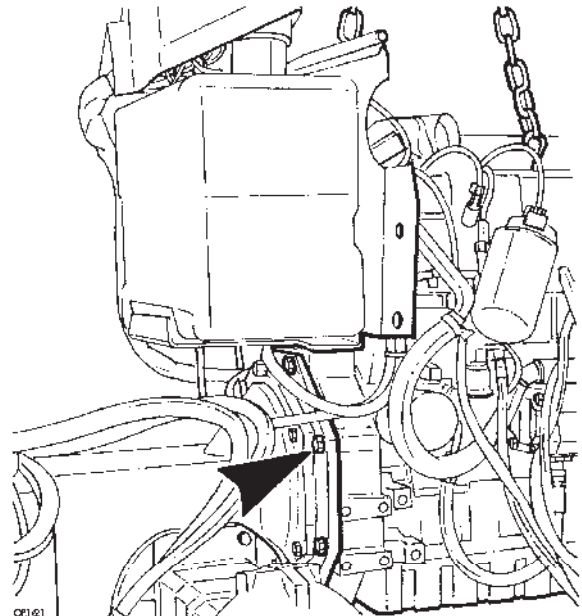
9 - Loosen the nut and remove the steering coupling bar using a rubber or copper hammer.



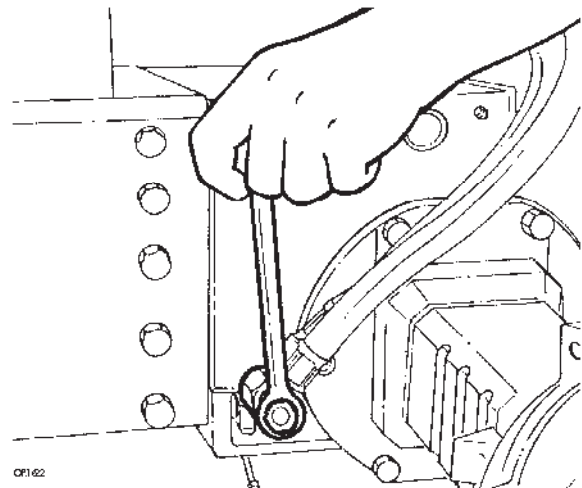
10 - Remove the hydraulic system filter and drain the oil into a 22-liter container.



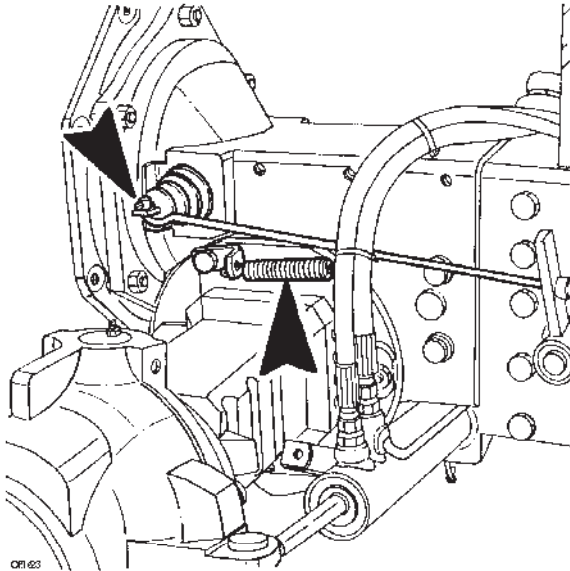
11 - Loosen the screws and move the diesel oil filter and the front cover.



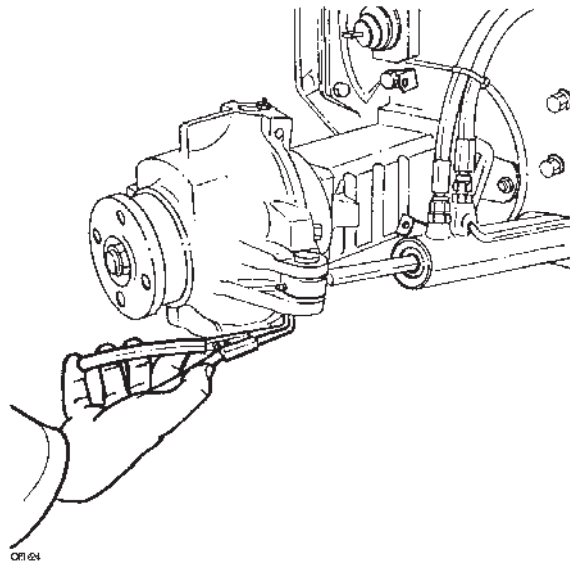
12 - Block the engine, loosen the bolts and separate the engine from the front transmission case.



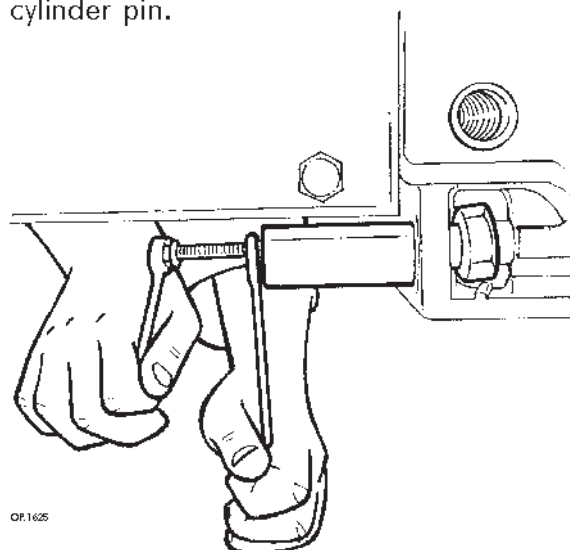
13 - Disconnect the oil discharge tubes for the front gearbox.



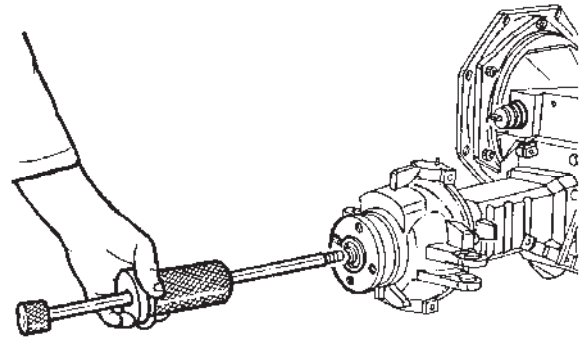
14 - Remove the clutch rod retaining split pin and the spring.



15 - Remove the stop ring on the steering cylinder pin.

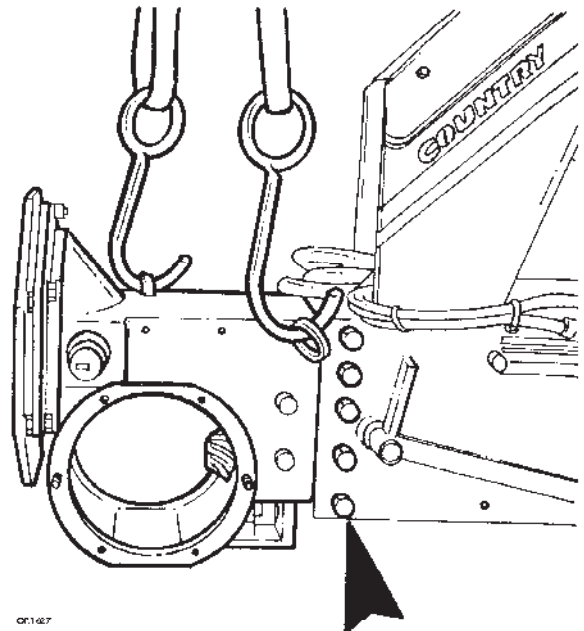


16 - Slide out the pin from the transmission case using the AT 27981314 puller, after having removed the spring pin.



OF 1626

17 - Loosen the screws and extract the axles using the AT 27981047 slide hammer and the AT 37981607 adapter. Extract the axle on the differential locking side first.



OF 1627

18 - Loosen the screws that fasten the front section to the center section and remove the front transmission case.



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

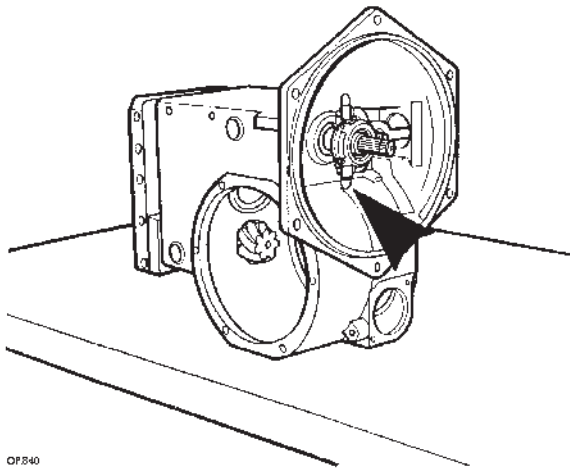
- To lift, use only lifting devices of adequate capacity.



Disassembly - assembly

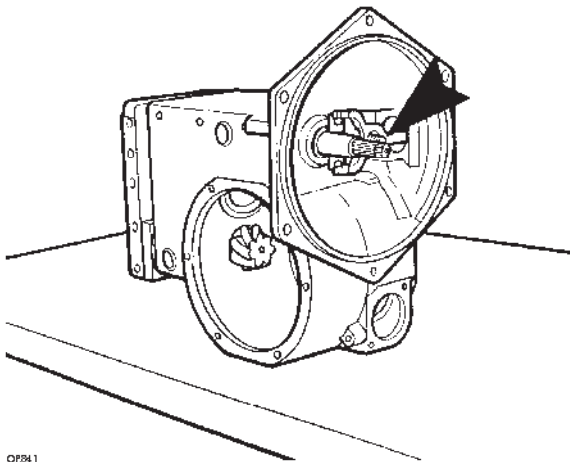
To disassemble the various parts of the transmission case proceed as follows:

1 - Block the case on a stand or place it on a workbench.



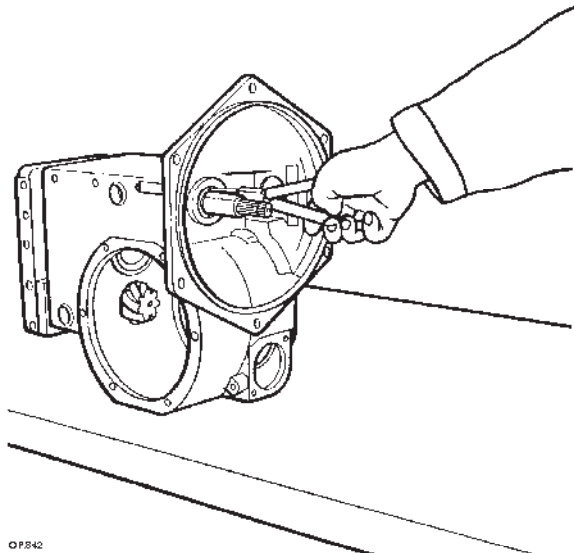
OP840

2 - Slide out the retaining clips and remove the clutch release bearing.



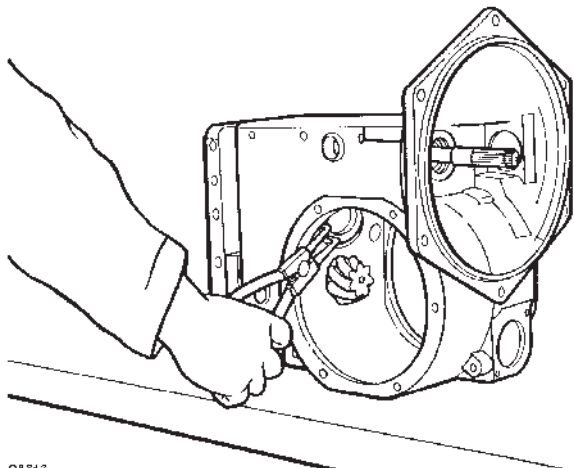
OP841

3 - Loosen the screw and remove the clutch control lever.



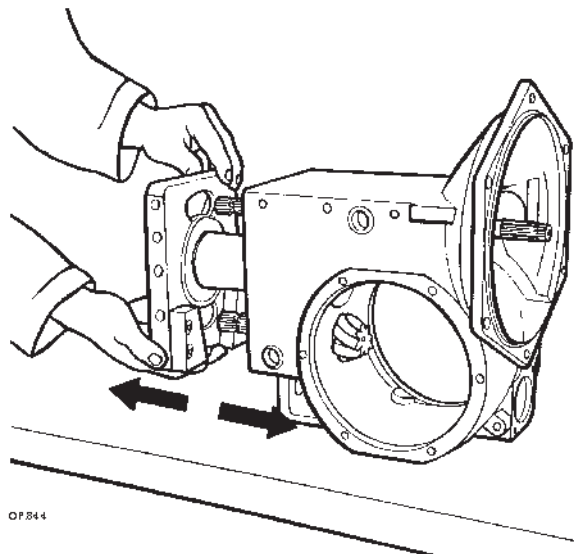
OP842

4 - Remove the retaining ring and slide out the clutch thrust bearing guide sleeve.



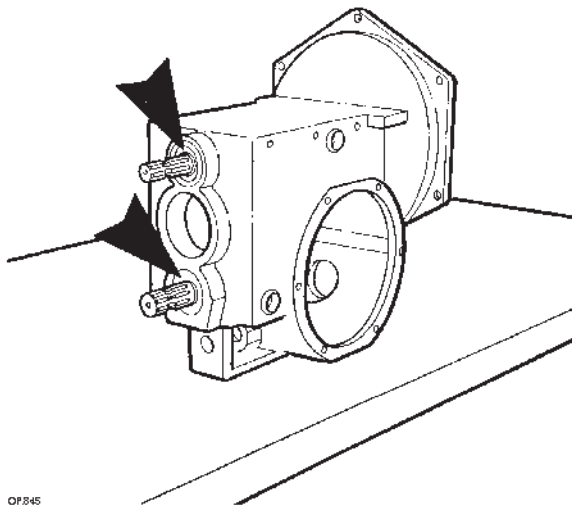
OP843

5 - Remove the central articulated joint flange retaining split ring.



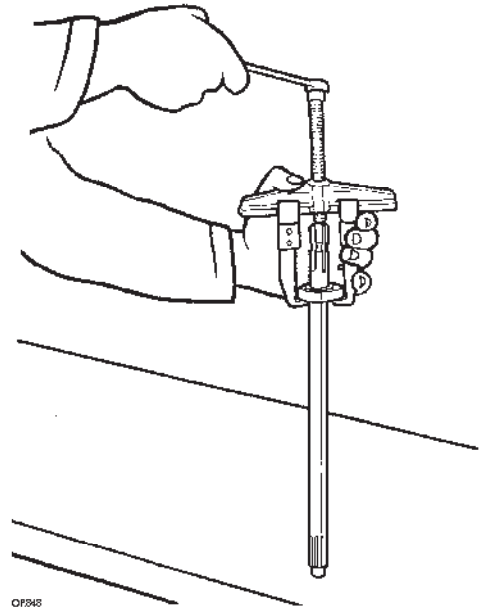
OP844

6 - Slide out the central articulated joint flange.



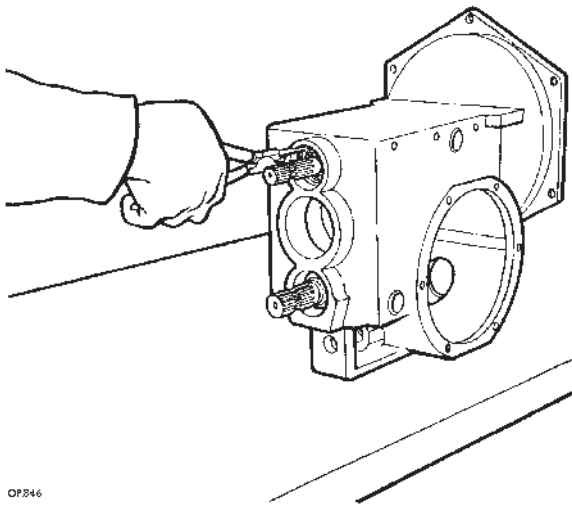
OP.845

7 - Extract the seals for the main shaft and the pinion.



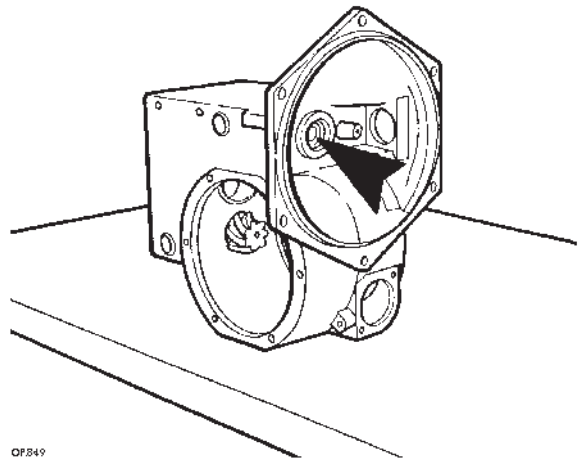
OP.845

10 - Extract the bearing using the AT 37981257 universal puller.



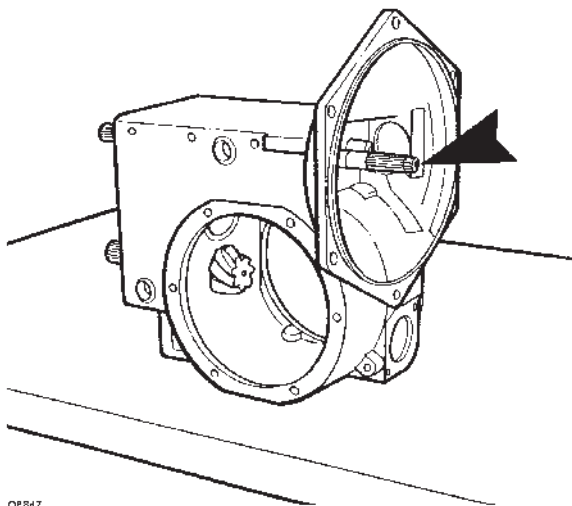
OP.846

8 - Remove the main shaft retaining ring.



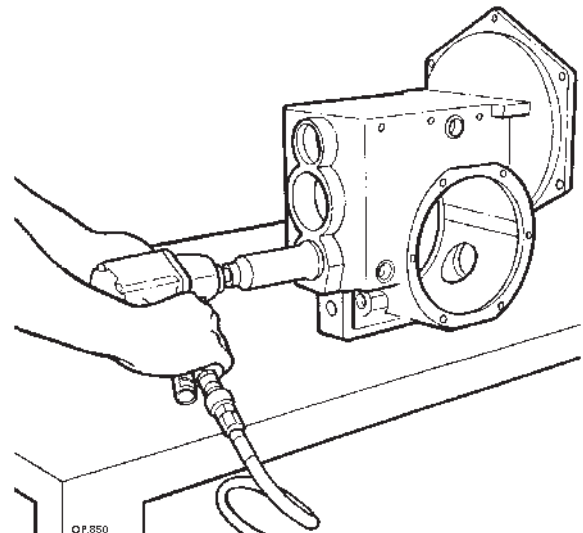
OP.849

11 - Remove the main shaft O-ring.



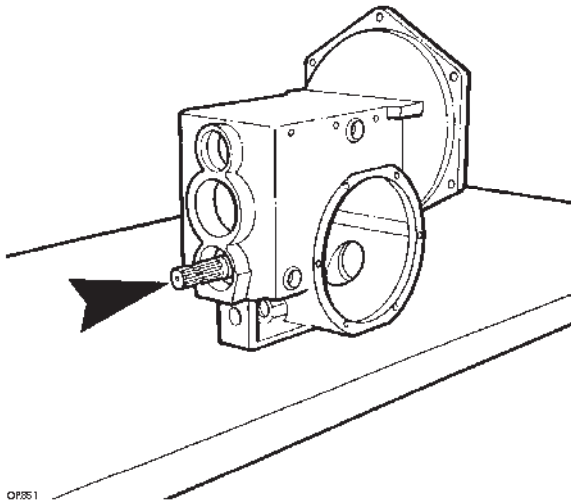
OP.847

9 - Slide out the main shaft using a suitable hammer.

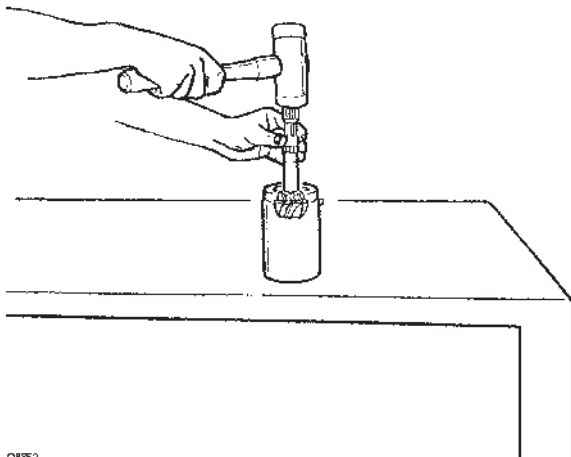


OP.850

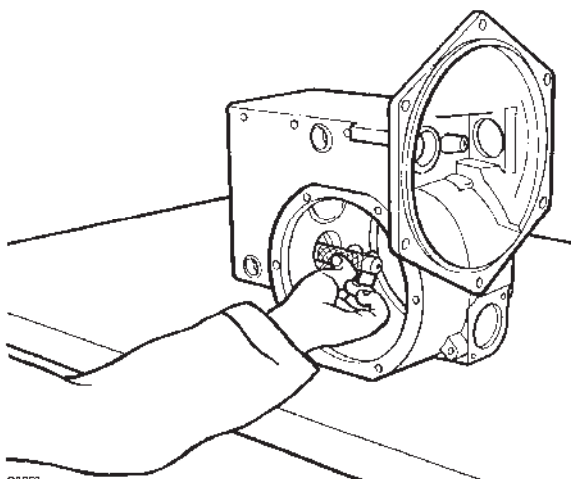
12 - Unscrew the ring nut that holds the pinion bearings with the AT37981306 tool.



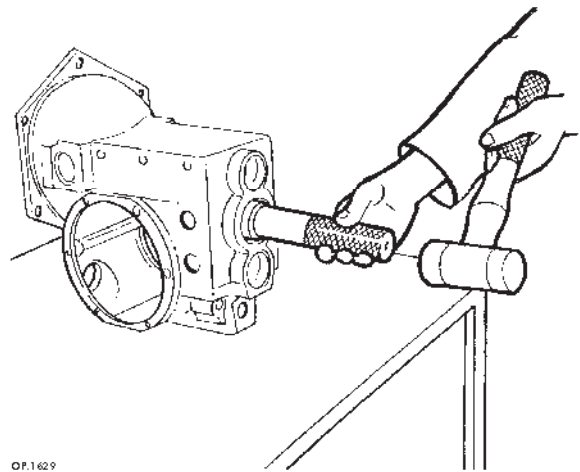
13 - Slide out the pinion and save the internal seat of the pinion rear bearing.



14 - Remove the bearing from the pinion with the AT 37981315 tool.



15 - Remove the bearing using the AT 37981278 driver, save the pinion bearing shim.



16 - Extract the bushing using the AT 37981600 driver.

Assembly

Proceed with the assembly observing the following precautions:

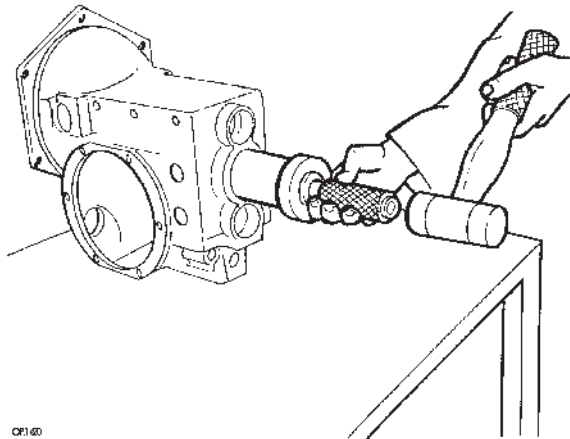
- a** - Clean the oil pan well;
- b** - Oil and grease the O-rings and the seals;
- c** - Follow the disassembly instructions in the reverse order;
- d** - For details, consult diagram on page 13;
- e** - Observe the driving torques indicated on page 13;
- f** - Proceed as follows.



WARNING - DANGER



- When performing operations, follow all the safety and accident prevention procedures carefully.
- Wear proper protective clothing such as gloves and safety shoes.

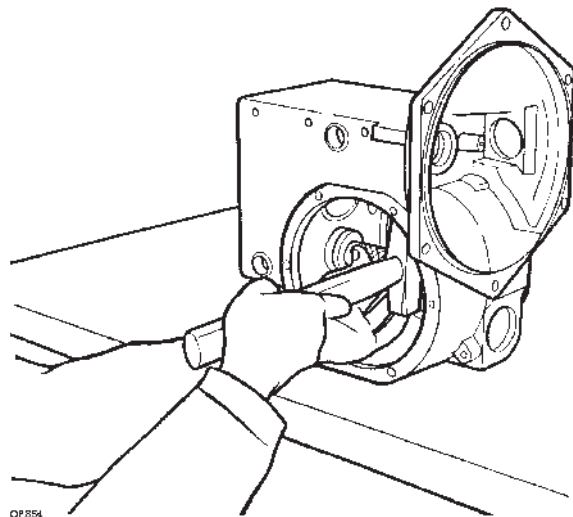


OF160

1 - Install the bushing using the AT 37981605 driver.

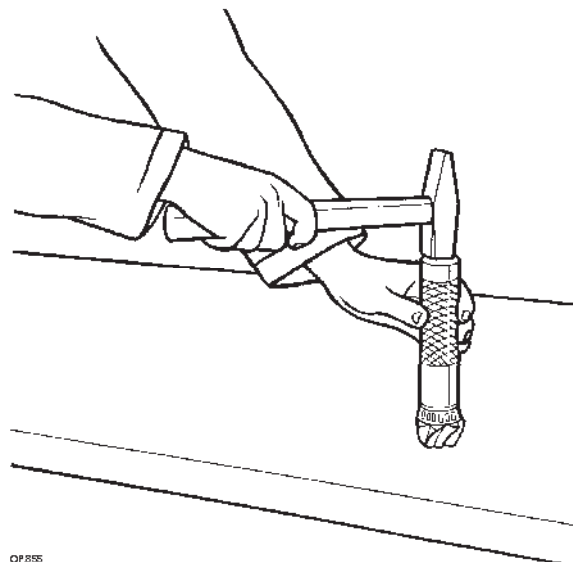
Note

If you need to replace the crown wheel and pinion or the pinion bearing, proceed as described on page 25 and down.



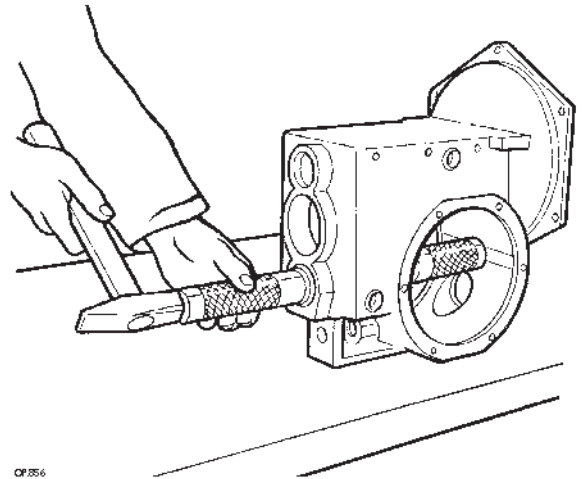
OF354

2 - Install the pinion bearing seats using the AT 37981277 driver.



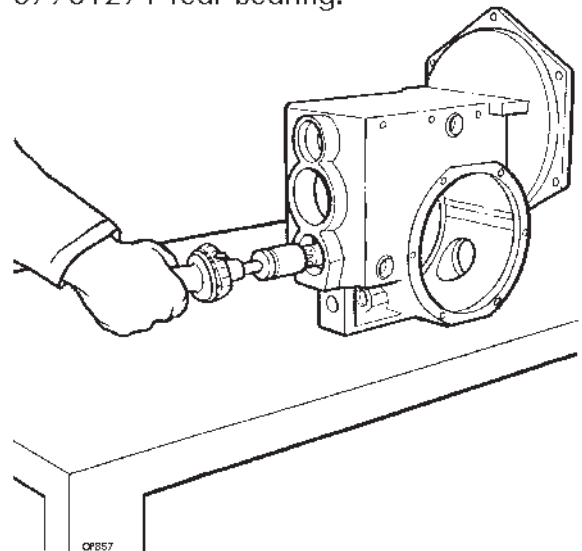
OF355

3 - Install the bearing on the pinion using the AT 37981271 driver.



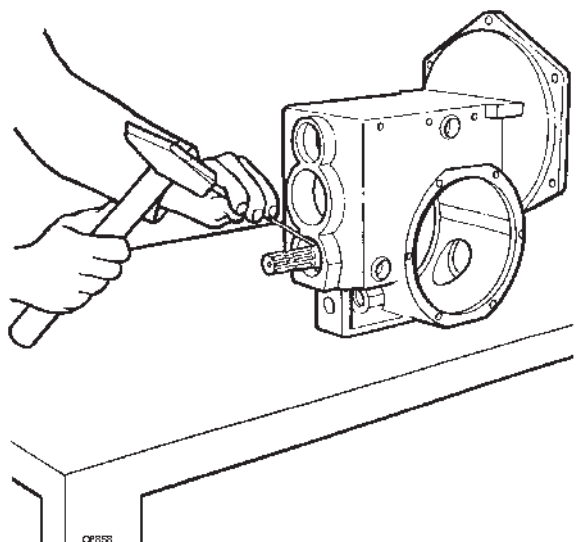
OF356

4 - Insert the pinion on the case, position the AT 27981273 tool to assemble the AT 37981271 rear bearing.



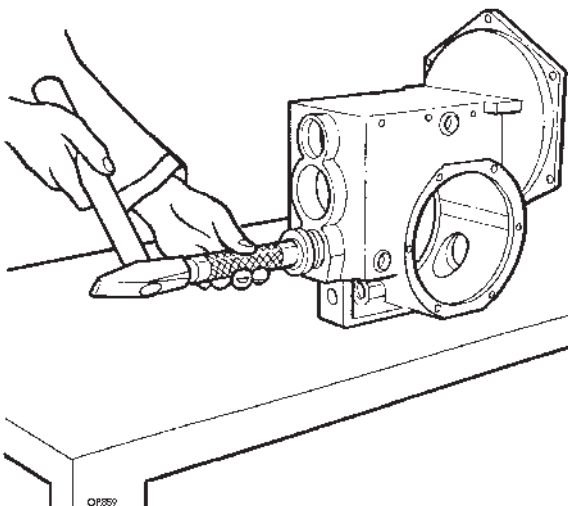
OF357

5 - Fasten the ring nut using the AT37981306 wrench. Rotate the pinion a few turns so as to settle the bearings in their seats. Loosen the ring nut and retighten it until you obtain a rolling torque of $250 \div 300$ Ncm. Check the torque using the AT 37981196 torquemeter and the AT 37981281 adapter.

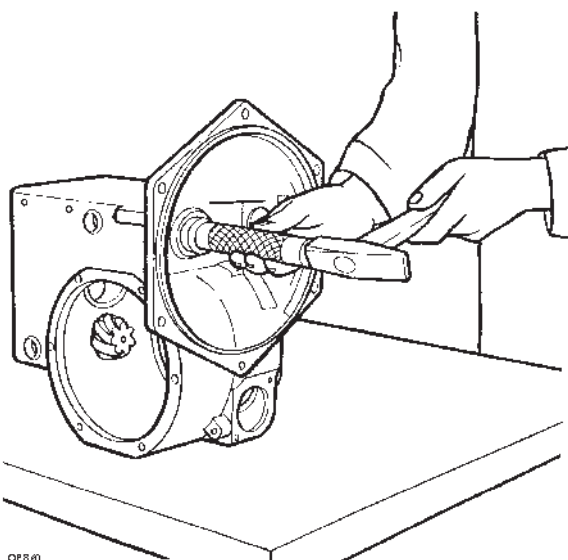


OF358

6 - Dent the edge of the ring nut.



7 - Assemble the seal using the AT 37981021 bushing and the AT 37981275 tool.



8 - Assemble the main shaft seal using the AT 37981279 tool.

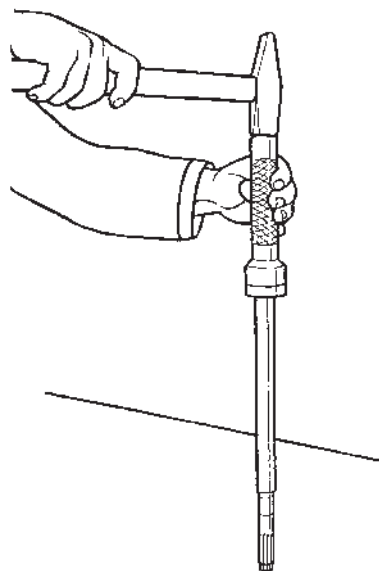


WARNING - DANGER



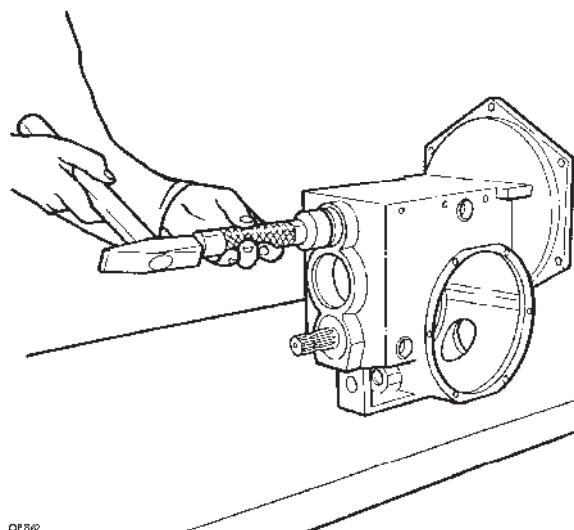
When performing operations, follow all the safety and accident prevention procedures carefully.

- Wear proper protective clothing such as gloves and safety shoes.



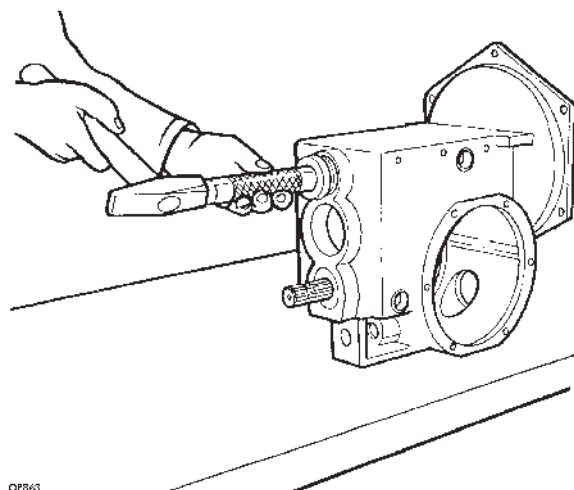
OP861

9 - Install the bearing on the main shaft using the AT 37981276 driver.



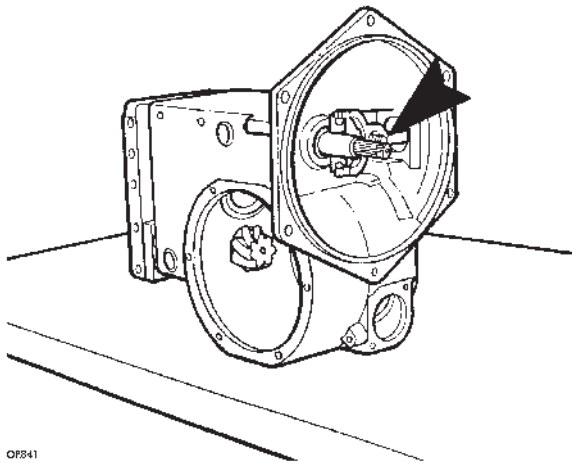
OP862

10 - Install the main shaft using the AT 37981276 tool.



OP863

11 - Install the O-ring using the AT 37981274 driver and the AT 37981020 adapter.



OF241

12 - Before installing the thrust bearing, grease the sleeve where the bearing and the splined shaft slide.



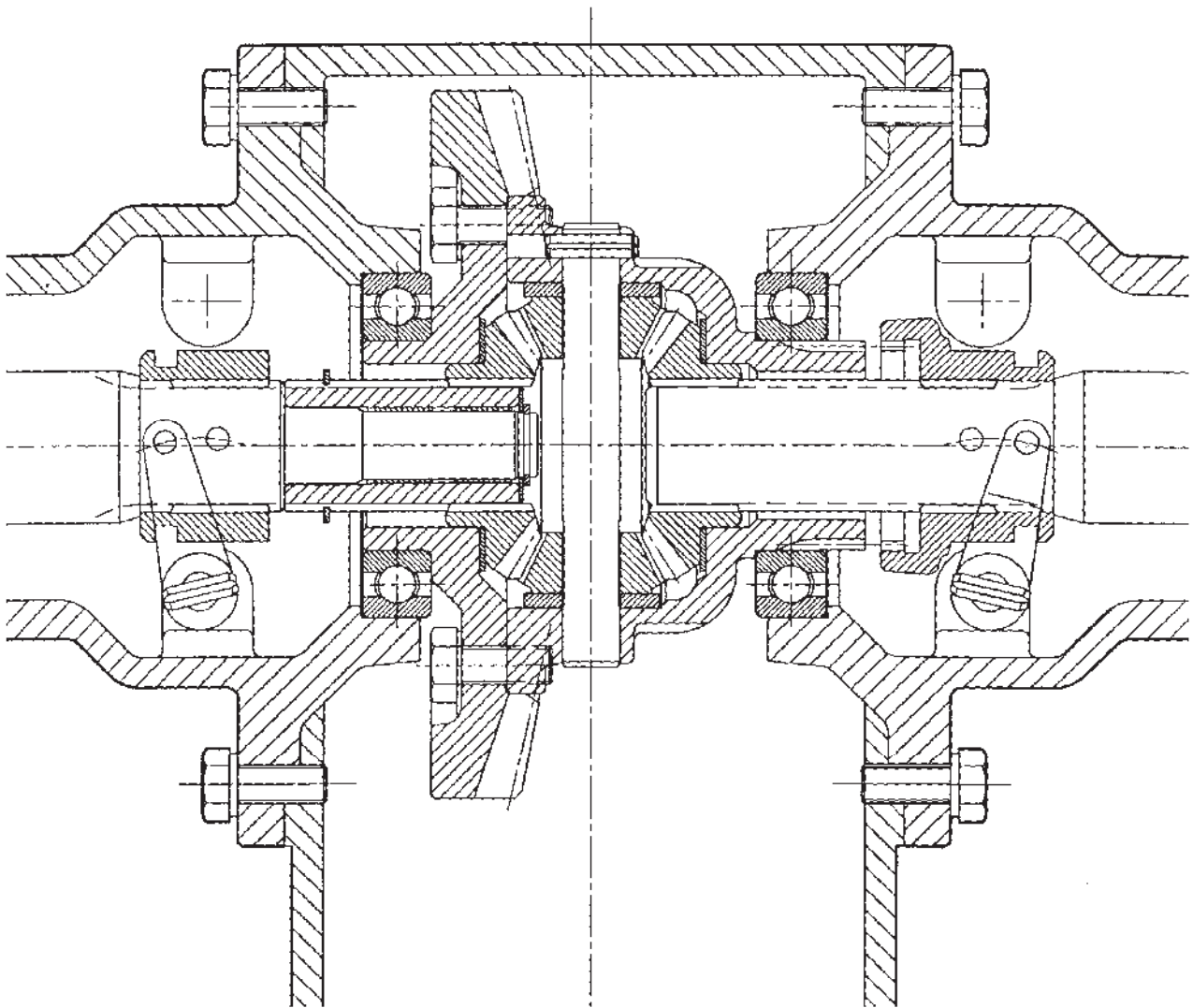
WARNING – DANGER



- When performing operations, follow all the safety and accident prevention procedures carefully.
- Use the proper tools, not your hands, to align holes and slots.



DIFFERENTIAL ASSEMBLY



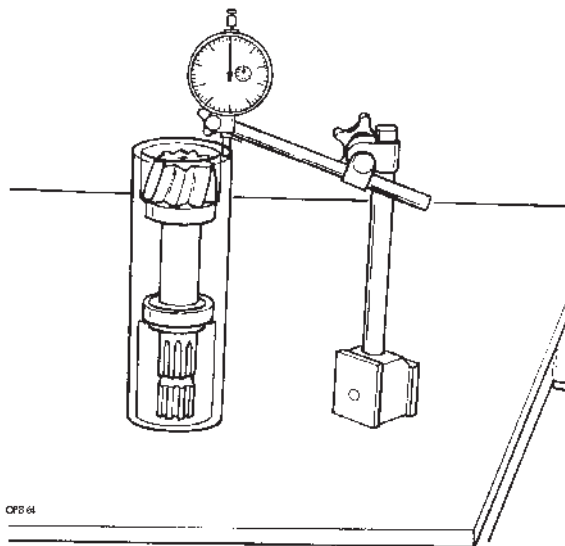


DIFFERENTIAL UNIT

Crown wheel and pinion adjustment

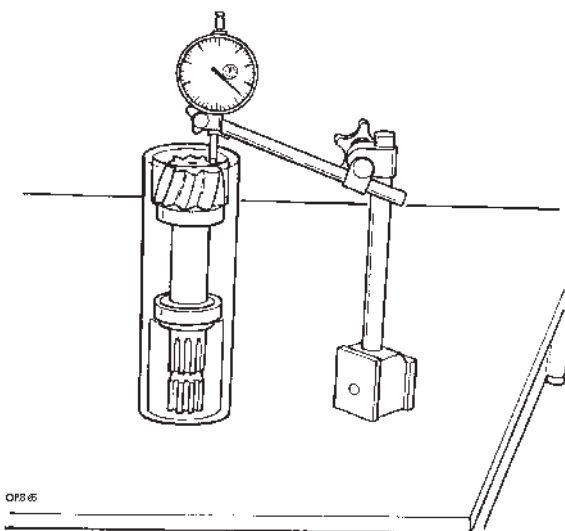
A - Calculating the thickness of the bevel pinion bearing support ring.

The value of this thickness is determined by measuring the height of the pinion head on the AT 37981282 tool; slide the pinion on the AT 37981282 tool with its bearings, tighten the ring nut slightly so as to create a rotating moment. Position the feeler pin of a dial gauge



OPS 44

on the tool to zero set it,



OPS 45

and then on the pinion head.

The value thus obtained must be added to or subtracted from the centesimal value marked with an electric pencil on the head of the pinion.

If (A) is the value indicated by the dial gauge and (B) is the value marked on the pinion by the manufacturer, the thickness (S) of the support ring to be mounted is given by the following equation:

$$S = A - B$$

Example:

A = 1,70 (value read on dial gauge)

B = -0,15 (centesimal value marked on the pinion by the manufacturer)

$$\begin{aligned} \text{thickness } S &= A - B \\ &= 1,70 - (-0,15) \\ &= 1,85 \end{aligned}$$

In this case a 1.85 mm thick ring must be mounted (underneath the pinion bearing).

- If necessary, round off to the highest figure within 0.05 mm. Therefore, the required thickness is 1.9 mm.

Note

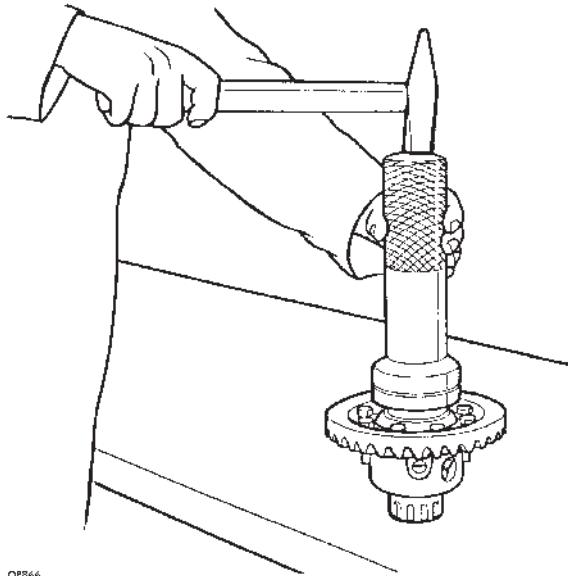
The support ring for the roller bearing on the pinion is supplied as spare part:

1.7 - 1.8 - 1.9 - 2 - 2.1 - 2.2 - 2.3 mm.



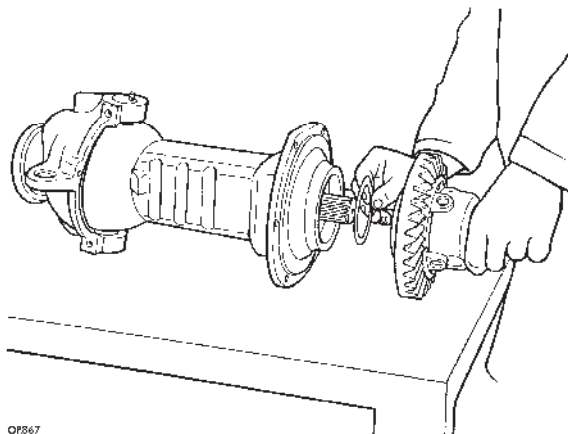
B - Adjustment of slack between crown wheel and pinion and differential carrier bearing preloading

Proceed as follows:



OPS66

1 - Mount the bearing on the differential carrier using the AT 37981093 driver.



OPS67

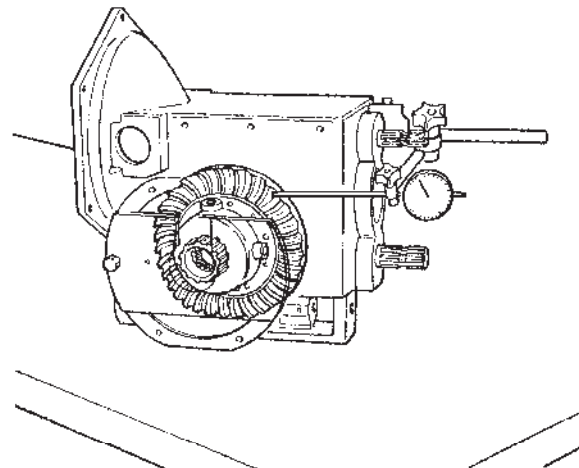
2 - Insert a rated shim (PS 0.2 mm) between the differential support and the unit.

3 - Install the differential unit on the support with the help of a suitable hammer (plastic - copper).

4 - Mount the differential unit in the transmission case temporarily, without applying any sealing compound, and fasten it with a few bolts.

5 - Apply on the opposite side of the transmission case the AT 37981642 tool which is required to align the differential unit with the case, and slightly preload the differential bearing.

6 - Apply a centesimal dial gauge with magnetic base on the transmission case, with the pin placed as perpendicularly as possible on the outer edge of a tooth of the crown wheel. Check the slack between the pinion and the crown wheel.



OPS68

7 - Check the slack by offsetting it by 120° and compare the average of the three values with the normally set slack ($0.15 \div 0.23$).

8 - If the value measured is higher or lower than the set value, the value of the rated thickness must be increased or decreased (PS 0.2 mm).

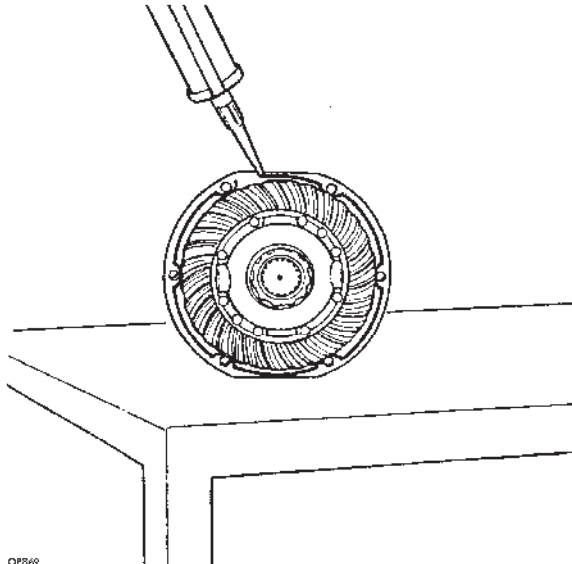
Note

If you add a 0.1 mm shim (PS), the slack between the teeth of the crown wheel and pinion will decrease by 0.07 mm, whereas if you remove a 0.1 mm shim, the slack will increase by 0.07 mm. The PS shim is supplied with spares: 0.1 - 0.2 - 0.3 - 0.5 mm.

9 - Remove the differential support and mount the calculated shim.



10 - Mount the differential unit support on the transmission case after having cleaned and greased the surfaces to be coupled and having applied a 3 mm diameter string of sealing compound, following the path indicated in the figure.



OPB69

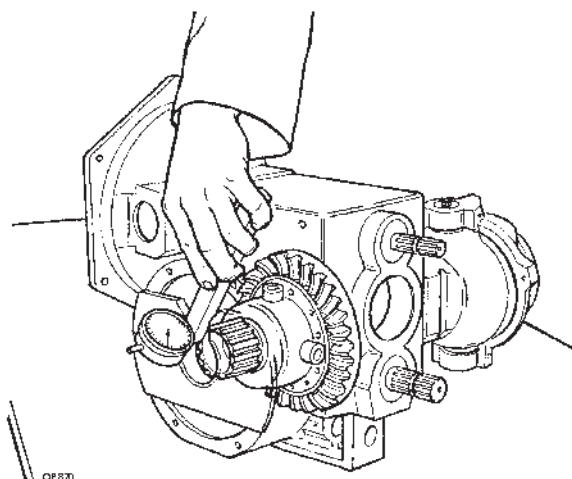
- Diagram showing application of sealing compound.

11 - Observe the driving torques indicated on page 4.

12 - Check again the slack between the crown wheel and the pinion comparing it with the standard slack of $0.15 \div 0.23$ mm.

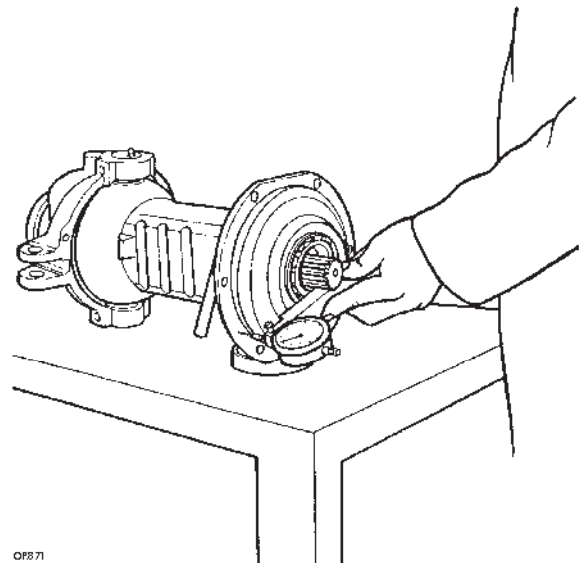
Differential carrier bearing preloading.

13 - Position the centesimal dial gauge with the AT 27981215 support on the coupling surface between the support and the carrier, so that the feeler pin touches the seat of the bearing on the differential carrier, and zero-set the dial gauge.



OPB70

Then, position it on the bearing of the differential carrier support, so that the feeler pin touches the coupling surface of the carrier.



OPB71

14 - Perform the measurement by offsetting it by 120° ; the average of the three Gm values added to a 0.1 mm preload will give you the size of the S shim to be mounted between the differential carrier and the bearing of the differential support. If necessary, round off to the highest figure within 0.05 mm.

Example

Gm = 0.25 mm average of values read on the dial gauge

0.1 mm = added value to increase the preloading of the bearings

$$\begin{aligned} S \text{ shim} &= Gm + 0,1 \\ &= 0,25 + 0,1 \\ &= 0,35 \end{aligned}$$

Round off to the highest figure by 0.05 mm

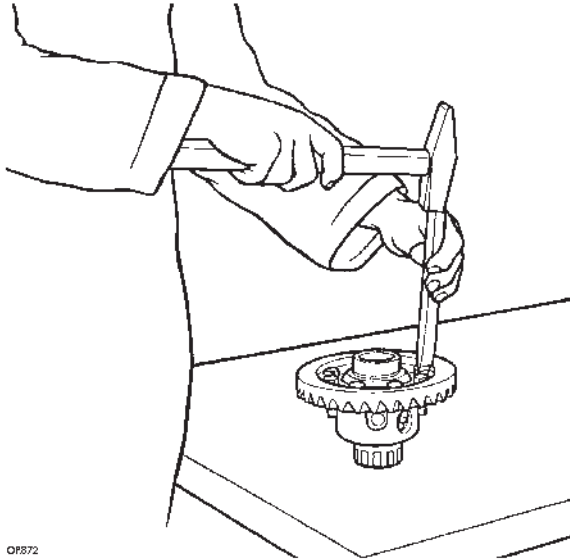
In this case you need to mount two 0.2 mm shims = 0.4 mm.



DIFFERENTIAL UNIT

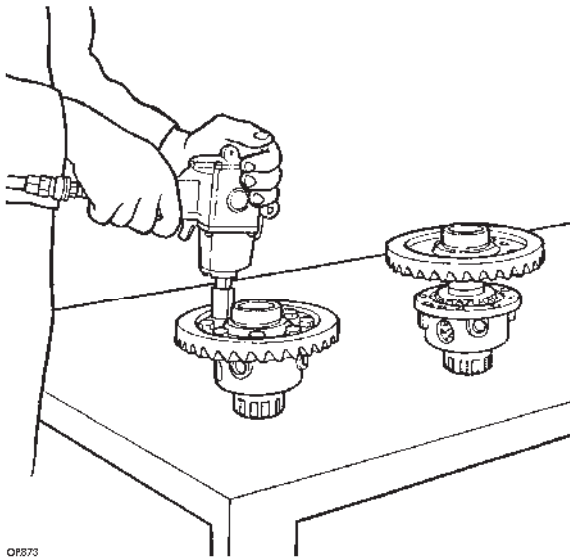
Disassembly - assembly

When the unit is detached from the transmission case proceed as follows:



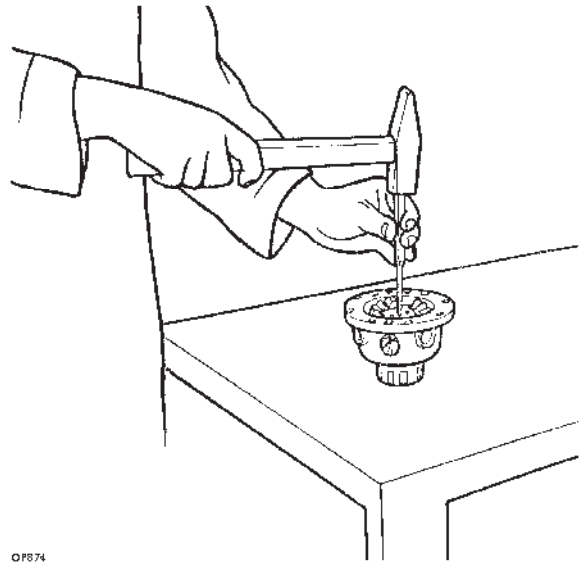
OP872

1 - Straighten the screw stop plates.



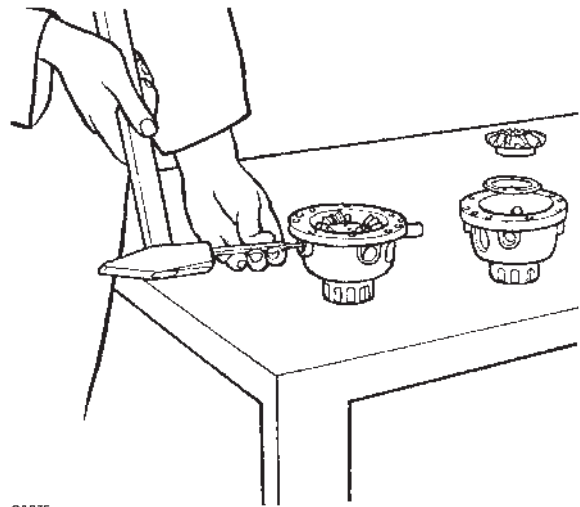
OP873

2 - Loosen the screws and disconnect the differential carrier ring bevel gear.



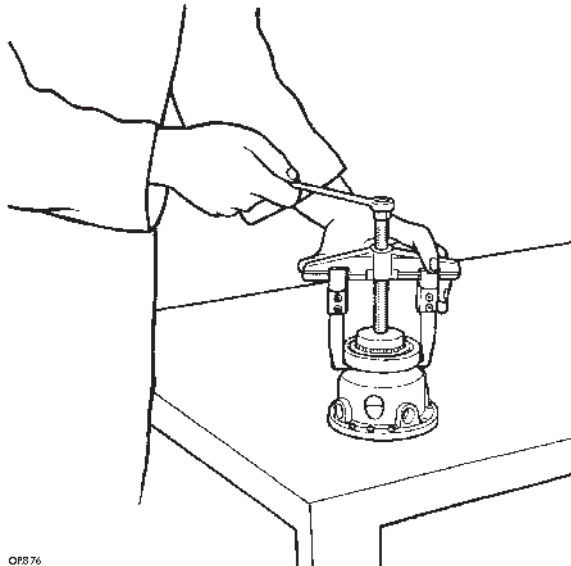
OP874

3 - Remove the spring pins.



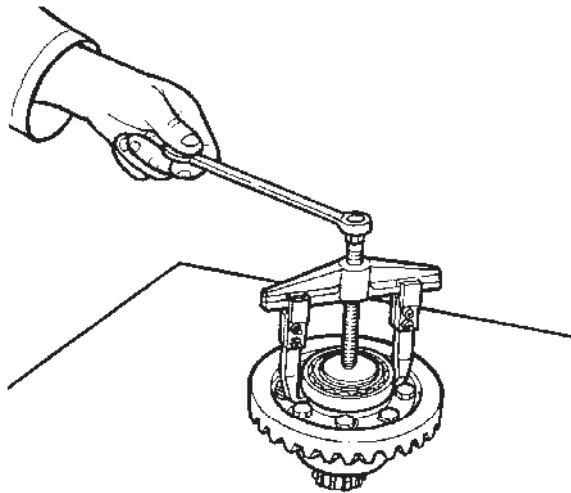
OP875

4 - Remove the pins, the side pinions, fifth wheels and crown wheels.



OP.876

5 - Remove the bearing using the AT 37981257 universal puller and the AT 37981214 adapter.



OP.1631

6 - Remove the bearing from the differential carrier using the AT 37981257 universal puller and the AT 37981214 adapter.



WARNING - DANGER



- When performing operations, follow all the safety and accident prevention procedures carefully.
- Dispose of oils in compliance with environmental regulations.
Do not pollute the environment.

Assembly

Observe the following cautions during assembly of all the parts of the differential unit:

- a** - Follow the disassembly instructions in the reverse order;
- b** - Refer to drawings for location of different parts;
- c** - Tighten the screws and bolts with a driving torque of 8.5 Kgm (83 Nm);
- d** - Check the axial play of the crown wheels.

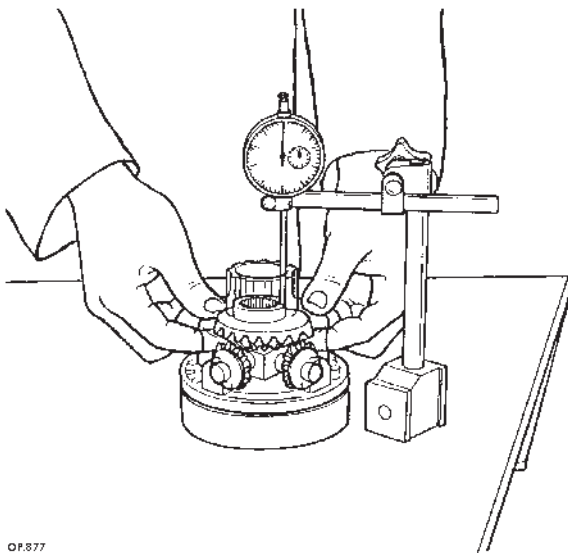
**Warning: spring pins**

When mounting the split tube spring pins make sure that the groove is angled in the direction of the stress point of the pin.

Checking the crown wheel axial play

To check the axial play of the crown wheels proceed as follows:

1 - Position the centesimal dial gauge feeler pin on the crown wheel.



2 - Move the crown wheel until it touches the side pinion and then push it against the differential carrier, reading the axial play on the centesimal dial gauge.

3 - The axial displacement should be 0.15 - 0.30 mm.

Note

Do not pollute the environment with spent fluids, used filter cartridges, oils, lubricating greases and products used to clean them. The collection of waste oils must be performed by authorized centers. Do not pollute the environment.

Re-installation

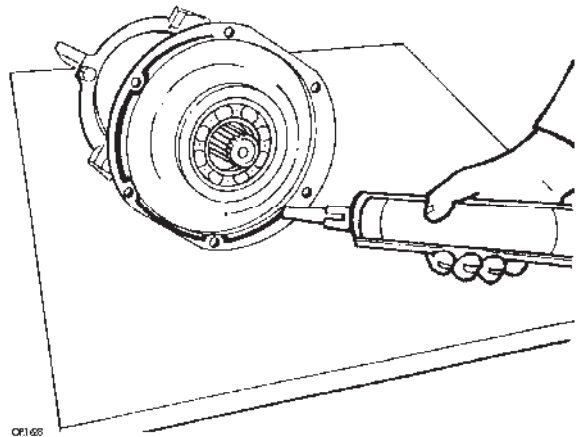
Proceed with the re-installation observing the following precautions:

a - Clean all the parts thoroughly and especially the surfaces to be coupled;

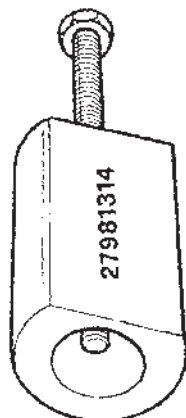
b - Follow the removal instructions in the reverse order;

c - Observe the driving torques listed on page 4;

d - Apply a 3-mm diameter string of sealing compound, following the path shown in the figure;

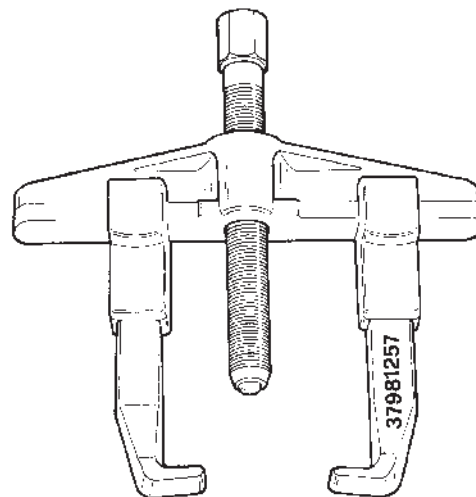
**Note**

Do not pollute the environment with spent fluids, used filter cartridges, oils, lubricating greases and products used to clean them. The collection of waste oils must be performed by authorized centers. Do not pollute the environment.



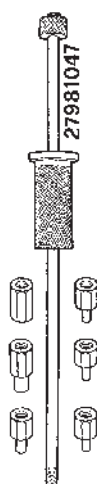
AT.191

1 - Puller for steering cylinder pin.



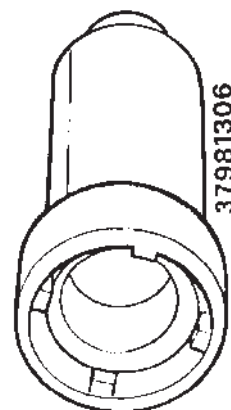
AT.067

4 - Universal puller.



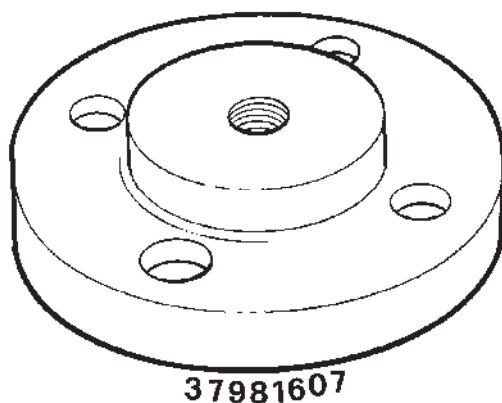
AT004

2 - Slide hammer with set of adapters.



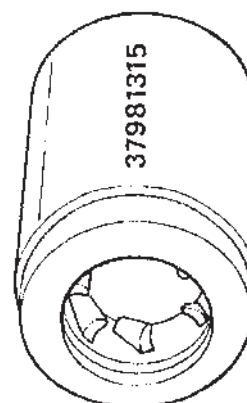
AT.194

5 - Key for tightening the differential pinion ring nut.



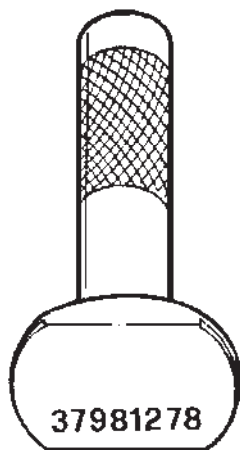
AT.282

3 - Adapter for slide hammer.



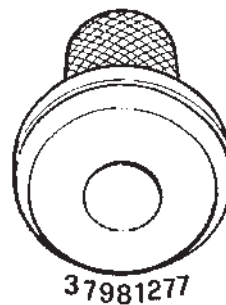
AT.195

6 - Driver for removal of pinion bearing.



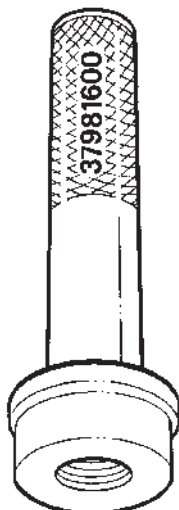
AT.197

7 - Driver for disassembly of pinion bearing seat.



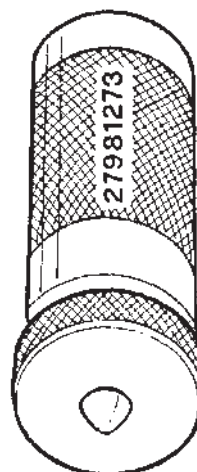
AT.196

10 - Driver for assembly of pinion bearing seat.



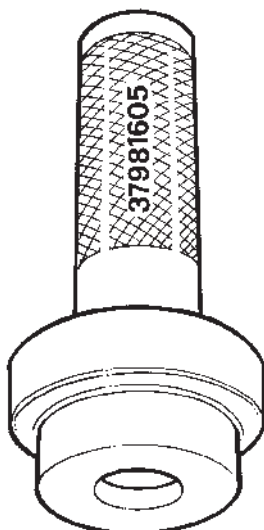
AT.283

8 - Driver for removal of bushing.



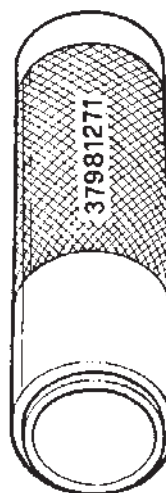
AT.199

11 - Tool for assembly of pinion rear bearing.



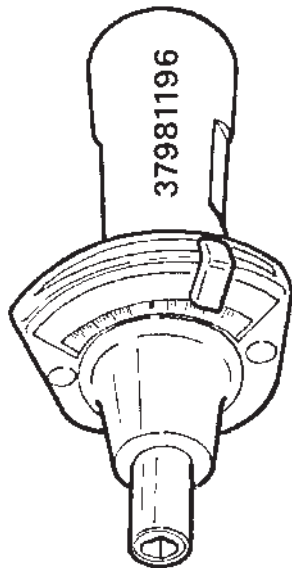
AT.284

9 - Driver for installation of bushing .



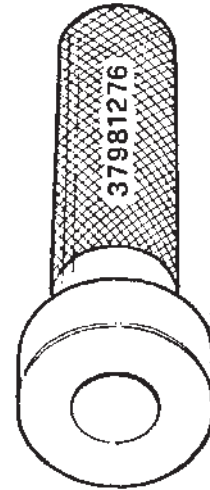
AT.198

12 - Driver for assembly of differential pinion bearing.



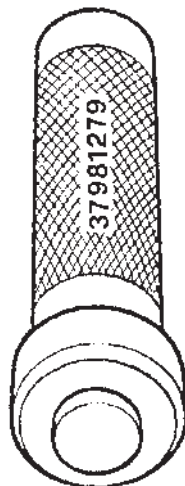
AT.020

13 -Torquemeter - Ncm.



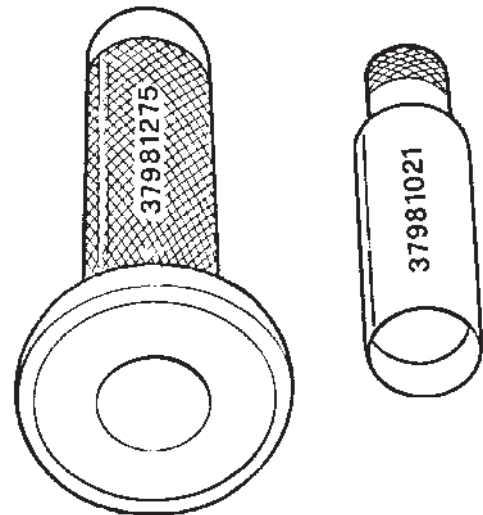
AT.193

16 - Driver for assembly of main shaft bearing.



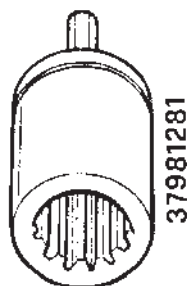
AT.192

14 - Tool for assembly of the main shaft O-ring.



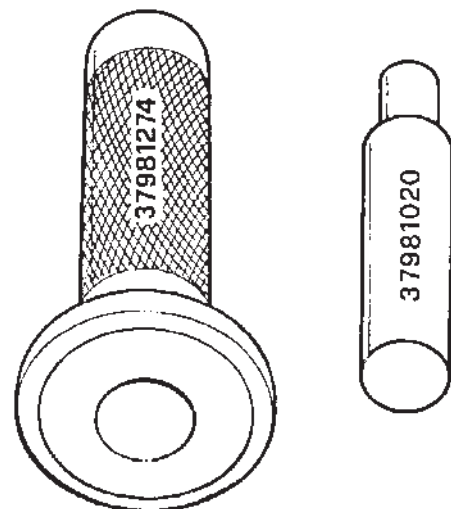
AT.200

17 - Driver and adapter for assembly of seal.



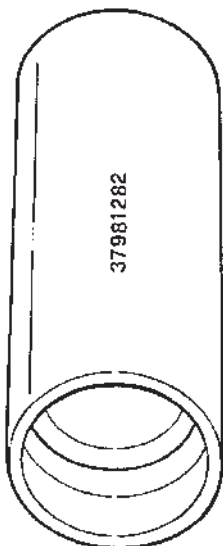
AT.201

15 - Key for adjusting the pinion rotating torque.



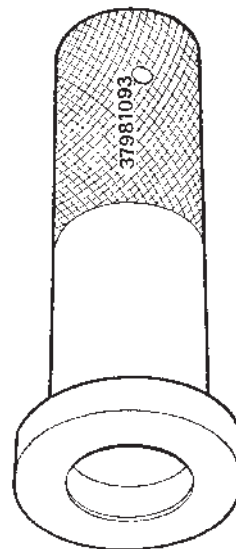
AT.202

18 - Driver and adapter for assembly of seals.



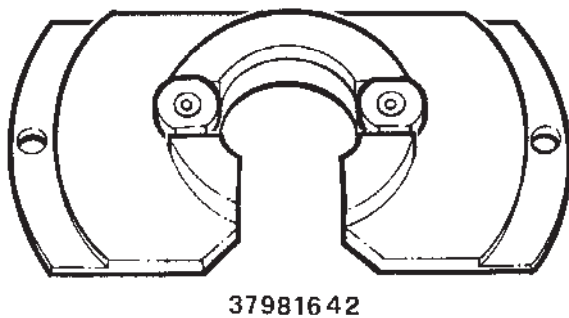
AT.203

19 - Tool to determine the thickness of the pinion bearing.



AT.045

22 - Driver for assembly of bearing on the differential carrier.



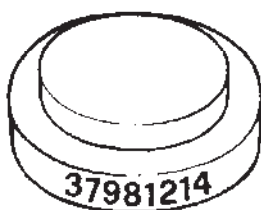
AT.285

20 - Tool for aligning the differential unit.



AT.031

23 - Centesimal dial gauge support.



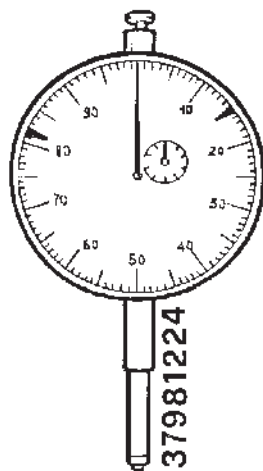
AT.032

21 - Adapter for extraction of differential carrier bearing.



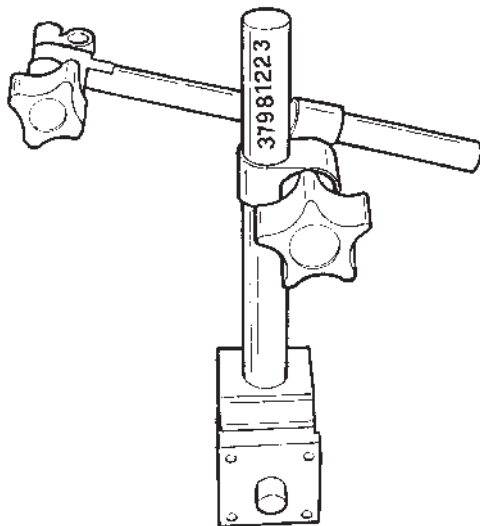
AT.027

24 - Extension for centesimal dial gauge.



AT 026

25 - Centesimal dial gauge.



AT 028

26 - Magnetic support for centesimal dial gauge.



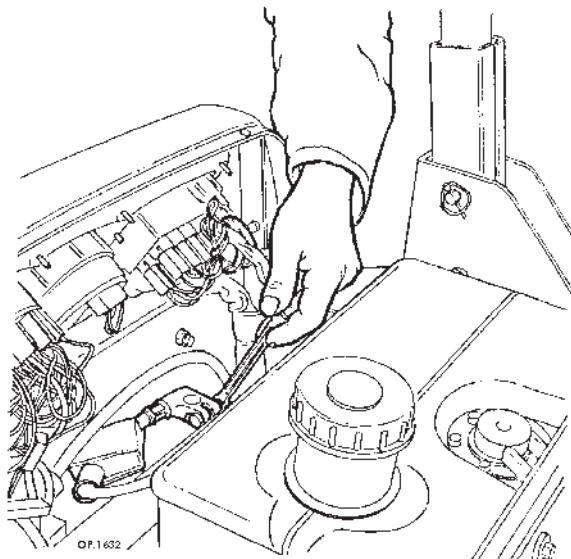
CENTRAL TRANSMISSION 30

CENTRAL TRANSMISSION ASSEMBLY

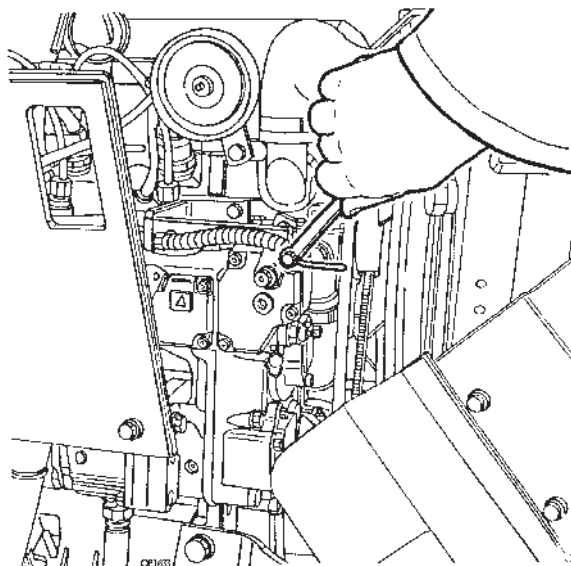


Instructions for disconnection and connection

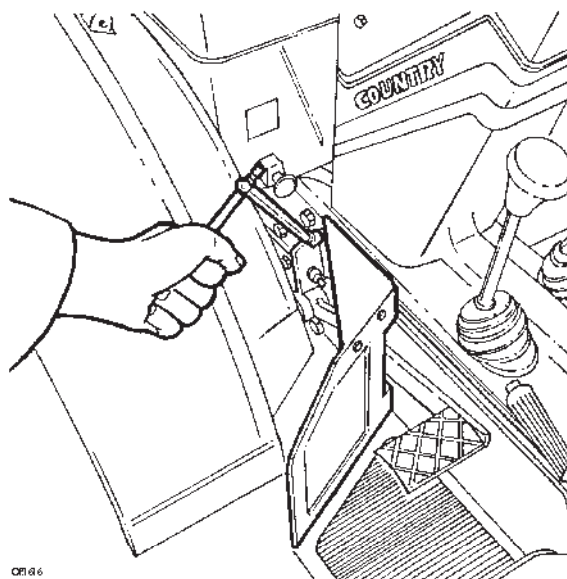
To access the central drive unit proceed as follows:



1 - Detach the air filter located over the battery, then disconnect the positive cable from the battery and isolate it.

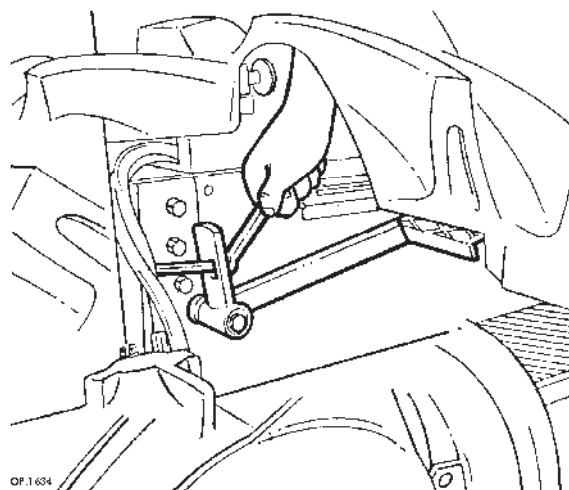


2 - Loosen the pedal and manual accelerator control cable terminals.

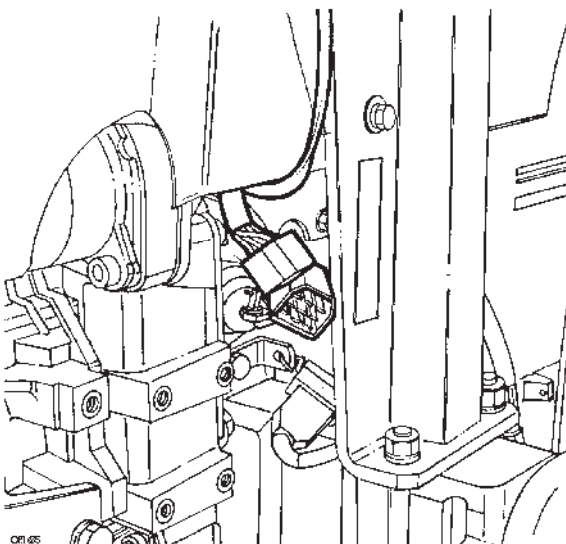


3 - Loosen the screws and remove the front footboard protections

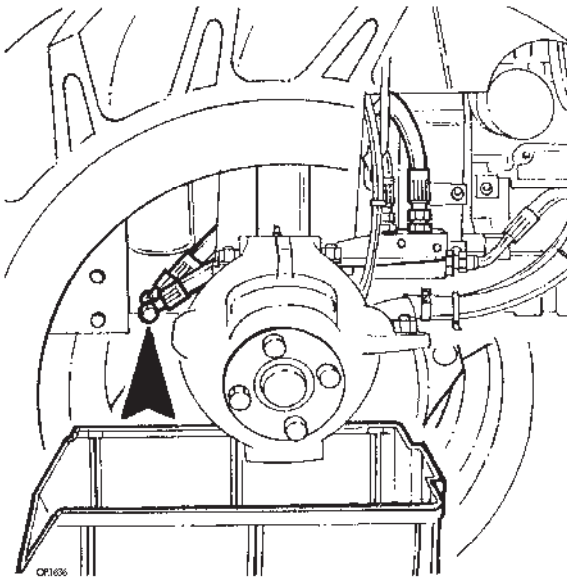
4 - Disconnect the start enable device.



5 - Loosen the clutch tie rod nut and extract the pedal after having removed the retaining split ring.

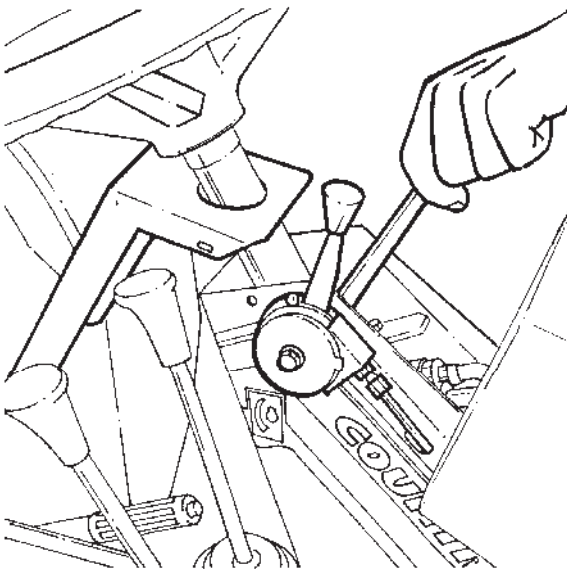


6 - Disconnect the front electric system from the rear electric system.



7 - Loosen the delivery tube to the hoisting device, plug it with a suitable plastic stopper; loosen the discharge tube and collect the oil in a suitable container.

8 - Pull out the accelerator pedal control cable.

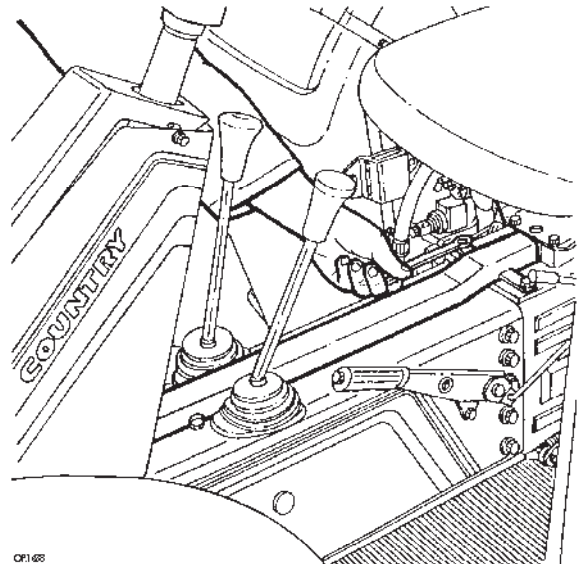


9 - Remove the hydrodrive upper protection and then detach the gas hand lever and pull out the hand accelerator control cable.

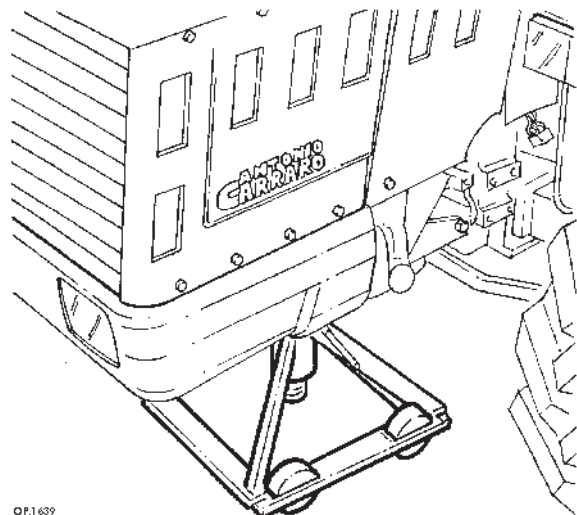
**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

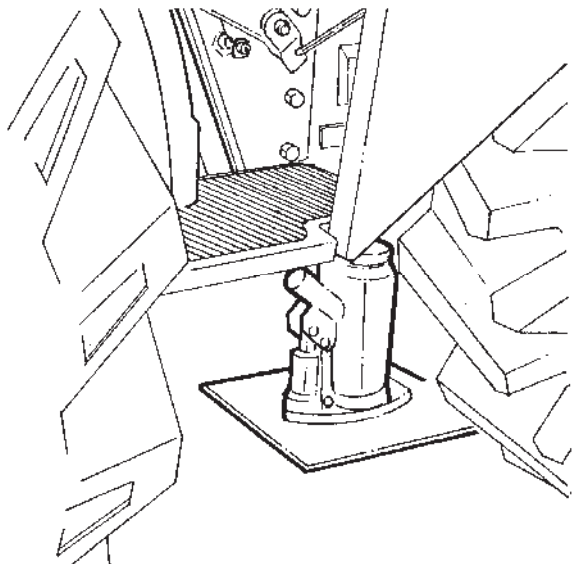
- To lift, use only lifting devices of adequate capacity.



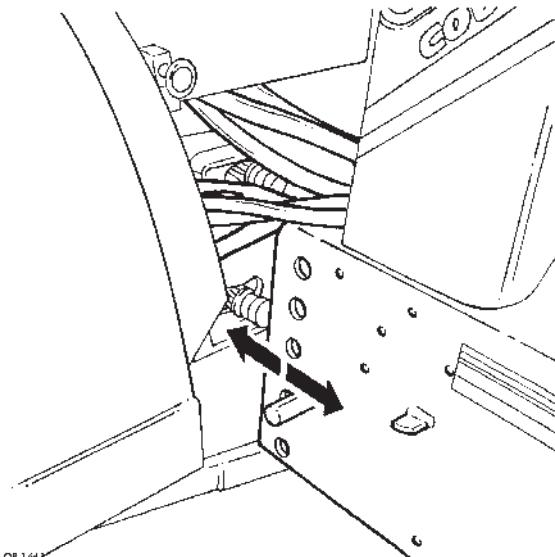
10 - Remove the hydraulic tube protective conduit.



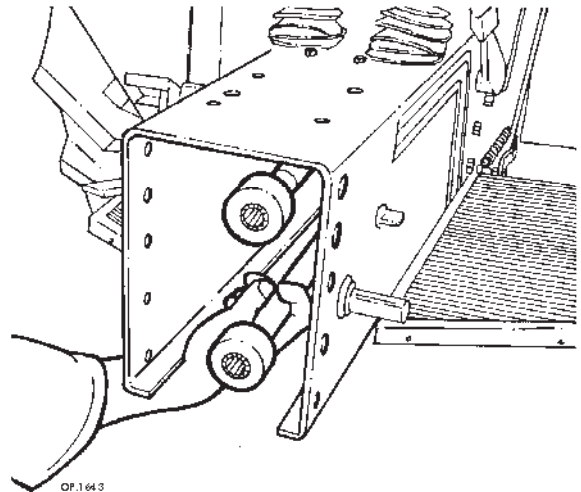
11 - Place a movable support underneath the engine.



12 - Position a vehicle stand underneath the rear transmission.



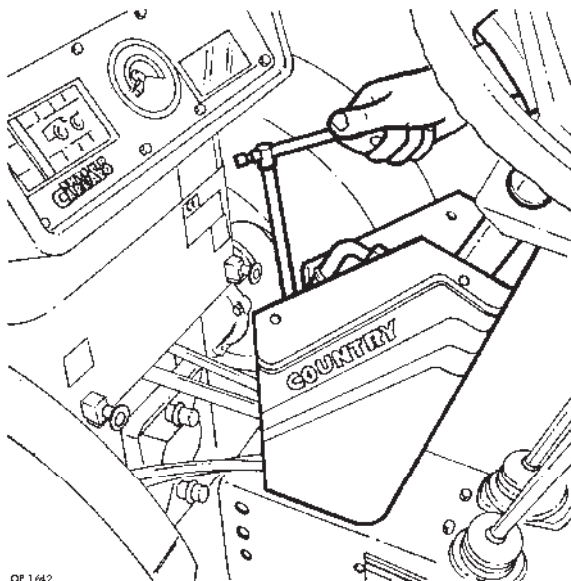
13 - Loosen the screws that fasten the central section to the variator and separate the forecarriage from the central section, removing the electrical system wires and the hydraulic system tubes.



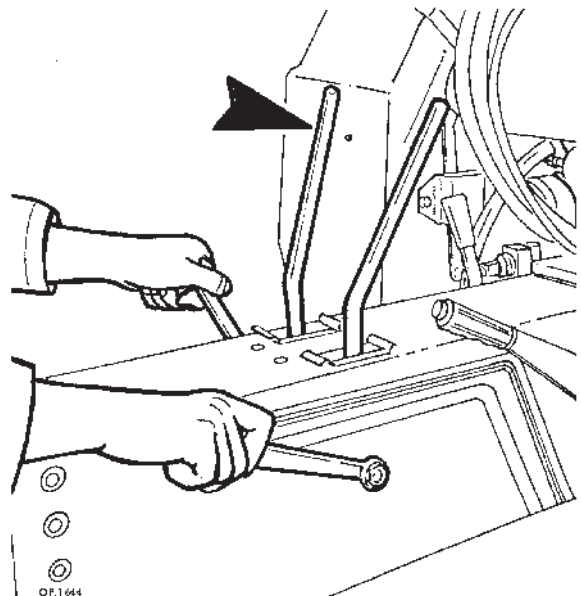
15 - Pull out the central extensions.

16 - Loosen the screws and remove the footboard lower support.

17 - Remove the gear selector rod support.



14 - Detach the hydrodrive support from the central section.



18 - Remove the gear lever and the pin, springs and spacers, and detach the PTO control lever.

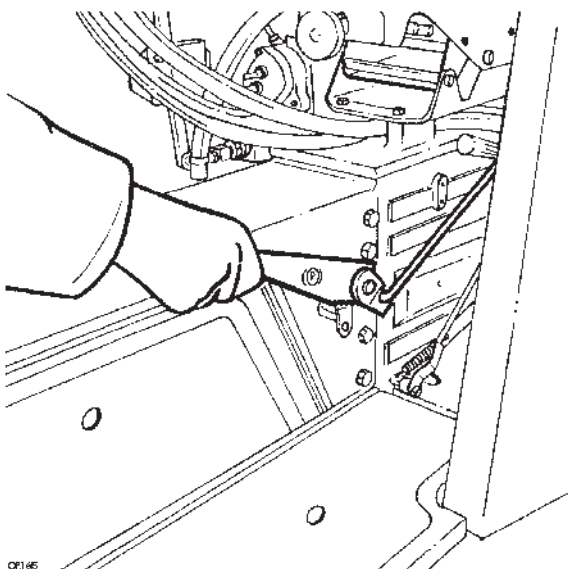


WARNING - DANGER

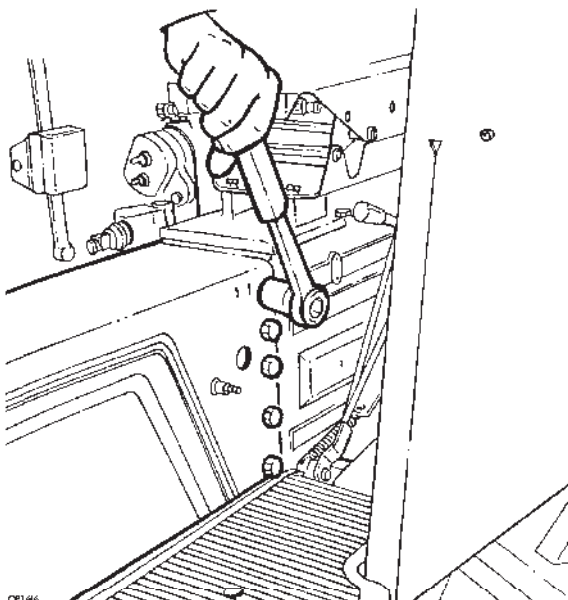


When performing operations, follow all the safety and accident prevention procedures carefully.

- Use the proper tools, not your hands, to align holes and slots.



19 - Detach the tie rods for the hand brake control lever and remove it.



20 - Loosen the central section fastening screws on the gearbox and remove it.



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

- Use the proper tools, not your hands, to align holes and slots.

Re-installation

Proceed with the re-installation observing the following precautions:

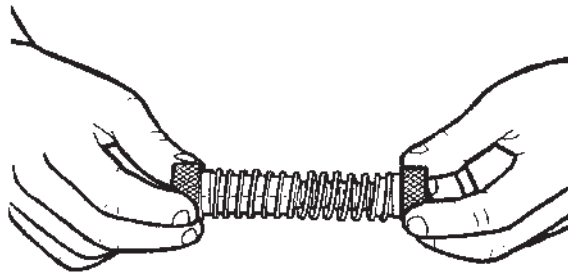
1 - Follow the disassembly instructions in the reverse order;

2 - Refer to drawings for location of different parts;

3 - Observe the driving torques listed on page 4;

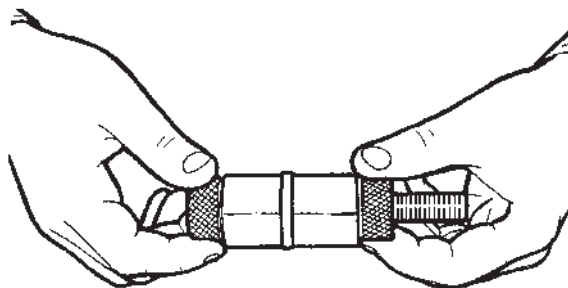
4 - Before inserting the extensions, apply FIAT ZETA 2 grease to the splined sections.

Note: compression of the gearshift lever pin spring



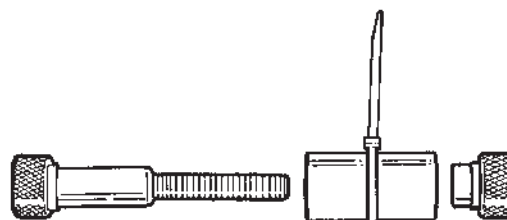
CP147

1 - Insert the spring in the AT 37981665 threaded pin and tighten the perforated bushing in order to compress the spring.



CP148

2 - Apply the two shells and then fasten them using a retaining strap.

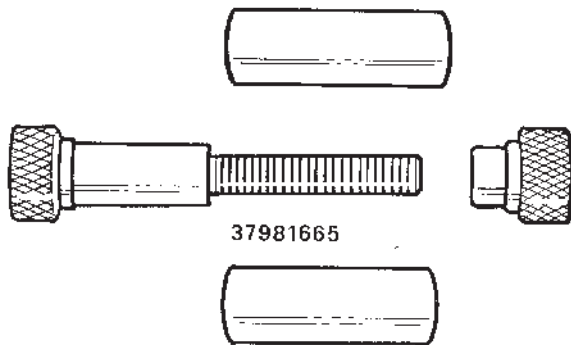


CP149

3 - Loosen the bushing and extract the spring compressed between the two shells.



EQUIPMENT



KT 286

1 - Threaded pin, perforated bushing and two shells for spring compression.



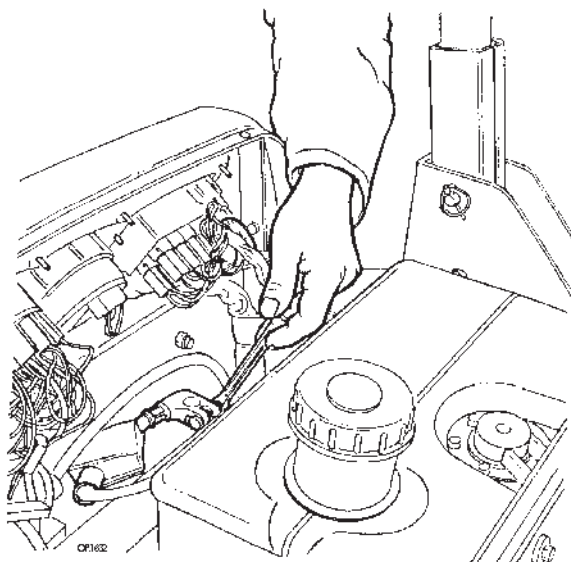
SPEED GEAR ASSEMBLY



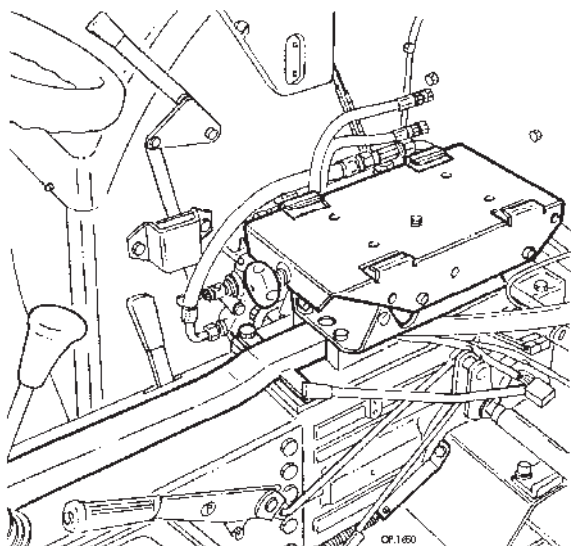
REAR TRANSMISSION

Instructions for disconnection and connection

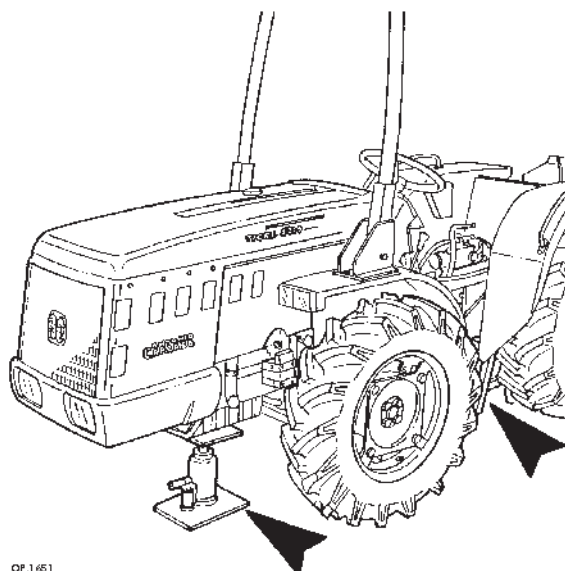
To access the rear transmission, proceed as follows:



1 - Remove the air filter located over the battery and disconnect the positive battery cable.

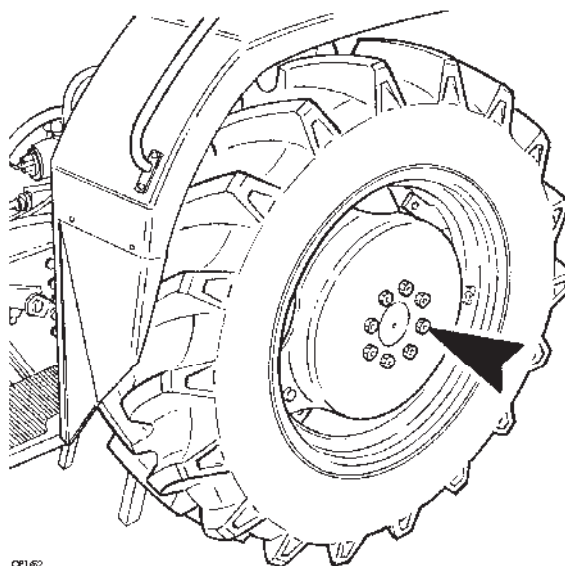


2 - Release the seat by removing the seat's spring mechanism and remove the guard protecting the hydraulic system tubes.



3 - Position a vehicle stand underneath the engine and another one underneath the central body.

4 - Loosen the oil drain plug under the PTO and drain the oil into a suitable container having a capacity of at least 20 liters.



5 - Loosen the nuts and pull off the rear wheels.

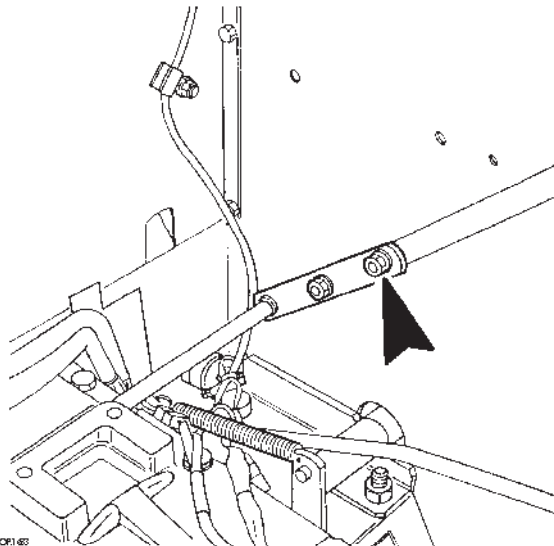


WARNING - DANGER

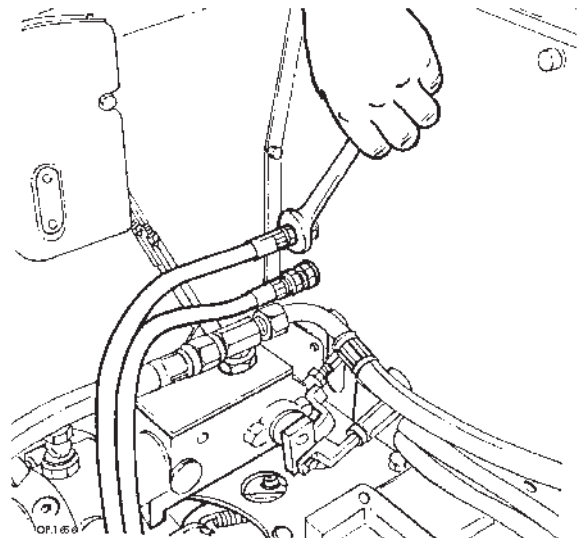


When performing operations, follow all the safety and accident prevention procedures carefully.

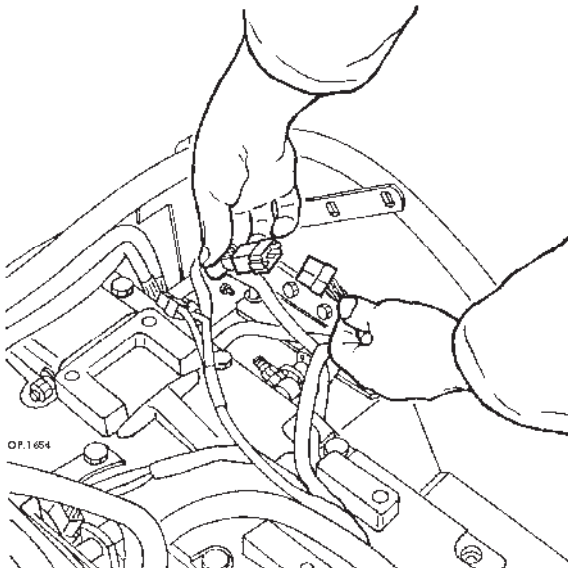
- Dispose of oils in compliance with environmental regulations.
Do not pollute the environment.



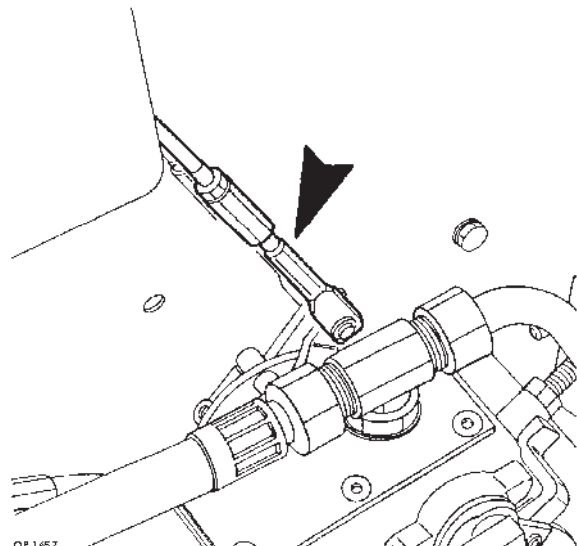
6 - Remove the PTO clutch engagement and disengagement lever.



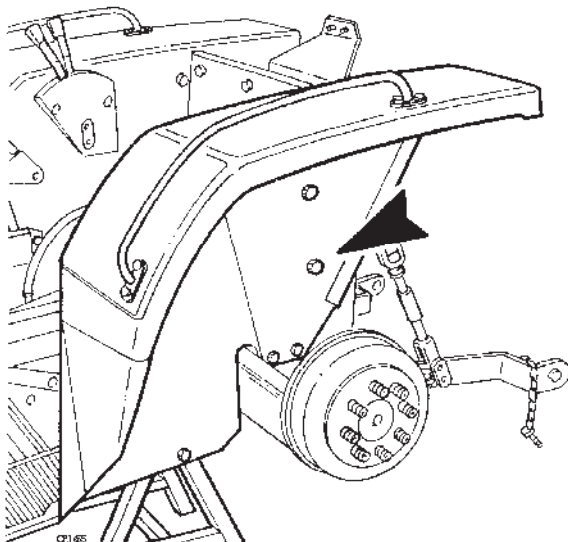
9 - Detach the hydraulic inlet connection tubes on the rear protection.



7 - Disconnect the electrical wires for the tail lights, stop lights and licence plate lights.



10 - Detach the tie rods for the controlled force control lever.



8 - Loosen the screws attaching the left fender and remove the fender.

11 - Detach the distributor lever and remove the right fender.

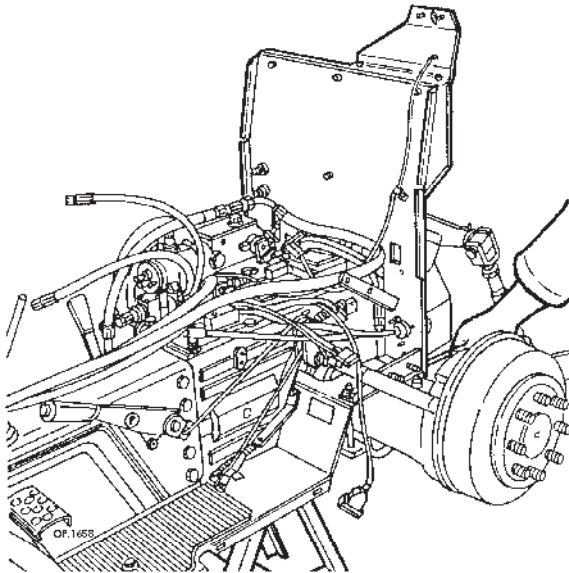


WARNING - DANGER

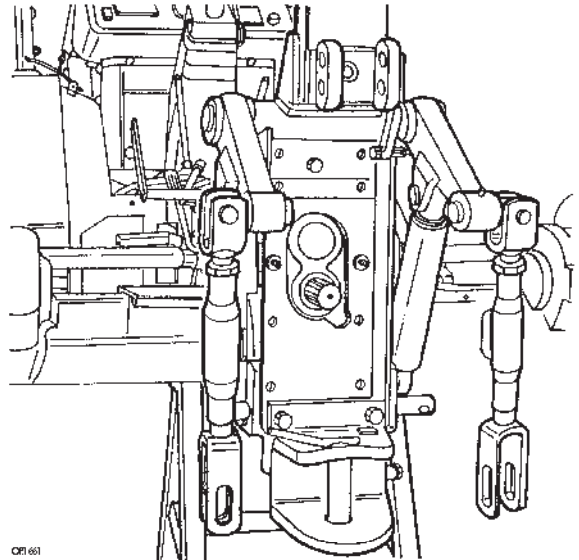


When performing operations, follow all the safety and accident prevention procedures carefully.

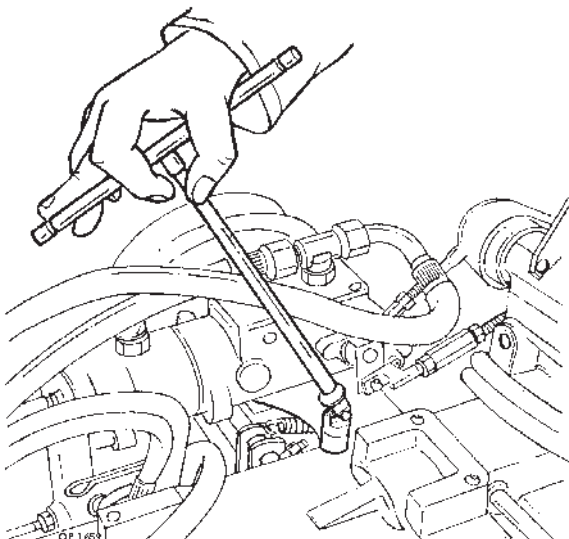
Wear proper protective clothing such as gloves and safety shoes.



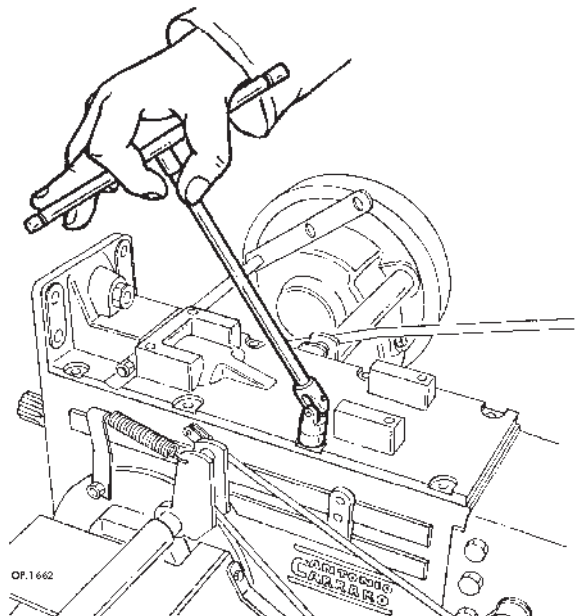
12 - Loosen the screws and remove the rear guard and the underlying plates.



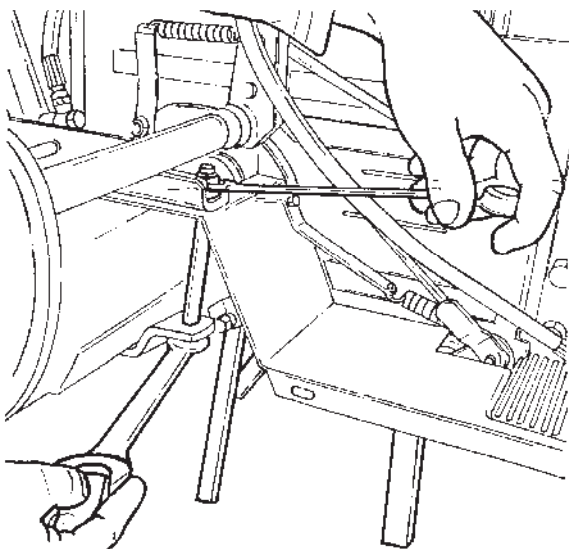
15 - Loosen the screws and remove the hoisting device.



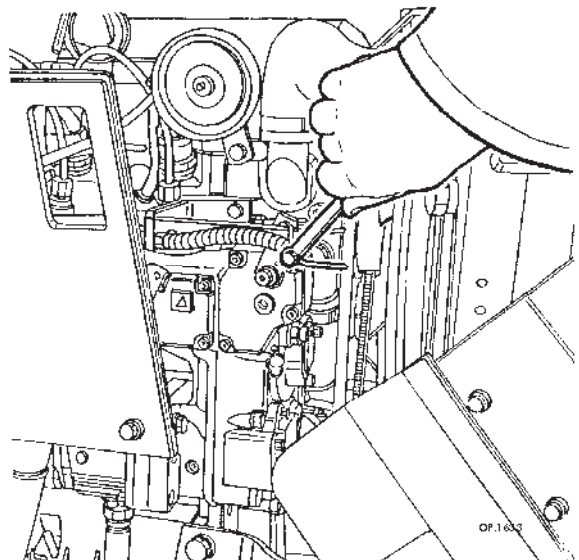
13 - Remove the controlled force unit for the hoisting device.



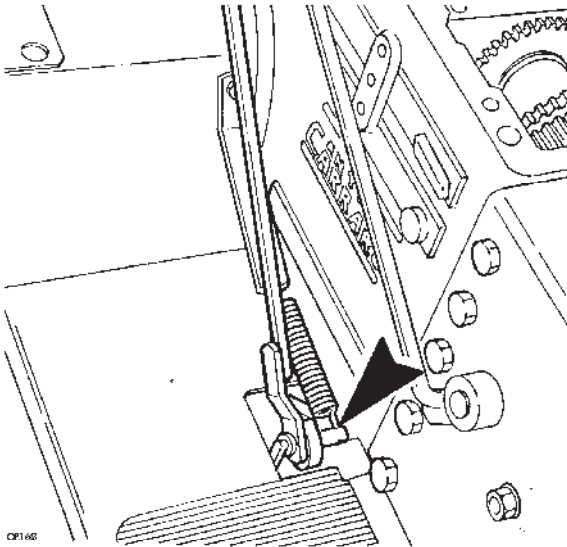
16 - Remove the gearbox cover.



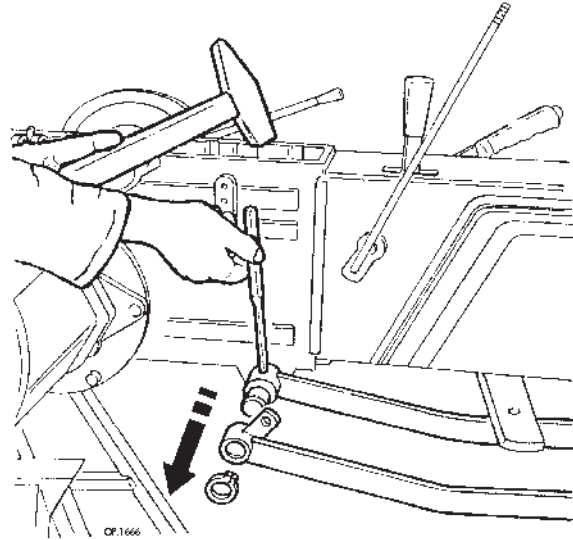
14 - Remove the footboard U-bolts and the hoisting arms.



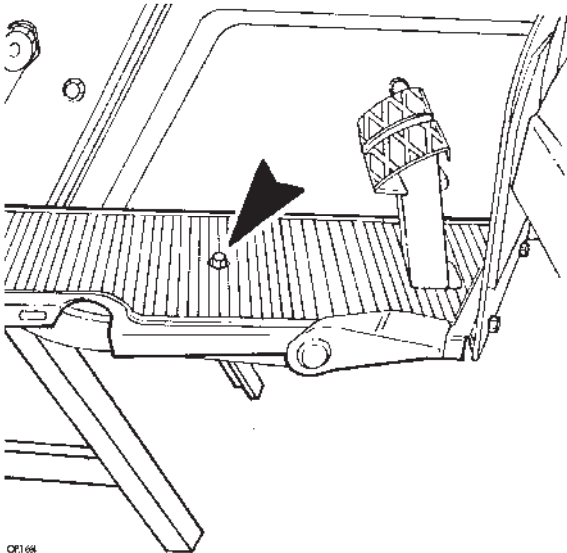
17 - Loosen the accelerator pedal control cable terminal and pull it out.



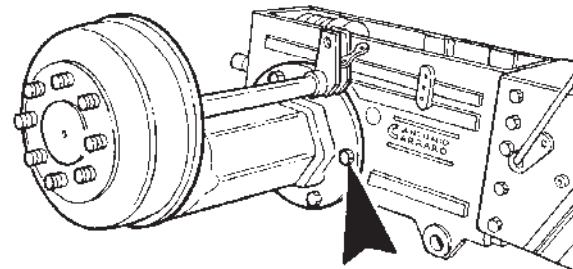
18 - Remove the brake tie rod spring.



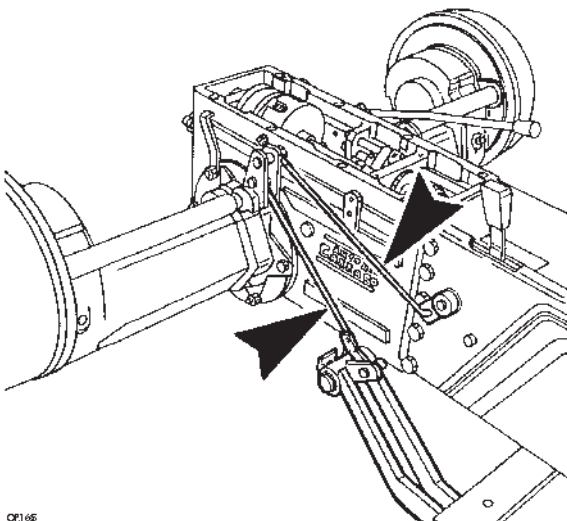
21 - Remove the spring pin and the stop ring and disassemble the brake pedals.



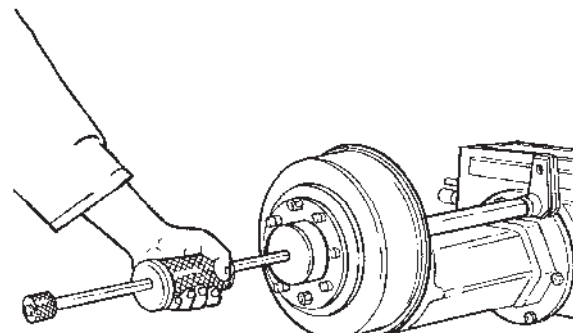
19 - Loosen the screws and remove the footboards.



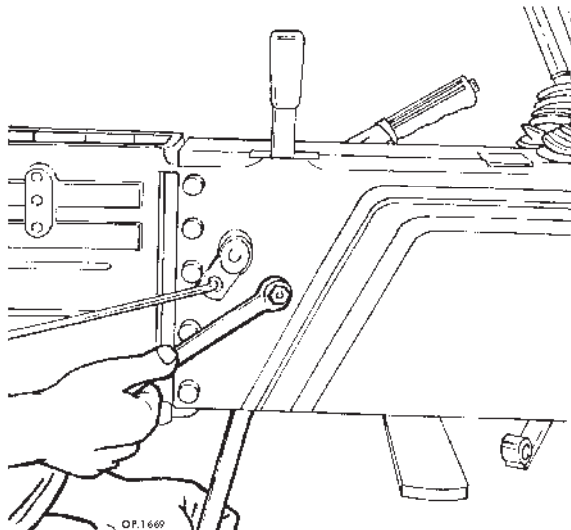
22 - Loosen the screws that fasten the rear reduction gear axles.



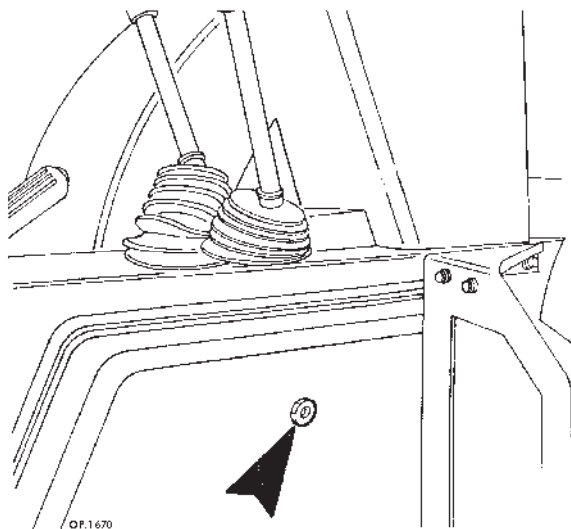
20 - Remove the stop rings and detach the hand and foot brake tie rods.



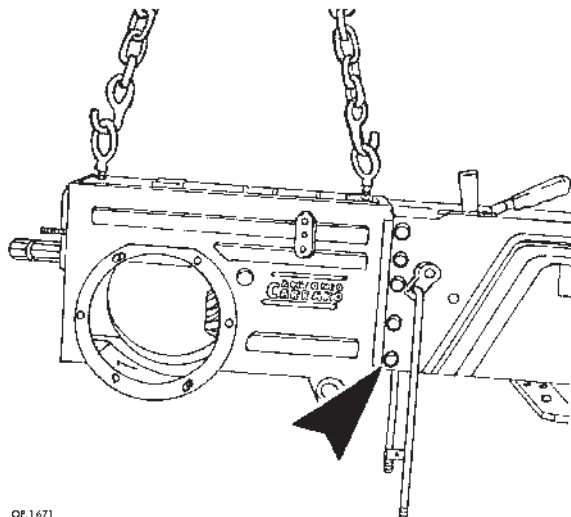
23 - Remove the axles using the AT 27981047 slide hammer and the AT 37981235 adapter; remove the differential unit.



24 - Loosen the nut for the PTO engagement lever.



25 - Loosen the nut and pull out the shaft for the shift sticks; remove the sticks, spacers and springs. Remove the rod support as well.

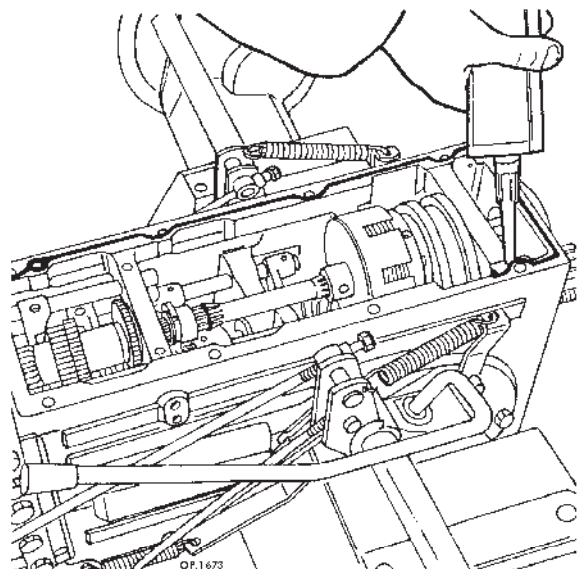
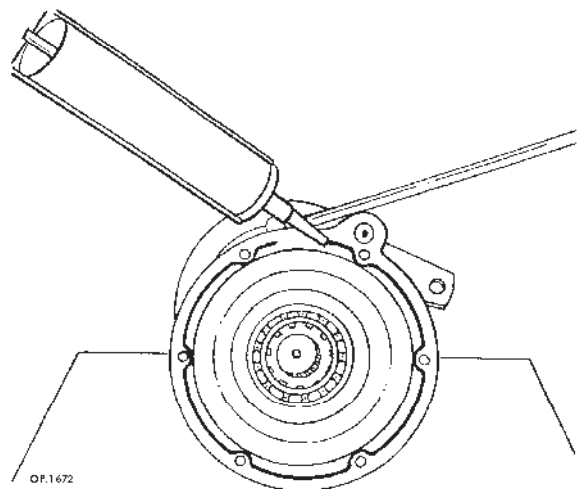


26 - Loosen the screws that fasten the rear transmission to the central section and pull out the speed gear.

Reconnecting the rear transmission

To reconnect the rear transmission, proceed as follows:

- a** - Clean all the parts thoroughly;
- b** - Follow the disconnection instructions in the reverse order;
- c** - Observe the driving torques listed on page 4;
- d** - Grease the central extension splined sections (FIAT ZETA 2 grease) and the gearshift controls (ESSO GP GREASE);
- e** - Thoroughly clean and degrease the surfaces to be coupled and apply a 3 mm diameter string of sealing compound (black RTV 1473), following the paths shown in the figures below:





Note: screws fastening the central body to the rear transmission.

Tighten the two upper screws using LOCTITE 242 medium strength threadlocker on both sides of the central body. The second screw on the r.-h. side is shorter so that it does not strike the gearshift selector rod.

Note: compression of the gearshift lever pin spring.

See page 40 in the central transmission disconnection-connection section.



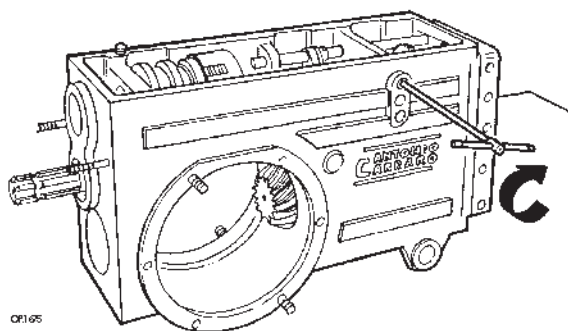
WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

Wear proper protective clothing such as gloves and safety shoes.

3 - Remove the plugs and O-rings.



CP165

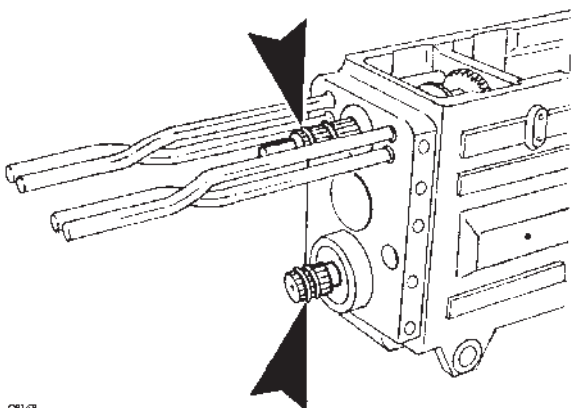
4 - Extract the security dowels, springs and balls for the positioning of the gearshift lever control rods.

SPEED GEAR

Disassembly and assembly

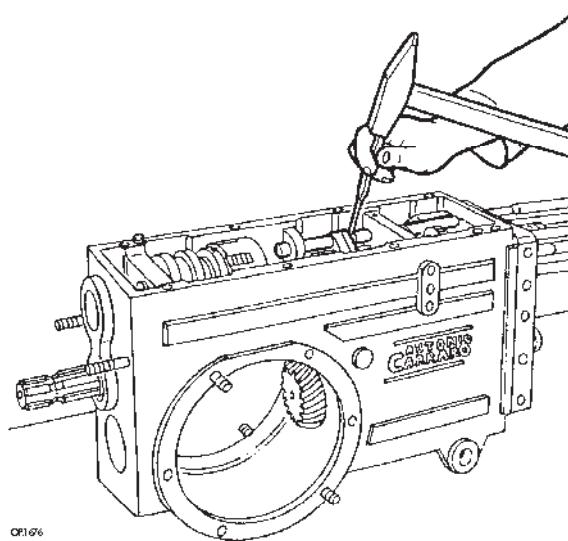
For the disassembly of the various speed gear components, proceed as follows:

1 - Place the transmission case on a workbench.



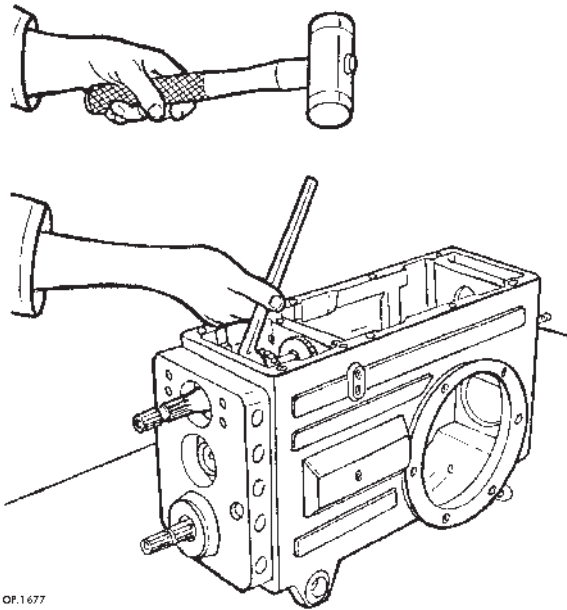
CP164

2 - Remove the springs and the stop rings on the main shaft and pinion, for connection with the central extensions.



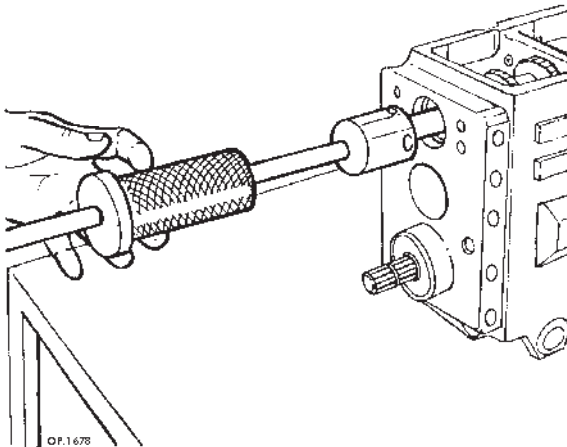
CP166

5 - Extract the spring pins, remove the gear engagement forks and extract the rods. First remove the PTO standard-synchronized disengagement rod.



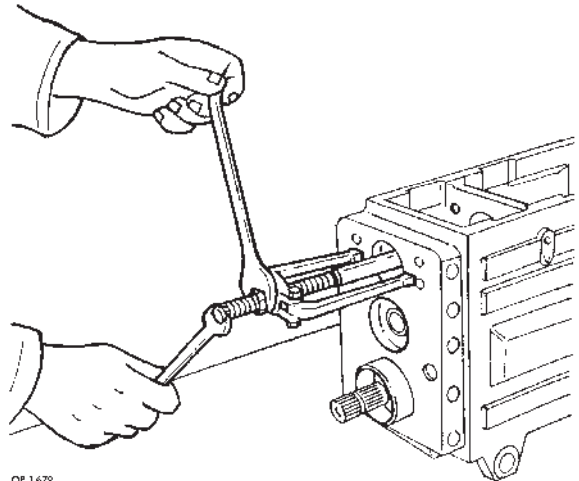
OP.1677

6 - Remove the main shaft C1 bearing stop ring and extract the bearing using the AT 37981633 puller.



OP.1678

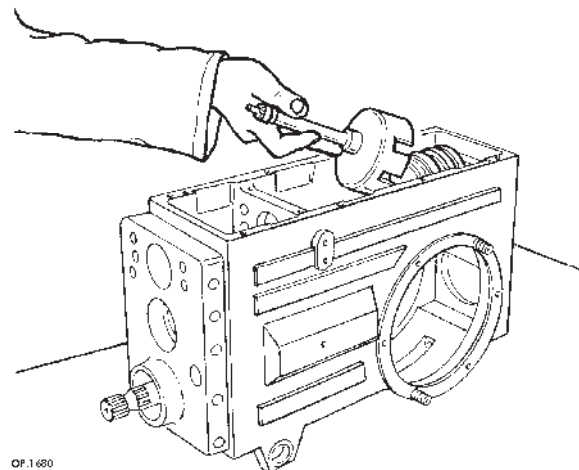
7 - Remove the main shaft using the AT 27981047 slide hammer and the AT 37982636 adapter; remove the gears, spacers, and the standard PTO engagement bushing.



OP.1679

8 - Extract the C2 bearing using the AT 37981216 puller and the AT 37981222 adapter, connecting them to the AT 37981598 extension.

9 - Remove the gear engagement forks.



OP.1680

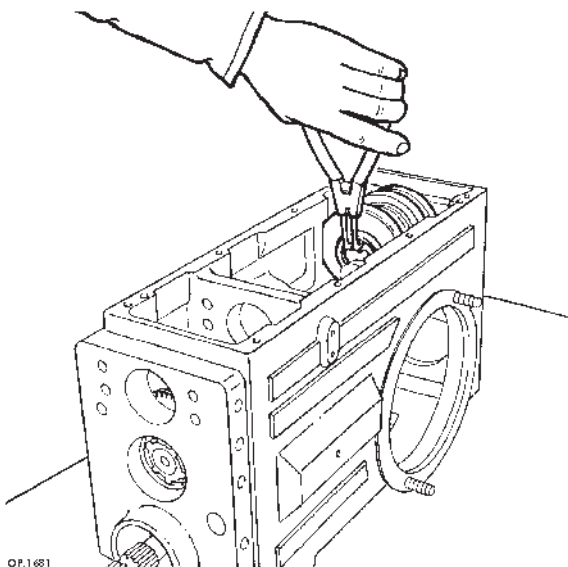
10 - Remove the PTO bell shaft along with the roller cage.

**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

- Dispose of oils in compliance with environmental regulations.

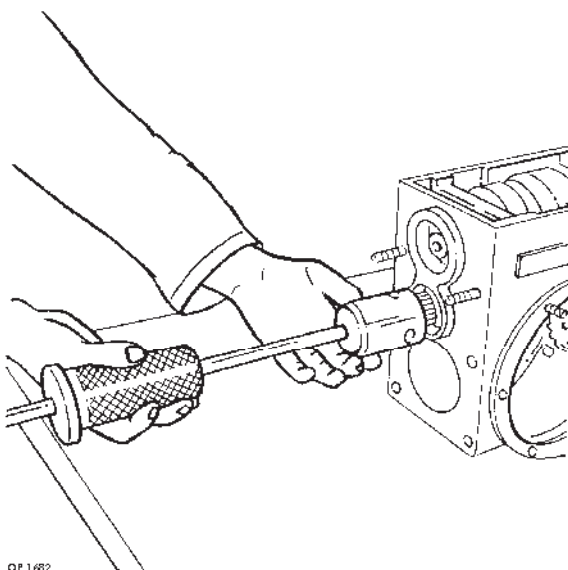
Do not pollute the environment.



OP.1681

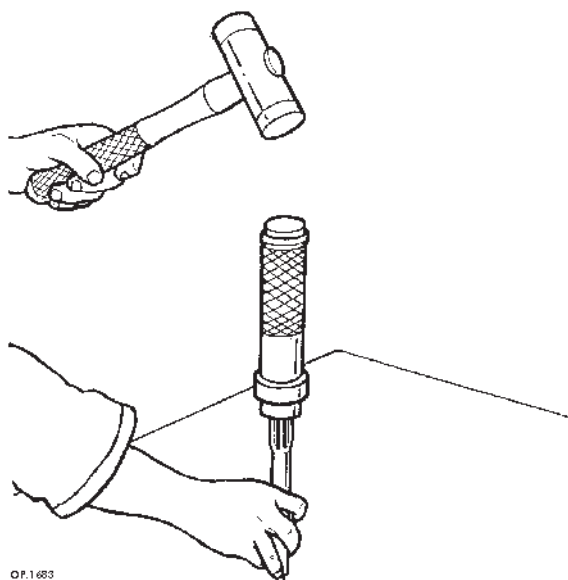
11 - Remove the upper PTO shaft stop ring.

12 - Extract the C4 bearing retainer ring on the upper PTO shaft and the C8 and C9 bearing retainer ring on the lower PTO shaft. The inner one on the lower shaft is only to be removed from its seat.



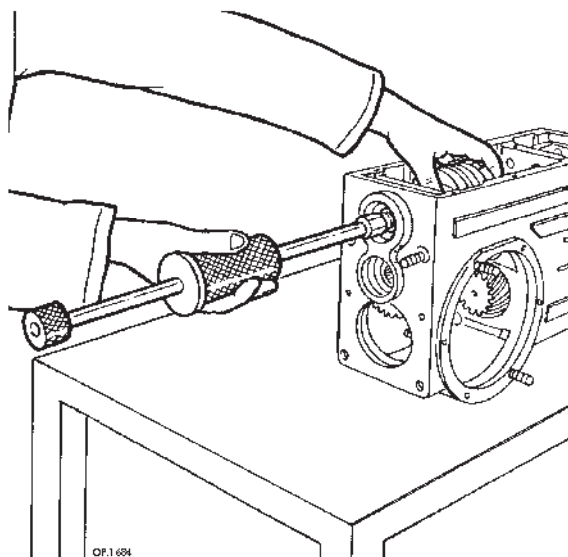
OP.1682

13 - Extract the lower PTO shaft using the AT 27981047 slide hammer and the AT 27981124 adapter; remove the snap ring, engagement bushing and roller cage.



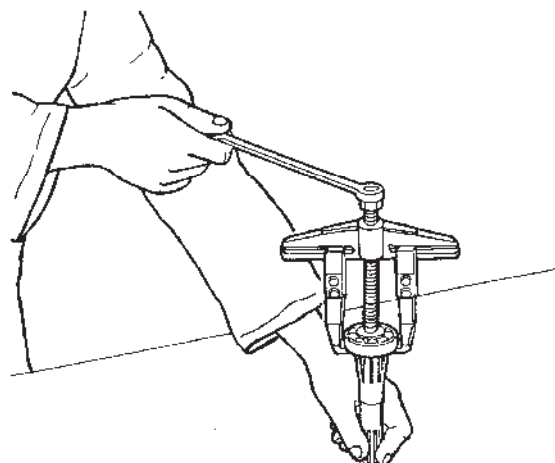
OP.1683

14 - Extract the C9 bearing from the PTO shaft using the AT 37981660 driver.



OP.1684

15 - Extract the upper PTO shaft, remove the clutch using the AT 27981047 slide hammer, remove the spacer between clutch and bearing.

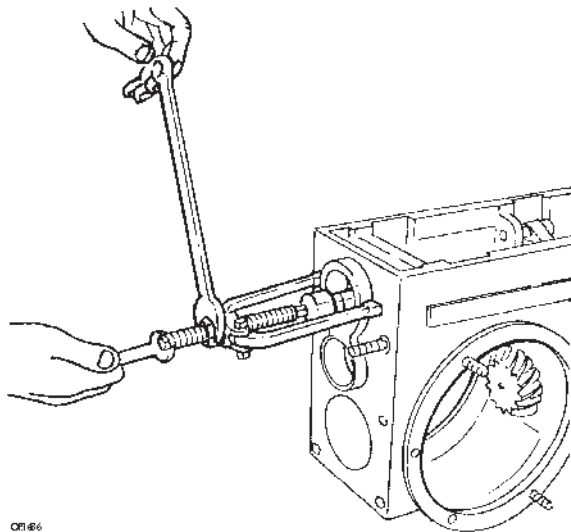


OP.1685

16 - Remove the C4 bearing using the AT 37981257 universal puller with jaws.

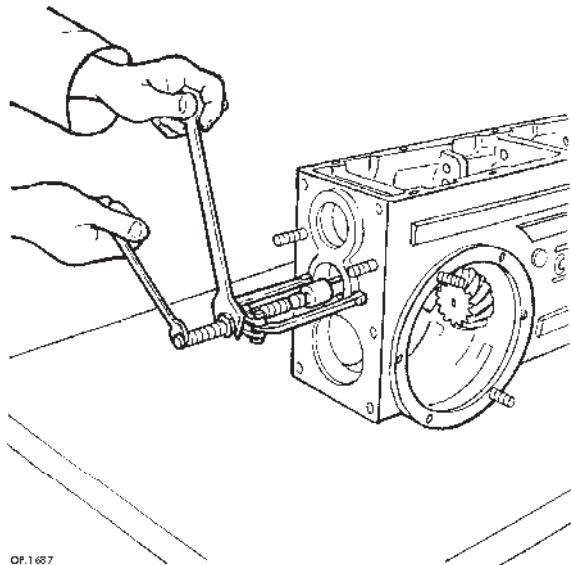


17 - Remove the reduction gear on the PTO.



OP.166

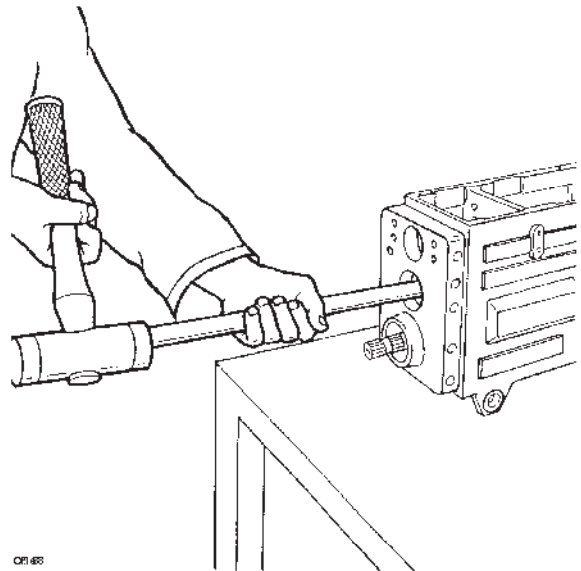
18 - Extract the C3 bearing from the gearbox guard using the AT 37981216 puller and AT 37981579 adapter.



OP.167

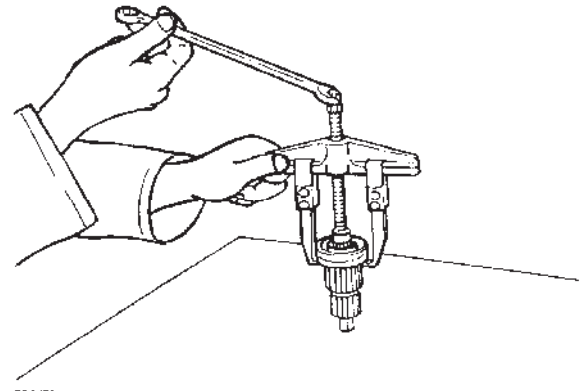
19 - Extract the C8 roller bearing using the AT 37981216 puller and AT 37981255 adapter.

20 - Remove the C7 bearing stop ring from the final reduction pinion.



OP.168

21 - Remove the final reduction pinion and the roller cage using the AT37981588 tool, operating on the transmission shaft.



OP.169

22 - Extract the C7 bearing using the AT 37981257 universal puller with jaws and the AT 37981616 adapter.

23 - Reinstall the transmission shaft in order to extract the gear for the reduction pinion L-V.

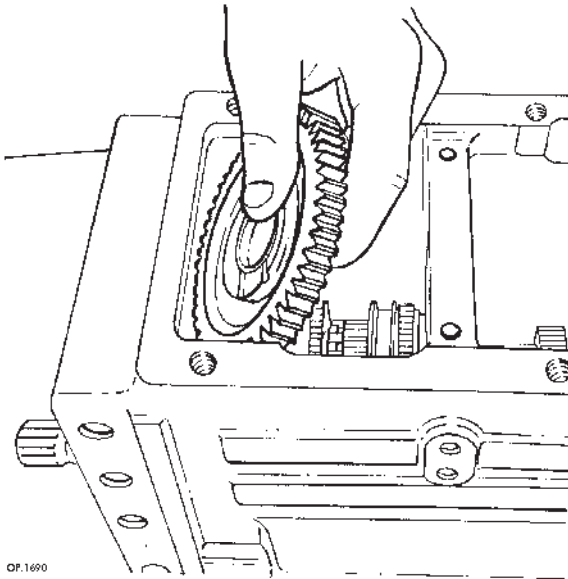


WARNING - DANGER



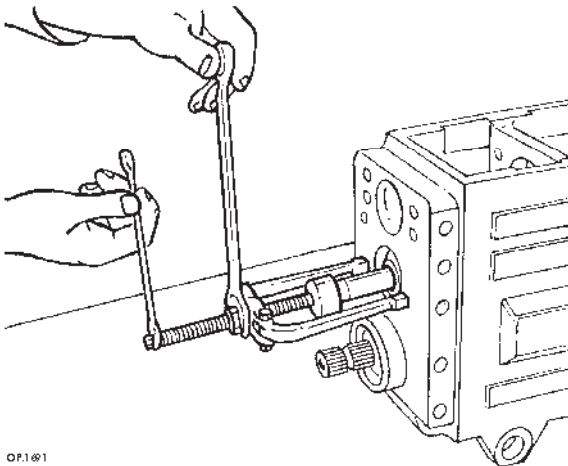
When performing operations, follow all the safety and accident prevention procedures carefully.

- Operations requiring special care may be dangerous for the operator if not correctly performed.



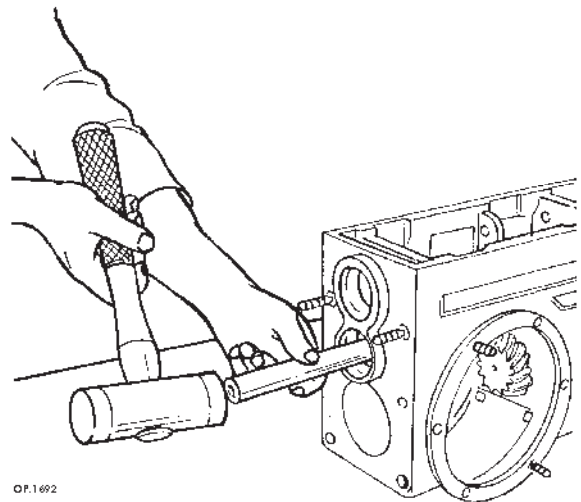
OP.1690

24 - Push back the transmission shaft using the AT 37981588 cylindrical bar and extract the gearshift gears starting with the first gear.



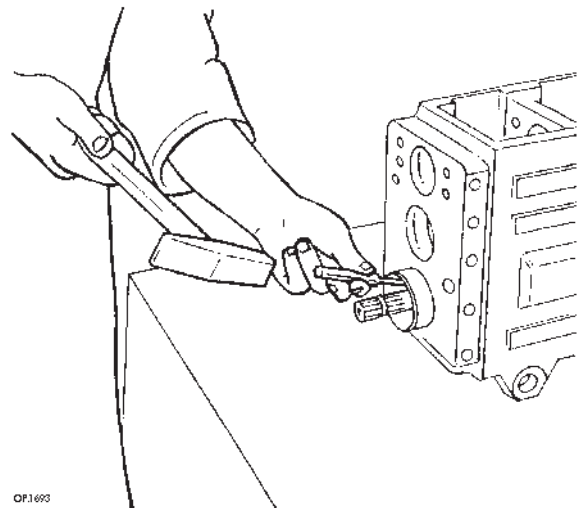
OP.1691

25 - Remove the C5 bearing stop ring and extract the bearing using the AT 37981216 puller and AT 37981579 adapter.



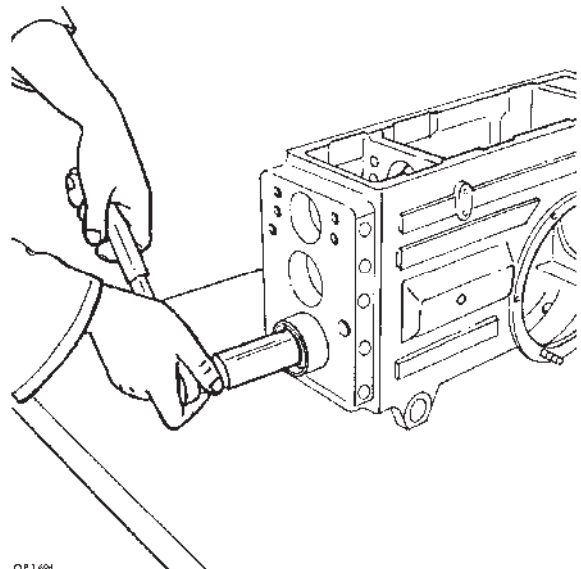
OP.1692

26 - Extract the transmission shaft using the AT 37981588 cylindrical bar, remove the AS spacer and the C6 bearing by hand.



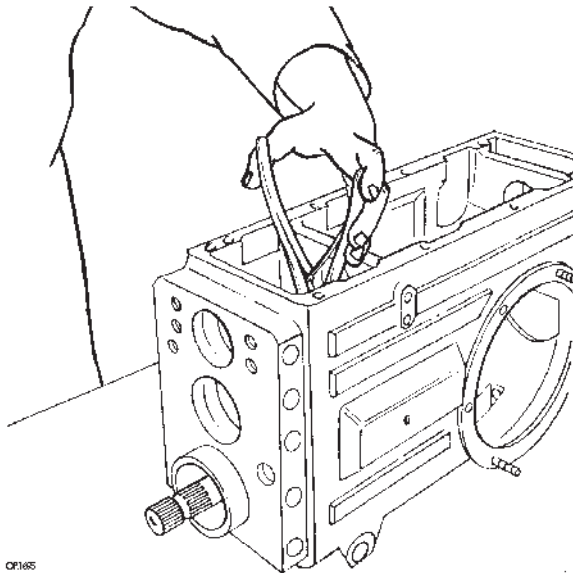
OP.1693

27 - Recondition the dents on the ring nut.



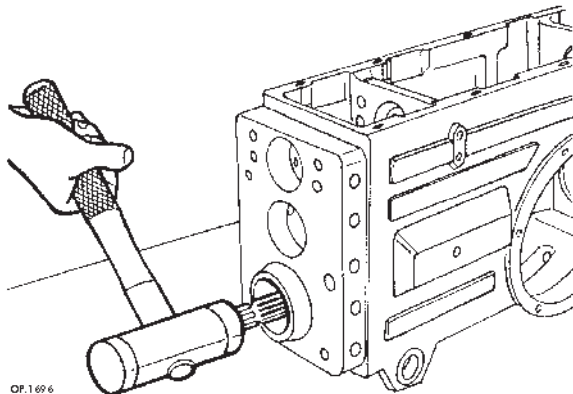
OP.1694

28 - Loosen the pinion ring nut using the AT 37981306 wrench.



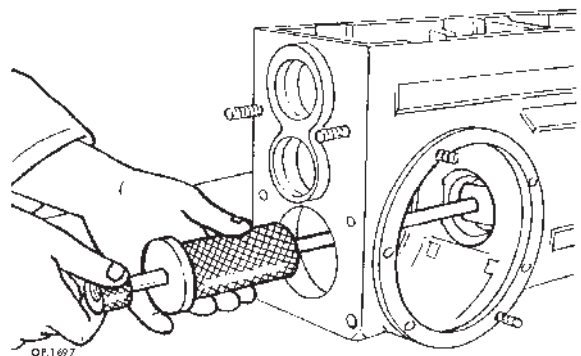
OP.165

29 - Remove the C11 bearing stop ring from its seat.



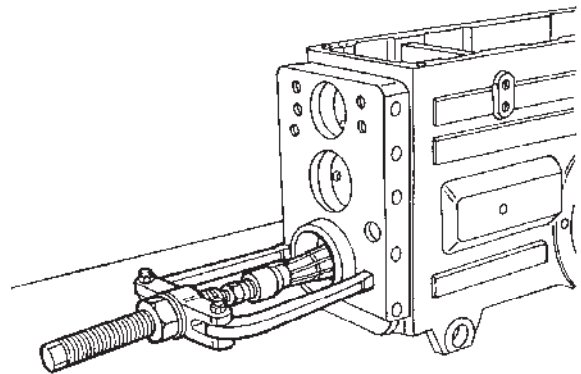
OP.166

30 - Slide out the pinion by operating with a mallet on the tang; remove the gears, spacers, roller cage and rings.



OP.167

31 - Extract the C12 rear bearing outer ring using the AT 27981047 slide hammer and AT 37981296 adapter; remove the spacer.



OP.168

32 - Extract the C10 pinion front bearing outer ring using the AT 37981253 puller and the AT 37981256 adapter.

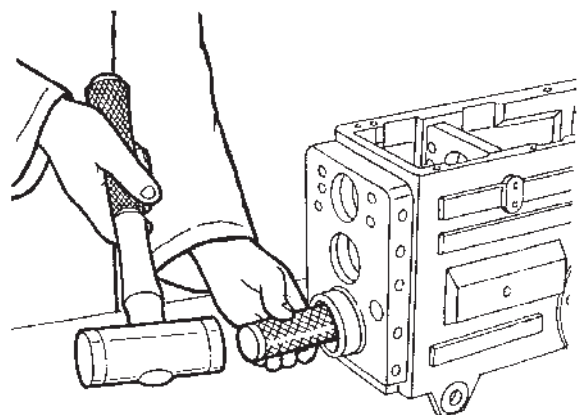


WARNING - DANGER



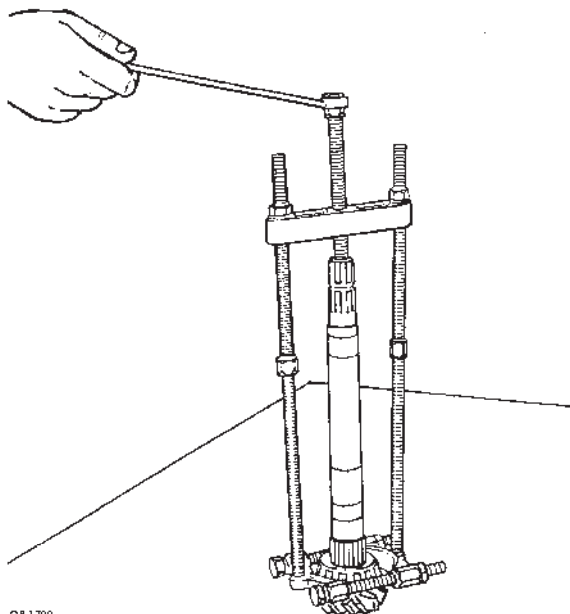
When performing operations, follow all the safety and accident prevention procedures carefully.

- Dispose of oils in compliance with environmental regulations.
- Do not pollute the environment.



OP.169

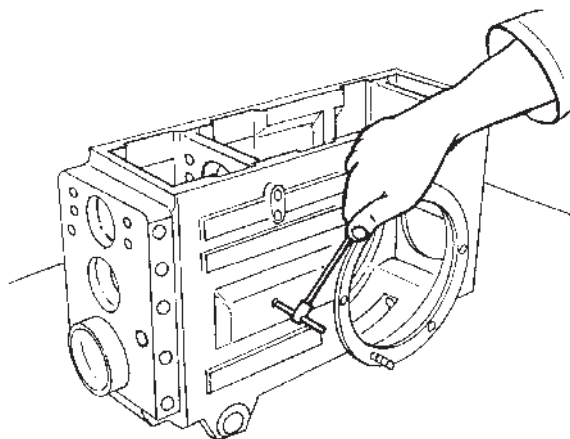
33 - Extract the C11 bearing from the gearbox guard using the AT 37981575 driver.



OP.1700

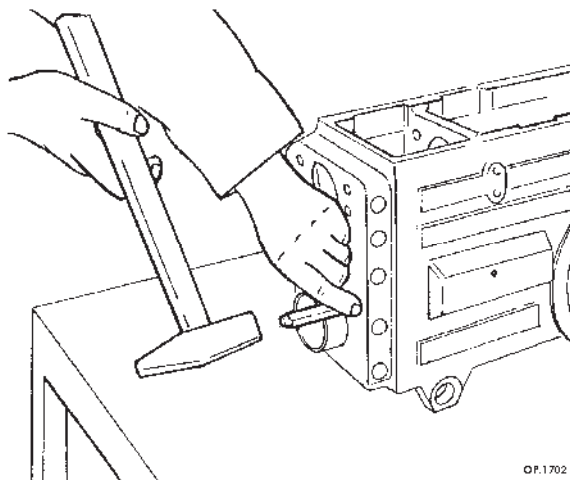
34 - Extract the C12 taper roller bearing using the AT 37981581 puller with the two AT 37981606 extensions.

RM unit



OP.1701

35 - Extract the security dowel on the RM shaft.



OP.1702

36 - Extract the RM shaft using a pin driver after having removed the plug from the sump; remove the RM idle gear.



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

Wear proper protective clothing such as gloves and safety shoes.

Assembly

Proceed with the assembly observing the following precautions:

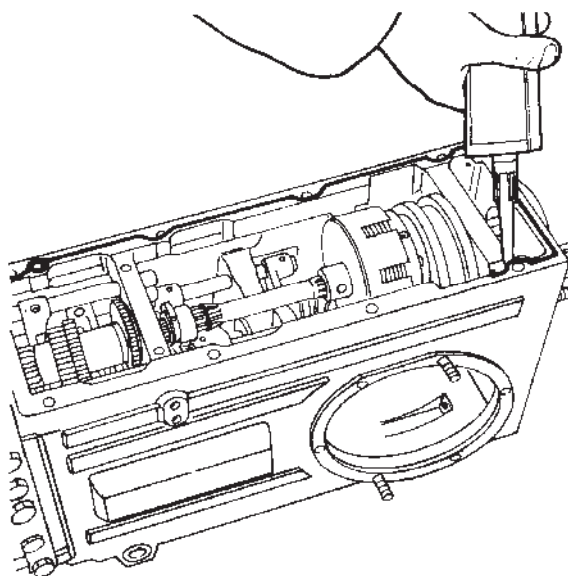
a - Follow the removal instructions in the reverse order;

b - Refer to the assembly drawing for location of different components;

c - Observe the driving torques (table on page 4);

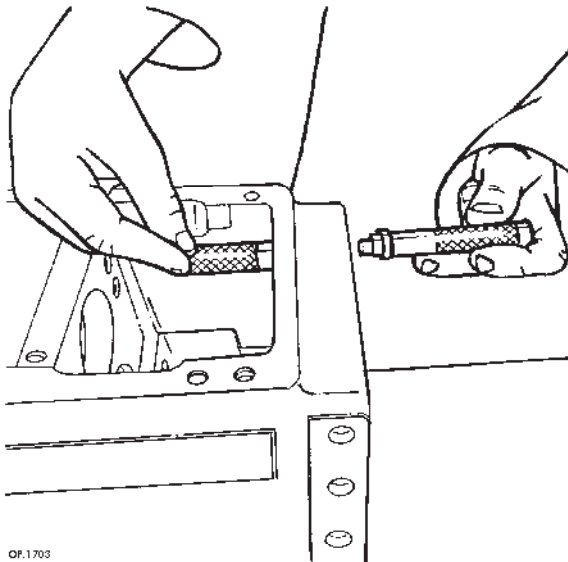
d - Oil and grease the O-rings and seals;

e - Thoroughly clean and degrease the surfaces to be coupled and apply a 3 mm diameter string of sealing compound (RTV 1473), following the path shown below;



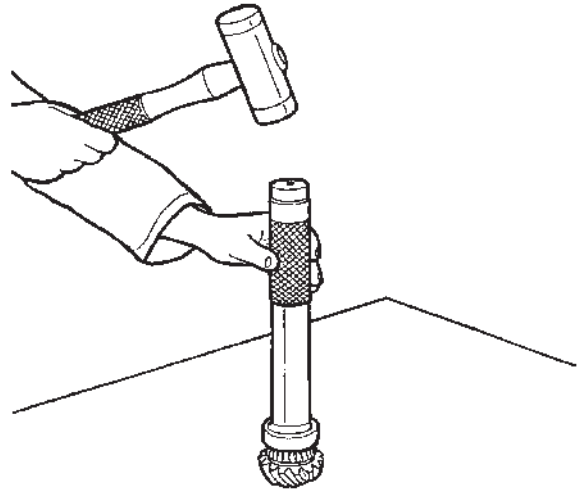
OP.1811

f - Proceed as follows:



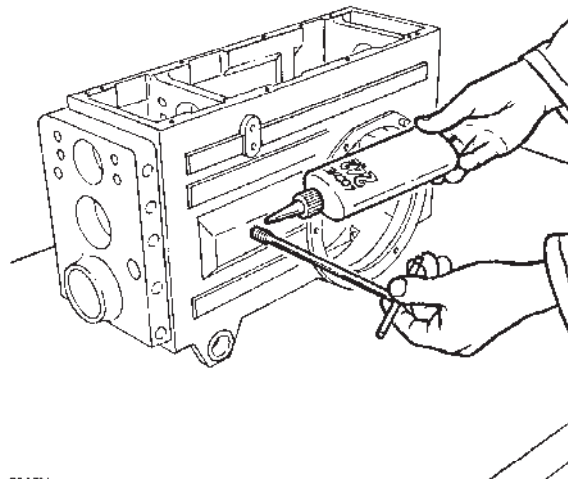
OP.1703

1 - Mount the O-rings for the gearshift rods on the gearbox guard using the two AT 37981573 and 37981574 tools.



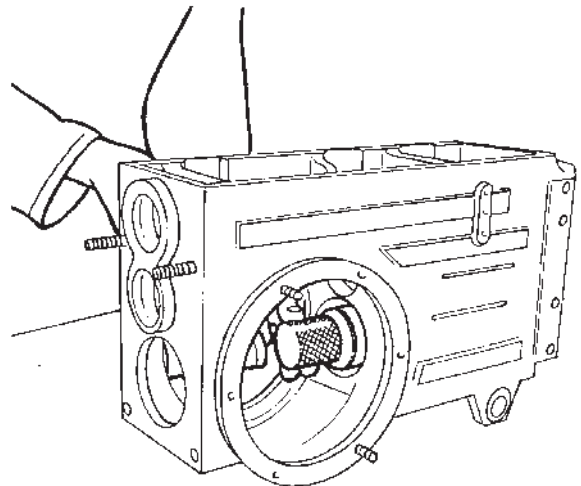
OP.1705

3 - Mount first the inner ring and then the C12 bearing on the pinion shaft, using the AT 37981601 driver.



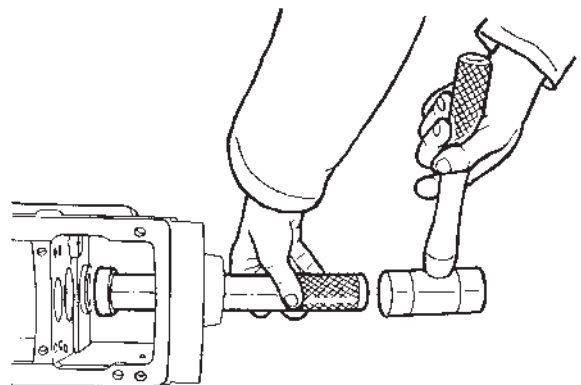
OP.1704

2 - After inserting the RM shaft and the idle gear, lock the security dowel with LOCTITE 242 medium-strength threadlocker.



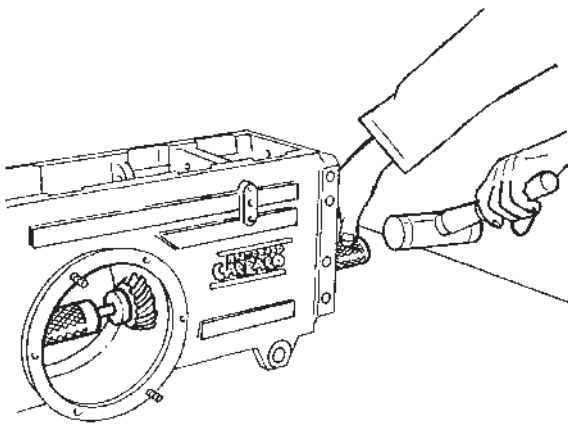
OP.1706

4 - Insert the spacer selected in the adjustment process and mount the bearing outer ring using the AT 37981578 driver.



OP.1707

5 - Mount the C11 bearing using the AT 37981575 driver.

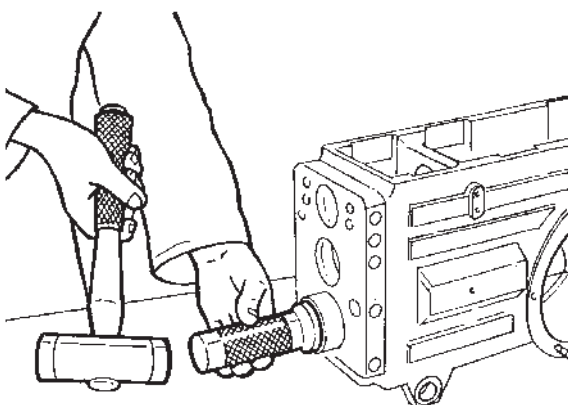


OP.1708

6 - Insert the pinion and corresponding gears and spacers, and reposition the bearing in its seat using the AT 27981109 tool and AT 37981575 driver. Assemble the stop ring using the same driver.

Note

Check the adjustment of the pinion, see page 63 and down.



OP.1709

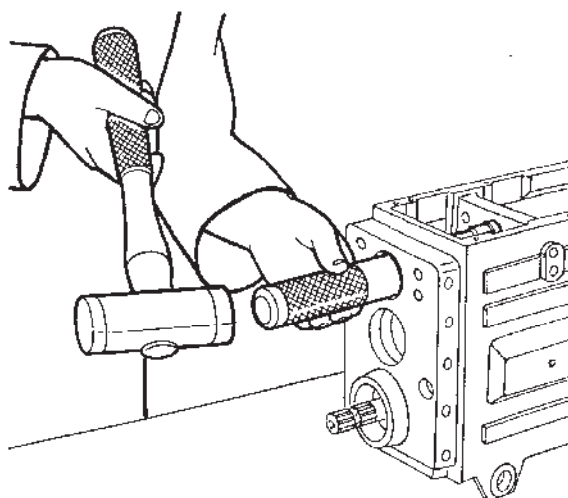
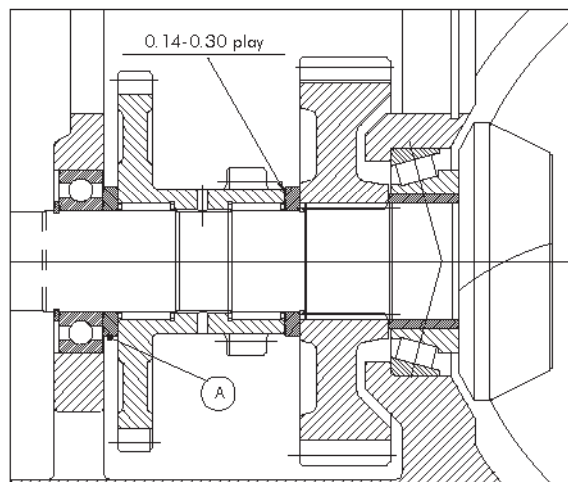
7 - Mount the C10 taper roller bearing outer ring using the AT 37981577 driver, and then mount the bearing.

Checking the axial play

The axial play between the stop ring and the pinion head must be between 0.14 and 0.3 mm.

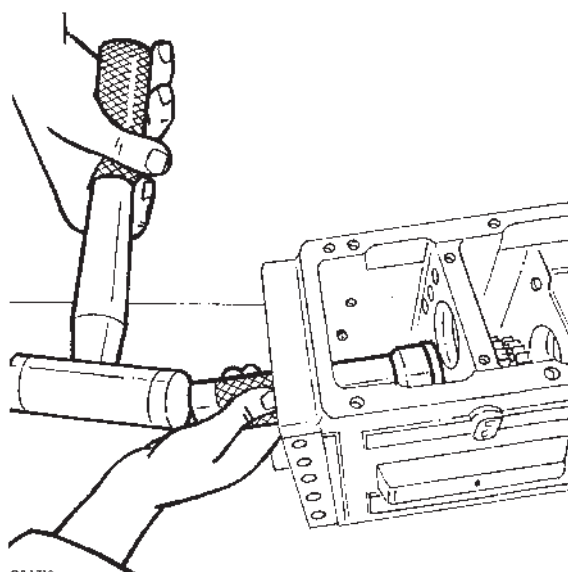
If the play measured by means of a thickness gauge is smaller or greater than the above values, spacer "A" must be replaced with a spare one.

The spacer is supplied as spare with the following measurements: 4.2 - 4.3 - 4.4 - 4.5 - 4.6 - 4.7 - 4.8 mm.



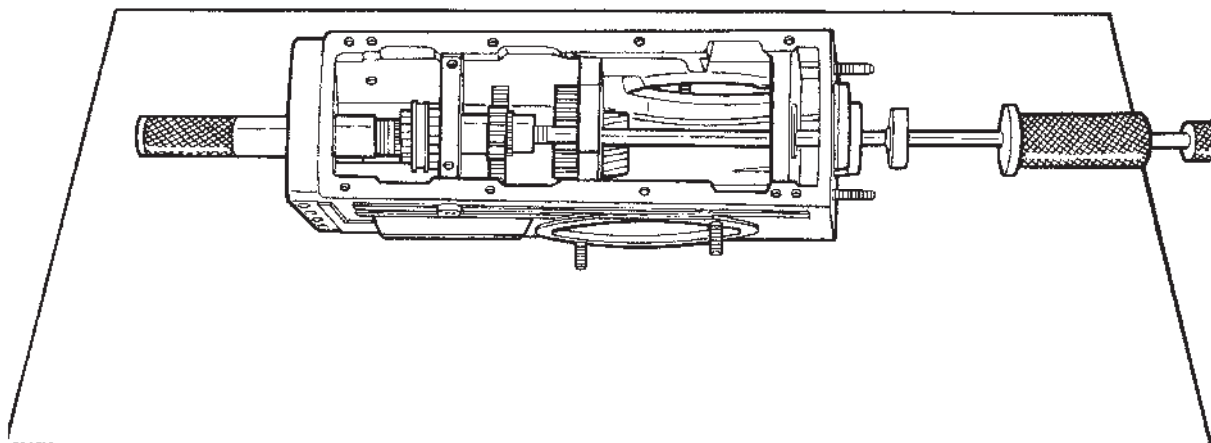
OP.1711

8 - Mount the main shaft C2 bearing using the AT 37981660 driver.



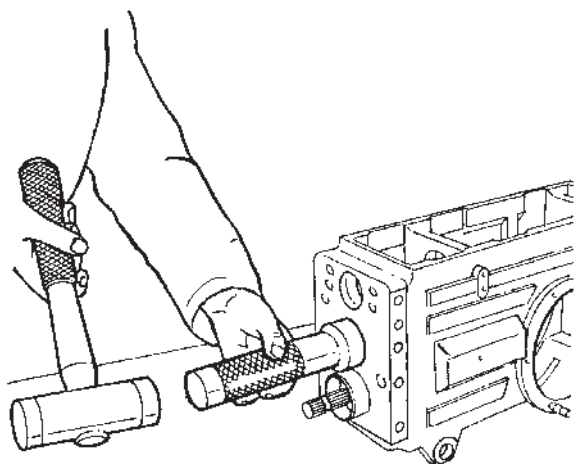
OP.1712

9 - After installing the transmission shaft, insert the C6 bearing using the AT 37981659 driver.



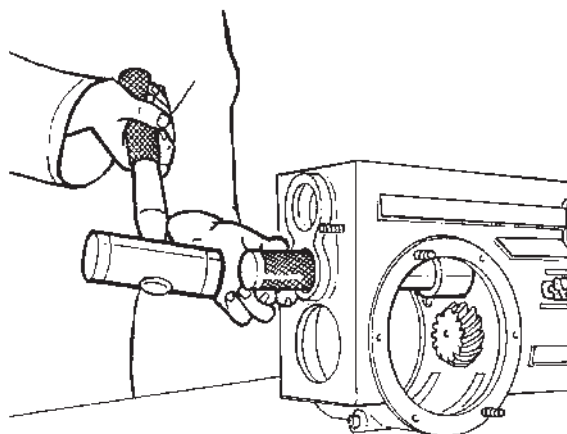
OP.1713

10 - Install gears and bushings for the transmission shaft using the AT 37981565 slide hammer and the AT 37981576 driver.



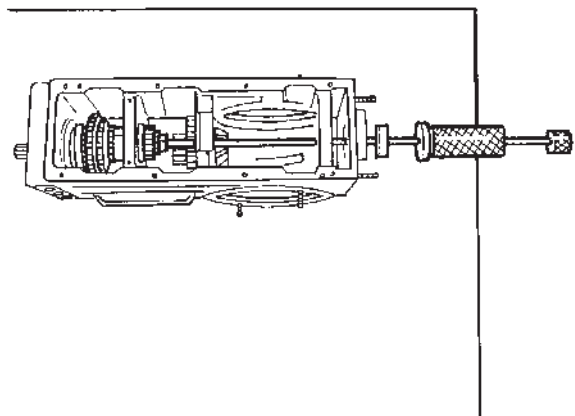
OP.1714

11 - Install the C5 bearing on the transmission shaft using the AT 37981659 driver and insert the stop ring.



OP.1716

14 - Mount the C7 bearing using the AT 37981576 driver and the AT 37981658 adapter.



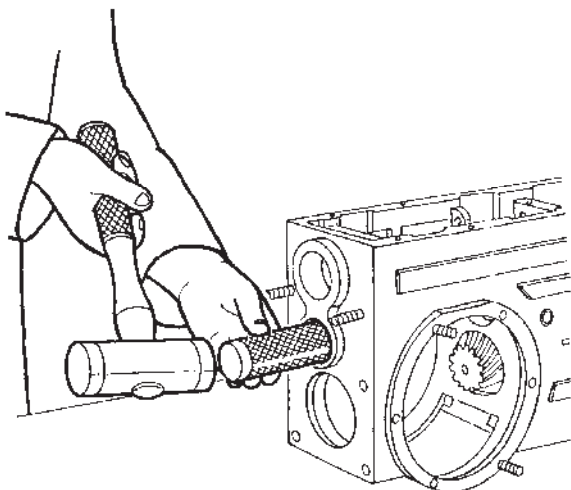
OP.1715

12 - Position the transmission shaft against the previously assembled bearing, using the AT 37981576 slide hammer.

13 - Position the gear wheel selection L/V, insert the final reduction pinion with the fifth wheel and roller cage.

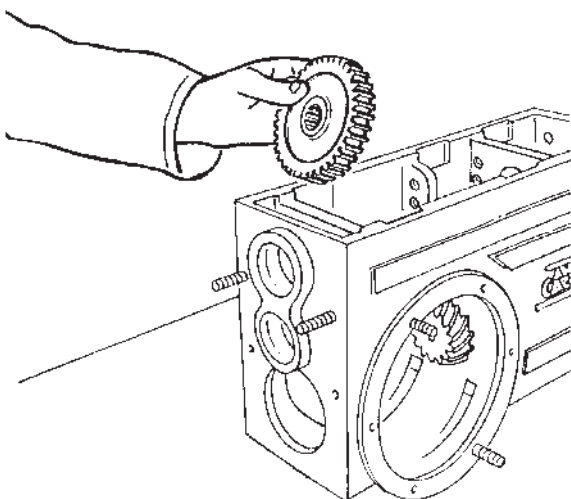
Note

Operations requiring special care may be dangerous for the operator if not correctly performed.



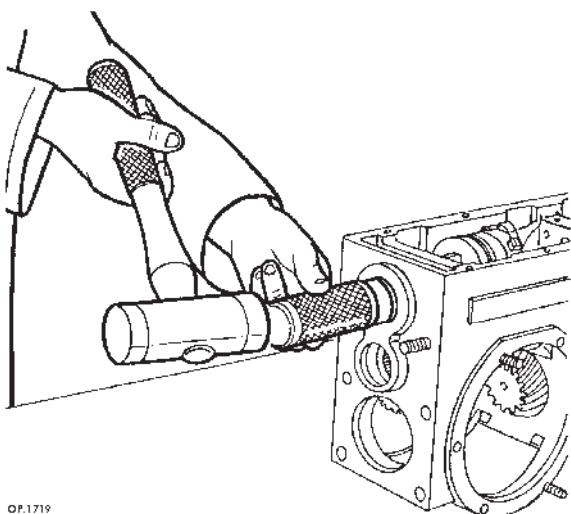
OP.1717

15 - Mount the C3 and C8 bearings on the two PTO shafts using the AT 37981660 driver.



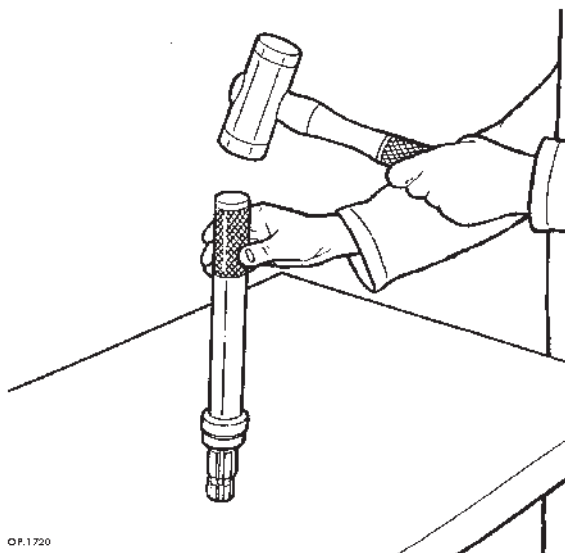
OP.1718

16 - Install the gear for the (lower) PTO shaft.



OP.1719

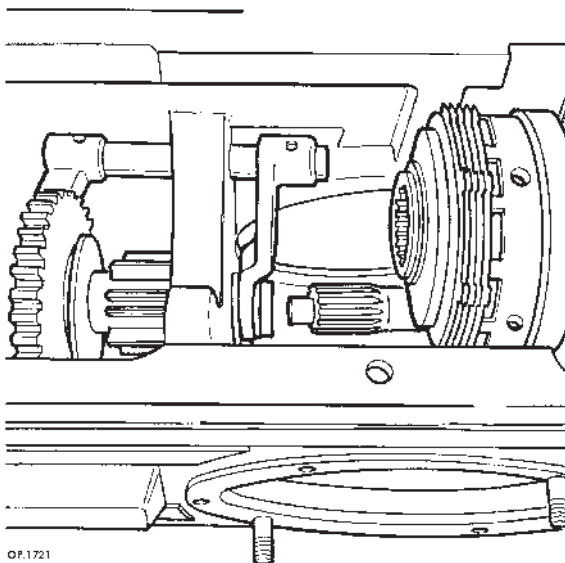
17 - After installing the (upper) PTO shaft with the clutch unit, assemble the C4 bearing using the AT 37981660 driver, and then insert the stop ring.



OP.1720

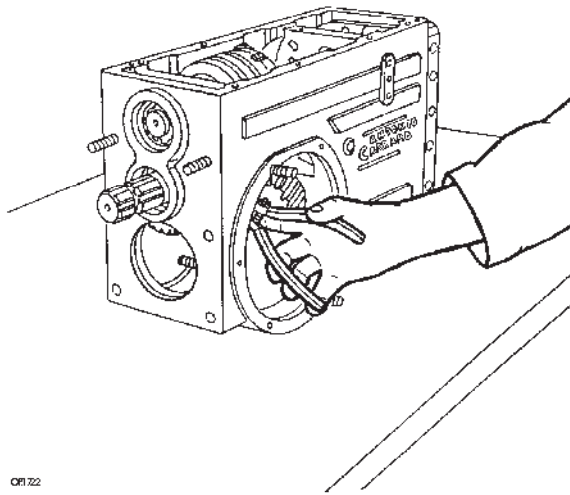
18 - Mount the C9 roller bearing on the PTO shaft using the AT 37981661 driver.

19 - Install the PTO engagement control rod with the corresponding forks.



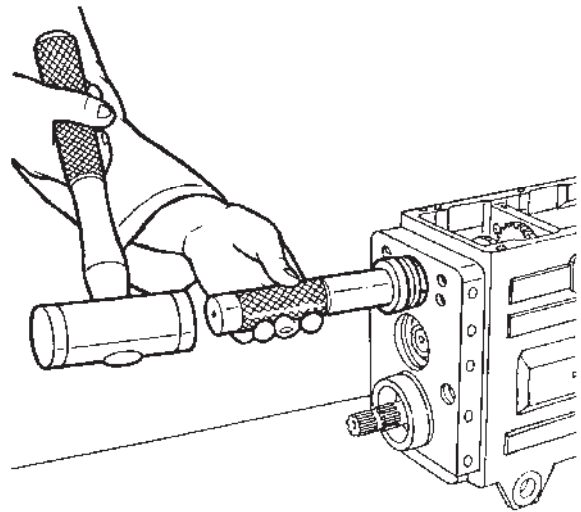
OP.1721

20 - Insert the PTO shaft with stop ring, roller cage and PTO synchronized engagement bushing. The bushing must be engaged to its fork before being installed.



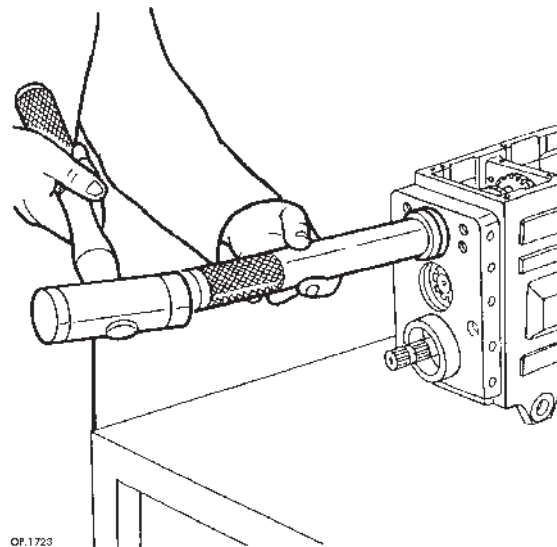
OP.1722

21 - Position the stop ring in its seat and install the spring pin on the PTO synchronized engagement bushing fork.



OP.1724

25 - Install the O-ring on the main shaft using the AT 37981663 driver and AT 37981664 adapter.



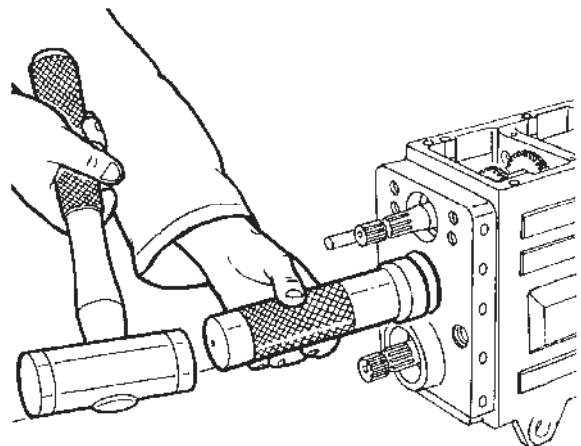
OP.1723

22 - Mount the C1 bearing on the main shaft using the AT 37981661 driver.

23 - Mount the PTO bell shaft and corresponding roller cage.

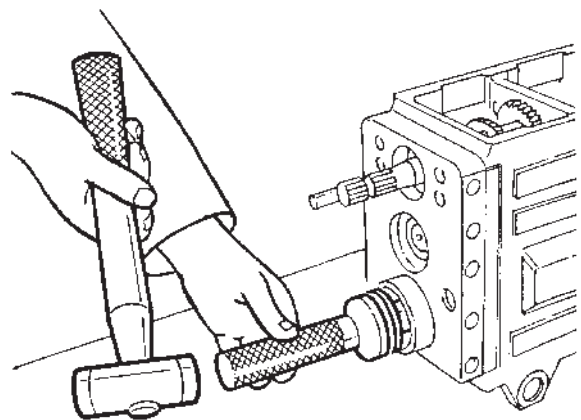
24 - Mount the main shaft with the corresponding gears, spacers and engagement bushing.

After the gearbox has been completely assembled, proceed to install the O-rings and seal plugs.



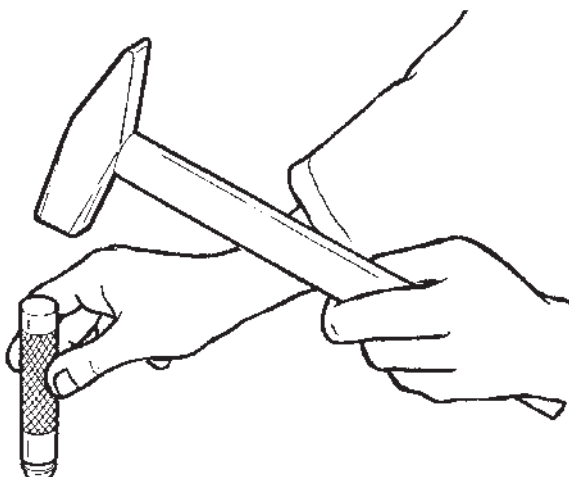
OP.1725

26 - Mount the plug using the AT 37981659 driver.



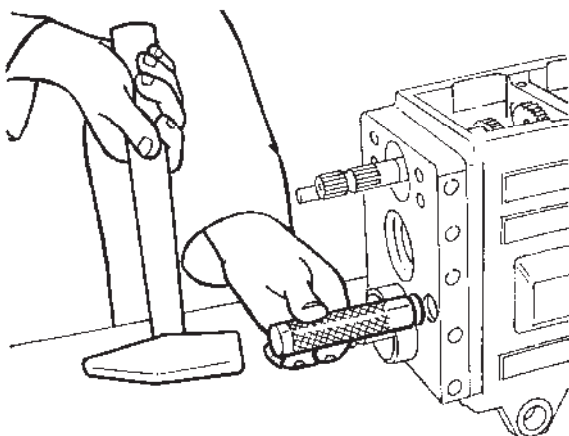
OP.1726

27 - Insert the pinion O-ring using the AT 37981289 driver and AT 37981288 adapter.



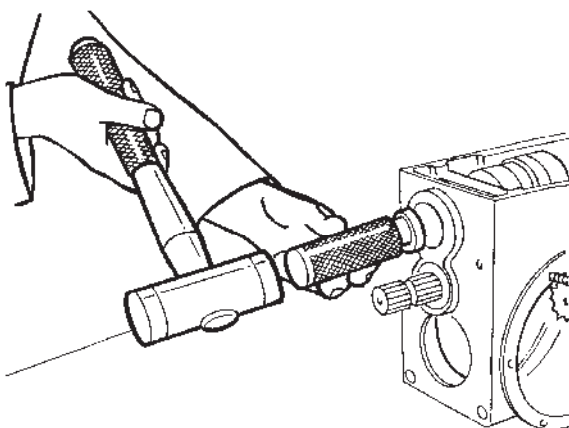
OF.1727

28 - Widen the plug for the reversing gear shaft hole using the AT 37981572 tapered counterborer.



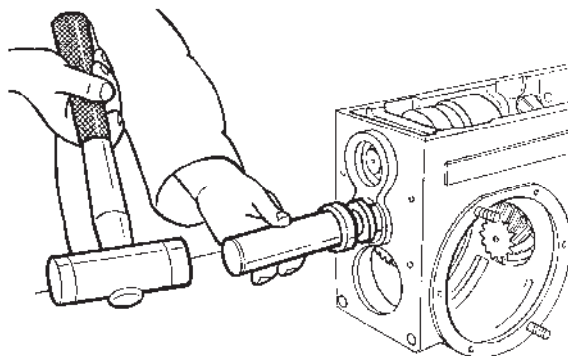
OF.1728

29 - Apply a string of LOCTITE SUPER RAPIDO 510 on the plug already positioned on the AT 37981571 driver and insert it.



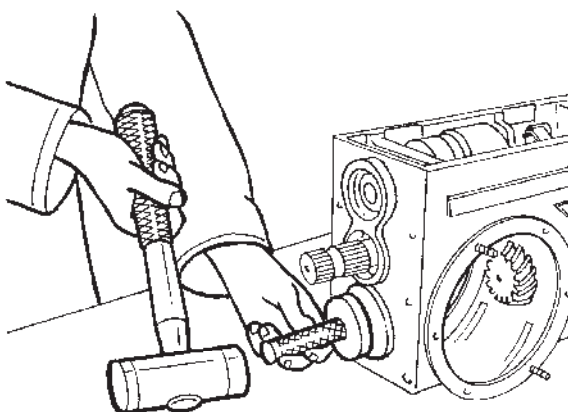
OF.1729

30 - Mount the plug for the upper PTO shaft using the AT 37981660 driver.



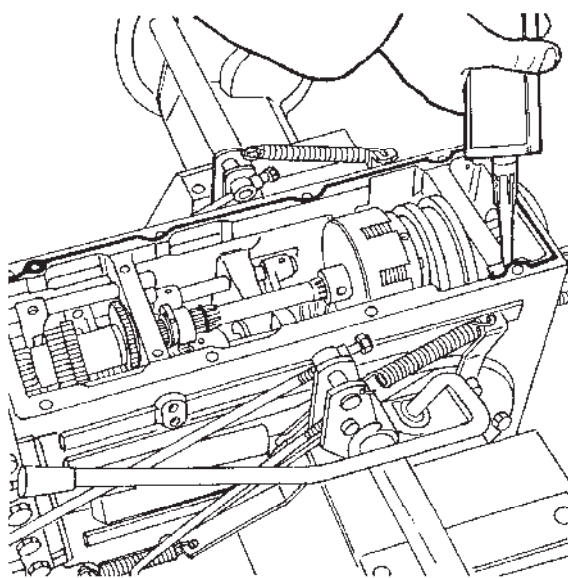
OF.1730

31 - Mount the PTO shaft O-ring using the AT 37981563 driver and the AT 37981564 adapter.



OF.1731

32 - Insert the plug using the AT 37981608 driver.



OF.1673

**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

- Wear proper protective clothing such as gloves and safety shoes.



PTO clutch

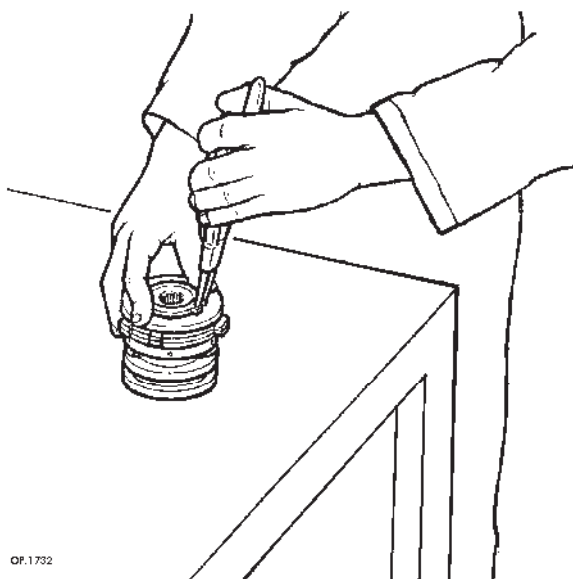
Multiple-disk PTO clutch in oil bath. Smooth-type mechanical engagement with Belleville washers mounted ahead of the disk packs.

The load to be transmitted can be adjusted by means of the threaded adjustment ring with toothed semiautomatic safety retainer.

PTO clutch disassembly

Proceed to disassemble in case the clutch plates need to be replaced.

For this purpose remove the stop ring, first making sure that the clutch unit is disengaged.



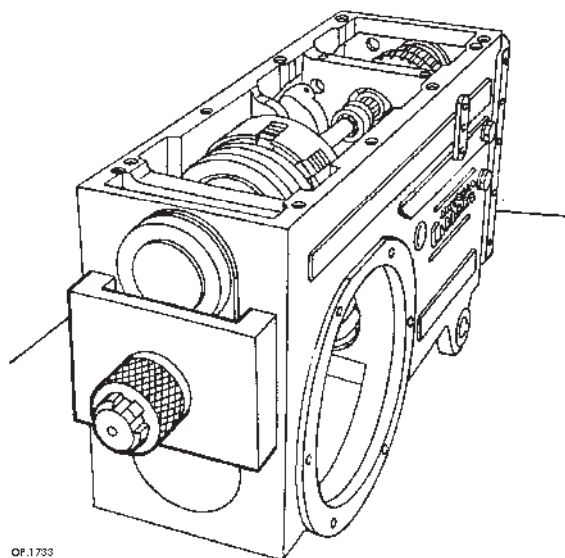
OP.1732

PTO clutch adjustment

The clutch must be adjusted with a torque ranging from 216 to 255 Nm (22 ÷ 26 kgm).

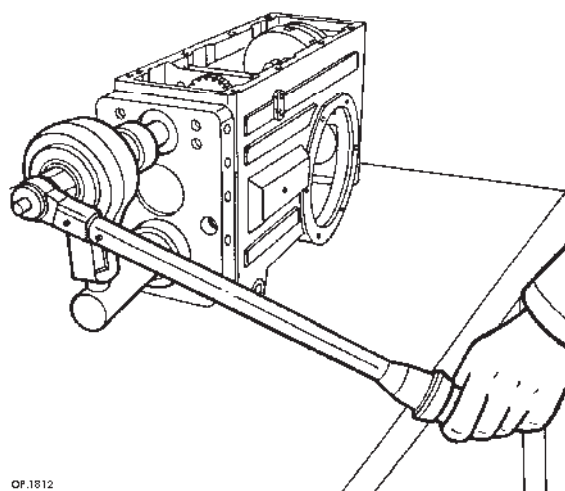
For proper adjustment of the PTO clutch, proceed as follows:

A - Gearbox disconnected



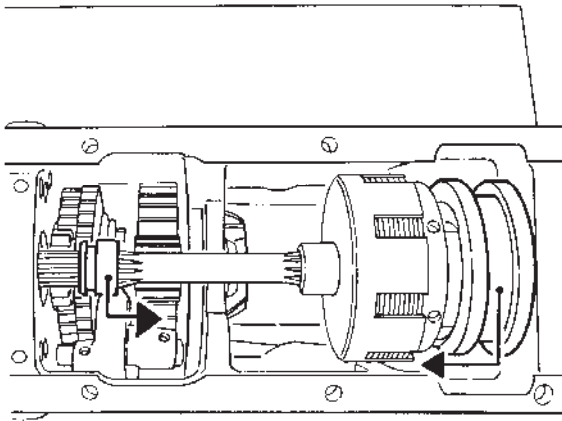
OP.1733

1 - Place the PTO shaft locking plate (AT 37981738) on one side of the gearbox .



OP.1812

2 - On the main shaft located on the opposite side, position the AT 37981737 servo amplifier, along with the AT 37981745 bushing, AT 37981742 foot and AT 37981309 dynamometric key.



OP.1813

3 - Shift to neutral gear;
 - Set the bushing, located on the main shaft, to the standard position;
 - Pack the PTO clutch disks, engaging the clutch control bushing;
 Use the dynamometric key and make sure that the clutch slips within a range of 44 to 53 N·m.

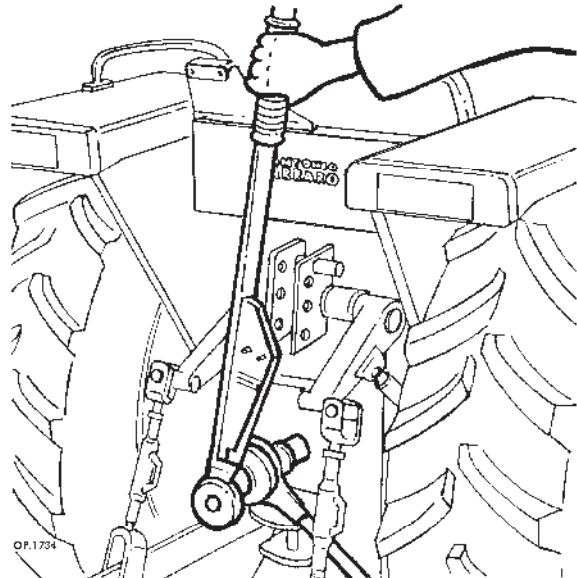
4 - If this is not the case, proceed with the adjustment as follows:
 disengage the clutch and release the ring nut stop pin, positioning it properly. Keep in mind that each change of position of the pin corresponds to a torque variation of 49 Nm; tighten to increase the torque value and loosen to diminish it.

B - On the tractor with the engine off:

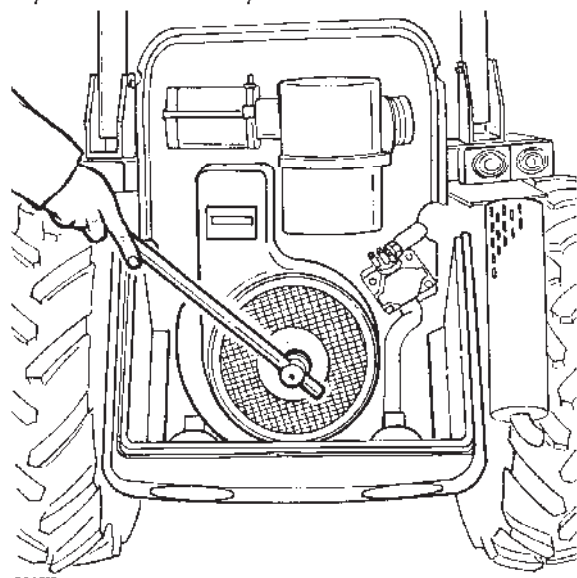
The maximum torque value measured statically, according to the following procedure, must be 216 to 255 N·m.

Warning: the calibration of the dynamometric key must take into consideration the factor given by the servo amplifier.

Proceed as follows:



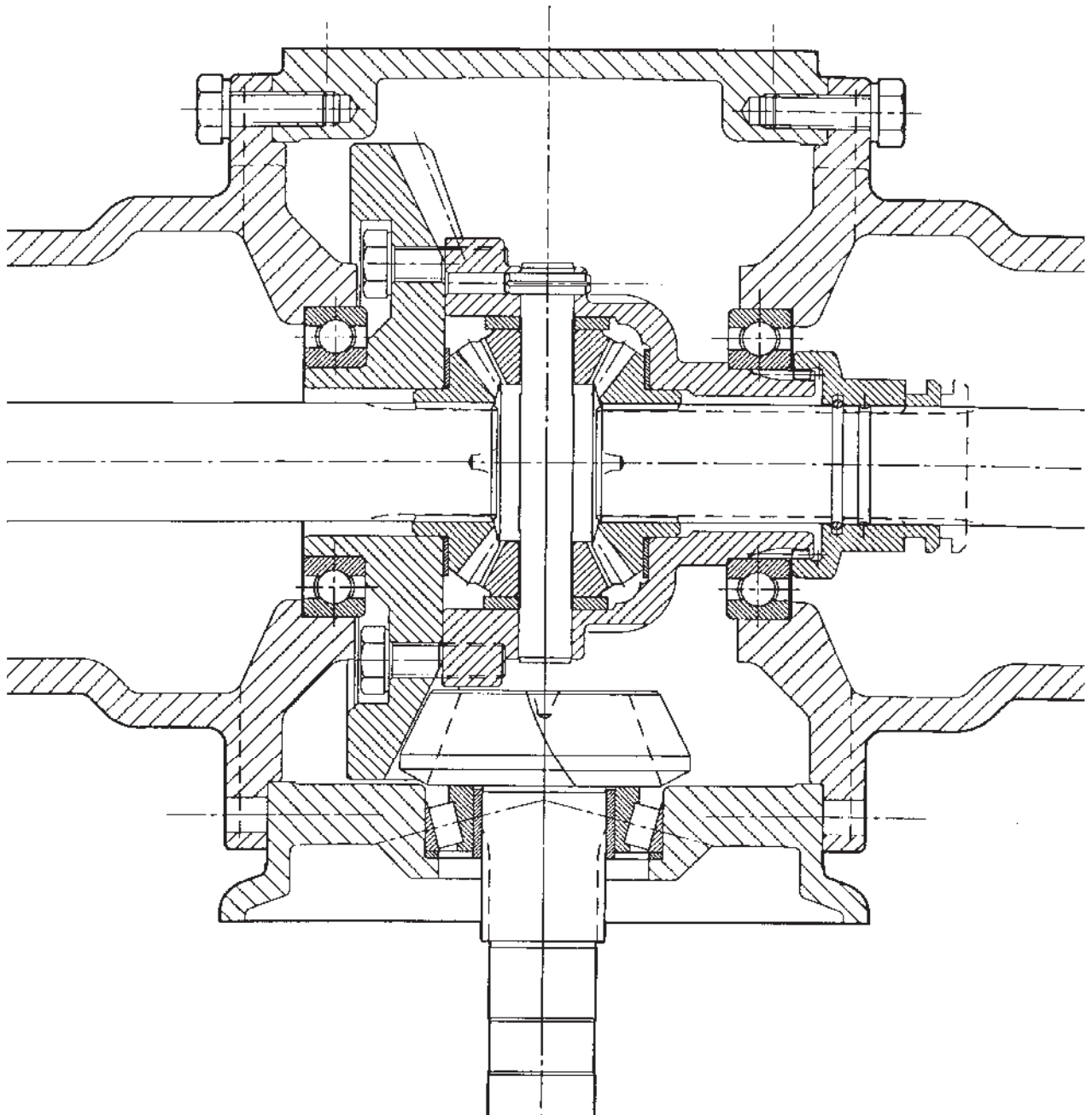
1 - Apply the AT 37981737 servo amplifier with the AT 37981307 adapter on the PTO shaft. Then apply the AT 37981309 dynamometric key.



2 - Now lock the engine shaft with a suitable wrench and check the transmitted torque value with the dynamometric key.



DIFFERENTIAL UNIT ASSEMBLY





DIFFERENTIAL UNIT

Crown wheel and pinion adjustment

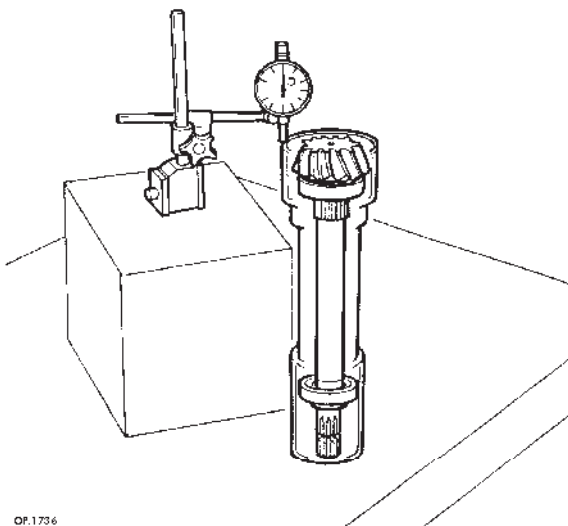
A - Calculating the thickness of the bevel pinion bearing support ring.

The value of this thickness is determined by measuring the height of the pinion head on the AT 37981599 tool.

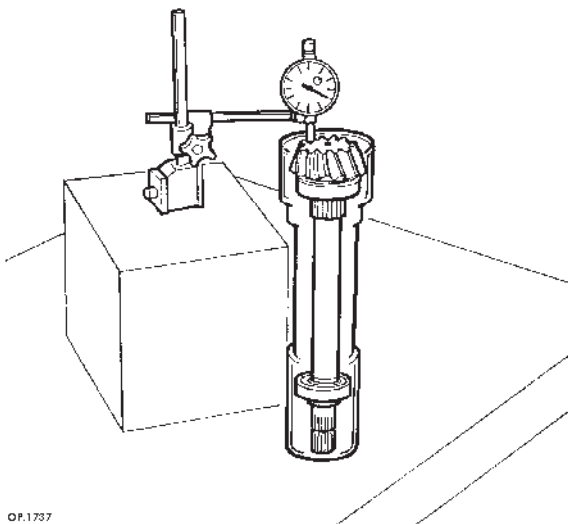
Note

For tractors model 17 Country and 18 Tigrecar 3700, up to serial number ...02797 included, use also the supplied spacer, placing it between the tool and the pinion bearing.

Slide the pinion on the tool with its bearings, tighten the ring nut slightly so as to create a rotating moment of 200 Ncm. Using a centesimal dial gauge,



position the feeler pin on the tool to zero set it,



and then on the pinion head.

The value thus obtained must be added to or subtracted from the centesimal value marked with an electric pencil on the head of the pinion.

If (A) is the value indicated by the dial gauge and (B) is the value marked on the pinion by the manufacturer, the thickness (S) of the support ring to be mounted is given by the following equation:

$$S = A - B$$

Example:

A = 1,70 (value read on dial gauge)

B = -0,15 (centesimal value marked on the pinion)

Thickness S = A - (B) in this case

$$\begin{aligned} &= 1,70 - (-0,15) \\ &= 1,70 + 0,15 \\ &= 1,85 \end{aligned}$$

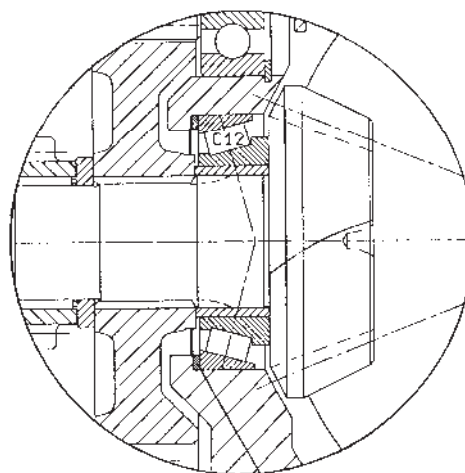
In this case a 1.85 mm ring must be mounted. If necessary, round off to the highest figure within 0.05 mm.

The required thickness is 1.9 mm.

Note

The support ring for the roller bearing on the pinion is supplied as spare part:

1.7 - 1.8 - 1.9 - 2 - 2.1 - 2.2 - 2.3 mm.



Adjustable thickness



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

- Wear proper protective clothing such as gloves and safety shoes.
- Use the proper tools, not your hands, to align holes and slots.

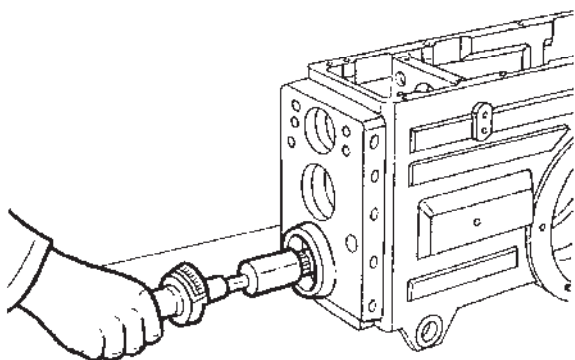


B - Pinion bearing preloading

To perform the preloading of the pinion bevel roller bearings, proceed as follows:

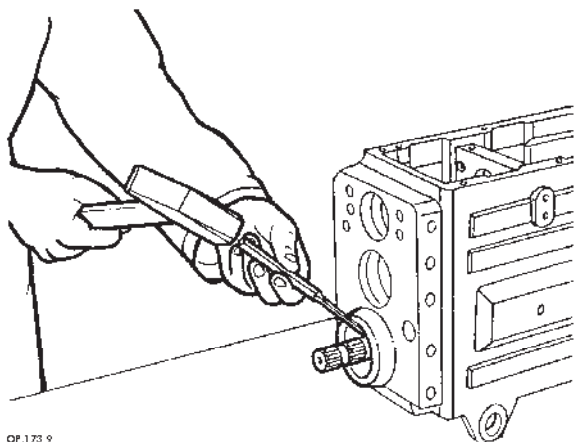
1 - Tighten the ring nut with a driving torque of $10 \div 12$ Kgm ($98 \div 117$ Nm) using the AT 37981306 tool.

2 - Rotate the pinion a few turns so that the bearings are properly positioned in their seats.



OP.173 8

3 - Loosen the ring nut and tighten it again with the AT 37981306 tool, until you reach a rotating resistance of the pinion equal to $250 \div 300$ Ncm ($0.25 \div 0.3$ Kgm). Check the torque with the AT 37981196 torquemeter and the AT 37981281 adapter.

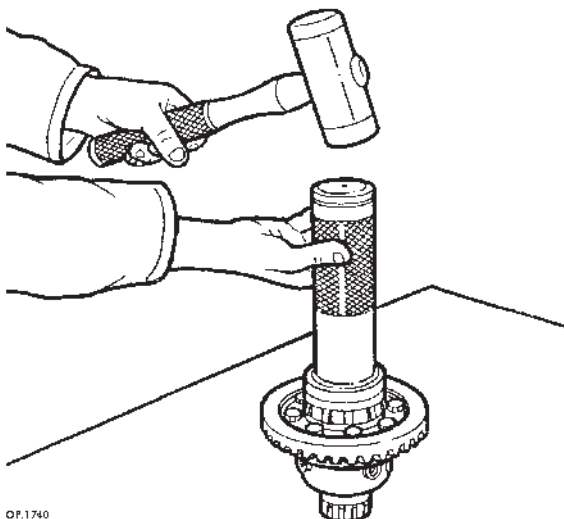


OP.173 9

4 - Dent the ring nut.

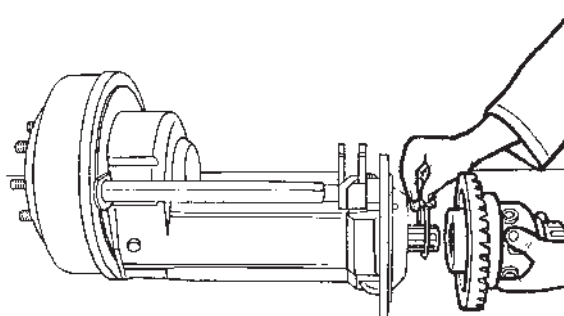
C - Adjustment of slack between crown wheel and pinion

Proceed as follows:



OP.1740

1 - Mount the bearing on the differential carrier using the AT 37981093 driver.



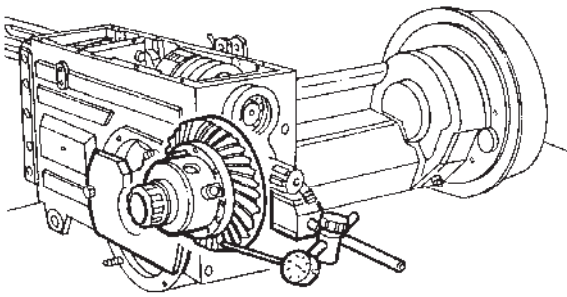
OP.1741

2 - Insert a PS 0.2 mm rated shim between the differential support and the axle shaft unit.

3 - Install the differential unit on the support with the help of a suitable hammer.

4 - Mount the differential unit support on the transmission case temporarily without applying any sealing compound, and fasten it with a few bolts.

5 - Apply on the opposite side of the transmission case the AT 37981642 plate which is required to align the differential unit with the case, and slightly preload the differential bearing.



OP.1742

6 - Apply the AT 37981224 centesimal dial gauge with AT 37981223 magnetic base on the transmission case, with the pin placed as perpendicularly as possible on the outer edge of a tooth of the crown wheel. Check the slack between the pinion and the crown wheel.

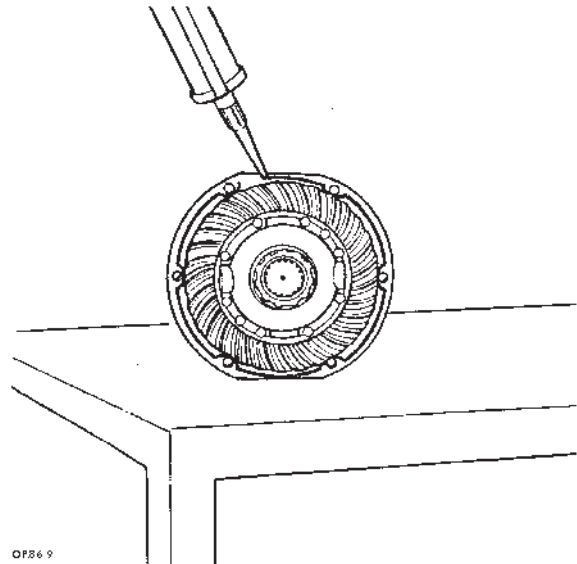
7 - Check the slack by offsetting it by 120° and compare the average of the three values with the normally set slack ($0.15 \div 0.23$).

8 - If the value measured is higher or lower than the set value, the value of the PS = 0.2 rated thickness must be increased or decreased.

Note

If you add a 0.1 mm shim (PS), the slack between the teeth of the crown wheel and pinion will decrease by 0.07 mm, whereas if you remove a 0.1 mm shim, the slack will increase 0.07 mm. The PS shim is supplied with spares: 0.1 - 0.2 - 0.3 - 0.5 mm.

9 - Remove the differential support and mount the calculated shim.



OP.869

10 - Mount the differential unit support on the transmission case after having cleaned and greased the surfaces to be coupled and having applied a 3 mm diameter string of sealing compound (RTV 1473), following the path indicated in the figure.

11 - Observe the driving torques indicated on page 4.

12 - Check again the slack between the crown wheel and the pinion; you must obtain a slack of 0.15 to 0.23 mm.



WARNING - DANGER

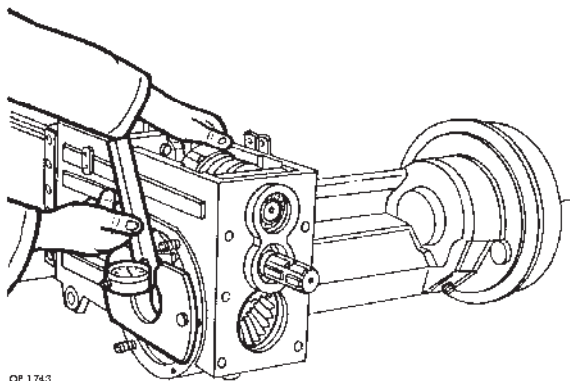


- When performing operations, follow all the safety and accident prevention procedures carefully.
 - Dispose of oils in compliance with environmental regulations.
- Do not pollute the environment.



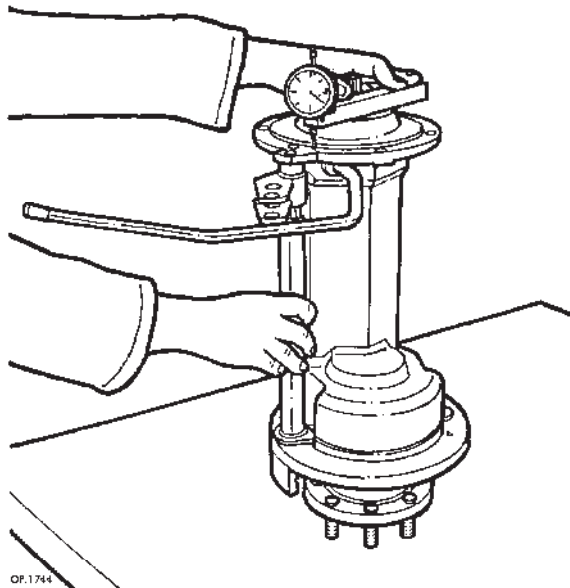
D - Differential carrier bearing preloading.

13 - Position the centesimal dial gauge with the AT 27981215 support on the coupling surface between the support and the carrier, so that the feeler pin touches the seat of the bearing on the differential carrier, and zero-set the dial gauge.



OF.1743

Then, position it on the bearing of the differential carrier support, so that the feeler pin touches the coupling surface of the carrier.



OF.1744

14 - Perform the measurement by offsetting it by 120°; the average of the three Gm values added to a 0.1 mm preload will give you the size of the S shim to be mounted between the differential carrier and the bearing of the differential support. If necessary, round off to the highest figure within 0.05 mm.

Example:

Gm = 0.25 mm average of values read on the dial gauge

0.1 mm = added value to increase the preloading of the bearings

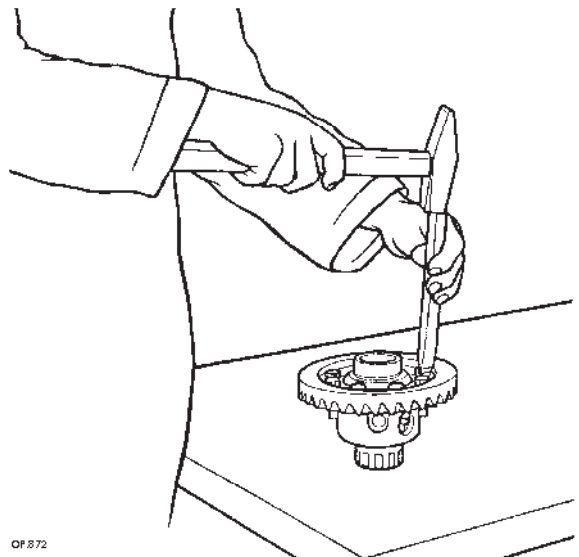
$$\begin{aligned} S \text{ shim} &= Gm + 0,1 \\ &= 0,25 + 0,1 \\ &= 0,35 \end{aligned}$$

Round off to the highest figure by 0.05 mm. In this case you need to mount two 0.2 mm shims.

DIFFERENTIAL UNIT

Disassembly - assembly

When the unit is detached from the transmission case proceed as follows:



OF.872

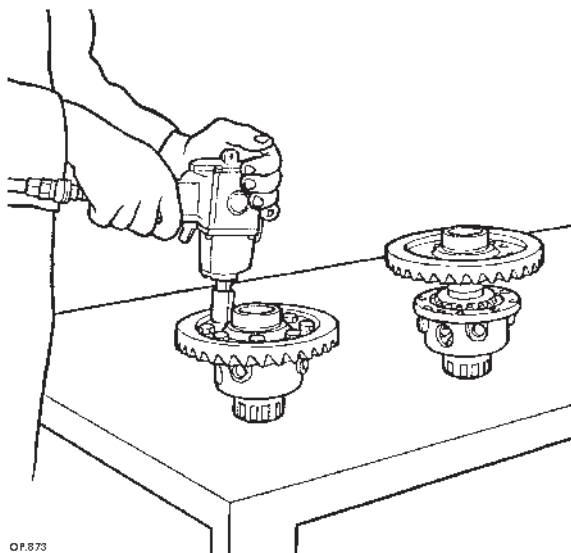
1 - Straighten the screw stop plates.



WARNING - DANGER

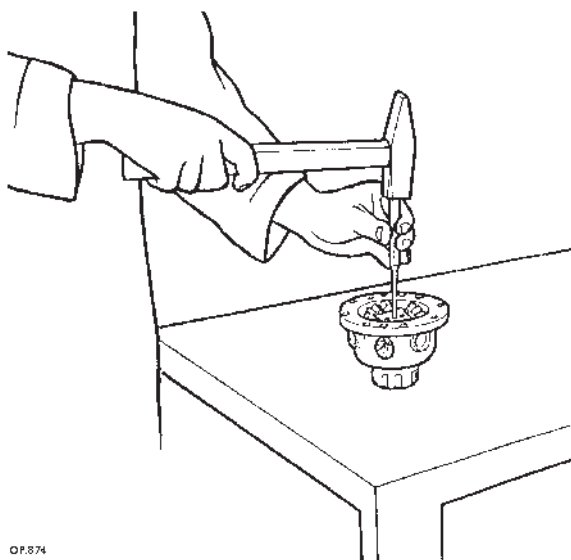


When performing operations, follow all the safety and accident prevention procedures carefully.



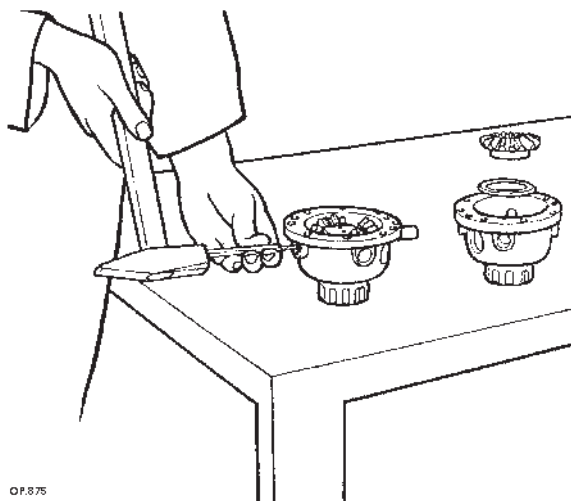
OP.873

2 - Loosen the screws and disconnect the differential carrier ring bevel gear.



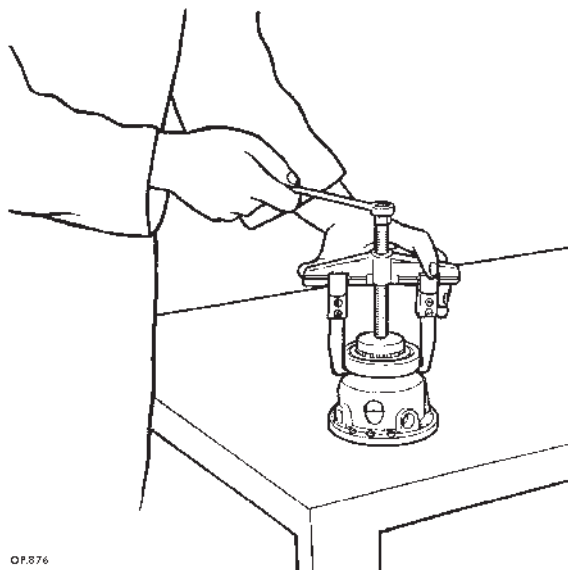
OP.874

3 - Remove the spring pins.



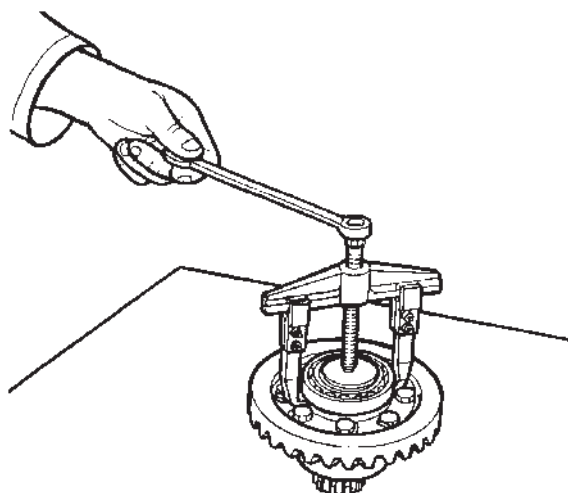
OP.875

4 - Remove the pins, the side pinions, fifth wheels and crown wheels.



OP.876

5 - Remove the bearing using the AT 37981257 universal puller and the AT 37981214 adapter.



OP.1631

6 - Remove the bearing using the AT 37981257 universal puller and the AT 37981214 adapter.

Assembly

Observe the following cautions during assembly of all the parts of the differential unit:

a - Follow the disassembly instructions in the reverse order;

b - Refer to drawings for location of different parts;

c - Tighten the screws and bolts with a driving torque of 8.5 Kgm (83 Nm);

d - Check the axial play of the crown wheels.

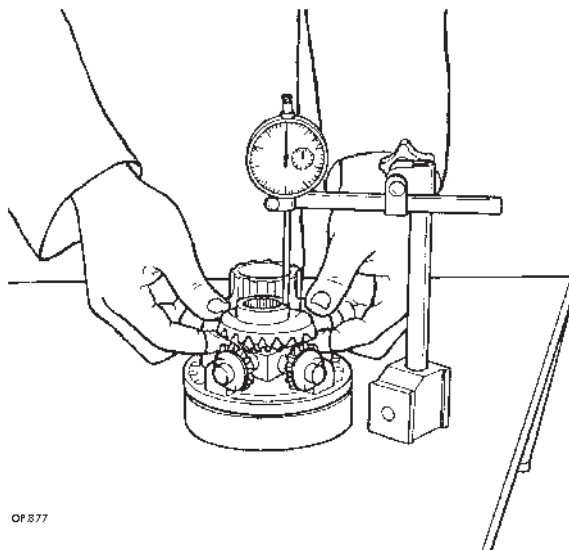
**Warning: spring pins**

When mounting the split tube spring pins make sure that the groove is angled in the direction of the stress point of the pin.

Checking the crown wheel axial play

To check the axial play of the crown wheels proceed as follows:

- 1 - Position the centesimal dial gauge feeler pin on the crown wheel.



- 2 - Move the crown wheel until it touches the side pinion and then push it against the differential carrier, reading the axial play on the centesimal dial gauge.

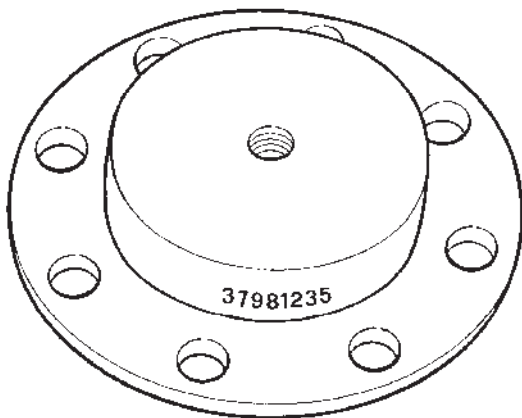
- 3 - The axial displacement should be 0.15 - 0.30 mm.

**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

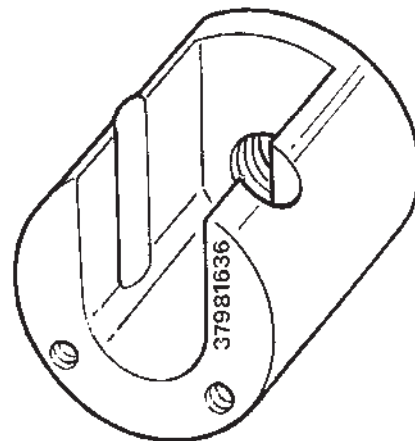
- Do not use gasoline, diesel oil or other flammable liquids to degrease or clean parts; use non-toxic solvents available on the market.

Do not pollute the environment.



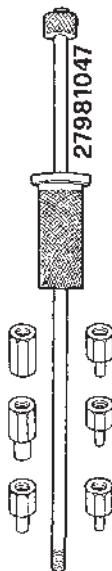
AT.0 62

1 - Adapter for extraction of wheel hubs.



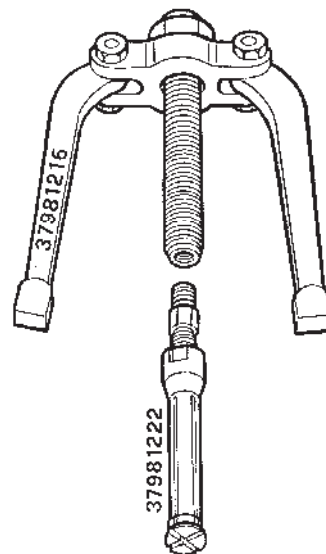
AT.2 88

4 - Adapter for extraction of main shaft.



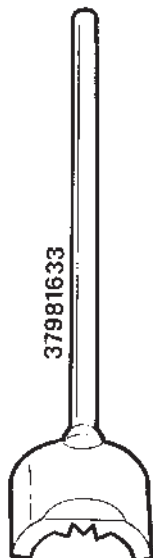
AT.00 4

2 - Slide hammer with set of adapters.



AT. 2 80

5 - Combined puller for extraction of bearings on engine shaft.



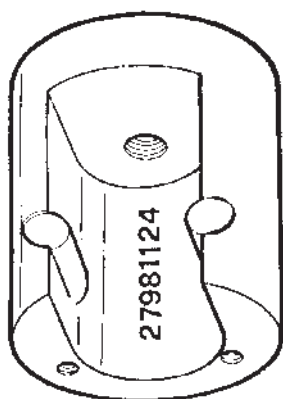
AT.2 87

3 - Puller for roller bearing on main shaft.



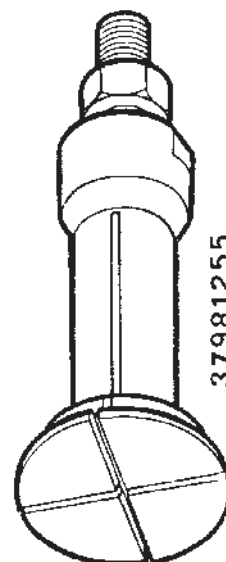
AT.2 89

6 - Extension for combined puller.



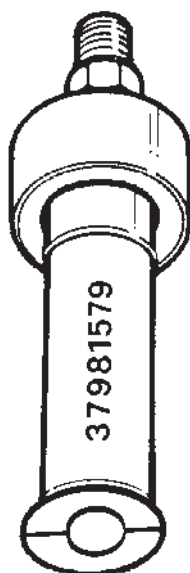
AT 03 9

7 - Adapter for extraction of PTO shaft.



AT 2 91

10 - Expander for puller with jaws.



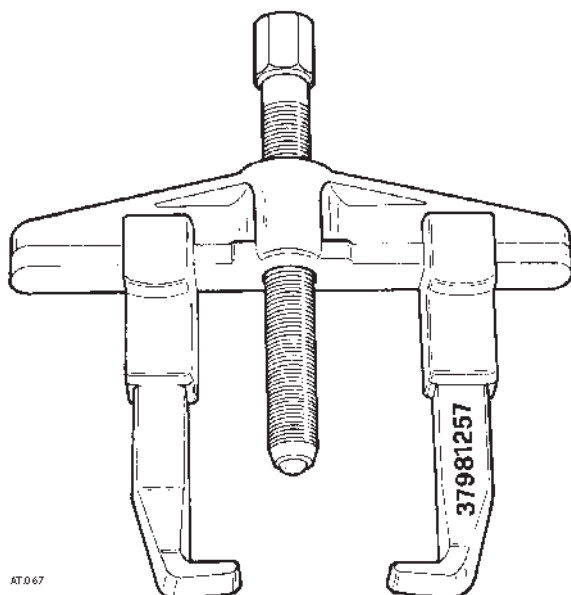
AT 2 90

8 - Expander for puller with jaws.



AT 2 92

11 - Driver for bearings.



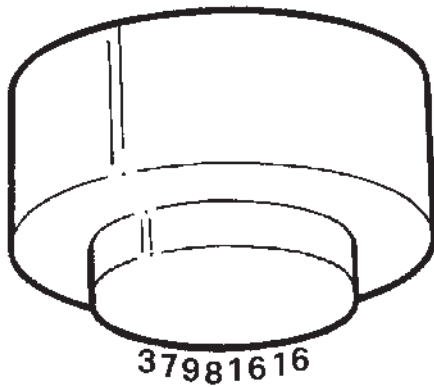
AT 0 67

9 - Universal puller.



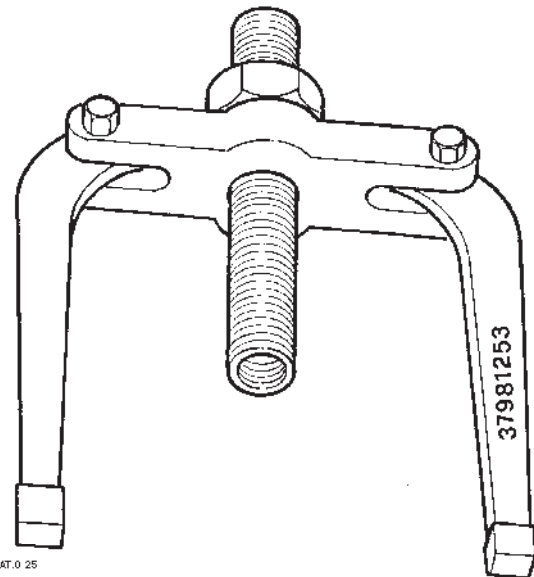
AT 2 93

12 - Teflon cylindrical bar.



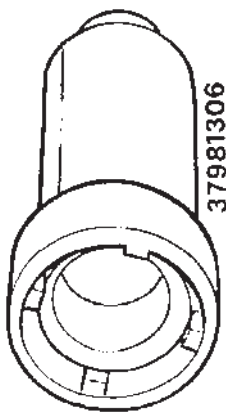
AT.294

13 - Adapter for extraction of reduction pinion bearing.



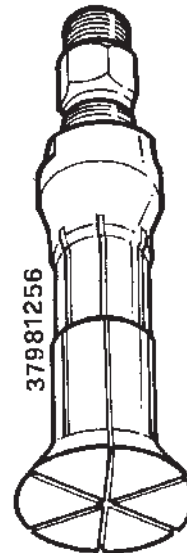
AT.0 25

16 - Puller with jaws.



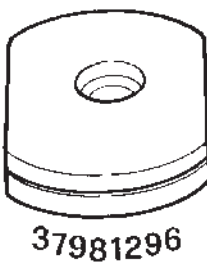
AT.194

14 - Wrench for tightening of differential pinion ring nut.



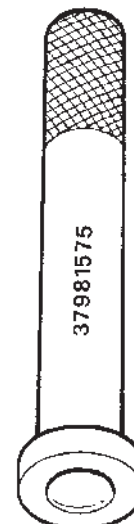
AT.2 95

17 - Expander for puller with jaws.



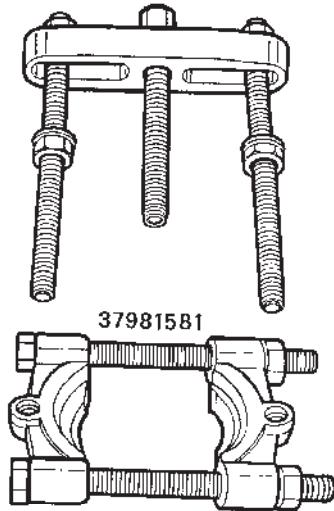
AT.22 3

15 - Adapters for slide hammer.



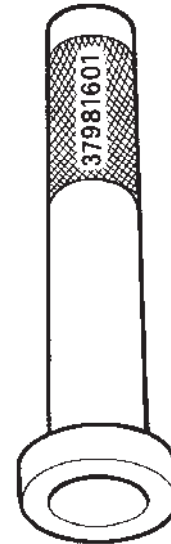
AT.2 96

18 - Driver for bearings.



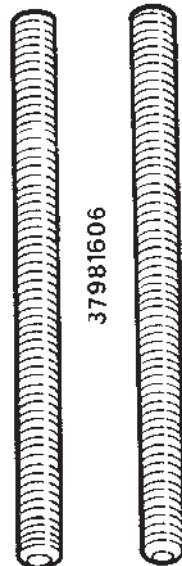
AT 2 97

19 - Puller for bearings.



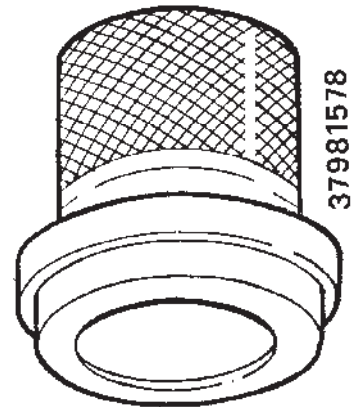
AT 3 00

22 - Driver for bearing installation.



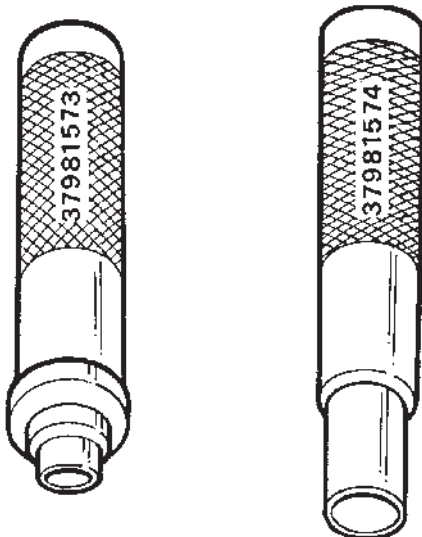
AT 2 98

20 - Extensions for the AT 37981581 puller.



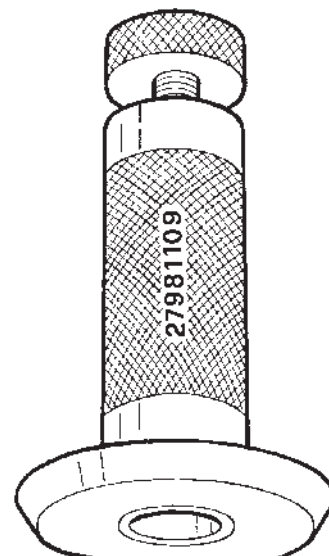
AT 3 01

23 - Driver for installation of bearing outer ring on pinion.



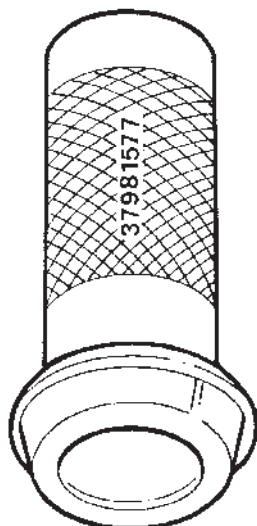
AT 2 99

21 - Drivers for O-ring installation.



AT 01 8

24 - Differential pinion retainer.



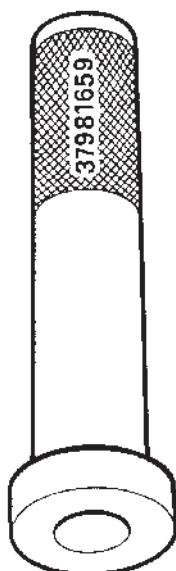
AT.30.2

25 - Driver for installation of bearing outer ring.



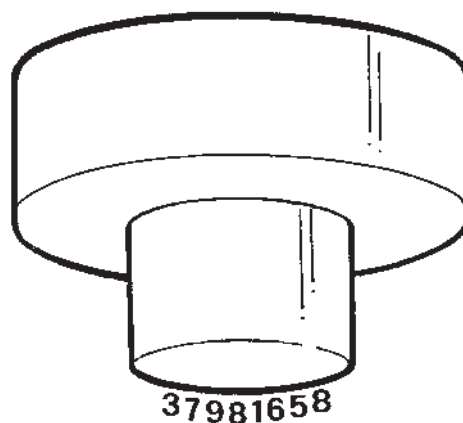
AT.30.5

28 - Slide hammer for assembly of transmission shaft.



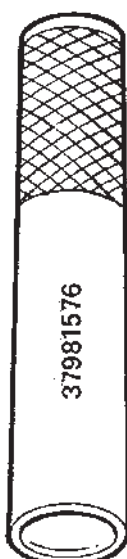
AT.30.03

26 - Driver for bearings.



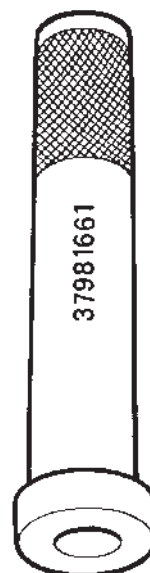
AT.30.6

29 - Adapter for AT 37981576 driver.



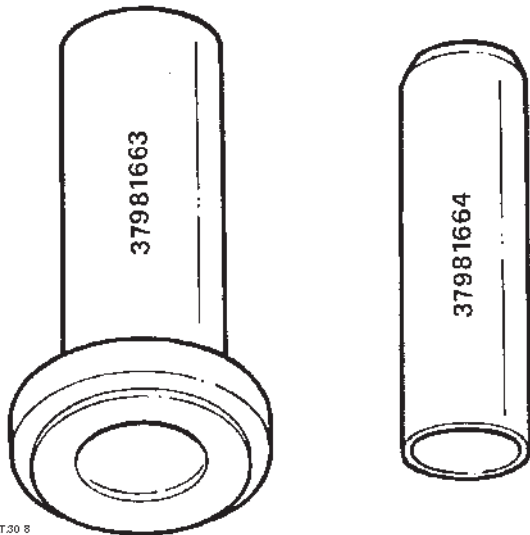
AT.30.4

27 - Driver for assembly.



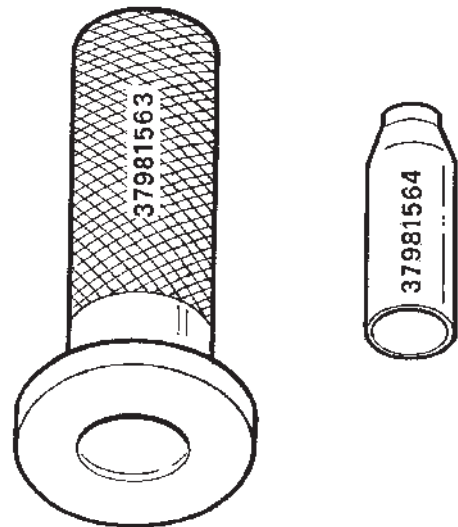
AT.30.7

30 - Driver for bearings.



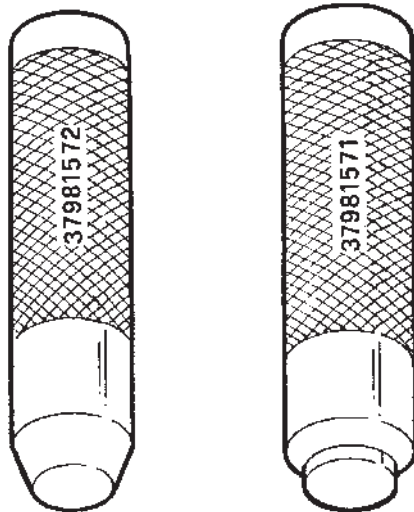
AT.20.8

31 - Driver and adapter for installation of seals.



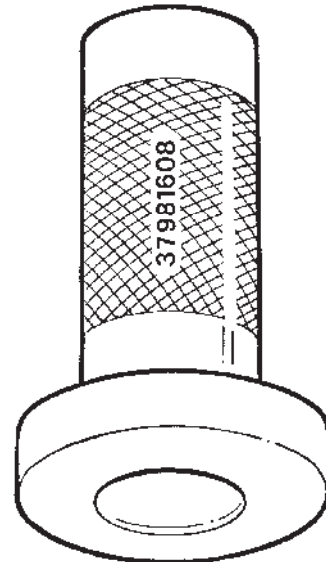
AT.210

34 - Driver and adapter for assembly of seals.



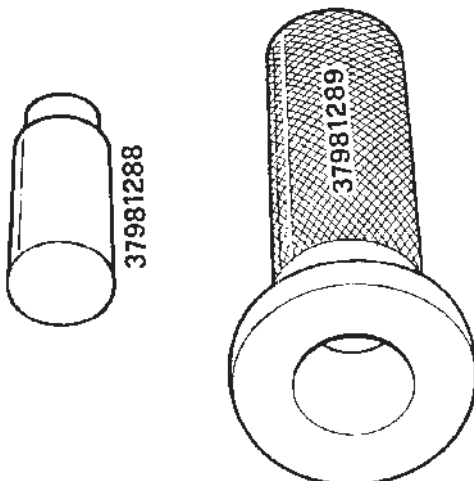
AT.20.9

32 - Driver and tapered counterbore for plug installation.



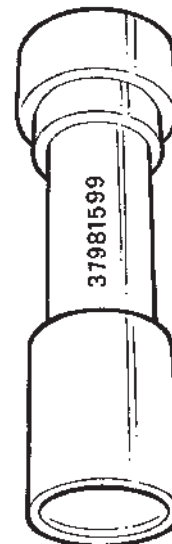
AT.211

35 - Driver for assembly of seal plug.



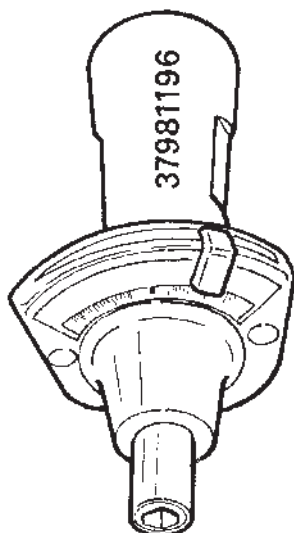
AT.22.0

33 - Driver and adapter for assembly of seals.

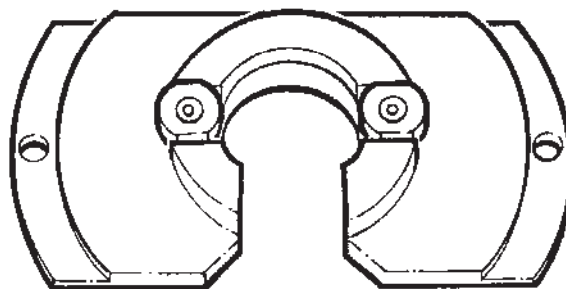


AT.212

36 - Tool to determine the thickness of the spacer on the pinion bearing.

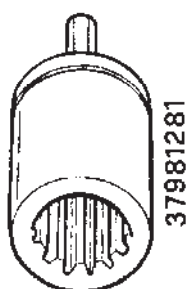


AT.02 0

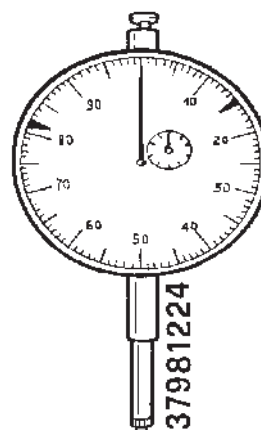
37 - Torquemeter (Ncm).

37981642

AT.2 85

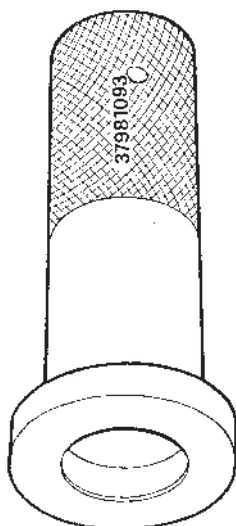
40 - Tool to align the differential unit.

AT.2 01

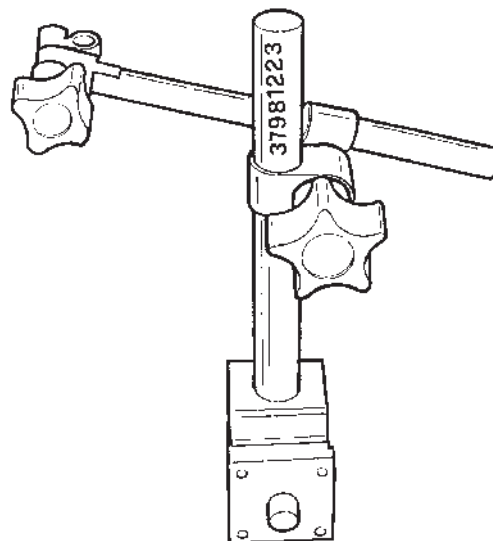
38 - Key for pinion rotation torque control.

37981224

AT.02 6

41 - Centesimal dial gauge.

AT.0 45

39 - Driver for bearings.

37981223

AT.02 8

42 - Magnetic support for centesimal dial gauge.



AT0 27

43 - Extension for centesimal dial gauge.



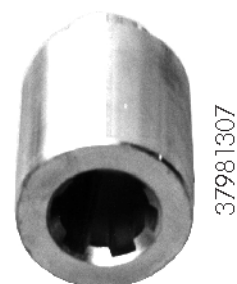
AT 307

46 - Torque multiplier



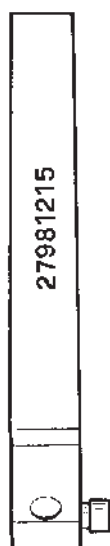
AT 03 2

44 - Adapter for extraction of differential carrier bearing.



AT 307

47 - Adapter



AT 031

45 - Centesimal dial gauge support.



AT 309

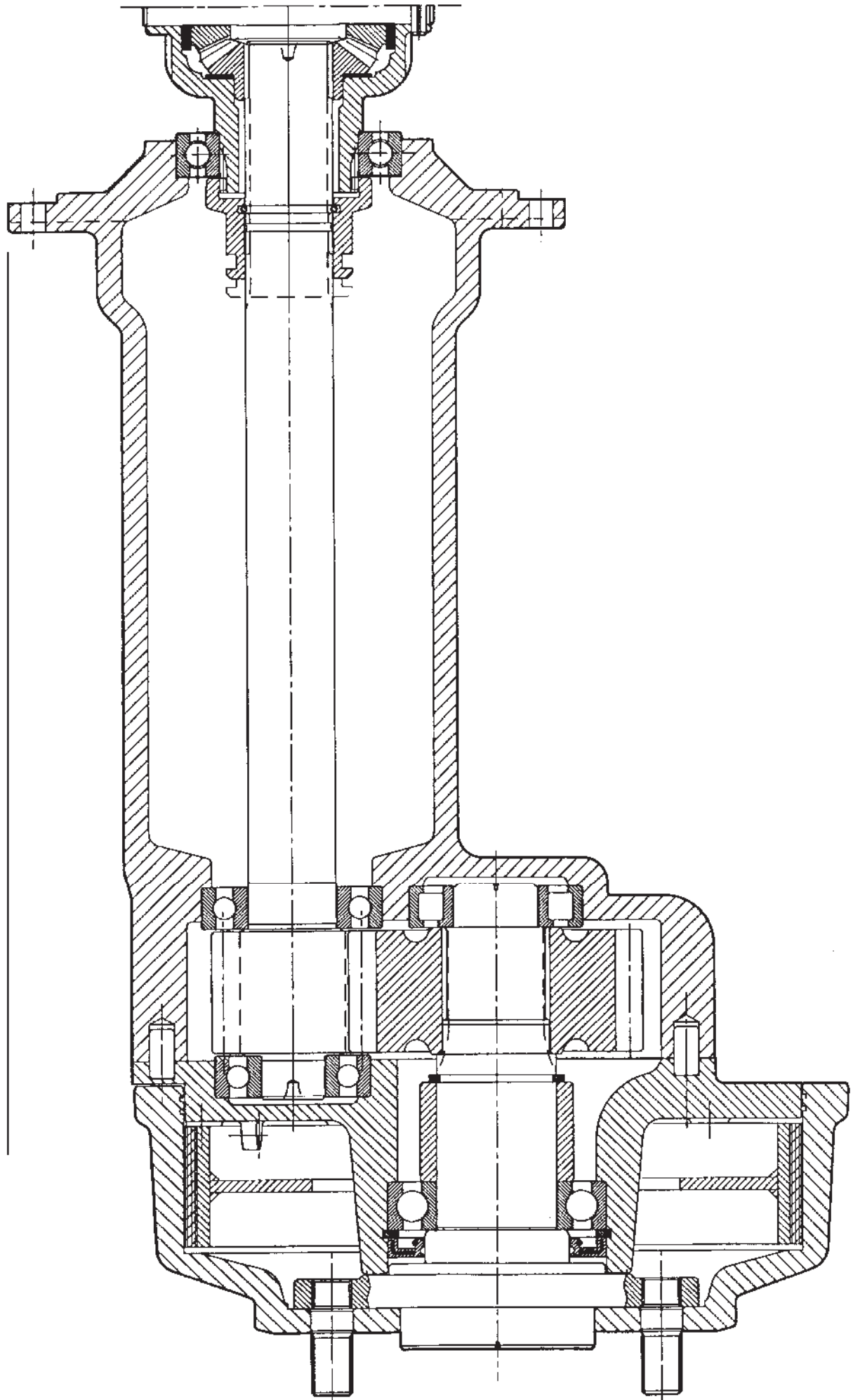
48 - Torque wrench



FRONT AXLE ASSEMBLY



REAR AXLE ASSEMBLY

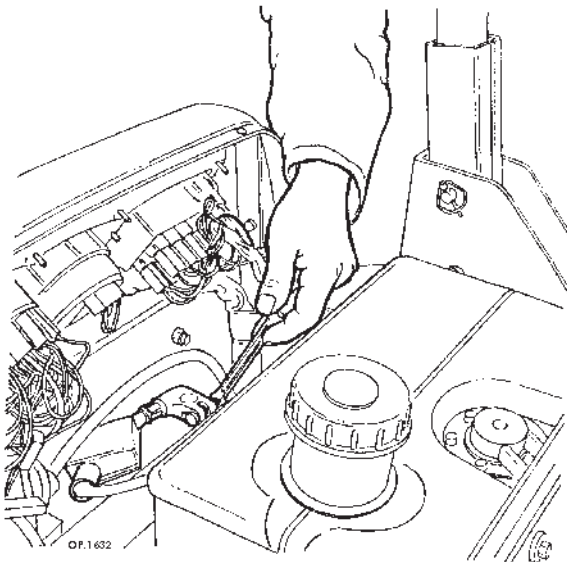




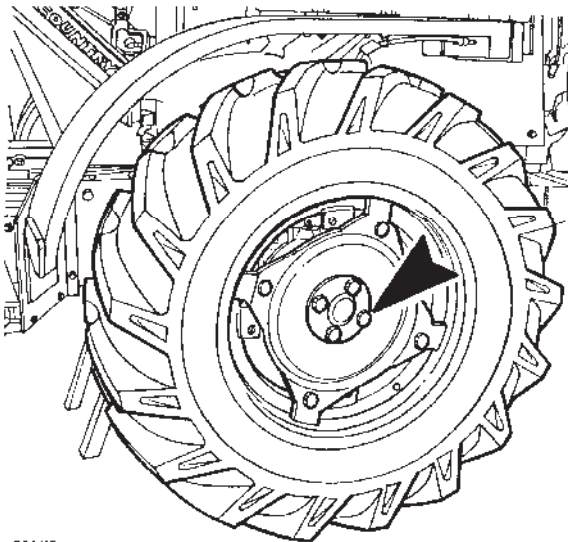
FRONT AXLE

Disconnecting and connecting

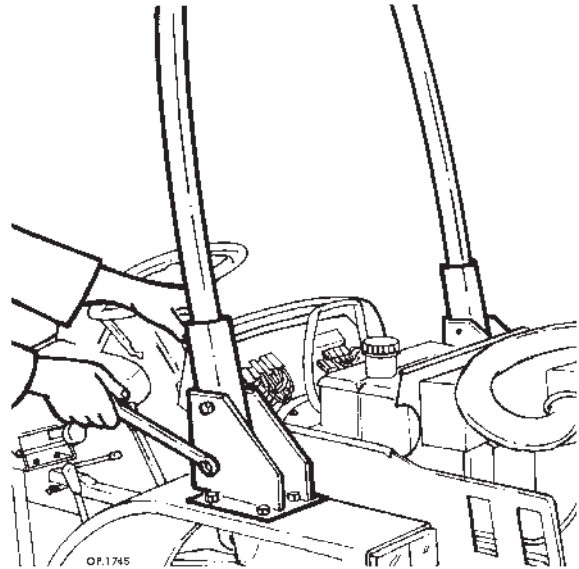
To access the front axle unit proceed as follows:



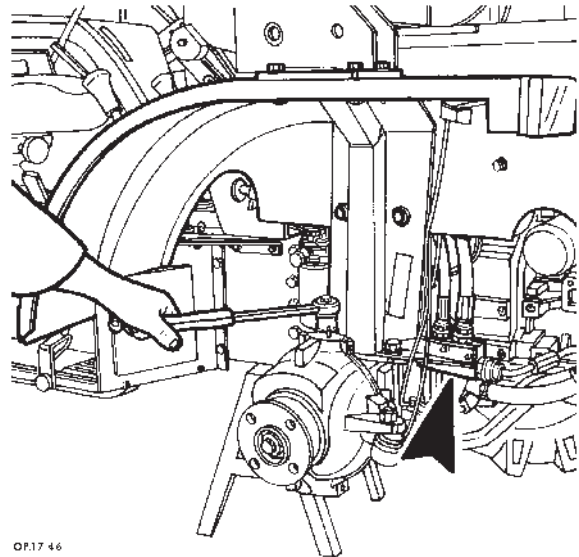
1 - Detach the air filter located over the battery, then disconnect the positive cable from the battery.



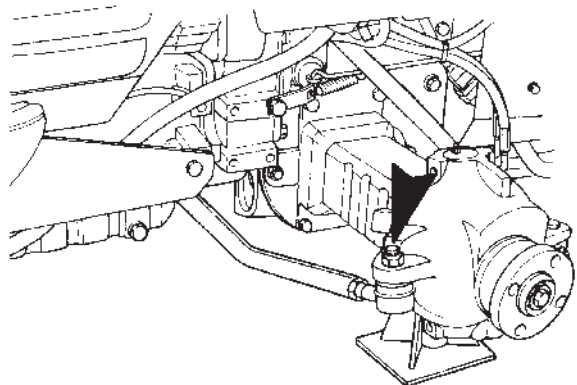
2 - Position a vehicle stand underneath the front transmission and remove the front wheels.



3 - Remove the protection arch.



4 - Loosen the screws and remove the fenders. To remove the r.-h. fender, disconnect the priority valve.



5 - Loosen the nut and remove the steering coupling bar.

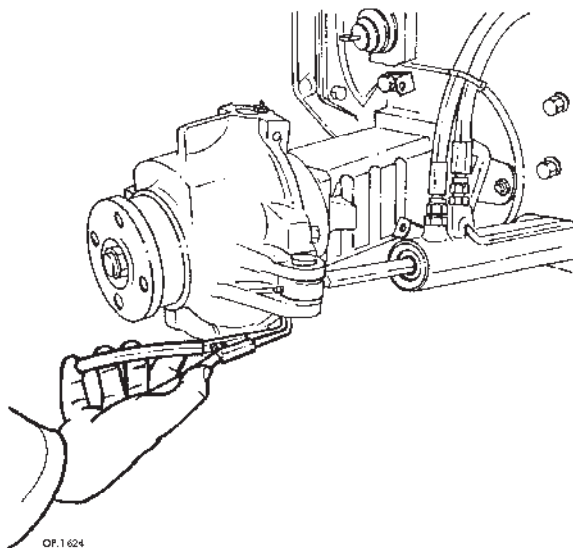


- For r.-h. axle

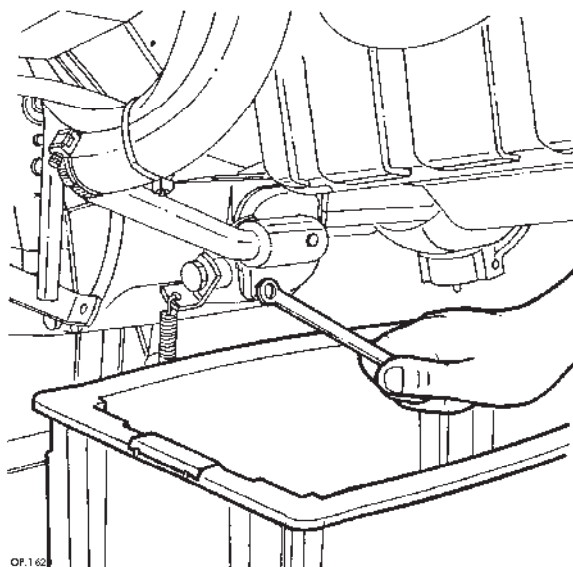
6a - Remove the front drive disengagement cables.

- For l.-h. axle

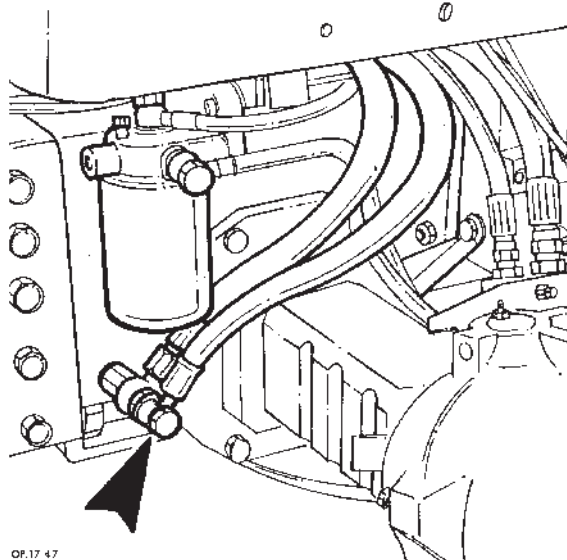
6a - Remove the front differential locking cable.



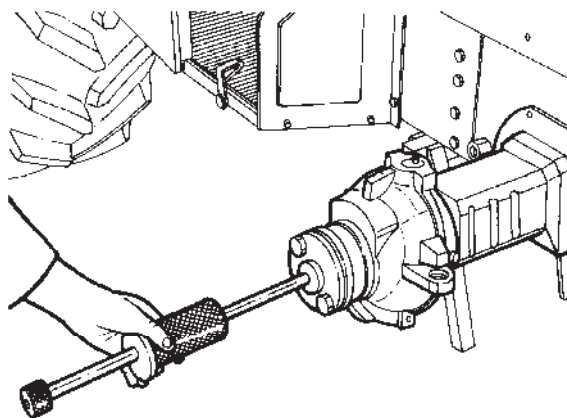
6b - Extract the stop ring and remove the steering cylinder pin.



7 - Remove the oil filter cover and drain the oil into a suitable container container of 5 ÷ 6 litre capacity.



8 - Disconnect the oil delivery tubes to the front transmission case and remove the diesel oil filter (only for r.-h. axle).



9 - Loosen the screws and slide out the axles using the AT 27981047 slide hammer and the AT 37981607 adapter.
For the r.-h. axle: remove the differential carrier.



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

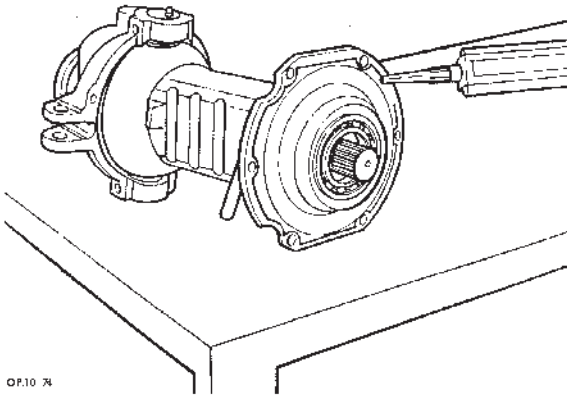
- To lift, use only lifting devices of adequate capacity.



Reconnecting the axles

To reconnect the axles, proceed as follows:

a - Clean all the surfaces to be coupled thoroughly;



OP.10 74

b - Apply a 3 mm diameter string of sealing compound, following the path shown in the drawing:

c - Observe the driving torques listed on page 4;

d - Follow the disconnection instructions in the reverse order;

e - Clean thoroughly the oil filter and all the parts of the system that must come into contact with the hydraulic circuit oil.



WARNING - DANGER

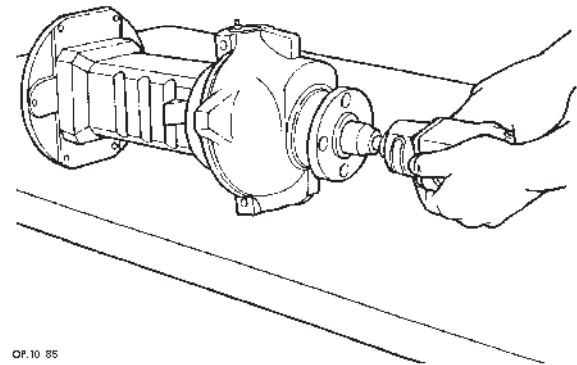


When performing operations, follow all the safety and accident prevention procedures carefully.

- Wear proper protective clothing such as gloves and safety shoes.
- Use the proper tools, not your hands, to align holes and slots.

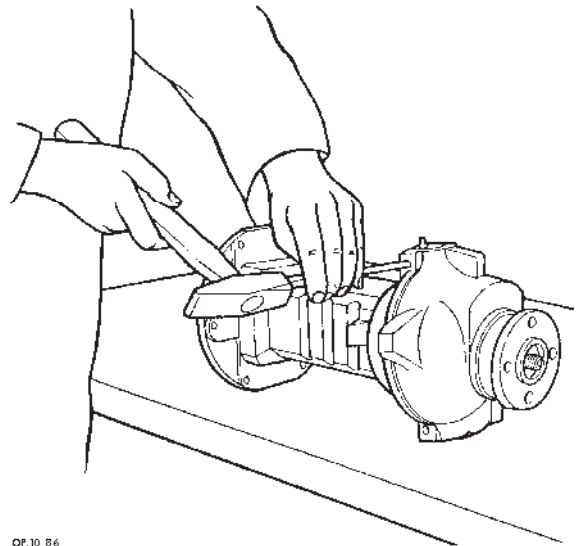
Disassembly and assembly

To disassemble the front axle proceed as follows:



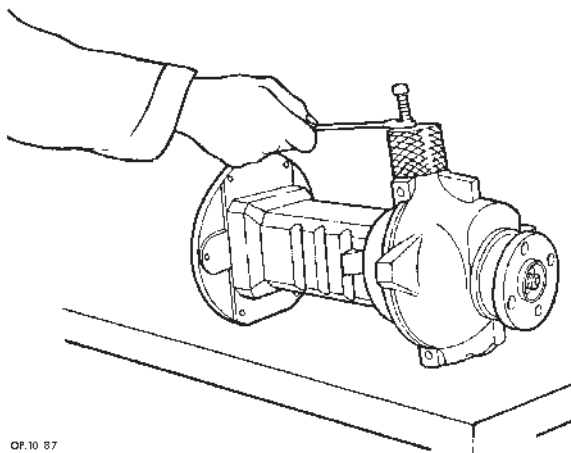
OP.10 85

1 - Place the axle on a workbench and loosen the cardan axle shaft nut.



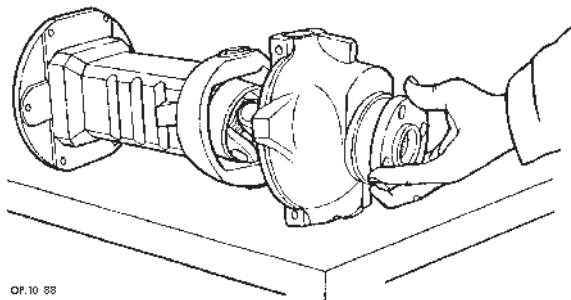
OP.10 86

2 - Slide out the spring pins that retain the articulation pins.



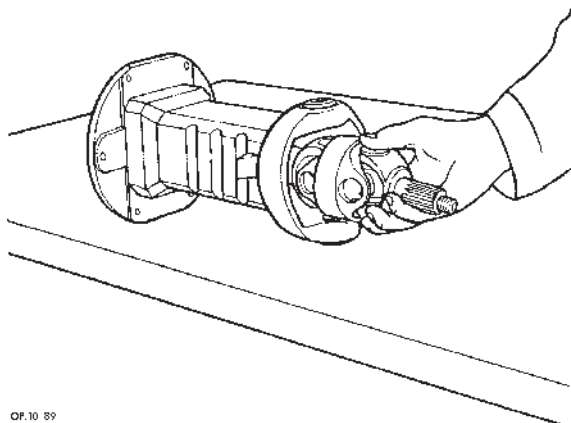
OP.10 87

3 - Remove the grease nipples from the bushings, screw the AT 37981044 tool in place of the grease nipple and then extract the bushings - pins.



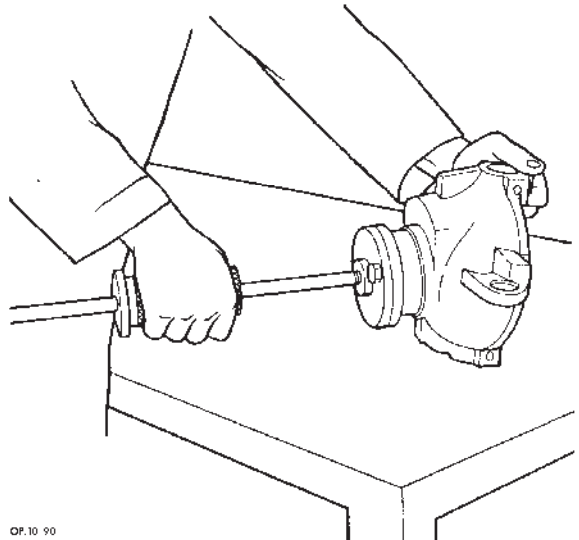
OP.10 88

4 - Separate the movable cap from the axle.



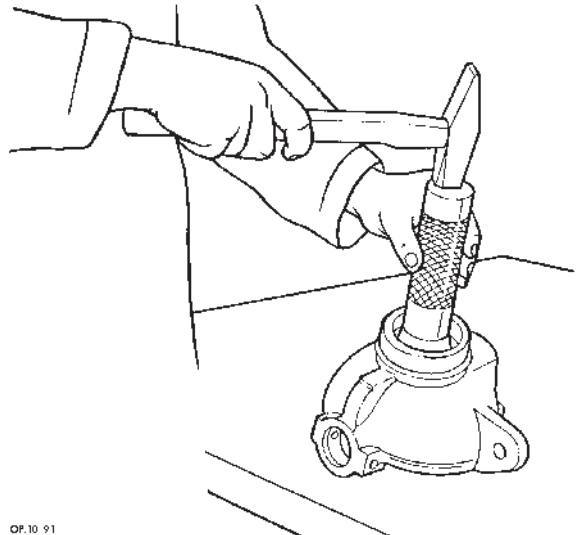
OP.10 89

5 - Slide out the universal joint.



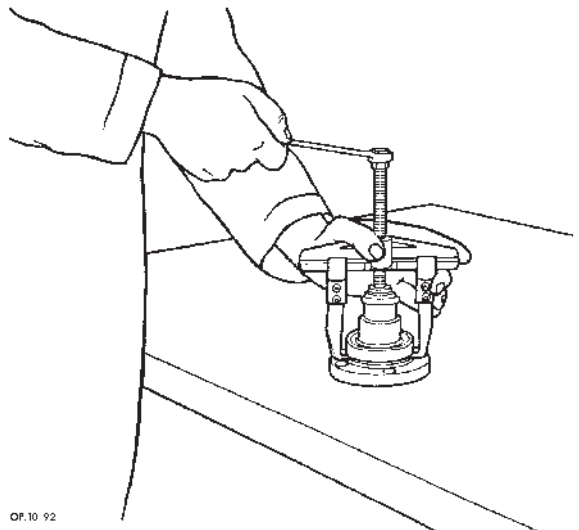
OP.10 90

6 - Remove the wheel hub using the AT 27981047 slide hammer and AT 37981607 adapter.



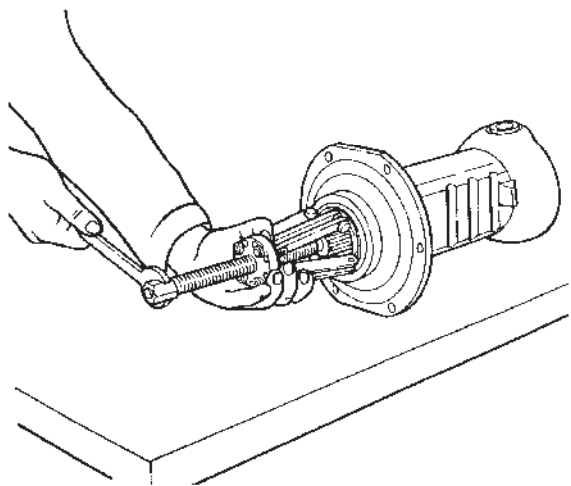
OP.10 91

7 - Remove the bearing using the suitable AT 37981014 driver.



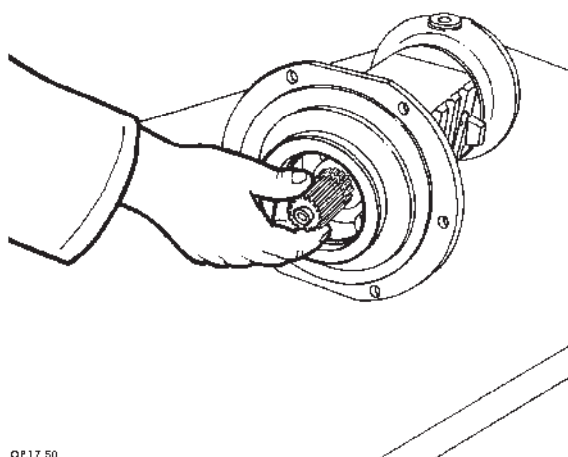
OP.10 92

8 - Extract the bearing using the AT 37981257 puller and AT 37981265 adapter.



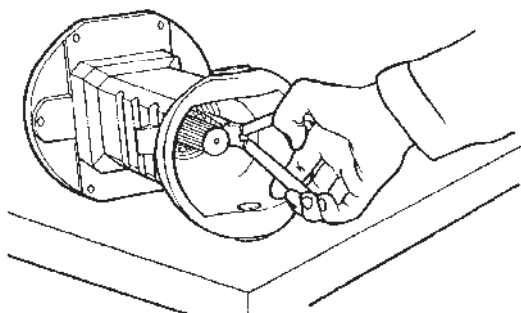
OP.10 93

9 - Remove the bearing using the AT 37981261 puller.



OP.17 50

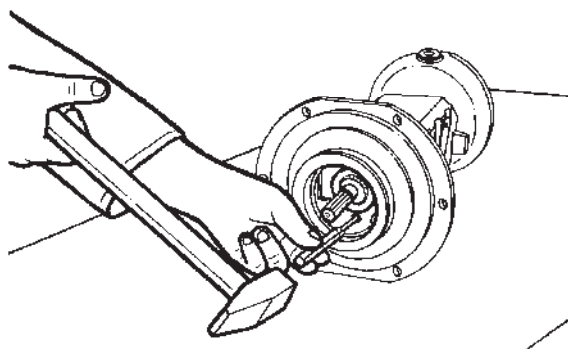
10b - Extract the splined sleeve.



OP.10 94

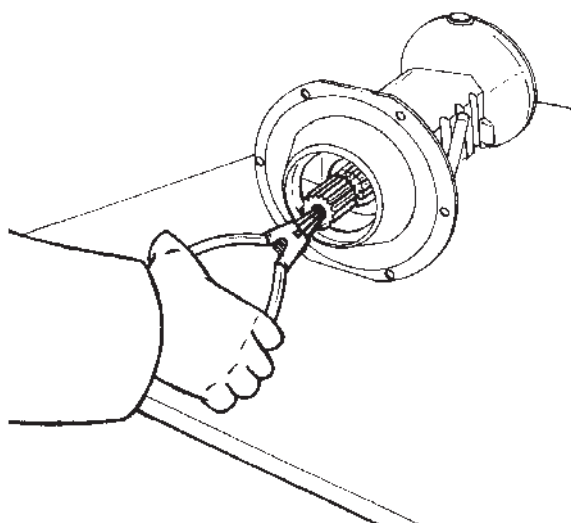
10 - Remove the O-ring and extract the shaft retaining ring.

- For r.-h. axle



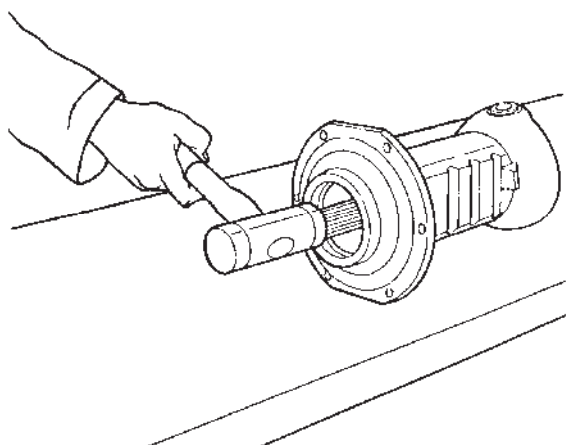
OP.17 51

10c - Remove the spring pin and slide out the drive engagement control shaft; remove the engagement fork and bushing.



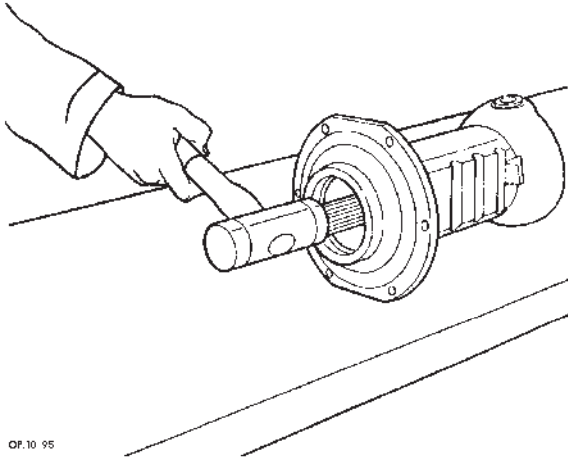
OP.17 49

10a - Remove the stop ring and the spacer.



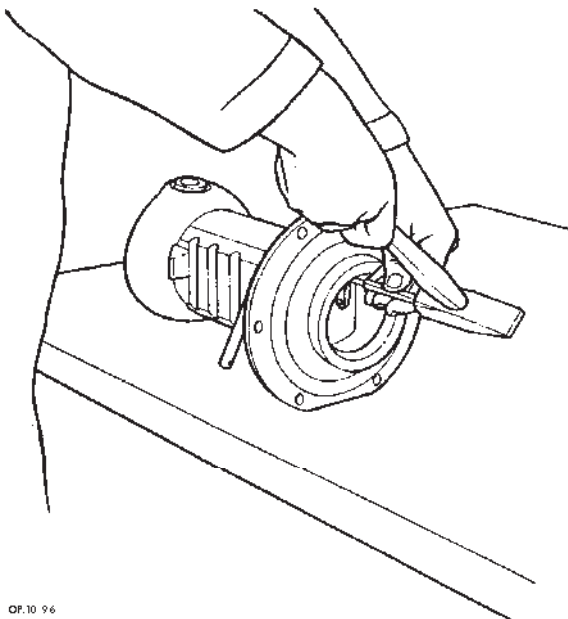
OP.10 95

10d - Remove the shaft.

**- For l.-h. axle**

OP.10 95

10a - Remove the shaft and remove the locking engagement.



OP.10 96

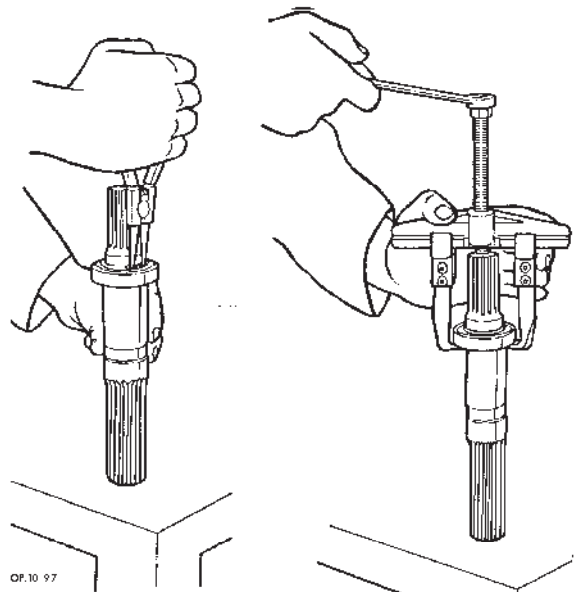
10b - Remove the spring pin and slide out the locking control shaft; remove the engagement fork.

**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

- Do not use gasoline, diesel oil or other flammable liquids to degrease or clean parts; use non-toxic solvents available on the market.

Do not pollute the environment.



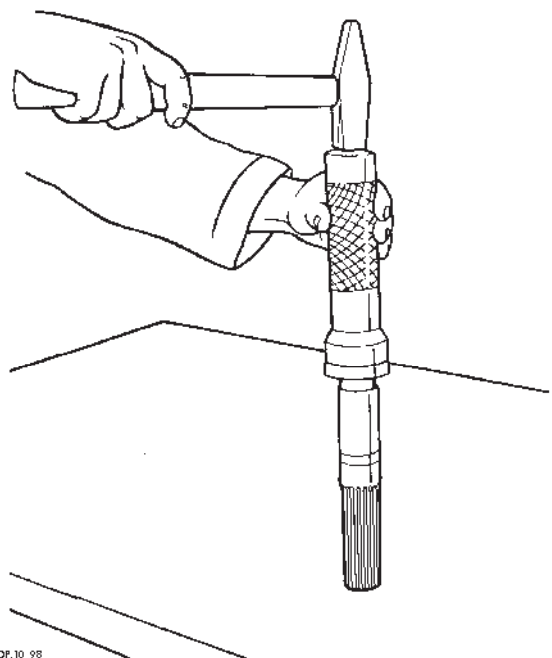
OP.10 97

11 - Remove the retaining ring and slide out the bearing using the AT 37981257 puller.

Assembly

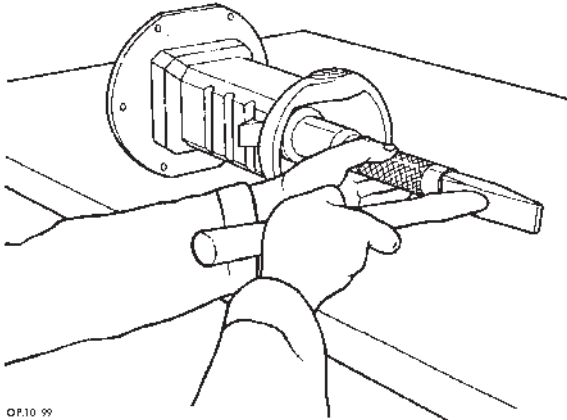
Proceed with the assembly of the unit observing the following precautions:

- a** - Follow the disassembly instructions in the reverse order;
- b** - Refer to drawings for location of different parts;
- c** - Observe the driving torques listed on page 4;
- d** - Dent the nut on the cardan shaft;
- e** - Proceed as follows:



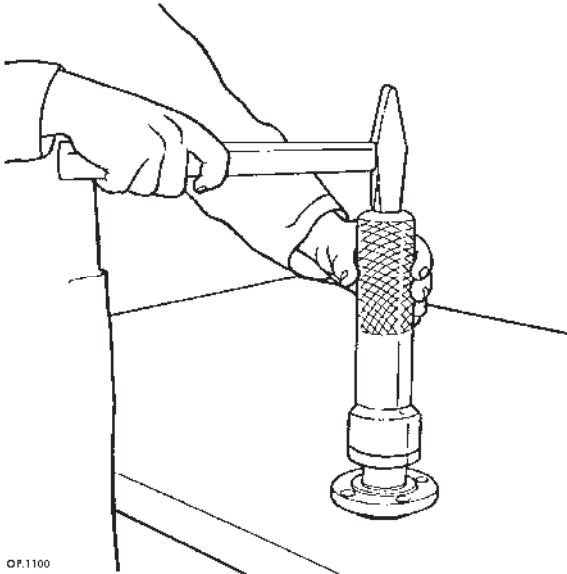
OP.10 98

1 - Mount the bearing on the shaft using the AT 37981014 driver.



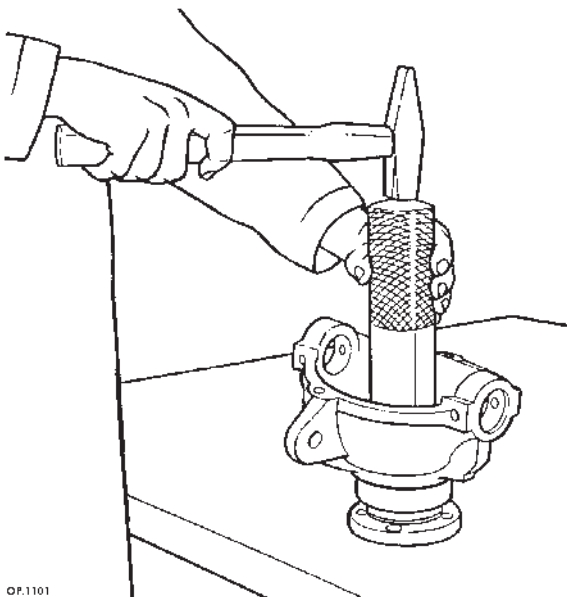
OP.10 99

2 - Mount the O-ring using the AT 37981326 driver and the AT 37981327 adapter.



OP.1100

3 - Mount the bearing on the wheel hub using the AT 37981328 driver.



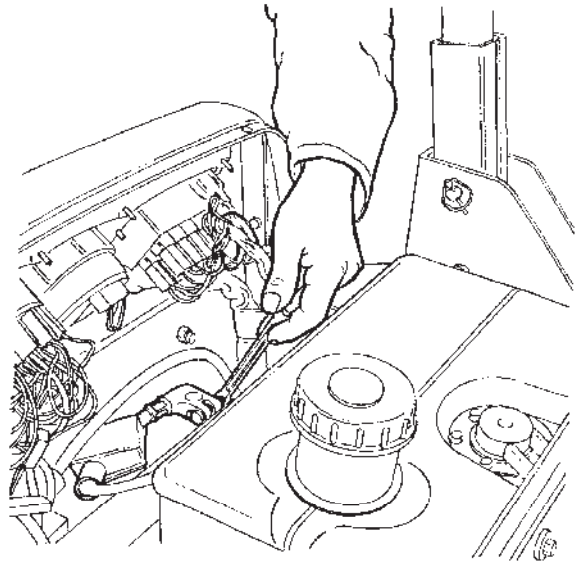
OP.1101

4 - Mount the bearing using the AT 37981328 driver.

REAR AXLE

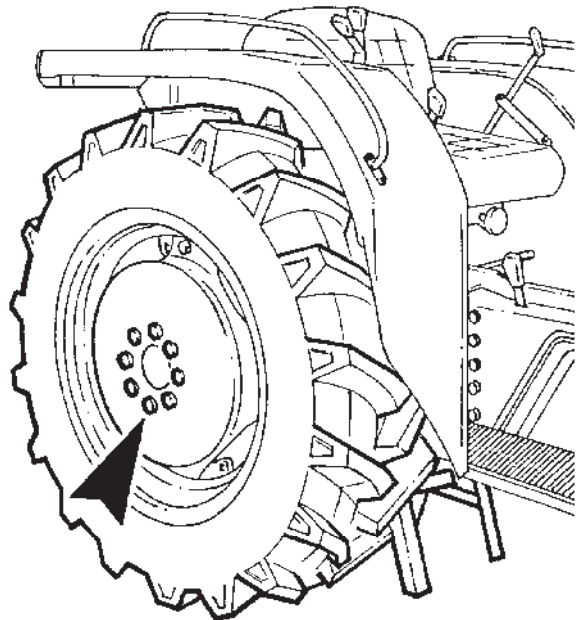
Disconnecting and connecting instructions

To access the rear axle unit, proceed as follows:



OP.1602

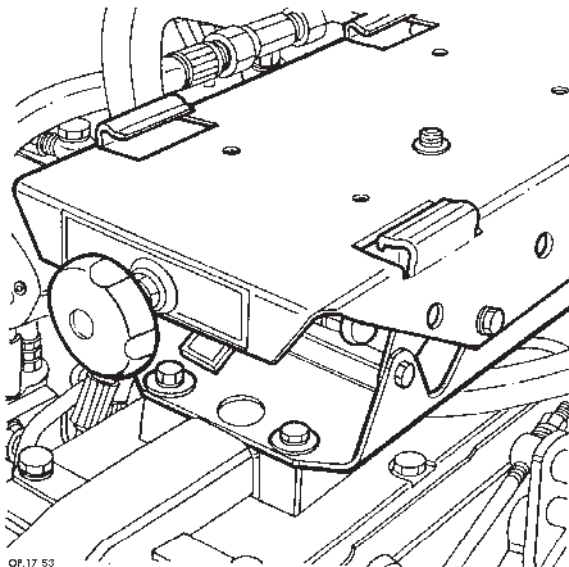
1 - Disconnect the positive battery cable and isolate it.



OP.17 52

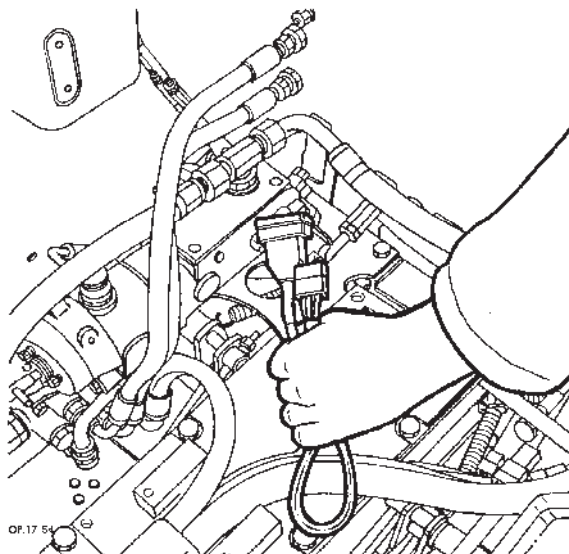
2 - Place a stand underneath the transmission, loosen the screws and remove the wheel.

3 - Loosen the oil drain plug and collect the oil in a container having a capacity of at least 20 liters.



OP.17 53

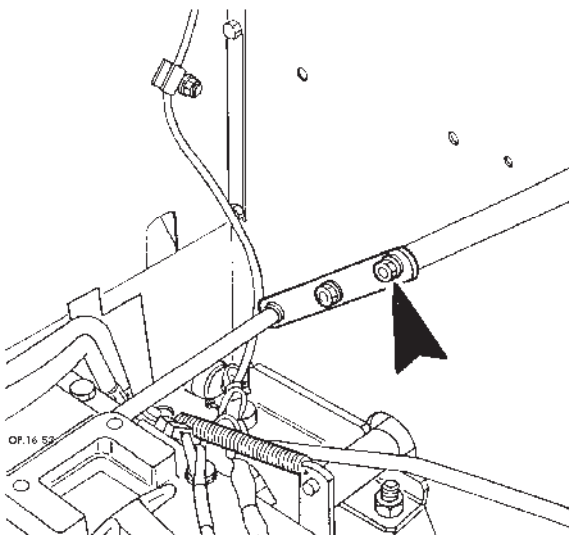
4 - Release the seat by removing the seat's spring mechanism.



OP.17 54

5 - Disconnect the axle electrical connection.

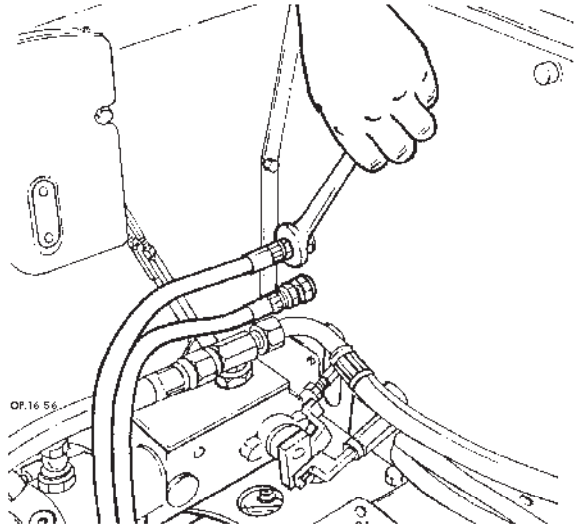
- For l.-h. axle



OP.16 55

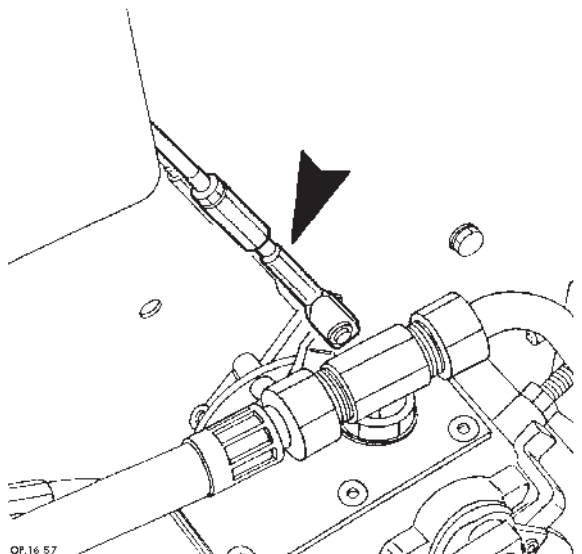
6a - Remove the PTO clutch lever.

- For r.-h. axle



OP.16 56

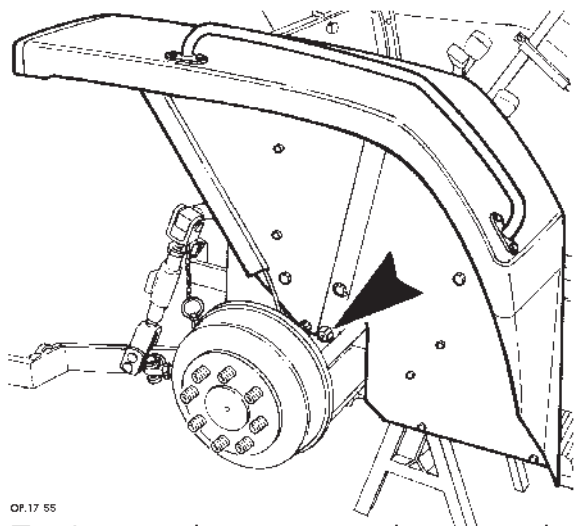
6a - Detach the hydraulic inlet connection tubes on the rear protection.



OP.16 57

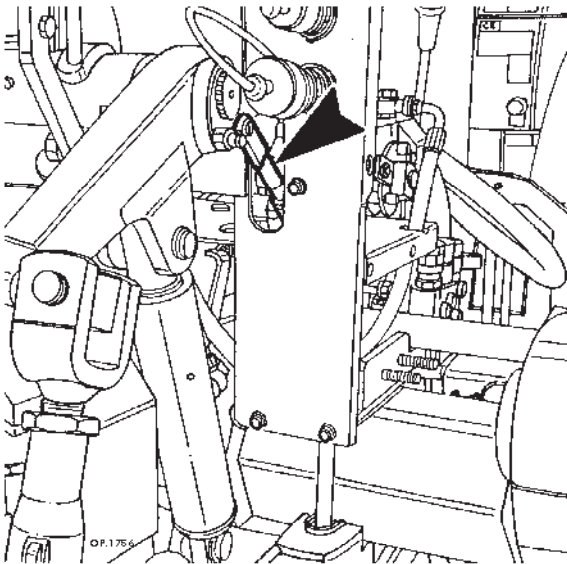
6b - Detach the tie rods for the controlled force control lever.

6c - Detach the lever from the hydraulic distributor.



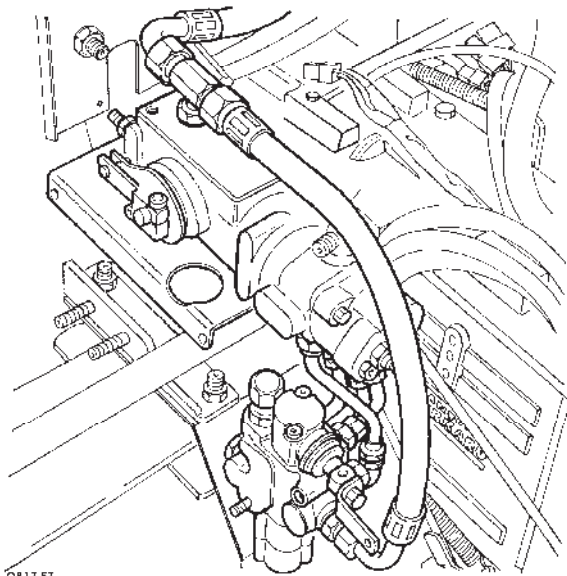
OP.17 55

7 - Loosen the screws and remove the fenders.



8 - Detach the tie rod for the controlled force (for r.-h. axle only) and remove the rear bulkhead.

- For r.-h. axle



8a - Disconnect the hoisting device hydraulic unit.

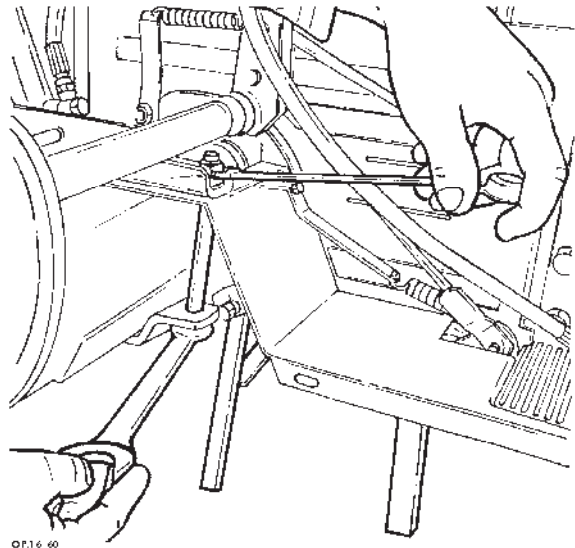


WARNING - DANGER



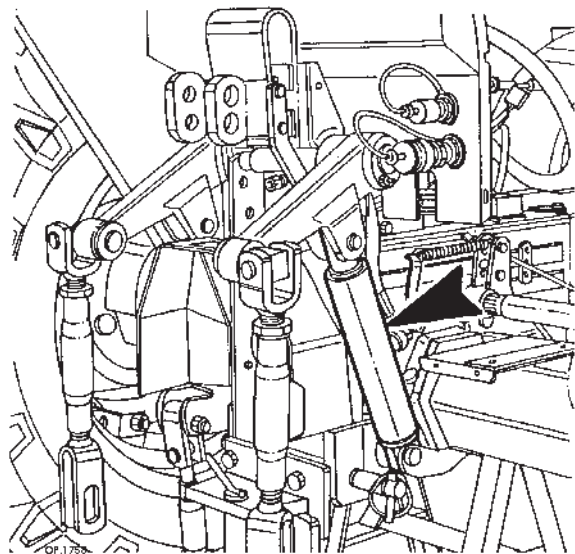
When performing operations, follow all the safety and accident prevention procedures carefully.

- Dispose of oils in compliance with environmental regulations.
Do not pollute the environment.

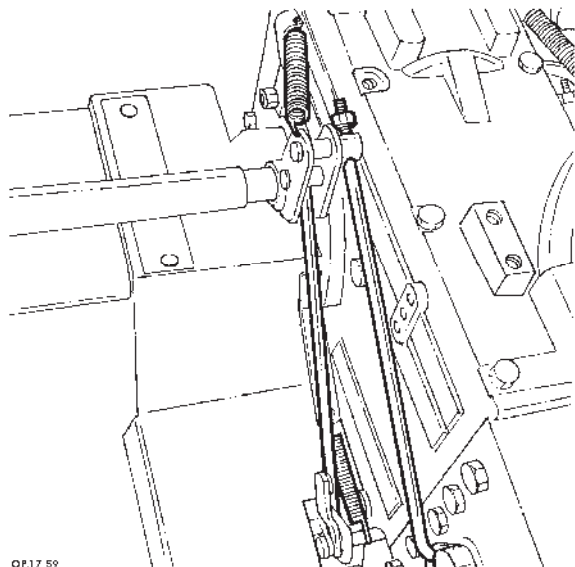


9 - Remove the footboard U-bolt.

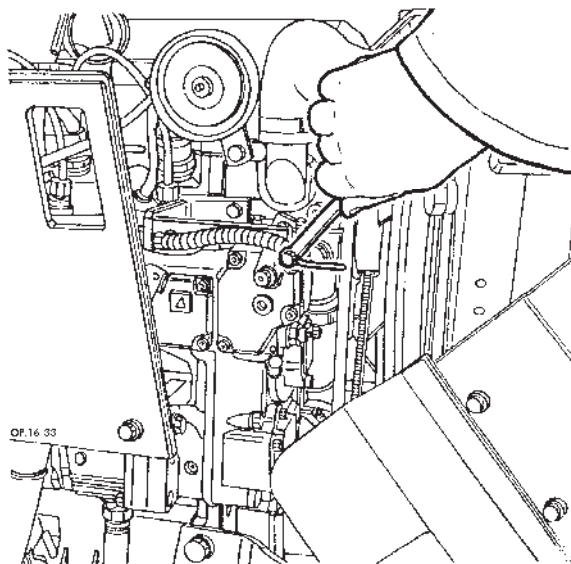
10 - Remove the lower hoisting arm.



11 - Detach the delivery tube to the hoisting device cylinder, loosen the screws and remove the hoisting device.

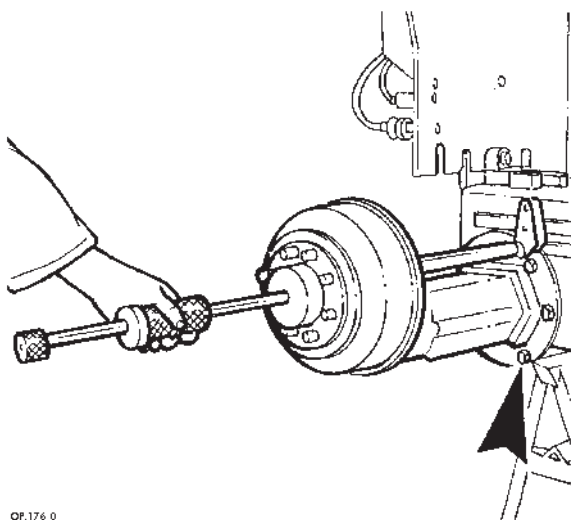


12 - Remove the brake tie rods and corresponding springs.



13 - Loosen the accelerator control cable terminals and pull them out.

14 - Remove the footboard.

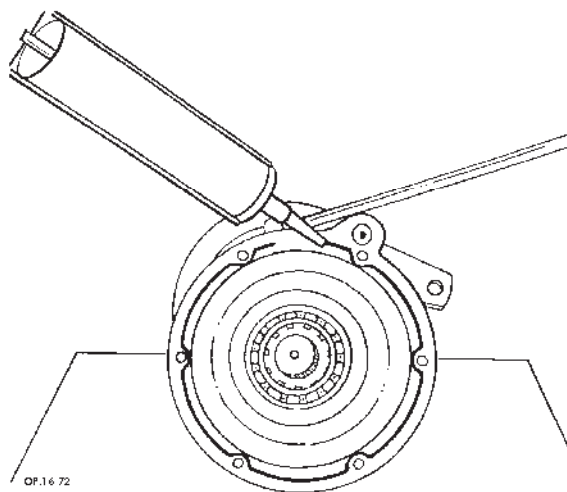


15 - Loosen the screws and remove the axle using the AT 27981047 slide hammer and the AT 37981235 adapter.

Reconnecting the axle

To reconnect the axle, proceed as follows:

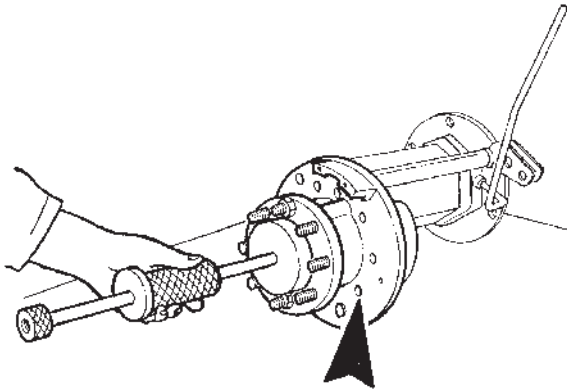
- a** - Follow the disconnection instructions in the reverse order;
- b** - Observe the driving torques listed on page 4;
- c** - Clean the surfaces to be coupled thoroughly;
- d** - Apply a 3 mm diameter string of sealing compound (RTV 1473), following the paths shown in the figure.



Disassembly and assembly

For the disassembly of the axle, proceed as follows:

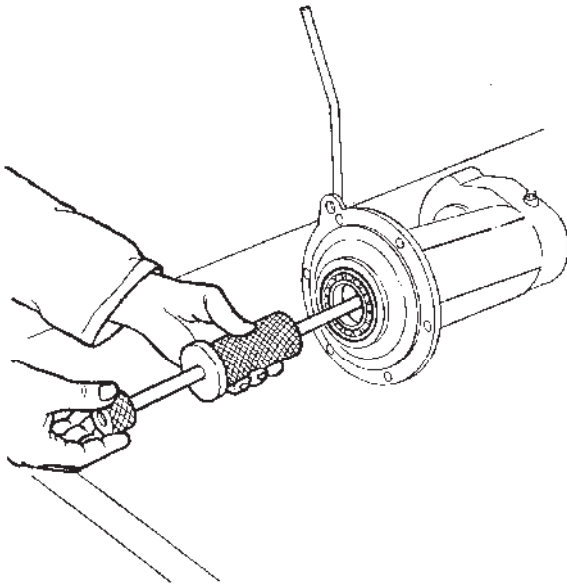
- 1** - Place the axle on a workbench.
- 2** - Remove the brake shoes retaining and return springs.
- 3** - Remove the brake shoes.
- 4** - Remove the brake adjuster unit.



OP.1761

5 - Remove the screws and separate the wheel hub from the axle using the AT 37981235 adapter and the AT 27981047 slide hammer.

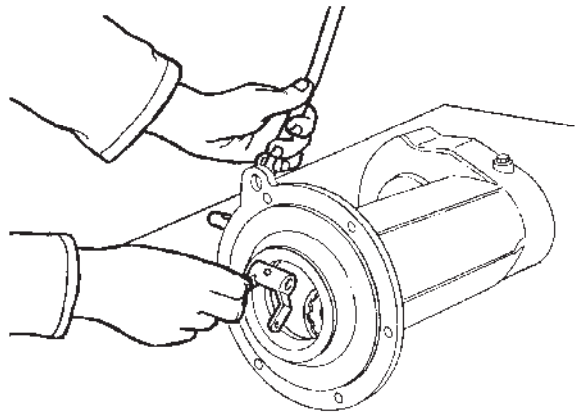
6 - Remove the brake control shaft and recover the screw that fastens the axle to the gearbox guard.



OP.1762

7 - Extract the bearing using the AT 27981047 slide hammer and the AT 37981617 adapter; remove the spacer.

- For the l.-h. axle

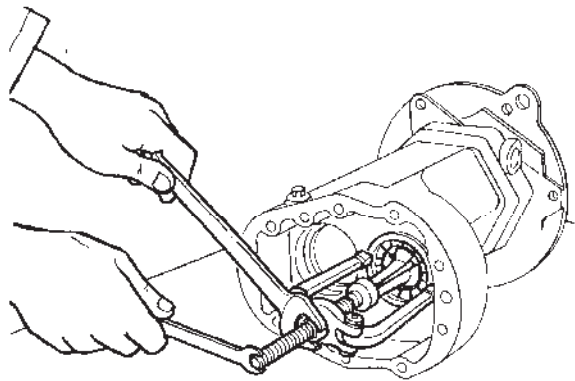


OP.1763

For l.-h. axle:

8 - Remove the pads, remove the spring pin and the locking control fork. Extract also the locking control lever.

9 - Extract the differential locking engagement bushing inside the axle shaft support.



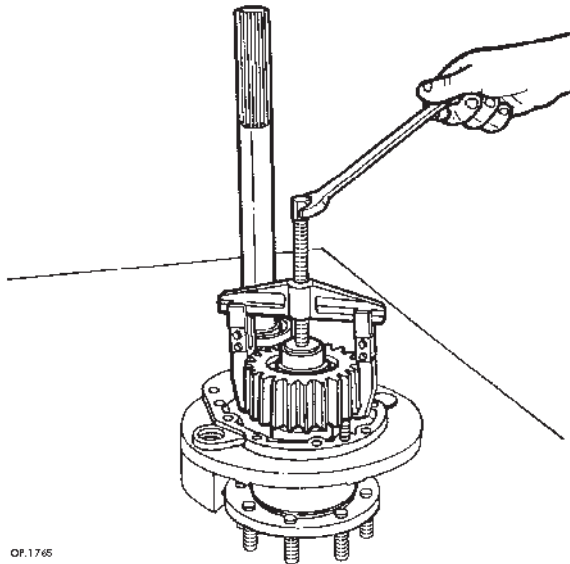
OP.1764

10 - Remove the roller bearing using the AT 37981216 puller and the AT 37981255 adapter.

**WARNING - DANGER**

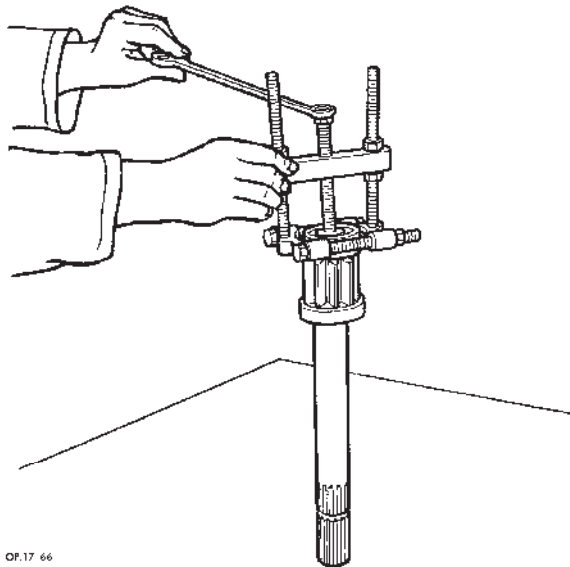
When performing operations, follow all the safety and accident prevention procedures carefully.

- Watch out for shearing - crushing - tangling - collisions - high pressure spraying of fluids, etc.



OP.1765

11 - Using the AT 37981257 universal puller, extract the wheel and the pinion; recover the previously removed internal ring of the bearing.



OP.17 66

12 - Extract the bearing from the pinion using the AT 37981581 tool.



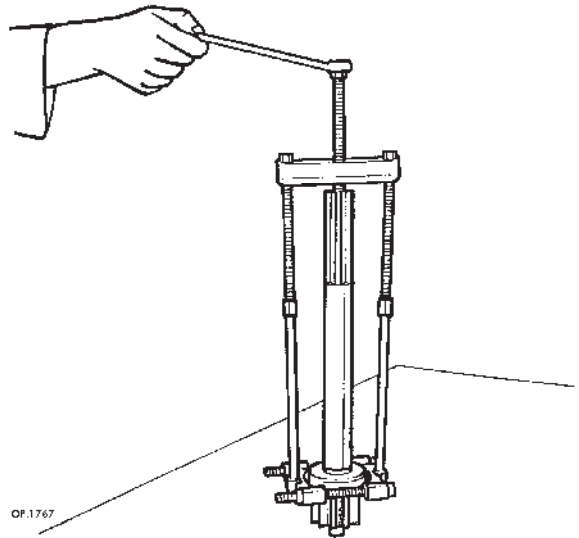
WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

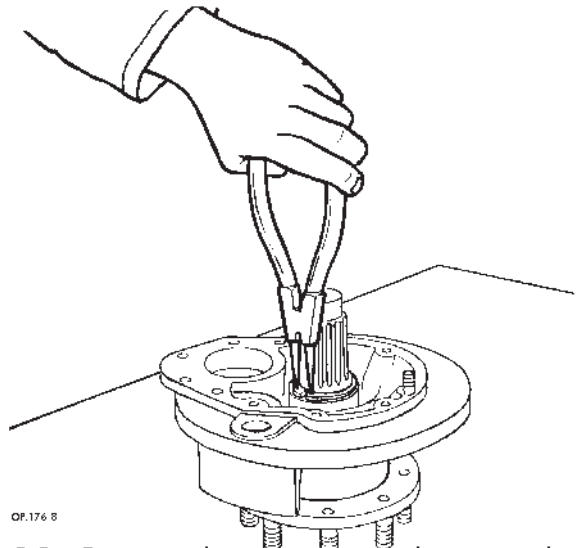
- Do not use gasoline, diesel oil or other flammable liquids to degrease or clean parts; use non-toxic solvents available on the market.

Do not pollute the environment.



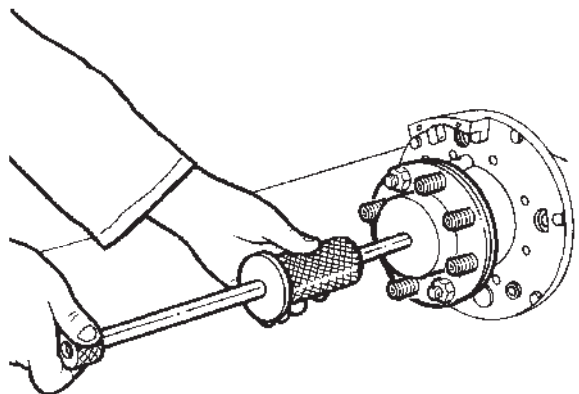
OP.1767

13 - Extract the bearing from the pinion using the AT 37981581 tool and the AT 37981606 extensions.



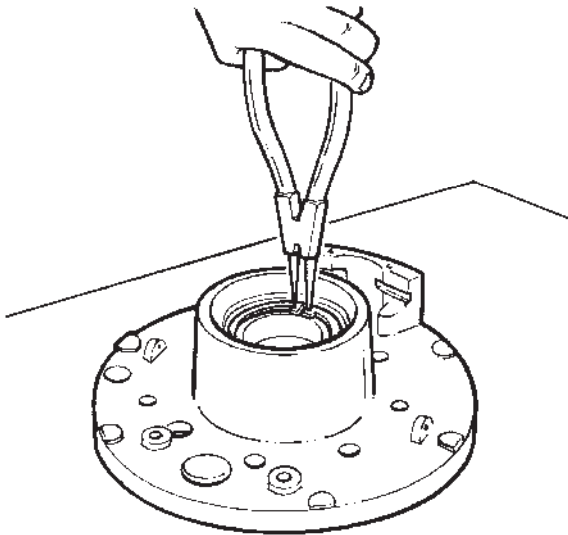
OP.176 8

14 - Remove the stop ring and recover the spacer from the axle shaft terminal.



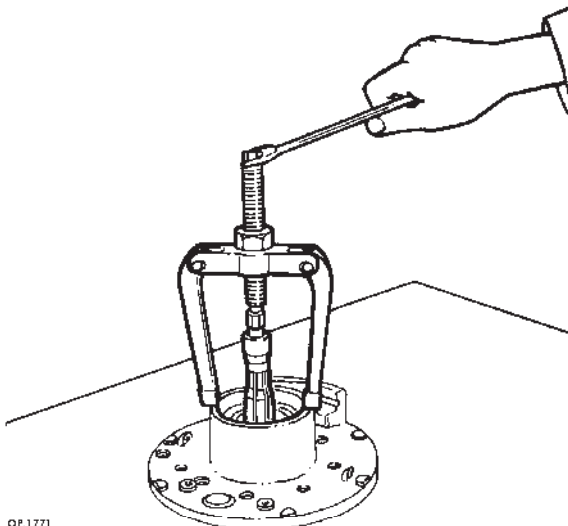
OP.176 9

15 - Remove the axle shaft terminal using the AT 27981047 slide hammer and the AT 37981235 adapter.



OP.1770

16 - Remove the O-ring and extract the stop ring.



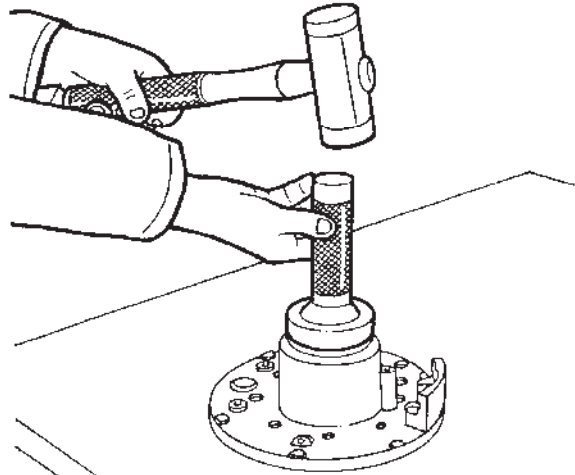
OP.1771

17 - Extract the bearing using the AT 37981253 puller and the AT 37981256 adapter.

Assembly

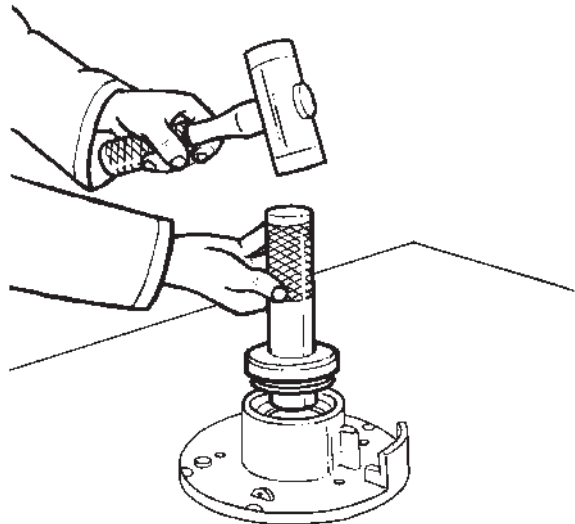
Proceed to assemble observing the following cautions:

- a** - Follow the disassembly instructions in the reverse order;
- b** - Refer to drawings for location of different parts;
- c** - Observe the driving torques listed on page 4;
- d** - Proceed as follows:



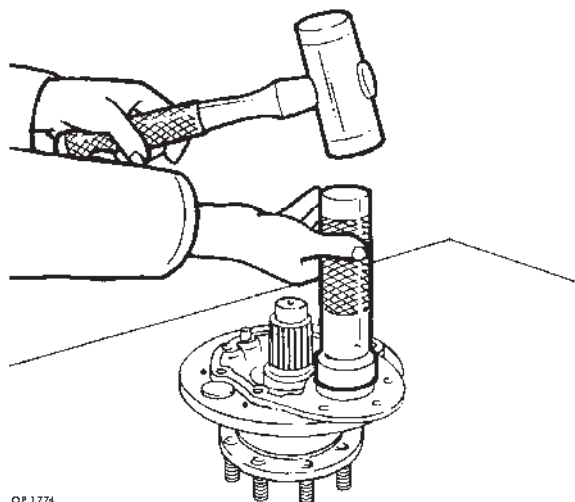
OP.17 72

1 - Mount the bearing using the AT 37981608 driver.



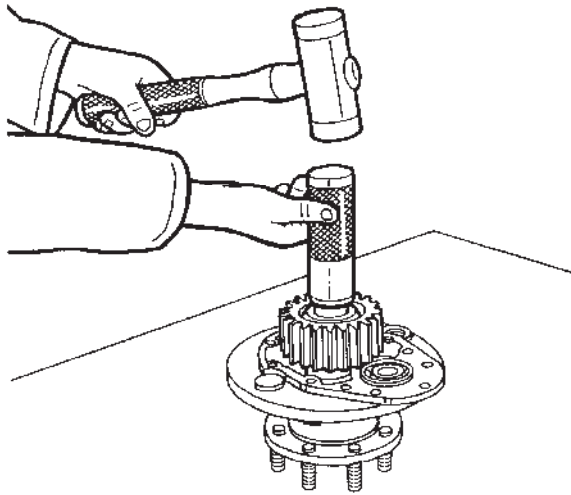
OP.1773

2 - Insert the O-ring using the AT 27981248 driver.



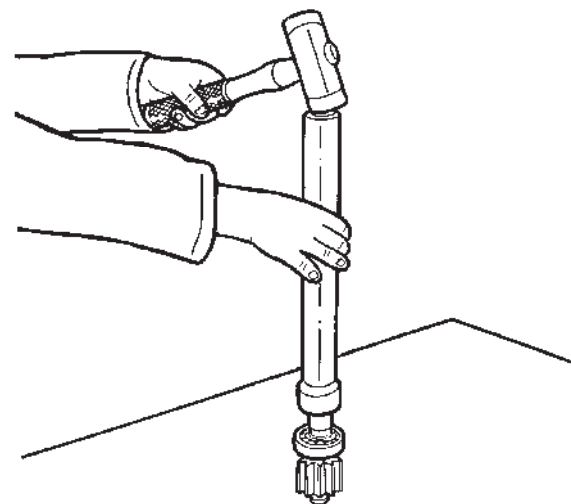
OP.1774

3 - Mount the bearing on the support flange using the AT 37981659 driver.



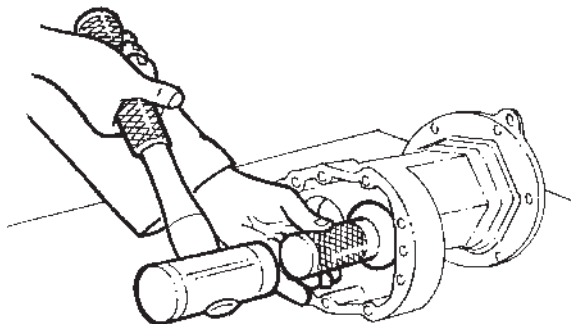
OP.175

4 - After inserting the gear, mount the seat of the roller bearing using the AT 37981251 driver.



OP.176

5 - Mount the bearing on the pinion using the AT 37981612 driver.

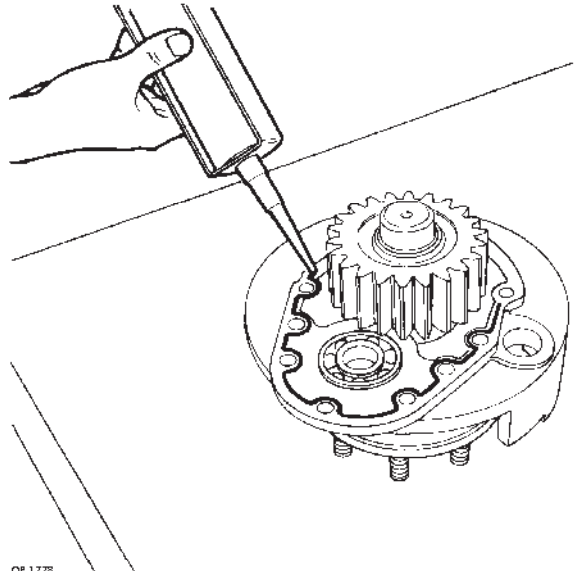


OP.177

6 - Mount the bearing on the support using the AT 37981252 driver.

7 - Insert the pin in the differential locking control lever fork.

8 - Insert the pinion inside the axle shaft support using a suitable hammer; insert the bushing for the locking engagement with sliding blocks; finally, mount the brake control shaft.



OP.1778

9 - Apply a 3-mm diameter string of sealing compound, following the path shown in the figure; then mount the hub, making sure that the inner ring of the bearing is properly inserted.



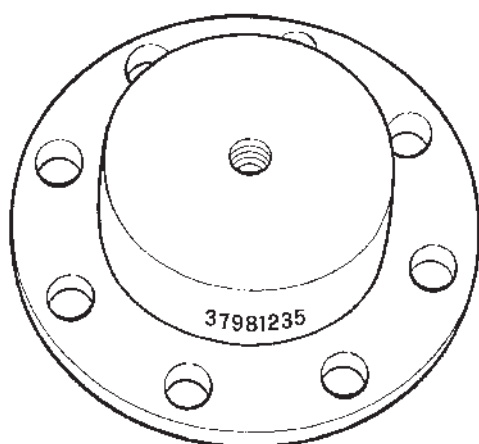
WARNING - DANGER



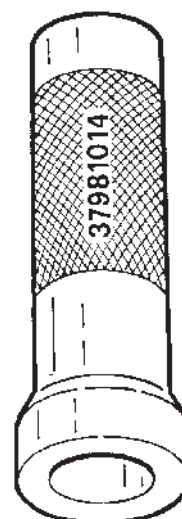
When performing operations, follow all the safety and accident prevention procedures carefully.

- Do not use gasoline, diesel oil or other flammable liquids to degrease or clean parts; use non-toxic solvents available on the market.

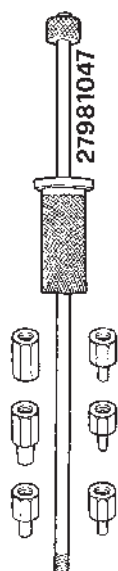
Do not pollute the environment.



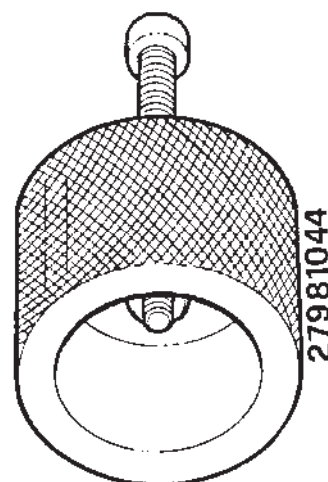
AT.062

1 - Adapter for extraction of wheel hubs.

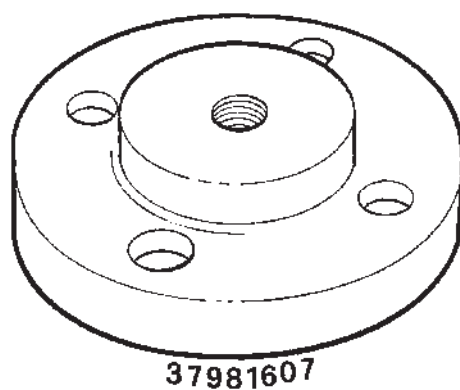
AT.02.3

4 - Driver for assembly of bearings.

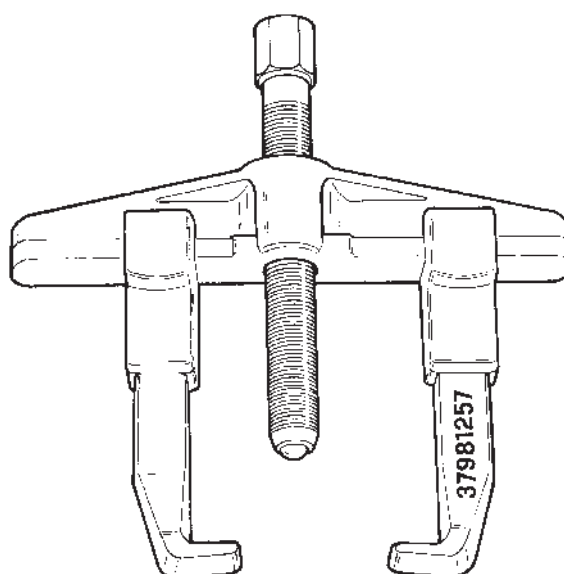
AT.00.4

2 - Slide hammer with set of adapters.

AT.22.4

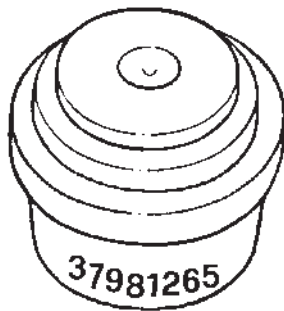
5 - Puller for bushings - axle pins.

AT.2.82

3 - Adapter for slide hammer.

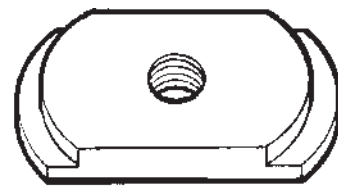
AT.06.7

6 - Universal puller.



AT 094

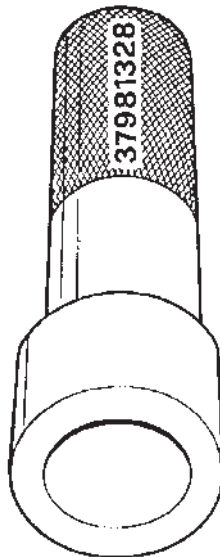
7 - Adapter for universal puller.



37981617

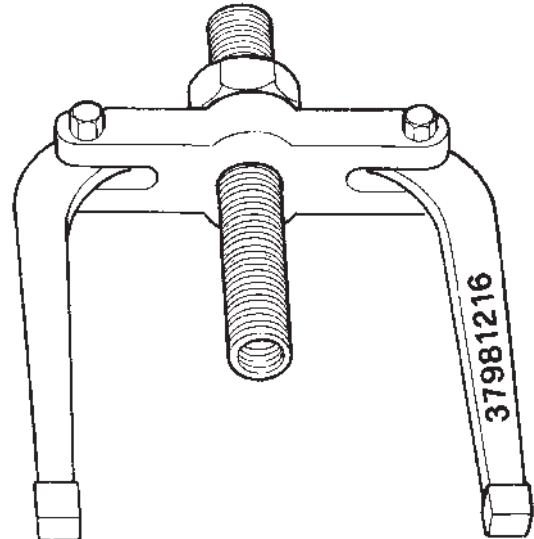
AT 313

10 - Adapter for slide hammer.



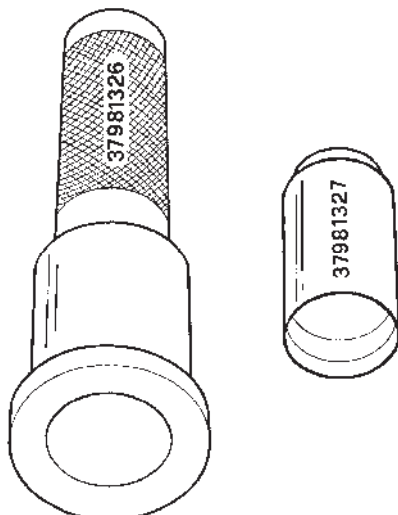
AT 22 7

8 - Driver for assembly of axle shaft bearing.



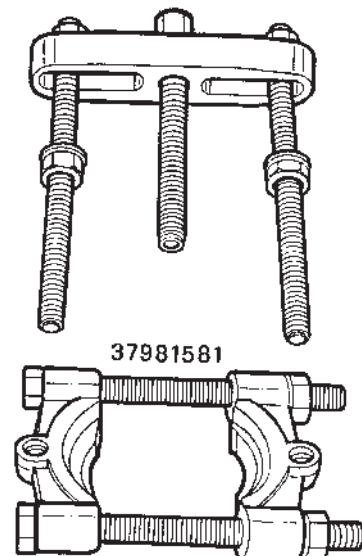
AT 001

11 - Combined puller for bearings.



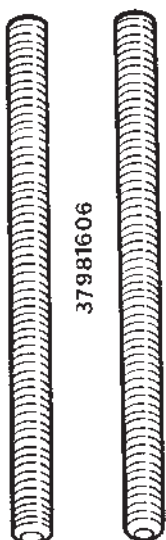
AT 22 6

9 - Driver and adapter for seal assembly.

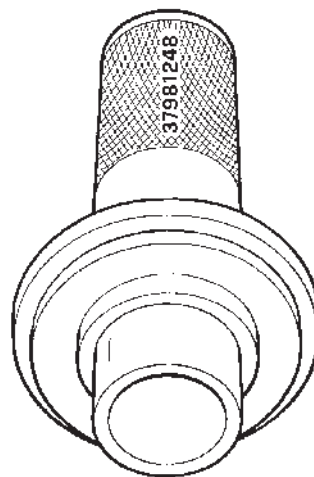


AT 2 97

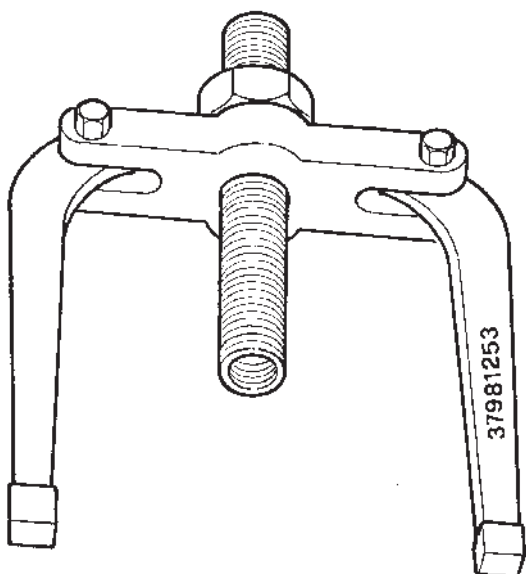
12 - Puller for bearings.



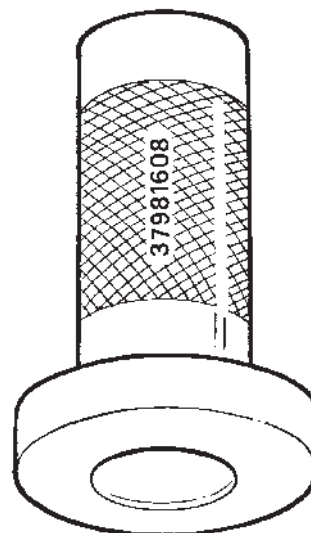
AT 298

13 - Extensions for the AT 37981581 puller.

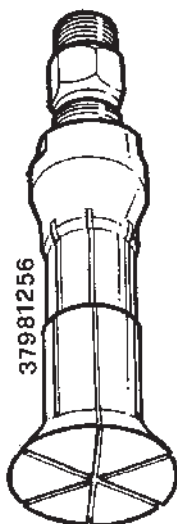
AT 074

16 - Driver for gasket assembly.

AT 025

14 - Puller with jaws.

AT 311

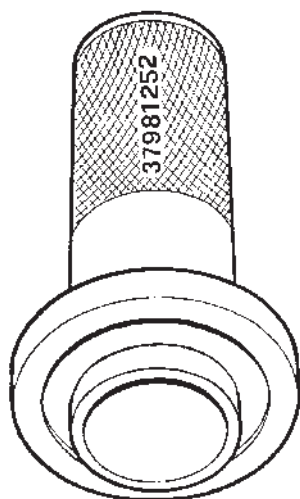
17 - Driver for assembly of bearing.

AT 295

15 - Expander for puller with jaws.

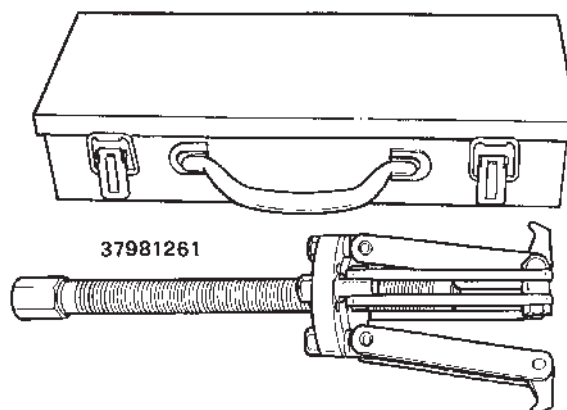
AT 303

18 - Driver for bearings.



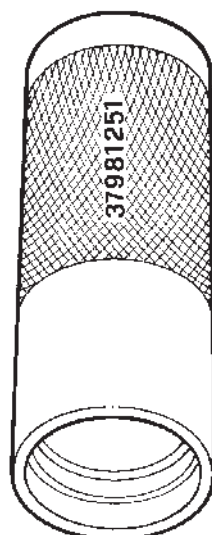
RT 073

19 - Driver for assembly of bearing.



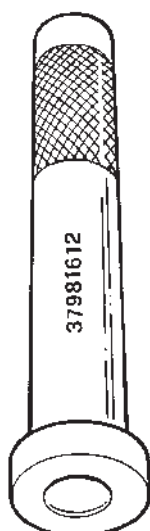
RT 060

22 - Universal puller.



RT 076

20 - Driver for assembly of bearing.



RT 314

21 - Driver for bearings.

**BRAKES****Description**

The shoe brakes operate inside the drums applied to the rear wheel hubs.

Device		Drum diameter (mm)
Service	Expansion type with mechanical control pedals that can operate separately on each brake, or simultaneously if they are made integral by means of a pivot.	252
Emergency	Expansion type with mechanical drive, actuated by means of a hand lever which operates simultaneously on the shoes.	252
Parking	Same as the emergency device, locked in braking position by means of the non-reversible motion device.	252

BRAKING SURFACE = 220 cm²

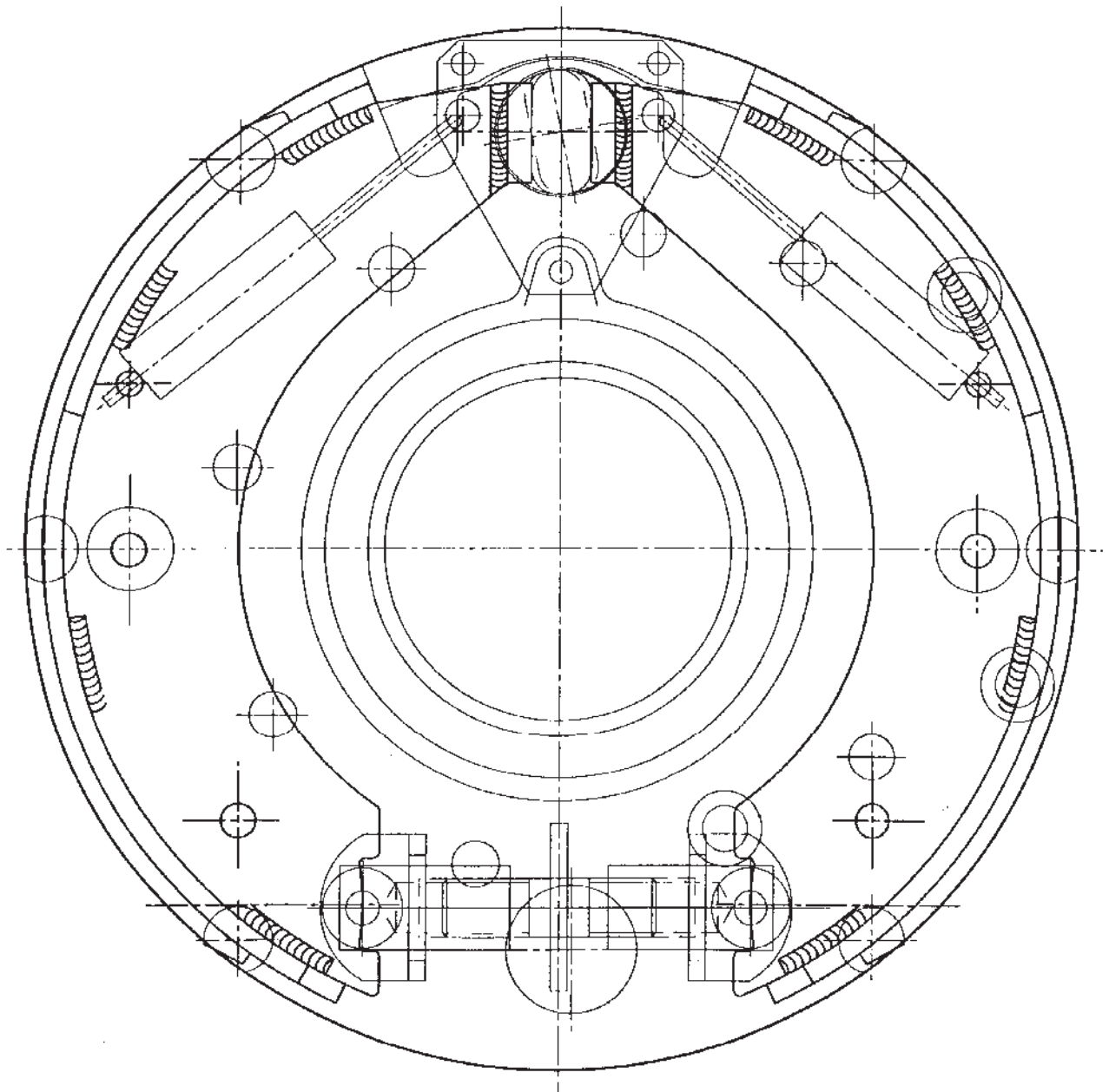
Make and type: Ferodo BERAL 1109 (BA 403)

Troubleshooting

Problem	Probable cause	Remedy
Poor braking	1) Damaged or worn friction material or excessively smooth friction surface 2) Brakes need adjustment	Replace shoes Adjust the brakes
Control pedal stroke too long	1) Brakes need adjustment 2) Damaged or torn shoe friction material	Adjust Replace shoes
Unbalanced braking	1) Brakes need adjustment 2) Pull rods need adjustment	Adjust Adjust
Parking brake hard to actuate	1) Rusty connection shaft	Remove parts and grease them
When parking brake is disengaged the tractor remains locked	1) Hindrance in the return stroke of the pull rods	Remove hindrances

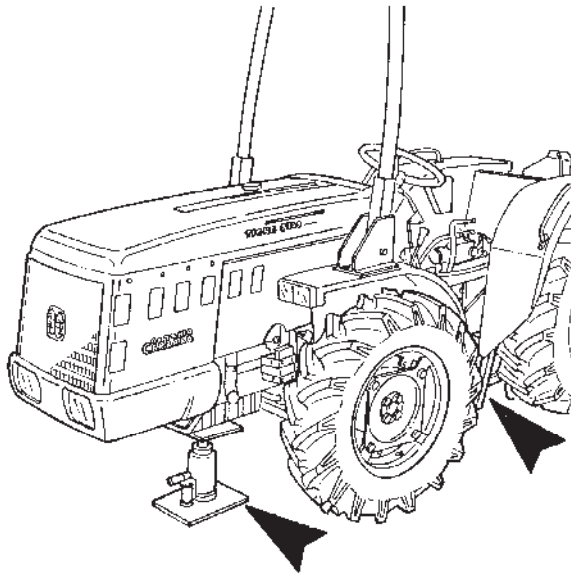


BRAKES



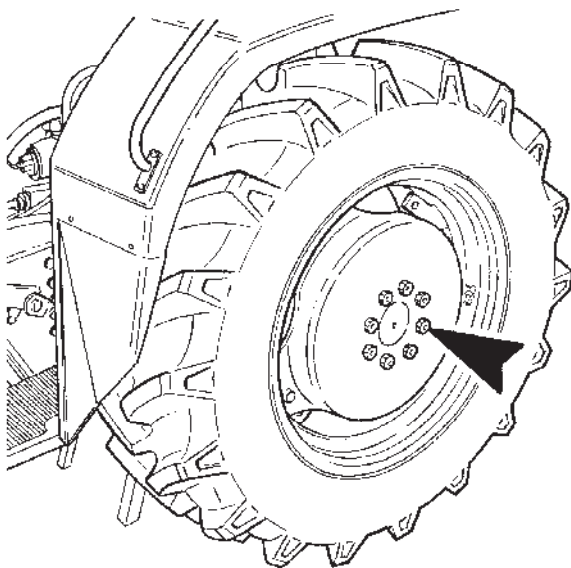
**BRAKES****Disconnecting and connecting instructions**

To access the brakes proceed as follows:



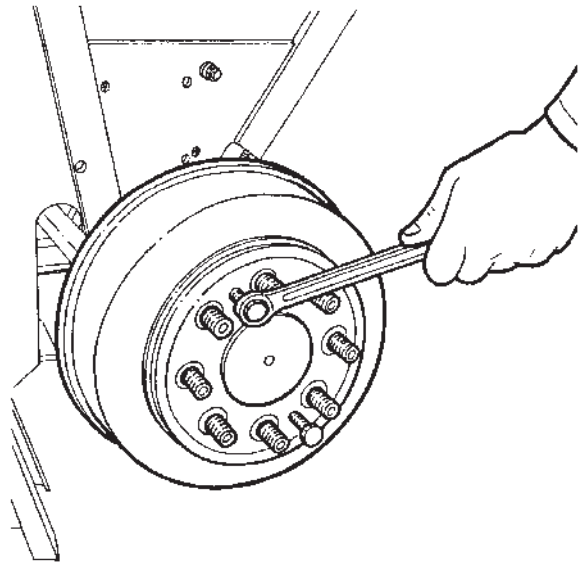
OF.1651

1 - Place a vehicle stand underneath the transmission and one underneath the axle.



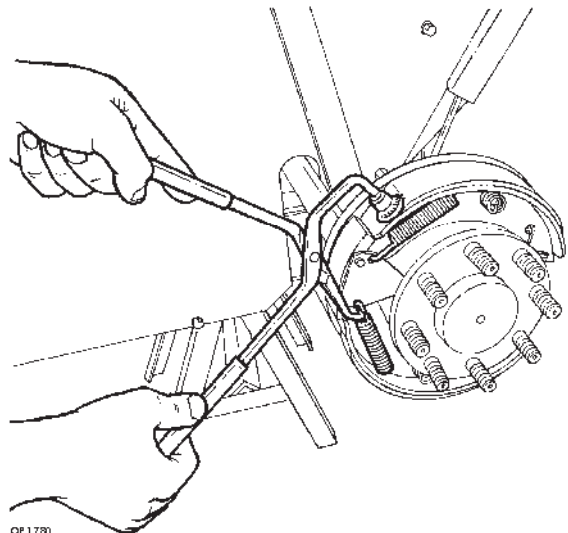
OF.1652

2 - Loosen the bolts and remove the wheels.



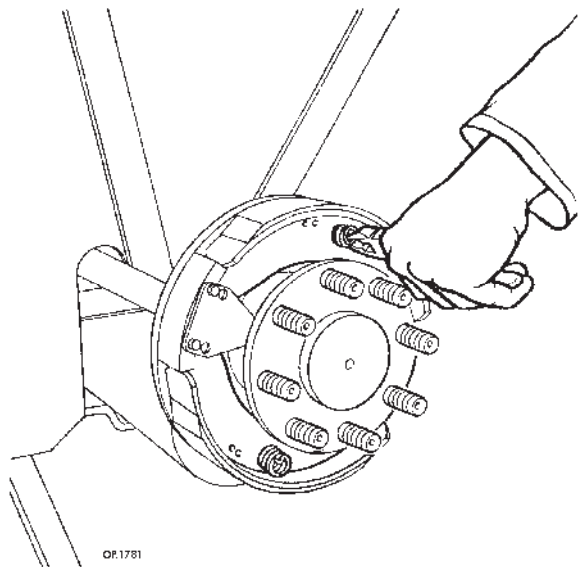
OF.1779

3 - Tighten two M10 screws and extract the drum.



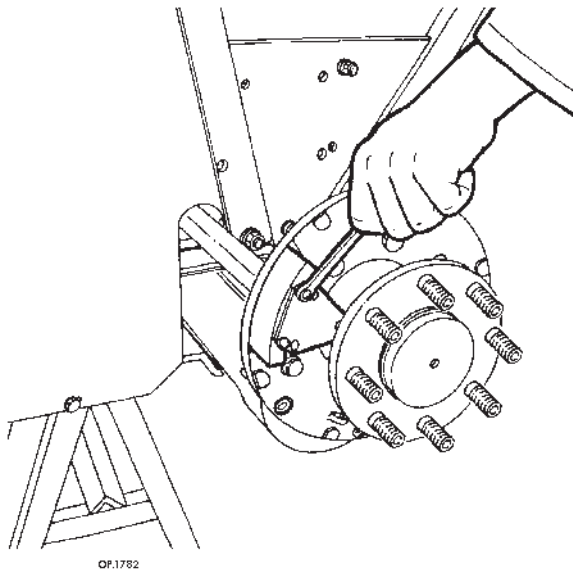
OF.1780

4 - Remove the return springs using the AT 37981260 pliers.



OF.1781

5 - Remove the shoe retaining springs using a pair of pliers or a single-slot screwdriver.



6 - Unscrew the support and recover the pivot.

Reconnecting the brakes

To reconnect, proceed as follows:

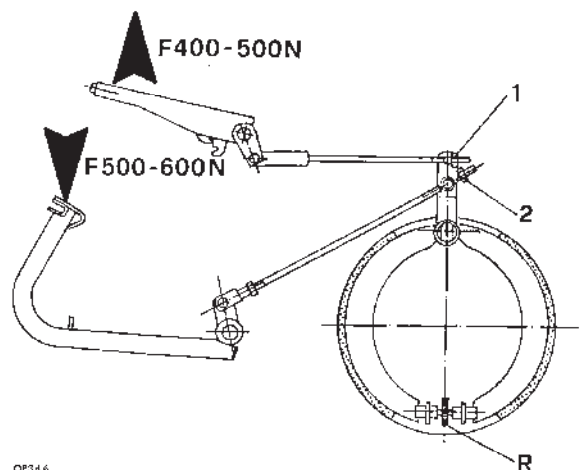
- a** - Follow the disconnection instructions in the reverse order;
- b** - Refer to drawings for location of different parts;
- c** - Check the friction linings and replace them if they are too worn or scored;
- d** - Thoroughly clean all parts before assembly and grease the controls.

Brake adjustment

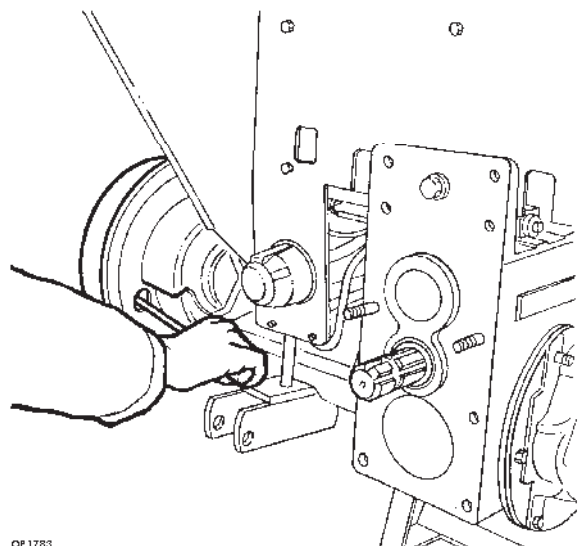
To adjust the brakes properly proceed as follows:

- 1** - Place stands underneath the axles.
- 2** - Loosen the bolts and remove the wheels.

Note: Secure the drum to the axle shaft.

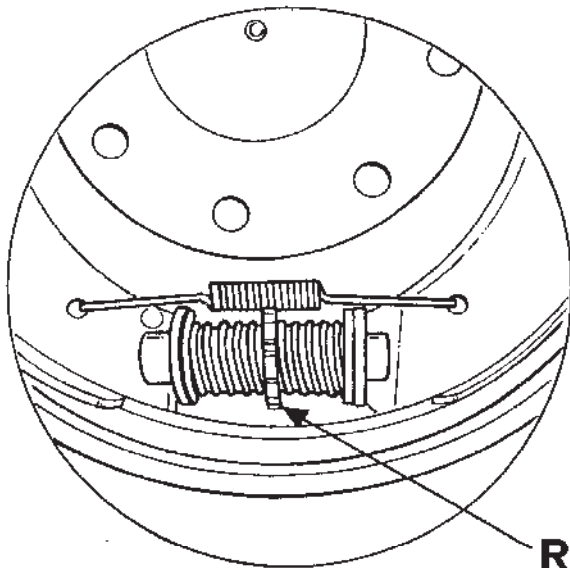


3 - Loosen the pull rods for the service-emergency-parking brakes until there is slack between the control pawl and the pull rod adjustment nuts (1-2).



4 - With a single-slot screwdriver inserted through the hole in the axle, rotate the brake adjuster until the shoes are locked against the drum.

5 - Actuate the brake pedal with a force of $500 \div 600 \text{ N}$ ($50 \div 60 \text{ Kg}$) so as to set the shoes.



OP 349

6 - Move the shoes close to the drum by means of the brake adjuster [R] until the shoes lock onto the drum.

7 - Turn the brake adjuster [R] in the opposite direction 1-2 clicks of the spring (minimum required for the shoes not to touch the drum).

8 - Move the brake pull rod adjustment nuts (2) closer until they contact the brake control pawl.

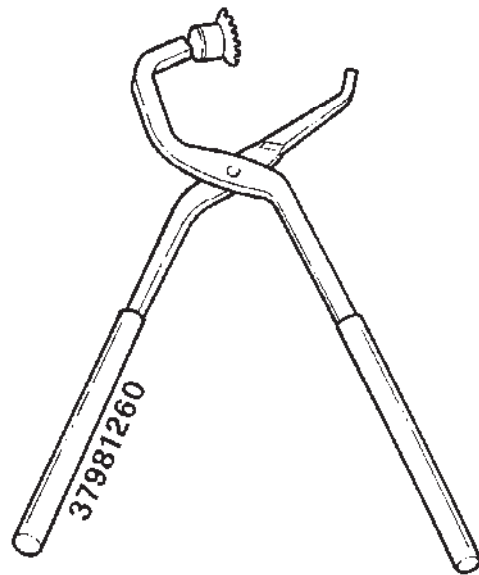
9 - Only fine balancing adjustments can be performed on the brake pull rod adjustment nuts (2).

Adjustment of hand brake control stroke

1 - Lock the parking brake by applying a force of $400 \div 500$ N ($40 \div 50$ Kg) in order to set the brake controls and shoes.

2 - Tighten or loosen the adjustment nut (1) until the control lever clicks $4 \div 5$ times, applying a force of $400 \div 500$ N ($40 \div 50$ Kg).

EQUIPMENT



AT 079

1 - Pliers for brake shoe springs.



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

Operations requiring special care may be dangerous for the operator if not correctly performed.



HYDROSTATIC STEERING

The hydrostatic steering gear has the ability of conferring upon the wheels an angular displacement proportional to the rotation of the steering wheel, making use of a set quantity of oil delivered by the hydrodrive system to the jack actuator (steering cylinder). This means that there is no mechanical connection between the steering wheel and the wheels, but only flexible hoses that connect the hydrodrive with the steering cylinders.

HYDRODRIVE

Technical features

Hydrodrive	3700	4300
Make Type	DANFOSS OSPC 50 ON/150-1149	
Overpressure valve setting	90 Bar	
Shockproof valve setting	150 Bar	
Steering wheel revolutions	4	

System	3700	4300
Priority valve	VICKERS -Z002387 VCB	
Jack diameter	40 mm	
Jack stroke	163 mm	

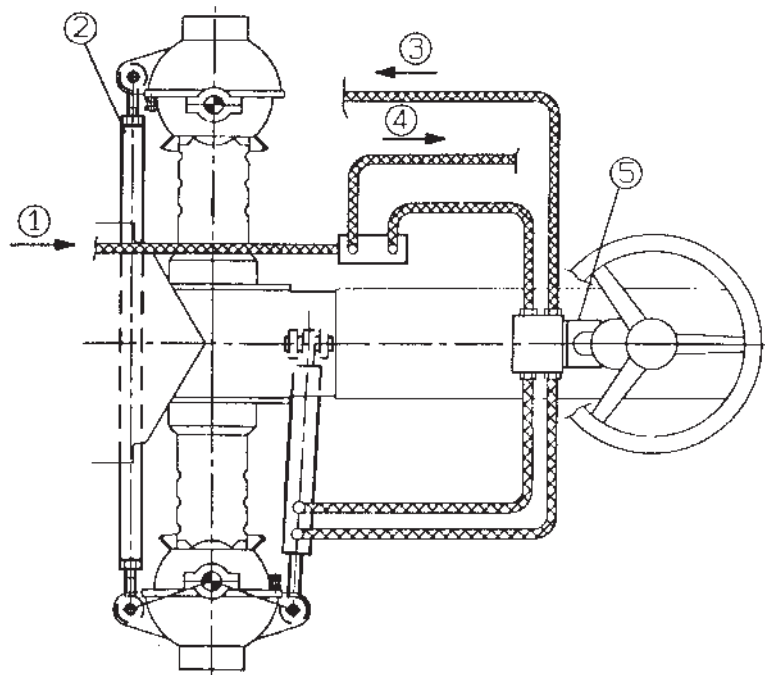
**HYDRODRIVE****Troubleshooting**

Problem	Probable cause	Remedy
The steering wheel is hard to turn	1) Inefficient hydraulic pump. 2) Hydrodrive needs setting. 3) Hardening of the steering column on its bushing due to seizing or oxidation.	Replace hydraulic pump. Set the hydrodrive. Replace or remove cause by lubricating.
Oil leak in the hydrodrive unit	1) Loose connection tube unions. 2) Defective washers or O-rings. 3) Defective hydrodrive unit O-rings.	Tighten unions. Replace washers and O-rings. Replace O-rings.
The tractor does not follow the steering direction	1) Air in the hydraulic circuit. 2) Worn jack seal rings. 3) Cylinder safety valves or return valves damaged or open due to dirt deposits.	Eliminate air seepage. Replace seals. Eliminate dirt and clean the filter, or replace the distributor.
The tractor does not turn	1) Check oil level in the front transmission case oil reservoir. 2) The hydrodrive and hoisting device hydraulic pump is damaged.	Top up with oil. Replace the pump.

Note: If you experience problems with the hydrodrive unit, consult the Danfoss service manual.



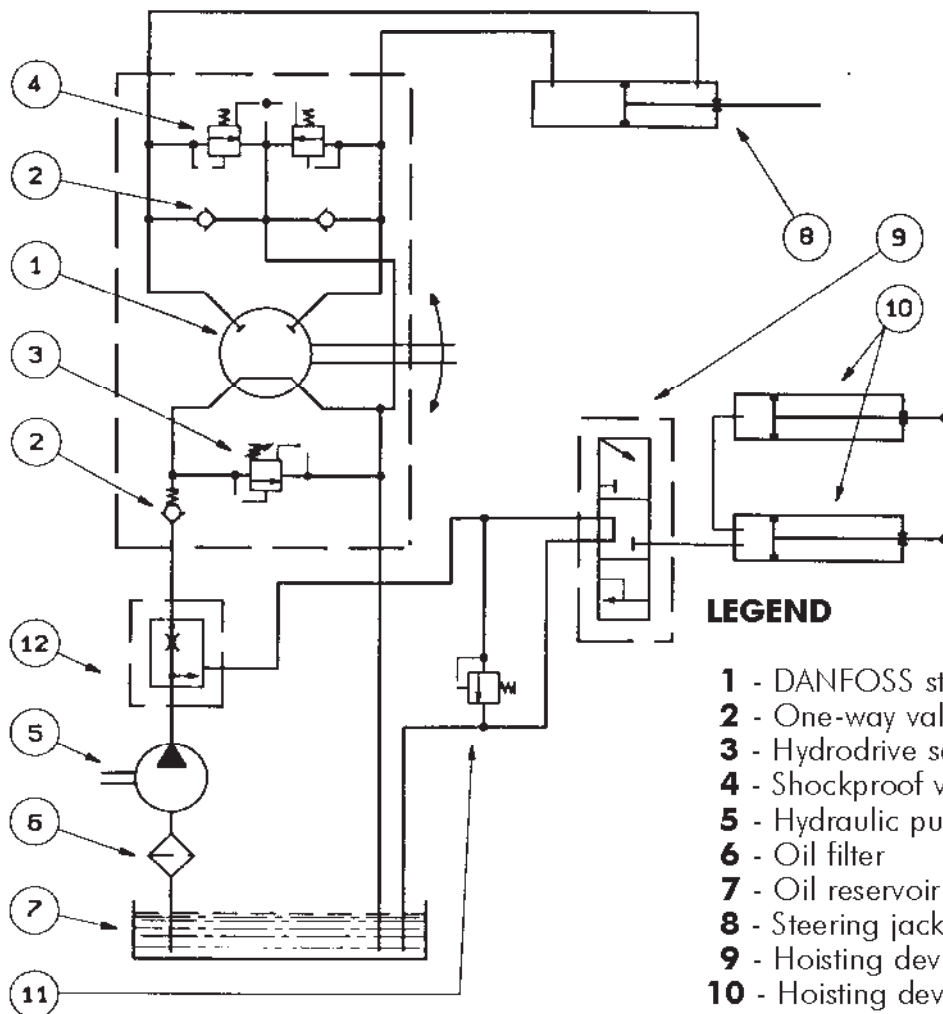
STEERING MECHANISM



LEGEND

- 1 - From the pump
- 2 - Coupling bar
- 3 - To the front oil pan
- 4 - To the distributor
- 5 - Hydrodrive

SCHEMA INSTALLATION HYDRAULIQUE



LEGEND

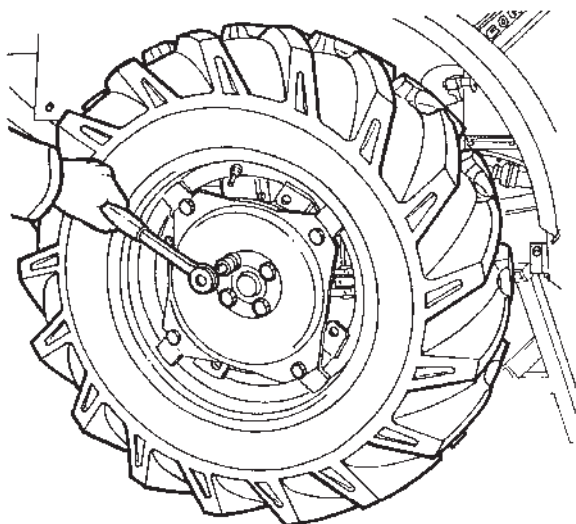
- 1 - DANFOSS steering distributor
- 2 - One-way valves
- 3 - Hydrodrive safety valve set at 90 bar
- 4 - Shockproof valves set at 150 bar
- 5 - Hydraulic pump
- 6 - Oil filter
- 7 - Oil reservoir
- 8 - Steering jack
- 9 - Hoisting device distributor
- 10 - Hoisting device jacks
- 11 - Implement circuit safety valve set at 130 - 140 bar
- 12 - Priority valve



STEERING CONTROL CYLINDER

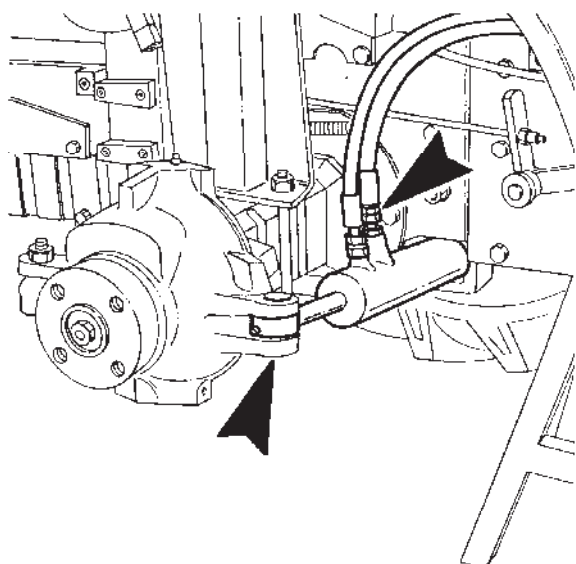
Reconditioning - O-ring replacement

To recondition the steering control cylinder, proceed as follows:



OF.1784

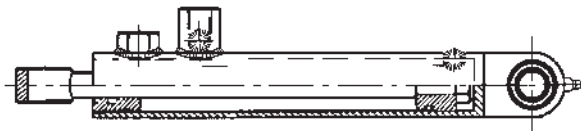
1 - Place a vehicle stand underneath the central transmission, loosen the bolts and remove the l.-h. wheel.



OF.1785

2 - Loosen the oil tube unions, plugging the holes with suitable stoppers, remove the retaining split ring and slide out the anchoring pin.

3 - Using the AT 37981314 puller, remove the steering cylinder pin and extract the complete cylinder.



OF.1171

- Steering cylinder

4 - Remove the split ring and slide out the assembled rod.

5 - Replace the damaged O-rings.

6 - Recover the cylinder oil.

Assembly

Observe the following cautions during assembly:

- a** - Clean all parts thoroughly;
- b** - Oil the O-rings before assembly;
- c** - Follow the disassembly instructions in the reverse order.



WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

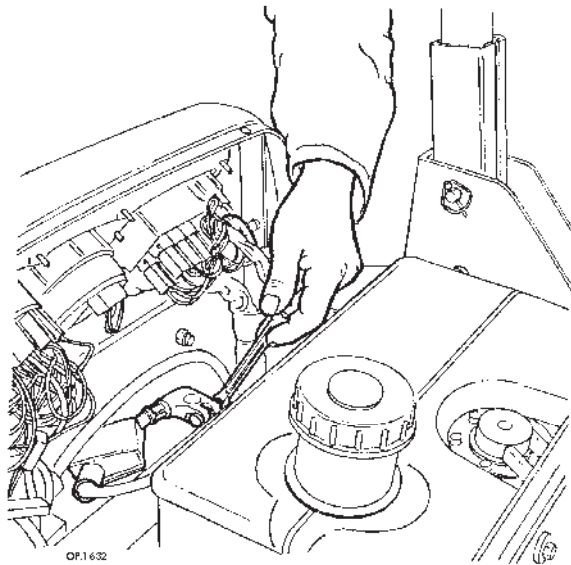
Watch out for high pressure spraying of fluids.



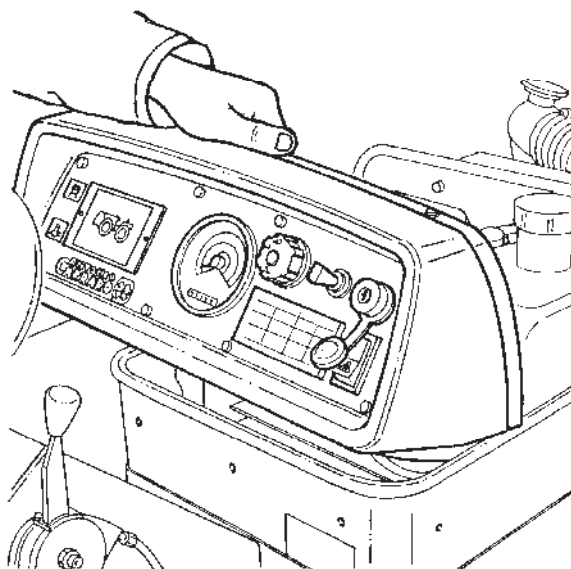
HYDROSTATIC DRIVE DISTRIBUTOR

Disconnecting and connecting

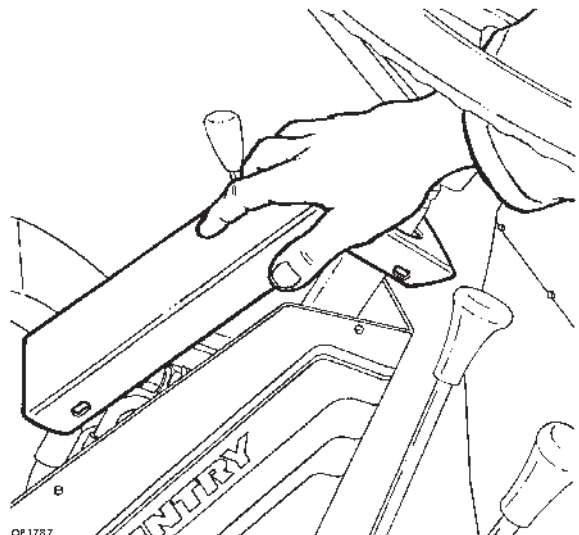
To disconnect the hydrodrive distributor, proceed as follows:



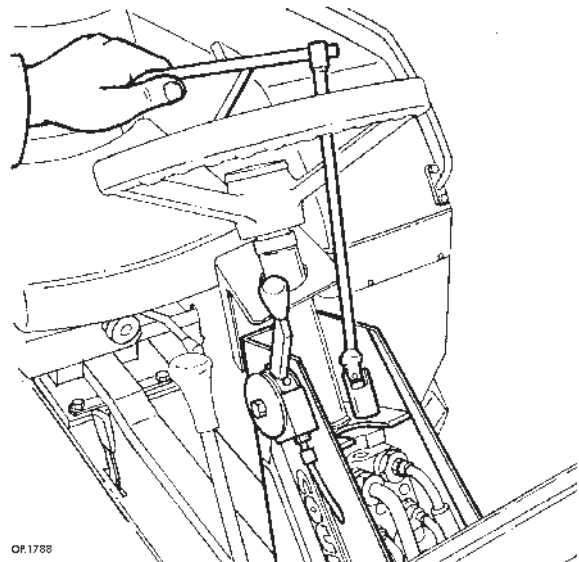
1 - Disconnect the air filter and the positive battery cable; isolate this cable.



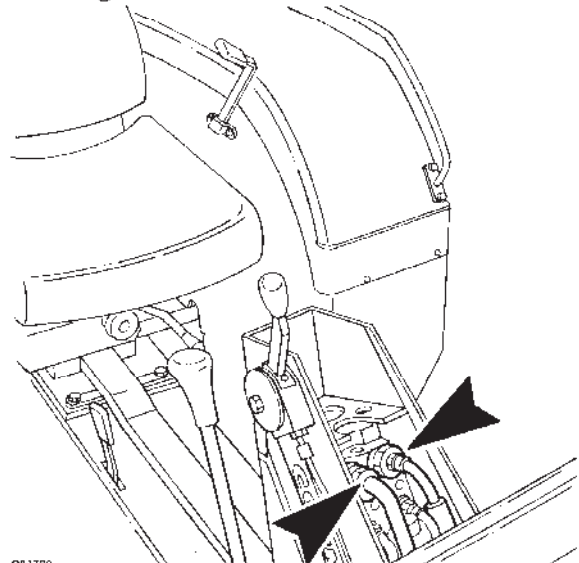
2 - Move the dashboard.



3 - Remove the steering column upper protection.



4 - Loosen the screws and remove the steering column.



5 - Loosen the oil delivery and return unions from the hydrodrive distributor and plug the holes with suitable plastic stoppers.
6 - Recover the hydrodrive distributor.



Reconnecting the hydrodrive distributor

To reconnect the hydrodrive distributor, proceed as follows:

- a** - Follow the disconnection instructions in the reverse order;
- b** - Observe the driving torques listed on page 4.

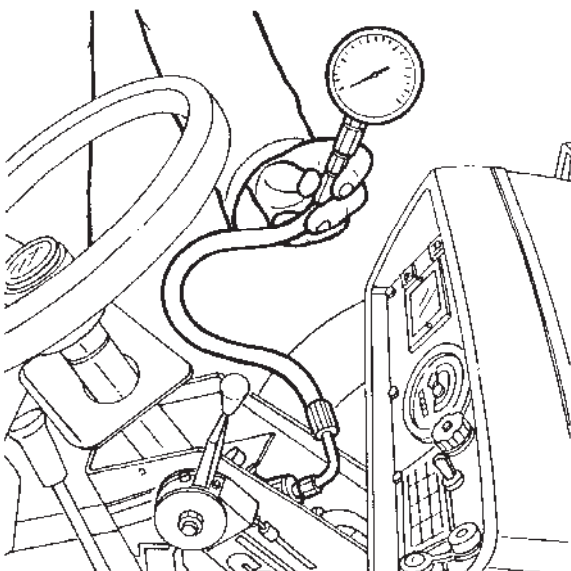
Disassembly - assembly

See the Danfloss hydrodrive manual.

Checking the hydrodrive overpressure valve

To check the hydrodrive overpressure proceed as follows:

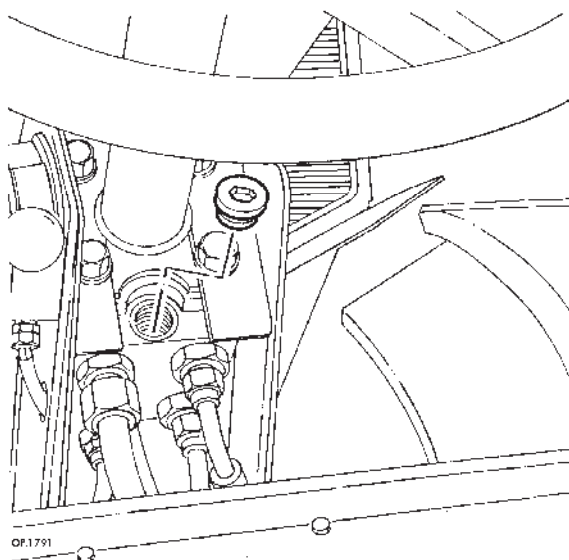
- 1** - Switch off the engine and disassemble a union of the oil delivery tube to the cylinder.



OF.1790

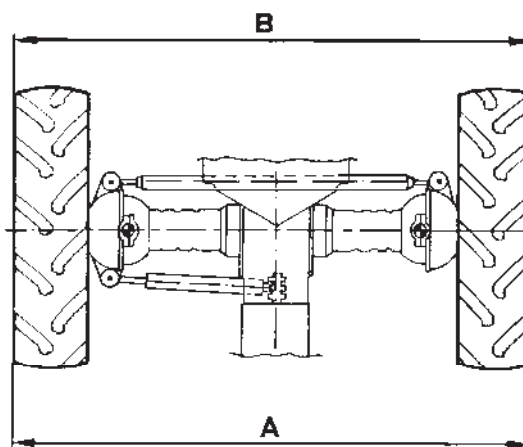
- 2** - In place of the original, previously disassembled union, mount the AT 37981259 adapter and the AT 37981258 gauge.

- 3** - Start the engine, bring it up to 1500 rpm and turn the steering wheel all the way; in this condition the overpressure valve steps in and the gauge indicates the actual pressure.



- 4** - If the pressure is other than the required one, the valve can be calibrated by means of the special TCEI adjustment screw located underneath the seal plug.

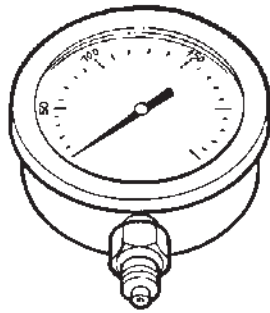
Checking the toe-in



OF.1174

To check the exact toe-in value proceed as follows:

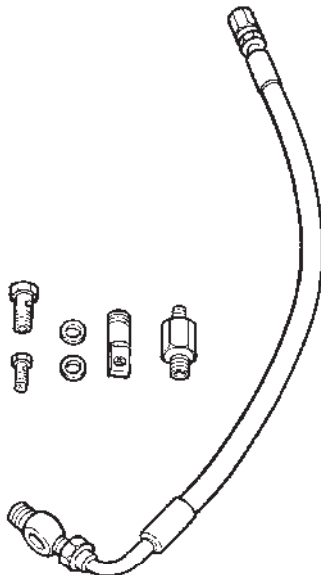
- 1** - Position the steering wheel half-way of its complete travel.
- 2** - Check that the wheels are parallel to the lengthwise axis of the tractor.
- 3** - Place a ruler on the outer side of the r.-h. wheel and one on the l.-h. side, on the horizontal plane and passing through the center of the wheel.
- 4** - Measure the distance (A) and the distance (B), making sure that these measurements are the same or differ no more than 2 mm from each other.
- 5** - Correct the measurements by operating on the wheel coupling bar.



37981258

AT.080

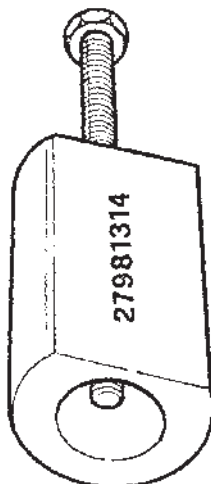
1 - Pressure gauge.



AT.081

37981259

2 - Pressure gauge adapter.



AT.191

3 - Puller for steering cylinder pin.



HYDRAULIC HOISTING DEVICE

The controlled force-position hydraulic hoisting device controls the traction force, the work position and the dropping speed of the implement.

The standard hydraulic hoisting device is equipped with an open center distributor. For both circuits the oil is pumped from the front transmission case, filtered through a recyclable filter and then delivered under pressure to the circuits.

TECHNICAL FEATURES**Hydraulic hoisting**

Hoisting device	Standard	Controlled force
Type	ML/2-B4-N7	CR 80
Make	DINOIL	MITA
Code	26611058	26612005
Max. pressure valve setting	130 bar	180 bar

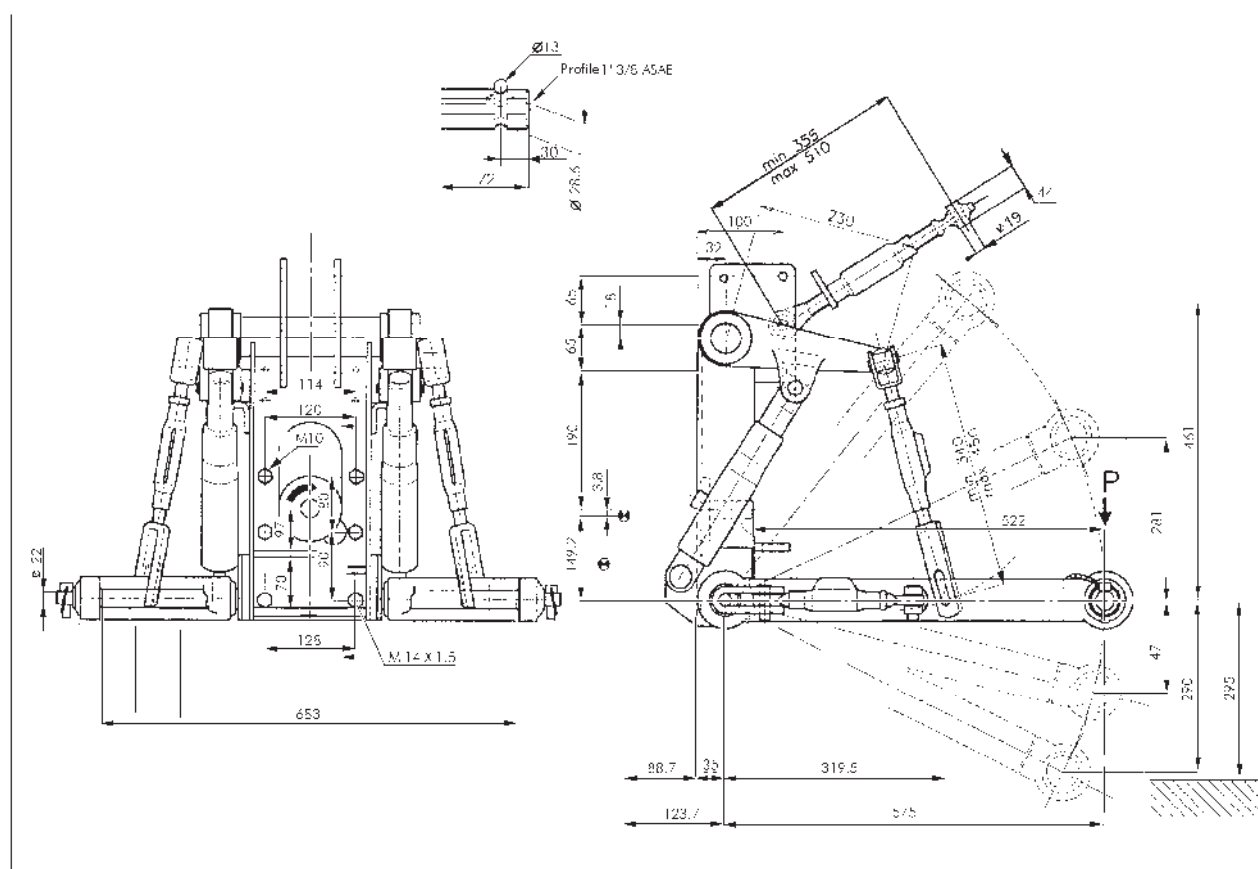
Jack lifting cylinder

Jack code	23401009
Stroke	146
Rod diameter	35
Tractor type	3700 4300

Hydraulic pump

Make	Lamborghini	Lamborghini
Pump type	HLPS/X 180 C	HLPD/L 208 C
Code	26610021	2151530
cm ³ /rev.	8	8,5
Tractor type	3700	4300

HOISTING DEVICE COUPLING



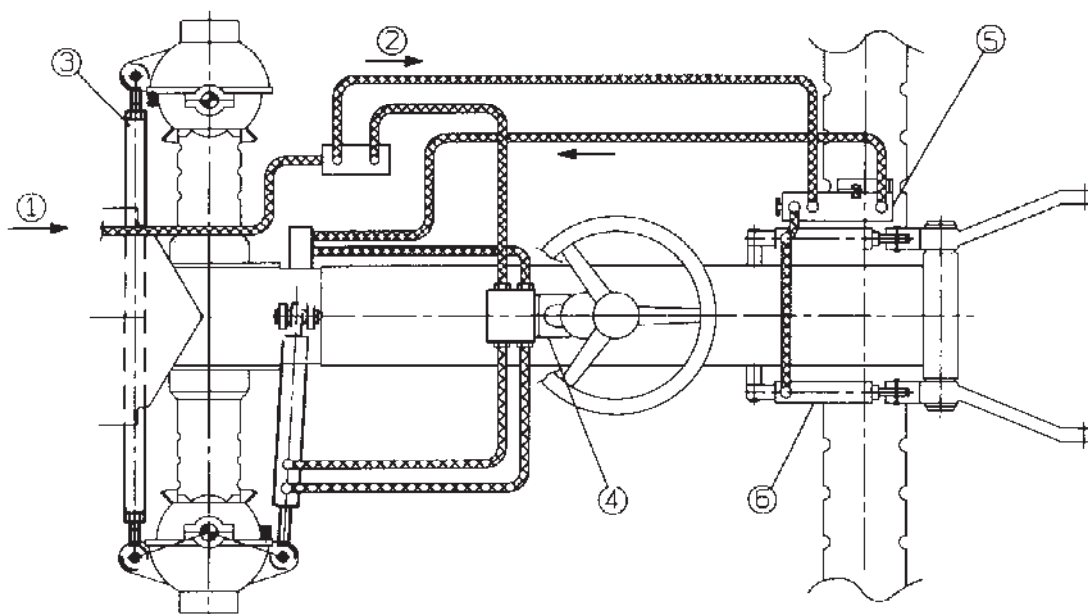
$P = 730 \text{ kg (1 40 bar)}$

**Troubleshooting**

Problem	Probable cause	Remedy
Lifting fails or is too slow	1) Make sure that the hoisting device is not overloaded. 2) Check proper operation of the pump. 3) Check the setting of the safety valve. 4) Check the oil level. 5) Check the efficiency of the oil filter.	Replace the pump. Check the setting. Restore the oil level. Clean the oil filter.
The hoisting device does not lift	1) Clogged oil filter. 2) Inefficient hydraulic pump. 3) Insufficient oil in the reservoir.	Clean the filter. Replace the pump. Restore the oil level and check for leaks.
When the hoisting arms are in the end-of-stroke upward position the safety valve of the distributing gear is activated	Faulty adjustment of position return tie rod.	Adjust the controlled position.
When operating under controlled force, the implement goes too deep or escapes from the furrow	Faulty adjustment of the distributing valve sensitivity.	Adjust the sensitivity.
The controlled force does not work, the hoisting arms rise and drop only through the position control lever	Faulty adjustment of the force return tie rod.	Adjust the controlled force.
The controlled position does not work, the hoisting arms rise and drop only through the force control lever 2	1) Faulty adjustment of the controlled position lever. 2) Faulty adjustment of the force return tie rod. 3) Failure of the inner lever mechanisms.	Adjust the position lever. Adjust the controlled position. Overhaul the return control.

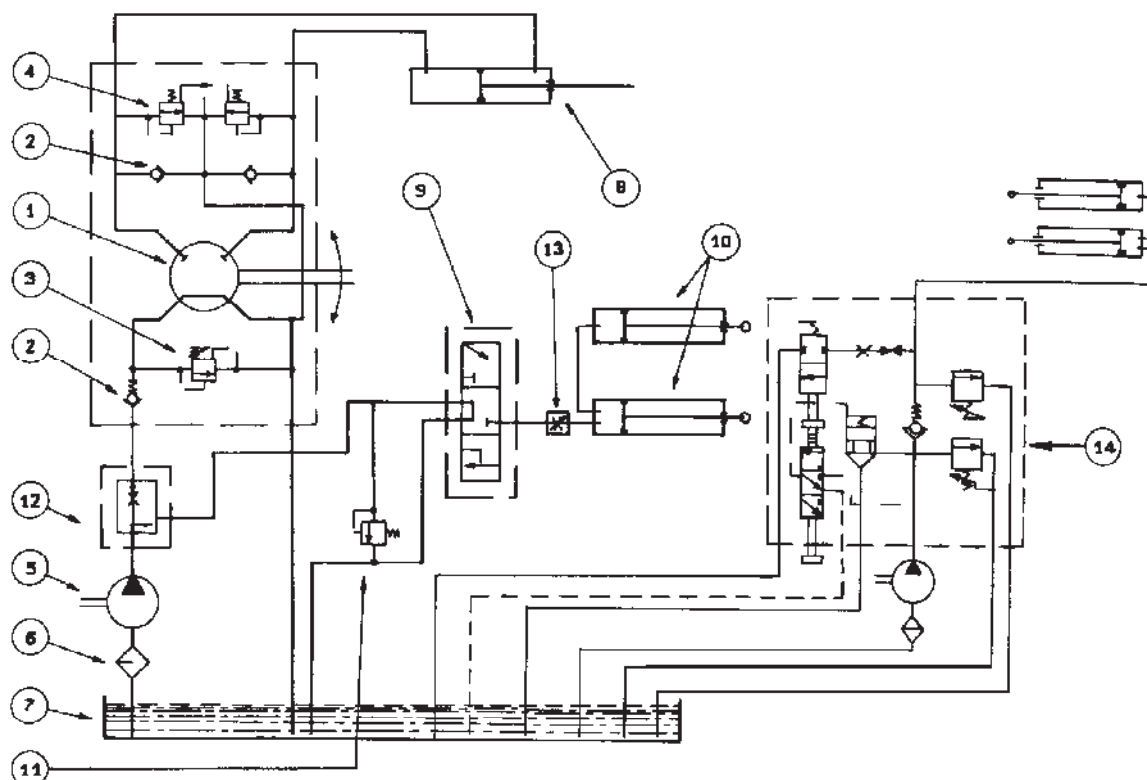


HYDRAULIC SYSTEM DIAGRAM



LEGEND

- | | | |
|------------------------|------------------|---------------------------------|
| 1 - From the pump | 3 - Coupling bar | 5 - Hoisting device distributor |
| 2 - To the distributor | 4 - Hydrodrive | 6 - Jacks |



LEGEND

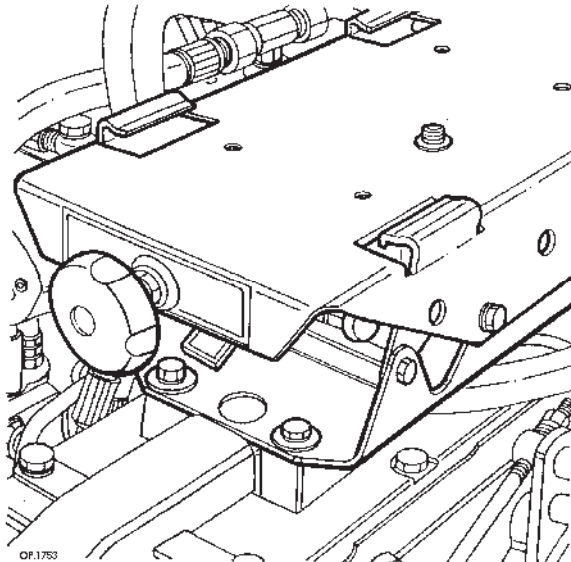
- | | | |
|--------------------------------------|--|--|
| 1 - DANFOSS steering distributor | 5 - Hydraulic pump | 11 - Implement circuit safety valve |
| 2 - One-way valves | 6 - Oil filter | 12 - Priority valve |
| 3 - Hydrodrive safety valve | 7 - Oil reservoir | 13 - Delivery control valve |
| 4 - Shockproof valves set at 150 bar | 8 - Steering jacks | 14 - Controlled force hoisting device (optional) |
| | 9 - Standard hoisting device distributor | |
| | 10 - Hoisting device jacks | |



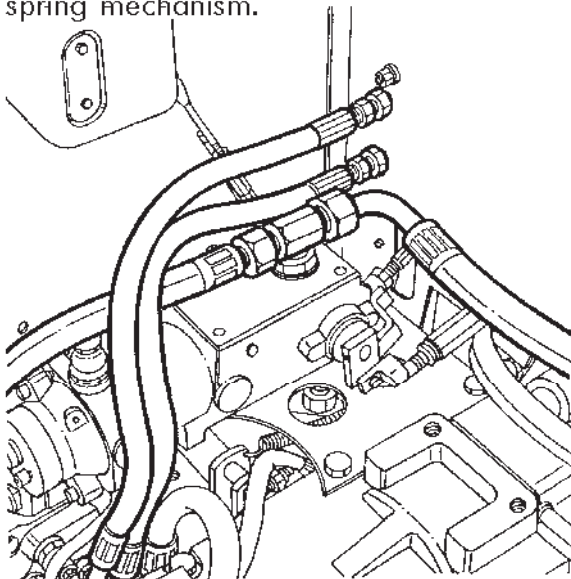
CONTROLLED FORCE-POSITION HOISTING DEVICE

Disconnecting and connecting

Proceed as follows:



1 - Release the seat and corresponding spring mechanism.



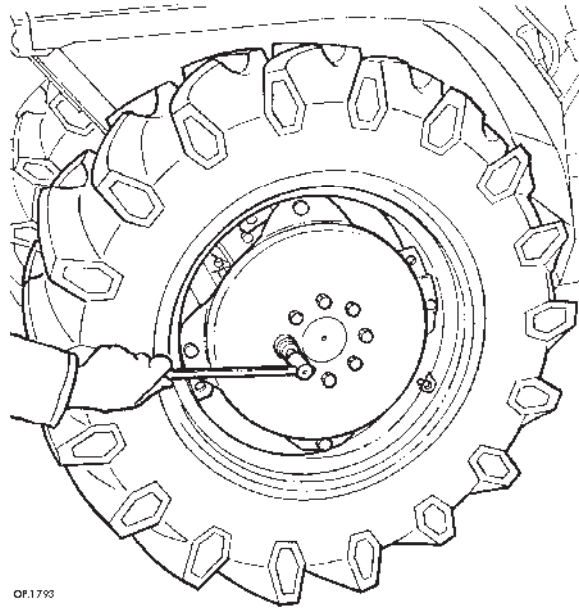
2 - Disconnect the unions of the controlled force drain pipes and of the delivery pipes from the distributor to the hydraulic inlets.

3 - Disconnect the delivery pipe to the hoisting device cylinders.

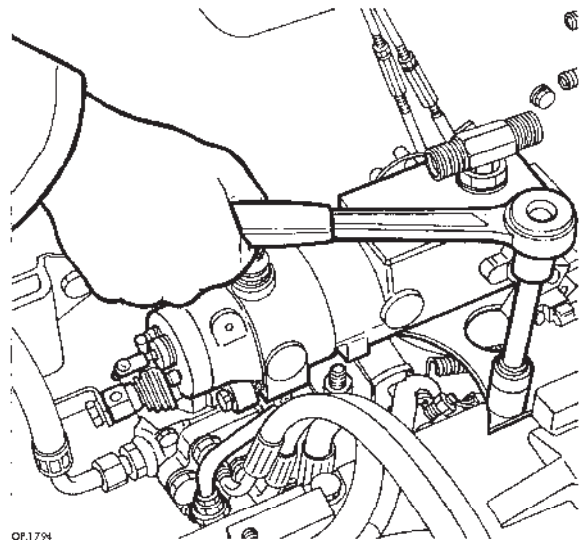
4 - Disconnect the controlled force and position control lever tie rods.

5 - Disconnect the controlled force and controlled position tie rods.

6 - Place a vehicle stand underneath the rear transmission.



7 - Loosen the bolts and remove the rear r.-h. wheel.



8 - Loosen the screws and remove the controlled force support and then disconnect the delivery pipe from the distributor to the controlled force.

Reconnecting

To reconnect, proceed as follows:

a - Follow the disconnection instructions in the reverse order;

b - Observe the driving torques listed on page 4.



Disassembly and assembly

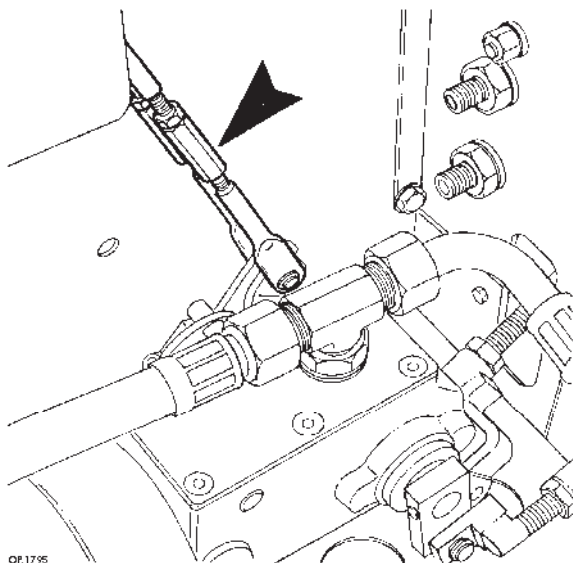
See the MITA manual

CHECKING THE OVERPRESSURE VALVE

See the MITA manual

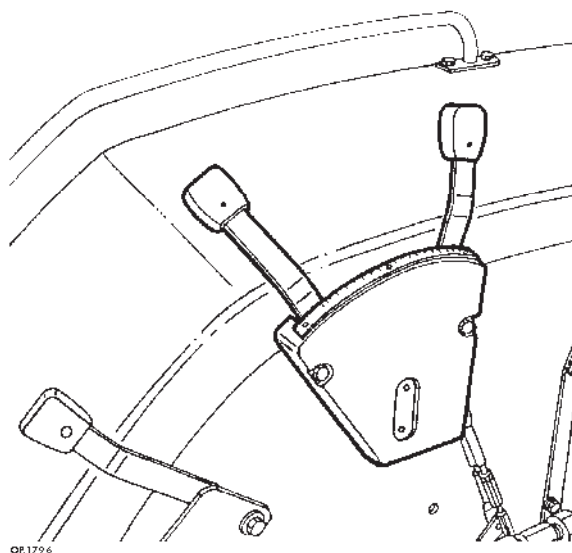
ADJUSTMENT

To adjust proceed as follows:
Make sure that the controlled force and controlled position levers can complete their stroke. Otherwise adjust the tie rods that link with the corresponding control levers.

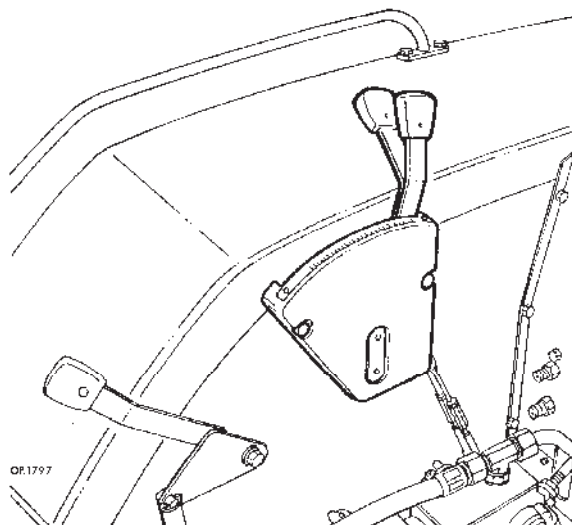


CONTROLLED POSITION ADJUSTMENT

Set the controlled position control lever (yellow handgrip) all the way forward, and the controlled force lever (red handgrip) all the way backward, so that the arms are completely lowered.



The tractor's rpm must be at a minimum (idle); place a weight on the hoisting device. Now move the controlled position control lever backward until it stops at end of stroke.



In this condition the jacks should not reach end of stroke: they should stop 4 ÷ 8 mm before reaching end of stroke. If this slack is not ensured, the tie rod indicated in the figure must be adjusted.

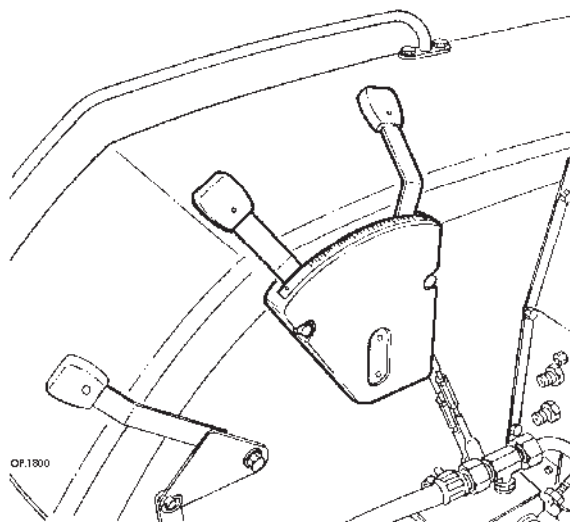
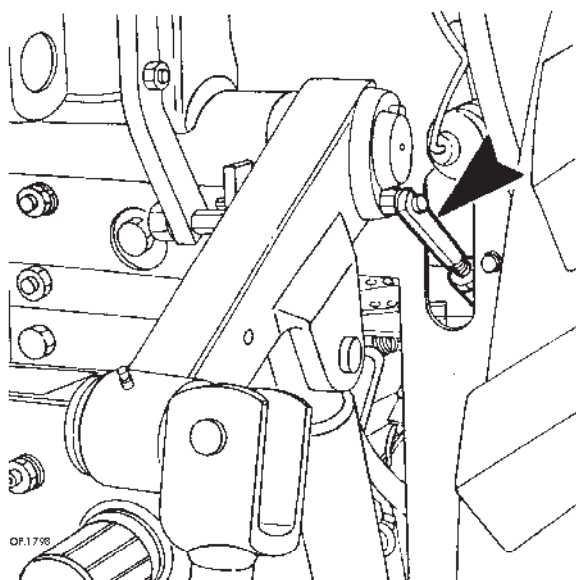


WARNING - DANGER



When performing operations, follow all the safety and accident prevention procedures carefully.

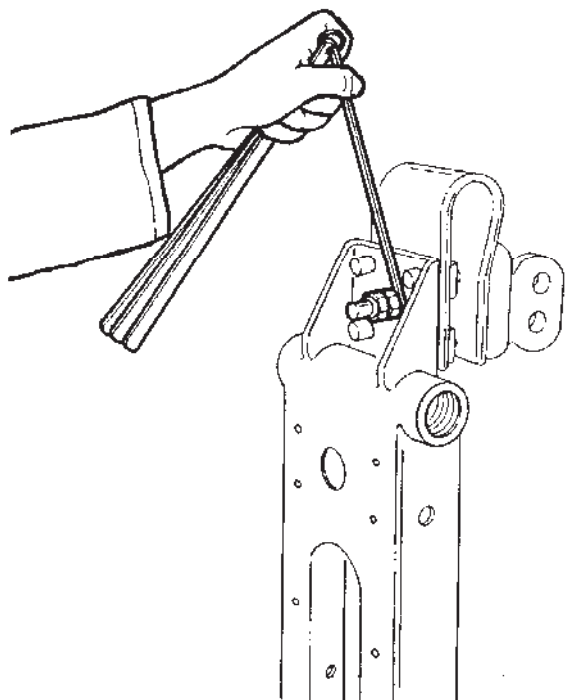
- Watch out for shearing - crushing - tangling - collisions - high pressure spraying of fluids, etc.



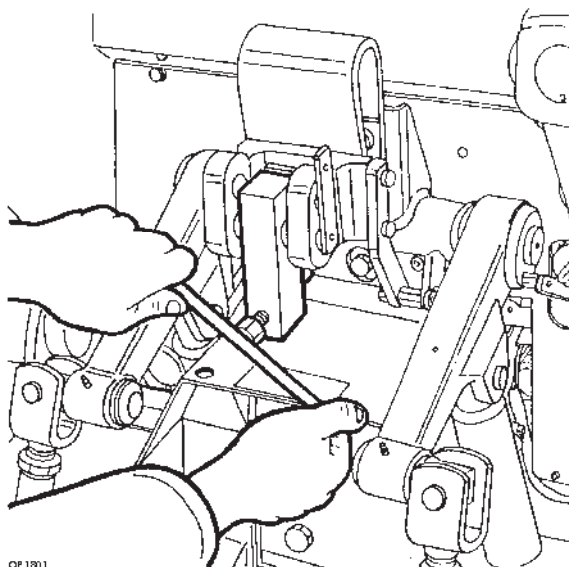
Pull the reaction spring so as to eliminate its slack, using the AT 37981717 tool.

Controlled force adjustment

Make sure that the reaction spring has a 3 mm slack, otherwise adjust accordingly by operating on the nut and lock nut.



Position the controlled force and controlled position levers as shown in the figure, so that the hoisting arms are all the way down.



Reduce the tractor's rpm to a minimum and apply a weight on the hoisting arms. Now, pull the controlled force lever backward; when the lever is $1.5 \div 2$ cm from end of stroke the hoisting device must rise.

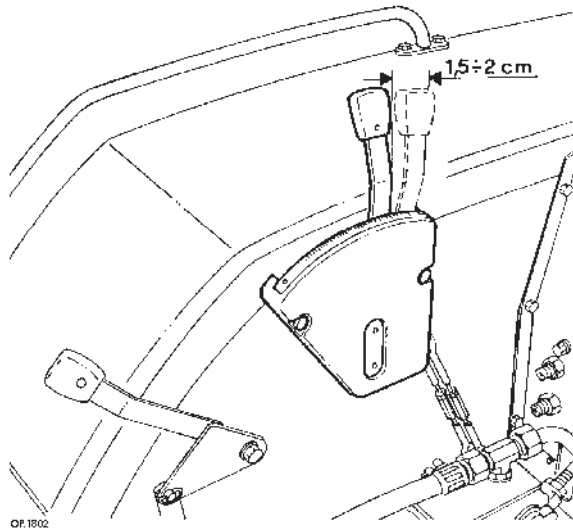


WARNING - DANGER

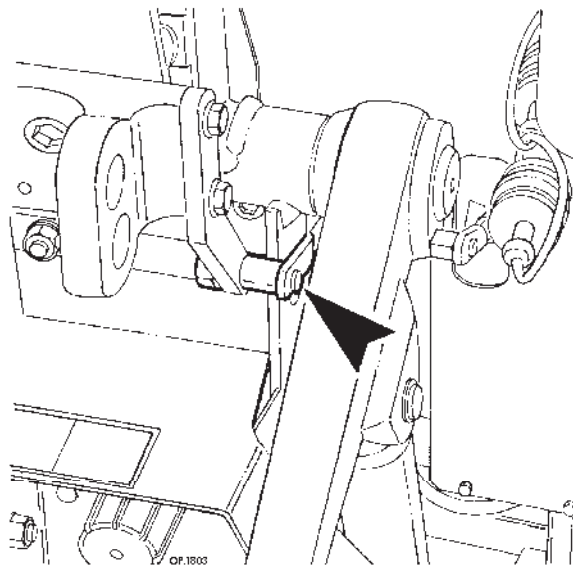


When performing operations, follow all the safety and accident prevention procedures carefully.

Do not perform any servicing of the tractor while the motor is running, unless otherwise indicated.



If the hoisting device moves before or after the lever has reached the position indicated above, the controlled force tie rod needs to be adjusted.

**Note**

The tie rods should be adjusted with the hoisting device completely lowered.

**WARNING - DANGER**

When performing operations, follow all the safety and accident prevention procedures carefully.

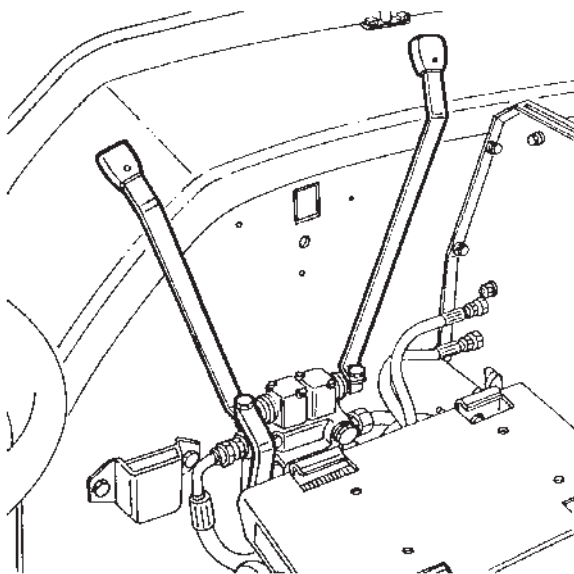
- Watch out for high pressure spraying of fluids.



STANDARD HOISTING DEVICE

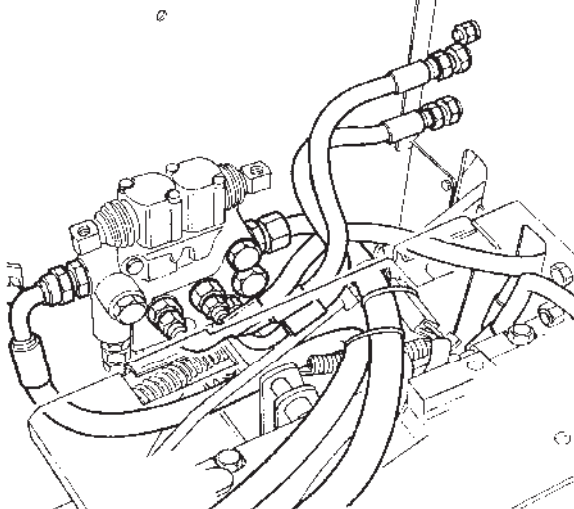
Disconnecting and connecting

- 1** - Disconnect the seat.



OF.1805

- 2** - Disconnect the hoisting device control and hydraulic inlet control levers.



OF.1806

- 3** - Loosen the unions for the delivery-drain and service pipes to the jacks and hydraulic inlets; plug the holes with suitable plastic stoppers.

- 4** - Remove the support screws and disconnect the distributor.

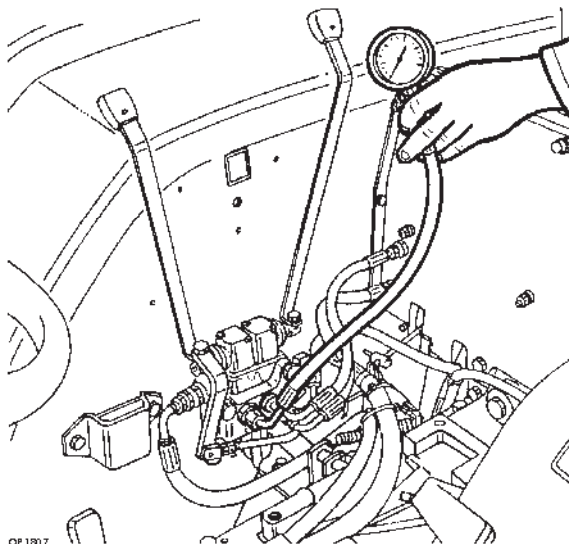
When re-connecting the distributor, follow these directions:

- a** - Follow the disassembly instructions in the reverse order;
- b** - Remember to remove the plastic stoppers;
- c** - Observe the driving torques listed on page 4.

CHECKING THE OVERPRESSURE VALVE

To check the overpressure valve, proceed as follows:

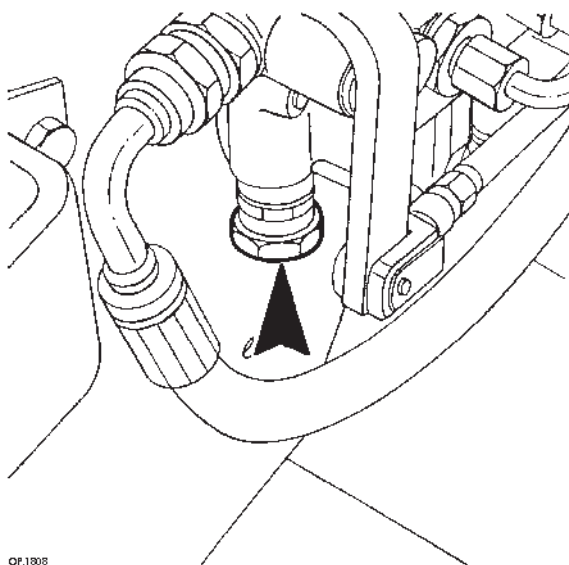
- 1** - Switch off the engine. Disassemble one of the oil delivery pipe unions to the hoisting cylinders.



OF.1807

- 2** - In place of the previously removed original union, mount the AT 37981259 adapter linked to the AT 37981258 gauge.

- 3** - Start the engine, accelerate until it reaches about 1500 rpm and lift the hoisting device all the way until the jacks reach end of stroke. In these conditions the overpressure valve should step in and the gauge should indicate the actual pressure.



OF.1808

- 4** - If the pressure reading does not correspond to the prescribed value, loosen the cap to operate on the adjusting screw located on the distributor.

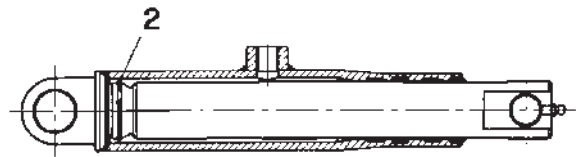


HOISTING DEVICE CYLINDER

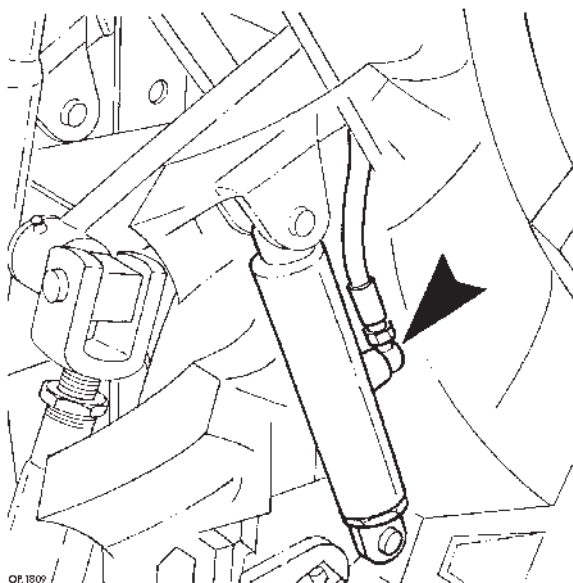
Disconnecting and connecting

To disconnect the hoisting device cylinder, proceed as follows:

- 1** - Lower the hoisting device.
- 2** - Disconnect the hydraulic pipe union.
- 3** - Remove the retaining rings.



OR 173



- 4** - Extract the pins and remove the hoisting device cylinder.

- Hoisting device cylinder

- 3** - Pull out the rod.
- 4** - Replace the damaged O-rings.

Proceed with the re-installation observing the following precautions:

- a** - Clean all the parts thoroughly;
- b** - Oil the O-rings;
- c** - Follow the disassembly instructions in the reverse order.

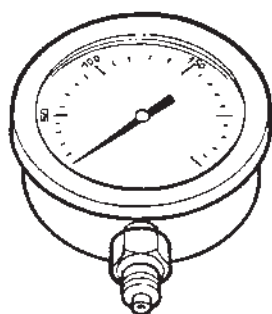
Disassembly and assembly

To withdraw the rod from the cylinder proceed as follows:

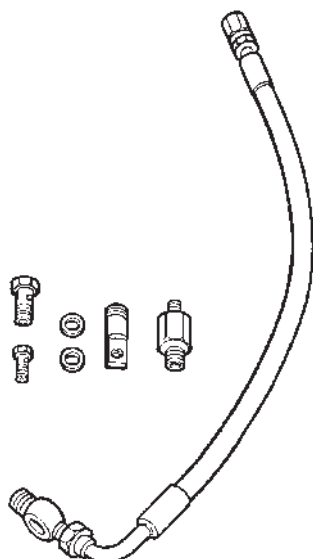
- 1** - Move the rod so that the retaining split ring is in the direction of the cylinder oil inlet.
- 2** - With a screwdriver, move the ring (2) into the special groove.

Note

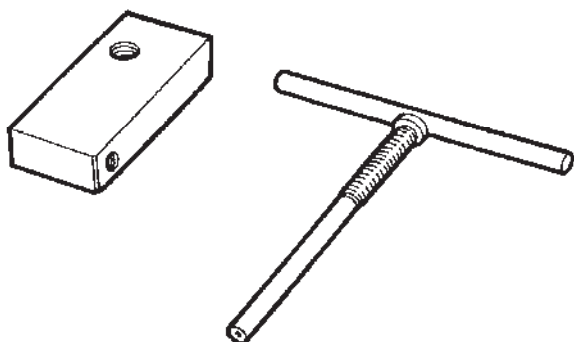
Do not pollute the environment with spent fluids, used filter cartridges, oils, lubricating greases and products used to clean them. The collection of waste oils must be performed by authorized centers. Do not pollute the environment.

**37981258**

AT080

1 - Pressure gauge.**37981259**

AT081

2 - Adapter for pressure gauge.**37981717**

AT315

3 - Tool for pulling the reaction spring.



ELECTRICAL SYSTEM

Automobile-type electrical system, consisting mainly of: battery, alternator, starter, lighting and indicator systems, dashboard with control instruments and gauges.

It is divided into twelve lines protected by fuses, with a main fuse located downstream. The system operates on 12V rated voltage.

TECHNICAL FEATURES

Battery

Tractor type		3700	4300
Rated voltage	V	12	
Rated capacity	Ah	70	
Discharge intensity	A	420	
Dimensions	mm	278 x 190 x 175	
Code		46705001	

Alternator

Tractor type		3700	4300
Alternator type		Fixed armature-type; permanent magnet inductor	Three-phase, self-rectifying
Rated voltage supply	V	12 ÷ 14	13 ÷ 14
Intensity of supply current	A	16	45
Voltage regulator		Standard separate Lombardini-type	Electronic incorporated in the alternator

Starter

Tractor type		3700	4300
Voltage	V	12	12
Rated power	KW	1,6	2,2
Control		Electromagnetic	
Engagement		With traverse and screwing of the pinion	

**Lighting - indicator system**

Two asymmetrical headlights with lower and upper beams, with 45/40 W double-filament lamp.
Two front lights, including: - running light (5W lamp) with white lens; - turn indicator (21 W lamp) with orange lens.
Two rear lights, including: - running and stop lights (5/21W lamp) with red lens; - turn indicator (21 W lamp) with orange lens; - two rear red reflectors.
Licence plate light (5 W lamp)
Set of visual indicators with 5 W lamps for: - Alternator charge (red light); - Low engine oil pressure (red light); - Dry air filter clogged (red light); - High water temperature (red light); - Switching on of running lights (green light); - Switching on of upper beams (blue light); - Switching on of tractor's turn indicators (green light); - Switching on of trailer's turn indicators (green light); - Glow plug supply for precombustion chamber engines (yellow light); - Low fuel level (red light).

Start switch

Switch position	Systems on
Position 0	No circuit is supplied except for the single-pole outlet and the lampalarm control (removable key).
Position 1	Engine start pre-setting. Operation of the indicators and of the control instruments. Various users energized (key not removable).
Position 2	Engine start (the key, when released, returns automatically to position 1).
Position P	The following circuits are supplied: headlights, lighting of dashboard, running lights, parking lights, licence plate light and lampalarm control (removable key).

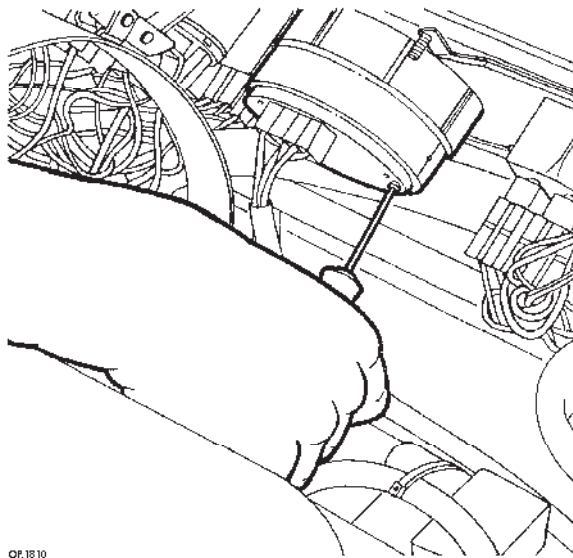


Adjustment of engine r.p.m. counter on the electronic time, speed-revolution meter

The time, speed-revolution meter indicates the number of revolutions of the engine and PTO, and the speed in Km/h.

To set the r.p.m. meter to the revolutions of the engine proceed as follows:

- 1** - Disconnect the air filter.
- 2** - Apply a detector that measures the revolutions of the engine.
- 3** - Start the engine and accelerate to a speed of 1500 r.p.m.
- 4** - Check that the time, speed-revolution meter indicates the same number of revolutions as the detector.



OP. 1810

- 5** - In case the r.p.m. are different, adjust the time, speed-revolution meter (see drawing) until the two detectors indicate the same r.p.m.

Safety functions

Operates with the simultaneous activation of the horn and warning light that indicates where the problem is located; to switch off the horn, stop the tractor and step on the clutch pedal. The light will switch off automatically when the cause is found.

Fuse valves

Before replacing a blown fuse with another featuring the same amperage, locate and eliminate the cause for the malfunction.

General fuses

40 amp fuses for 3700 tractor.
60-amp fuses for 4300 tractor.

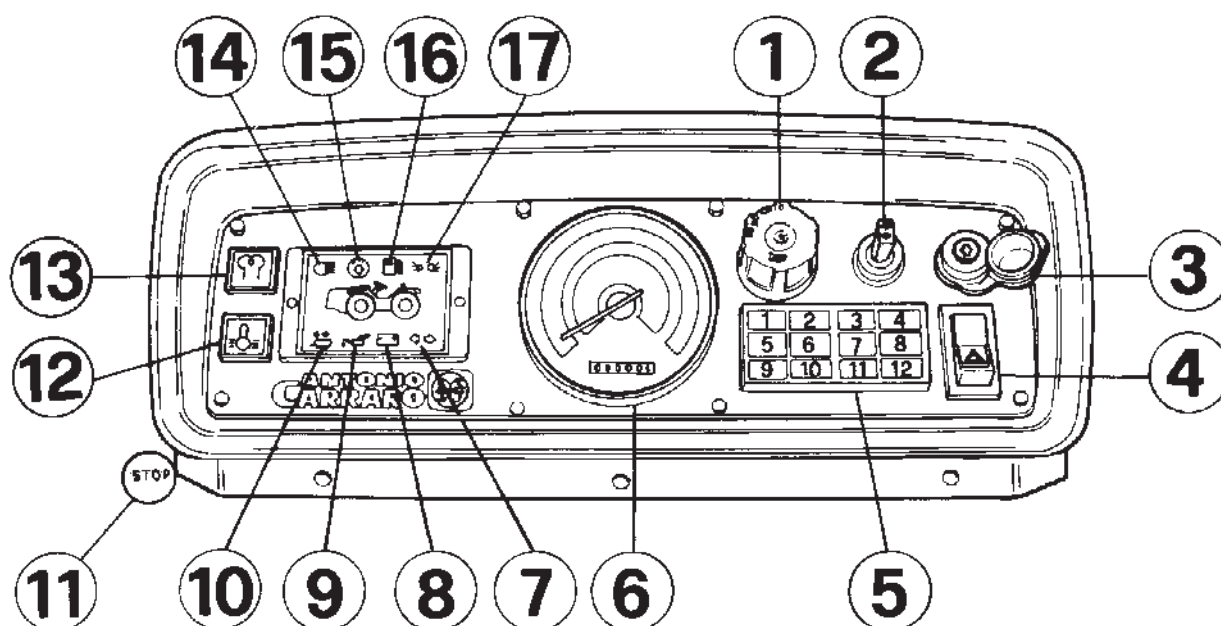
**AIR-COOLED ENGINES (3700)**

Fuse valves	Protected circuits	Fuse amperes
1	Emergency lights	10
2	Horn	15
3	L.h. upper beam	7,5
4	R.h. upper beam	7,5
5	Regulator	15
6	Turn indicator	10
7	L.h. lower beam	7,5
8	R.h. lower beam	7,5
9	Stop lights	15
10	Battery, oil and fuel indicator	7,5
11	Front l.h. and rear r.h. running lights	7,5
12	Front r.h. and rear l.h. running lights	7,5

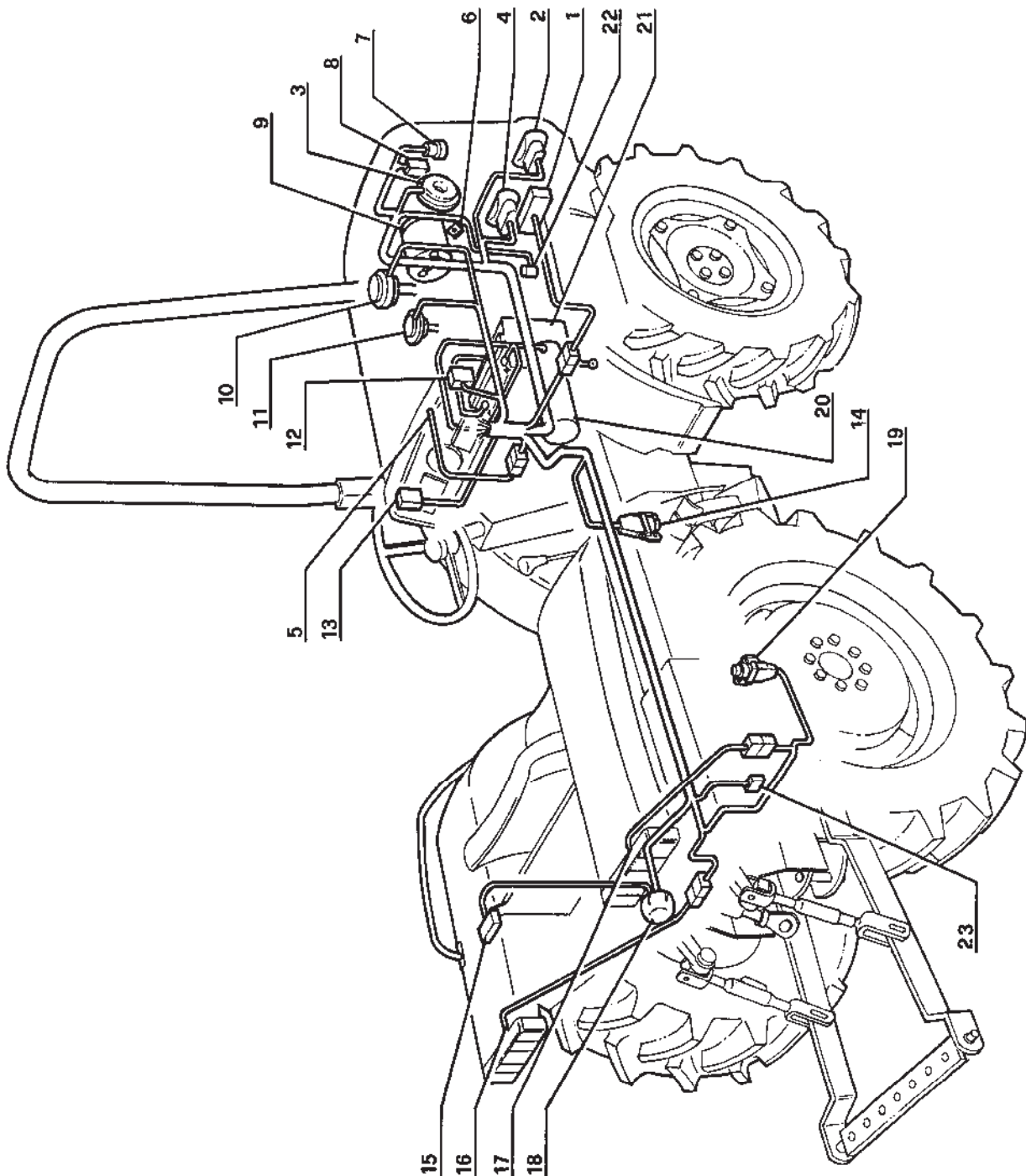
WATER-COOLED ENGINES (4300)

Fuse valves	Protected circuits	Fuse amperes
1	Emergency lights	10
2	Time, speed-revolution meter	7,5
3	L.h. upper beam	7,5
4	R.h. upper beam	7,5
5	Stop lights	15
6	Turn indicator	10
7	L.h. lower beam	7,5
8	R.h. lower beam	7,5
9	Horn, electrostop switch	15
10	Battery, oil, fuel, pre-heating unit indicator	15
11	Front l.h. and rear r.h. running lights	7,5
12	Front r.h. and rear l.h. running lights	7,5

Console with control instruments



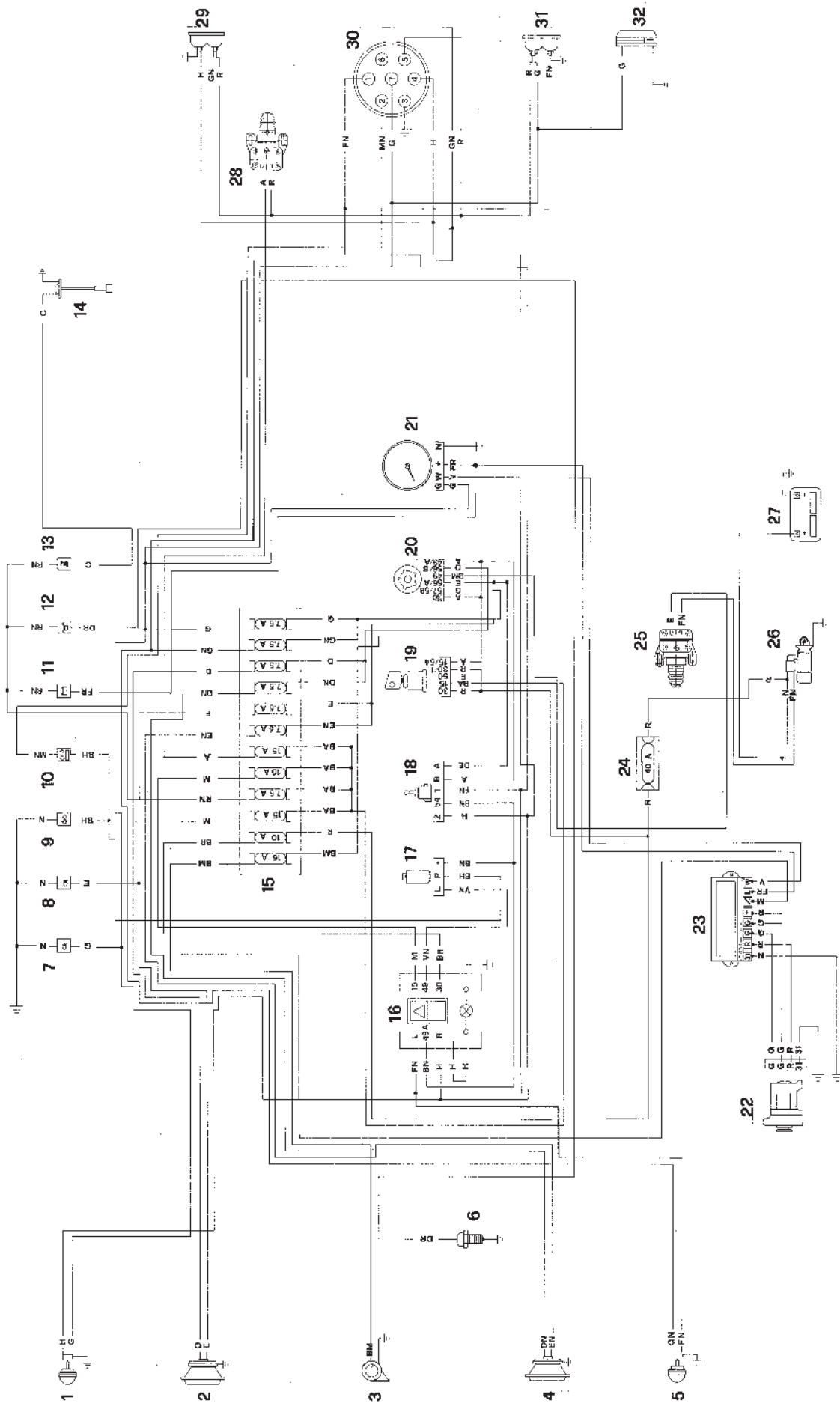
- 1** - Light switch and buzzer
- 2** - Turn indicator switch and visual indicator
- 3** - Start switch
- 4** - Lampalarm switch activates the emergency lights
- 5** - Protection fuse carrier
- 6** - The time, speed-revolution meter indicates the number of revolutions of the engine and PTO, the speed in km/h and the machine's operating hours
- 7** - Turn indicator telltale light
- 8** - Low battery charge warning light (red)
- 9** - Low engine oil pressure warning light
- 10** - Trailer turn indicator telltale light
- 11** - Engine stop knob (3700)
- 12** - High water temperature warning light (4300)
- 13** - Pre-heater warning light (4300)
- 14** - Upper beams telltale light
- 15** - Air filter clogged warning light
- 16** - Fuel reserve telltale light
- 17** - Running light telltale light

**TIGRE COUNTRY 3700 - 4300 ELECTRIC SYSTEM LAYOUT**



LEGEND

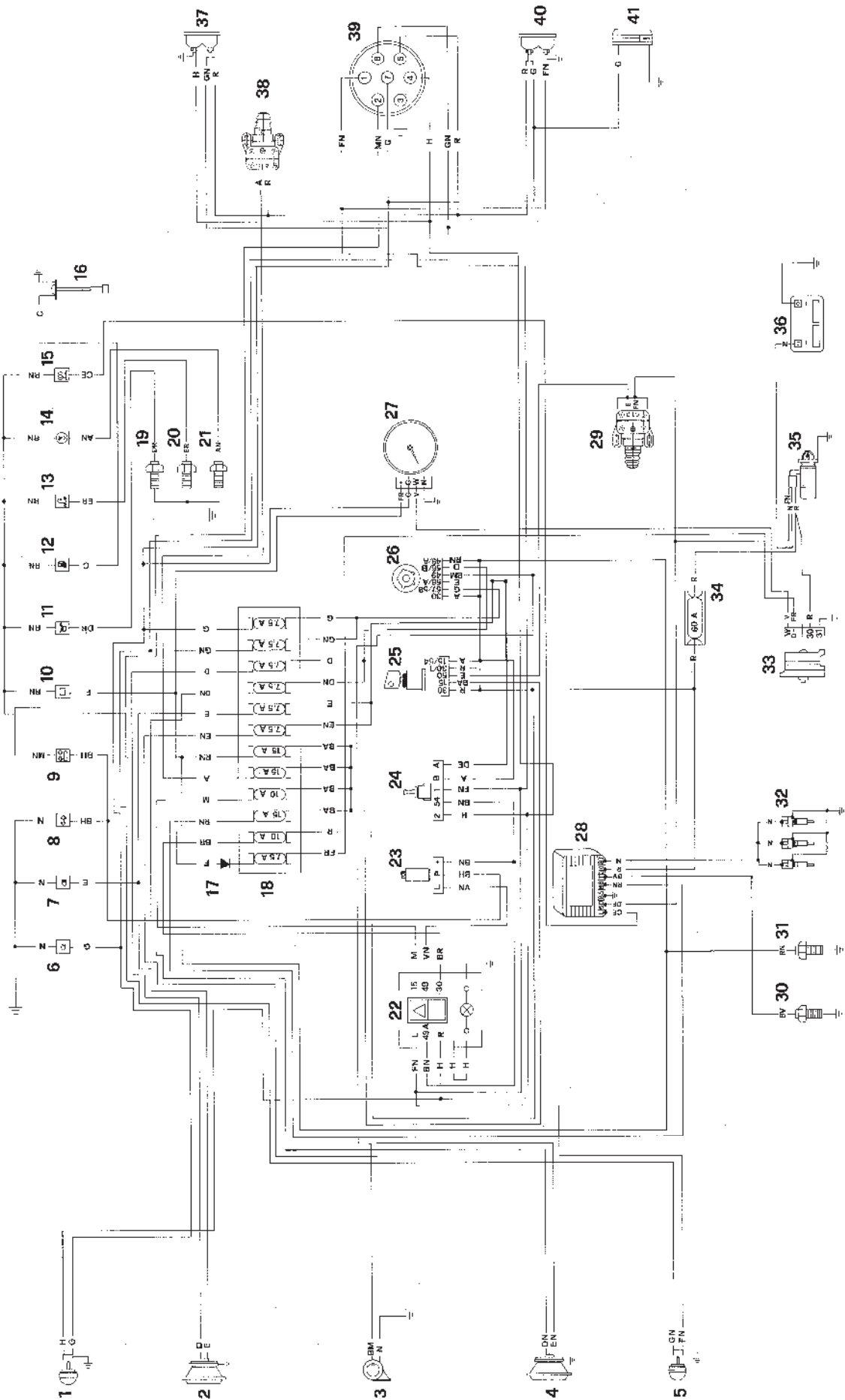
- 1** - R.-h. lamp
- 2** - R.-h. headlight
- 3** - Buzzer
- 4** - L.-h. headlight
- 5** - L.-h. lamp
- 6** - Glow plugs
- 7** - Water temperature bulb
- 8** - Glow plug bulb
- 9** - Alternator
- 10** - Fuel level indicator
- 11** - Air filter clogged
- 12** - Thermal timer
- 13** - Intermittence
- 14** - Start enable switch
- 15** - Licence plate light
- 16** - Rear l.-h. tail light
- 17** - Rear r.-h. tail light
- 18** - 7-pole outlet
- 19** - Stop light switch
- 20** - Starter
- 21** - Battery
- 22** - Oil pressure bulb
- 23** - Outlet for rear auxiliary light


Tigre Country 3700 electrical diagram




**ELECTRICAL SYSTEM DIAGRAM LEGEND:
TIGRE COUNTRY 3700**

- 1** - Front r.-h. lamp
- 2** - R.-h. headlight
- 3** - Buzzer
- 4** - L.-h. headlight
- 5** - Front l.-h. lamp
- 6** - Engine oil pressure bulb
- 7** - Telltale for running and lower beam lights
- 8** - Upper beam telltale light
- 9** - Turn indicator telltale light
- 10** - Trailer turn indicator telltale light
- 11** - Generator telltale light
- 12** - Oil pressure telltale light
- 13** - Fuel reserve warning light
- 14** - Fuel level float
- 15** - Fuse carrier
- 16** - Switch for 4 emergency lights
- 17** - Intermittence
- 18** - Turn indicator switch
- 19** - Starter switch
- 20** - Light switch
- 21** - Time, speed, rpm meter
- 22** - Alternator
- 23** - Regulator
- 24** - 40 Amp supply fuse
- 25** - Start enable
- 26** - Starter
- 27** - Battery
- 28** - Stop switch
- 29** - R.-h. tail light
- 30** - 7-pole outlet
- 31** - L.-h. tail light


Tigre Country 4300 electrical diagram




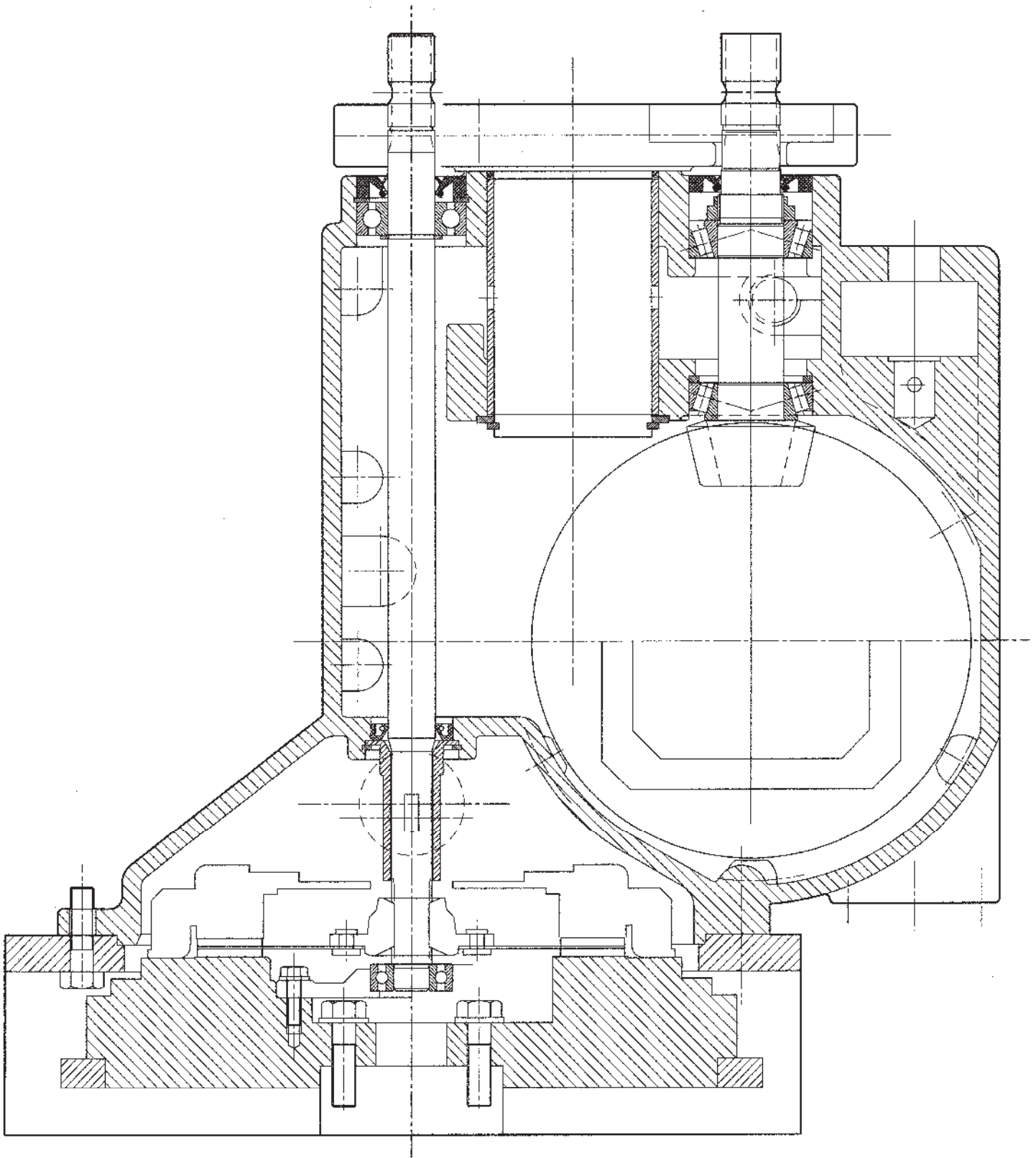
**ELECTRICAL SYSTEM DIAGRAM LEGEND:
TIGRE COUNTRY 4300**

- | | |
|---|---------------------------------|
| 1 - Front r.-h. lamp | 36 - Battery |
| 2 - R.-h. headlight | 37 - R.-h. tail light |
| 3 - Buzzer | 38 - Stop switch |
| 4 - L.-h. headlight | 39 - 7-pole outlet |
| 5 - Front l.-h. lamp | 40 - L.-h. tail light |
| 6 - Telltale for running and lower beam lights | 41 - Licence plate light |
| 7 - Upper beam telltale light | |
| 8 - Turn indicator telltale light | |
| 9 - Trailer turn indicator telltale light | |
| 10 - Generator telltale light | |
| 11 - Oil pressure telltale light | |
| 12 - Fuel reserve warning light | |
| 13 - Water temperature warning light | |
| 14 - Air filter clogged warning light | |
| 15 - Glow plug telltale light | |
| 16 - Fuel level float | |
| 17 - Diode | |
| 18 - Fuse carrier | |
| 19 - Oil pressure bulb | |
| 20 - Water temperature bulb | |
| 21 - Air filter bulb | |
| 22 - Switch for 4 emergency lights | |
| 23 - Intermittence | |
| 24 - Turn indicator switch | |
| 25 - Starter switch | |
| 26 - Light switch | |
| 27 - Time, speed, rpm meter | |
| 28 - Thermal timer | |
| 29 - Start enable | |
| 30 - Glow plug bulb | |
| 31 - Engine stop | |
| 32 - Glow plugs | |
| 33 - Alternator | |
| 34 - 60 Amp supply fuse | |
| 35 - Starter | |

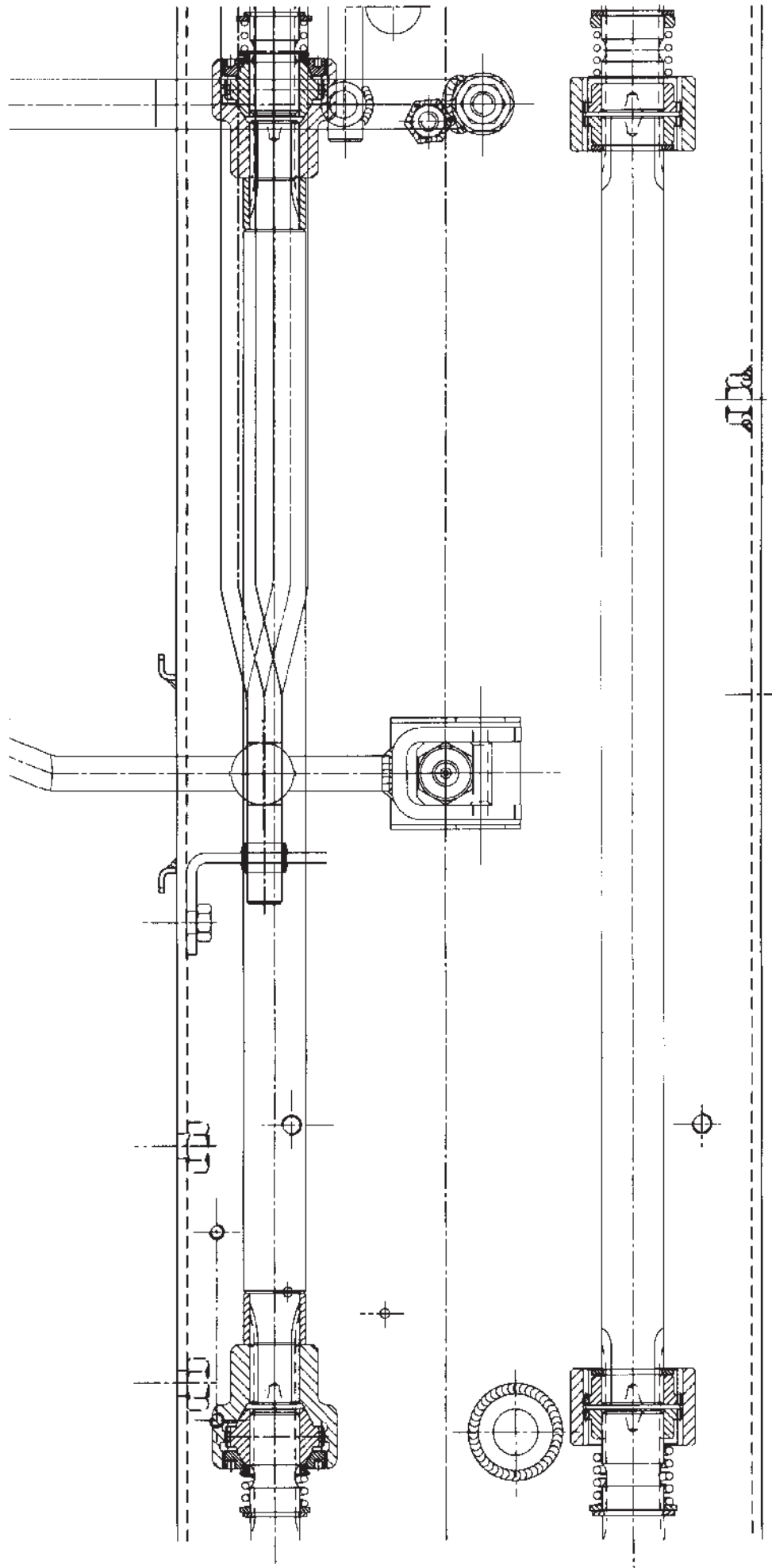
Wire colour coding

- | | |
|---|------------|
| A | Orange |
| B | White |
| C | Pink |
| D | Grey |
| E | Green |
| F | Blue |
| G | Yellow |
| H | Light blue |
| M | Brown |
| N | Black |
| R | Red |
| V | Violet |

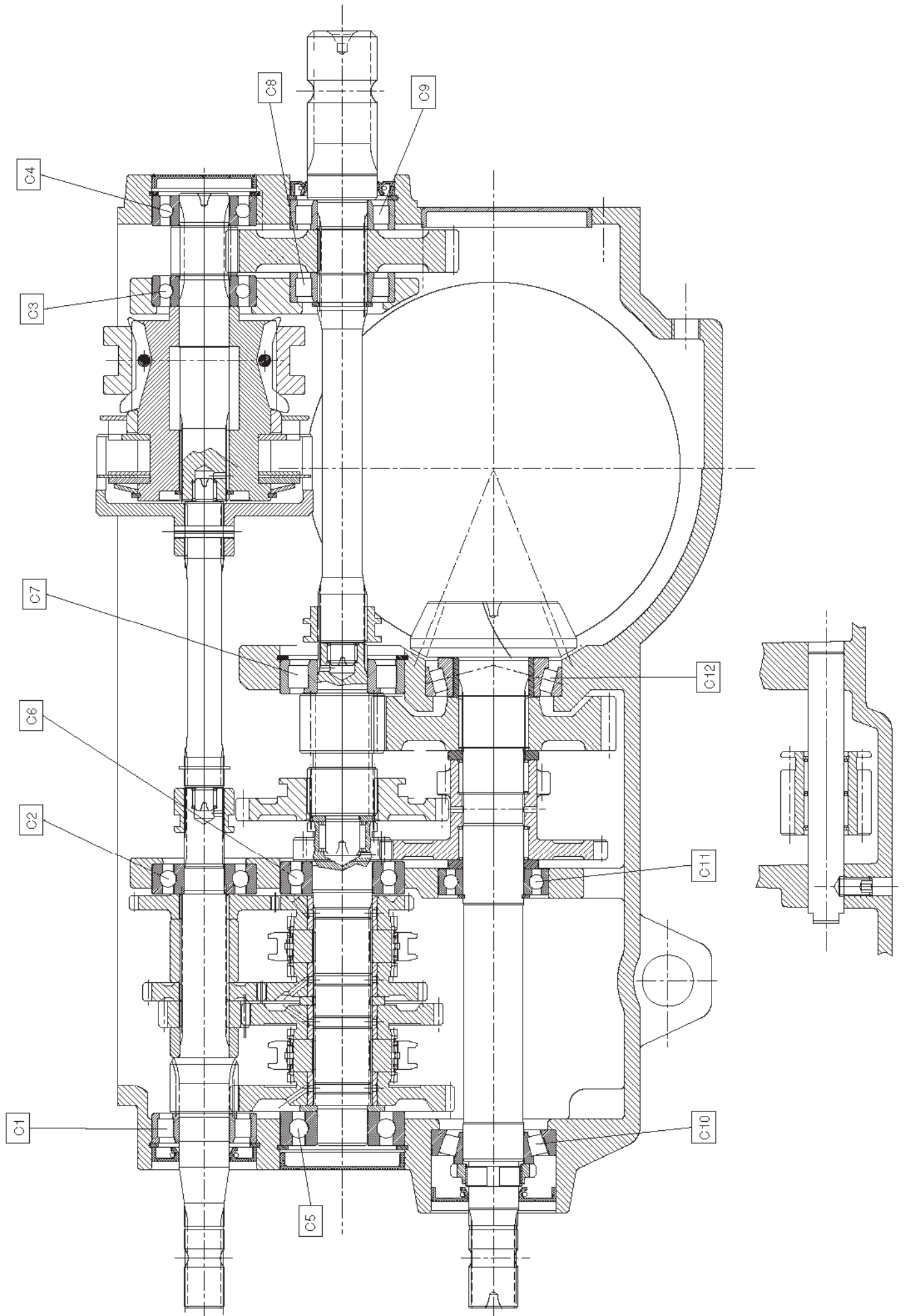
FRONT TRANSMISSION ASSEMBLY

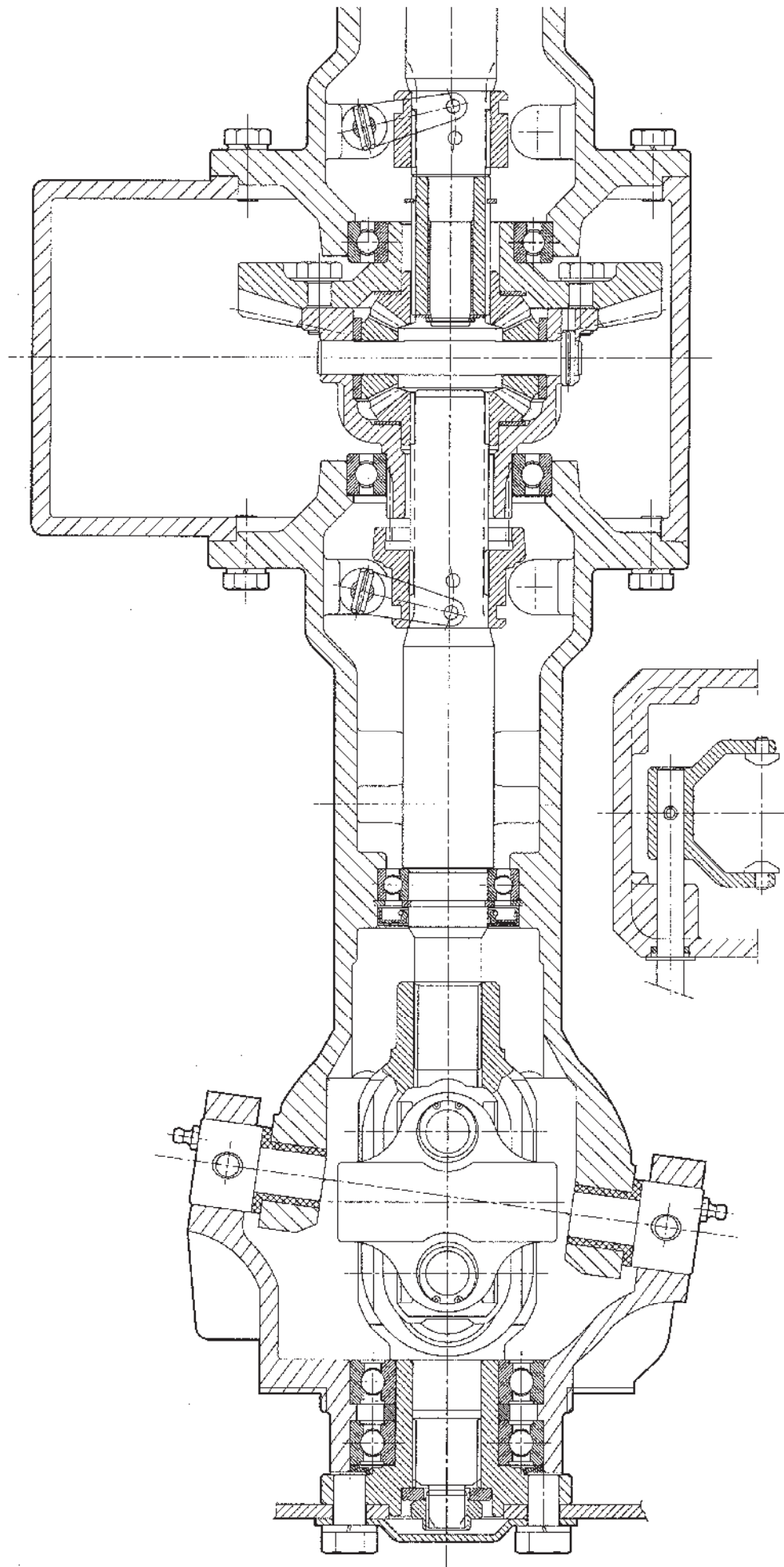


CENTRAL TRANSMISSION ASSEMBLY



SPEED GEAR ASSEMBLY





FRONT AXLE ASSEMBLY

Serie 17 Country

Tempario

Time board	Tableau des temps
Zeitentabelle	Prospecto de programación de tiempos de trabajo



INTRODUCTION

The purpose of this repair time chart is to regulate, in a complete way, the specific times for each job, obtained with the aid of the Technical Assistance Office's team. To measure the job times we worked on a mass-produced tractor, in normal using conditions, and obviously excluding particular cases. To ensure the above operations of a perfect result, the tractor must be clean on the outside and without any additional equipment. The operations are to be considered as carried out in an authorised A. Carraro workshop, provided with the special tools for workshops, equipped with average skilled staff and with the immediate availability of A. Carraro original spare parts.

From the foreseen times we have exceeded the time taken for case diagnostic, for incidental de-seizures, for the extraction of any broken screws and the time for testing the machine after completion of the job. Every operation is considered as a single and complete job performed by one person. We do not consider the time taken by a second persona should one be needed to carry out particular operations.

Warning: The servicing procedures adopted are the same described in the shop manuals or explained during the training courses offered at the manufacturer's mechanics school.

CONSULTATION INSTRUCTIONS

All the part replacement times are expressed in hours and tenths of hours. To find out how many minutes a tenth of an hour corresponds to, just multiply the latter by 60.

Example:

0.25 hours = 0.25 x 60 minutes (e.g. 15 minutes)

2.25 hours = 2 hours and 15 minutes

To search for a part's disassembly and reassembly time, check the times guide tables, which are arranged by functional machine assemblies and which contain references to the spare parts catalogue.

TIMES REVISION REQUEST

If dealers think that the times they have taken do not correspond to the times foreseen by the times chart, they may ask for a time revision by sending the A. Carraro Technical Assistance Office the time revision request, using the enclosed form.

We advise you to send the revision request only after having performed at least three tests, following the method explained during the training courses or described in the shop manual, and using the special equipment specified.

In the request, the part concerned must be clearly specified with the respective code number and the job carried out must be described, specifying the equipment used and stating the time taken.

TIMES REVISION REQUEST FORM

DEALER: _____ DATE: _____

MODEL: _____ SERIES: _____ CHASSIS N°: _____

DETAIL N°: _____ TABLE(TAV): _____ FORESEEN TIME: _____

I wish to ask for your time revision for the above-mentioned operation.

I declare that I have performed all the foreseen preliminary operations, obtaining the following results:

JOB DESCRIPTION: _____

SPECIAL WORK-SHOP EQUIPMENTS USED:

CODEN° _____ CODE N° _____

CODEN° _____ CODE N° _____

TIME TAKEN (hours): _____

Abbreviazioni– Abréviations Abkürzungen – Abbreviations– Abreviaturas

Dx Sx Ant. Post. Sup. Inf. Est. Int. Lat. Centr. RM LV P.T.O. St. Z16 Z15/25 Ar Ø Sp. Mt. Nr. Ric. Tav. Fg. Fig. Q Mod. Soll. Senza telaio Con telaio Con telaio chiuso Con telaio insonorizzato Ore	Dx Sx Ant. Post. Sup. Inf. Est. Int. Lat. Centr. RM LV P.T.O. St. Z16 Z15/25 Ar Ø Sp. Mt. Nr. Ric. Tav. Fg. Fig. Q Mod. Soll. Sans chassis Avec chassis Avec chassis fermé Avec chassis insonorisé Heures	Dx Sx Ant. Post. Sup. Inf. Est. Int. Lat. Centr. RM LV P.T.O. St. Z16 Z15/25 Ar Ø Sp. Mt. Nr. Ric. Tav. Fg. Fig. Q Mod. Soll. Ohne Rahmen Mit Rahmen Mit geschlossenem Mit schallgedämmten Rahmen Stunden	Dx Sx Ant. Post. Sup. Inf. Est. Int. Lat. Centr. RM LV P.T.O. St. Z16 Z15/25 Ar Ø Sp. Mt. Nr. Ric. Tav. Fg. Fig. Q Mod. Soll. Without chassis With chassis With closed chassis With sound-proof chassis Hours	Dx Sx Ant. Post. Sup. Inf. Est. Int. Lat. Centr. RM LV P.T.O. St. Z16 Z15/25 Ar Ø Sp. Mt. Nr. Ric. Tav. Fg. Fig. Q Mod. Soll. Without chassis With chassis With closed chassis With sound-proof chassis Hours	Dx Sx Ant. Post. Sup. Inf. Est. Int. Lat. Centr. RM LV P.T.O. St. Z16 Z15/25 Ar Ø Sp. Mt. Nr. Ric. Tav. Fg. Fig. Q Mod. Soll. Sin bastidor Con bastidor Con bastidor cerrado Con bastidor insonorizado Horas
--	---	---	---	---	--

INDICE DEI SOTTOGRUPPI

A		MOTORE	D		GRUPPI AUSILIARI
A1-10	A1-20	A2-10	A3-10	D1-10	dispositivo attacco attrezzi
				D1-20	dispositivo attacco attrezzi (sc)
				D2-10	gancio traino
				D3-20	impianto idraulico da pompa a idroguida (sv)
				D3-30	impianto idraulico da pompa a idroguida (cv)
				D4-20	impianto idraulico da idroguida a sollevamento
				D4-30	impianto idraulico da valvola a sollevamento (sc)
				D4-40	sforzo controllato
				D4-50	corpo e leve interne sforzo controllato
				D4-60	gruppo distributore sforzo controllato
				D5-10	prese idrauliche
B		AUTOTELAIO E TRASMISSIONE	E		CARROZZERIA
B1-10	B2-10	B3-20	B3-30	E1-20	cofanatura
				E1-30	cofanatura
				E2-10	serbatoio
				E3-20	parafanghi e pedane
				E4-10	telaio di sicurezza
				E5-20	sedile
C		COMANDI	F		IMPIANTO ELETTRICO
C1-10	C2-20	C2-40	C3-20	F1-10	impianto elettrico anteriore
				F2-10	impianto elettrico centrale
				F3-10	impianto elettrico posteriore
				F4-20	strumentazione

INDEX DES SOUS-GROUPES

A	MOTEUR	D	GROUPES AUXILIAIRES
A1-10	application moteur	D1-10	dispositif attache outillage
A1-20	application moteur	D1-20	dispositif attaque outillage (sc)
A2-10	pot d'echappement	D2-10	accrochage traction
A3-10	filtre air	D3-20	installation hydraulique de la pompe a hydroguide
		D3-30	installation hydraulique de la pompe a hydroguide
		D4-20	installation hydraulique de l'hydroguide au soulev
B	CHÂSSIS ET TRANSMISSION	D4-30	installation hydraulique de soupape au soulevement
B1-10	boite et transmission avant	D4-40	effort controle
B2-10	corps et transmission centrale	D4-50	corps et leviers intérieurs d'effort controle
B3-20	boite et transmission boîte de vitesse	D4-60	groupe distributeur d'effort controle
B3-30	embrayage prise de force independante	D5-10	prises hydraulique
B4-20	pont avant	E	CARROSSERIE
B5-20	pont arriere avec reducteurs	E1-20	coffre
B6-10	differentiel	E1-30	coffre
B7-10	roues	E2-10	reservoir
C	COMMANDES	E3-20	garde-boues et repose-pieds
C1-10	commande embrayage	E4-10	chassis de securite
C2-20	commandes boîte de vitesse et pto	E5-20	siège
C2-40	commande embrayage et pto	F	INSTALLATION ÉLECTRIQUE
C3-20	commande accelerateur et arret du moteur	F1-10	installation electrique avant
C4-20	commandes blocage differentiel et deconnexio traction	F2-10	installation electrique centrale
C5-20	commandes freins	F3-10	installation electrique arriere
C5-50	freins	F4-20	instruments
C6-20	commande de direction		

VERZEICHNIS DER UNTERGRUPPEN

A	MOTEUR	D	HILFSORGANE
A1-10	anbringung des motores	D1-10	geräte-kupplungsvorrichtung
A1-20	anbringung des motores	D1-20	geräte-kupplungsvorrichtung (sc)
A2-10	auspuffrohr	D2-10	zughaken
A3-10	luftfilter	D3-20	hydrolange von der pumpe zur hydrolenkung (sv)
		D3-30	hydrolange von der pumpe zur hydrolenkung (cv)
		D4-20	hydroanlage von der hydrolenkung zum hebewerk
		D4-30	hydroanlage vom ventil zum hebewerk (sc)
		D4-40	regel hydraulik
		D4-50	korp und innenhebel des hubkraftreglers
		D4-60	verteiler der hubkraftregelung
		D5-10	hydraulik-steckdosen
B	FAHRGESTELL UND ÜBERTRAGUNGEN	E	KAROSSERIE
B1-10	vorderes gehäuse und triebwerk	E1-20	haube
B2-10	mittlerer körper und triebwerk	E1-30	haube
B3-20	gehäuse und schaltgetriebe	E2-10	tank
B3-30	kupplung d. unabhängigen zapfwelle	E3-20	kofflül und trittbretter
B4-20	vorderachse	E4-10	sicherheitsrahmen
B5-20	hintere achse mit untersetzungsgetriebe	E5-20	sitz
B6-10	differentialgetriebe		
B7-10	räder		
C	STEUERUNGEN	F	ELEKTRISCHE ANLAGE
C1-10	kupplungssteuerung	F1-10	vordere elektrische anlage
C2-20	getriebe- und zapfwellenschaltung	F2-10	mittlere elektrische anlage
C2-40	kupplungssteuerung- und zapfwellenschaltung	F3-10	hintere elektrische anlage
C3-20	beschleunigung und anhalten des motors	F4-20	instrumentierung
C4-20	differentialsperr und zugauskupplung		
C5-20	bremssteuerungen		
C5-50	bremsen		
C6-20	lenkungssteuerung		

SUBGROUP INDEX

A	ENGINE	D	SUPPLEMENTARY EQUIPMENT
A1-10	engine fitting	D1-10	implements coupling device
A1-20	engine fitting	D1-20	implements coupling device (sc)
A2-10	silencer	D2-10	tow-hook
A3-10	air filter	D3-20	hydraulic system from pump to hydrodrive (sv)
		D3-30	hydraulic system from pump to hydrodrive (cv)
		D4-20	hydraulic system from hydrodrive to lifting
B	CHASSIS AND TRANSMISSION	D4-30	hydraulic system from valve to lifting (sc)
B1-10	box and front transmission	D4-40	draft control
B2-10	body and central transmission	D4-50	body and internal levers of draft control
B3-20	gearbox and transmission	D4-60	controlled force distributor assembly
B3-30	independent power take-off clutch	D5-10	hydraulic couplings
B4-20	front bridge	E	BODY
B5-20	rear bridge with deduction gears	E1-20	bonnet
B6-10	differential	E1-30	bonnet
B7-10	wheels	E2-10	tank
		E3-20	mudguards and footboards
C	CONTROLS	E4-10	safety chassis
		E5-20	seat
C1-10	clutch control	F	ELECTRIC SYSTEM
C2-20	gear control and pto	F1-10	front electric system
C2-40	clutch control and pto	F2-10	central electric system
C3-20	motor stop and accelerator control	F3-10	rear electric system
C4-20	differential blockage and traction disengagement control	F4-20	instruments
C5-20	brake controls		
C5-50	brakes		
C6-20	steering control		

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A	MOTOR	D	ORGANOS SUBSIDIARIOS
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A3-10	cuero filtro	D3-20	instalación hidráulica de bomba a hidroguia (sv)
		D3-30	instalación hidráulica de bomba a hidroguia (cv)
		D4-20	instalación hidráulica de hidroguia a elevador
B	CHASIS Y TRANSMISIONES	D4-30	instalación hidráulica de válvula a elevador (sc)
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TAVOLE DEI TEMPI

TABLEAUX DES TEMPS

ZEITENTABELLEN

TIMES BOARDS

PROSPECTO DE PROGRAMMATION DE TIEMPOS DE TRABAJO

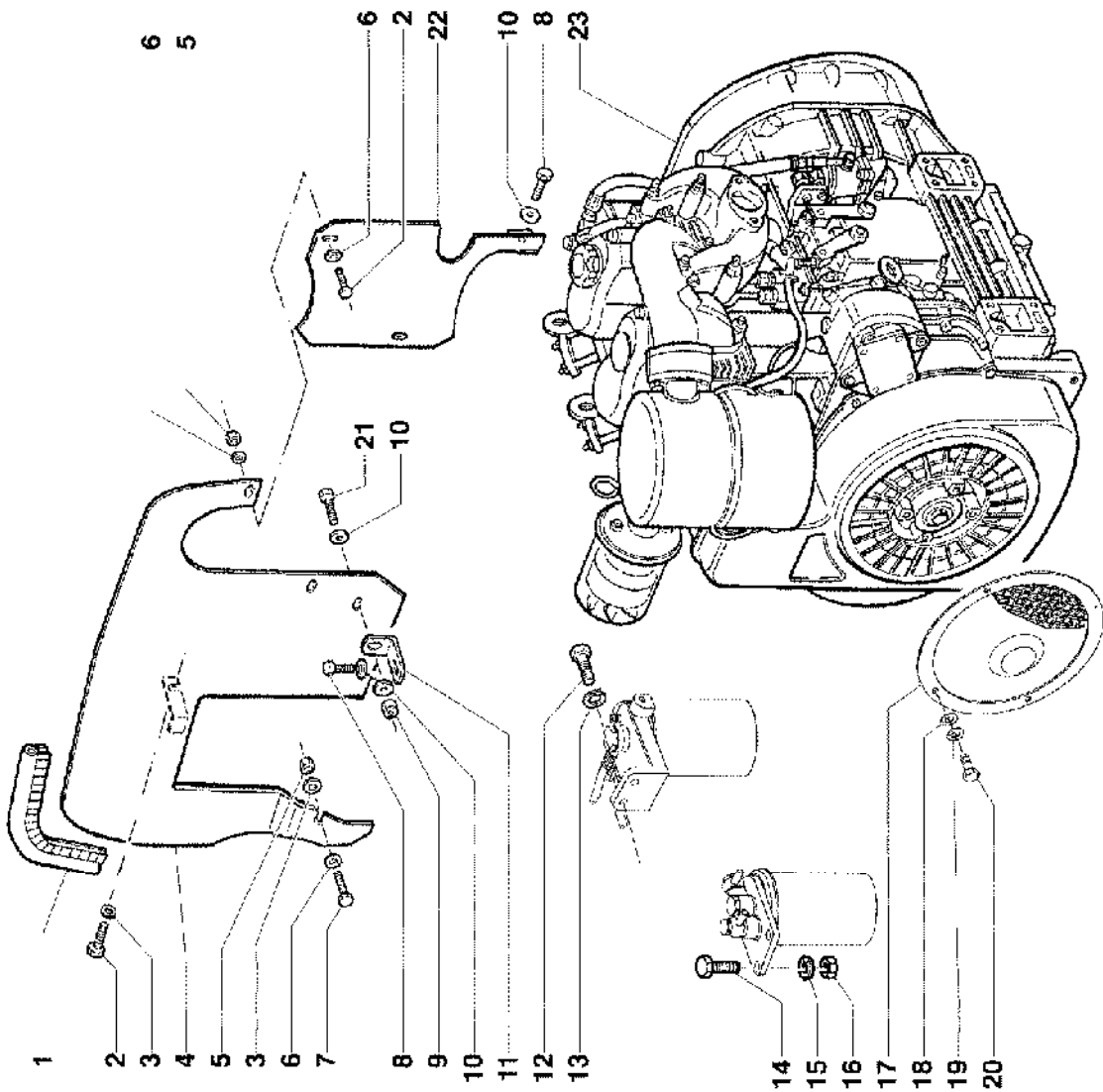
Tempario Serie 17 Country
Tableau des temps / Zeitentabelle
Times board / Prospecto de
programación de tiempos de trabajo
Country 3700

APPLICAZIONE MOTORE
APPLICATION MOTEUR
ANBRINGUNG DES MOTORES
ENGINE FITTING
APLICACIÓN MOTOR

TAV. A1-10

Da matr.
00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de programación de tiempos de trabajo

Country 4300

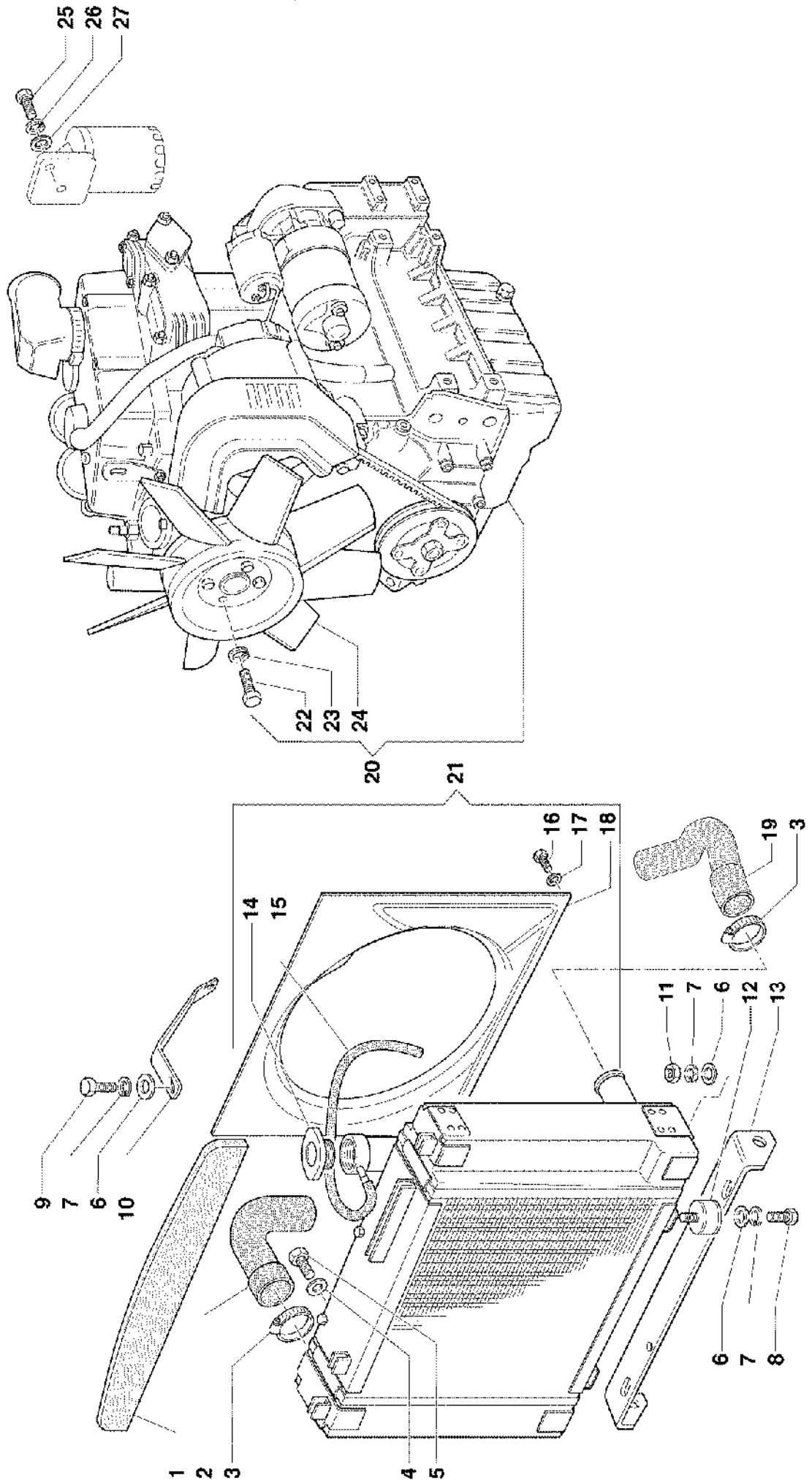
APPLICAZIONE MOTORE
APPLICATION MOTEUR
ANBRINGUNG DES MOTORES
ENGINE FITTING
APLICACIÓN MOTOR

TAV. A1-20

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700-4300

MARMITTE

POT D'ECHAPPMENT

AUSPUFFROHR

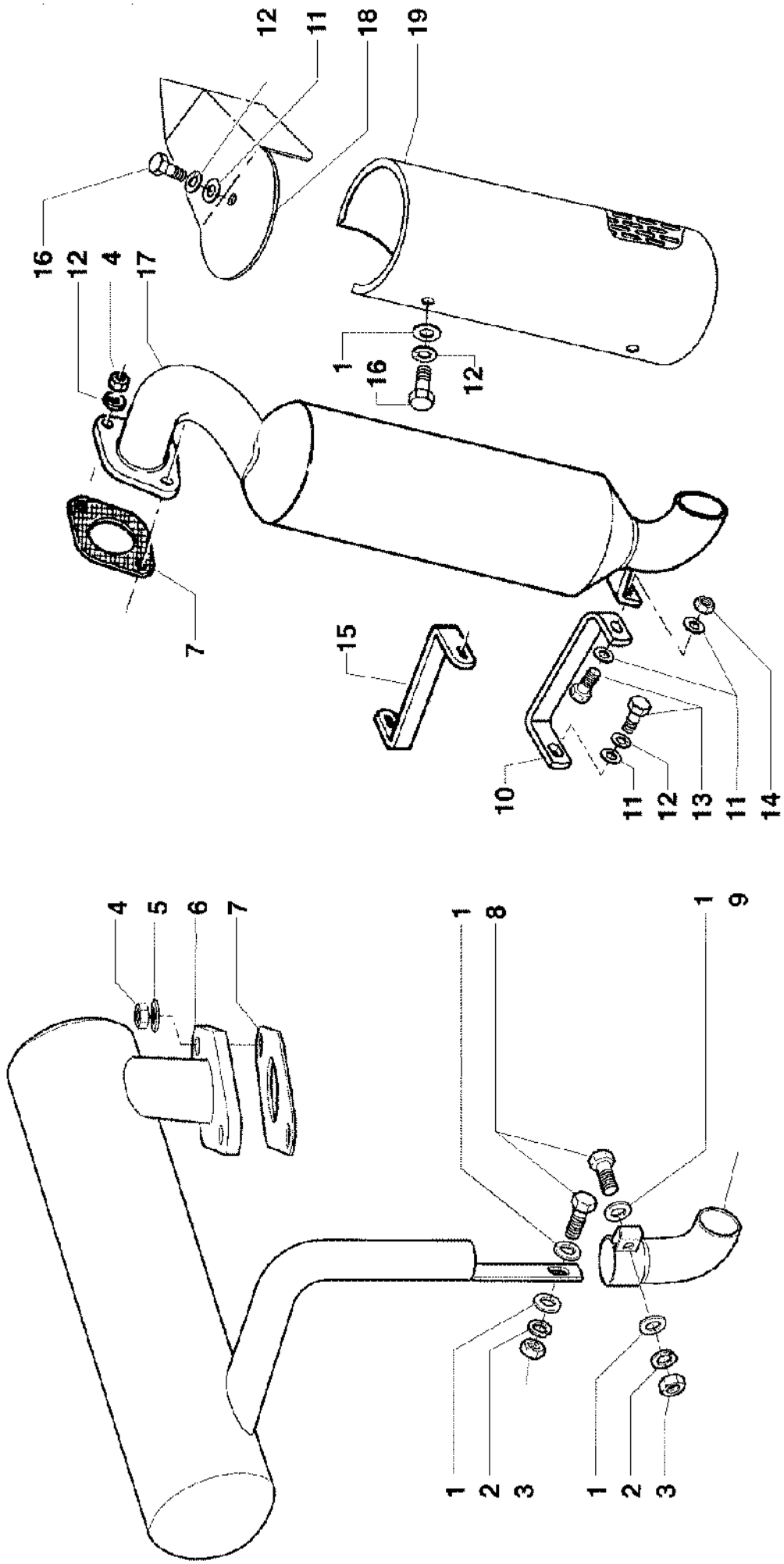
SILENCER

TUBO DE ESCAPE

TAV. A2-10

Da matr.
00578

A matr.



[illegible]

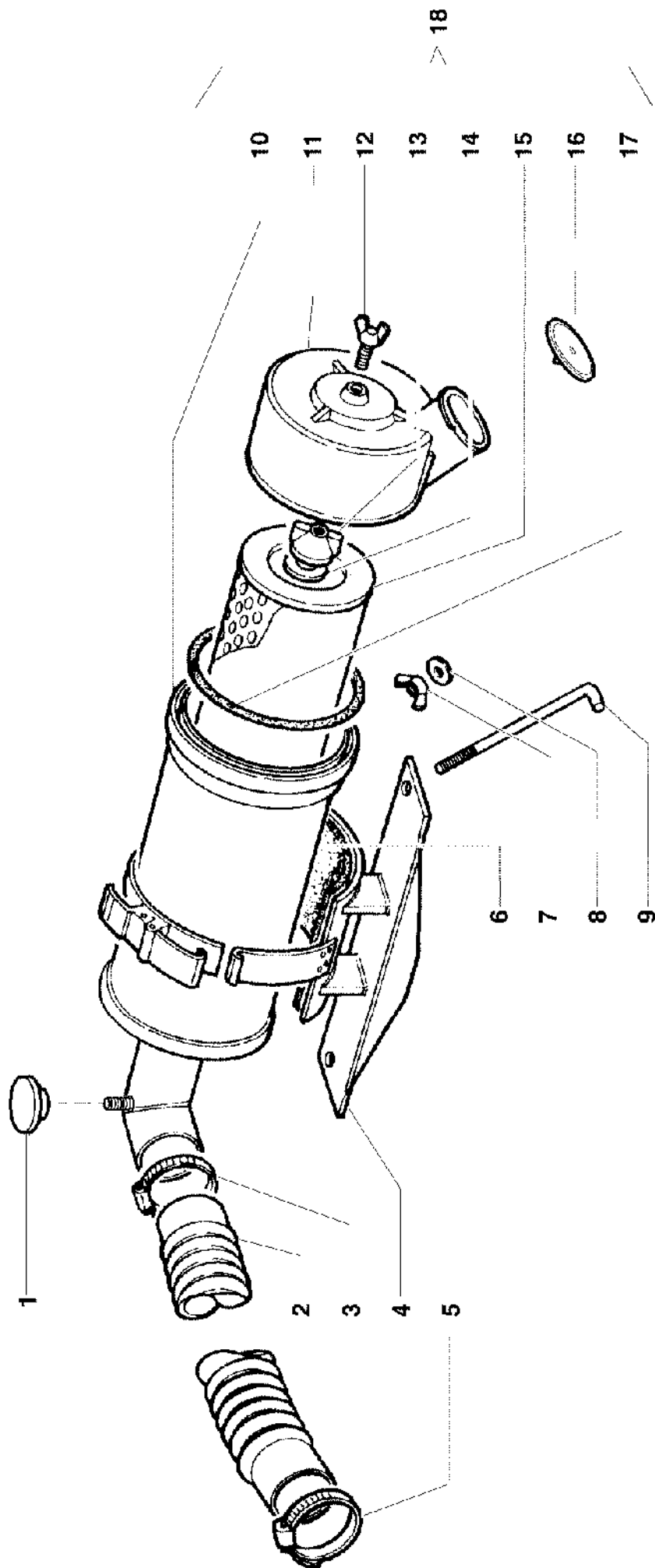
Tempario Serie 17 Country
 Tableau des temps / Zeitentabelle
 Times board / Prospecto de
 programación de tiempos de trabajo
 Country 4300

FILTRO ARIA
 FILTRE AIR
 LUFTFILTER
 AIR FILTER
 CUERPO FILTRO

TAV. A3-10

Da matr.
 00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700-4300

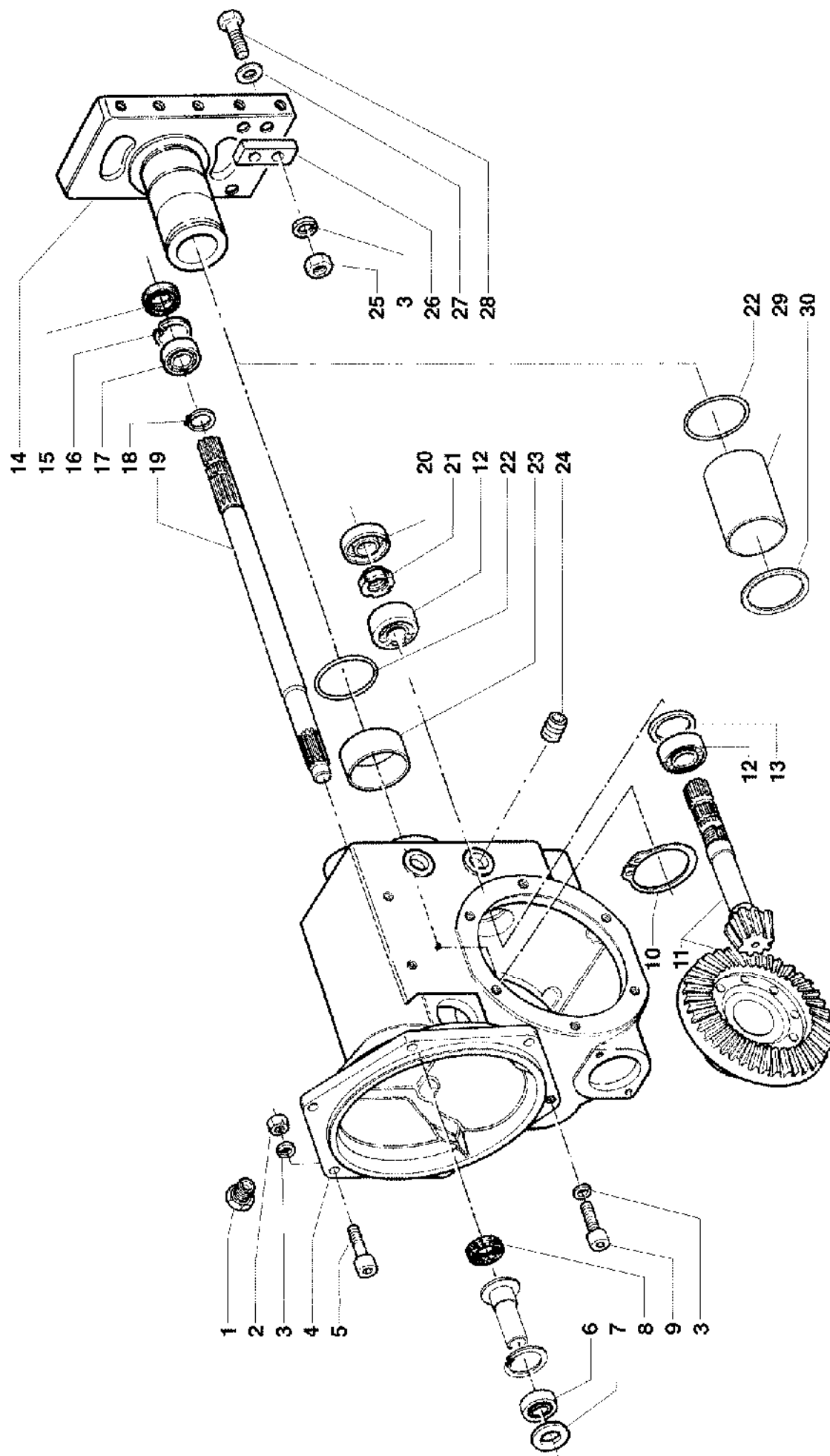
SCATOLA E TRASMISSIONE ANTERIORE
BOITE ET TRANSMISSION AVANT
VORDERES GEHAUSE UND TRIEBWERK
BOX AND FRONT TRANSMISSION
CAJA Y TRANSMISION DELANTERA

TAV. B1-10

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

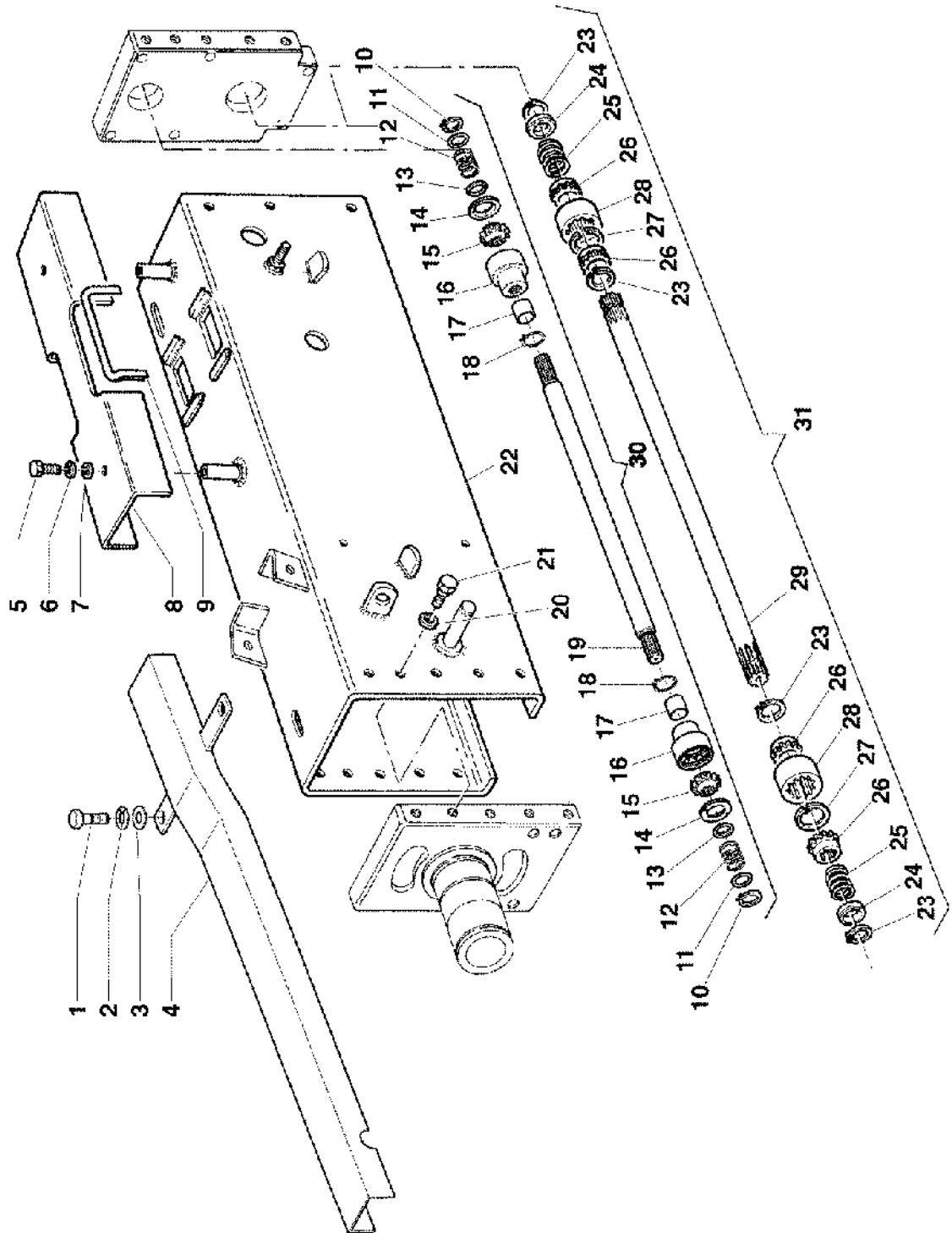
Country 3700 - 4300

CORPO E TRASMISSIONE CENTRALE
CORPS ET TRANSMISSION CENTRALE
MITTLERER KÖRPER UND TRIEBWERK
BODY AND CENTRAL TRANSMISSION
CUERPO Y TRANSMISION CENTRA

TAV. B2-10

Da matr.
00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 – 4300

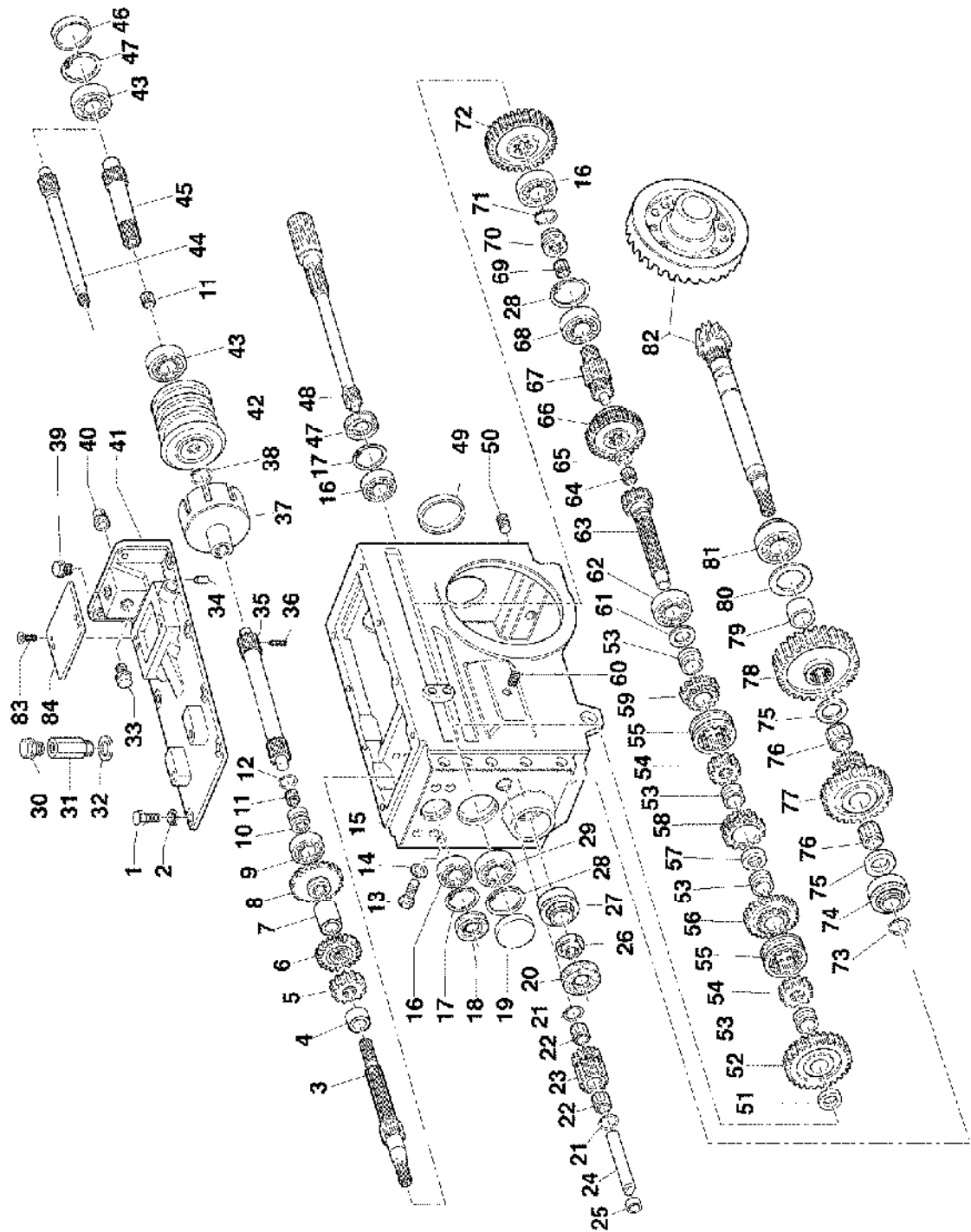
SCATOLA E TRASMISSIONE CAMBIO
BOITE ET TRANSMISSION BOITE DE VITESSE
GEHÄUSE UND SCHALTGETRIEBE
GEARBOX AND TRANSMISSION
CAJA Y TRANSMISSION CAMBIO

TAV. B3-20

Da matr.

00578

A matr.



Tempario Serie 17 Country			Tav. B3-20		Da matr. 00578	A matr.	TEMPO DI SOSTITUZIONE [ORE]	
FIG.	DENOMINAZIONE	DESIGNATION	BENENNUNG	DESCRIPTION			Country 3700	Country 4300
3	Albero primario	Arbre	Welle	Shaft		Arbol	9	9
4	Distanziale	Entretoise	Distanzstück	Spacer		Separador	9	9
5	Ruota dentata Z 20	Roue dentée	Zahnrad	Cogged wheel		Rueda dentada	9	9
6	Ruota dentata Z 28	Roue dentée	Zahnrad	Cogged wheel		Rueda dentada	9	9
7	Distanziale	Entretoise	Distanzstück	Spacer		Separador	9	9
8	Ruota dentata Z 35	Roue dentée	Zahnrad	Cogged wheel		Rueda dentada	9	9
9	Cuscinetto 20 x 52 x 15 6304	Palier	Lager	Bearing		Cojinete	9	9
10	Innesto PTO standard	Embrayage	Schaltkupplung	Clutch		Embrague	9	9
11	Gabbia a nuli K 9 x 12 x 10	Cage à roulements	Walzenkäfig	Needle retainer		Jaula de rodillos	9	9
12	Anello d'arresto A 20	Bague d'arrêt	Drahtsprengling	Stop ring		Anillo de tope	9	9
15	Carter cambio	Carter	Gehäuse	Box		Cárter	12	12
16	Cuscinetto 25 x 52 x 15	Palier	Lager	Bearing		Cojinete	9	9
	Cuscinetto 25 x 52 x 15 (PTO)	Palier (PDF)	Lager (PTO)	Bearing (PTO)		Cojinete (PTO)	10	10
17	Anello d'arresto J 52	Bague d'arrêt	Drahtsprengling	Stop ring		Anillo de tope	2	2
18	Anello di tenuta AS 25527	Bague d'étanchéité	Dichting	Check ring		Anillo hermético	2	2
19	Tappo RCA 62 x 7	Bouchon	Stopfen	Cap		Tapón	2	2
20	Anello di tenuta 256210	Bague d'étanchéité	Dichting	Check ring		Anillo hermético	2	2
21	Anello d'arresto SB 22	Bague d'arrêt	Drahtsprengling	Stop ring		Anillo de tope	11	11
22	Gabbia a nuli K 18 x 22 x 17	Cage à roulements	Walzenkäfig	Needle retainer		Jaula de rodillos	11	11
23	Ruota dentata Z 12	Roue dentée	Zahnrad	Cogged wheel		Rueda dentada	11	11
24	Perno	Pivot	Zapfen	Pin		Perno	11	11
25	Tappo Ø 22	Bouchon	Stopfen	Cap		Tapón	2	2
27	Cuscinetto 30 x 62 x 17 2530206	Palier	Lager	Bearing		Cojinete	11,5	11,5
29	Cuscinetto 25 x 62 x 17 6305	Palier	Lager	Bearing		Cojinete	10,5	10,5
35	Albero campana PTO	Arbre	Welle	Shaft		Arbol	9	9
37	Campana frizione PTO	Cloche embrayage	Kupplungsglocke	Clutch cap		Campana	9	9
41	Coperchio cambio	Couvercle	Abdeckung	Lid		Tapa	1,5	1,5
42	Frizione PTO	Embrayage	Kupplung	Clutch		Embrague	10	10
43	Cuscinetto 25 x 52 x 15 6205	Palier	Lager	Bearing		Cojinete	10	10
45	Albero PTO	Arbre	Welle	Shaft		Arbol	10	10
47	Anello di tenuta	Bague d'étanchéité	Dichting	Check ring		Anillo hermético	0,35	0,35
48	Albero PTO	Arbre	Welle	Shaft		Arbol	10	10
51	Distanziale	Entretoise	Distanzstück	Spacer		Separador	10,5	10,5
52	Ruota dentata Z 54	Roue dentée	Zahnrad	Cogged wheel		Rueda dentada	10,5	10,5
53	Bronzina	Cousinnet en bronze	Bronzelager	Bronze bushing		Casquillo de bronce	10,5	10,5
54	Bussola	Douille	Buchse	Bush		Forro	10,5	10,5
55	Bussola innesto	Douille	Buchse	Bush		Forro	10,5	10,5

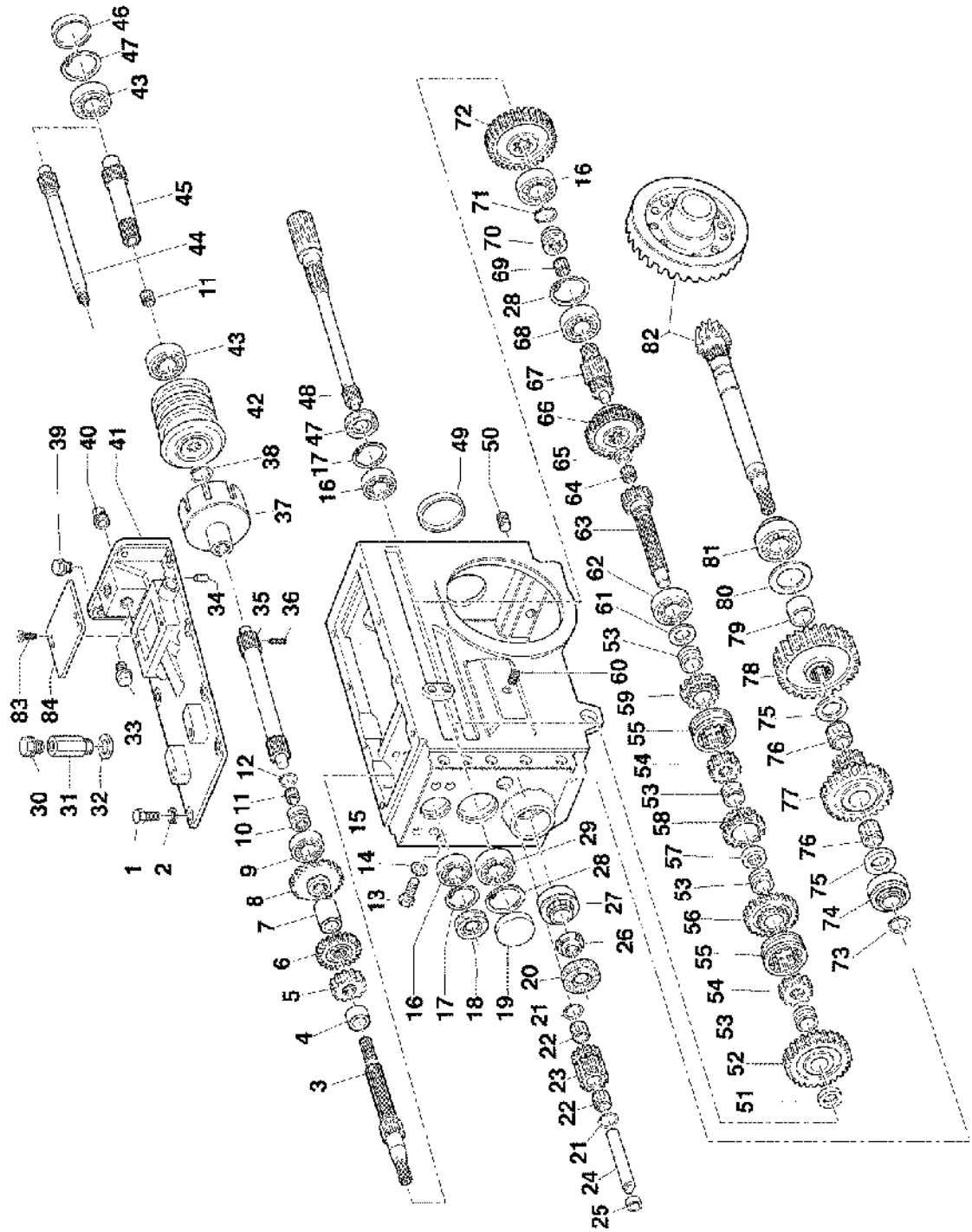
Tempario Serie 17 Country
Tableau des temps / Zeitentabelle
Times board / Prospecto de
programación de tiempos de trabajo
Country 3700 - 4300

SCATOLA E TRASMISSIONE CAMBIO
BOITE ET TRANSMISSION BOITE DE VITESSE
GEHÄUSE UND SCHALTGETRIEBE
GEARBOX AND TRANSMISSION
CAJA Y TRANSMISSION CAMBIO

TAV. B3-20

Da matr.
00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

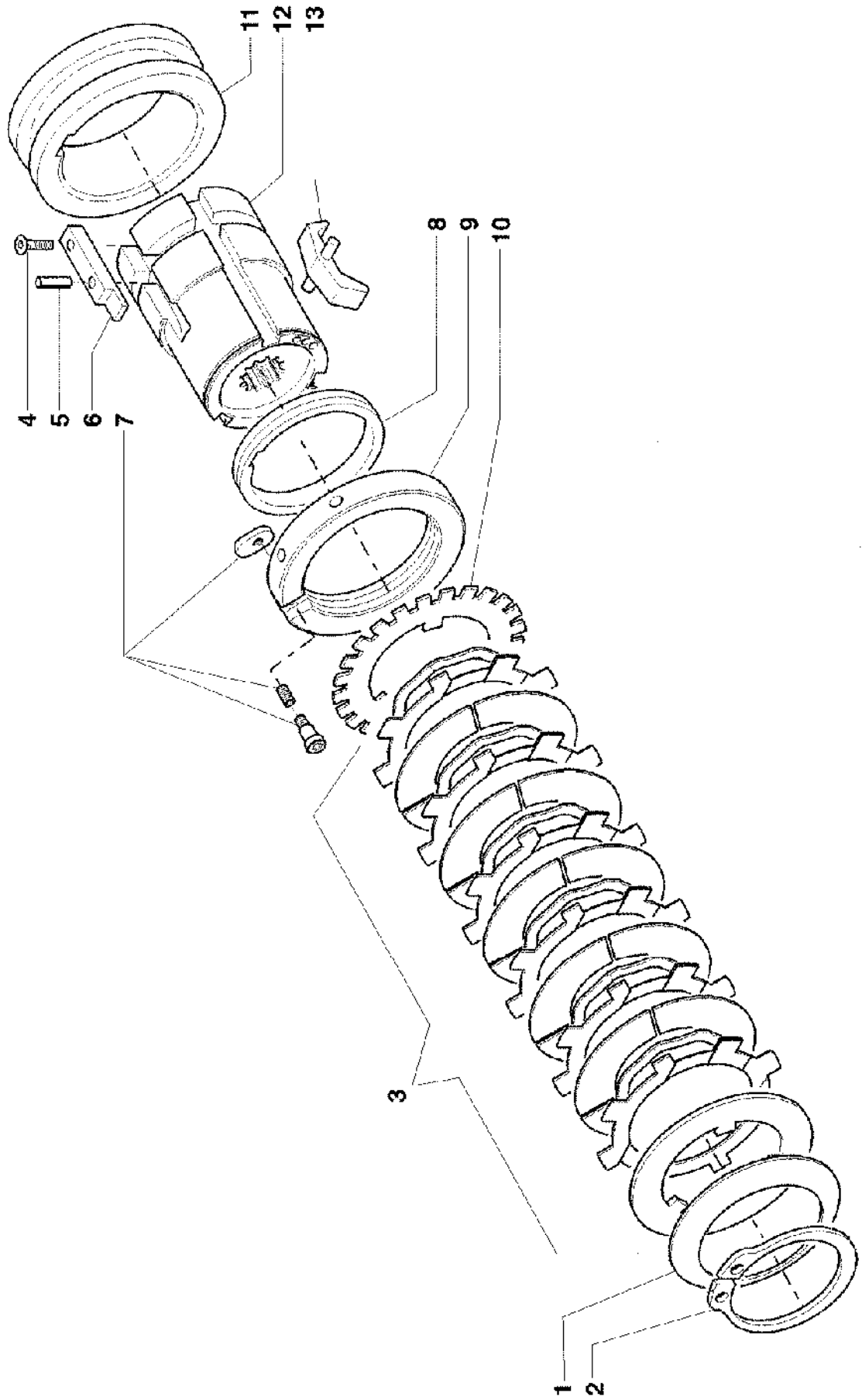
FRIZIONE PRESA DI FORZA INDIPENDENTE
EMBRAYAGE PRISE DE FORCE INDEPENDANTE
KUPPLUNG D. UNABHÄNGIGEN ZAPFWELLE
INDEPENDENT POWER TAKE-OFF CLUTCH
EMBRAGE TOMA DE FUERZA INDEPENDIENTE

TAV. B3-30

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

PONTE ANTERIORE

PONT AVANT

VORDERACHSE

FRONT BRIDGE

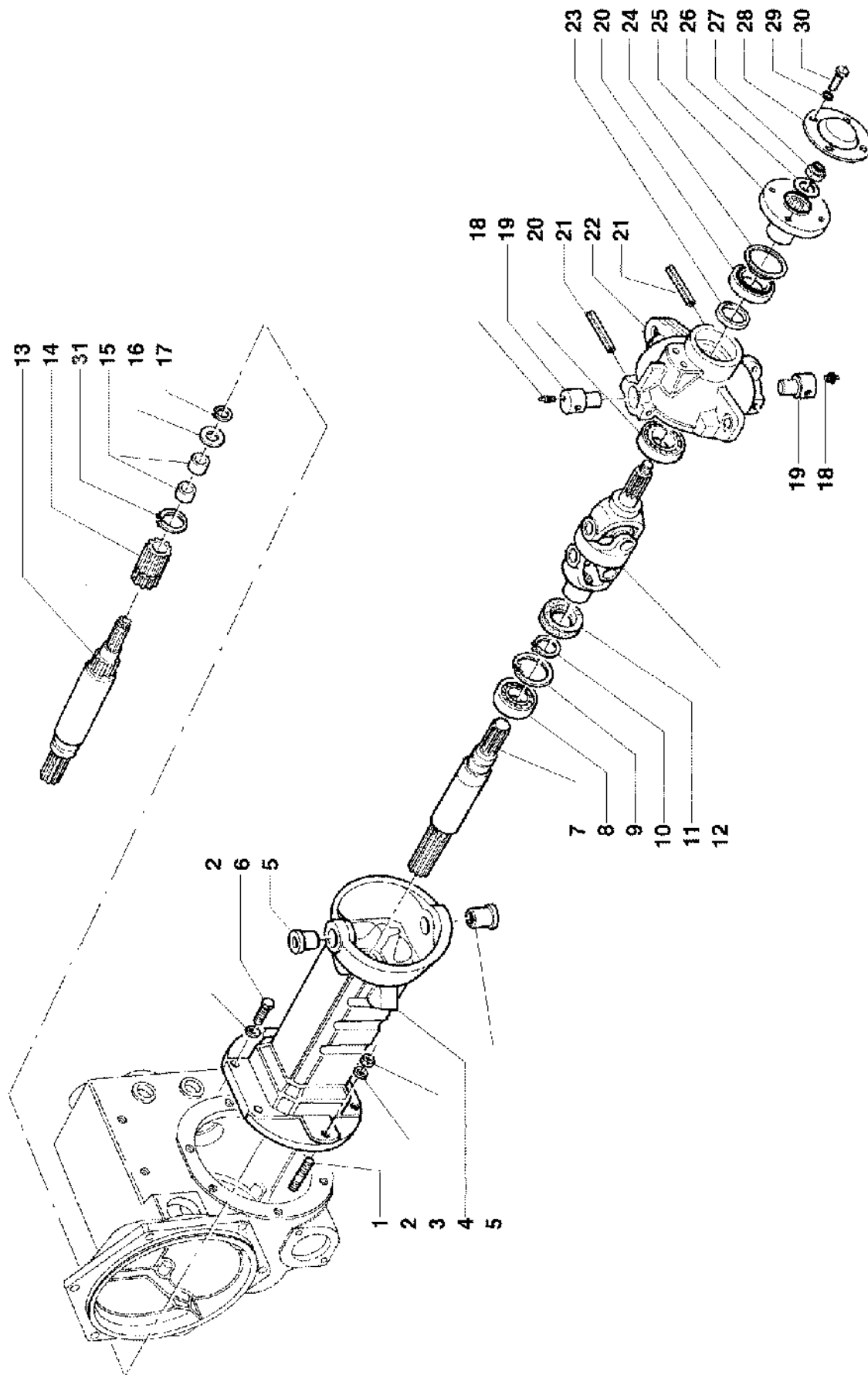
EJE DELANTERO

TAV. B4-20

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

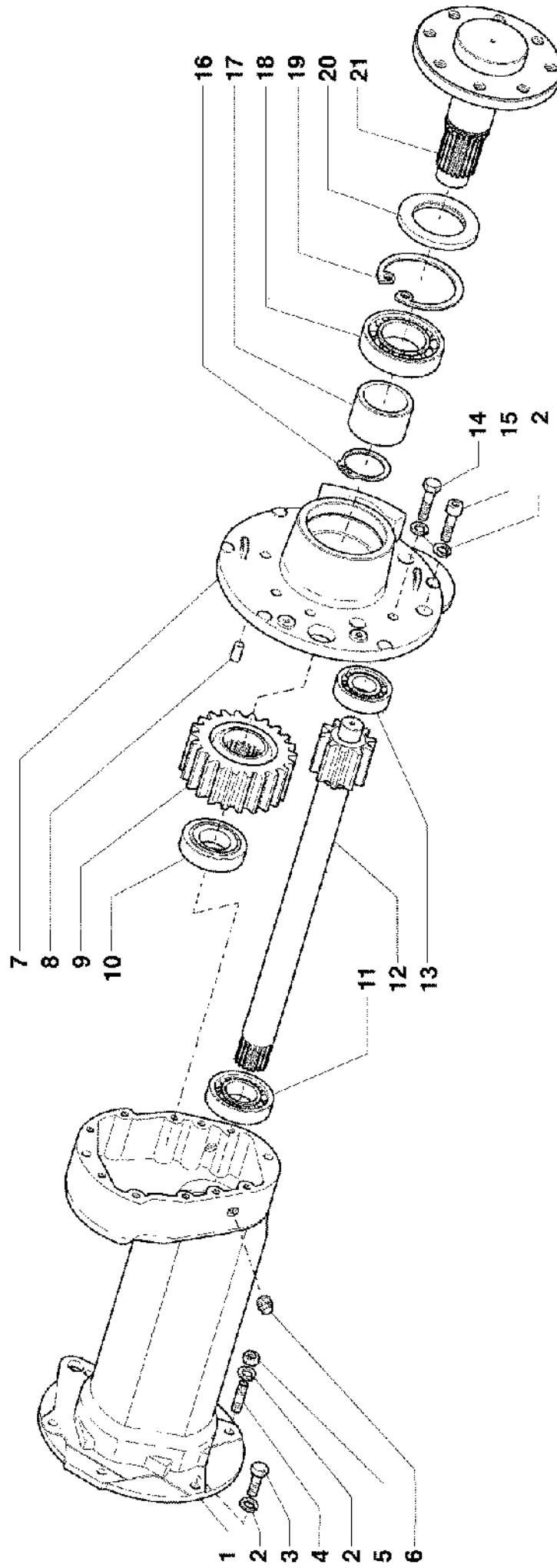
PONTE POSTERIORE CON RIDUTTORI
PONT ARRIERE AVEC REDUCTEURS
HINTERE ACHSE MIT UNTERSETZUNGSGETRIEBE
REAR BRIDGE WITH DEDUCTION GEARS
EJE TRASERO CON REDUCTORE

TAV. B5-20

Da matr.

00578

A matr.



[illegible]

[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

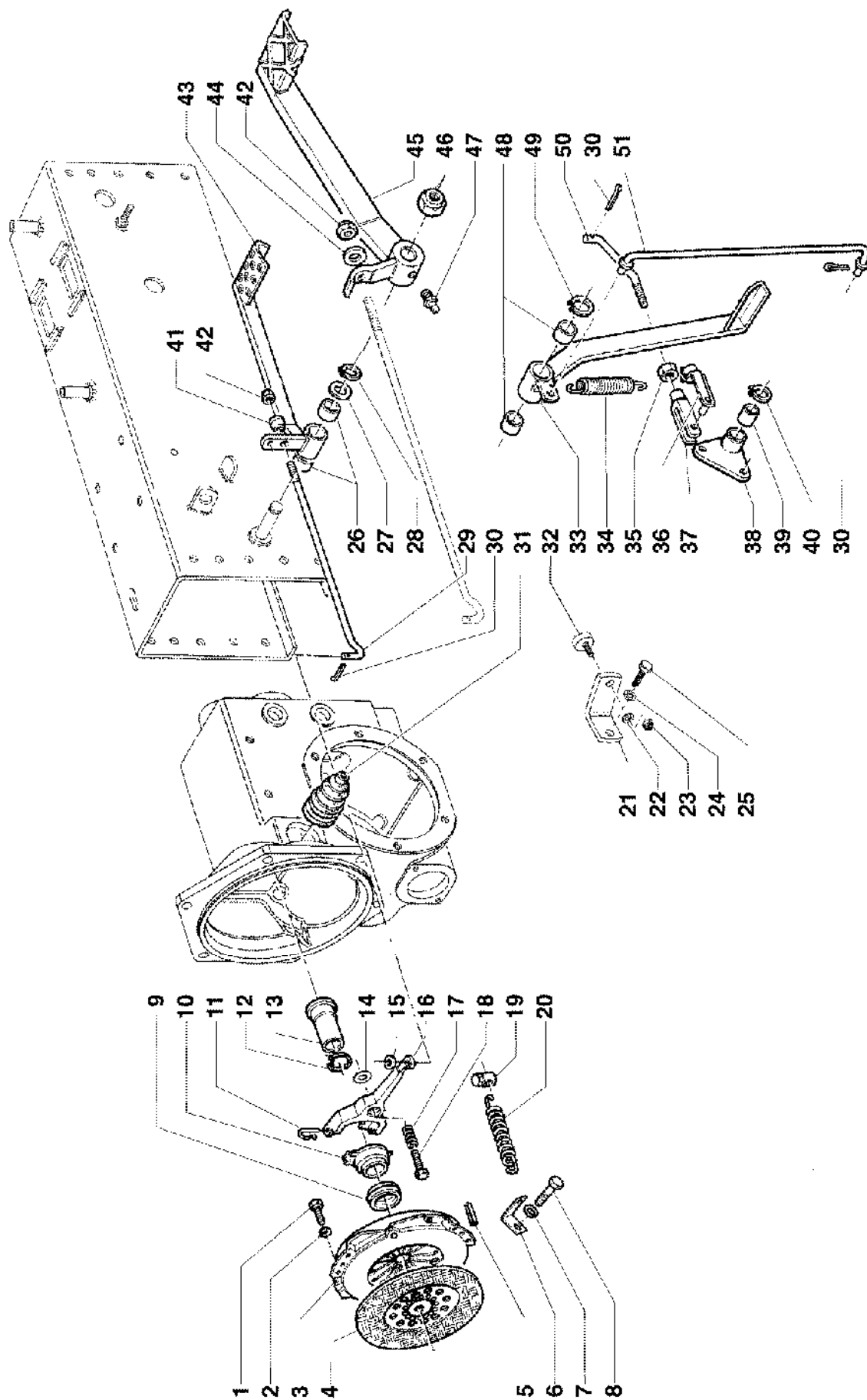
COMANDO FRIZIONE
COMMANDE EMBRAYAGE
KUPPLUNGSSTEUERUNG
CLUTCH CONTROL
MANDO EMBRAGUE

TAV. C1-10

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

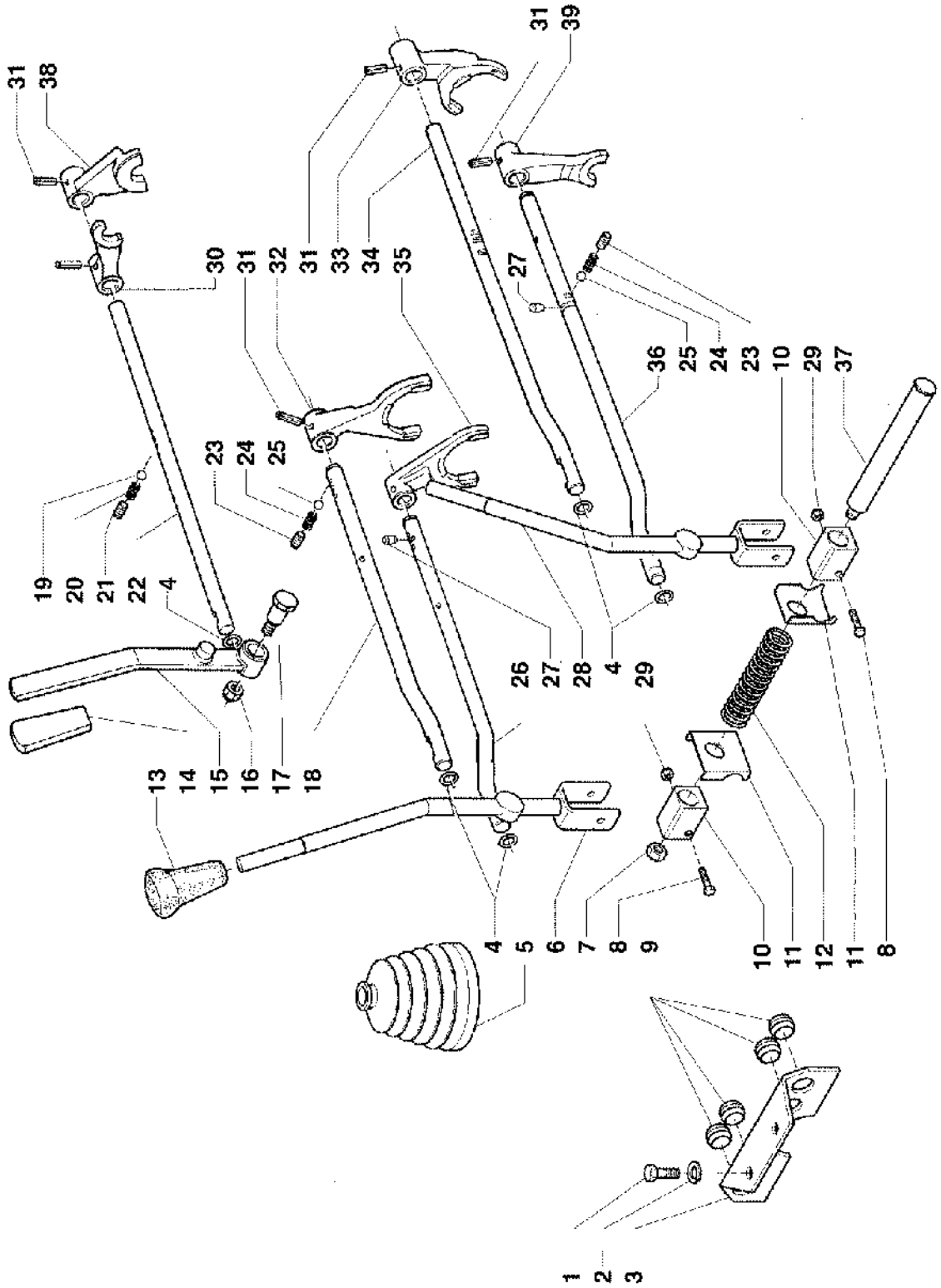
Tableau des temps / Zeitentabelle
Times board / Prospecto de
programación de tiempos de trabajo
Country 3700 - 4300

COMANDI CAMBIO E PTO
COMMANDES BOITE DE VITESSE ET PTO
GETRIEBE- UND ZAPFWELLENSCHALTUNG
GEAR CONTROL AND PTO
MANDOS DEL CAMBIO Y PTO

TAV. C2-20

Da matr.
00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

COMANDI FRIZIONE PTO

COMMANDE EMBRAYAGE ET PTO

KUPPLUNGSSTEUERUNG- UND ZAPFWELLENSCHALTUNG

CLUTCH CONTROL AND PTO

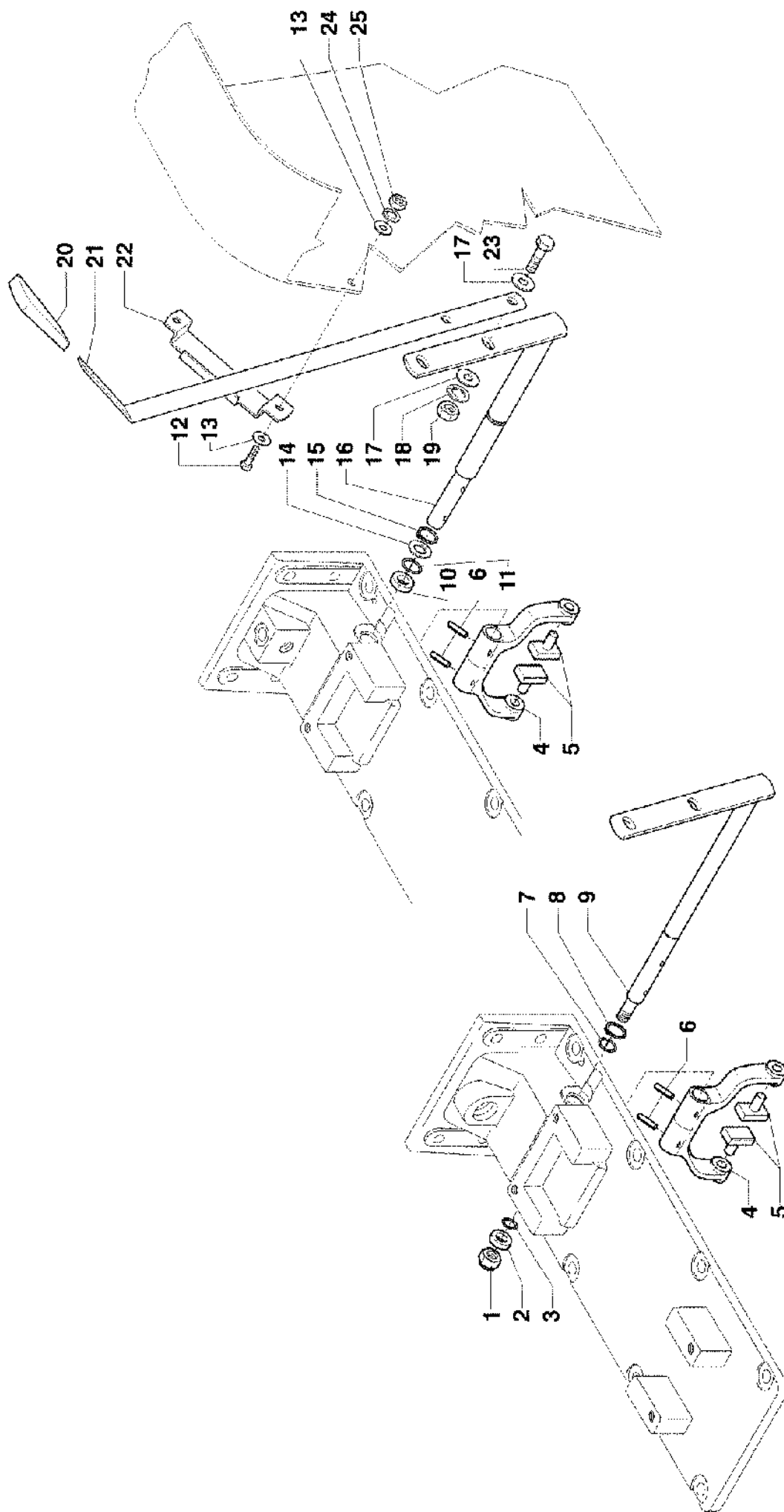
MANDO EMBRAGUE Y PTO

TAV. C2-40

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

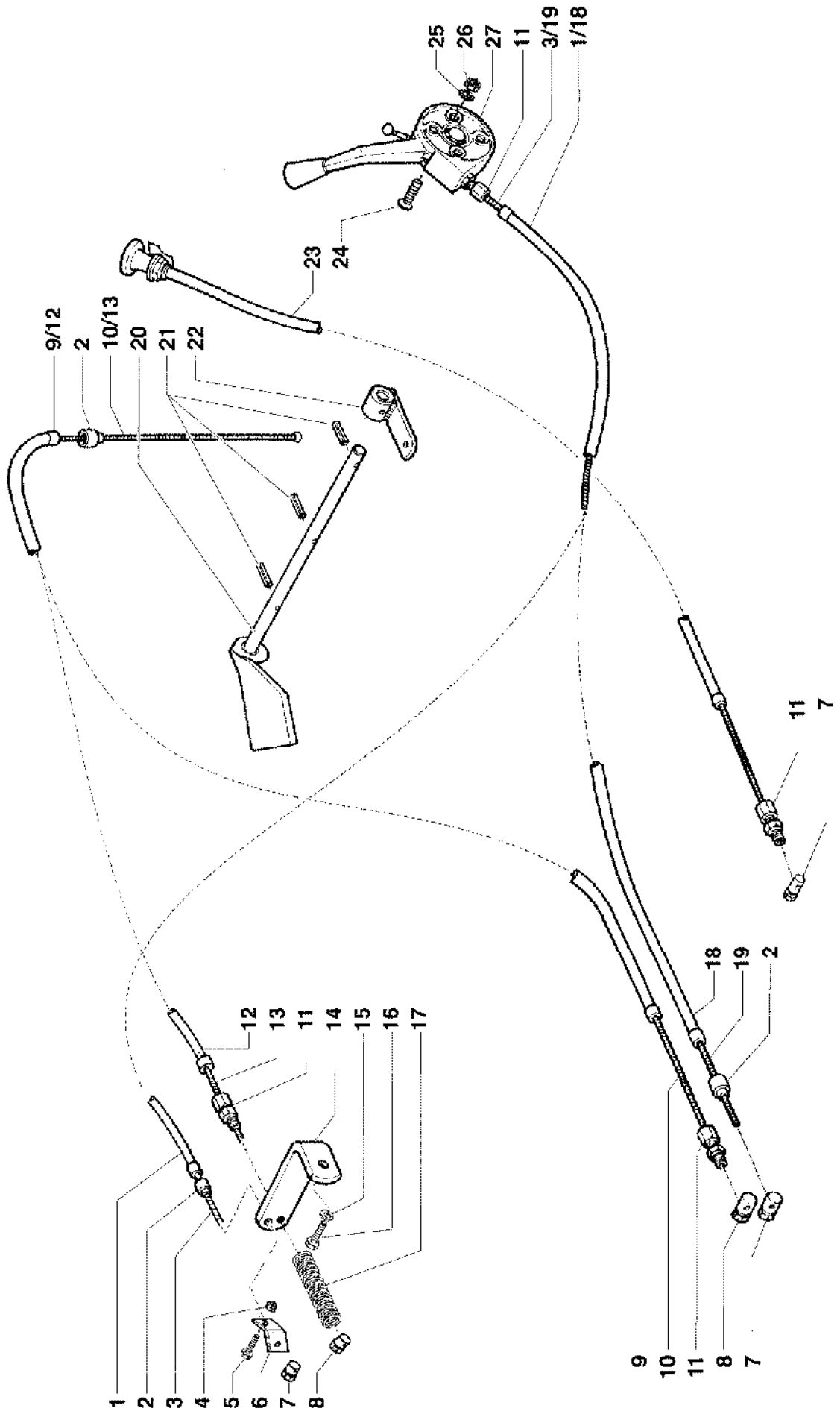
TAV. C3-20

Da matr.

00578

A matr.

COMANDO ACCELERATORE ED ARRESTO MOTORE
COMMANDE ACCELERATEUR ET ARRET DU MOTEUR
BESCHLEUNIGUNG UND ANHALTEN DES MOTORS
MOTOR STOP AND ACCELERATOR CONTROL
MANDO ACELERADOR Y PARO DEL MOTOR



[illegible]

Tempario Serie 17 Country

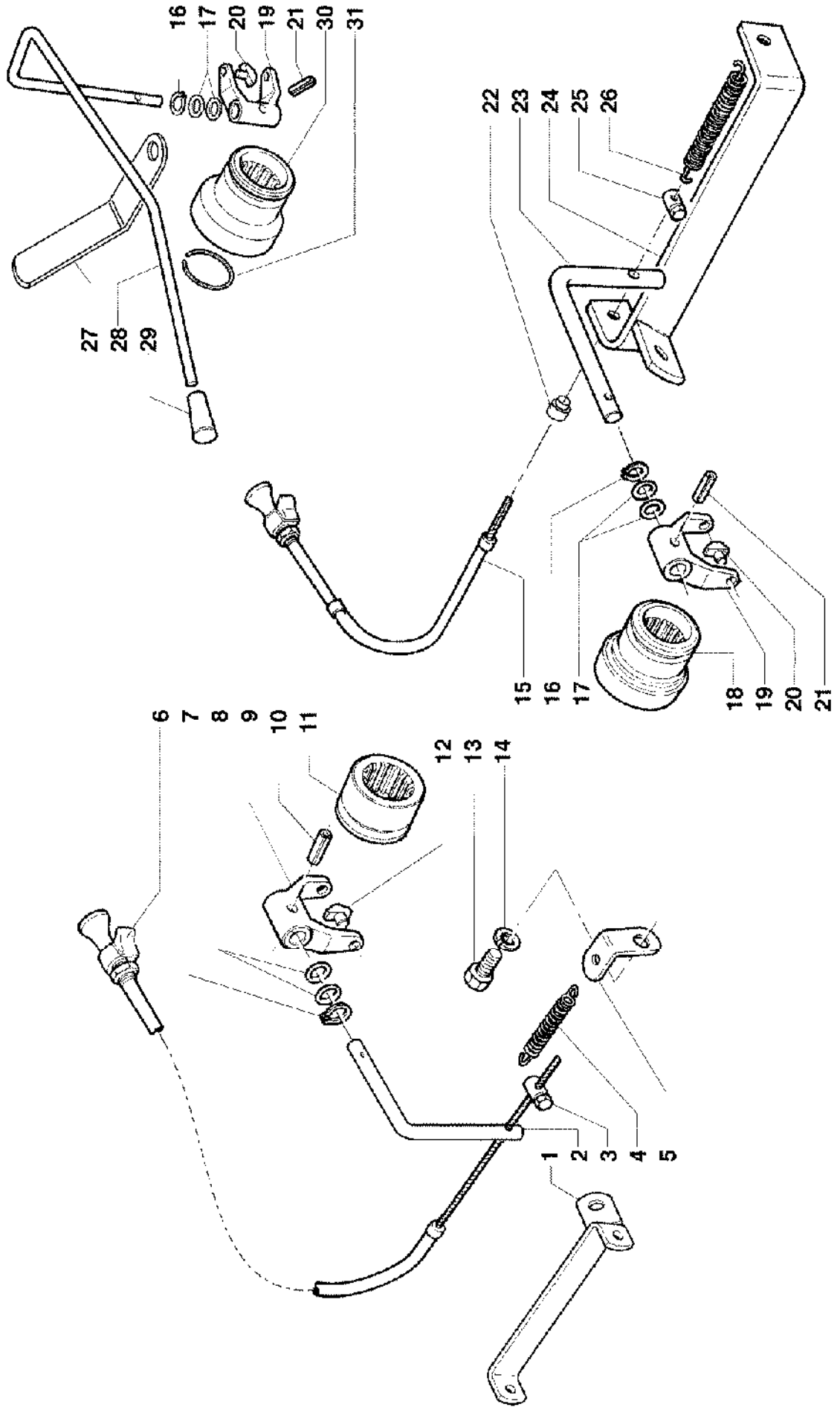
Tableau des temps / Zeitentabelle
Times board / Prospekt de
programación de tiempos de trabajo
Country 3700 - 4300

COMANDI BLOCCAGGIO DIFFERENZIALE E DISINNESTO TRAZIONE
COMANDES BLOCAGE DIFFERENTIEL ET DECONNEXIO TRACTION
DIFFERENTIALSPERRE UND ZUGAUSKUPPLUNG
DIFFERENTIAL BLOCKAGE AND TRACTION DISENGAGEMENT CONTROL
COMANDO BLOQUEO DEL DIFERENCIAL Y DESACOPPLAMIENTO TRACCION

TAV. C4-20

Da matr.
00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

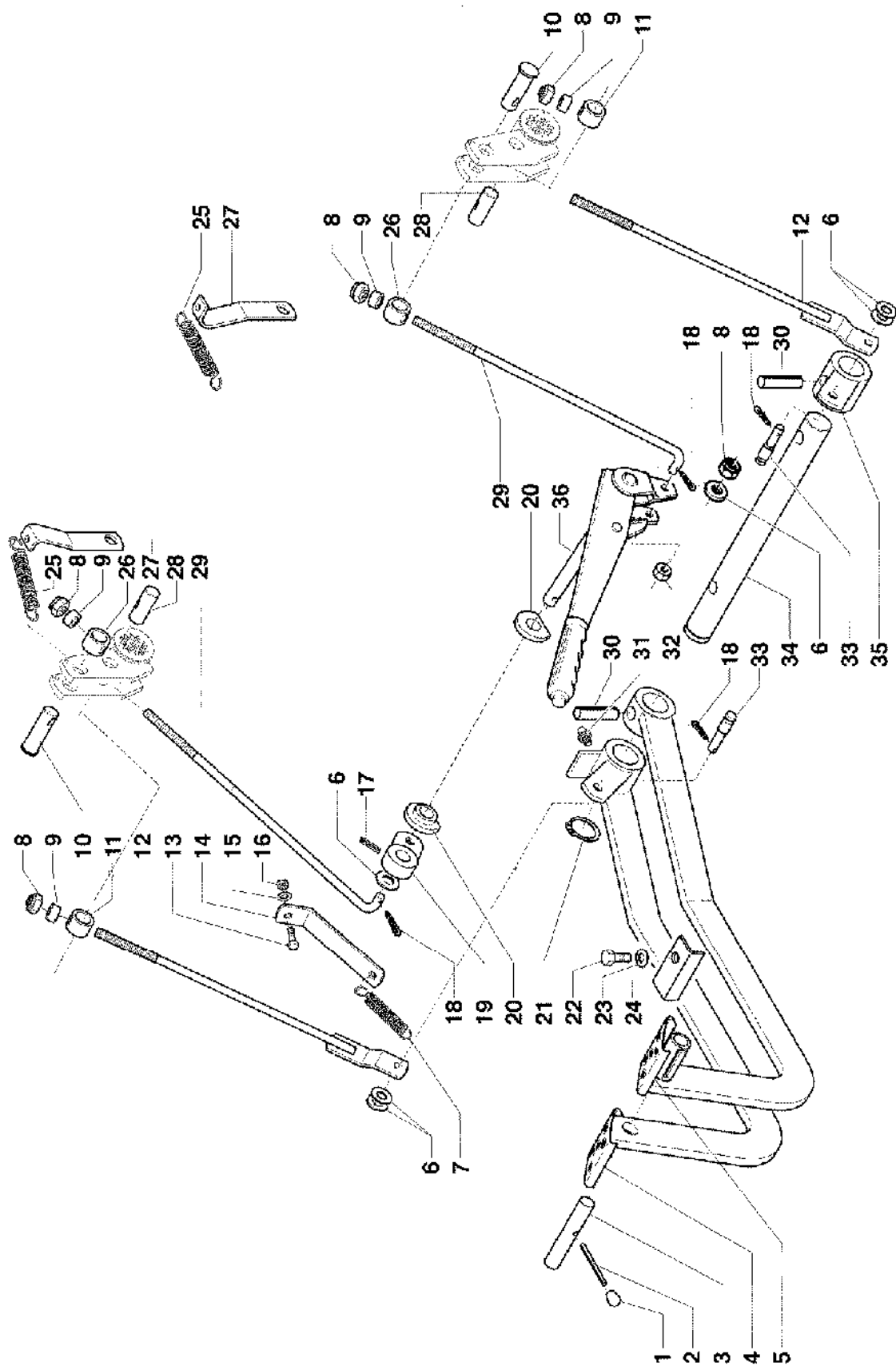
COMANDO FRENI
COMMANDES FREINS
BREMSSTEUERUNGEN
BRAKE CONTROLS
MANDO FRENOS

TAV. C5-20

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

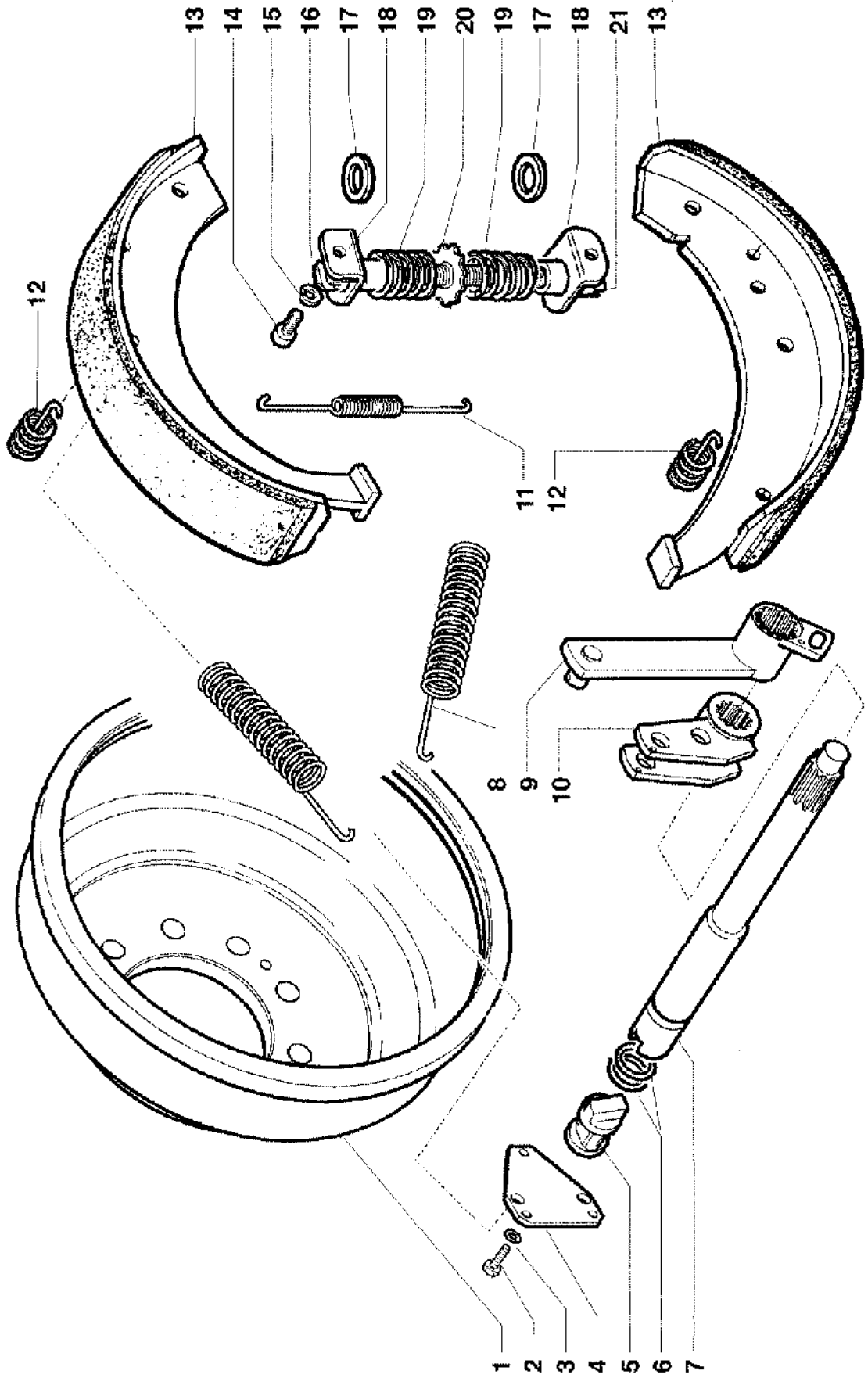
FRENI
FREINS
BREMSEN
BRAKES
FRENOS

TAV. C5-50

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

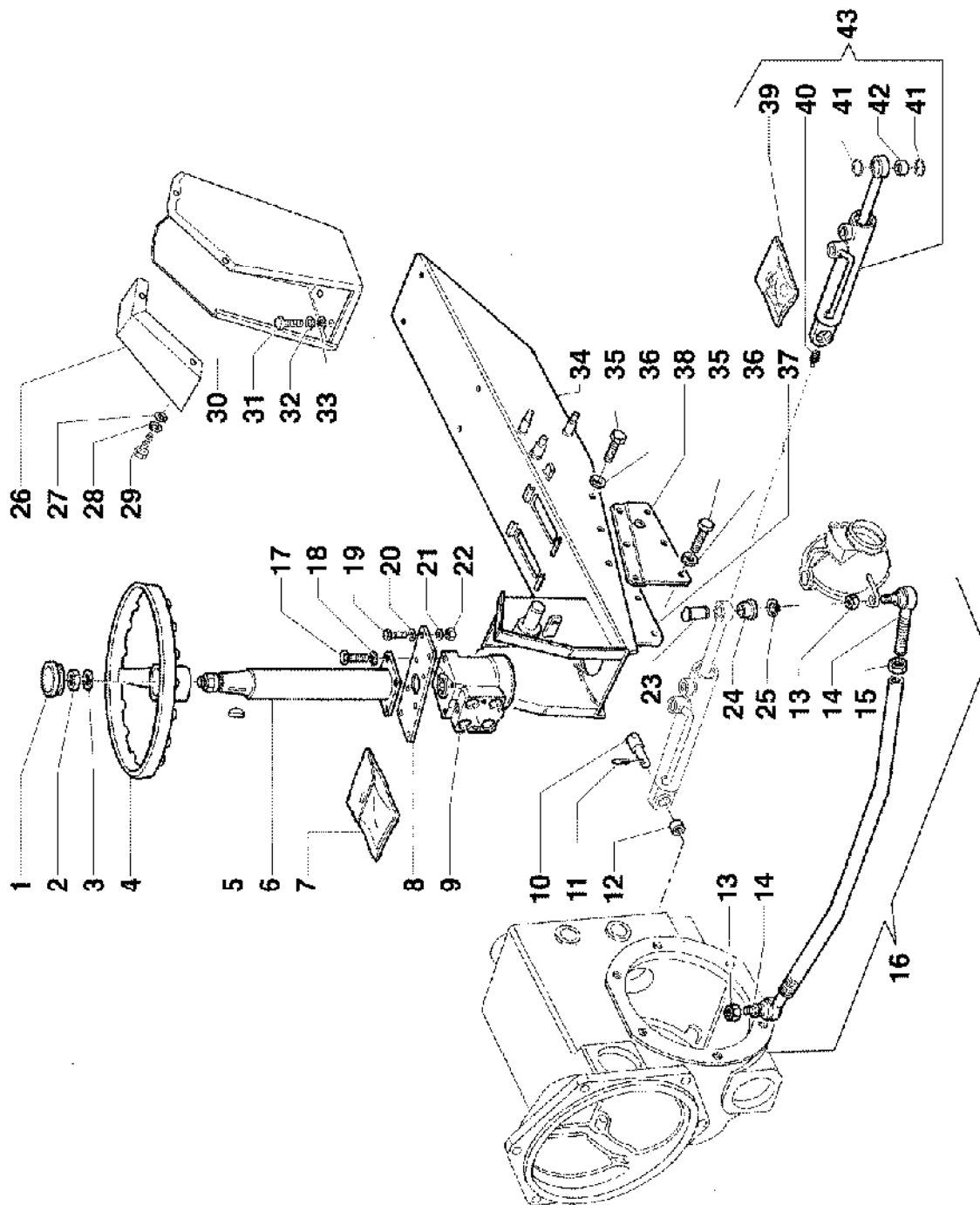
COMANDO STERZO
COMMANDE DE DIRECTION
LUNKUNGSSTEUERUNG
STEERING CONTROL
MANDO VOLANTE

TAV. C6-20

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

DISPOSITIVO ATTACCO ATTREZZI

DISPOSITIF ATTACHE OUTILLAGE

GERÄTE-KUPPLUNGSVORRICHTUNG

IMPLEMENT'S COUPLING DEVICE

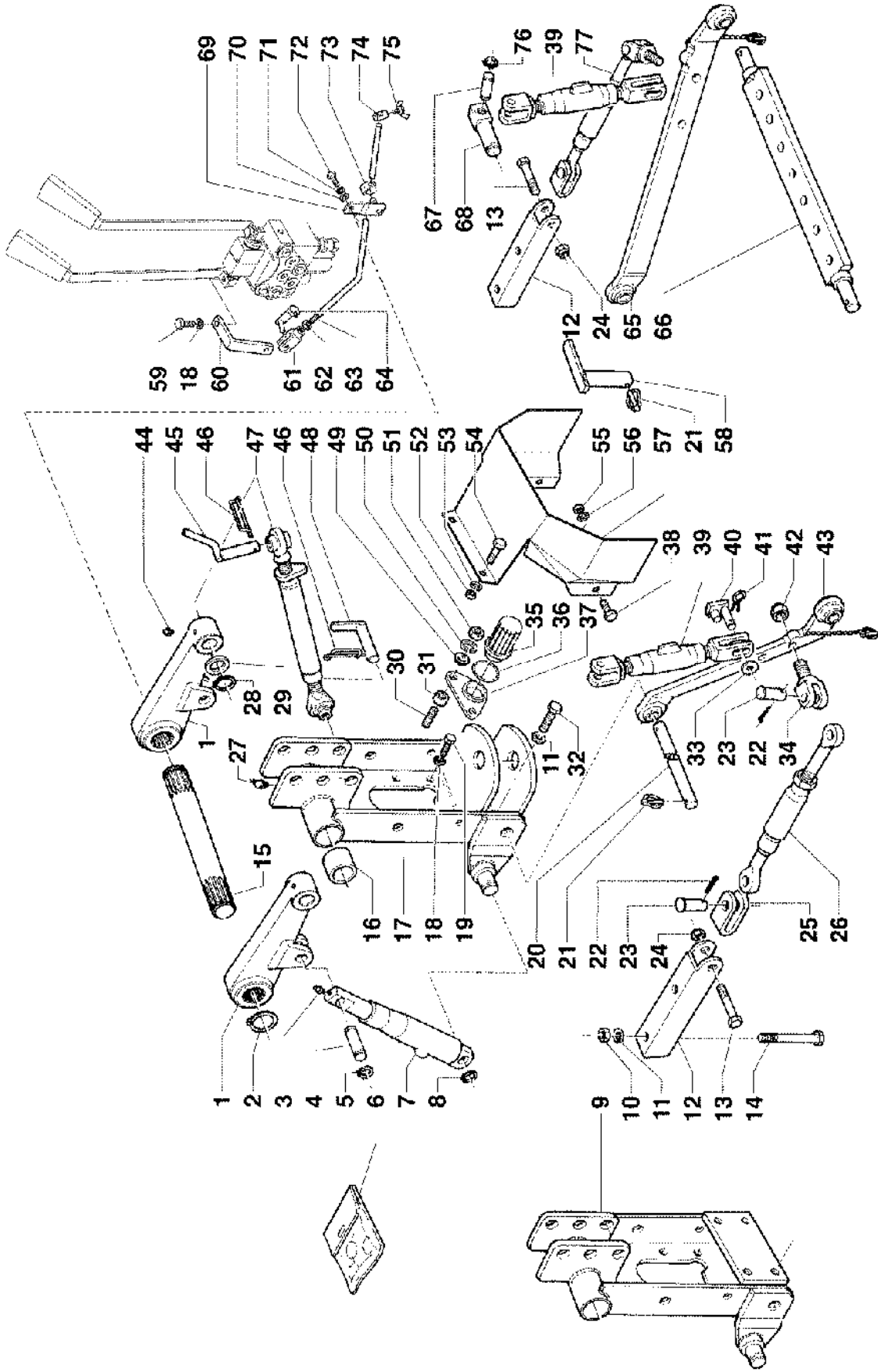
DISPOSITIVO ENGANCHE UTENSILIOS

TAV. D1-10

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

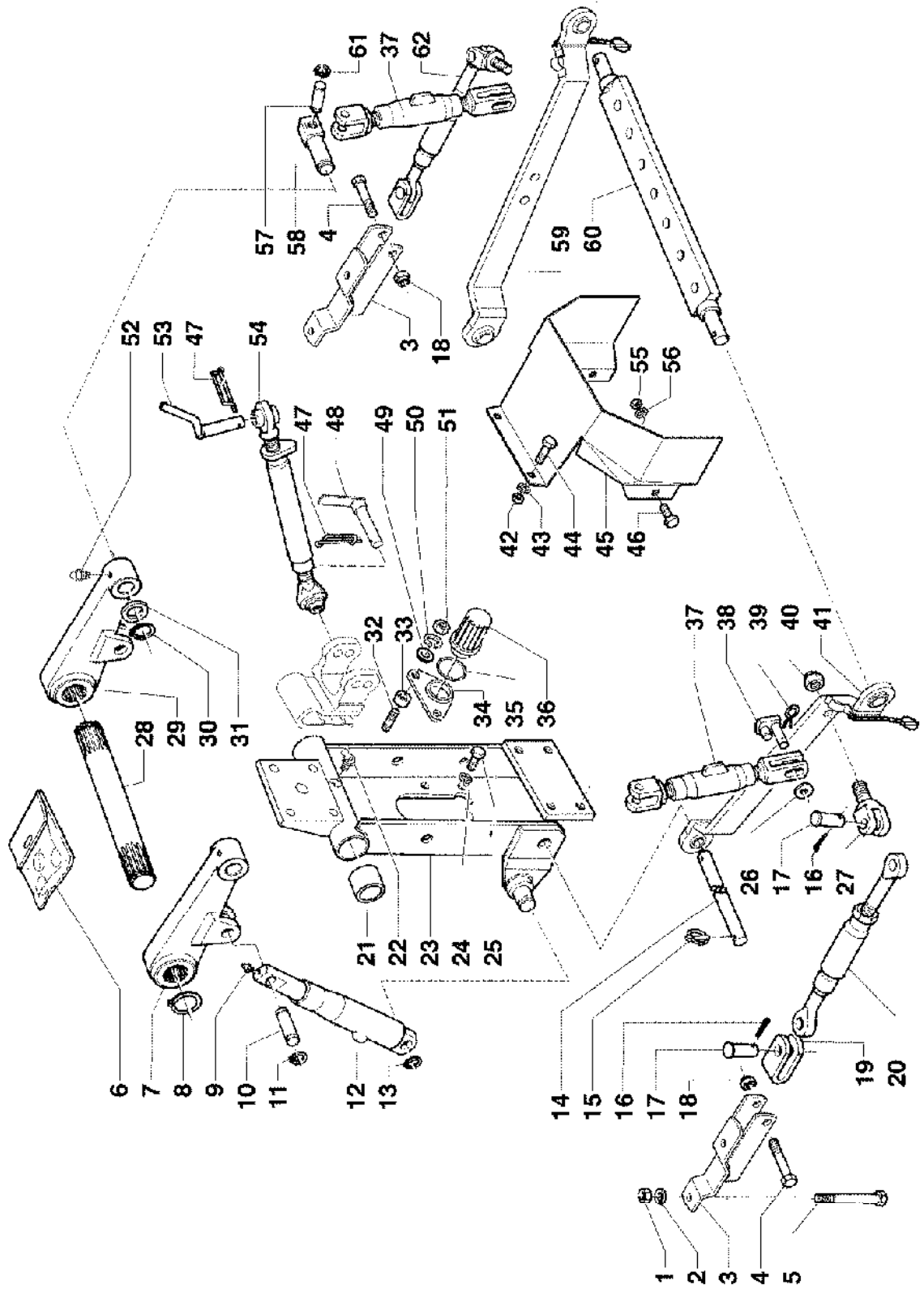
DISPOSITIVO ATTACCO ATTREZZI (SC)
DISPOSITIF ATTAQUE OUTILLAGE (SC)
GERÄTE-KUPPLUNGSVORRICHTUNG (SC)
IMPLEMENT'S COUPLING DEVICE (SC)
DISPOSITIVO ENGANCHE UTENSILIOS (SC)

TAV. D1-20

Da matr.

01165

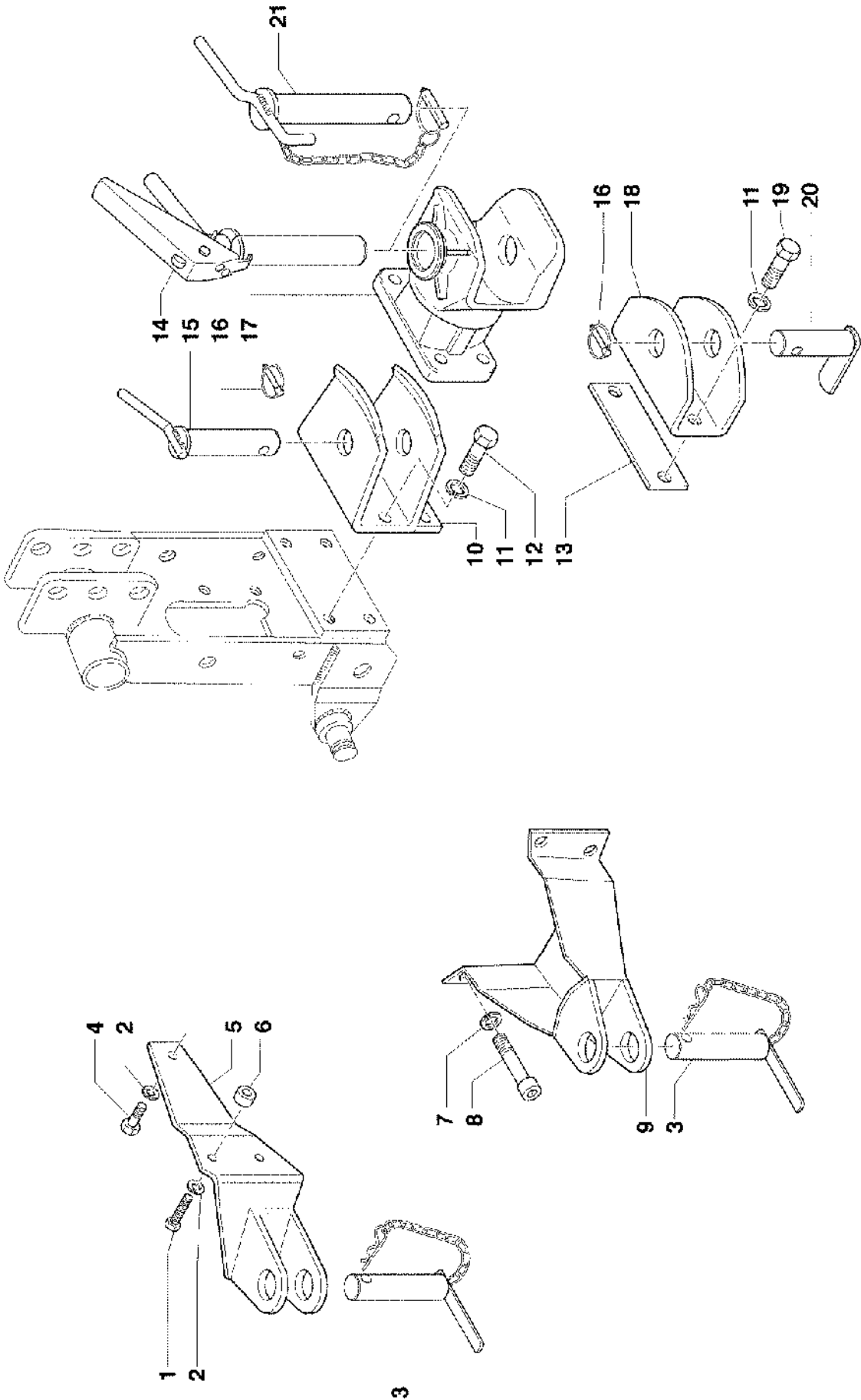
A matr.



[illegible]

Tempario Serie 17 Country Tableau des temps / Zeitentabelle Times board / Prospecto de programación de tiempos de trabajo Country 3700 - 4300	TAV. D2-10	
	Da matr. 00578	A matr.

GANCIO TRAINO
ACCROCHAGE TRACTION
ZUGHAKEN
TOW-HOOK
GANCHO DE REMOLQUE



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

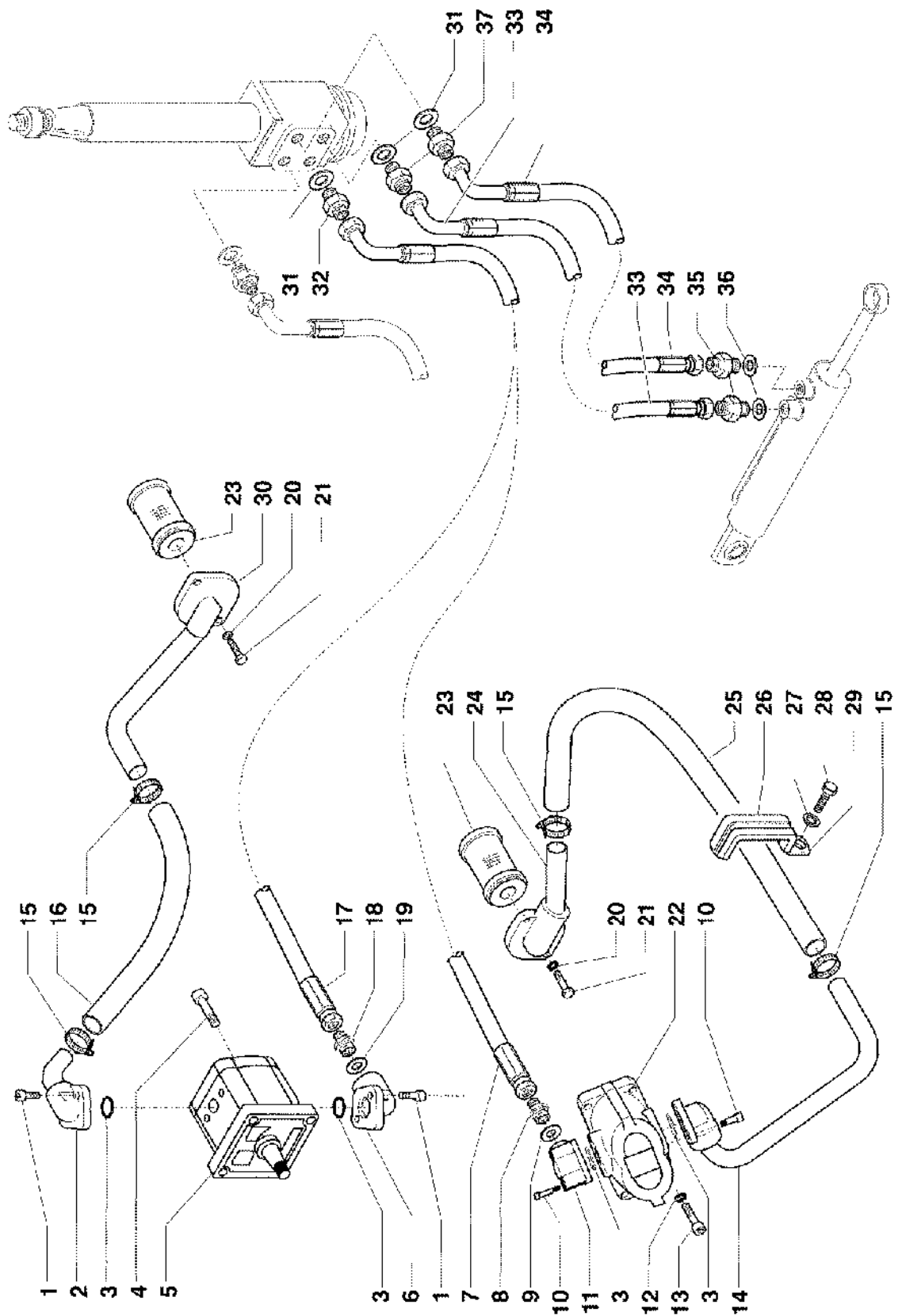
Country 3700 - 4300

IMPIANTO IDRAULICO DA POMPA A IDROGUIDA (SV)
INSTALLATION HYDRAULIQUE DE LA POMPE A HYDROGUIDE (SV)
HYDROLANGE VON DER PUMPE ZUR HYDROLENKUNG (SV)
HYDRAULIC SYSTEM FROM PUMP TO HYDRODRIVE (SV)
INSTALACIÓN HIDRÁULICA DE BOMBA A HIDROGUÍA (SV)

TAV. D3-20

Da matr.
00578

A matr.
01203



[illegible]

[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

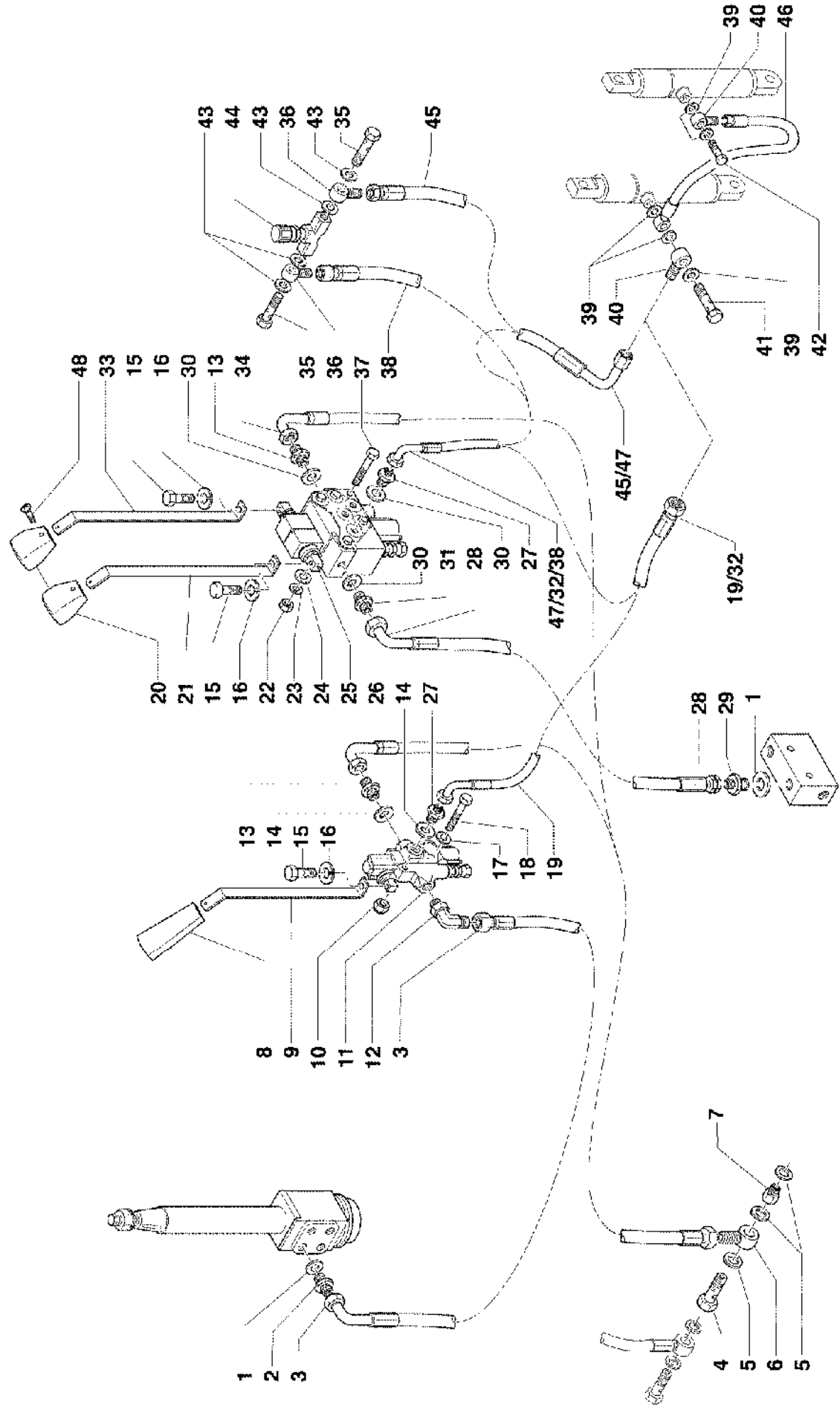
IMPIANTO IDRAULICO DA IDROGUIDA A SOLLEVAMENTO
 INSTALLATION HYDRAULIQUE DE L'HYDROGUIDE AU SOULEVEMENT
 HYDROANLAGE VON DER HYDROLENKUNG ZUM HEBWERK
 HYDRAULIC SYSTEM FROM HYDRODRIVE TO LIFTING
 INSTALACION HIDRAULICA DE HIDROGUIA A ELEVADOR

TAV. D4-20

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

IMPIANTO IDRAULICO DA VALVOLA A SOLLEVAMENTO (SC)

INSTALLATION HYDRAULIQUE DE SOUPAPE AU SOULEVEMENT (SC)

HYDROANLAGE VOM VENTIL ZUM HEBWERK (SC)

HYDRAULIC SYSTEM FROM VALVE TO LIFTING (SC)

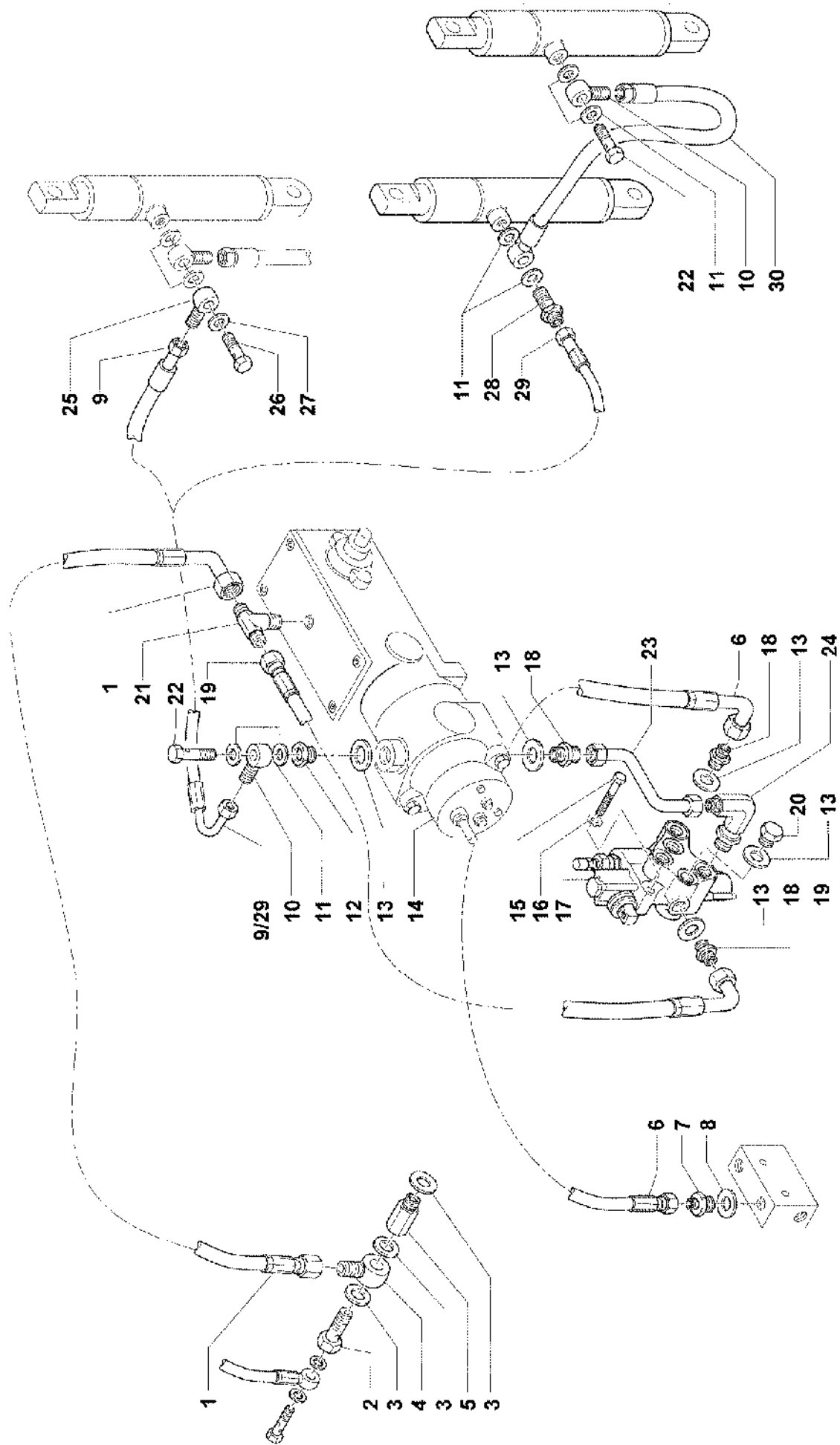
INSTALACION HIDRAULICA DE VÁLVULA A ELEVADOR (SC)

TAV. D4-30

Da matr.

01204

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

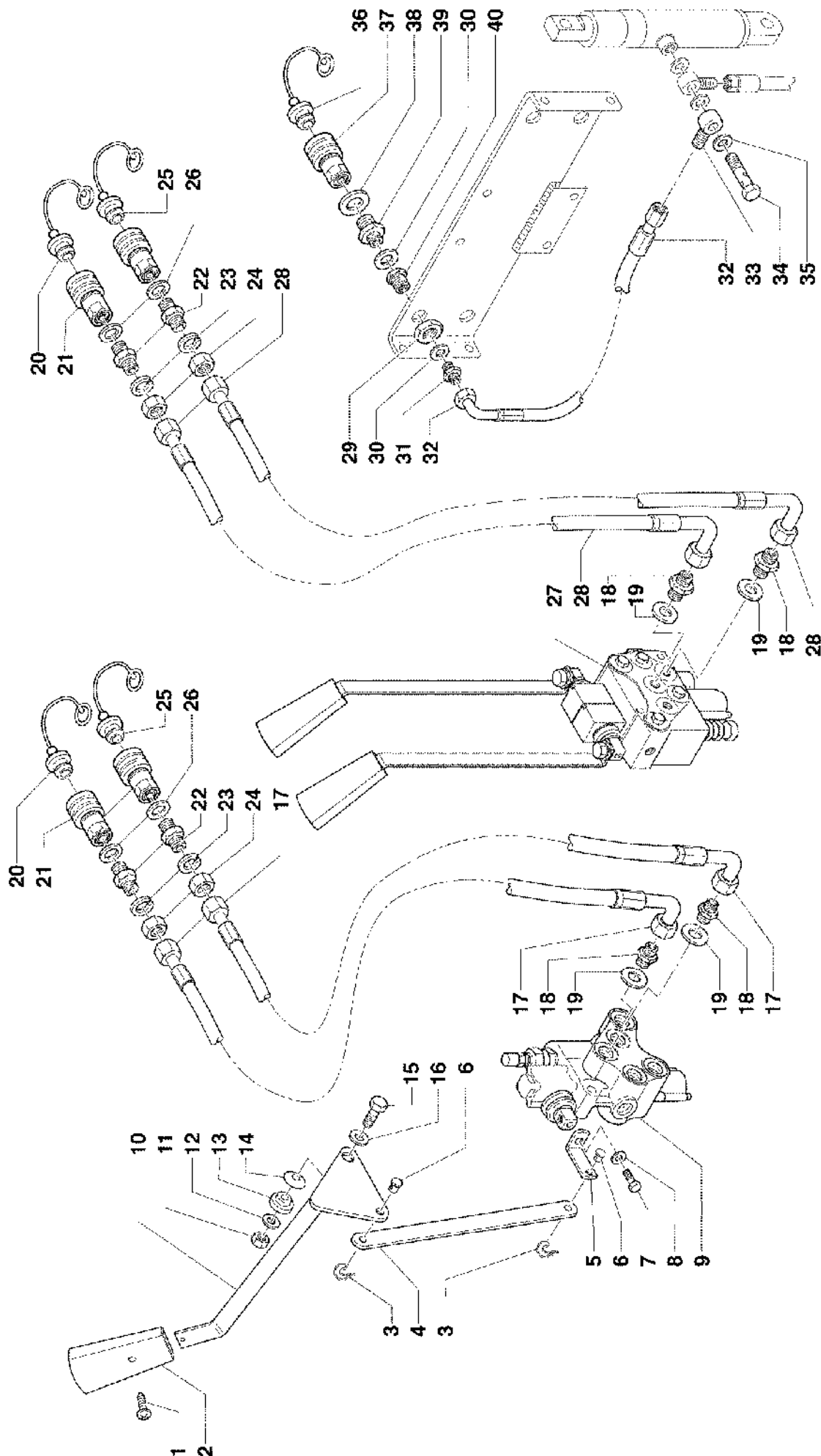
PRESE IDRAULICHE
PRISES HYDRAULIQUE
HYDRAULIK-STECKDOSEN
HYDRAULIC COUPLINGS
TOMAS HIDRÁULICAS

TAV. D5-10

Da matr.

00578

A matr.



[illegible]

Tempario Serie 17 Country

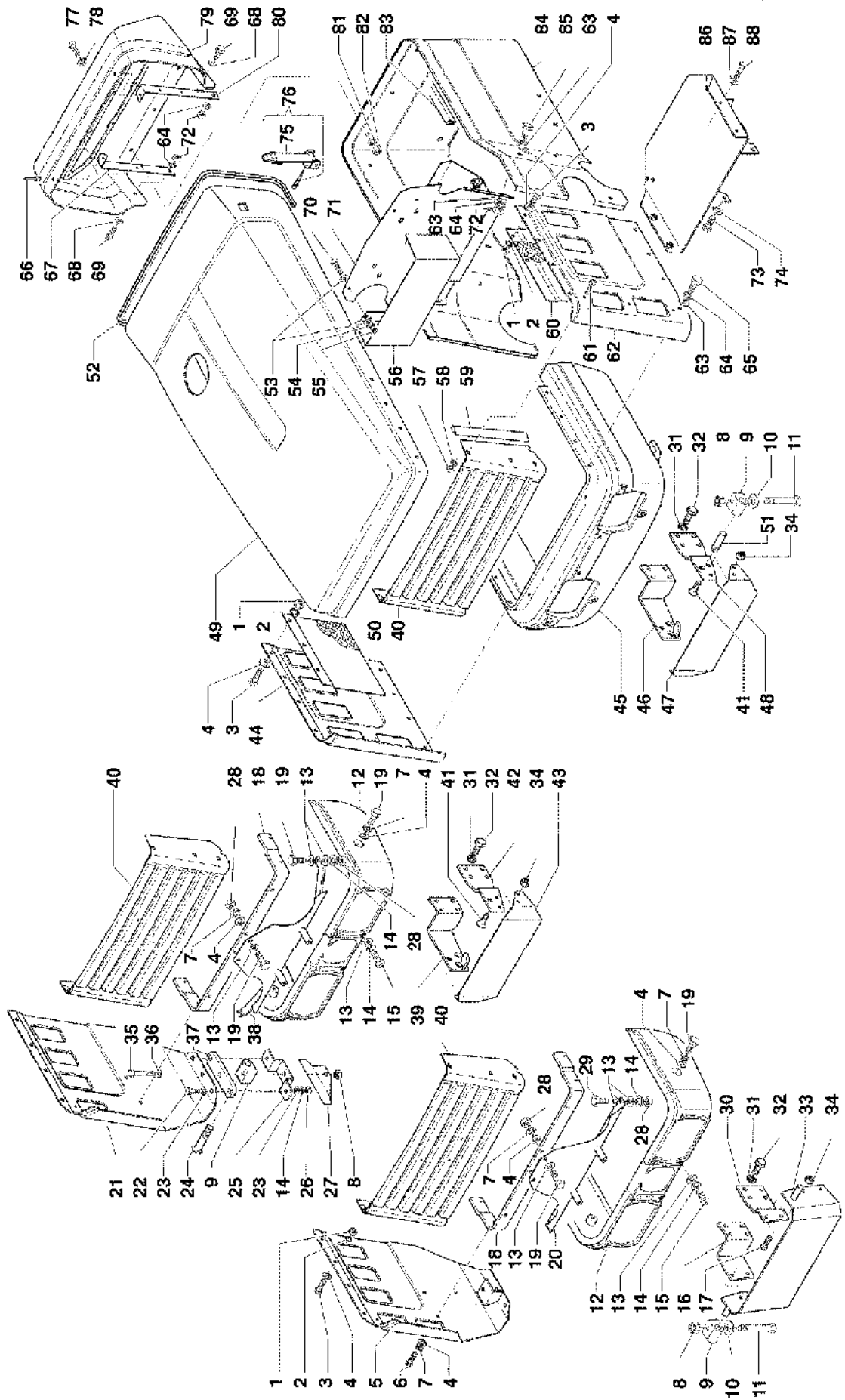
Tableau des temps / Zeitentabelle
Times board / Prospecto de
programación de tiempos de trabajo
Country 3700

COFANATURA
COFFRE
HAUBE
BONNET
CAPOT

TAV. E1-20

Da matr.
00578

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle
Times board / Prospecto de
programación de tiempos de trabajo

Country 4300

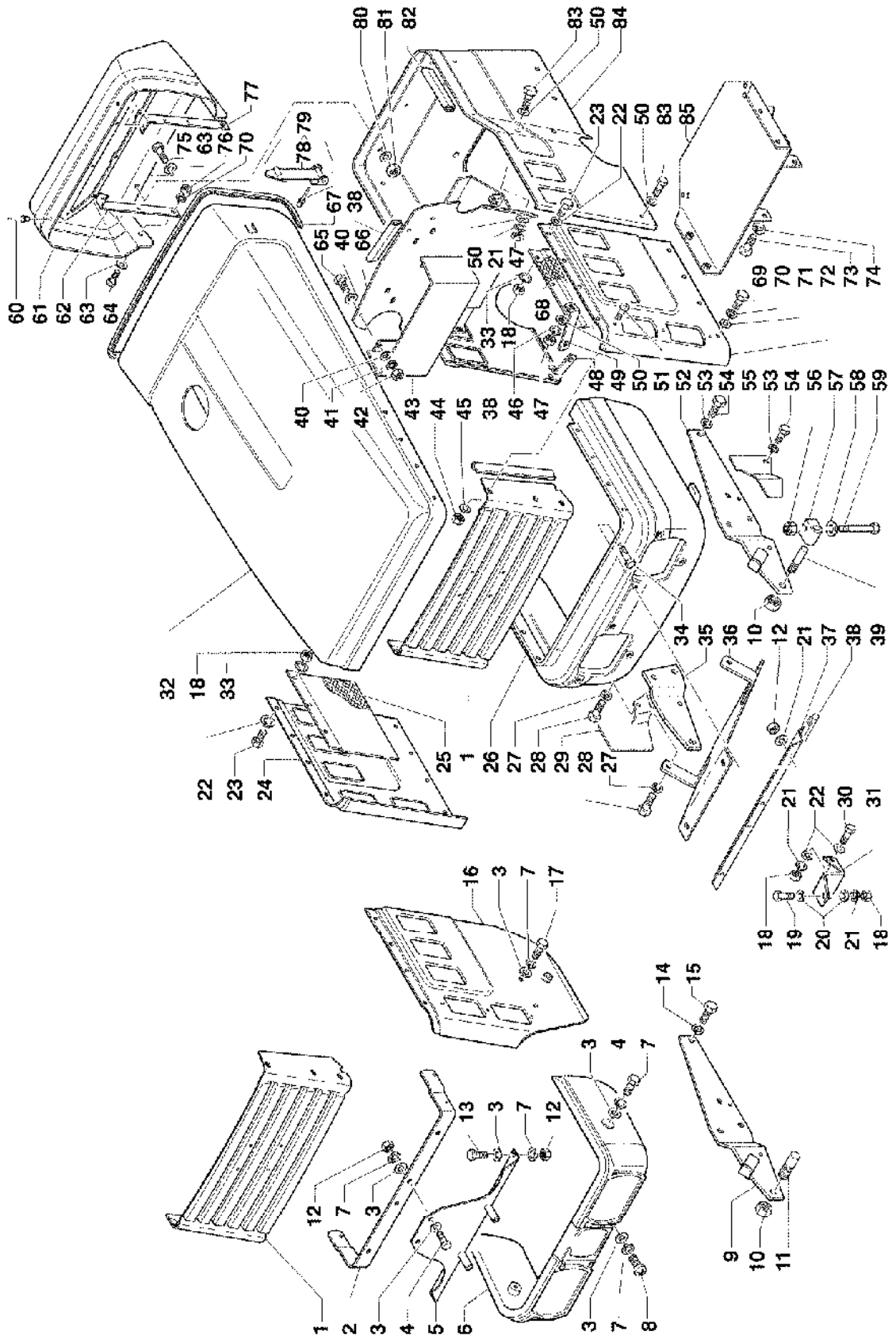
COFANATURA
COFFRE
HAUBE
BONNET
CAPOT

TAV. E1-30

Da matr.

00578

A matr.



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Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

SERBATOIO
RESERVOIR

TANK

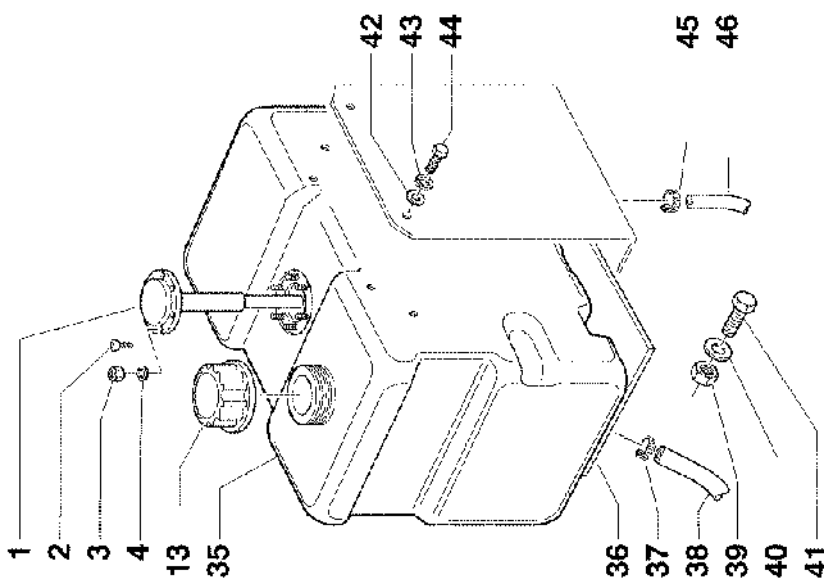
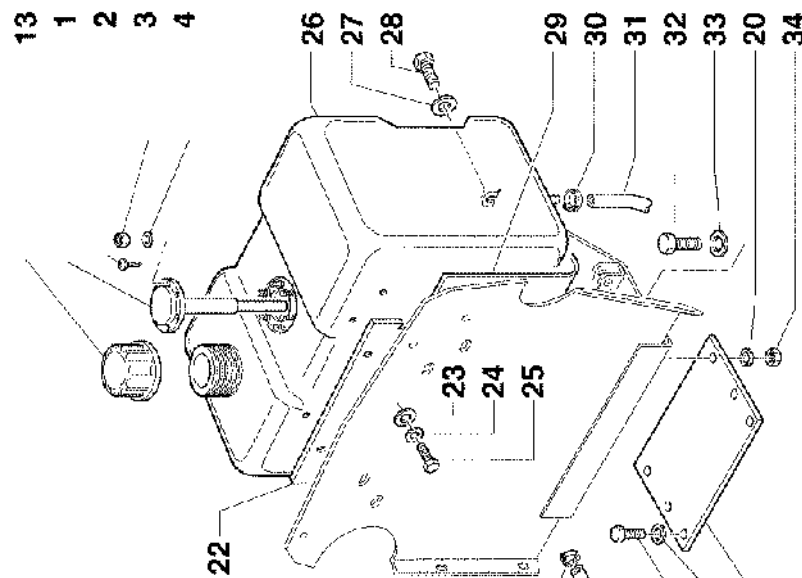
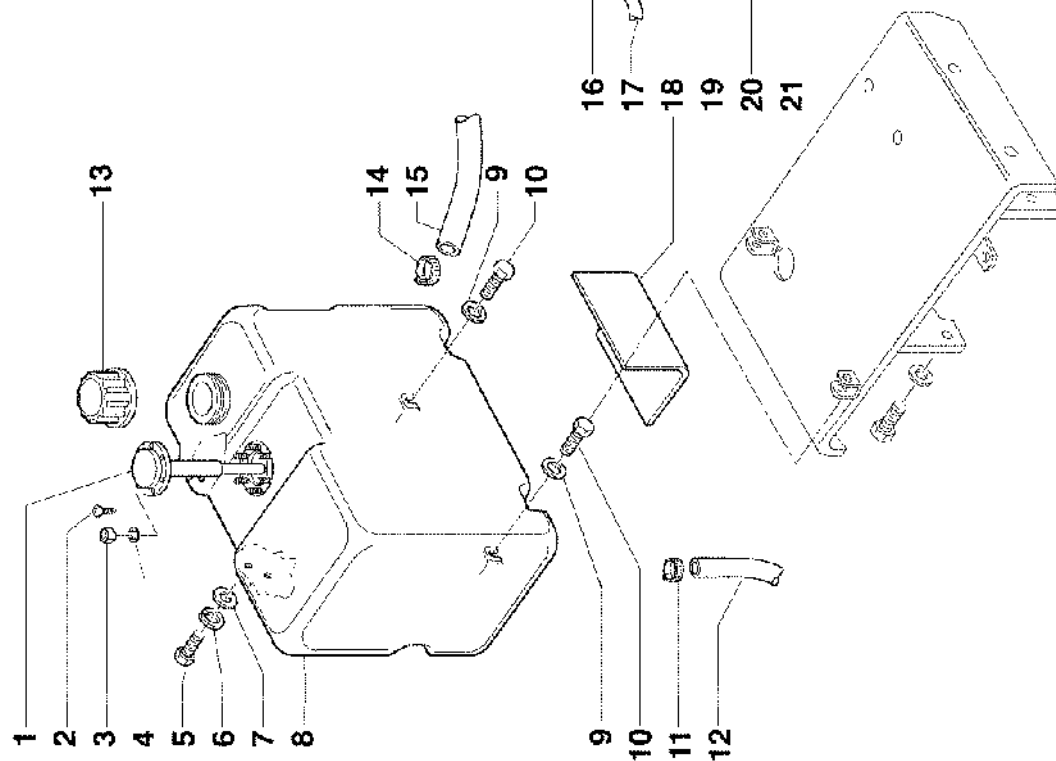
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DEPOSITO

TAV. E2-10

Da matr.

A matr.



[illegible]

Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

PARAFANGHI E PEDANE

GARDE-BOUES ET REPOSE-PIEDS

KOTFLÜGEL UND TRITTBREITER

MUDGUARDS AND FOOTBOARDS

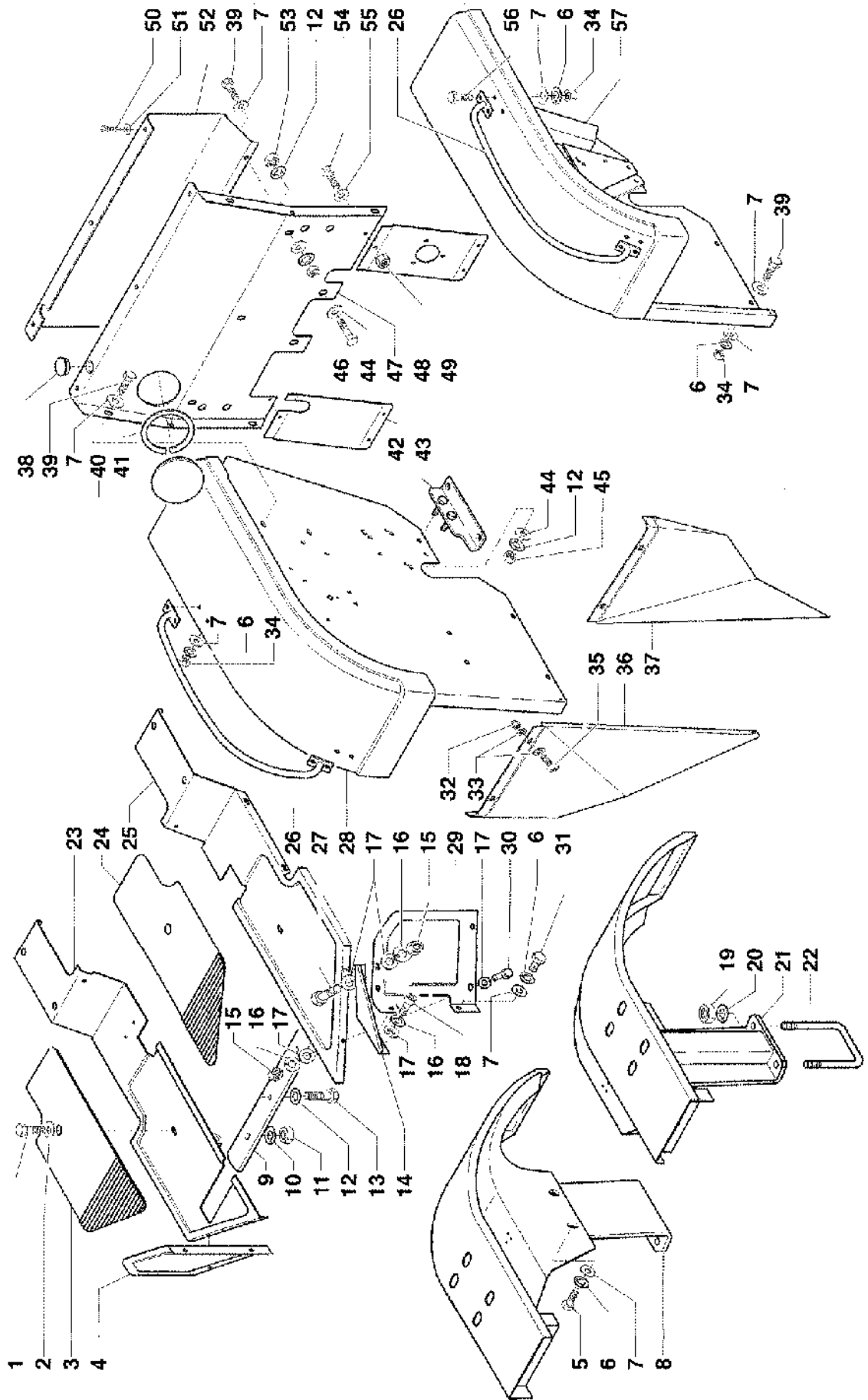
GUARDABARROS Y ESTRIBO

TAV. E3-20

Da matr.

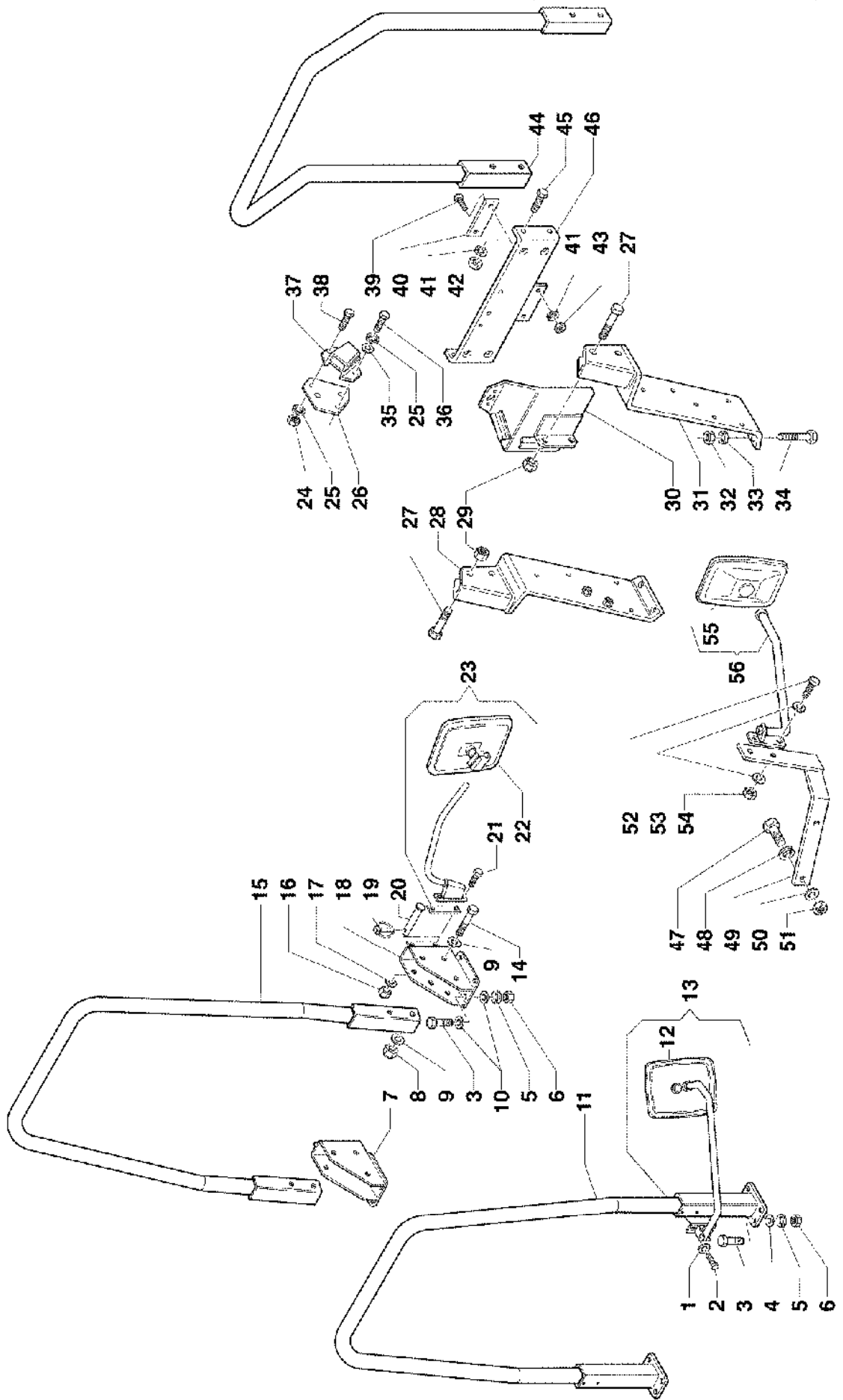
00578

A matr.



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Tempario Serie 17 Country Tableau des temps / Zeitentabelle Times board / Prospecto de programación de tiempos de trabajo Country 3700 - 4300		TELAIO DI SICUREZZA CHASSIS DE SECURITE SICHERHEITSSRAHMEN SAFETY CHASSIS BASTIDOR DE SEGURIDAD		TAV. E4-10	
				Da matr. 00578	A matr.



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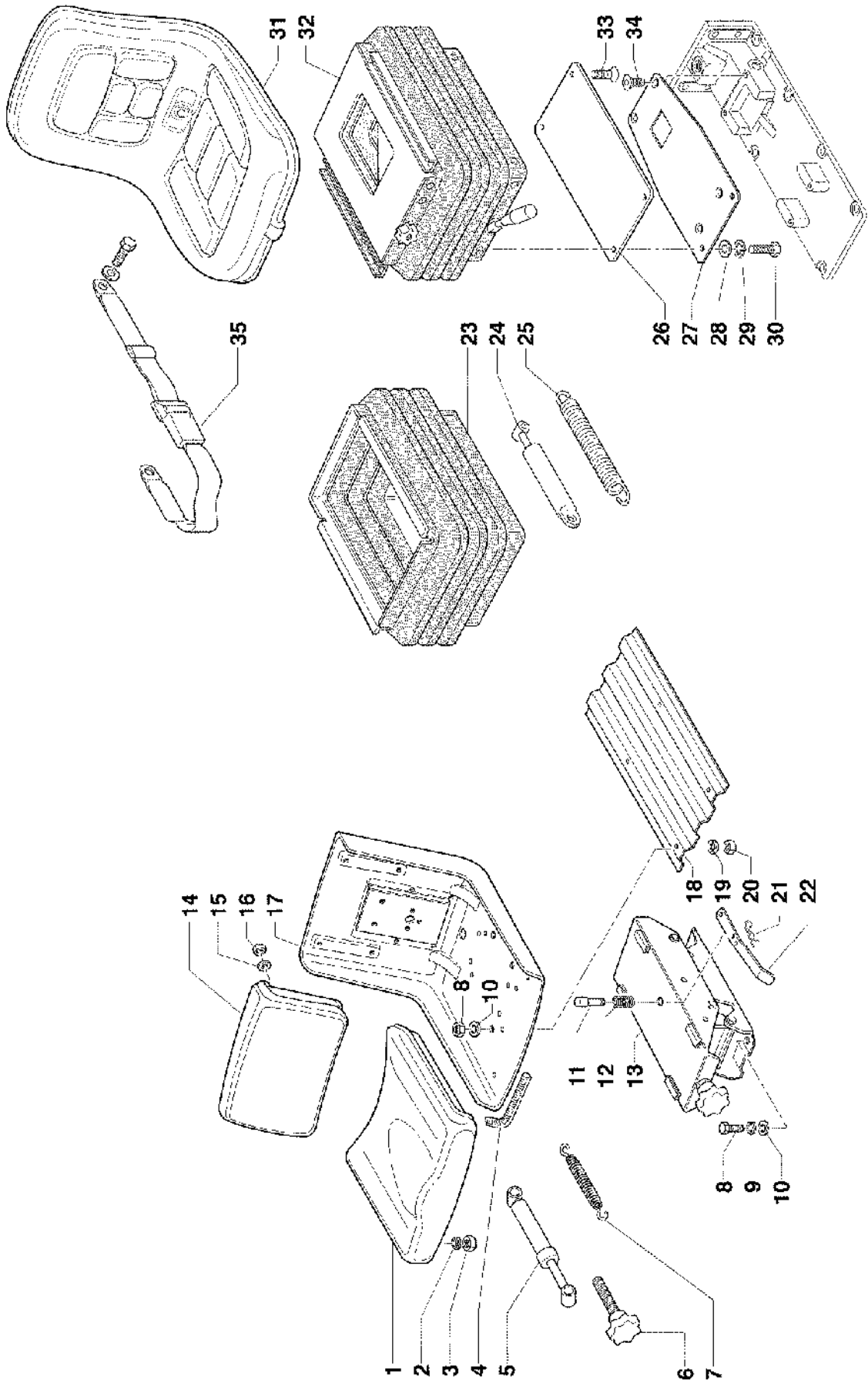
Tempario Serie 17 Country
 Tableau des temps / Zeitentabelle
 Times board / Prospecto de
 programación de tiempos de trabajo
 Country 3700 - 4300

SEDILE
 SIEGE
 SITZ
 SEAT
 ASIENTO

TAV. E5-20

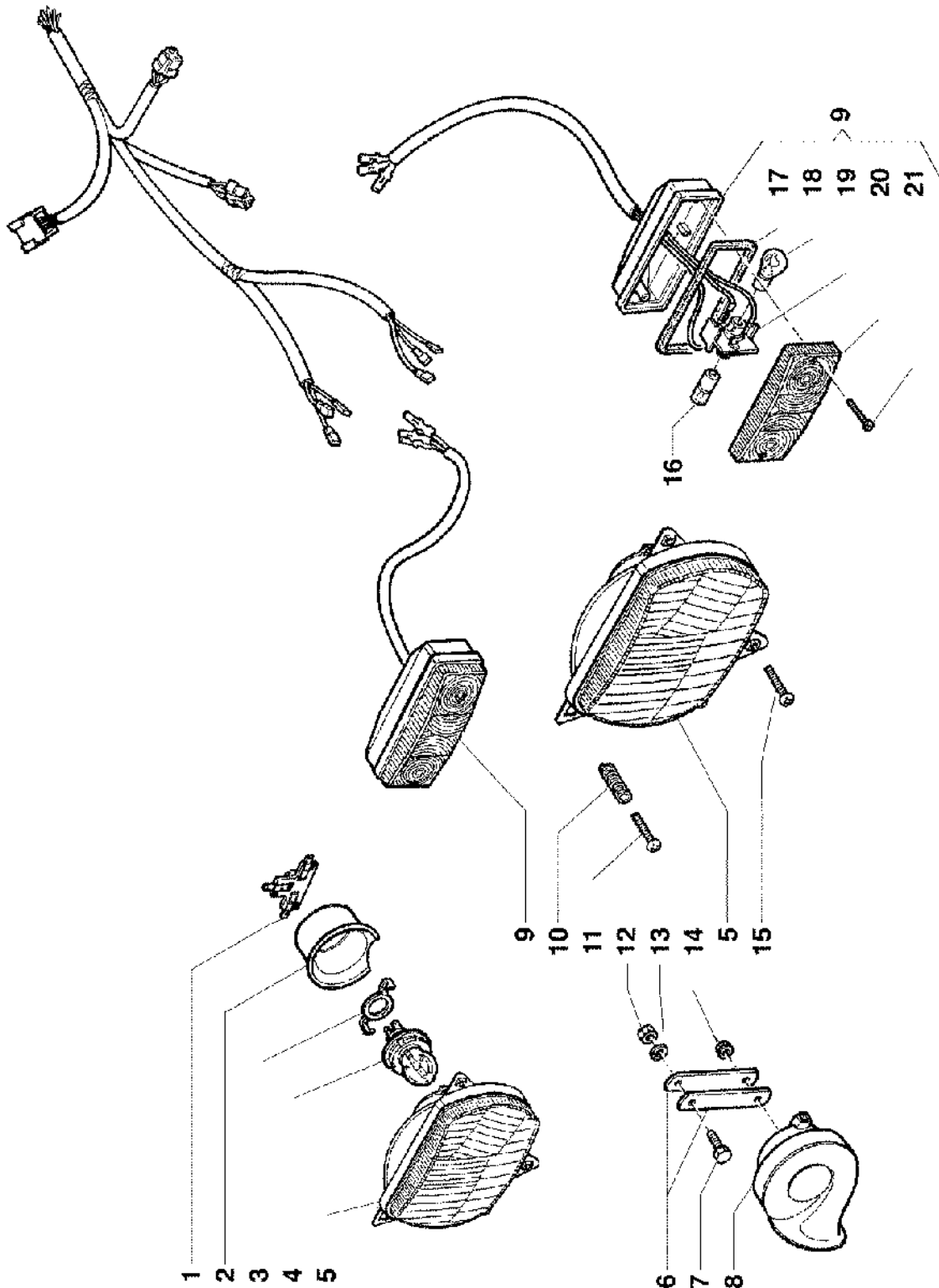
Da matr.
 00578

A matr.



[illegible]

Tempario Serie 17 Country Tableau des temps / Zeitentabelle Times board / Prospecto de programación de tiempos de trabajo Country 3700 - 4300	IMPIANTO ELETTRICO ANTERIORE INSTALLATION ELECTRIQUE AVANT VORDERE ELEKTRISCHE ANLAGE FRONT ELECTRIC SYSTEM INSTALACIÓN ELETRICA DELANTERA TAV. F1-10 Da matr. 00578 A matr.
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Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

Country 3700 - 4300

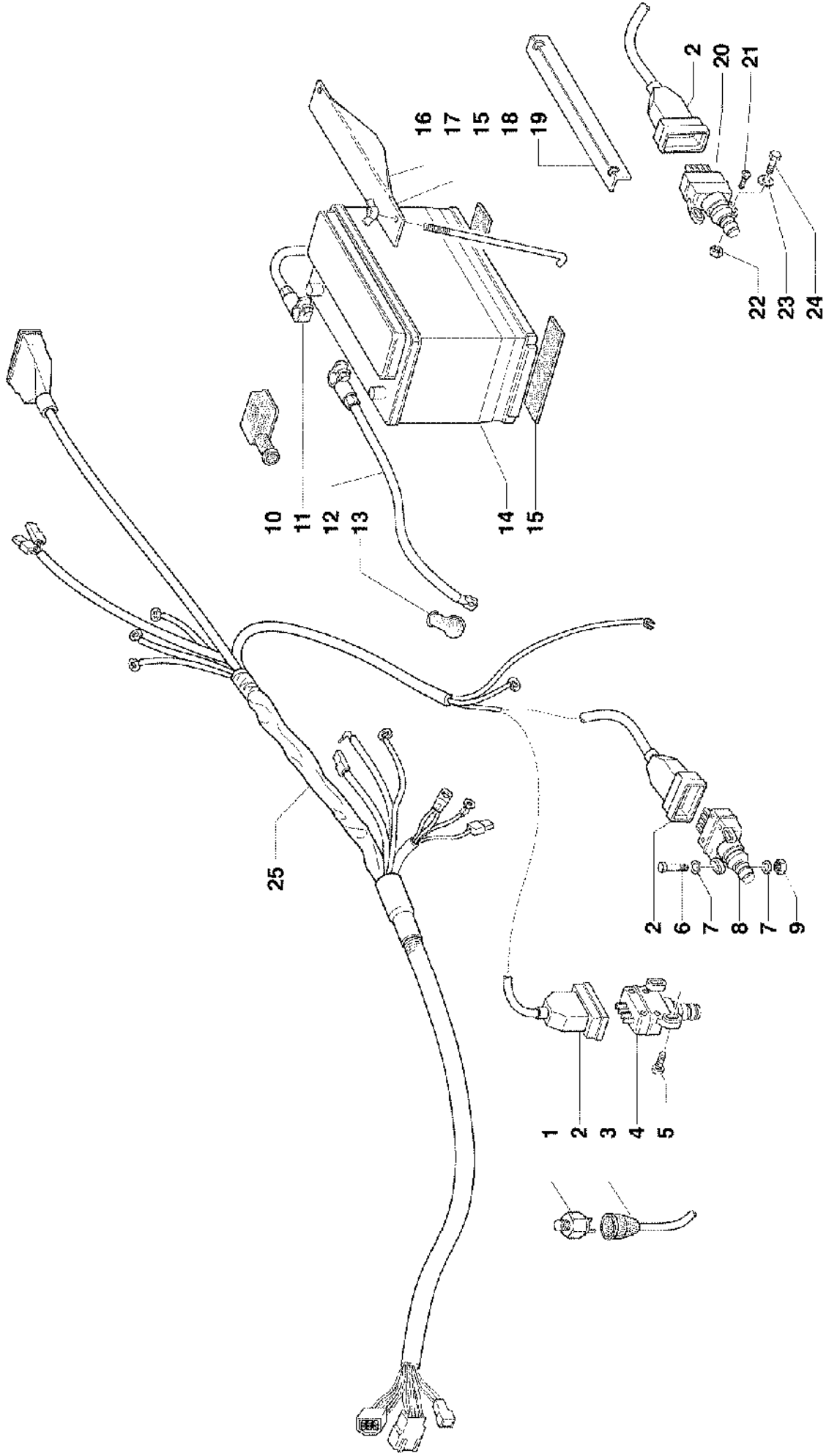
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INSTALLATION ELECTRIQUE CENTRALE
MITTLERE ELEKTRISCHE ANLAGE
CENTRAL ELECTRIC SYSTEM
INSTALACIÓN ELETRICA CENTRAL

TAV. F2-10

Da matr.

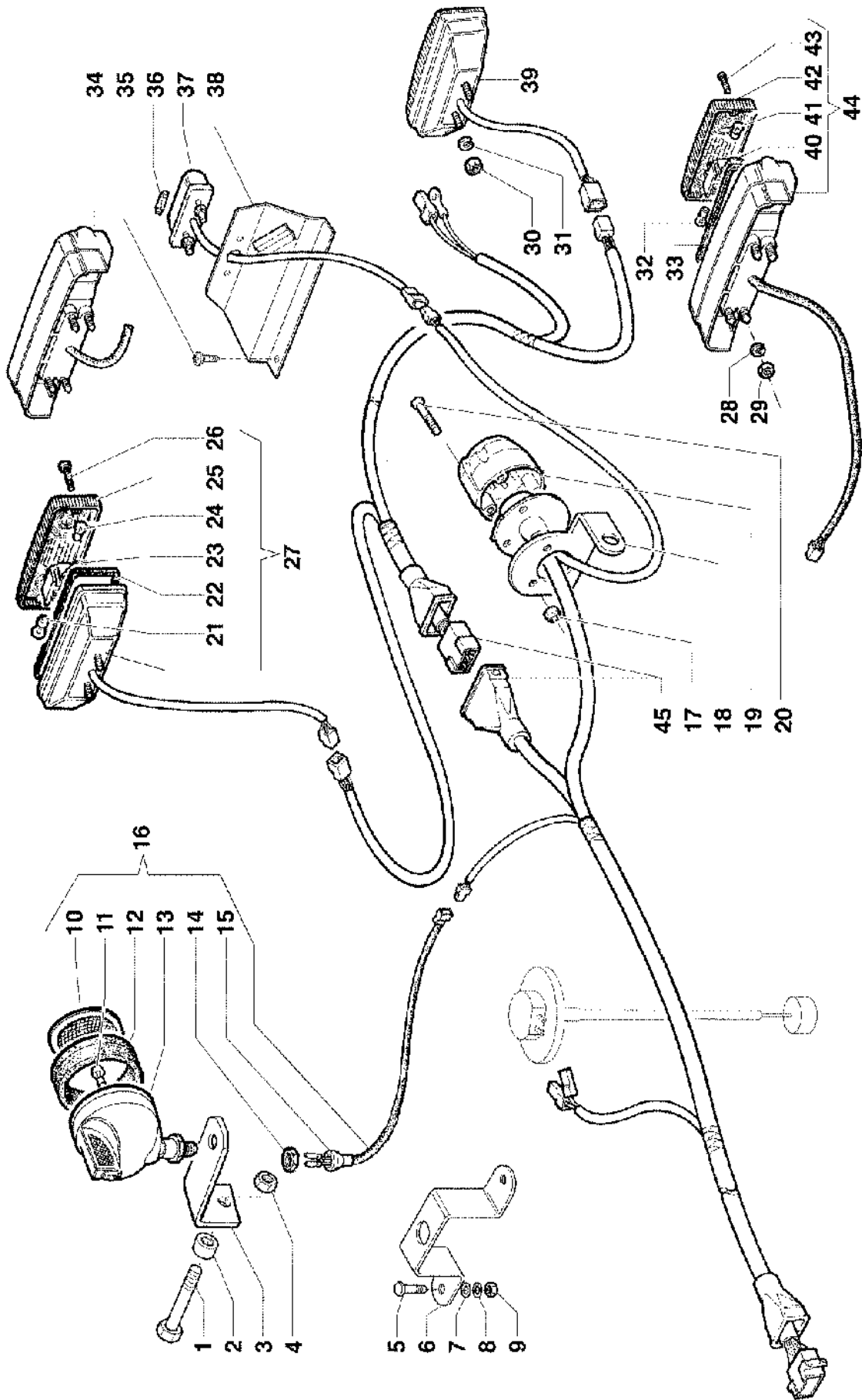
00578

A matr.



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Tempario Serie 17 Country Tableau des temps / Zeitentabelle Times board / Prospecto de programación de tiempos de trabajo Country 3700 - 4300	IMPIANTO ELETTRICO POSTERIORE INSTALLATION ELECTRIQUE ARRIERE HINTERE ELEKTRISCHE ANLAGE REAR ELECTRIC SYSTEM INSTALACIÓN ELETRICA TRASERA TAV. F3-10 Da matr. 00578 A matr.
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Tempario Serie 17 Country

Tableau des temps / Zeitentabelle

Times board / Prospecto de

programación de tiempos de trabajo

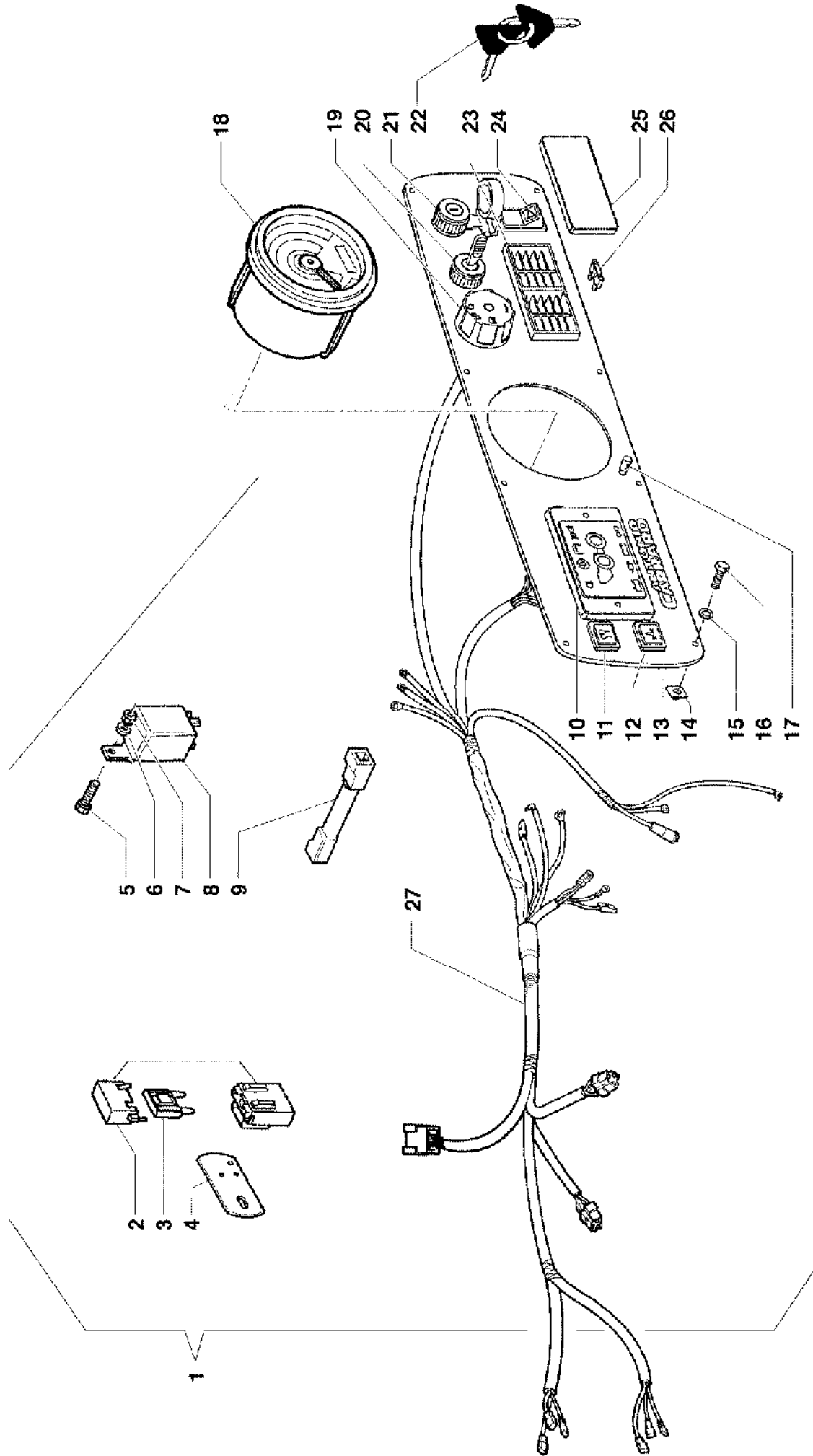
Country 3700 - 4300

STRUMENTAZIONE
INSTRUMENTS
INSTRUMENTIERUNG
INSTRUMENTS
EQUIPO

TAV. F4-20

Da matr.
00578

A matr.



[illegible]



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<http://www.antoniocarraro.com>