SERVICE MANUAL

B95C / B95CTC / B95CLR / B110C
Tier 4
Loader Backhoe

FIXTHIS.COM

Part number 84596886A
1st edition English
May 2012

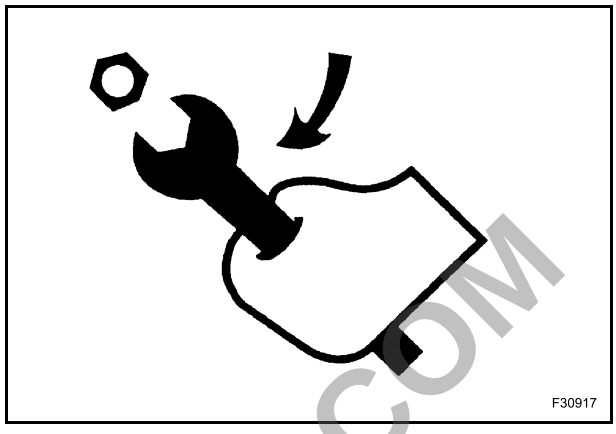
NEW HOLLAND CONSTRUCTION

Do not carry out any service operation until you have read and understood the instructions and warnings given in this manual.

Observe the adjusting, maintenance and inspection activities and intervals set out in the operating instructions, including information on the replacement of parts and equipment as this service concerns exclusively the qualified personnel.

Wear safety equipment and suitable clothing to perform maintenance operations on the machine.

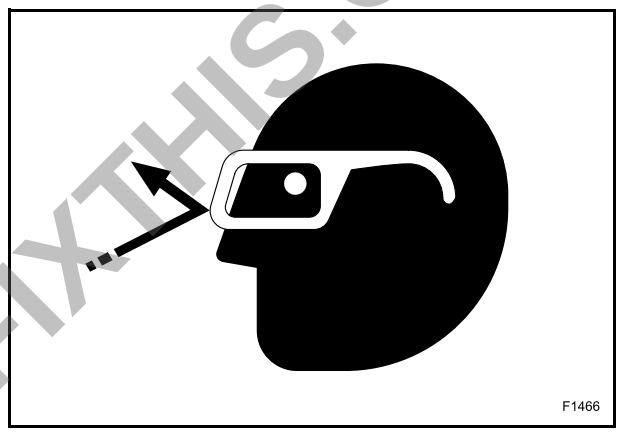
During maintenance operations, apply a warning plate.


F30917

Always wear eye protection when using a tool which might project metal particles. Use a hammer with a soft face, such as copper, for pin assembly.

Incorrectly performed maintenance or adjustments can cause serious injury. If you do not understand a maintenance or adjustment procedure, consult your Dealer.

Before performing any maintenance operation on this machine, make sure it is in a safety condition.

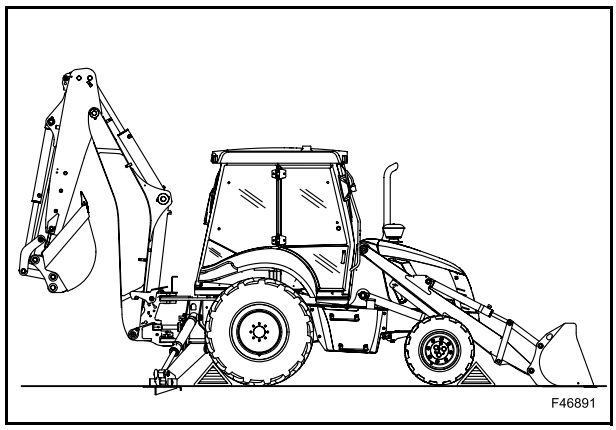

F1466

Move the machine to a level and firm ground, away from any soft ground, excavations and poorly shored cavity.

Rest the loader attachment on the ground if no maintenance operation is to be performed on it. Otherwise, raise the attachment and block the support strut.

Place the backhoe attachment in road travel position if no maintenance operation is to be performed on it. Otherwise, rest it on the ground.

Place the direction-of-travel lever and gearshift lever in neutral position.


F46891

Immobilize the machine by means of the parking brake.

Completely raise the stabilizers and lock them mechanically.

Stop the engine and remove the starter key.

Open the oil tank plug.

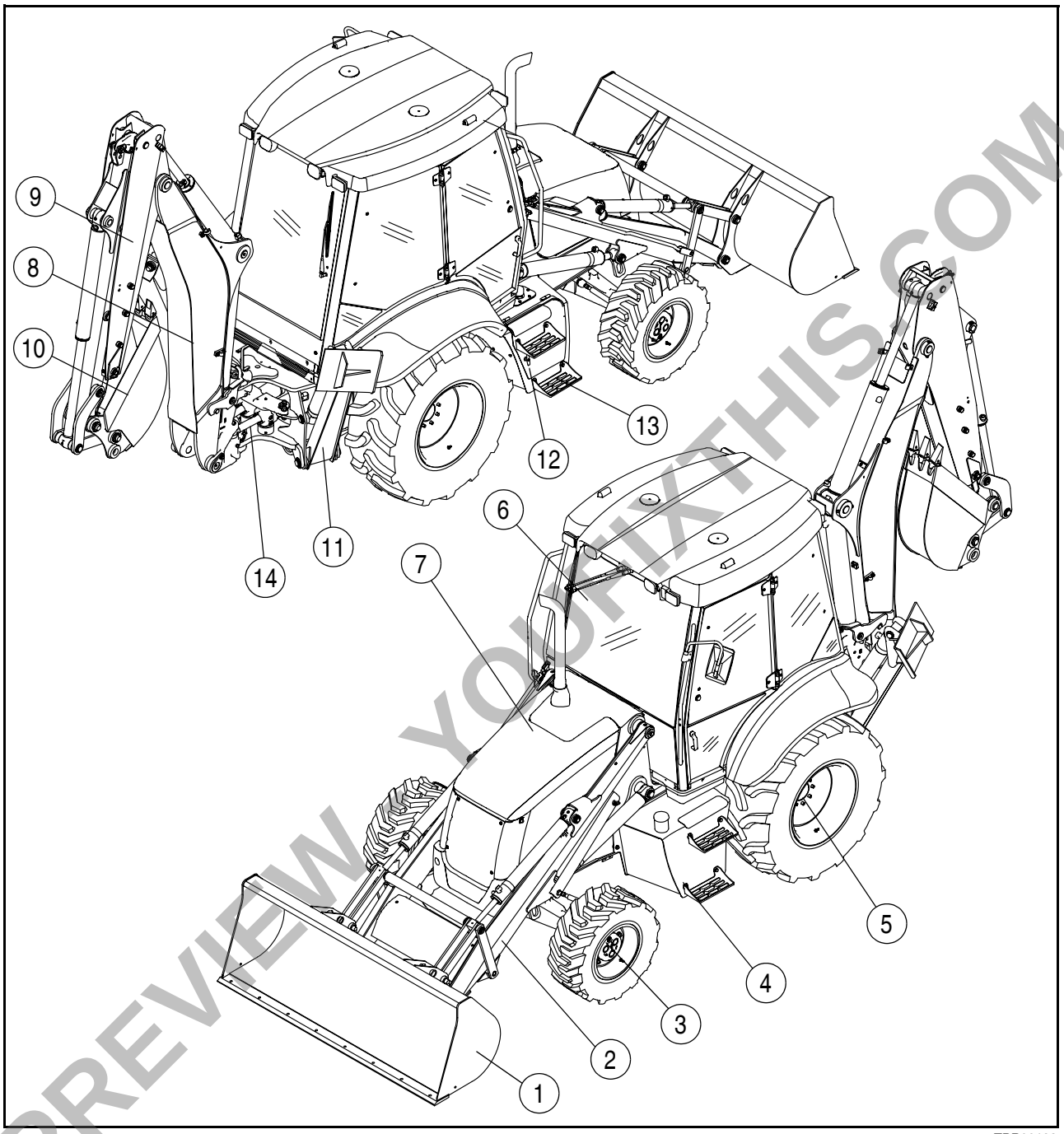
Release the hydraulic pressure by operating the control levers in all directions. On hydraulically controlled machines, turn the key to ON and release the pressure by moving the hydraulic control levers in all directions.

Disconnect the electric system by disconnecting the battery master switch.

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IDENTIFICATION OF MAIN COMPONENTS



TBR00128

1. Loader bucket
2. Loader arm
3. Front axle
4. Fuel tank
5. Rear axle
6. Operator’s compartment - Cab
7. Engine guard
8. Backhoe attachment boom
9. Dipper or telescopic dipper
10. Backhoe bucket
11. Stabilizers
12. Battery box
13. Hydraulic oil tank
14. Swing cylinders

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Battery - Disconnect

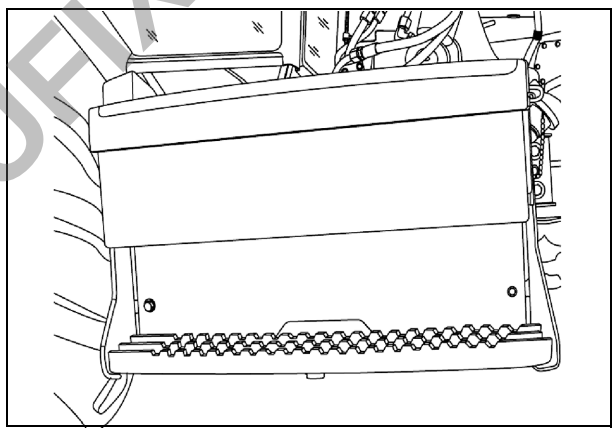
⚠ WARNING ⚠

Explosive gas!
Batteries emit explosive hydrogen gas and other fumes while charging. Ventilate the charging area. Keep the battery away from sparks, open flames, and other ignition sources. Never charge a frozen battery. Failure to comply could result in death or serious injury.

⚠ WARNING ⚠

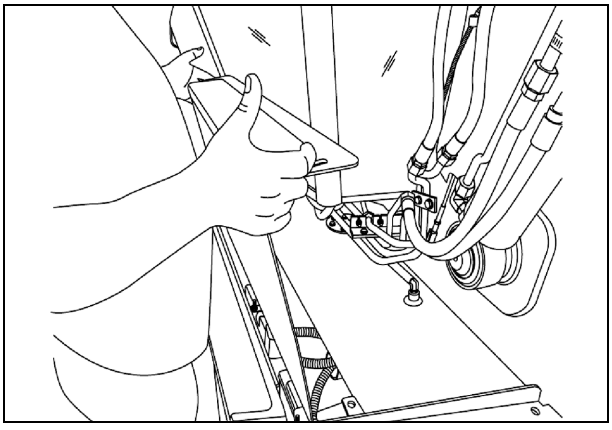
Hazardous chemicals!
Battery electrolyte contains sulfuric acid. Contact with skin and eyes could result in severe irritation and burns. Always wear splash-proof goggles and protective clothing (gloves and aprons). Wash hands after handling.Failure to comply could result in death or serious injury.

Remove the battery cover hardware.



TBR00002

Remove the battery cover.

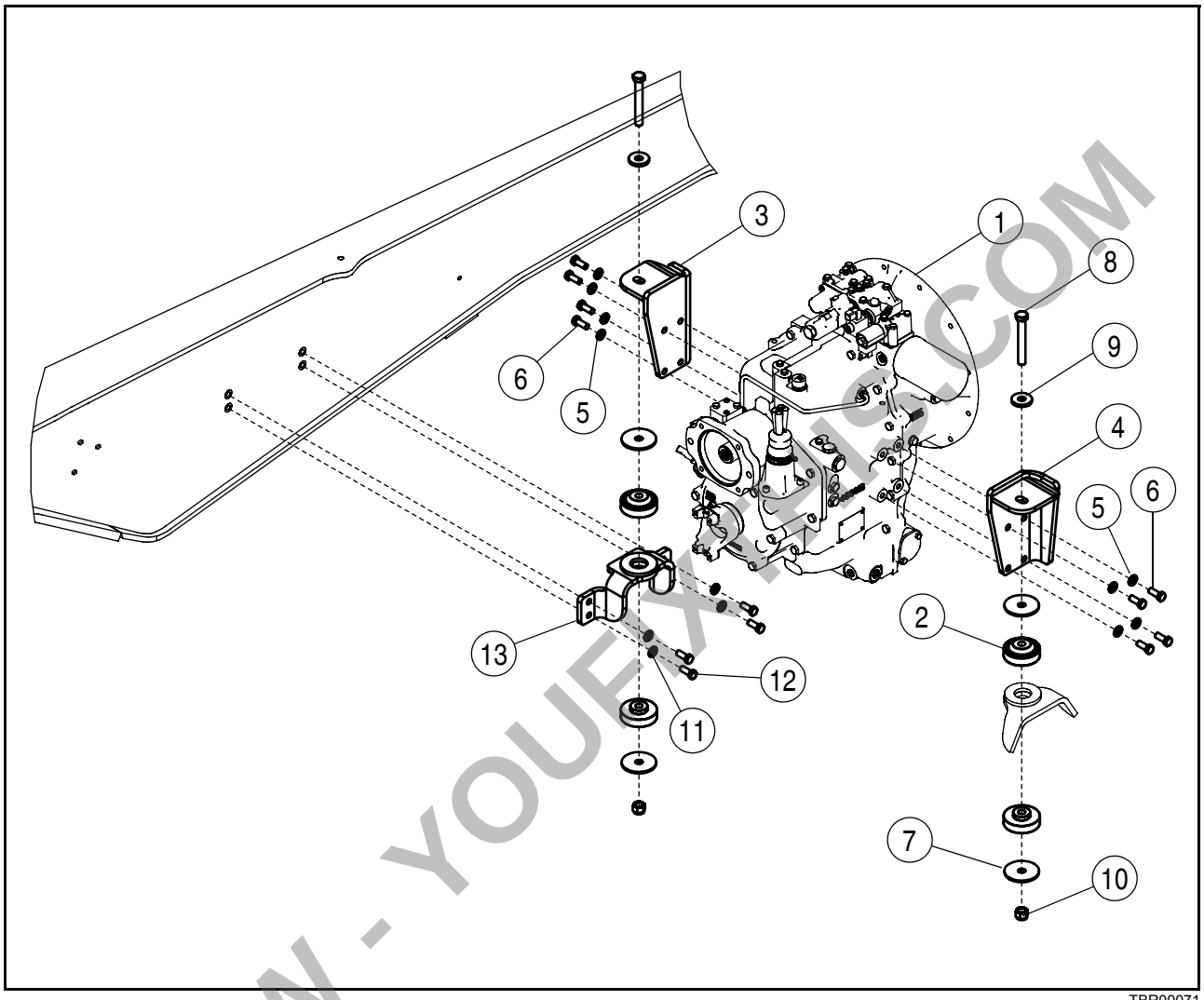


TBR00003

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REMOVAL FROM MACHINE



TBR00071

TABLE 1

1. Transmission
2. Anti-vibration
3. Left transmission support
4. Right transmission support
5. Washer
6. M12x30 hex screw
   [tightening torque 90÷110 Nm (66÷81 lbf·ft)]
7. Washer
8. M16x120 hex screw
9. Washer
10. M16 nut
    [tightening torque 210÷240 Nm (156÷178 lbf·ft)]
11. Washer
12. M12x30 hex screw
    [tightening torque 90÷110 Nm (66÷81 lbf·ft)]
13. Bracket transmission mounting

NOTE: *ensure chassis bolt on mount is seated against locating block on chassis.*

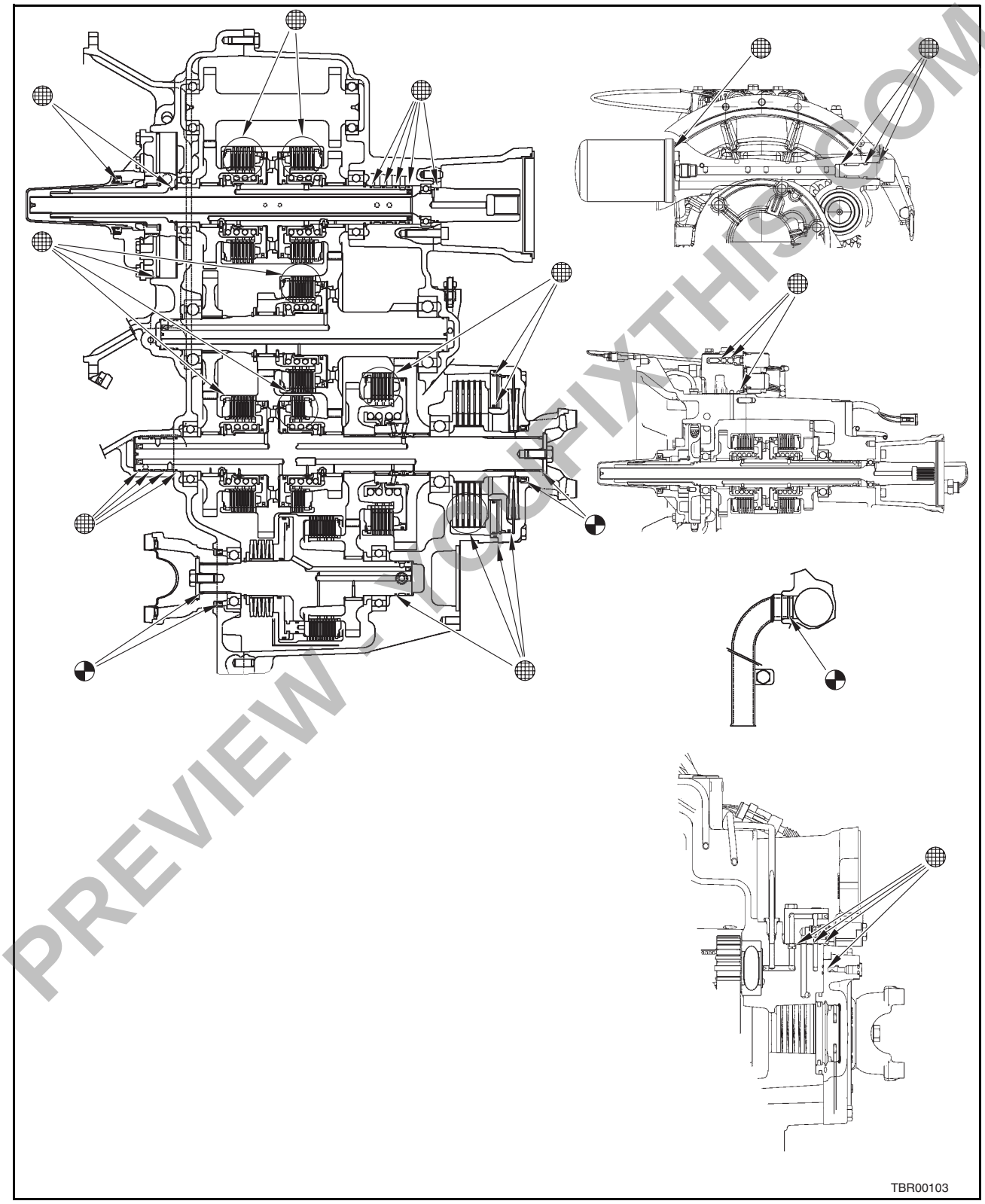
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GREASING

Tecnolube POLYMER 400 grease

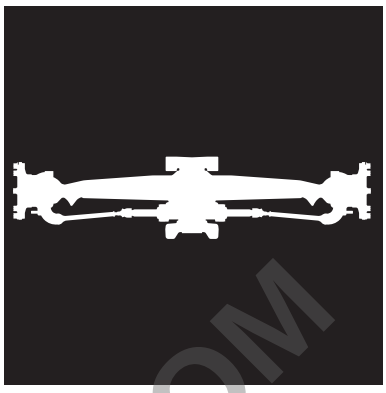
Transmission oil



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SECTION 25 - FRONT AXLES

2WD - 2WS FRONT AXLE 3
- TECHNICAL SPECIFICATIONS 3
- LUBRICATION AND GREASING 4
- REMOVAL FROM MACHINE 6
- DISASSEMBLY AND ASSEMBLY 7
- TROUBLESHOOTING 7

4WD - 2WS FRONT AXLE 10
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SECTION 27 - REAR AXLE

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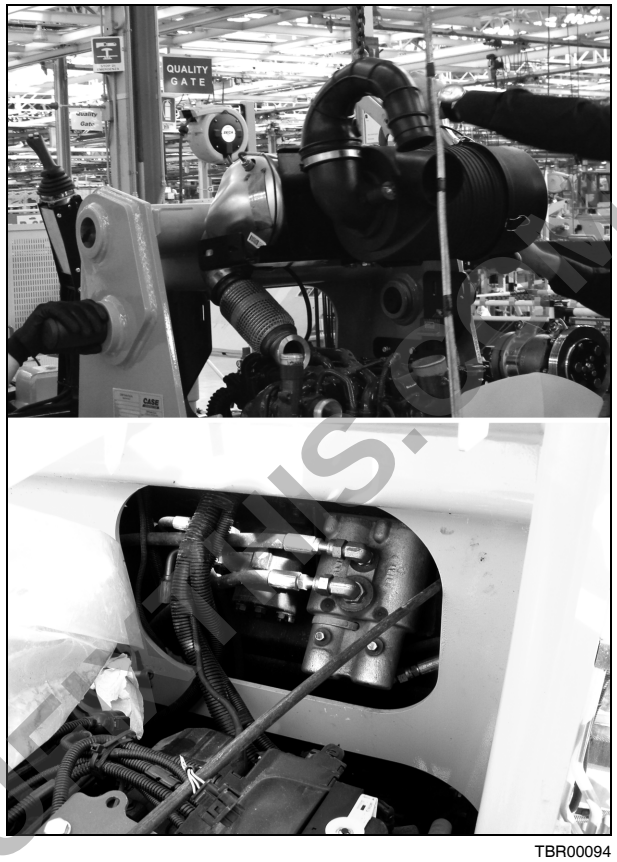
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BRAKE PUMP - Remove

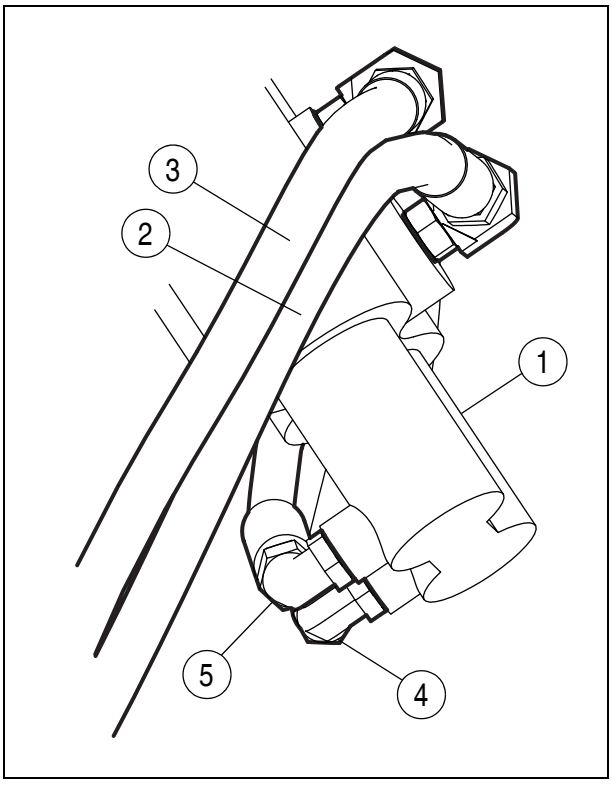
Park the machine on a level surface. Raise the loader and lock the support strut to hold the loader.

Open the engine hood and remove the DPF system from the machine following the procedure described in section 10, Engine Remove.



TBR00094

Tag and disconnect from brakes pump (1) the hydraulic hoses in (2), and (3), the hydraulic hoses brake right (4) and left (5).



TBR00093

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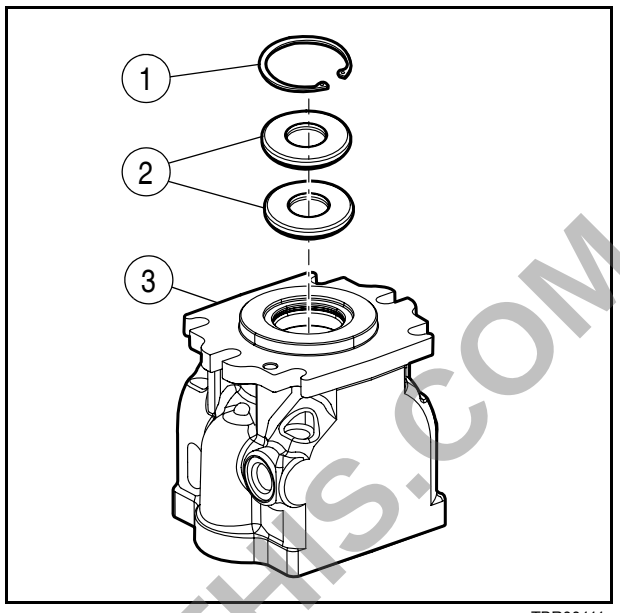
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Orientate the pump body (3) with the flange facing up.

Remove the snap ring (1).

Carefully pry out the seal ring (2).

In case it is not possible to extract the seal sing (2), try to push the seal out by going through the inside of the pump body (3).



TBR00111

Disassembly of the load-sensing control valve (29)

Remove the three plugs (43), (48), (46) and their O-rings (44), (47).

Remove the 2 screws (62).

Remove the spools (42), (45). Note which bore each spool came out of.

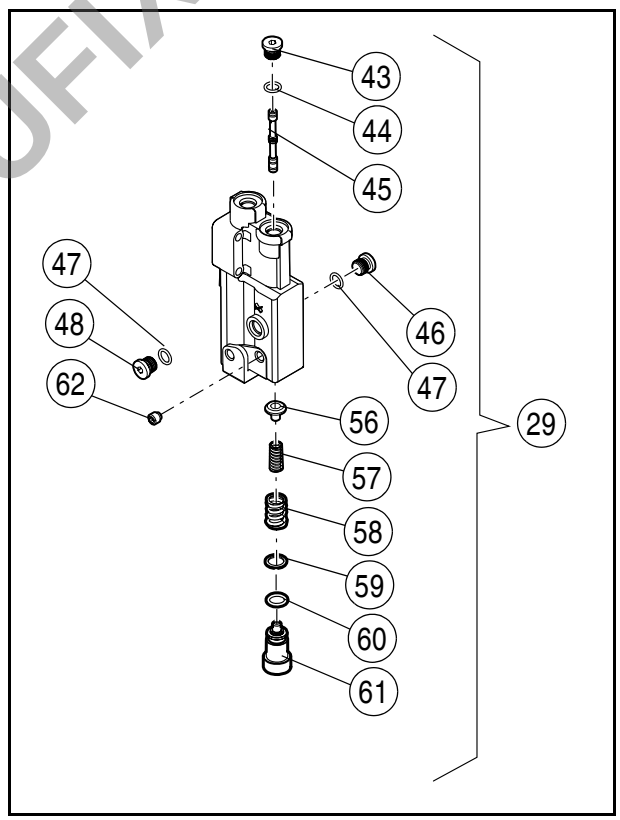
Also note the orientation of each spool for reinsertion.

There may be differences in reinserting into the same bore.

Remove the adjusting screw (61), the O-ring (60) and the back-up ring (59).

Remove the springs (57), (58) and the spring guide (56).

NOTE: *the disassembly will require resetting after the pump is reinstalled on the machine.*

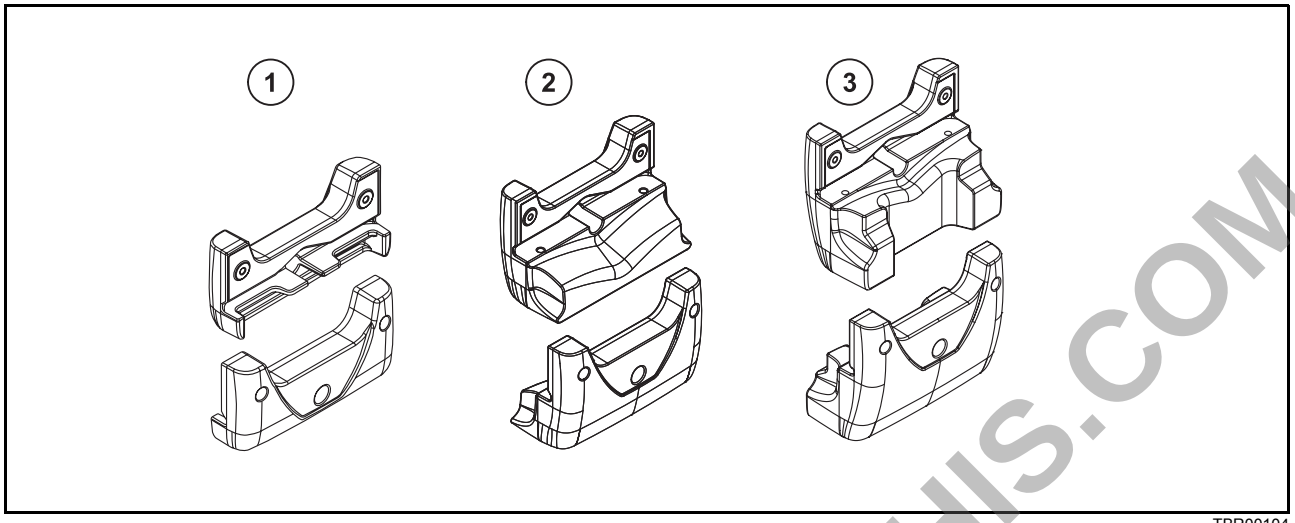


TBR00112

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COUNTERWEIGHT



TBR00104

It is installed under the chassis in the front section of the machine with two screws.

There are different types of counterweights:

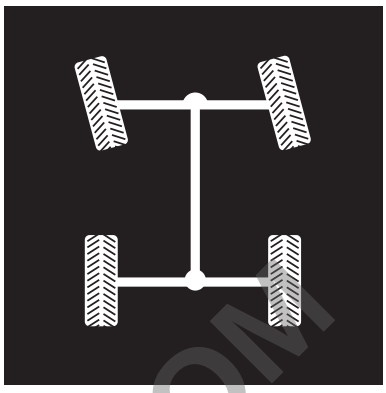
2WS:

1. Standard counterweight ..... 127.3 kg (281 lb)
2. Medium counterweight..... 370 kg (816 lb)
3. Big counterweight ..... 483.7 kg (1066 lb)

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SECTION 41 - STEERING SYSTEM

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- COMPONENTS 11
- DISASSEMBLY 13
- ASSEMBLY 16

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CONDENSER

The condenser (1), located at the front of the machine in front of the engine radiator consists of a number of turns of continuous coil mounted in a series of thin cooling fins to provide a maximum of heat transfer in a minimum amount of space.

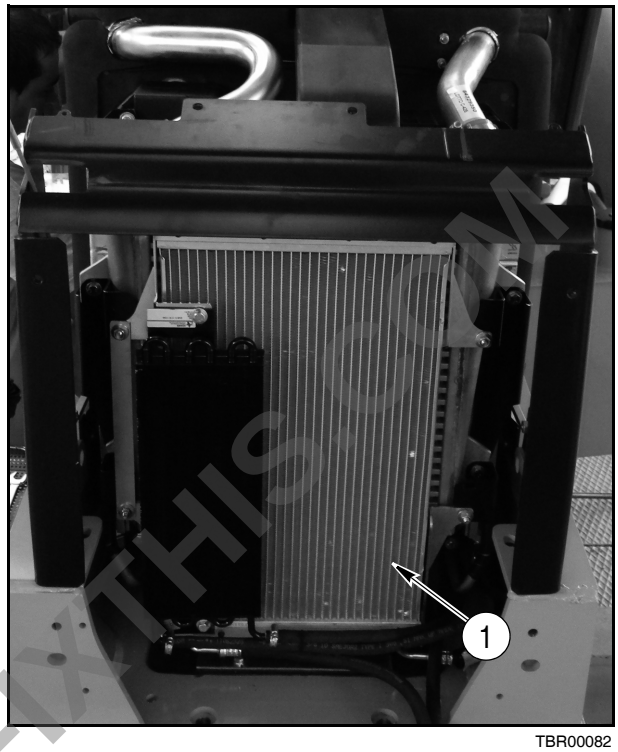
The condenser receives the hot, high pressure coolant vapour from the compressor.

The hot vapour passes through the condenser coils and outside air is drawn through the condenser by the engine cooling fan.

Heat moves from the hot coolant vapour into the cooler outside air flowing across the condenser coils and fins.

When the coolant vapour reaches the pressure and temperature that will induce a change of state, a large quantity of heat is transferred to the outside air and the coolant changes to a high pressure warm liquid.

The warm liquid coolant continues onto the receiver/drier where it is filtered and desiccated, to remove any moisture, before passing through an outlet line to the thermostatic expansion valve.



TBR00082

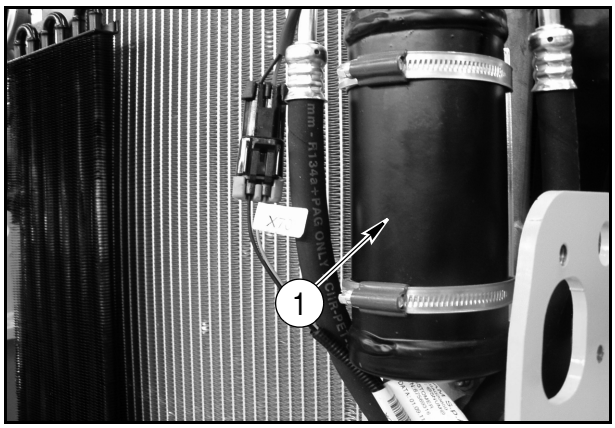
RECEIVER DRYER

The receiver/dryer (1) stores the liquid coolant to make sure that a steady flow to the expansion valve is maintained also under extremely different operating conditions.

The drier contains a desiccant (molecular sieve) which absorbs any moisture within the system, and a filter which prevents the entry of foreign particles.

NOTE: *any moisture in the air conditioning system is extremely harmful. Moisture not absorbed by the dehydrator will circulate with the coolant and droplets may collect and freeze in the thermostatic expansion valve orifice. This action will block the coolant flow and stop the cooling action. Moisture will also react with coolant HFC 134a and the lubricant to form a corrosive acid.*

The desiccant can only absorb a limited amount of moisture before reaching saturation point. Because of this, after any system component replacement or repairs requiring entry into the system, the receiver/dryer should be replaced.



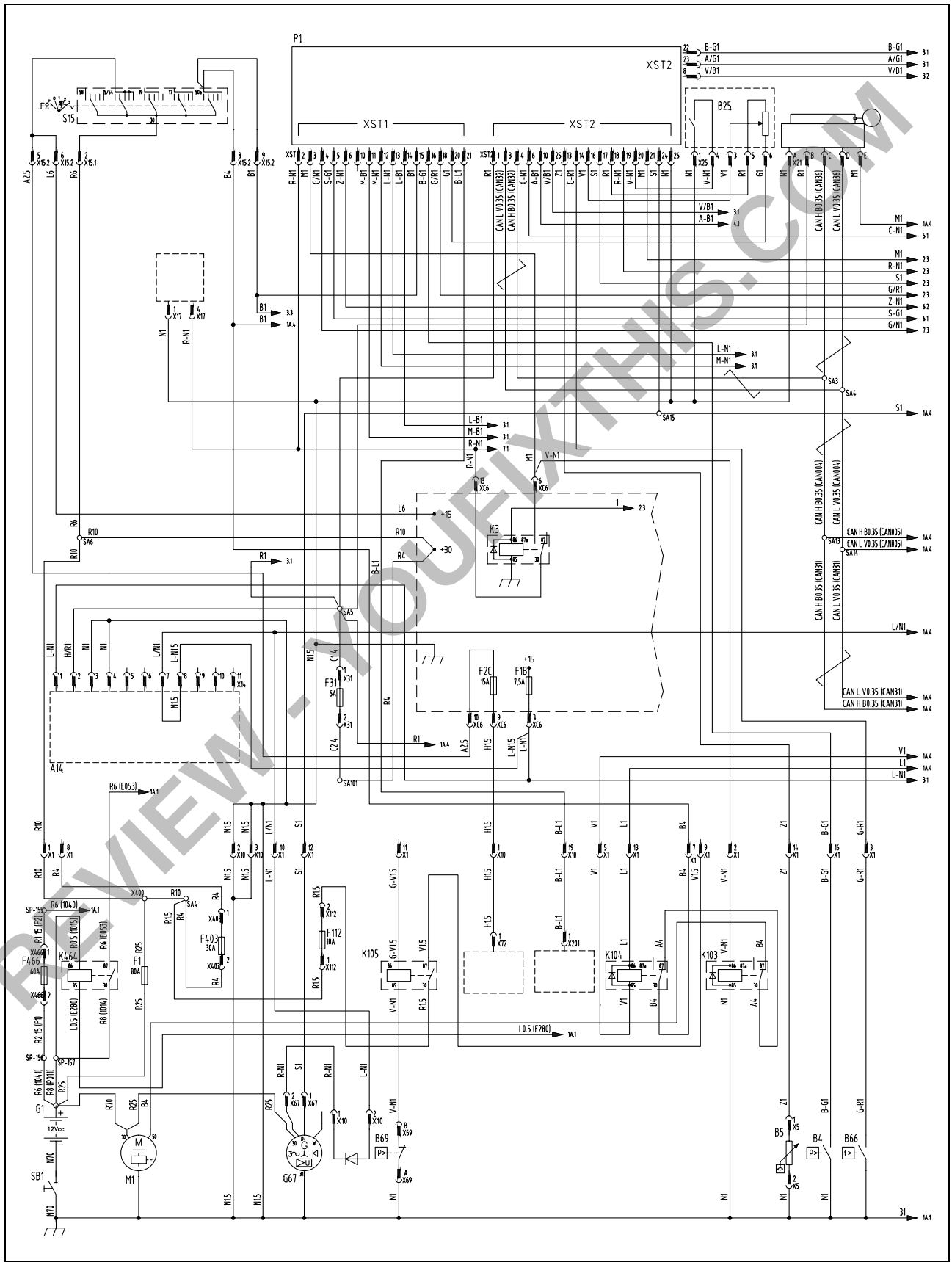
TBR00083

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ENGINE LINE DIAGRAM

(table 1)



TBR00135

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SECTION 82 - LOADER

LOADER ATTACHMENT CONTROLS 4
- LOADER ATTACHMENT OPERATION 4
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LOADER ATTACHMENT SAFETY STRUT 10
- LOADER ATTACHMENT SAFETY STRUT (B95C - B110C) 10
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REMOVAL AND INSTALLATION OF LOADER BUCKET 13
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LOADER REMOVAL 19
- LOADER ATTACHMENT (B95C - B110C) 19
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TELESCOPIC DIPPER MECHANICAL CONTROL PEDAL (Optional)

This pedal (A) has three positions:

Position (0): neutral. This position enables the movement of the telescopic dipper to be stopped.

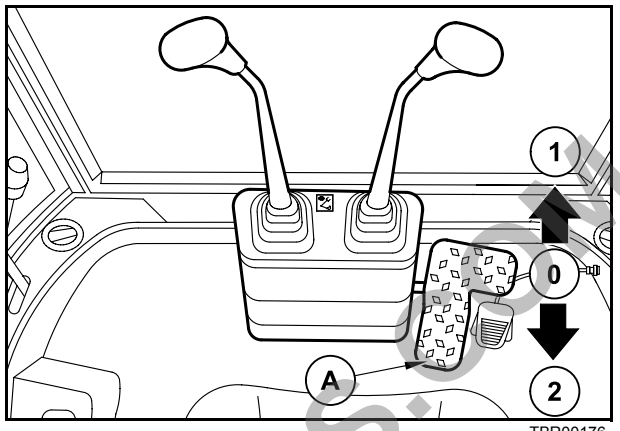
The pedal automatically returns to this position as soon as it is released.

Position (1): the telescopic dipper extends.

Position (2): the telescopic dipper retracts.

Before using this pedal make sure that the telescopic dipper is mechanically unlocked.

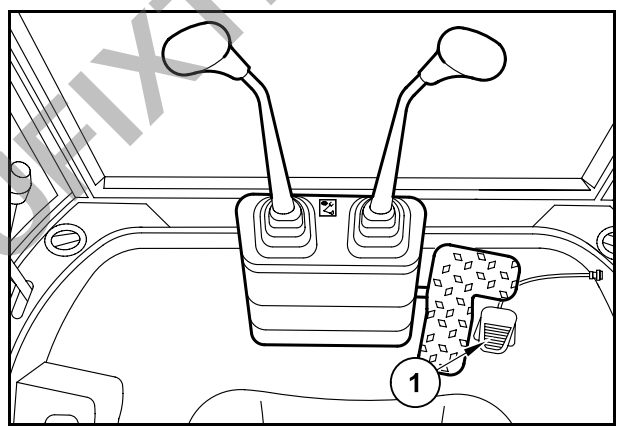
NOTE: *operating the backhoe attachment control levers and this pedal simultaneously will enable numerous possibilities of progressive functioning.*



TBR00176

AUXILIARY ATTACHMENT CONTROL PEDAL (Optional)

This pedal (1) is located to the right of the backhoe attachment controls and is used for operating the auxiliary attachment, such as a hydraulic hammer.



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SAFETY INSTRUCTIONS

⚠ WARNING ⚠

This warning symbol points out important messages involving your safety.
Carefully read the safety rules contained herein and follow advised precautions to avoid potential hazards and to safeguard your safety and personal integrity.
In this manual you will find this symbol together with the following keywords:

⚠ WARNING ⚠

This symbol warns about the possibility of potential damages to the machine that can involve the operator's safety.

⚠ WARNING ⚠

With specific warnings about potential dangers for the operator's or other persons integrity directly or indirectly involved.

The non-compliance with the warnings preceded by the above-mentioned keywords (WARNING and DANGER) can cause serious accidents or even the death of the persons involved.

Moreover, in the present Manual, some instructions are given with text in italics, preceded by the words **NOTE** and **CAUTION**.

NOTA: *it emphasizes and underlines to the operator the correct technique or correct procedure to follow.*

⚠ WARNING ⚠

This symbol warns about the possibility of potential damages to the machine that can involve the operator's safety.

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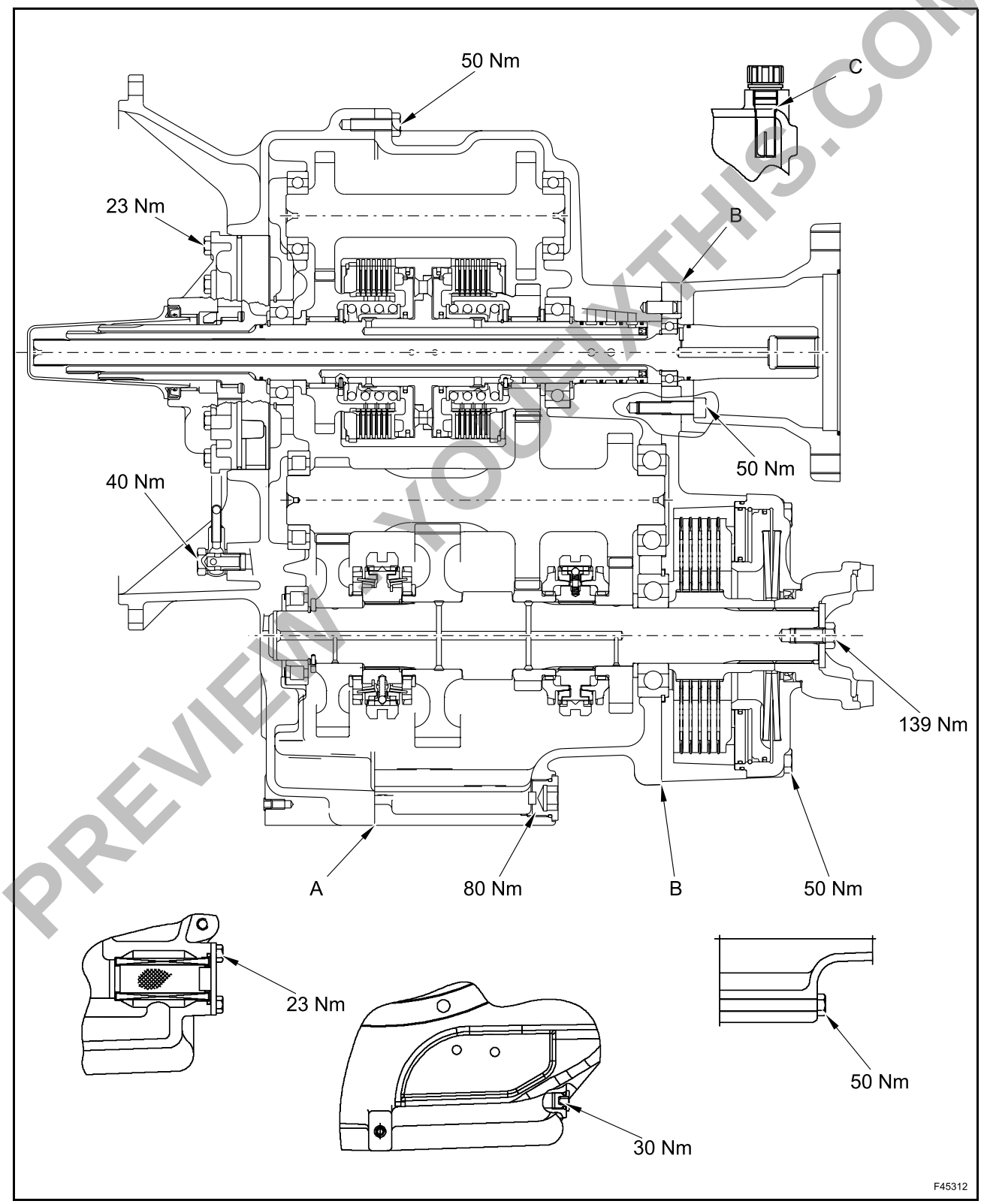
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DISASSEMBLY AND ASSEMBLY

Some of the following pictures could not exactly show your transmission, but the procedure is correct.

TIGHTENING TORQUES AND APPLICATION OF SEALANTS / ADHESIVES

A. Loctite 510
B. Loctite 518
C. Loctite 638
D. Loctite 542

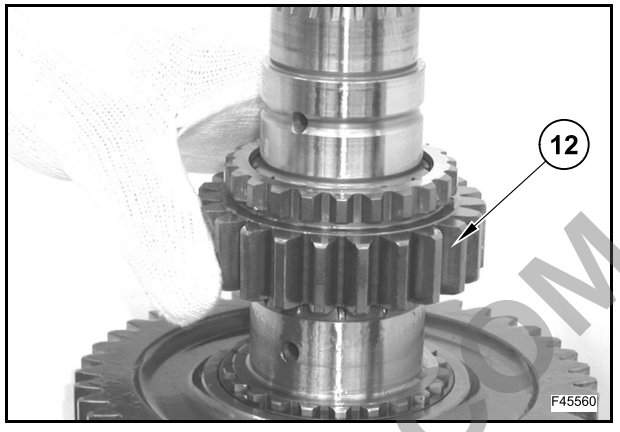


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Turn the shaft.

Assemble the 4th speed gear (12).



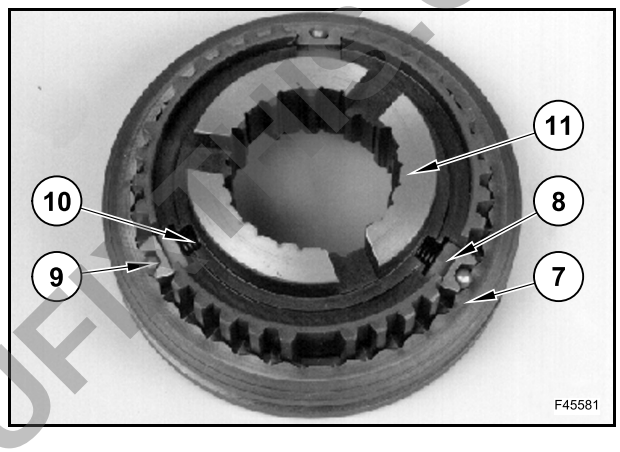
Assemble the 3rd/4th speed synchronizer (4).

Before final assembly, check the correct location of the hub (11), sleeve (7), springs (10), blocks (8) and balls (9).

The springs are installed on the hub.

The blocks are now on the spring and not yet on the sleeve and are holding the hub outside the sleeve.

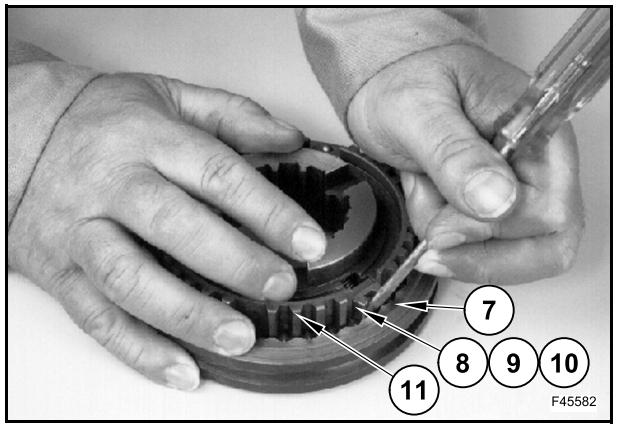
The balls are loose in the recesses of the blocks.



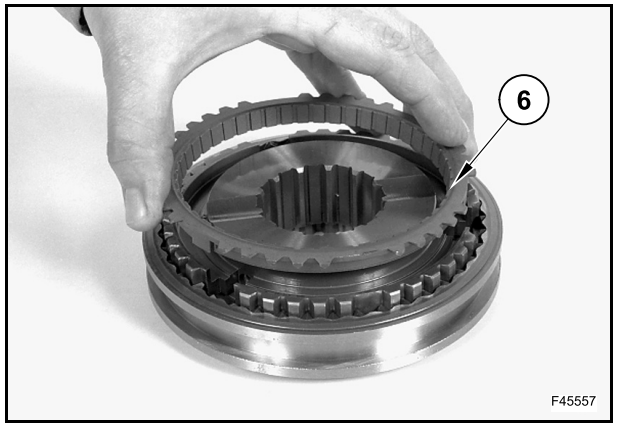
Install the 3 sets of blocks (8), balls (9) and springs (10) onto the hub (11).

Use a punch or a screwdriver to push the spring plates as the synchronizer hub is installed into the sleeve (7).

Be sure that the spring plates are aligned with the grooves of the sleeve.



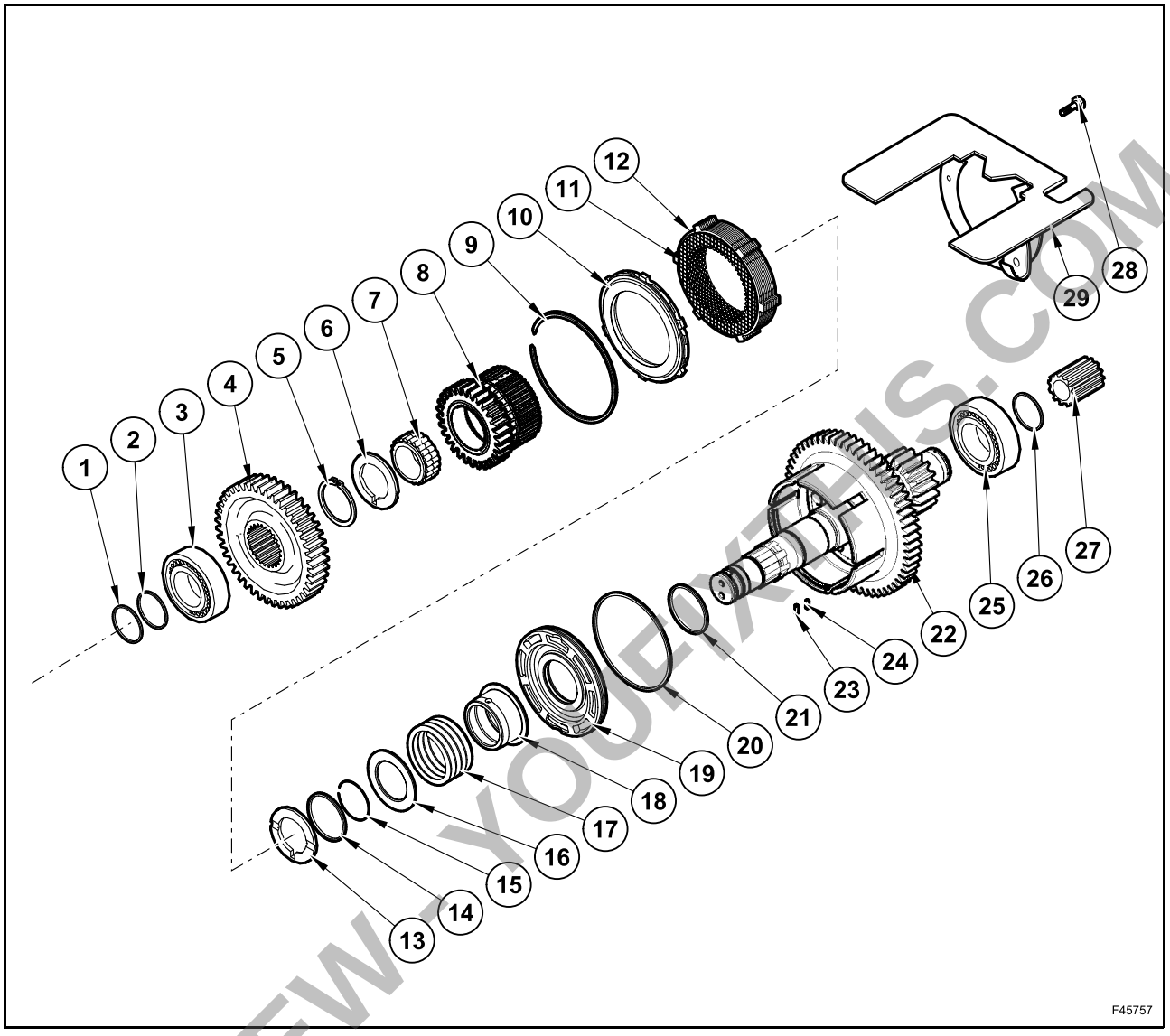
Assemble the ring (6) on each side of the synchronizer assy.



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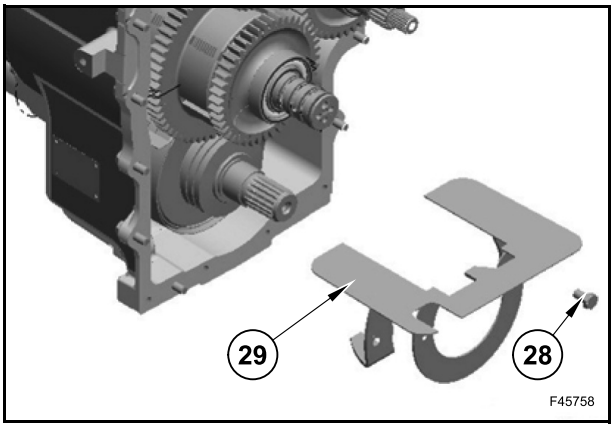
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B SHAFT



Disassembly

Unscrew and remove the screws (28) and remove the 4WD oil bulkhead (29).

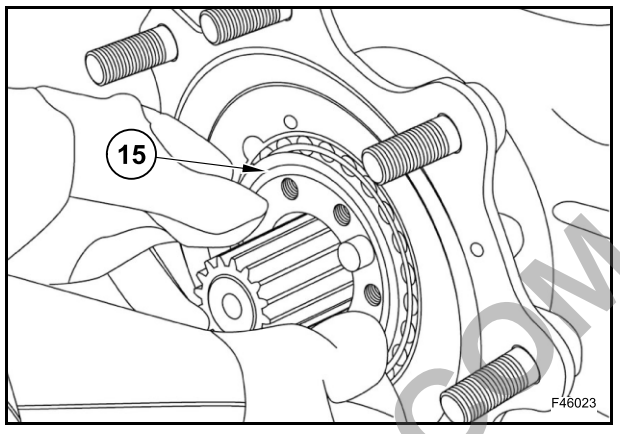


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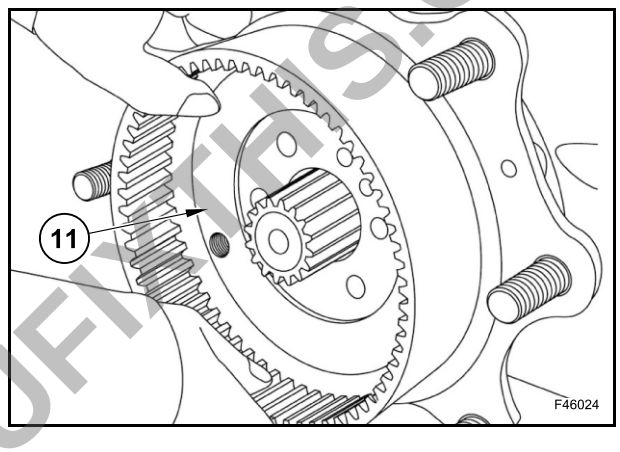
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Install the outer bearing (15).

Installation will be easier if you heat the bearing slightly.
Do not heat the wheel bearing more than 149 °C (300 °F).

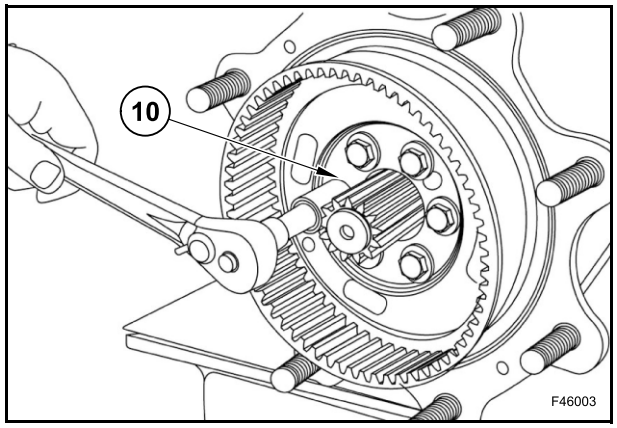


Align the holes in the ring gear carrier (11) with the holes in the swivel housing and install the ring gear carrier.

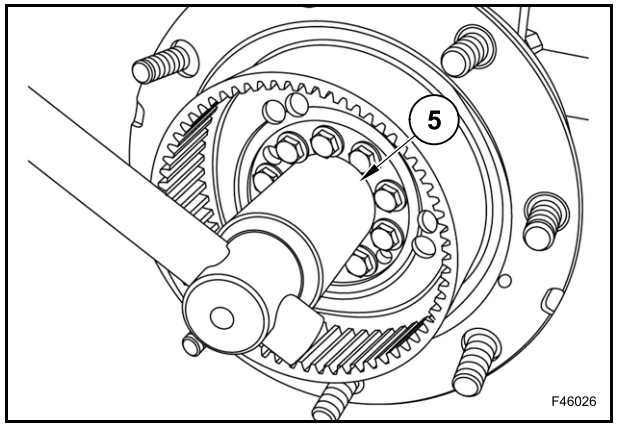


Install and tighten the screws (10) evenly to pull the hub against the swivel housing.

Tighten the screws (10) to a tightening torque of 358 ÷ 442 Nm (264 ÷ 326 lbf·ft).



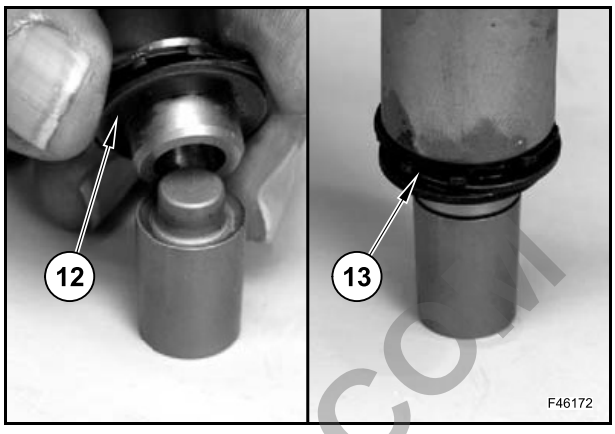
Tighten the ring nut (5) by means of tool 380000468, to a tightening torque of 358 ÷ 442 Nm (264 ÷ 326 lbf·ft).



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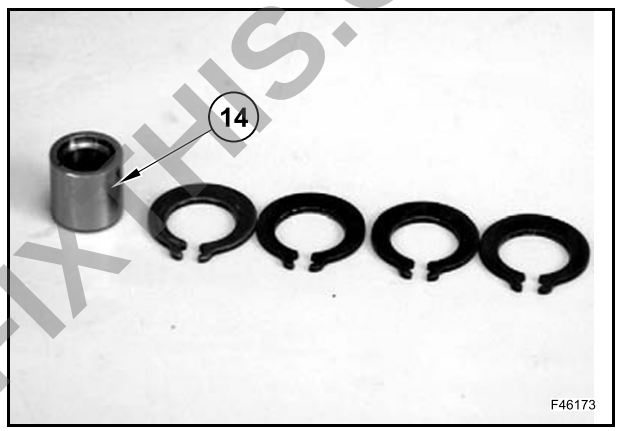
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Place the self adjust kit (12) on tool 380200245 and remove the snap rings (13).

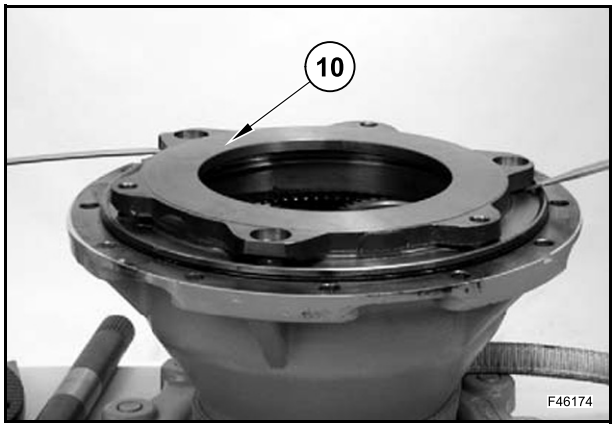


Check bushing (14) for wear.

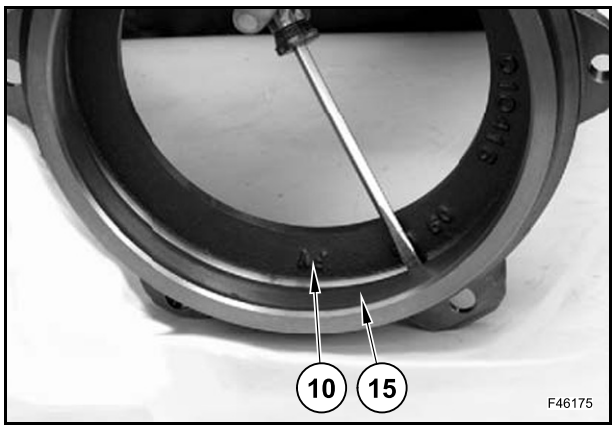
Repeat the procedure for the remaining 2 self adjust kits.



Remove the brake cylinder assy (10).



Remove the brake piston (15) from the brake cylinder (10).



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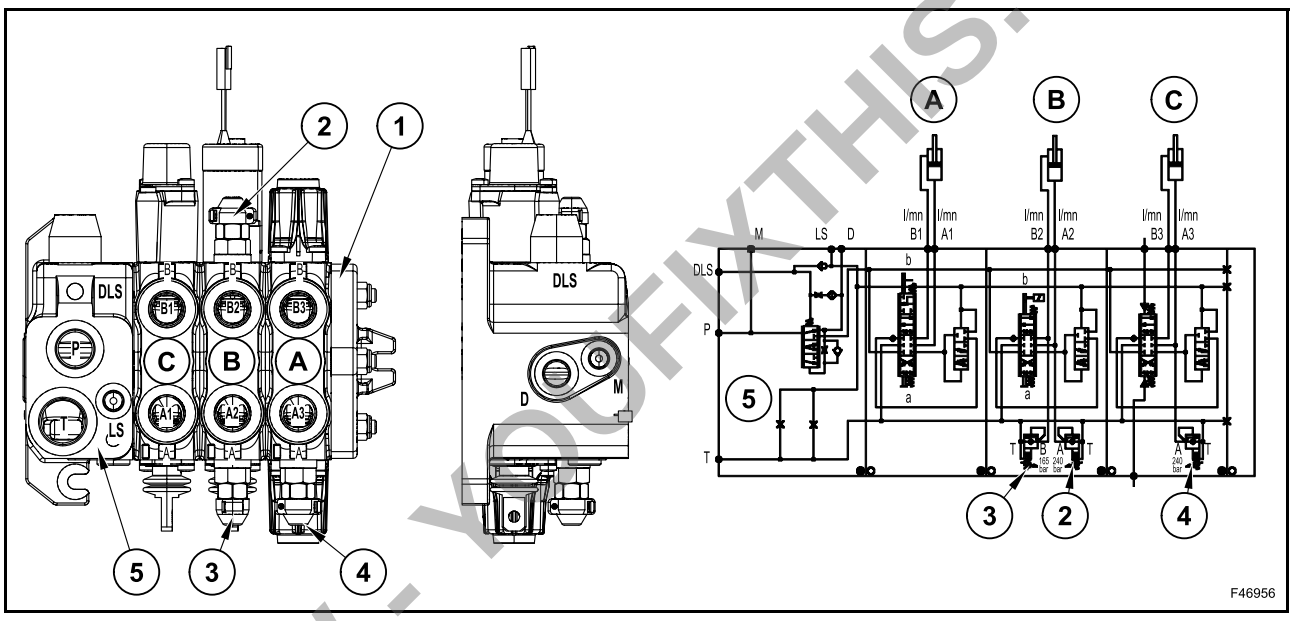
LOADER CONTROL VALVE - PILOT CONTROLS (B95C - B95CLR - B95CTC - B110C)

The loader control valve is mounted on the right side of the machine adjacent to the pump.

The machines with pilot controls are provided with a piston pump (with variable flow rate).

The control valve consist of 2 or 3 sections, and end cover and an inlet section:

- loader attachment lifting;
- loader bucket;
- 4x1 loader bucket.



A. 4x1 loader bucket section
B. Bucket section
C. Loader attachment lifting section
1. End cover
2. Bucket relief valve (rod side) - 240 bar (3481 psi)
3. Bucket relief valve (piston side) - 165 bar (2393 psi)
4. 4x1 bucket relief valve - 240 bar (3481 psi)
5. Inlet section

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DISASSEMBLY

Cleanliness is extremely important when repairing the power steering.

Work in a clean area.

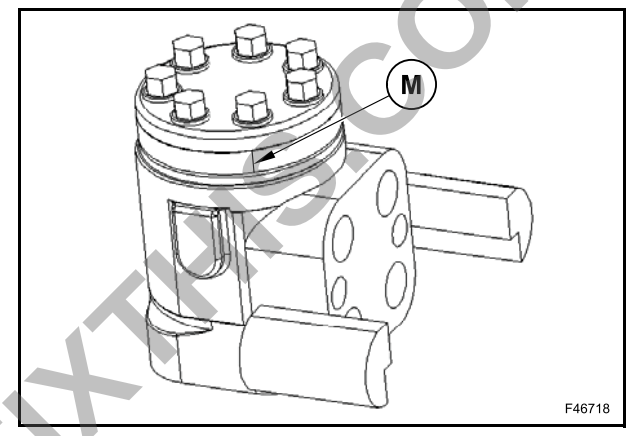
Before disconnecting the lines, thoroughly clean the area.

Use a wire brush to remove foreign material and debris.

Use protective material on vice jaws.

Power steering unit distortion can result if jaws are over-tightened.

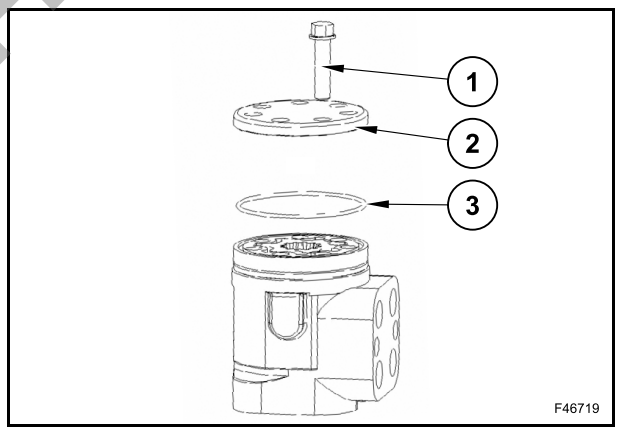
M = mark



Loosen and remove the screws (1).

Remove the cap (2).

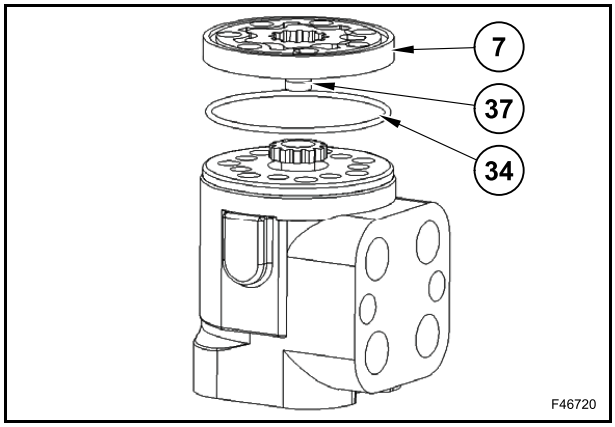
Remove the O-ring (3).



Remove the rotor / stator gear (7).

Remove the O-ring (34).

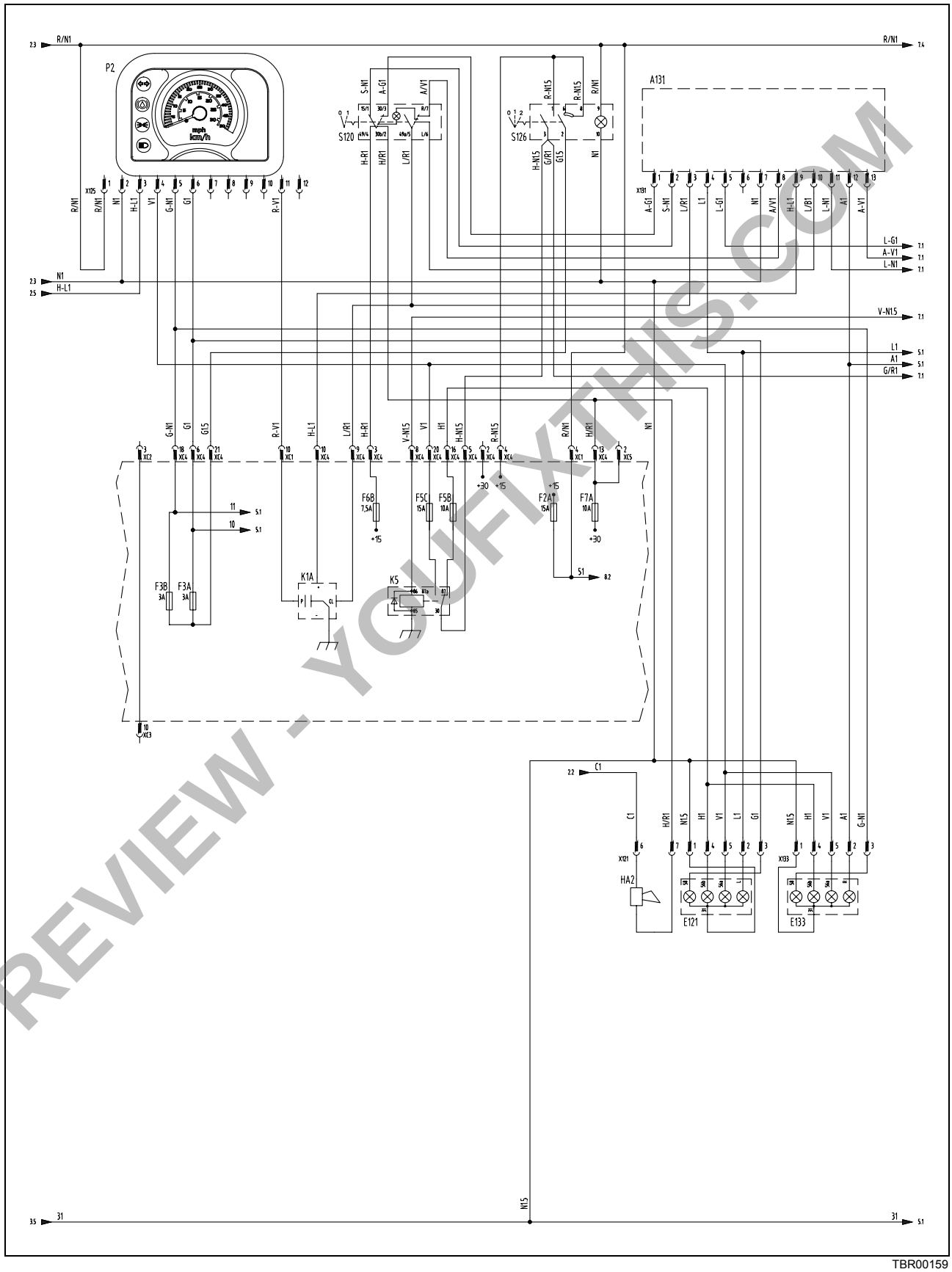
Remove the spacer (37).



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LIGHT LINE DIAGRAM



TBR00159

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