

PERFORMANCE

Maximum capacity (kg)	2,800
Maximum lifting height (m)	6.35
Maximum horizontal radius (m)	3.65
Radius at maximum power (m)	0.80
Fork traversing angle	130°
Breakout force (daN)	5,700
Towing capacity (daN)	7,300
Maximum negotiable gradient	40%
Total weight with no load (kg)	6,100
Max speed (km/h)	35

BOOM

Times: (in seconds)

Lifting	9.5
Lowering	4.9
Extension	7.2
Retraction	4.0
Forward traversing	4.1
Backward traversing	2.6

Patented system of compensation

ENGINE

Model	Perkins
Maximum power kW (HP)	74.5 (101)
Revs per minute (rpm)	2200
Operation	4-stroke diesel
Injection	Direct mechanical
Number and arrangement of cylinders	4, vertical in line
Displacement (cm³)	4400
Specific consumption at 2200 rpm (g/kWh)	251

Turbocharger
Liquid cooling system

OPTIONS AND ACCESSORIES

A/C; Webasto heater; Digital speedometer; Water heater;
Seat air suspension; Light on head-boom;
Quick coupler for accessories; Radio; Anti-theft; Window protection.
(For further customising, ask your local dealer)

TRANSMISSION

Hydrostatic transmission with variable displacement pump
Hydrostatic motor with automatic variation
Electro-hydraulic reversal
Inching pedal for controlled drive
Servo-controlled 2-speed gearbox

HYDRAULIC SYSTEM

Gear pump with delivery at max speed (l/min.):	110
Max. operating pressure (bar):	230
Control valve governed with joystick:	3 in 1

DIFFERENTIAL AXLES

Steering axles: 2, with epicyclic reduction gears
Type of steering: 4 wheels / transversal / 2 wheels
Front axle: rigid
Rear axle: oscillating
Service brake in oil bath on the front axle
Parking brake with negative operation

FILLING UP (Litres)

Hydraulic system (total)	130
Diesel tank	100

STANDARD DEVICES

Anti-turnover device with aggravating movements block
Hydraulic socket for any accessories on the boom head
Closed soundproofed cap type-approved ROPS - FOPS, with heating
Front axle self-locking differential (limited split 45%)
Self-cleaning filter with cyclones
Power window

TOWING CAPACITY (on request)

Trailer not braked (ton):	3
Mechanical braking (ton)	5
Hydraulic/pneumatic braking (ton)	17

Inclusive of 20" wheels

TYRES

Tyres	12.5x18"
(*) Alternative	405/70x20"
(**) Alternative	405/70x24"

TH00R113

REMOVAL AND INSTALLATION OF ENGINE AND RADIATOR

REMOVAL

- Position the machine on a flat and compact surface.
- Apply the parking brake and chock the wheels with wedges.
- Use only the recommended tools.
- Do not insert hands or extraneous components between parts.
- Disconnect the battery before proceeding.

⚠ WARNING ⚠

Do not allow unauthorized persons to repair or service this machine. Be certain to read the Use and Maintenance Manual with care before starting, operating, servicing, refuelling or repairing this machine.

Turn the **STARTER SWITCH** to the **OFF** position and display the “**DO NOT START**” warning notice.

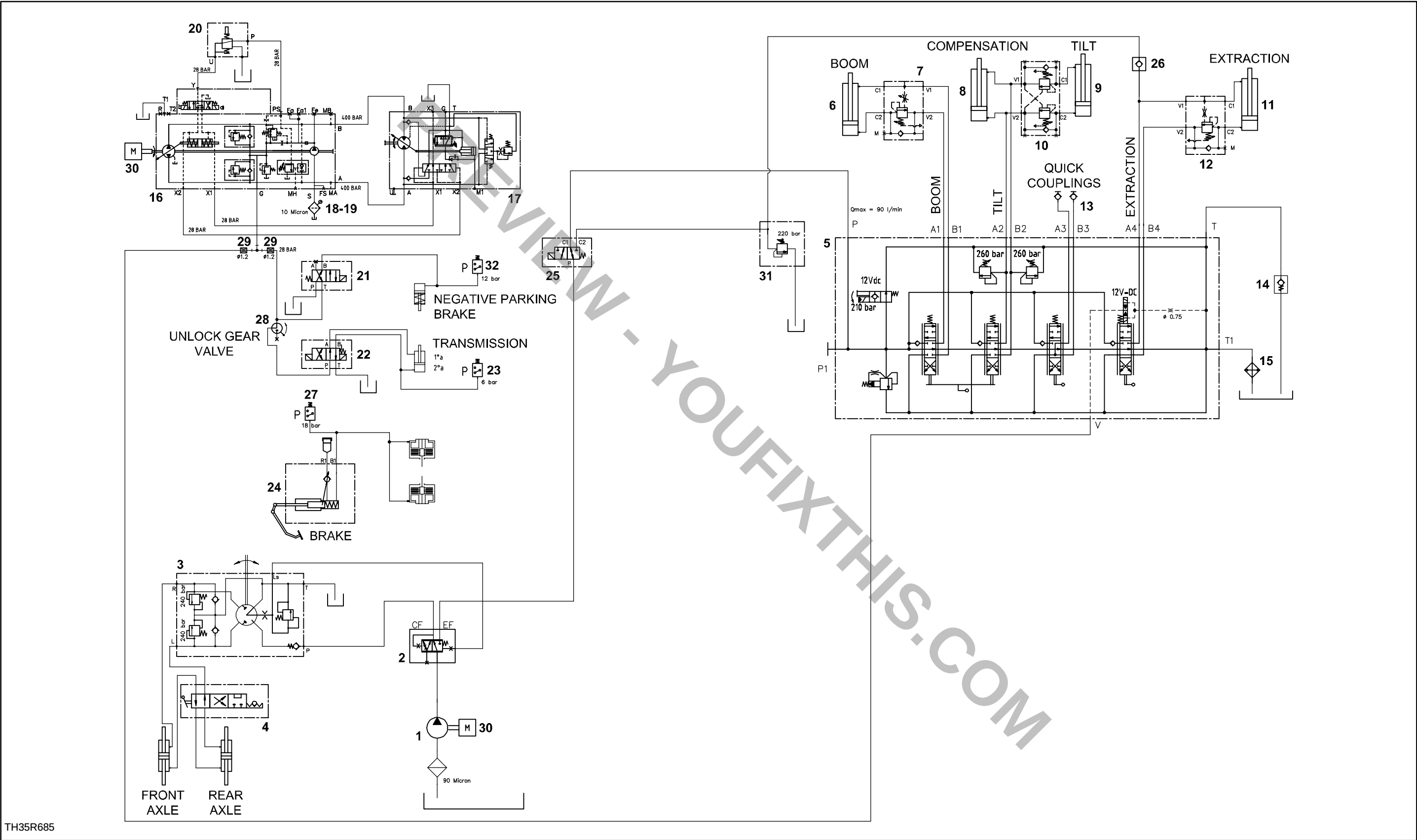
⚠ IMPORTANT ⚠

From this point onwards, mark all electrical connections and hydraulic pipes to facilitate the process of **RESTORING CONNECTIONS DURING REFITMENT**.

Open and remove the engine hood and cowl.

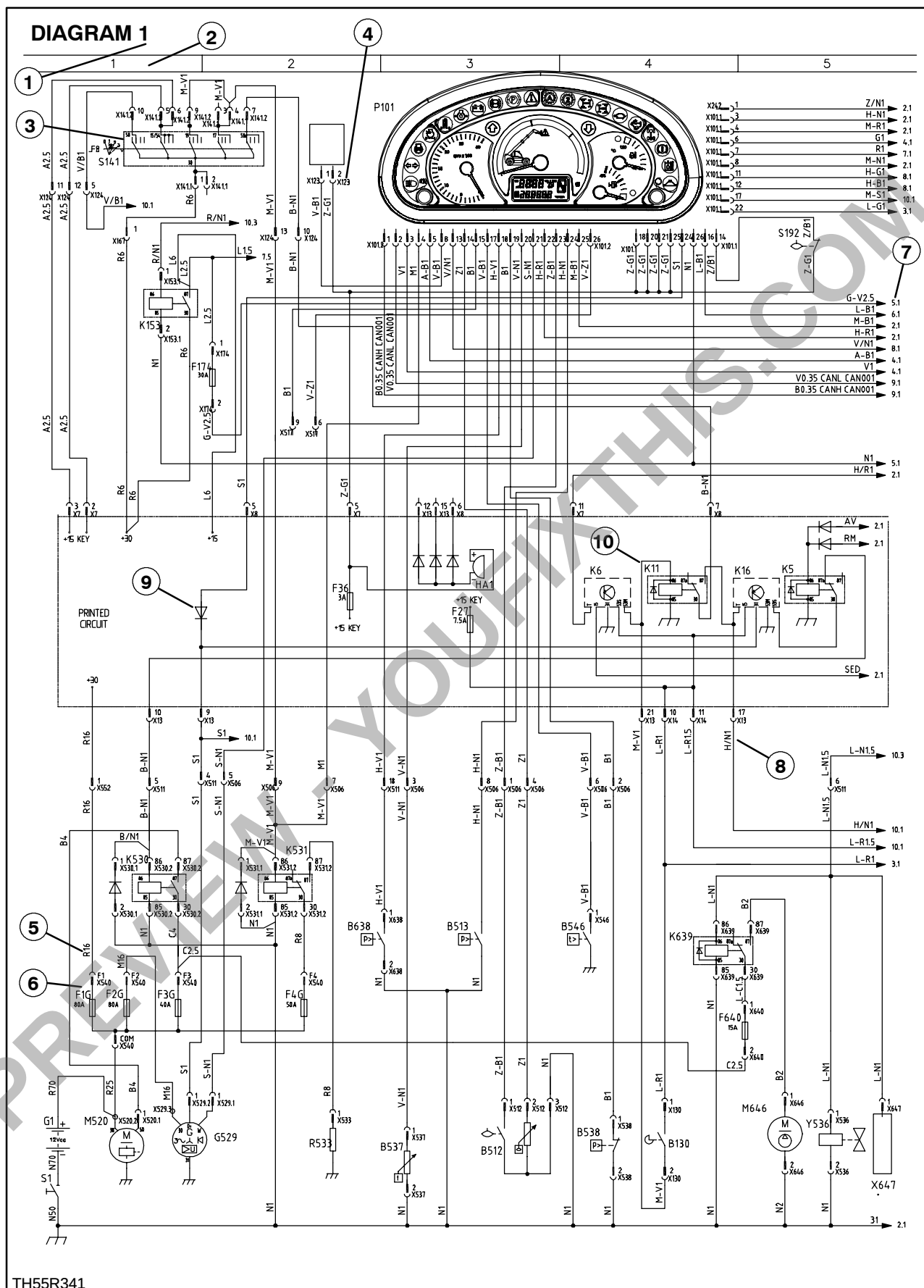


HYDRAULIC SYSTEM CIRCUIT



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TH35R685



MINIMUM TIGHTENING VALUES FOR THREADED FASTENERS

IN NEWTON-METRES (Nm)
FOR NORMAL ASSEMBLY APPLICATIONS

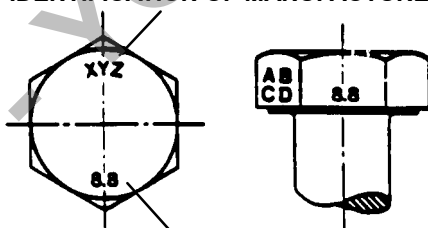
BOLTS AND LOCK NUTS - METRIC SIZES

NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCK NUT CL. 8 with BOLT CL. 8.8
	NOT PLATED	PLATED Zn/Cr	NOT PLATED	PLATED Zn/Cr	NOT PLATED	PLATED Zn/Cr	
M4	1.7	2.2	2.6	3.4	3.7	4.8	1.8
M6	5.8	7.6	8.9	12	13	17	6.3
M8	14	18	22	28	31	40	15
M10	28	36	43	56	61	79	30
M12	49	63	75	97	107	138	53
M16	121	158	186	240	266	344	131
M20	237	307	375	485	519	671	265
M24	411	531	648	839	897	1160	458

IDENTIFICATION

HEX SCREWS (WITHOUT NUT) AND ROUND HEAD BOLTS
CLASS 5.6 AND HIGHER

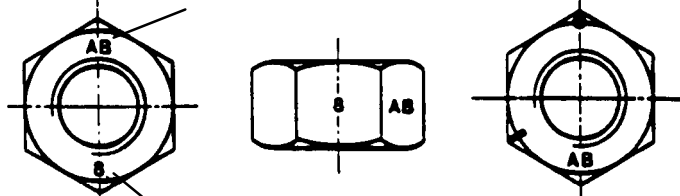
IDENTIFICATION OF MANUFACTURER



COMMERCIAL CLASS

HEX NUTS AND LOCK NUTS
CLASS 05 AND HIGHER

IDENTIFICATION OF MANUFACTURER



COMMERCIAL CLASS

MARKING

ALARM CODE LIST

Alarms/Faults/Error System

The registration of a system alarm involves the shutdown of all outputs (including WDO).

Code	Description	What to do
11	CRC error in system code Flash area	<ul style="list-style-type: none"> • Replace the SAR • Contact Technical Assistance
12	CRC error in parameters Flash area	<ul style="list-style-type: none"> • Delete and re-perform the calibration • Replace the SAR • Contact Technical Assistance
13	RUN program loop error	<ul style="list-style-type: none"> • Replace the SAR • Contact Technical Assistance
14	Link fail between Master and Slave microcontroller	<ul style="list-style-type: none"> • Replace the SAR • Contact Technical Assistance
15	Power supply voltage out of range +7 Vdc to +18 Vdc	<ul style="list-style-type: none"> • Check the that the battery voltage with the machine off and on is OK
16	Channel 1 internal power supply out of range 4,8 Vdc to 5,2 Vdc	<ul style="list-style-type: none"> • Replace the SAR • Contact Technical Assistance
17	Channel 2 internal power supply out of range 4,8 Vdc to 5,2 Vdc	<ul style="list-style-type: none"> • Replace the SAR • Contact Technical Assistance
21	Cut Off output 1 congruity error	<ul style="list-style-type: none"> • Verify that the cable is not damaged • Replace the SAR • Contact Technical Assistance
22	Cut Off output 2 congruity error	<ul style="list-style-type: none"> • Verify that the cable is not damaged • Replace the SAR • Contact Technical Assistance
23	WDO1 cut off output power supply congruity error	<ul style="list-style-type: none"> • Verify that the cable is not damaged • Replace the SAR • Contact Technical Assistance
24	Out1 congruity error	<ul style="list-style-type: none"> • Verify that the cable is not damaged • Replace the SAR • Contact Technical Assistance
25	Out2 congruity error	<ul style="list-style-type: none"> • Verify that the cable is not damaged • Replace the SAR • Contact Technical Assistance
26	WDO2 output congruity error	<ul style="list-style-type: none"> • Verify that the cable is not damaged • Replace the SAR • Contact Technical Assistance

Workshop manual

LM5030

TELESCOPIC HANDLERS

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Product identification	6
Environmental considerations	8
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Specific sealing compounds	10
Minimum tightening values for threaded fasteners	11
Minimum tightening torques for fasteners	12
Load tables	14
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Variable displacement pump	20
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TELEHANDLERS



THIS WARNING SYMBOL ACCOMPANIES IMPORTANT MESSAGES INVOLVING YOUR SAFETY.

Read the safety instructions carefully, and follow the precautions recommended in order to avoid potential risks and safeguard your health and your safety.

You will find this symbol in the text of this Manual with the following key words:

WARNING - Cautions intended to avoid unsuitable repair operations with potential consequences for the safety of the person performing the repair.

DANGER - Warnings specifically indicating potential dangers for the safety of the operator or of other persons directly or indirectly involved.

IMPORTANT WARNINGS

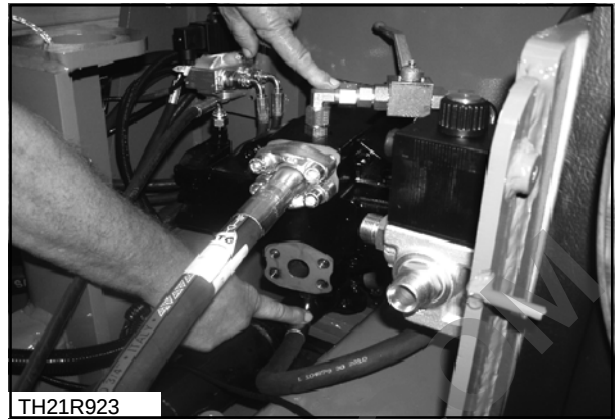
All maintenance and repair operations listed in this Manual must be performed exclusively by the Service Network of the Manufacturer, complying strictly with the indications herein and using the prescribed special tools where indicated.

Any person performing service operations described in the manual and failing to abide strictly by the instructions becomes solely responsible for any consequential damage that could occur.

The Manufacturer and all organizations in the distribution chain associated with the Manufacturer, including national, regional and local dealers though not excluding others, decline all liability for damages attributable to abnormalities in the operation or response of parts and/or components not approved by the Manufacturer, used in the servicing and/or repair of a product built or marketed by the Manufacturer.

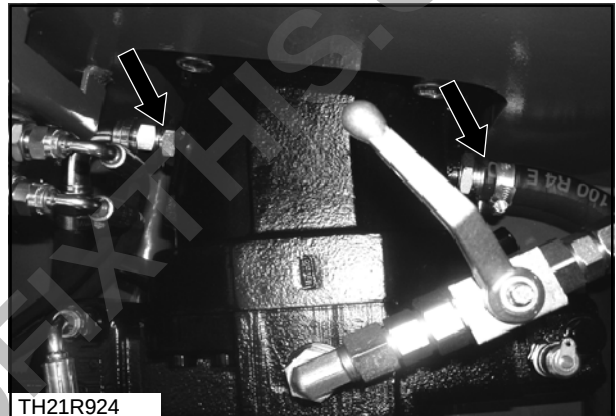
In any event, no warranty of any description is offered on or applicable to the product built or marketed by the Manufacturer, in respect of damages resulting from abnormal operation or response of parts and/or components not approved by the Manufacturer.

Disconnect the two by-pass pipes.



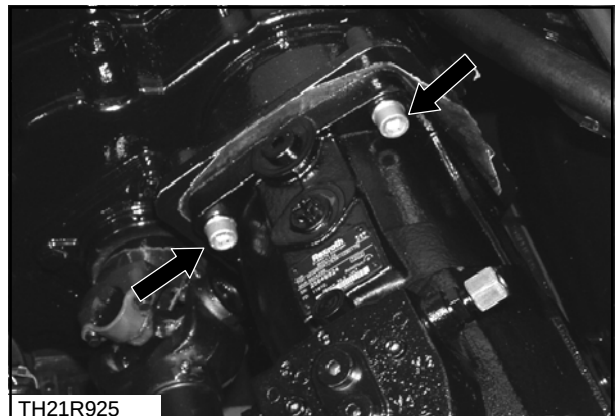
5

Disconnect the two drain pipes from the hydrostatic motor body.



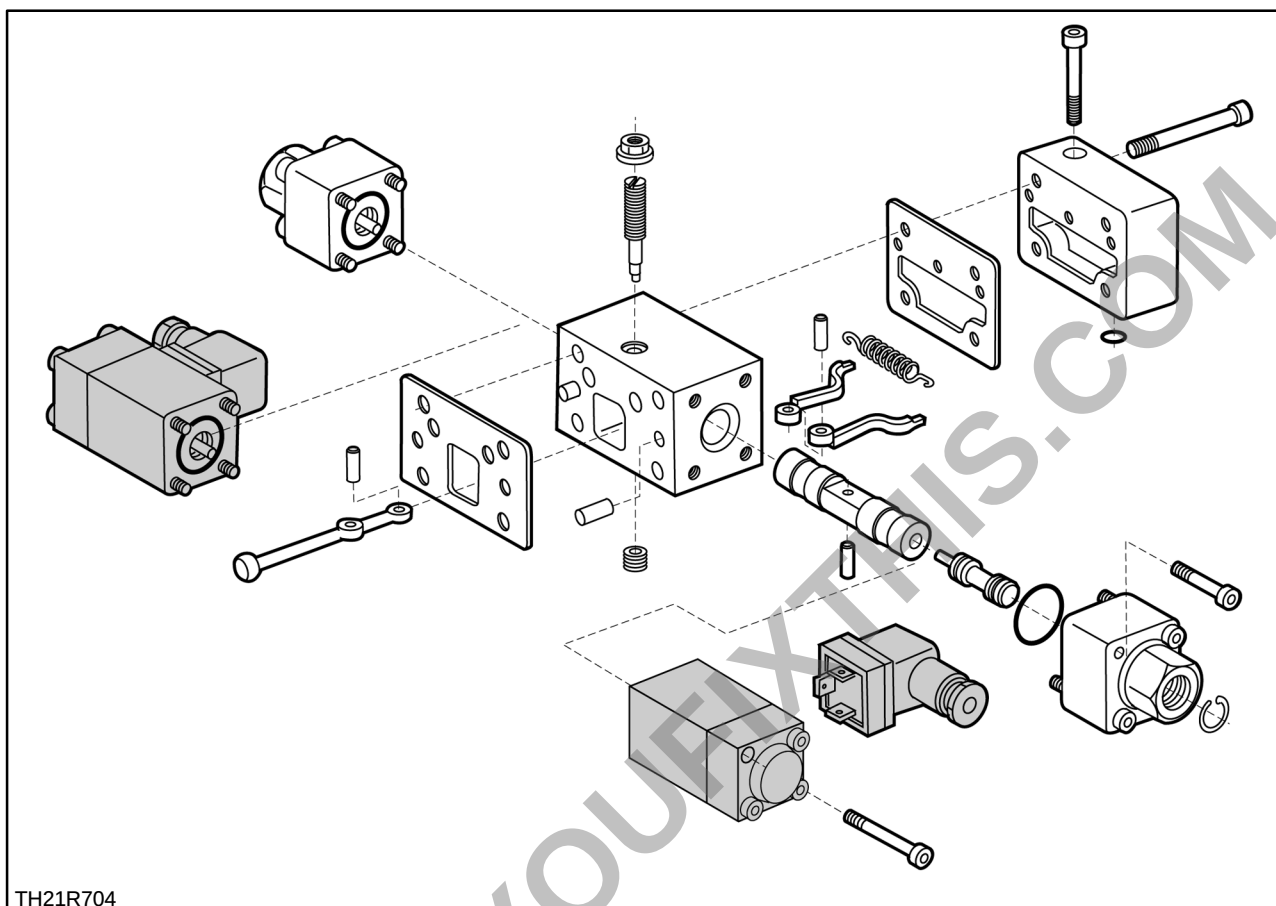
6

Secure the hydrostatic motor to a lifting equipment. Tighten slightly the slings of the lifting equipment. Remove the four allen screws which fasten the hydrostatic motor to the gearbox. Disconnect the hydrostatic motor of the gearbox and remove it from the machine.

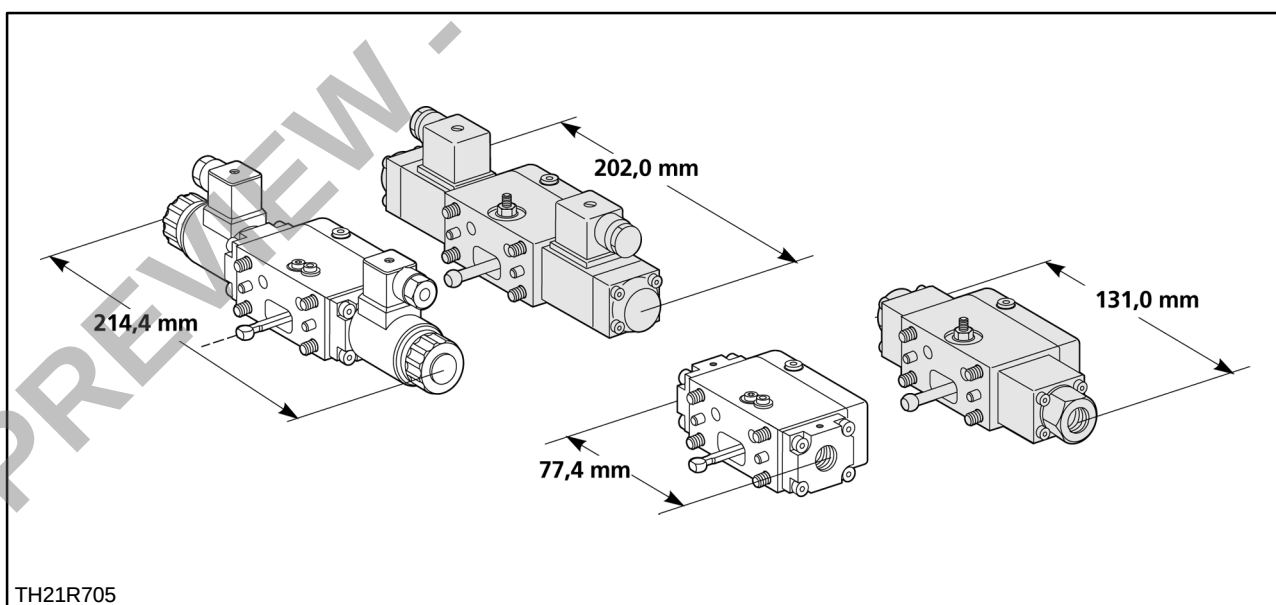


7

Control modules

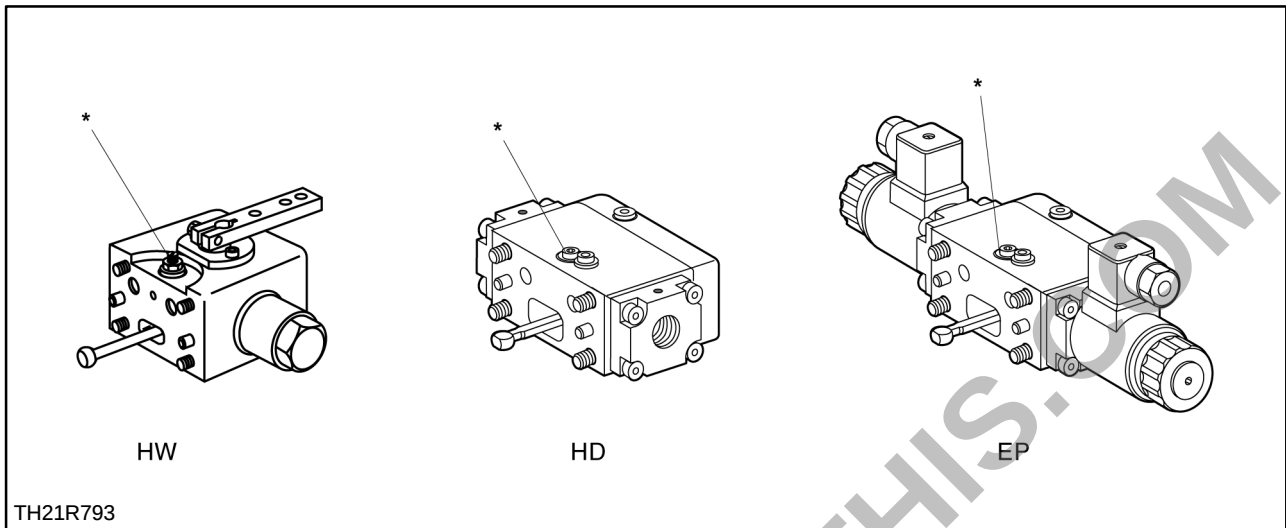


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77

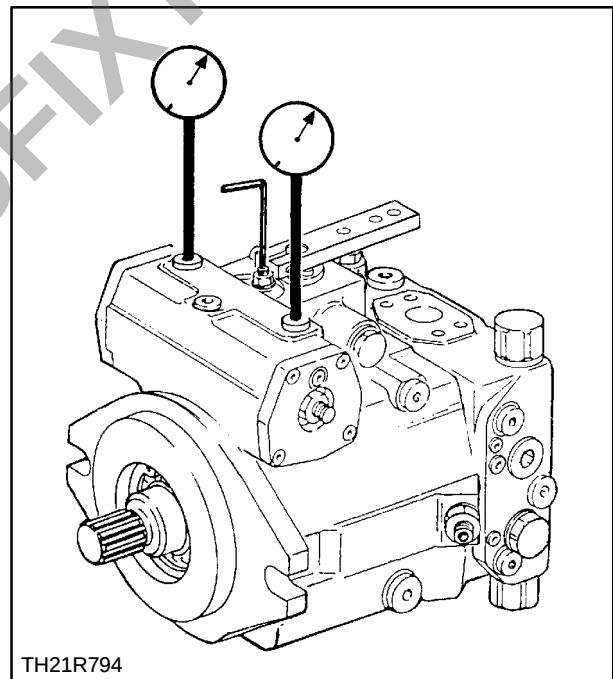
Adjustment instructions - Hydraulic "zero position"



165

Connect pressure gauges to X1 and X2.
Adjust the zero position so that with a block drive both
pressure gauges indicate the same pressure value.

NOTE: Eccentric adjusting - Do not turn more than
 $\pm 90^\circ$.



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UPDATE DIFFERENTIAL WITH SERVICE, NEGATIVE AND 100% LOCK BRAKE

Disassembling 204

Assembling 213

BEVEL PINION: FLANGED TO REDUCTOR GEAR 603

Disassembling 219

Assembling 223

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RING AND PINION ADJUSTING:

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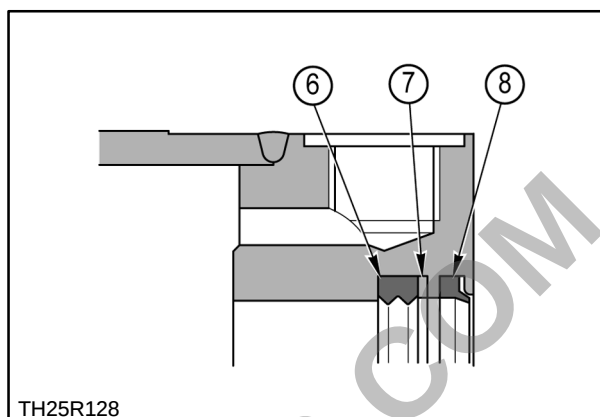
DRIVE SHAFT REMOVAL 241

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PREVIEW - YOUFIXTHIS.COM

HOW TO ASSEMBLE THE STEERING CYLINDER

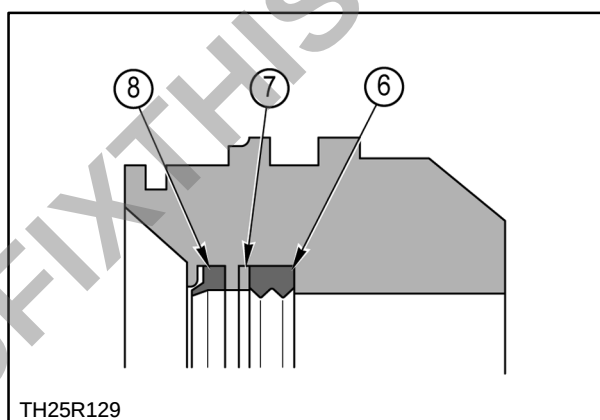
Grease and install the piston rod seal ring (6), rod wiper (8) and back up washer (7) into cylinder (3).



TH25R128

109

Grease and install the piston rod seal ring (6), rod wiper (8) and anti-extrusion ring (7) into the head (2).



TH25R129

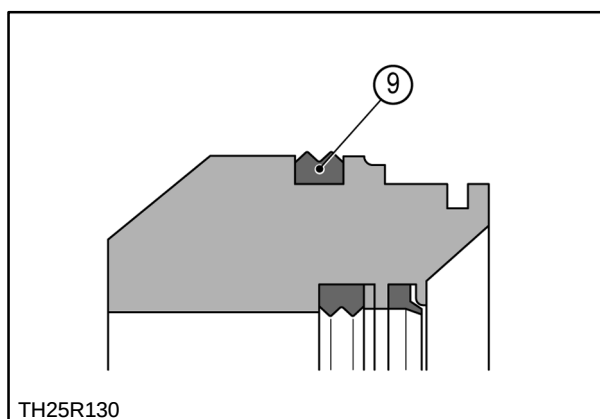
110

Fit seal (9) on the outside of the head (2).

**ATTENTION**

1 - To ease installation, grease the outer surface of the piston.

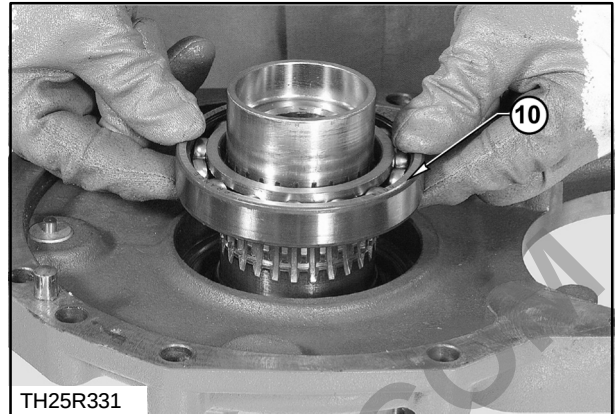
2 - Do not roll the seal (9).



TH25R130

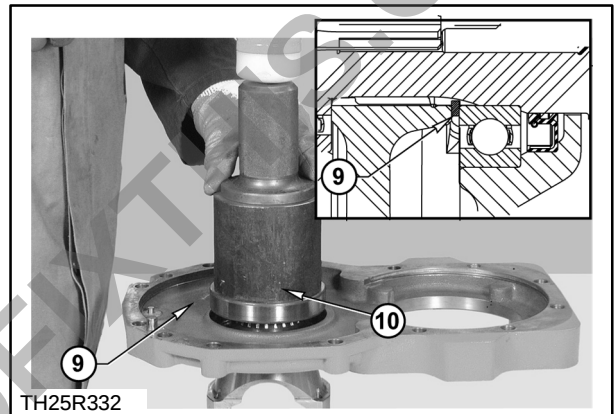
111

Insert the bearing (10).



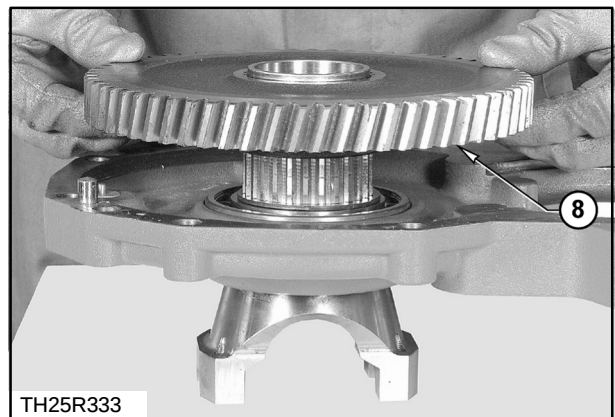
206

Using a normal tool insert the bearing (10) and snap ring (9).



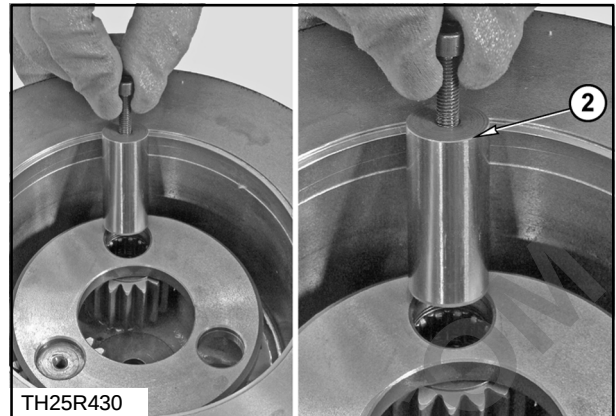
207

Install the secondary gear wheel (8) with a plastic hammer.



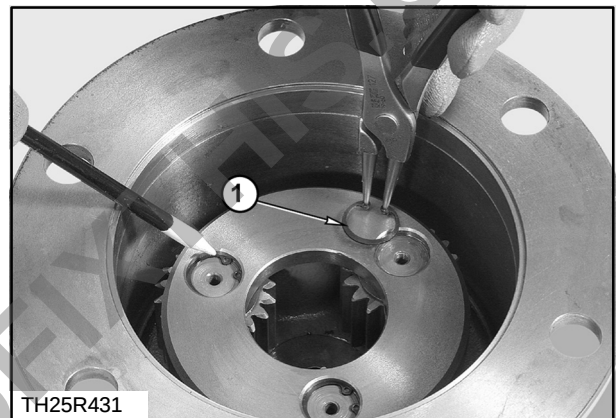
208

Check the concentricity of the planetary gear, the seat and friction washers. Using a screw M6 install the pin (2).



305

Carefully check that pin is completely inserted and install the snap rings (1).



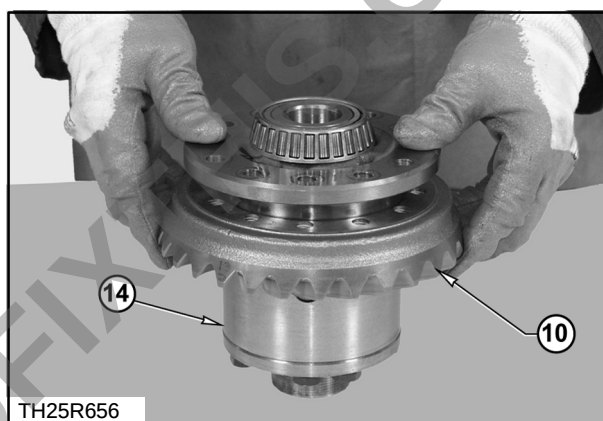
306

Remove the crown wheel fixing screws (13).

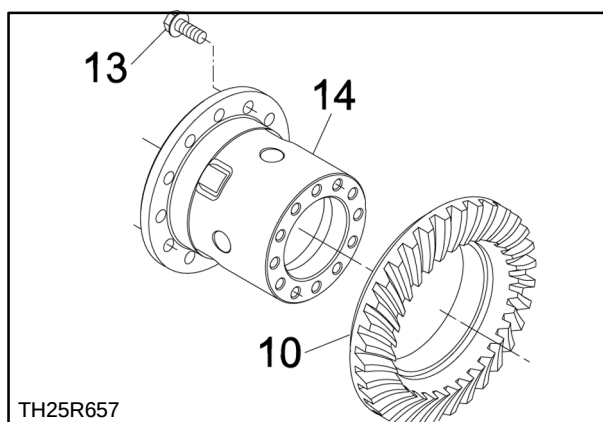


408

Separate the crown wheel (10) from the differential box (14).

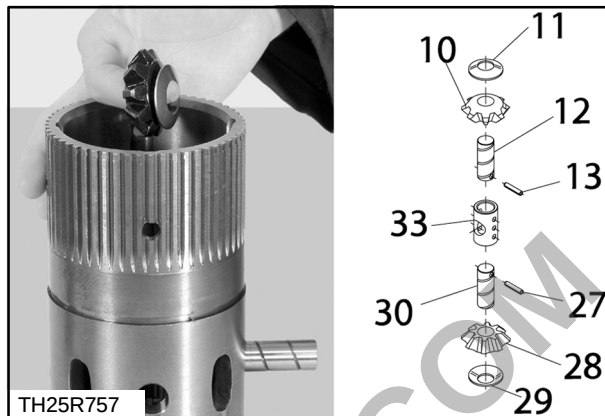


409



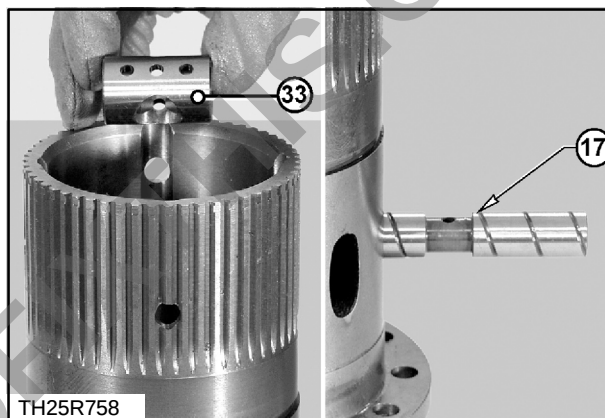
410

Install the planetary gears (10) (28) and spherical shoulder washers (11) (29) onto the shafts (12) (30).



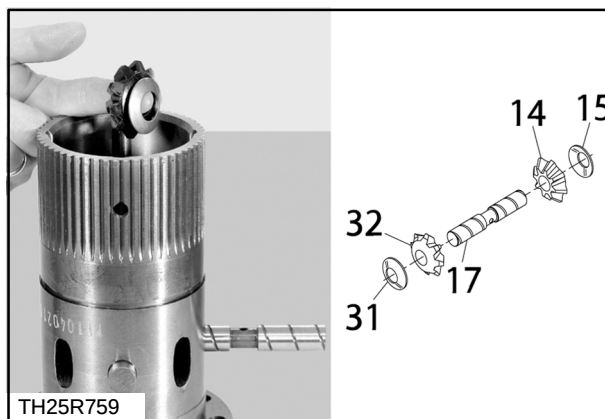
510

Insert spider (33) and partially insert the long bolt (17),



511

Satellite wheels (32) (14), spherical washers (15) (31) and completely insert the long bolt (17).



512

**RING AND PINION ADJUSTING: PINION
INTEGRAL VERSION AND DOUBLE ARM**

SETTING OF THE CROWN WHEEL AND PINION
Insert the thrust block of the bearing (6) opposite side of the crown wheel shims (Sb) (7) of an initial thickness of about 0,55 mm.



611

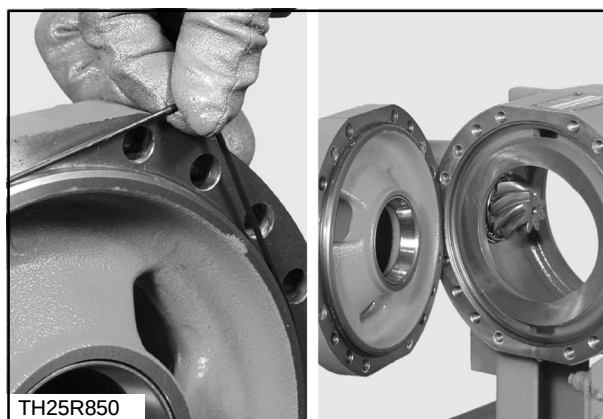
Insert the thrust block (6) and the shims (Sb) (7) into the arm.

NOTE: Check to be at end of stroke.



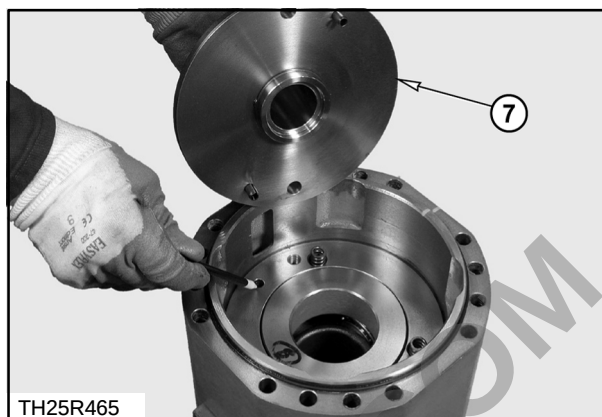
612

Check the O-Ring (2) and grease.



613

Remove intermediate disc (7).



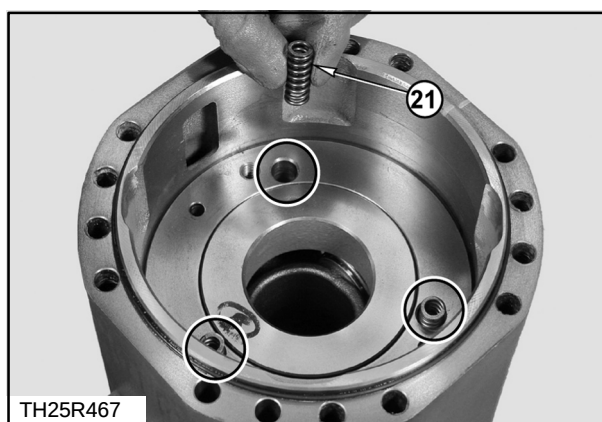
34

NOTE: Sign the assembly position.



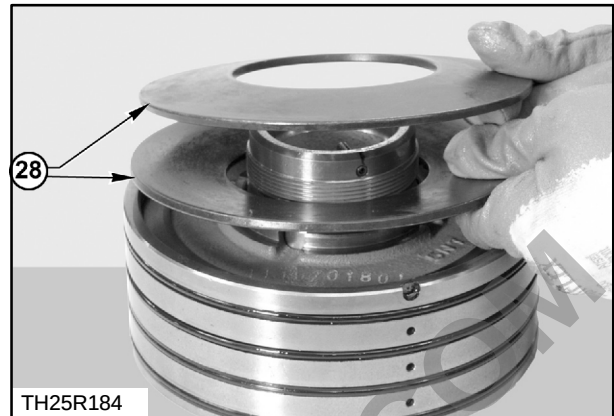
35

Remove the springs (21).

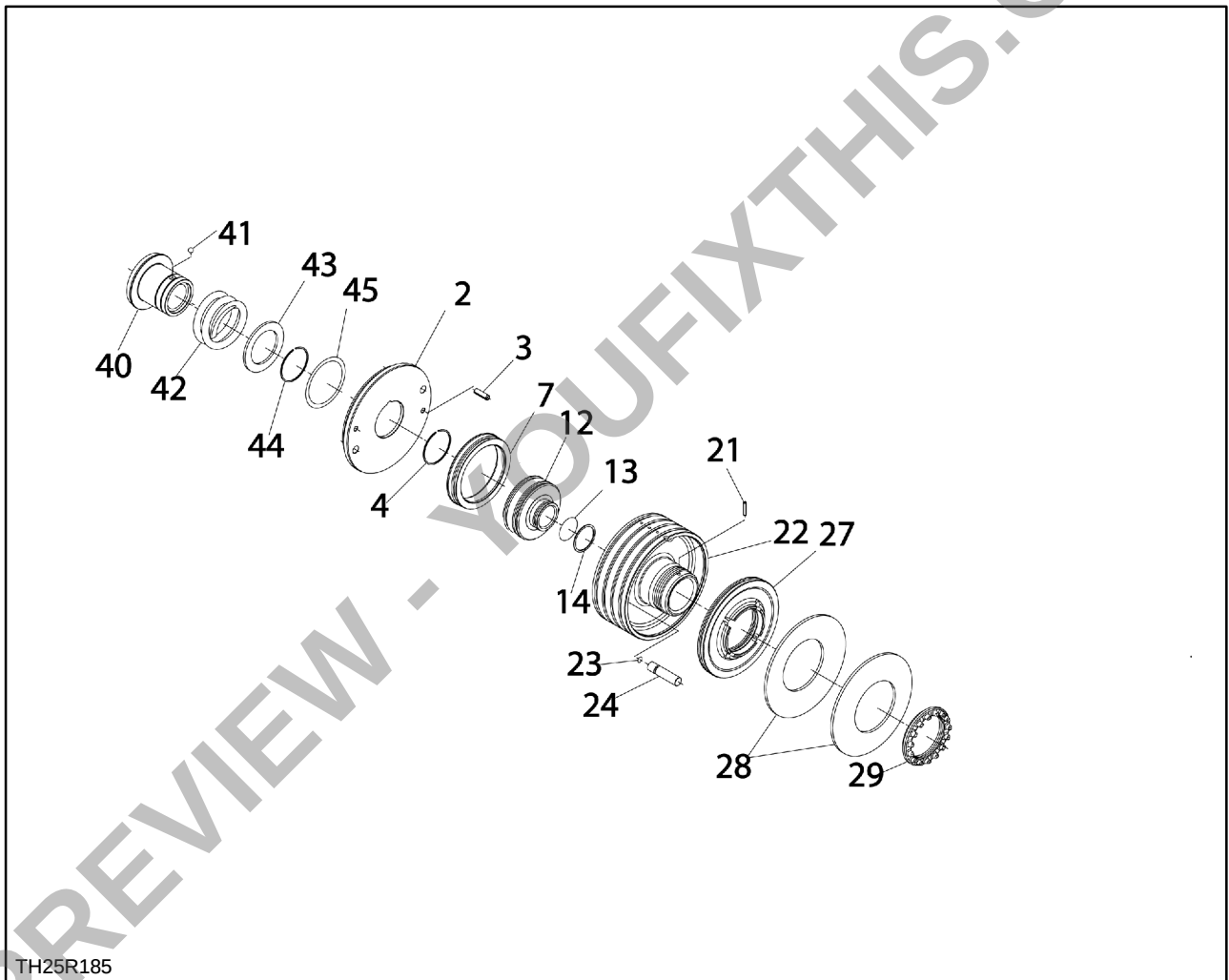


36

Remove the disc springs (28).

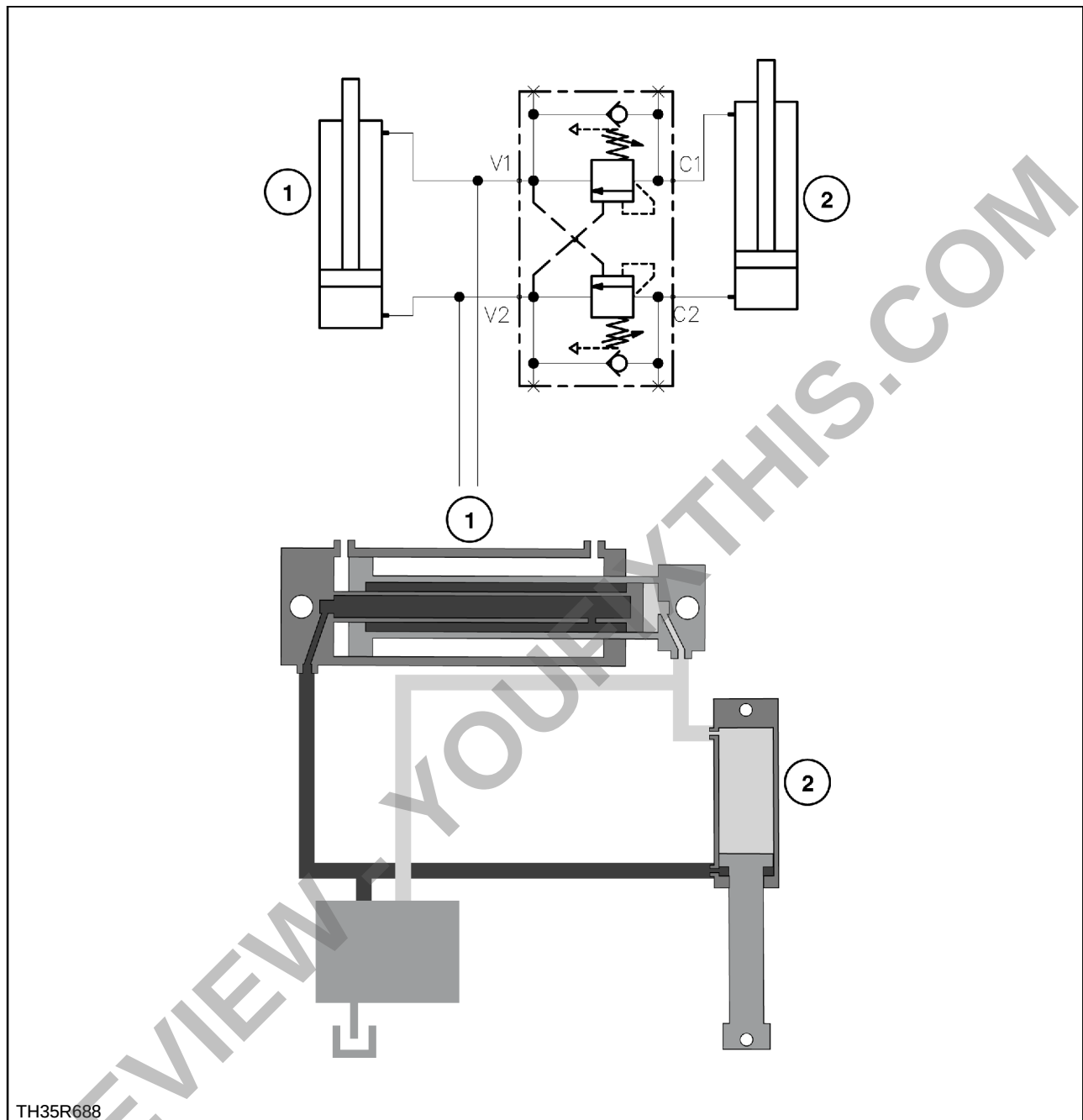


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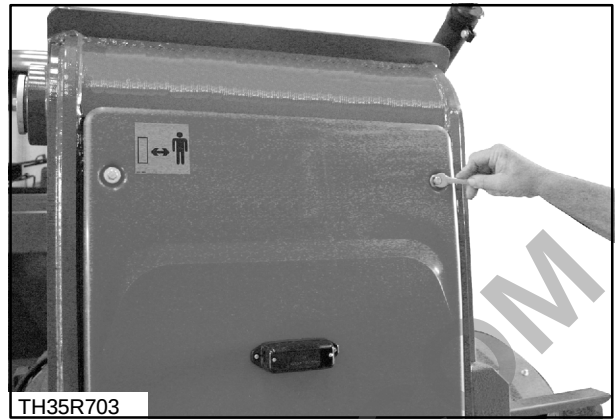
145

Hydraulic circuit



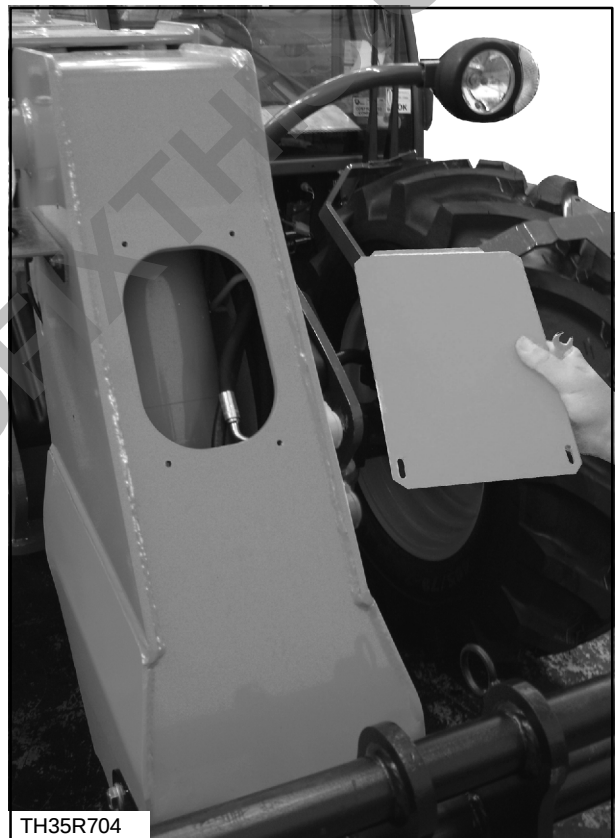
1. Boom/compensation cylinder
2. Tilt cylinder

5. Remove the rear panel.



116

6. Remove the front guard on the boom hood.



117

Gear Engaged

The currently engaged gear according to the following table must be shown on display:

Displayed gear	ID25
NO DISPLAY	+12V
I can see the gears according to the CAN message	A.C.

In case of A.C. and no messages on the can line, nothing is displayed.

PREVIEW - YOUFIXTHIS.COM

Code	Description	What to do
68	Accomplisher 2 status feedback error	<ul style="list-style-type: none"> • Check the proper functioning of the external accomplisher • Verify the cable • Contact Technical Assistance
71	Rearm joystick analogue input out of range	<ul style="list-style-type: none"> • Check the proper functioning of the Joystick • Verify the cable • Contact Technical Assistance
72	Feedback pressure sensor for joystick rearm analogue input out of range	<ul style="list-style-type: none"> • Check the proper functioning of the pressure transducer • Verify the cable • Contact Technical Assistance
73	Receive error of CAN BUS messages from external unit	<ul style="list-style-type: none"> • Verify the cable • Contact Technical Assistance

Note:

Not all alarms are taken in account during the calibration mode.

Alarm Codes that cause the exit from the Calibration Mode:

from 11 to 17;

from 31 to 39;

from 41 to 49;

61.

PREVIEW ONLY

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