SERVICE MANUAL

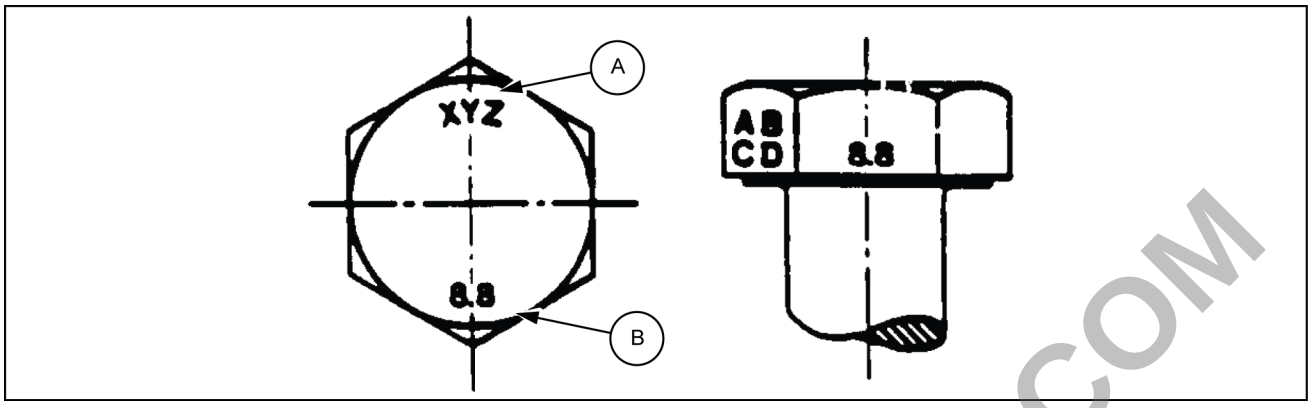
TH6.32 / TH6.36 / TH7.32 / TH7.37 / TH7.42 / TH9.35
Stage IV
Telescopic Handler

PREVIEW - YOUFIXTHIS.COM

Part number 51546942
English
October 2018

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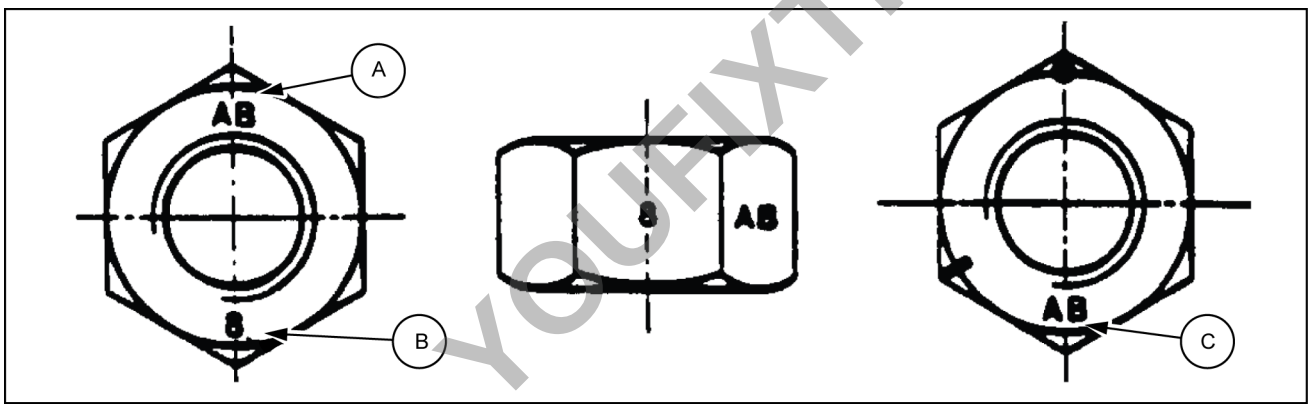
Hexagonal screws (without nut) and round head bolts – class 5.6 and higher



LEIL14THL0992EB 2

A. Identification of manufacturer
B. Commercial class

Hexagonal nuts and lock nuts – class 05 and higher



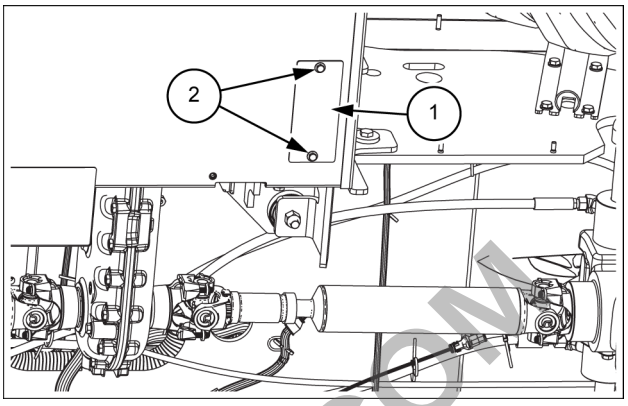
LEIL14THL0993EB 3

A. Identification of manufacturer
B. Commercial class
C. Marking

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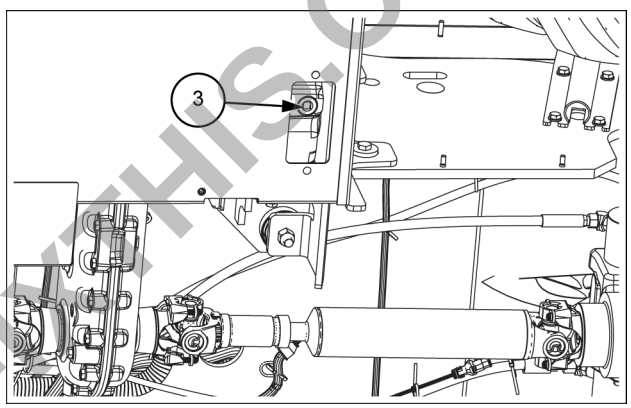
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10. Locate the plate **(1)** under the lower hood. Remove the two screws **(2)** and the plate **(1)** from to the lower hood.



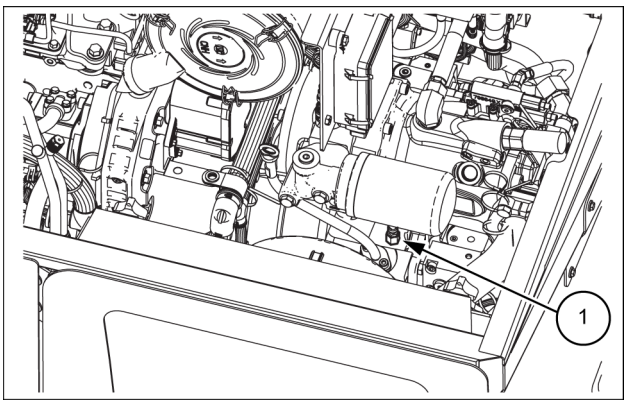
LEIL18TLH0534AB 6

11. Locate the drain plug **(3)** under the lower engine hood.



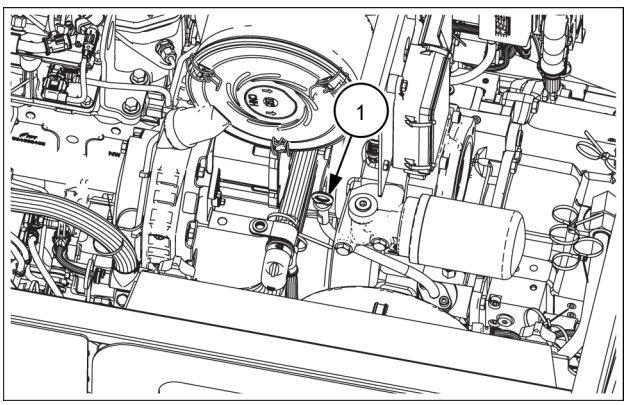
LEIL18TLH0535AB 7

12. Open the engine hood and locate the breather **(1)**.
13. Clean with care the breather **(1)** and the surrounding area.



LEIL18TLH0975AB 8

14. To drain the oil remove the fill dipstick **(1)**.



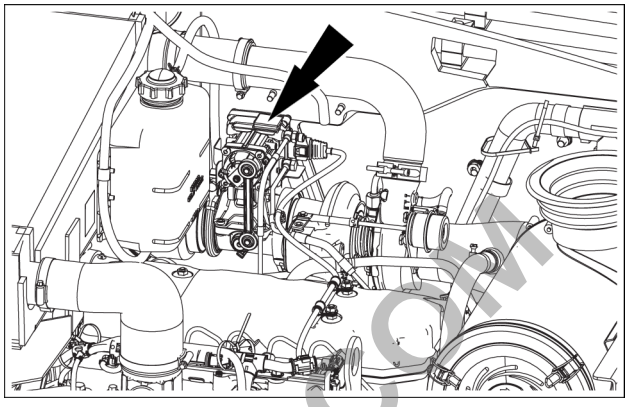
LEIL18TLH0490AA 9

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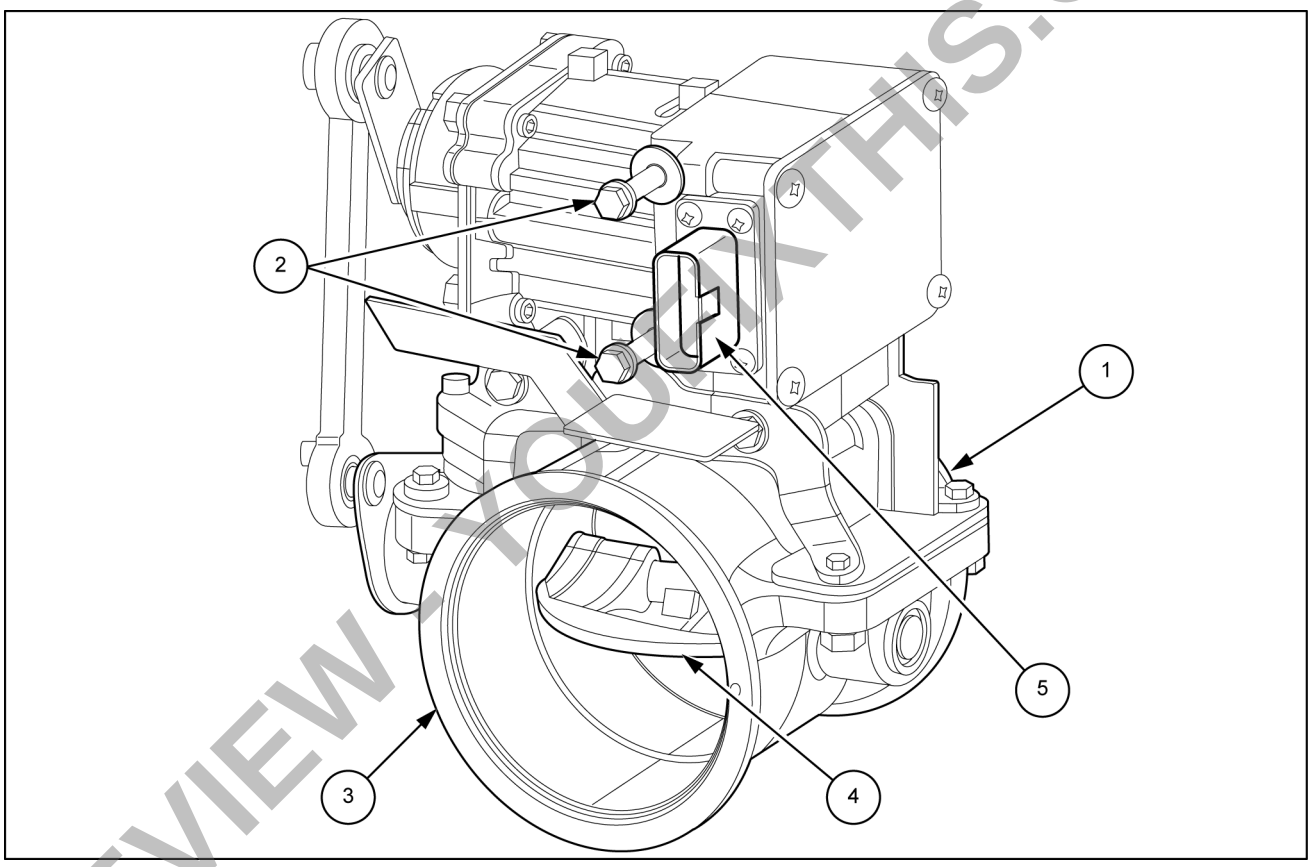
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Exhaust flap

The exhaust flap is a device located between the turbine and the exhaust system. The exhaust flap is equipped with a throttle valve which manages the rate and the “light off” temperature of the exhaust gas.
The “light off” temperature indicates the temperature at which the catalytic process is initiated.



LEIL17TLH0866AA 9



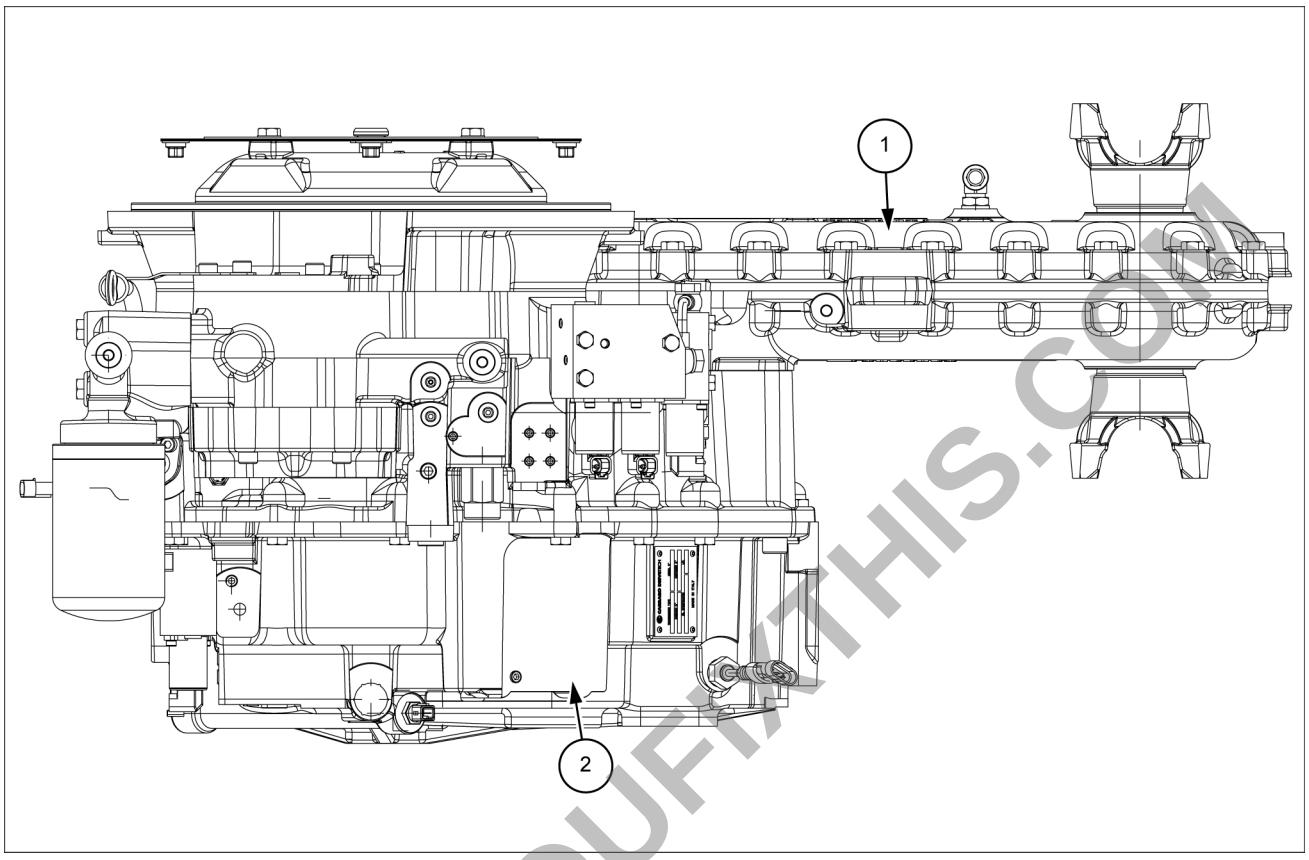
LEIL13WHL0193FB 10

1. Exhaust air outlet
2. Coolant connections
3. Exhaust air inlet
4. Throttle valve
5. Electrical connector

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Powershift transmission - Component identification



LEIL18TLH0423FB 1

1. Powershift (PS), for shifting and reversing
2. Transfer Box (TB), for torque movement to driveline center

TCH90 SD is a Powershift Torque Converter transmission for telehandler, designed to be compatible with typical vehicles layout. Because of the vehicle boom lateral position, the engine is generally assembled in the opposite side and the transmission in addition to the usual shifting functionality is used to move the torque to the driveline center.

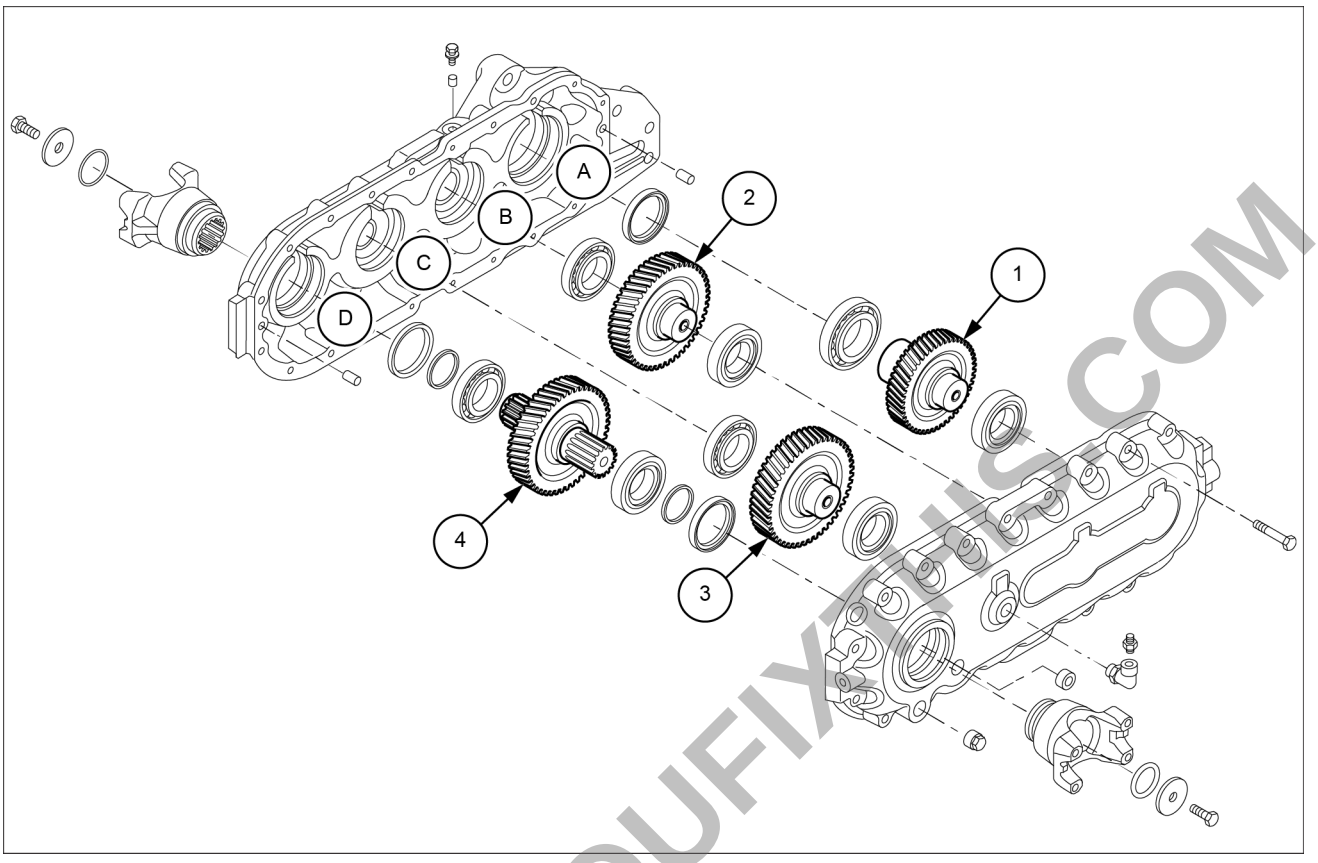
Both PS and TB modules must be filled with automatic transmission fluid for the following operations:

- Clutches actuation
- Torque converter power transmission
- Gears and bearings lubrication
- Clutches cooling

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Gearbox housing - Exploded view - Transfer box TB427



LEIL18TLH0178FB 1

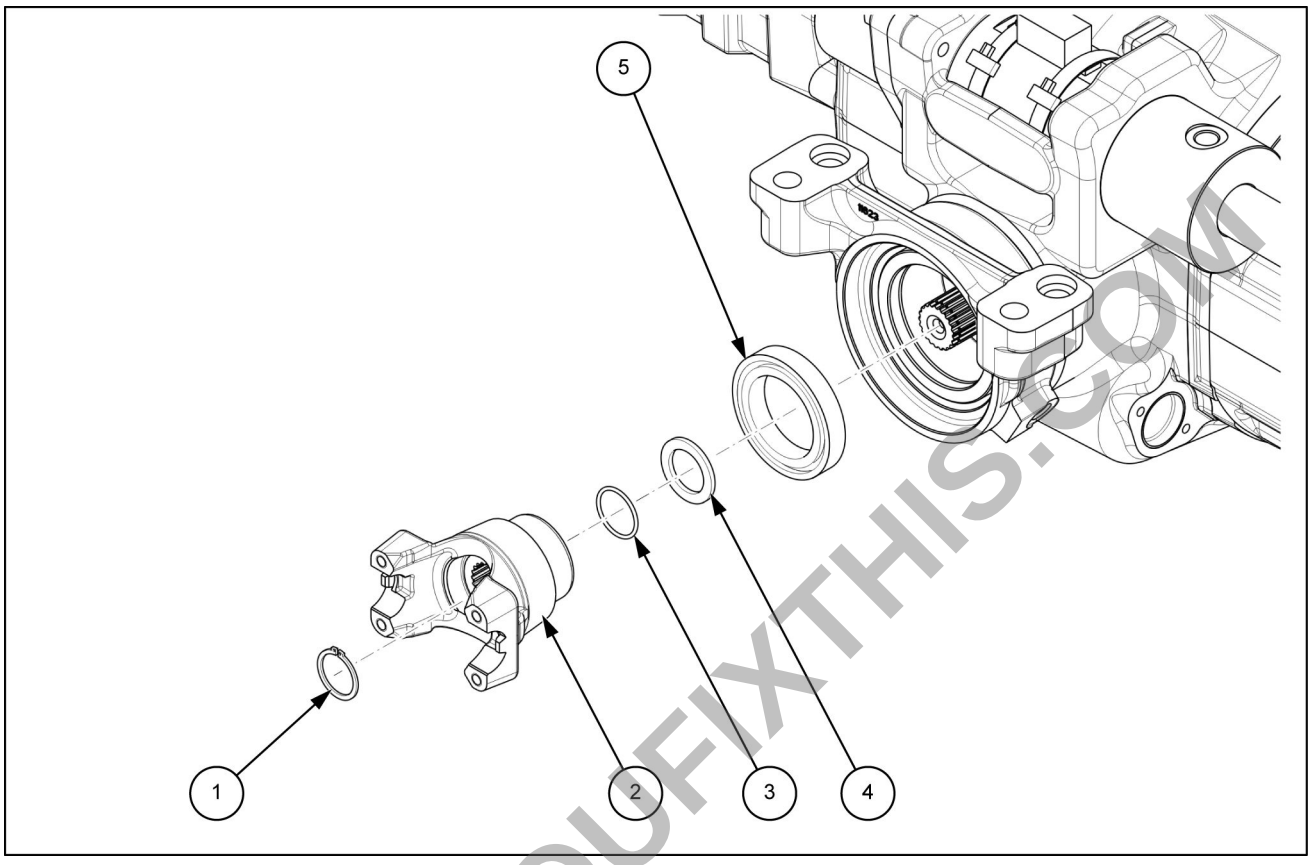
1. Input gear
2. Intermediate gear
3. Intermediate gear
4. Output gear

A. Input axis
B. Intermediate axis
C. Intermediate axis
D. Output axis

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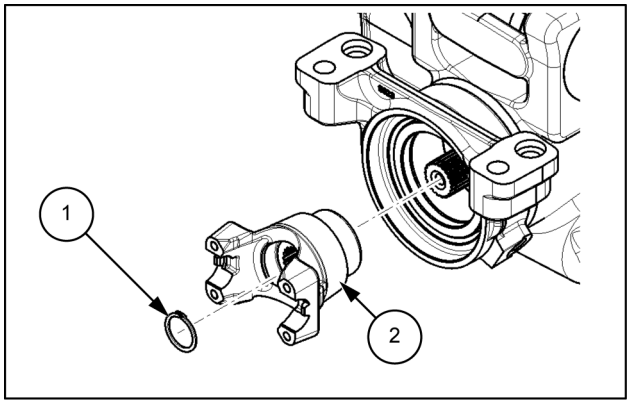
Drive shaft universal joint - Disassemble



LEIL13TLH0624FB 1

Some of the following pictures may not show exactly your axle, but the indicated operations are correct anyway.

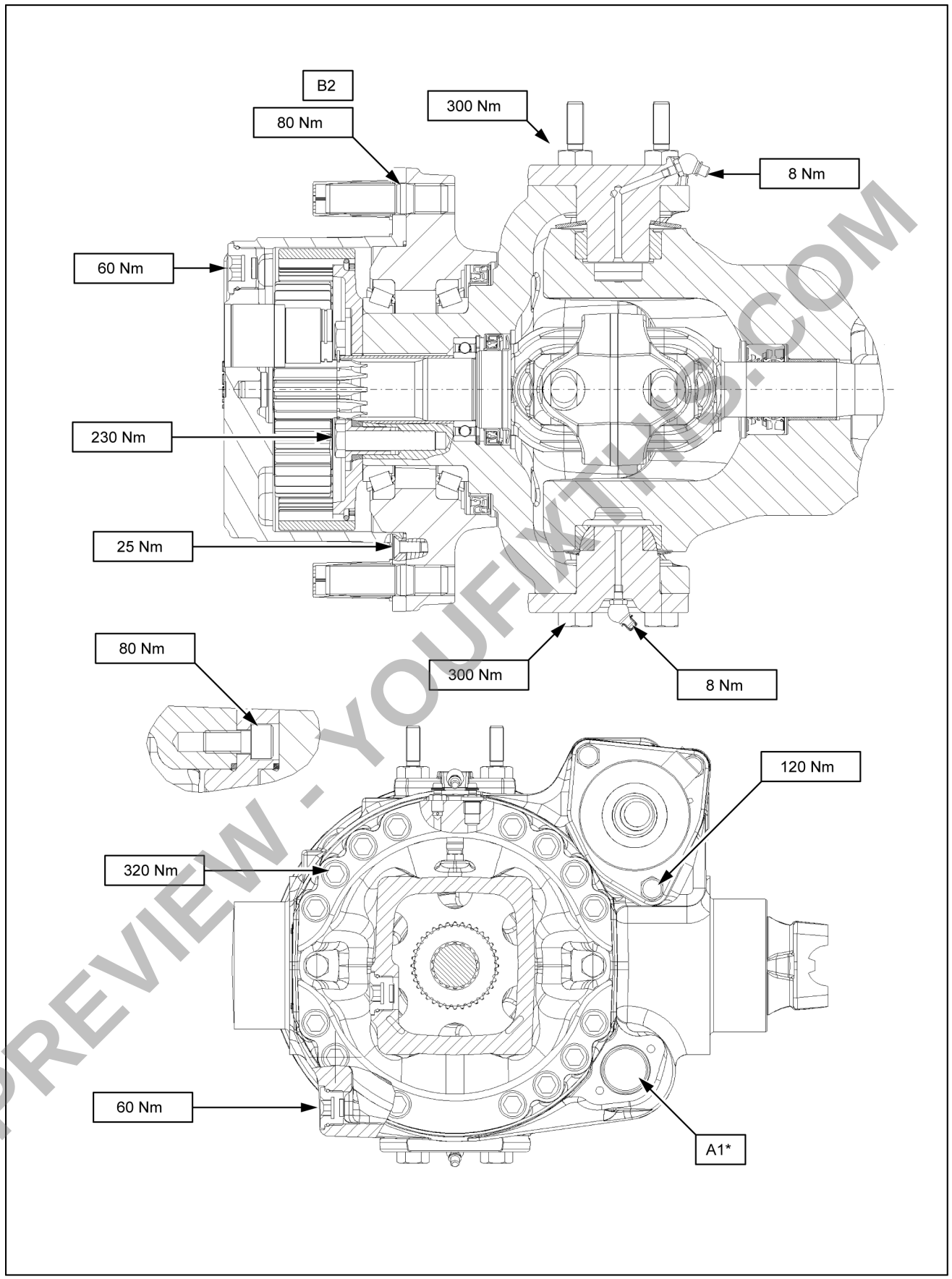
Remove the lock ring **(1)** from the pinion end and remove the drive shaft joint **(2)**.



LEIL13TLH0625AB 2

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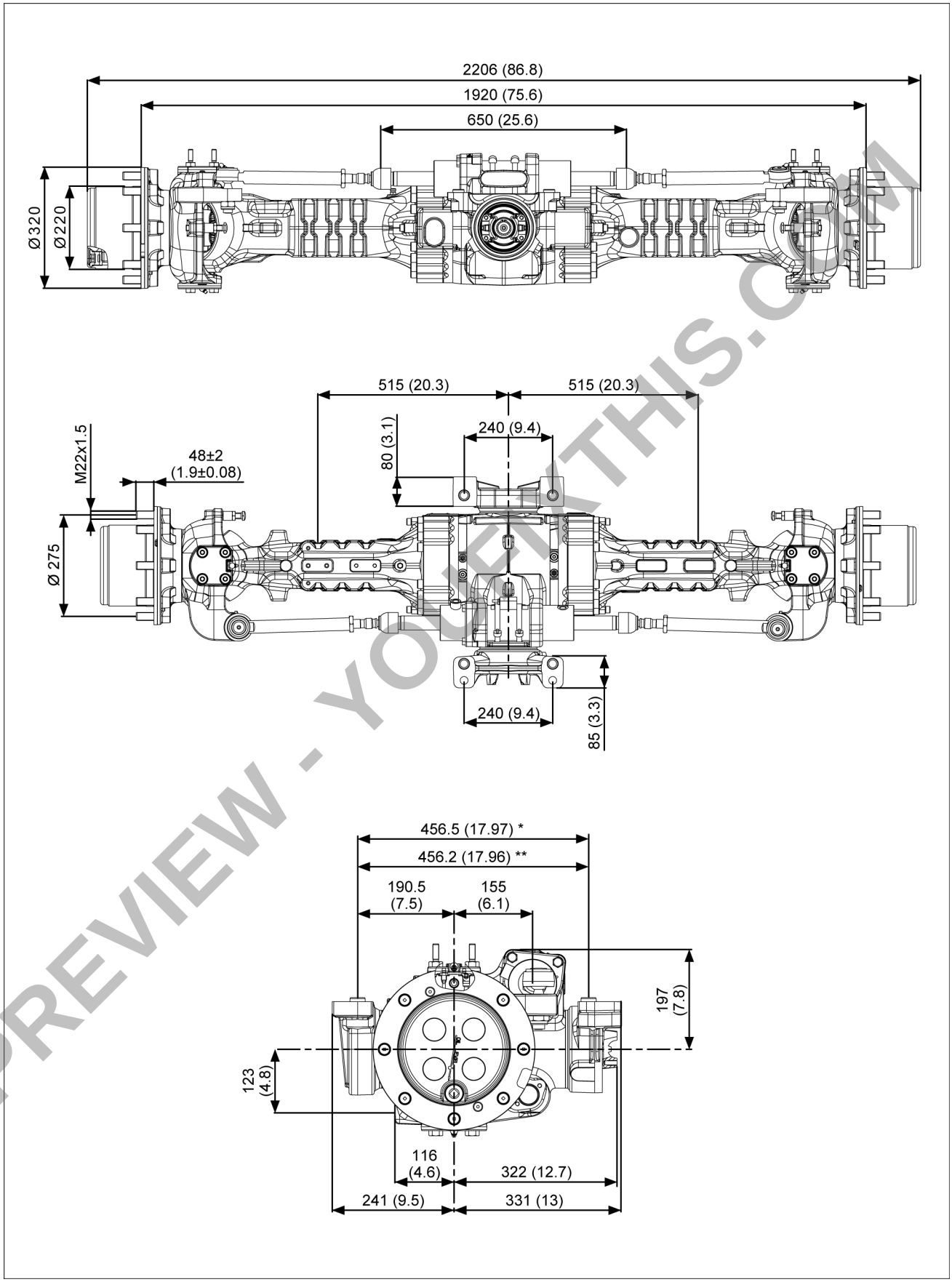


LEIL13TLH0614HB 1

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Main Dimension



LEIL17TLH1013HB 2

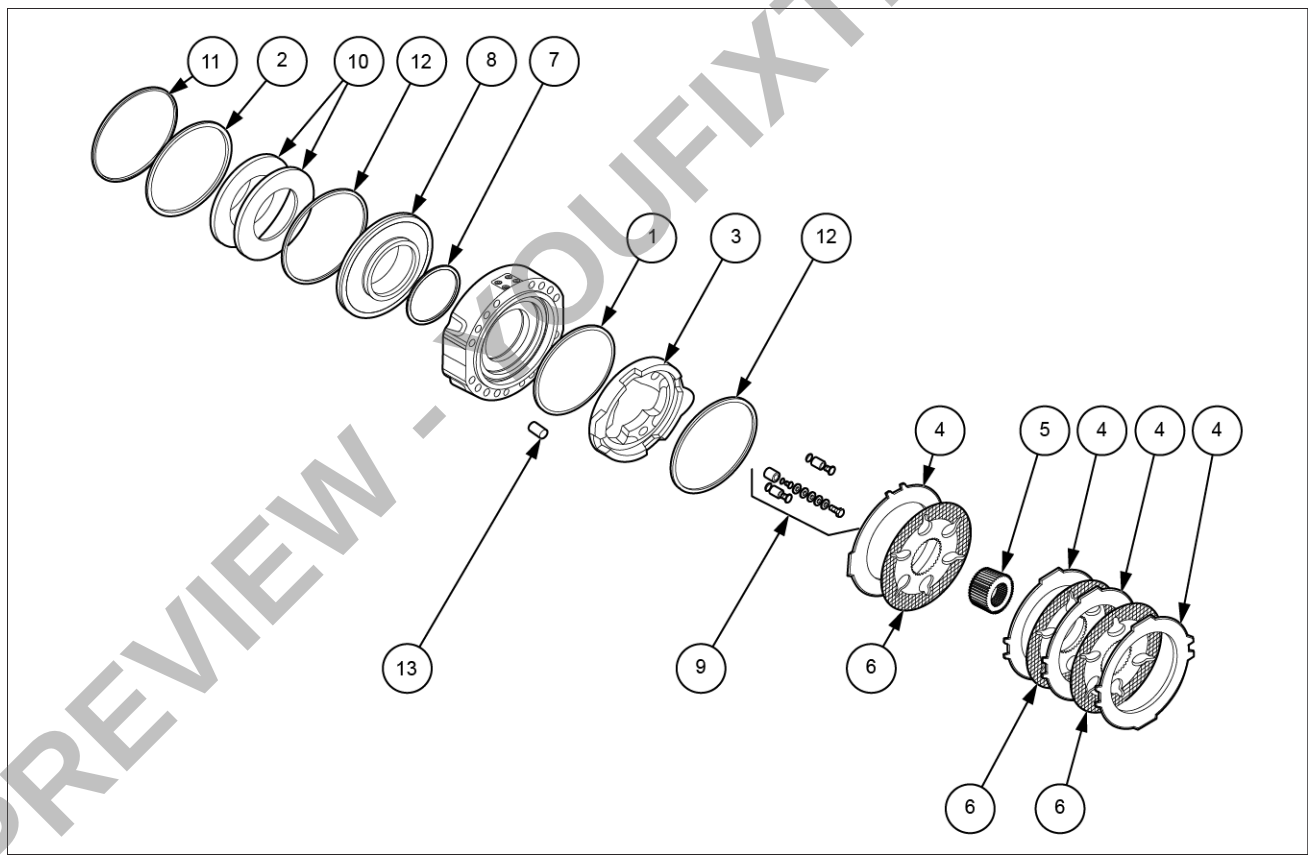
* Housing ** Trunnion

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Hydraulic service brakes - Exploded view

Limited Slip Differential (LSD) front axle - Brakes

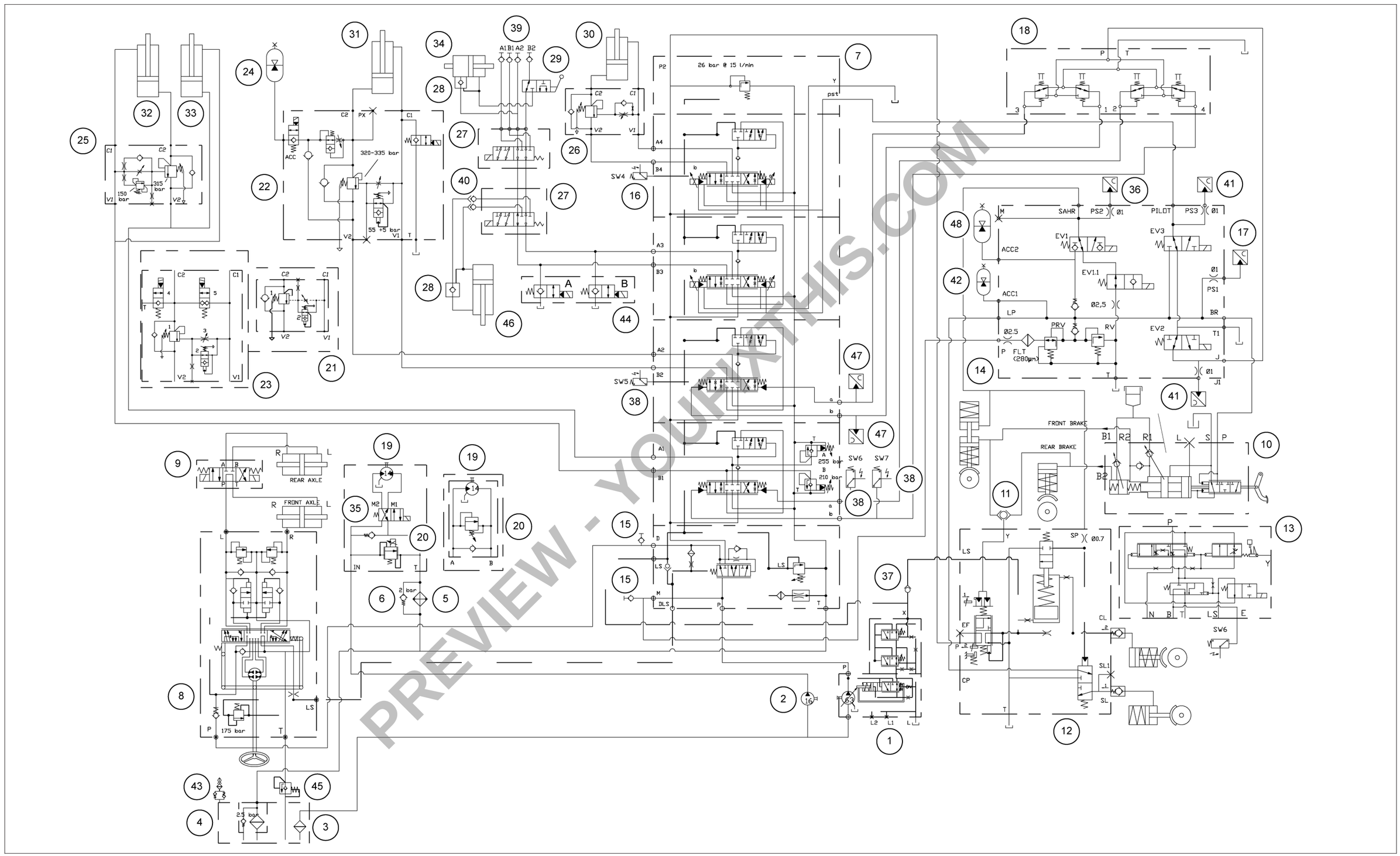
Item	Description	Quantity
1	O-Ring	1
2	Spacer	1
3	Brake piston	1
4	Drive plate	4
5	Sleeve	1
6	Brake disc	3
7	O-Ring	1
8	Negative brake piston	1
9	Self adjust kit	1
10	Belleville washer	2
11	Lock ring	1
12	O-Ring	2
13	Pin	3



LEIL13TLH1557FB 1

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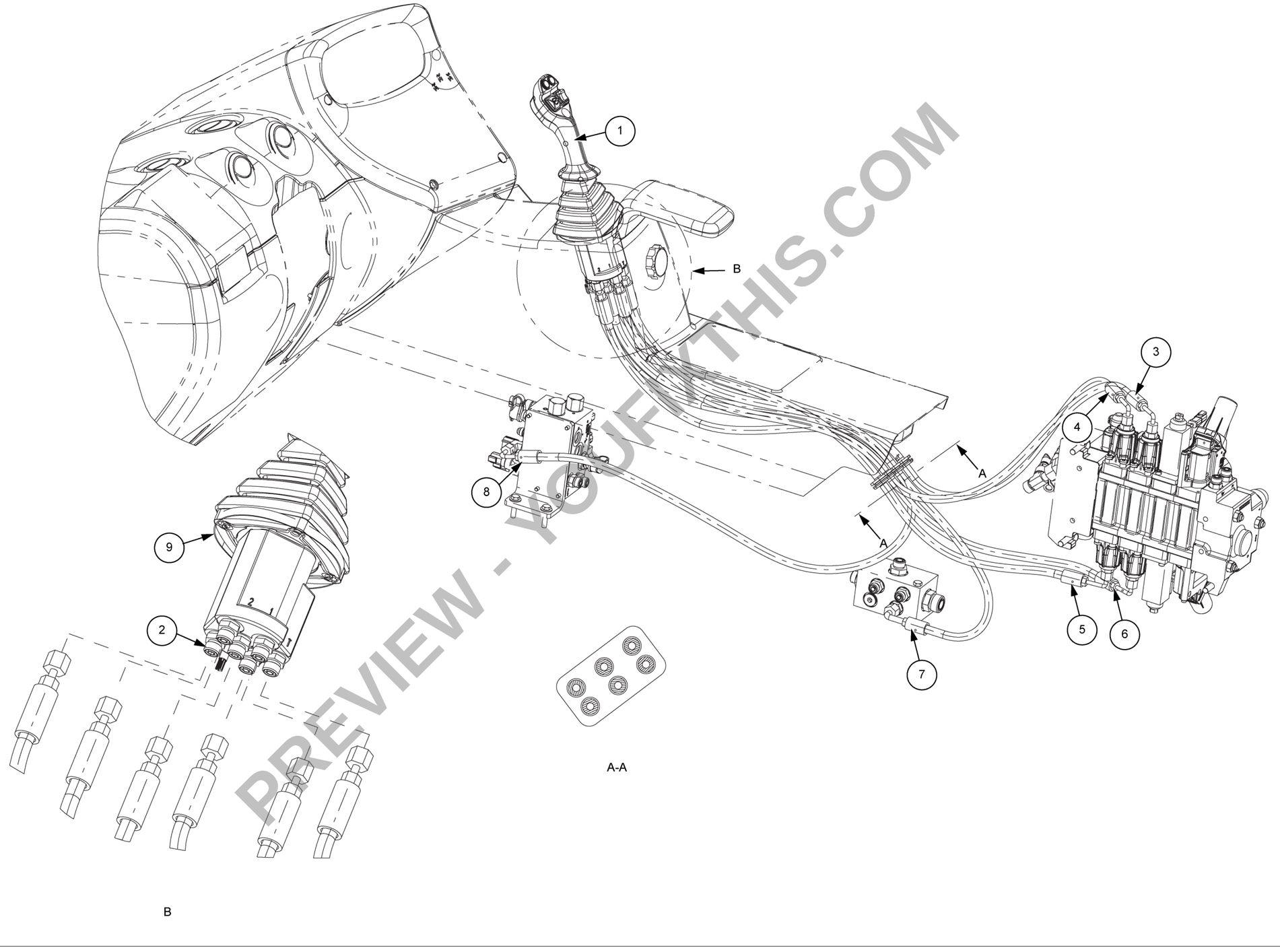
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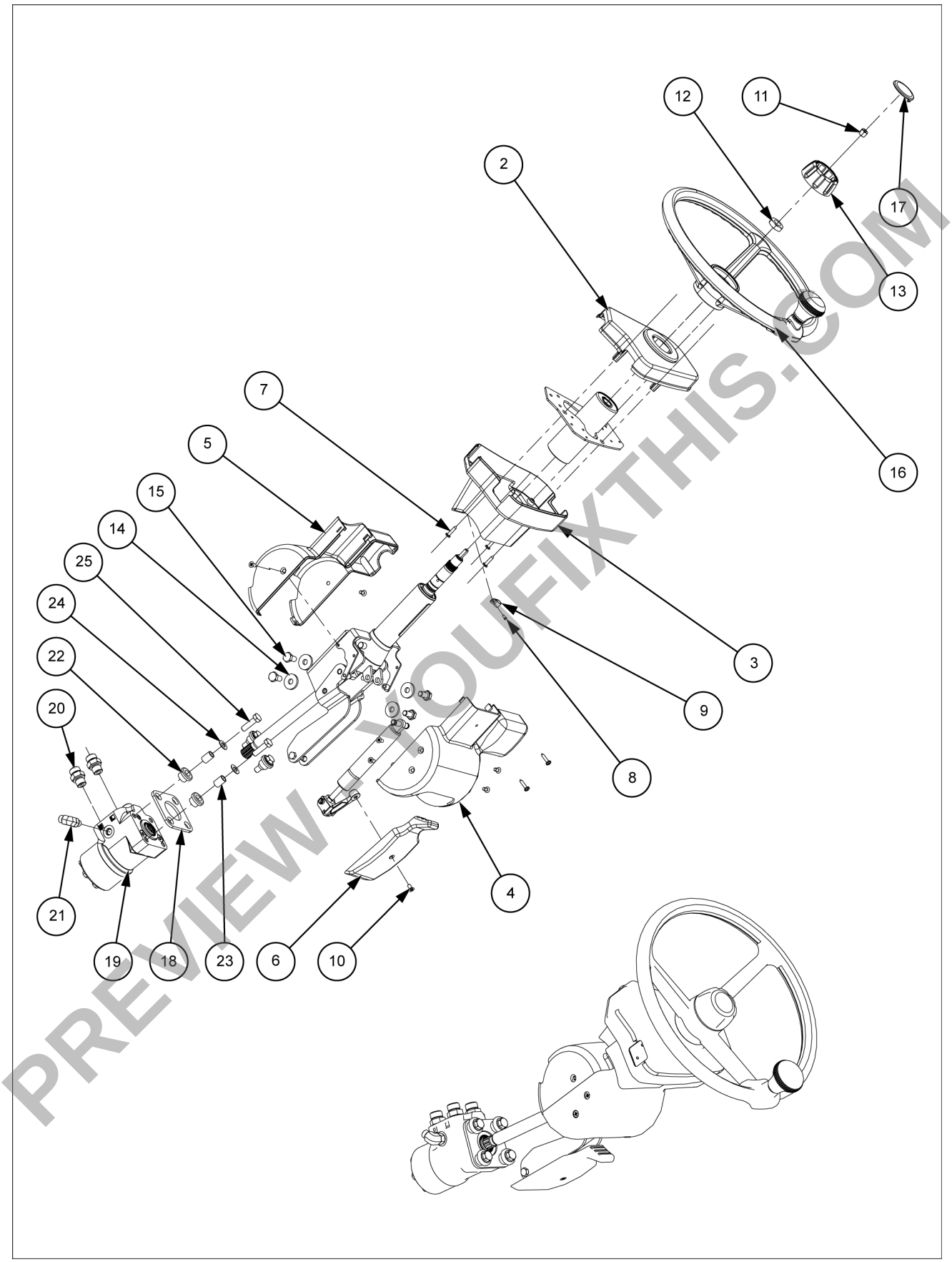
A-A

B

LEIL17TLH1165JB 1

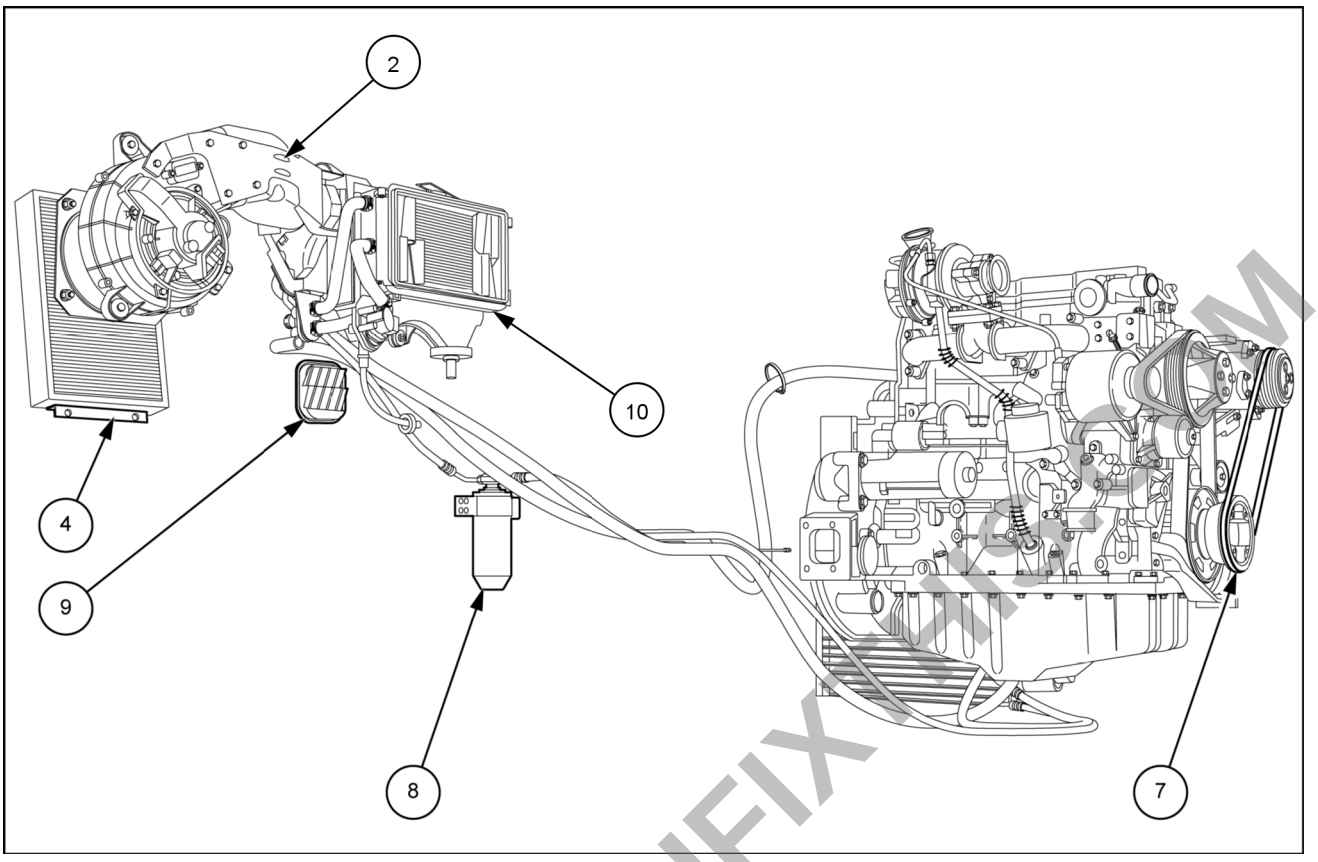
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LEIL13TLH0944FB 2

2. Air conditioning unit
4. Filter
7. Belt
8. Receiver/Dryer
9. Air Exhaust Valve
10. Evaporator

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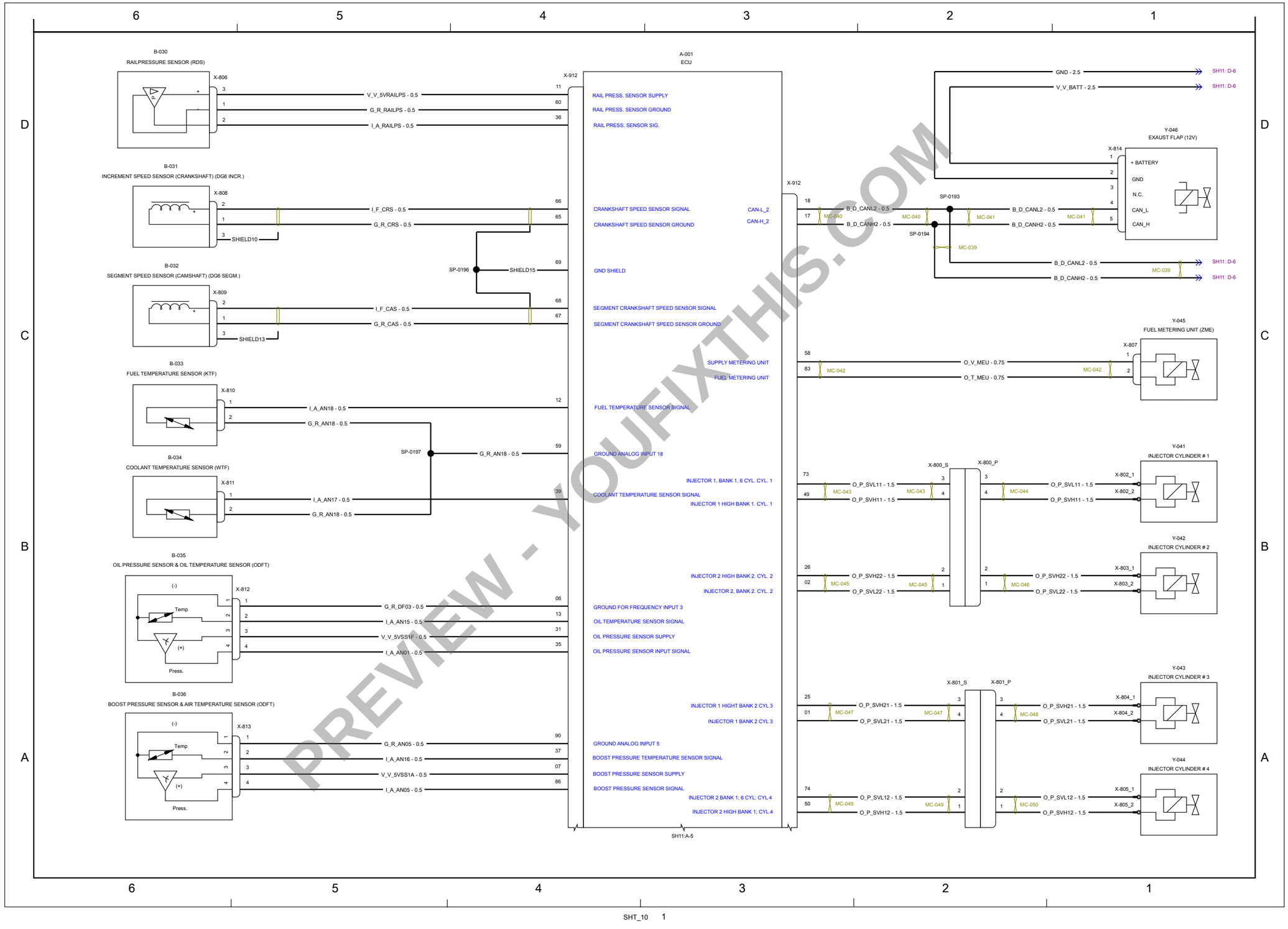
SERVICE MANUAL

Electrical systems

TH6.32 S TH6.32 S 89 kW (119 hp) [FNHZM632NJKD00001 -], TH6.32 TH6.32 89 kW (119 hp) [FNHZM632NJKD00001 -], TH6.36 ELITE TH6.36 ELITE 96 kW (129 hp) [FNHZJ636NJKD00001 -], TH6.36 PLUS TH6.36 PLUS 89 kW (119 hp) [FNHZM636NJKD00001 -], TH7.32 PLUS TH7.32 PLUS 89 kW (119 hp) [FNHZM732NJKD00001 -], TH7.32 S TH7.32 S 89 kW (119 hp) [FNHZM732NJKD00001 -], TH7.32 TH7.32 89 kW (119 hp) [FNHZM732NJKD00001 -], TH7.37 ELITE TH7.37 ELITE 96 kW (129 hp) [FNHZJ737NJKD00001 -], TH7.37 PLUS TH7.37 PLUS 89 kW (119 hp) [FNHZM737NJKD00001 -], TH7.37 TH7.37 89 kW (119 hp) [FNHZM737NJKD00001 -], TH7.42 ELITE TH7.42 ELITE 96 kW (129 hp) [FNHZJ742NJKD00001 -], TH7.42 PLUS TH7.42 PLUS 89 kW (119 hp) [FNHZM742NJKD00001 -], TH9.35 PLUS TH9.35 PLUS 89 kW (119 hp) [FNHZM935NJKD00001 -], TH9.35 TH9.35 89 kW (119 hp) [FNHZM935NJKD00001 -]

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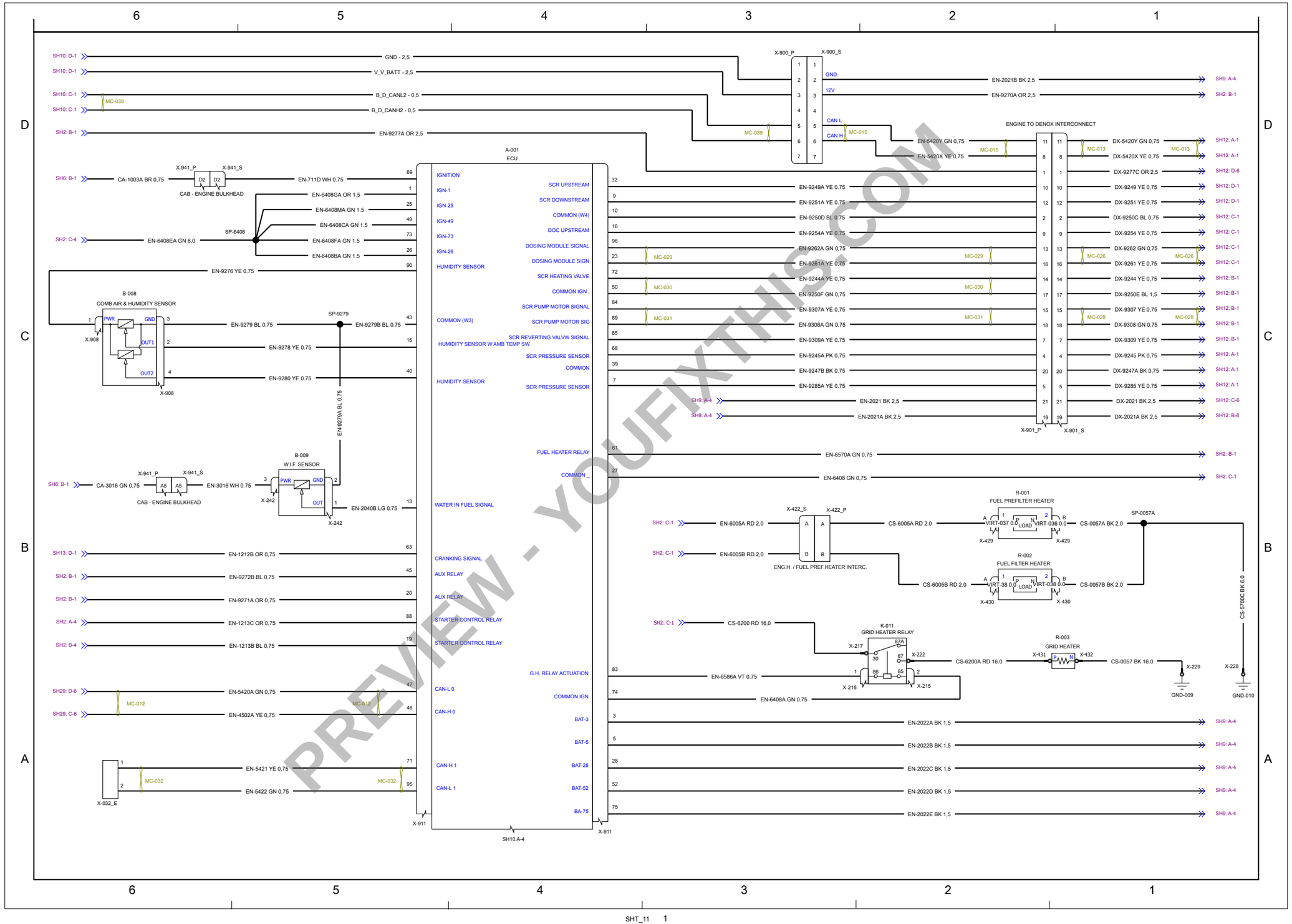
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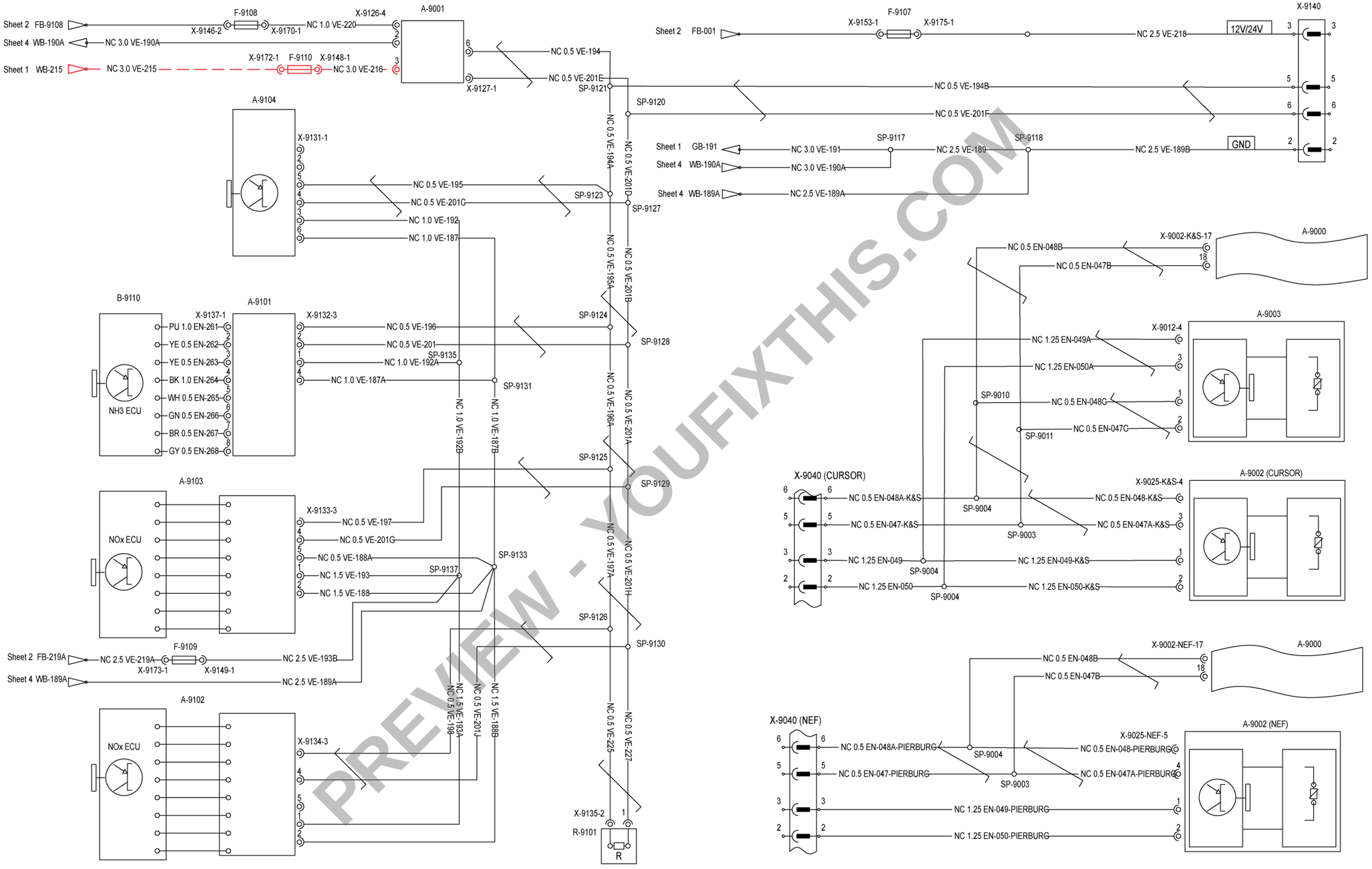
SHT_10 1

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SHEET 4 - ENGINE - CAN

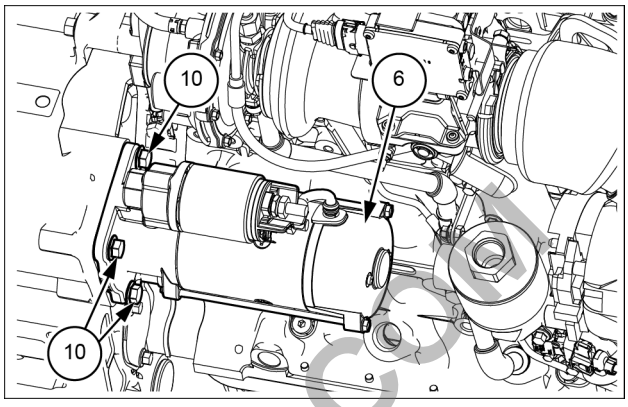
NHIL14ENG0035JA 1

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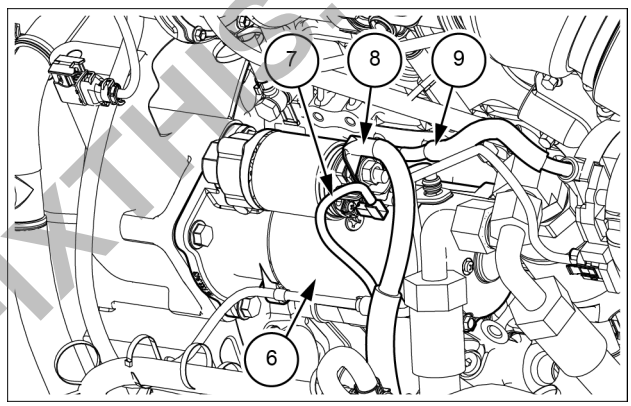
Engine starter - Install

1. Position the engine starter **(6)** to the engine.
   Install and tighten the bolts **(10)** with the relevant washers to fix the engine starter **(6)** to the engine.



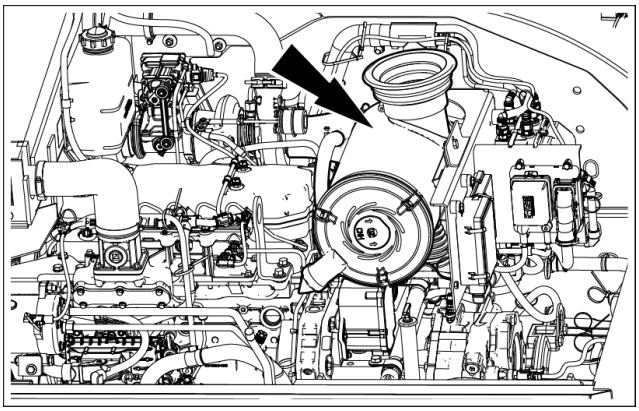
LEIL17TLH1185AB 1

2. Connect the connector **(7)**, the battery disconnect cable **(8)** and the alternator cable **(9)** to the engine starter **(6)**.



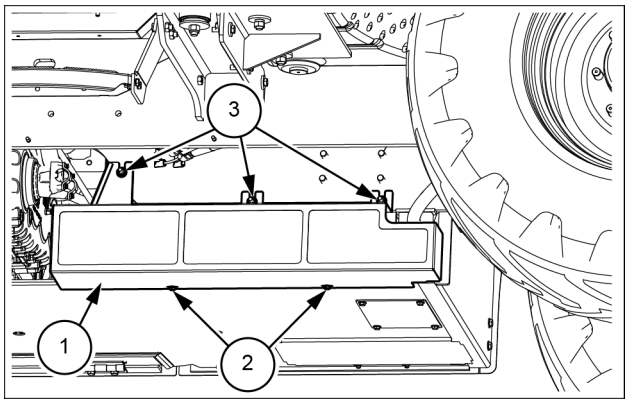
LEIL17TLH1184AB 2

3. Reinstall the engine air filter assembly.



LEIL17TLH1183AB 3

4. Position properly the cover **(1)** to the frame lower side and to the engine compartment.
5. Install the retaining bolts **(2)** and the nuts **(3)** to fix the cover **(1)** to the frame lower side and to the engine compartment.
6. Tighten the retaining bolts **(2)** to **24.5 – 33.2 N·m** (**18.1 – 24.5 lb ft**).
   Tighten the nuts **(3)** to **69.5 – 94.0 N·m** (**51.3 – 69.3 lb ft**).



LEIL17TLH1178AB 4

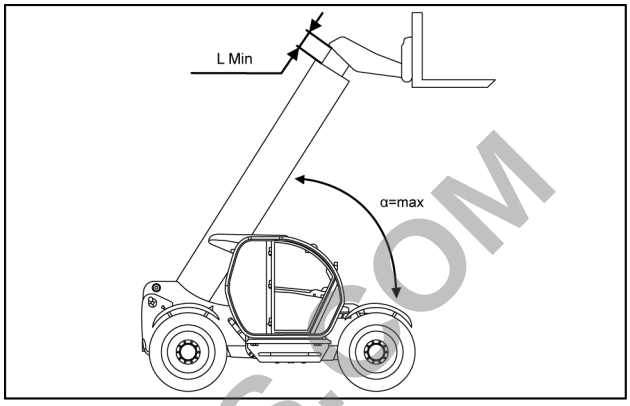
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Machine configuration overview

0% ROLL OVER RISK

- No load on forks
- Boom to highest position
- Telescopic fully retracted
- Point which will correspond to **0%** of roll over risk (Point #1)

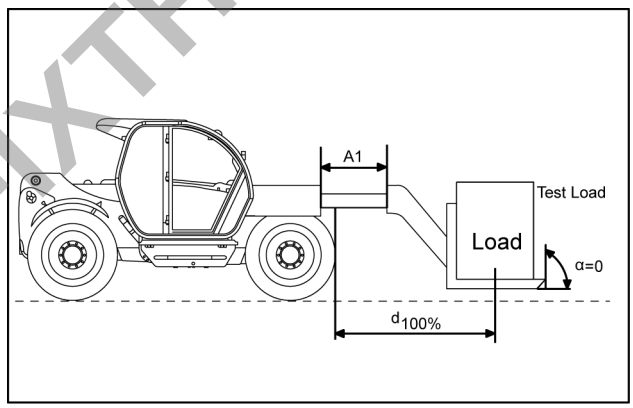


LEIL13TLH1692AA 3

100% ROLL OVER RISK

- Load= Q
- Reach(*) = $d_{100\%}$
- Telescope extension = A1 (**)
- Boom parallel to the ground
- Point which will correspond to **100%** of roll over risk (Point #2)

(*) reach for which the rear wheels lift up
(**) refer to figure **7** and figure **8**

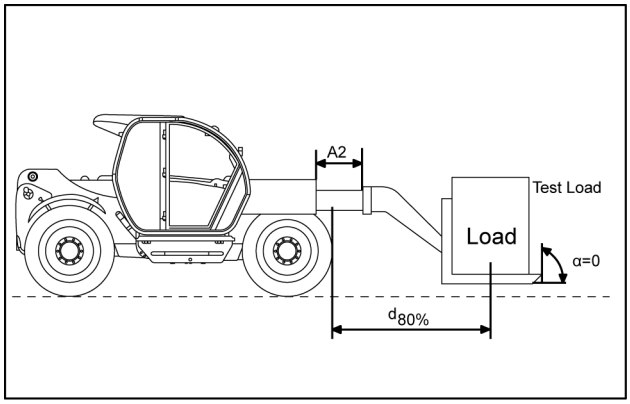


LEIL13TLH1693AA 4

80% ROLL OVER RISK

- Load= Q
- Reach = $d_{80\%}$
- Telescope extension = A2 (**)
- Rear wheels stable on the ground
- Point which will trigger the hydraulic stop request (Point #3)

(**) refer to figure **7** and figure **8**



LEIL13TLH1694AA 5

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Electrical systems - 55

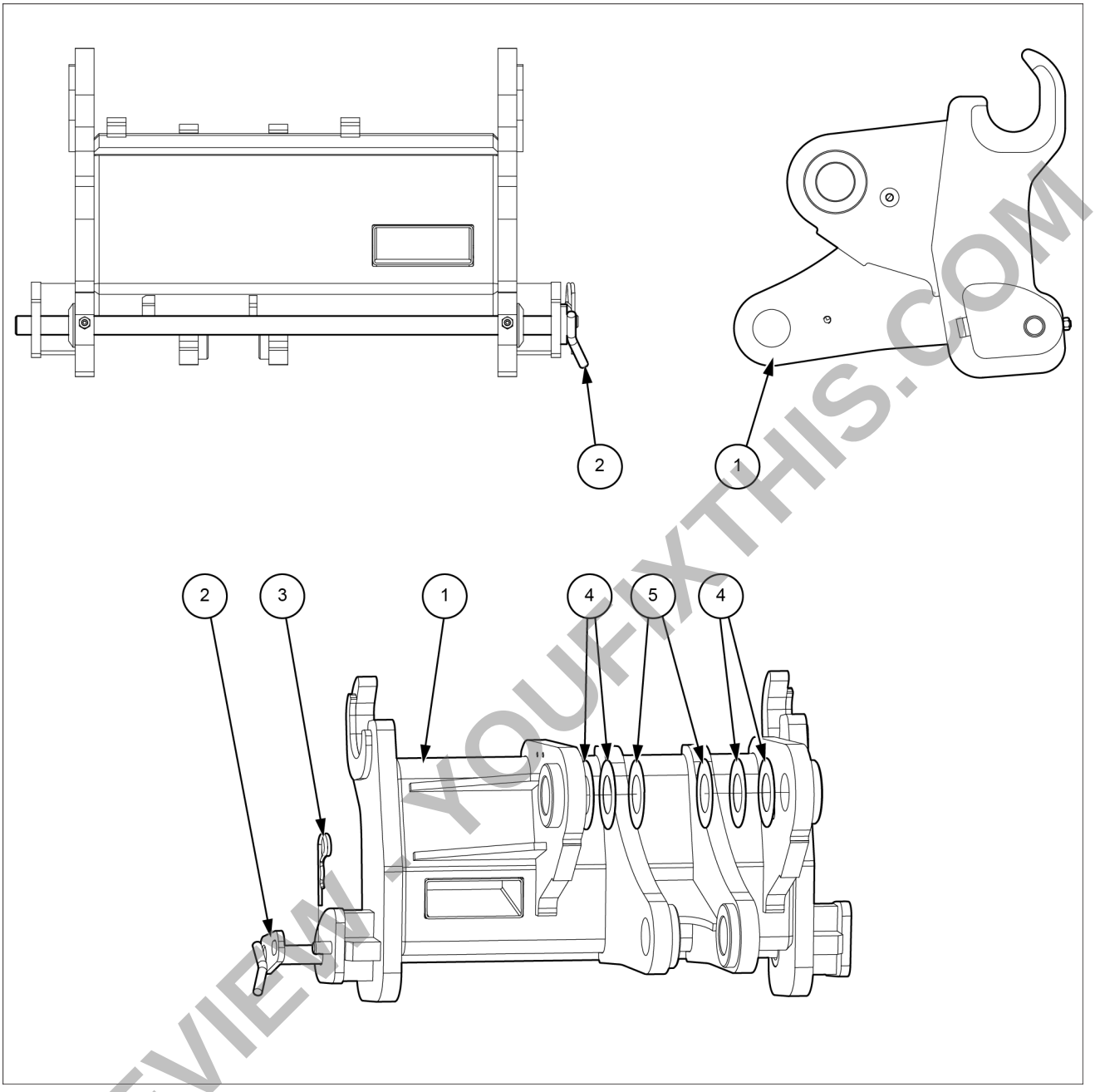
FAULT CODES - DTC

TH6.32 S TH6.32 S 89 kW (119 hp) [FNHZM632NJKD00001 -], TH6.32 TH6.32 89 kW (119 hp) [FNHZM632NJKD00001 -], TH6.36 ELITE TH6.36 ELITE 96 kW (129 hp) [FNHZJ636NJKD00001 -], TH6.36 PLUS TH6.36 PLUS 89 kW (119 hp) [FNHZM636NJKD00001 -], TH7.32 PLUS TH7.32 PLUS 89 kW (119 hp) [FNHZM732NJKD00001 -], TH7.32 S TH7.32 S 89 kW (119 hp) [FNHZM732NJKD00001 -], TH7.32 TH7.32 89 kW (119 hp) [FNHZM732NJKD00001 -], TH7.37 ELITE TH7.37 ELITE 96 kW (129 hp) [FNHZJ737NJKD00001 -], TH7.37 PLUS TH7.37 PLUS 89 kW (119 hp) [FNHZM737NJKD00001 -], TH7.37 TH7.37 89 kW (119 hp) [FNHZM737NJKD00001 -], TH7.42 ELITE TH7.42 ELITE 96 kW (129 hp) [FNHZJ742NJKD00001 -], TH7.42 PLUS TH7.42 PLUS 89 kW (119 hp) [FNHZM742NJKD00001 -], TH9.35 PLUS TH9.35 PLUS 89 kW (119 hp) [FNHZM935NJKD00001 -], TH9.35 TH9.35 89 kW (119 hp) [FNHZM935NJKD00001 -]

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Manitou mechanical carrier



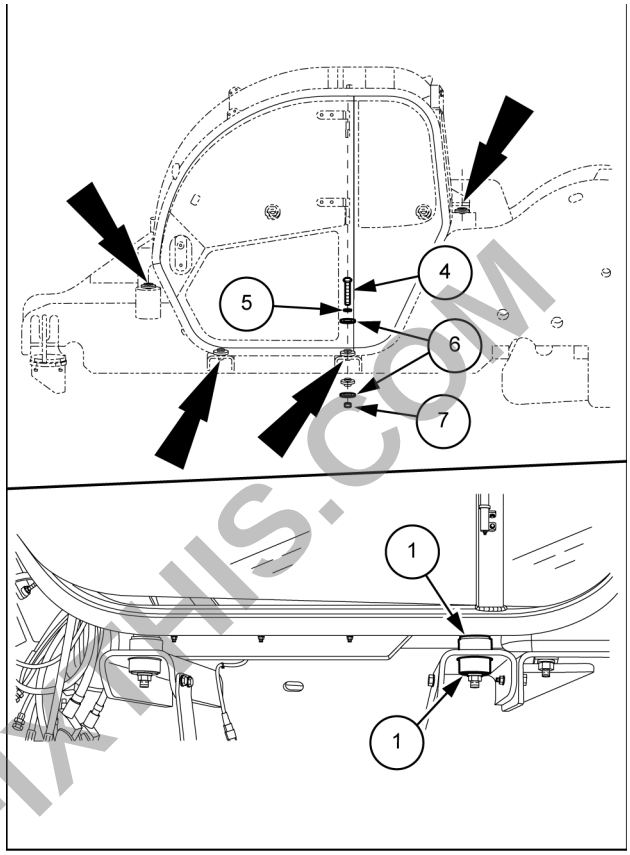
LEIL17TLH0649GB 2

1. Carrier
2. Pin
3. Cotter pin
4. Shim **1 mm** (quantity 4)
5. Shim **0.5 mm** (quantity 2)

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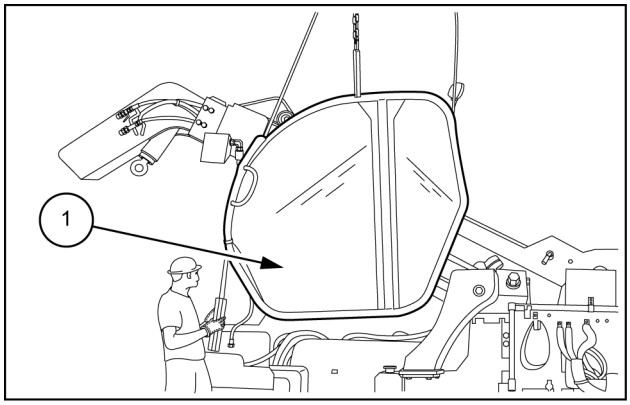
21. In each of the four locations shown in figure **14**, remove the screw **M16 x 150 (4)**, the washer 17.5x34x5 **(5)**, the two washers 16.6x76.2x4.5 **(6)**, the hexagonal nut **(7)** and the two silent blocks **(1)**.



LEIL17TLH1362BB 14

22. Connect the cab **(1)** to a hoisting equipment. Stretch the chains. Be sure all wire harness connections and hoses have been disconnected.
Remove the cab **(1)** from the machine.

NOTE: *The weight of the cab is approximately* ***450 kg*** *(****992.1 lb****).*



LEIL14TLH1174AB 15

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Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.216] Fuel tanks 10.2

[10.206] Fuel filters 10.3

[10.202] Air cleaners and lines 10.4

[10.500] Selective Catalytic Reduction (SCR) exhaust treatment 10.5

[10.400] Engine cooling system 10.6

[10.414] Fan and drive 10.7

Transmission 21

[21.113] Powershift transmission 21.1

[21.135] Powershift transmission external controls 21.2

[21.155] Powershift transmission internal components 21.3

[21.120] Gearbox 21.4

[21.109] Transmission cooler and lines 21.5

[21.700] Torque converter 21.6

Four-Wheel Drive (4WD) system 23

[23.314] Drive shaft 23.1

Front axle system 25

[25.100] Powered front axle 25.1

[25.102] Front bevel gear set and differential 25.2

[25.108] Final drive hub, steering knuckles, and shafts 25.3

Rear axle system 27

[27.100] Powered rear axle 27.1

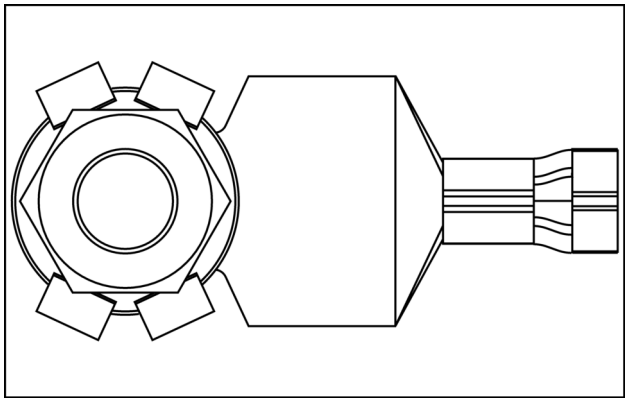
[27.106] Rear bevel gear set and differential 27.2

[27.120] Planetary and final drives 27.3

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X-805_1 - INJECTOR (CYL.4) PIN 1 [Y-044] (47988479) (Plug)

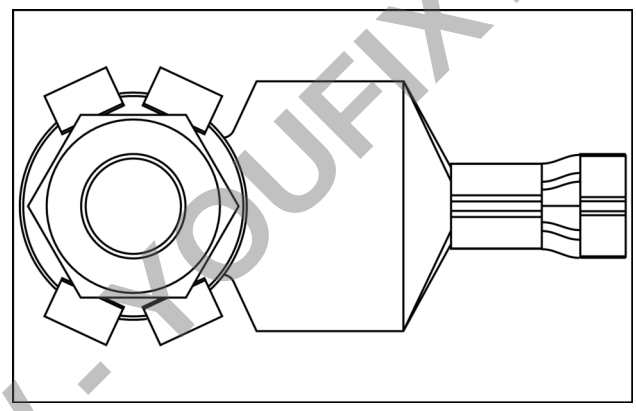


47988479 62

47988479

Pin	From	Wire	Description	Color-Size	Frame
1	**X-801_P (Plug) pin 2** - INJECTORS CYL 3 & 4 (87421341)	O_P_SVL12_I	INJECTOR 2 BANK 1; 6 CYL: CYL 4	- - 1.5	**SHEET 10 SH10 - (ECU) CORE ENGINE**

X-805_2 - INJECTOR (CYL.4) PIN 2 [Y-044] (47988479) (Plug)

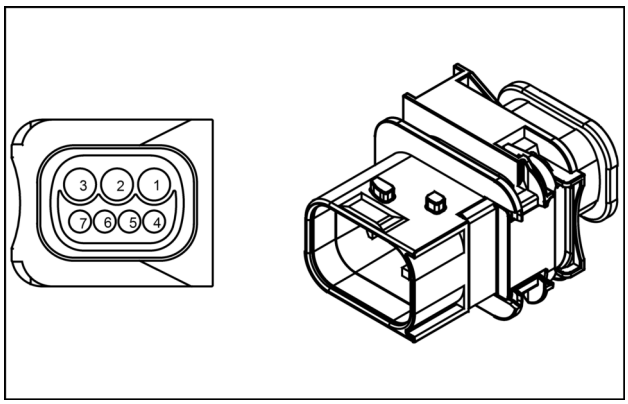


47988479 63

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Pin	From	Wire	Description	Color-Size	Frame
1	**X-801_P (Plug) pin 1** - INJECTORS CYL 3 & 4 (87421341)	O_P_SVH12_I	INJECTOR 2 HIGH BANK 1; CYL.4	- - 1.5	**SHEET 10 SH10 - (ECU) CORE ENGINE**

X-900_P - PLUG C (47706134) (Plug)



47706134 64

47706134

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