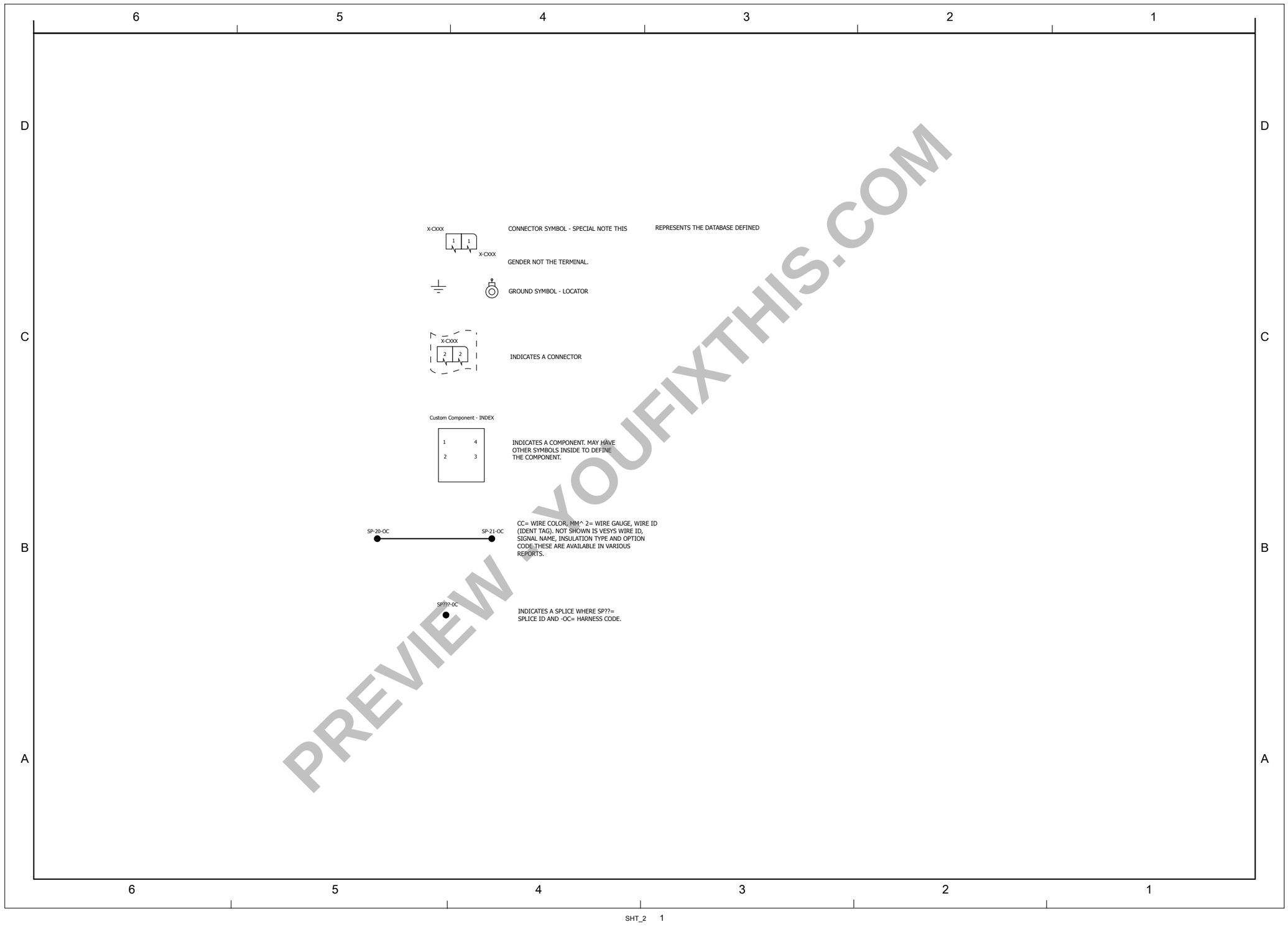
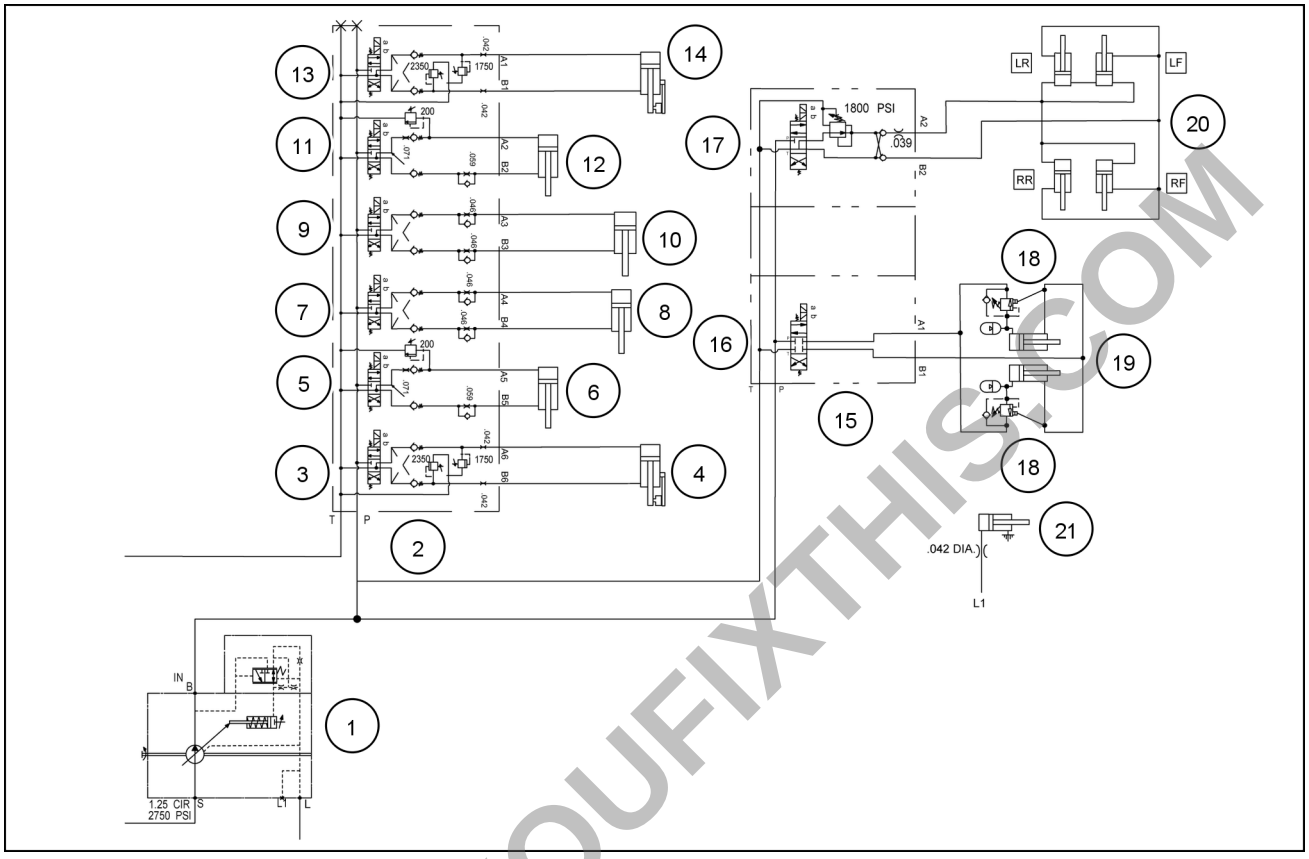


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Sprayer hydraulic system - Hydraulic schema

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



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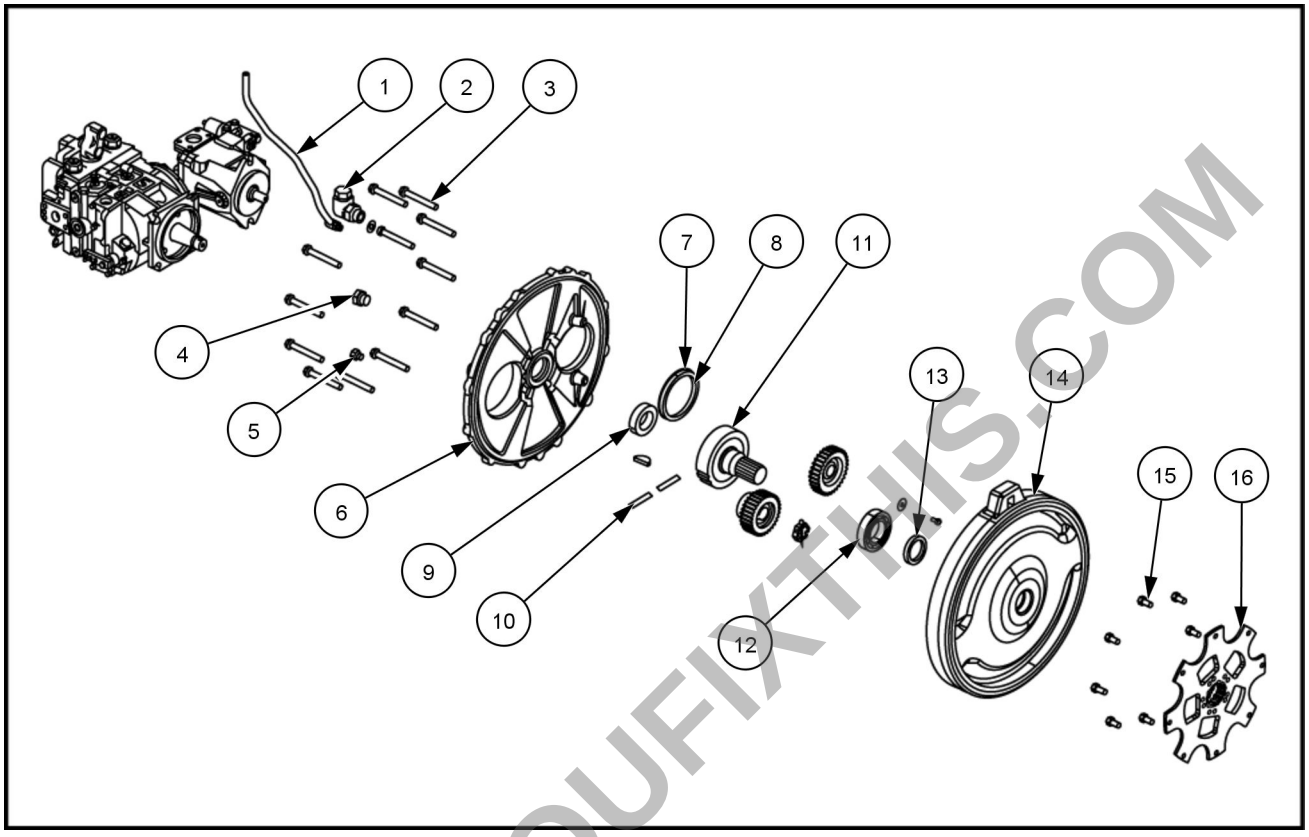
Item	Description	Item	Description
(1)	Pump	**(12)**	Leveling cylinder of the left-hand booms
(2)	Control valve for the boom functions, six sections	**(13)**	Folding solenoid of the left-hand inner boom
(3)	Folding solenoid of the right-hand inner boom	**(14)**	Folding cylinder of the left-hand inner boom
(4)	Folding cylinder of the right-hand inner boom	**(15)**	Height control valve of the booms and axle track, two sections
(5)	Leveling solenoid of the right-hand booms	**(16)**	Boom height solenoid
(6)	Leveling cylinder of the right-hand booms	**(17)**	Axle track adjustment solenoid
(7)	Folding solenoid of the right-hand outer boom	**(18)**	Equalizer valve and pressure accumulator
(8)	Folding cylinder of the right-hand outer boom	**(19)**	Boom height adjustment cylinders
(9)	Folding solenoid of the left-hand outer boom	**(20)**	Axle track adjustment cylinders
(10)	Folding cylinder of the left-hand outer boom	**(21)**	Ladder lift cylinder
(11)	Leveling solenoid of the left-hand booms	-	-

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Pump-drive gearbox - Exploded view

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



SOIL16SP00349AA 1

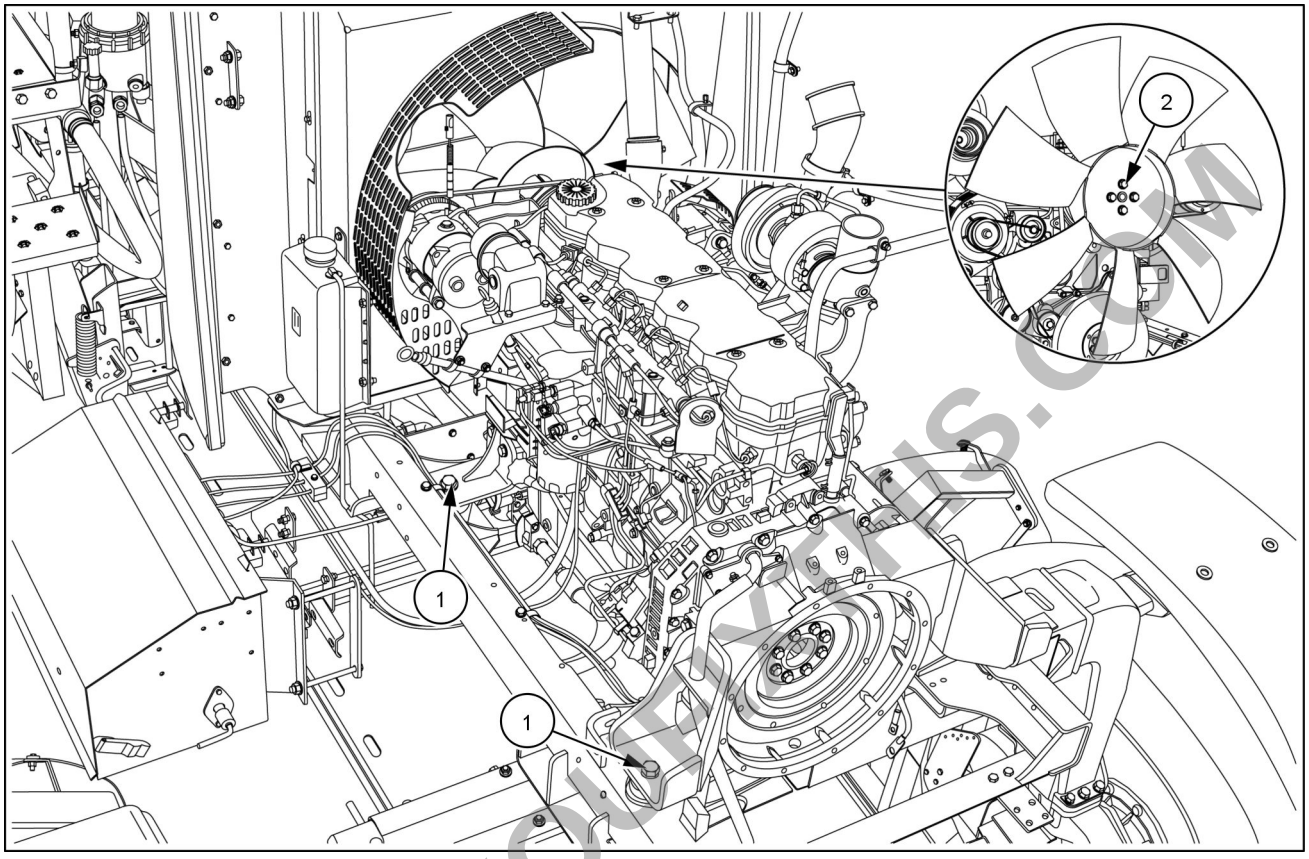
Item	Description	Item	Description
(1)	Hose	**(9)**	Ball bearing
(2)	Hydraulic connection and plug	**(10)**	Ceramic magnet
(3)	Bolt	**(11)**	Pinion shaft
(4)	Oil level sight glass	**(12)**	Ball bearing
(5)	Drain plug	**(13)**	Retainer
(6)	Housing cover	**(14)**	Housing
(7)	O-ring	**(15)**	Bolt
(8)	Adapter ring	**(16)**	Damper coupling

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Engine - Torque

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



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Referência	Torque	Referência	Torque
(1)	**234 – 260 N·m (173 – 192 lb ft)**	**(2)**	**52 – 61 N·m (38 – 45 lb ft)**

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Engine - Remove

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA

⚠ CAUTION

Heavy object!
The component is heavy. Use care not to drop the component when installing, removing, or handling. Failure to comply could result in minor or moderate injury.

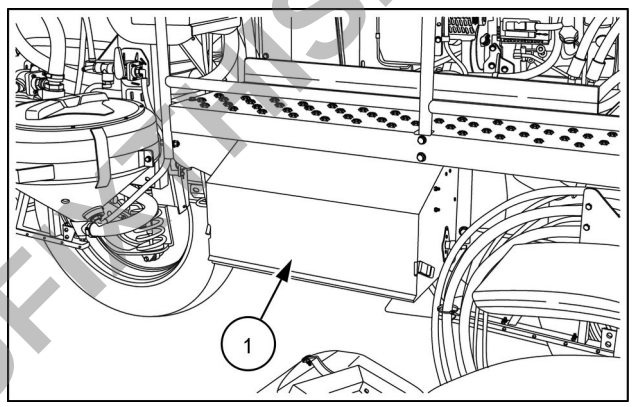
C0095A

⚠ DANGER

Heavy objects!
Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders. Failure to comply will result in death or serious injury.

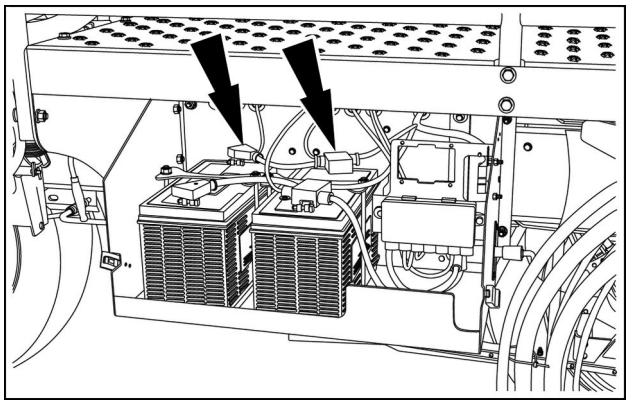
D0076A

1. On the left-hand side of the machine, remove the cover **(1)** from the battery compartment.



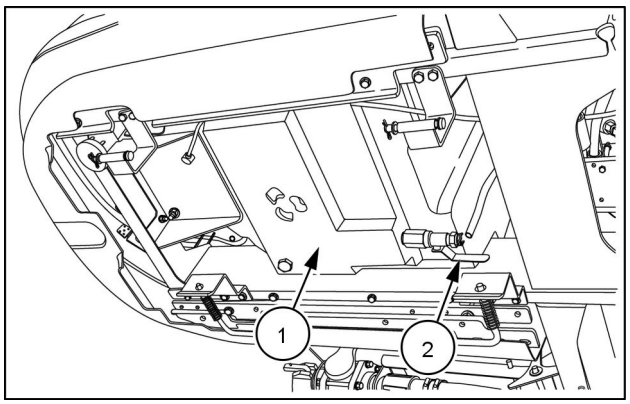
SOIL16SP00032AA 1

2. Disconnect both battery cables from the batteries. Start with the negative cable.



SOIL16SP00033AA 2

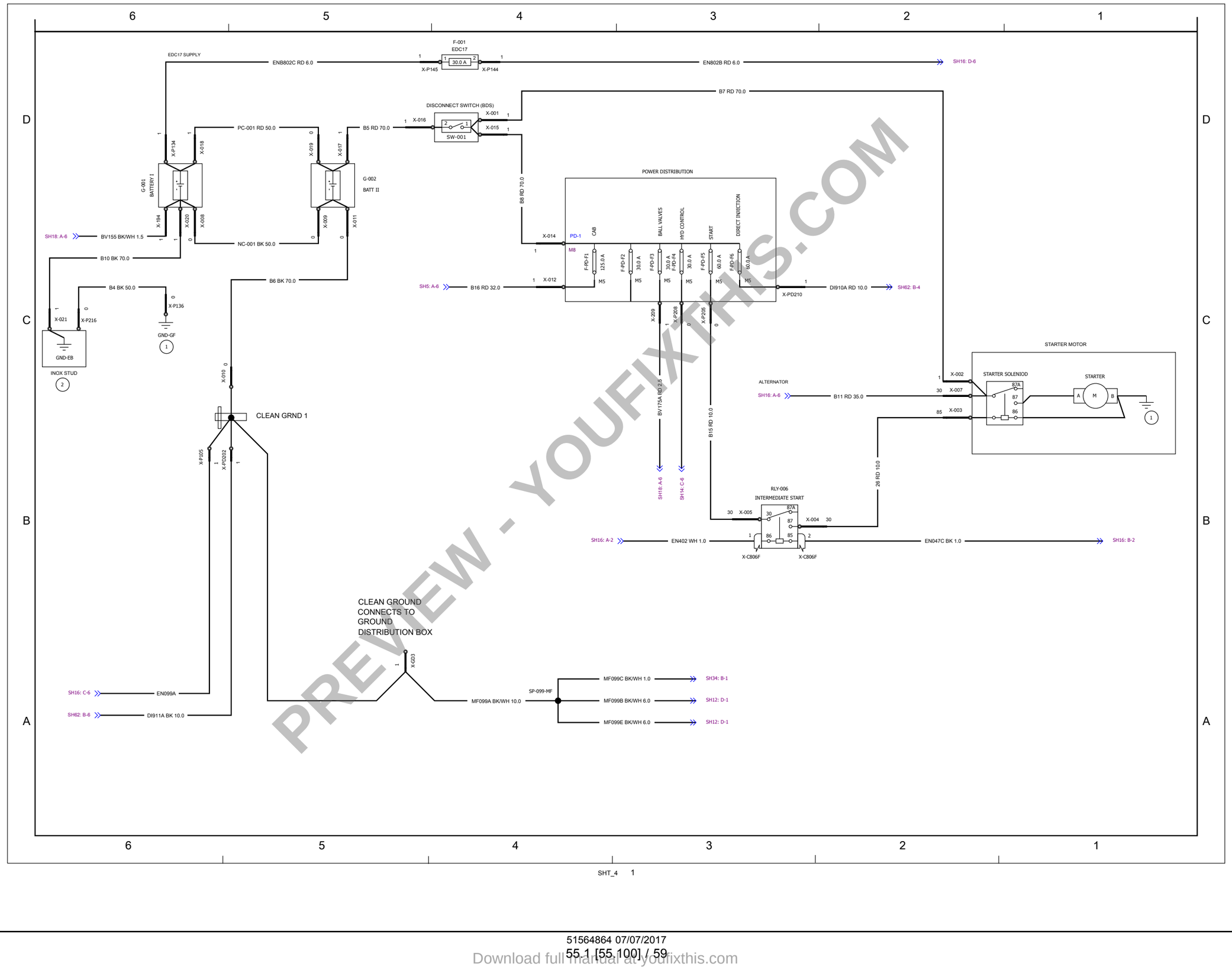
3. In the front part of the machine, remove the casing that masks the fuel tank **(1)**.
4. Close the valve **(2)** to cut the fuel supply.



SOIL16SP00053AA 3

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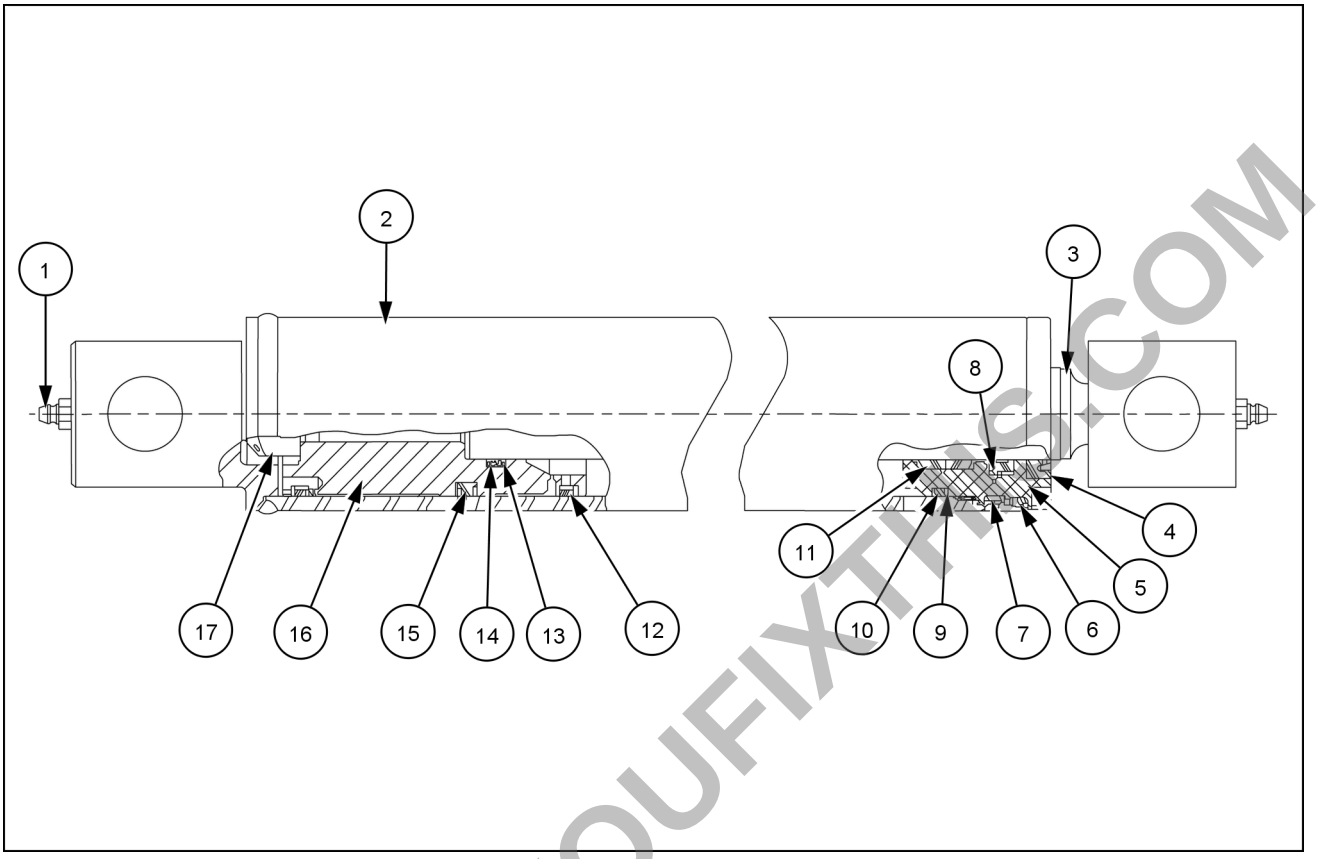


SHT_4 1

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Boom fold cylinders - Sectional view

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



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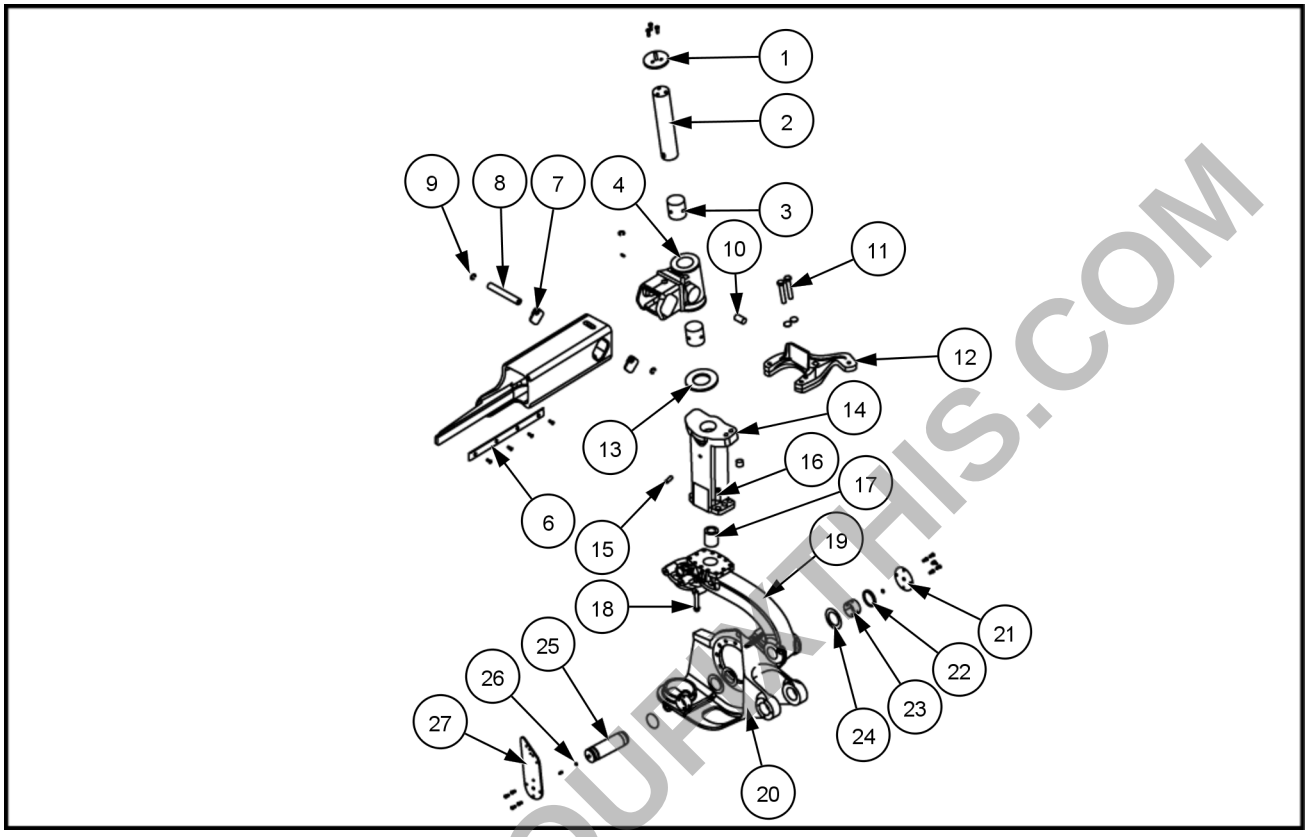
Item	Description	Item	Description
(1)	Grease pin	**(10)**	O-ring
(2)	Liner	**(11)**	Wear ring
(3)	Rod	**(12)**	Piston ring
(4)	Wiper ring	**(13)**	O-ring
(5)	Rod Guide	**(14)**	Backup ring
(6)	O-ring	**(15)**	Seal
(7)	Latch insert	**(16)**	Piston
(8)	Seal	**(17)**	Nut
(9)	Backup ring	-	-

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Powered front axle - Exploded view

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



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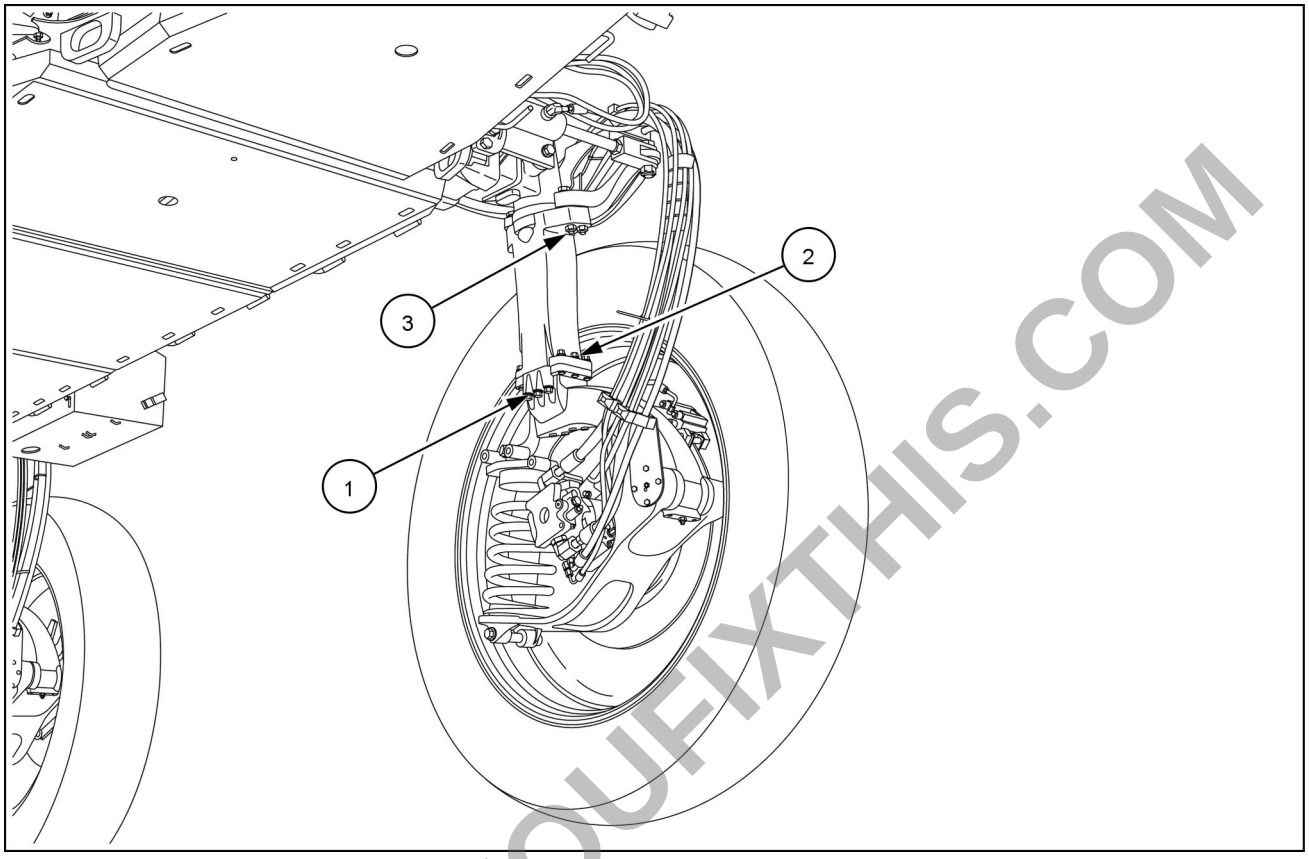
Item	Description	Item	Description
(1)	Cover	**(15)**	Pin
(2)	Pin	**(16)**	Bolt
(3)	Bushing	**(17)**	Bushing
(4)	Axle stub	**(18)**	Bolt
(5)	Axle	**(19)**	Arm
(6)	Slide plate	**(20)**	Wheel cradle
(7)	Guide	**(21)**	Cover
(8)	Pin	**(22)**	Retainer
(9)	Snap ring	**(23)**	Bearing bushing
(10)	Bushing	**(24)**	Space washer
(11)	Bolt	**(25)**	Union shaft
(12)	Steering arm	**(26)**	O-ring
(13)	Washer	**(27)**	Cover
(14)	Extender		

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Powered front axle - Torque

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



SOIL16SP00101FA 1

Referência	Torque	Referência	Torque
(1)	**298 – 326 N·m (220 – 240 lb ft)**	**(2)**	**298 – 326 N·m (220 – 240 lb ft)**
(3)	**587 N·m (433 lb ft)**		

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Engine - Install

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA

⚠ CAUTION

Heavy object!
The component is heavy. Use care not to drop the component when installing, removing, or handling. Failure to comply could result in minor or moderate injury.

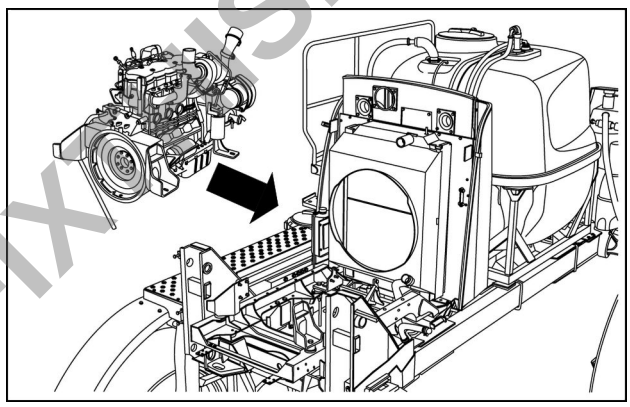
C0095A

⚠ DANGER

Heavy objects!
Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders. Failure to comply will result in death or serious injury.

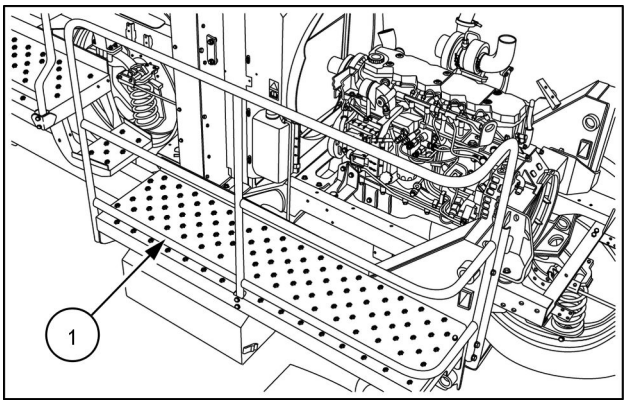
D0076A

1. Position the engine on the cradle of the machine. Lift and move through the left-hand side of the machine.



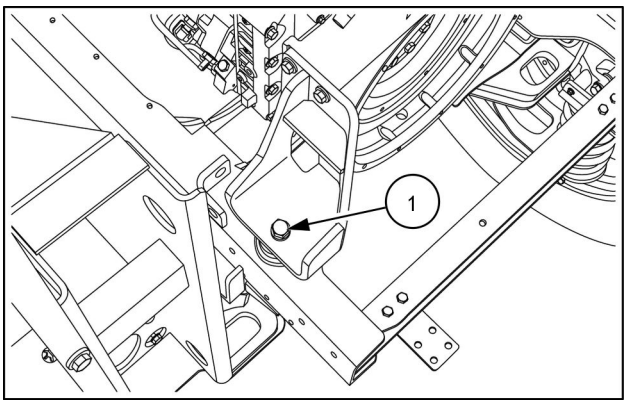
SOIL16SP00064AA 1

2. Install the handrail assembly **(1)** on the left-hand side of the machine.



SOIL16SP00046AA 2

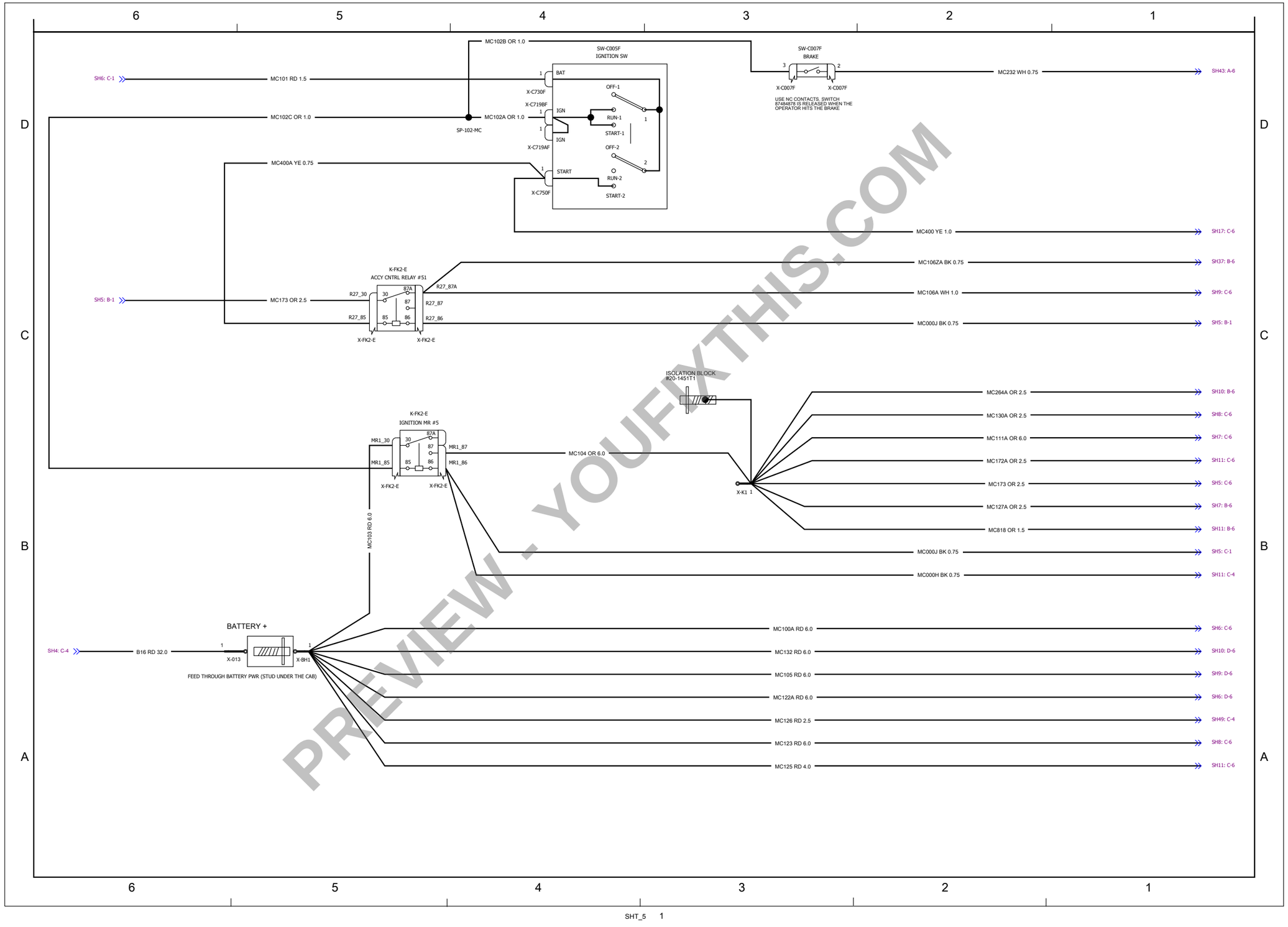
3. Install the bolts **(1)** of the rear pads. Tighten slightly.



SOIL16SP00045AA 3

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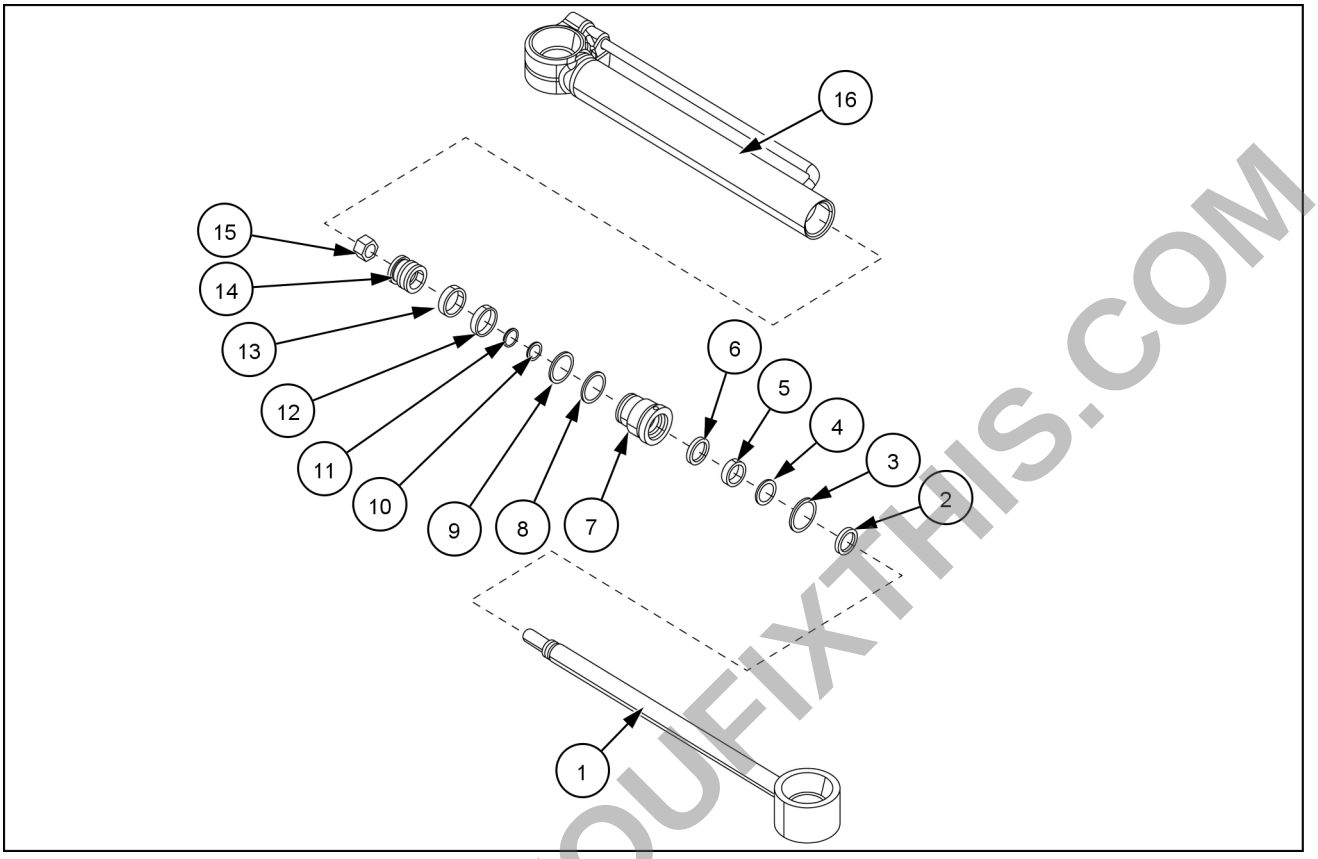


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Axle suspension - Exploded view - Suspension cylinder

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



SOIL16SP00167FA 1

Item	Description	Item	Description
(1)	Rod	**(9)**	O-ring
(2)	Seal	**(10)**	O-ring
(3)	O-ring	**(11)**	Backup ring
(4)	Backup ring	**(12)**	Wear ring
(5)	Flashing	**(13)**	Retainer
(6)	Retainer	**(14)**	Piston
(7)	Cylinder guide	**(15)**	Nut
(8)	Backup ring	**(16)**	Liner

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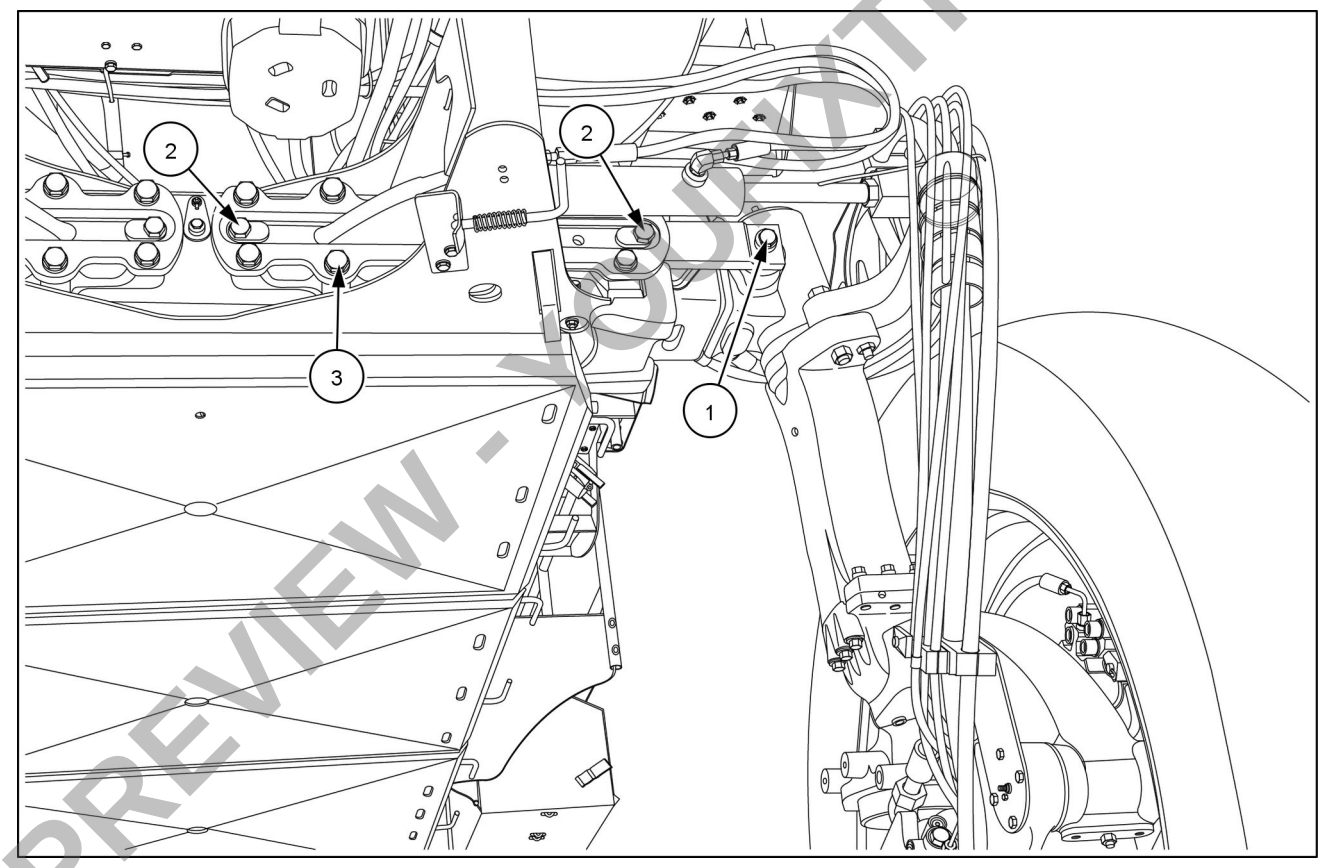
Four-Wheel Drive (4WD) axle - General specification - Track adjustment cylinder

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA

Type	Dual-acting
Location	Inside the axle housing
Quantity	**(2)**
Test pressure	**22408.0 kPa** (**3250.0 psi**)
Operating pressure	**18960.6 kPa** (**2750.0 psi**)
Cracking pressure	**81358.1 kPa** (**11800.0 psi**)
Collapsed length	**619.00 mm** (**24.37 in**)
Extended length	**1016.00 mm** (**40.00 in**)
Stroke	**397.00 mm** (**15.63 in**)
Connection	**9/16-18 in**

Four-Wheel Drive (4WD) axle - Torque

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



SOIL16SP00143FA 1

Referência	Torque	Referência	Torque
(1)	**690 N·m** (**509 lb ft**)	**(2)**	**475 N·m** (**350 lb ft**)
(3)	**431 N·m** (**318 lb ft**)		

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Fuel tank - Drain fluid

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA

⚠ WARNING

Fuel vapors are explosive and flammable.
Do not smoke while handling fuel. Keep fuel away from flames or sparks. Shut off engine and remove key before servicing. Always work in a well-ventilated area. Clean up spilled fuel immediately.
Failure to comply could result in death or serious injury.

W0904A

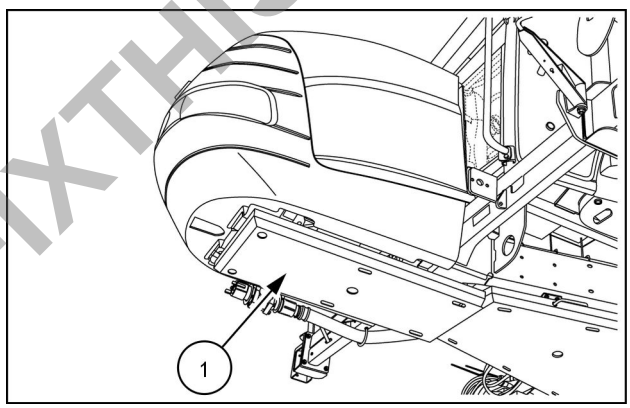
⚠ CAUTION

Heavy object!
The component is heavy. Use care not to drop the component when installing, removing, or handling.
Failure to comply could result in minor or moderate injury.

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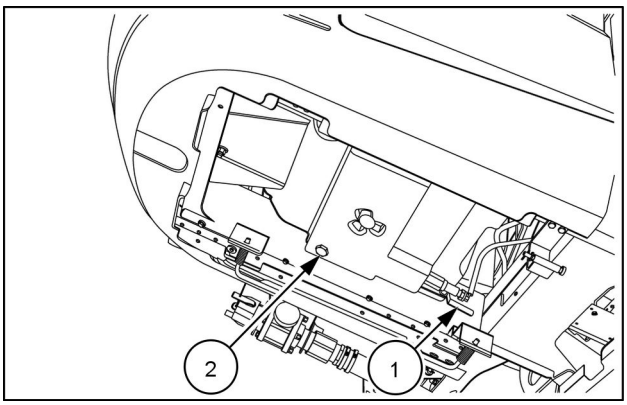
NOTE: *The machine should be parked on a flat surface.*

1. Remove the casing **(1)** that masks the fuel tank.



SOIL16SP00062AA 1

2. Position a suitable collection container under the fuel tank.
3. Close the valve **(1)**.
4. Reinstall the drain plug **(2)**.
5. After the oil has completely drained, reinstall the plug **(2)**.
6. Store the collection container properly.



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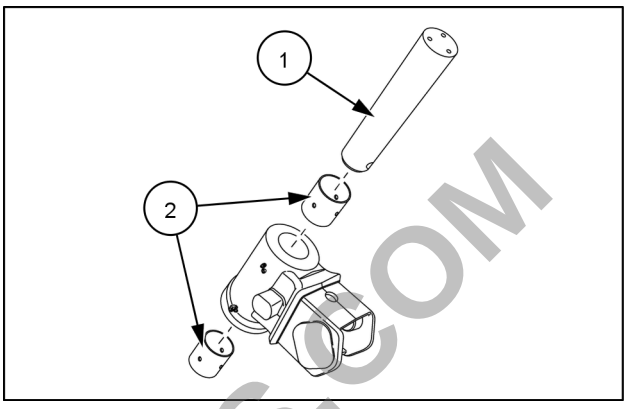
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Powered front axle - Visual inspection

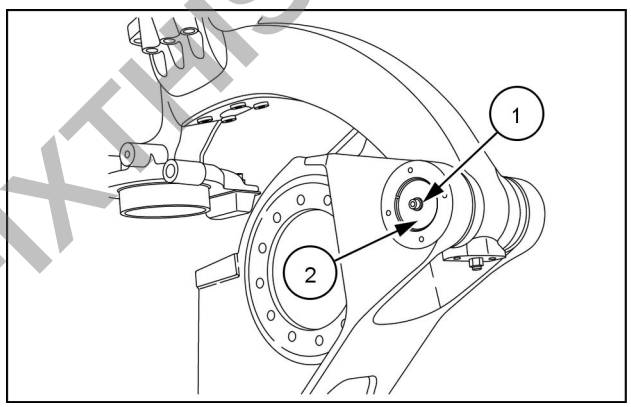
SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA

1. Steering articulation pin **(1)**: Replace in case of excessive wear.
2. Stub axle bushing **(2)**: In case of heavy wear on the inner wall, replace the component.



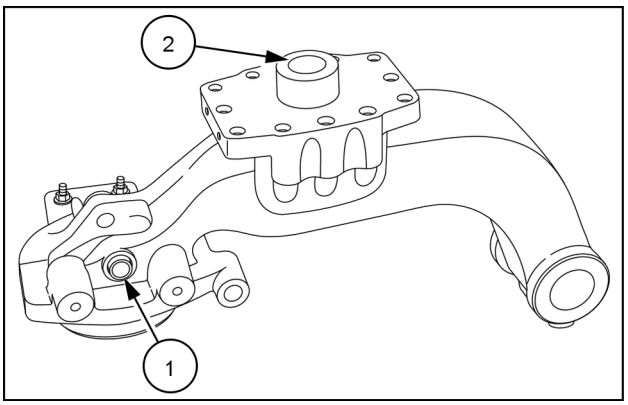
SOIL16SP00125AA 1

3. O-ring **(1)**: Replace the pair.
4. Wheel bracket articulation pin **(2)**: Replace in case of excessive wear.



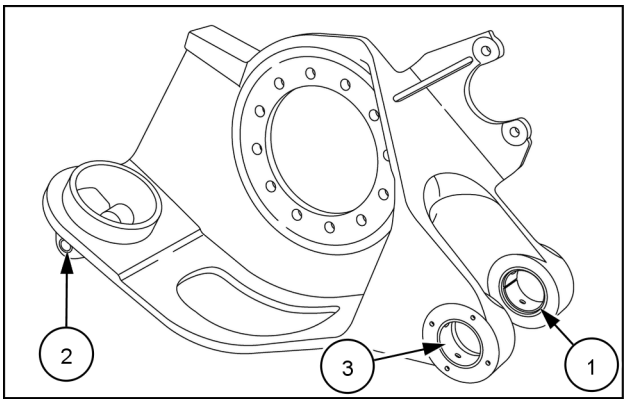
SOIL16SP00129AA 2

5. Bushing **(1)**: In case of heavy wear on the inner wall, replace the component.
6. Extender guide bushing **(2)**: Replace in case of excessive wear at any point.



SOIL16SP00130AA 3

7. Seal **(1)**: Replace the pair.
8. Bushing **(2)**: In case of heavy wear on the inner wall, replace the component.
9. Wheel bracket bushing **(3)**: In case of heavy wear on the inner wall, replace the component.



SOIL16SP00131AA 4

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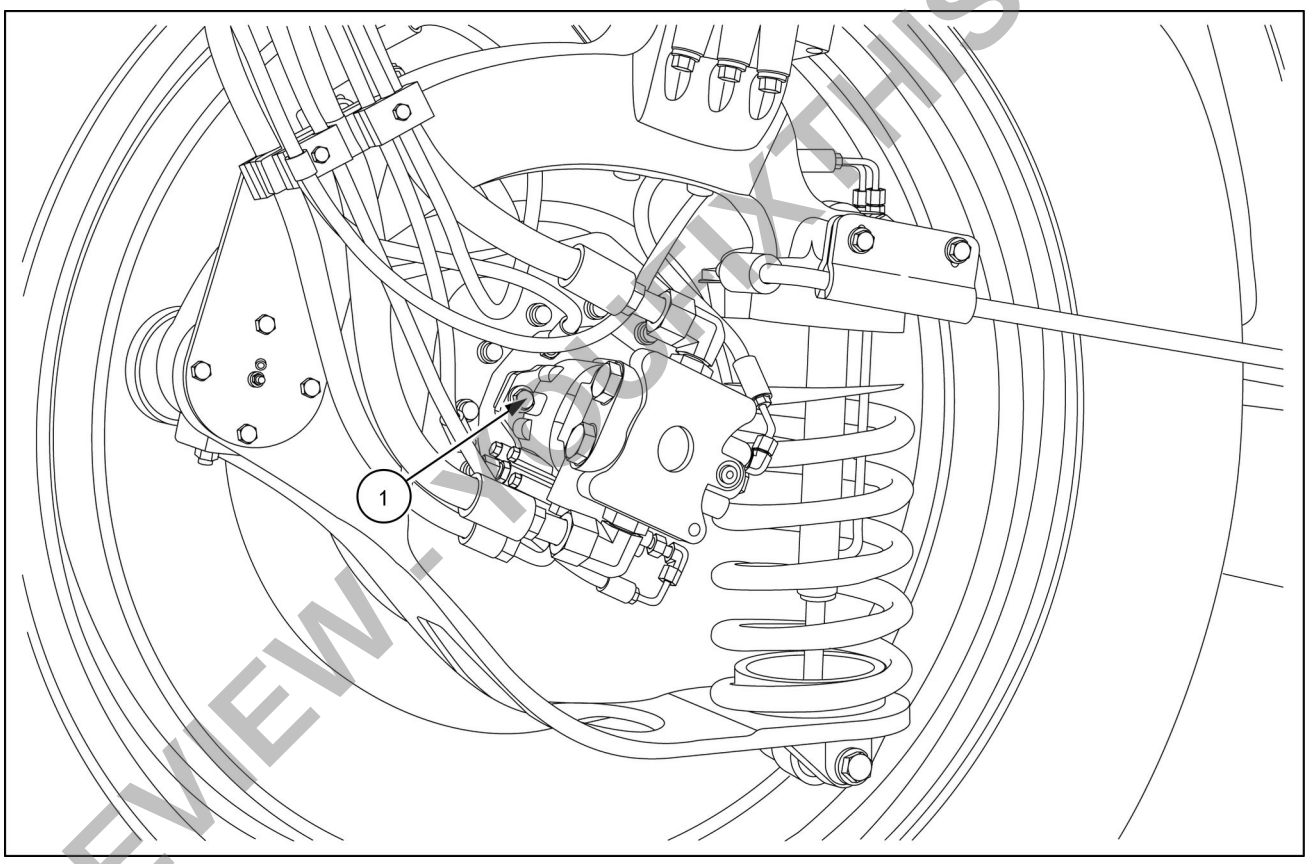
Hydraulic motors - General specification

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA

Hydraulic motor type	Axial pistons with variable displacement
Quantity	4
Location	Coupled to the final drive of the wheels
Maximum volumetric displacement	**46 cm³** (**3 in³**)
Minimum volumetric displacement	**14.4 cm³** (**0.9 in³**)
Output shaft	15 tooth
Material	Cast iron
Weight	**25 kg** (**55 lb**)

Hydraulic motors - Torque

SP2500 Defensor Version, FPT NEF engine, Tier 3, 6 cylinder	LA



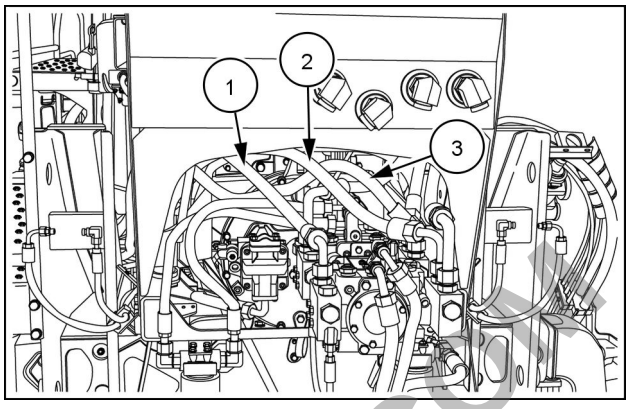
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Referência	Torque
(1)	**118 – 132 N·m** (**87 – 97 lb ft**)

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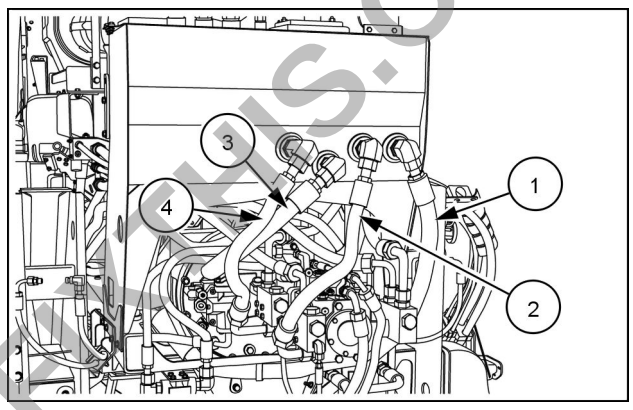
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9. Connect the hoses **(1)**, **(2)**, and **(3)** to the respective ports on the tandem pump.



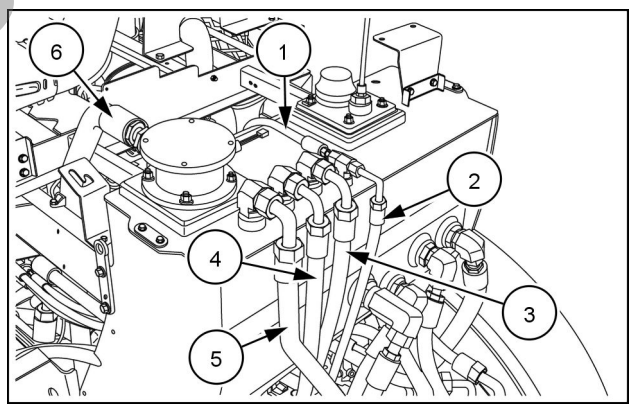
SOIL17SP00044AA 7

10. Connect the following oil suction hoses:
    - Suction **(1)** from the gear pump.
    - Suction **(2)** from the tandem pump (rear pump).
    - Suction **(3)** from the smaller variable displacement pump.
    - Suction **(4)** from the tandem pump (front pump).



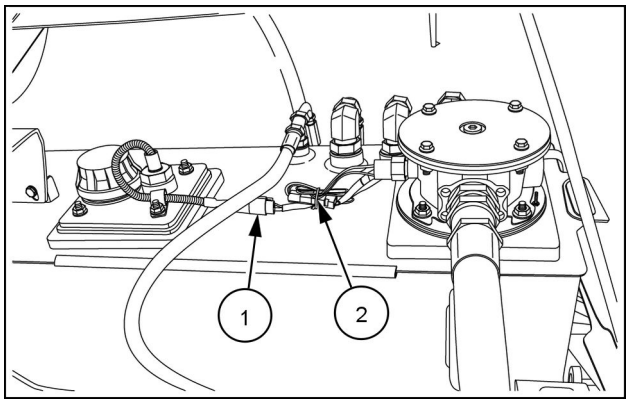
SOIL17SP00043AA 8

11. Connect the following oil return hoses:
    - Return **(1)** from the power solenoid valves of the wheel motors.
    - Return **(2)** from the smaller variable displacement pump.
    - Return **(3)** from the tandem pump (front pump).
    - Return **(4)** from the tandem pump (rear pump).
    - Return **(5)** from the product pump motor and from the wheel motors.
    - Return **(6)** from the oil radiator.



SOIL17SP00042AA 9

12. Connect the connector **(1)** of the wiring harness of the oil temperature/level sensor.
13. Connect the connector **(2)** of the wiring harness of the return filter restriction sensor.



SOIL17SP00041AA 10

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D-026 - BOOM ON (Diode)

Component Type	Diode
Wiring frames	**SHEET 45 SH45 - INSTRUMENT CLUSTER**

D-027 - PUMP ON (Diode)

Component Type	Diode
Wiring frames	**SHEET 45 SH45 - INSTRUMENT CLUSTER**

D-028 - CHARGE/AIR PSI (Diode)

Component Type	Diode
Wiring frames	**SHEET 45 SH45 - INSTRUMENT CLUSTER**

D-029 - HYD OIL WARN (Diode)

Component Type	Diode
Wiring frames	**SHEET 45 SH45 - INSTRUMENT CLUSTER**

D-030 - HYD OIL DERATE (Diode)

Component Type	Diode
Wiring frames	**SHEET 45 SH45 - INSTRUMENT CLUSTER**

D-031 - LED (Diode)

Component Type	Diode
Wiring frames	**SHEET 18 SH18 - NEUTRAL SWITCH/MASTER POWER/BALL VALVES RELAY**

D-032 - Diode (Diode)

Component Type	Diode
Wiring frames	**SHEET 20 SH20 - LH BOOM CONTROLS**

D-033 - Diode (Diode)

Component Type	Diode
Wiring frames	**SHEET 21 SH21 - RH BOOM CONTROLS**

D-034 - LED (Diode)

Component Type	Diode
Wiring frames	**SHEET 27 SH27 - AIM COMMAND**

D-035 - LED (Diode)

Component Type	Diode
Wiring frames	**SHEET 27 SH27 - AIM COMMAND**

D-038 - Diode (Diode)

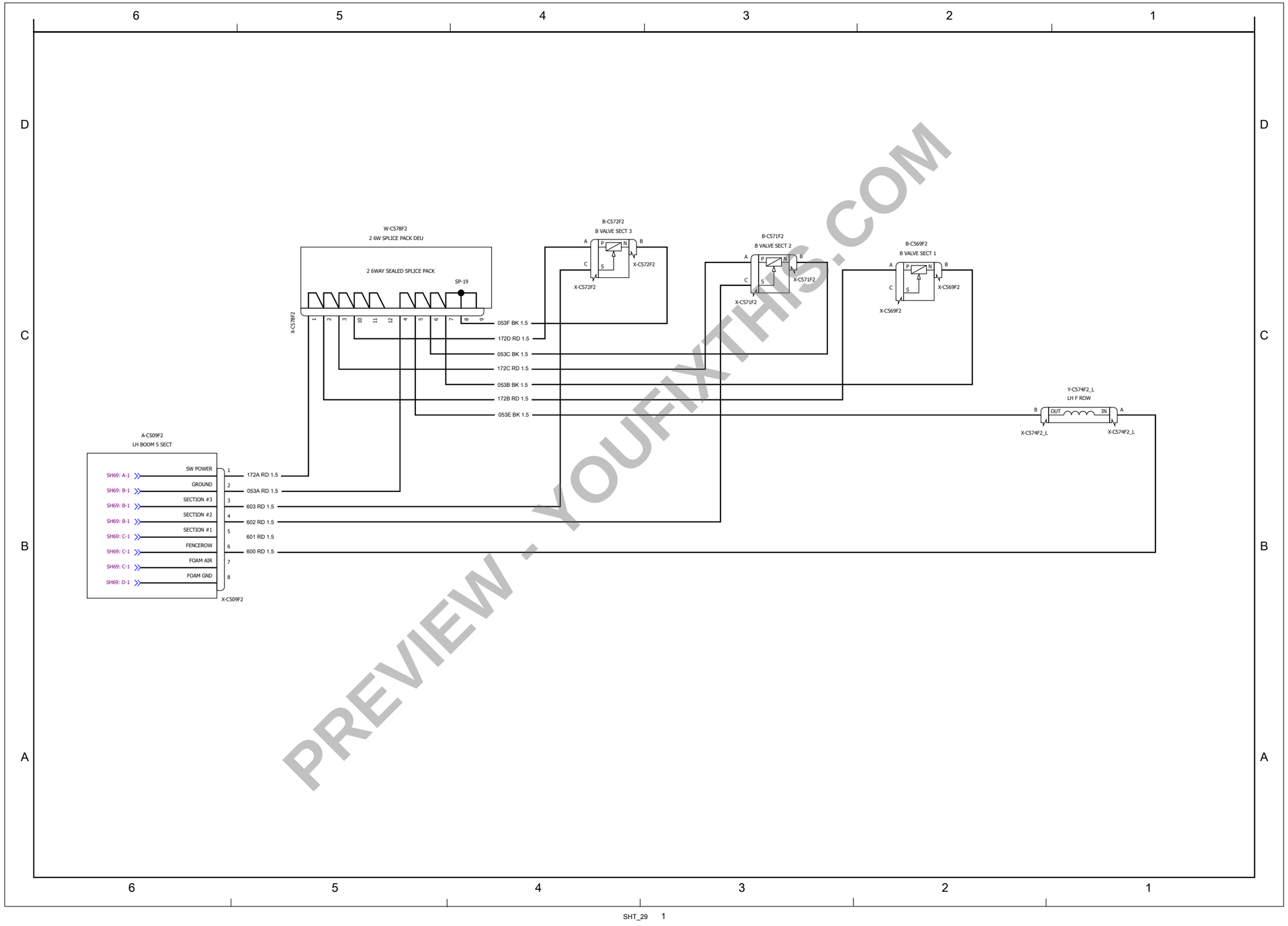
Component Type	Diode
Wiring frames	**SHEET 42 SH42 - BOOM LIGHTS**

D-039 - Diode (Diode)

Component Type	Diode
Wiring frames	**SHEET 42 SH42 - BOOM LIGHTS**

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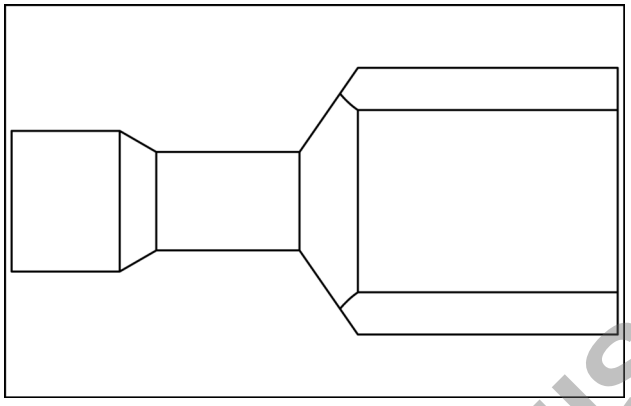


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Pin	From	Wire	Description	Color-Size	Frame
1	**X-C655F2 (Receptacle) pin 3** - [L-C655F2] (87696551)	FLY50	TAIL	PK - 0.75	**SHEET 39 SH39 - REAR LIGHTS**

X-C667F3 - [L-C667] (87697629) (Plug)

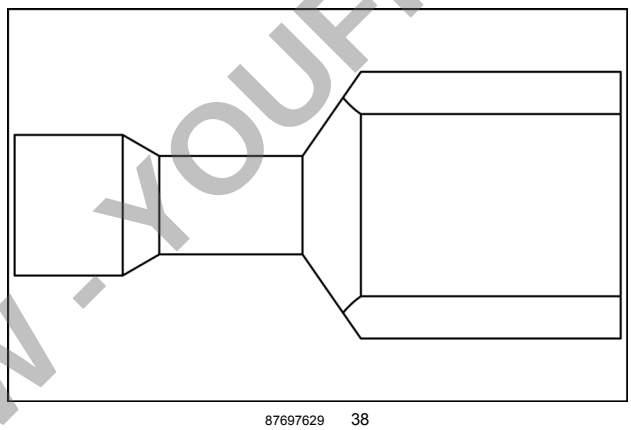


87697629 37

87697629

Pin	From	Wire	Description	Color-Size	Frame
1	**X-C653F2 (Receptacle) pin 1** - [L-C653F2] (87696093)	FLY49	GRND	BK - 0.75	**SHEET 39 SH39 - REAR LIGHTS**

X-C667F4 - [L-C667] (87697629) (Plug)

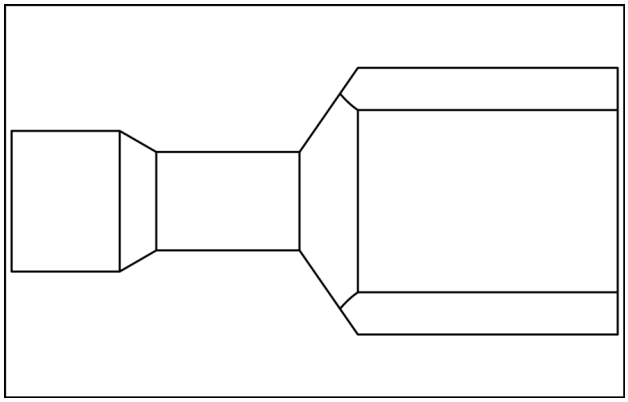


87697629 38

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Pin	From	Wire	Description	Color-Size	Frame
1	**X-C653F2 (Receptacle) pin 2** - [L-C653F2] (87696093)	FLY52	TURN	WH - 0.75	**SHEET 39 SH39 - REAR LIGHTS**

X-C668F1 - [L-C668] (87697629) (Plug)



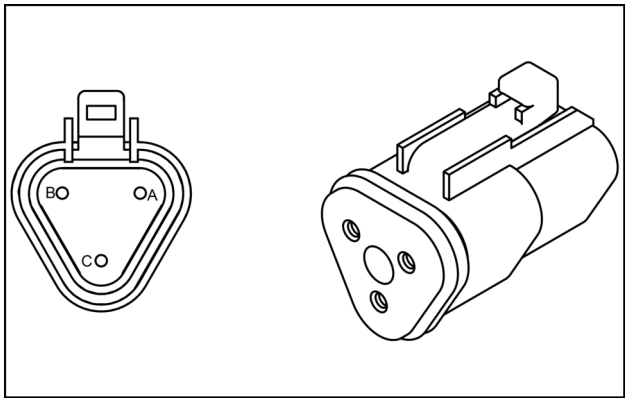
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X-128 - SECTION 8 (84074635) (Receptacle)

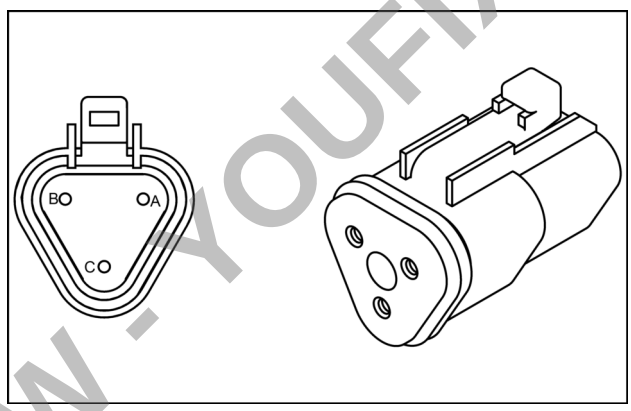


84074635 5

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Pin	From	Wire	Description	Color-Size	Frame
A	**X-C575F2 (Receptacle) pin 10** - [W-C575F2] (84281913)	171D	171D	RD - 1.5	**SHEET 76 SH76 - 9 SECT RH BOOM 24M AND 27M**
B	**X-C575F2 (Receptacle) pin 9** - [W-C575F2] (84281913)	053H	053H	BK - 2.0	
C	**X-C510F2 (Receptacle) pin 6**	608	608	BK - 2.0	

X-129 - SECTION 9 (84074635) (Receptacle)



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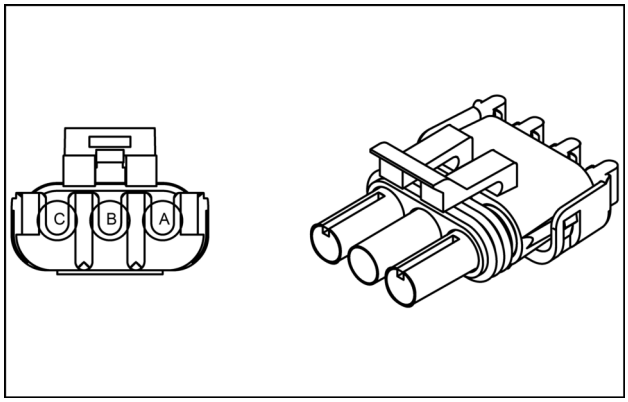
84074635

Pin	From	Wire	Description	Color-Size	Frame
A	**X-C575F2 (Receptacle) pin 2** - [W-C575F2] (84281913)	171B	171B	RD - 2.0	**SHEET 76 SH76 - 9 SECT RH BOOM 24M AND 27M**
B	**X-C575F2 (Receptacle) pin 5** - [W-C575F2] (84281913)	053D	053D	BK - 2.0	
C	**X-C510F2 (Receptacle) pin 3**	604	604	WH - 2.0	

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X-C952F - VAC2 [U-008] (87644909) (Plug)

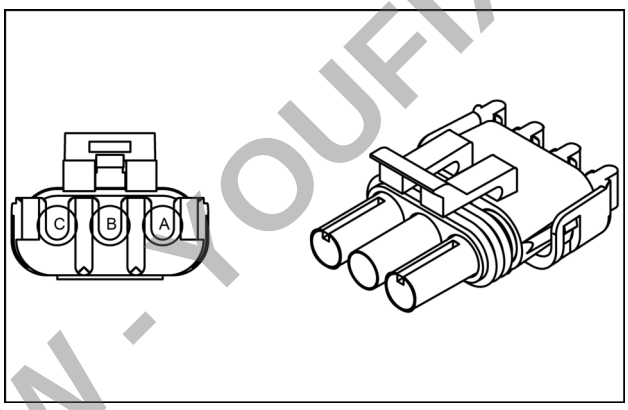


87644909 3

87644909

Pin	From	Wire	Description	Color-Size	Frame
A	SP-921-DI-P-X	DI921D	12V	OR - 1.0	**SHEET 62 SH62 - DIRECT INJECTION**
C	**X-C951F (Receptacle) pin 5** - CONN 1 (GRAY CONNECTOR) [U-007] (47401066)	DI912	VAC SIG	BL - 1.5	

X-C953F - VAC1 [U-009] (87644909) (Plug)



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87644909

Pin	From	Wire	Description	Color-Size	Frame
A	SP-924-DI-P-X	DI924D	12V	OR - 1.0	**SHEET 62 SH62 - DIRECT INJECTION**
C	**X-C950F (Receptacle) pin 5** - MOD 1 (GRAY CONNECTOR) [U-003] (47401066)	DI913	VAC SIG	BL - 1.5	

X-C954F - CONN 2 (BLACK CONNECTOR) [U-011] (DT06-12SB-C015) (Plug)

Pin	From	Wire	Description	Color-Size	Frame
1	SP-916-DI-P-X	DI916B	CAN LO	GN - 1.0	**SHEET 63 SH63 - DIRECT INJECTION**
2	SP-917-DI-P-X	DI917B	CAN HI	YE - 1.0	
3	**X-C959F (Receptacle) pin C** - PSI 1 [U-015] (84078681)	DI926	GND	BL - 1.0	
6	SP-925-DI-P-X	DI925B	FLOW GND	BL - 1.0	
8	**X-C957M (Plug) pin B** - FLOW 1 [U-013] (87692858)	DI923	FLOW SIGNAL	YE - 1.0	
10	SP-924-DI-P-X	DI924B	12V	OR - 1.0	
11	SP-928-DI-P-X	DI928B	LOGIC POWER	OR - 1.0	
12	SP-929-DI-P-X	DI929B	GND	BK/WH - 1.0	

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