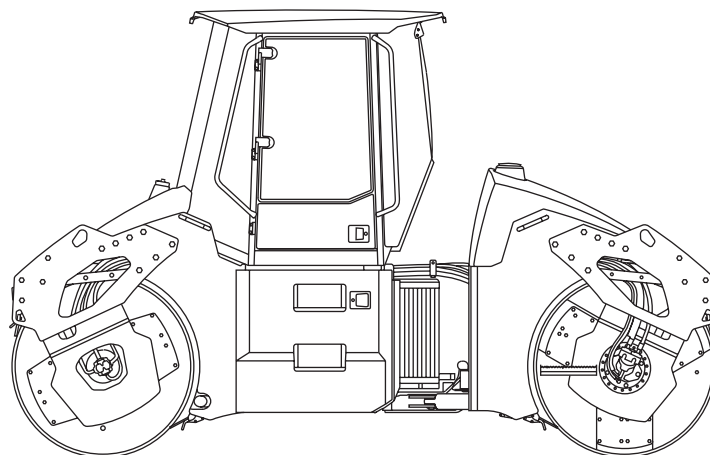


ARX 90

TANDEM ROLLER
DEUTZ TCD3,6 L4
EU Stage IV / U.S. EPA Tier 4f



WORKSHOP MANUAL

EDITION 01/2021 EN
Product Identification Number 3001287 -

AMMANN

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2. Safety Precautions and Instructions

4. Specification manual

	ARX 90	ARX 90 HF	ARX 90 K
	EU Stage IV / U.S. EPA Tier 4f		
Optional equipment			
Air-conditioning			
Installations for radio (antenna, 2 loudspeakers) (only a cab version)			
Radio with CD			
Reversing alarm			
Lighting for road traffic			
Lighting for night traffic			
Beacon			
Additional working headlights			
Cutter/final compaction device			
Two-edged cutter			
Infrared thermometer			
Fire extinguisher			
Spreader AMMANN			
Differential lock			
Ammann set of tools			
Biologically degradable oil			
Different colour design (Ammann scheme), max. 2 different colours			
Special colour design			
Filter set 500 h			
Filter set 1000 h			
Filter set 2000 h			
Additional documentation			
ACE Force			
12 V converter			
Oscillation drum			

* measured according the EN 500-4

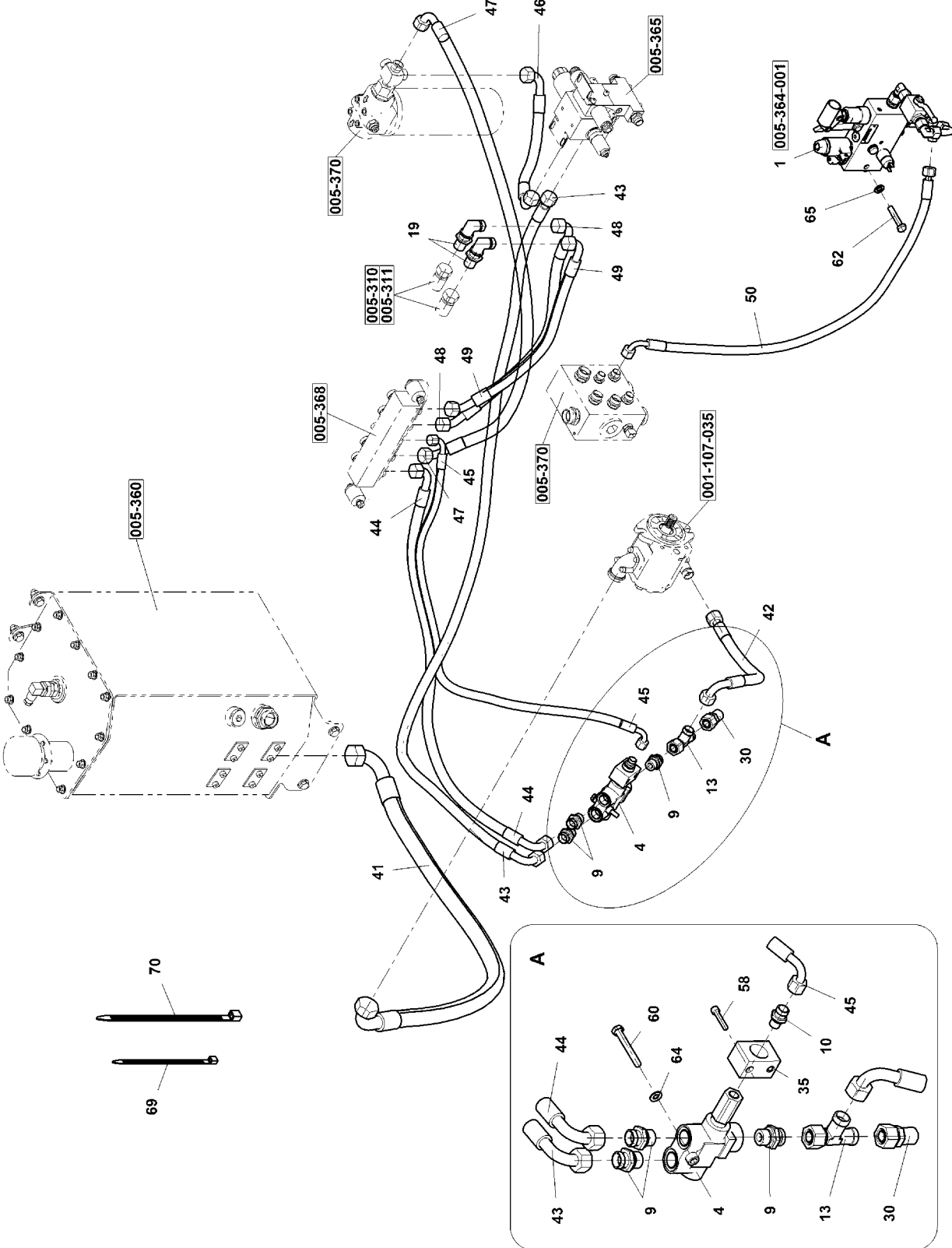
** measured according the DIRECTIVE 2000/14/EC and EN 500-4

*** measured according the EN 1032+A1 on the gravel base under the vibration travel)

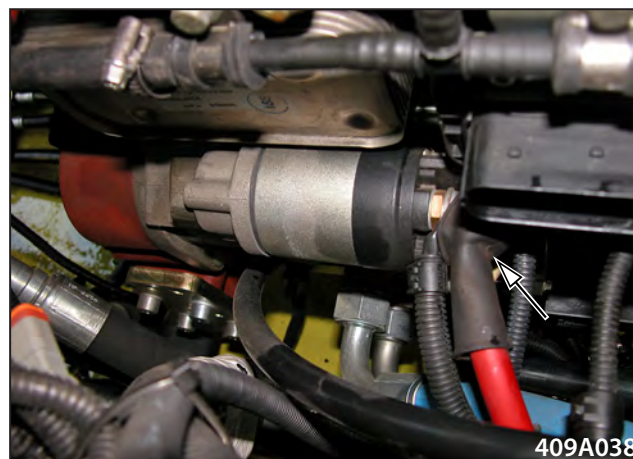
After 500 hours of operation	
3.6.38.	Vibrations system oil exchange **
Every 500 hours of operation (every 6 months), but at least once a year	
3.6.21.	Inspect the engine belt
3.6.22.	Engine oil exchange
3.6.23.	Inspect engine induction manifold
3.6.24.	Air filter sensor check
3.6.25.	Engine cooling liquid level check
3.6.26.	Check of wiring
3.6.27.	Cleaning the water separator
3.6.28.	Checking the coolant level (Air-conditioning)
3.6.29.	Engine fuel filter exchange
3.6.30.	Replace air filter elements
3.6.31.	Replacement of DEF (AdBlue) filter
3.6.32.	Clean cab ventilation filter
3.6.33.	Oscillation drum belt lubrication
Every 1000 hours of operation (1 year)	
3.6.34.	Inspect engine cooling circuit
3.6.35.	Inspect the battery
3.6.36.	Inspection of the engine belts
3.6.37.	Exchanging oil in gearboxes *
3.6.38.	Vibrations system oil exchange **
3.6.39.	Inspect the silencing system
3.6.40.	Water tank cleaning
3.6.41.	Air cooler cleaning
3.6.42.	Engine inspection
3.6.43.	Engine and machine diagnostics
3.6.44.	Checking engine belt (Air-conditioning)
3.6.45.	Checking the air conditioning compressor mounting (Air-conditioning)

Faults and remedies		
Faults	Causes	Measures
Engine becomes excessively hot. Temperature warning system activates	Vent line blocked	Clean
	Injector defective	Change
	Coolant heat exchanger soiled	Clean
	Defective cooling water pump (torn or loose V-belt)	Check whether torn or loose
	Low coolant	Fill up
	Resistance in cooling system is too high / flow volume too low	Check the cooling system
	Cooling fan or exhaust thermostat defective, V-belt torn or loose	Check/replace/tension
	Charge air cooler soiled	Check/clean
	Air filter clogged / turbocharger defective	Check/replace
	Throttle valve defective	Check/replace
	Coolant temperature transmitter	Check/replace
	Coolant thermostat defective	Check/replace
	Coolant cover defective	Check/replace
Engine output is deficient	Lube oil level too high	Check lube oil level, if necessary drain off.
	Exhaust gas recirculation, actuator defective	Check/replace
	Fuel suction temperature too high	Check the system
	Fuel quality does not comply with operating manual	Change the fuel
	Air filter clogged / turbocharger defective	Check/replace
	Air filter maintenance switch / maintenance indicator defective	Check/replace
	Fan defective/V-rib belt torn or loose	Check fan/V-belt, change if necessary
	Charge air line leaking	Check charge air line
	Charge air cooler soiled	Clean
	Exhaust gas backpressure too high	Check/clean
	Injection line leaks	Change
	Injector defective	Please contact your DEUTZ partner
	Exhaust gas turbocharger defective	Change
Engine performs poorly and diagnostic lamp lights	Engine electronics reduce performance	Please contact your DEUTZ partner
Engine does not run on all cylinders	Injection line leaks	Check injection line
	Injector defective	Change
	Compression pressure too low	Check compression pressure
	Engine cable harness defective	Check/replace

005-364



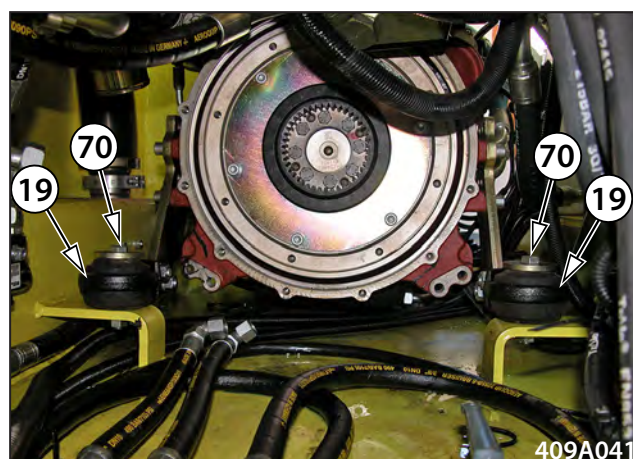
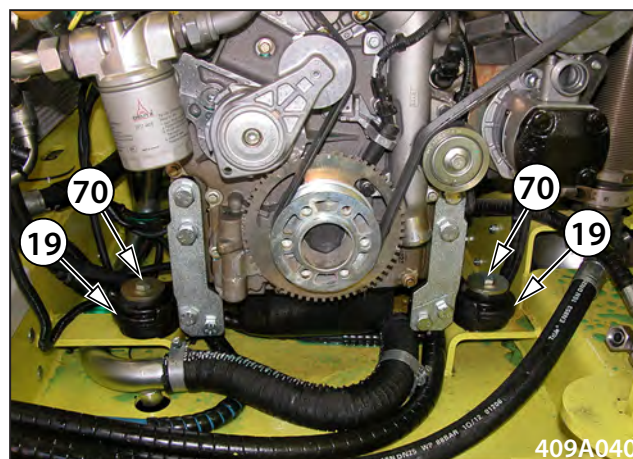
Disconnect starter electric instalation.



Disconnect the engine frame.

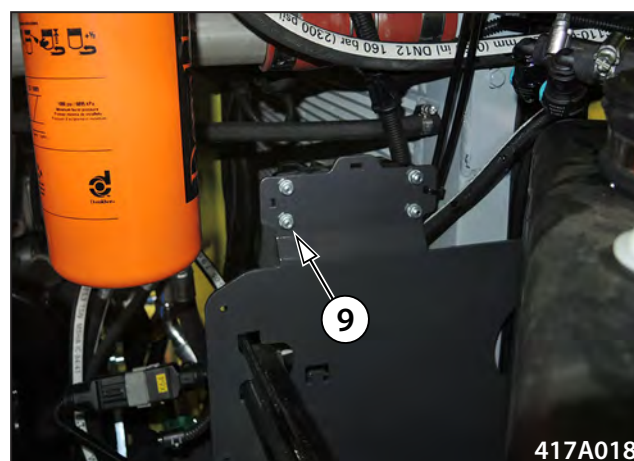


Remove the screws (001-107-70) of the rubber-metals (001-107-19).





Remove the screws (001-137-001-9). Remove the unit.



Take out the tank (001-137-001-4).



Check the seal rings. Replace if damaged.



Remove the screws (001-107-66).

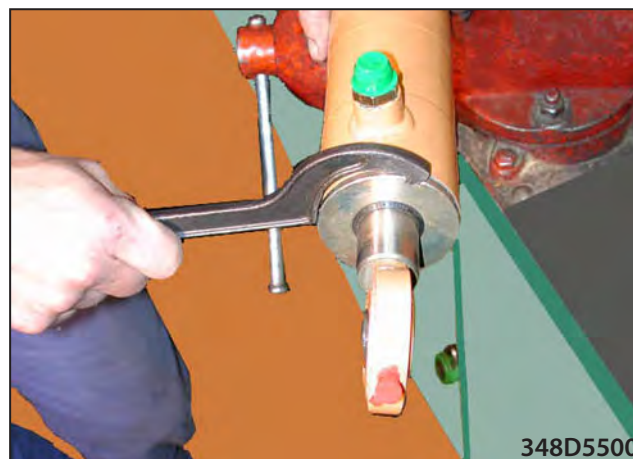


Check the sealings (001-107-27). Replace if damaged.

After the pump installation, refill the hydraulic oil to the specified limit.



Mount the cover of the hydraulic motor.



Secure the cover.



8.7. Steering wheel removal

Personal protective equipment



Service tools

Hook wrench

Wrench set inbus

Torgue wrench



Service instructions

Proceed in reverse order when reassembling.

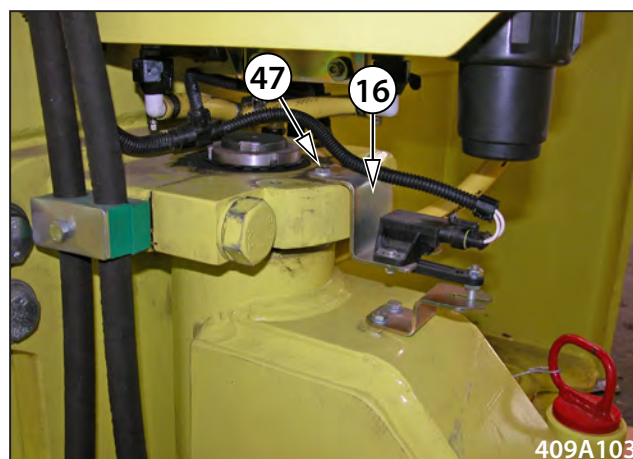
Before disassembling, mark the connectors of the display.

Tighten the screws to specified torque defined in chapter 16.4. Tightening Torque Values



409A102

Remove the screws (003-065-47) of the holder (003-065-16).

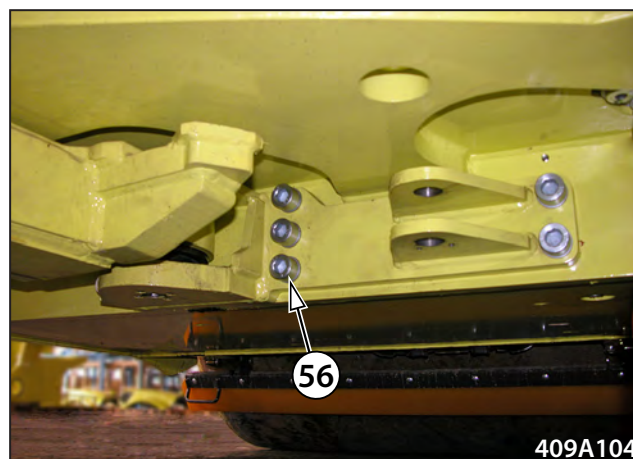


409A103

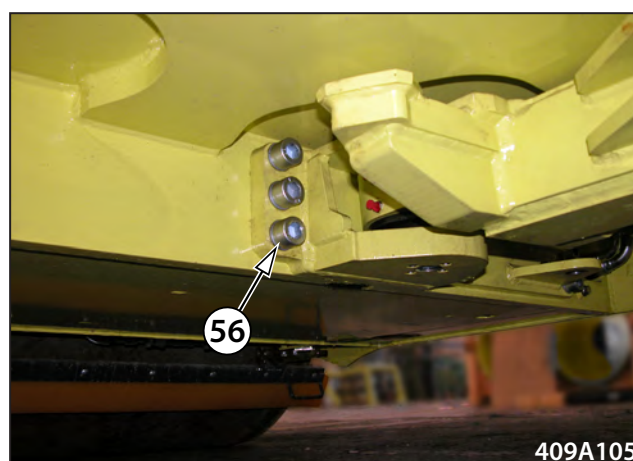
Remove the screws (003-065-56).

Note

Tighten the screws (003-065-56) with the torque 725 Nm (535 lbft) when reassembling.



409A104

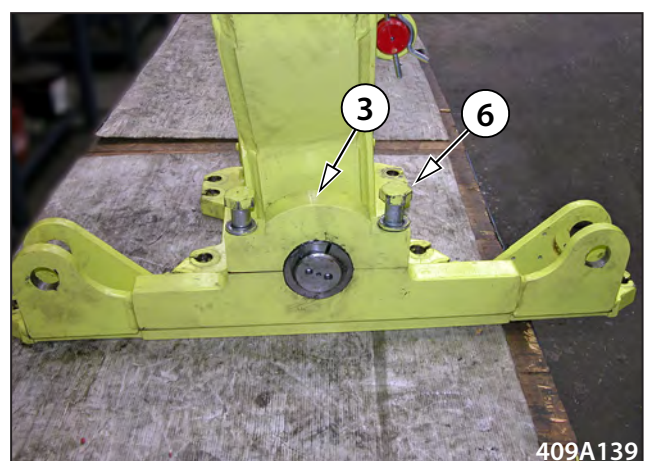
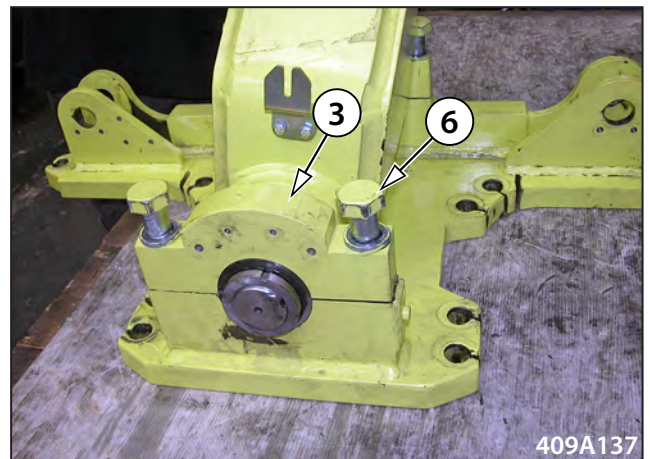


409A105

Push off the screw (003-065-10).



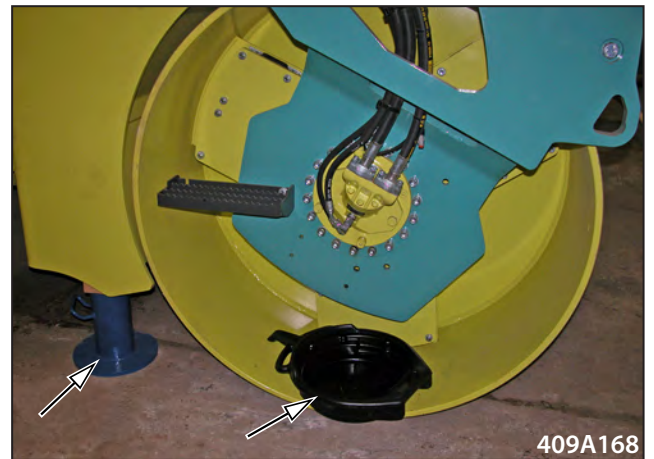
Remove the screws (003-065-002-6) of the yokes (003-065-002-3) and put the arm aside .



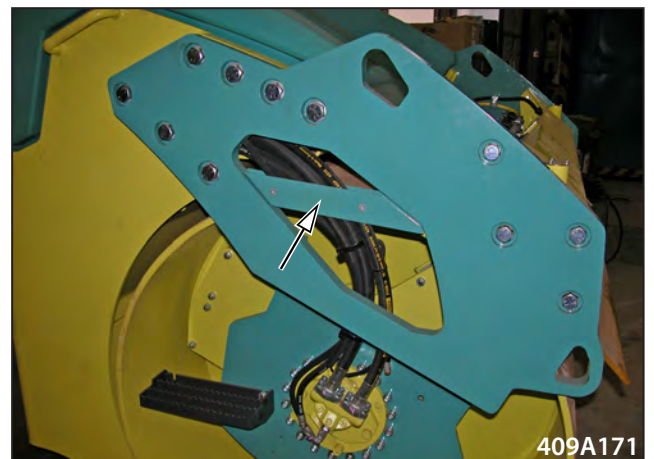
9. Travel

Reduce pre-stressing of rubber-metals by lifting and insertion of supports underneath the machine frame.

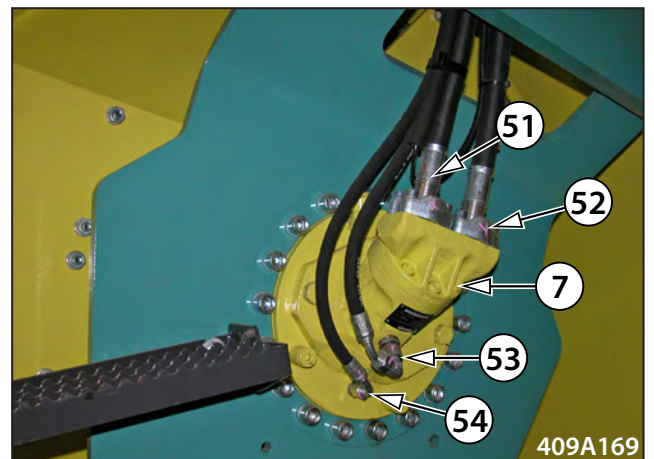
Put the vessel for capturing any leaking fluids under the travel hydraulic motor.



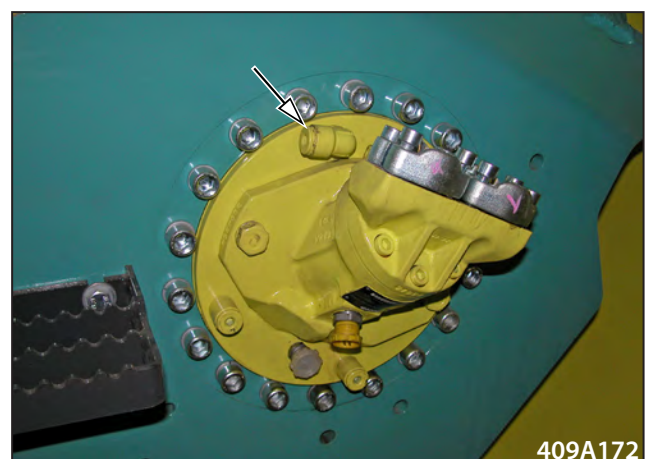
Remove the holder.



Remove the hydraulic hoses (005-311-51), (005-311-52), (005-311-53), (005-311-54) from the hydraulic motor (005-311-7). Mount the plugs.



Turn the filler neck.



9.6. Travel hydraulic motors and gearboxes of ARX 90 K

Basic personal protective equipment



Service tools

- Hydraulic jack
- Mounting stand
- Lifting truck
- Slings with a sufficient lifting capacity
- Forklift truck
- Set of standard wrenches
- End caps for hydraulic components and hoses
- Vessel for capturing leaking fluids
- Torque spanner



Service material

- Hydraulic oil according to specification
- Gear oil according to specification



Service instructions

- After completing the reassembly, refill the hydraulic and gear oil.
- Tighten the screws to specified torques according to chapter 16.6 Tightening torques.

10.3. Removal of vibration hydraulic motor

Personal protective equipment



Service tools

Wrench set standard

End caps for hydraulic components and hoses

Vessel for capturing any leaking fluids

Puller

Torque wrench



Service material

Loctite 262

Loctite 620

Loctite 7063



Service instructions

Proceed in reverse order when reassembling.

Blind the hose ends and hydraulic motor outlets.

Secure the ring (002-031-10) and coupling part (002-031-23) using the adhesive Loctite 262.

Secure the screw (002-031-44) using the adhesive Loctite 262.

Heat the coupling part (002-031-23) with ring (002-031-10) up to 200 °C (392°F) and fit the hydraulic motor shaft.

Nuts (002-031-36) tighten to torque of 67 Nm (49 lbft) during re-assembly. Secure the screws using adhesive Loctite 262.

Fit the coupling part (002-031-23) with ring (002-031-10) onto shaft, so that the notch in ring operates with eccentrics within $\pm 10^\circ$ (the notch pointed down when the eccentrics are drooping).

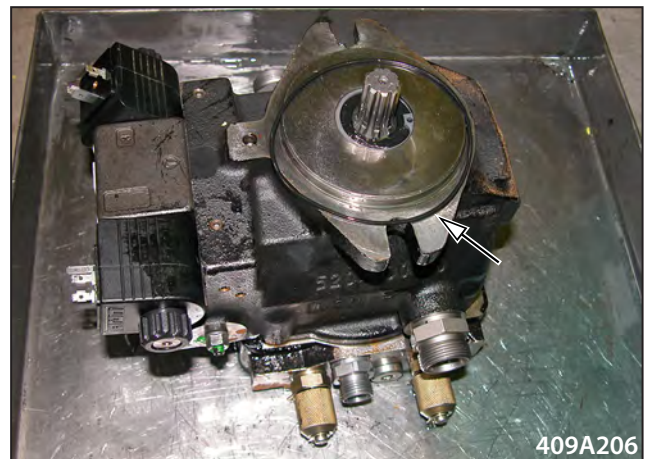
Secure the screw (002-031-45) using adhesive Loctite 620 during re-assembly.

Tighten the screws to specified torque defined in chapter 16.4. Tightening Torque Values

Take out the pump.



Check the O-ring and replaced it, if damaged.

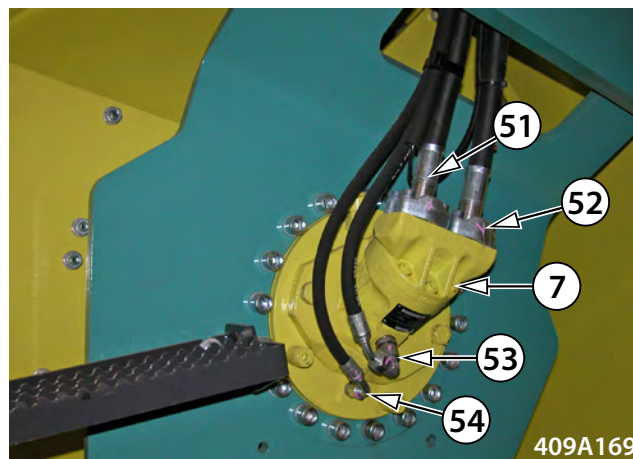


Remove the necks and measuring points from pump and mount them on a new one.

After restoring the machine to its original state, refill the hydraulic oil to the specified limit.

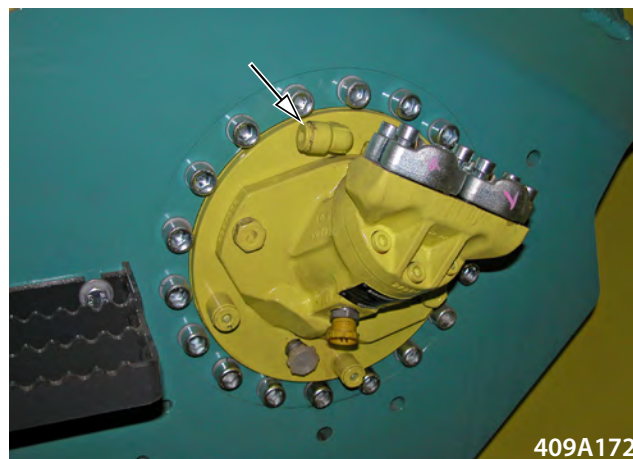


Remove the hydraulic hoses (005-311-51), (005-311-52), (005-311-53), (005-311-54) from the hydraulic motor (005-311-7)
Mount the plugs.



409A169

Turn the filler neck.

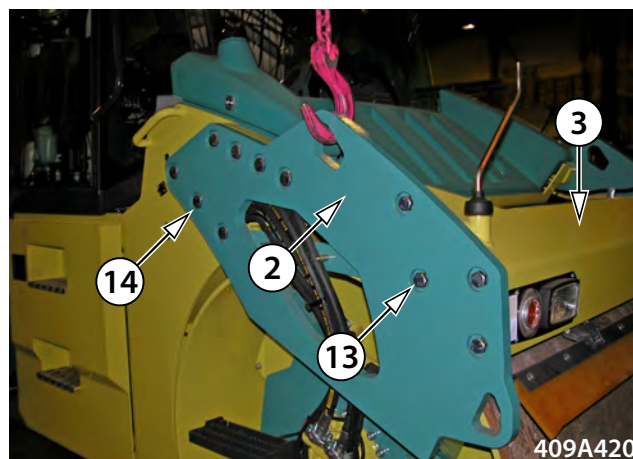


409A172

Hang the sidewall (003-081-2) on the crane with a sufficient capacity. The sidewall weight is 200 kg (441 lb). Remove the screws (003-081-13) of the crosspiece (003-081-3) and the screws (003-081-14).

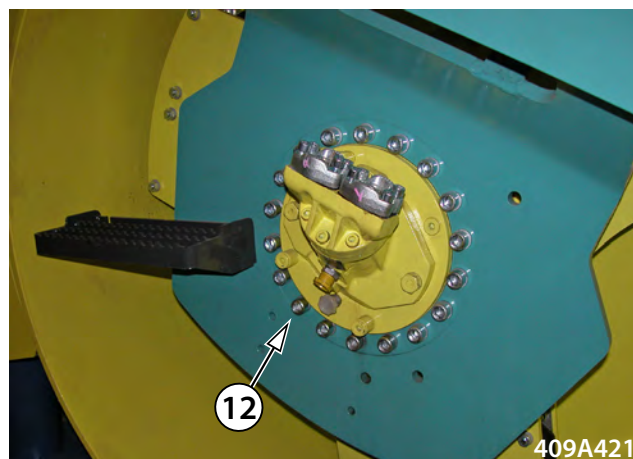
Note

Secure the screws (003-081-14) with the adhesive Novadurit ZV115.



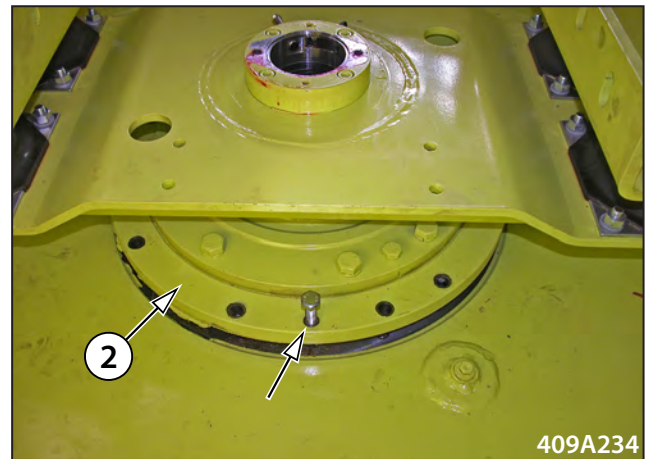
409A420

Remove the screws (003-081-12).

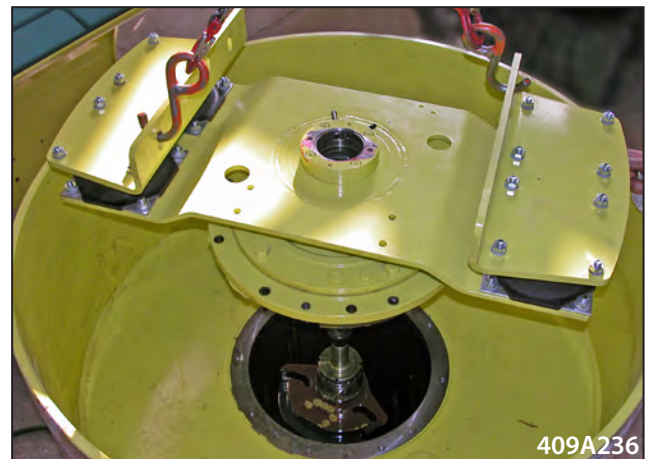


409A421

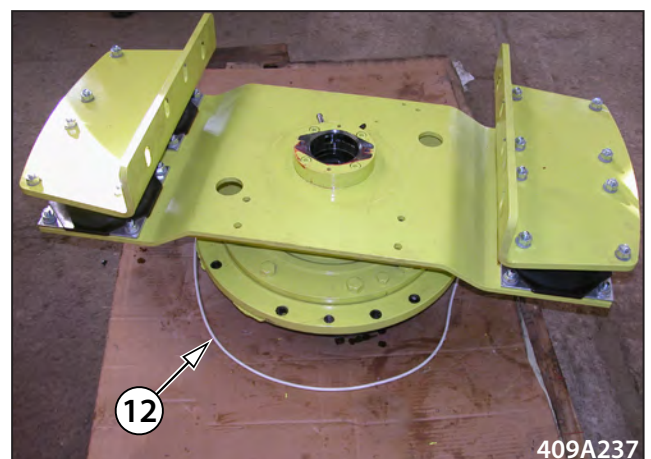
Fit the screws and push the cover away evenly (002-001-2).



Hang the assembly on a crane with sufficient load capacity. Assembly weight 140 kg (309 lb). Remove it and lay it aside.



Check the seal ring (002-001-12) and replace it, if damaged.



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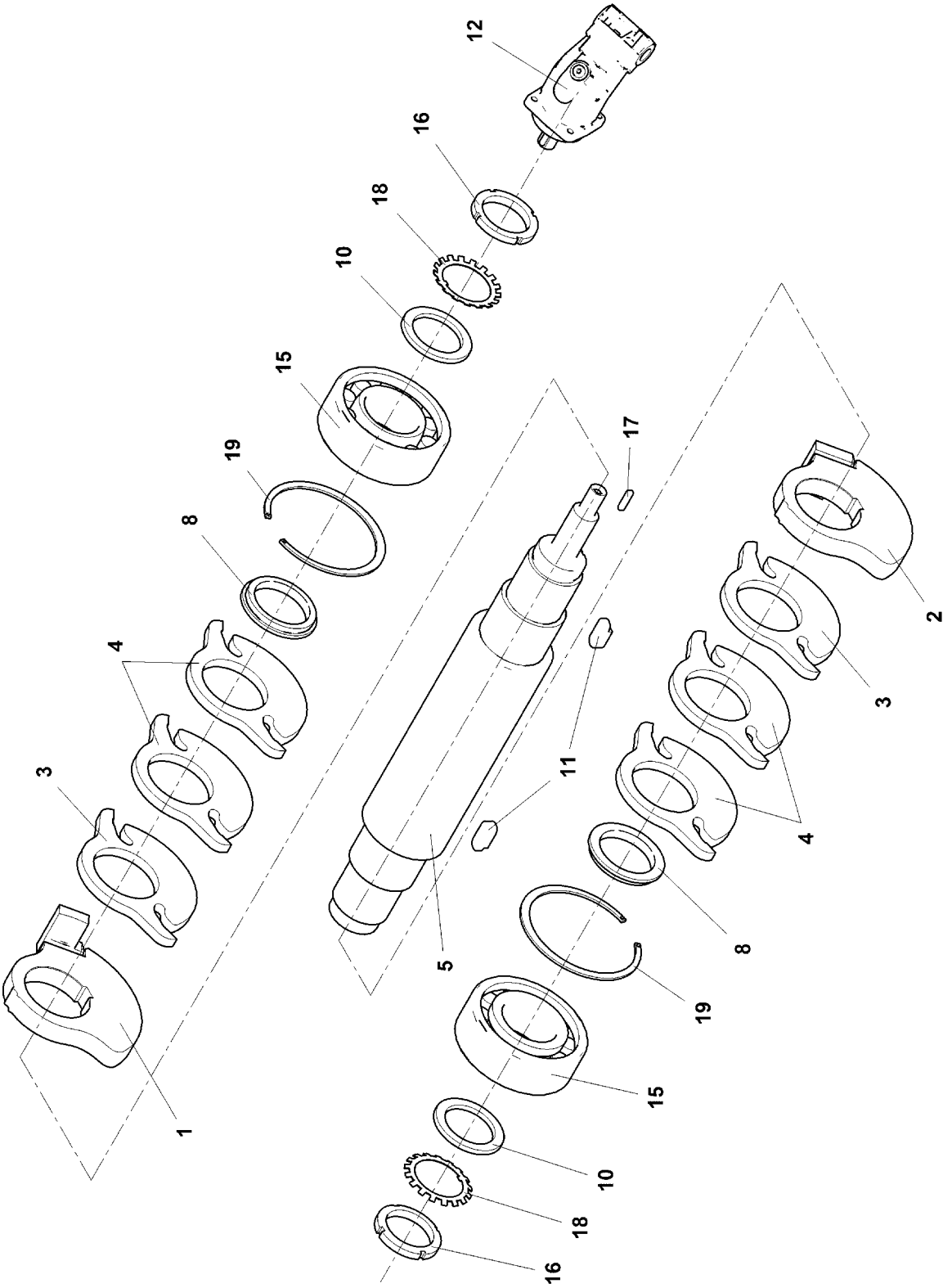
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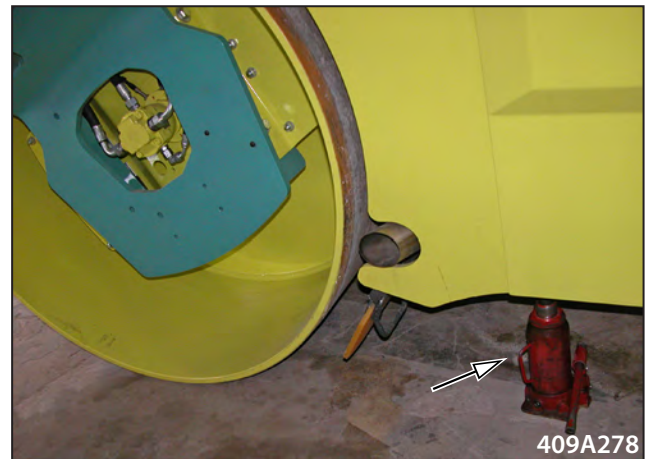
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002-021

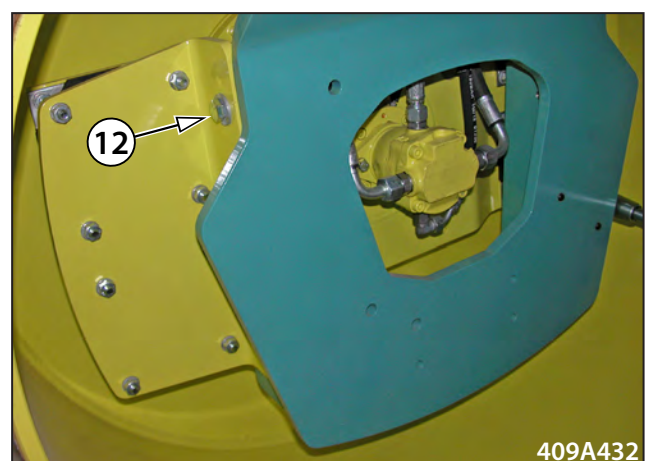
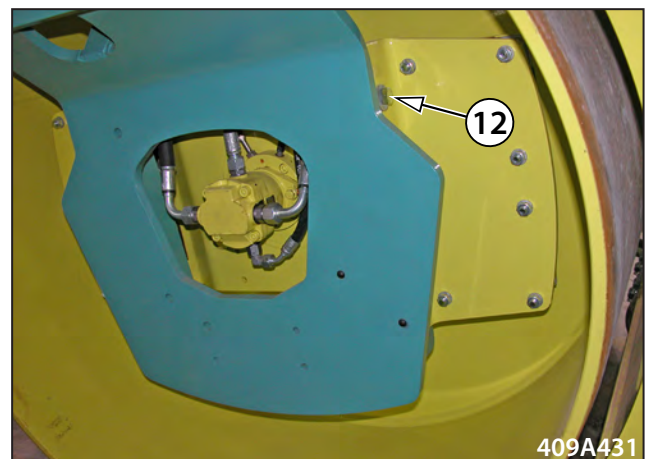


Front drum left side

Lift the machine frame on both sides using the jack - reduction of pre-stressing of rubber-metals.



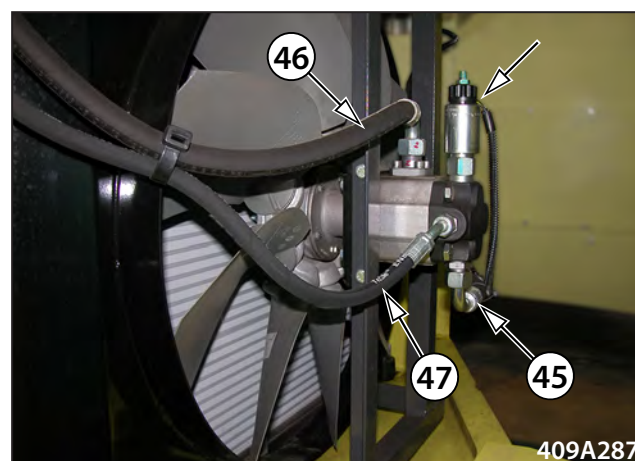
Loosen the screws (003-081-12).



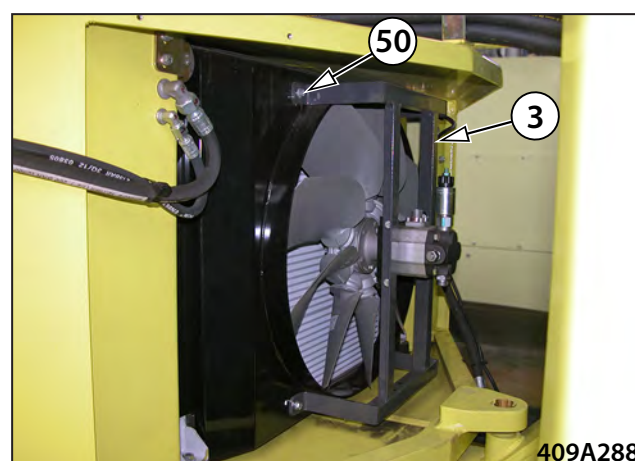
Dismount the covers.



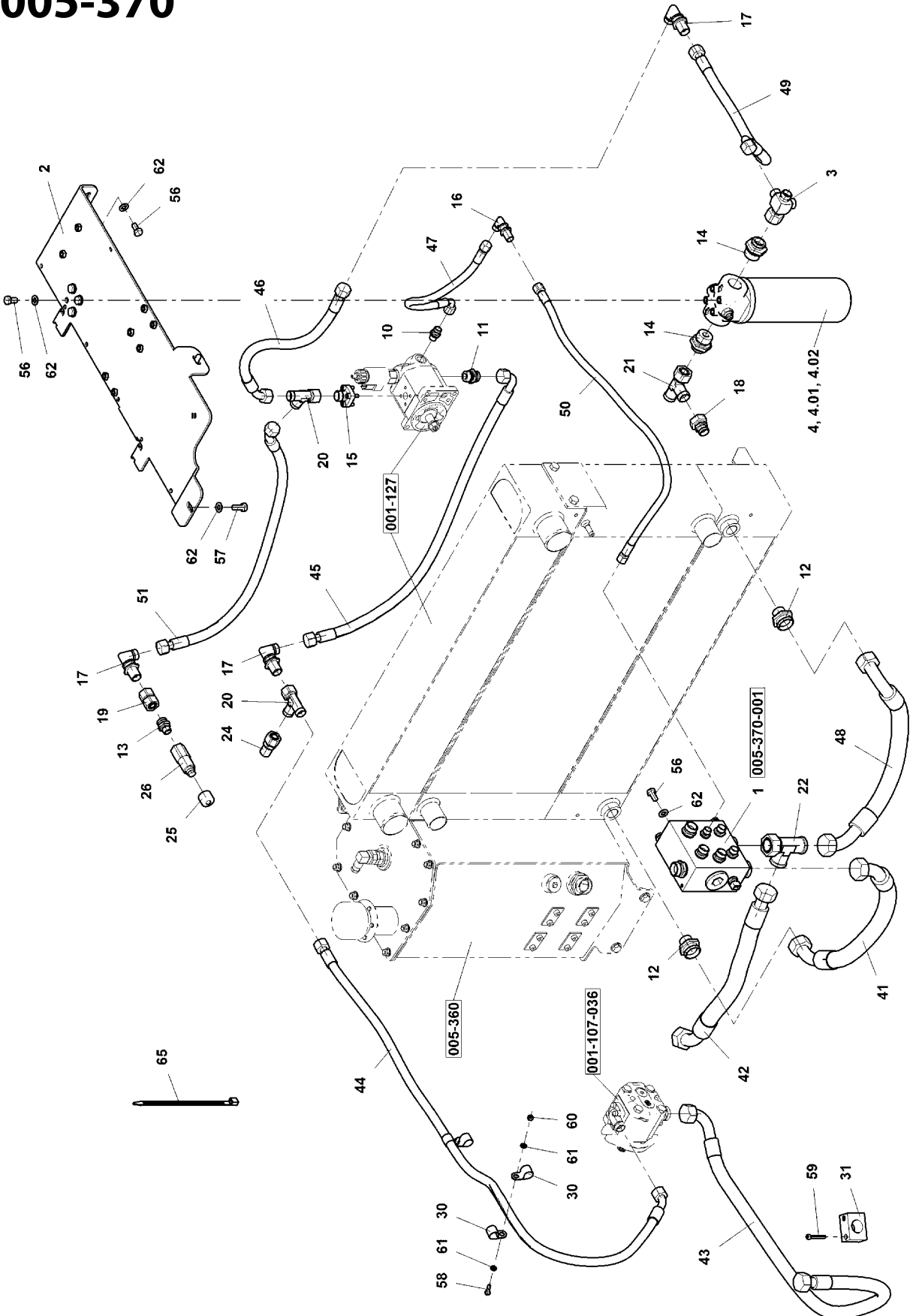
Disconnect the valve connector. Remove the hydraulic hoses (005-370-45), (005-370-46), (005-370-47),(005-370-51). Mount the end caps.



Remove the screws (001-127-50) of the holder (001-127-3).



005-370



12.1. Ball valve heating removal

Personal protective equipment



Service tools

Wrench set in bus

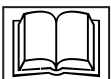
Vessel for capturing any leaking fluids

Torque wrench



Service material

Coolant as defined in the Media specification



Service instructions

Proceed in reverse order when reassembling.

Blind the hose ends and outlets.

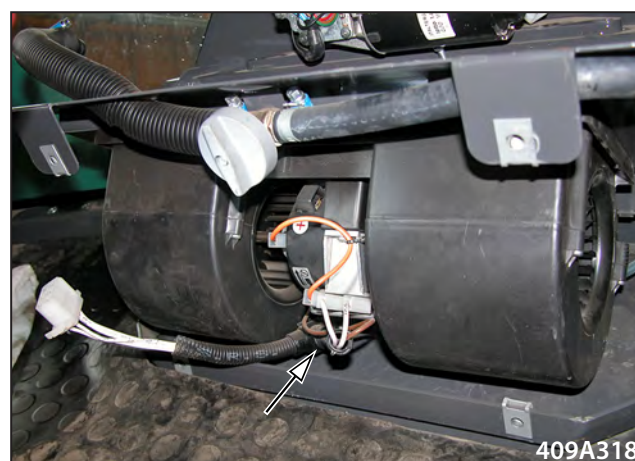
After restoring the machine to its original state, refill the coolant to the specified limit.

Tighten the screws to specified torque defined in chapter 16.4. Tightening Torque Values

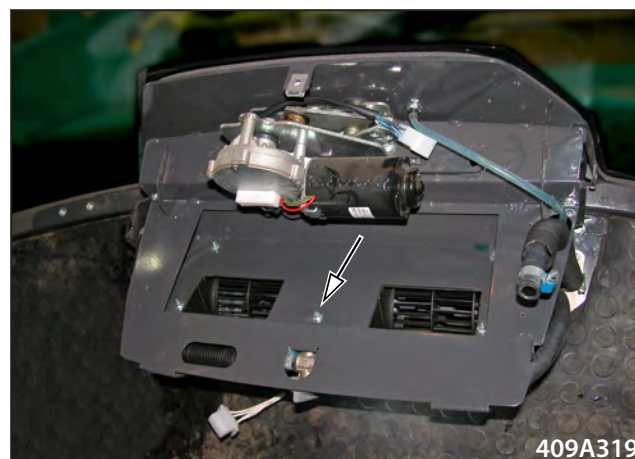
Take out the heating.



Mark and disconnect the wires.



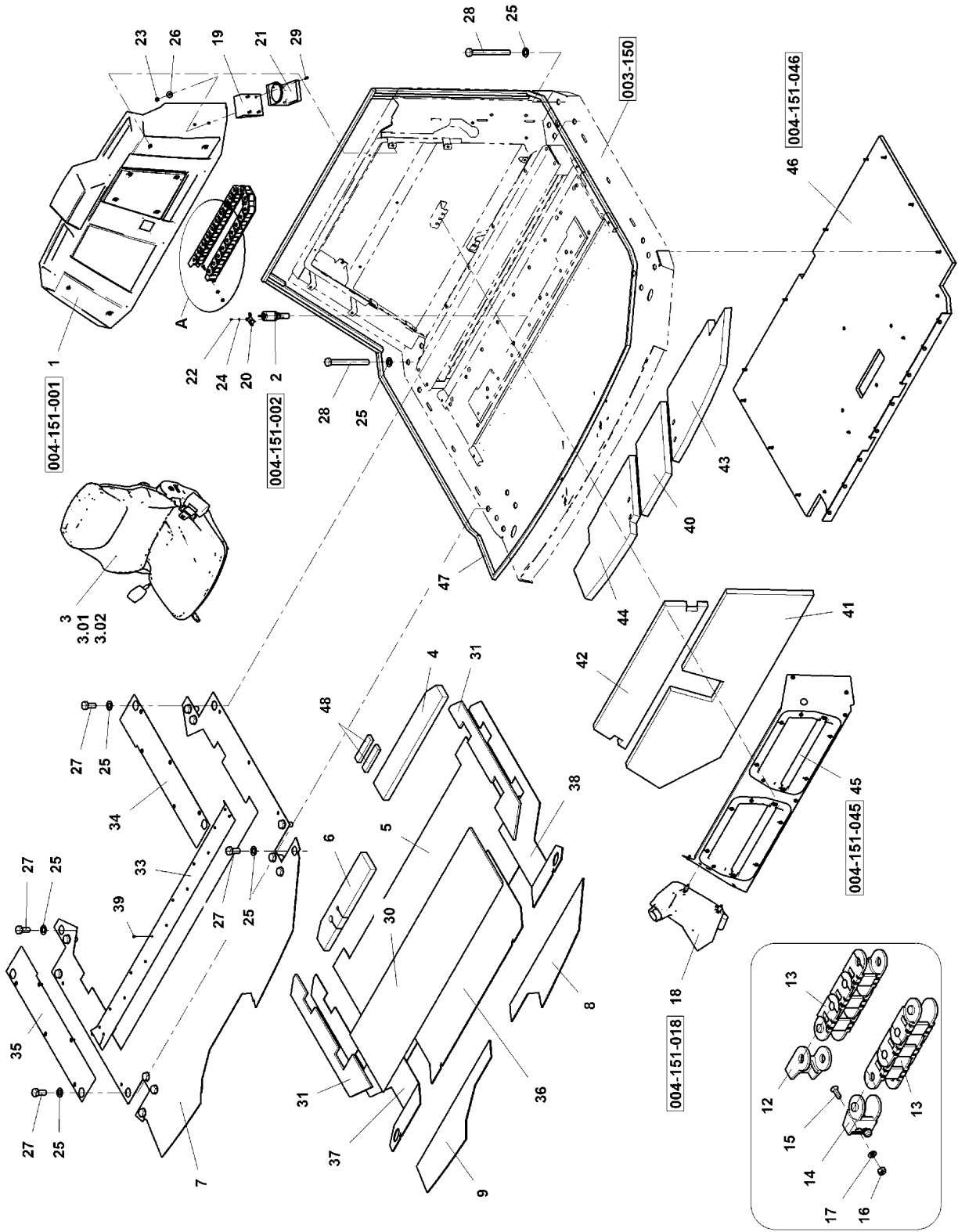
Remove screws of the fan.



Take out the fan.



004-151



Mount the lifting lugs M20 and hang on the crane with sufficient load capacity. Platform weight 310 kg (683 lb).

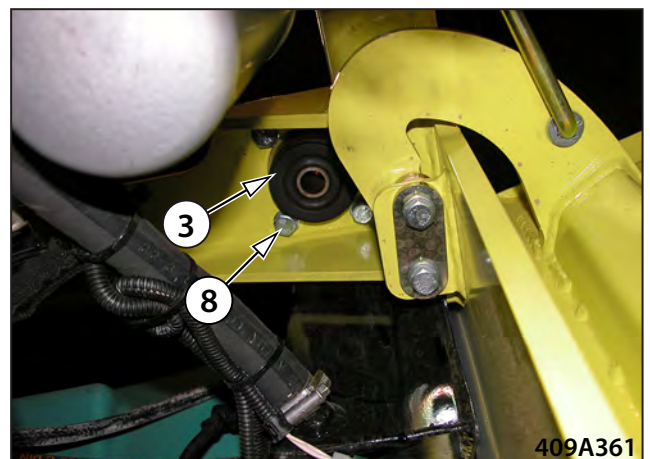
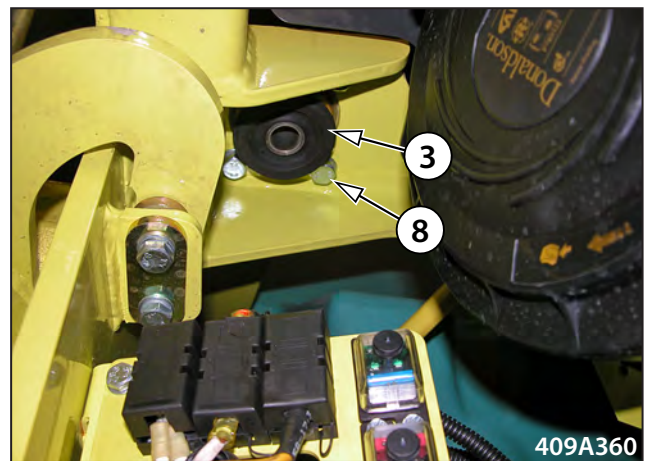


Lift the platform max 10 cm (0.4 in) above the frame.

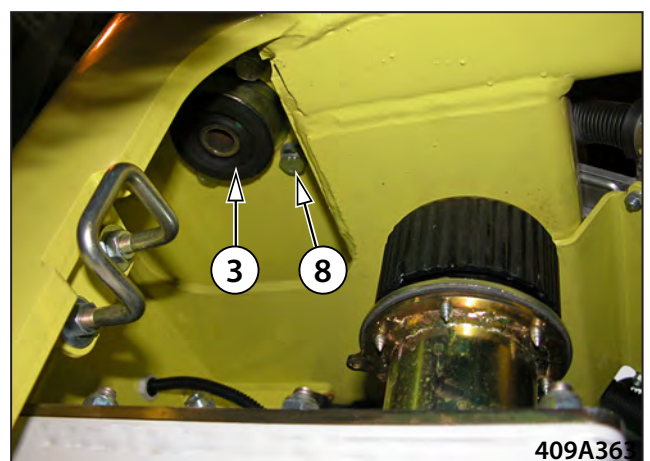
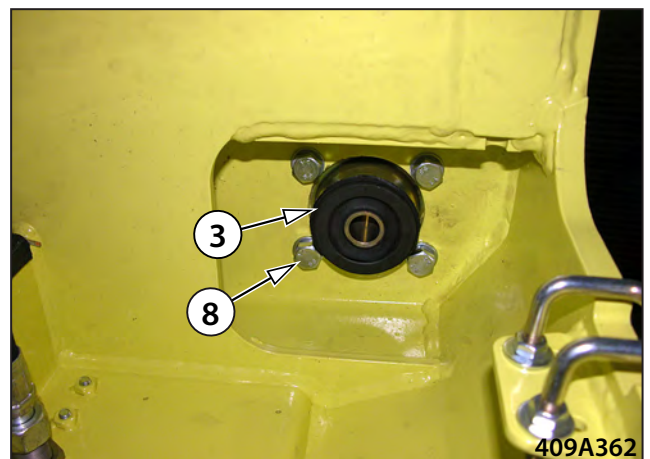


Remove the screws (004-170-8) of the rubber-metals (004-170-3).

- front



- rear.



14. Sprinkling

Hang the tank on the crane. Weight of the tank 80kg (176lb).
Take out the tank.

Remove the plug, necks, switch, water gauge, caps from the original tank and mount them on the new one.

Note

Glue the necks and water gauge with glue Loctite 5331 when remounting.



Place a container under the hydraulic hoses to trap the oil.



418007

Remove and blank off the hydraulic hoses and electrical connectors.



Stop the oil soaking into the ground.



418008

Remove the rear frame of the machine:

- Remove the sprinkling hose.



418009

- Remove the sprinkling tube.



418010

Remove the pulleys and the cogged belt.



- Mount all hoses. Ensure correct location of all hoses.



- Mount the hydraulic hose cover.



- Mount the sprinkling hose holder.



Left side of the rear drum:

- Apply the LOCTITE 5922 seal on the flange of the travel hydraulic motor.



16.3. Fuse positioning

It contains F1 - F28 fuses.

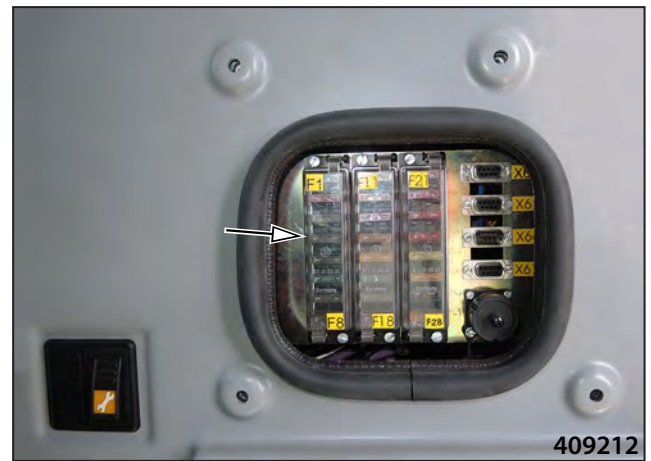
- F1 - 15A Mounting socket
- F2 - 10A front parking lights, front headlamps, rear lights
- F3 - 7.5A rear headlamps
- F4 - 7.5A turn indicators, beacon, horn, cab lighting, coil of engine time relay (A10)
- F5 - 7.5A switch box, lighting relay coils
- F6 - 35A power supply of computer Rexroth RC20-10/30
- F7 - 7.5A seat control
- F8 - 7.5A (15A). working lights, drum lighting
- F11 - 5A drum sensors (speed, frequency), el. magnets of vibration, water level sensor, infrathermometer, emulsion sprinkling relay
- F12 - 5A Telematic, Green beacon
- F13 - 10A water sprinkling, emulsion sprinkling
- F14 - 5A brake lights, reverse horn, alternator excitation
- F15 - 10A total STOP, service mode
- F16 - 1A memory of computer Rexroth RC20-10/30
- F17 - 7.5A lever Gessmann, display, diagnostic socket of engine
- F18 - 15A urea sensor
- F21 - 10A autoradio
- F22 - 10A rear window heating control, air-conditioning relay
- F23 - 10A wipers, screen washers
- F24 - 10A heating fans
- F25 - 20A rear window heating
- F26 - 10A front working lights
- F27 - 15A spreader
- F28 - 5A compaction modul, GPS

In the engine compartment

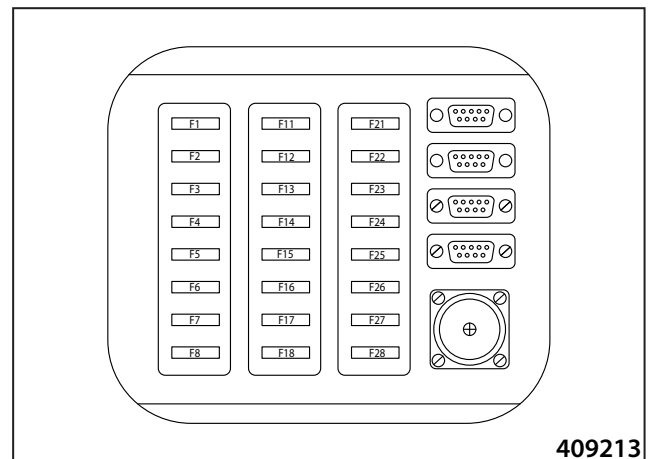
- F30 - 80A main fuse
- F31 - 15A engine fuse
- F32 - 15A air-conditioning fuse
- F33 - 10A fuel pump fuse
- F34 - 25A After Treatment fuse
- F35 reserve
- F36 - 15A memory el. supply fuse
- F40 - 70A glowing fuse



Always replace the fuses with the ones of identical value!



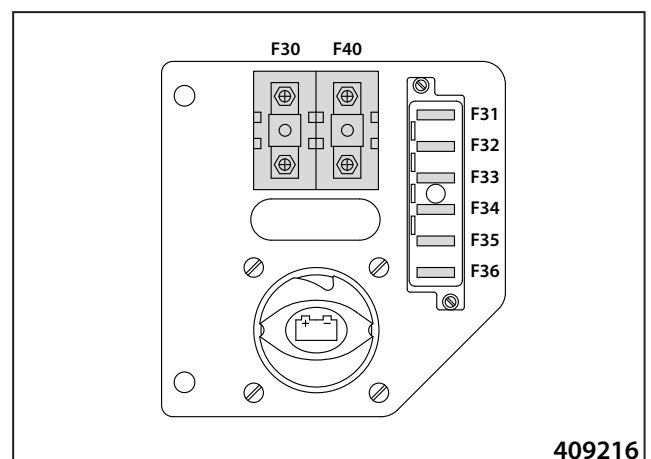
409212



409213



409224D



409216

RIGHT ARM REST

Travel lever removal

Dismount the cover.



Disconnect the connectors X1, X2, X3, X4.

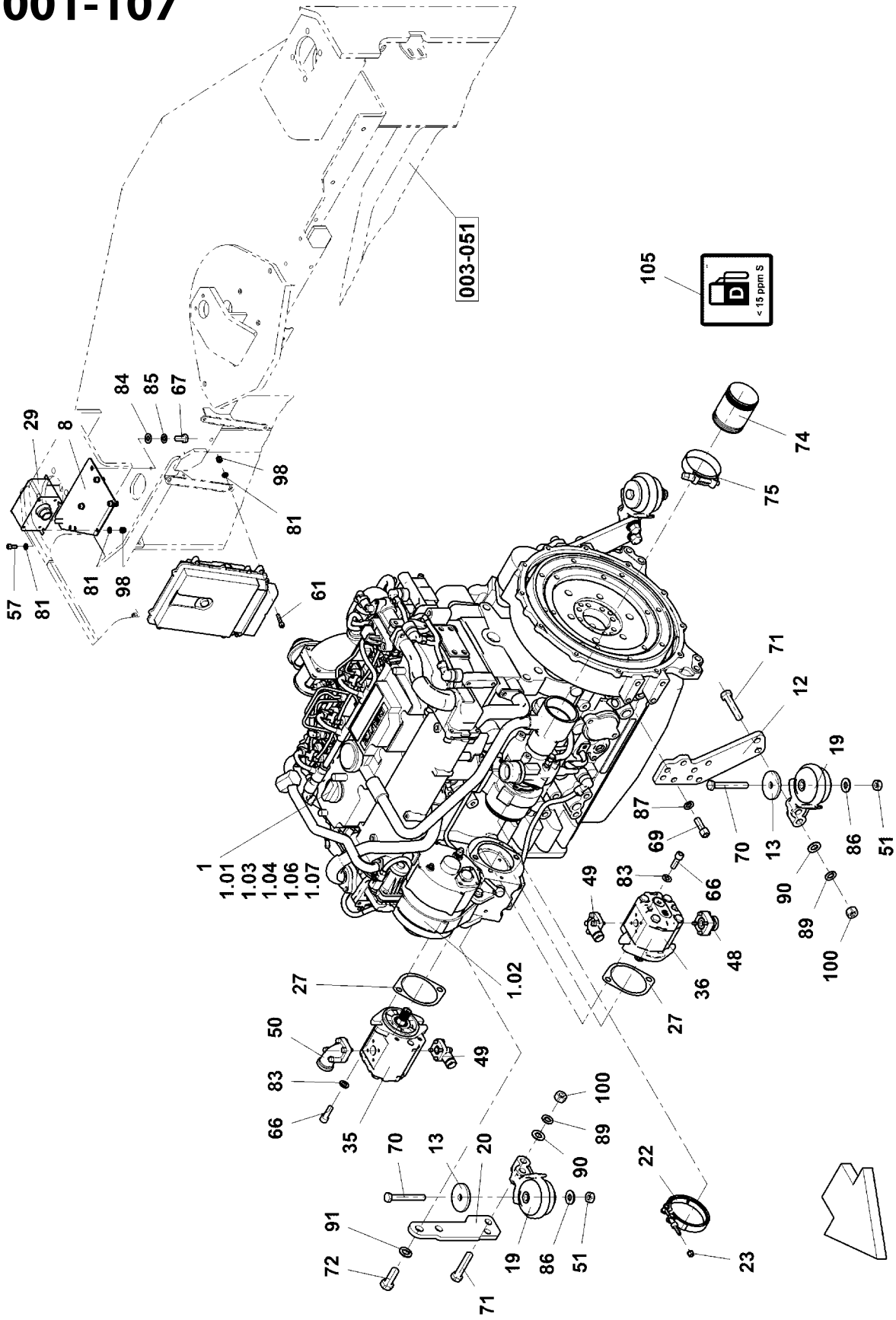


Dismount the screws.

Remove the lever.



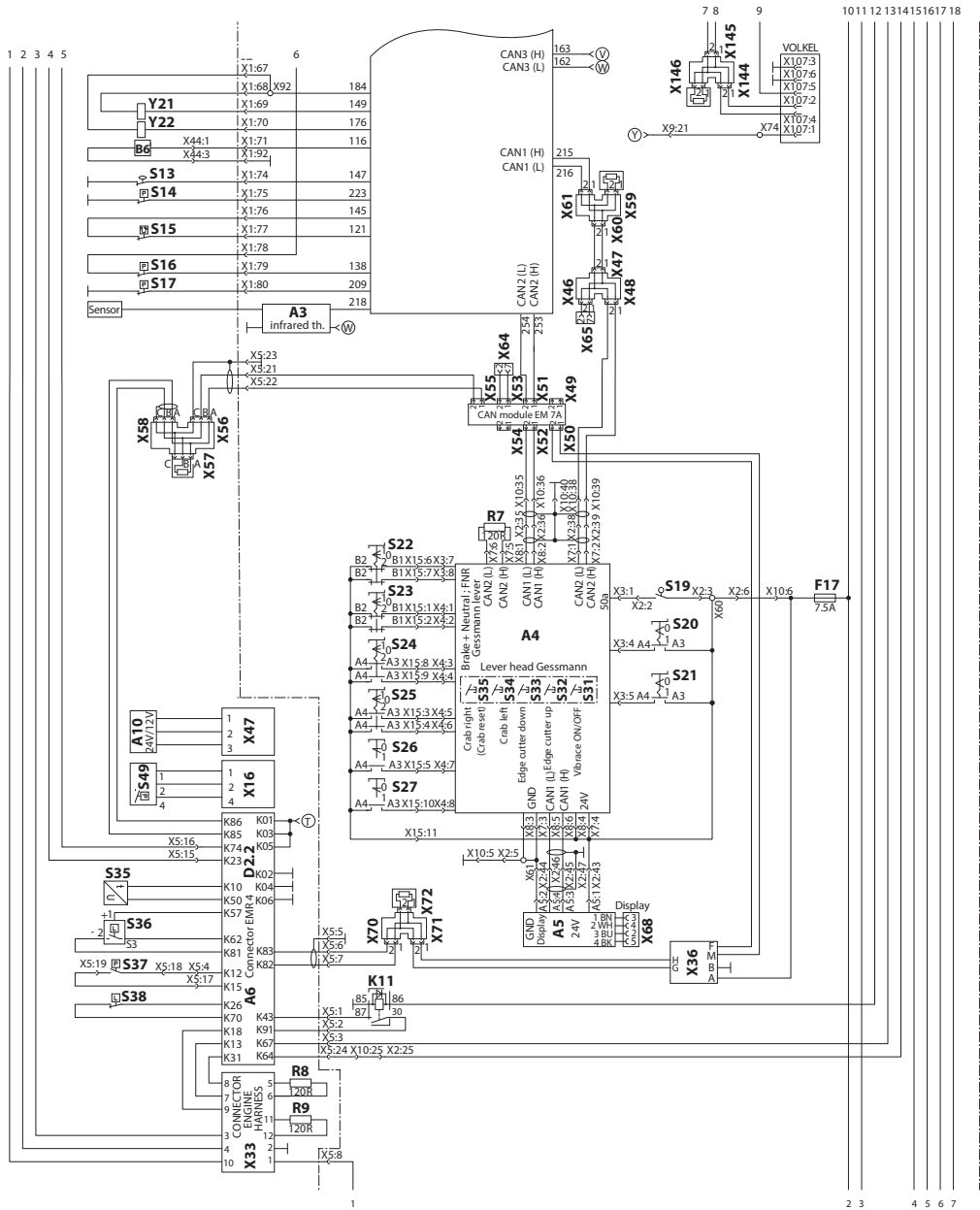
001-107



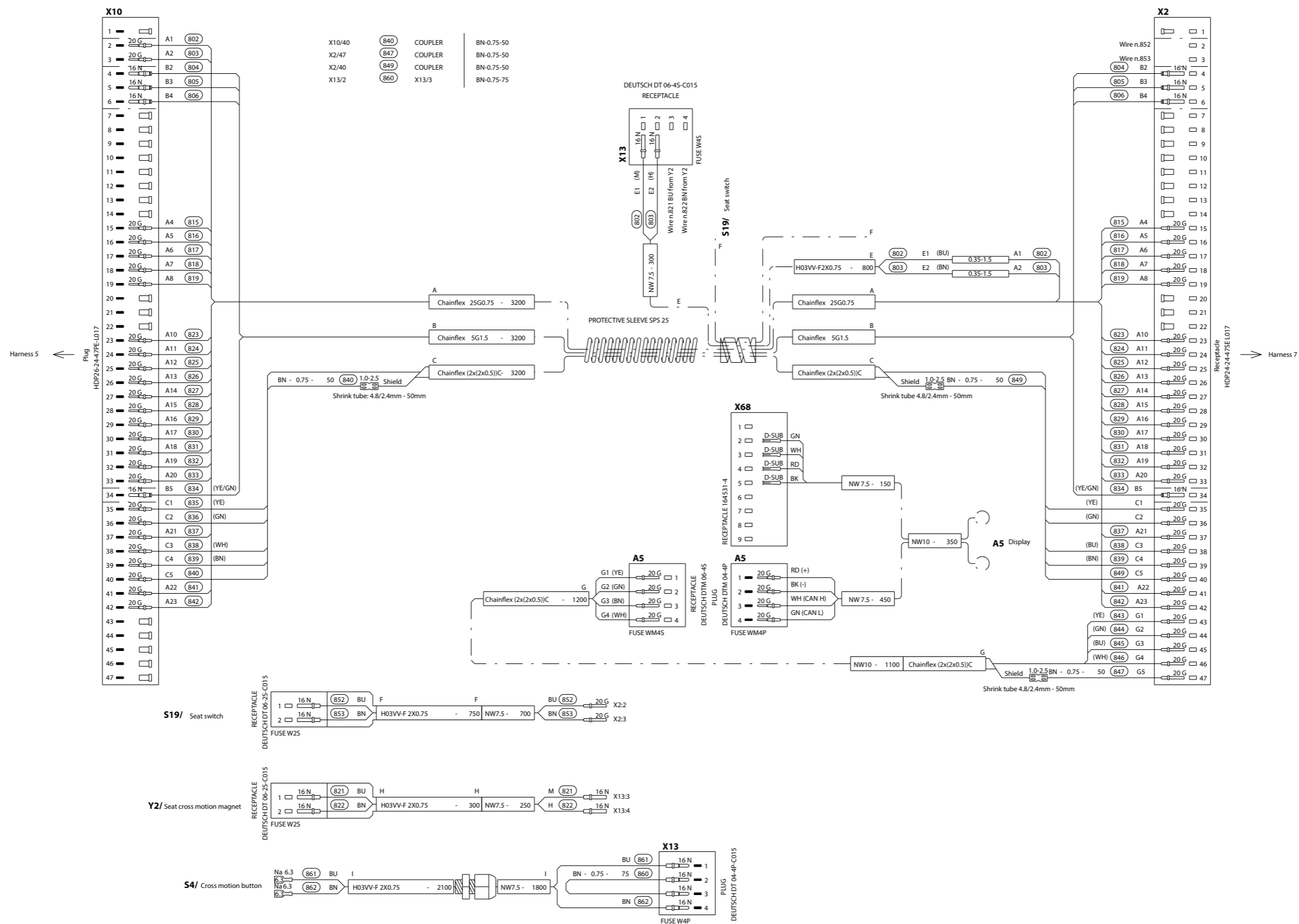
- CRAB LEFT (Y21)
- CRAB RIGHT (Y22)
- FUEL LEVEL GAUGE (B6)
- HYDRAULIC OIL LEVEL (S13)
- HYDRAULIC OIL TEMPERATURE (S14)
- HYDRAULIC OIL TEMPERATURE (S15)
- WATER LEVEL IN THE WATER (S16)
- HYDRAULIC OIL FILTER 1 (S17)

- FRONT VIBRATION (S22)
- REAR VIBRATION (S22)
- SEAT SWITCH (S19)
- STEERING MODE - FRONT (S23)
- STEERING MODE - REAR (S23)
- VIBRATION MAN/AUTO. (S20)
- EDGE CUTTER 1 (S24)
- EDGE CUTTER 2 (S24)
- VIBRATION HIGH/LOW (S21)
- SPRINKLING 1 (S25)
- SPRINKLING 2 (S25)
- WATER SPRINKLING (S26)
- FUEL FILTER SENSOR (S49)
- EMULSION SPRINKLING (S27)

- SUCTION AIR TEMPERATURE (S35)
- COOLANT LEVEL (S36)
- ENGINE AIR FILTER (S37)
- WATER SENSOR IN FUEL (S38)



ARX90 Tier 4f CABLE HARNESS #8 - Wiring system Part Number 4-212014 (revision C)



CABLE HARNESS LEGEND:

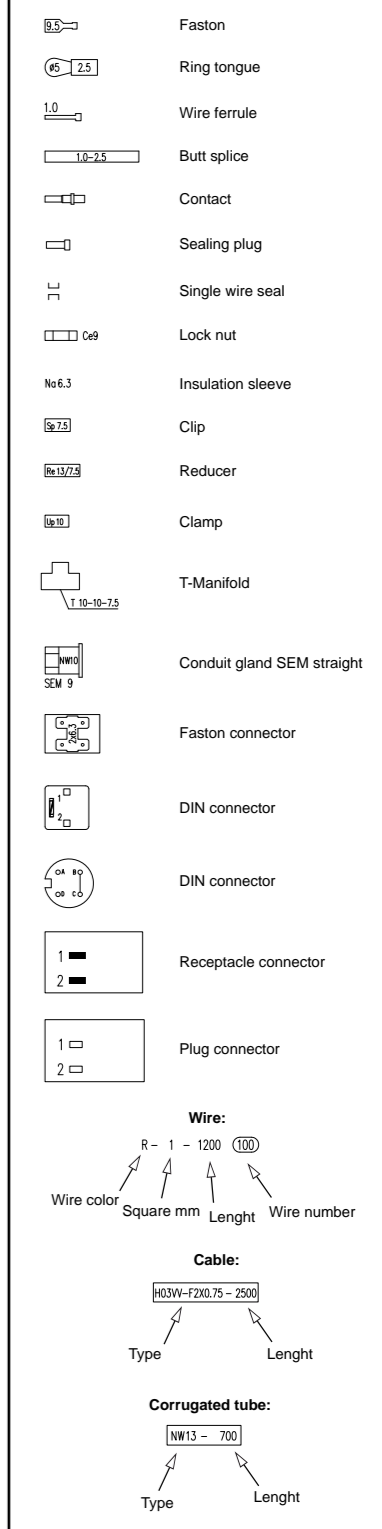
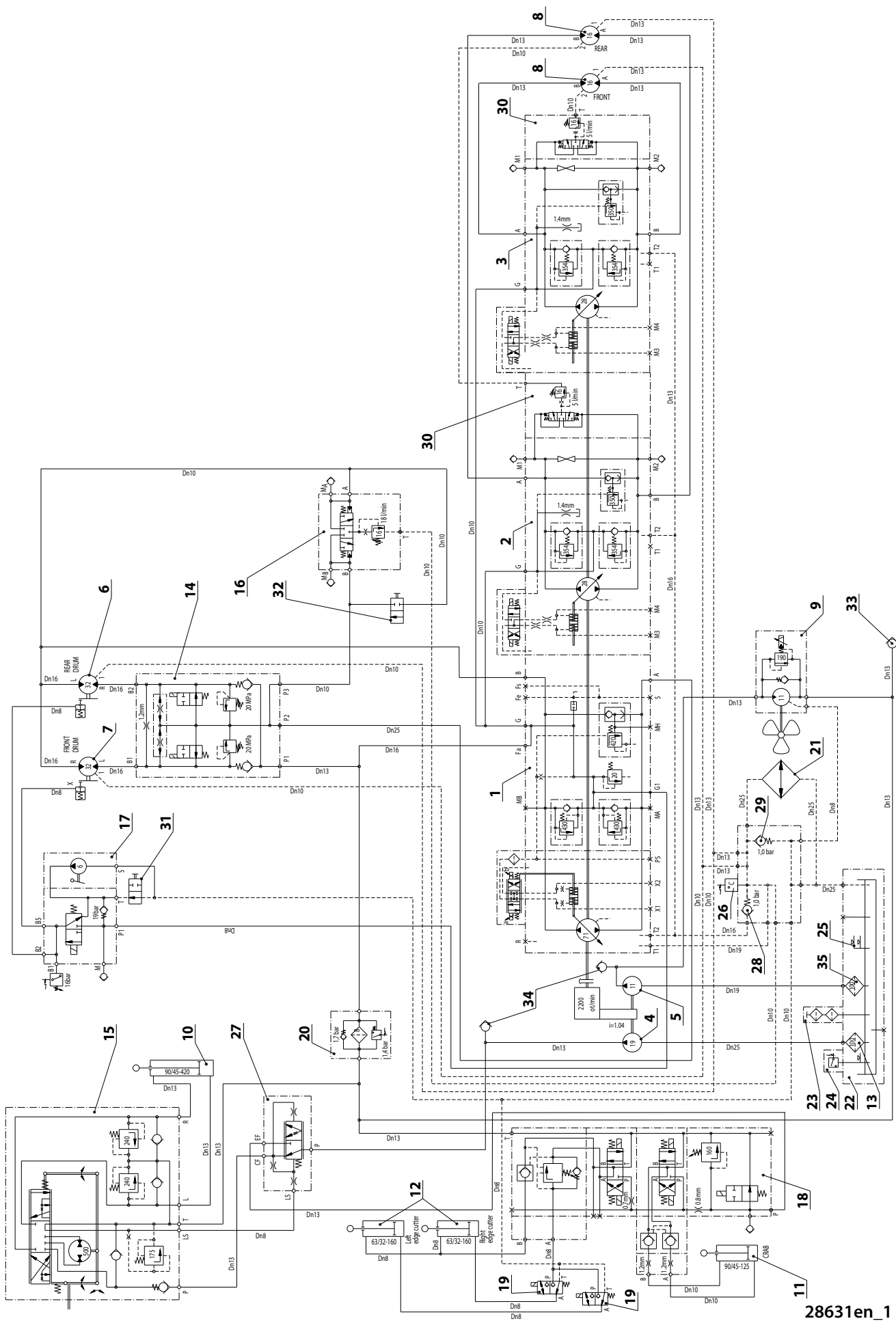


TABLE OF COLOR SYMBOLS:

WH	B	White
BK	C	Black
BN	H	Brown
BU	M	Blue
RD	R	Red
GY	S	Grey
YE	Y	Yellow
GN	Z	Green



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