



Workshop manual
FS 5000D



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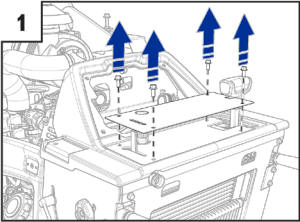
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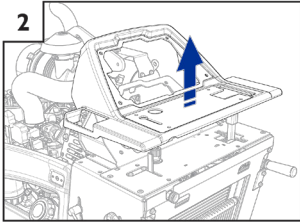
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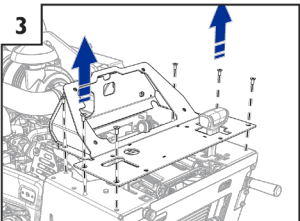
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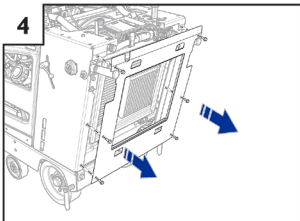
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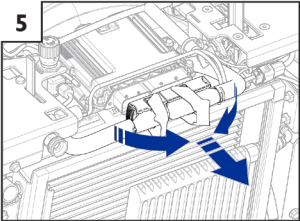
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COWLING

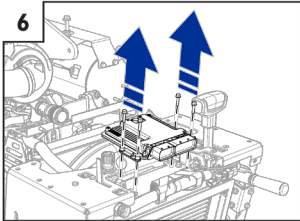
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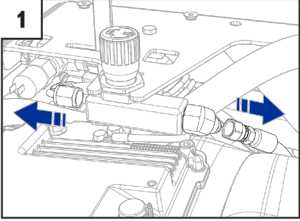
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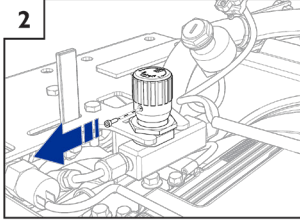
Removing the ECU

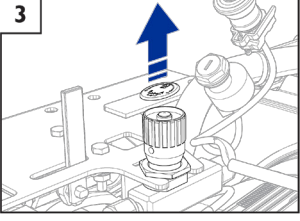



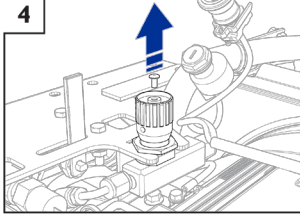
First see [Removing the HMI Board \(p. 31\)](#) and steps 4 & 6 in [Removing the Lift Bail \(p. 48\)](#).

1. Remove the four screws and lift the panel.
2. Remove the plastic cover.
3. Remove the six screws and lift up the bracket.
4. Remove the six screws and the back cover.
5. First lift the handle then disconnect the contacts by pulling them outwards.
6. Remove the four screws and lift out the ECU.



1


2


3


4


Removing the Lowering Speed Valve

First see steps 1-3 in [Removing the ECU \(p. 32\)](#).

1. Unscrew the hydraulic clutches.
2. Remove the set screw of the control.
3. Flip the top off.
4. Remove the screw located underneath.

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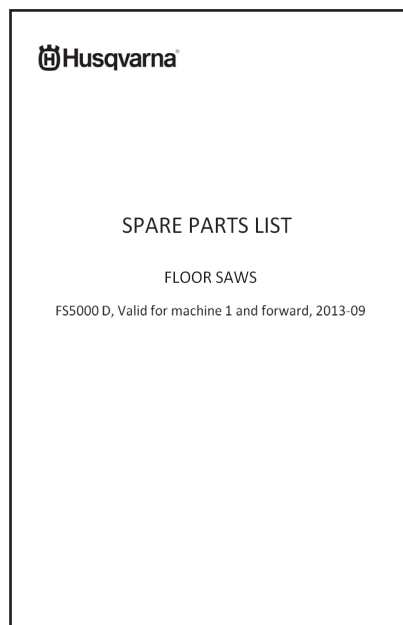
3. LITERATURE

Workshop Manual

The workshop manual covers all workshop maintenance for the FS 5000D. Some very simple and obvious repair work has been omitted.

The manual is divided into numbered chapters as well as chapter headings that are specified in bold at the top of each page.

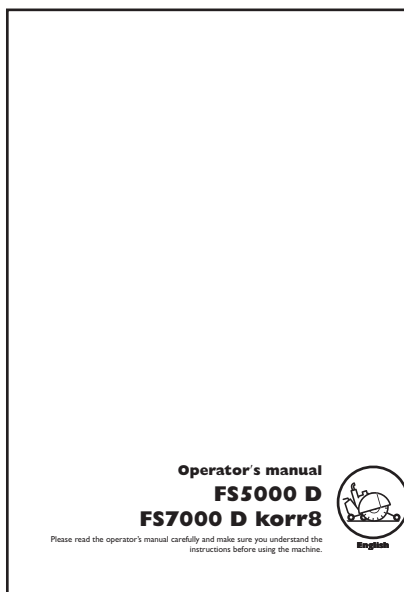
The table of contents at the beginning of the manual also has a page reference to the beginning of each chapter.



Spare Parts Catalog

Illustrated Parts Lists (IPL) can be found at <http://husqvarnacp.com>. We recommend that Husqvarna service centers log on to the support site and find spare parts in the Electronic Parts Cataloge (EPC).

These electronic catalogs include all the spares for Husqvarna FS 5000D. The catalogs contain complete exploded drawings for each product and the location, spare part number, and appearance of each component is easy to identify.

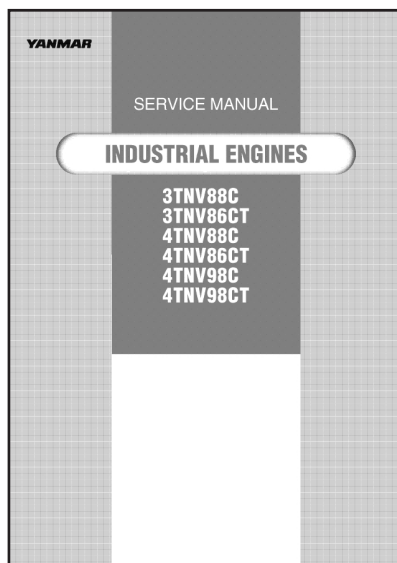


Operator's Manual

The operator's manual describes how the machine is to be used, the functions of the machine, and the maintenance the operator normally carries out.

This manual also contains important instructions for the safe handling of the machine.

It is extremely important that service personnel are well acquainted with how the machine is used and follow the instructions given in the manual.



Engine Literature Service manual

Make sure to download and read through the manufacturers's manual before using the machine.

For problems related to the engine, see Yanmar engine manufacturer's service manual.

This catalog includes all information regarding the engine.

Link to engine supplier.

<http://www.yanmar.com>

4. SAFETY INSTRUCTIONS

General

- No one may repair the FS 5000D unless they have read and understood the contents of this workshop manual.
- No one may repair the FS 5000D unless they have read and understood the contents of the engine literature service manual.
- This workshop manual is written for personnel with general knowledge about the repair and service of Husqvarna Floor Saws.
- The workshop where the FS 5000D is to be repaired must be equipped with safety equipment in accordance with local regulations.
- The machine is tested and approved only with equipment originally provided or recommended by the manufacturer.
- It is the responsibility of the user of this workshop manual to ensure that the service and repairs are carried out according to legal requirements to protect the health and safety of the personnel undertaking the work.
- Always read the warning label on the packaging for chemicals and oils. Pay specific attention to screw adhesives.
- Always stop the FS 5000D before carrying out any service or repairs.
- When using compressed air, do not direct the jet towards the body. Air can penetrate into the blood circulation system, which could be fatal.
- Observe local waste regulations.
- Electric shock could cause injury. Do not touch the cables while the FS 5000D is operational.
- Always remove the battery prior to performing a service.
- Always make sure all nuts and bolts are correctly tightened.
- Wear personal protective equipment.
- Never use the machine if any cable is damaged.
- Tighten all screws to the torque recommended for its dimension.

Warning and Information



Warning!

The warning box indicates that there is a risk of injury if the instructions are not followed.



Information!

The information box provides important instructions for the reader.

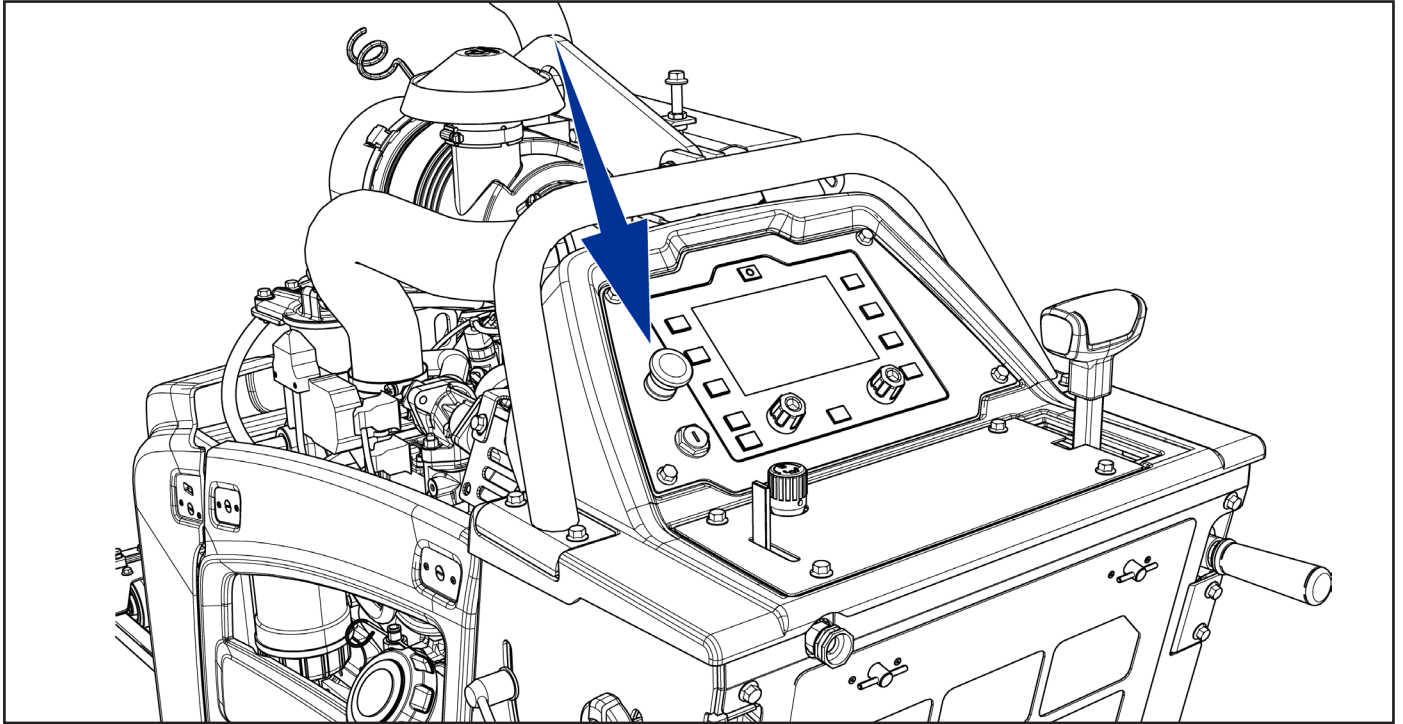


ESD general notice

All electrical devices are sensitive to ElectroStatic Discharges (ESD). A person may carry thousands of volts from being charged sitting in a car seat, wearing shoes with synthetic soles or a synthetic jacket. All discharges one can feel is certain to destroy electronic components. Even those discharges one can't feel may still damage or destroy electronic components. When working with electronic components in our products, always use proper ESD protection!

Machine Stop Button

The FS 5000D is equipped with a machine stop button which will quickly shut down power to the FS 5000D. Always engage the machine stop button before performing maintenance on the machine.

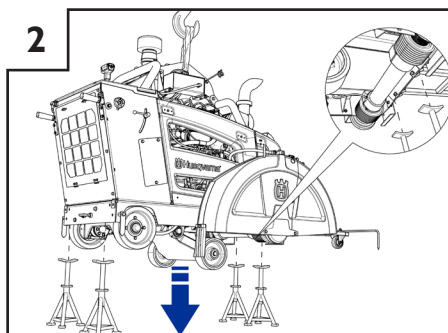
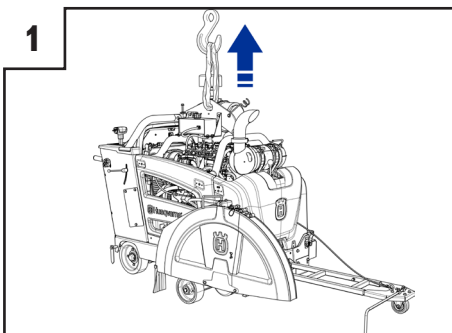


Welding work on the machine

| | |
|------------|--|
| General | Only qualified welders should carry out welding operations on the machine. |
| Important! | <p>Risk of fire. The machine contains flammable liquids and components.</p> <ul style="list-style-type: none"> Do not undertake any welding in direct connection with flammable liquids, e.g. hydraulic fluid, hydraulic tank or hoses. Ensure that there is a fire-extinguisher on site at the workplace. <p>Risk of inhaling harmful substances. Toxic gases can be formed.</p> <ul style="list-style-type: none"> When welding indoors, use equipment to extract welding fumes. Never weld in the vicinity of rubber or plastic material. Use a breathing mask. |
| Battery | Make sure to always disconnect the battery before welding. |
| Other | Do not weld on parts which are already mounted. |

Lifting the Road Saw

Always make sure to secure the saw using the method mentioned below.



1. Use a travers and attach it to the hole on top of the lift bail and lift it up.
2. Put four axle stands beneath the saw and Lower the saw on top of the axle stands.

5. SPECIFICATION

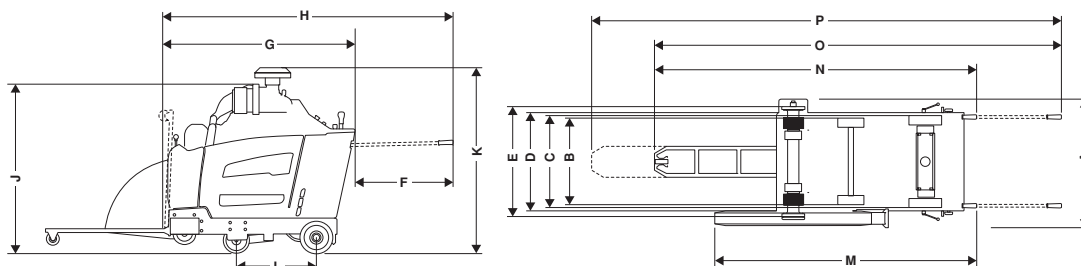
Technical Data

TECHNICAL DATA

Technical data FS5000 D

| Saw feature | 350/14 | 500/20 | 650/26 | 750/30 | 900/36 |
|--|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Blade guard capacity, mm/inch | 350/14 | 500/20 | 650/26 | 750/30 | 900/36 |
| Maximum cutting depth, mm/inch | 118 (4,75) | 193 (7,75) | 262 (10,5) | 312 (12,5) | 374 (15) |
| Blade shaft, rpm | 3197 | 2400 | 1855 | 1598 | 1331 |
| Approximate blade shaft, HP | 42 | 42 | 42 | 42 | 42 |
| Arbor size, mm/inch | 25,4 (1") with single drive pin | 25,4 (1") with single drive pin | 25,4 (1") with single drive pin | 25,4 (1") with single drive pin | 25,4 (1") with single drive pin |
| Quick disconnect blade flange Ø, mm/inch | 114,5 (4,5) | 114,5 (4,5) | 127 (5) | 127 (5) | 152,5 (6) |
| Blade shaft diameter, mm/inch | 45 / 1 3/4 | | | | |
| Blade shaft bearings | Cast sealed blade shaft with 2 maintenance-free ball bearings | | | | |
| Blade shaft drive | Dual 6-groove banded 3VX V-belts (12 grooves total) | | | | |
| Blade coolant | Zinc plated dual multiple-jet water spray tubes | | | | |
| Blade guard attachment | Slip-on, auto-latch | | | | |
| Blade control | Electro-hydraulic pump raises blade; Switched controlled raise/lower on speed control handle; Switched controlled positive depth stop; Cutting depth indicator; Blade drive disengagement system (clutch); Quick disconnect blade flanges | | | | |
| Axle Ø, mm/inch | Front, 25/1 | | | | |
| | Rear, easy adjust center pivot with 2 hydraulic powered wheel motors | | | | |
| Wheels | Front, 203x76x25/8x3x1, thick polyurethane tread, sealed ball bearing requiring less maintenance | | | | |
| | Rear, 254x76x32/10x3x1,25, solid rubber, quick disconnect | | | | |
| Transmission | Hydrostatic pump, with 2 hydraulic wheel motors connected with hoses, neutral start switch, single handle speed control, hydraulic bypass valve for pushing | | | | |
| Max. ground speed | Infinitely variable: 0-122 fpm, forward and reverse. 25m/min maximum reverse speed on CE models | | | | |
| Chassis | Heavy duty, rigid, box and channel section construction | | | | |
| Weight (uncrated), kg/lb | 751 (1656) | 756 (1667) | 761 (1678) | 765 (1687) | 771 (1700) |

| Saw dimensions | | | Saw dimensions | | |
|----------------|--|--------------------|----------------|---|----------------|
| A | Width, mm/inch | 844 / 33 1/4 | H | Saw length (pointer up, handles extended), mm/inch | 2191 / 86 1/4 |
| B | Center to center wheel width, mm/inch | Front 518 / 20 3/8 | I | Max. overall height, mm/inch | 1313 / 51 3/4 |
| | | Rear 646 / 25 3/8 | | | |
| C | Outside to outside wheel width, mm/inch | Front 533 / 21 | K | Min. overall height (rotated pre-cleaner), mm/inch | 1289 / 50 3/4 |
| | | Rear 609 / 24 | | | |
| D | Frame width, mm/inch | 635 / 25 | L | Wheel base length, mm/inch | 427 / 16 3/4 |
| E | Inner flange to inner flange width, mm/inch | 726,5 / 28 5/8 | M | Guard to handle length (handles in), mm/inch | 1753 / 69 |
| F | Handle extension, mm/inch | 809 / 31 7/8 | N | Max. overall length (handles in), mm/inch | 2273 / 89 1/2 |
| G | Min. saw length (handles removed, pointer and guard up), mm/inch | 1485 / 58 1/2 | O | Max. overall length (handles extended, pointer down), mm/inch | 2964 / 116 3/4 |



TECHNICAL DATA

Battery

| | FS5000 D | FS7000 D |
|-------------------------------|------------------------------|------------------------------|
| Terminal type | Standard SAE | Standard SAE |
| Voltage, V | 12 | 12 |
| CCA, A | 700 | 765 |
| Maximum size (LxWxH), mm/inch | 280x175x175 / 11x6-7/8x6-7/8 | 316x175x190 / 12x6-7/8x7-1/2 |

Hydraulic fluid and lubricants

Hydraulic fluid

| Quality | Standard |
|-----------|--------------|
| SAE 15W40 | API Class SE |
| | API Class CC |
| | API class CD |

Lubricants

| Component | Model | Quality | Standard | Oil tank capacity, l (qt.) |
|---------------------------------|------------------------|---------------------|------------|----------------------------|
| Engine oil (low ash oil only) | FS5000 D | SAE 15W40/SAE 10W30 | API CJ-4 | 7,1/7.5 |
| | | | ACEA E6-08 | |
| | | | ACEA E9-08 | |
| Engine oil (low ash oil only) | FS7000 D | SAE 15W40/SAE 10W30 | API CJ-4 | 8,5/9 |
| | | | ACEA E6-08 | |
| | | | ACEA E9-08 | |
| Gearbox oil | 1-Speed Gearbox models | SAE 75W90 | | 0,95/1 |
| | 3-Speed Gearbox models | | | 1,77/1,87 |
| Lubrication points (baseplate)* | | NLGI 2 | SAE J310 | |

* See instructions in section "Maintenance and service"

Coolant fluid

| |
|--|
| Ethylene glycol and water, 50/50 mixture (coolant at delivery) |
| Propylene glycol and water, 50/50 mixture |





















CAUTION! Do not mix directly into the machine's tank, it is difficult to determine when it's 50/50 mixture. Mix 50/50 for best cooling performance and corrosion protection of the engine.

6. TOOLS AND SPECIAL TOOLS



In the list below you will find the tools and the special tools used in this workshop manual.

Tools

| Tool | Tool no. | Description |
|---|----------|----------------------------|
|  | | Ratchet Wrench |
|  | | Wrench |
|  | | Lift strap |
|  | | Allen Key, Kit 2.5 - 10 mm |
|  | | Big Puller |
|  | | Socket, 37/38 mm |
|  | | Universal Pliers |
|  | | Pliers |
|  | | Screwdriver |
|  | | Diagonal Pliers |
|  | | Axle Stand |
|  | | Steel Ruler, 0 - 300 mm |

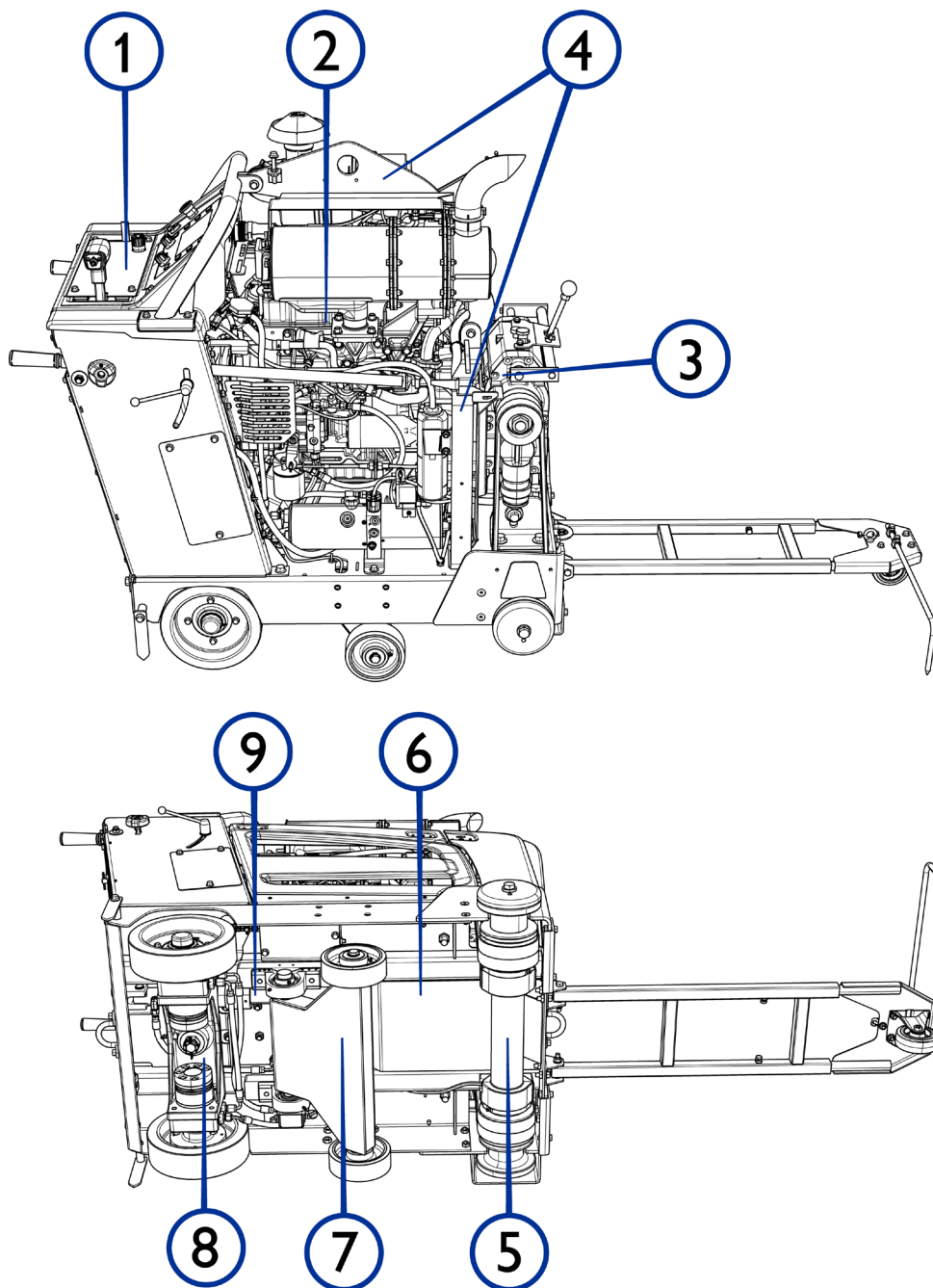
| Tool | Tool no. | Description |
|--|----------|---------------|
|  | | Rubber Mallet |
|  | | Threadlocker |
|  | | Plug |
|  | | Grease Gun |
|  | | Oil Extractor |
|  | | Pin punch |

Special Tools

| Tool | Tool no. | Description |
|---|--------------|------------------|
|  | 541207100 | Special Tool |
|  | 586 39 05-01 | Breakout Harness |

7. COMPONENTS - NAVIGATION

FS 5000D



1. Cowling

2. Engine

3. Gearbox and Clutch

4. Lift Bail

5. Blade Shaft

6. Baseplate

7. Front Axle

8. Rear Axle

9. Lift Cylinder

8. FUNCTION TEST

Function Test

Follow these steps to make sure that every function of the flat saw works properly before service and maintenance is carried out.

- Start the Engine.
- Turn the throttle knob and verify that the engine rev up.
- Slowly pull the Speed Control forward. The saw should gently start to go forward.
- Slowly pull the Speed Control backward. The saw should gently start to go backwards.
- Put the Speed Control in (P)
- For saws equipped with a clutch. Engage the clutch. Verify that the blade starts turning, and make sure that the blade stops turning when the clutch is disengaged.
- Turn off the engine.
- For saws equipped with E-track. Make sure that the E-Track function moves according to the Operators manual.
- Raise the saw to its maximum height. Verify that it sets in that position.
- Turn the lowering speed valve knob clockwise to its closed position. Try to lower the saw. The saw should not start to lower with the valve in this position.
- Turn the lowering speed valve knob counterclockwise 1/8 of a turn. And try to lower the saw. The saw should now slowly lower itself.
- Make sure that the Blade depth stop works according to the Operator's Manual and stops at the set value.

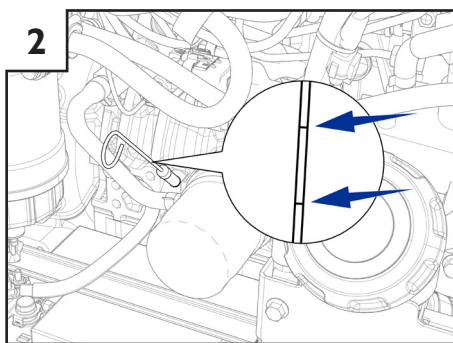
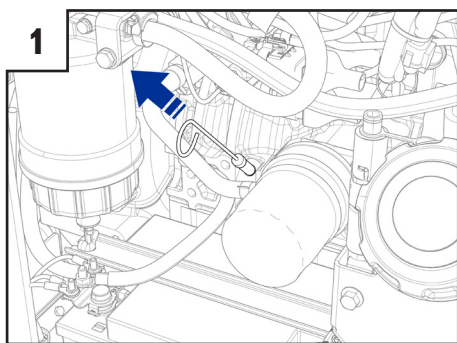
9. SERVICE AND MAINTENANCE

The following lists contains service procedures to be performed on the FS 5000D by the servicing workshop. Maintenance procedures normally performed by the owner (daily service) are described in the Operator's manuals. For all services related to the engine, see engine manufacturer Yanmar's service manual.

FS 5000D

| | Daily | Every 50 h | Every 100 h | Every 250h | Every 500h | Yearly | Page |
|---|-------|---------------|----------------|---------------|---------------|--------|------|
| Check engine oil level. | X | | | | | | 17 |
| Check blade guard for damage. | X | | | | | | 19 |
| Check hoses and clamps for damage or looseness. Look for leakage on fuel, hydraulics and cooling system. Tighten or replace as necessary. | X | | | | | | 17 |
| Check air cleaner restriction indicator. Replace primary air filter if indicator is red. | X | | | | | | 17 |
| Make sure all safety guards are in place and in good condition. | X | | | | | | 19 |
| Drain fuel filter/water separator. | X | | | | | | 18 |
| Check radiator coolant level | X | | | | | | 19 |
| Replace engine oil and filter. | | X | | | | | 20 |
| Inspect radiator air filter, clean or replace if necessary. | | X | | | | | 20 |
| Check blade drive V-belt tension. Tension both sides evenly. DO NOT over tension. | | X | | | | | 21 |
| Lubricate front wheel bearings. | | X | | | | | 22 |
| Replace hydraulic system filter. | | X | | | | | 22 |
| Replace engine oil and filter. | | | X | | | | 21 |
| Lubricate front axle pivot bearings. | | | X | | | | 22 |
| Check wheels for wear or damage. | | | X | | | | 23 |
| Check rear wheel hubs and wheels for looseness. | | | X | | | | 23 |
| Check engine air cleaner hose and clamps. | | | X | | | | 23 |
| Check hydraulic system fluid level. | | | X | | | | 22 |
| Replace hydraulic system filter. | | | | X | | | 23 |
| Grease blade shaft 2 pumps each end. | | | | X | | | 24 |
| Replace engine gearbox fluid. | | | | | X | | 24 |
| Replace hydraulic system fluid. | | | | | X | | 25 |
| Replace engine fuel filter (spin-on-type). | | | | | X | | 25 |
| Replace air filter primary and safety element. | | | | | | X | 25 |

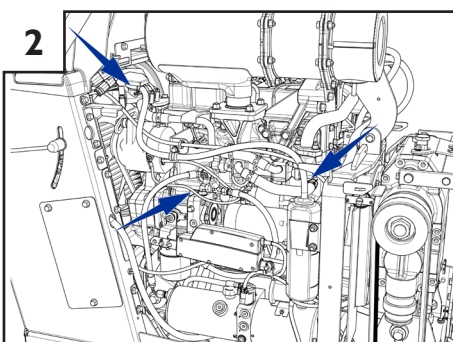
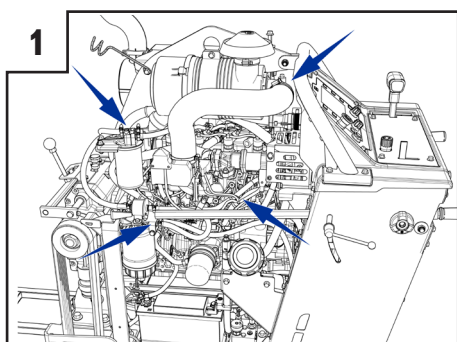
Daily Service/Checks



Oil Level

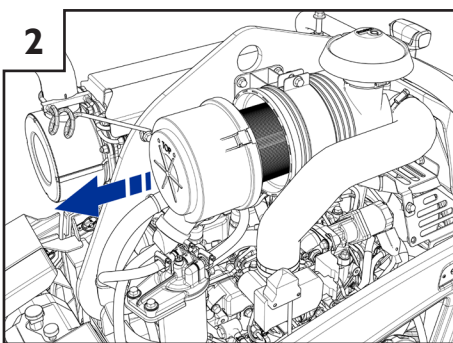
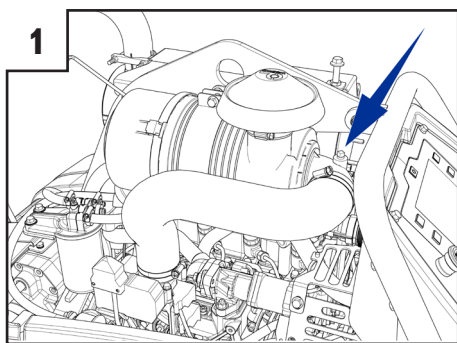
First see [Removing the Side Covers \(p. 48\)](#). Only left side needed.

1. First make sure that the engine is leveled. On the left side of the saw, remove the dipstick and wipe it clean with a cloth before reinserting the dipstick.
2. Remove the dipstick. The oil level should be between the lines.



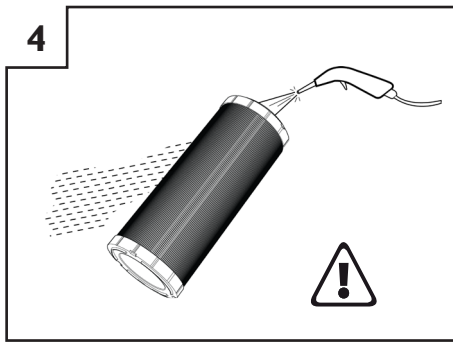
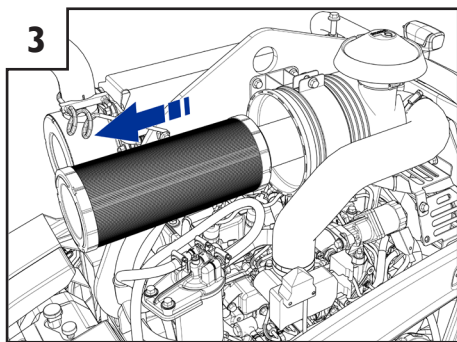
Hoses and Clamps

1. Check hoses and clamps for damage or looseness.
2. Look for leakage on fuel, hydraulics and cooling system. Tighten or replace if necessary.

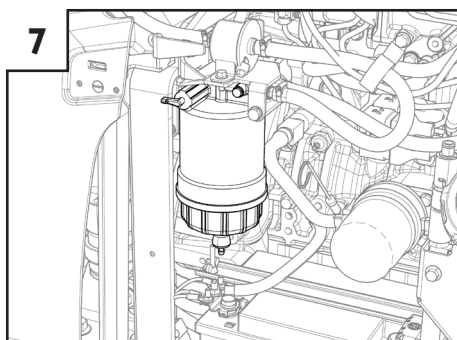
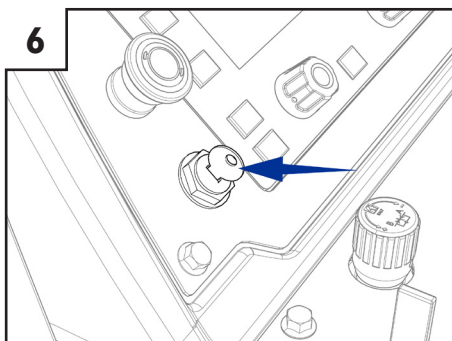
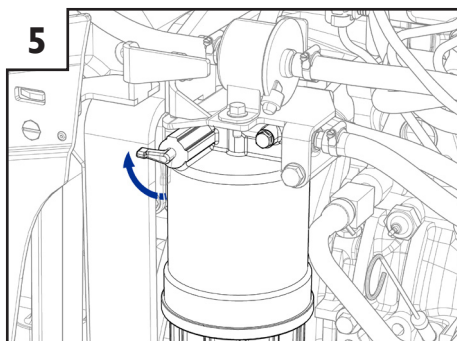
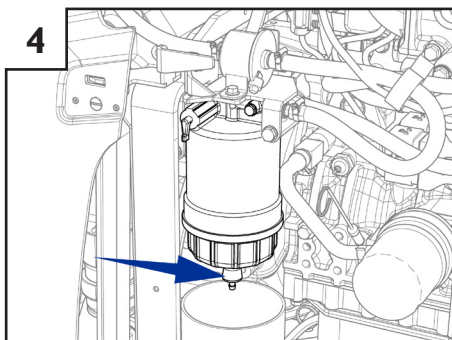
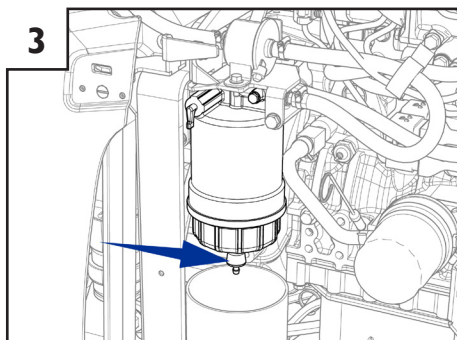
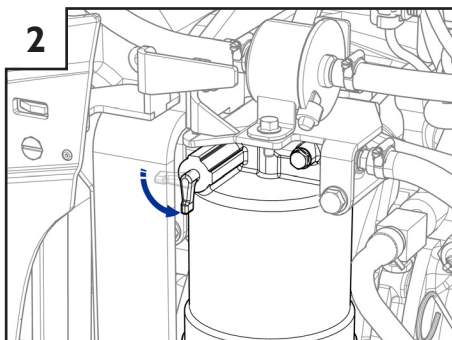
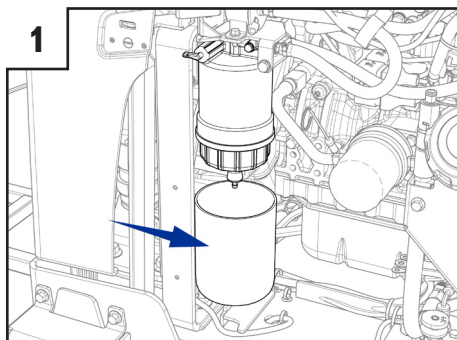


Air Cleaner Restriction Indicator

1. Check air cleaner restriction indicator. If indicator is red, continue with steps 2-3.
2. Remove the rear cover.
3. Remove the primary air filter.
4. Clean the filter by blowing air through the element from the inside out.



Warning! Only use the lowest possible air pressure to remove the dust without damaging the element.
Use 42 - 71 PSI (0,29 - 0,49 MPa; 3,0 - 5,0 kgf/cm²) compressed air to remove the particles.
Replace if damaged. Never use a broken filter.



Drain Fuel Filter/Water Separator

First see [Removing the Side Covers \(p. 48\)](#) (Only left side needed) and [Removing the Battery \(p. 49\)](#).

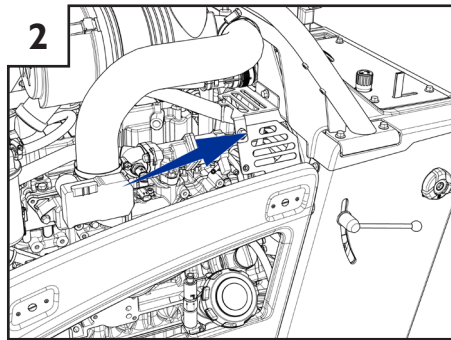
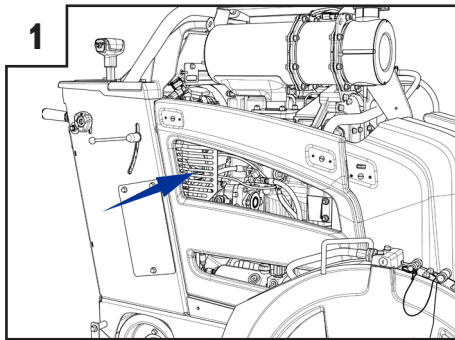
1. Position an approved container under the fuel filter/water separator to collect the contaminants.
2. Close the fuel valve.
3. Loosen the drain valve at the bottom of the fuel filter/water separator. Drain any water collected inside.



Information!

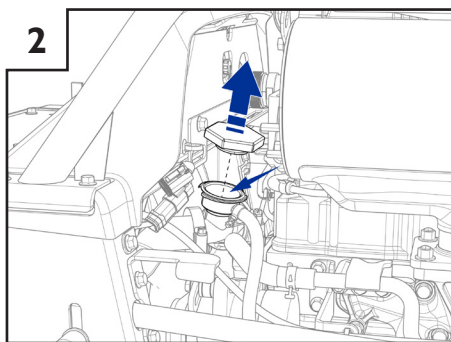
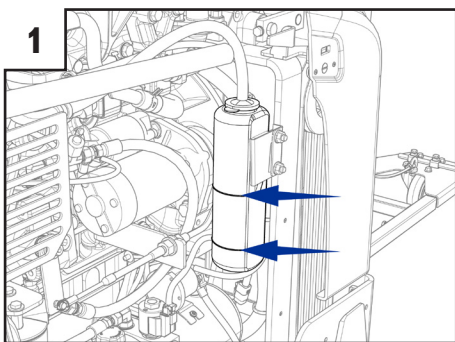
If the fuel filter/water separator is positioned higher than the fuel level in the fuel tank, water may not drip out when the drain valve is opened. If this happens, turn the air vent screw on the top of the fuel filter/water separator 2-3 turns counterclockwise. Be sure to tighten the air vent screw after the water has drained out.

4. Hand-tighten the drain valve. Torque 1-2 Nm.
5. Open the fuel valve.
6. Prime the diesel fuel system when you are finished. First put the battery and cover back. Then turn the key to the ON position for 10-15 seconds. This will allow the electric fuel pump to prime the fuel system.
Never use the starter motor to crank the engine in order to prime the fuel system. This may cause the starter motor to overheat and damage the coils, pinion and/or ring gear.
7. Check for leaks.



Safety Guards

1. Make sure all safety guards are in place and in good condition.



Check Radiator Coolant Level

First see [Removing the Side Covers \(p. 48\)](#) (Only right side needed) and make sure the the coolant is cold.

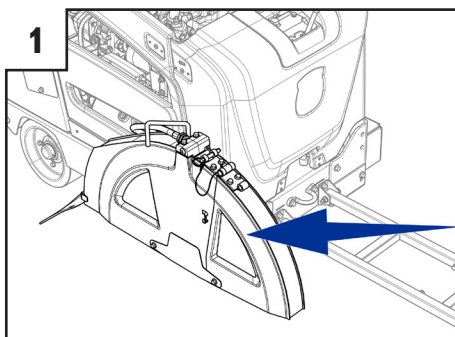
1. The coolant level should be somewhere between the two marks. See step 2 if the level is too low.



Warning!

Do not open lid when hot.

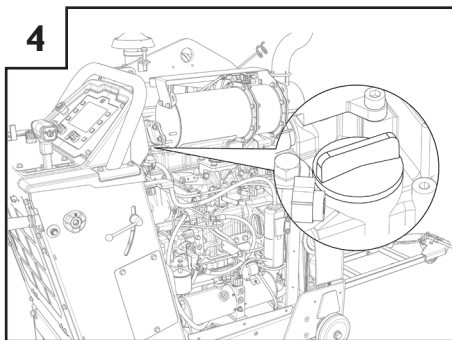
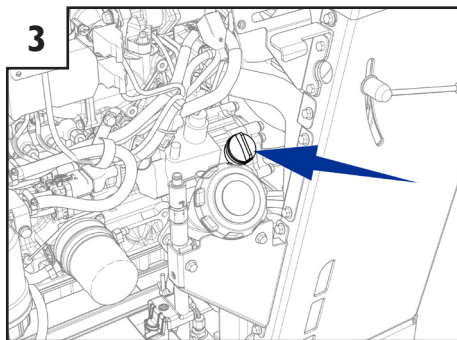
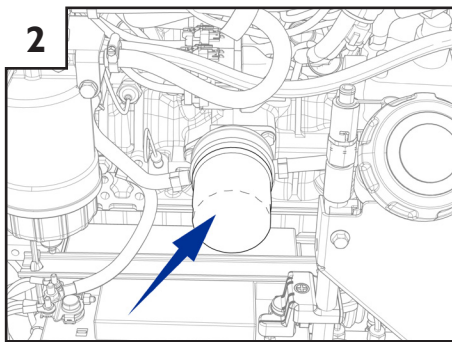
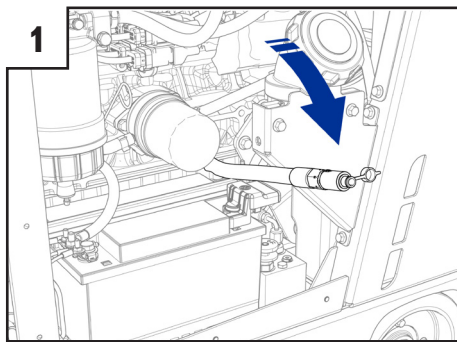
2. Remove the lid and fill with coolant mix until the level is according to step 1.



Blade Guard

1. Check the Blade Guard for cracks. Never use broken or damaged blade guard.

50 h Service



Engine oil and Filter

First see [Removing the Side Covers \(p. 48\)](#). Only left side needed.

1. Remove the top from the hose and bend it down to empty the system.
2. Unscrew and replace the filter, make sure to fill the new filter with oil and lubricate the seal with a few drops of oil prior to refitting.
3. Refill the system either here.

Or here.

Only use an engine oil that meet or exceeds the following guidelines and classifications:

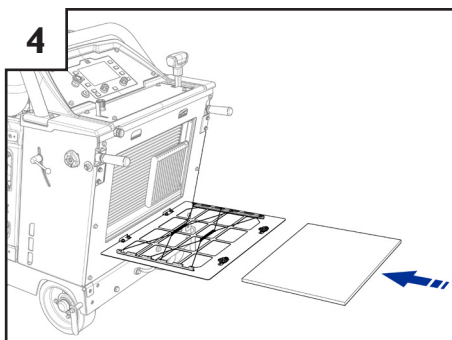
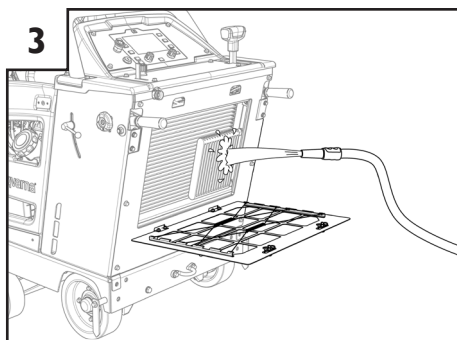
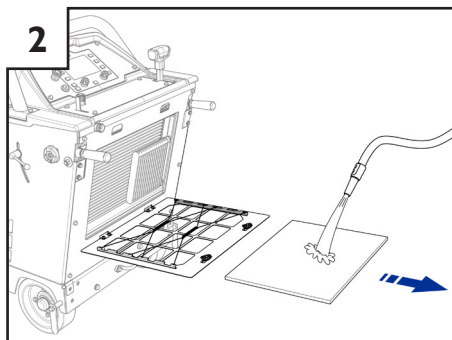
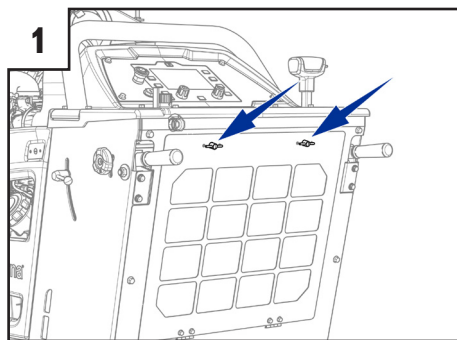
- SAE 15W40/SAE 10W30
- API service categories CJ-4
- ACEA service categories E6
- JASO service category DH-2

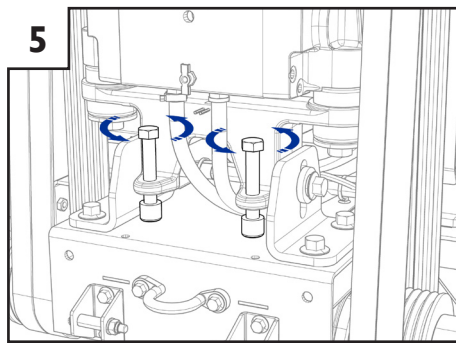
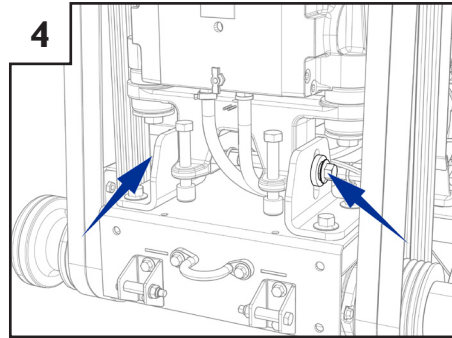
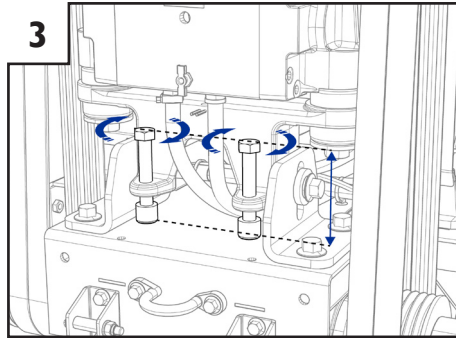
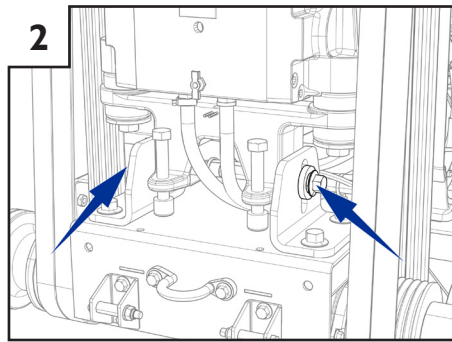
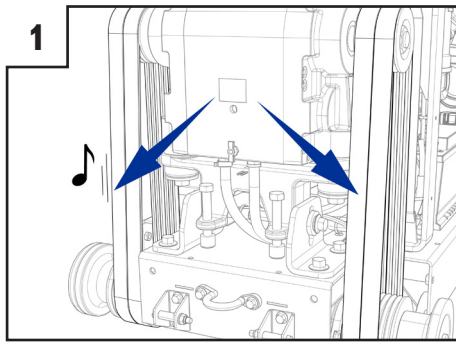
Radiator Air Filter

1. Open the back cover by turning the screws.
2. Inspect radiator air filter and clean or replace if necessary..

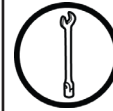
**Warning!**

Do not use a pressure washer!



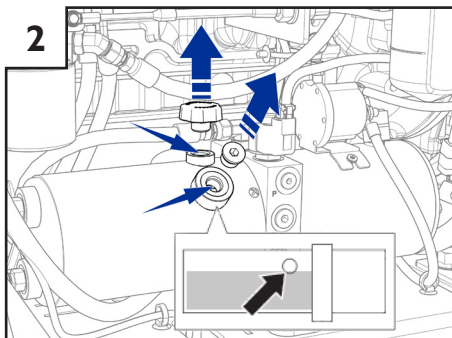
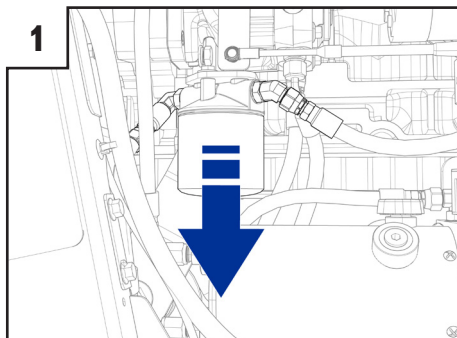
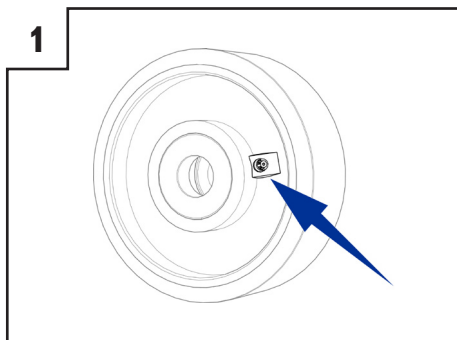


Blade Drive V-belt tension

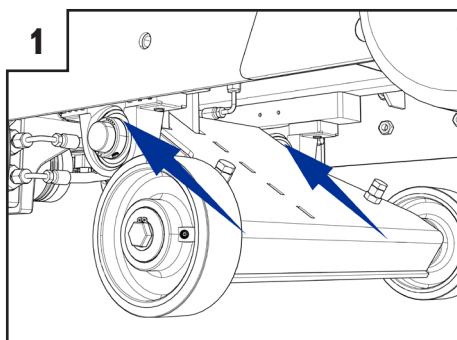


First see [Removing the Front Cover \(p. 48\)](#).

1. Check blade drive V-belt tension by plucking the edge of the belt, like a string. The V-belt should make a tone, not a thump.
2. To tension the belts, first loosen the two locking bolts.
3. Raise the gearbox and engine using the jacking screws. Be sure to tension both sides evenly. DO NOT over tension.
4. Fasten the two locking bolts again.
5. Loosen the jacking screws approximately 1/16 of a turn.



100 h Service



Front Wheel Bearings



First see [Replacing the Wheels \(p. 77\)](#).

1. Lubricate the Front Wheel Bearings by using the grease nipples.

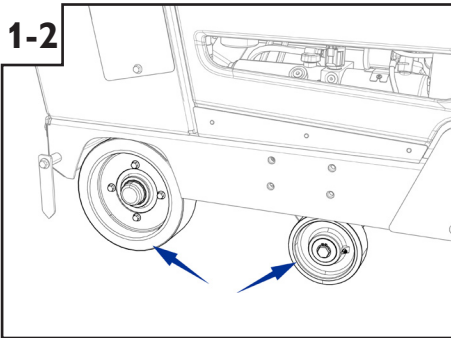
Hydraulic System Filter

1. Replace hydraulic system filter. Fill the new filter with oil and lubricate the seal with a few drops of oil before assembly.
2. Unscrew the window on the hydraulic pump and check the oil level. The level should be up to the window. If not, then remove the lid and fill with oil to the window.

Front Axle Pivot Bearings



1. Lubricate the front axle pivot bearings by using the grease nipples.



Wheels and Rear Wheel hub

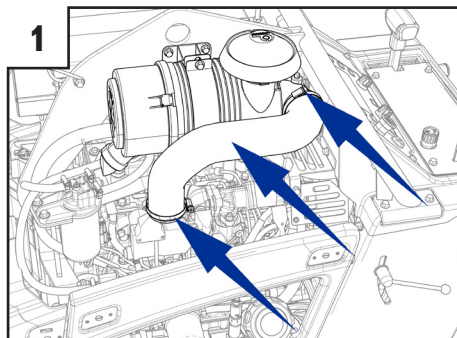


1. Check wheels for wear or damage. Replace if necessary.
2. Check rear wheel hubs and wheels for looseness.

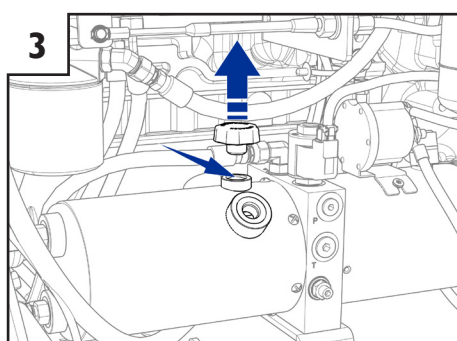
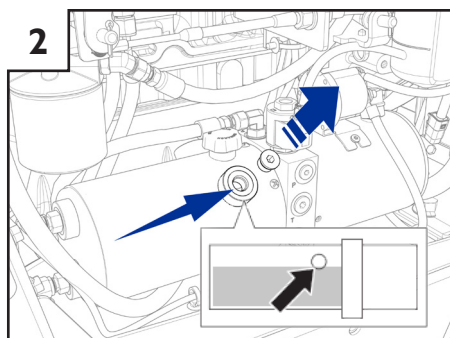
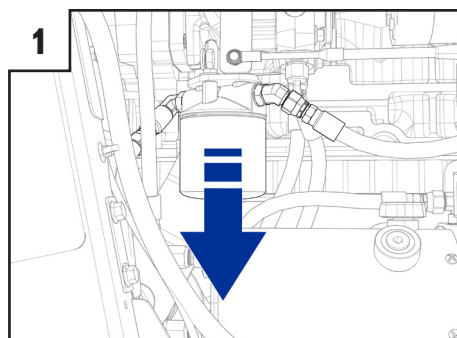
Engine air cleaner hose and clamps



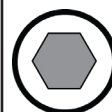
1. Check the engine air cleaner hose and clamps.



250 h Service

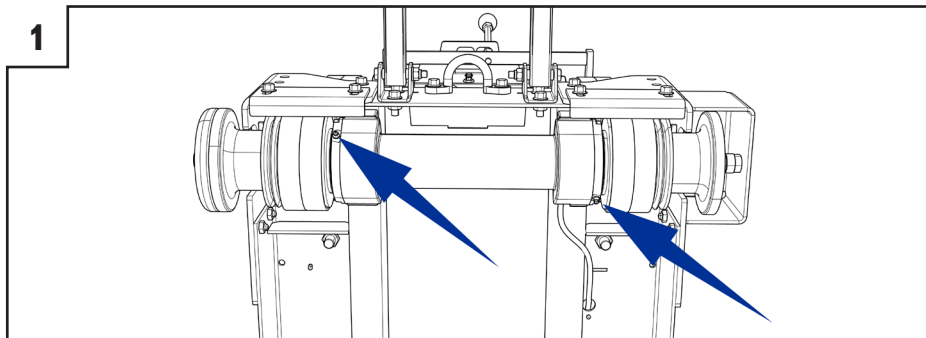


Hydraulic System Filter



1. Replace hydraulic system filter. Fill the new filter with oil and lubricate the seal with a few drops of oil prior to refitting it.
2. Unscrew the window on the hydraulic pump and check the oil level. The level should be up to the window.
3. If the level is below the window then remove the lid and fill with oil to the window.

1

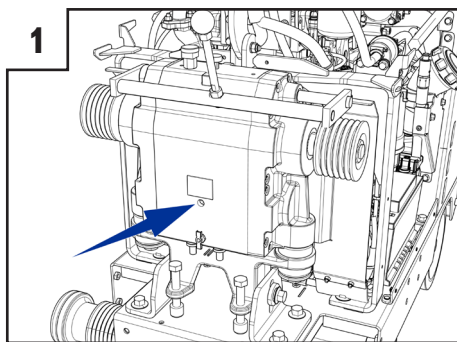


Blade Shafts

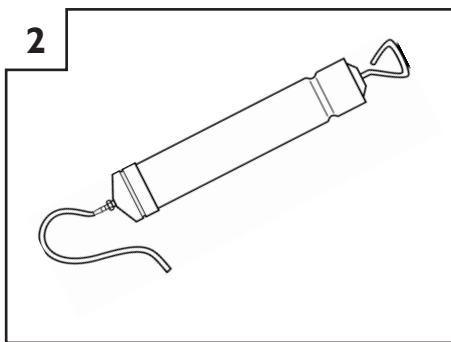
1. Grease blade shaft. Two pumps at each end. Image shows the saw from underneath.

500 h Service

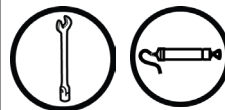
1



2



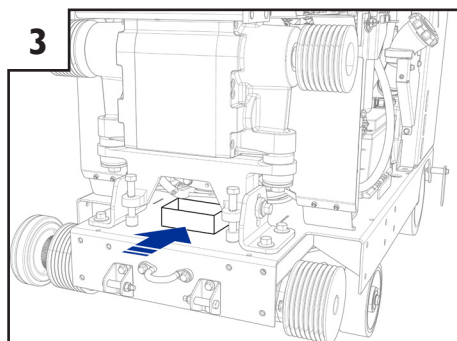
Engine Gearbox Fluid



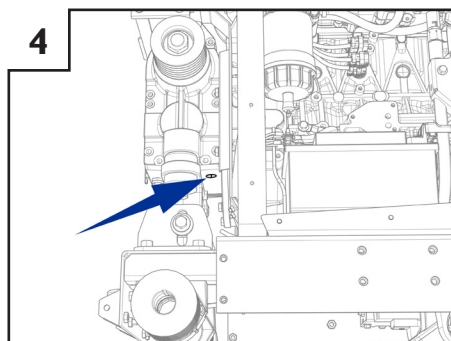
1. Open the hole on the gearbox.
2. Use an oil extractor and suck the oil out from the gearbox.

Or.

3

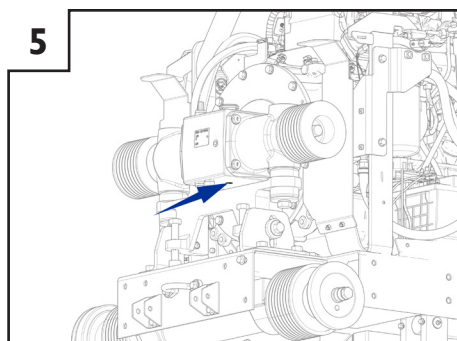


4

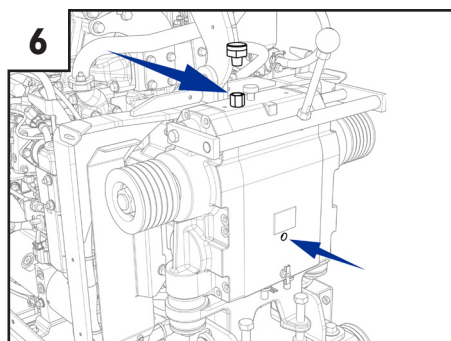


3. Slip a vessel under the bell housing of the engine
4. Loosen the screw and drain the oil (on 3-speed)
5. Same step on 1-speed.
6. Once the system is empty, fasten the screw.

5



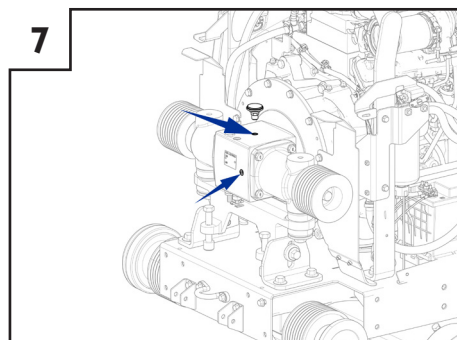
6



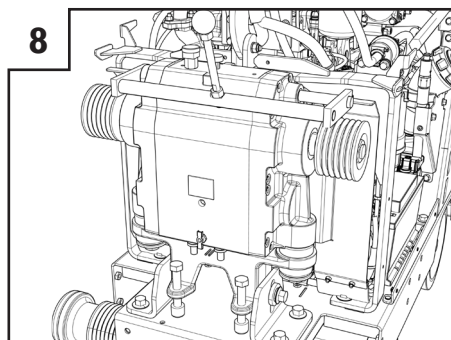
Refill the system by removing the left screw and pour oil (SAE 75W90) into the tube. At the same time look in the window until the correct level is reached. (pic shows 3-speed)

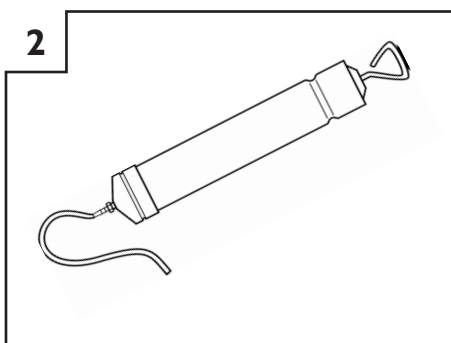
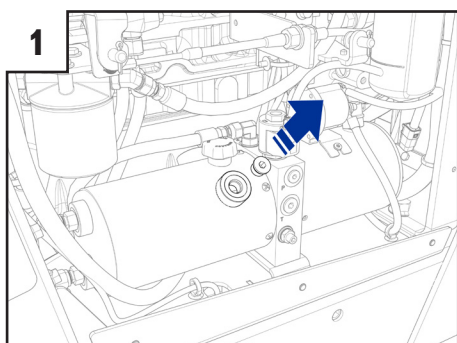
7. Same step on 1-speed
8. See step 6

7



8

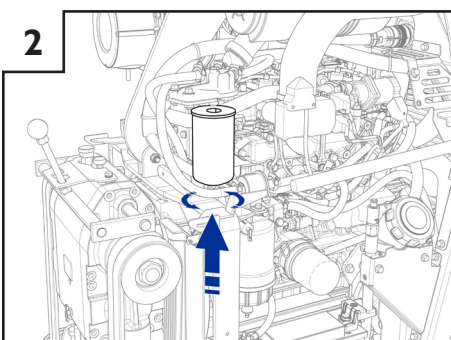
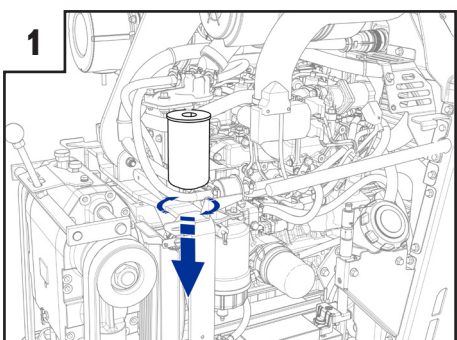
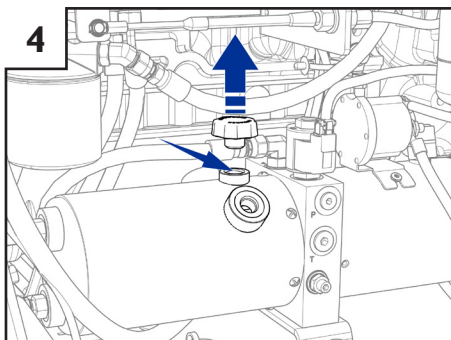
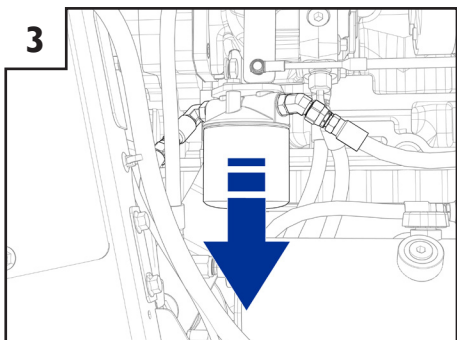




Hydraulic System Fluid



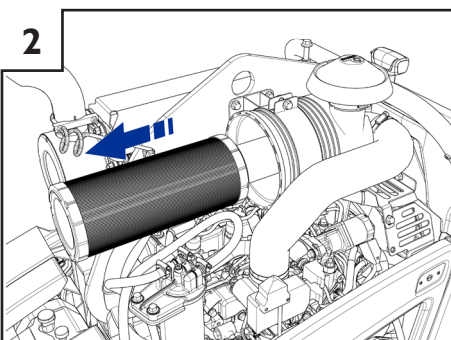
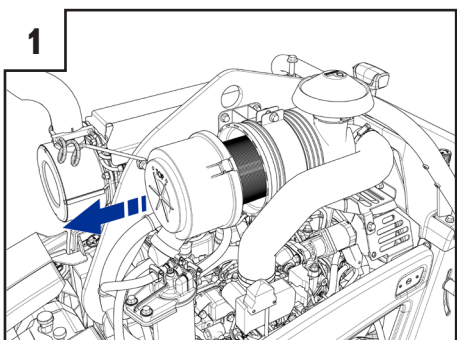
1. Unscrew the window on the hydraulic reservoir.
2. Use an oil extractor to suck the fluid out from the hydraulic reservoir.
3. Replace hydraulic system filter. Fill up the new filter before attaching it.
4. Fill with oil until you reach the window.



Fuel Filter

1. Unscrew the fuel filter. Beware of diesel that may spill.
2. Replace the filter and fasten the new.

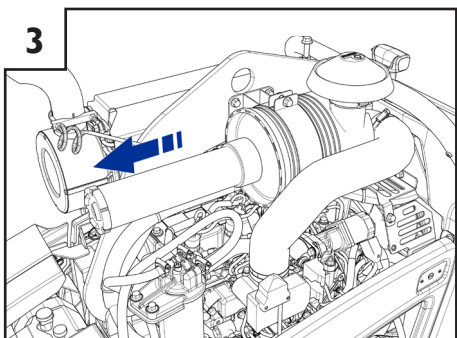
Yearly Service



Air Filter

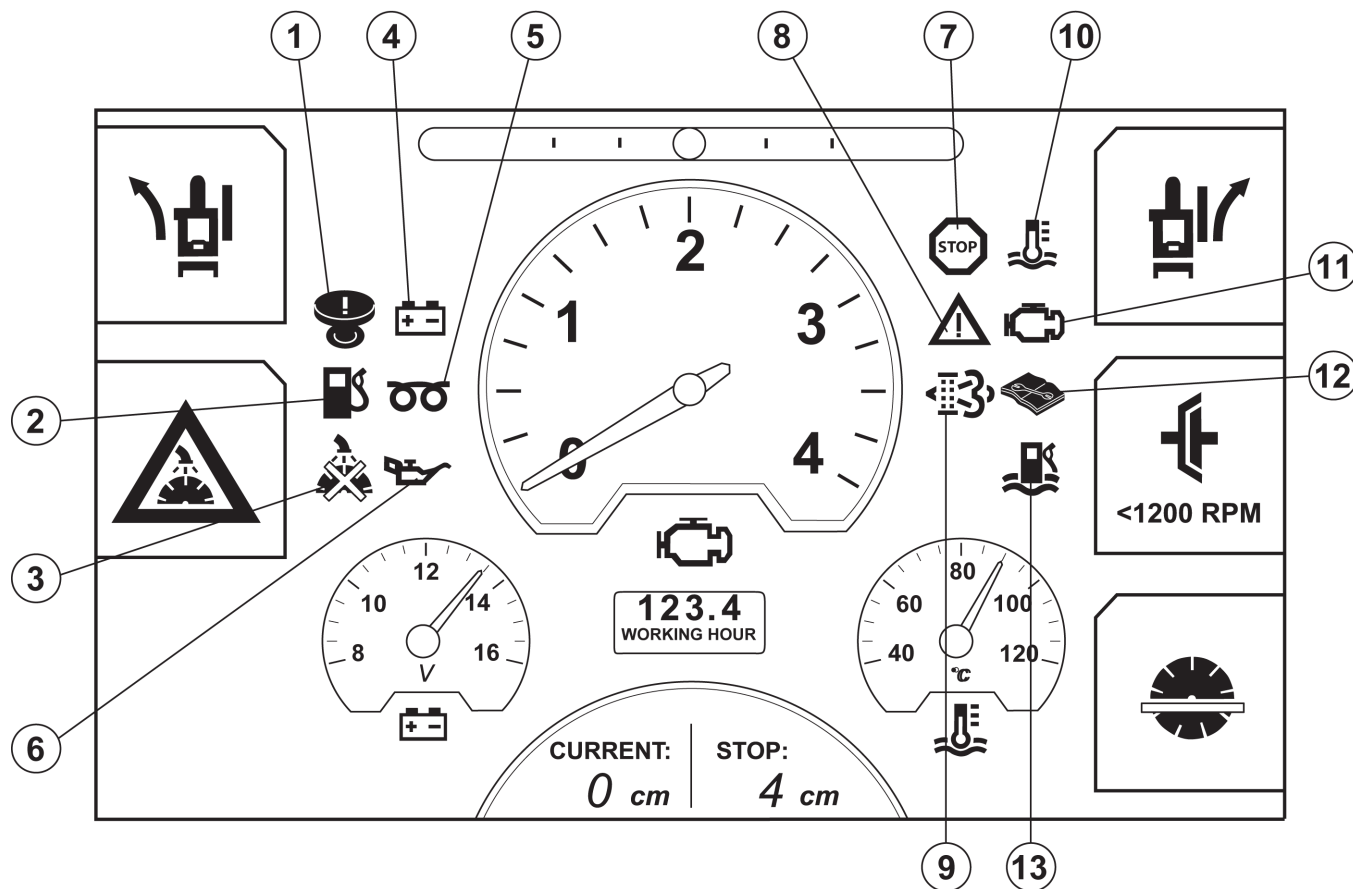
1. Remove the rear cover.
2. Remove the primary air filter.
3. Remove the inner element.

Replace both filters and reattach them in reverse order.



10. HMI DISPLAY

Display Text



1. Machine in emergency stop state (Release emergency stop and cycle ignition to regain full functionality.)
Turned on when machine stop is pressed. Turned off when all of the following 3 conditions are met:
 - Ignition key is turned off
 - Engine speed received from ECU equals 0 RPM for 1 second or more
 - Blade speed are 0 RPM
2. Low fuel level. Turned on after 8sec without fuel. Turned off after 5sec with fuel present.
3. No blade water pressure. Turned on when pressure switch is open (no water pressure) and blade water safety function is selected. Else turned off.
4. No charging. Always turned on lamp when engine stand still. Always turn off lamp for 15sec after engine is started (this to prevent that lamp is turned on if battery should be difficult to charge). Turn on lamp if battery voltage has not increase after 15sec since the engine was started or of battery voltage rise above 15V. Always turn off lamp if battery voltage is higher then battery voltage before engine was started or if battery voltage is above 12.8V. Battery voltage is not checked while hydraulic pump is running or for 15sec after the pump have stopped running. This since battery voltage always drop when pump is running.
5. Pre heat. Turned on by message. Turned on by Yanmar ECU CAN message ECACK1 or by Deutz ECU CAN message SO1 (please see Engine documentation for more info). HMI does not make any decision on its own. It only displays information coming from t ECU.
6. Low oil pressure. Turned on by Yanmar ECU CAN message Y_IOS or by Deutz ECU CAN message SO1 (please see Engine documentation for more info). Also turned on if Fault code SPN 100 are received from any ECU. HMI does not make any decision on its own. It only displays information coming from t ECU.
7. Engine Stop Lamp. Turned on by ECU CAN message DM1 if Engine has severe fault codes. DM1 also contain fault codes. HMI does not make any decision on its own. It only displays information coming from the ECU.

8. Amber Warning lamp. Turned on by ECU CAN message DM1 if Engine has minor fault codes. Same message as DM1 that contains fault codes. HMI does not make any decision on its own. It only displays information coming from the ECU.
9. Regeneration lamp. Turned on by Yanmar ECU if Stationary Regeneration is required or if engine ends up in Stationary Regeneration Backup mode. If engine is in Backup mode Yanmar SA-D is needed to bring the engine back to full functionality.
10. Engine over heated. Turned on by Yanmar ECU CAN message Y_IOS or by Deutz ECU CAN message SO1 (please see Engine documentation for more info). HMI does not make any decision on its own. It only displays information coming from the ECU.
11. Engine fail lamp. Turned on by ECU CAN message DM1 if Engine has any fault codes. Same message that contains the fault codes. HMI does not make any decision on its own. It only displays information coming from the ECU.
12. Active fault codes. Turn on if there are active non engine fault codes.
13. Water in fuel. Turned on by Deutz ECU CAN message WFI (please see engine documentation for more info). HMI does not make any decision on its own. It only displays information coming from the ECU.

Messages

“Disengage Blade Clutch before engine can be started”: Displayed if operator tries to crank the engine with blade clutch engaged. Visible for 2sec after finished crank attempt.

“Stationary Regeneration Could Not Be Activated”: Shown if Stationary Regeneration is aborted while the process is initiated but not fully started.

“Stationary Regeneration Has Been Aborted”: Shown if Stationary Regeneration is aborted during its active phase.

“Engine Overheated”: Shown if engine running and engine overheated lamp have been turned on for 5s.

“No Blade Water Pressure”:

1. Shown if operator tries to start the engine with low water pressure and have Blade Water Safety is selected.
2. Shown if engine has stopped due to water pressure.

“Machine Stop Pressed: Restore Machine Stop and cycle ignition”: Shown when Machine Stop is pressed.

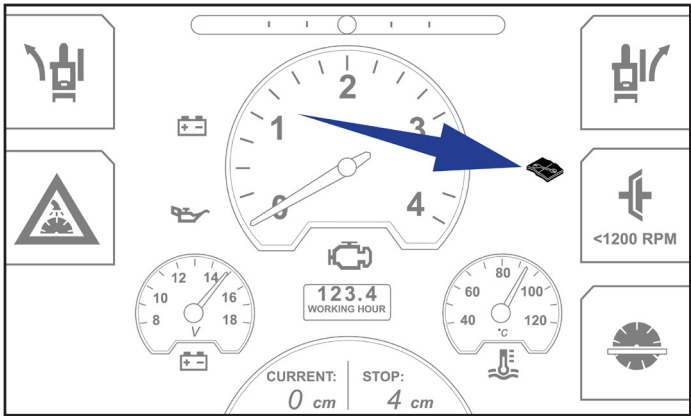
“Machine Stop State Active: Please cycle ignition”: Shown if the operator tries to start the engine after that machine stop has been pressed and released and ignition not yet have been cycled. Will go out after 2sec.

“Crank Error: Please cycle ignition slowly. If problem still exist check harness and Fault Codes”: Shown if crank signal from Start Key indicate active crank for 5sec after ignition on.

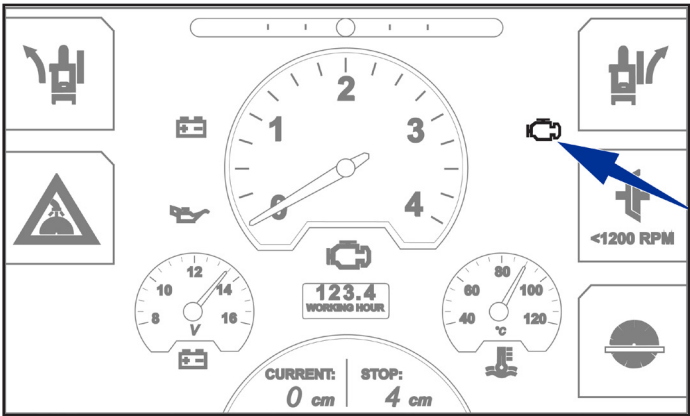
“No Machine Type Selected”: Shown if no machine type has been selected in Machine Type Menu.

“Speed Control Not in Stop Position”: Shown if operator tries to start the engine while neutral switch is open.

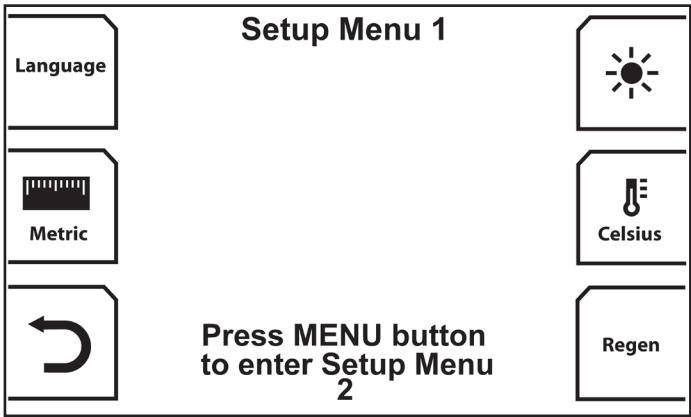
FS 5000D Fault Codes



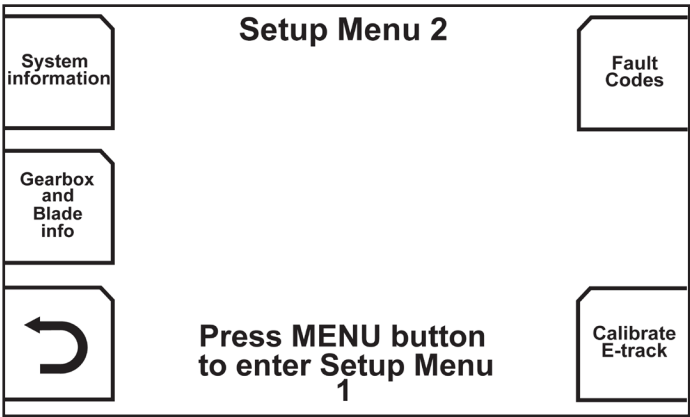
1. Active fault codes. Turn on if there are active non engine fault codes.



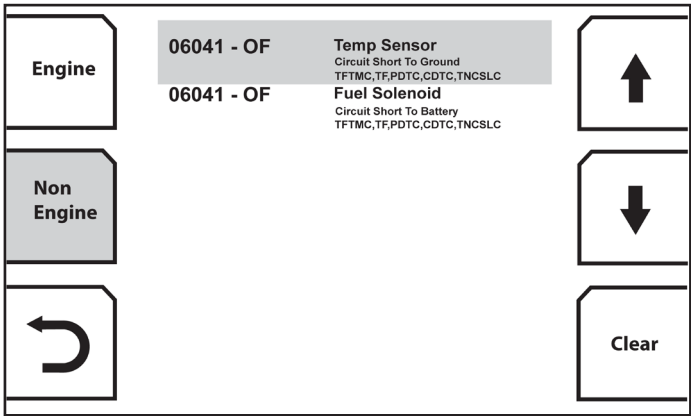
2. Engine fail lamp. Turned on by ECU CAN message DM1 if Engine has any fault codes. Same message that contain the fault codes. HMI does not make any decision on its own. It only displays information coming from the ECU.



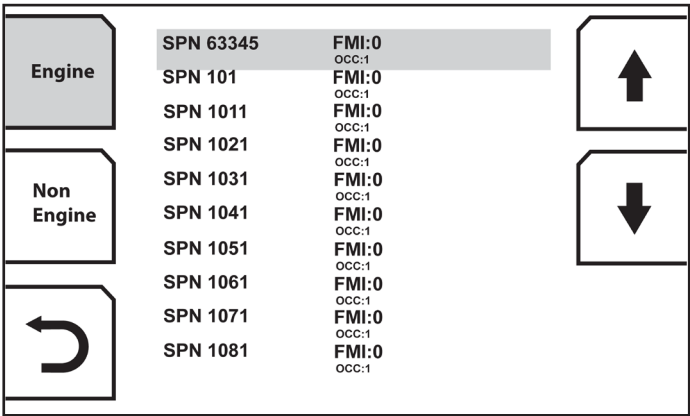
3. When the MENU button is pressed you will see this menu. Press menu button again to go to Setup Menu 2.



4. After you get to Setup Menu 2 you then press the Fault Codes button.

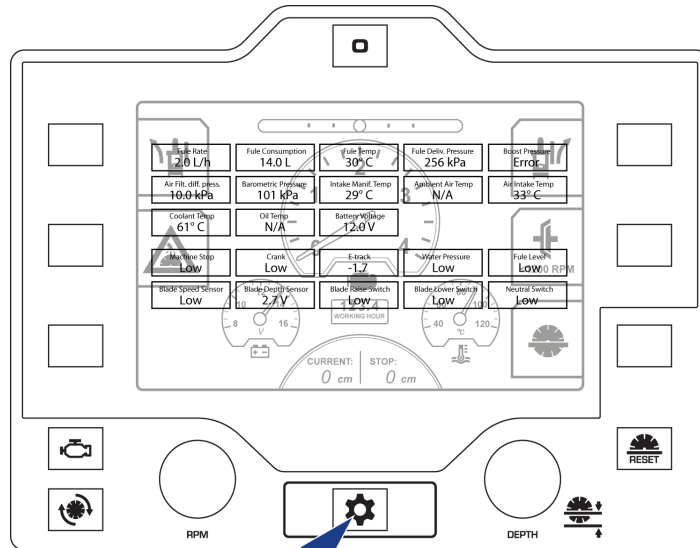


5. In Fault Codes it is possible to switch between the fault codes for the saw and the engine manufacturer fault codes. The image above shows the Non Engine fault codes.



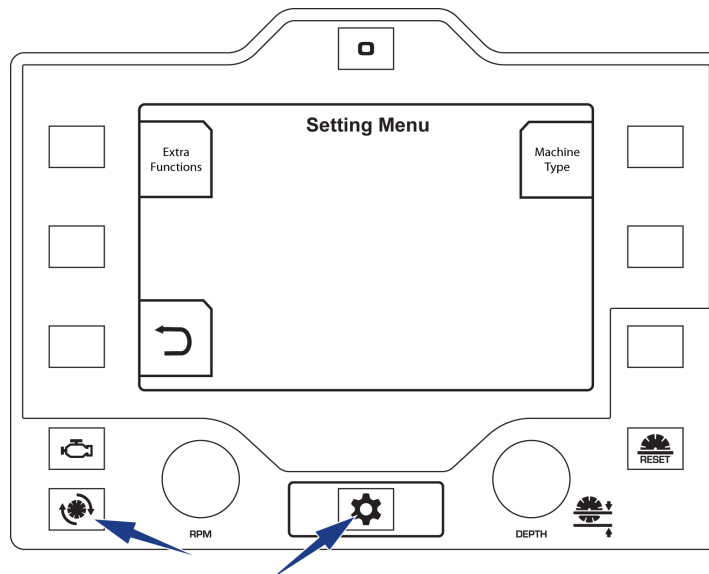
6. The image above shows how the Engine Fault Codes may look like. It is always possible to go back by pressing the button for the back arrow down to the left.

Service Menu

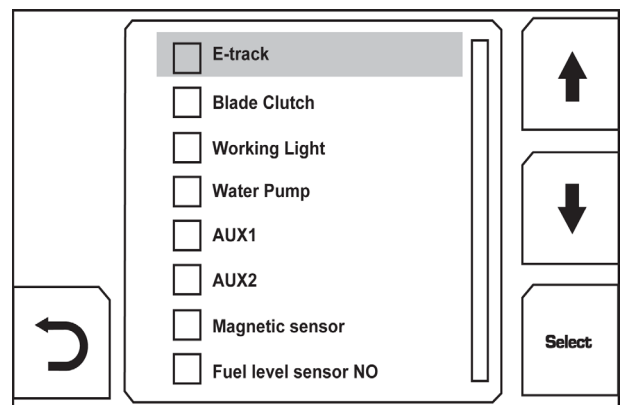
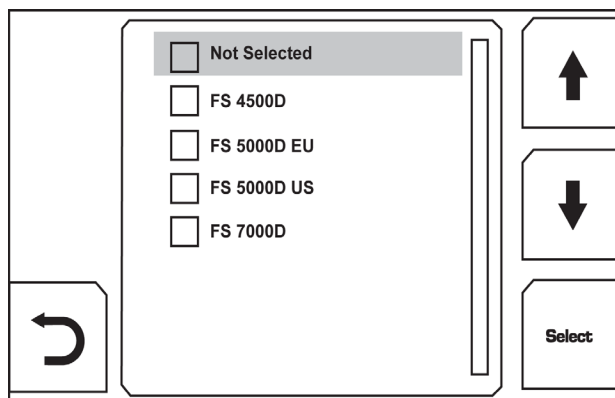


To access the Service Menu, hold the “Menu” button down for 2 seconds.
To exit the menu, hold the “Menu” button down for 2 seconds.

Setting Menu



To access the Setting Menu press the “Menu” button and “Display of blade speed, rpm” down at the same time.



11. FAULT CODES

Error Messages

| Code | Message | Description | Action |
|---------|---------------------------|--------------------------|---|
| U100187 | Engine ECU | No CAN communication | Check damage to HMI and ECU connector and chassis harness. If found, repair and restart system, reset fault code. If problem still exists contact HCP SERVICE for further information. Cutting can not continue. Engine forced to low idle. |
| U100087 | I/O Controller | No CAN communication | 1: Check damage to HMI connector and chassis harness. If found, repair and restart system, reset fault code. 2: If problem still exists, contact your service agent for further information. |
| U100088 | I/O Controller | Software Download Failed | 1: Check damage to HMI connector and chassis harness. If found, repair and restart system, reset fault code. 2: Replace HMI. |
| P060748 | IOC MPU | Supervision Failure | No recommended field action. Contact HCP SERVICE for further information. |
| P060745 | IOC MPU | Program Memory Failure | No recommended field action. Contact HCP SERVICE for further information. |
| P060742 | IOC MPU | General Memory Failure | No recommended field action. Contact HCP SERVICE for further information. |
| C1E0111 | Blade Depth Sensor Signal | Circuit Short To Ground | 1: Disconnect sensor and reset fault code. If fault code no longer exists replace sensor. 2: Check damage connector and harness. If found, repair and restart system, reset fault code. If problem still exists contact HCP SERVICE for further information No cutting recommended. |
| C1E0112 | Blade Depth Sensor Signal | Circuit Short To Battery | 1: Disconnect sensor and reset fault code. If fault code no longer exists replace sensor. 2: Check damage connector and harness. If found, repair and restart system, reset fault code. If problem still exists contact HCP SERVICE for further information No cutting recommended. |

| Code | Message | Description | Action |
|---------|------------------------------|---|---|
| C1D0115 | Starter | Engine starter can not be controlled. Cutting can not continue. | 1: Check damage to HMI and ECU connector and harness. If found, repair and restart system, reset fault code. 2: If problem still exists, contact your service agent for further information. |
| C1D0111 | Starter | Engine can not be started. | 1: Check damage to HMI and ECU connector and harness. If found, repair and restart system, reset fault code. 2: If problem still exists, contact your service agent for further information. |
| C1D0711 | Power supply external device | Cutting can not continue. | 1: Check cables to: Blade depth sensor and sensor itself E-track position sensor and sensor itself Neutral start switch and switch itself Fuel level sensor and sensor itself Lower/raise switch and switch itself Water safety switch and switch itself 2: Change HMI |
| C1D0215 | AUX2 | Circuit Short To Battery or Open | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0211 | AUX2 | Circuit Short To Ground | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0315 | Blade Clutch | Circuit Short To Battery or Open | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0311 | Blade Clutch | Circuit Short To Ground | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0615 | Water Pump | Circuit Short To Battery or Open | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0611 | Water Pump | Circuit Short To Ground | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |

| Code | Message | Description | Action |
|---------|--------------------------|----------------------------------|--|
| C1D0815 | AUX1 | Circuit Short To Battery or Open | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0811 | AUX1 | Circuit Short To Ground | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0915 | Working Light | Circuit Short To Battery or Open | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0911 | Working Light | Circuit Short To Ground | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0C15 | Ignition | Circuit Short To Battery or Open | Yanmar: 1: Check fuel pump relay in relay/fuse box 2: Check damage connectors and ignition signal from HMI to relay/fuse box to ECU. Deutz: 1: Check damage to HMI and ECU connectors/harness. |
| C1D0C11 | Ignition | Circuit Short To Ground | Yanmar: 1: Check fuel pump relay in relay/fuse box 2: Check damage connectors and ignition signal from HMI to relay/fuse box to ECU. Deutz: 1: Check damage to HMI and ECU connectors/harness. |
| C1D0D15 | Hydraulic Lift Pump | Circuit Short To Battery or Open | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0D11 | Hydraulic Lift Pump | Circuit Short To Ground | 1: Check relay in relay/fuse box 2: Check damage to HMI connector and harness to relay/fuse box. |
| C1D0E15 | Hydraulic Lowering Valve | Circuit Short To Battery or Open | 1: Check that hydraulic valve is properly connected. 2: Check damage to HMI connector and harness to hydraulic valve. |
| C1D0E11 | Hydraulic Lowering Valve | Circuit Short To Ground | 1: Check that hydraulic valve is properly connected. 2: Check damage to HMI connector and harness to hydraulic valve. |

| Code | Message | Description | Action |
|---------|-------------------------|--------------------------|---|
| C1E0511 | E-track Position Sensor | Circuit Short To Ground | Check damage to actuator, connector and harness. |
| C1E0512 | E-track Position Sensor | Circuit Short To Battery | Check damage to actuator, connector and harness. |
| C1F0112 | E-track Motor A | Circuit Short To Battery | 1: Disconnect E-track and reset fault code. If fault code no longer exist check damage to E-track actuator harness and connector. 2: If fault code still exists check damage to chassis harness. |
| C1F0111 | E-track Motor A | Circuit Short To Ground | 1: Disconnect E-track and reset fault code. If fault code no longer exist check damage to E-track actuator harness and connector. 2: If fault code still exists check damage to chassis harness. |
| C1F0212 | E-track Motor B | Circuit Short To Battery | 1: Disconnect E-track and reset fault code. If fault code no longer exist check damage to E-track actuator harness and connector. 2: If fault code still exists check damage to chassis harness. |
| C1F0211 | E-track Motor B | Circuit Short To Ground | 1: Disconnect E-track and reset fault code. If fault code no longer exist check damage to E-track actuator harness and connector. 2: If fault code still exists check damage to chassis harness. |
| C1F0521 | E-track Motor | Circuit Overload | 1: Disconnect E-track and reset fault code. If fault code no longer exist check damage to E-track actuator harness and connector. 2: If fault code still exists check damage to chassis harness. |
| C1F0513 | E-track Motor | Circuit Open | 1: Disconnect E-track and reset fault code. If fault code no longer exist check damage to E-track actuator harness and connector. 2: If fault code still exists check damage to chassis harness. |

12. FUNCTION TEST

Function Test

Follow these steps to make sure that every function of the flat saw works properly before service and maintenance is carried out.

- Start the Engine.
- Turn the throttle knob and verify that the engine rev up.
- Slowly pull the Speed Control forward. The saw should gently start to go forward.
- Slowly pull the Speed Control backward. The saw should gently start to go backwards.
- Put the Speed Control in (P)
- For saws equipped with a clutch. Engage the clutch. Verify that the blade starts turning, and make sure that the blade stops turning when the clutch is disengaged.
- Turn off the engine.
- For saws equipped with E-track. Make sure that the E-Track function moves according to the Operators manual.
- Raise the saw to its maximum height. Verify that it sets in that position.
- Turn the lowering speed valve knob clockwise to its closed position. Try to lower the saw. The saw should not start to lower with the valve in this position.
- Turn the lowering speed valve knob counterclockwise 1/8 of a turn. And try to lower the saw. The saw should now slowly lower itself.
- Make sure that the Blade depth stop works according to the Operator's Manual and stops at the set value.

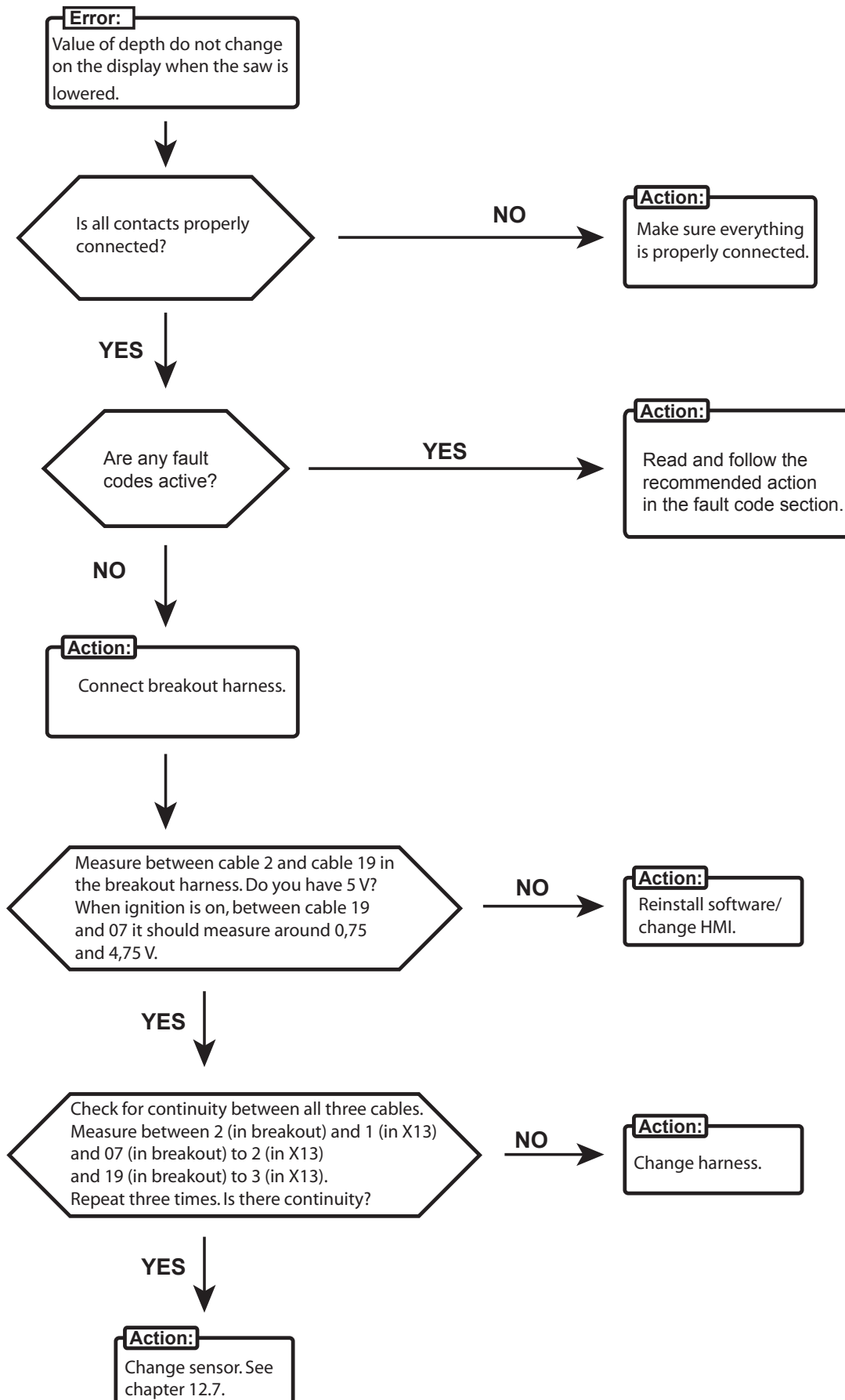
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13. Fault Tracing

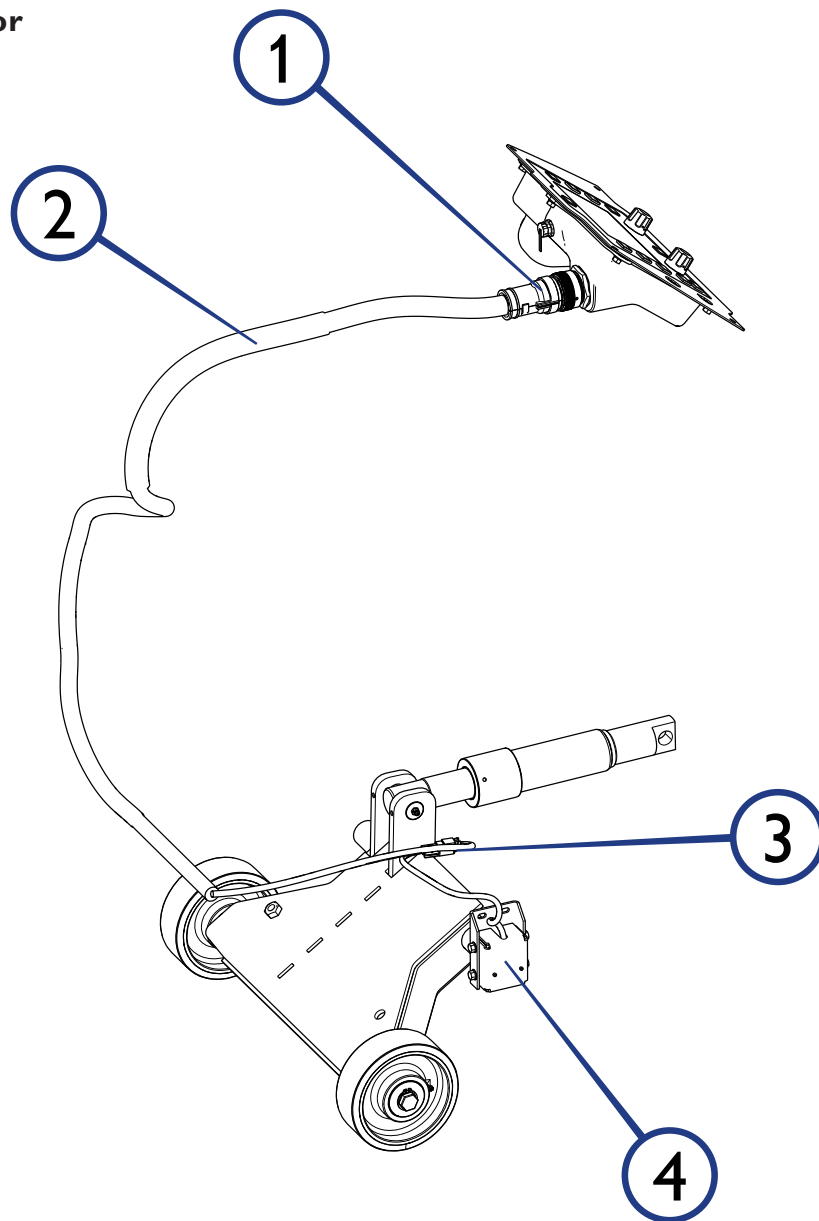
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13. FAULT TRACING

Blade depth sensor

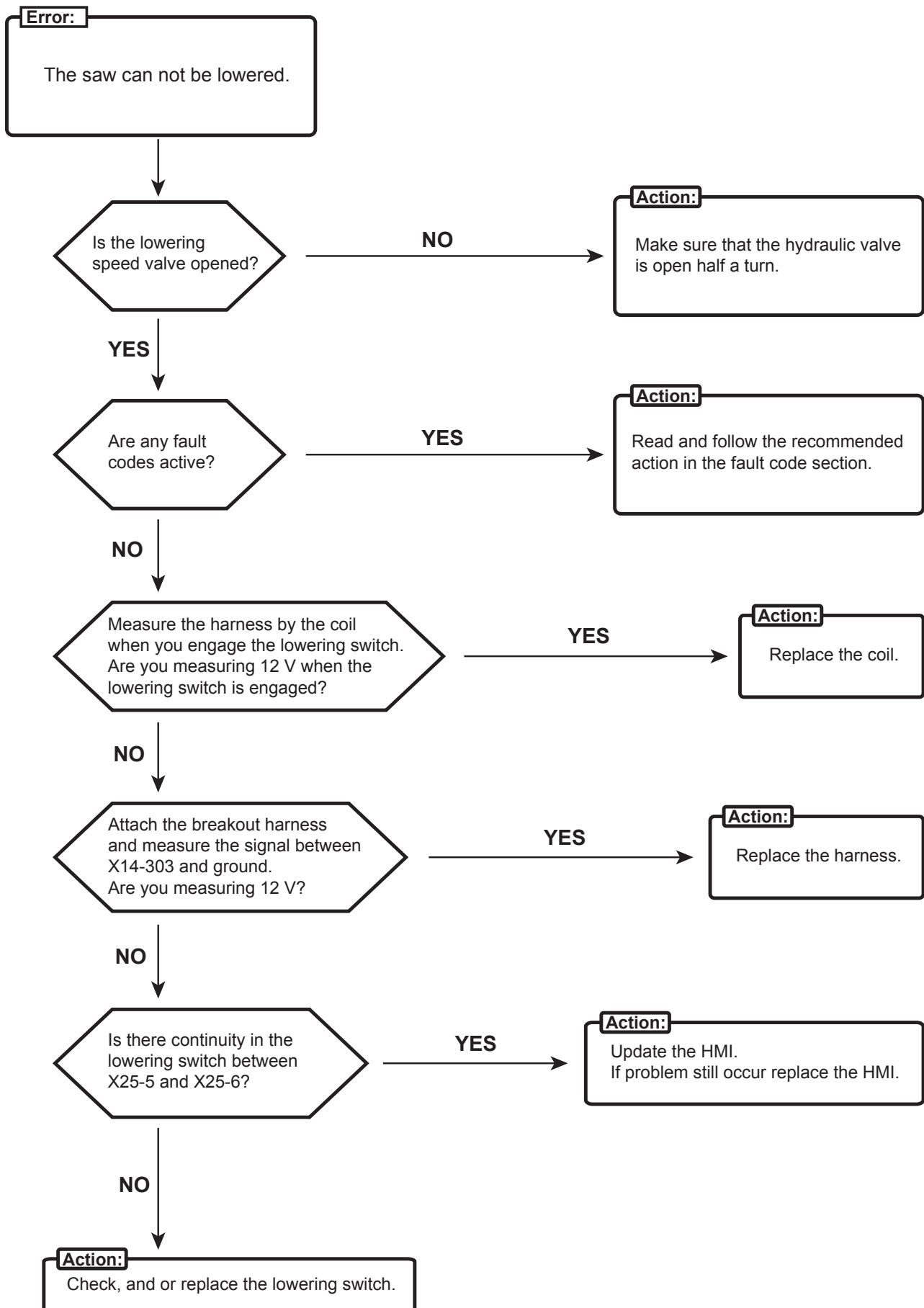


Blade Depth sensor

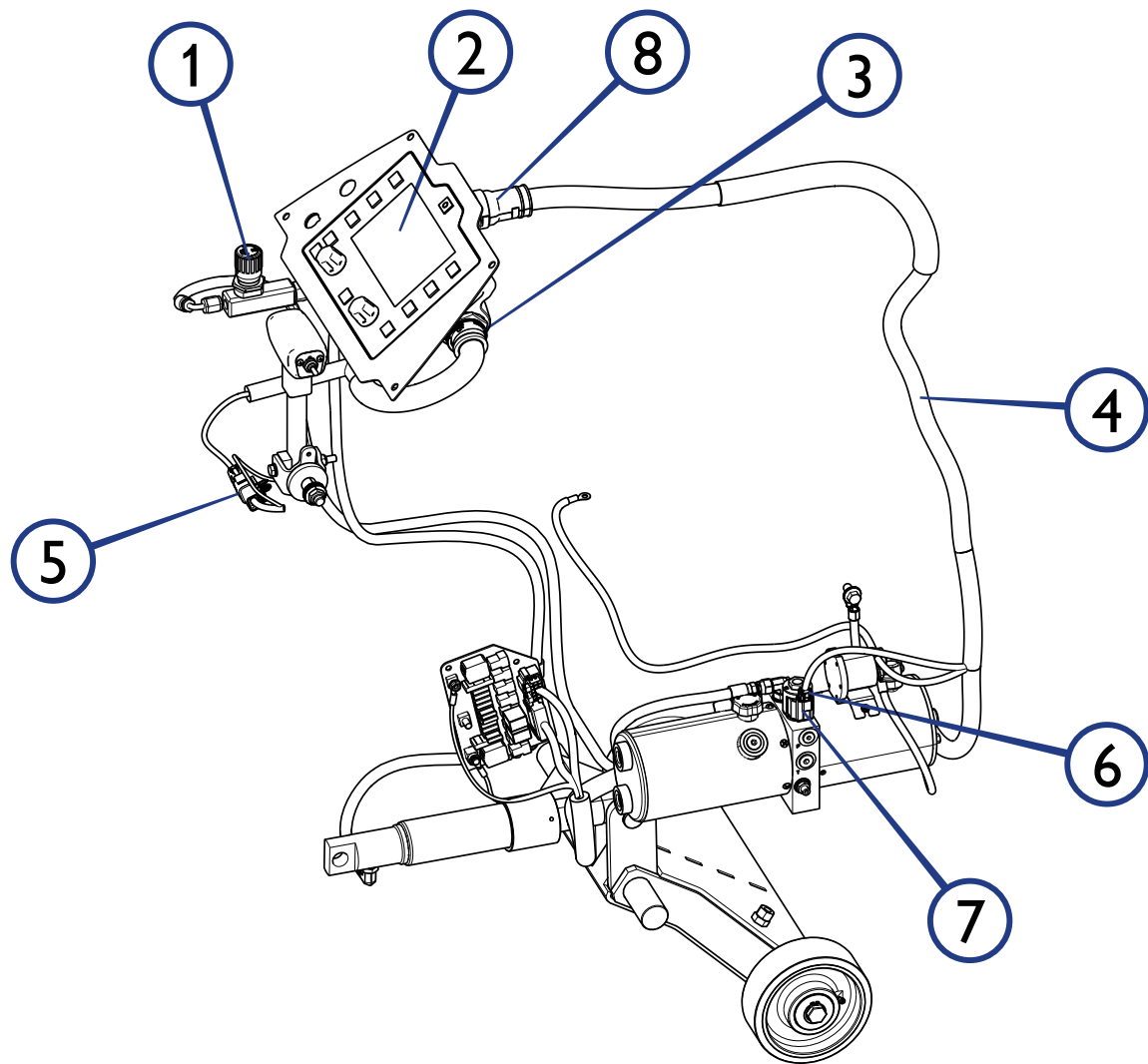


1. Contact X14.
2. Harness.
3. Contact X13.
4. Sensor.

Lowering

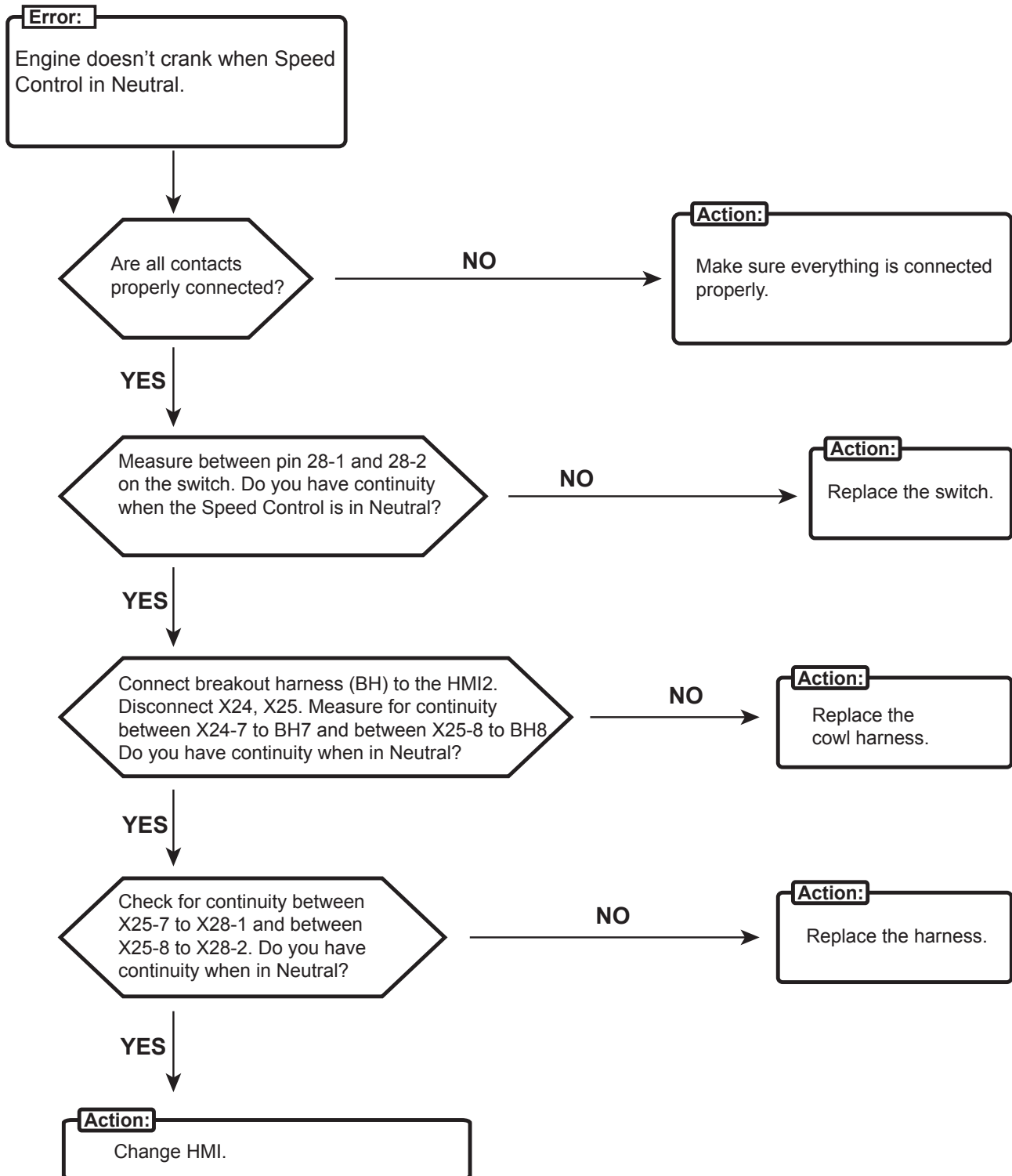


Lowering

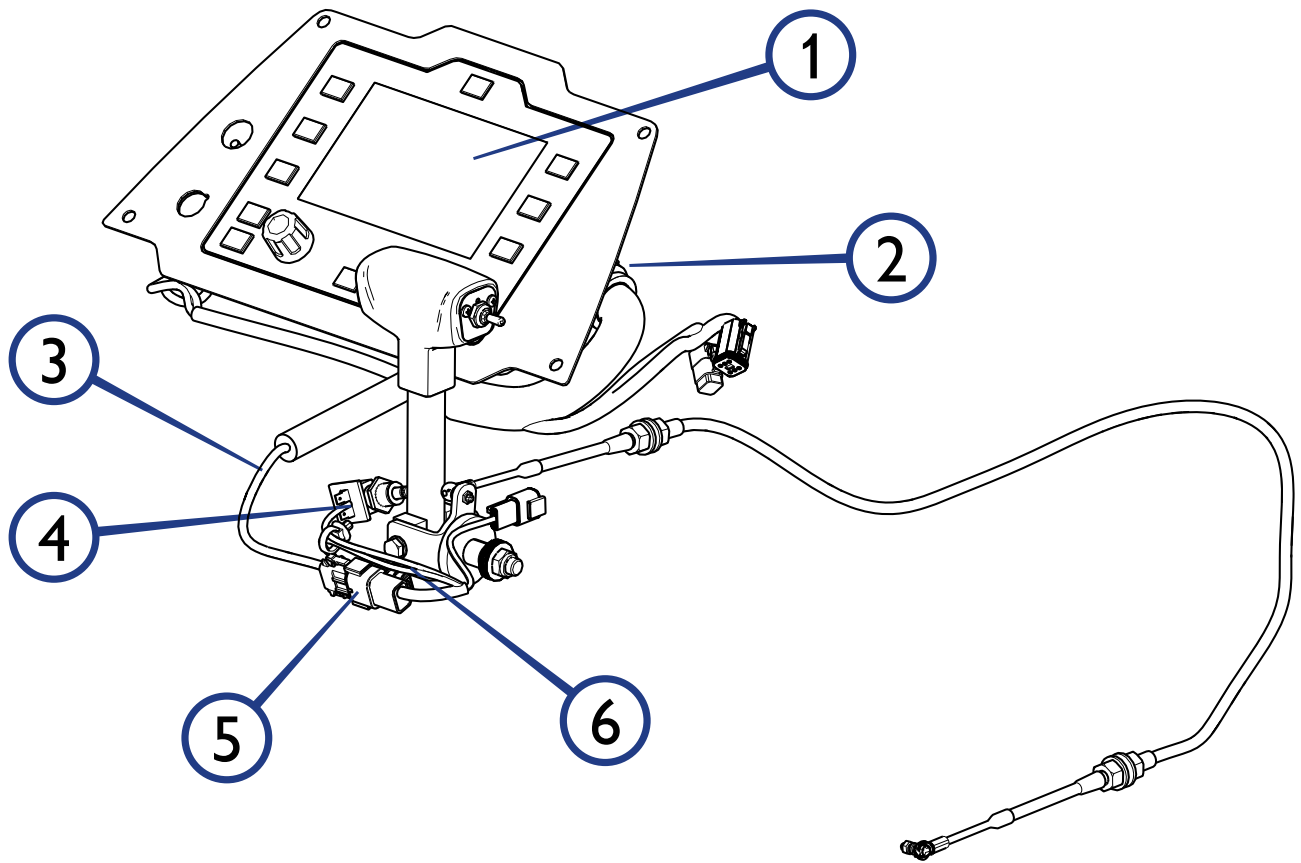


1. Lowering speed valve.
2. HMI.
3. HMI2 contact.
4. Engine harness.
5. Contacts; X24, X25.
6. Contact X15.
7. Coil.
8. X14 connection.

Neutral

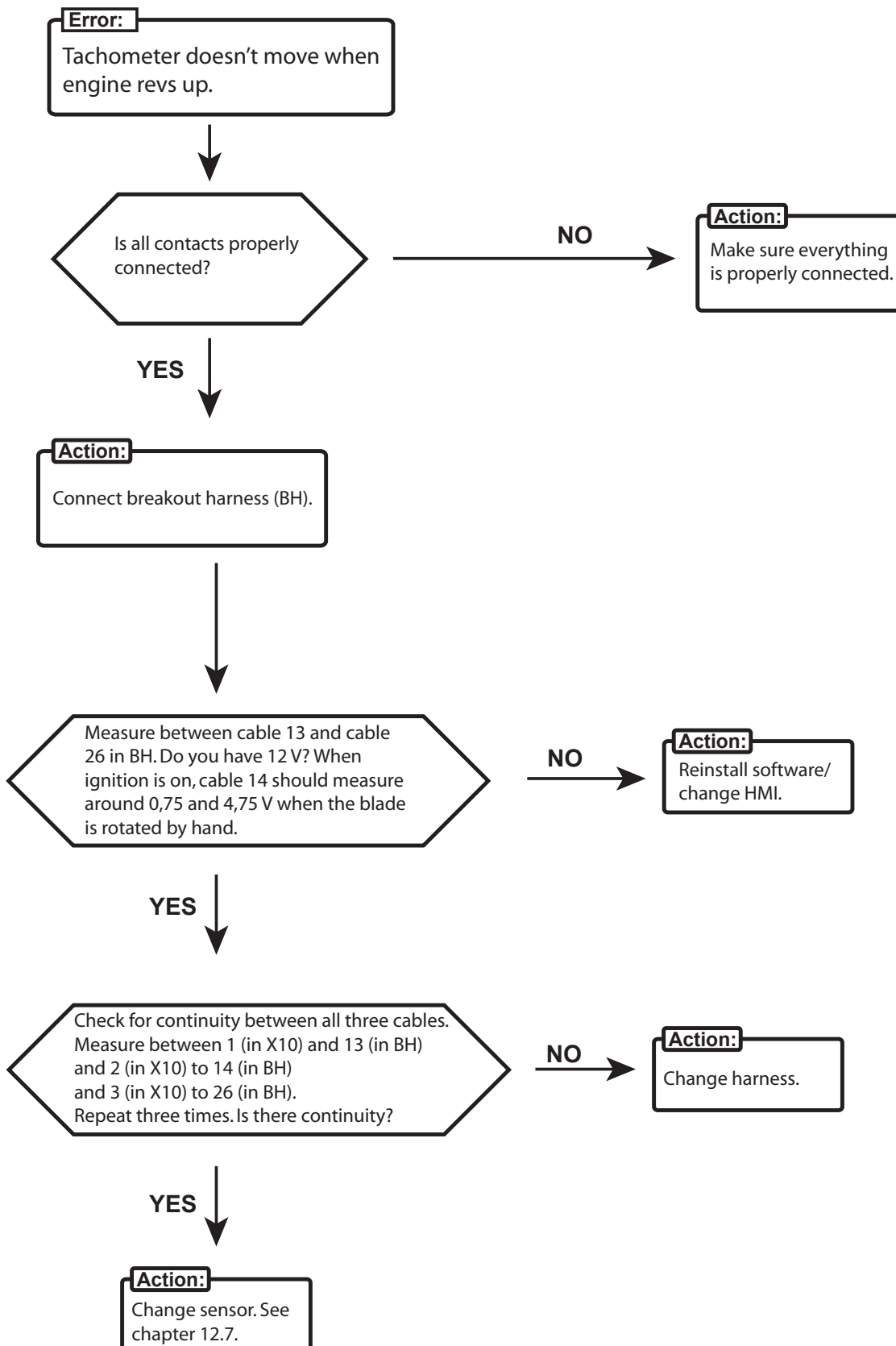


Neutral

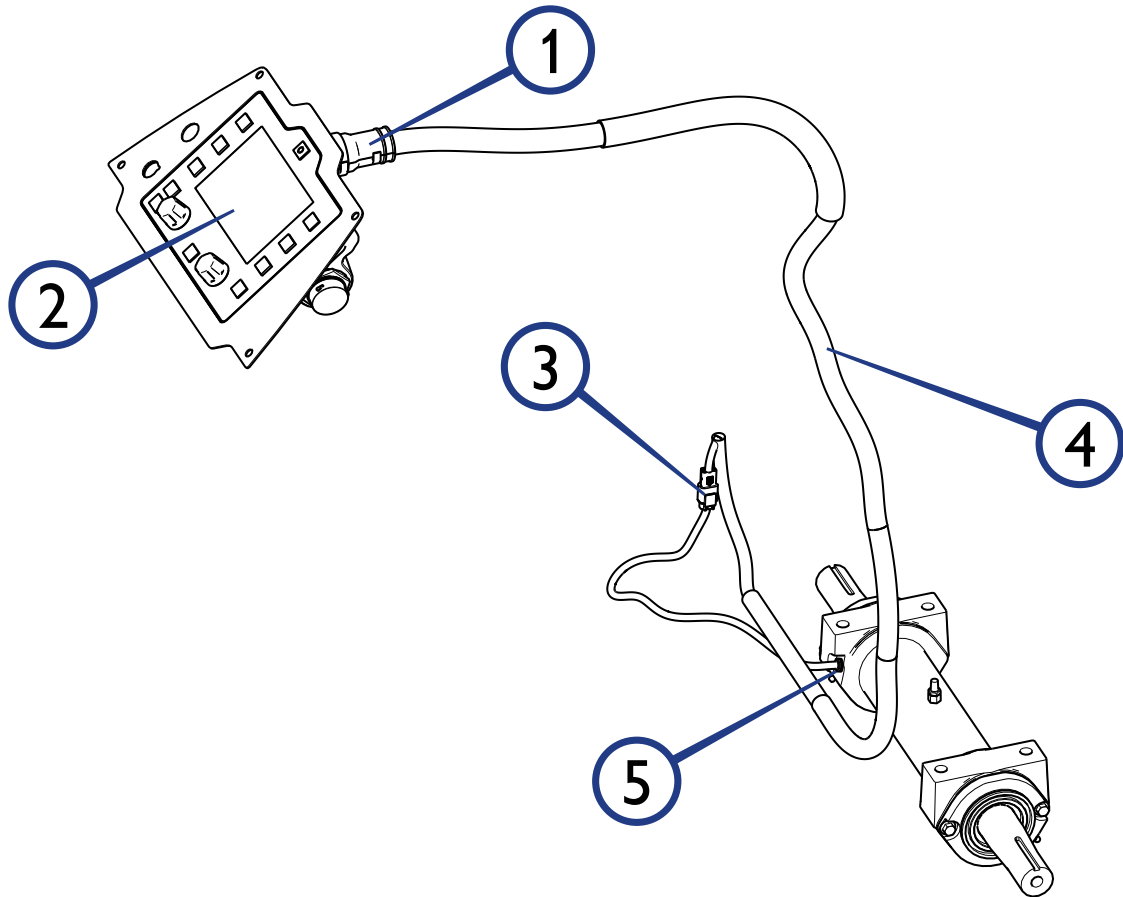


1. HMI.
2. HMI2 (for breakout harness).
3. Harness 28-1, 28-2.
4. Switch.
5. Contacts; X24, X25.
6. Cowl handle harness.

Blade Speed Sensor

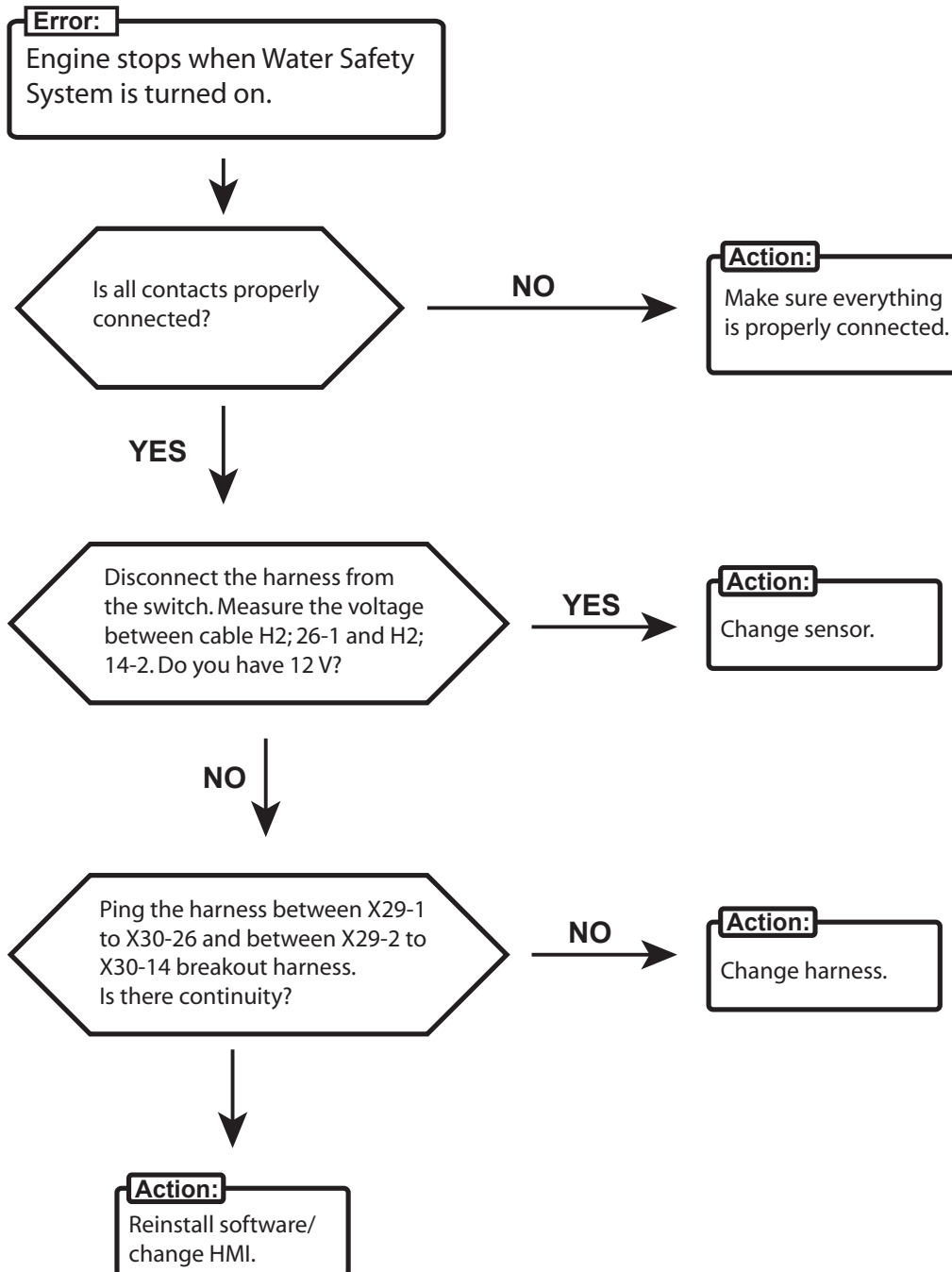


Blade Speed Sensor

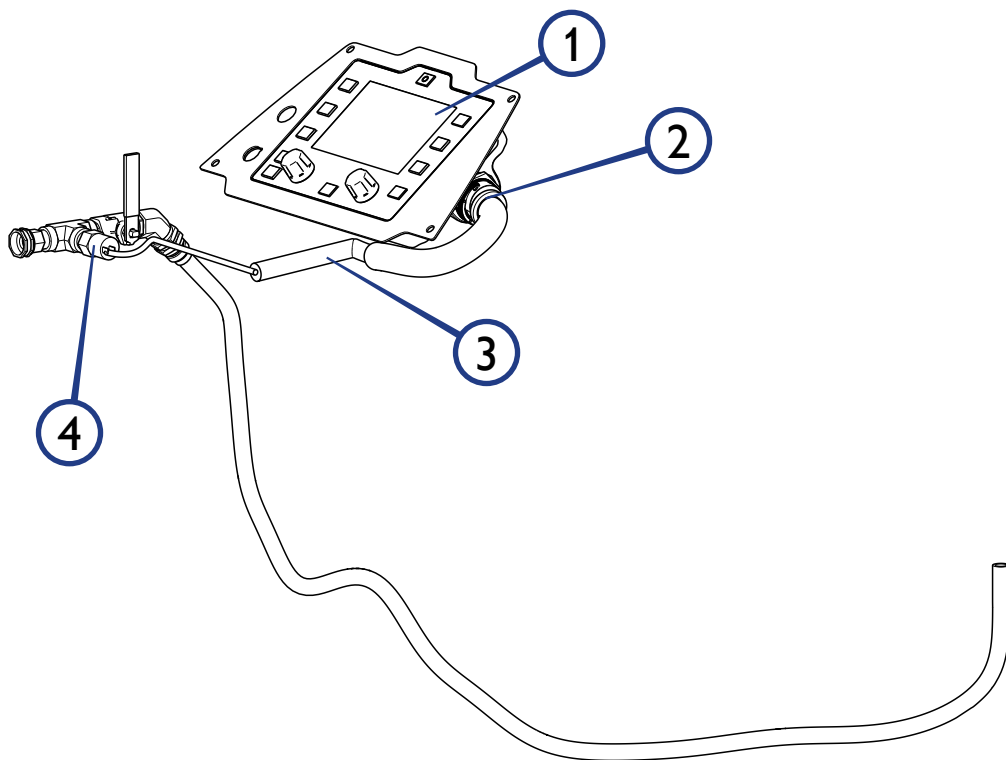


1. Contact X14.
2. HMI.
3. Contact X10.
4. Engine harness.
5. Sensor.

Water pressure switch



Water Pressure Switch



1. HMI:
2. HMI2.
3. Cowl Harness.
4. Switch.

14. REPAIR INSTRUCTIONS

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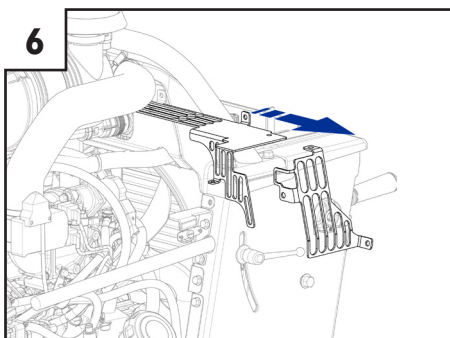
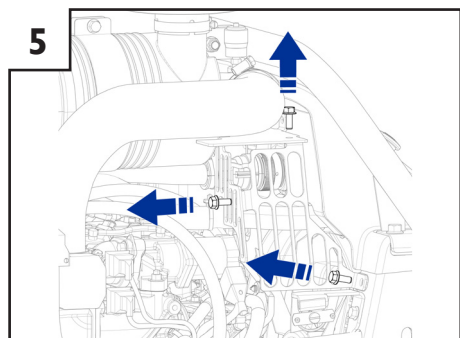
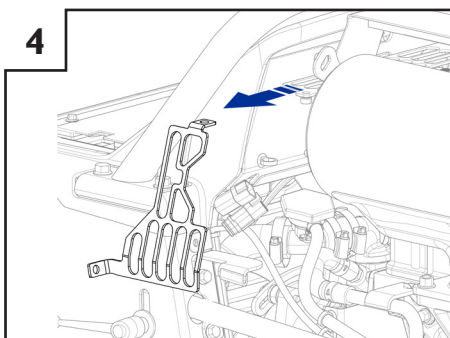
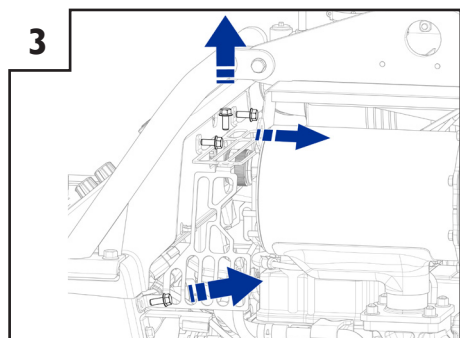
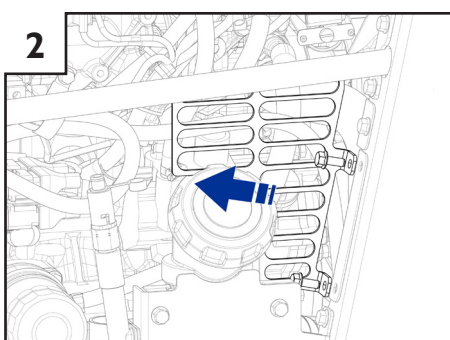
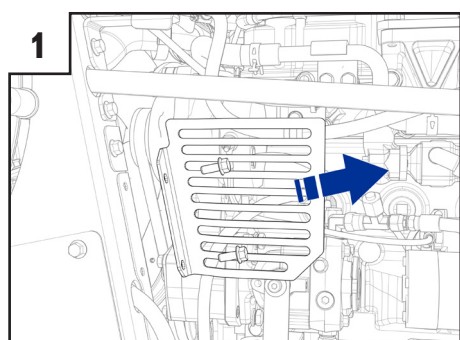
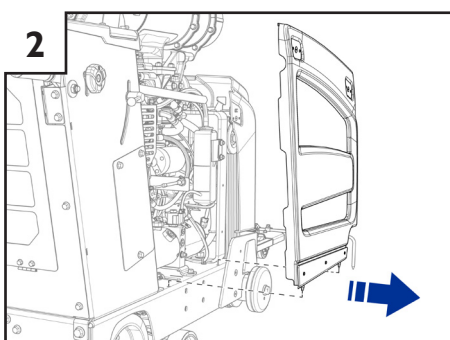
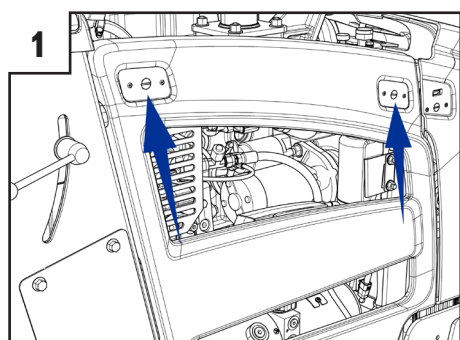
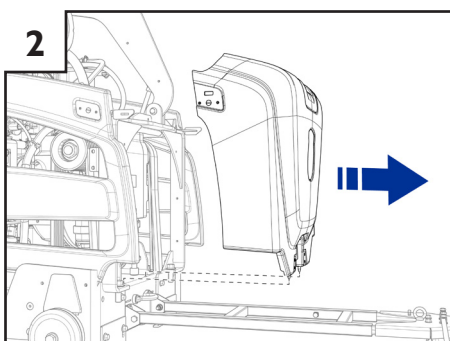
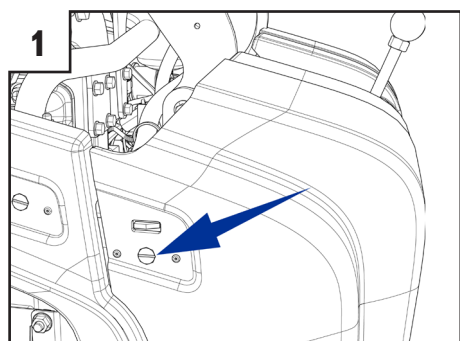
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14.1. COVERS

Removing the Front Cover



1. Open the front cover on each side by rotating the turn slot.
2. Lift the cover up and outwards.

Removing the Side Covers



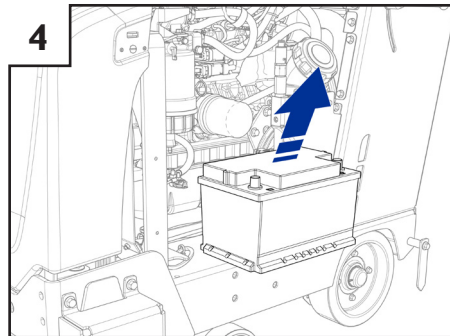
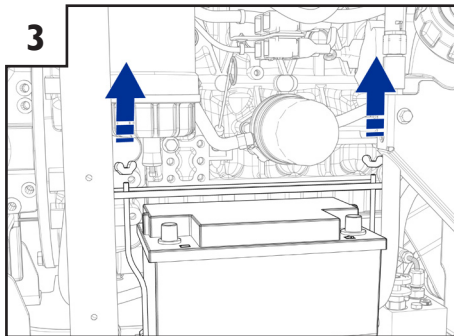
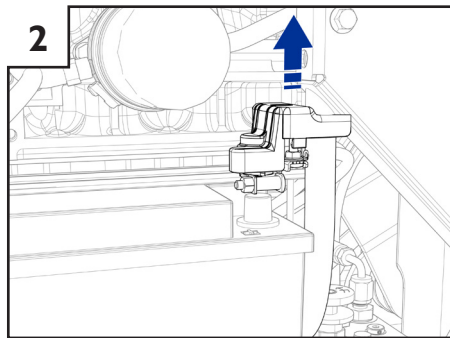
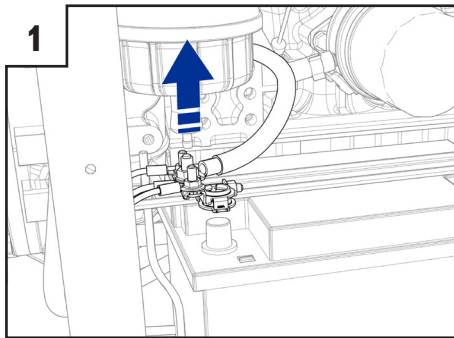
1. Open the side covers on each side by rotating the two turn slots.
2. Lift the covers up and outwards.

Removing the Fan Protection



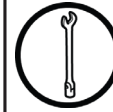
First see [Removing the Side Covers](#) (p. 48).

1. Unscrew the two screws and lift away the lower Fan Protection on the right side.
2. Unscrew the two screws and lift away the lower Fan Protection on the left side.
3. Remove the four screws from the upper Fan Protection on the right side.
4. Remove the the vertical part.
5. Unscrew the three screws holding the upper Fan Protection on the left side.
6. Lift away the Fan Protection.



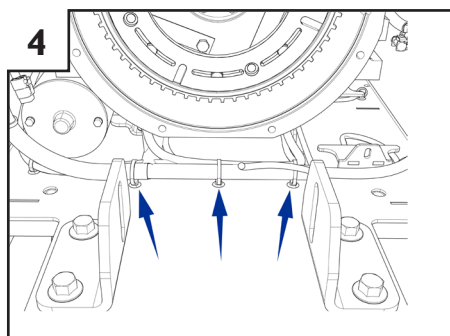
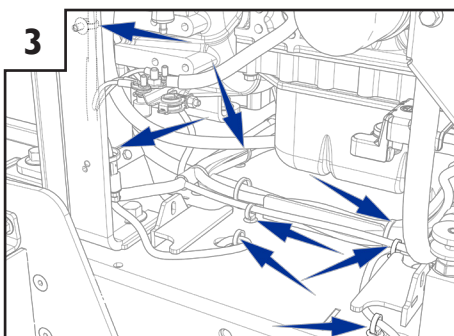
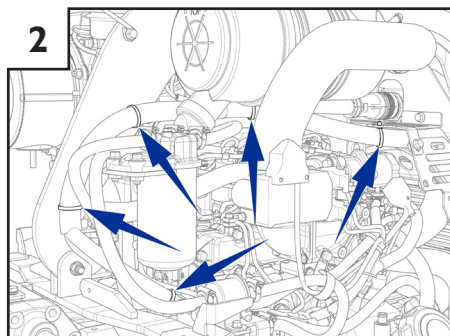
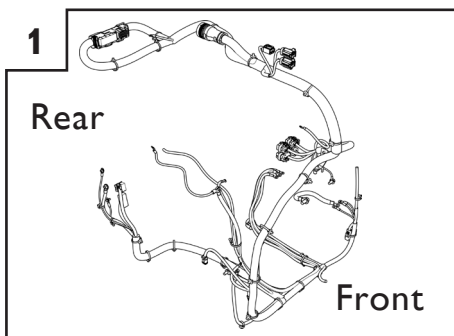
14.2. ELECTRICS / HYDRAULICS

Removing the Battery

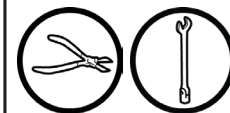


First see [Removing the Side Covers \(p. 48\)](#) (only left side needed).

1. Loosen bolt at the minus terminal. Use a safety key.
2. Loosen bolt at the plus terminal.
3. Unscrew the two nuts and remove the battery holder.
4. Lift the battery out without tilting it.

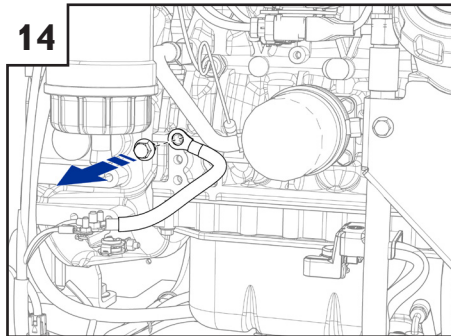
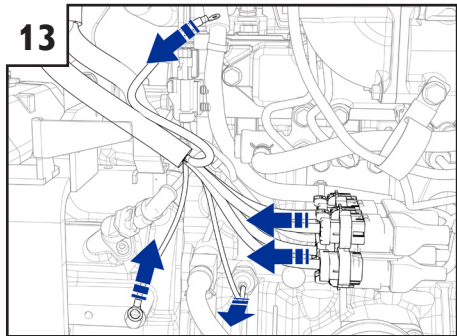
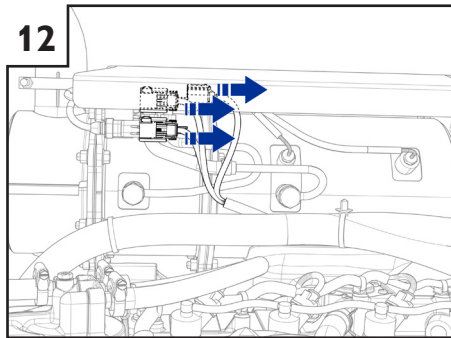
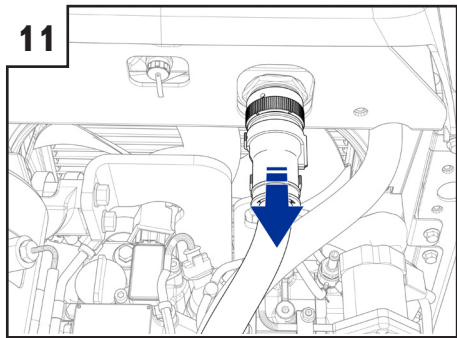
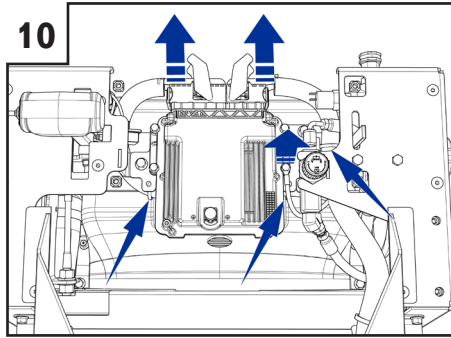
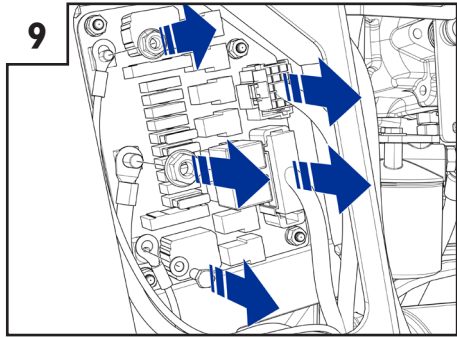
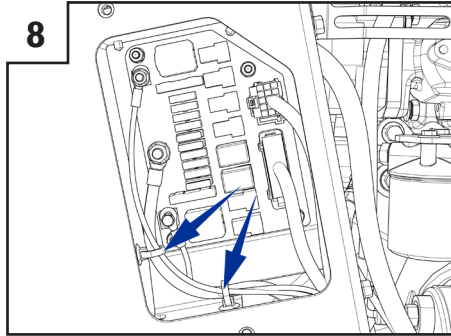
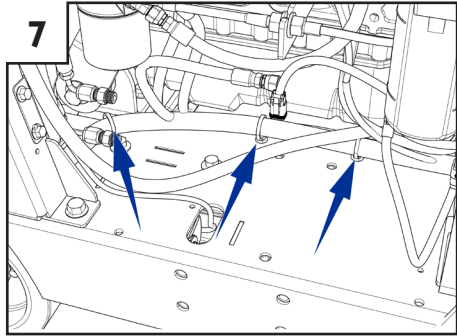
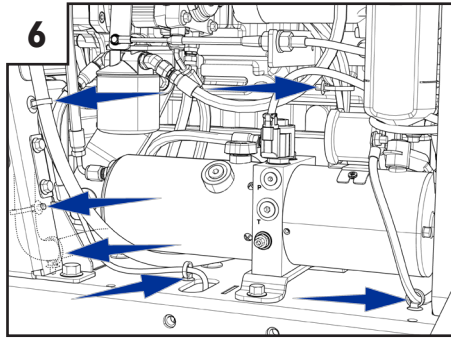
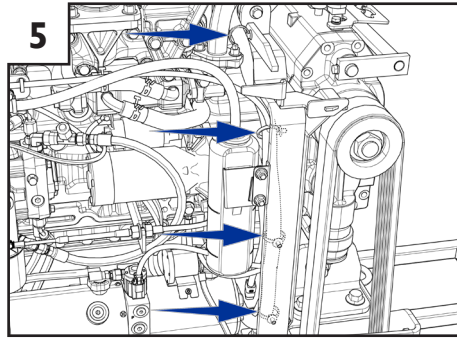


Removing the Wiring Harnesses

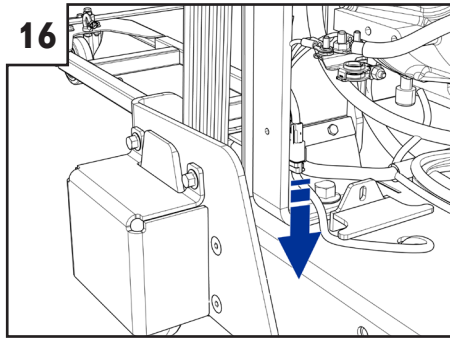
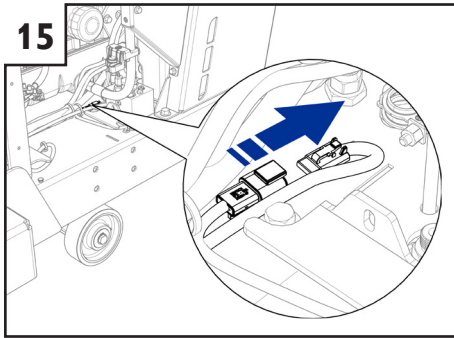


First see [Removing the Side Covers \(p. 48\)](#) and [Removing the Battery \(p. 49\)](#).

1. The image shows the wiring harnesses. First part of removing the wiring harnesses is to remove all the fir-tree clips.
2. Remove the five clips on the left side.
3. Remove eight more clips on the left side.
4. Remove three clips under the clutch.



5. Remove four clips on the right side.
6. Remove six clips on the right side
7. Remove three clips located behind the hydraulic pump.
8. Open the hatch on the right side (2 screws) and remove the two clips.
9. Disconnect and remove the two wires to the right. For the other three unscrew the nut/screw and then remove the wires.
10. Follow step 1-5 in [Removing the ECU \(p. 56\)](#) to disconnect the ECU connectors. Also remove the three clips and the smaller cable.
11. Seen from the top, disconnect the HMI-1 cable from the cowling by turning it.
12. Seen from left side. Disconnect the cable from the Diesel Particle Filter (DPF).
13. Seen from left side. Disconnect the four Engine Harness contacts and the other three cables shown in the picture.
14. Remove the ground wire with one screw.

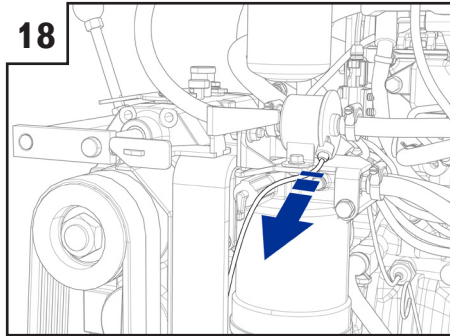
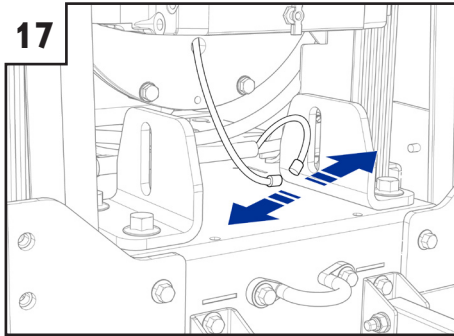


15. Unplug the depth sensor contact located behind the battery.

16. Unplug the Proximity Sensor.

17. Disconnect the clutch wire (if the saw is equipped with clutch) from the wiring harness located behind the gear box bracket.

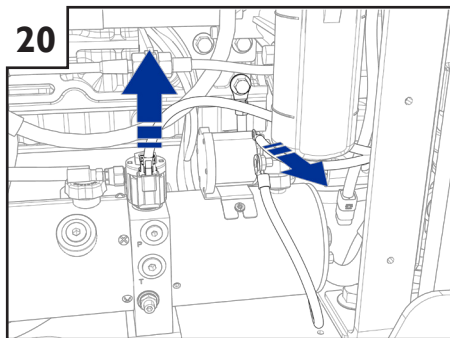
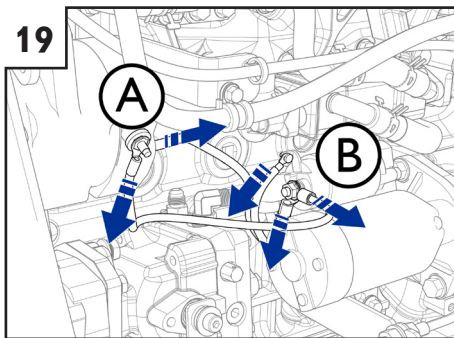
18. Disconnect the wire from the fuel pump.

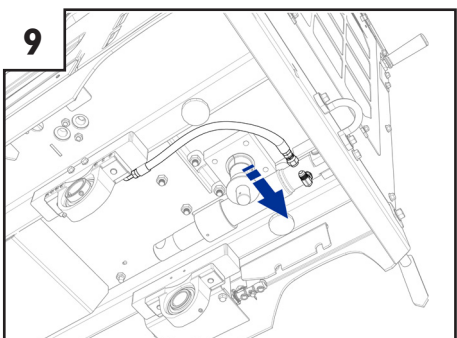
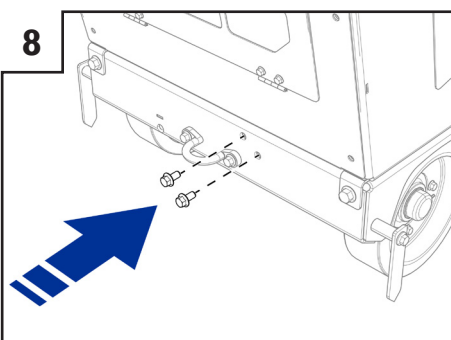
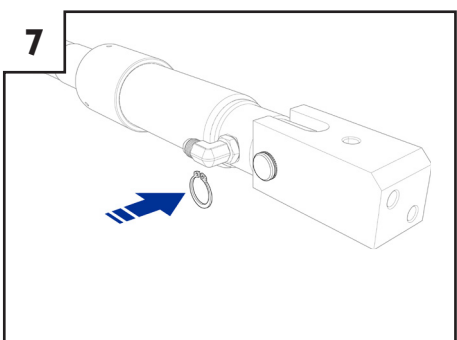
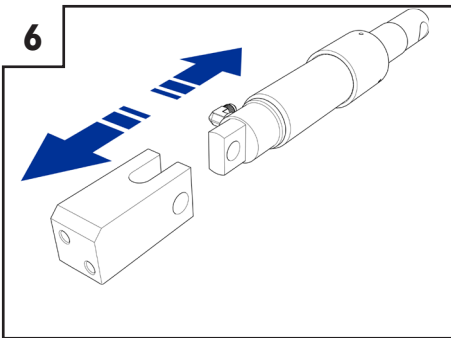
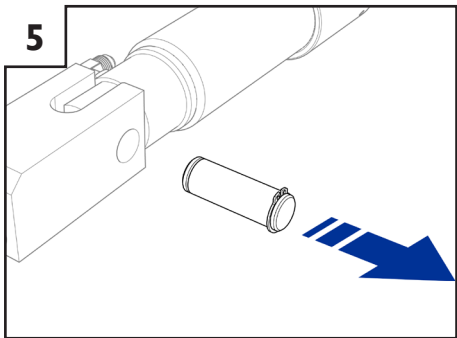
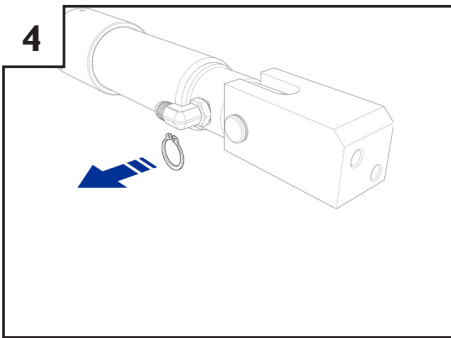
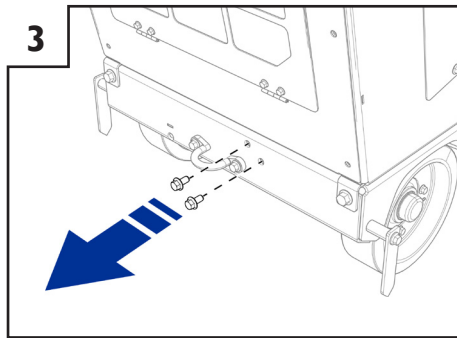
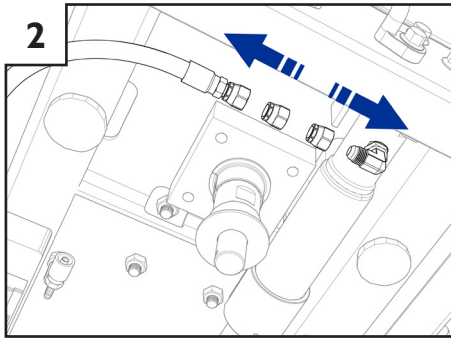
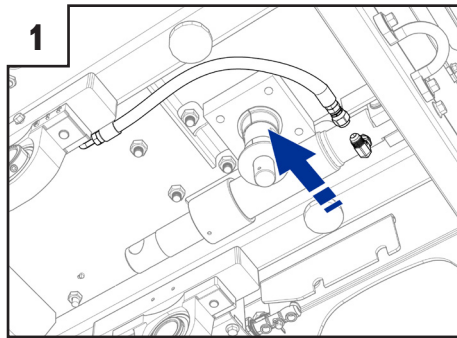


19. On the right side. A: Disconnect the generator cable. B: Remove the signal cable to the starter motor, one screw. Also remove the feed cable to the start engine with one nut. And the cable that connects the start engine to the generator.

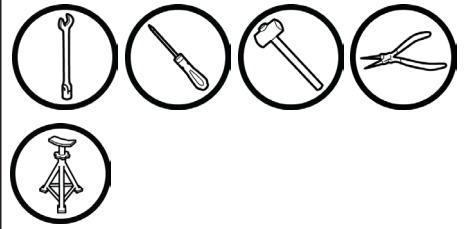
20. Disconnect the cable X15 from the coil. Remove the cable X107 from the solenoid.

Remove ground cable from the engine with one screw (only necessary when lifting the engine).



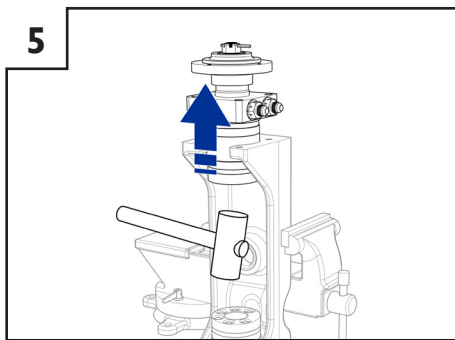
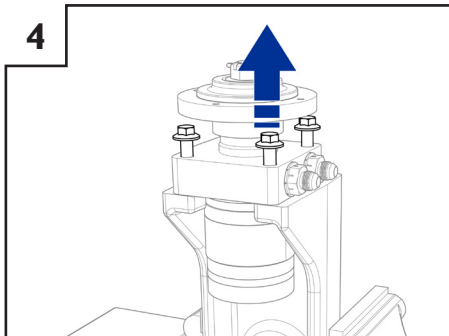
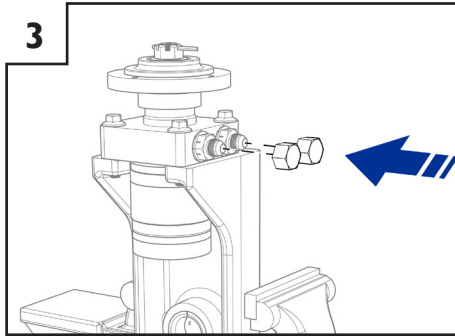
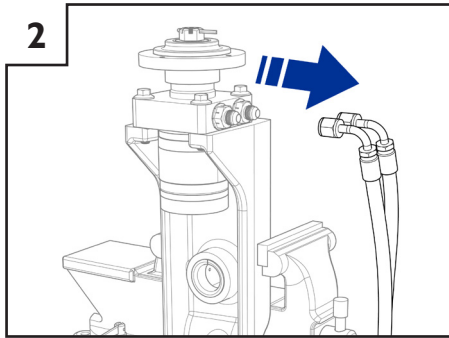
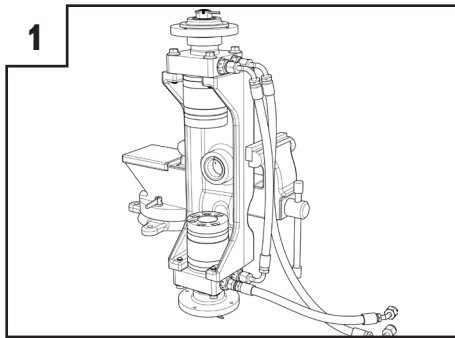


Change Lift Cylinder

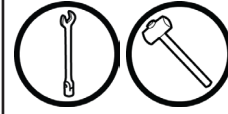


First see [Lifting the Road Saw \(p. 72\)](#), [Removing the Rear Axle \(p. 74\)](#) and [Removing the Front Axle \(p. 75\)](#)

1. Cover the ground beneath the hydraulic connectors with a carpet to reduce spill. Then remove hydraulic hose from the undercarriage.
2. Put a plug in each hole.
3. Remove the two rear screws and hold the lift cylinder up.
4. Remove the snap ring from the axis with a pliers.
5. Tap out the cylindrical axis from the lift cylinder .
6. Remove the lift cylinder. Make sure to clean and regreasing it before putting it back.
7. **Reassembly.**
Insert the cylindrical axis in the lift cylinder and mount a brand new ring
8. Lift the lift cylinder in place then insert the two rear screws.
9. Remove the plug and reconnect the hydraulic hose.

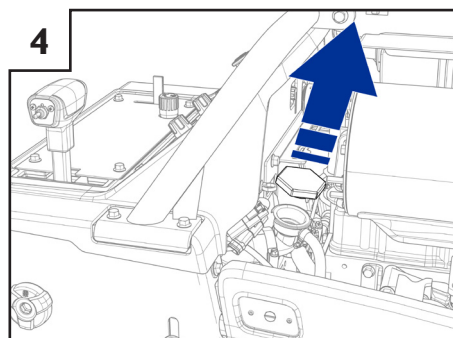
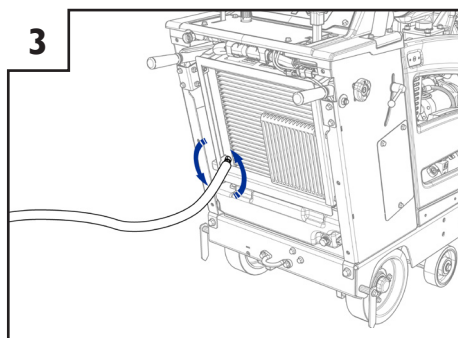
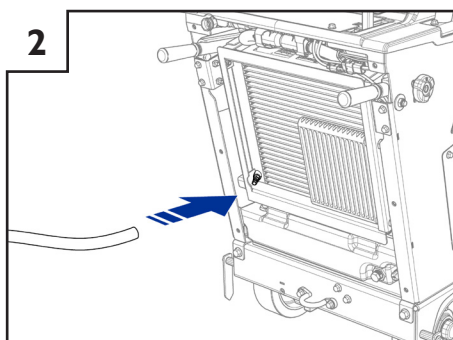
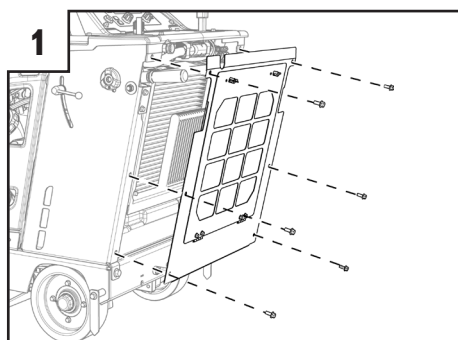
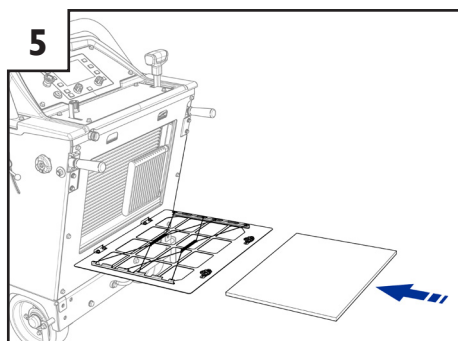
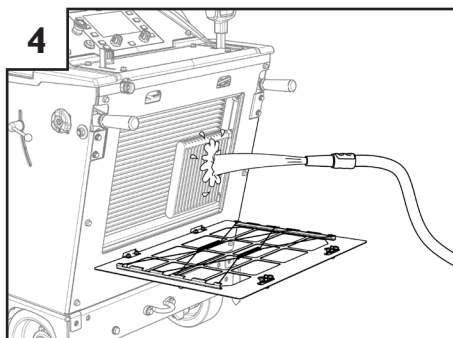
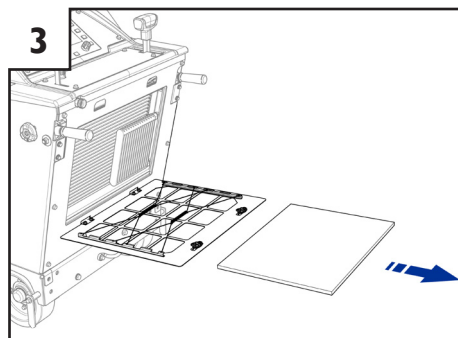
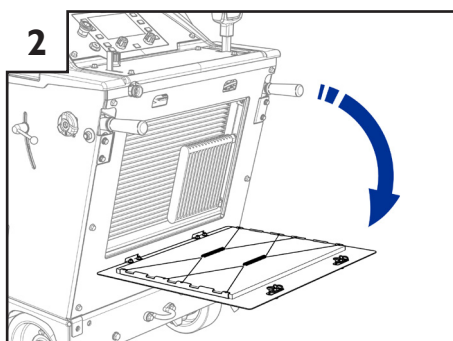
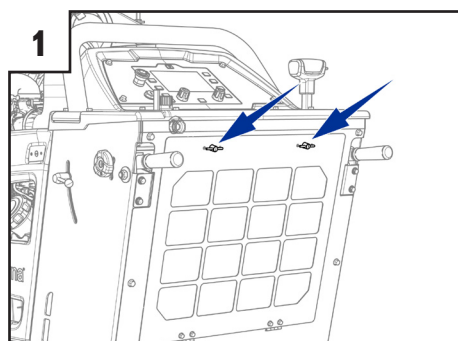


Dismantling the Rear Axle - Hydraulic Motor



First see [Removing the Rear Axle \(p. 74\)](#). The steps below are applicable for both engines.

1. Secure the rear axis vertical in a vise.
2. Remove the hydraulic hoses.
3. Plug the hydraulic connections.
4. Unscrew the 4 screws for each engine.
5. Use a plastic hammer to remove the hydraulic motor.



14.3. COWLING

Changing the radiator filter

First see [Removing the Battery \(p. 49\)](#).

1. Unlock the back cover by turning the screws.
2. Open the back cover.
3. Remove the filter from behind the springs.
4. Rinse the radiator with water.



Warning!

Do not use a pressure washer!

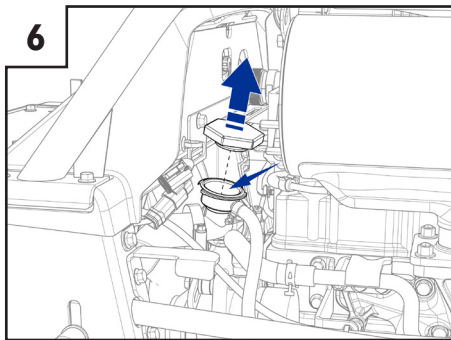
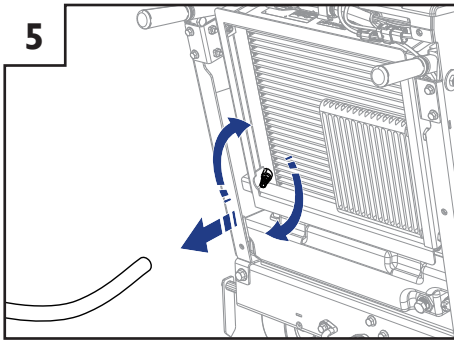
5. Insert a new filter and close the cover.

Emptying/Refilling the Radiator

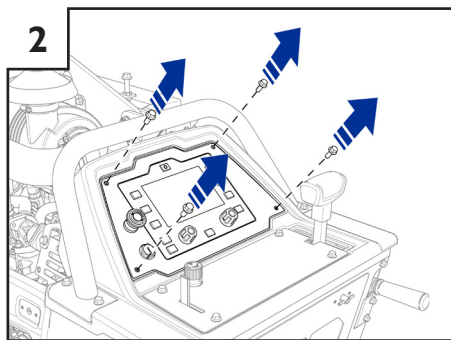
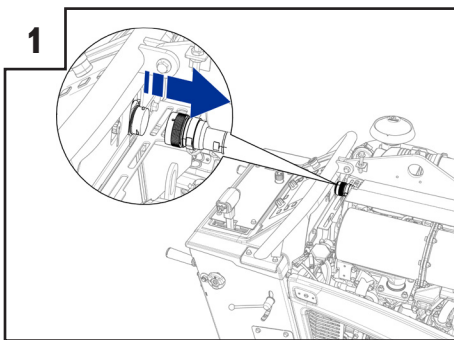


First see [Removing the Battery \(p. 49\)](#).

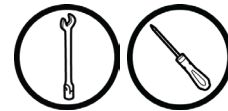
1. Remove the back cover by unscrewing the six screws.
2. Put an extension on the valve.
3. Open the valve.
4. Remove the lid on the top.



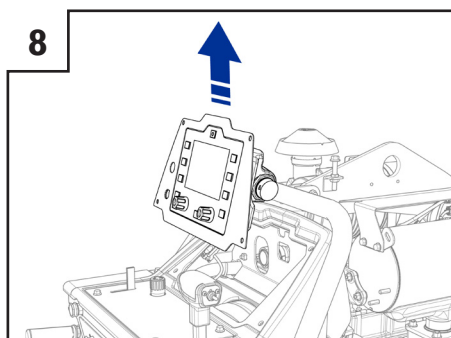
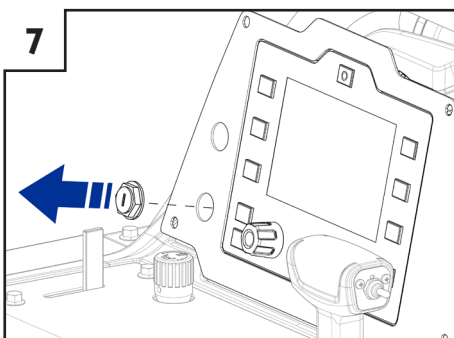
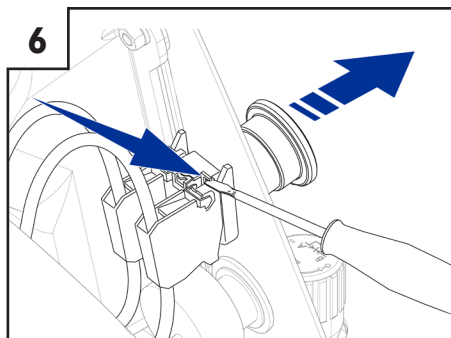
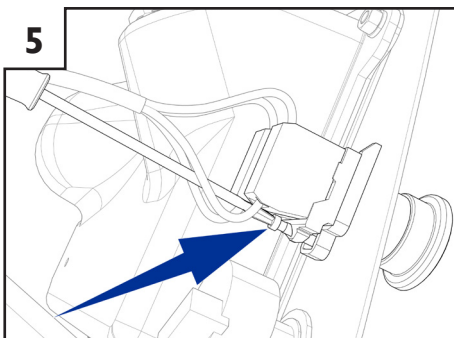
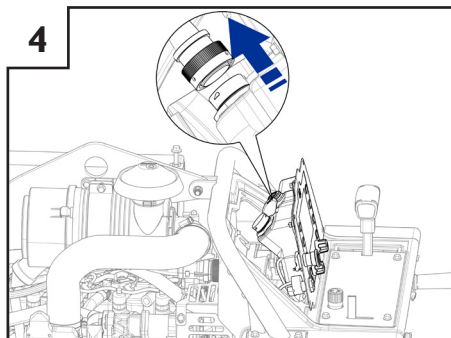
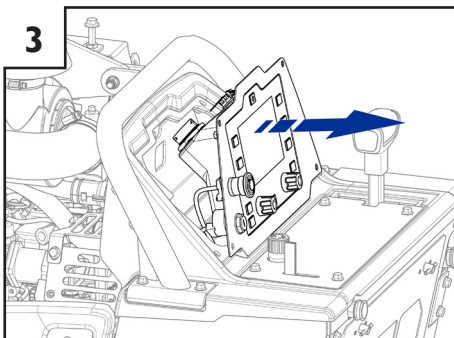
5. Refilling.
Close the valve and remove the extension.
6. Fill with coolant mix until the level is according to recommendations. See daily service.



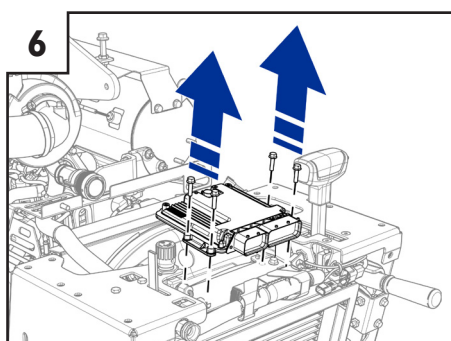
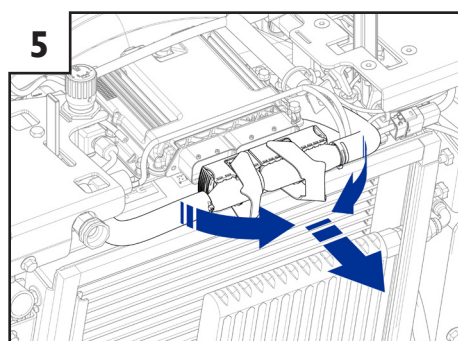
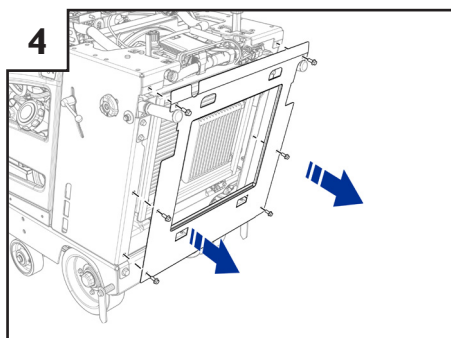
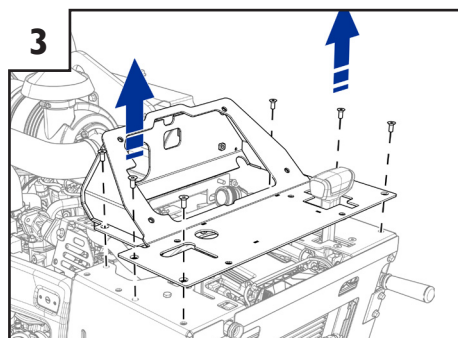
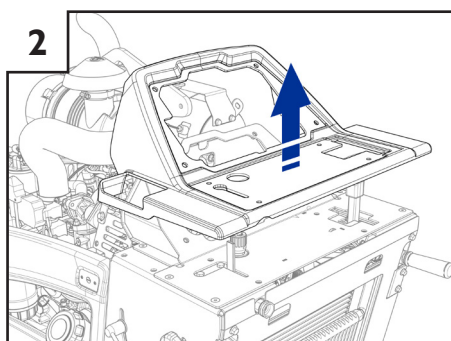
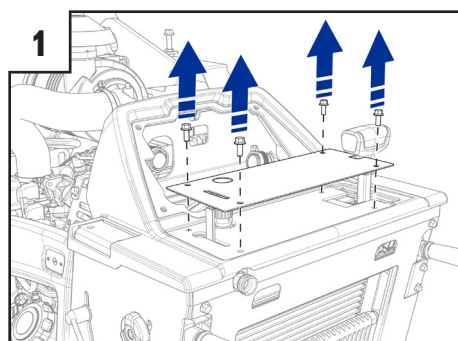
Removing the HMI Board



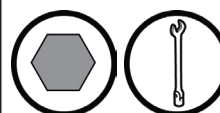
1. Unplug the connector by turning it counterclockwise.
2. Remove the 4 screws around the display
3. Gently pry up the panel.
4. Unplug the connector located under panelen by turning it counterclockwise.
5. Loosen the screw on the machine stop with a Phillips screwdriver.
6. Disassemble the machine stop by releasing the latch with a screwdriver and remove the button.
7. Turn the nut holding the ignition and pull it apart.
8. Remove the HMI board.



Reverse steps for reassembly.



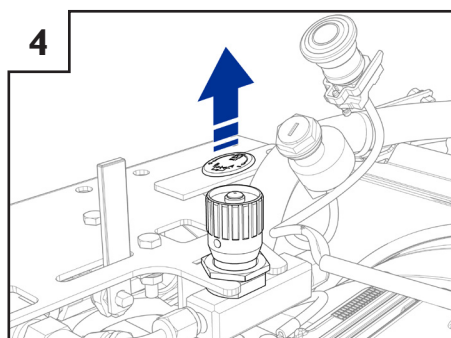
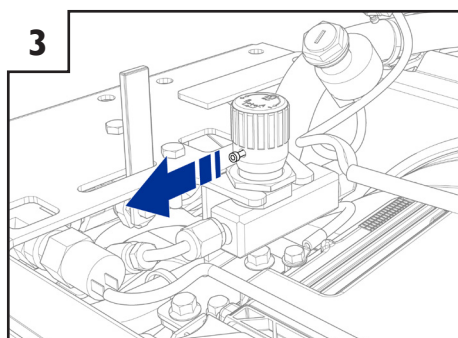
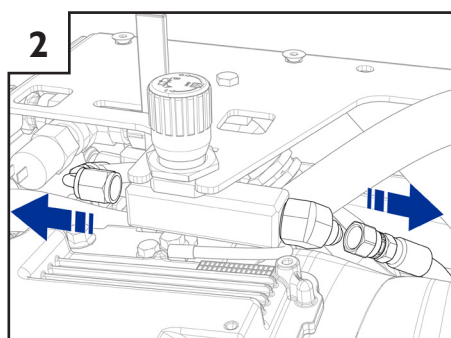
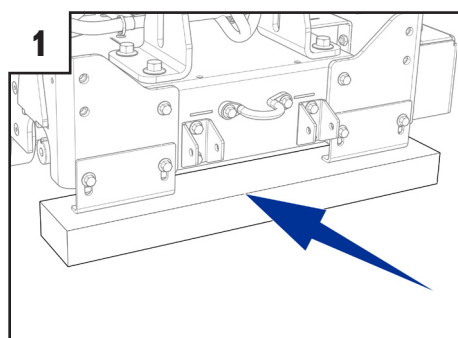
Removing the ECU



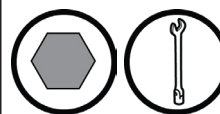
First see **Removing the HMI Board (p. 55)** and steps 4 & 6 in **Removing the Lift Bail (p. 72)**.

1. Remove the four screws and lift the panel.
2. Remove the plastic cover.
3. Remove the six screws and lift up the bracket.
4. Remove the six screws and the back cover.
5. First lift the handle then disconnect the contacts by pulling them outwards.
6. Remove the four screws and lift out the ECU.

Reverse steps for assembly.

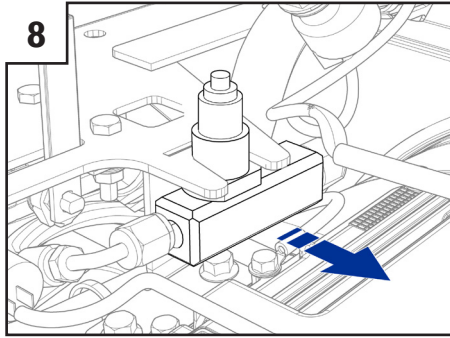
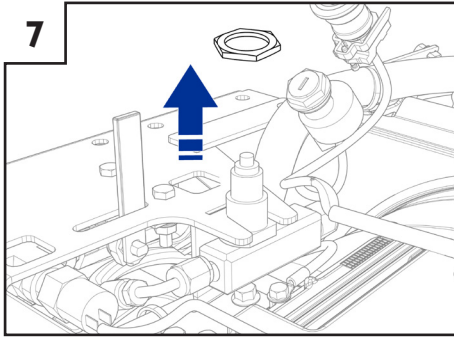
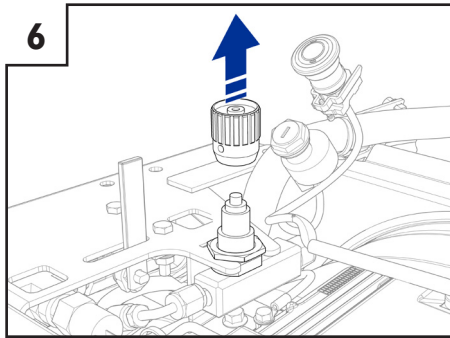
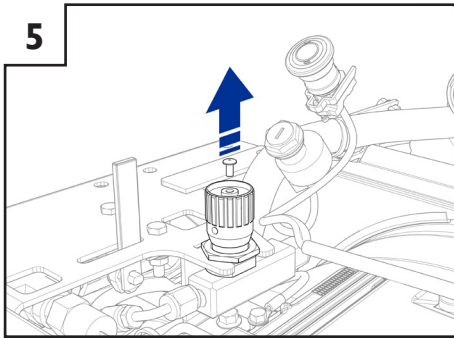


Removing the Lowering Speed Valve



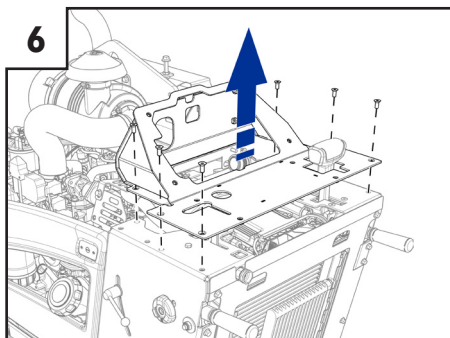
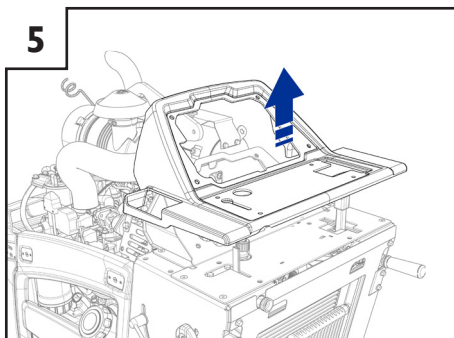
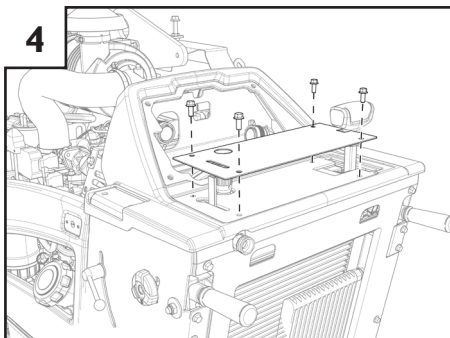
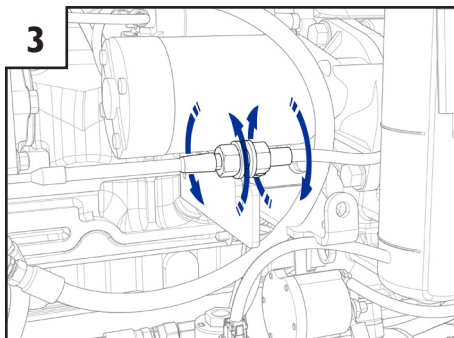
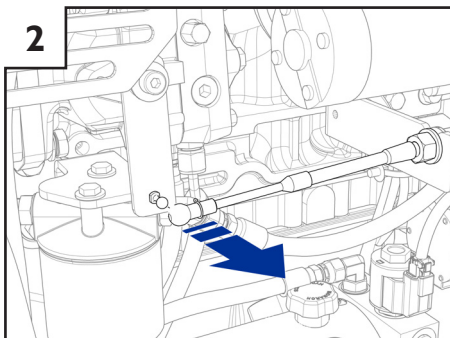
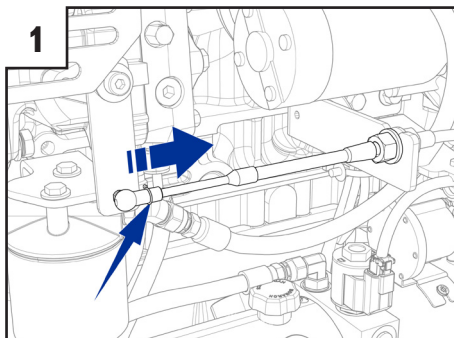
First see steps 1-3 in **Removing the ECU (p. 56)**.

1. Lower the saw onto a support placed in the front. This is done as a precaution.
2. Unscrew the hydraulic clutches.
3. Loosen the set screw of the control.

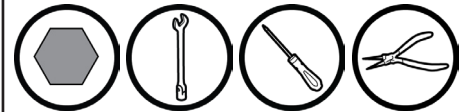


4. Flip the top off.
5. Remove the screw located underneath.
6. Pull the top off.
7. Remove the nut.
8. Remove the lowering speed valve.

Reverse steps for assembly.

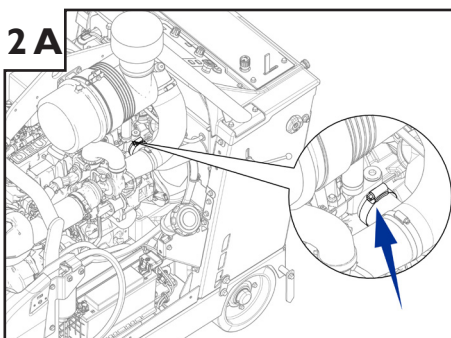
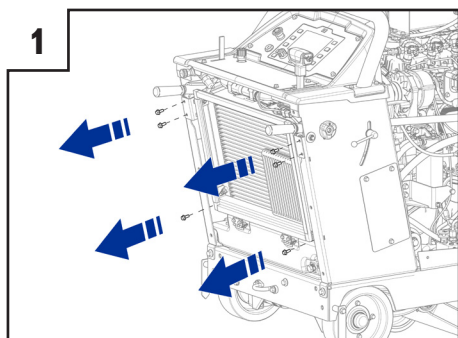
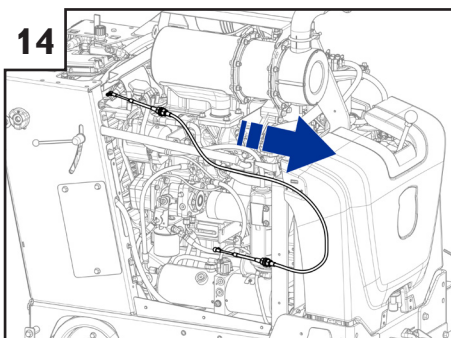
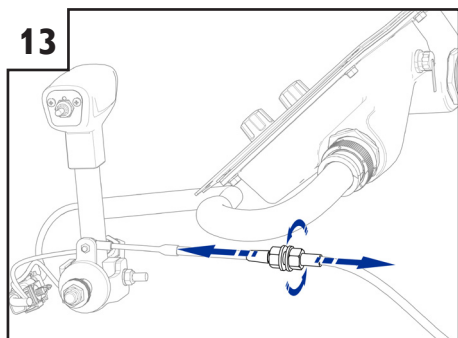
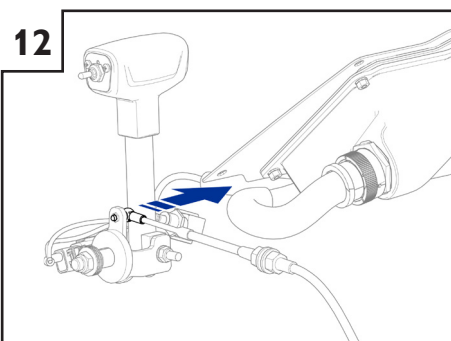
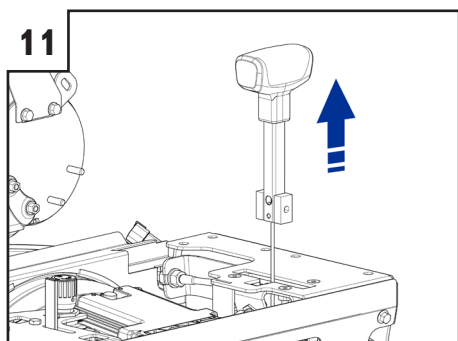
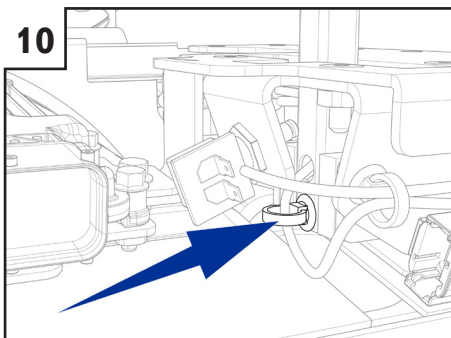
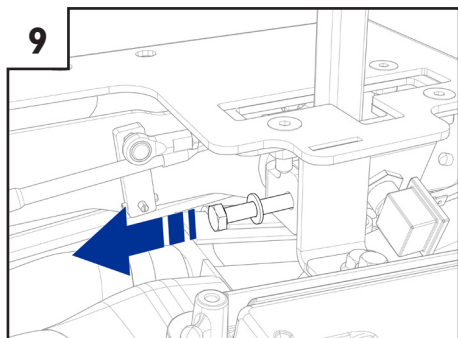
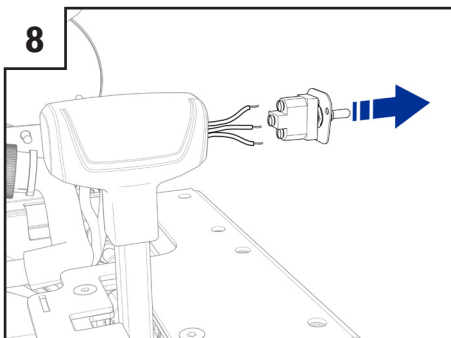
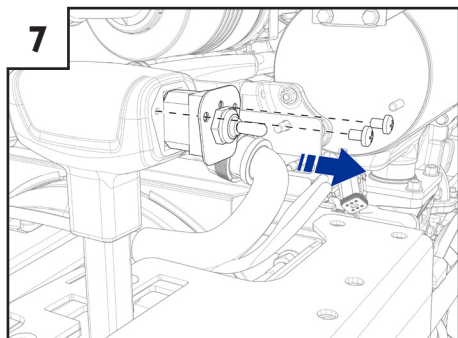


Removing the Speed Control



First see [Removing the Battery \(p. 49\)](#) and [Removing the HMI Board \(p. 55\)](#).

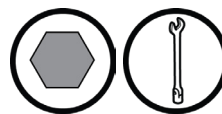
1. Remove the clips on the throttle wire
2. Remove the cable from the ball.
3. Loosen opposite nuts holding the wire.
4. Remove 4 screws holding the panel and remove it.
5. Lift the plastic cover away.
6. Remove the six screws and lift up the bracket.



7. Remove the screws on the speed control with a Phillips screwdriver and pull the button out.
8. Remove cables by loosening the screws.
9. Remove the bolt holding the speed control.
10. Cut the clip apart.
11. Pull the speed control up.
12. Remove the cable from the ball.
13. Loosen opposite nuts holding the wire.
14. Pull the cable out.

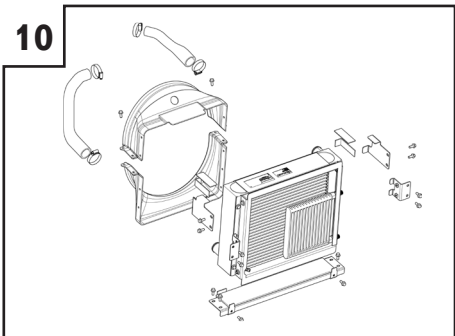
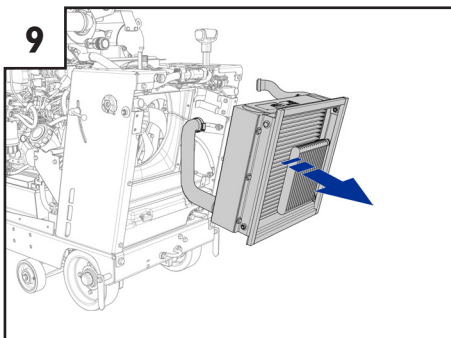
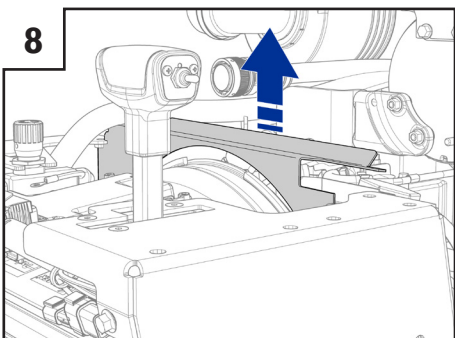
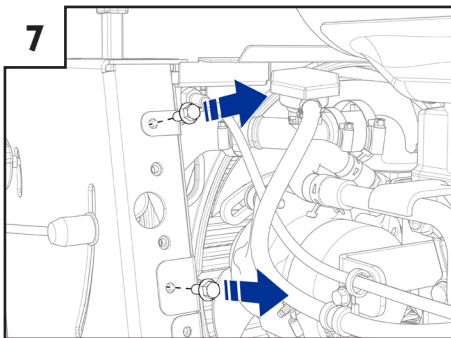
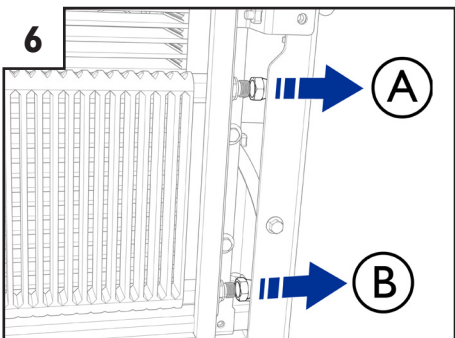
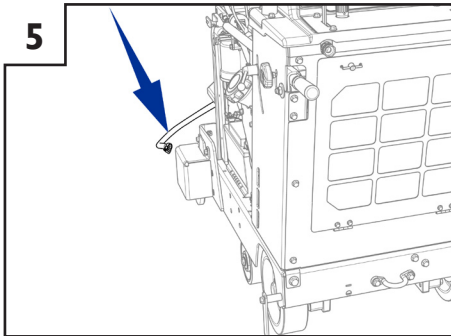
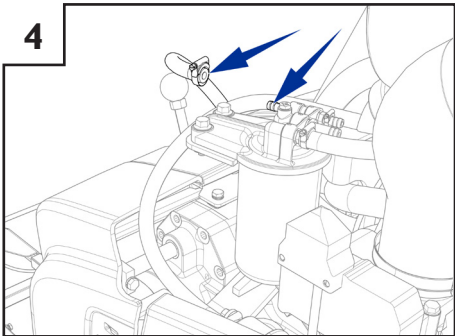
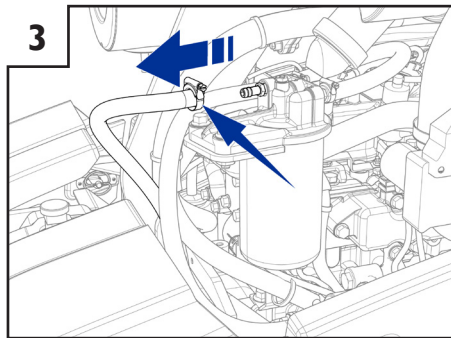
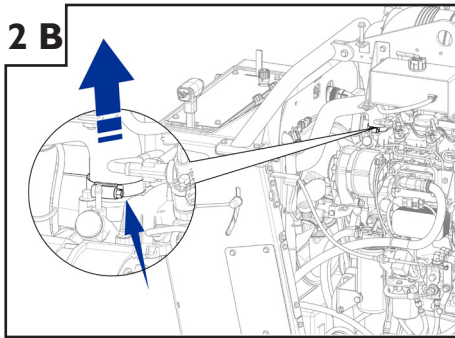
Reverse steps for assembly.

Replacing the Radiator



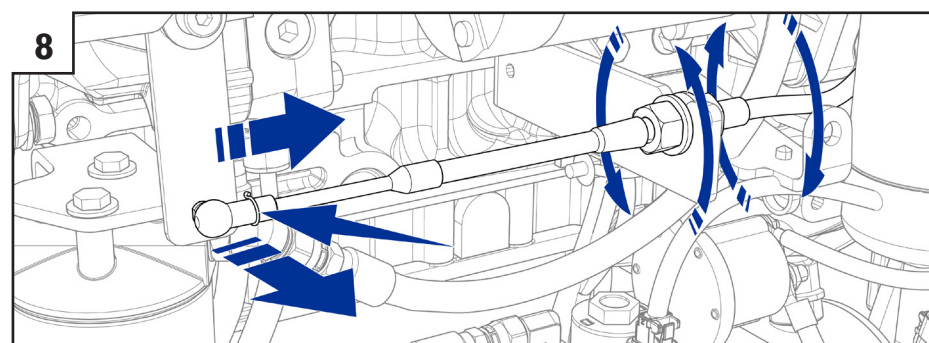
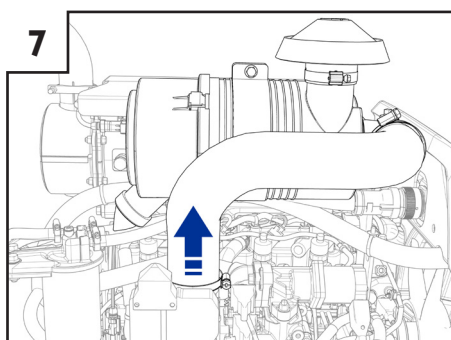
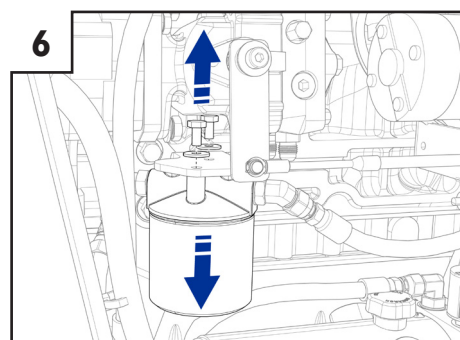
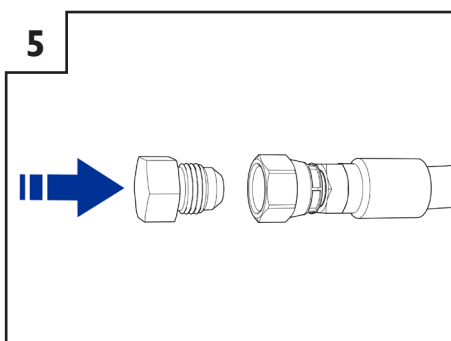
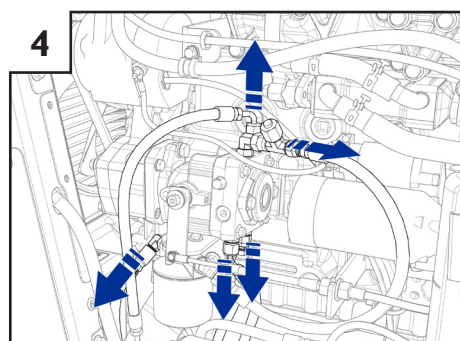
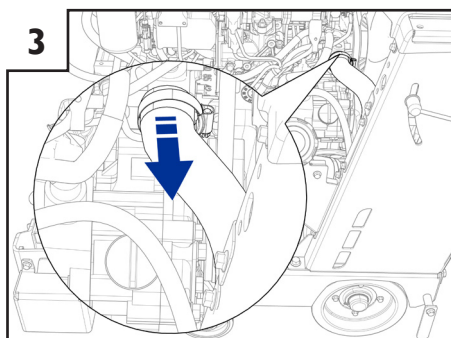
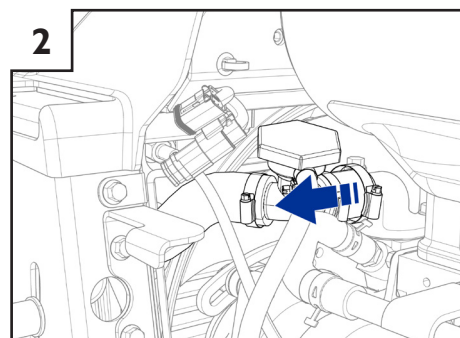
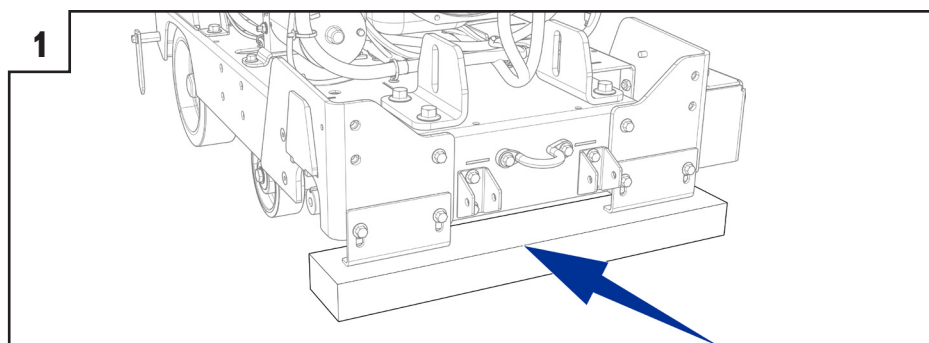
First see [Emptying/Refilling the Radiator \(p. 54\)](#)

1. Remove the rear six screws.
2. Loosen the two cooling hoses.



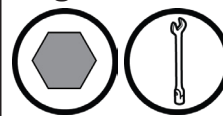
3. Detach fuel coolant hose from the fuel filter.
4. Put a plug in the hose and in the filter.
5. Pull down the hose to the lowest point of the saw and drain the fuel system in a container (also see next step).
6. Remove the top coolant hose from the radiator (A) and drain the fuel according to previous step. After the fuel is drained remove bottom coolant hose (B).
7. Remove the four bolts holding the back flow plate.
8. Lift up the back flow plate two centimeters.
9. Pull the radiator and hoses out. Be careful with the fan shroud when the radiator is lifted away.
10. Remove all hoses and covers from the radiator.

Reverse steps for reassembly



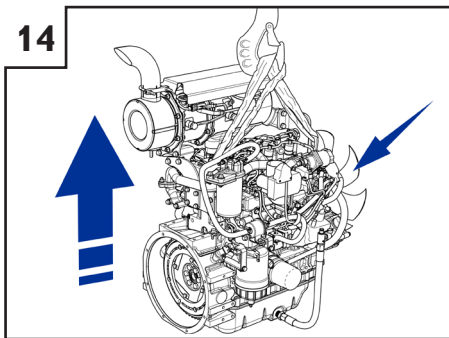
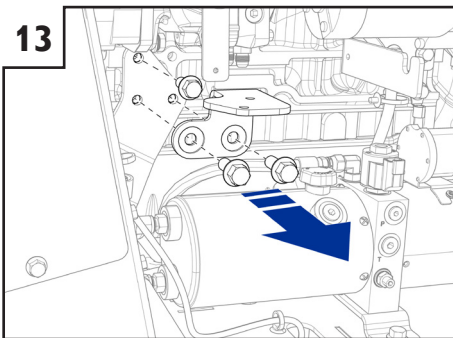
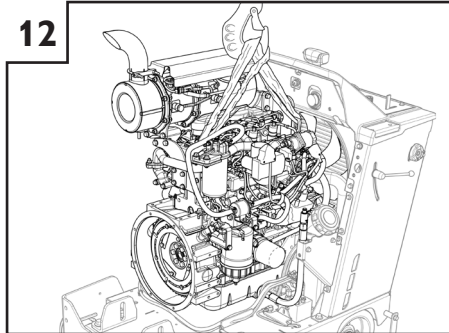
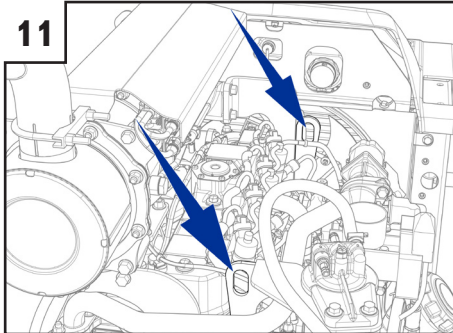
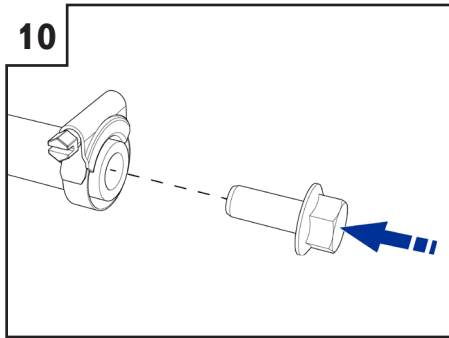
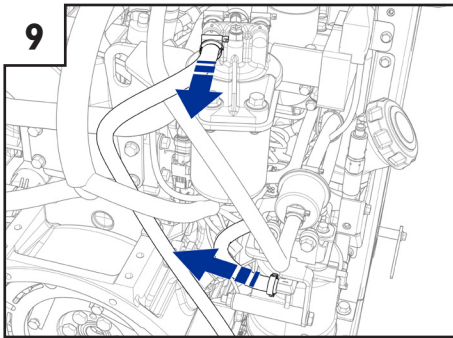
14.4. ENGINE

Engine Lift



First see [Removing the Front Cover \(p. 48\)](#), [Removing the Side Covers \(p. 48\)](#), [Emptying/Refilling the Radiator \(p. 54\)](#), [Removing the Battery \(p. 49\)](#), [Removing the Fan Protection \(p. 48\)](#), [Removing the Lift Bail \(p. 72\)](#), [Removing the Wiring Harnesses \(p. 49\)](#) and [Gear Box \(p. 67\)](#).

1. Lower the roadsaw onto a support placed in the front. This is done as a precaution.
2. Loosen the hose clamp to the radiator and make sure the hose is loose.
3. Loosen the hose clamp and make sure the second hose to the radiator is loose.
4. Disconnect the five hydraulic hoses from the hydrostatic engine.
5. Insert plugs to reduce the spill.
6. Remove the hydraulic filter with two screws.
7. Remove the Air Cleaner by loosen the hose clamp and lift it away.
8. To remove the speed control wire first remove the clips on the throttle wire, then remove the cable from the ball and finally loosen the two opposite nuts holding the wire.

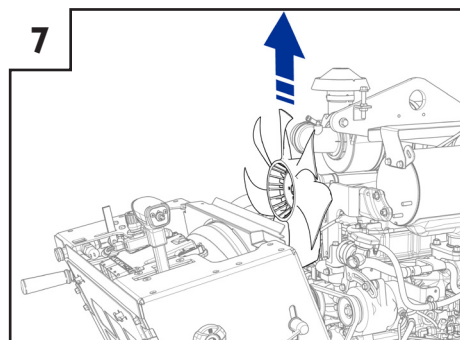
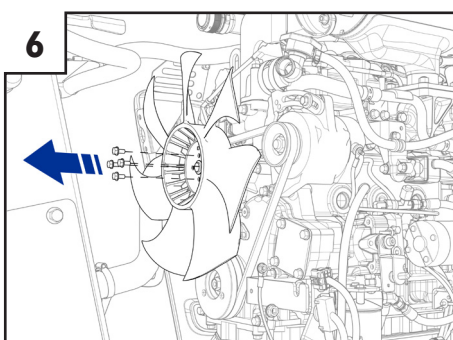
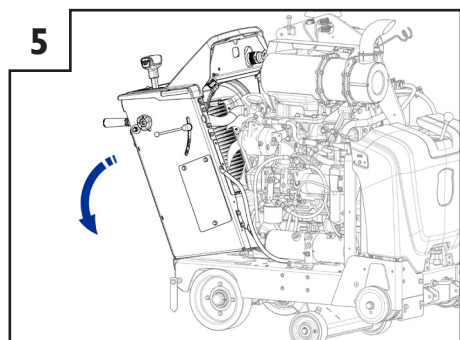
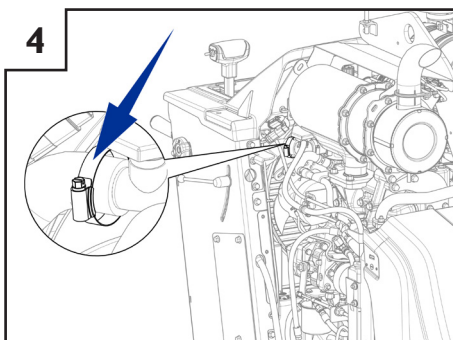
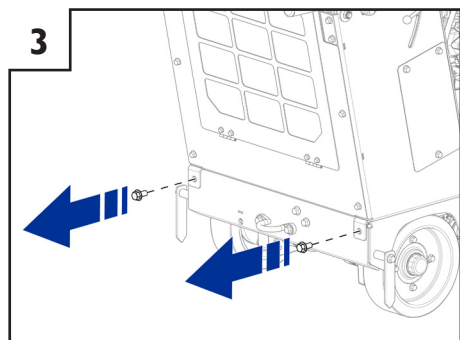
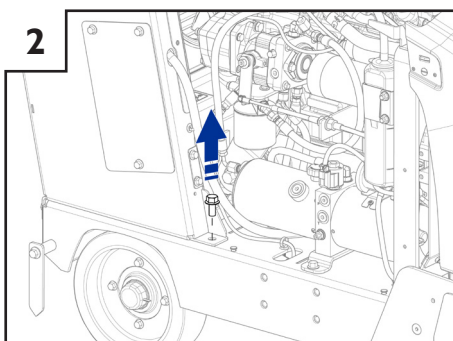
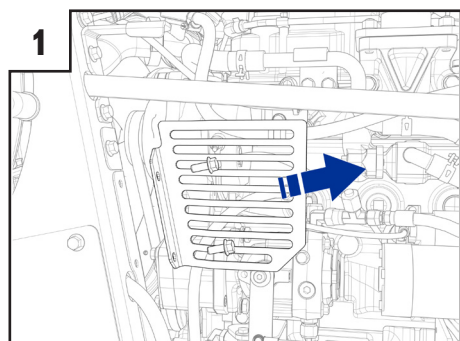


9. Disconnect the two fuel hoses from the upper and lower fuel filter.
10. Insert screws as plugs and tighten the clamp.
11. Attach the straps from a traverse through the holes shown in the picture.
12. Slowly lift and secure the engine. Make sure the straps are tensioned. Very important to pull evenly.
13. Remove the rear mounting screws, three on each side (Image shows right side).
14. Carefully lift the engine all the way up. Be careful not to damage the fan.

**Information!**

If the engine is to be sent away, then also remove all brackets that aren't part of the engine.

For installing the engine, see the previous steps in reverse.



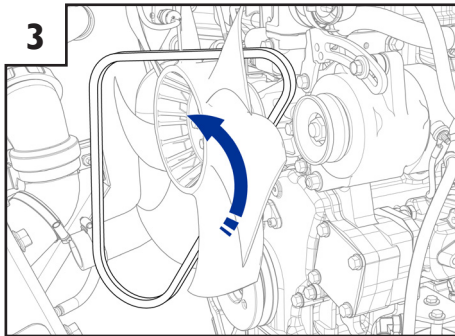
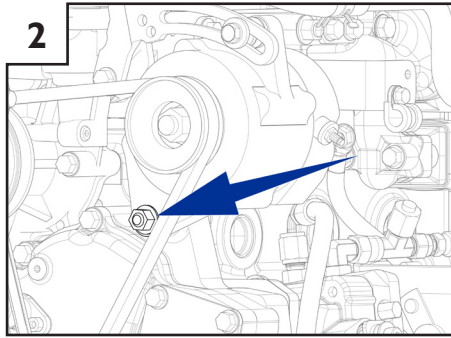
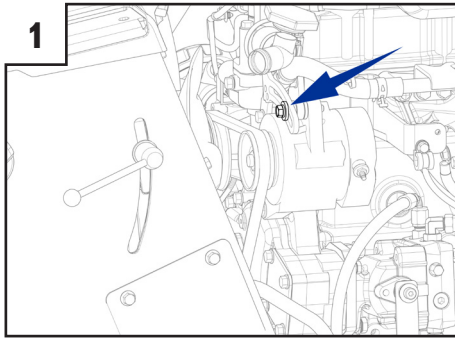
Replacing the Fan



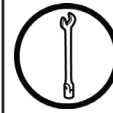
First see **Removing the Side Covers** (p. 48) and **Emptying/Refilling the Radiator** (p. 54).

1. Remove the lower cover by unscrewing the two screws.
2. Remove the bolts on each side of the cowl.
3. Unscrew the two rear bolts.
4. Remove the hose clamp of the radiator hose.
5. Tip the cowl.
You have to be at least two persons to do this.
6. Remove the four screws holding the fan.
7. Lift the fan out.

Reverse steps for assembly.



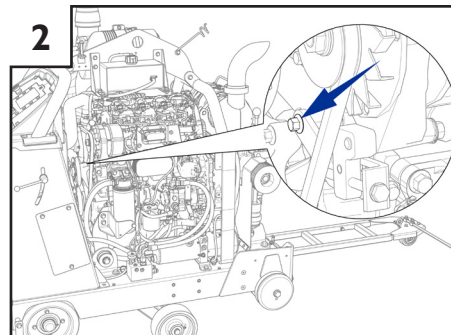
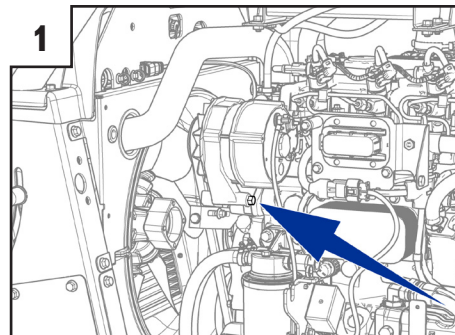
Replacing the Fan Belt



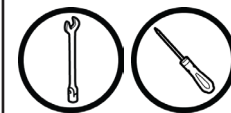
First see [Removing the Side Covers \(p. 48\)](#) and [Emptying/Refilling the Radiator \(p. 54\)](#) and step 1-5 in [Replacing the Fan \(p. 62\)](#).

1. Loosen the belt tension.
2. Loosen the bolt holding the generator in place.
3. Gently force the belt off and slip it over the fan.

Reverse steps for assembly.

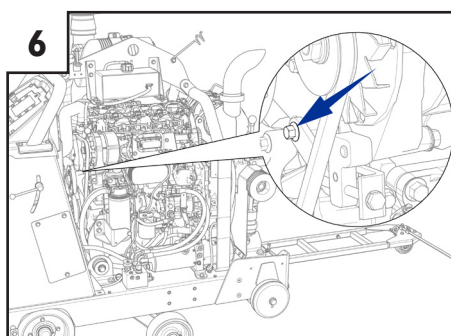
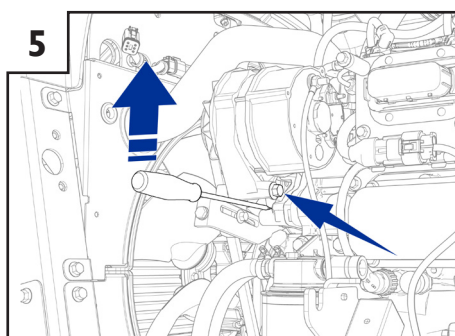
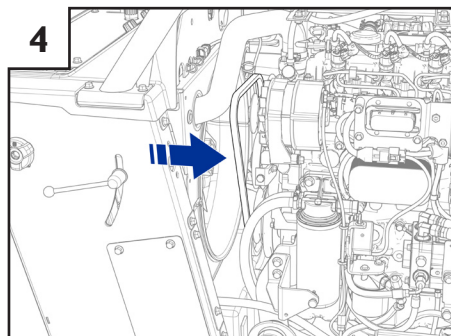
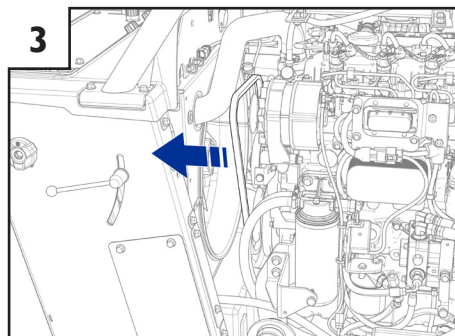


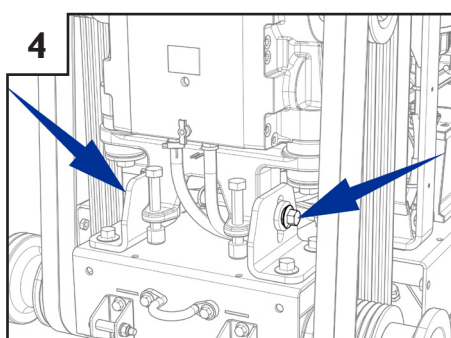
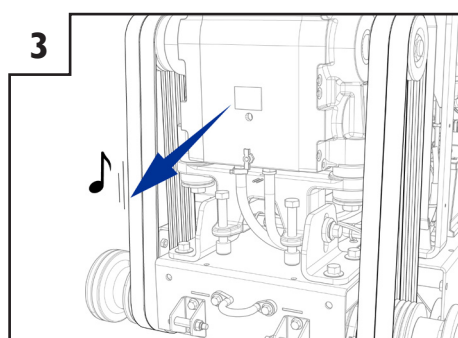
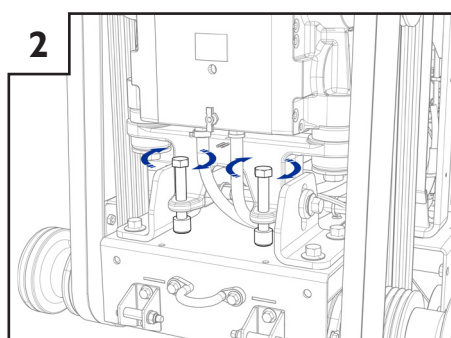
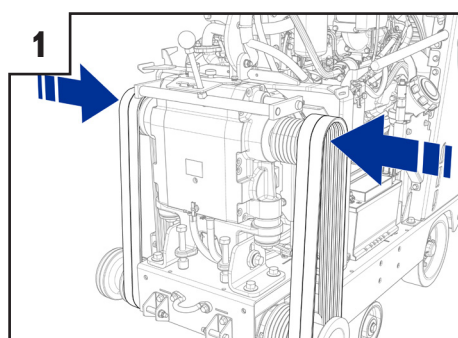
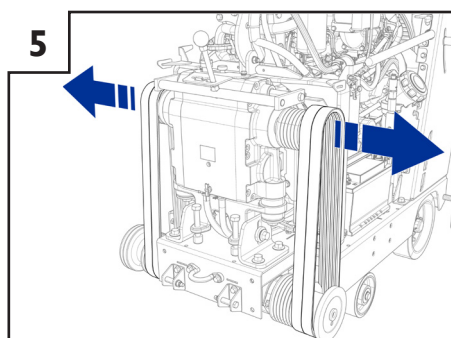
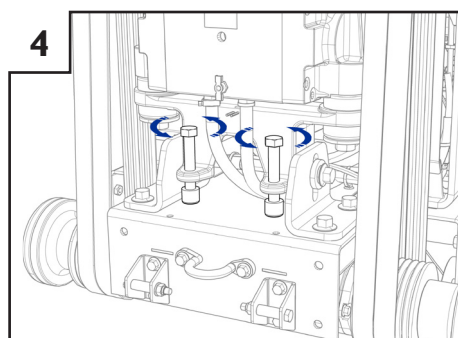
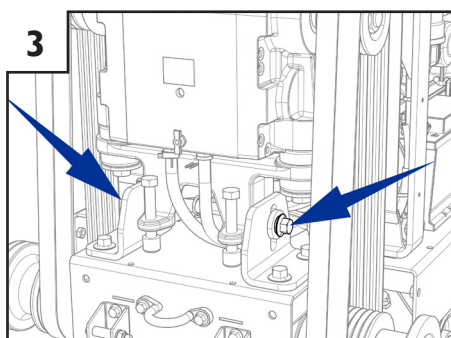
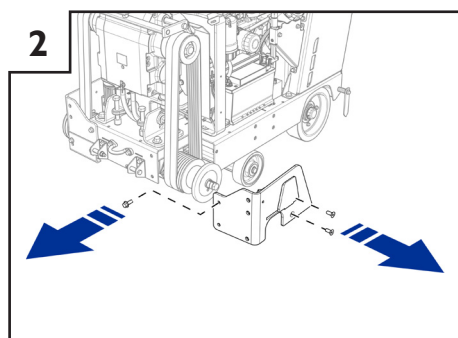
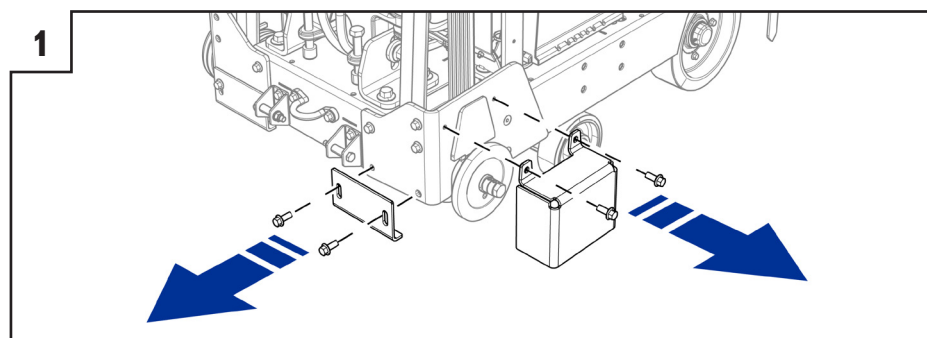
Replacing the Generator Belt



First see [Removing the Side Covers \(p. 48\)](#) and [Emptying/Refilling the Radiator \(p. 54\)](#), [Replacing the Fan \(p. 62\)](#).

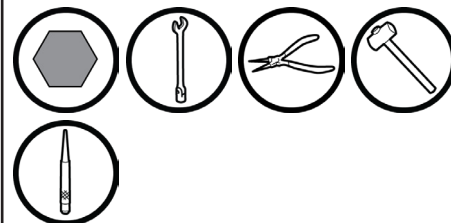
1. Loosen the nut on the generator.
2. Loosen the nut controlling the tension.
3. Force the belt off.
4. Put the new belt on.
5. Lift up the generator with a screwdriver to get the belt tense and at the same time tighten the nut locking the belt tensioner.
6. Tighten the nut to lock the generator.





14.5. GEARBOX / CLUTCH / BLADE SHAFT

Blade Shaft Drive Belts



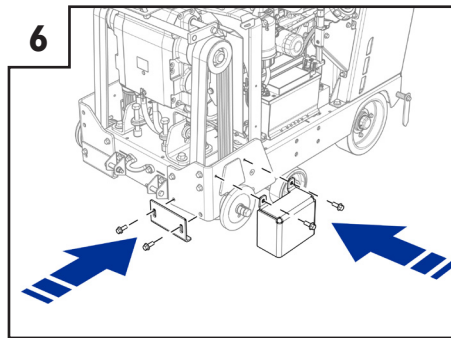
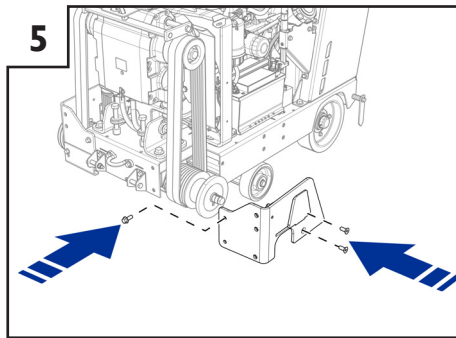
First see [Removing the Front Cover \(p. 48\)](#) and [Removing the Side Covers \(p. 48\)](#).

Removing the Blade Shaft Drive Belts

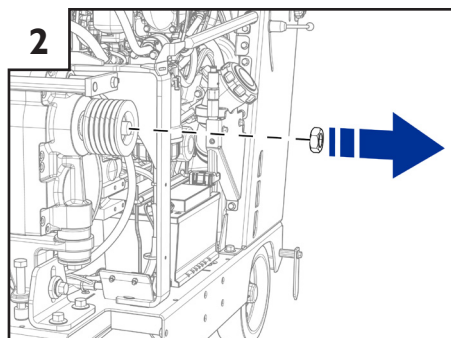
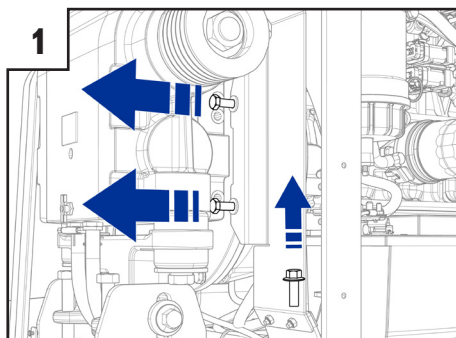
1. Remove the flange protection and outer pulley protection, two screws each.
2. Remove the inner pulley protection with three screws, for each side.
3. Loosen the locking screws.
4. Lower the engine and gearbox by unscrewing the jacking bolts alternately.
5. Slip off the belts of the pulleys by rolling them off a couple grooves at a time.

Attaching the Blade Shaft Drive Belts

1. Slip the new belts on by rolling them a couple grooves at a time.
2. To tension the belts, raise the gearbox and engine using the jacking screws. Be sure to keep the left and right sides even.
3. To set the tension of the belts, pluck the edge of the belt like a guitar string. If the sound is a "thud" sound, they need to be tighter, you want to tighten the belts just to the point that you get a tone, sort of a low C.
4. Tighten the two horizontal locking bolts located behind the two jacking bolts



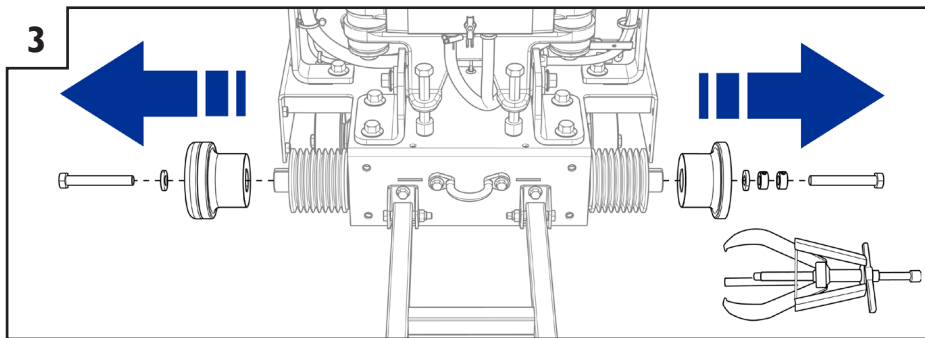
5. Reinstall the inner pulley protection with three screws each.
6. Reinstall the flange protection and outer pulley protection with four screws each.



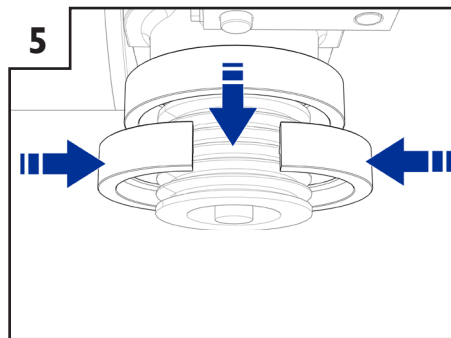
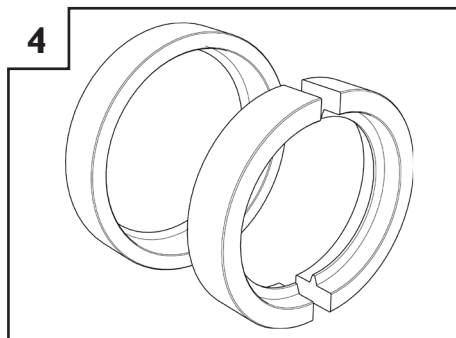
Changing the Pulleys



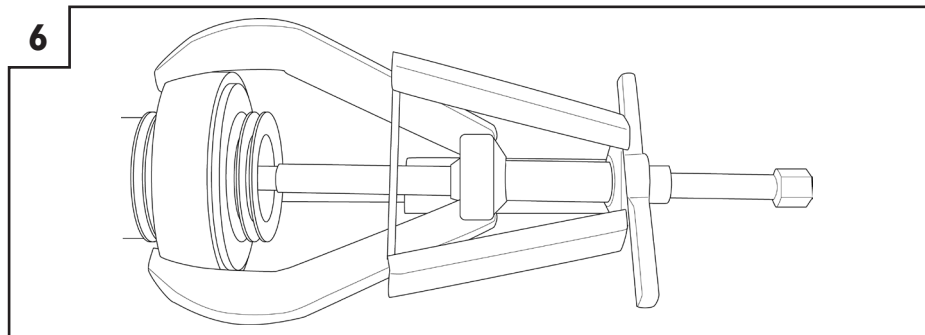
First see [Removing the Front Cover \(p. 48\)](#) and [Removing the Blade Shaft Drive Belts \(p. 64\)](#).



1. [Gearbox pulleys] Remove the pulley cover by loosening the two screws connecting it to the gearbox and the one connecting the rubber plate to the base plate.



2. [Gearbox pulleys] Remove the shaft nut that retains the pulley on the gearbox shaft with a tool on each side



3. [Blade shaft pulleys] Remove the big screw, washer and flange. The side that has no blade has two washers with stop screws.

4. Use the kit 541207100 to assist in pulling the collars and pulleys from the shaft.

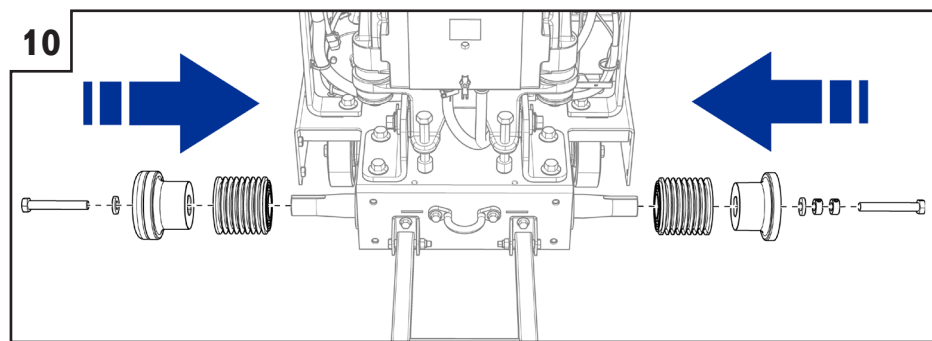
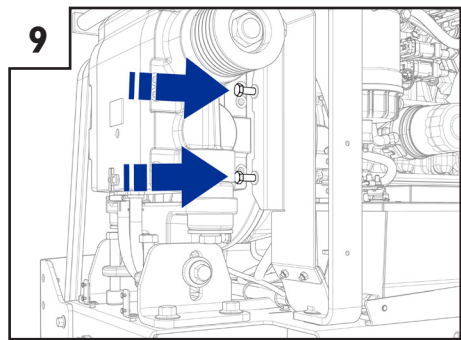
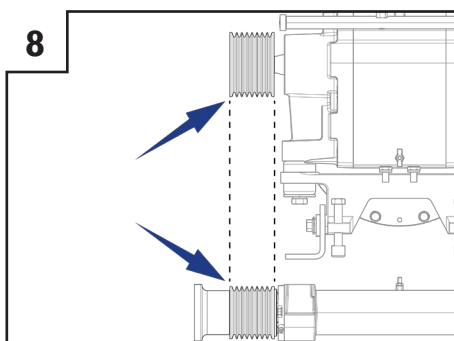
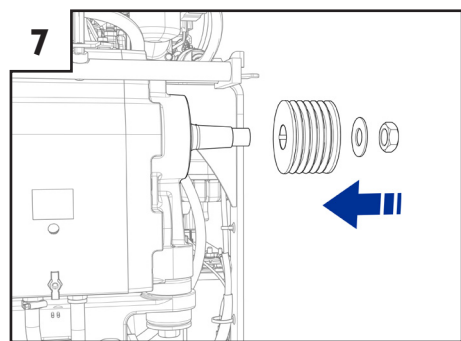
5. Fit the two half sections into the grooves of the pulleys and slide the ring to over the two half sections

6. Grip the outer ring with the jaws of your puller and pull the pulleys



Warning!

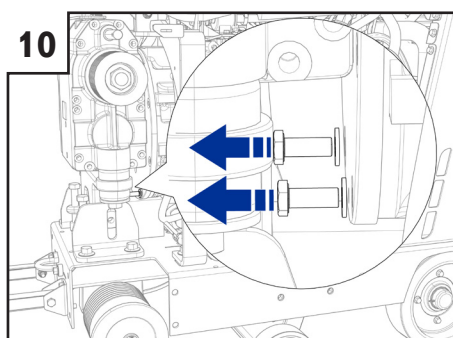
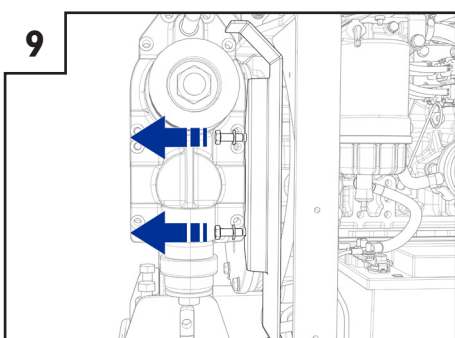
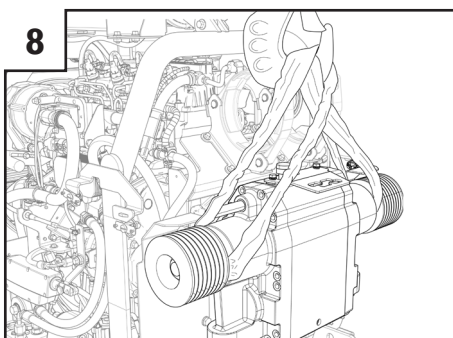
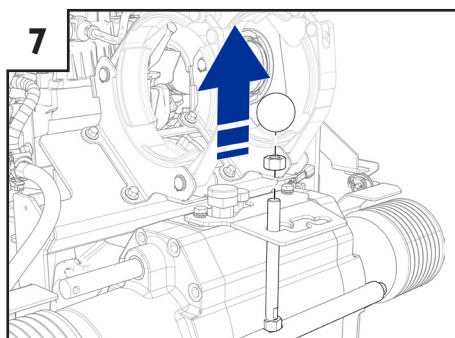
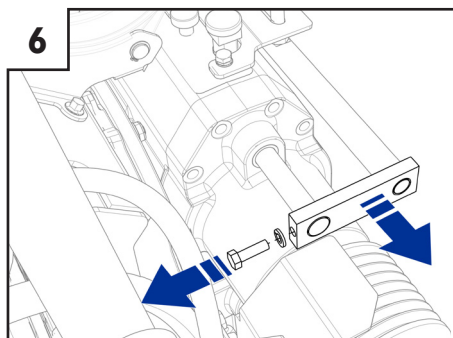
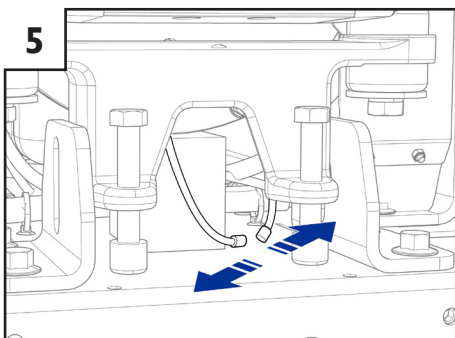
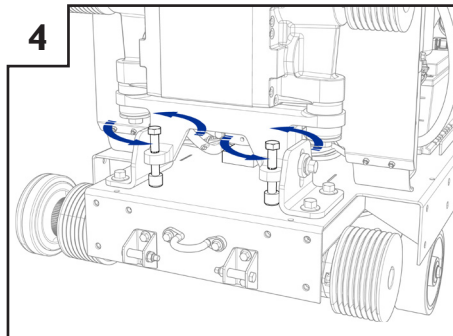
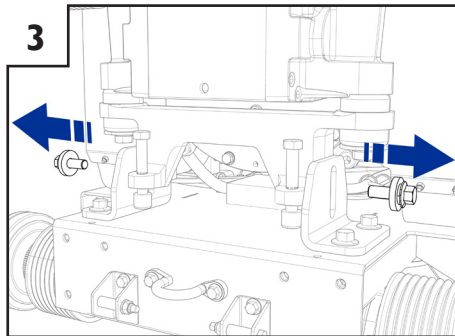
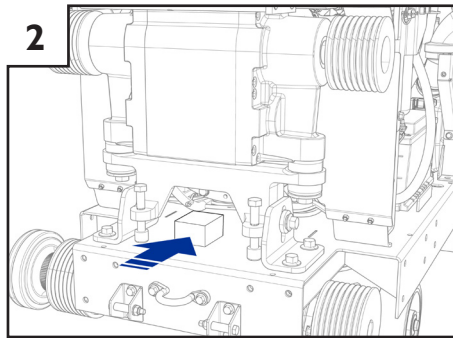
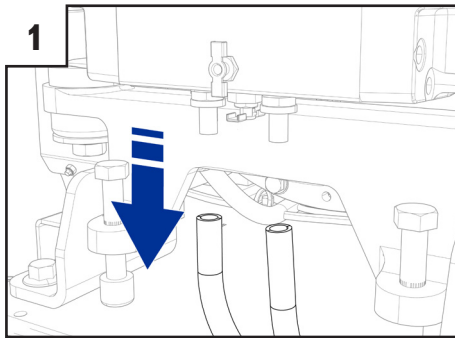
This moment might require much force!



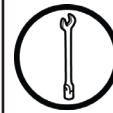
off the tapered shafts.

For Assembly

7. [Gearbox pulleys] Mount the new pulley with washer and screw.
8. The Gearbox pulleys should be in line with the Blade shaft pulleys.
9. [Gearbox pulleys] Attach the pulley cover by fastening the two screws connecting it to the gearbox.
10. [Blade shaft pulleys] Mount the new pulleys with flange, washer, (washer with stop screw) and screw.



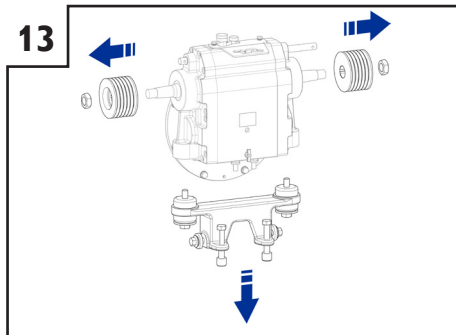
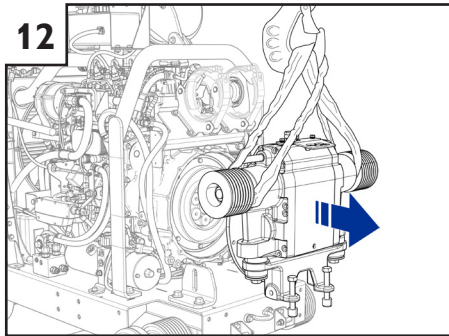
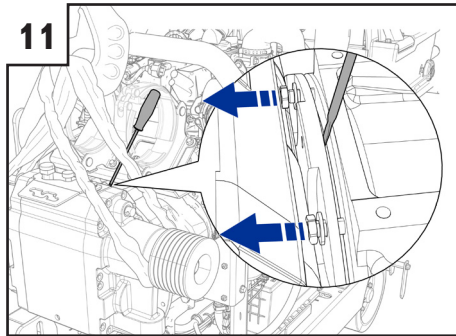
Gear Box



First see [Removing the Blade Shaft Drive Belts \(p. 64\)](#).

Removing the Gear Box

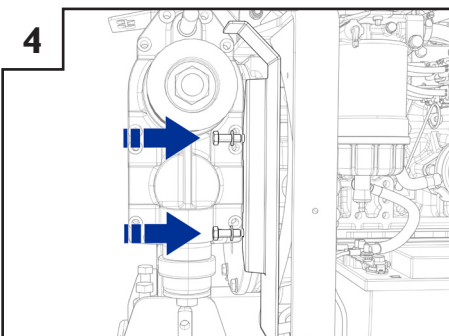
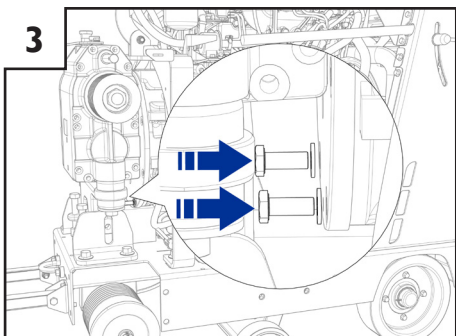
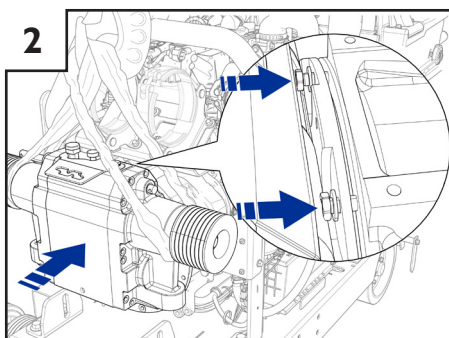
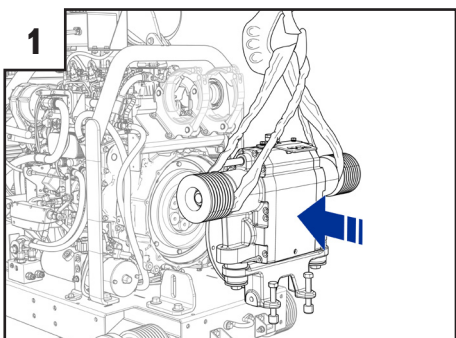
1. Disconnect the water hoses and drain fittings from the gearbox.
2. Slip a short 2x4 under the bell housing of the engine.
3. Remove the two horizontal bolts located just behind the two jacking bolts.
4. Back out the jacking bolts to lower the engine down onto the 2x4.
5. Disconnect the clutch wire from the wiring harness (if there is a clutch).
6. Remove the gear selector.
7. Unscrew the nob and slide the gear selector out.
8. Secure the gear box with a overhead crane.
9. Remove the two protection covers with two screws with washers on each side, these screws also fasten the gearbox to the engine.
10. Remove the two screws with washers at the bottom that fasten the gear box to the engine.



11. Remove the two nuts at the upper part of the gearbox at the same time as you use a screwdriver to disconnect the gearbox and slide it away from the engine.

12. Use the overhead crane to lift the gearbox off. Place the front side down on your work surface.

13. Remove the pulleys and bracket.



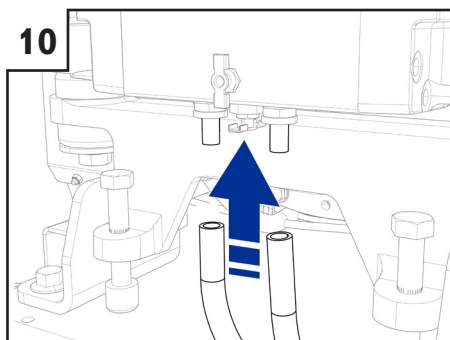
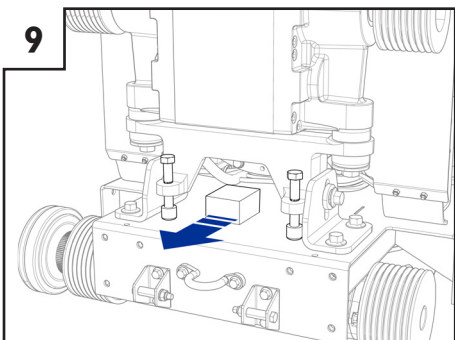
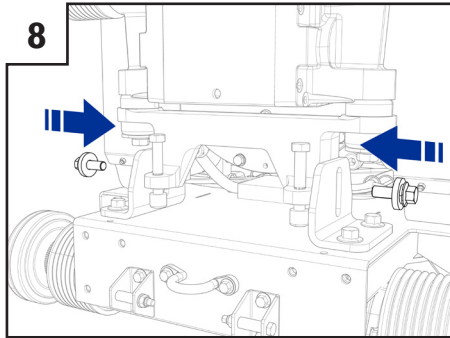
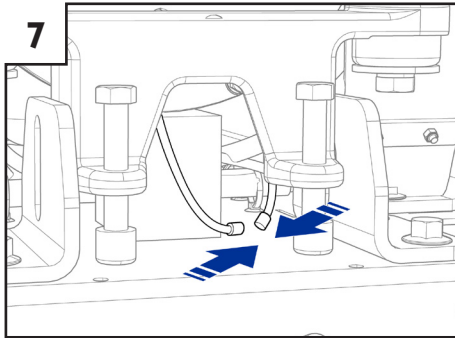
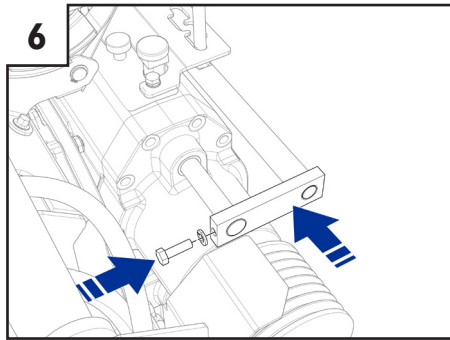
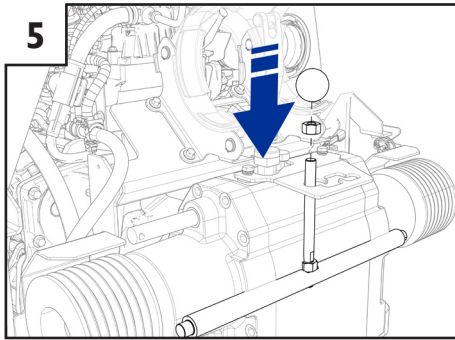
Mounting the Gearbox

1. Use the overhead crane to lift the gearbox in place.

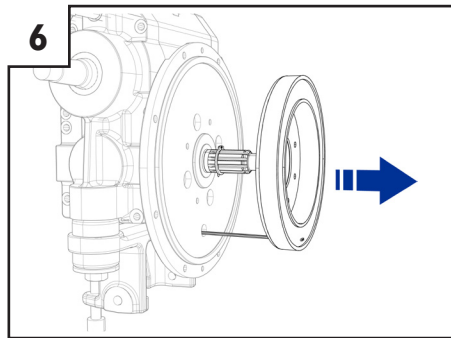
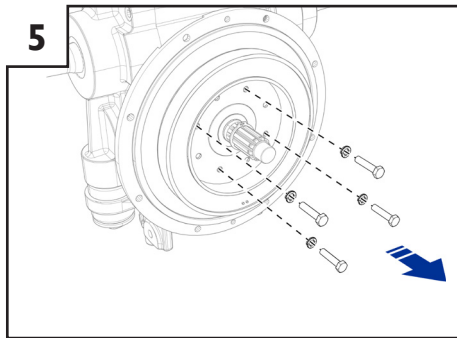
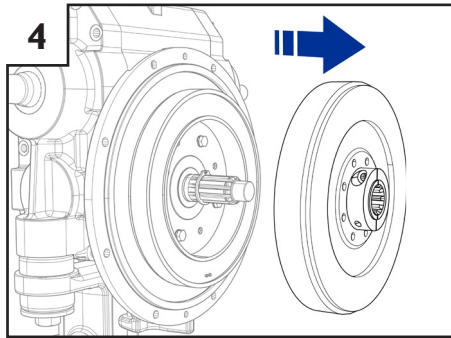
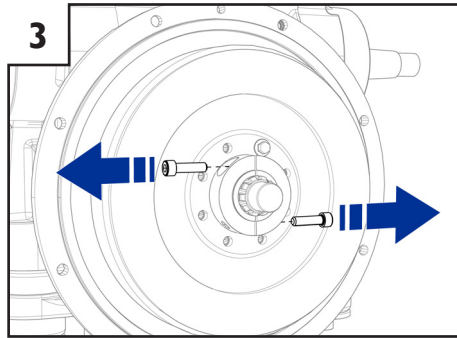
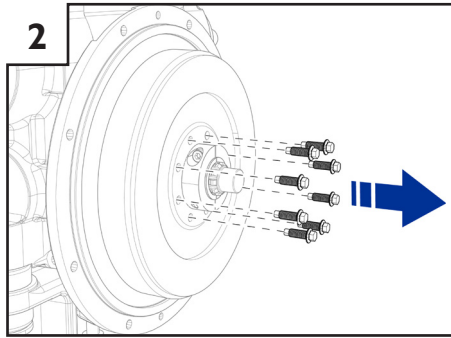
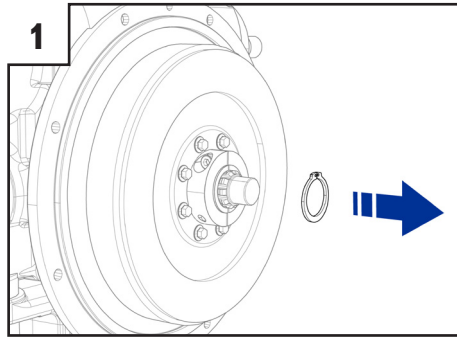
2. Fit it on to the two screws and fasten the nuts with washers.

3. Insert the remaining screws and fasten them.

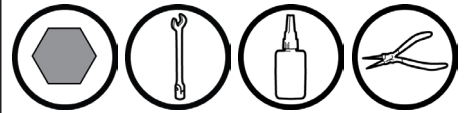
4. Mount the two covers with two screws each.



5. Fasten the nob.
6. Mount the gear selector.
7. If there is a clutch, then reconnect the clutch wire from the wiring harness.
8. Insert the two horizontal bolts but do not fasten them.
9. Turn the jacking bolts alternately to raise the engine. Fasten the horizontal bolts and remove the 2x4.
10. Reconnect the water hoses and drain fittings to the gearbox.



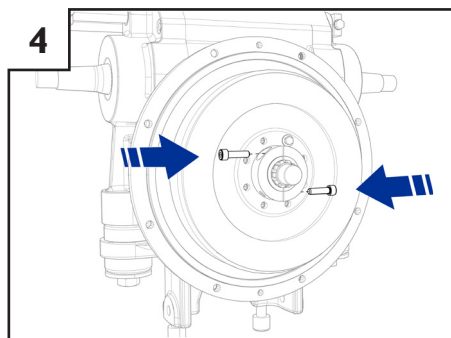
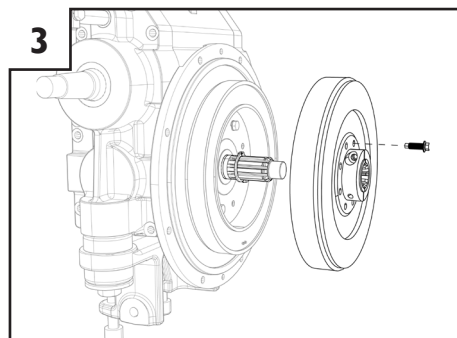
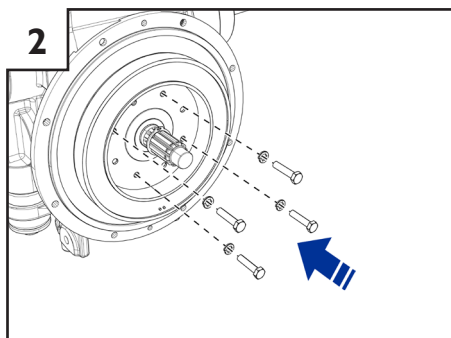
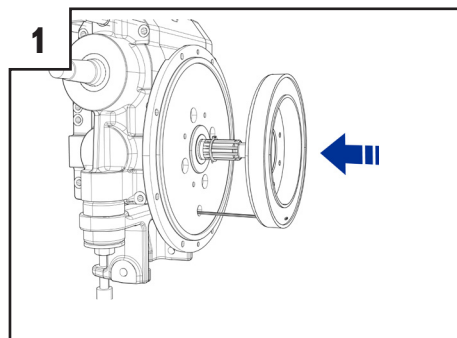
The Clutch



First see [Removing the Gear Box \(p. 67\)](#).

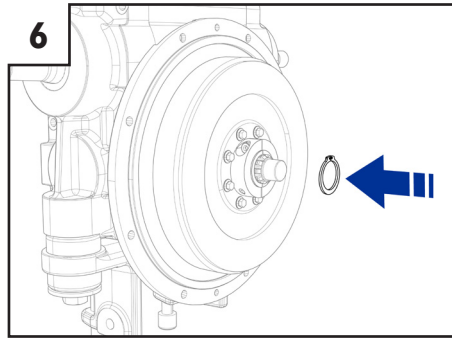
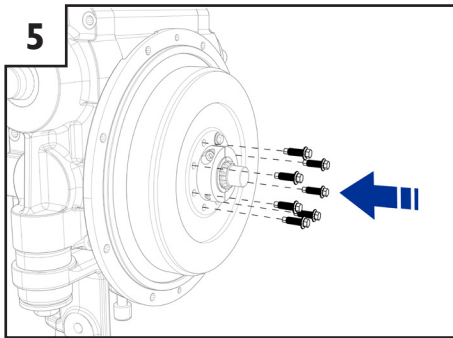
Disassembling the Clutch

1. Remove the snap ring
2. Remove the eight bolts retaining the rotor assembly.
3. Remove the two socket head cap screws.
4. Use a screw driver to spread the hub open and slide it off.
5. Remove the four bolts holding on the field coil.
6. Remove the ties that holds the cables and remove the field coil.

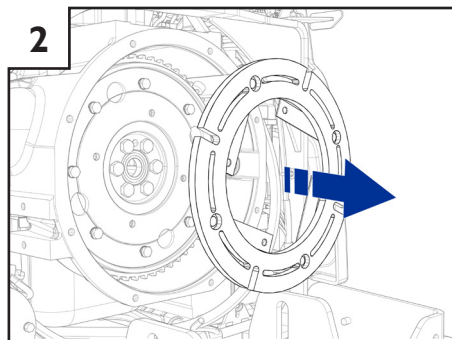
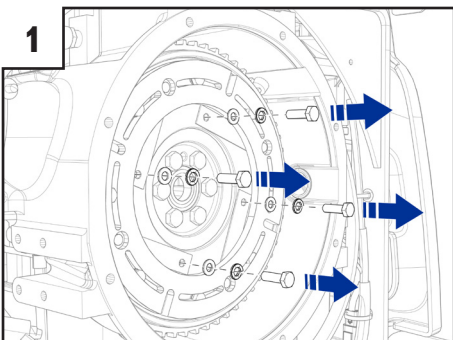


Reassembling the Clutch

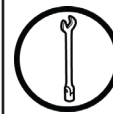
1. Insert the cable in the gearbox.
2. Fasten the four bolts on the field coil.
3. Slide the hub on the rotor, and fasten the rotor and hub assembly with one of the eight bolts. The position is set by the position of the two snap rings
4. Insert the two socket head cap screws with Loctite or similar and torque to 35ft-lb or 47,4Nm.



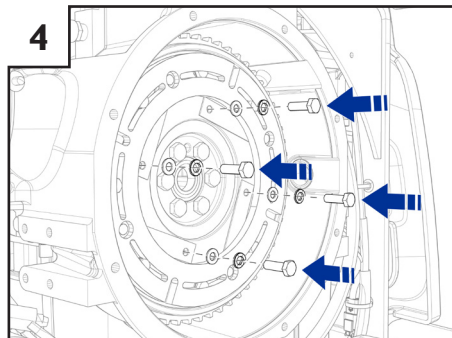
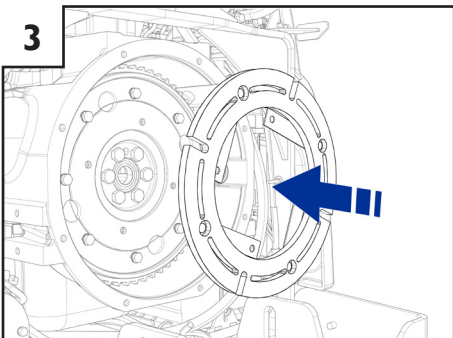
5. Insert the remaning seven screws and tighten all eight screws.
6. Attach a new snap ring.



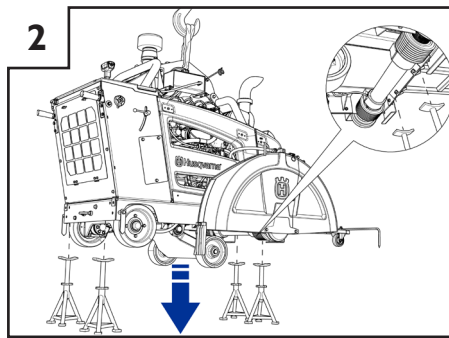
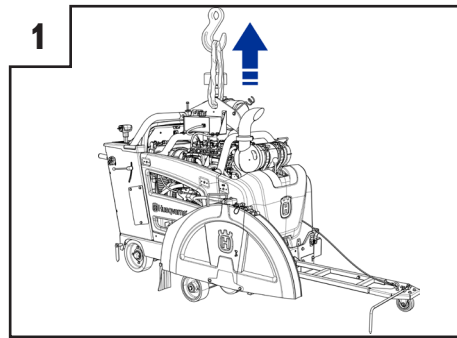
Replacing the Clutch Armature



First see [Removing the Gear Box \(p. 67\)](#).



1. Remove the four bolts.
2. Lift the armature out.
3. Mount the new armature.
4. Apply Loctite 246 to all bolts and insert them crosswise. Tighten them to 28 ft.lb or 38Nm

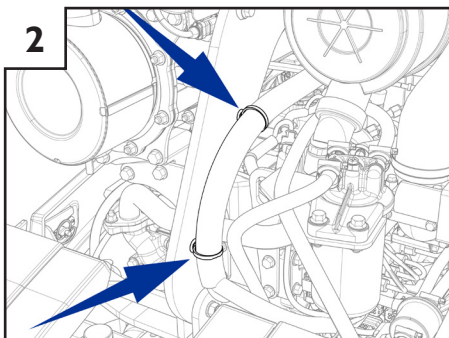
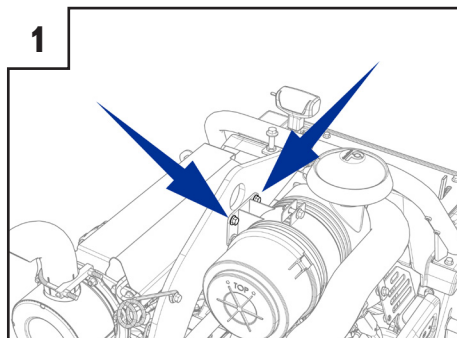


14.6. BASEPLATE / FRAME

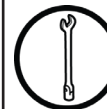
Lifting the Road Saw



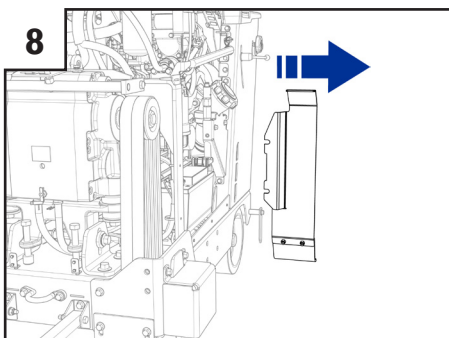
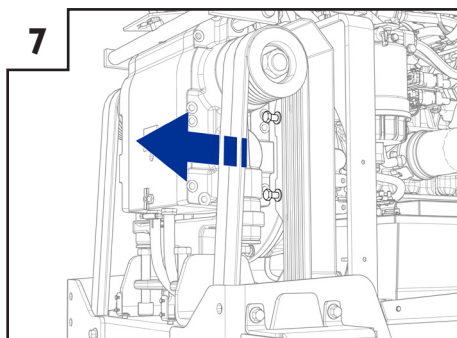
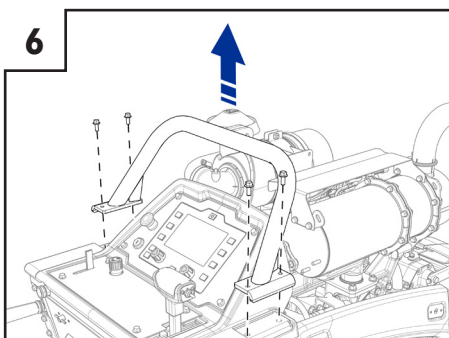
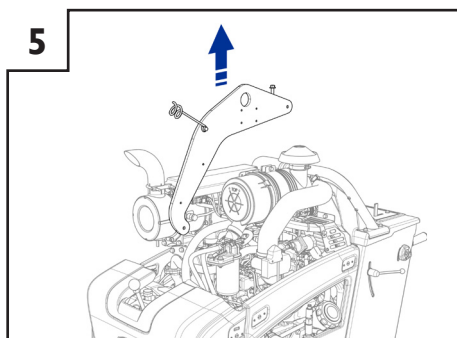
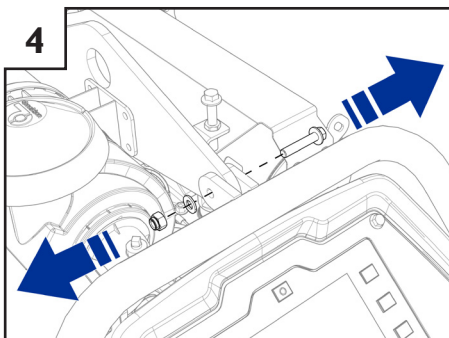
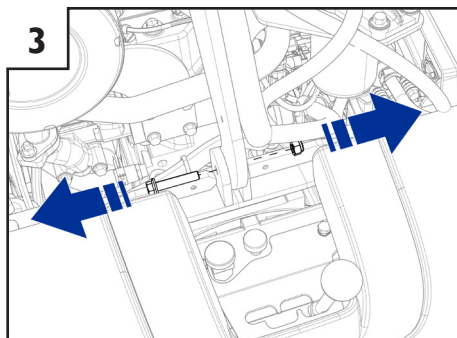
1. Use a travers and attach it to the hole on top of the lift bail and lift it up.
2. Put four axle stands beneath the saw and Lower the saw on top of the axle stands.



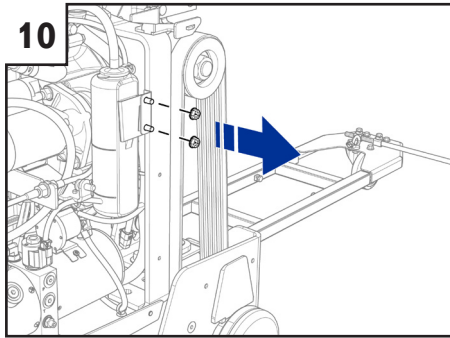
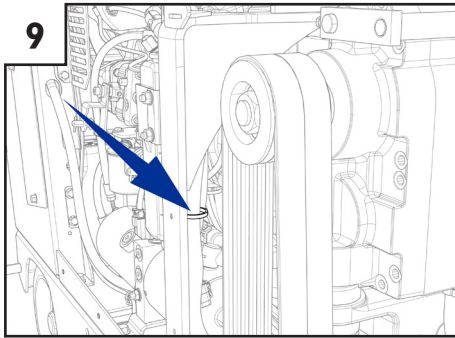
Removing the Lift Bail



For Front Lift Bail, first see [Removing the Front Cover \(p. 48\)](#) and [Removing the Side Covers \(p. 48\)](#).



1. [For removing the middle part lift bail] Remove the four screws connecting the air cleaner to the middle lift bail.
2. Cut of all clips.
3. Remove the front bolt.
4. Remove the rear bolt.
5. Lift out the lift bail.
6. [For removing the back lift bail] Remove the four screws holding the back lift bail and lift it away.
7. [For removing the front lift bail] Loosen the two screws on each side connecting the belt cover to the gearbox.
8. Remove the belt cover.



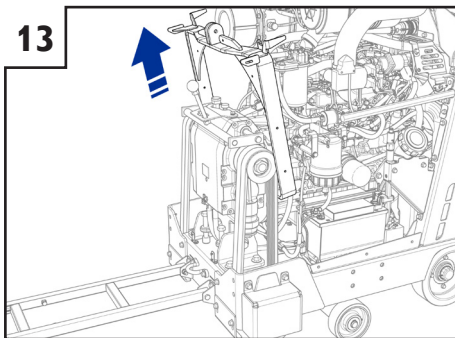
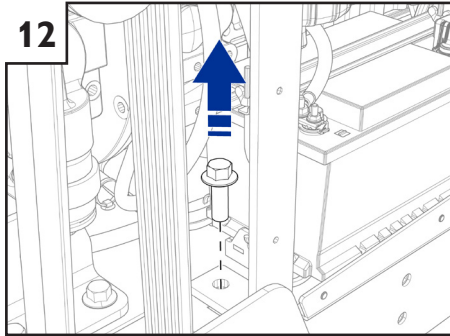
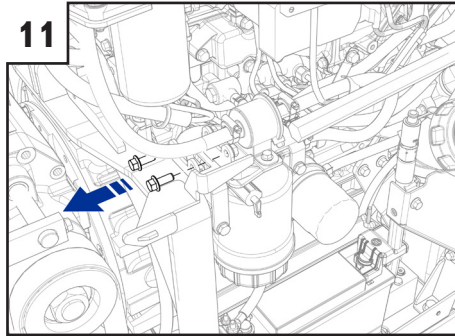
9. Cut of all clips located on the lift bail.

10. Remove the two screws connecting the expansion tank to the lift bail.

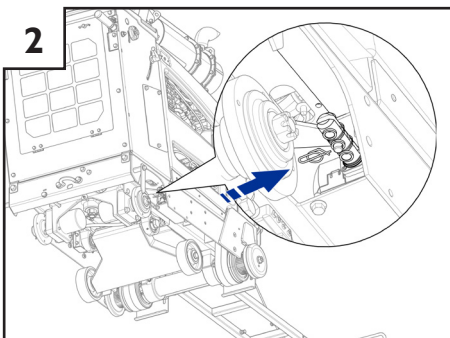
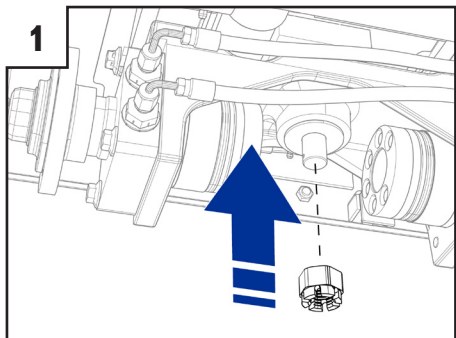
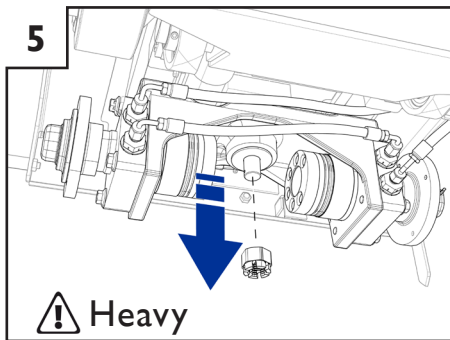
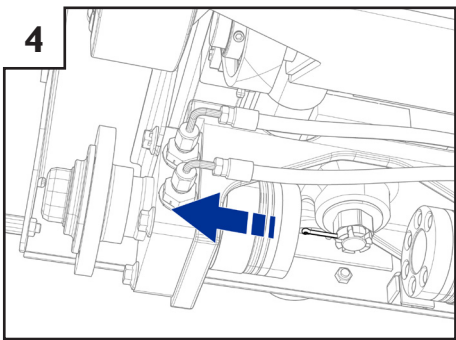
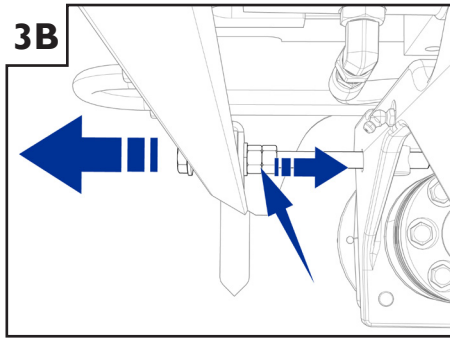
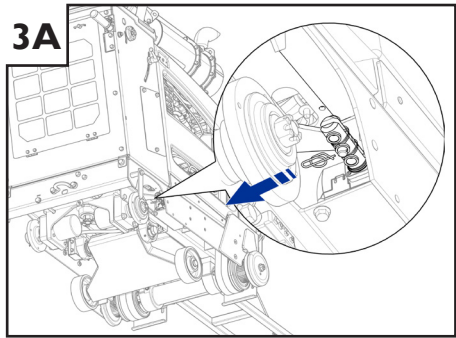
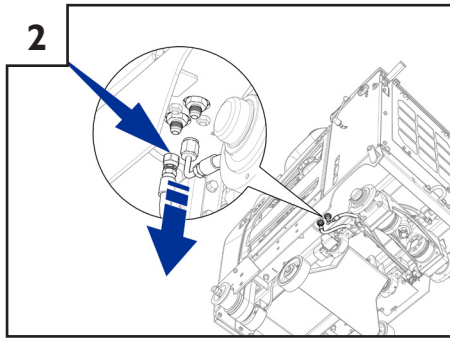
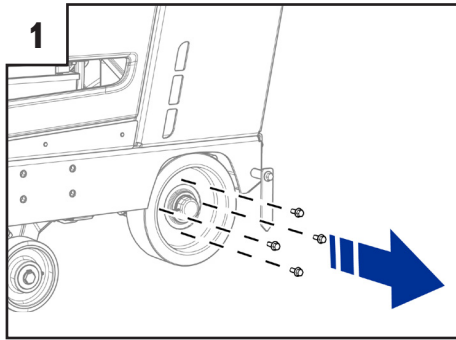
11. Unscrew the two screws connecting the fuel filter to the lift bail.

12. Remove the bottom screws on the front bail.

13. Lift out the front lift bail.

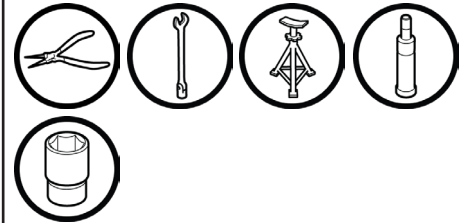


Reverse steps for reassembly



14.7. FRONT-/ REAR AXLE / LIFT CYLINDER

Rear Axle



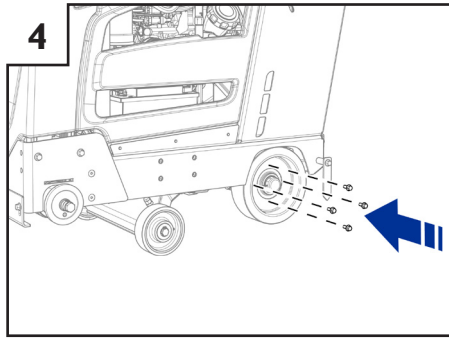
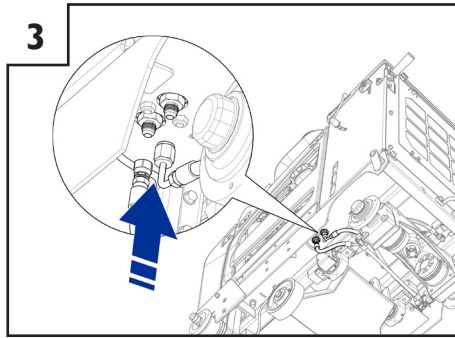
First see [Lifting the Road Saw \(p. 72\)](#).

Removing the Rear Axle

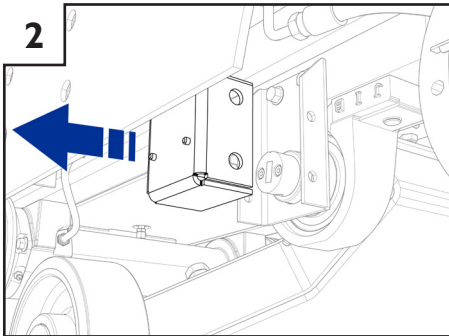
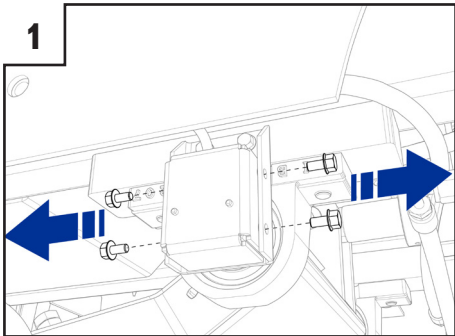
1. Remove the two wheels with 4 screws each. (Must not be done, but the axle will be lighter.)
2. Cover ground with a carpet to reduce oil spill and unplug two hydraulic connectors and plug the hoses.
3. A (e-track): Remove the first cotter pin to the e-track and push e-track to the side.
B (manual e-track): Unscrew the two nuts and Remove the long screw.
4. Remove the pin at the castle nut.
5. Use a jack or get help lifting.
Warning! The rear Axle is heavy. Remove castle nut and washer (37 mm socket) and slowly lower the rear axle to the ground.

Reattaching the Rear Axle

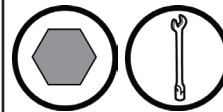
1. Apply grease on the nut. Mount the axle with washer and castle nut then put a new pin thru the bolt.
2. Put the e-track back and insert at new cotter pin, or follow 3B above in reverse if you have the manual version.



3. Remove the plugs and reconnect the hydraulic hoses
4. Mount the wheels with 4 screws.
5. Put the saw back on the ground by Reversing the steps in Lifting the Roadsaw.

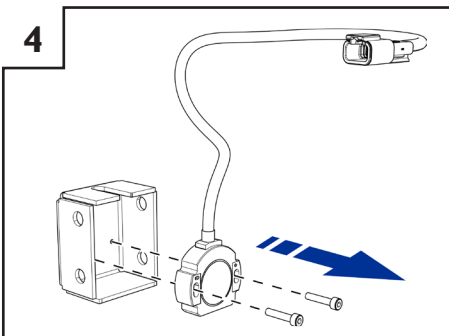
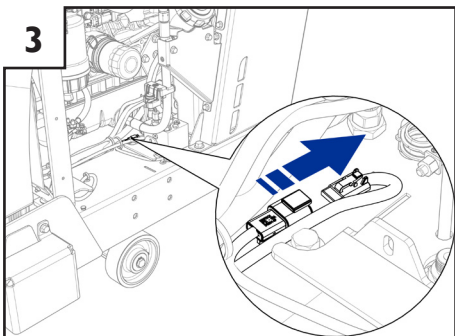


Replacing the Blade Depth Sensor

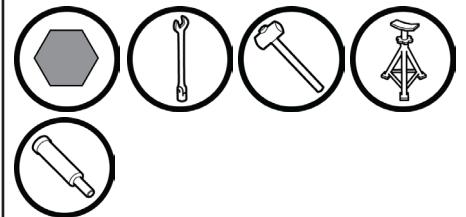


First see [Removing the Side Covers \(p. 48\)](#). Only left side needed.

1. Unscrew the four screws holding the angular sensor cover.
2. Remove the cover.
3. Unplug the sensor contact located behind the battery.
4. Unscrew the angular sensor from the cover.
5. Follow the steps above in reverse to mount the new sensor.

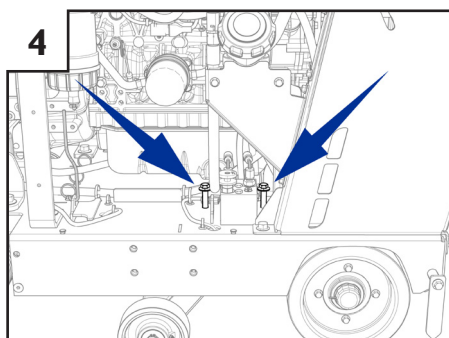
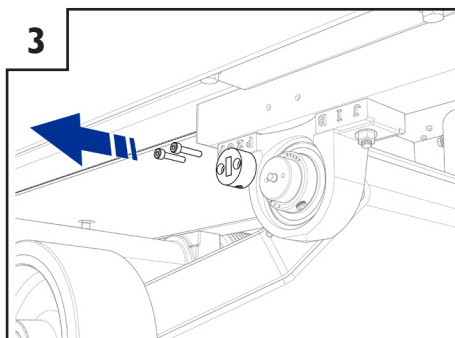
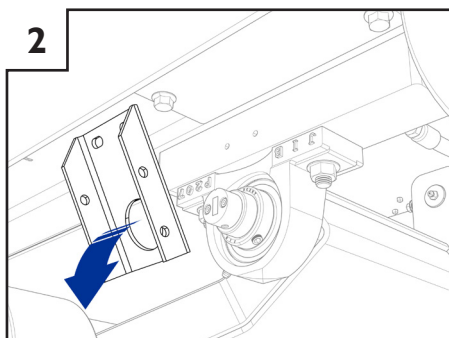
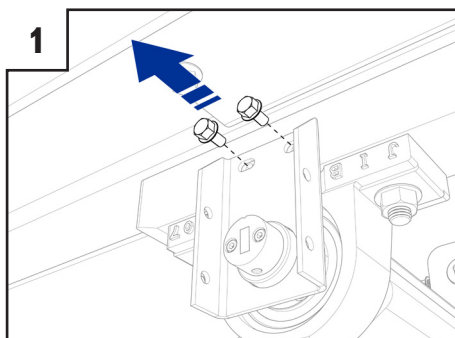


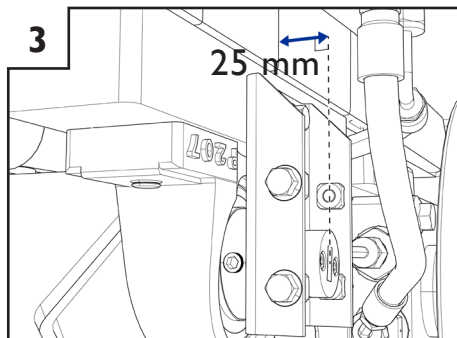
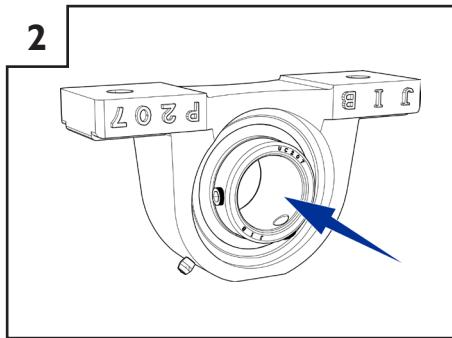
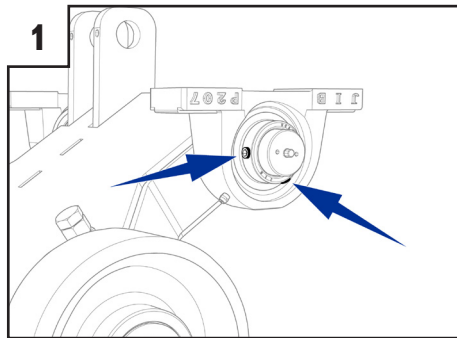
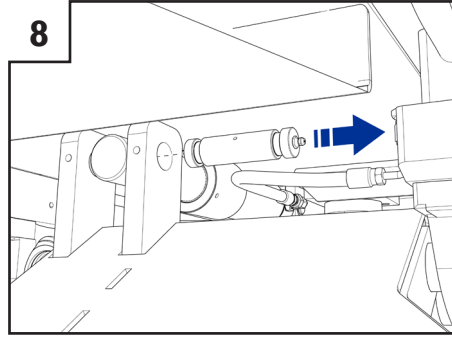
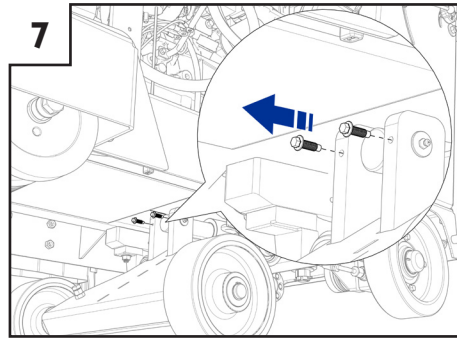
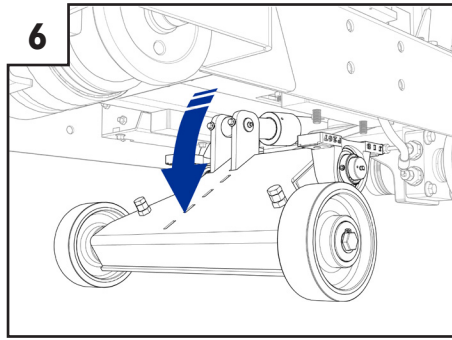
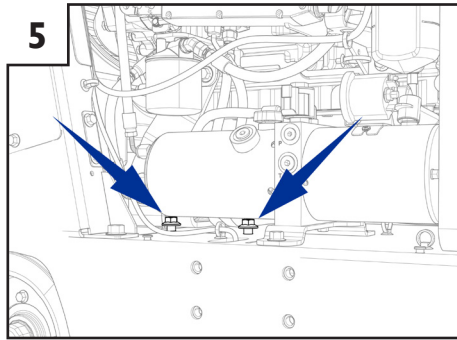
Removing the Front Axle



First see [Lifting the Road Saw \(p. 72\)](#) and step 1-3 in [Replacing the Blade Depth Sensor \(p. 75\)](#).

1. Unscrew two screws holding the bracket at the angle sensor.
2. Remove the bracket.
3. Remove the two screws and pull the magnet out.
4. [Right side] Loosen the two screws holding the right bearing located behind the battery.





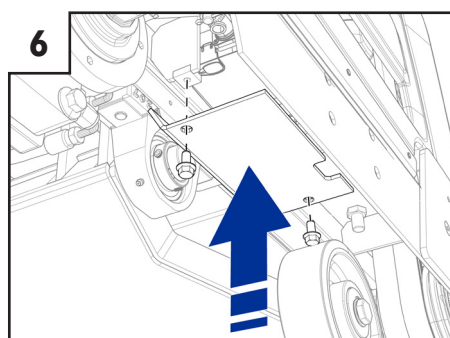
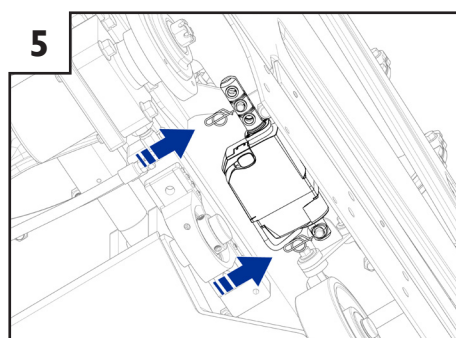
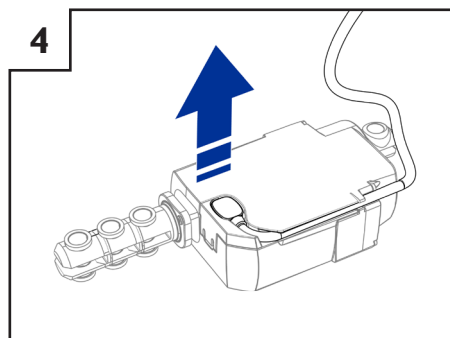
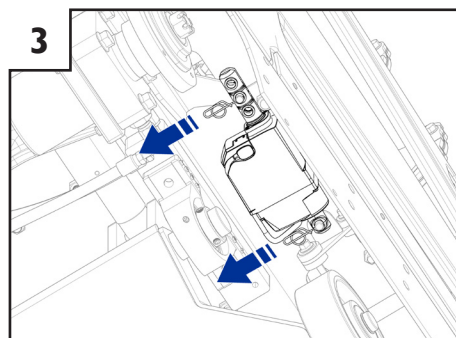
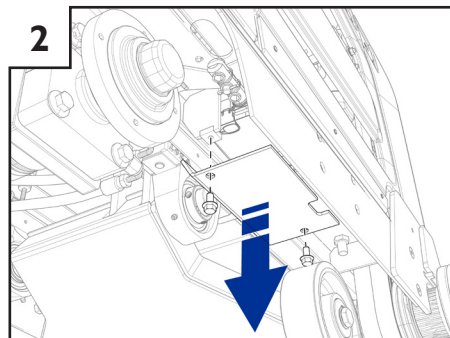
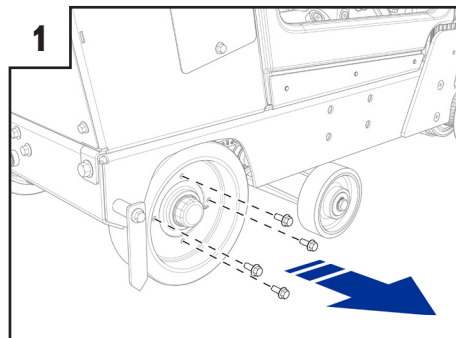
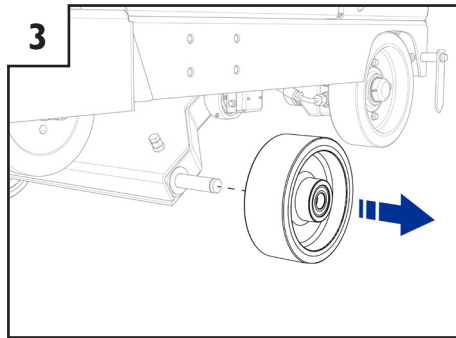
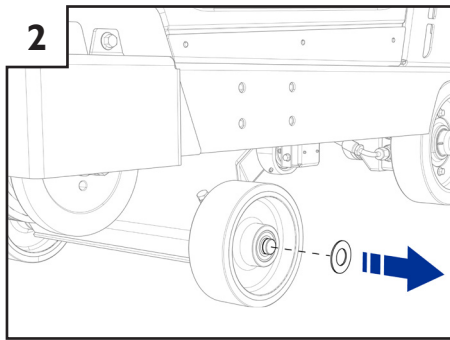
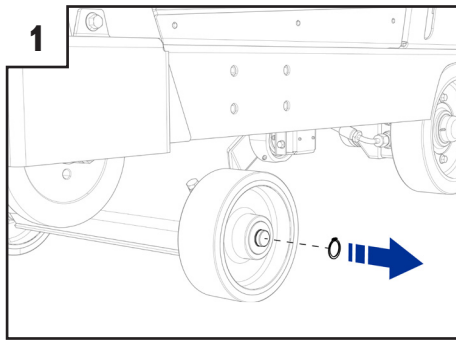
5. [Left side] Loosen the two screws holding the left bearing. Either use a wrench or move the Hydraulic pump for easier reach.
6. Lower the front axle.
7. Remove the two bolts holding the shaft.
8. Tap the shaft out with a hammer and a pin punch.

Replacing the Bearing Bracket



First see [Removing the Front Axle \(p. 75\)](#).

1. Remove the bearing brackets by loosening the two stop screws.
2. Clean and grease, Fasten the bearing bracket on the front axle when the axle is back on the saw. Reverse steps in [Removing the Front Axle \(p. 75\)](#).
3. Place and adjust the right bearing bracket 25 mm from the magnet surface to the bar the bearing bracket is attached to.



Replacing the Wheels



1. Remove circlips with a circlip pliers.
2. Remove washer.
3. Pull off the wheel.

Clean and grease inside of wheel and the front axle before reassemble with the steps reversed. Make sure to use new circlips.

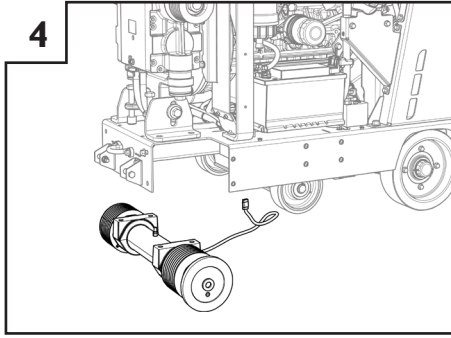
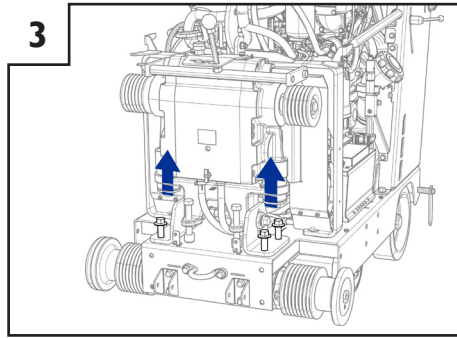
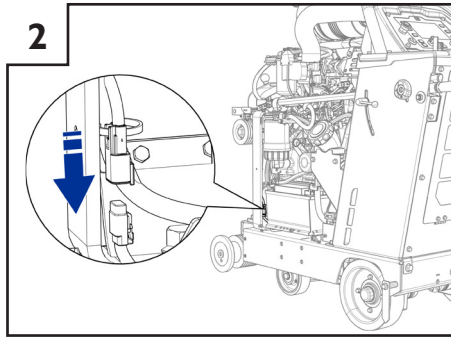
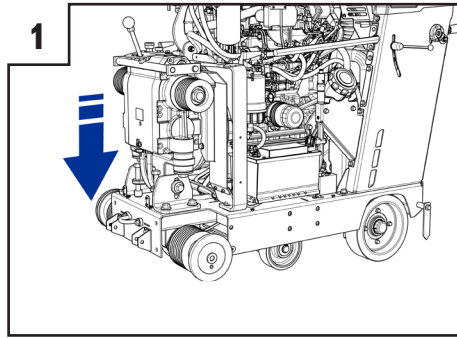
Reverse steps for reassembly

Replacing the E-track

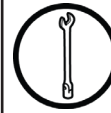


First see [Lifting the Road Saw \(p. 72\)](#).

1. Remove the right back wheel. Four screws.
2. Unscrew two screws on the E-track lid and remove the lid.
3. Remove the cotter pins and bolts on the bottom.
4. Unplug the contact from the E-track.
5. Replace E-track and fasten it with two new cotter pins. Then follow the steps in reverse to fasten it.
6. Insert two screws at the E-track lid and fasten it then reattach the wheel.

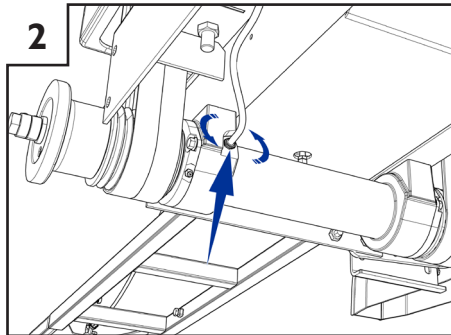
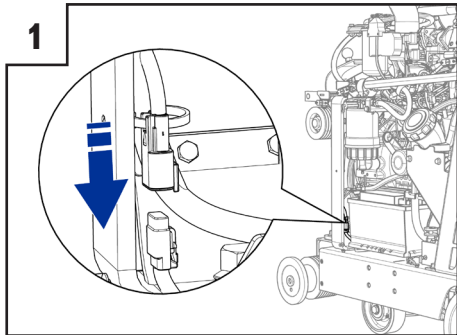


Changing the Blade Shaft

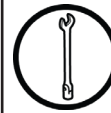


First see [Removing the Front Cover \(p. 48\)](#) and [Removing the Side Covers \(p. 48\)](#). Only left side needed.

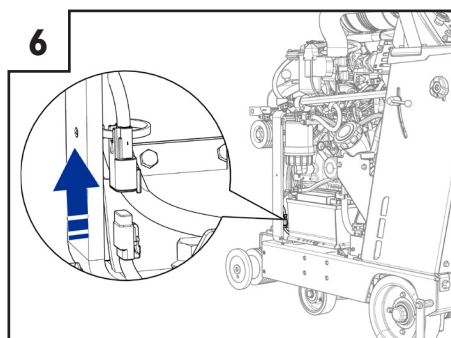
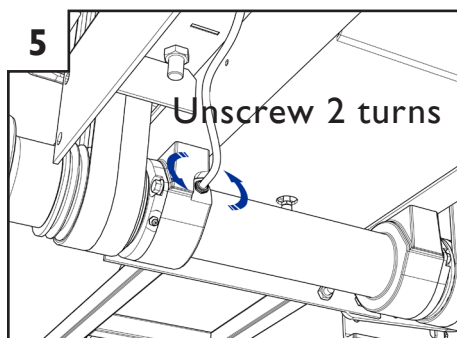
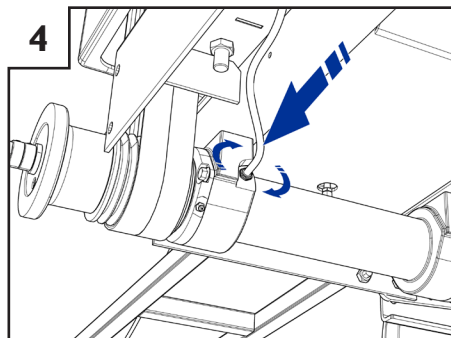
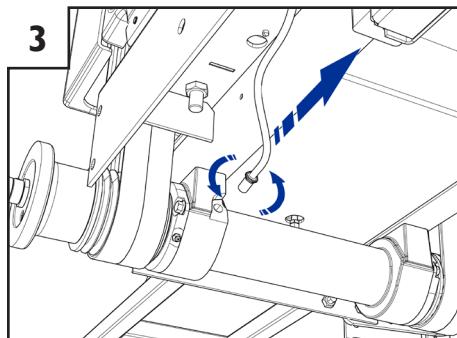
1. Lower the front end as much as possible.
2. Disconnect the proximity sensor wire.
3. Remove the four bolts that holds the blade shaft.
4. Raise the front end and remove the axis.
5. To fasten the blade shaft again follow the steps above in reverse.



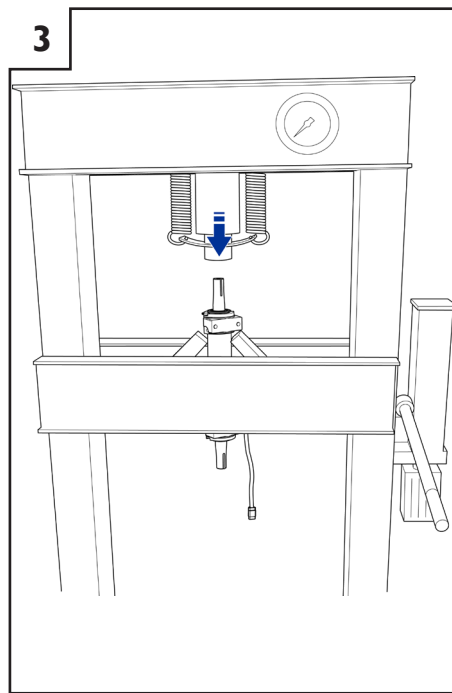
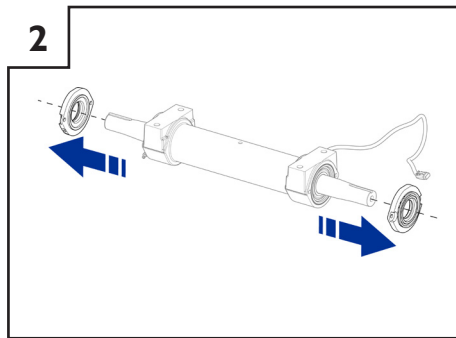
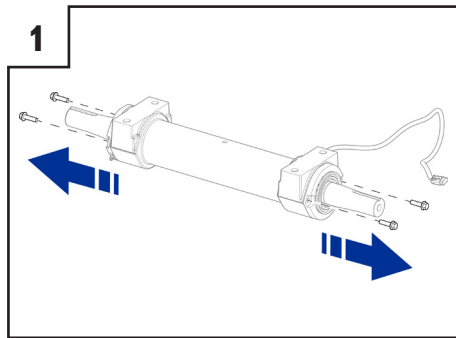
Replacing the Proximity Sensor



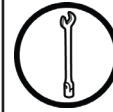
First see [Removing the Side Covers \(p. 48\)](#). Only left side needed. [Lifting/Removing the Side Covers \(p. 48\)](#) 50



1. Disconnect the proximity sensor from the harness.
2. Unscrew the nut.
3. Unscrew the cable and remove it.
4. To secure the new sensor position first screw it fully into place.
5. Unscrew the proximity sensor two turns and then secure it by fastening the nut.
6. Reconnect the proximity sensor to the harness.

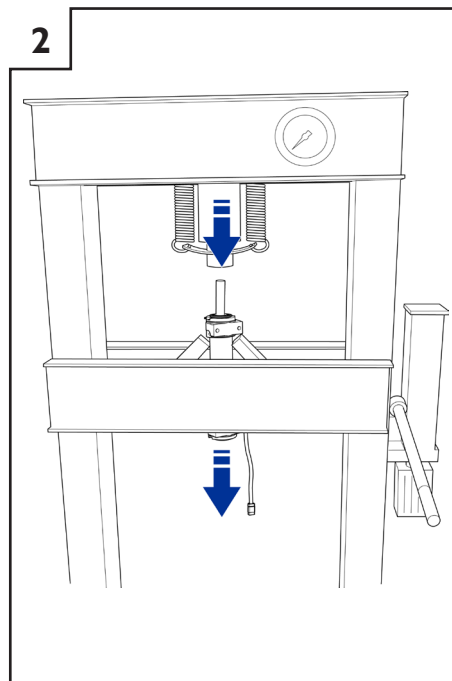
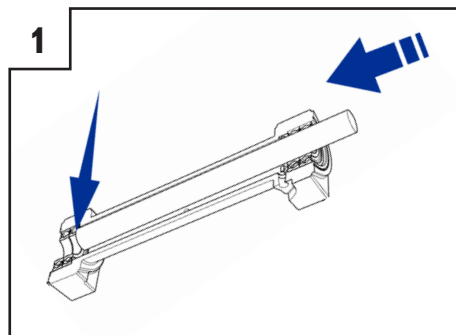


Replacing the Saw Axis Bearings



First see [Changing the Blade Shaft \(p. 78\)](#) and [Changing the Pulleys \(p. 65\)](#).

1. Remove the four screws holding the bearings.
2. Remove the bearings.
3. Use a presser from the opposite side from the proximity sensor.



Blade Shaft/Gear

First see [Replacing the Saw Axis Bearings \(p. 79\)](#).

1. Press the bottom bearing out with a bearing puller, a slide hammer or use a pipe. Slide the pipe into the tube from the opposite side of where the bearings are located. Start with removing the left bearing.
2. Put it in a presser and gently press it out.



Information!

Be careful and make sure not to damage the shaft when removing bearings.

15. SOFTWARE

Software update FS HMI

Entering programming mode

HMI software is loaded via USB with Freescale MfgTool. To download the software the HMI must be put in programming mode.

Mounted in machine

If HMI is mounted in the machine then programming mode is entered by the following steps:

1. Make sure that Ignition key is turned OFF
2. Disconnect power supply by removing connector HMI-1 or disconnecting the positive terminal of the battery.
3. Wait for at least 5 seconds.
4. Reconnect the power supply.
5. Connect USB-cable between the USB connector on the HMI and the PC.
6. Press the “0” button and keep it pressed.
7. Turn Ignition key ON while “0” button is still pressed.
8. Release “0” button after 3 seconds or more.

Stand Alone

If HMI is not mounted in the machine the programming mode is entered by the following steps:

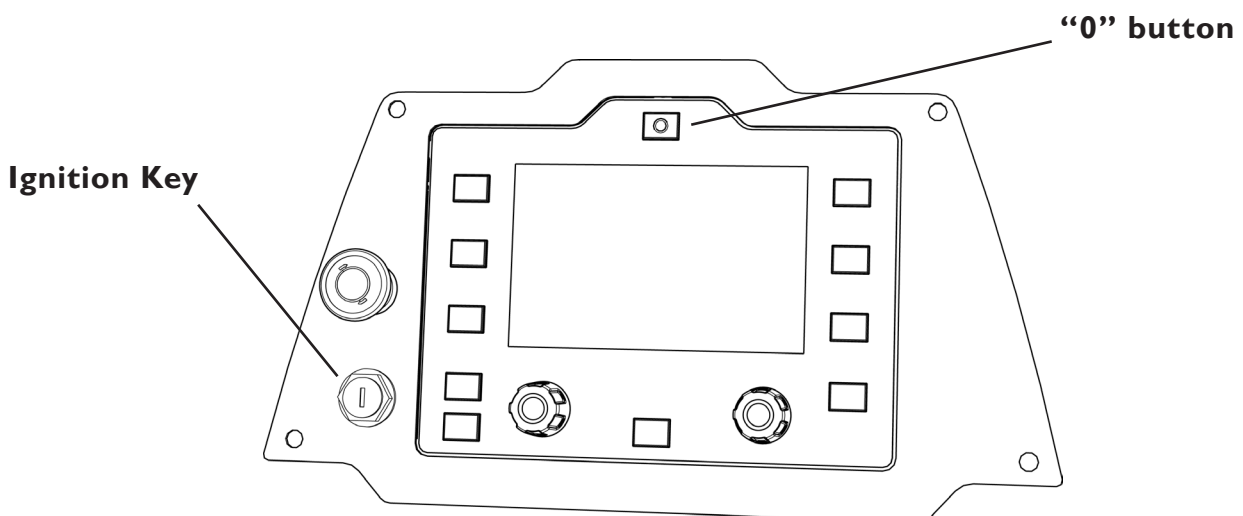
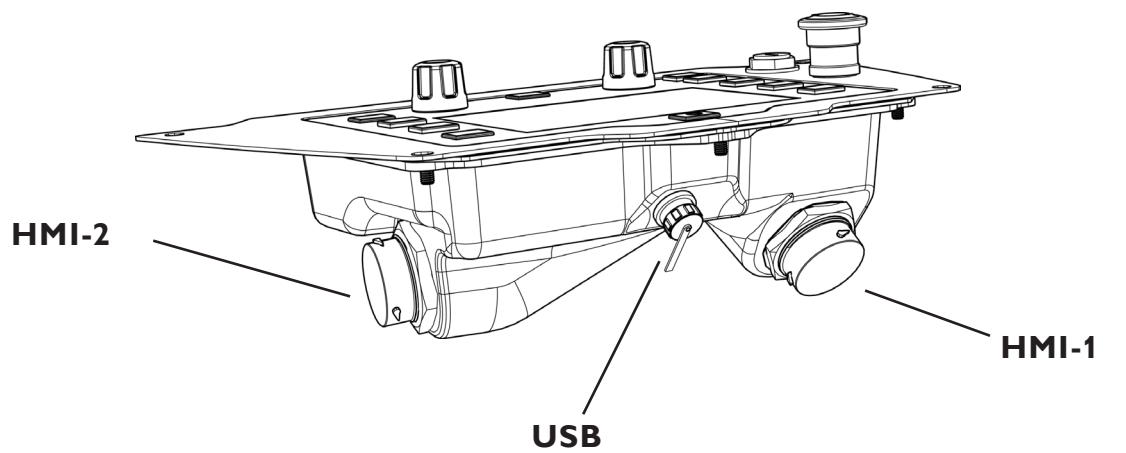
1. Make sure that HMI-2 pin 12 and HMI-2 pin 39 are NOT connected together.
2. Connect 12V power supply to HMI-1 pin 1 and ground HMI-1 pin 34.
3. Connect USB-cable between the USB connector on the HMI and the PC.
4. Press the “0” button and keep it pressed
5. Connect HMI-2 pin 12 and HMI-2 pin 39 together while “0” button is still pressed.
Pin 12 and 39 must be connected together during the whole programming sequence.
6. Release “0” button after 3 seconds or more.

HMI is now in programming mode. In this state the HMI is waiting for new software to be downloaded from the connected PC.

Connections

The HMI must be powered by an external 12V power supply that can source 1A or more, unless it is mounted on the machine. The following external connections have to be made to the HMI.

| Function | Connector | Pin |
|------------------------|-----------|-----|
| 12V | HMI-1 | 1 |
| GND | HMI-1 | 34 |
| Ignition switch signal | HMI-2 | 12 |
| Ignition switch VCC | HMI-2 | 39 |
| USB | USB | |

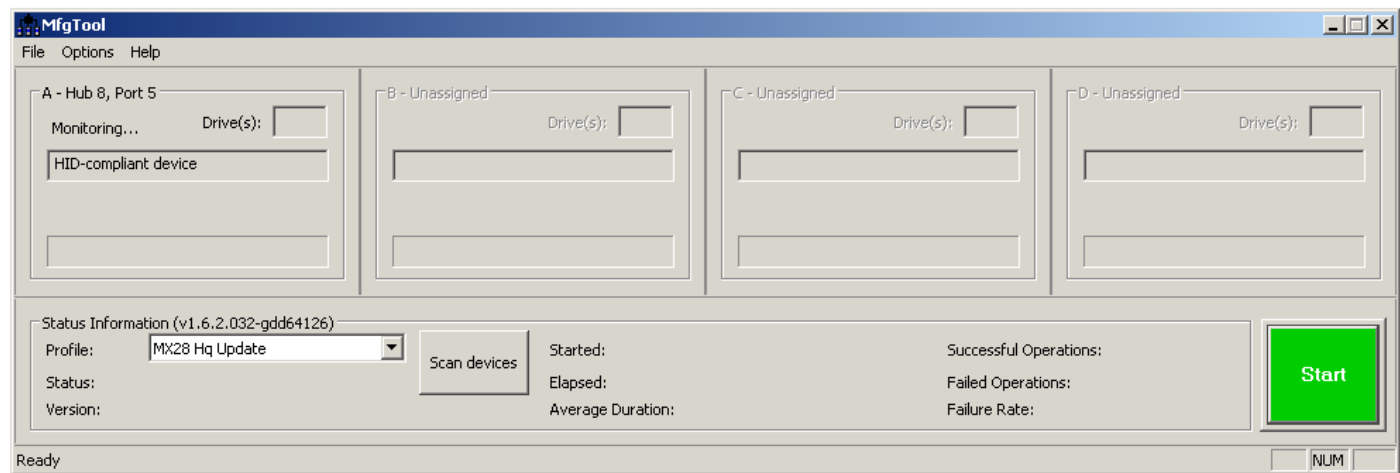


Downloading HMI software

i Information!

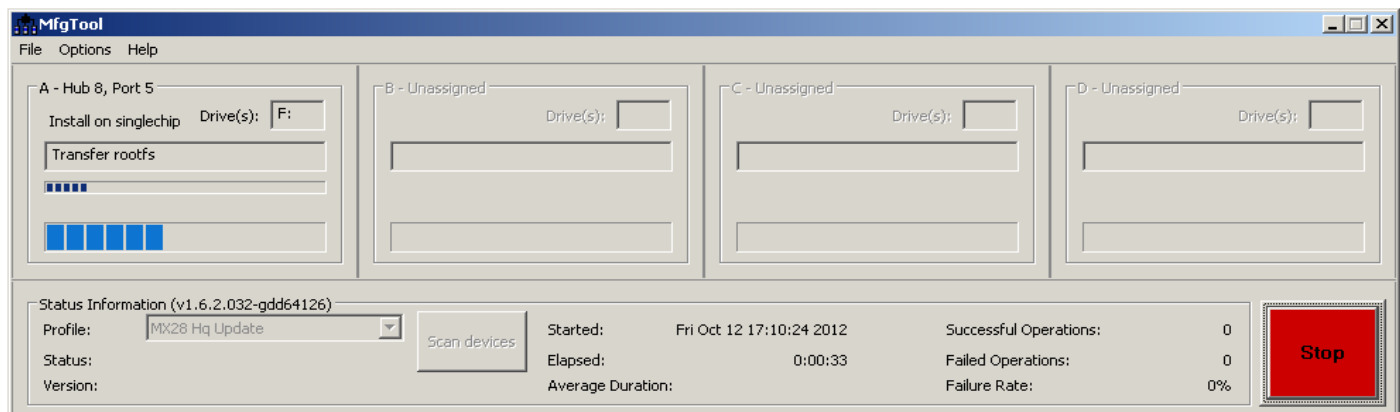
The first time MfgTool is used on a computer new drivers will be automatically installed. This may cause the above described process for entering programming mode to be interrupted. If this happens repeat the process.

HMI software is supplied by Husqvarna at <http://support.husqvarnacp.com/> as a zip file that contains both the HMI software and MfgTool. Start MfgTool by executing file MfgTool.exe. The MfgTool looks like the image below.

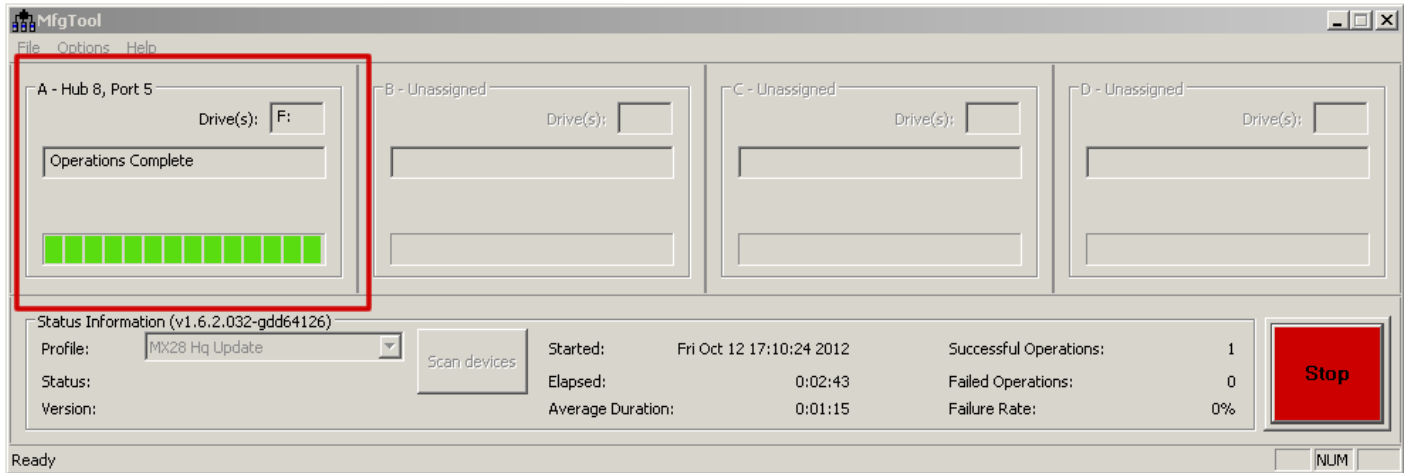


In section A you can now see the text *HID-compliant device*. If it does not appear, 1) Try to click on the *Scan devices* button. 2) Check the USB connection. 3) Try another USB port. 4) If you have other USB device connected to the computer try to remove. 5) Repeat section Entering Programming Mode.

Start software download by pressing the green *Start* button. The downloading process takes about 2 minutes. Meanwhile MfgTool looks like this. The text information and the status bar in section A will change a few times during software download.



When software download is complete, the message *Operation Complete* is displayed section A and the status bar turns green. MfgTool now looks like this:



Then press the red *Stop* button to end software download and close MfgTool and then remove the USB cable from the HMI.

NOTE: If software download process is aborted the whole process must be repeated from the beginning.

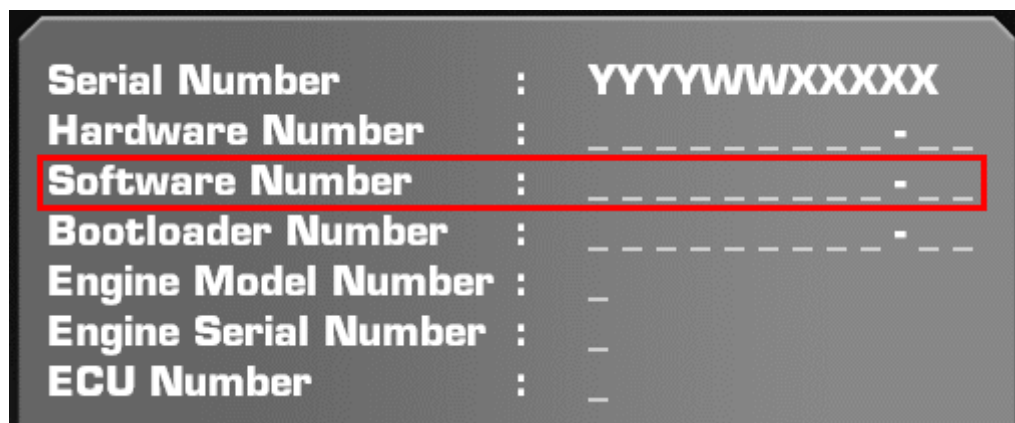
Turn off ignition (wait 2s) and on again.

When turning on ignition the first time after new software has been downloaded to the HMI the HMI will do an internal software download. this takes approximately 40 seconds.

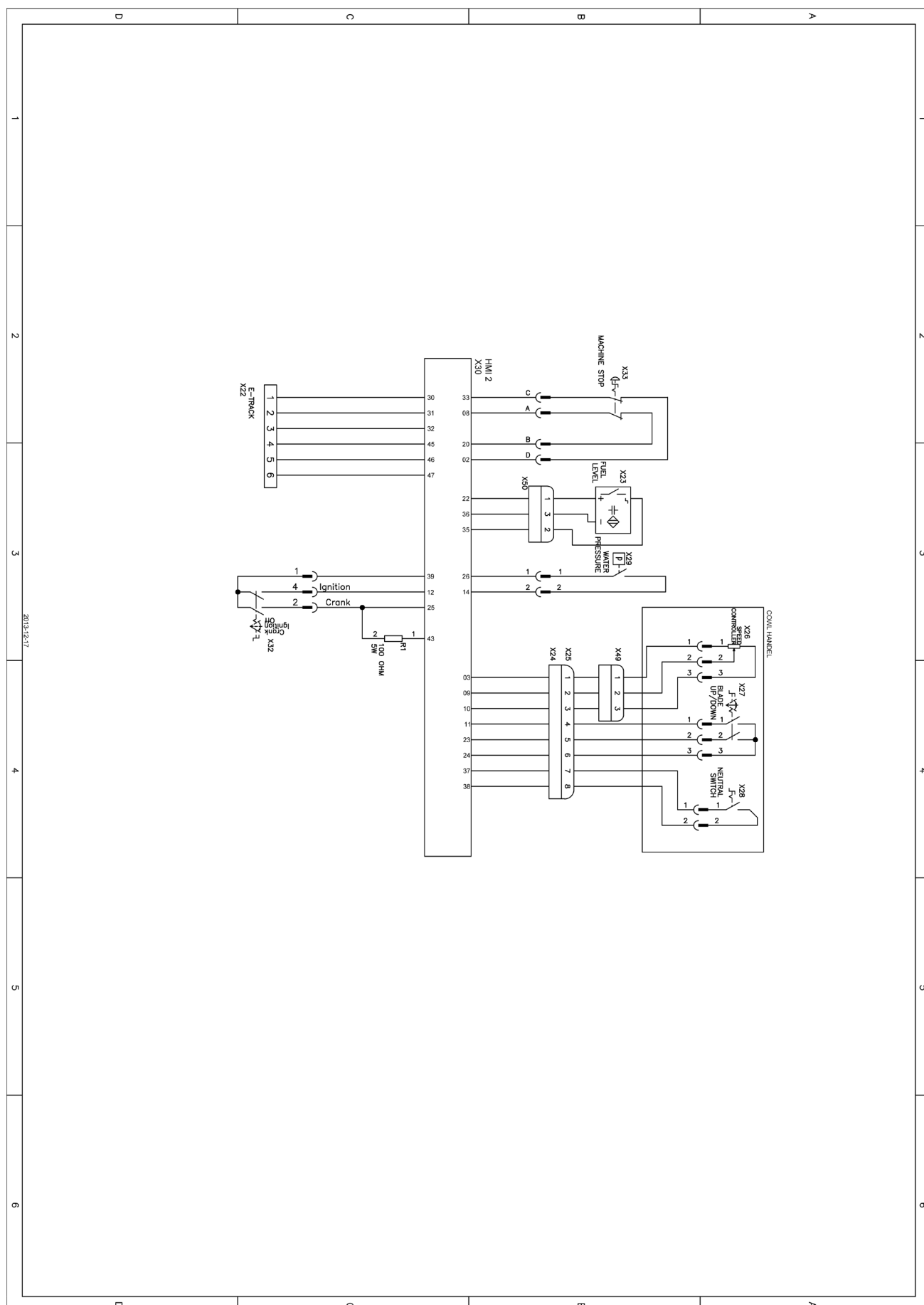
Verify Software download

From the *Operator Menu* enter the *Setup Menu 2* by pressing the *MENU* button twice. If any warning messages are displayed then first acknowledge these by pressing the *MENU* button until *Operator Menu* is displayed.

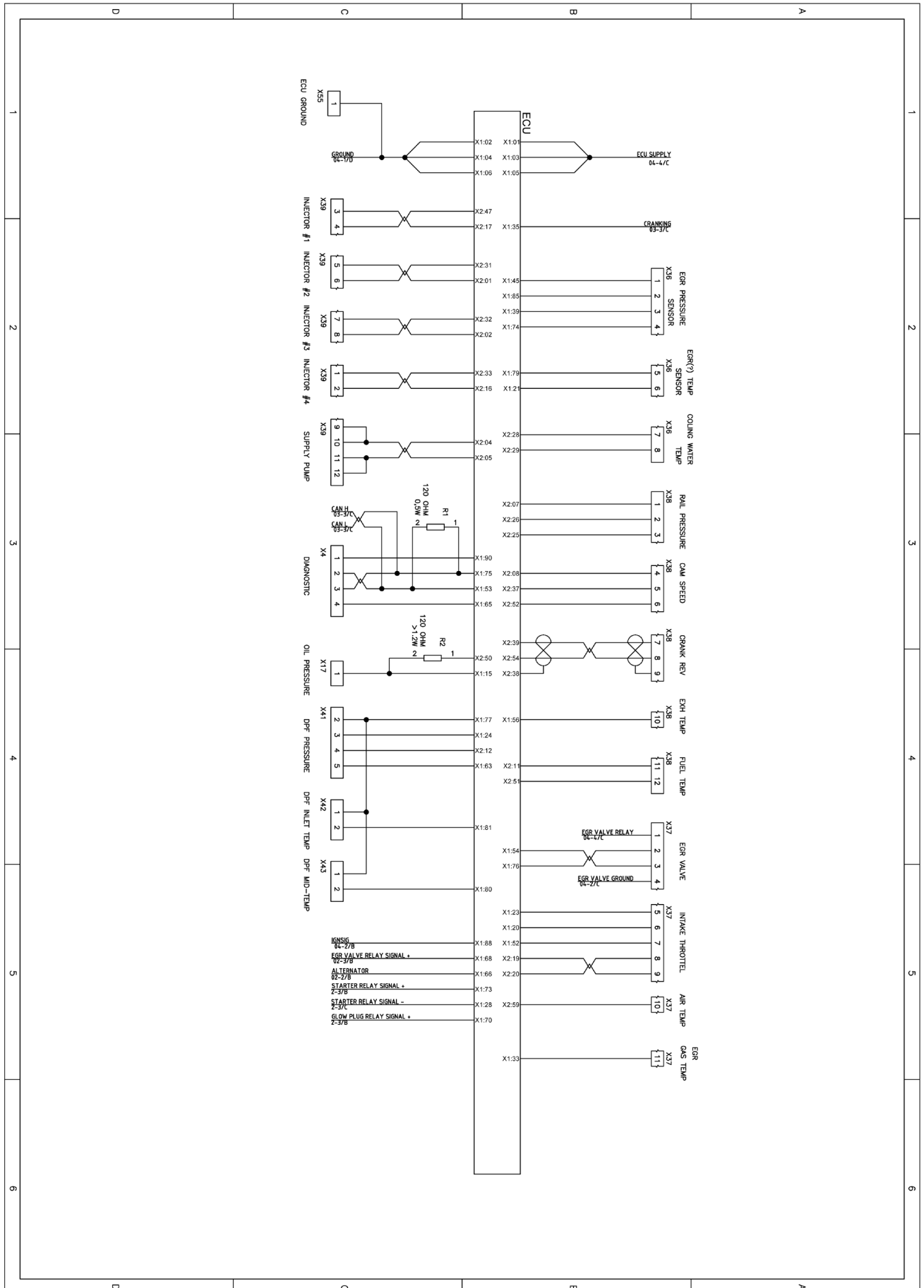
Select *System Information* and check the *Software Number*



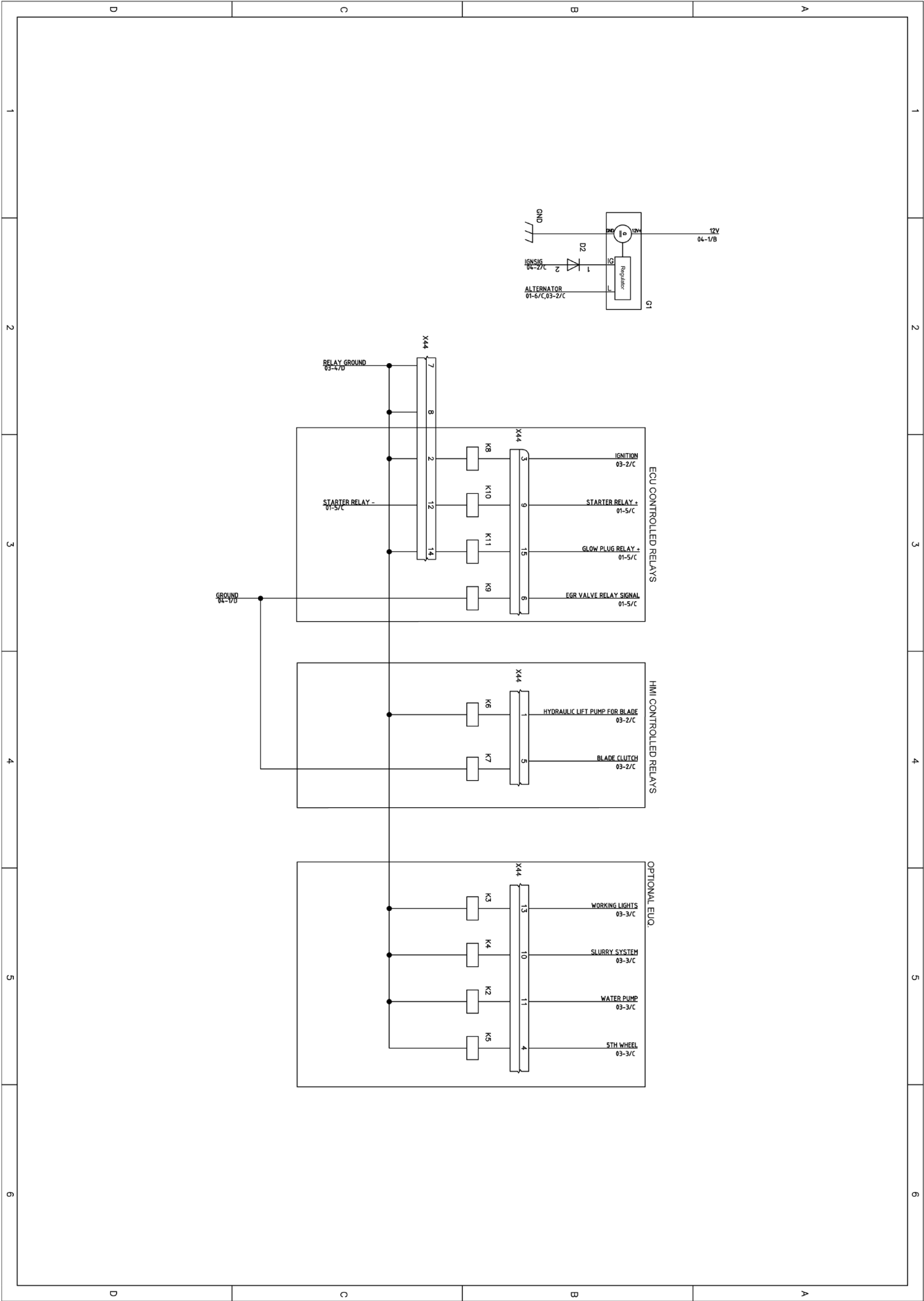
Cowl Harness



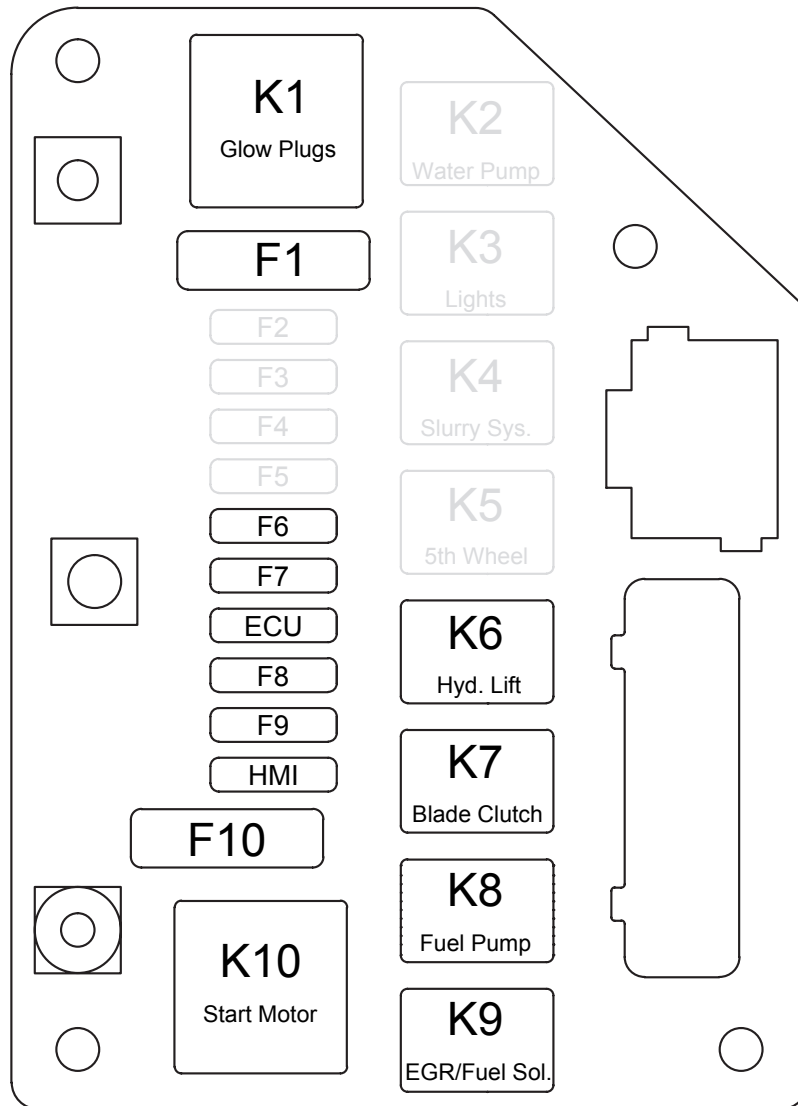
ECU



Relay

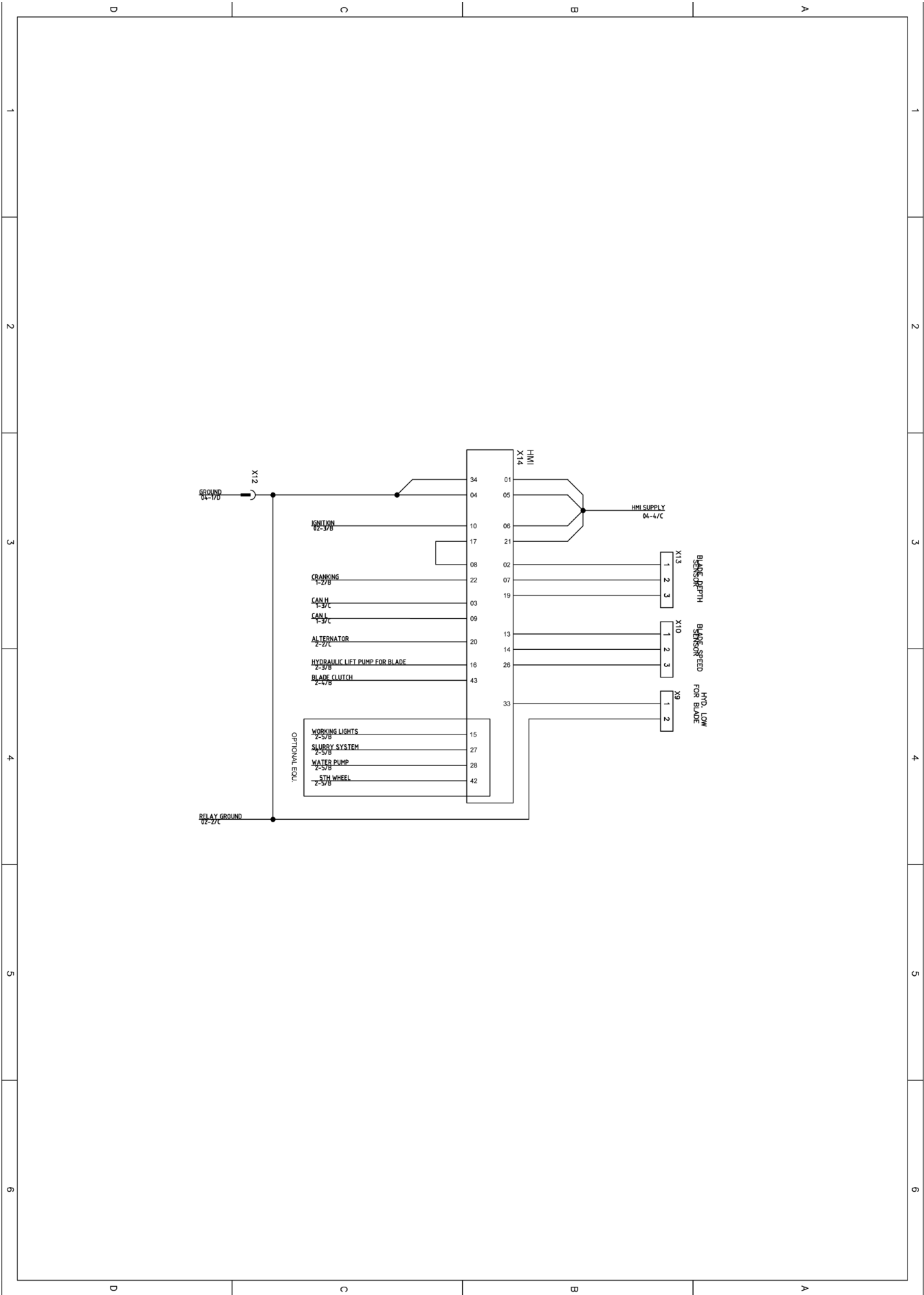


Fuses



| Function | Desig. | Relay (amp) | Desig. | Fuse (amp) |
|--------------------------|--------|-------------|--------|------------|
| Glow Plugs | K1 | 70 | F1 | 60 |
| Water pump (optional) | K2 | 25 | F2 | 25 |
| Lights (optional) | K3 | 25 | F3 | 25 |
| Slurry System (optional) | K4 | 25 | F4 | 25 |
| 5th Wheel (optional) | K5 | 25 | F5 | 25 |
| Hyd. Lift Pump | K6 | 25 | F6 | 25 |
| Blade Clutch | K7 | 25 | F7 | 15 |
| Fuel Pump | K8 | 25 | F8 | 20 |
| EGR/Fuel Sol. | K9 | 25 | F9 | 20 |
| Start Motor | K10 | 70 | F10 | 60 |
| ECU | n/a | n/a | ECU | 25 |
| HMI | n/a | n/a | HMI | 25 |

HMI



The diagram illustrates the electrical wiring for a vehicle, specifically the 581 07 32-12 model. It shows the main electrical system and an optional ECU (Electronic Control Unit) system.

Main Electrical System:

- Battery:** Connected to the main power supply.
- Fuel Pump (M1):** Controlled by the 581 07 32-12 relay.
- Blade Clutch (Y1):** Controlled by the 581 07 32-12 relay.
- Hydraulic Pump (M2):** Controlled by the 581 07 32-12 relay.
- Glow Plug (X108B):** Controlled by the 581 07 32-14 relay.
- Relays:** Various relays (X45, X46, X47, X48, X49, X50, X51, X52, X53, X54, X55, X56, X57, X58, X59, X60, X61, X62, X63, X64, X65, X66, X67, X68, X69, X70, X71, X72, X73, X74, X75, X76, X77, X78, X79, X80, X81, X82, X83, X84, X85, X86, X87, X88, X89, X90, X91, X92, X93, X94, X95, X96, X97, X98, X99, X100) are shown, each with its own set of terminals and connections.

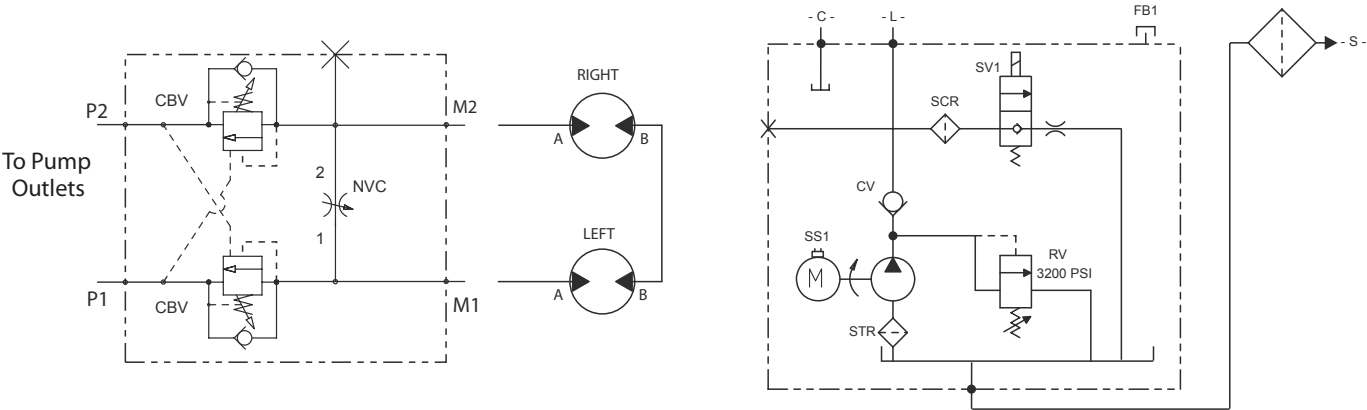
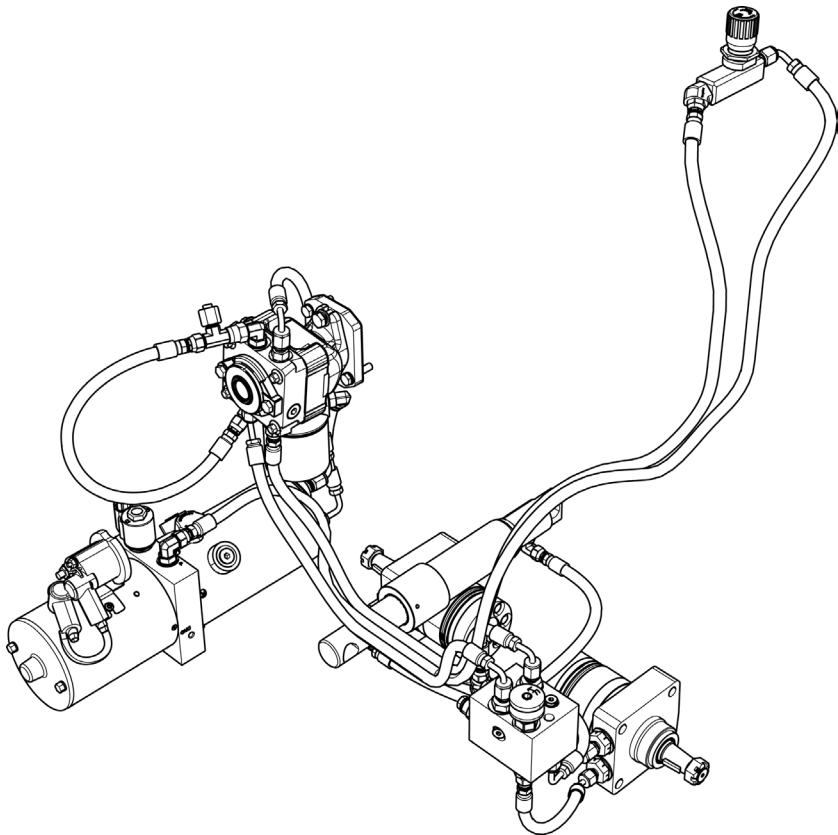
Optional ECU System:

- ECU (581 07 32-12):** The central control unit for the optional system.
- Glow Plug (581 07 32-14):** Controlled by the ECU.
- Glow Plug (581 07 32-05):** Controlled by the ECU.
- Relays:** Various relays (X45, X46, X47, X48, X49, X50, X51, X52, X53, X54, X55, X56, X57, X58, X59, X60, X61, X62, X63, X64, X65, X66, X67, X68, X69, X70, X71, X72, X73, X74, X75, X76, X77, X78, X79, X80, X81, X82, X83, X84, X85, X86, X87, X88, X89, X90, X91, X92, X93, X94, X95, X96, X97, X98, X99, X100) are shown, each with its own set of terminals and connections.

The diagram includes a legend for the components, such as the battery, fuel pump, blade clutch, hydraulic pump, glow plug, and relays. It also shows the connection points for the optional ECU system, including the ECU, glow plugs, and relays.

17. HYDRAULIC DRAWINGS

Hydraulic Schematic FS 5000D





www.husqvarnacp.com

115 63 32-26 Rev.A.

English