

D15 Engine

Safety, Operation, Maintenance & Parts Manual

LT15SC
LT15WC

rev.A2.06
rev. A2.01



Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

Form #2566

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SECTION 1 SAFETY & GENERAL INFORMATION



IMPORTANT! This manual is provided as a supplement to the equipment manufacturer's manuals. This manual takes into account the specific use of engines on the Wood-Mizer sawmill. Only safety, maintenance, and operating procedures that are not provided by the manufacturer are supplied in this manual. Refer to the manufacturer's manual before attempting to operate this equipment.



This symbol calls your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. This symbol accompanies a signal word. The word

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury to persons or equipment. Read all safety instructions before operating this equipment and observe all safety warnings!

1.1 Refueling



DANGER! Due to the flammable nature of fuel and oil, never smoke, weld, grind or allow sparks near your engine or storage tanks, especially during times of fueling.

DANGER! Never allow fuel to spill on a hot engine during fueling operations or otherwise. The hot temperature of your engine could induce a fire or explosion.



WARNING! Store fuel away from sawdust and other flammable materials. Failure to do so may result in serious injury.

1.2 Engine Operation



DANGER! Operate your engine/machine only in well ventilated areas. The exhaust gases of your engine can cause nausea, delirium and potentially death unless adequate ventilation is present.

DANGER! Never operate an engine with a fuel or oil leak. The leaking fuel or oil could potentially come in contact with hot surfaces and ignite into flames.

DANGER! Engine components can become very hot during operation. Avoid contact with any part of a hot engine. The exhaust components of your engine are especially hot during and following operation. Contact with hot engine components can cause serious burns. Therefore, never touch or perform service functions on a hot engine. Allow the engine to cool sufficiently before beginning any service function.

DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

DANGER! Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine or motor. Failure to do so will result in serious injury.



WARNING! Do not for any reason adjust the engine drive belts or belt support bracket with the engine running. Doing so may result in serious injury.

WARNING! Do not operate engine without proper and operational spark arrester/muffler. Sparks emitted from the engine exhaust could ignite surrounding materials, causing serious injury or death.

WARNING! Remove the blade before performing any engine service. Failure to do so may result in serious injury.



WARNING! Always disconnect the machine battery cables before performing service functions. Diesel engines by default require diesel fuel and lubricating oil for operation. Both diesel fuel and lubricating oil are flammable. Disconnection of the battery cables will reduce the possibility of sparks with potentially resultant fires or explosions.



WARNING! Be sure the power feed switch is in the neutral position before turning the key switch to the on (#1) or accessory (#3) position. This prevents accidental carriage movement, which may cause serious injury or death.

WARNING! Always wear proper and necessary safety equipment when performing service functions. Proper safety equipment includes eye protection, breathing protection, hand protection and foot protection.

WARNING! The engine exhaust gases are harmful. Avoid breathing them in.



IMPORTANT! Always dispose of coolant, oil, fuel, oil filters and fuel filters in a responsible manner and in conformance with local and national regulations.



CAUTION! Do not crank starter for more than 7 seconds at one time during starting attempts. Damage to the engine may result.

CAUTION! During the initial 50 hours, do not exceed 70% of the maximum rated power. Damage to the engine may result.

CAUTION! Do not adjust the high-end RPM above 3600. Doing so may cause damage to the engine.

1.3 Battery Handling



DANGER! Batteries expel explosive gases. Keep sparks, flames, burning cigarettes, or other ignition sources away at all times. Always wear safety goggles and a face shield when working near batteries. Failure to do so will cause serious injury.¹



WARNING! Charge the battery in a well ventilated area. Do not attempt to charge a frozen battery.

WARNING! Use extreme care to avoid spilling or splashing electrolyte (which is dilute sulfuric acid) as it can destroy clothing and burn the skin. If electrolyte is spilled or splashed on clothing or the body, it should be neutralized immediately and then rinsed with clean water. A solution of baking soda, or household ammonia, and water may be used as a neutralizer.

Electrolyte splashed into the eyes is extremely dangerous. If this should happen, force the eye open and flood it with cool, clean water for approximately fifteen minutes. A doctor should be called immediately when the accident occurs and “on-the-spot” medical attention given if possible. If a doctor cannot come to the scene of the accident immediately, follow his instructions concerning actions to take. Do not add eye drops or other medication unless advised to do so by the doctor. Do not place a battery or acid within the reach of children. If acid (electrolyte) is taken internally drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call a physician immediately.

If electrolyte is spilled or splashed on any surface of the machine, it should be neutralized and rinsed with clean water.¹

1. Battery Council International, copyright 1987

1.4 General Information



IMPORTANT! Read the engine manual for instructions and safety precautions before operating the engine.

See **Figure 1-1**. The main components of the diesel engine are shown.

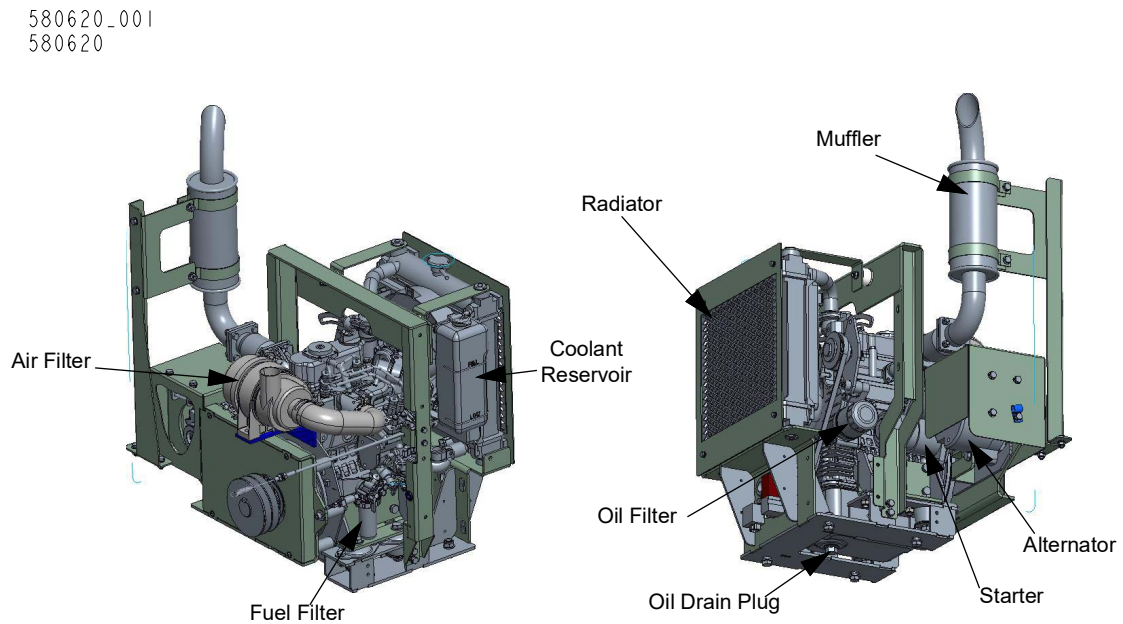


FIG. 1-1

1.5 Engine Specifications


	Z602-E4B
Type	Vertical, water-cooled, 4-cycle diesel engine
Number of cylinders	2
Bore and stroke mm	72 x 73,6
Total displacement cm ³	599
Power H.P. (SAEJ 1995) [HP/min ⁻¹ (rpm)]	14,7/3200
Emission regulation	EPA/CARB Tier 4 + EU Stage V
Dry Weight kg [lbs.]	57 [120]
Fuel	Diesel No.2-D
Oil (API classification)	above CF
Oil Capacity (w/filter)	2,5L
Cooling Liquid Capacity	2,8L


SECTION 2 OPERATION


2.1 Starting the Engine


Engine Control Lights


See **Figure 2-1**. The following indicator lights are located on the sawmill control panel. See the manufacturer's engine manual for troubleshooting tips.

 **Glow Plug Indicator.** Lights up after the key has been turned to the on (#1) position. Wait until the light go out before starting cold engine.

 **Oil Indicator.** Lights up if the oil pressure is too low. Should go out after the engine is started. If the light remains lit when the engine is running, stop the engine immediately.

 **Engine Temperature Indicator:** Lights up if the engine is overheating.

 **Alternator Charge Indicator.** Lights up if the alternator is not charging the battery.

 **NOTE:** Indicator also lights up when engine is started and remains lit until engine initially reaches approximately 1300 RPM.

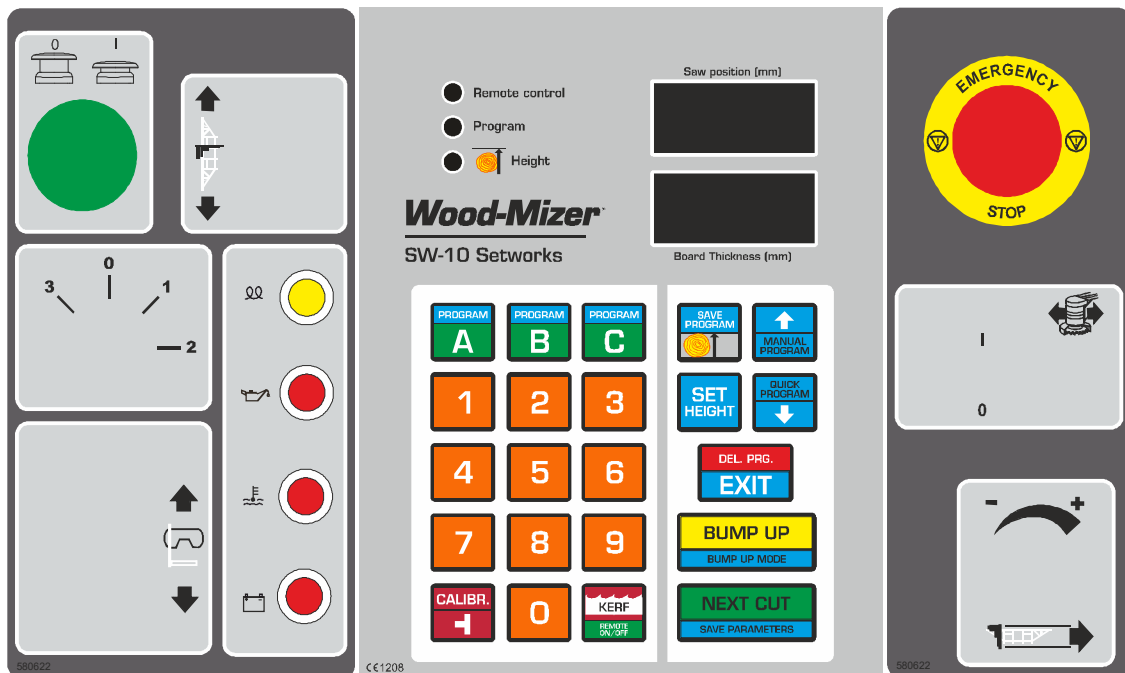


FIG. 2-1

NOTE: The glow plug indicator will go out after the engine is started.



Emergency stop button. CAUTION! If at any time you need to immedi-

ately stop the machine, press the emergency stop button. To re-start the machine twist and release the emergency stop button first.



Operator Presence Button. CAUTION! Before engaging the blade drive, the operator presence button must be held, otherwise the engine will be stopped.



CAUTION! Avoid leaving the key in the #1 position for more than 30 seconds while the engine is not running. Doing so will drain the sawmill battery which may reduce its service life.

IMPORTANT! Wait 7 seconds before re-starting the machine.

Engine Start



DANGER! Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine. Failure to do so will result in serious injury.

1. Set the clutch/brake lever in the DISENGAGE (back) position.

See Figure 2-2.

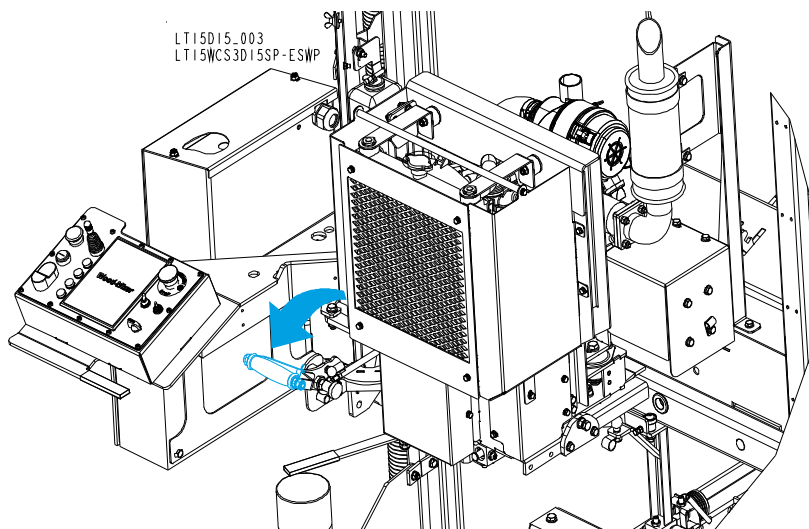


FIG. 2-2



WARNING! Be sure the power feed switch is in the neutral position before turning the key switch to the on (#1) or accessory (#3) position. This prevents accidental carriage movement which may cause serious injury or death.



CAUTION! If the engine does start within 10 seconds after turning the starter switch to the START position (#2), wait another 30 seconds and then try to start the engine again. Do not crank the engine for more than 10 seconds at one time during starting attempts.

1. See the engine manufacturer's manual for lubricating oil recommendations for specific temperature ranges.
2. Use #2 or better quality diesel fuel for above freezing starting. Use a #1 quality diesel fuel for below freezing starting.
3. Turn the key switch on the control panel to the ON (#1) position.
4. Wait until the glow plug light go out before starting cold engine.
5. Turn the key switch to the start (#2) position and release.



WARNING! Do not start the engine when the clutch/brake lever is in the ENGAGED (forward) position. Always be sure that the blade is disengaged and all persons are away from the sawmill before starting the engine.

See Figure 2-3.

6. To engage the blade, press and hold the green operator's presence button, then move the clutch/brake lever forward to the ENGAGED (forward) position.

Releasing the operator's presence button when the blade drive is engaged will result in the engine shutting down.

See Figure 2-4.

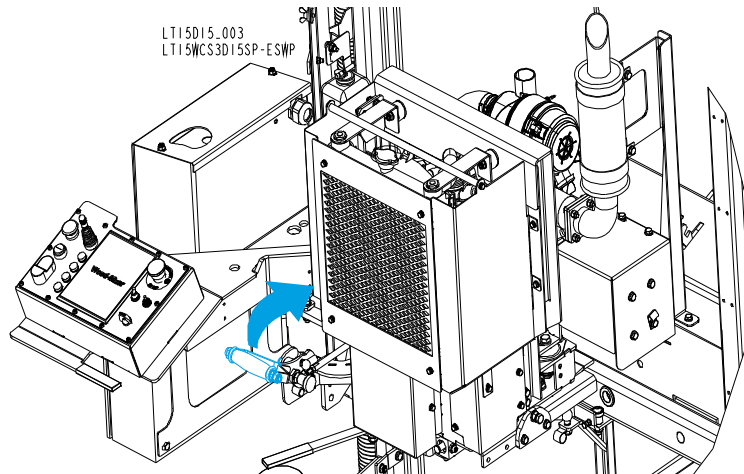


FIG. 2-4



CAUTION! If the starter is on for too long, the battery may go flat. Always keep the key in the "ON" position while the engine is running.

Let the engine idle at low rpm for about 3 minutes to warm up before starting to cut.

Engine Shutoff

Turn the key switch to the OFF (#0) position.

SECTION 3 MAINTENANCE



IMPORTANT! This manual only provides information about additional procedures or procedures to be performed at different time intervals than found in the engine manufacturer's manuals. Refer to the manufacturer's manual for complete maintenance instructions.



DANGER! Engine components can become very hot during operation. Avoid contact with any part of a hot engine. The exhaust components of your engine are especially hot during and following operation. Contact with hot engine components can cause serious burns. Therefore, never touch or perform service functions on a hot engine. Allow the engine to cool sufficiently before beginning any service function.



WARNING! Remove the blade before performing any engine service. Failure to do so may result in serious injury.

WARNING! Always disconnect the machine battery cables before performing service functions. Diesel engines by default require diesel fuel and lubricating oil for operation. Both diesel fuel and lubricating oil are flammable. Disconnection of the battery cables will reduce the possibility of sparks with potentially resultant fires or explosions.

WARNING! Always wear proper and necessary safety equipment when performing service functions. Proper safety equipment includes eye protection, breathing protection, hand protection and foot protection.



This symbol identifies the interval (hours of operation) at which each maintenance procedure should be performed. "AR" signifies maintenance procedures which should be performed as required.

3.1 Engine Oil & Filter

See **Figure 3-1**. The following chart details lubricating oil viscosity as a function of ambient temperature. Select the lubricating oil viscosity based upon the prevailing temperature range expected. If your application will be subject to large ambient temperature ranges during a given oil change interval, select the lubricating oil viscosity based upon the highest temperature expected. Should the prevailing ambient temperatures change during a given oil service period interval, and the lubricating oil within the engine is reflective of a lower temperature range, the lubricating oil should be changed to reflect the prevailing temperature.

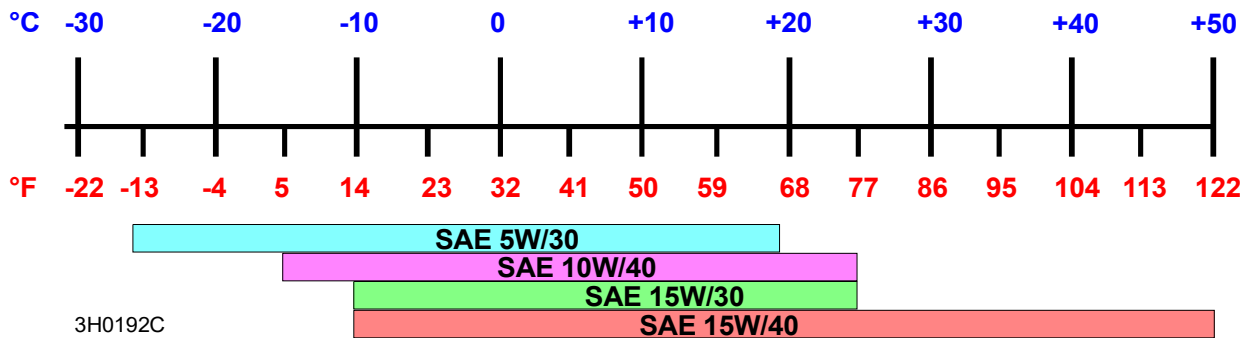


FIG. 3-1

Kubota recommends that only API (American Petroleum Institute) grades ‘CF’ or higher be used within Kubota diesel engines. Without respect to brand name, lubricating oil meeting API grade ‘CF’ and sourced from a reputable supplier are acceptable for use within Kubota diesel engines.

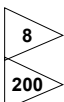
See the table below for recommended types of engine oil depending on ambient temperature ranges.

Above 25°C	10W-30 or 10W-40 or 15W40
-10 - 25°C	10W-30 or 10W-40 or 15W40
Below -10°C	10W-30 or 10W-40

TABLE 3-1

Kubota does not recommend the use of ANY oil additive other than those included within the respective manufacturer oil blends. Under no circumstances should oil additives claiming “teflon”, “molecular adhesion”, low wear rates etc. be added. These aftermarket oil additives may actually break down the recommended lubricating oil chemical properties resulting in accelerated engine wear.

Oil capacity (including oil filter) is 2,5 liters.



Check the oil level every 8 hours of operation. Add oil as necessary.

Change the oil and replace the oil filter after the first 50 hours of operation. Change the oil every 100

hours and replace the oil filter every 200 hours thereafter.



IMPORTANT! Before reinstalling the clean oil filter, wipe all dirt and oil deposits from the oil filter receptacle.

3.2 Air Cleaner

Since the air cleaner used on this engine is a dry type, do not oil it. Wipe the inside of the cleaner with a rag if it is dirty or wet. Avoid touching the element except while cleaning.

1. Open the evacuator valve (A) once a week under normal conditions or daily under dusty conditions to remove any large particles of dust and dirt.



FIG. 3-1

2. Every 100 hours wipe the inside of the air cleaner with cloth if it is dirty or wet.

100

3. Avoid touching the element except when cleaning.
4. When dry dust adheres to the element, blow compressed air from the inside turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm², 30 psi).
5. Replace the element every six cleanings or once a year.

AR



IMPORTANT! Check if the arrow on the air filter cover (B) is directed upwards. Make sure the hooking clip (C) for cover for the element is tight enough. If it is loose, dust and dirt may be sucked into the engine. Check if the air inlet (D) is directed downwards.

3.3 Cooling System

8 Clean the radiator fins every 8 hours of operation. Spray the radiator with water from a hose or compressed air to clean sawdust from the radiator fins. Do not use a pressure sprayer.

CAUTION! Failure to keep the radiator fins clear of sawdust and/or dirt may cause the engine to overheat resulting in damage to the engine.

CAUTION! Do not spray the radiator with water when the engine is hot.

CAUTION! Do not open the radiator cap or reservoir cap when the engine is hot.

8 Every 8 hours of operation check the coolant level on the coolant reservoir. When engine is cold the coolant level should be above the LOW level.

For the aluminium radiator use only glycol solution (1l. of glycol concentrate for 1l. of distilled water).

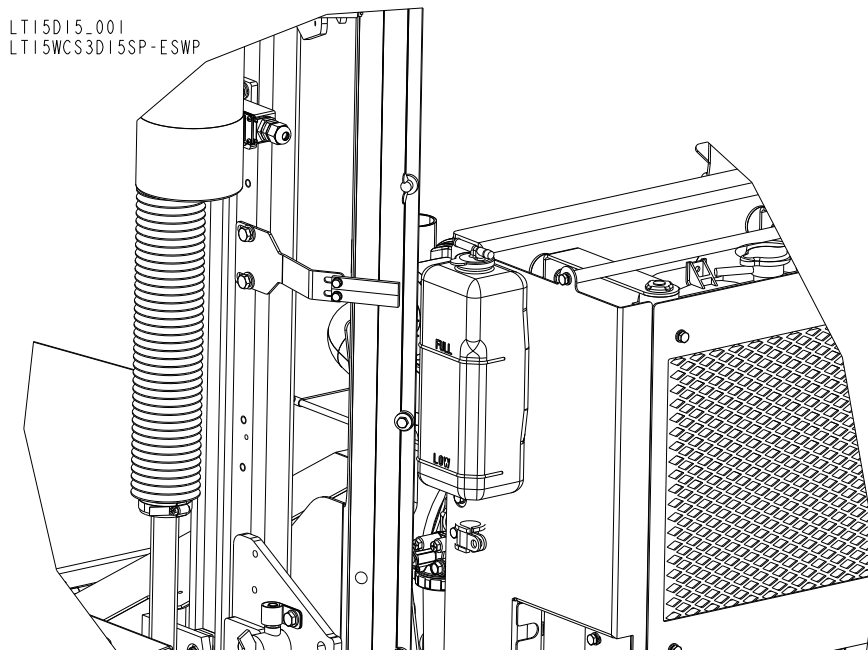


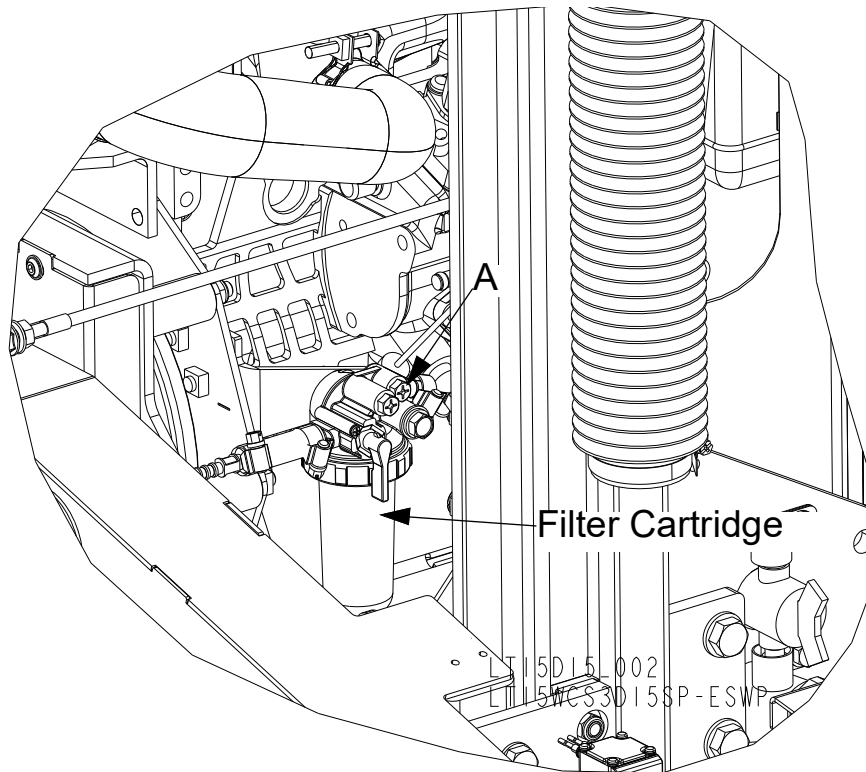
FIG. 3-1

IMPORTANT! Refer the engine manufacturer manual for detailed instructions for coolant replacement.

3.4 Primary Fuel Filter

400

See Figure 3-2. Replace the primary fuel filter cartridge every 400 hours of operation. After replacing the filter cartridge, loosen the air bleed screw (A) and operate the fuel pump bail until fuel begins to flow from the valve and is free of air bubbles. Tighten the bleed screw. Inspect the water separator bowl periodically. Empty if needed. Refer the engine manufacturer manual for detailed air bleeding instructions.

**FIG. 3-2**

IMPORTANT! Refer the engine manufacturer manual for detailed instructions for fuel system air bleeding.

3.5 Battery

50

Check the battery electrolyte level every 50 hours of operation. See manufacturer's manual for instructions.



DANGER! Batteries expel explosive gases. Keep sparks, flames, burning cigarettes, or other ignition sources away at all times. Always wear safety goggles and a face shield when working near batteries. Failure to do so will cause serious injury.¹

1. Battery Council International, copyright 1987

3.6 Alternator Belt Adjustment

500 Check the alternator belt tension every 500 hours. Also check the alternator belt for tension and wear when battery is not charging properly or when the alternator belt is squealing. Adjust as needed.

1000 Replace the alternator belt every 1000 hours.

Alternator Belt Adjustment Procedure:

1. Dismount the alternator cover.
2. Turn the key switch to OFF (#0) and remove the key.
3. Loosen the alternator belt adjustment nut (*See the figure below*).

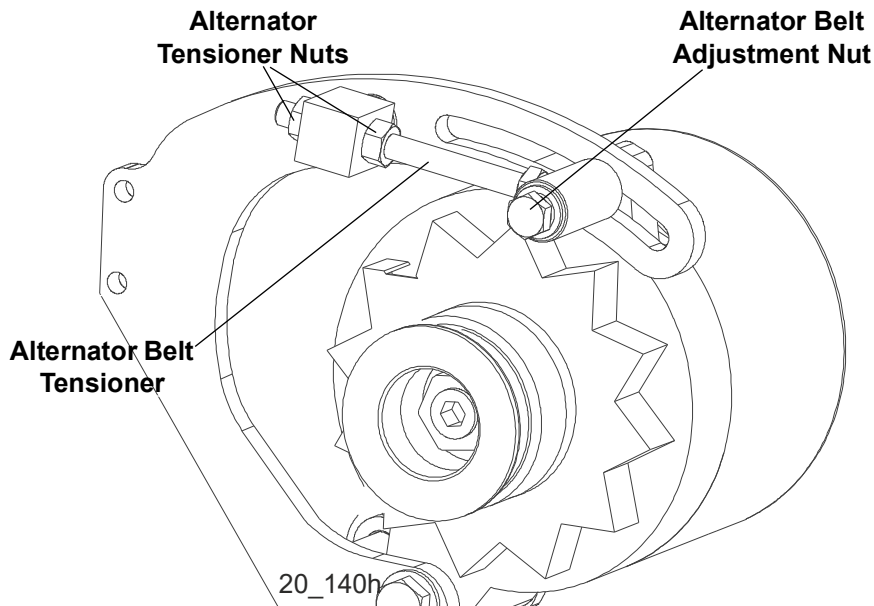


FIG. 3-2

4. Tension the alternator belt properly by tightening the tensioner nuts.
5. Check the alternator belt tension.
6. Tighten the alternator belt adjustment nut.
7. Mount back the alternator cover.

3.7 Drive Belt Adjustment



WARNING! Do not for any reason adjust the engine drive belts or belt support bracket with the engine running. Doing so may result in serious injury.

50

Check the drive belt tension after the first 20 hours, and every 50 hours thereafter.

The drive belt tension should be adjusted with the tensioner handle engaged (in the forward position), by moving the engine assembly on the engine mount plate. To make the adjustment, perform the following steps:

1. Loosen the engine mounting bolts and the jam nuts.
2. Using the adjustment bolts, shown in the figure below, adjust the belt tension to approximately 11 mm deflection with 7.2 kG of deflection force.
3. Tighten the jam nuts and the engine mounting bolts.

See Figure 3-3.

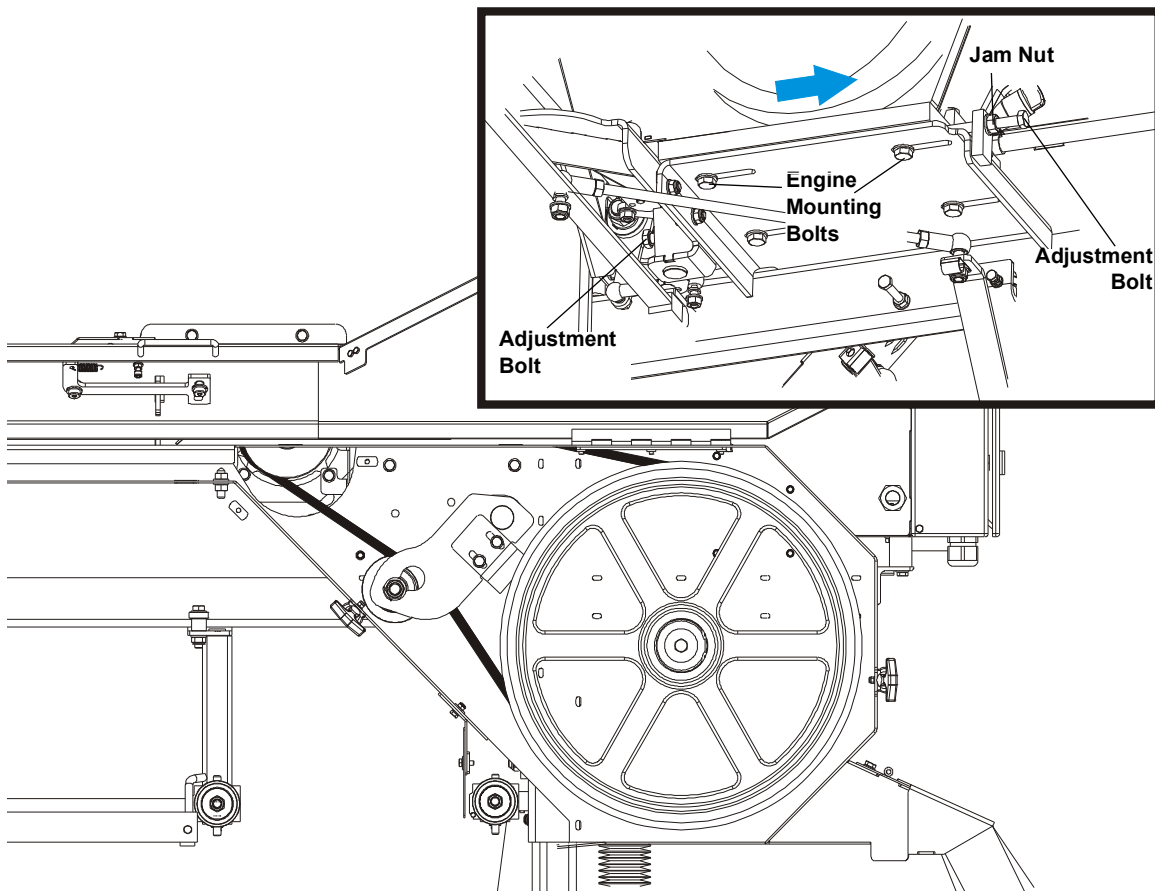


FIG. 3-3

Periodically check all belts for wear. Replace any damaged or worn belts as needed.



3.8 Miscellaneous Maintenance

800

Check the valve clearance every 800 hours of operation. Contact your local Kubota Dealer for details.

1000

Clean the fuel tank every 1000 hours of operation.

1500

Check the injectors every 1500 hours of operation. Contact your local Kubota Dealer for details.

1500

Check the injections pump every 3000 hours of operation. Contact your local Kubota Dealer for details.



IMPORTANT! Refer the engine manufactuter manual for complete maitenance schedule.

3.9 RPM Adjustments

The engine RPM is factory set and do not need to be adjusted. If any problems with engine RPM are being observed, contact Wood-Mizer Customer Service.

3.10 Storage

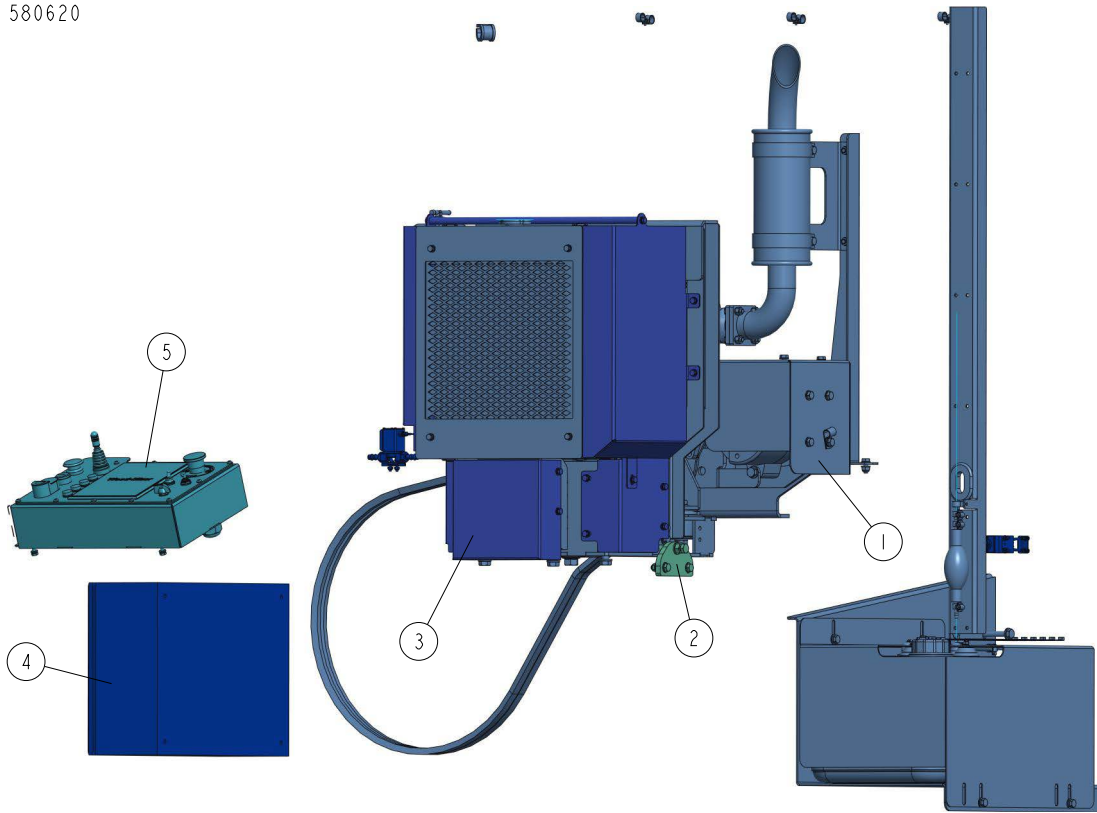


IMPORTANT! Refer the engine manufactuter manual for storage instructions.

SECTION 4 D15 ENGINE PARTS

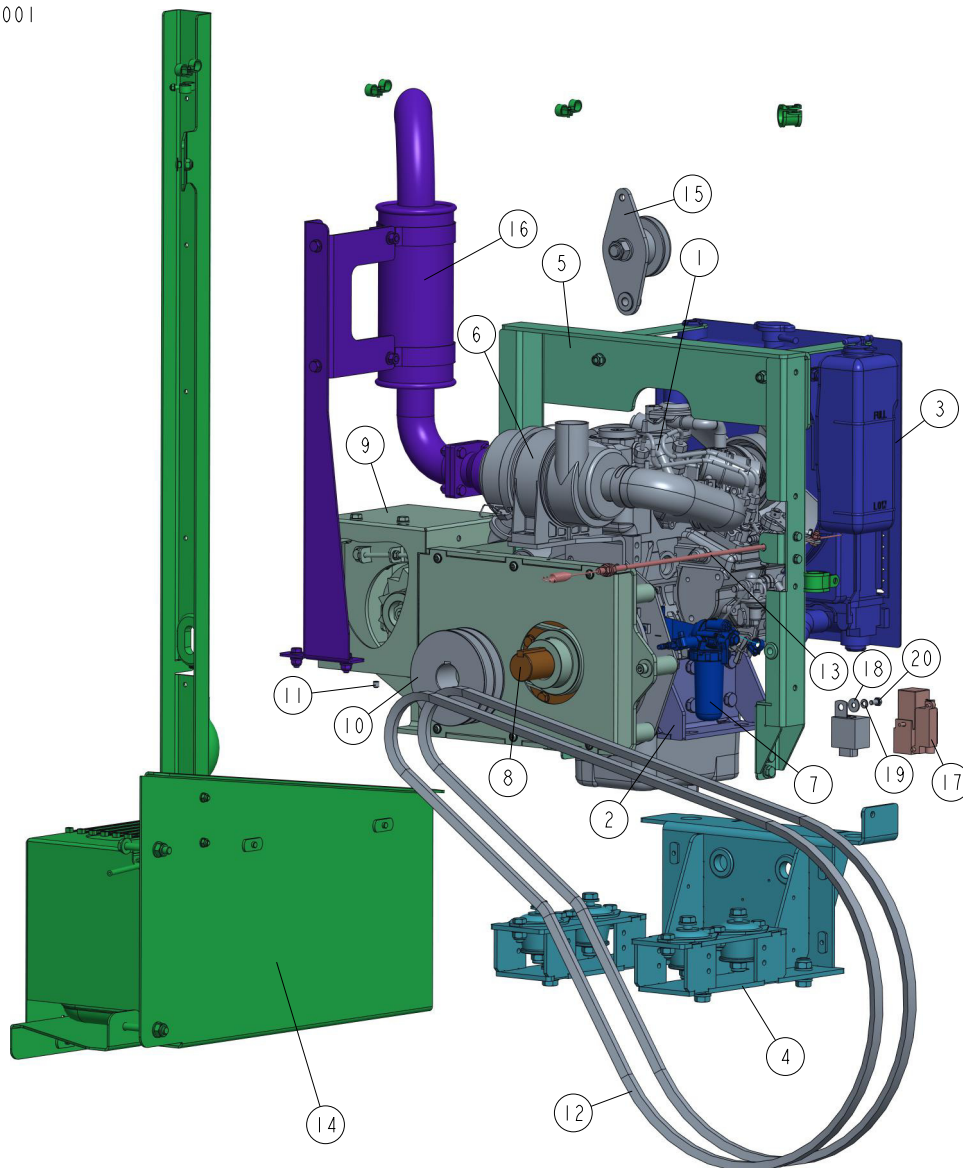
4.1 Engine Assembly D15 580620

580620_002
580620



REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	ENGINE ASSEMBLY D15 LT15SC/WC	580620	1
1	ENGINE ASSY D15 See Section 4.2	550920	1
2	TENSIONER, LT15WC G25/G19 BELT See Section 4.16	531695	1
3	ENGINE GUARDS D15 LT15WC/LT15SC See Section 4.17	580617	1
4	ELECTRICAL KIT LT15WC D15 CE See Section 4.18	531666-D15	1
5	CONTROL PANEL LT15WC/D15 See Section 4.20	580621	1

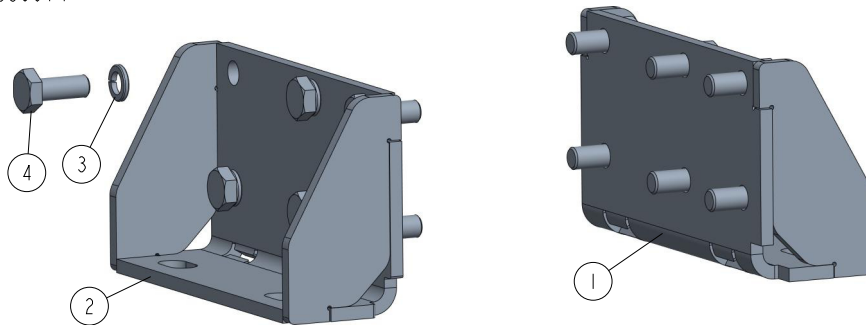
4.2 Engine Assy D15 550920

550920_001
550920

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	ENGINE ASSY D15	550920	1
1	ENGINE, KUBOTA D15 Z602-E4B-EU-X7	550908	1
2	BRACKET SET, ENGINE D15 See Section 4.3	580614	1
3	RADIATOR ASSEMBLY D15 See Section 4.4	580616	1
4	PLATE, ENGINE MOUNTING See Section 4.5	592246	1
5	BRACKET ASSEMBLY, RADIATOR See Section 4.6	580615	1
6	FILTER, AIR D15	550918	1
7	FUEL SYSTEM See Section 4.7	580605	1
8	SHAFT ASSEMBLY, D15 ENGINE See Section 4.8	592232	1
9	ALTERNATOR KIT LT15/D15 See Section 4.9	592230	1
10	PULLEY, E15 MOTOR 2-GROOVE	091560	1
11	SCREW, M8X8-33H HEX SOCKET SET FLAT POIN	F81014-1	1

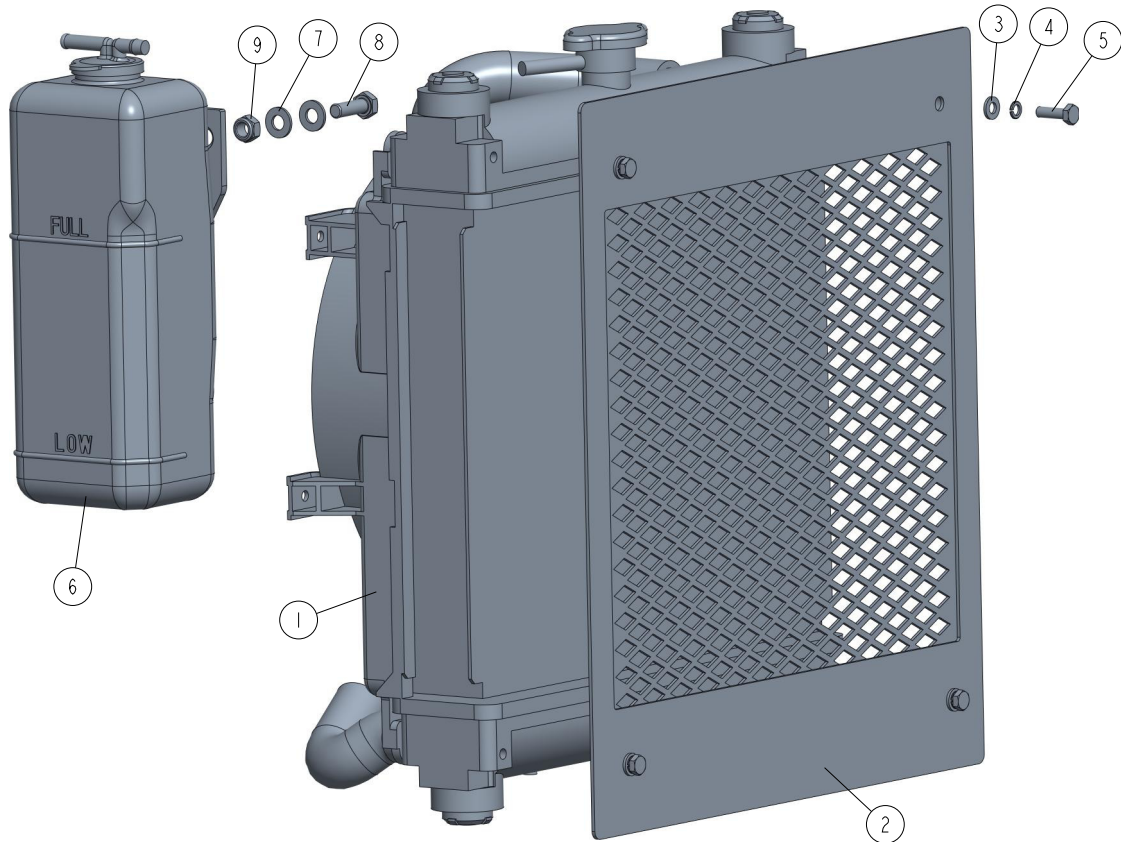
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
12	V-BELT, 17BX2250 BX87 2210LI-GOOD-Y	097448	2	
13	CABLE ASSEMBLY D15 See Section 4.10	550948	1	
14	TANK FUEL ASSEMBLY D15 See Section 4.11	580604	1	
15	BRACKET, DRIVE BELT SUPPORT See Section 4.12	087958	1	
16	EXHAUST SYSTEM D15 See Section 4.13	592228	1	
17	GLOW PLUG RELAY ASSEMBLY D15 See Section 4.14	592247	1	
18	WASHER 6,5 ZC FENDER DIN 9021	F81053-11	1	
19	WASHER, 6,1 DIN127(A2-3) SPLIT LOCK STAI	F81053-4	1	
20	BOLT, M6X12-8.8 HEX HEAD FULL THREAD ZIN	F81001-7	1	

4.3 Engine Bracket Set 580614

580614_001
580614

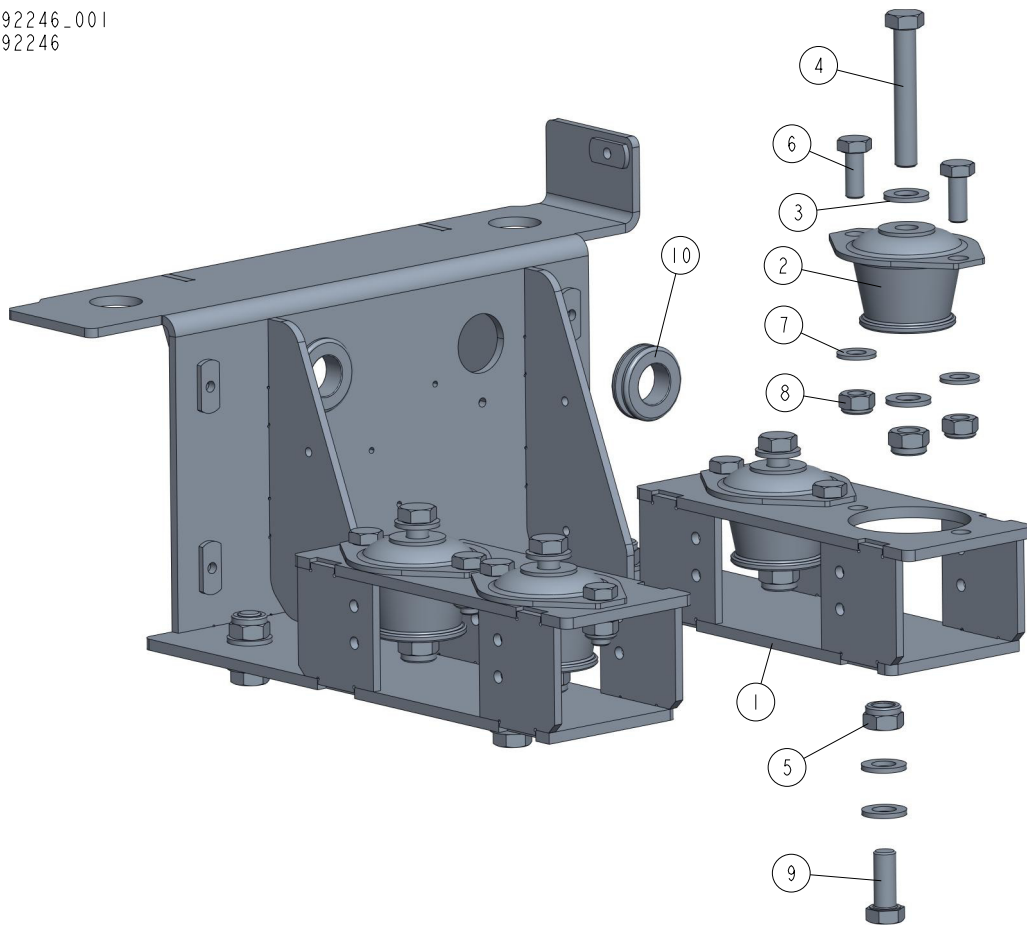
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	BRACKET SET, ENGINE D15	580614	1
1	BRACKET, ENGINE D15 LEFT	550914-1	1
2	BRACKET, ENGINE D15 RIGHT	550915-1	1
3	WASHER, Z 10.2 SPLIT LOCK ZINC	F81055-2	12
4	BOLT, M10X1.25X25-8.8-AHEX HEAD FULL THR	F81003-29	12

4.4 Radiator Assembly D15. 580616

580616_001
580616

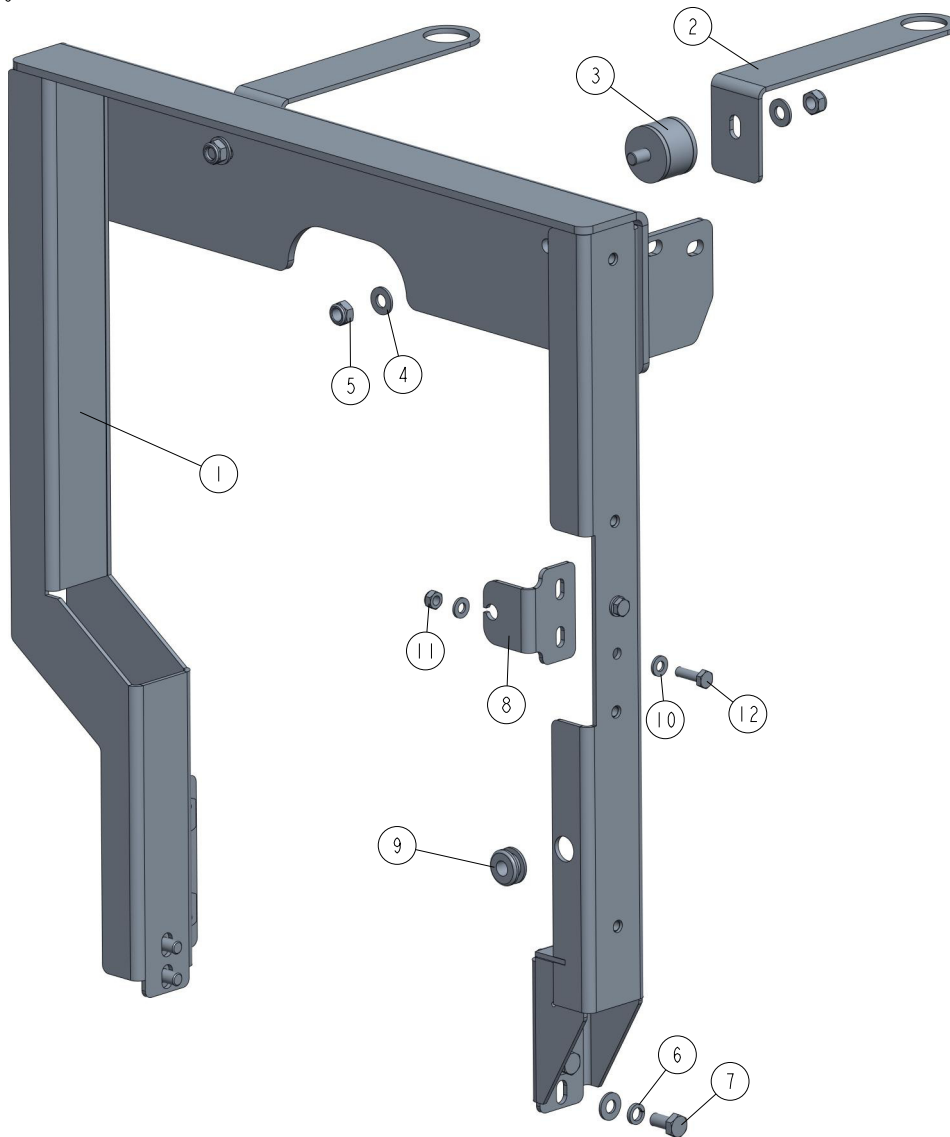
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	RADIATOR ASSEMBLY D15	580616	1
1	RADIATOR D15	550927	1
2	GRILL, SCREEN D15	550945-1	1
3	WASHER, 6.4 FLAT ZINC	F81053-1	4
4	WASHER, Z 6.1 SPLIT LOCK ZINC	F81053-3	4
5	BOLT, M6X20 8.8 HEX HEAD FULL THREAD ZIN	F81001-2	4
6	BOTTLE, D15 ENGINE WATER TANK	550917	1
7	WASHER, 8,4-FLAT ZINC	F81054-1	4
8	BOLT, M8X25-8.8-B HEX HEAD FULL THREAD Z	F81002-5	2
9	NUT, M8-8-B HEX NYLON ZINC LOCK	F81032-2	2

4.5 Engine Mounting Plate 592246

592246_001
592246

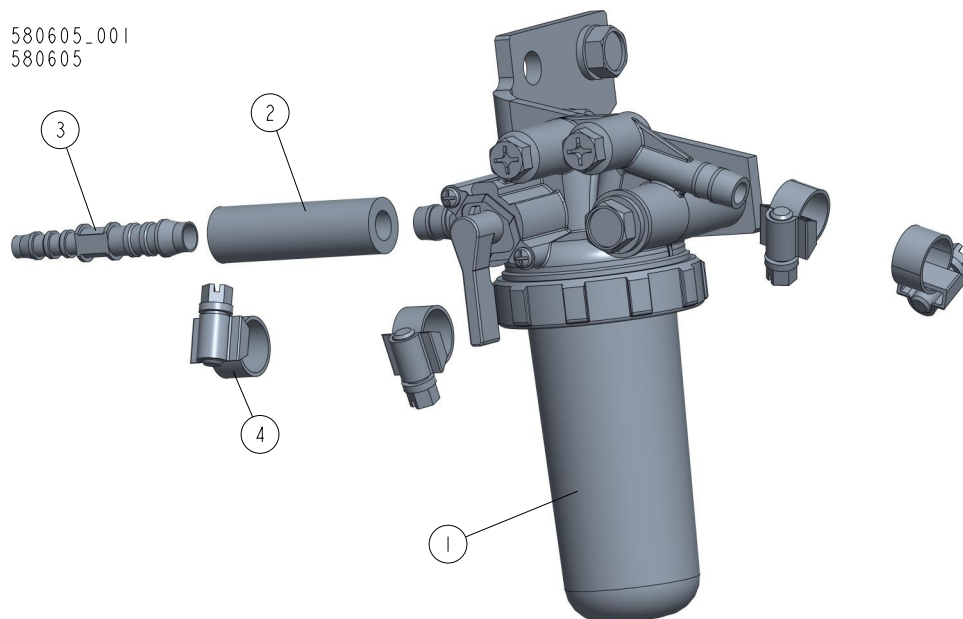
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
-	PLATE, ENGINE MOUNTING	592246	1	
1	PLATE, ENGINE MOUNTING D15	592245-1	1	
2	ABSORBER, #210355.65 SHA SHOCK	091933	4	
3	WASHER, 13 FLAT ZINC	F81056-1	16	
4	BOLT, M12X75-8.8 HEX HEAD ZINC	F81004-21	4	
5	NUT, M12-8 HEX NYLON ZINC LOCK	F81034-2	8	
6	BOLT, M10X25 8.8 HEX HEAD FULL THREAD ZI	F81003-11	8	
7	WASHER, 10.5 FLAT ZINC	F81055-1	8	
8	NUT M10 ZC 8 NYLOCK DIN 982 ISO 7040	F81033-1	8	
9	BOLT, M12X30 8.8 HEX HEAD FULL THREAD ZI	F81004-22	4	
10	GROMMET, 22MM I.D. RUBBER	087400	2	

4.6 Radiator Bracket Assembly 580615

580615_001
580615

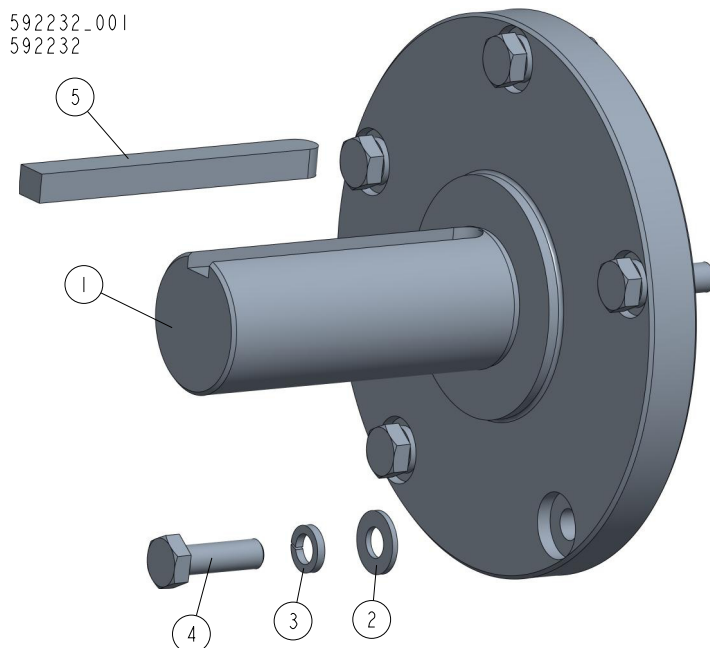
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	BRACKET ASSEMBLY, RADIATOR	580615	1
1	CASE ENGINE, FRAME D15	550930-1	1
2	RADIATOR UPPER MOUNT	550934-1	2
3	RADIATOR JOINT, METAL-RUBBER	088183	2
4	WASHER, 8,4-FLAT ZINC	F81054-1	8
5	NUT, M8-8-B HEX NYLON ZINC LOCK	F81032-2	4
6	WASHER, 8,2 SPLIT LOCK ZINC	F81054-4	4
7	BOLT, M8X16 -8.8-B HEX HEAD FULL THREAD	F81002-20	4
8	CABLE, BRACKET	592253-1	1
9	GROMMET, 9.5 (3/8") ID RUBBER	025248	2
10	WASHER, 6.4 FLAT ZINC	F81053-1	4
11	NUT, M6-8-B HEX NYLON ZINC LOCK	F81031-2	2
12	BOLT, M6X20 8.8 HEX HEAD FULL THREAD ZIN	F81001-2	2

4.7 Fuel System 580605



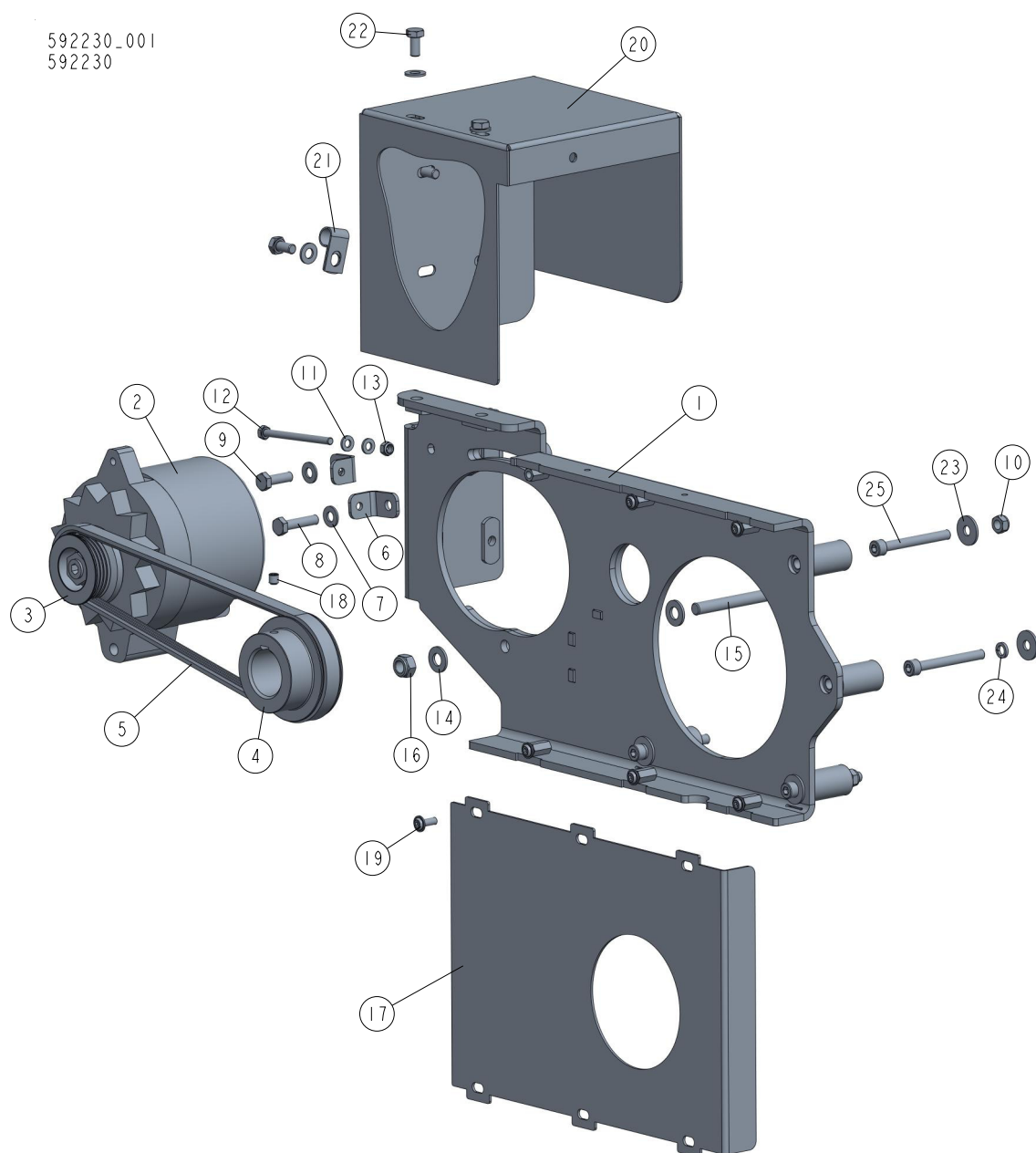
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	FUEL SYSTEM	580605	1
1	FILTER, FUEL D15	550919	1
2	HOSE, 5/16" ID FUEL	R80703-2	1
3	FITTING, NYLON 8 MM X6 MM	580606	1
4	CLAMP, 11-16	F81080-31	4

4.8 Shaft Assembly 592232



REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	SHAFT ASSEMBLY, D15 ENGINE	592232	1
1	SHAFT, ENGINE	592231	1
2	WASHER, 8,4-FLAT ZINC	F81054-1	5
3	WASHER, 8,2 SPLIT LOCK ZINC	F81054-4	5
4	BOLT, M8X25-8.8-B HEX HEAD FULL THREAD Z	F81002-5	5
5	KEY, 10X8X90 BRUSH DRIVE	592240	1

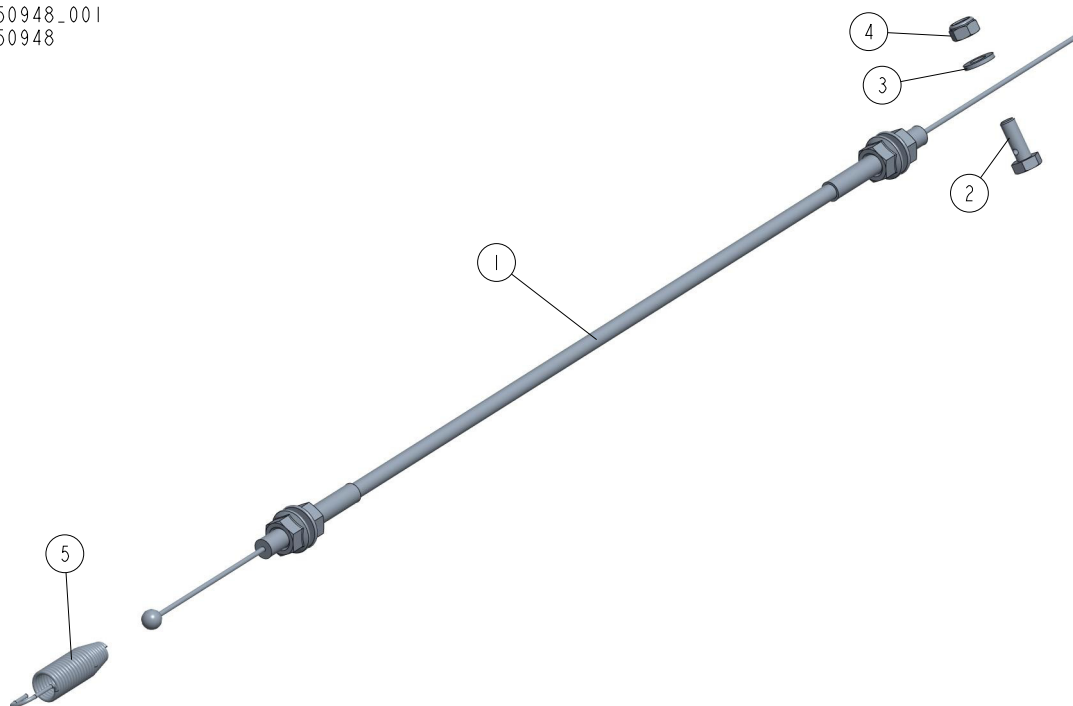
4.9 Alternator Kit 592230



REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	ALTERNATOR KIT LT15/D15	592230	1
1	BRACKET, D15 ALTERNATOR MOUNT	592235-1	1
2	ALTERNATOR, 105A 12V CS130	050287	1
3	PULLEY, 105A (050287) ALTERNATOR ZINC-PL	506378-1	1
4	PULLEY, ALTERNATOR DRIVE ZINC-PLATED	592233-1	1
5	BELT, 4PK755	097815	1
6	TENSIONER, 30A ALTERNATOR BELT	095296-1	2
7	WASHER, 8,4-FLAT ZINC	F81054-1	9
8	BOLT, M8X35 -8.8 HEX HEAD FULL THREAD ZI	F81002-13	1
9	BOLT, M8X25-8.8-B HEX HEAD FULL THREAD Z	F81002-5	1

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
10	NUT, M8-8-B HEX NYLON ZINC LOCK	F81032-2	3	
11	WASHER, 6.4 FLAT ZINC	F81053-1	2	
12	BOLT, M6 X 80 5.8 HEX HEAD FULL THREAD Z	F81001-61	1	
13	NUT, M6-8-B HEX NYLON ZINC LOCK	F81031-2	1	
14	WASHER, 10.5 FLAT ZINC	F81055-1	2	
15	BOLT, M10X90-8.8-B HEX HEAD ZINC	F81003-66	1	
16	NUT M10 ZC 8 NYLOCK DIN 982 ISO 7040	F81033-1	1	
17	GUARD, D15 ALTERNATOR BELT	592239-1	1	
18	SCREW, M8X8 45H GEOMET HEX SOCKET SET W/	F81014-1	1	
19	SCREW, M6X16 BN 11252 "BOSSARD".	F81001-24	6	
20	GUARD, ALTERNATOR	592238-1	1	
21	CLAMP, 1/2" EMT COATED	P07584	1	
22	BOLT, M8X16 -8.8-B HEX HEAD FULL THREAD	F81002-20	6	
23	WASHER 8,5 ZC FENDER DIN 9021 ISO 7093	F81054-11	4	
24	WASHER, 8,2 SPLIT LOCK ZINC	F81054-4	2	
25	SCREW, ISO 4762 M8X70-8.8-A2E HEX SOCKET	F81002-100	4	

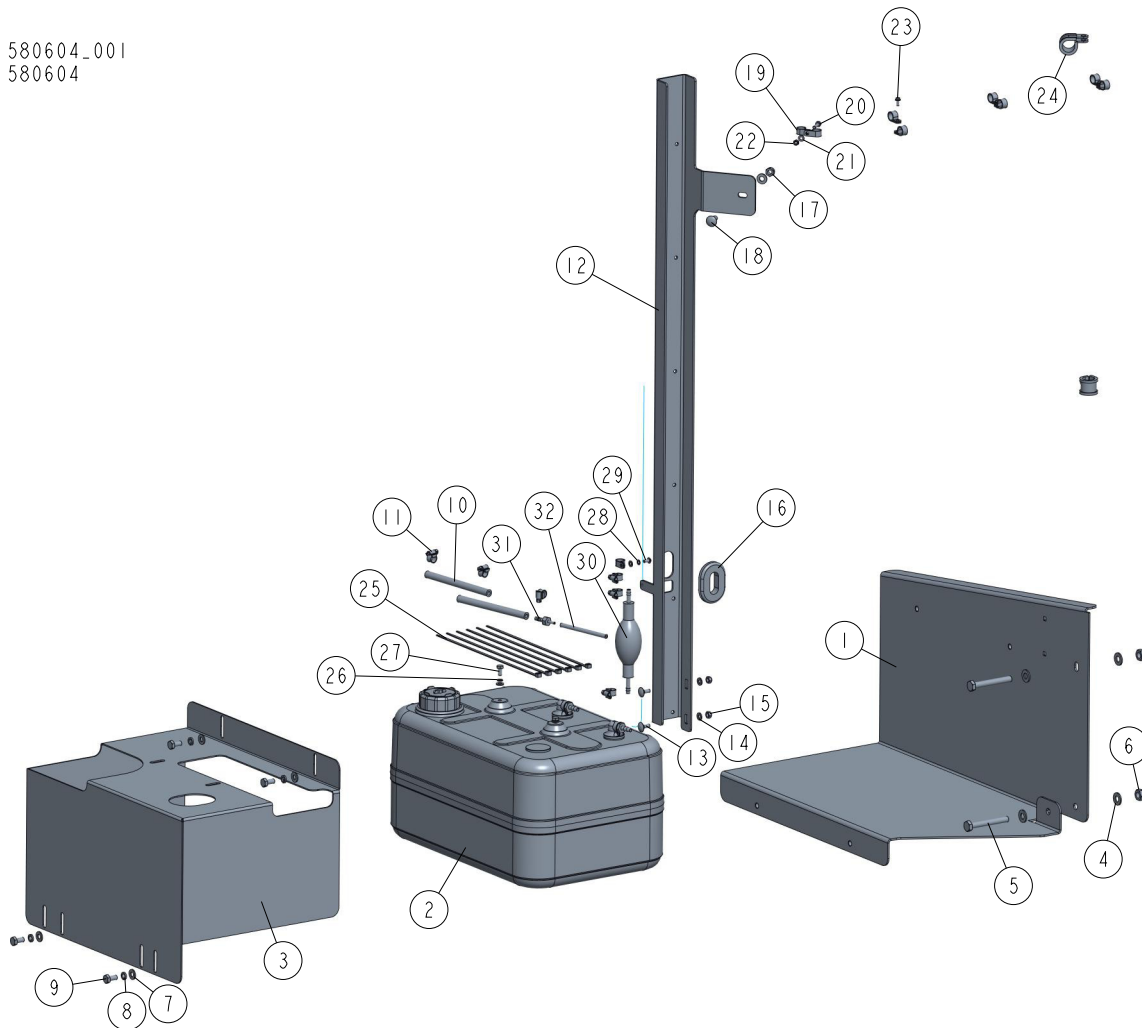
4.10 Cable Assembly 550948

550948_001
550948

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
-	CABLE ASSEMBLY D15	550948	1	
1	CABLE, LT15 G18 THROTTLE	506282	1	
2	BOLT, CABLE CLAMP ZINC	580607-1	1	
3	WASHER, 6.4 FLAT ZINC	F81053-1	1	
4	NUT, M6-8-B HEX NYLON ZINC LOCK	F81031-2	1	
5	SPRING, 35 X9.5 X 1.6 SPECIAL	097443	1	

4.11 Tank Fuel Assembly 580604

580604_001
580604

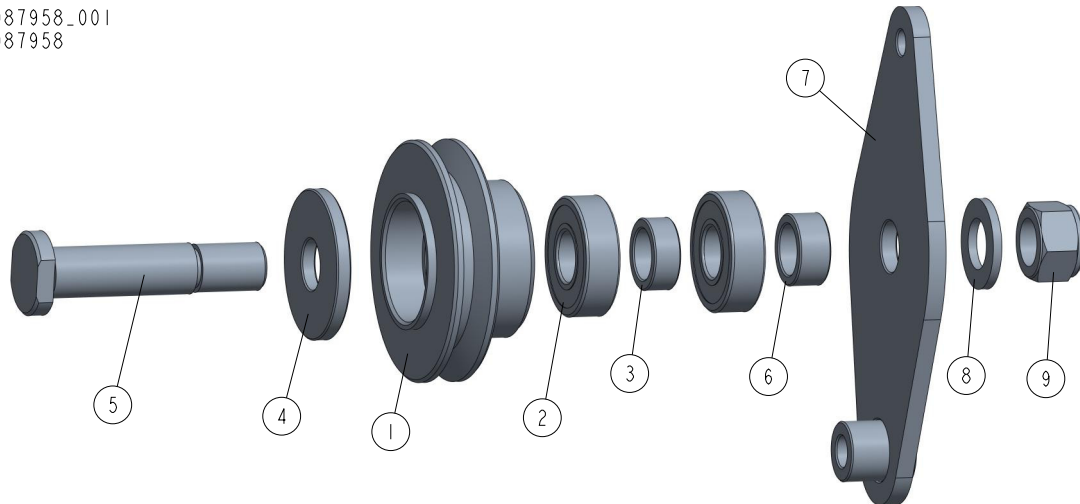


REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	TANK FUEL ASSEMBLY D15	580604	1
1	BRACKET, LT15 FUEL TANK MOUNT - COMPLETE	550766-1	1
2	FUEL TANK, 25-LITRE	550767	1
3	COVER, FUEL TANK	550769-1	1
4	WASHER, 10.5 FLAT ZINC	F81055-1	4
5	BOLT, M10X75-8.8-FE/ZN5 PN-M/82101	F81003-15	2
6	NUT M10 ZC 8 NYLOCK DIN 982 ISO 7040	F81033-1	2
7	WASHER, 8,4-FLAT ZINC	F81054-1	5
8	WASHER, 8,2 SPLIT LOCK ZINC	F81054-4	4
9	BOLT, M8X16 -8.8-B HEX HEAD FULL THREAD	F81002-20	4
10	FUEL LINE, DIESEL ENGINE	P642	2
11	CLAMP, 8-12MM DIA. WORM	F81080-1	6
12	BRACKET, FUEL HOSE GUIDE	531668-1	1
13	BOLT, M6X16 -8.8 CARRIAGE ZINC	F81001-36	2
14	WASHER, 6.4 FLAT ZINC	F81053-1	4
15	NUT, M6-8-B HEX NYLON ZINC LOCK	F81031-2	2
16	GROMMET, RUBBER, 1 X 1 3/4 OVAL	085613	1
17	NUT, M8-8-B HEX NYLON ZINC LOCK	F81032-2	1

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
18	BOLT M8X20 CARRIAGE ZC 8.8 DIN 603 ISO 8	F81002-11	1	
19	CLAMP, 1/2 WIRE PLAS.	F05114-1	9	
20	BOLT M6X20 HH FT ZC 8.8 DIN 933 ISO 4017	F81000-35	1	
21	WASHER, M5, FLAT ZINC	F81052-1	2	
22	NUT, M5-8-FE/ZN5 DIN985	F81030-2	1	
23	BOLT, #8-32X3/8 SELF TAP	F05015-8	3	
24	CLIP, RSGU 1.20/20 RETAINING	F81087-2	2	
25	TIE WRAP	F81082-5	6	
26	WASHER, Z 6.1 SPLIT LOCK ZINC	F81053-3	2	
27	BOLT, M6X12 8.8 HEX HEAD FULL THREAD ZIN	F81001-7	2	
28	WASHER, 5.1 SPLIT LOCK ZINC	F81052-2	1	
29	BOLT M5X10 WG. ISO 7380	F81000-32	1	
30	BULB, FUEL PRIMER	014481	1	
31	FITTING, HOSE STRAIGHT 6 MM - 4 MM	592254	1	
32	HOSE, CARBURANTE 3,2 X 7 ID FUEL	R80703-3	1	

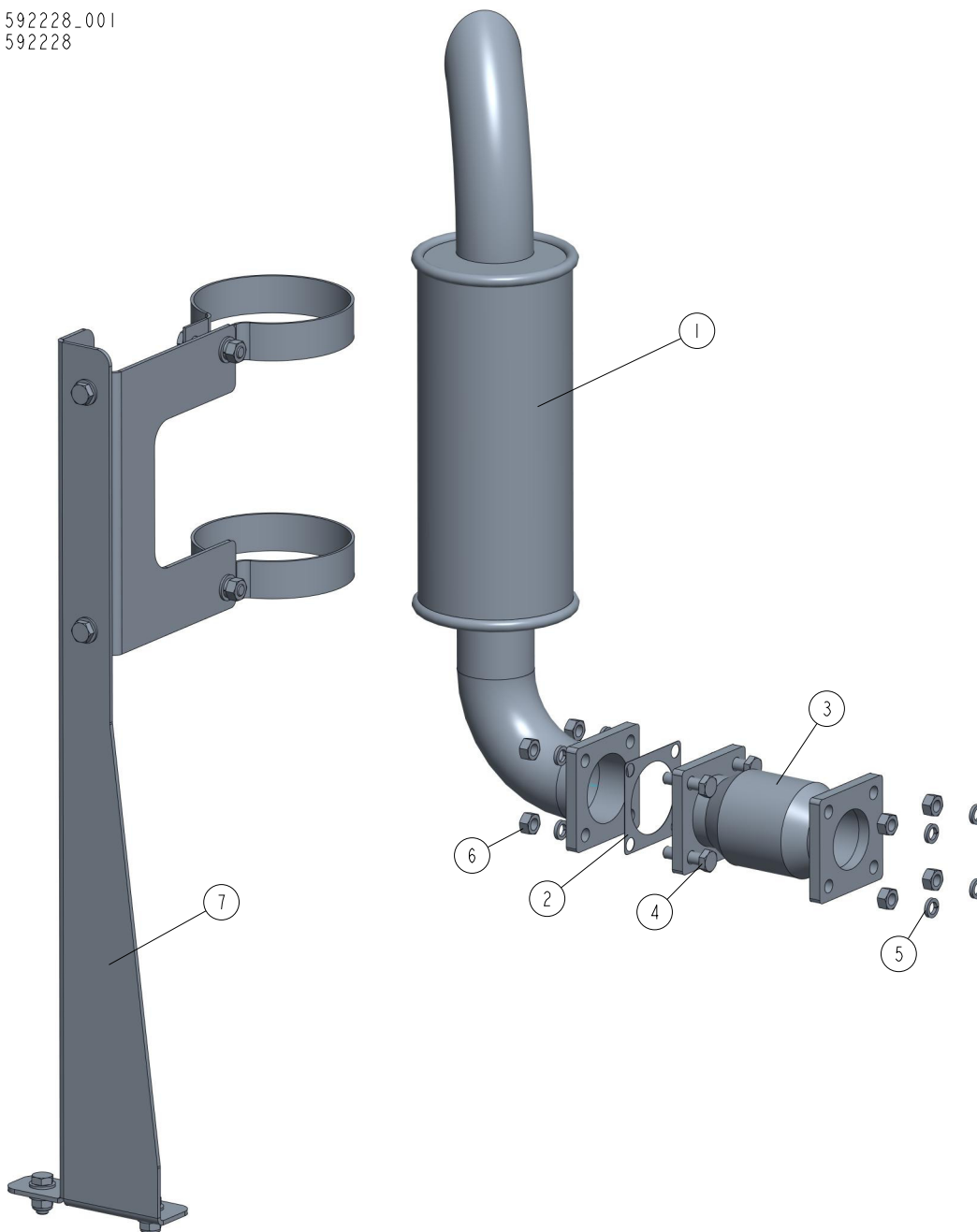
4.12 Drive Belt Support Bracket 087958

087958_001
087958



REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	BRACKET, DRIVE BELT SUPPORT	087958	1
1	PULLEY, D42 KUBOTA IDLER PTD	087959-1	1
2	BEARING, 6203-2RS FLT ROLLING	086114	2
3	SPACER, AC DEBARKER CLUTCH	086357	1
4	COVER, KUBOTA ENGINE BELT TENSIONER ZINC	087961-1	1
5	SHAFT, KUBOTA ENGINE BELT TENSIONER	087960-1	1
6	BUSHING, D42 BELT TENSIONER SPACER ZINC-	087965-1	1
7	MOUNT WELDMENT, D42 ENGINE BELT TENSIONE	087962-1	1
8	WASHER, 17 SPLIT LOCK ZINC	F81058-1	1
9	NUT, M16-8 HEX NYLON ZINC LOCK	F81036-2	1

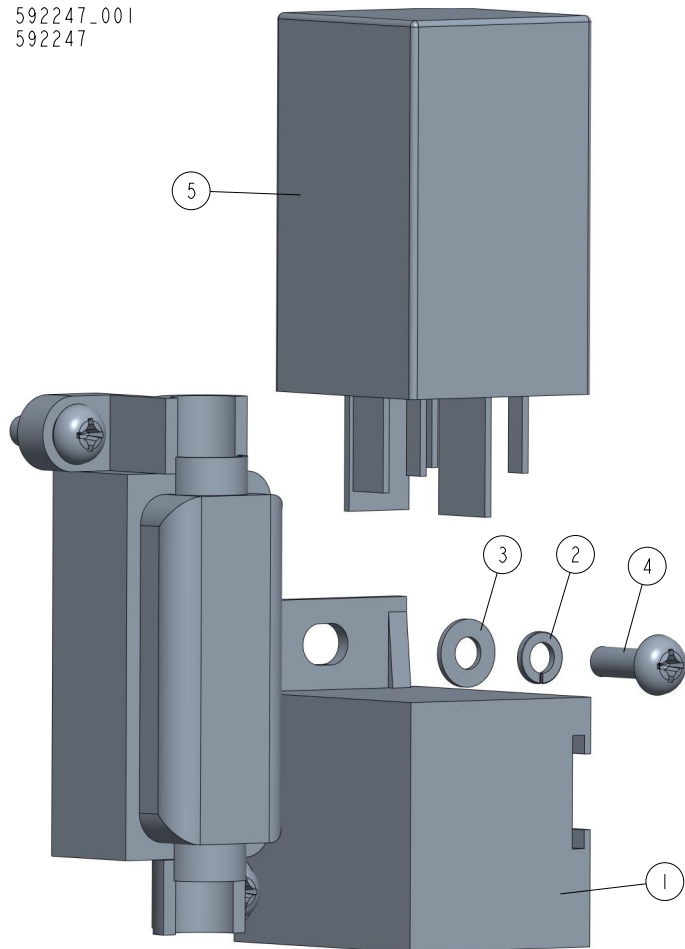
4.13 Exhaust System 592228

592228_001
592228

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
-	EXHAUST SYSTEM D15	592228	1	
1	MUFFLER	550952	1	
2	SEAL, MUFFLER	593242	1	
3	ABSORBER	593240	1	
4	BOLT M8X30 HH ZC FT 8.8 DIN 933	F81002-7	4	
5	WASHER, 8,2 SPLIT LOCK ZINC	F81054-4	8	
6	NUT M8 ZC 8 DIN 934	F81032-1	8	
7	BRACKET, MUFFLER See Section 4.15	593244	1	

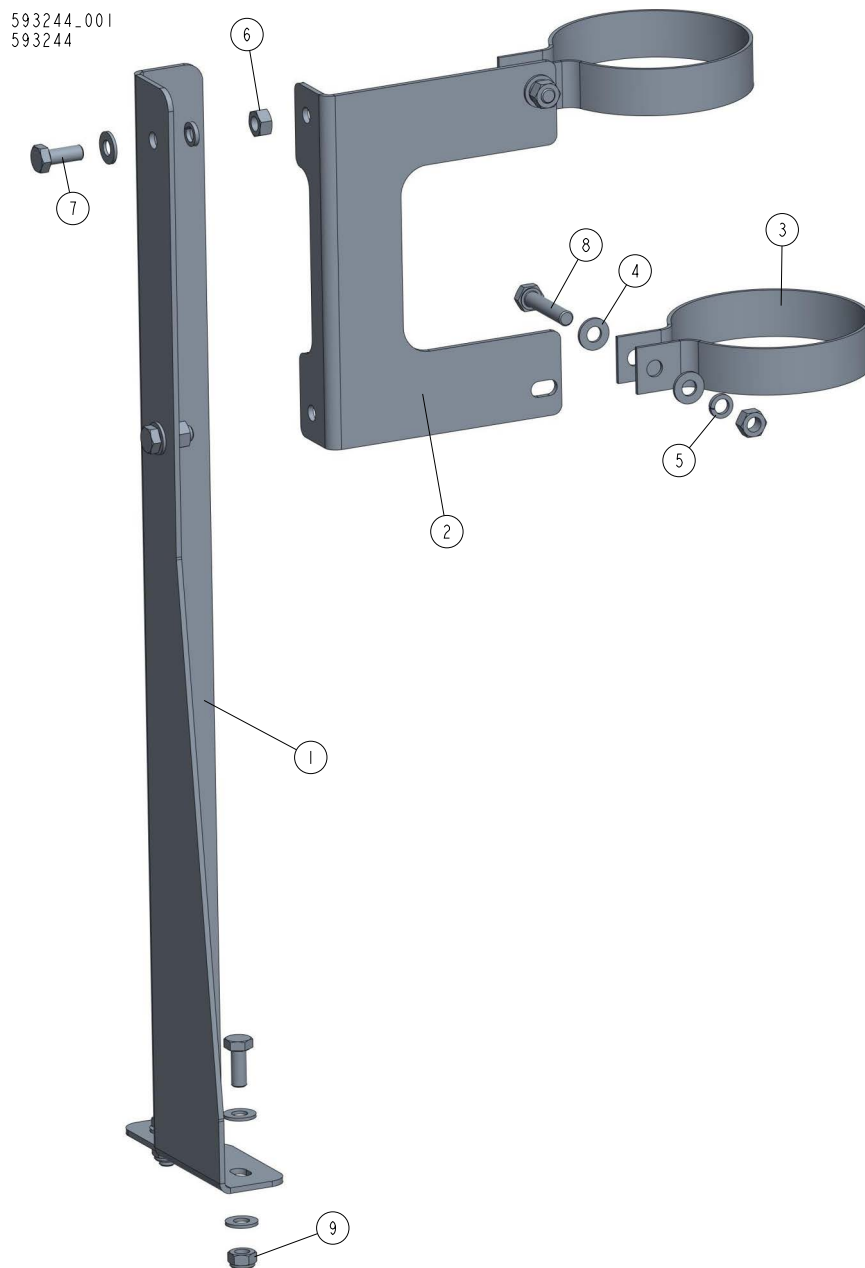
4.14 Glow Plug Relay Assembly 592247

592247_001
592247



REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
-	GLOW PLUG RELAY ASSEMBLY D15	592247	1	
1	HARNESS	592248	1	
2	WASHER, Z 4.1 SPLIT LOCK ZINC	F81051-1	3	
3	WASHER 4.3 ZC DIN 126 ISO 7091	F81051-2	1	
4	SCREW,M4X12 -5,8-B CROSS RECESSED PAN HE	F81011-43	3	
5	RELAY, GLOW PLUG	092277	1	

4.15 Muffler Bracket 593244



REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
-	BRACKET, MUFFLER	593244	1	
1	BRACKET, MUFFLER	593243-1	1	
2	BRACKET, MUFFLER	593245-1	1	
3	CLAMP	592349-1	2	
4	WASHER, 8,4-FLAT ZINC	F81054-1	10	
5	WASHER, 8,2 SPLIT LOCK ZINC	F81054-4	4	
6	NUT M8 ZC 8 DIN 934	F81032-1	4	
7	BOLT, M8X20-8.8-B-HEX HEAD FULL THREAD Z	F81002-4	4	
8	BOLT, M8X40-8.8 HEX HEAD FULL THREAD ZIN	F81002-15	2	
9	NUT, M8-8-B HEX NYLON ZINC LOCK	F81032-2	2	

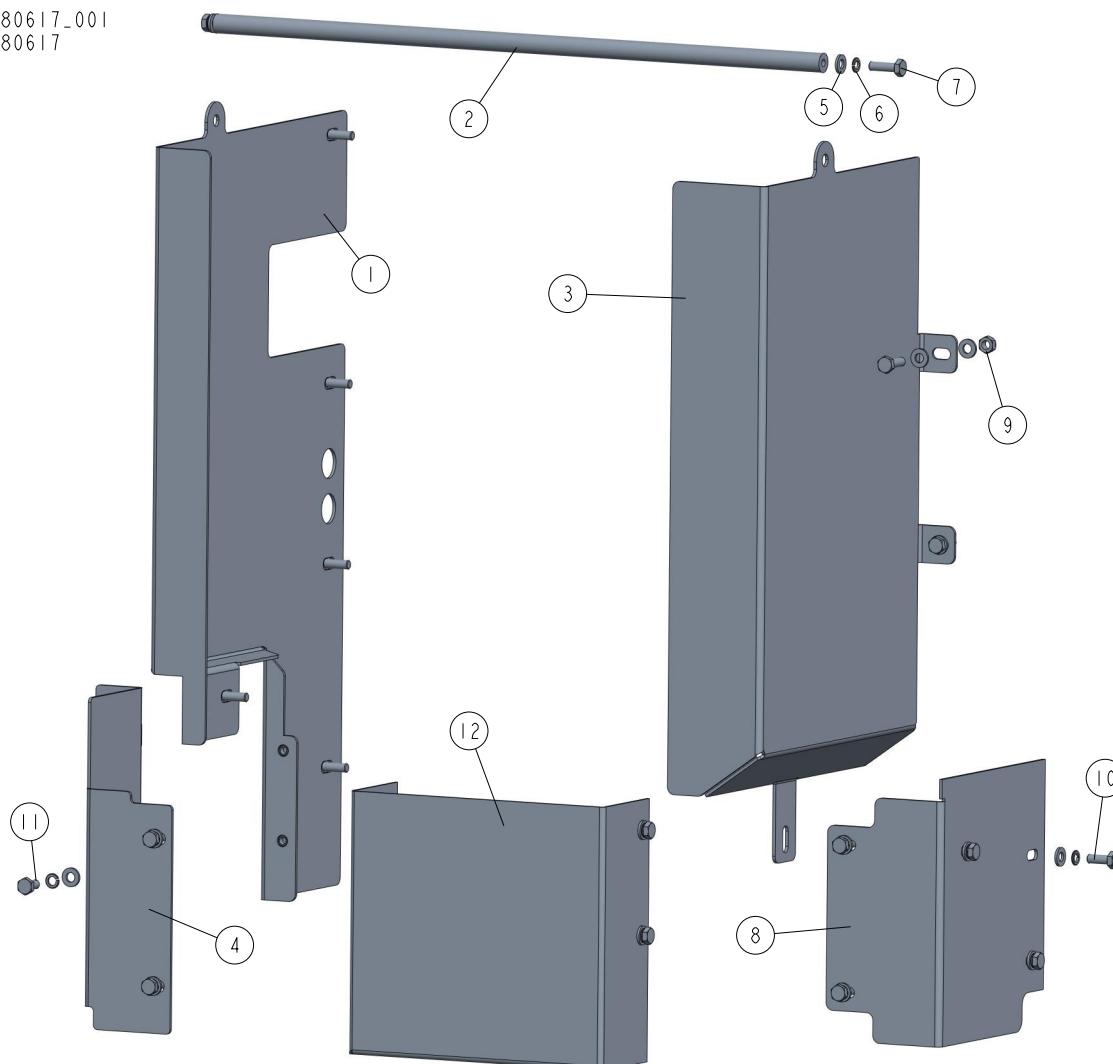
4.16 Belt Tensioner (No. 531695)

531695_001
531695_MANUAL



REF.	DESCRIPTION (* indicates parts available in assemblies only)	PART #	QTY
-	TENSIONER, LT15WC G25/G19 BELT	531695	1
1	BOLT, M10X80 8.8 HEX HEAD FULL THREAD ZINC	F81003-76	2
2	NUT, M10 8 HEX ZINC	F81033-3	2
3	WASHER, 10.5 FLAT ZINC	F81055-1	2
4	PLATE, TENSIONER	531696-1	1
5	WASHER, 8.4 FLAT ZINC	F81054-1	4
6	NUT, M8-8-B HEX NYLON ZINC LOCK	F81032-2	2
7	BOLT, M8X30 8.8 HEX HEAD FULL THREAD ZINC	F81002-7	2

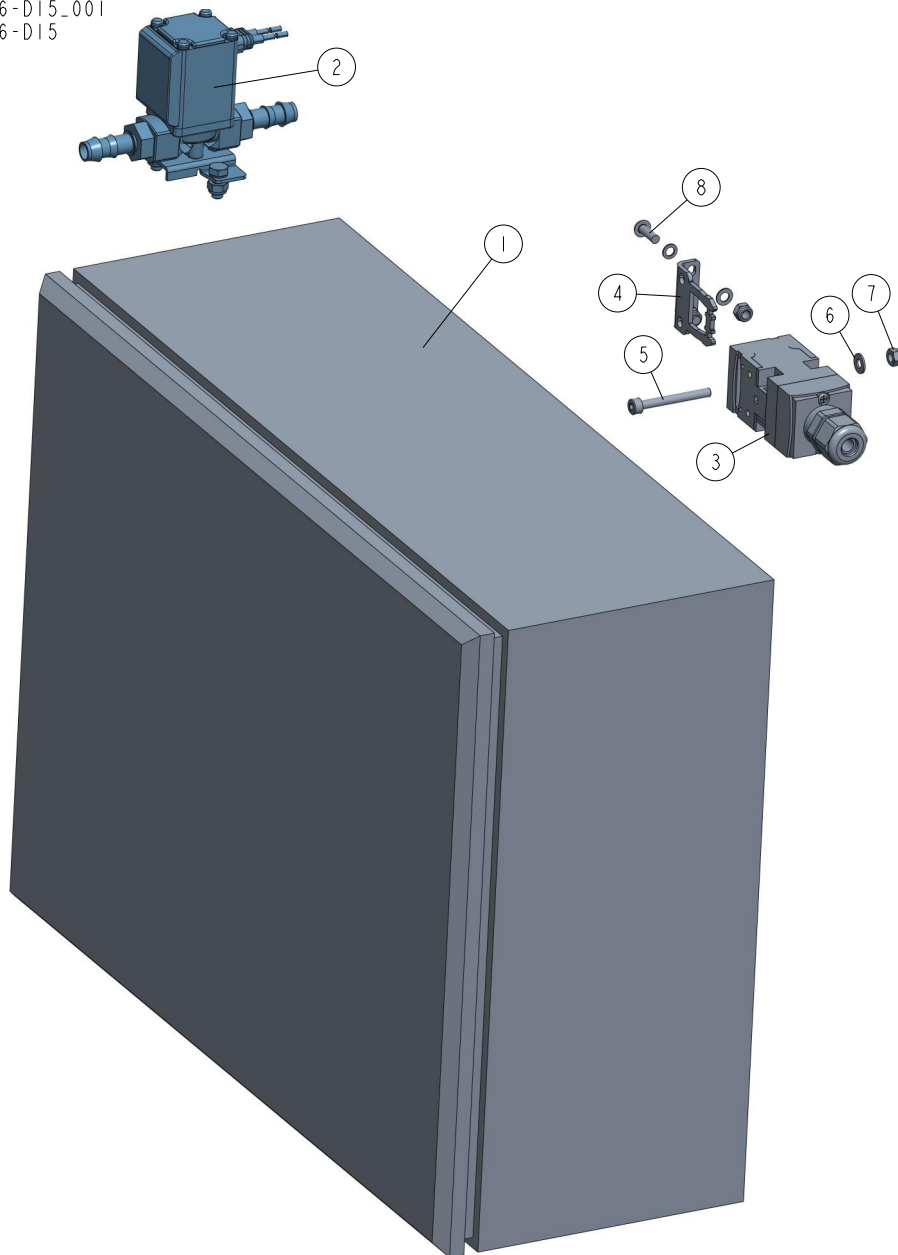
4.17 Engine Guards 580617

580617_001
580617

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	ENGINE GUARDS D15 LT15WC/LT15SC	580617	1
1	COVER, LEFT	550942-1	1
2	ROD, SPACER	550943-1	1
3	COVER 2	550941-1	1
4	COVER, SIDE LOWER	592252-1	1
5	WASHER, 6.4 FLAT ZINC	F81053-1	24
6	WASHER, Z 6.1 SPLIT LOCK ZINC	F81053-3	20
7	BOLT, M6X20 8.8 HEX HEAD FULL THREAD ZIN	F81001-2	13
8	COVER, RIGHT	550950-1	1
9	NUT, M6-8-B HEX NYLON ZINC LOCK	F81031-2	2
10	BOLT, M6X16-8.8 HEX HEAD FULL THREAD ZIN	F81001-15	2
11	BOLT, M6X12 8.8 HEX HEAD FULL THREAD ZIN	F81001-7	7
12	COVER	592229-1	1

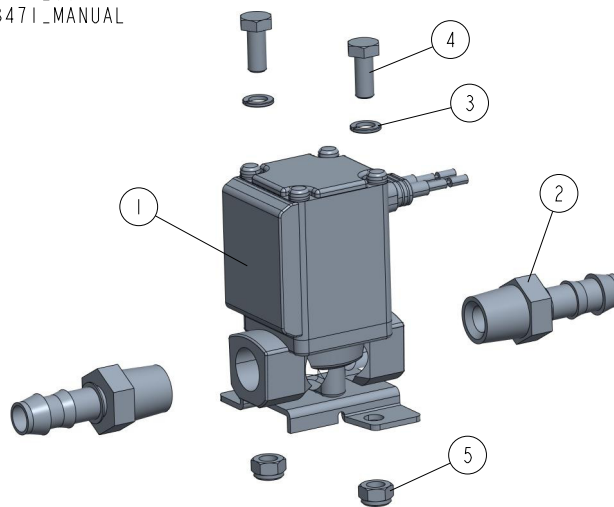
4.18 Electrical Kit 531666-D15

531666-D15_001
531666-D15



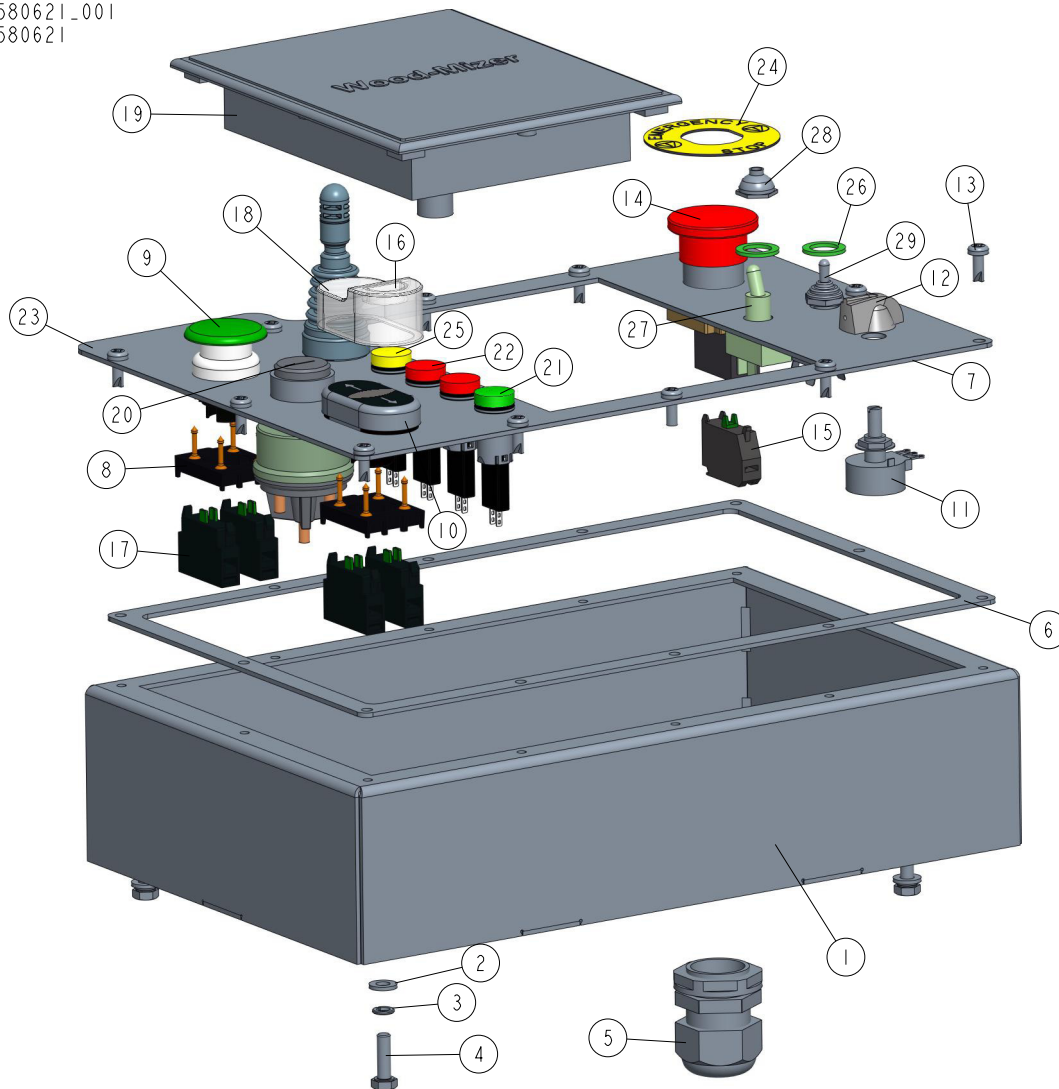
REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	ELECTRICAL KIT LT15WC D15 CE	531666-D15	1
1	BOX, LT15WB-G25/G19 COMPLETE ELECTRICAL	531686	1
2	LUBE KIT, LT15DC BLADE	503471	1
3	SAFETY SWITCH, AZ17-11ZRK	094232	1
4	KEY, AZ17/170-B5 SAFETY SWITCH	094422	1
5	SCREW, M4X35 8.8 HEX SOCKET HEAD CAP ZIN	F81011-34	2
6	WASHER 4.3 ZC DIN 126 ISO 7091	F81051-2	2
7	NUT M4 ZC 8 NYLOCK DIN 982 ISO 7040	F81029-1	4
8	SCREW, M4X12 -5,8-B CROSS RECESSED PAN HE	F81011-43	2

4.19 Blade Lube Kit (No. 503471)

503471_001
503471_MANUAL

REF.	DESCRIPTION (* indicates parts available in assemblies only)	PART #	QTY	
-	LUBE KIT, LT15DC BLADE	503471	1	
1	VALVE, VX212FZ1DAXB SMC SOLENOID	509113	1	
2	FITTING, 3/8 BARB 1/4NPT MALE	P04682	2	
3	WASHER, 5.1 SPLIT LOCK	F81052-2	2	
4	BOLT, M5X12 8.8 HEX HEAD FULL THREAD ZINC	F81000-5	2	
5	NUT, M5-8 DIN985 HEX NYLON ZINC LOCK	F81030-2	2	

4.20 Control Box 580621

580621_001
580621

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY
-	CONTROL BOX LT15WC/D15	580621	1
1	BOX WELDMENT, LT15 CONTROL	538729-1	1
2	WASHER, 6.4 FLAT ZINC	F81053-1	4
3	WASHER, Z 6.1 SPLIT LOCK ZINC	F81053-3	4
4	BOLT, M6X20 8.8 HEX HEAD FULL THREAD ZIN	F81001-2	4
5	GLAND, DP21/H CABLE	F81096-3	1
6	GASKET, LT15 CONTROL BOX	538732	1
7	PANEL WELDMENT, SAWMILL	580623-1	1
8	ADAPTER, LPXAU120 MOUNTING	535438	2
9	BUTTON, LPCB6143	536909	1
10	SWITCH, LPCBL7191	536908	1
11	SWITCH ASSEMBLY, FEED RATE	E20519	1
12	KNOB, SPEED CONTROL	P06257	1
13	BOLT, #10-24X1/2 PH	F05015-17	12

REF	DESCRIPTION (◆ indicates parts available in assemblies only)	PART #	QTY	
14	BUTTON, LPCB6644 EMERGENCY STOP	535445-K	1	
15	CONTACT, 1NCLPXC01	535440	1	
16	BOOT, LPXAU157 BUTTON	536926	1	
17	CONTACT, 1NOLPXC10	535439	4	
18	JOYSTICK LPSJ200	568413	1	
19	CAP, CONTROLLER - COMPLETE	527597	1	
20	SWITCH, KEY	P04350	1	
21	LAMP, CONTROL	087348	1	
22	LIGHT, XB6AV4BB CONTROL RED	091099	2	
23	DECAL, CONTROL BOX	580622	1	
24	WASHER, LPXAU115 E-STOP BUTTON	536912	1	
25	LIGHT, XB6 AV 5BB CONTROL	089812	1	
26	WASHER, 1/2X3/4X1/16 NYLON	P05251-1	2	
27	SWITCH, SPST ON/OFF 15A .25 TABS TOGGLE	P03027	1	
28	BOOT, TOGGLE SWITCH	P02575	1	
29	SWITCH, DPDT TOGGLE 21A REV MOM SPADE	024200	1	