DYNATECH

DIAMONDS AT WORK

Operator Manual

CG-2 Concrete Grinder/Groover
Part Number 1801204
1.800.446.9001

Revision A

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Safety Precautions

Operate the CG-2 Concrete Grinder/Groover and all of its components according to the Dynatech Operator Manual. All operators must be properly trained or supervised to use this saw and should understand the risks and hazards involved. Improper or unintended saw usage is discouraged and Dynatech cannot be held liable for any damages.

Any and all saw modifications should be made by Dynatech to ensure proper safety and accuracy. Modifications made to the saw by the current owner are not the responsibility of Dynatech, and void any and all saw warranties if a problem arises due to the modification.

Failure to comply with and understand the safety, operations, and maintenance instructions provided in this manual can result in serious injuries and/or death. Any and all information in this manual may be updated at any time.

Prior to operating the saw, record the saw's serial number, and the engine's model and serial numbers in the *Serial Tags* section in the *Index* for future reference.

Safety Alerts

⚠DANGER
Serious injuries and/or death will occur if these instructions are not followed.

⚠WARNING
Serious injuries and/or death could occur if these instructions are not followed.

⚠CAUTION
Mild and/or moderate injuries could occur if these instructions are not followed.

Proposition 65

⚠WARNING
Engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and/or other reproductive harm.

Respiratory Hazards

⚠WARNING
Concrete cutting produces dusts and fumes known to cause illness, death, cancer, respiratory disease, birth defects, and/or other reproductive harm. Types of safety protection include, but are not limited to:

- Wearing gloves
- Wearing safety goggles or a face shield
- Using approved respirators when necessary
- Washing work clothes daily
- Using water when wet cutting to minimize dust
- Washing the hands and face prior to eating and/or drinking

For additional safety and self-protection information contact your employer, the Occupational Safety and Health Administration (OSHA), and/or The National Institute for Occupational Safety and Health (NIOSH).

General Safety

- Regularly clean any slurry, concrete dust, and debris from the saw.
- Place jack stands or blocks under both frame edges at the front of the frame base, and/or under both frame edges at the back of the frame base when working underneath the saw.

- Repair the saw immediately if a problem arises.
- Replace saw decals when they become unreadable.
- Dispose of all hazardous waste materials properly and according to city, state, and federal regulations.
- Always have a phone available, and identify the location of the nearest fire extinguisher and first aid kit prior to operating the saw.
- Persons under the statutory age limit should not operate the saw.
- Always allow the saw to cool when finished operating it to prevent serious burns.

DO NOT:

- Operate or perform maintenance on the saw without reading and understanding all of the safety, operations, and maintenance instructions provided in this manual.
- Operate the saw without wearing the appropriate safety equipment required for the work task.

- Operate or maintenance the saw wearing clothing or accessories that can snag in the machinery.
- Operate the saw wearing flammable clothing.
- Operate the saw using attachments not associated with or recommended for this saw.
- Operate the saw with anyone near the work area.
- Operate the saw until all unnecessary materials have been removed from the work area.
- Operate the saw with any loose nuts and/or bolts.
- Operate the saw when ill or fatigued.

DO NOT (cont.):

- Operate the saw under the influence of drugs and/or alcohol.
- Operate the saw on extremely steep slopes.
- Operate the saw with guards and access panels removed.
- Grease/lubricate the saw with the engine running.
- Perform any maintenance until the saw has cooled.
- Perform any maintenance with the engine running.

Battery Safety

- Ignitable explosive gases are emitted from the battery. DO NOT expose the battery to any sparks or open flames.

- Keep the area around the battery well-ventilated.
- DO NOT drop the battery, and keep the battery level when handling it.
- Use protective eyewear or a face shield, and avoid any contact with the skin when handling a battery.
- Use a proper battery tester, such as a voltmeter, to test the battery strength.
- Inspect the battery cables and battery for any visible damages and replace when necessary.
- Immediately rinse your clothing, skin, or eyes with water if exposed to battery acid. Seek medical attention.
- Always disconnect the battery when working on the electrical system.
- Always disconnect the battery when performing maintenance.
- Remove the battery for longer saw storage periods.

Blade Safety

- Always use reinforced abrasive blades or steel-centered diamond blades.
- Inspect all blades prior to usage and discard any damaged blades.
- DO NOT install a blade shaft with the engine running.

- DO NOT expose yourself or anyone else to the direct line of the blade shaft when operating the saw.

- Keep all body parts away from rotating blades.
- Inspect the blade flanges for any visible damages, wear, and cleanliness.
- Always use the appropriate size blade for the cutting task. The blade must fit snug on the blade shaft arbor & be properly retained by all blade shaft tie bolts & flanges.
- Wear gloves and be alert to the surrounding environment when handling blades.
- DO NOT drop a blade when handling it.
- Always point the arrow printed on the blade in the direction of the blade shaft's rotation when installing the blade.
- Always use the correct blade type for the material being cut.
- DO NOT exceed the maximum RPM speed printed on the blade when cutting. Excessive blade speeds can cause blade breakage, resulting in serious injuries and/or death.
- DO NOT use a blade with a lower maximum operating speed than the blade shaft speed for cutting.
- Always tighten the blade shaft bolts to 185 foot-pounds (ft-lb) (250 Newton-meters (Nm)) to properly secure the loose flange and blades. Failure to properly secure the loose flange and blades may cause parts to loosen or fall off of the saw when operating it.
- Install the correct blade shaft sheave, blade drive belts, and flanges when changing the blade size. Refer to the Dynatech Parts List for additional information.
- Adjust the engine governor setting, if necessary, when changing the blade size.
- Raise the blade to a sufficient height when maneuvering the saw to provide proper clearance between the blade and the ground.
- Always let the blades cool prior to removing or replacing blades when dry cutting.

Belt Guard Safety

- DO NOT operate the saw with the belt guard removed.
- Blade exposure while cutting should not exceed 180°.
- DO NOT remove the belt guard with the engine running.
- Always use the belt guard
- Inspect the belt guard prior to operating the saw and clean, repair or replace damaged guards immediately.

Fuel Safety

- Store all fuel in appropriate safety containers.
- DO NOT operate the saw with a fuel leak.
- DO NOT fuel the saw with the engine running.
- Let the engine cool prior to adding fuel.
- DO NOT smoke or expose fuel to open flames when filling the fuel tank and/or working with fuel.

- DO NOT overfill the fuel tank. Clean up any spilled fuel prior to starting the engine as fuel may seep out from the fuel cap vent when the saw is raised.
- Move the saw away from the fueling area prior to starting the engine.
- Use appropriate diesel fuels in cold weather.
- Drain the fuel tank and fuel lines for longer storage periods.

Engine Safety

- Refer to the Deutz Operation Manual 2011 for primary engine safety and engine care information.
- Push the emergency stop button down to immediately stop the engine if necessary.
- Always start the engine with the speed control lever at *Neutral* and transmission disengaged to prevent any unnecessary saw movement.
- Fill the fuel tank and check the engine oil prior to starting the engine.
- DO NOT leave the engine running unattended.
- Keep all body parts away from rotating parts with the engine running.

- DO NOT start the engine without the air filters installed.
- DO NOT allow dust to enter the air intake tube when cleaning/replacing air filters to prevent serious engine damage.

- Replace any damaged saw components immediately that may allow dust to enter the engine to prevent serious engine damage.
- DO NOT use any other starter substances or starter fluids when starting the engine using the glow plug (e.g., starter fluid sprayed into the air filter). These materials are extremely flammable and explosive, and can melt parts or possibly explode when using them and the glow plug together to start the engine.
- Always operate the saw in well-ventilated areas. Concentrated engine exhaust can cause loss of consciousness and/or death.

- DO NOT operate the saw in areas that contain combustible materials and/or fumes, which can create an explosion.
- DO NOT leave the saw unattended, after turning the engine off, until the blades have stopped spinning.
- Clean the engine cooling system regularly to prevent high operating temperatures.
- DO NOT perform any maintenance with the engine running.
- For water cooled engines, let the engine cool prior to removing any pressurized caps.

- Let the engine cool prior to performing any maintenance.
- Handle hot oil carefully when changing the oil.

Cutting Safety

- The work area should not contain any buried or embedded electrical, gas, or water lines.
- Turn off all electricity, gas, and water lines in and around the work area prior to cutting.
- DO NOT expose yourself or anyone else to the direct line of the blades when operating the saw.
- DO NOT allow any person, animal, and/or object in and around the work area when operating the saw.
- Use just enough handle pressure to guide the saw on the cutting line. DO NOT forcibly direct (twist) the saw from side to side to avoid damaging the saw and blades.
- Avoid sawing excessively deep to preserve the blades and reduce sawing costs.

Hydraulic Safety

- Turn the engine off prior to performing any maintenance on the hydraulic system.
- Lower the saw to the floor so it is level to release pressure in the hydraulic system prior to performing any maintenance on the hydraulic system.
- Visually inspect for, or use a piece of cardboard or paper to check for any hydraulic fluid leaks. Keep all body parts away from areas that eject hydraulic fluid. Pressurized hydraulic fluid can penetrate the skin and cause serious personal injury. Seek medical attention immediately.

Belt Safety

- Turn the engine off prior to performing any belt maintenance.
- Always let the belts cool down prior to performing any belt maintenance.
- Regularly inspect the belts for any fraying, stress cracks, and/or breakage, and replace them immediately if there are any visible damages.
- Over-tensioning the belts may damage the power take-off (PTO). Under-tensioning the belts may cause shorter belt life and/or poor saw performance.
- Squealing belts are an indication that the belts are loose.
- Always make sure the belts are properly aligned prior to operating the saw.
- Always replace the belt guard prior to operating the saw.

Transmission Safety

- DO NOT assume that the transmission will act as a brake in *Neutral* when stopping the saw and/or parking the saw on a slope. Block the saw to prevent unnecessary movement.
- The engine must run at half throttle or greater for proper transmission efficiency when maneuvering the saw with power.
- Clean the transmission fan and fan guard regularly to prevent high oil temperatures.

Transporting Safety

- Drain the saw's fuel tank when transporting the saw longer distances.
- Use heavy-duty ramps that will support a weight greater than that of the saw and yourself when moving the saw up and down ramps.
- The towing truck/trailer should always be in good working condition.
- Raise the saw to avoid brushing the lower body of the saw up against anything while moving up and down ramps.
- Use extreme caution and a slower speed to guide the saw up and down ramps when loading and unloading the saw from a truck/trailer.
- Slowly drive the saw forward to guide it down a ramp. Slowly back the saw in reverse to guide it up a ramp.
- When transporting the saw, turn the engine off once the saw is loaded into the truck/trailer, but place the speed control lever at *Neutral* and engage the transmission.
- Block and chain the saw in a truck/trailer to secure it properly when transporting.
- Refer to the Department of Transportation (DOT) for additional information regarding proper transportation techniques.

Lifting Safety

- Move yourself and all others away from the lifting area when hoisting the saw to prevent being crushed underneath the saw.

- Secure the appropriate hoisting cables, ropes, wires, and/or chains to the saw frame to properly lift the saw when hoisting it.
- DO NOT attempt to lift the saw irresponsibly and/or improperly.

Introducing the CG-2

Components

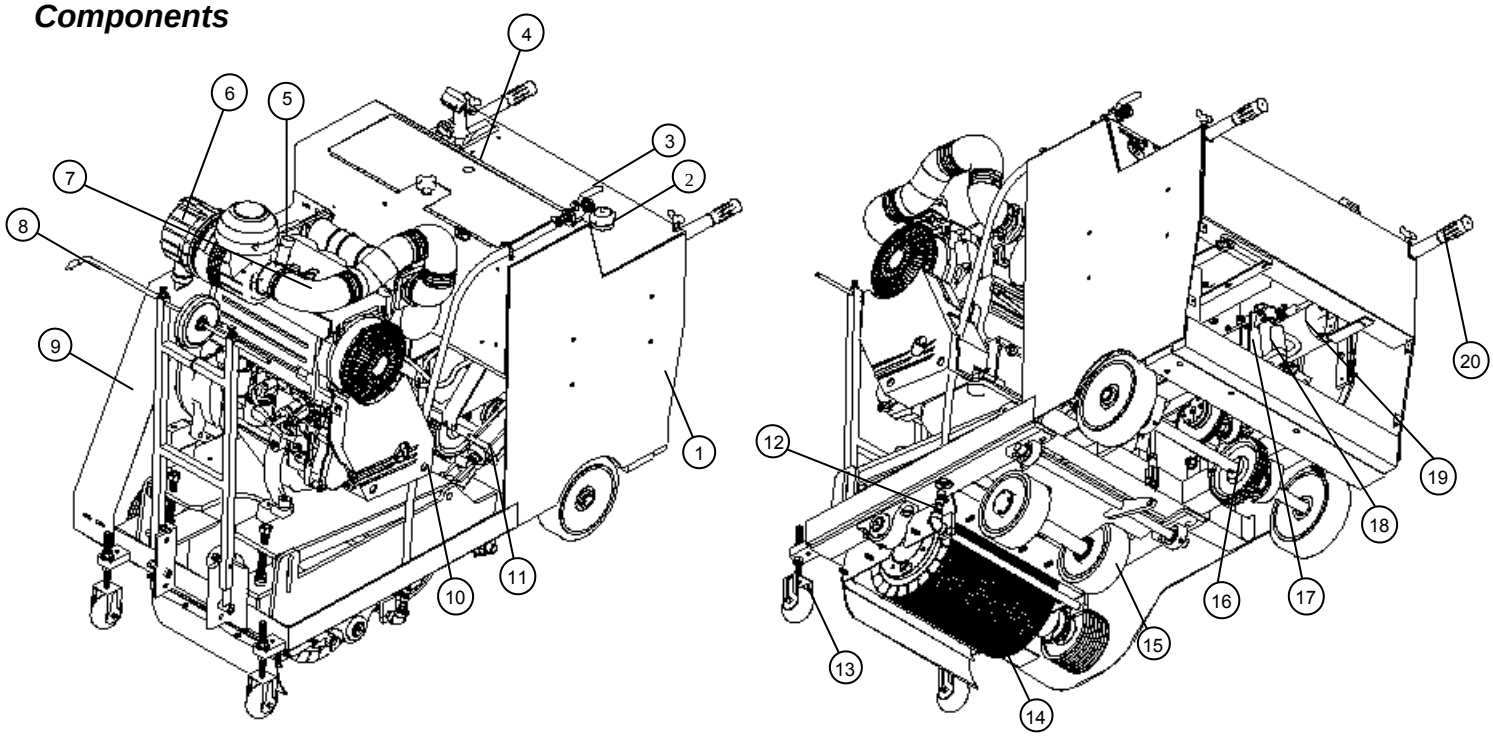

Figure 1: Side and Bottom View

1. Frame Upright
2. Fuel Tank
3. Water Supply
4. Instrument Panel
5. Air Cleaner Indicator
6. Air Cleaner
7. Air Intake
8. Front Pointer
9. Belt Guard
10. Deutz 49HP Diesel
11. Hydraulic Cylinder
12. Spray Bar
13. Front Grooving Wheels
14. Blade Shaft
15. Lift Plate
16. Rear Drive Axle
17. Transmission
18. Transmission Actuator
19. Hydraulic Pump
20. Handlebars

Controls

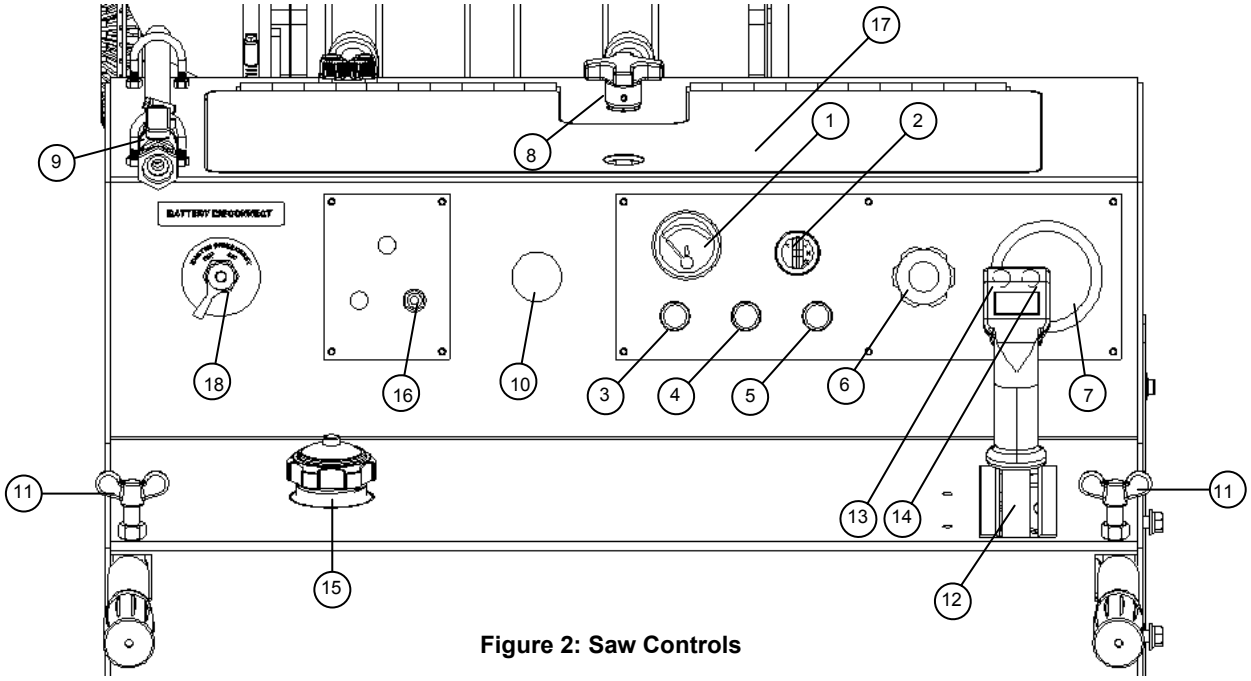

Figure 2: Saw Controls

1. **Engine Temperature Gauge**–The gauge pointer indicates the engine temperature. The pointer should remain within the green area; entry into the orange area indicates overheating.
2. **Ignition Switch**–Starts the engine.
3. **Alternator Light**–Lights up when the alternator is not charging the battery.
4. **Oil Temperature Light**–Lights up when the oil temperature is too high.
5. **Oil Pressure Light**–Lights up when the oil pressure is too low.
6. **Vernier Throttle Control**–Increases/decreases the engine speed/blade speed (RPM).
7. **Blade Tachometer/Hour Meter**–Indicates the blade RPM, and the total number of saw hours operated.
8. **Depth Stop Knob**–Holds a specific cutting depth.
9. **Water Valve**–A valve on the left side of the saw controls the water flow to the blade.
10. **Emergency Stop Button**–Immediately stops the engine.
11. **Handle Lock Knobs**–Secure the handlebars to the frame upright.
12. **Speed Control Lever**–Controls the forward/neutral/reverse motion of the saw.
13. **Lower Pushbutton**–Lowers the saw and blade shaft.
14. **Raise Pushbutton**–Raises the saw and blade shaft.
15. **Fuel Tank Cap**–Opening to add fuel; indicates the fuel level.
16. **Transmission Toggle Switch**–Engages/disengages the transmission.
17. **Access Panel**–Hinges open to access battery, hydraulic pump, and rear of instrument panel.
18. **Battery Disconnect Switch**–Disconnects power from the battery to all components.

Dimensions

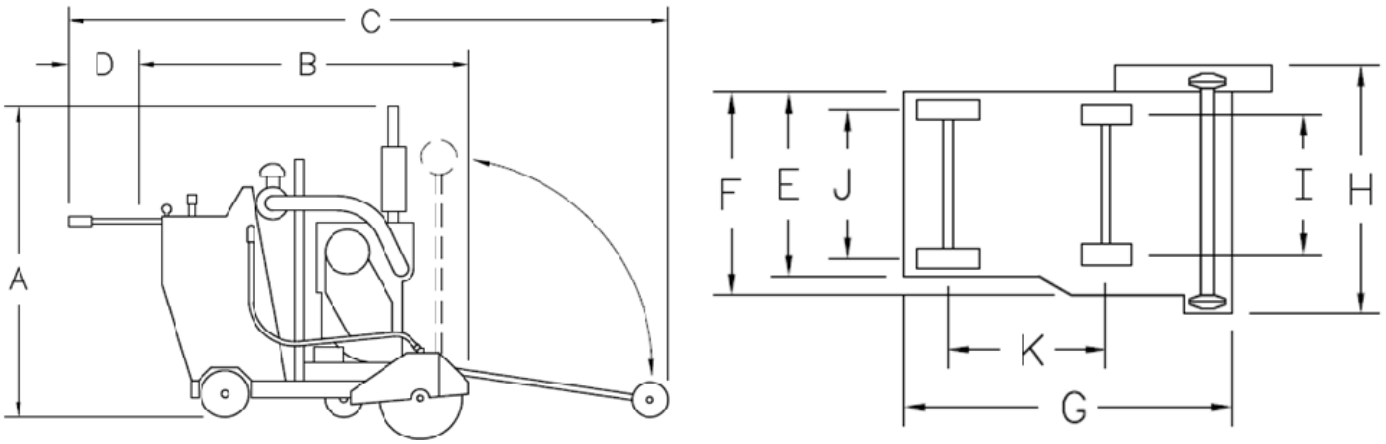

Figure 3: Side and Bottom View

Table 1: Saw Dimensions		
A	Saw Height	58”
B	Minimum Length, Pointer Up, Handles In	72”
C	Maximum Length, Pointer Down, Handles Out	129”
D	Handle Extension	25”
E	Frame Width (Rear)	32-7/8”
F	Frame Width (Front)	32-7/8”
G	Frame Length	63-1/4”
H	Saw Width	32-7/8”
I	Front Axle Center Length	12”
J	Rear Axle Center Length	29-1/2”
K	Wheel Base Length	23-3/4”
L	Blade Shaft Maximum Height	13”

Specifications

Table 2: Saw Specifications	
Maximum Cutting Depth	1-5/8”
Blade Shaft Bearing Diameter	1-7/16”
Arbor Diameter	5”
Blade Shaft Bearings	High Capacity Tapered Roller
Blade Shaft Drive	Set of two 4 band 3VX power band V-belts
Blade Shaft Effective Length	16”
Blade Raise/Lower	Electro-hydraulic pump
Blade Coolant	Spray Bar; 8 80-15 & 2 80-30 Spray Tips
Belt Guard Attachment	Bolt-On
Front Wheel Dimensions	8” × 3” × 1”
Rear Wheel Dimensions	10” × 3” × 1-1/4”
Handlebars	Two-position tilt
Transmission	Eaton model 10
Drive Speed	0-200 ft/min
Electric Start	Standard
Hour Meter	Standard
Amp Meter	Warning light
Fuel Capacity	Nine gallons
Tachometer	Standard
Frame Lift	Standard
Uncrated Weight *(add 100 lb for crated weight)*	1,920-1,955 lb

Table 3: Engine/Motor Specifications	
Manufacturer	Deutz
Model	F3L 2011
Maximum Horsepower (HP)	49 @ 2,800 RPM
Fuel Type	Low sulfur/ultra-low sulfur diesel fuel
Air Filter	Four-stage
Low Oil Alert	Warning light
Engine Temperature	Gauge and warning light
Note: Refer to the Deutz Operation Manual 2011 for additional engine information and specifications.	

Operating the CG-2

Handlebars

The handlebars help the operator guide and maneuver the saw.

Adjusting the Handlebars

1. Loosen both handle lock knobs.
2. Hold the handlebar grip and place the first handlebar into the handlebar opening below the handle lock knob. The handlebar can fit through two different pathways inside the handlebar opening. Select the handlebar angle that works best for the current task.
3. Place the handlebar at the desired length.
4. Tighten the handle lock knob to secure the handlebar.

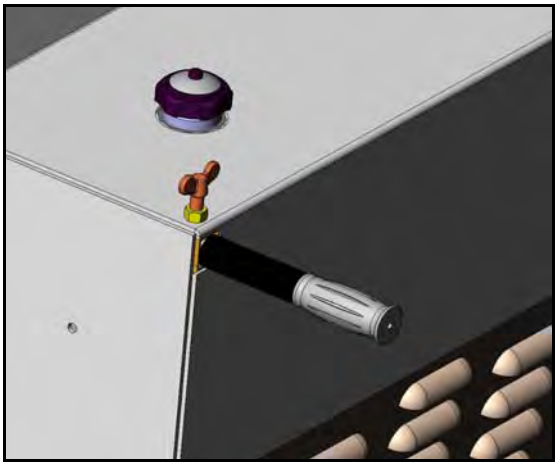

Figure 4: Handle Lock Knob and Handlebar

5. Repeat steps 2–4 to secure the second handlebar.
6. Adjust the handlebar orientation and length as necessary.

Front Pointer

The front pointer assembly helps the operator follow the cutting line.

Adjusting the Front Pointer

1. Remove the tensioned pointer lanyard from the cable cleat on the frame upright.
2. Lower the front pointer frame to the floor.
3. Loosen both front pointer frame screws.
4. Divide an 8–10 ft piece of string in half.
5. Place the looped end of string into a gullet on the backside of the outermost blade.
6. Place one string line up against the backside of the blade, and one string line up against the front side of the blade. Holding the string ends in one hand, tension the lines out toward the front pointer rod.
7. Slide the pointer rod over and place the pointer cap in between the tensioned string lines.

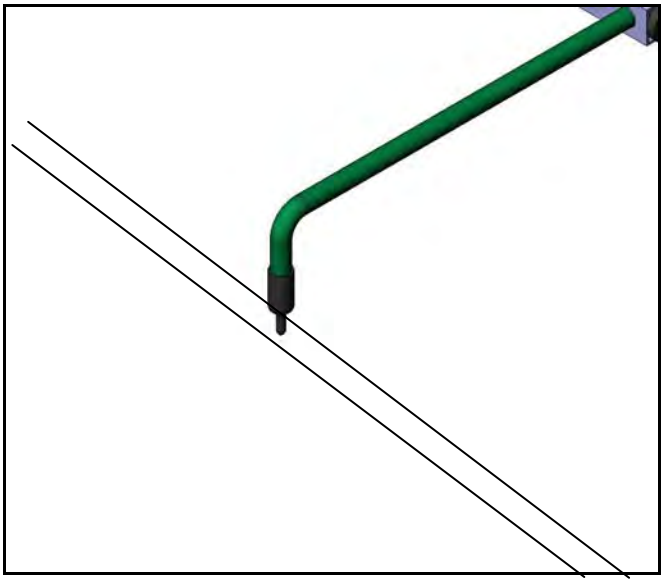

Figure 5: Pointer Cap between String Lines

8. Retighten both front pointer frame screws to secure the pointer rod.
9. Lift the front pointer frame off of the floor when the cutting task is complete.
10. Re-tension the pointer lanyard, and then place the lanyard into the cable cleat to secure the front pointer.

Battery

⚠WARNING

- Ignitable explosive gases are emitted from the battery. DO NOT expose the battery to any sparks or open flames, and keep the area around the battery well-ventilated.

⚠CAUTION

- Use a proper battery tester, such as a voltmeter, to test the battery strength.
- Use protective eyewear or a face shield, and avoid any contact with the skin when handling a battery.

The saw contains an installed, charged battery with one positive battery cable lead and one negative battery cable lead. The battery and cables are connected prior to the saw's delivery.

A battery disconnect switch is provided to the left of the instrument panel in the operator interface area. This disconnect switch should be used whenever the saw is not in operation for safety and battery longevity.

Diamond Blades

⚠WARNING

- DO NOT exceed the maximum RPM printed on the blade when cutting. Excessive blade speeds can cause blade breakage, resulting in serious injuries and/or death.

Using the proper blade helps preserve the blade's life and also improves the operator's efficiency, resulting in lower costs. Refer to www.dynatech-diamond.com for a list of different blade types and additional blade information.

Inspecting the Blade

Always inspect each blade prior to blade installation. DO NOT use damaged blades for cutting to avoid injuring yourself and/or others working in the area, and to avoid any harm to the saw. Discard all damaged blades and inspect each replacement blade for deficiencies. Inspect all blades prior to installation for:

- Cracks, nicks, and dents.
- A damaged and/or deformed arbor (center hole).
- Darkness and/or discoloration near the edge of the blade.
- A deformed blade circumference.
- Segment loss and/or segment cracks.
- Core wear.
- Bending.
- Uneven side-widths.

Blade Speed

Refer to the Dynatech Parts List for information on the recommended blade RPM when cutting. DO NOT use a blade with a lower maximum operating speed than the blade shaft speed when cutting.

Blade Shaft Removal

⚠WARNING

- DO NOT remove or install a blade shaft with the engine running.
- Failure to properly secure the loose flange and blade shaft tie bolts may cause parts to loosen or fall off of the saw.
- The blade shaft assembly weighs up to 500 pounds and must be lifted to the vertical position to change blades.
- Failure to follow these instructions can lead to serious injury or death.

⚠CAUTION

- Wear gloves and be alert to the surrounding environment when handling blades.
- Always let the blades cool prior to removing or replacing blades when dry cutting.

1. Remove the belt guard.

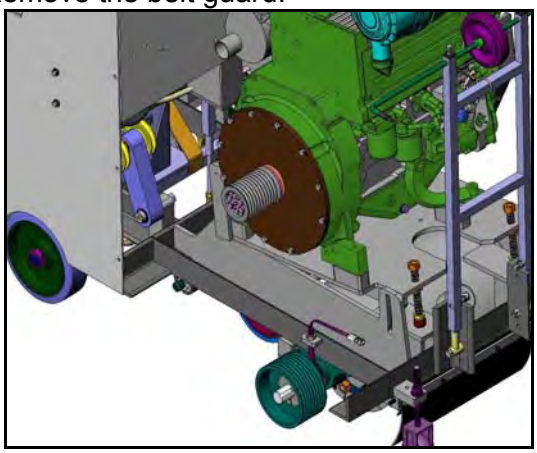

Figure 6: Belts and Belt Guard Removed

2. Remove the blade shaft drive belts (see page 28 of this manual).
3. Lower the saw until the blades make contact with the ground using the lower pushbutton found on the speed control lever.
4. Block the front and rear of the blade shaft using 2 X 4 wooden blocks (or the equivalent) to ensure it won't roll when bearing retaining bolts are loosened.
5. Loosen and remove the four bladeshaft bearing retaining bolts.

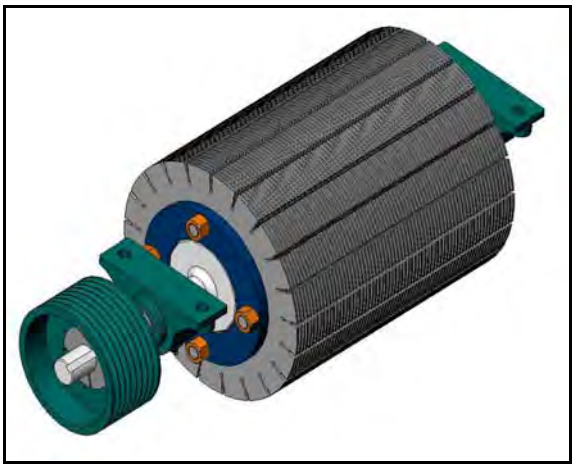

Figure 7: Blade Shaft Assembly Removed

6. Slowly raise the saw to the maximum height using the raise pushbutton found on the speed control lever.
7. Carefully remove the wooden block at the front of the blade shaft and roll the blade shaft forward out from under the saw. It should clear the vacuum box by at least 1/4".
8. Remove the blade shaft bearing on the left (non drive sheave) side of the blade shaft by loosening the four bearing set screws.
9. Loosen, but do not remove, the 4 tie bolts that pass through the blade shaft flanges.
10. Install the 2504720 hoist ring provided with the saw in the non drive sheave end of the blade shaft.
    a. Make sure the hoist ring is fully seated on in the shaft with the shoulder of the hoist ring resting squarely on the end of the shaft.
    b. It may be necessary to clean and/or tap the threads in the end of the blade shaft.
11. Attach a suitable lifting device to the hoist ring and slowly lift the blade shaft to the vertical position.
12. Lower the blade shaft slowly until it rests on the drive sheave.
    a. It may be necessary to reposition the drive sheave to the edge of the

blade shaft to ensure best stability with the ground.

13. Slacken the hoist, and before removing the rigging, attempt to rock the blade shaft. It should be stable. If it is not stable find out why and remedy the situation before continuing.

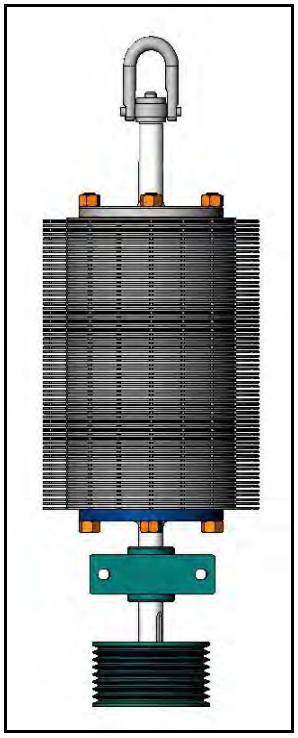

Figure 8: Hoist Ring (2504720) Installed & Blade Shaft Assembly Upright on Drive Sheave

14. Remove the 4 nuts on the ends of the tie rods.
15. Thread two ½-13 bolts (supplied with the saw) through the loose flange and tighten alternately a little at a time to force the flange off of the blade shaft.
16. Remove the rigging and hoist ring from the end of the shaft and remove the loose flange. The blades and spacers can now be removed in the same manner.

Installing Blades on the Blade Shaft

1. Cleanliness is all important – there must be no foreign material between the blades and spacers or blade wobble will result leading to reduced blade life.
2. Select the correct blade type for the cutting task, and then inspect each blade and spacer for any visible damages.
3. Always install the blades with the arrow printed on the blade in the direction of the blade shaft's rotation.
4. Install blades and spacers in reverse order of removal.
    a. Make sure to block up the four tie rods so that each blade and spacer is installed on the blade shaft and tie rods.

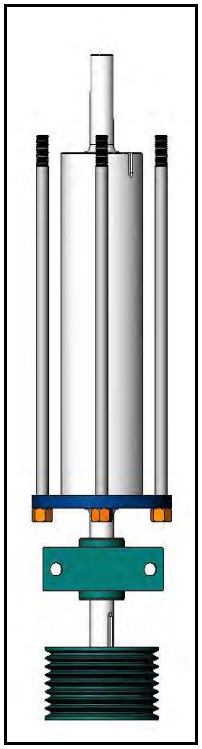

Figure 9: Blade Shaft Cleaned & Ready to Stack with Blades & Spacers

5. Install the loose flange and start the nuts on the tie rods.
6. Alternately tighten the tie rod nuts to draw the loose flange down evenly.
7. Install the hoist ring and attach to the lifting device before the final tightening.
8. Alternately tighten the four tie bolt nuts to a torque of 185 ft. lbs. (250 Nm).
    a. Verify this measurement with a torque wrench.
9. Using a suitable lifting device as previously discussed, lower the blade shaft assembly back down into the horizontal position.
10. Install bearing and blade shaft assembly in the reverse order of removal.
11. Install belts and belt guard.

Belt Guard

⚠WARNING

- DO NOT operate the saw with the belt guard removed.
- DO NOT remove the belt guard with the engine running.

The belt guard shields the belt drive to prevent accidents and must always be in place when operating the saw.

Removal & Installation of the Belt Guard

1. Remove the seven 3/8 bolts that retain the belt guard.
2. Lift the guard off the saw.
3. Installation is the reverse of removal.

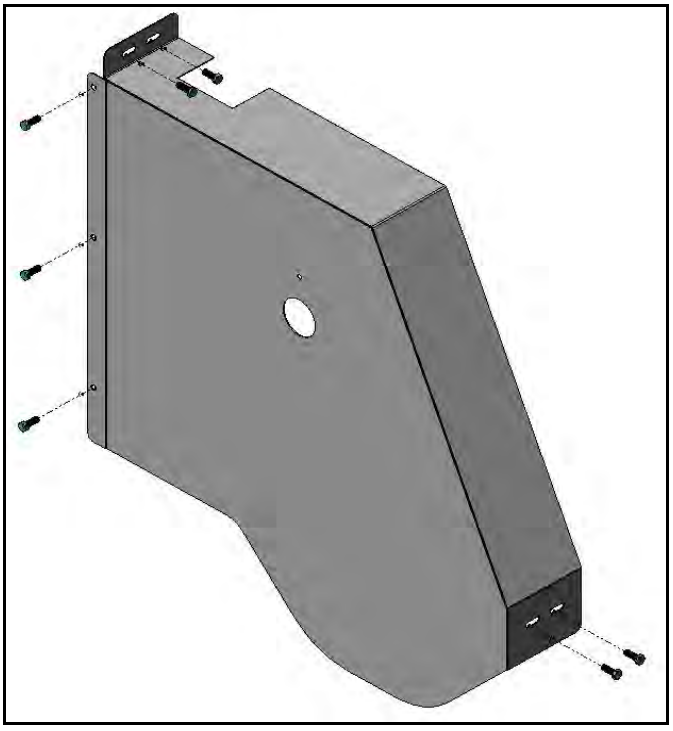

Figure 10: Belt Guard & Bolts

Water Supply

The water supply helps cool the blades and minimizes dust when cutting. Approximately five to eight-gallons of water/min should flow to the blades while operating the saw. *Note: Always test the water supply for adequate pressure and flow before cutting.*

Using the Water Supply

1. Connect the water source hose to the horizontal hose fitting on the left side of the saw.
2. Pull the water valve handle to *On* to open the water flow. Push the handle to *Off* to close the water flow. The water flow in between *On* and *Off* varies based on the handle's position. DO NOT turn the water valve to *On* until just before cutting.

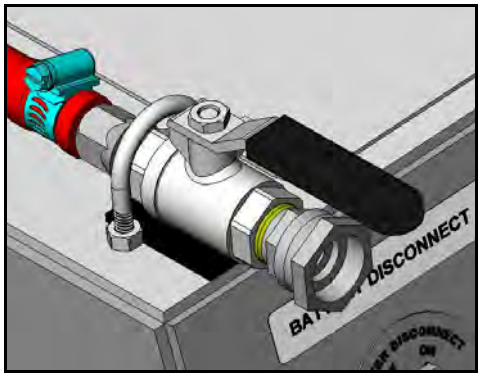

Figure 11: Water Valve

3. The spray bar uses ten spray tips total.
    a. The eight in the middle are 80-15 tips (80 degree pattern-15 GPM).
    b. The two outermost are 80-30 tips (80 degree pattern-30 GPM).
4. This ensures the outermost blades get properly cooled during operation.

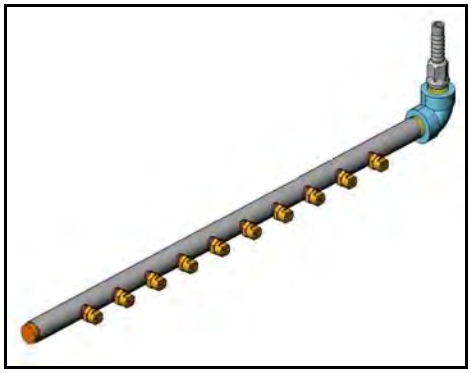

Figure 12: Spray Bar Assembly

Control Grip

Two pushbuttons on the control grip raise and lower the saw. *Note: The saw can be raised and lowered with the engine off.*

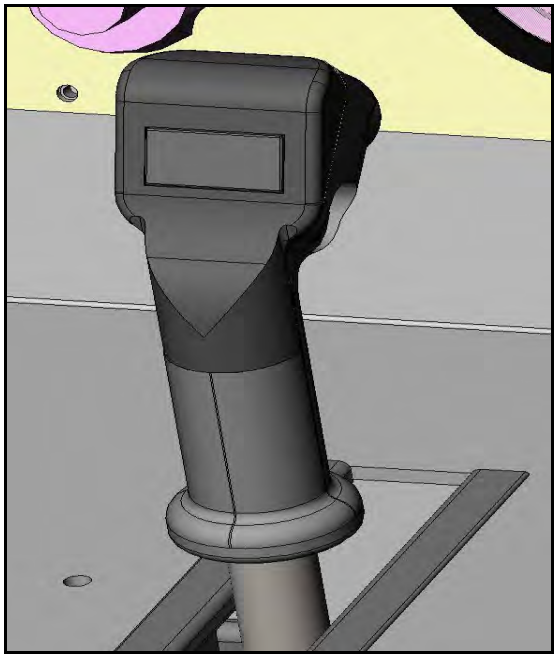

Figure 13: Control Grip

Raising the Saw

Press the control grip's left pushbutton to raise the saw, and release the pushbutton to stop. *Note: Raise the blade to a sufficient height when maneuvering the saw to provide proper clearance between the blade and the ground.*

Lowering the Saw

Press the control grip's right pushbutton to lower the saw, and release the pushbutton to stop.

Lowering Speed

- Turn the engine off, open the access panel on top of the saw, and adjust the flow control valve on the hydraulic pump to change the saw's lowering speed.

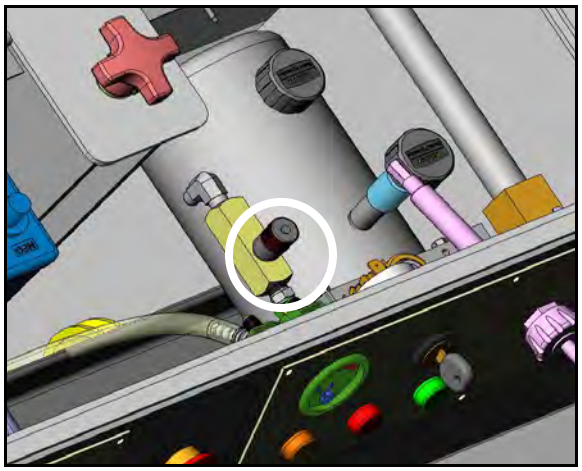

Figure 14: Flow Control Valve

Speed Control Lever

The speed control lever places the saw in *Neutral* (no movement), or moves the saw into *Forward* or *Reverse*. *Note: The engine must be running and the transmission must be engaged in order to move the saw using the speed control lever, which should be in Neutral when starting the engine.* Press the emergency stop button to immediately stop the engine if necessary.

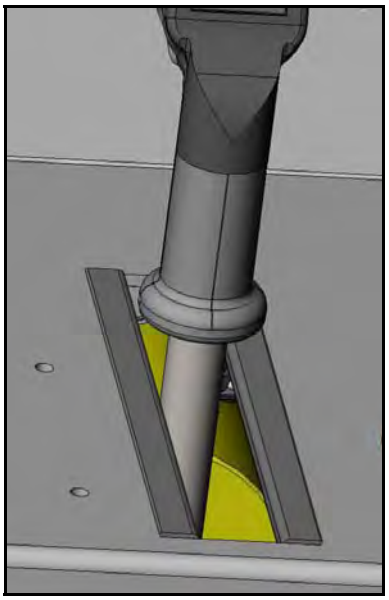

Figure 15: Speed Control Lever

Forward Control

Push the speed control lever forward to the desired traveling speed. The maximum speed that the saw will move forward, at full throttle, is 200 ft/min.

Reverse Control

Pull the speed control lever backward to the desired traveling speed. The maximum speed that the saw will move in reverse, at full throttle, is 200 ft/min.

Neutral Control

Place the speed control lever at *Neutral* to stop the saw from moving forward or backward. DO NOT assume at any time that the transmission will act as a brake in *Neutral*.

Transmission

The transmission controls the movement of the saw. Press the emergency stop button to immediately stop the saw if necessary. *Note: Always place the speed control lever at Neutral, and disengage the transmission to prevent any unnecessary movement when starting the engine*.

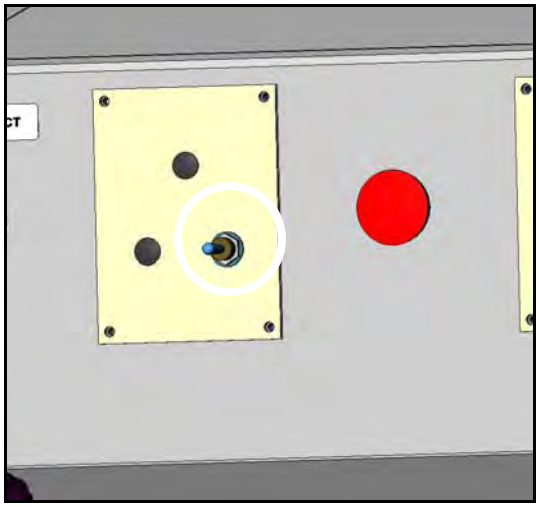

Figure 16: Transmission Engage/Disengage Switch

Engaging the Transmission

1. Place the speed control lever at *Neutral*.
2. Start the engine.
3. Push down on the transmission engage/disengage toggle switch located in the operator interface area.

Disengaging the Transmission

1. Place the speed control lever at *Neutral*.
2. Push up on the transmission engage/disengage toggle switch located in the operator interface area.

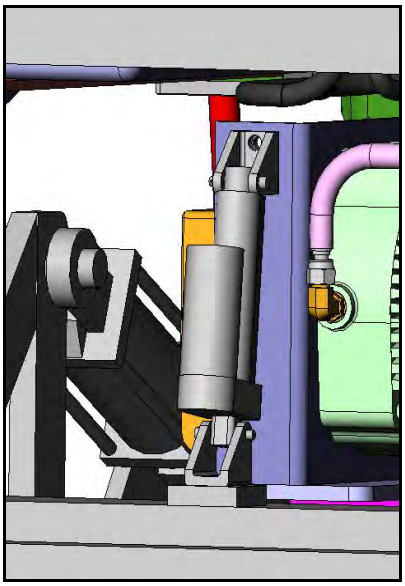

Figure 17: Transmission Actuator

Fuel System

⚠WARNING

- DO NOT operate the saw with a fuel leak.
- DO NOT fuel the saw with the engine running.
- DO NOT smoke or expose fuel to open flames when filling the fuel tank and/or working with fuel.

⚠CAUTION

- DO NOT overfill the fuel tank. Clean up any spilled fuel prior to starting the engine as fuel may seep out from the fuel cap vent when the saw is raised.

Adding Fuel

Check the fuel level daily and fill if necessary.

1. Lower the saw to the ground so it is level.
2. Stop the engine and let it cool down.
3. Remove the fuel tank cap.

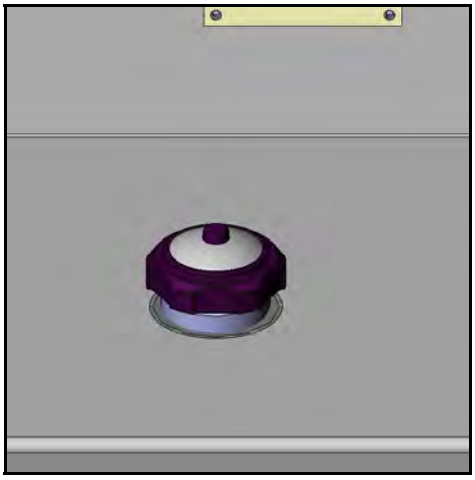

Figure 18: Fuel Tank Cap

4. Fill the nine-gallon fuel tank with low sulfur or ultra-low sulfur diesel fuel only. Refer to the Deutz Operation Manual 2011 for a list of appropriate diesel fuels.
5. Replace the fuel tank cap and tighten to secure.

Cold Weather Fuel

Diesel fuel can become thick in cold weather, possibly resulting in a clogged fuel system and/or less engine efficiency. Refer to the Deutz Operation Manual 2011 for a list of appropriate diesel fuels to be used in cold weather.

Storage

Fill the fuel tank to prevent condensation and contamination in the tank for shorter storage periods. Drain the fuel tank and fuel lines for extended storage periods.

Engine

⚠WARNING

- DO NOT expose yourself or anyone else to the direct line of the blades when operating the saw.
- DO NOT leave the engine running unattended.
- Operate the saw in well-ventilated areas. Concentrated engine exhaust can cause loss of consciousness and/or death.

Engine Governor

A manufacturer set governor controls the engine's maximum speed. DO NOT adjust the governor setting unless the blade size has changed and would require a different maximum engine speed. Refer to the Dynatech Parts List for more information.

Ignition Switch

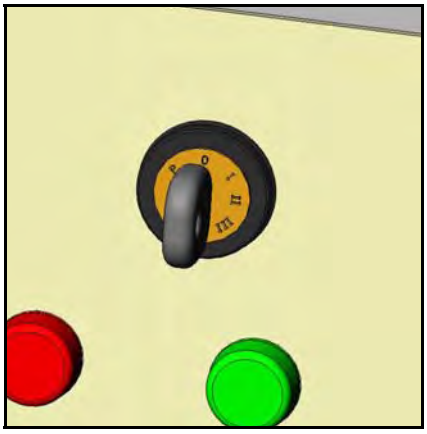

Figure 19: Ignition Switch

a. *Auxiliary* creates power, but does not start the engine.
b. *Off* turns the engine off.
c. *Run* creates power, but does not start the engine.
d. *Pre-Heat* warms the glow plug (optional item), which helps start the engine in cold weather.
e. *Start* turns the engine on. DO NOT engage *Start* for long periods of time to avoid overheating or damaging the starter. *Note: If the engine does not start right away, release the key and try again several minutes later. Refer to the Fault Table in the Deutz Operation Manual 2011 if the engine does not start after two attempts*.

Throttle Handle

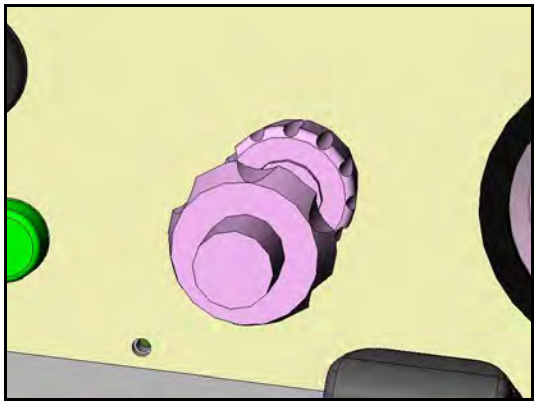

Figure 20: Throttle

a. Turn the throttle handle counterclockwise to increase the engine speed/blade RPM, or turn the throttle handle clockwise to decrease the engine speed/blade RPM.
b. Push in the spring-loaded throttle tip and pull the throttle out to increase the engine speed/blade RPM, or push in the spring-loaded throttle tip and push the throttle in to decrease the engine speed/blade RPM.

Hold/Release Knob

a. Turn the *Hold/Release* knob clockwise to hold the throttle at a consistent engine speed/blade RPM, or turn the *Hold/Release* knob counterclockwise to release the throttle and adjust the engine speed/blade RPM.
b. Turn the throttle handle clockwise to decrease, or counterclockwise to increase the engine/blade RPM when the *Hold/Release* button is secure; however, the spring-loaded throttle tip cannot be pushed in or pulled out to adjust the engine speed/blade RPM when the *Hold/Release* button is secure.

Prior to Starting the Engine

Complete the tasks listed below prior to starting the engine:

- Fill the fuel tank and check the engine oil.
- Push the water valve to *Off*.
- Place the speed control lever at *Neutral*.
- Disengage the transmission.
- Pull the emergency stop button out.
- Push the throttle in (idle).
- Remove all tools from the work area.

Starting the Engine

⚠WARNING

- DO NOT use any other starter substances or starter fluids when starting the engine using the glow plug (e.g., starter fluid sprayed into the air filter). These materials are extremely flammable and explosive, and can melt parts or possibly explode when using them and the glow plug together to start the engine.

1. To start the engine **without using** the glow plug (optional item); insert the key into the ignition, turn the key to *Start*, and immediately release the key when the engine starts. *Note: If the engine does not start right away, release the key and try again several minutes later. Refer to the Fault Table in the Deutz Operation Manual 2011 if the engine does not start after two attempts*.
2. To start the engine **using** the glow plug (optional item); insert the key into the ignition and turn the key to *Pre-Heat*, holding it there for approximately 20 seconds. Turn the key to *Start* and immediately release the key when the engine starts. *Note: If the engine does not start right away, release the key and try the Pre-Heat process again several minutes later. Refer to the Fault Table in the Deutz Operation Manual 2011 if the engine does not start after two attempts*.
3. Increase the engine to half throttle and let the engine warm up for several minutes.
4. Increase the engine to full throttle. Adjust the throttle as necessary when cutting. DO NOT exceed the recommended blade RPM. *Note: At times the actual blade RPM may need to be less than the recommended blade RPM depending on the job conditions and/or the tasks difficulty level*.

Stopping the Engine

⚠CAUTION
- DO NOT leave the saw unattended, after turning the engine off, until the blade has stopped spinning.

1. Place the speed control lever at *Neutral*.
2. Raise the blade from the cut.
3. Push the water valve to *Off*.
4. Decrease the throttle to idle for several minutes to cool the engine down.
5. Turn the key to *Off*, and then remove the key.

Concrete Cutting

⚠WARNING
- DO NOT expose yourself or anyone else to the direct line of the blades when operating the saw.

For better efficiency, keep the following things in mind while cutting:

- Use just enough handle pressure to guide the saw on the cutting line. DO NOT forcibly direct (twist) the saw from side to side when cutting.
- Moving too quickly when cutting may stall the saw, or may cause the blades to climb out from the cut. If the saw stalls at any time, move the speed control lever to *Neutral* and raise the blades from the cut to restart the engine.
- DO NOT lower the blades or move the saw forward too quickly when finishing a partial-cut to avoid forcing the blade into the concrete.

Prior to Cutting

Complete the following tasks prior to cutting:

- Raise the blade to a sufficient height when maneuvering the saw to provide proper clearance between the blade and the ground.
- Align the front pointer with the blade.
- Clearly mark the cutting line.
- The work area should not contain any buried or embedded electrical, gas, or water lines. Turn off all electricity, gas, and water lines in and around the work area prior to cutting.

Making a Cut

1. Pull the water valve handle to *On*.
2. Align the blade and pointers with the cutting line.
3. Lower the blade to touch the cutting surface.
4. Plunge the blade into the concrete until the desired cutting depth is reached. To maintain a particular depth when cutting, turn the depth stop knob clockwise until resistance is felt. The blade should not lower any further. If there is no need for the depth stop knob, do not use it.
5. Push the speed control lever forward until the desired traveling speed is reached. Raise and lower the blade when necessary. When using the depth stop, raise the blade from the cut to repeat a depth if necessary.

Adjusting the Depth Stop

Turn the depth stop knob counterclockwise to increase the cutting depth when plunging the blade, or turn the depth stop knob clockwise to decrease the cutting depth when plunging the blade. The depth stop knob will stop turning when the saw has reached its maximum depth.

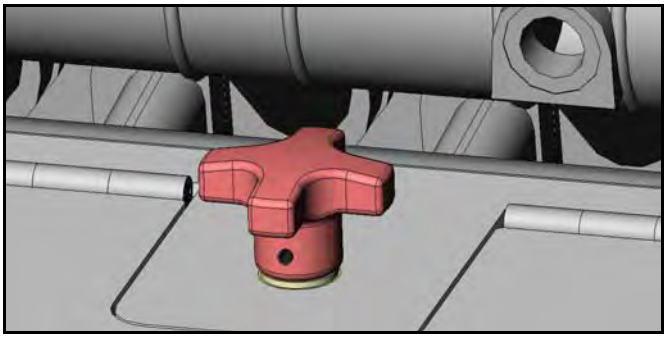

Figure 21: Depth Stop

Continuing a Partial-Cut

1. Maneuver the saw to the correct location.
2. Align the blade with the previous cut, and then plunge the blade back into the concrete. DO NOT move forward until the blade is properly aligned within the cut.
3. Push the speed control lever forward until the desired traveling speed is reached.

Finishing a Cut

1. Place the speed control lever at *Neutral*.
2. Raise the blade from the cut; high enough for proper ground clearance when maneuvering the saw.

Maintaining the CG-2

DO NOT attempt to perform any maintenance on this saw if you are not properly trained for it, or are not supervised by an experienced person. Contact the manufacturer with any questions regarding maintenance. Refer to the Dynatech Parts List for additional information and assembly diagrams.

Failure to read and comply with the instructions provided in this manual may result in serious injuries and/or death, and may harm the saw.

Complete the tasks listed below prior to performing any saw maintenance:

- Turn the engine off and let the saw cool down.
- Turn all switches and/or controls to *Off*.
- Disconnect the battery.
- Place jack stands or blocks under both frame edges at the front of the frame base, and/or under both frame edges at the back of the frame base when working underneath the saw.

Maintenance Overview

Complete the following maintenance tasks as required. Print the *Daily Maintenance Task Chart* from the *Index* for convenience. Refer to the Deutz Operation Manual 2011 for a full engine maintenance schedule.

Daily and/or Regularly

- Lubricate the blade shaft bearings daily, or two to three times a day when dry cutting.
- Inspect all belts daily for tension and wear, and replace and/or re-tension them if necessary.
- Inspect the saw for any visible damages.
- Tighten loose nuts and bolts.
- Check the fuel level and fill if necessary.
- Check the engine oil level and fill if necessary.
- Check the hydraulic oil level and fill if necessary.
- Remove slurry and debris from the cooling fans.
- Remove slurry and debris from the oil cooler.
- Look for any visible fluid leaks.
- Re-tension the rear drive chain if necessary.

125 Hours

- Change the engine oil.
- Replace the oil filter.

500 Hours

- Replace the in-line fuel filter.
- Replace the fuel filter.
- Check the battery, battery cables, and cable connectors and clean if necessary.
- Replace the outer primary air filter.
- Replace the inner safety filter.

Handlebars

The handlebars generally require little or no maintenance and should remain in good condition if used correctly. Check them occasionally for any serious bending, unusual cracks, and/or breakage. Replace them immediately if there are any visible damages.

Part Lubrication

⚠WARNING

- DO NOT grease any parts with the engine running.

Lubricating parts on schedule increases the saw's efficiency and life. Use NLGI No. 2 premium lithium-based grease when lubricating parts.

Blade Shaft

Lubricate both blade shaft bearings at the end of the work day, or two to three times a day when dry cutting.

Front Lift Plate

Lubricate the front axle grease fitting every 40 hours of operation. Lubricate both pillow block bearing grease fittings every 40 hours of operation.

Rear Axle

Lubricate both pillow block bearing grease fittings every 40 hours of operation.

PTO

Pump grease onto the PTO grease fitting until it begins to ooze out from behind the V-ring seal. Lubricate the PTO every 25 hours of operation.

Rear Wheels

Inspect the rear wheels regularly for any visible damages or wear and replace when necessary.

1. Unscrew the trantorque bushing and remove one of the rear wheels.

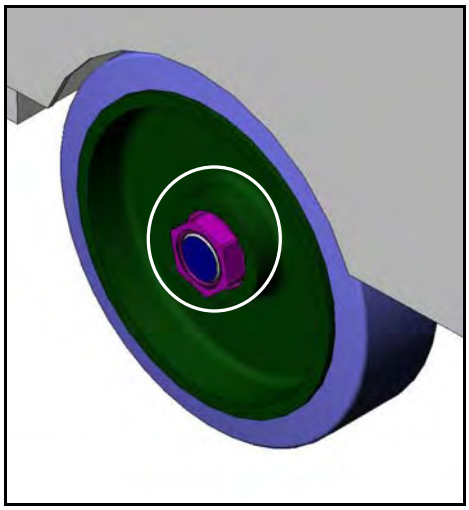

Figure 22: Trantorque Bushing

2. Place the new wheel onto the rear axle weldment.
3. Place the trantorque bushing into the wheel hole and tighten the bushing to 175 ft-lb (237 Nm). *Note: Failure to properly tighten the trantorque bushing may cause the wheel to fall off of the saw.*
4. Repeat steps 1–3 to replace the second wheel.

Battery

⚠WARNING

- Ignitable explosive gases are emitted from the battery. DO NOT expose the battery to any sparks or open flames, and keep the area around the battery well-ventilated.

- Disconnect the battery when performing maintenance.

⚠CAUTION

- Use a proper battery tester, such as a voltmeter, to test the battery strength.
- Use protective eyewear or a face shield, and avoid any contact with the skin when handling a battery.

Battery Type

12 Volt, Group 24

Inspecting the Battery

1. Open the access panel on top of the saw.
2. Loosen the battery brace lock nuts and remove the brace.

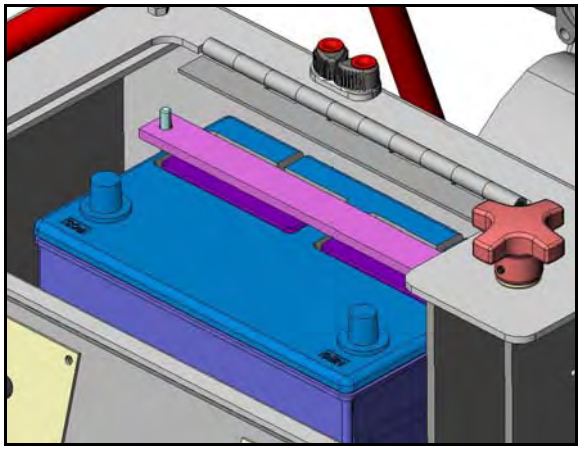

Figure 23: Battery and Brace

3. Disconnect the negative battery cable lead from the negative battery terminal.
4. Disconnect the positive battery cable lead from the positive battery terminal.
5. Inspect the battery terminals, battery clamps, and both cables for any visible damages and corrosion, and clean or replace if necessary. Use acid-free and acid-resistant grease when greasing parts.
6. Reconnect the positive battery cable lead to the positive battery terminal.
7. Reconnect the negative battery cable lead to the negative battery terminal.
8. Replace the battery brace and tighten the lock nuts to secure the brace.
9. Close the access panel.

Replacing the Battery

1. Open the access panel on top of the saw.
2. Loosen the battery brace lock nuts and remove the brace.
3. Disconnect the negative battery cable lead from the negative battery terminal.
4. Disconnect the positive battery cable lead from the positive battery terminal.
5. Slide the battery off the battery platform, keeping it level at all times. Bring the battery to a recycling facility. Many battery retailers accept old batteries as well.
6. Inspect the new battery and then slide it onto the battery platform, keeping it level at all times.
7. Reconnect the positive battery cable lead to the positive battery terminal.
8. Reconnect the negative battery cable lead to the negative battery terminal.
9. Replace the battery brace and tighten the lock nuts to secure the brace.
10. Close the access panel.

Electrical System

⚠WARNING

- DO NOT perform any maintenance on the electrical system without first disconnecting the battery.

The electrical system generally requires little maintenance. The fuse panel is located near the hydraulic pump under the access panel. Replace fuses when necessary.

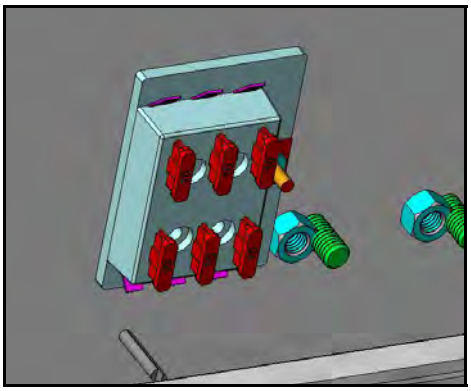

Figure 24: Fuse Panel

The relay switch and circuit breaker are located next to the fuse panel. The circuit breaker should reset itself during an overload. If the breaker continually turns on and off, disconnect the battery to determine the cause of the overload.

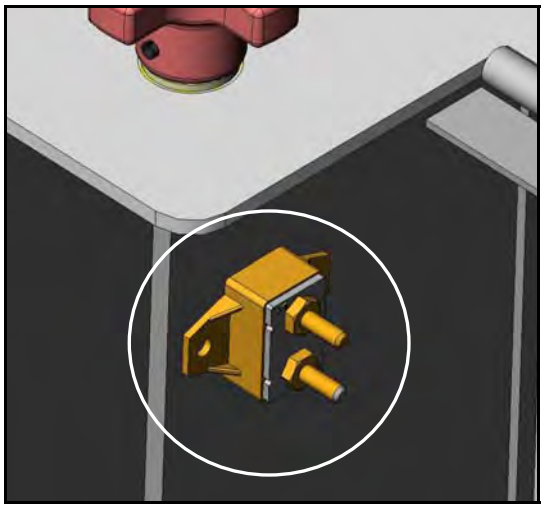

Figure 25: Circuit Breaker

Magnetic Sensor

The magnetic sensor reads the blade RPM at the blade shaft and transfers the reading to the blade tachometer/hour meter. Generally the magnetic sensor requires little or no maintenance; however, if the blade tachometer/hour meter remains at zero when operating the saw, the magnetic sensor needs to be adjusted or replaced.

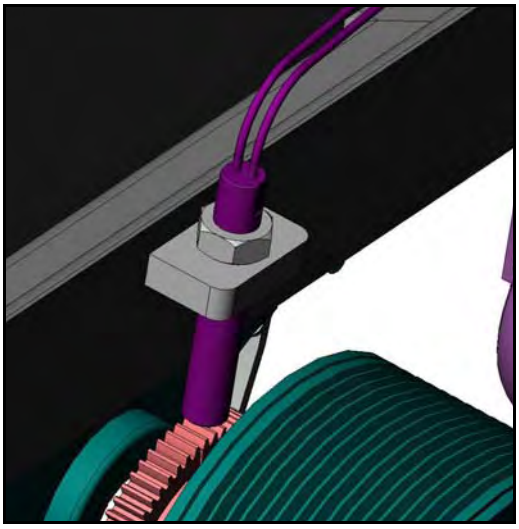

Figure 26: Magnetic Sensor

Adjusting the Magnetic Sensor

1. Loosen the jam nut on the magnetic sensor.
2. Turn the magnetic sensor clockwise to screw the sensor in until it bottoms out (stops).
3. Turn the sensor counterclockwise exactly one-half turn.
4. Retighten the jam nut down to the frame base to secure the sensor.

Replacing the Magnetic Sensor

1. Disconnect the battery.
2. Disconnect the magnetic sensor's two-wire connector.
3. Loosen the jam nut on the magnetic sensor, and turn the sensor counterclockwise to remove the sensor.
4. Loosen the jam nut on the new magnetic sensor so it sits near the upper part of the sensor.
5. Place the sensor into the magnetic sensor hole on the frame base.
6. Turn the magnetic sensor clockwise until it bottoms out (stops).
7. Turn the sensor counterclockwise exactly one-half turn.
8. Screw the jam nut down to the frame base to secure the sensor.
9. Connect the new magnetic sensor's two-wire connector.
10. Reconnect the battery.

Air Cleaner

Refer to the Deutz Operation Manual 2011 as the primary source for information on the air cleaner.

Restriction Indicator

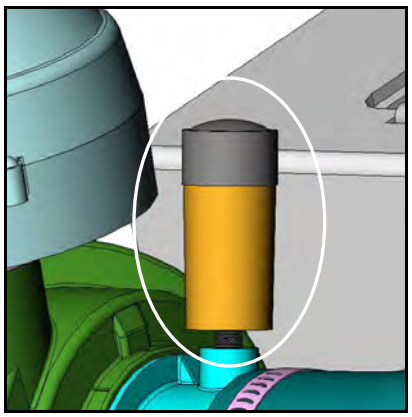

Figure 27: Restriction Indicator

Service the air cleaner as determined by the restriction indicator to prevent unnecessary damage to the engine, which helps decrease maintenance costs.

- The restriction indicator service bar turns red when the air cleaner requires service. The chart on the restriction indicator identifies the current restriction level in the air cleaner.
- Press the restriction indicator reset button on the top of the indicator to reset the unit after the air cleaner has been serviced.

Rubber Dust Ejector Boot

The rubber dust ejector boot valve ejects debris and water when operating the saw. Occasionally inspect and clean the ejector boot (with the engine off).

- Press inward on both sides of the ejector boot near the valve opening to release debris and water, and clean the valve opening when necessary.

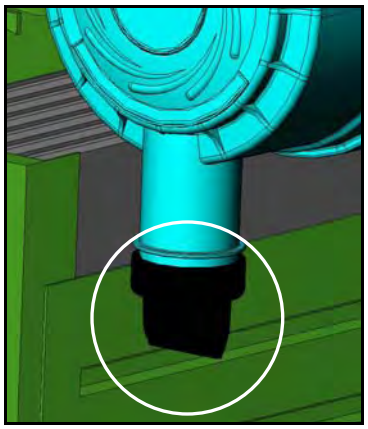

Figure 28: Rubber Dust Ejector Boot

Cleaning/Replacing the Outer Primary Filter

The air cleaner contains a dry outer primary filter. Service this filter according to the restriction indicator service bar, and replace the filter annually. DO NOT over-service or under-service the filter. DO NOT operate the saw without the filter installed.

1. Pull the tab out on the air cleaner's end cover.

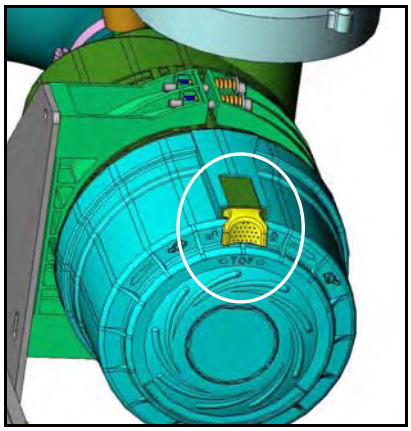

Figure 29: End Cover Tab

2. Turn the end cover clockwise to unlock the cover, and pull the end cover away from the air cleaner.
3. Pull the outer primary filter out of the air cleaner and inspect it for any visible damages. Replace if necessary.
4. Move away from the saw and clean the filter from the inside out. Use dry compressed air to clean the filter (a maximum of 70 psi or 5 bar), or lightly tap or wash the filter out. Let the filter dry completely after washing. DO NOT damage the filter when cleaning.
5. Inspect the inside of the air cleaner and the end cover for debris, and wipe them down with a damp cloth if necessary. DO NOT use compressed air to blow out the inside of the air cleaner. DO NOT allow dust to enter the air intake tube when cleaning or replacing air cleaner assembly parts.
6. Place the filter into the air cleaner (over the inner safety filter) and gently push the filter into the unit until it feels secure.
7. Place the end cover tightly up against the ridge at the end of the air cleaner.
8. Turn the end cover counterclockwise to lock the cover onto the air cleaner.
9. Push the tab in on the air cleaner's end cover to secure.

Replacing the Inner Safety Filter

The air cleaner contains a dry inner safety filter. DO NOT clean the inner safety filter. Replace it after five service cleanings, or approximately one year, or if there are any visible damages. DO NOT operate the saw without the filter installed.

1. Pull the tab out on the air cleaner's end cover.
2. Turn the end cover clockwise to unlock the cover, and pull the end cover away from the air cleaner.
3. Pull the outer primary filter and the inner safety filter out of the air cleaner. Inspect the outer primary filter for any visible damages and replace if necessary.
4. Inspect the inside of the air cleaner and the end cover for debris, and wipe them down with a damp cloth if necessary. DO NOT use compressed air to blow out the inside of the air cleaner. DO NOT allow dust to enter the air intake tube when cleaning or replacing air cleaner assembly parts.
5. Insert a new inner safety filter into the air cleaner and gently push the filter into the unit until it feels secure.
6. Place the outer primary filter into the air cleaner (over the inner safety filter) and gently push the filter into the unit until it feels secure.
7. Place the end cover tightly up against the ridge at the end of the air cleaner.
8. Turn the end cover counterclockwise to lock the cover onto the air cleaner.
9. Push the tab in on the air cleaner's end cover to secure.

Speed Control Lever

The speed control lever generally requires little maintenance. If the speed control lever is out of sync with the saw's movement; for example, if the saw moves forward when the lever is at *Neutral* adjustments are needed.

Adjusting the Speed Control Lever

1. Identify the linkage assembly connected to the speed control lever.
2. Adjust the threaded joints on the threaded linkage assembly shaft.

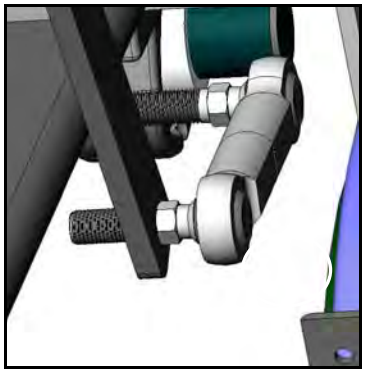

Figure 30: Linkage Assembly

3. Remove any tools from the area. Start the engine to check the speed control lever for accuracy.
4. Turn the engine off and readjust the threaded nuts if necessary.

If desired, loosen the lock nut to adjust the cap screw at the speed control lever's pivot point to change the amount of friction felt when moving the speed control lever.

Hydraulic System

⚠WARNING

- Turn the engine off prior to performing any maintenance on the hydraulic system.
- Lower the saw to the floor so it is level to release the pressurized hydraulic fluid in the hydraulic system prior to performing any maintenance on the hydraulic system.
- Visually inspect for, or use a piece of cardboard or paper to check for any hydraulic fluid leaks. Keep all body parts away from areas that eject hydraulic fluid.

Pressurized hydraulic fluid can penetrate the skin and cause serious injuries. Seek medical attention immediately.

Adding Hydraulic Fluid

Check the hydraulic fluid level regularly and add fluid when necessary.

1. Open the access panel on top of the saw.
2. Lower the saw to the ground so it is level (to provide an accurate fluid reading).
3. Remove the breather cap on the top of the hydraulic pump unit.

Figure 31: Breather Cap

4. Add DEXRON II automatic transmission fluid when necessary. *Note: Filling the oil up to the opening of the pipe will cause fluid to leak from the cap when lowering the saw. Fill the oil to just below where the pipe begins to extend out from the hydraulic pump unit to prevent spills.*

Transmission

Cooling Fan

- Remove the fan guard and wipe down or use compressed air to clean debris and slurry from the transmission cooling fan. The transmission oil will not properly cool if the fan is clogged with concrete dust and debris.

Adding Oil

- The hydraulic pump unit supplies oil to the transmission. Check the oil level daily and/or regularly and add DEXRON II automatic transmission fluid, according to the instructions in the *Hydraulic System* section, when necessary.

Adjusting the Rear Drive Chain

Regularly inspect the rear drive chain and tighten when necessary. Regularly lubricate the rear drive chain with oil to increase the chain life.

1. Remove the chain guard.
2. Loosen the four transmission lock nuts securing the transmission to the transmission platform.
3. Loosen the setscrew hex nut at the midpoint of the transmission platform.

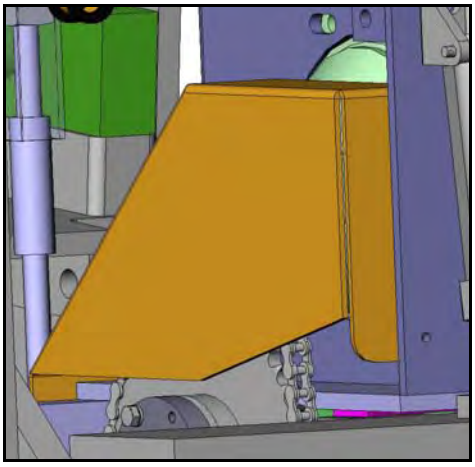

Figure 32: Transmission Guard and Chain

4. Turn the setscrew clockwise to push the transmission forward in the platform slots. Leave a little bit of slack in the chain, and DO NOT over-tighten it.
5. Retighten the hex nut to secure the transmission setscrew.
6. Retighten the transmission lock nuts to secure the transmission to the transmission platform.
7. Replace the chain guard and secure.

Belt System

⚠WARNING

- Turn the engine off prior to performing any belt maintenance.

⚠CAUTION

- Always let the belts cool down prior to performing any belt maintenance.

Blade Drive Belts

There are two four-strand blade drive belts on the saw.

Blade Drive Belt Tension

The manufacturer's belt tension is set between 68–70 hertz (Hz). DO NOT exceed the manufacturer's tension setting. *Note: Over-tensioning the belts may damage the power take-off (PTO). Under-tensioning the belts may cause shorter belt life and/or poor saw performance. Squealing belts are an indication that the belts are loose.*

Test the blade drive belt tension on a daily basis using the method listed below.

- Touch the end of the sonic tension meter sensor (can be ordered through Diamond Products) to the midpoint of the longest belt section and strum the belt. Adjust the belt tension if the meter reading is lower than the manufacturer's tension setting.

Adjusting the Blade Drive Belts

1. Remove the belt guard.
2. Inspect the belts for any fraying, stress cracks, and/or breakage and replace immediately if there are any visible damages.
3. Test the belt tension. Continue on to step 4 if the belts need tensioning. Replace the belt guard if there are no adjustments needed.
4. There are two ½-13 retaining bolts on the front sides of the engine plate. Loosen these to allow the engine plate to be moved by the tension bolts.

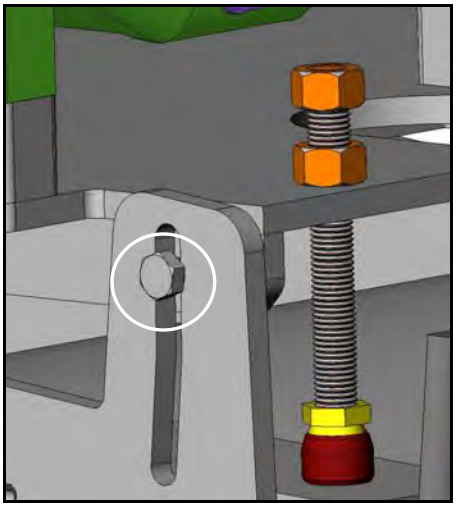

Figure 33: Engine plate retaining bolts.

5. Two large tension bolts can be found on the front of the engine plate. Loosen each bolt's hex nut.

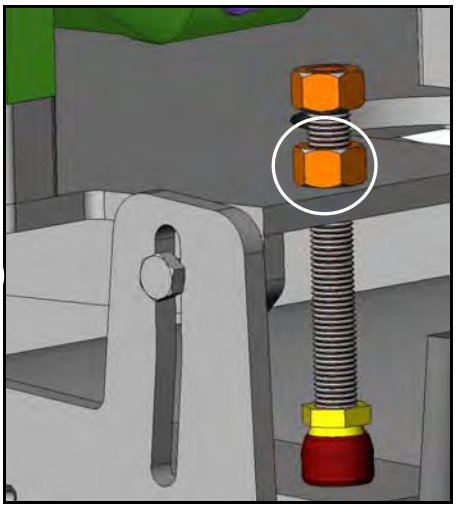

Figure 34: Tension Bolt Hex Nuts

6. Adjust the tension bolt closest to the belts first. Turn the bolt clockwise to tighten the belts. Test the belt tension and readjust the tension bolt if necessary. DO NOT exceed the manufacturer's belt tension setting.
7. Once the blade drive belts are tightened properly, turn the second tension bolt to match the exact height of the first tension bolt.
8. Retighten the tension bolt hex nuts.
9. Retighten the two ½-13 bolts on the front sides of the engine plate.
10. Replace the belt guard.

Replacing the Blade Drive Belts

1. Remove the belt guard.
2. There are two ½-13 retaining bolts on the front sides of the engine plate. Loosen these to allow the engine plate to be moved by the tension bolts.
3. Two large tension bolts can be found on the front of the engine plate. Loosen each bolt's hex nut.
4. Turn both bolts (one at a time) counterclockwise until the swivel pad and nut on the bottom of the bolts touch the bottom of the engine support leg.
5. Remove the belts from the PTO sheave and from the blade shaft sheave.
6. Loop and align the new belts around the grooves on the blade shaft sheave, and then pull them upward and loop and align them around the grooves near the front of the PTO sheave.
7. Adjust the tension bolt closest to the belts first. Turn the bolt clockwise to tighten the belts. Test the belt tension and readjust the tension bolt if necessary. DO NOT exceed the manufacturer's belt tension setting.
8. Once the blade drive belts are tightened properly, turn the second tension bolt to match the exact height of the first tension bolt.
9. Retighten the tension bolt hex nuts.
10. Retighten the two ½-13 bolts on the front sides of the engine plate.
11. Replace the belt guard.

Primary Transmission V-Belt

There is one primary transmission V-belt on the saw. The belt is tensioned by a spring tensioner, requiring no manual tension adjustments. Inspect the V-belt regularly for any fraying, stress cracks, and/or breakage and replace immediately if there are any visible damages.

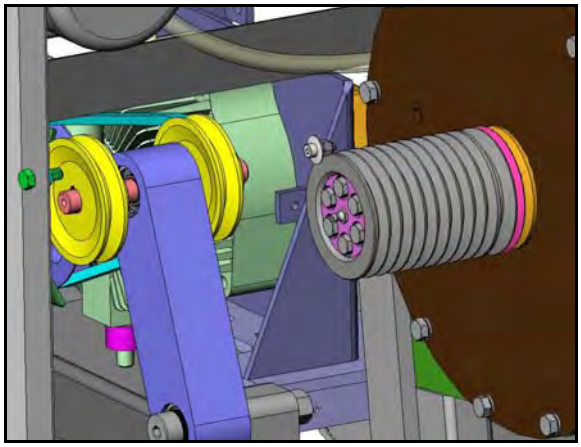

Figure 35: PTO and Jackshaft Outer Pulley

Replacing the Primary Transmission V-Belt

1. Remove the belt guard.
2. Remove the blade drive belts from the PTO sheave.
3. Push the spring tensioner down and hold it in place to create slack in the V-belt.
4. Remove the V-belt from the spring tensioner idler pulley, the outer transmission jackshaft pulley, and the PTO sheave.
5. Loop the new V-belt around the individual groove at the back of the PTO sheave.
6. Loop the lower V-belt section around the outer transmission jackshaft pulley, and loop the upper V-belt section over the spring tensioner idler pulley.
7. Release the spring tensioner to tension the V-belt.
8. Retighten the blade drive belts.
9. Replace the belt guard.

Secondary Transmission V-Belt

There is one secondary transmission V-belt on the saw. The spring tensioner tensions the primary transmission V-belt, which tensions the secondary transmission V-belt. Inspect the V-belt regularly for any fraying, stress cracks, and/or breakage and replace immediately if there are any visible damages.

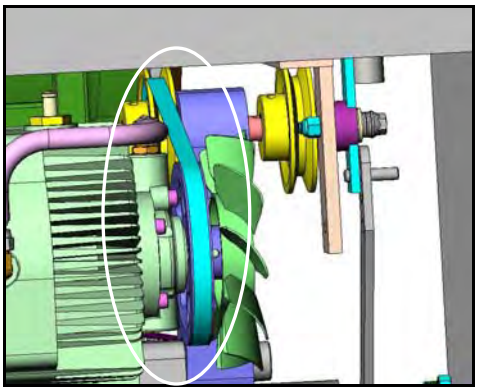

Figure 36: Secondary Transmission V-Belt

Replacing the Secondary Transmission V-Belt

1. Remove the belt guard.
2. Push the spring tensioner down and hold it in place to create slack in the V-belt.
3. Remove the V-belt from the inner transmission jackshaft pulley.
4. Release the spring tensioner.
5. Remove the V-belt from the transmission pulley.
6. Loop and align the new V-belt around the transmission pulley, and then pull the belt forward toward the transmission jackshaft.
7. Push the spring tensioner down and hold it in place. Loop and align the V-belt around the rear transmission jackshaft pulley.
8. Release the spring tensioner to tension the secondary transmission V-belt.
9. Replace the belt guard.

Engine V-Belt

Refer to the Deutz Operation Manual 2011 for maintenance information on the engine V-belt.

Engine

⚠WARNING
Let the engine cool down prior to performing any maintenance.

Always refer to the Deutz Operation Manual 2011 as the primary source of information on the engine!

Engine Components

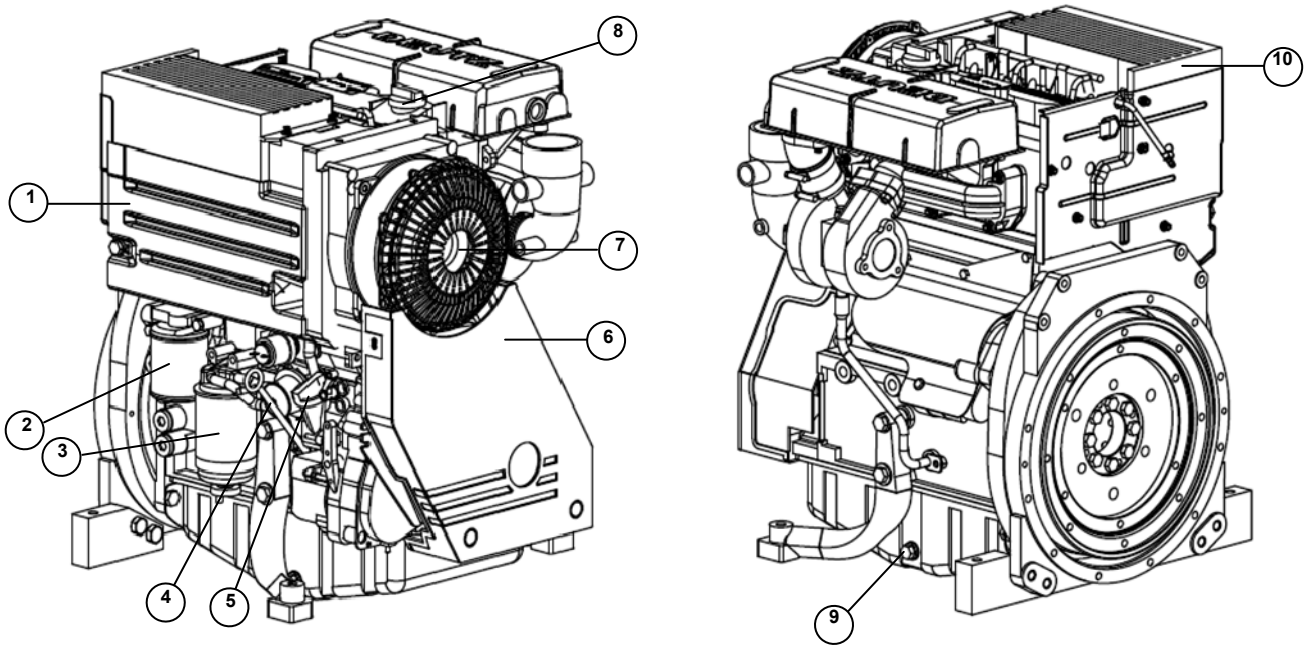

Figure 37: Front and Back View

1. Coolant Intake Hood
2. Oil Filter
3. Fuel Filter
4. Oil Dipstick
5. Lower Oil Cap
6. Belt Guard
7. Fan Guard
8. Upper Oil Cap
9. Oil Drain Plug
10. Oil Cooler

Engine Cooling System

Inspect and clean the engine cooling system regularly, depending on the level of concrete dust and debris at different job sites. Failure to clean and monitor the engine cooling system will result in higher operating temperatures.

Oil Cooler

Figure 38: Oil Cooler

1. Remove the coolant intake hood.
2. Clean the hood with a brush or use a hose to remove any slurry and debris.
3. Blow compressed air into the slats on the top of the oil cooler to clean debris and slurry from the inside of the oil cooler unit.
4. Replace the coolant intake hood and secure.

Cooling Fan

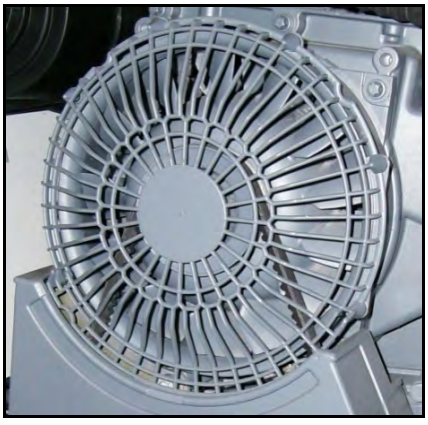

Figure 39: Cooling Fan

1. Remove the engine cooling fan guard.
2. Clean the fan guard with a brush or use a hose to remove any slurry and debris.
3. Blow compressed air around the fan to remove any slurry and debris.
4. Replace the fan guard and secure.

Checking the Oil Level

Check the engine oil level daily.

1. Turn the engine off.
2. Lower the saw so the engine is level.
3. Remove the oil dipstick and wipe it with a clean cloth.
4. Reinsert the dipstick into the holder and remove it again. The oil level should be in between the upper and lower depression marks on the dipstick. DO NOT let the oil level go below the lower depression mark.

Figure 40: Oil Dipstick Depression Marks

5. Remove the oil cap and add oil if necessary. Let the oil settle for several minutes and then recheck the oil level. DO NOT fill the oil above the upper depression mark. Refer to the Deutz Operation Manual 2011 for information on appropriate engine oils.
6. Replace the oil dipstick and oil cap prior to operating the saw.

Changing the Oil

Change the engine oil every 125 hours, or annually.

1. Lower the saw so the engine is level.
2. Start the engine and run it at idle for approximately two minutes, and then turn the engine off. The oil temperature should be around 176°F (80°C).
3. Place an oil tray beneath the engine's oil drain hose.

4. Open the oil drain valve to drain the oil completely. Pay attention when draining hot oil to prevent serious burns.

Figure 41: Oil Drain Hose

5. Close the oil drain valve. Dispose of the used oil according to city, state, and federal regulations.
6. Replace the oil filter according to the *Replacing the Oil Filter* instructions before adding any oil.
7. Remove the oil cap and add approximately eight quarts of oil. Refer to the Deutz Operation Manual 2011 for information on appropriate engine oils.
8. Let the oil settle for several minutes, and then check the oil level. Continue adding oil until the oil level reaches the upper depression mark on the oil dipstick.
9. Replace the oil dipstick and oil cap prior to operating the saw.

Replacing the Oil Filter

Replace the oil filter every 125 hours, or annually. DO NOT replace the oil filter when the engine is filled with oil. Always replace the oil filter when the engine oil is completely drained during an oil change.

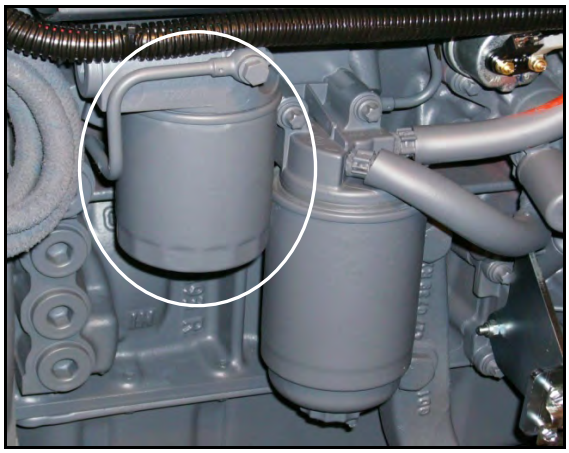

Figure 42: Oil Filter

1. Turn the engine off.
2. Lower the saw so the engine is level.
3. Place an oil tray beneath the oil filter.
4. Loosen the oil filter (turn counterclockwise) using an appropriate wrench. Hold the filter underneath the oil filter's sealing surface to catch any falling oil.
5. Drain the oil from the filter into the oil tray. Dispose of the used filter and oil according to city, state, and federal regulations.
6. Wipe down the oil filter's sealing surface with a clean cloth.
7. Lightly oil the new oil filter's rubber gasket with clean oil.
8. Tighten the oil filter (turn clockwise) until it touches the sealing surface, and then tighten the filter again, using an appropriate wrench, one-half turn.
9. Inspect the seal for any visible leaks.

Replacing the Fuel Filter

Replace the fuel filter annually, or every 500 hours.

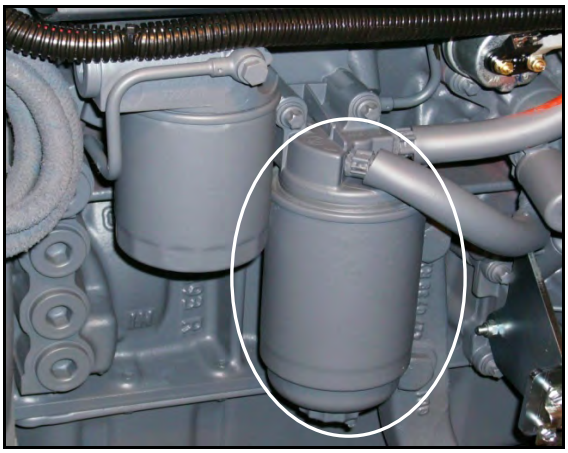

Figure 43: Fuel Filter

1. Turn the engine off.
2. Lower the saw so the engine is level.
3. Place a drainage tray beneath the fuel filter.
4. Loosen the fuel filter (turn counterclockwise) using an appropriate wrench. Hold the filter underneath the fuel filter's sealing surface for a short time to catch and falling fuel.
5. Drain the fuel from the filter into the tray. Dispose of the used filter and fuel according to city, state, and federal regulations.
6. Wipe down the fuel filter's sealing surface with a clean cloth.
7. Lightly oil the new fuel filter's rubber gasket with clean oil or an approved diesel fuel.
8. Tighten the fuel filter (turn clockwise) until it touches the sealing surface, and then tighten the filter again, using an appropriate wrench, one-half turn.
9. Inspect the seal for any visible leaks.

In-Line Fuel Filter

Replace the in-line fuel filter every 250 to 500 hours depending on the amount of sediment visible in the filter.

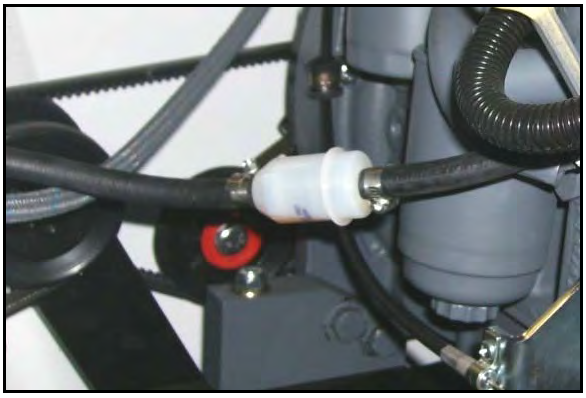

Figure 44: In-Line Fuel Filter

Replacing the In-Line Fuel Filter

1. Turn the engine off.
2. Lower the saw so the engine is level.
3. Place a drainage tray below the fuel hoses and in-line fuel filter.
4. Remove the clamps, one on each side of the in-line fuel filter, from the hoses. Excess fuel may be released from the hoses.
5. Point the arrow on the new filter toward the engine, and place the rear hose onto the rear end of the filter. Push the hose tightly up against the edge of the filter.
6. Place one hose clamp next to the filter (on the rear hose) and tighten the clamp to secure the hose and filter.
7. Place the front hose onto the front end of the filter. Push the hose tightly up against the edge of the filter.
8. Place one hose clamp next to the filter (on the front hose) and tighten the clamp to secure the hose and filter.
9. Dispose of the used fuel and filter according to city, state, and federal regulations.

Oil and Fuel Lines

Regularly check the oil and fuel lines for any visible damage and/or leaks and service as necessary.

Storing

Complete the tasks listed below prior to storing the saw for longer time frames:

- Lower the saw completely to remove any strain on the lifting mechanism.
- Turn all switches and/or controls to *Off*.
- Remove the battery from the saw and store it in a proper location, out of reach for children.
- Drain the fuel tank and fuel lines.
- Disconnect the water supply hose, open the water valve, and blow compressed air through the horizontal hose fitting on the water valve to drain any water from the saw.
- Use a wire brush to clean the spray bar and spray tips of any debris and slurry, and then rinse them out with a hose.
- Refer to the Deutz Operation Manual 2011 for information on proper engine care when storing the saw.
- Clean the saw and store it in a dry area, out of reach from children.

Disposal

Properly dispose of the saw when it's no longer repairable, and/or contains any safety hazards not worth repairing and/or maintaining. Complete the tasks listed below to properly dispose of the saw when discontinuing usage:

- Drain all fluids from the saw and dispose according to city, state, and federal regulations.
- Remove the battery from the saw and bring it to a recycling facility. Many battery retailers accept old batteries as well.
- Secure the saw in a truck/trailer and transport it to a salvage yard for appropriate disposal.

Index

Serial Tags

Saw Serial Tag

The saw's serial tag is located on left side of the frame below the engine. Record the serial tag number below for future reference and customer service purposes.

Serial Number	

Engine Serial Tag

The engine's serial tag is located on the top of the engine. Record the serial tag model and serial numbers below for future reference and customer service purposes.

Model Number	
Serial Number	

Daily Maintenance Task Chart

Table 4: Daily Maintenance Task Chart								
Date								
		✓	✓	✓	✓	✓	✓	✓
1.	Lubricate the blade shaft bearings daily, or two to three times a day when dry cutting.							
2.	Inspect all belts daily for tension and wear, and replace and/or re-tension them if necessary.							
3.	Inspect the saw for any visible damages.							
4.	Tighten loose nuts and bolts.							
5.	Check the fuel level and fill if necessary.							
6.	Check the engine oil level and fill if necessary.							
7.	Check the hydraulic oil level and fill if necessary.							
8.	Remove slurry and debris from the cooling fans.							
9.	Remove slurry and debris from the oil cooler.							
10.	Look for any visible fluid leaks.							
11.	Re-tension the rear drive chain if necessary.							
12.	Check the oil level in the oil expansion tank (optional item) and fill if necessary.							

Troubleshooting

Table 5: Troubleshooting		
Symptom	**Problem**	**Solution**
1. Engine will not start.	Emergency stop button activated?	Pull up on emergency stop button.
	Out of fuel?	Check for fuel in tank.
	Fuel filter or fuel lines clogged?	Replace fuel filter or fuel lines.
	Air in fuel lines?	Bleed fuel lines.
	Weak or worn-out battery?	Test, charge, or replace battery.
	Faulty battery connection?	Inspect, clean, and tighten battery cables.
	Main circuit breaker tripped?	Check wiring for short.
	Cold weather conditions?	Pre-heat engine with glow plug (optional item).
	Engine malfunction?	Refer to Deutz Operation Manual 2011.
2. Saw will not raise.	Defective solenoid start switch?	Check and replace solenoid on hydraulic pump unit.
	Worn-out battery?	Test, charge, or replace battery.
	Defective raise button?	Check and replace raise button.
3. Saw will not lower.	Debris in lowering valve stem?	Remove, inspect, and clean valve stem.
	Defective valve coil?	Check for magnetism of valve stem when activated.
	Defective lowering button?	Check and replace lowering button.
4. Saw lowers too slow/too fast.	Improper lowering speed setting?	Adjust flow control valve knob on hydraulic pump unit.
5. Saw will not completely lower.	Depth stop set?	Turn depth stop knob counterclockwise until it stops.

Table 5: Troubleshooting (cont.)		
Symptom	**Problem**	**Solution**
6. Blade does not cut straight.	Misaligned rear axle?	Adjust rear axle alignment.
	Excessive force applied while sawing?	Reduce forward speed.
	Wrong blade for application?	Contact dealer or manufacturer of blade.
7. Short belt life.	Loose belts causing slippage?	Check belt tension on a regular basis.
	Sheaves misaligned?	Use straightedge to check blade shaft sheave alignment.
	Worn sheave grooves?	Check for groove wear and replace as needed.
	Mismatched belt set?	Replace with new set of matched belts. DO NOT mix old and new belts.
	Overheating of PTO?	Check belt tension. Lubricate PTO every 25 hours.

References

1. Deutz AG (**www.deutz.com**)
   - *Operation Manual 2011, 7th ed., Germany, 2006*
   - *Spare Parts Catalogue D/TD/TCD 2011, 1st ed., Germany, 2007*

2. Dynatech (**www.dynatech-diamond.com**)
   - *CG-2 Concrete Grinder/Groover Parts List, Oakdale, 2008*

Additional Resources

1. Diamond Products
   - *A Guide for Professional Concrete Cutters*
   - *Training Manual – Introduction to Diamond Blades, Bits, and Equipment*
   - *Dynatech Equipment Catalog*
   - *Dynatech Website* (**www.dynatech-diamond.com**)

2. Concrete Sawing and Drilling Association (**www.csda.org**)
   The CSDA has many helpful concrete cutting publications available to members and non-members.

3. Association of Equipment Manufacturers (**www.aem.org**)
   The AEM has a variety of safety and technical manuals available for various types of equipment, along with a list of industry-standardized safety symbols.

4. Occupational Safety & Health Administration (OSHA) (**www.osha.gov/**)
   OSHA provides information on work-related safety and health practices.

5. The National Institute for Occupational Safety and Health (NIOSH) (**www.cdc.gov/NIOSH/**)
   NIOSH provides information on work-related safety and health practices.

P.O. Box 1589 Elyria, OH 44036
Phone: 1.800.446.9001 • 440-365-1774 • Fax: 440-365-1717
E-Mail: dynatech@windstream.net
www.dynatech-diamond.com