

DIAMOND PRODUCTS

CONCRETE SAW OWNERS MANUAL

MODEL: CC7800 EZ-RIDER

(September 2007)



The engine exhaust from this product Contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



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Shipping Papers and Information

A packet containing IMPORTANT INFORMATION has been enclosed with your saw. This packet contains:

- 1. Operation Instructions
- 2. Parts List
- 3. Warranty Information
- 4. Manufacturer's Documents
 - a. Engine
 - b. Hydraulic Power Unit

IMPORTANT: This manual contains the basic information required to operate, maintain, and repair the DIAMOND PRODUCTS saw you have purchased. The use of this manual insures accurate adjustments, operation, and proper lubrication of your equipment. Please keep it handy.

Any parts orders or service problems relating to DIAMOND PRODUCTS equipment should be directed to the DIAMOND PRODUCTS Parts Department at either (440) 323-4616 or (800) 321-5336. When ordering parts, please have the following information available:

Serial Number:
Model Number:
Engine Model (H.P.):
Engine Manufacturer:Deutz
Replacement Part Number(s):

Safety Notes

PLEASE READ AND UNDERSTAND ENTIRE OPERATORS MANUAL BEFORE PROCEEDING

A

WARNING: Protective clothing must be worn. Refer to ANSI Regulations.

- 1. Wear long pants.
- 2. Wear heavy leather boots or shoes.
- 3. Wear a protective face shield.
- 4. Wear a respirator.
- 5. Wear ear protection.
- 6. Never leave a saw unattended while the engine is running.
- 7. Remove objects from, and never stand in path of blade while starting or operating the machine.
- 8. Never run wet cut blades without sufficient water.
- 9. Do not use excessive force or side pressure during sawing operations.
- 10. Never stand on any part of machine.
- 11. Never allow another person to adjust or operate the controls while you are operating unit.
- 12. Never transport the saw with the engine running or with the front of the blade guard in the up position.
- 13. Allow hydraulic lines to cool before disconnecting hoses or fittings.
- 14. Be cautious when getting on or off saw due to slippery conditions caused by wet sawing.
- 15. Do not touch exhaust or engine parts until cooled down.



WARNING: Never exceed maximum RPM stamped on blade.

Operating Procedures

Note: This is a systematic guideline. You **MUST** read the entire manual and understand the procedures before operating.

Prior to start up: Read the Deutz Engine Manual

Check all fluid levels before starting engine.

- 1. Route water hose through hose support and connect to water inlet coupling.
- 2. Turn on water and check for flow through all blade guard tube-ports.
- 3. Mount blade(s)
- 4. Align front blade guide with blade.
- 5. Check to make sure speed control lever is in the neutral (center) position.
- 6. Be sure blade is unobstructed and not resting on the ground.
- 7. Turn blade safety switch to the "off" position for starting engine.
- 8. Start the engine according to the Deutz and DIAMOND PRODUCTS manuals.
- 9. After the Engine is warmed up, set the engine to the proper RPM for the blade you are using.
- 10. Travel to the desired sawing position by positioning the speed control lever in the direction you wish to travel. The saw will turn in the same direction you turn the steering when moving forward.
- 11. Turn the water supply.
- 12. If equipped, place the blade safety switch in the "on" position.
- 13. Lower the blade into the cut and adjust the stop to the desired depth.
- 14. Slowly move the lever forward to begin the sawing.

NOTE: Avoid excessive steering while sawing. Proper blade selection and sawing speed will determine the required amount of over steer required for proper tracking.

- 15. At the end of the cut, be sure the blade is completely out of the pavement before turning off the water and proceeding to the next location.
- 16. Be aware of the hose location before moving to prevent running over or sawing through the hose.

Controls and Their Functions

1. Switches:

Blade Safety Switch (optional): This switch can be used to override the low water safety feature. "ON" to activate low water safety, "OFF" for starting and to override low water safety.

Light Switch: Toggle to turn on front or rear lights, toggle to turn lights off.

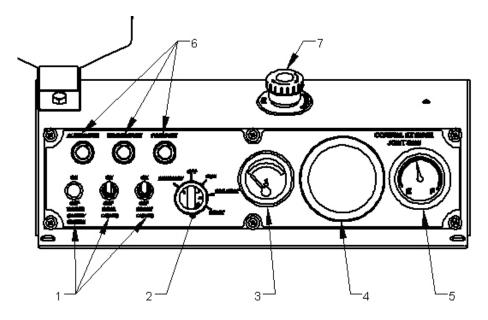
2. Key Switch with Indicator Lights:

Key Switch Positions: 0 - OFF

1- RUN

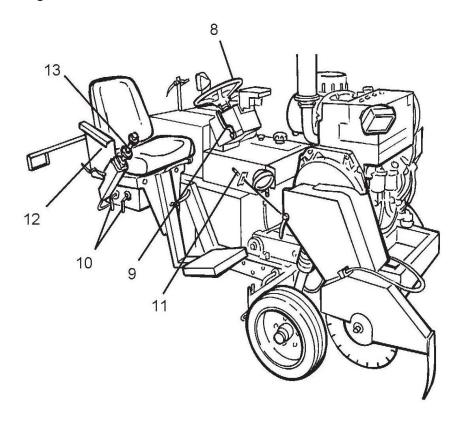
2- START

- 3. Temperature Gauge: Provides visual indication of engine temperature.
- 4. Tachometer/Hour Meter: Tachometer indicates engine RPM in a 1 to 1 Ratio (Engine RPM equals blade RPM). Hour Meter indicates total hours of engine operation (activates when key switch is in the run position).
- 5. Fuel Level Gauge: Indicates fuel level and is marked in 1/4 tank increments
- 6. Indicator Lights: Indicates low oil pressure, high engine temperature, and low water pressure for blade. In case of an automatic fault shutdown, the light(s) that remain lit will indicate the problem.
- 7. Emergency Stop: Provides an means to shutdown saw in an emergency situation.



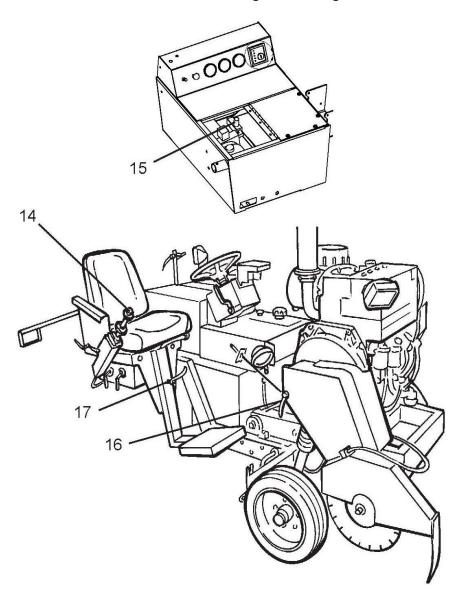
Controls and Their Functions (continued)

- 8. Steering Wheel: When driving saw forward, turn wheel clockwise to turn saw to the right turn wheel counter-clockwise to turn saw to the left. Wheel is mounted on pivoting mount. To adjust angle of wheel, loosen handle bolt, move up/down, then retighten handle bolt. Be sure handle bolt is tight and steering wheel is secure before operation.
- 9. Water On/Off Valve: Used to quickly turn water on or off for both joint cleaner and blade. Push handle forward to turn water off. Pull handle back to turn water on. To adjust the flow to the joint cleaner and the blade, use the Independent Flow Control Valves mounted under the seat.
- 10. Independent Flow Control Valves: Adjust the desired flow to the blade and to the joint cleaner independently from completely closed to wide open. Turn valve clockwise to decrease flow and counter-clockwise to increase flow.
- 11. Throttle: Pull "T" handle to increase engine speed and rotate to lock.
- 12. Arm Rest: To adjust armrest up or down, loosen two handle bolts, move to desired position and tighten handle bolts.
- 13. Direction Control Lever: move lever forward to drive saw forward, back to drive in reverse. To go faster, move lever further.



Controls and Their Functions (continued)

- 14. Blade Elevation Switch: A thumb controlled switch on the top of the Direction Control Lever. Move the switch to the right to lower the blade, to the left to raise it. Adjust the rate of descent with the Flow Control Valve.
- 15. Flow Control Valve: Located in box under operator's left arm. Turn valve CW to slow rate of descent, CCW to speed up rate of descent.
- 16. Depth Stop: The depth stop limits the depth of cut. To set depth stop, lower blade to desired height, then rotate clockwise until it bottoms out against frame.
- 17. Footrest Height Adjustment: Back handle out until footrest will slide, move seat to the predrilled hole closest to the desired height and retighten.



Break-in Period and Fluid Capacities

PTO:

Lubricate with a high-temperature grease (synthetic recommended) after every 25 hours of operation.

Engine:

After 50 hours of operation you must change oil, oil filter and fuel filter. Also, check v-belt tension, valve clearance, engine mounting, and check for oil leaks. Refer to page 3.1 of Deutz engine manual for more details.

Hydraulics:

After approximately one hour of operation, check hydraulic fluid level and check for any hydraulic leaks.

After 50 hours of operation, change the hydraulic return filter element.

Engine Oil:

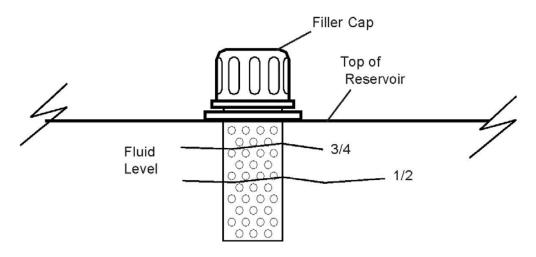
Use a CD/SE or CD/SF oil. Refer to the viscosity chart on page 4.1 of the Deutz manual for proper oil selection. Always check dipstick to verify correct oil volume.

Fuel:

Use fuel meeting ASTM D 975-1:1-D and 2-D specifications. Refer to page 4.2 of the Deutz manual for details. Fuel tank capacity is 19 gallons.

Hydraulic Oil:

Use a high quality MV32 or ISO 68 hydraulic oil. The hydraulic reservoir capacity is 10 gallons; however, the hoses and components will hold an additional amount. Check level by removing filler cap. The oil level should be approximately 1/2 to 3/4 the way up the mesh strainer in the tank.



Blade Mounting Instructions

NOTE: Before mounting the blade, clean the blade collars and stub shaft.

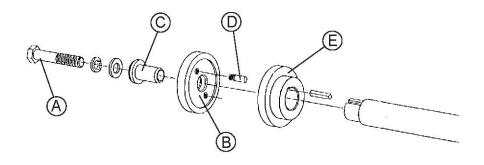
EZ ARBOR Shaft Blade Mounting Instructions:

- 1. Remove blade guard loosen retaining screw on the side of the blade guard and you will be able to lift the blade guard from the saw.
- 2. Remove bolt (A). This bolt has right hand threads (to remove turn counterclockwise).
- 3. Pull off outside collar (B) and the stub shaft (C), wipe collar and blade. Install a new blade. If blade pin (D) is removed, it must be reinserted in the outside collar to go through the blade and the inside collar (E).

WARNING: Observe rotation arrow on blade and do not exceed maximum RPM stamped on blade. To set proper RPM, consult the table.

- 4. Reinstall outside collar, stub shaft and secure with bolt. Strike wrench with hammer to secure tightly.
- 5. Reinstall blade guard and secure retaining screw.

NOTE: For wider cutting applications Items A and C are available in longer sizes.

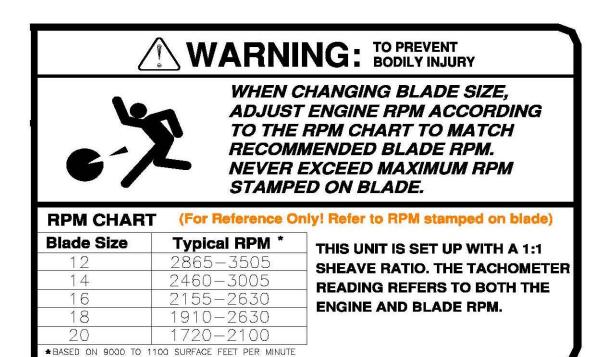


WARNING: Max blade capacity for the EZ Rider saw is 20" Diameter.



WARNING: When you change the blade size on your saw, it is important to check the blade for the recommended blade RPM, which is stamped on the blade.

The RPM's should be adjusted according to Table 2 below:



NOTE:

This chart is for reference only. Always check the RPM stamped on the blade and adjust sheave sizes and engine RPM to required settings. Consult DIAMOND PRODUCTS for assistance if necessary.

WARNING: Be sure blade is unobstructed and not resting on the ground before

starting engine.



Note: Read the engine instruction manual before starting.

Make sure directional control lever is in neutral.

Pull throttle handle out about halfway and turn to lock in place.

Make sure shutdown lever is in operating position (refer to illustration). When working properly, the lever is spring loaded to the operating position.

Start engine by rotating the ignition key to the right.

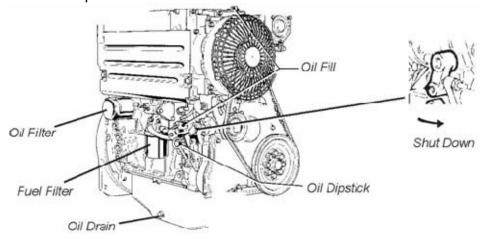
Note: DO NOT crank engine for more than 20 seconds at a time. If engine fails to start, wait 1 minute before attempting to start the engine again. If engine does not start after 2 attempts, refer to the diagnosis chart in the engine manual.

Note: Allow engine to warm up a few minutes before applying load. DO NOT race or gun the engine to hurry warm-up.

When the engine is warm, pull the throttle out, adjust to proper RPM, and lock in position by turning the handle to the lock position.

Note: Refer to Engine RPM Table to find proper RPM for specific blade size.

To stop the engine, return engine to idle for 1-2 minutes then rotate the ignition key to the left or "off" position.



EZ Direction Control Lever/Pump Neutral Adjustment

Using the Direction Control Lever

The Direction Control Lever (A) is used to control the direction and speed of the saw. It is spring loaded to the neutral position. Moving the lever forward propels the saw forward 0-350 FPM. Pulling the lever back from neutral propels the saw in reverse from 0-350 FPM. The further the control is stroked, the faster the saw will travel.

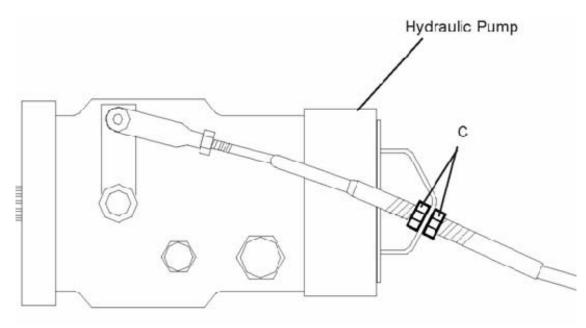


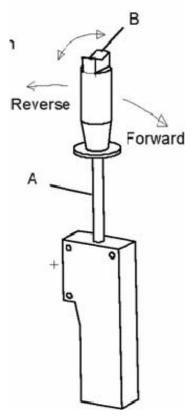
The Blade Elevation Switch (B) is a thumb controlled switch on the top of the Direction Control Lever. Move the switch to the right to lower the blade, to the left to raise it. Adjust the rate of descent with the Flow Control Valve.

Neutral Adjustment

If the unit creeps when lever (A) is in the neutral (center) position, adjustments must be made. Loosen nuts (C) and adjust as required.

Warning: Rear drive wheel must be jacked up off the ground while adjusting.





Control Lever Switch Installation

Switch Replacement and Wire Harness Replacement

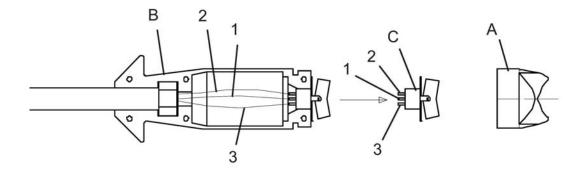
Remove rubber boot (A)

Remove (6) screws that hold the plastic handle halves (B) together Lay the unit on a flat surface and remove one of the halves.

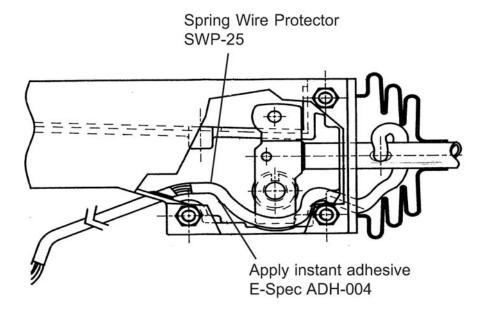
Lift out switch (C) and replace with new one making sure it is wired as shown Replace handle half and tighten. As the two halves are tightened, the switch will be squeezed and held in place

Replace rubber boot (A)

NOTE! Numbers are printed on the individual wires.



NOTE! Reversing wires 2 and 3 will not harm the system. It will only reverse the two functions of the switch.

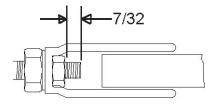


If replacing wire harness, refer to the picture shown below:

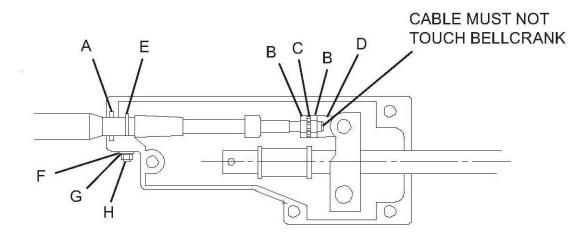
Control Lever Cable Adjustment

Installation of new speed control cable

- 1. Slip the o-ring (A) over the cable and push it past the groove in the end cap.
- 2. Install hex nut **(B)** and lock washer **(C)** approximately 1/2" from end on the cable's threaded rod.
- 3. Install clevis **(D)** and clevis nut **(B)** on cable. The cable rod end should extend beyond clevis nut as shown. Tighten the jam nut **(B)**.



- 4. Slip the clevis **(D)** over the bell crank, install the clevis pin, and secure with cotter pin.
- 5. Remove the "U" Bolt (E) from Housing.
- 6. Position the "O" ring **(A)** on the cable end cap so when the cable is brought down in place, the "O" Ring fits in the groove in the housing.
- 7. Slip the "U" bolt (E) over the cable and through the housing.
- 8. Place the spacer **(F)** over the open end of the "U" bolt, install the lock-washer **(G)** and nuts **(H)**. Torque the nuts to 70-100 inch pounds.
- 9. Slip the cover in place and fasten with the four screws and CSK lock-washer.



Flow Control Adjustment

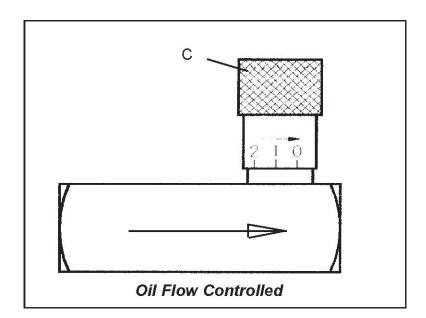
Using the Flow Control

The Flow Control Valve (C) is located in the box under the operator's left arm and is used to regulate the rate of the blade descent into the cut.

WARNING: Excessive descent rates can damage diamond or abrasive blades and lead to possible bodily harm.

To adjust the Flow Control Valve:

- 1. Raise the blade by moving the Blade Elevation Switch to the left.
- 2. Lower the blade by moving the Blade Elevation Switch to the right and observe the rate of descent.
- 3. To increase the rate, turn knurled knob CCW until the desired rate is achieved. To decrease the rate, turn the knob CW



The valve controls the amount of oil flow in the blade-lowering mode only. It has no effect on the blade raising speed.

EZ Saw Guide Installation and Alignment

WARNING: Engine should be completely shut down before installing guide.

- 1. Remove saw guide (A) from left side of saw by loosening L-bolt (B) and lifting up on saw guide.
- 2. Mount saw guide on frame on the right side of saw. Slide the square tube on the bottom of the guide into the receiver on the frame and threaded stud on the back of guide into "U" bracket. Tighten handle nut (C) on stud to hold guide in place.

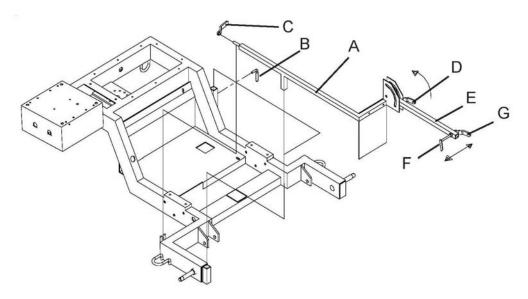
WARNING: Be sure blade is unobstructed and not resting on the ground before starting engine.

WARNING: Keep hands and feet clear of blade at all times.

WARNING: Stop engine. Engine should be completely shut down before aligning indicator.

- 3. Loosen the handle nut (D) and rotate extension (E) until the pointer is near the ground. Retighten handle nut (D).
- 4. Adjust Pointer by loosening handle nut and turning the threaded indicator to move it left or right. Adjust the pointer so that it is directly in line with the blade.

Note: Make sure all three handle nuts are tight before operating saw.



EZ Water Hook up

Hooking up Water to Saw

Prior to starting the engine, you should attach the water hose and visually inspect to make sure that water is flowing to the blade. Attach your hose to the coupling on the back of the saw and turn on your water source. Then open the water valve below the steering wheel.

Note: Water flow volume is metered with the flow control valves below the seat.

WARNING: Make sure that engine is completely shut down before removing blade guard.

Visually inspect the water tubes to make sure that water is flowing from each of the six water ports. To do this, the blade guard must be removed. If any of the holes are blocked you can remove the water tube plugs and flush impurities from the tube.

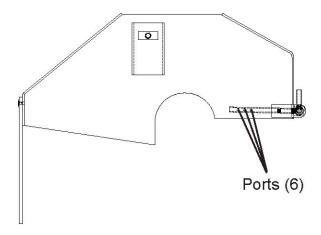
Reinstall blade guard making sure L-bolt is secure.

Adjust Water Flow to Joint Cleaner and Blade

Note: The Water Valve (near the steering wheel) is an ON/OFF control, not a metering device. Use the Flow Control Valves for flow adjustments.

The Flow Control Valves are located under the driver's seat. They will independently adjust the flow to the joint cleaner and the blade. Turn the flow control valves counter clock wise to increase water flow – clock wise to decrease water flow.

By presetting the flow control valves, you only need to open the water valve when approaching a cut. When beginning each cut there no need to adjust flow with the water valve.

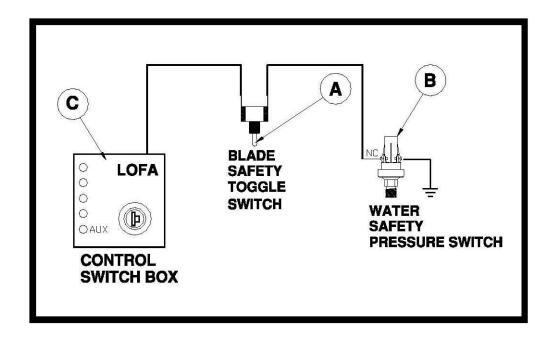


Using the Blade Safety Switch (optional)

The blade safety switch is a switch that stops the engine automatically when water pressure drops below 4 PSI. The safety switch protects the blade should the water supply become interrupted or inadequate. When water pressure is restored, the switch is automatically reset.

To start the engine the blade safety switch must be in the "OFF" position, unless there is adequate water pressure.

Leave in the "OFF" position for dry cutting with abrasive blades. NOTE: When the water pressure drops, pressure switch (B) activates the Aux. terminal of Controller (C). There is approximately a 5-second delay before the engine will shut down.



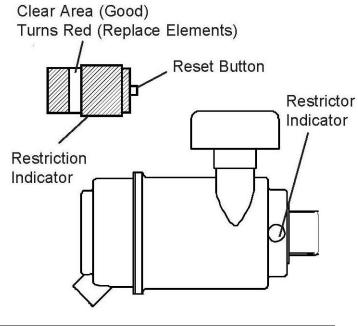
Lubrication and Replacement Filters

NOTE: We recommend quality grease with a moly additive.

Lubrication Point	Daily	25 Hrs	Weekly	Annually
Arbor Bearings (2) on front of saw.	•			
Outboard Bearing inside top of belt guard.		*		
Pivot Bearings (2) at operator opposite side.			*	
Front Wheels (2)				•

Filter Component	P/N	Frequency
Return Filter - Spin on element under seat	170102	Initial change 50 hrs. Then replace annually
Oil Filter - On front of Deutz engine	110729	Refer to Deutz engine manual
Fuel Filter - On front of Deutz engine	110688	Refer to Deutz engine manual
Primary Air Filter - Left side of unit	110985	Refer to Restrictor Indicator
Secondary Air Filter - Left side of unit	110986	Refer to Restrictor Indicator

The engine air cleaner draws air through the filter elements. The indicator measure the vacuum required to pull air through the elements. The more clogged the elements get, the more vacuum required. Once the clear area turns red, the filters are too clogged to be effective. REPLACE filters and push RESET button to turn area clear again.



Maintenance

Scheduled Maintenance

Initial Maintenance After Break-In Period	After First Hr	Daily	50 Hrs
Use a CD/SE or CD/SF oil			
Check for oil leaks. Change Oil/Oil Filter.			•
Use fuel meeting ASTM D 975-1:1-D and 2-D specifications. Do NOT run tank dry.			
Change Fuel Filter			•
Check V-belt tension, valve clearance and engine mounting			•
Use a high quality MV32 or ISO 68 hydraulic oil.			
Check for oil leaks. Check Hydraulic Fluid.	•		
Change the Hydraulic Return Filter Element			•
Check filler cap to verify correct oil volume		•	

Maintenance	Daily	25 Hrs	50 Hrs	100 Hrs
Check engine oil	•			
Check air cleaner -shake out loose dirt	•			
Check arbor bearings -DO NOT over grease	•			
Check hydraulic oil level	•			
Check air cleaner connections	•			
Check belt tension and condition	•			
Inspect blade shaft, pin and collars		•		
Grease output shaft bearing		•		
Grease PTO		•		
Service air cleaner element			•	
Inspect sheaves for wear and cracks			•	
Change engine oil and filter				•

Inspect and adjust Blade Drive Belts

- 1. Remove blade guard by loosening L-bolt and lifting guard off mount.
- 2. Remove handle nut (A) and open belt guard door (B).

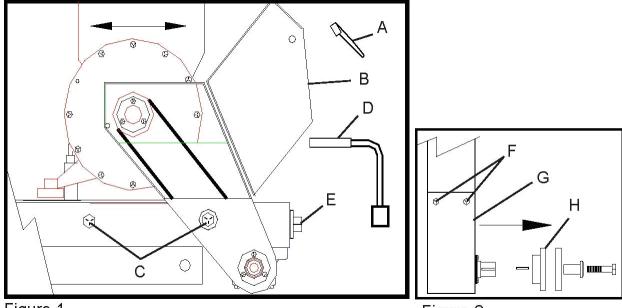
Note: Belt deflection formula is 1/64" deflection per 1" measured from center of engine shaft to center of arbor shaft.

3. Check belt deflection by pushing on the center of the belt.

To adjust belt tension:

- 4. Loosen four engine mount bolts (C) on the outside of the frame (two on each side).
- 5. Using the supplied wrench (D), turn the belt tensioning bolt (E) on the front of the frame. Turning the belt tensioning bolt will cause the whole engine to move on its frame. Turn the bolt clock wise to loosen the belts counter clock wise to tighten the belts.
- 6. When proper tension is achieved, tighten four engine mount bolts on the outside of the frame.

Note: To remove belts, you must completely remove belt guard (G) by removing four bolts (F) and parts shown in Figure 2.



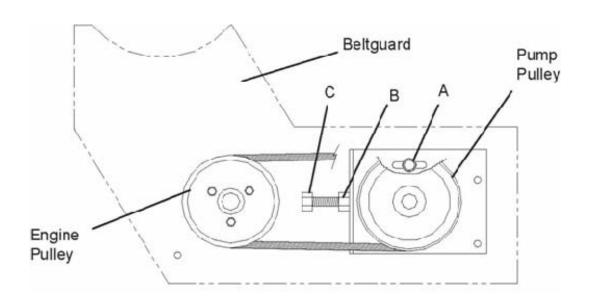
Inspect and Adjust Alternator and Hydraulic Pump Drive Belt

WARNING: Do not inspect belts when engine is running.

- 1. Disconnect Air Cleaner by detaching the rubber elbow from the engine intake. Leave the Air Cleaner attached to the belt guard.
- 2. Remove belt guard by removing two bolts on the sides and two nuts from studs on front.

Note: See section 6.5 in the Deutz Engine manual for alternator belt inspection and adjustment.

- 3. The Hydraulic Pump Belt deflection should be about 1/4".
- 4. To adjust belt tension:
- 5. Loosen the two bolts (A) on the front of the pump behind the pulley (only one wrench is required).
- 6. Locate the tension adjuster on the pump mount between the pump and the engine. Loosen the lock nut (B) and turn the adjuster (C) in to tighten belt.
- 7. Retighten A & B, reinstall the belt guard and reattach the air cleaner.



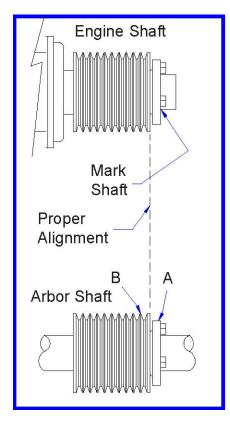
Bushing Removal and Installation

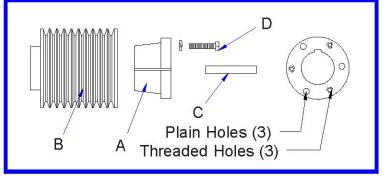
NOTE: DO NOT lubricate taper, the bolts, or the sheave. Lubricating these parts could lead to breakage due to over tightening.

- 1. Mark the location of the bushing (A) as shown before removing.
- 2. Remove worn or damages components.
- 3. Clean all contamination from the engine shaft or arbor shaft.
- 4. Assemble the sheave (B) and bushing (A) loosely on the shaft and insert key (C).

NOTE: Insert the bolts (D) through the holes in the bushing WITHOUT threads and then screw them into the threaded holes of the sheave.

- 5. Place the bushing in line with the mark of the old bushing and tighten the 3 bolts sequentially until each is tightened to 180 in/lb or 15ft/lbs.
- 6. Make sure the (2) sheaves are aligned. If not, loosen the sheave, relocate, and tighten in correct position.





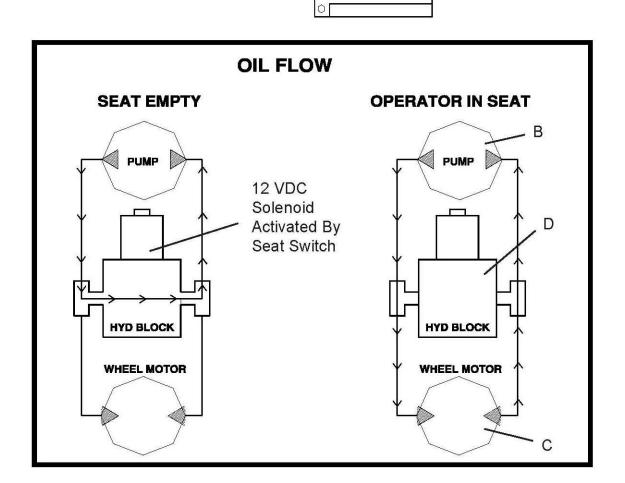
BUSHING REMOVAL: To remove the bushing from the sheave, remove the 3 bolts and insert into the threaded holes of the bushing. Tighten the bolts sequentially until the bushing can be easily removed from t he sheave.

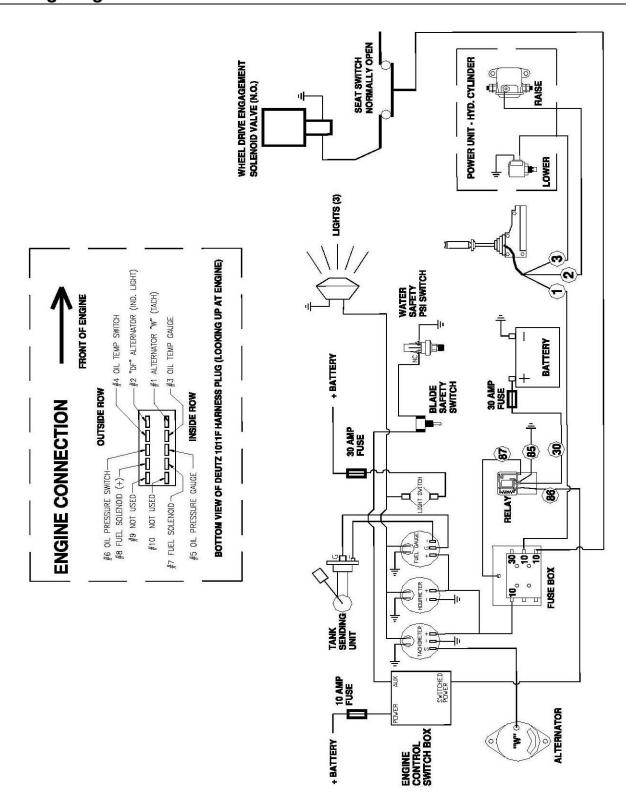
Seat Switch Operation

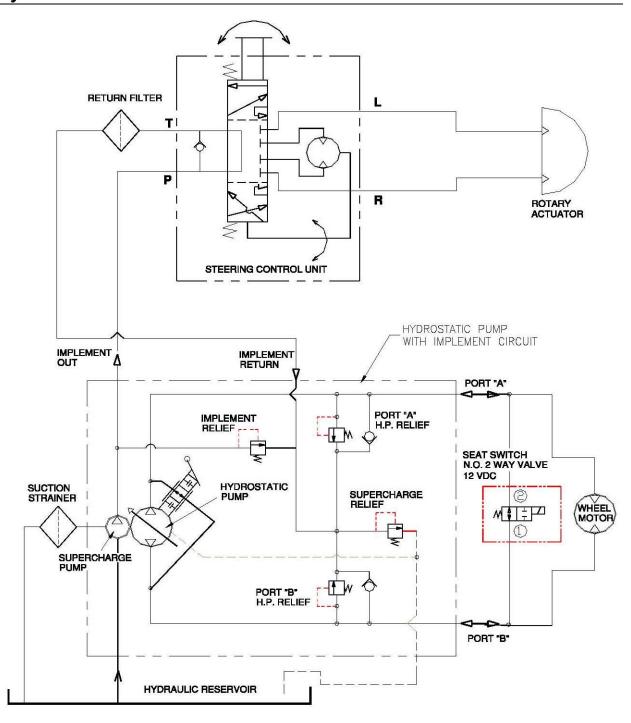
For Safety reasons, the unit will not travel forward or reverse unless there is an operator on the seat. If the control lever (A) is stroked, oil will run from the hydraulic pump (B) to the wheel motor (C). The hydraulic lines are teed into the hydraulic block (D).

The hydraulic flow control block is normally open, which means the oil will flow through the block instead of through the motor. (Note: Oil will flow through the path of least resistance.)

When the seat switch is activated, the valve closes and does not allow oil to pass through the block so it flows to the motor.







Notes

Notes

Notes

EQUIPMENT AND PARTS WARRANTY

Diamond Products warrants all equipment manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to Customer.

The responsibility of Diamond Products under this Warranty is limited to replacement or repair of defective parts at Diamond Products' Elyria, Ohio factory, or at a point designated by it, of such parts as shall appear to us upon inspection at such parts, to have been defective in material or workmanship, with expense for transportation and labor borne by Customer.

In no event shall Diamond Products be liable for consequential or incidental damages arising out of the failure of any Product to operate properly.

Integral units such as engines, electric motors, batteries, transmissions, etc., are excluded from this Warranty and are subject to the prime manufacturer's warranty.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES ARE HEREBY DISCLAIMED.

