

Operator's



Sand Star Zee

Model 45-501-A

March 2018

Product Support:

Hwy 55 & Poplar Ave; Cameron WI 54822

1-800-891-9435 productsupport@smithco.com

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Thank you for purchasing a **Smithco** product.

Read this manual and all other manuals pertaining to the Sand Star Zee carefully as they contain safety, operating, assembly and maintenance instructions. Failure to do so could result in personal injury or equipment damage.

Keep manuals in a safe place after operator and maintenance personnel have read them. Right and left sides are from the operator's seat, facing forward.


WARNING:

Engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.
For more information visit www.P65Warning.ca.gov

WARNING

Failure to follow cautious operating practices can result in serious injury to the operator or other persons. The owner must understand these instructions, and must allow only trained persons who understand these instructions to operate this vehicle.

All **Smithco** machines have a Serial Number and Model Number. Both numbers are needed when ordering parts. Refer to engine manual for placement of engine serial number.

For product and accessory information, help finding a dealer, or to register your product please contact us at www.Smithco.com.

Information needed when ordering replacement parts:

1. Model Number of machine
2. Serial Number of machine
3. Name and Part Number of part
4. Quantity of parts

For easy access record your Serial and Model numbers here.

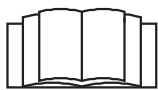


WAYNE, PENNSYLVANIA 19087 USA
610-688-4009 Fax 610-688-6069



SERIAL NO.	kW/hp	DATE OF MFG.
MODEL NO.	lb/kg Empty	lb/kg Full

SYMBOLS



Read Operator's
Manual



Engine Stop



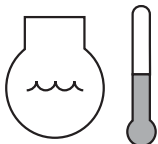
Engine Start



Engine Run



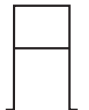
Engine Oil



Water
Temperature



1000/mi
RPM



Gasoline



Diesel



Glow Plug



Hour Meter



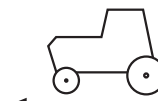
Hand Throttle



Choke



Hydraulic
Oil Level



Ground Speed



Park Brake



Park Brake
Release



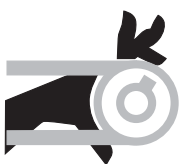
Fast



Slow



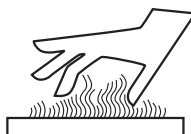
Lift Arm



Moving Parts



Pinch Point



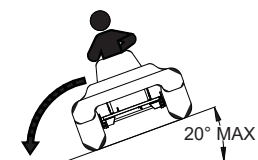
Hot Surface



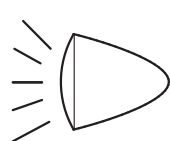
Hydraulic Fluid
Penetration



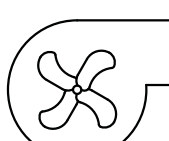
No Riders



Rollover
Danger



Headlamp



Blower



Warning
Danger
Caution



Seat Belt

Read and understand this manual and all safety signs before operating and maintaining. Review the safety instructions and precautions annually.

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



Símbolo de alerta de seguridad

Este símbolo de alerta significa:
"¡Preste atención! ¡Está en juego su seguridad!"
" Lea atentamente el mensaje que figura a continuación.

SAFETY SIGNAL WORDS

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:



DANGER

DANGER: Red. Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



WARNING

WARNING: Orange. Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION

CAUTION: Yellow. Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



IMPORTANT

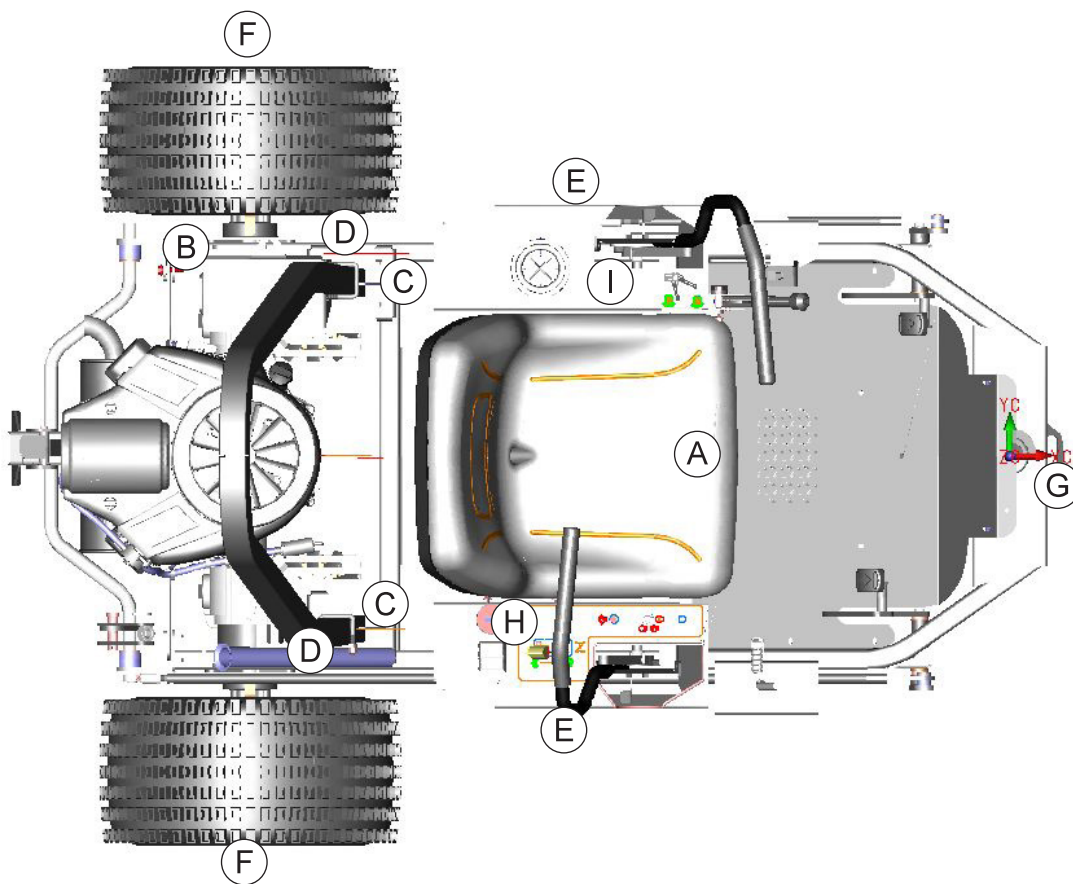
IMPORTANT: Blue. Indicates procedures which should be followed to avoid damage to the machine. Safety

SAFETY WARNING DECALS

REMEMBER: If Safety Signs have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized distributor or factory.

This is a list of decals located on the Sand Star Zee. Part number, description and location will help in reordering decals.

A	13-063	Decal, Warning
	25-357	Decal, Smithco
	25-369	Decal, 84 dBA
B	25-277	Decal, Battery
C	25-286	Decal, Pinch Point
D	25-298	Decal, Warning Hot
E	45-522	Decal Sand Star Zee
F	25-354	Decal, Tire Pressure 5psi
G	25-356	Decal, Tire Pressure, 20 psi
H	45-524	Decal, Control Panel
I	51-184	Decal, Park Brake



SAFE PRACTICES

1. It is your responsibility to read this manual and all publications associated with this machine (engine, accessories and attachments).
2. Never allow anyone to operate or service the machine or its attachments without proper training and instructions. Never allow minors to operate any equipment.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Wear all Personal Protective Equipment (PPE) on your head, eyes, ears, hands and feet. Operate the machine only in daylight or in good artificial light.
5. Inspect the area where the equipment will be used. Pick up all debris you can find before operating. Beware of overhead obstructions and underground obstacles. Stay alert for hidden hazards.
6. Never operate equipment that is not in perfect working order or without decals, guards, shields, or other protective devices in place.
7. Never disconnect or bypass any switch.
8. Carbon monoxide in the exhaust fumes can be fatal when inhaled, never operate a machine without proper ventilation.
9. Fuel is highly flammable, handle with care. When filling tank stop 1 inch(2.54 cm) from top. Leave room for expansion. **DO NOT OVERFILL.**
10. Keep engine clean. Allow the engine to cool before storing and always remove the ignition key.
11. After engine has started machine must not move. If movement is evident, the neutral mechanism is not adjusted correctly. Shut engine off and readjust so the machine does not move when in neutral position.
13. Never use your hands to search for oil leaks. Hydraulic fluid under pressure can penetrate the skin and cause serious injury.
14. This machine demands your attention. To prevent loss of control or tipping of the vehicle:
 - A. Use extra caution in backing up the vehicle. Ensure area is clear.
 - B. Do not stop or start suddenly on any slope.
 - C. Do not drive on slopes greater than 10°.
 - D. Reduce speed on slopes and in sharp turns. Use caution when changing directions on slopes.
 - E. Stay alert for holes in the terrain and other hidden hazards.
15. Before leaving operator's position for any reason:
 - A. Disengage all drives.
 - B. Lower all attachments to the ground.
 - C. Set park brake.
 - D. Shut engine off and remove the ignition key.
16. Keep hands, feet and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
17. Keep the area of operation clear of all bystanders.
18. Never carry passengers.
19. Stop engine before making repairs/adjustments or checking/adding oil to the crankcase.
20. Use parts and materials supplied by **Smithco** only. Do not modify any function or part.

These machines are intended for professional maintenance on golf courses, sports turf, and any other area maintained turf and related trails, paths and lots. No guaranty as to the suitability for any task is expressed or implied.

SAND STAR ZEE SPECIFICATIONS

WEIGHTS AND DIMENSIONS

Length	75" (1,91 m)
Width	59" (1,50 m)
Height	70" (1,78 m)
Wheel Base	48" (1,22m)
Ground Clearance	5.5" - 7" (13 -18 cm) - under cultivator depending on attachment
Weight	880 lbs. (399 kg)

SOUND LEVEL

At Ear Level	82 dB
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ENGINE

Make	Briggs and Stratton Commercial Turf
Model#	44T677
Type / Spec#	0001G1
Horsepower	22HP (16.4 kW)
Fuel	Unleaded 87 Octane Gasoline Minimum
Lubrication System	Full Pressure
Alternator	16 amp

WHEELS & TIRE

5 psi (.34 bar)	Two: 25 X 10 - 12 Rear Knobby Tire
20 psi (1,38 bar)	One: 16 x 7.50 - 8 Front Castor

SPEED

Forward Speed	0 to 10 m.p.h. (0-16 kph)
Reverse Speed	0 to 4 m.p.h. (0-6 kph)

BATTERY

	Automotive Type SP 35
BCI Group	Size 35
Cold Cranking Amps	375
Ground Terminal Polarity	Negative (-)
Maximum Length	7.5" (19 cm)
Maximum Width	5" (12,7 cm)
Maximum Height	7.5" (19 cm)

FLUID CAPACITY

Crankcase Oil	See Engine Manual
Fuel	20 quarts (18,93 liters)
Hydraulic Fluid	7 quarts (6,6 liters)
Grade of Hydraulic Fluid	Parker Dura Clean Hydraulic Oil or Equivalent of AW32 minimum hydraulic oil

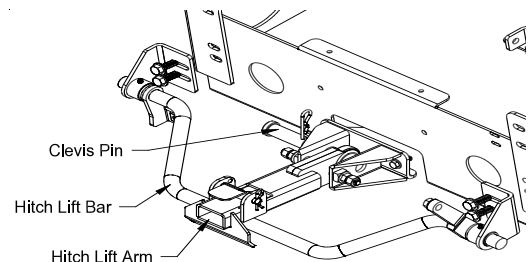
The Sand Star Zee arrives from **Smithco** with some assembly required before service.

REAR WHEEL MOUNTING

1. Set park brake. Push the brake down past center and the park brake is engaged.
2. Block front tire. Jack up rear of machine being careful not to damage underside of machine. Place wheel on hub lining up bolt holes. Use the ten lug nuts provided. Then torque to 64 - 74 ft/lb (87-100 Nm) using a cross pattern. Retorque after the first 10 hours and every 200 hours thereafter. Lower machine to ground and remove blocks and jack.
3. Check the tire pressure. The rear knobby tire pressure should be 5 psi (0.34 bar). The front caster wheel should be 20psi (1.38 bar).

REAR HITCH LIFT ARM

1. You will need the $\frac{7}{8}$ clevis and bridge pin from the hardware bag.
2. The rear hitch lift arm is slid into the hitch on the back of the machine between the adjustment bolts and held in place with the $\frac{7}{8}$ clevis and bridge pin.
3. Be sure hitch lift arm is on top of the hitch lift bar and the lock and spring are on the top.

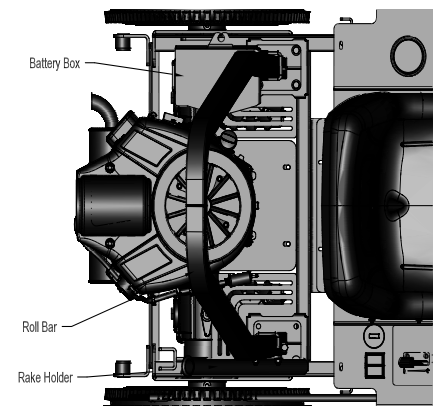


SEAT

1. Place the seat on the seat frame spacers.
2. Plug in seat switch.
3. Use four $\frac{5}{16}$ whiz locks nuts from the hardware bag to secure seat to the seat spacers. Tighten all bolts.

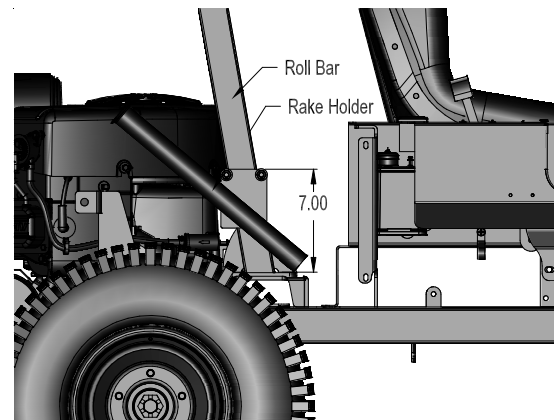
ROLL BAR

1. Mount the roll bar on the main frame just behind seat. There are 2 mounting plates with four holes in them. Use eight $\frac{7}{16}$ bolt, washer and lock nut, four on each side.
2. Roll bar should be leaning towards the back of the machine.



RAKE HOLDER

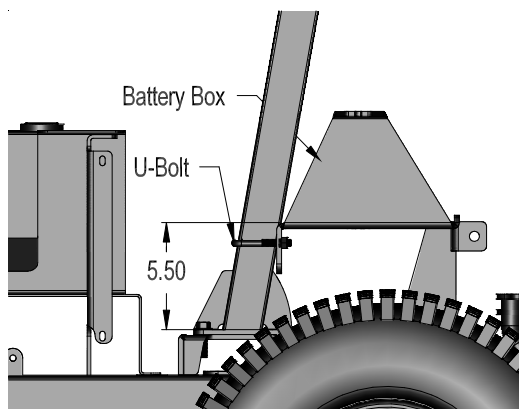
1. The rake holder is mounted on the right hand side of the roll bar.
2. Measure up 7" from the roll bar mounting plate.
3. Use a u-bolt from the small parts bag to hold the rake holder in place. Tighten all hardware.



SETUP ASSEMBLY

BATTERY BOX

1. Battery box is mounted on the left hand side of the roll bar.
2. Measure up 5 1/2" from the roll bar mounting plate.
3. Use a u-bolt from the small parts bag to hold the battery box in place. Tighten all hardware
4. Battery not furnished. Install an automotive type SP 375 cold cranking amps (minimum) battery in the battery box of the Sand Star Zee. This is a negative grounding system. Attach the rubber battery (C) hold-down found in the small parts bag. Then attach red positive (+) cable (A) to positive terminal. Slide rubber boot over the positive terminal to prevent shorts. Attach black negative (-) cable (B) to the negative terminal.



⚠ WARNING

Connecting battery cables to the wrong post could result in personal injury and/or damage to the electrical system. Make sure battery and cables do not interfere or rub on any moving part. Connect the red positive (+) cable (A) to the battery first. When disconnecting remove the black negative (-) cable (B) first.



FUEL, HYDRAULIC OIL AND GREASE FITTINGS

1. Check engine oil and add as necessary. See engine manual for recommended motor oil. **DO NOT OVERFILL.**
2. Fill Gas Tanks with Unleaded 87 Octane gasoline (minimum). When filling the fuel tank stop when the fuel reaches 1 inch (2.54cm) from the top. This space is necessary for fuel expansion. **DO NOT OVERFILL.**

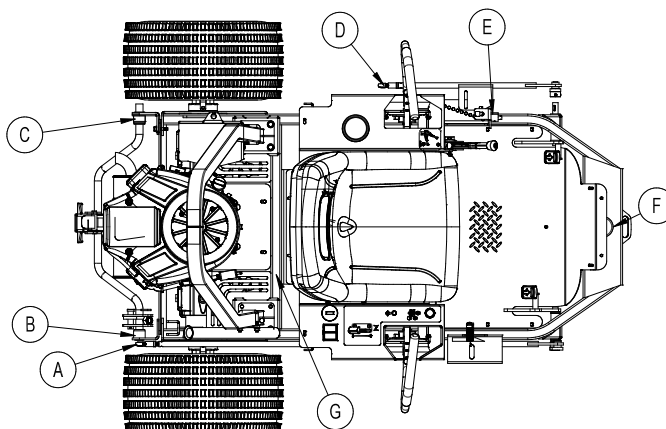
⚠ WARNING

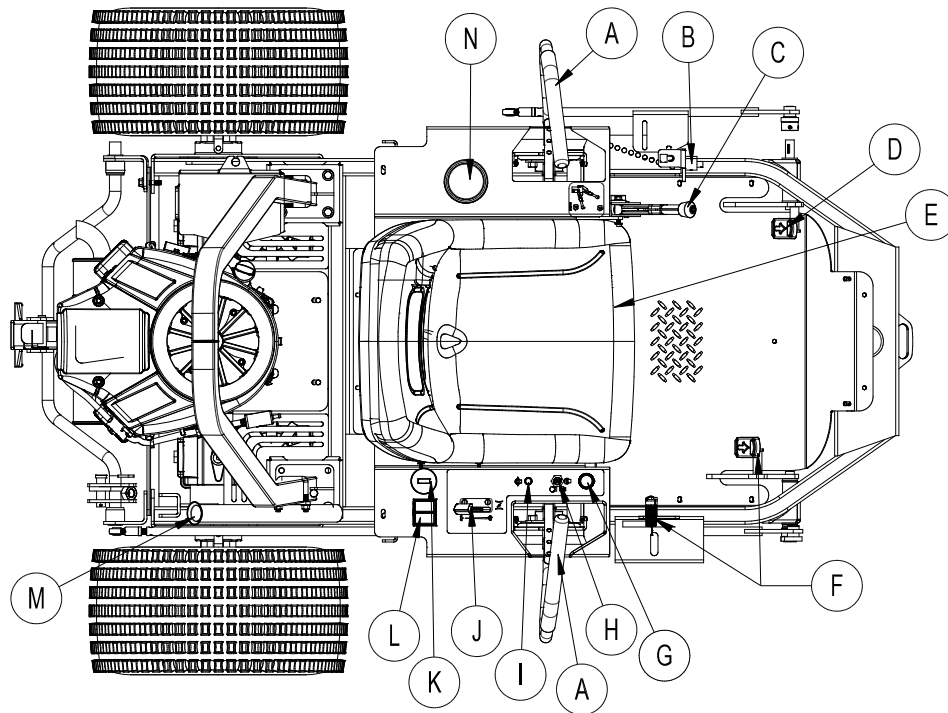
Fuel is flammable. Caution must be used when storing or handling it. Do not fill fuel tank while engine is operating or in an enclosed area. Fumes are explosive and dangerous to inhale. **DO NOT SMOKE** while filling the fuel tank. **DO NOT OVERFILL.**

⚠ WARNING

The engine and exhaust system become very hot during operation. Risk of burns if touched. Allow engine and exhaust system to cool before refueling.

3. Check hydraulic the bottom of the dipstick. If level is low add Parker Dura Clean Hydraulic Oil or equivalent of AW32 minimum hydraulic oil.
4. Machine should be greased before starting. Use general purpose No. 2 lithium base grease.
 - A. Rear attachment lift yoke.
 - B. Right attachment lift mount.
 - C. Left attachment lift mount.
 - D. Center attachment lift yoke.
 - E. Center lift lever.
 - F. Front fork.
5. Read operating instructions before starting machine.





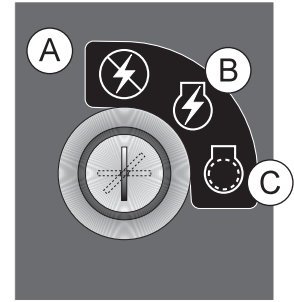
- A. **Motion Control Levers** - Two continuously variable control levers that move forward or backward about a neutral position.
- B. **Center Lift Lever** - Pull inward to release. Spring loaded back into lock position. Works in combination with left foot pedal.
- C. **Park Brake** - Lift up to engage. Push down to disengage.
- D. **Center Lift Pedal** - Push down to lift center attachment. Used in conjunction with center lift adjustment lever.
- E. **Seat Adjustment** - Lever below seat to move seat forward or back.
- F. **Manual Rear Attachment Lift Pedal /Lift Lever** - used to lift and lower rear attachment manually.
- G. **Choke** - Pull choke control knob up to close choke plate when starting a cold engine. A warm engine may not require "choking" to start.
- H. **Ignition Switch** - The ignition switch has three positions: Off-Run-Start.
- I. **Oil Light** - The oil light should come on when ignition is on without engine operating. The oil light will light when the oil pressure is low. If oil light should come on, shut off engine immediately and find the cause.
- J. **Hand Throttle** - The hand throttle is used to regulate engine speed.
- K. **Hour Meter** - The hour meter indicates hours of machine operation. It operates only when the ignition switch is on.
- L. **Light** - (OPTIONAL) This is a holder for rocker switch to turn on and off lights.
- M. **Rake Holder** - used to carry hand rake.
- N. **Cup Holder** - Cup holder for large cup.

OPERATION

STARTING ENGINE

Before operating this machine, become familiar with all controls and functions of these units. Also complete all maintenance requirements and read all safety warnings. By knowing the machine thoroughly, how it operates and by doing the prescribed maintenance steps, you can expect relatively trouble-free operation for years to come.

1. Set park brake. Start safety switch is on the park brake.
2. The ignition switch is a three position on gas and four position on diesel. Insert key (A) and turn clockwise until engine starts (C). Release key and it will return to run position (B). Use choke and hand throttle as necessary.
3. Allow engine to idle and warm up a few minutes before selecting a direction of travel.
4. To shut off engine on all gas machines turn key to the stop position.



STEERING CONTROL LEVERS

Acquaint yourself with the steering before operating the machine. This machine is equipped with two steering control levers (A) that make the machines speed and direction continuously variable. The steering controls can be moved forward or backward about a neutral position. The neutral position is locked when the steering control levers are moved outward and the machine will stand still.

Move in a straight line - By moving both controls an equal amount forward or backward, the machine will move in a straight line forward or backward respectively.

To turn right while going forward - Move right control lever towards the neutral position. This will cause the rotation of the right wheel to reduce which will result in the machine turning to the right.

To turn left while going forward - Move left control lever towards the neutral position. This will cause the rotation of the left wheel to reduce which will result in the machine turning to the left.

Zero Turn - Zero turn can be achieved by moving one control lever backward, behind neutral position, and **carefully** moving the other control lever forward from its neutral position. **The rotation direction is determined by the control lever that is moved backward behind the neutral position.** If left control lever is backward, machine will turn left. If right control lever is moved backward, machine will turn right.



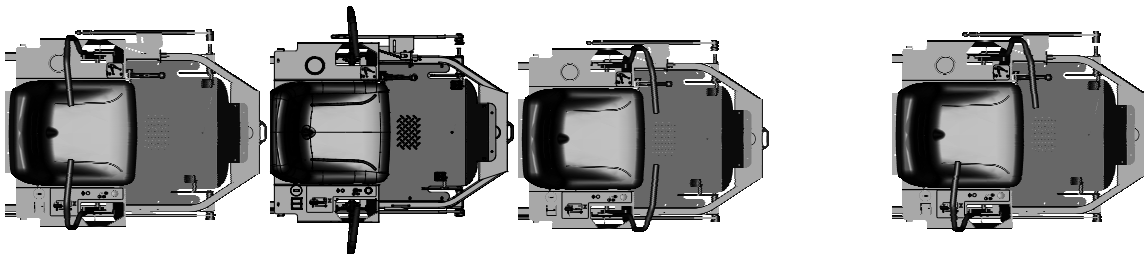
The machine can move rapidly if one steering control is moved much further than the other.

Reverse

Neutral

Forward

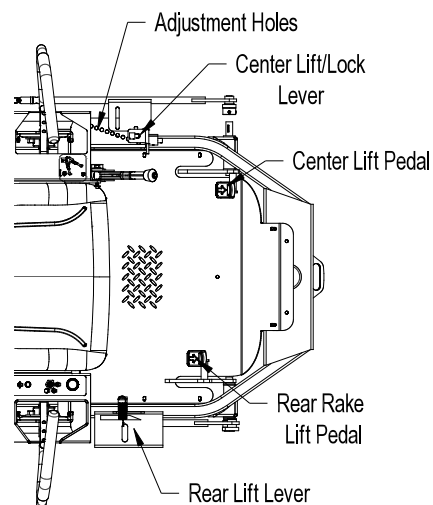
Right Zero Turn



Do not drive up and down hills with slopes greater than 10°. Do not drive across slopes.

CENTER LIFT

Using the foot pedal on the left floorboard and the center lift lever you can raise and lower the center lift. To lift, push right foot pedal all the way down and the center lift lever will lock into place. To lower, place pressure on the foot pedal, place detent pin in hole for correct depth you are trying to obtain, push center lift lever inward and release pedal. Detent pin will stop center lift at selected depth.



Service

ELECTRIC/HYDRAULIC REAR LIFT (45-501)

To lift and lower the rear attachments on the 45-501, use the rocker switch on the right control lever. Pushing the switch up will raise the rear attachment. Pushing the rocker switch down will lower the rear attachment.



Rear Electric Lift
Rocker Switch

OPERATION

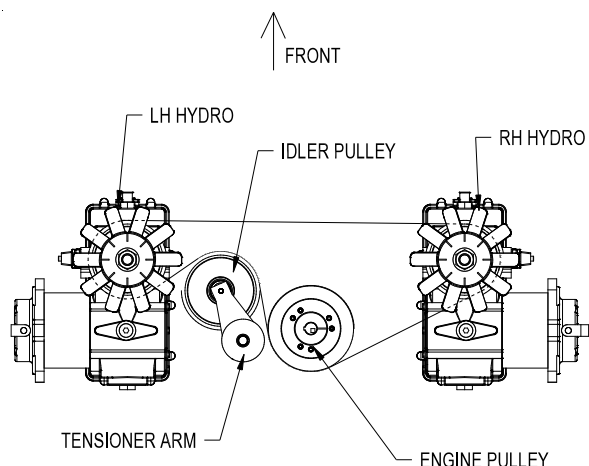
PARK BRAKE

The park brake is located on the left side of the machine and operates the brakes on the rear wheels. Push lever forward to disengage and pull back to engage.

To adjust turn the knob on the end of the handle. For further adjustment you may turn the yokes clockwise to tighten and counter clockwise to loosen.

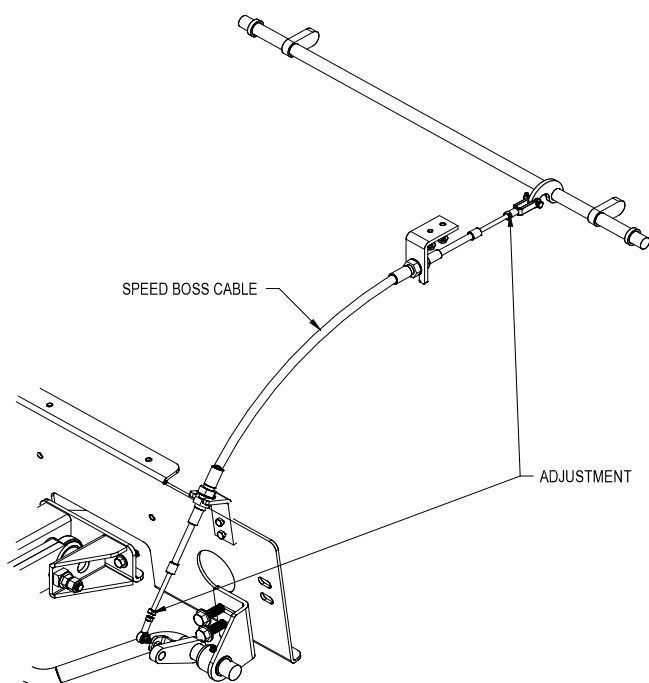
ADJUSTMENT OF BELT TENSIONER

The belt tensioner controls the tension on the belt from the engine to the left and right hydro units. The proper tension of the idler should be in the third notch on the side of the tensioner. Over tightening the belt will shorten the life of the belt and the machine may not perform to the best of its ability. To adjust belt tensioner, loosen the bolt holding the tensioner. Bring idler pulley tight to the belt and turn tensioner into belt to the third notch. Using a pair of channel lock pliers, rotate the upper half of the tensioner clockwise until the indicator is at the third notch. Tighten bolt on tensioner.



SPEED BOSS ADJUSTMENT (45-501 SERIAL NO. ZTR001-ZTR092)

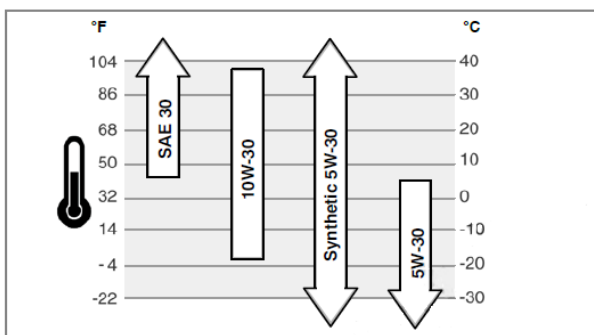
The Speed Boss can be adjusted on either end of the speed boss cable. Tighten or loosen the yoke or ball joint to get desired down pressure. Make adjustment with the actuator in the lifted up position. Check down pressure before continuing.



ENGINE

Change and add oil according to chart below. Do not overfill. Engine oil capacity is 2 quarts. We recommend high-quality detergent oils classified for service SF, SG, SH, SJ or higher. Do not use special additives. Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.

SAE VISCOSITY GRADES



A quick twist and pull motion to open, push to close. Allows a quick and easy way to change oil without the mess



Engine Oil Drain Valve

Use of multi-viscosity oils (10W-30, etc.) above 80° F (27° C) will result in high oil consumption and possible engine damage. Check oil level more frequently if using these types of oils.

SAE 30 oil, if used below 40° F (4° C), will result in hard starting and possible engine bore damage due to inadequate lubrication.

DAILY CHECKLIST

⚠ IMPORTANT

Use all procedures and **ONLY** use parts prescribed by the manufacturer. Read the engine manual before operation.

⚠ CAUTION

Before servicing or making adjustments to the machine, stop engine, set park break, block wheels and remove key from ignition.

DAILY CHECKLIST

1. Check park brake adjustment. Adjust as required.
2. Check engine oil level. Add as needed. **DO NOT OVERFILL.**
3. Tire pressure should be 5 psi (0.34 bar) maximum on rear tires and 20 psi (1.38 bar) on the front tire.
4. Inspect electrical system for loose connections or frayed wiring, including battery cables. Replace any faulty equipment or tighten if loose.
5. Check hardware for loose or missing nuts, bolts, screws, etc., and tighten or replace as needed.
6. Inspect hydraulic lines for damage or leaks. Never use hands to inspect leaks.
7. Check hydraulic oil level on the tank. The level should be 1-3" from the bottom of the dipstick. If level is low fill with Parker Dura Clean Hydraulic Oil or Equivalent of AW32 minimum hydraulic oil.
8. Inspect steering control levers, throttle and shift linkages for good hookups and clear travel.
9. Check controls for smooth, proper working operation.

SERVICE CHART

The suggested maintenance checklist is not offered as a replacement for the manufacturer's engine manual but as a supplement. You must adhere to the guidelines established by the manufacturer for warranty coverage. In adverse conditions such as dirt, mud or extreme temperatures, maintenance should be more frequent.

Maintenance Service Interval	Maintenance Procedure
After the first 8 operating hours	• Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm)) • Change the engine oil filter.
Before each use daily	• Check the engine oil level. • Clean area around muffler and controls • Check the hydraulic fluid level. • Check the tire pressure. • Check condition of hydraulic hoses and fittings. • Inspect and clean the machine.
Every 25 hours	• Clean air filter¹ • Check the battery fluid level and cable connections. • Change oil when operating under heavy load or high ambient temperatures.
Every 50 hours	• Replace engine oil filter • Check muffler and spark arrestor
Every 100 hours	• Replace engine oil filter
Every 250 hours	• Change air filter • Check tire pressure (5 psi)-Rear. 20 psi - Front. • Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm)) • Change hydraulic oil and filter • Lubricate machine
Every 400 hours or yearly	• Replace air filter • Replace Pre Cleaner • Replace spark plugs • Clean air cooling system¹ • Replace fuel filter • Check valve clearance² • Lubricate machine • Visual inspection of machine and hydraulic hoses • Change oil • Torque the wheel lug nuts. (64-74 ft/lb (87-100 Nm)) • Check battery terminals and electrolyte level

¹ In dusty conditions or when airborne debris is present, clean more often

² Not required unless engine performance problems are noted.

MAINTENANCE SERVICE CHART

Duplicate this page for routine use. Service

Clean more often under dusty conditions or when airborne debris is present , replace air cleaner parts, if very dirty.

Maintenance Check Item	For the week of:						
	Mon	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Check the Safety Seat Switch							
Check Steering Operation							
Check the fuel level							
Check the engine oil level.							
Clean the air filter							
Clean the engine cooling fins.							
Check for unusual engine noises							
Check the hydraulic oil level							
Check hydraulic hoses and fittings for damage							
Check for fluid leaks.							
Check the tire pressure							
Check the Instrumentation							
Inspect electrical system for frayed wires							
Check park brake adjustment							
Change oil filter.							
Change oil.							
Lubricate Machine							
Ensure all warning decals are intact.							
Areas of Concern							
Inspection Performed by:							
Item	Date		Information				

Service

BATTERY

BATTERY

Batteries normally produce explosive gases which can cause personal injury. Do not allow flames, sparks or any ignited object to come near the battery. When charging or working near battery, always shield your eyes and always provide proper ventilation.

Battery cable should be disconnected before using "Fast Charge".

Charge battery at 15 amps for 10 minutes or 7 amps for 30 minutes. Do not exceed the recommended charging rate. If electrolyte starts boiling over, decrease charging.

Always remove grounded (-) battery clamp first and replace it last. Avoid hazards by:

1. Filling batteries in well-ventilated areas.
2. Wear eye protection and rubber gloves.
3. Avoid breathing fumes when electrolyte is added.
4. Avoid spilling or dripping electrolyte.

⚠ WARNING

Battery Electrolyte is an acidic solution and should be handled with care. If electrolyte is splashed on any part of your body, flush all contact areas immediately with liberal amounts of water. Get medical attention immediately.

JUMP STARTING

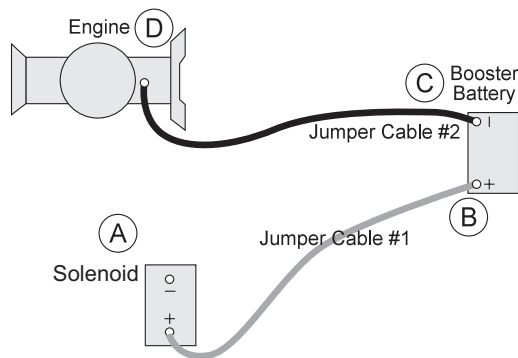
⚠ WARNING

Use of booster battery and jumper cables. Particular care should be used when connecting a booster battery. Use proper polarity in order to prevent sparks.

To jump start (negative grounded battery):

1. Shield eyes.
2. Connect ends of one cable to positive (+) terminals of bottom post on solenoid first (A), then positive post of booster battery. (B).
3. Connect one end of other cable to negative (-) terminal of booster battery (C).
4. Connect other end of cable (D) to engine block on unit being started.

To prevent damage to other electrical components on unit being started, make certain that engine is at idle speed before disconnecting jumper cables.



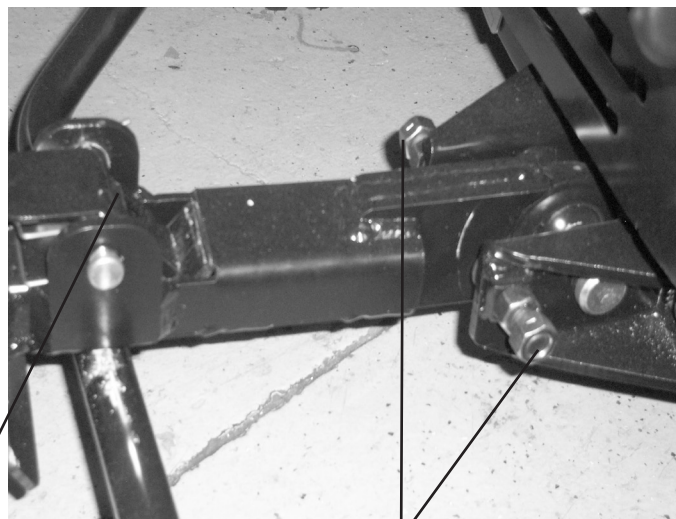
QUICK HITCH

Bunker Rakes are fitted with a Quick Hitch Accessory Mount System. On each mount is a spring loaded locking mechanism and a lock pin. Remove the lock pin and push down on the spring loaded locking mechanism and your rear attachment will pull off, so you can easily switch out attachments. The lock pin acts as a safety device to keep lock pin from opening up when crossing rough terrain.

There are also adjustment screws on the Quick Hitch Accessory Mount System that may need to be adjusted for certain rear attachments. These allow the rear attachment to move from side to side without touching the rear wheels. Please see instructions on each individual attachment that you purchase.

Run machine and test for operation of the rear attachment by raising and lowering the assembly and with the attachment down turn sharp corners in both directions to ensure rake is not contacting the tires.

Spring Loaded
Locking
Mechanism



Adjustment Screws

Service

HOW TO RAKE A SAND TRAP

HOW TO RAKE A SAND TRAP

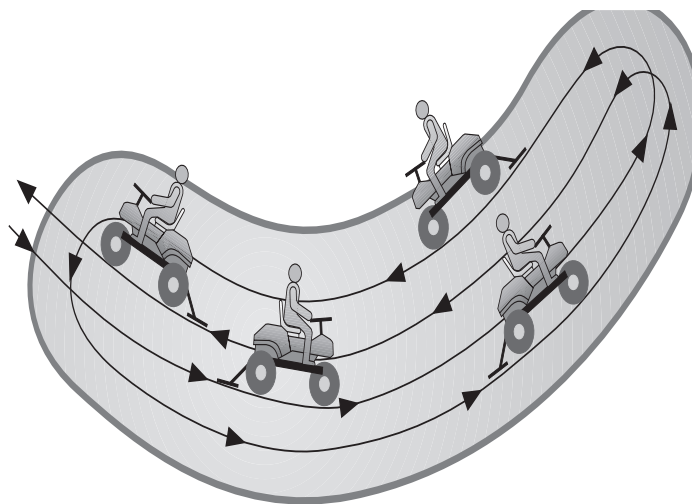
View bunker to determine the most efficient pattern to follow so that rake pattern and configuration of bunker will flow in same general direction and look attractive.

Enter bunker at its lowest point. Perhaps drain area or another point where "lip" of the trap is minimal.



Operate at 2-4 m.p.h. (3-6.5 kph) for best raking results. Control speed with hydraulic pedal.

Once fully inside bunker, lower rear rake and proceed forward as described above.



First pass should be directly down center of trap. This helps avoid extremely sharp turns that will spoil sands' appearance. Once at far end, turn machine and drive down one side of trap and come back up other side.

Grass or other material may build up on rake tines as machine passes "enter/exit" point in Figure 1. Lift rake briefly while still moving forward.

Do not rake closer than 6" (15 cm) to edge of trap.

Do not rake slopes in trap. The weight of machine will pull sand down.

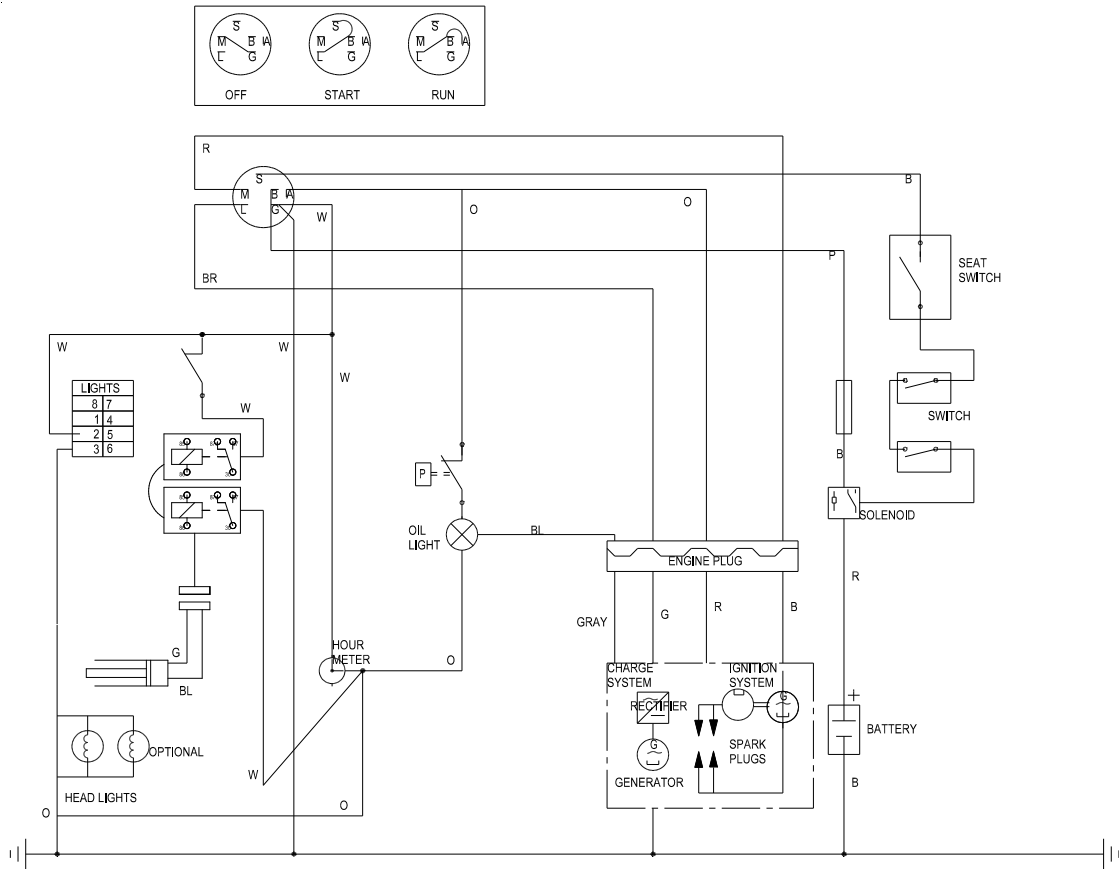
Use cultivator or other center mounted accessories only as necessary for compacted sand. Frequent use will leave sand too soft and objectionable to some golfers.

Use front mounted plow to push sand to desired locations within trap.

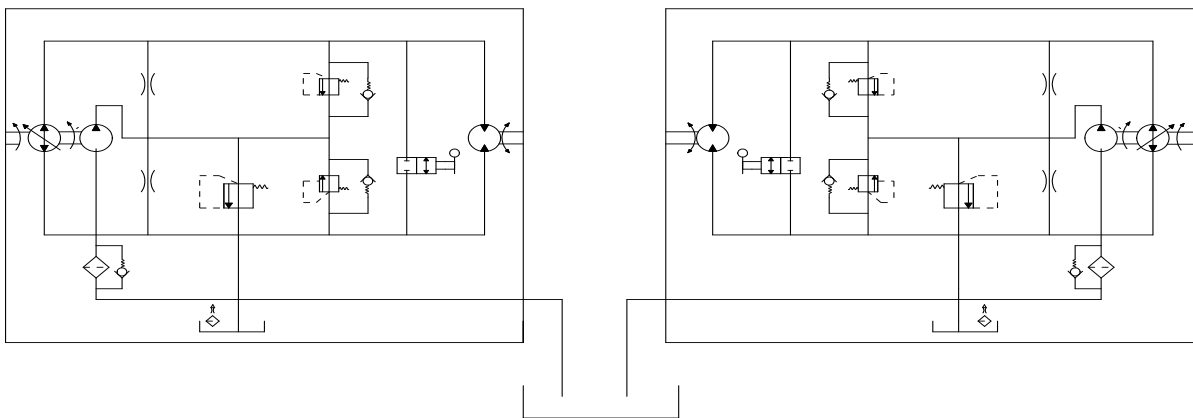
After exiting trap, secure machines in accordance with practices described in this manual. Rake trap edges, slopes and "enter /exit" area with a hand rake.

After returning to maintenance area, thoroughly clean machine, check fluids, and lubricate as advised in this manual.

45-501 GOLF ZTR WIRING SCHEMATIC



HYDRAULIC SCHEMATIC



DECLARATION OF CONFORMITY • ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ • PROHLÁŠENÍ O SHODĚ • OVERENSSTEMMELSESERKLÆRING • CONFORMITEITSVERKLARING • VASTAVUSDEKLARATSIOON • VAATIMUSTENMUKAISUUSVAKUUTUS • DECLARATION DE CONFORMITE • KONFORMITÄTSEKRLÄRUNG • ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ • MEGFELELŐSÉGI NYILATKOZAT • DICHIARAZIONE DI CONFORMITÀ • ATBILSTĪBAS DEKLARĀCIJA • ATITIKTIES DEKLARACIJA • DIKJARAZZJONI TAL-KONFORMITÀ • DEKLARACJA ZGODNOŚCI • DECLARAÇÃO DE CONFORMIDADE • DECLARAȚIE DE CONFORMITATE • VYHLÁSENIE O ZHODE • IZJAVA O SKLADNOSTI • DECLARACIÓN DE CONFORMIDAD • DEKLARATION OM ÖVERENSSTÄMMELSE

Business name and full address of the manufacturer • Търговско име и пълен адрес на производителя • Obchodní jméno a plná adresa výrobce • Producentens firmanavn og fulde adresse • Bedrijfsnaam en volledig adres van de fabrikant • Tootja ärinimi ja täielik address • Valmistajan toiminimi ja täydellinen osoite • Nom commercial et adresse complète du fabricant • Firmenname und vollständige Adresse des Herstellers • Εταιρεία και ταχυδρομική διεύθυνση κατασκευαστή • A gyártó üzleti neve és teljes címe • Ragione sociale e indirizzo completo del fabbricante • Uzņēmuma nosaukums un pilna ražotāja adrese • Versio pavadinimas ir pilnas gamintojo adresas • Isem kummerčiali u indirizz shih tal-fabbrikant • Nazwa firmy i pełny adres producenta • Nome da empresa e endereço completo do fabricante • Denumirea comercială și adresa completă a producătorului • Obchodný názov a úplná adresa výrobcu • Naziv podjetja in polni naslov proizvajalca • Nombre de la empresa y dirección completa del fabricante • Tillverkarens företagsnamn och kompletta adress	Smithco Inc. 34 West Avenue Wayne, PA USA 19087-3311
Product Code • Код на продукта • Kód výrobku • Produktkode • Productcode • Toote kood • Tuotekoodi • Code produit • Produktcode • Κωδικός προϊόντος • Termékkód • Codice prodotto • Produkta kods • Produktu kods • Kodič tal-Prodott • Kod produktu • Código do Produto • Cod produs • Kód výrobku • Oznaka proizvoda • Código de producto • Produktkod	45-500/45-501
Machine Name • Наименование на машината • Název stroje • Maskinnavn • Machinenam • Masina nimi • Laitteen nimi • Nom de la machine • Maschinenbezeichnung • Ονομασία μηχανήματος • Gépnév • Denominazione della macchina • Iekārtas nosaukums • Mašinos pavadinimas • Isem tal-Magna • Nazwa urządzenia • Nome da Máquina • Numele echipamentului • Názov stroja • Naziv stroja • Nombre de la máquina • Maskinens namn	Sand Star Zee
Designation • Предназначение • Označení • Betegnelse • Benaming • Nimetus • Tyypimerkintä • Pažymėjimas • Bezeichnung • Χαρακτηρισμός • Megnevezés • Funzione • Apzīmējums • Lithuanian • Denominazzjoni • Oznaczenie • Designação • Specificație • Označenje • Namen stroja • Descripción • Beteckning	Bunker Rake
Serial Number • Серийен номер • Sériové číslo • Seriennummer • Seriennummer • Seerianumber • Valmistusnumero • Numéro de série • Seriennummer • Σειριακός αριθμός • Sorozatszám • Numero di serie • Sērijas numurs • Serijos numeris • Numru Serjali • Numer seryjny • Número de Série • Număr de serie • Sériové číslo • Serijska številka • Número de serie • Seriennummer	ZTR001 - ZTR300
Engine • Двигател • Motor • Motor • Motor • Mootor • Moottori • Moteur • Motor • Μηχανή • Modulnév • Motore • Dzinējs • Variklis • Sahha Netta Installata • Silnik • Motor • Motor • Motor • Motor • Motor • Motor	22HP Briggs & Stratton
Net Installed Power • Нетна инсталирана мощност • Čistý instalovaný výkon • Installeret nettoeffekt • Netto geïnstalleerd vermogen • Installeeritud netovõimsus • Asennettu nettoteho • Puissance nominale nette • Installierte Nettoleistung • Καθαρή εγκατεστημένη ισχύς • Nettó beépített teljesítmény • Potenza netta installata • Paredzētā tīkla jauda • Grynoji galia • Wisa' tal-Qtugh • Moc zainstalowana netto • Potência instalada • Puterea instalată netă • Čistý instalovaný výkon • Neto vgrajena moč • Potencia instalada neta • Nettoeffekt	16,4 kW
Conforms to Directives • В съответствие с директивите • Splnĥuje podmĥny smĥrnĥc • Er i overensstemmelse med direktiver • Voldoet aan de richtlijnen • Vastab direktiividele • Direktiivien mukainen • Conforme aux directives • Entspricht Richtlinien • Ακολουθώσe πιστά τις Οδηγίες • Megfelel az irányelveknek • Conforme alle Direttive • Atbilst direktīvām • Atitinka direktyvų reikalavimus • Valutazzjoni tal-Konformità • Dyrektywy związane • Cumprare as Directivas • Respectă Directivile • Je v sĥlode so smĥrnicami • Skladnost z direktivami • Cumple con las Directivas • Uppfyller direktiv	2006/42/EC; 2000/14/EC Annex VI . Part 1
Conformity Assessment • Оценка за съответствие • Hodnocení plnĥní podmĥnek • Overensstemmelsesvurdering • Conformiteitsbeoordeling • Vastavushindamine • Vaatimustenmukaisuuden arviointi • Evaluation de conformité • Konformitätsbeurteilung • Διαπίστωση Συμμόρφωσης • Megfelelőség-értékelés • Valutazione della conformità • Atbilstības novērtējums • Atitikties įvertinimas • Livell tal-Qawwa tal-Hoss Imkejjel • Ocena zgodności • Avaliação de Conformidade • Evaluarea conformității • Vyhodnotenie zhodnosti • Ocena skladnosti • Evaluación de conformidad • Bedömning av överensstämmelse	2006/42/EC Annex VIII
Measured Sound Power Level • Измерено ниво на звукова мощност • Namĥřený akustický výkon • Mĥlte lydstyrkeniveau • Gemeten geluidsniveau • Mĥddetud helivõimsuse tase • Mitattu äänitehotaso • Niveau de puissance sonore mesuré • Gemessener Schalldruckpegel • Σημειωμένο επίπεδο ηχητικής ισχύος • Mért hangteljesítményszint • Livello di potenza sonora misurato • Izmĥritais skaņas jaudas lĥmenis • Įsmatutas garso stiprumo lygis • Livell tal-Qawwa tal-Hoss Iggarantit • Moc akustyczna mierzona • Nivel sonoro medido • Nivelul măsurat al puterii acustice • Nameranā hladina akustickĥho výkonu • Izmerjena raven zvĥne moĥi • Nivel de potencia sonora medido • Uppmĥtt ljudeffektsnivĥ	82dB(A)Lwa
Guaranteed Sound Power Level • Гарантирано ниво на звукова мощност • Garantovaný akustický výkon • Garanteret lydstyrkeniveau • Gegarandeerd geluidsniveau • Garanteeritud helivõimsuse tase • Taattu äänitehotaso • Niveau de puissance sonore garanti • Garanterter Schalldruckpegel • Εγγυημένο επίπεδο ηχητικής ισχύος • Szavatolt hangteljesítményszint • Livello di potenza sonora garantito • Garantĥtais skaņas jaudas lĥmenis • Garantuotas garso stiprumo lygis • Livell tal-Qawwa tal-Hoss Iggarantit • Moc akustyczna gwarantowana • Nivel sonoro farrantido • Nivelul garantat al puterii acustice • Garantovaná hladina akustickĥho výkonu • Zajamĥena raven zvĥne moĥi • Nivel de potencia sonora garantizado • Garanterad ljudeffektsnivĥ	83 dB(A)Lwa
Conformity Assessment Procedure (Noise) • Оценка за съответствие на процедурата (Шум) • Postup hodnocení plnĥní podmĥnek (hluk) • Procedure for overensstemmelsesvurdering (Støj) • Procedure van de conformiteitsbeoordeling (geluid) • Vastavushindamismenetlus (mĥra) • Vaatimustenmukaisuuden arviointimenetelly (Melu) • Procĥdure d'ĥvaluation de conformitĥ (bruit) • Konformitätsbeurteilungsverfahren (Geräusch) • Διαδικασία Αξιολόγησης Συμμόρφωσης (Θόρυβος) • Megfelelőség-értékelési eljárás (Zaj) • Procedura di valutazione della conformità (rumore) • Atbilstības novērtĥjuma procedĥra (troksnis) • Atitikties įvertinimo procedĥra (garsas) • Procedura tal-Valutazzjoni tal-Konformità (Hoss) • Procedura oceny zgodności (poziom hałas) • Processo de avaliação de conformidade (nível sonoro) • Procedura de evaluare a conformității (zgomot) • Postup vyhodnocovania zhodnosti (hluk) • Postopek za ugotavljanje skladnosti (hrup) • Procedimiento de evaluación de conformidad (ruido) • Procedur för bedömning av överensstämmelse (buller)	2000/14/EC Annex VI Part 1
UK Notified Body for 2000/14/EC • Нотифициран орган в Обединеното кралство за 2000/14/EO • Úřad certifikovaný podle směrnice č. 2000/14/EC • Det britiske bemyndigede organ for 2001/14/EF • Engels adviesorgaan voor 2000/14/EG • Ühendkuningriigi teavitatud asutus direktiivi 2000/14/EÜ mõistes • Direktiivin 2000/14/EY mukainen ilmoitettu tarkastuslaitos Isonsa-Britanniassa • Organisme notifié concernant la directive 2000/14/CE • Britische benannte Stelle für 2000/14/EG • Κοινοποιημένος Οργανισμός Ηνωμένου Βασιλείου για 2000/14/EK • 2000/14/EK – egyesült királyságbeli bejelentett szervezet • Organismo Notificato in GB per 2000/14/CE • 2000/14/EK AK reģistrĥtĥ organizĥcija • JK notifikācijas iestādes jaisgos 2000/14/EC • Korp Notifikat tar-Renju Unit għal 2000/14/KE • Dopuszczona jednostka badawcza w Wielkiej Brytanii wg 2000/14/WE • Entidade notificada no Reino Unido para 2000/14/CE • Organism notificat in Mareea Britannic pentru 2000/14/CE • Notifikovaný orgĥn Spojenĥho krĥlovstva pre smĥrnicu 2000/14/ES • Britanski priĥlašeni organ za 2000/14/ES • Cuerpo notificado en el Reino Unido para 2000/14/CE • Anmĥlt orgĥn fĥr 2000/14/EG i Storbritannien	Smithco West Inc. 200 West Poplar Avenue Cameron, WI 54822 USA
Operator Ear Noise Level • Оператор на нивото на доловим от ухото шум • Hladina hluku v oblasti ušĥi operĥtora • Stĥjniveau i fĥrens ørehĥjde • Geluidsniveau oor bestuuder • Mĥratase operĥatori kĥrvas • Melutaso kĥyttĥjĥn korvan kohdalla • Niveau de bruit ĥ hauteur des oreilles de l'opĥrateur • Schallpegel am Bedienerohr • Επίπεδο θορύβου σε λειτουργία • A kezelĥ fĥlĥnĥl mĥrt zajszint • Livello di potenza sonora all'orecchio dell'operatore • Trĥkšga lĥmenis pie operĥtora auss • Dirbanĥiojo su mašina patiriamo triukšmo lygis • Livell tal-Hoss fil-Widna tal-Operatur • Dopuszczalny poziom hałasu dla operatora • Nivel sonoro nos ouvidos do operador • Nivelul zgomotului la urechea operatorului • Hladina hluku pĥsobĥca na sluch operĥtora • Raven hrupa pri ťĥesu upravljanja • Nivel sonoro en el oĥdo del operador • Ljudnivĥ vid fĥrĥrens ĥra	82 dB(A)Lwa (2006/42/EC)

Harmonised standards used • Използвани хармонизирани стандарти • Použité harmonizované normy • Brugte harmoniserede standarder • Gebruikte geharmoniseerde standaards • Kasutatud ühtlustatud standardid • Käytetyt yhdenmukaistettut standardit • Normes harmonisées utilisées • Angewandte harmonisierte Normen • Εναρμονισμένα πρότυπα που χρησιμοποιήθηκαν • Harmonizált szabványok • Standard armonizzati applicati • Izmantotie saskaņotie standarti • Panaudoti suderinti standartai • Standards armonizzati usati • Normy spójne powiązane • Normas harmonizadas usadas • Standardele armonizate utilizate • Použité harmonizované normy • Uporabljeni usklajeni standardi • Estándares armonizados utilizados • Harmoniserade standarder som används	ANSI/OPEI B71.4:2012 BS EN ISO 13857 BS EN 349: 1993+A1:2008
Technical standards and specifications used • Използвани технически стандарти и спецификации • Použité technické normy a specifikace • Brugte tekniske standarder og specifikationer • Gebruikte technische standaards en specificaties • Kasutatud tehnilised standardid ja spetsifikatsioonid • Käytetyt tekniset standardit ja eritelmät • Spécifications et normes techniques utilisées • Angewandte technische Normen und Spezifikationen • Τεχνικά πρότυπα και προδιαγραφές που χρησιμοποιήθηκαν • Műszaki szabványok és specifikációk • Standard tecnici e specifiche applicati • Izmantotie tehniskie standarti un specifikācijas • Panaudoti techniniai standartai ir techninė informacija • Standards u specifikacijonijiet tehnici uzati • Normy i specyfikacje techniczne powiązane • Normas técnicas e especificações usadas • Standardele tehnice și specificațiile utilizate • Použité technické normy a špecifikácie • Uporabljeni tehnični standardi in specifikacije • Estándares y especificaciones técnicas utilizadas • Tekniska standarder och specifikationer som används	ISO 21299 ISO 5349-1 ISO 5349-2 ISO 3767-1
The place and date of the declaration • Място и дата на декларацията • Misto a datum prohlášení • Sted og dato for erklæringen • Plaats en datum van de verklaring • Deklaratsiooni väljastamise koht ja kuupäev • Vakuutuksen paikka ja päivämäärä • Lieu et date de la déclaration • Ort und Datum der Erklärung • Τόπος και ημερομηνία δήλωσης • A nyilatkozat kelte (hely és idő) • Luogo e data della dichiarazione • Deklarācijas vieta un datums • Deklarācijas vieta ir data • Il-post u d-data tad-dikjarazzjoni • Miejsce i data wystawienia deklaracji • Local e data da declaração • Locul și data declarației • Miesto a dátum vyhlásenia • Kraj in datum izjave • Lugar y fecha de la declaración • Plats och datum för deklarationen	Smithco West Inc. 200 West Poplar Avenue Cameron, WI 54822 USA 15-Mar-18
Signature of the person empowered to draw up the declaration on behalf of the manufacturer, holds the technical documentation and is authorised to compile the technical file, and who is established in the Community.Подпис на човека, упълномощен да състави декларацията от името на производителя, който поддържа техническата документация и е оторизиран да изготви техническия файл и е регистриран в общността. Podpis osoby oprávněné sestavit prohlášení jménem výrobce, držit technickou dokumentaci a osoby oprávněné sestavit technické soubory a založené v rámci Evropského společenství. Underskrift af personen, der har fuldmagt til at udarbejde erklæringen på vegne af producenten, der er indehaver af dokumentationen og er bemyndiget til at udarbejde den tekniske journal, og som er baseret i nærområdet. Handtekening van de persoon die bevoegd is de verklaring namens de fabrikant te tekenen, de technische documentatie bewaart en bevoegd is om het technische bestand samen te stellen, en die is gevestigd in het Woongebied. Ühenduse registrisse kantud isiku allkiri, kes on volitatud tootja nimel deklaratsiooni koostama, kes omab tehnilisdokumentatsiooni ja kellel on õigus koostada tehniline toimik. Sen henkilöön allekirjoitus, jolla on valmistajan valtuutus vakuutuksen laadintaan, jolla on hallussaan teknisetasiakirjat, joka on valtuutettu laatimaan tekniset asiakirjat ja joka on sijoittautunut yhteisöön. Signature de la personne habilitée à rédiger la déclaration au nom du fabricant, à détenir la documentation technique, à compiler les fichiers techniques et qui est implantée dans la Communauté. Unterschrift der Person, die berechtigt ist, die Erklärung im Namen des Herstellers abzugeben, die dietechnischen Unterlagen aufbewahrt und berechtigt ist, die technischen Unterlagen zusammenzustellen, und die in der Gemeinschaft niedergelassen ist. Υπογραφή ατόμου εξουσιοδοτημένου για την σύνταξη της δήλωσης εκ μέρους του κατασκευαστή, ο οποίος κατέχει την τεχνική έκθεση και έχει την εξουσιοδότηση να ταξινομήσει τον τεχνικό φάκελο και ο οποίος είναι ορισμένος στην Κοινότητα. A gyártó nevénben meghatalmazott személy, akinek jogában áll módosítania a nyilatkozatot, a műszaki dokumentációt őrizi, engedéllyel rendelkezik a műszaki fájllal összeállításához, és aki a közösségben letelepedett személy. Firma della persona autorizzata a redigere la dichiarazione a nome del fabbricante, in possesso della documentazione tecnica ed autorizzata a costituire il fascicolo tecnico, che deve essere stabilita nella Comunità. Tās personas paraksts, kura ir pilnvarota deklarācijas sastādīšanai ražotāja vārdā, kurai ir tehniskā dokumentācija, kura ir pilnvarota sagatavot tehnisko reģistru un kura ir apstiprināta Kopienā. Asmuo, kuris yra gana žinomas, kuriam gamintojas suteikė įgaliojimus sudaryti šią deklaraciją, ir kuris įaprašė, turi visą techninę informaciją ir yra įgaliotas sudaryti techninės informacijos dokumentą. Il-firma tal-persuna awtorizzata li tfassal id-dikjarazzjoni f'isem il-fabbrikant, għandha d-dokumentazzjonieteknika u hija awtorizzata li tikkompila l-fajl tekniku u li hija stabbilita fil-Komunità. Podpis osoby upoważnionej do sporządzenia deklaracji w imieniu producenta, przechowującej dokumentację techniczną, upoważnioną do stworzenia dokumentacji technicznej oraz wyznaczonyj ds. wspólnotowych. Assinatura da pessoa com poderes para emitir a declaração em nome do fabricante, que possui a documentação técnica, que está autorizada a compilar o processo técnico e que está estabelecida na Comunidade. Semnătura persoanei împuternicite să elaboreze declarația în numele producătorului, care deține documentația tehnică, este autorizată să compileze dosarul tehnic și este stabilită în Comunitate. Podpis osoby poverenej vystavením vyhlásenia v mene výrobcu, ktorá má technickú dokumentáciu a je oprávnená spracovať technické podklady a ktorá je umiestnená v Spoločenstve. Podpis osebe, pooblaščené za izdelavo izjave v imenu proizvajalca, ki ima tehnično dokumentacijo in lahko sestavi spis tehnične dokumentacije, ter ima sedež v Skupnosti. Firma de la persona responsable de la declaración en nombre del fabricante, que posee la documentación técnica y está autorizada para recopilar el archivo técnico y que está establecido en la Comunidad. Undertecknas av den som bemyndigad att upprätta deklarationen å tillverkarens vägnar, innehar den tekniskadokumentationen och är bemyndigad att sammanställa den tekniska informationen och som är etablerad i gemenskapen.	2006/42/EC Annex II 1A: 2 John Moore Sales, Director, Owner Moore Turf Care Thieplatz 4 49583 Lienen Germany 23-Sep-19 2006/42/EC Annex II 1A: 10 Dawn Bryngelson Technical Documentation Advisor Smithco Inc. 34 West Avenue Wayne, PA USA 19087-3311 10-Dec-09
Certificate Number • Номер на сертификат • Číslo osvědčení • Certifikatnummer • Certificaatnummer • Sertifikaadi number • Hyväksyntänumero • Número de certificat • Bescheinigungsnummer • Αριθμός Πιστοποιητικού • Hitelesítési szám • Numero del certificato • Sertifikāta numurs • Sertifikato numeris • Numru tac-Certifikat • Numer certyfikatu • Número do Certificado • Număr certificat • Číslo osvedčenia • Številka certifikata • Número de certificado • Certifikatsnummer	455002018-1



QUICK REFERENCE REPLACEMENT PARTS

REPLACEMENT FILTERS

50-403	Fuel Filter
18-462	Oil Drain Valve
45-520-01	Engine Air Cleaner Cartridge Filter
45-520-02	Foam Filter for Air Cleaner
45-527-01	Hydro Filter

FLUIDS

Engine Oil	Refer to Engine Manual
Hydraulic Fluid	1.75 Gallon of Parker Dura Clean Hydraulic Oil or equivalent of AW32 minimum hydraulic oil.

OTHER PARTS

Spark Plug	RC12YC (Gap 0.030 inch (0.76mm))
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The Smithco Commercial Products Two-Year Limited Warranty

Smithco, Inc. (Smithco) warrants your 2016 or newer Smithco Commercial Product ("Product") purchased after October 1, 2016 to be free from defects in materials or workmanship for the period of time listed below. Where a warrantable condition exists, Smithco will repair the Product at no cost to you including diagnosis, labor (at the Smithco standard labor rate, subject to the Smithco flat rate schedule), and parts.

Warranty Duration is:

- (1) Two years, 1500 operational hours* from the date of delivery to the original purchaser or Five years from the date of original manufacturer of the product, whichever occurs first. (*Products equipped with hour meter).
- (2) Products used in rental situations are covered for 90 days from date of delivery to original user/renter.

Owner Responsibilities:

As the Product owner, you are responsible for required maintenance and adjustments stated in your Owner's Manual. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim. **You are particularly responsible to train all present and future operators of this product on the safe operation of this product at your location.**

Instructions for Obtaining Warranty Service:

You are responsible for notifying the Authorized Smithco Products Distributor from whom you purchased the Product as soon as you believe a warrantable condition exists and not later than 30 days from discovery of the condition.

If you need help locating an Authorized Smithco Distributor, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Smithco Product Support Department
200 West Poplar Ave.
Cameron, Wisconsin 54822
Telephone: 800-891-9435 E-Mail: ProductSupport@Smithco.com

Maintenance Parts:

Parts scheduled for replacement as required maintenance ("Maintenance Parts"), are warranted for the period of time up to the scheduled replacement time for that part.

Items/Conditions Not Covered:

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. The items/conditions listed below are not covered by this warranty:



Product failures which result from the use of non-Smithco replacement parts, or from installation and use of add-on, modified, or unapproved accessories are not covered.



Product failures which result from failure to perform required maintenance and/or adjustments are not covered.



Product failures that result from operating the Product in an abusive, negligent or reckless manner are not covered.



This warranty does not apply to parts subject to consumption through use, unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to: blades, tines, teeth, scarifiers, rakes, plates, wear plates, castor wheels, tires, batteries, filters, belts, nozzles, etc.



This warranty does not apply to failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, or chemicals, etc.



This warranty does not apply to normal "wear and tear" items. Normal "Wear and Tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows, etc.



Smithco may require the return of failed parts or components in order to determine the validity of any warranty claim.



Smithco will not be obligated to replace components of other manufacturers if inspection by the original component manufacturer indicates that failure was due to normal wear and tear, expected consumption through use or improper care or service.

Other Legal Disclaimers:

The above remedy for product defects through repair or replacement by an authorized Smithco distributor or dealer is the purchaser's sole remedy for any defect. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

THERE ARE NO OTHER EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH ABOVE. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE LIMITED WARRANTIES CONTAINED HEREIN.

Some states may not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

THE SMITHCO COMPANY IS NOT LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THE PRODUCT, INCLUDING ANY COST OR EXPENSE OF PROVIDING A SUBSTITUTE PRODUCT OR SERVICE DURING PERIODS OF MALFUNCTION OR NON-USE.

Some states may not allow the exclusion of indirect, incidental or consequential damages, so the above exclusion may not apply to you.

Smithco neither assumes, nor authorizes any person to assume for it, any other liability in connection with the sale or use of this product.

