TRÄDGÅRDSTEKNIK

BEVATTNINGSTEKNIK

BARONESS

Quality on Demand

RR1000

Riding Roller

Owner's operating manual

"Required reading" Read this manual and the owner's manual for the engine before using the machine.

Serial No.10001-

Original Instructions Ver.1.0

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Riding Roller Instructions

MODEL RR1000

Thank you very much for purchasing this product.
In order to use the product safely, be sure to read the instructions and get a good understanding of how to handle the equipment before attempting to use it.

■ Introduction

- The following warning marks indicate contents that are important for safety, and must therefore be observed.
  Failure to observe warning could result in a serious accident. Be sure to observe the warnings.

> DANGER: Indicates situation where failure to observe warning will result in death or serious injury.
> WARNING: Indicates situation where failure to observe warning could potentially result in death or serious injury.
> CAUTION: Indicates situation that could result in injury or serious damage to the product.

- The instructions contain the general operation method of and precautions when using the product.
  To ensure proper usage and safety, be sure to read and make yourself familiar with the contents of the instructions manual before attempting to use the equipment.
- After reading, keep the manual in a handy place for referral when needed.
- If the instructions are lost or damaged, order a replacement from your dealer or from without delay.
- If you lend or transfer ownership of the product to anyone else, be sure to provide the instructions together with the equipment and instruct the user to read the instructions before attempting to use the equipment.
- Product specifications are subject to change without prior notification for reasons pertaining to quality, performance and/or safety.
  Some contents of the text and illustrations may differ from the product you purchased.
- If you have any questions or if you notice anything that seems to be incorrect, please contact your dealer.

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1. To ensure safety when performing work

Failure to observe the precautions given in this section could result in accident or serious injury including death, or mechanical breakage.

- Precautions when handling the machine

⚠ DANGER	◆ Do not run the engine in places that do not have proper ventilation, such as inside a building or greenhouse. → Doing so could result in poisoning by toxic substance in the exhaust (carbon monoxide, etc.), or cause loss of consciousness due to difficulty in breathing, resulting in death.
⚠ DANGER	◆ Modification of equipment or using for any purpose other than specified is forbidden. Do not use work attachments other than those specified by the manufacturer. → Doing so could result in serious damage to the equipment or cause an accident.
⚠ WARNING	◆ Before starting work, inspect the electric parts and electric power cord of the engine. If the sheathing is torn or insulated parts are damaged, replace the damaged part before starting the engine. → Running the engine with damaged sheathing or insulated part could result in electrical shock or fire.
⚠ WARNING	◆ Before starting work, inspect the fuel pipe and fuel hose of the engine. If fuel leakage is discovered, replace the damaged part before starting the engine. → Running the engine with fuel leaking could result in fire. ◆ The engine becomes very hot while running. Do not place combustible articles near the engine. Keep inflammable items such as vessels containing fuel, cups, cloth, straw, etc., away from the engine. Inspect the engine for adherence of oil, fuel, dust, etc., and if wipe clean before stating. → Fire could be started from the heat from the engine or its exhaust.
⚠ WARNING	◆ Wait for the engine to cool down sufficiently before covering after usage. → Cover could catch fire from the neat of the exhaust pipe, muffler, etc.
⚠ WARNING	◆ Wear safe and comfortable clothing, hard hat, gloves and work shoes when performing work. → Work cannot be performed wearing disorderly clothing; such clothing could cause and accident.

⚠ CAUTION	◆ The engine becomes very hot while running. Do not touch with your bare hands. Do not allow children to approach the engine. → Touching hot engine parts (exhaust pipe, muffler, etc.) could result in skin burning.

⚠ CAUTION	◆ Be sure to stop the engine before attempting to clean, inspect, perform maintenance, repair or mount/remove attachment. → Failure to do so could result in getting caught in turning parts resulting in injury. The engine could start unexpectedly, resulting in serious injury.

⚠ CAUTION	◆ Have the equipment inspected and maintenance performed once a year. In particular, be sure to change fuel hose, electric wiring, belts and hydraulic oil on a regular basis. → If work is performed using equipment that has not been properly maintained, the machine may not be capable of operating to its full potential. This could in turn result in unsatisfactory performance or could result in injury or damage.

⚠ CAUTION	◆ Be sure to remount any covers removed for inspection, maintenance or repair before using the equipment. → Failure to do so could result in getting caught in turning parts resulting in injury.

⚠ CAUTION	◆ Be sure to clean, inspect, perform maintenance, repair or mount/remove attachments an a place that is level and stable. → Failure to do so could result in the equipment overturning and thereby result in damage or injury.

- Precautions when handling fuel

⚠ WARNING	◆ Do not handle fuel near fire (lit cigarettes, stove, pen fire, etc.), electric sparks (sparks from static electricity, batteries, shorted switches, welding sparks, etc.). Be sure to take sufficient precautions when transferring fuel to a compact tank as well as when replenishing engine fuel. → Fuel could ignite resulting in fire.

⚠ WARNING	◆ Do not attempt to supply fuel or lubricate while the engine is still hot while running or immediately after running. Wait till the engine cools down before supplying fuel or lubricating. → If oil gets on hot engine parts, it could ignite resulting in fire.

⚠ WARNING	◆ After replenishing fuel, shut the cover of the fuel tank securely, and completely wipe away any spilled fuel. → Spilled fuel could ignite while the engine is running, resulting in fire.

- General precautions

⚠ WARNING	◆ In order to prevent trouble when performing work, inspect and provide sufficient maintenance for apparatus used prior to performing work. Inspect thoroughly before using. Check screws for looseness and make sure screws do not come off during operation; check for oil leakage. → Failure to perform sufficient inspection and maintenance could result in serious injury or could result in mechanical damage.
⚠ CAUTION	◆ Important items contained herein do not indicate every possible situation or condition in which they might occur. The equipment is designed to offer sufficient safety; you should however take the proper precautions when handling and performing maintenance.

2. Specifications

Model			RR1000
Dimensions	Overall length	mm	1292 (working)
			1738 (in tow)
	Overall width	mm	1215
	Overall height	mm	1445 (working)
Weight		kg	285
Travel system			Hydraulic drive
Engine			Fuji Heavy Industries EX21D Exhaust volume 211ml Continuous operation rating 3.2kW (4.4PS)/3000min^{-1}
Hydrostatic Pump Motor			10ml/rev
Control unit	Control method		Handle for both hands
	Operation angle	Degrees	Left/right, 45 each (numerical values indicate max. value)
Roller	Drive		Outside diameter 203mm x 960mm (1)
	Steering		Outside diameter 140mm x 960mm (2)
	Steering angle	Degrees	Left/right, 15 each (numerical values indicate max. value)
Tires (for tow/work)			16×6.50-8

Units are given in International Standard Units (SI).

*For detailed engine specifications, see the engine instructions.

3. Product check

When you receive deliver, be sure to check the following:

・Is the model the one you ordered?
・Are there any places that were damaged during transport?
・Are any screws bolts loose or have the fallen out?
・Do you have all of the accessories?

If there is by any chance anything that seems to be wrong with the equipment, contact the dealer from whom you purchased the equipment.

○ Accessories

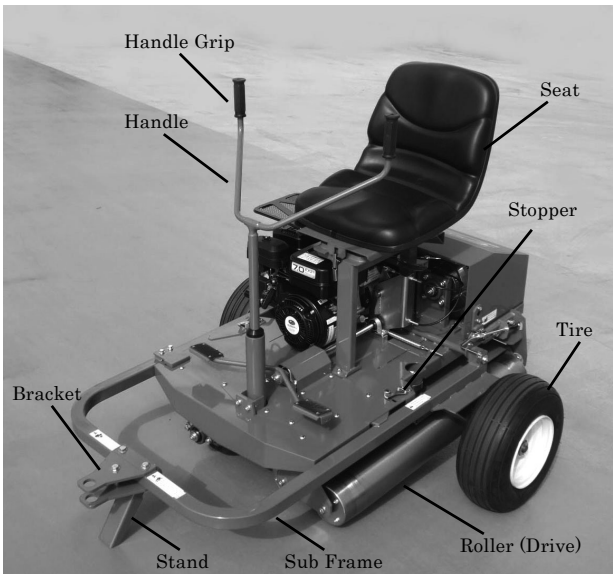
- Instructions (machine)
- Instructions (engine)
- Tools (engine accessories)

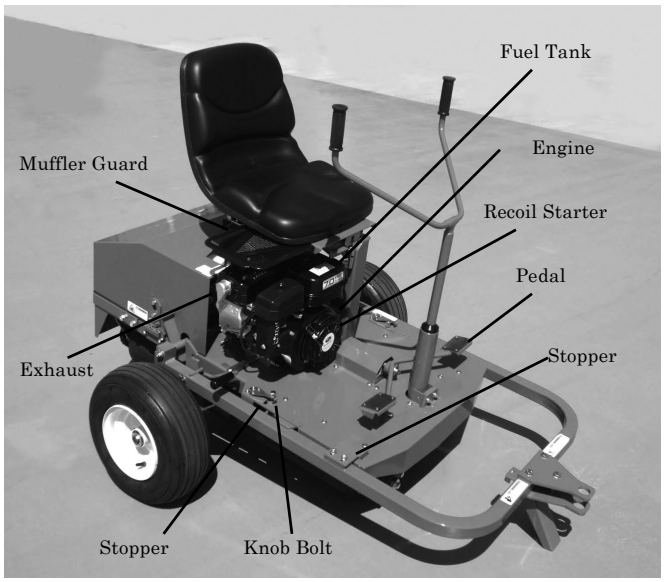
4. Application

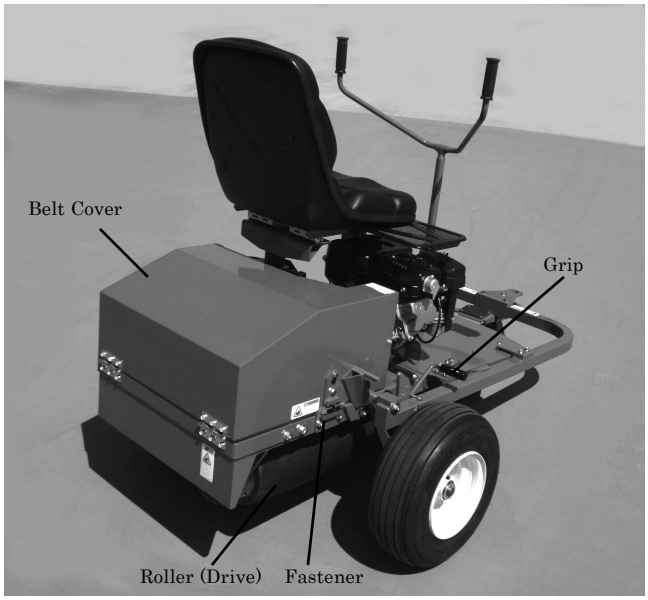
Use for rolling compaction of golf courses or similar lawns.

▲DANGER	◆ Modification of equipment or using for any purpose other than specified is forbidden. Do not use work attachments other than those specified by the manufacturer.

5. Part identification





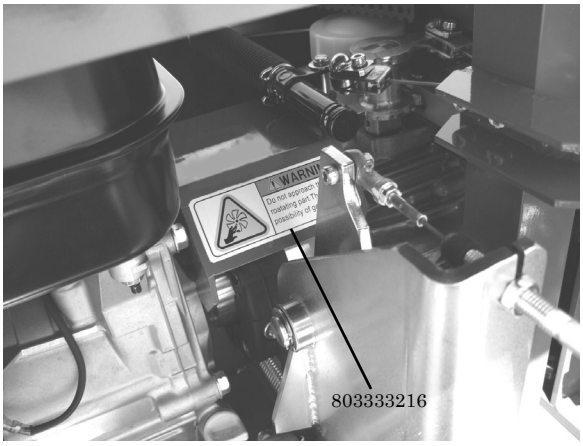


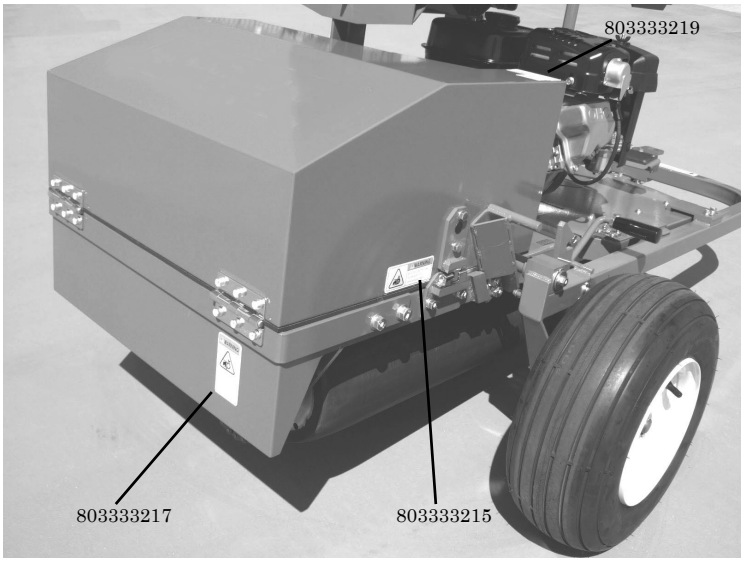
6. Safety labels application position

The figure shows the position where labels concerning safety are applied so the product can be used safely.
See page 7 for safety label application positions.

⚠WARNING	◆ Keep the labels in a condition where they can be read. If damaged or lost, replace with a new label. When replacing a part where a label is applied, be sure to place a label in the same position as the replaced part. To purchase labels, contact the dealer from whom you purchased the equipment.

RR1000 for safety label application positions





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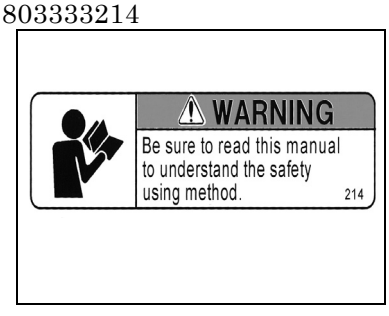

Attempting to operate the equipment without first reading the instructions could result in death, serious injury or danger. Be sure to read the instructions carefully before attempting to use the equipment.

- After reading, keep the manual in a handy place near the machine.
- If the instructions are lost or damaged, order a replacement from your dealer without delay.

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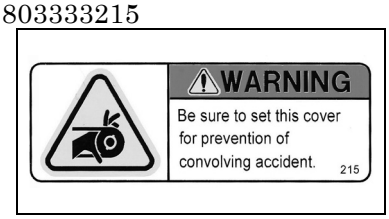

Covers on which this label is applied cover rotating parts. Using with the cover off could result in entanglement in the rotating pa rts.

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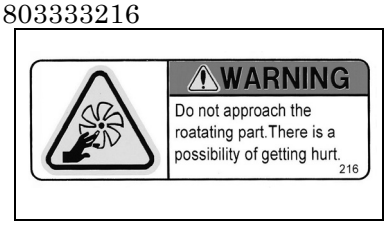

Rotating parts are located near places where this label is appli ed. Entanglement in rotating parts could result in death or ser ious injury.

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Rotating parts are located near places where this label is appli ed. Entanglement in rotating parts could result in death or ser ious injury.

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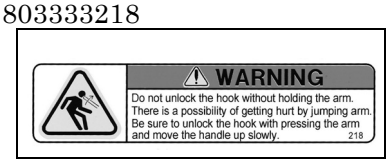

If operating sub frame on which this label is applied and the stopper is removed, the bracket could pop out and cause injury.

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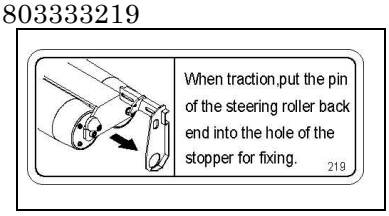

Forgetting to fasten could result in mechanical damage if the rol ler (steering) comes in contact with the road surface when being towed.

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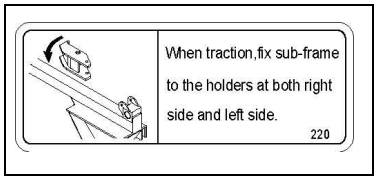


Forgetting to fasten could result in mechanical damage if the rol ler (drive, steering) comes in contact with the road surface when being towed.

7. Operation preparations

○ Fuel replenishment

Replenish fuel in accordance with "3. Before starting operation" in the engine instructions manual.

⚠ DANGER	◆ Do not allow fire to come near the fuel port. → Fuel could ignite resulting in fire.
⚠ WARNING	◆ Do not attempt to supply fuel while the engine is still hot while running or immediately after running. Be sure to wait till the engine cools down before supplying fuel or lubricating. → If fuel gets on hot engine parts, it could ignite resulting in fire.

Shut off the engine and make sure it has cooled sufficiently.

Do not use unleaded gasoline for automobiles.

Pull up the lever below the fastener toward the front of the seat. After doing so, remove the hook at the top of the fastener. Then lower the seat part to the rear.

(Figs. 1, 2 and 3)

Fig.1

Fig.2

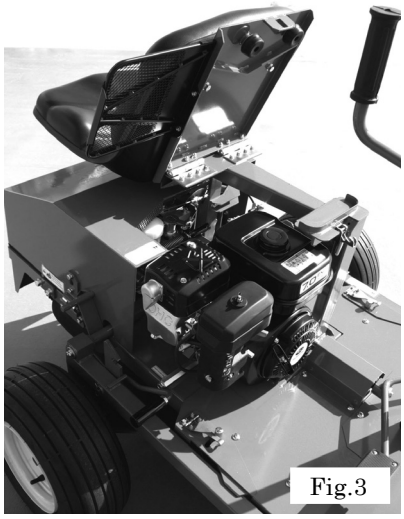


Fig.3

The fuel port is underneath the seat. Do not fill with fuel up to the top of the port; replenish up to the indicated level. After replenishing, tighten the tank cap by turning in the clockwise direction.

⚠ WARNING	◆ After replenishing fuel, shut the cap of the fuel tank securely, and completely wipe away any spilled fuel. → Spilled fuel could ignite while the engine is running, resulting in fire.

○ Engine oil level check

With the machine on a flat level surface, prepare by performing "8. Relocation to work site" on page 12. After doing so, check and make sure the oil level is up to the upper line of the oil gauge from the oil port without screwing in. If engine oil is low, replenish in accordance with "3. Before starting operation" in the engine instructions manual. After checking, tighten the oil gauge securely.

(Fig. 4)

The machine is filled with engine oil when shipped from the factory.

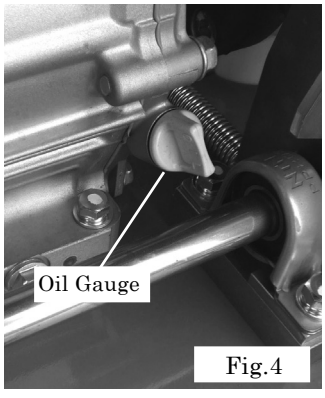


Fig.4

10. Operation

Set engine speed in accordance with"6. Outline of operation and how to stop" of "2. Running the engine" of the attached Engine Instructions.

⚠ WARNING	◆ Keep engine speed setting low until you become familiar with operation. → Attempting to perform work at the maximum settings without first becoming familiar with operation could result in turning over accidentally coming in contact with obstruction, etc.
⚠ WARNING	◆ Do not place your fingers or hands near engine output shafts, the hydrostatic pump motor or rotating parts of the fan while the engine is running. → Failure to do so could result in getting caught in turning parts resulting in injury.
⚠ CAUTION	◆ Do not touch the exhaust port or the outer circumference of the muffler while the engine is running or immediately after it stops. → The parts are hot and you could get burned.
⚠ CAUTION	◆ Do not touch the muffler guard while the engine is running or immediately after it stops. → The muffler guard becomes hot from heat radiated from the muffler, and you could get burned.
⚠ CAUTION	◆ The maximum speed of the engine is adjusted; do not change the maximum speed. → If maximum engine speed is set higher than the stipulated speed, the hydrostatic pump motor may not operate properly.

○ Rolling compaction

◎ Work direction

The machine moves in the direction of the pedal that is pushed.

The figure on the right shows the operator sitting on the machine.

The range of movement is compacted.

(Fig. 30)

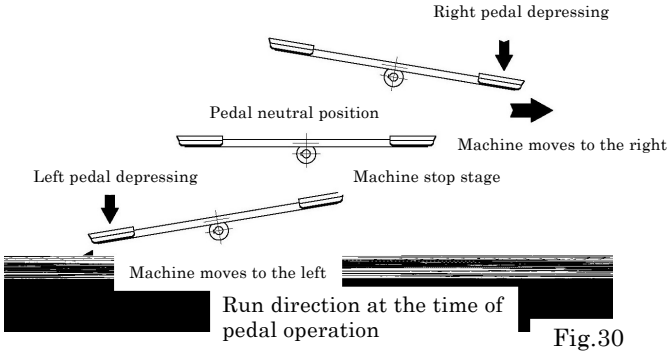


Fig.30

◎ Work speed adjustment

Work speed varies proportionally to the amount the pedal is depressed.

The maximum depression angle of the pedals is 9.5 degrees each.

The depression angle cannot be adjusted.

To start moving, press the pedal slowly.

(Fig. 31)

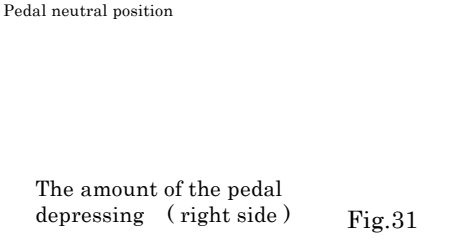


Fig.31

⚠ CAUTION	◆ Adjust work speed according to circumstances and conditions. → If work speed is set improperly, you may not be able to steer the machine properly.

○ Stopping work

To stop the machine from moving, remove your foot from the pedal. Gradually reduce speed and stop. The distance and time it takes to stop depends on conditions at the work site. In wide work areas, practice without increasing engine speed, until you get the hang of starting and stopping. Then you can start performing real work.

⚠ WARNING	◆ Be careful not step on the pedal of the opposite direction in which you are traveling to stop. → Topping suddenly or reversing direction all of a sudden could cause the machine to overturn.

⚠ WARNING	◆ When stopping, stop on a flat, even surface if possible. → The machine is not equipped with a mechanism to keep the machine stopped; depending on where it is stopped it could move, resulting in an accident. → Movement in the work direction is possible by pushing/pulling the machine horizontally.

If not using for an extended period of time, or if the temperature inside the hydrostatic pump motor rises to an unstable condition, time until the machine stops may vary.

Only a small amount of play is provided near the neutral point in order to stop the machine with the pedals in the neutral position.

○ Slope climbing characteristics

The machine is designed so left direction traveling is superior to right for climbing graded surfaces. Load of rollers and steering sensation vary when climbing a slope; do not attempt to climb a slope which may be too steep.

⚠ WARNING	◆ Proceed cautiously when climbing a graded surface. → Failing to take proper precautions when climbing could result in overturning.

If the slope is too steep to climb, back up carefully in the opposite direction.

○ Handle operation

Use the handle to change the work direction of the machine. (Fig. 32)

⚠ WARNING	◆ Hold the handle by both grips when performing work. → The operator must maintain his work posture as well as operating the handle in order to retain the grips; attempting to operate with one hand could result in overturning.

To perform work in the left direction:
If the left handle grip is pushed forward (right grip towards yourself), the machine turns to the left forward direction (Fig. 32A).
If the left handle grip is pulled toward yourself (right grip forward), the machine turns to the left rear direction (Fig. 32B).

To perform work in the right direction:
If the left handle grip is pushed forward (right grip towards yourself), the machine turns to the right forward direction (Fig. 32C).
If the left handle grip is pulled toward yourself (right grip forward), the machine turns to the right rear direction (Fig. 32D).

The radius of the turn changes according to the angle the handle is moved. The handle can be moved to a maximum of 45 left/right.

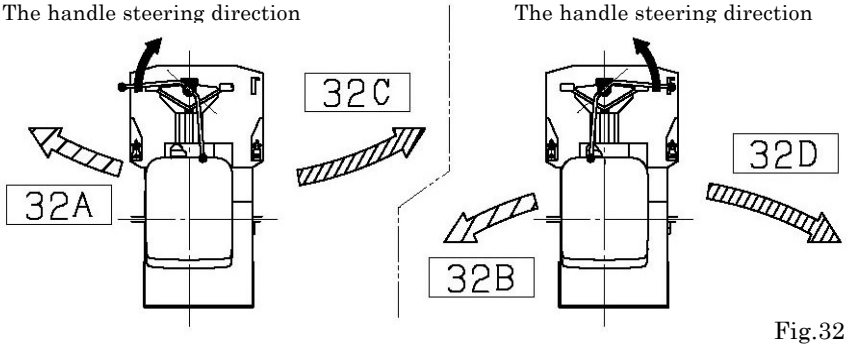


Fig.32

Adjust the traveling speed and handle angle according to conditions at the work site.

⚠ CAUTION	◆ Do not operate the handle when stopping the machine. → Doing so could damage the lawn surface.
⚠ WARNING	◆ Do not operate the handle suddenly when performing work. → Failing to take proper precautions when climbing could result in overturning.

11. Stopping work

○ Move the machine to a flat, even place in preparation to tow the machine from the work site.

○ Stop the engine in accordance with "6. Outline of operation and how to stop" of "3. Stopping the engine" of the attached Engine Instructions.

⚠ CAUTION	◆ Do not touch the engine or area around the hydrostatic pump motor immediately after stopping the engine. → The parts are hot and you could get burned.

12. Relocating from work site

○ Return to state where towing is enabled.

First, adjust the axle direction of the roller (steering) to parallel with the machine side with the handle. Next, press the grip (black) of the stopper on the right side of the back of the engine toward the rear to unlock.

While keeping it unlocked, return the sub frame slowly toward the front. After the tire of the sub frame touches the ground, increase pressing force. (Fig. 33)

Fig.33

Return until it touches the stoppers on both sides of the frame.

⚠ CAUTION	◆ Be careful not to get your fingers, etc., pinched by the stopper on the right front side of the sub frame. → This could result in injury.

At this time, the left rear of the roller (steering) is temporarily fastened simultaneously. If not parallel in the beginning or if parked on an uneven place, the stopper and bracket hole position will not match, and will not be able to be moved all the way to the specified position. In this case, return the sub frame, check the positioning and then continue to perform work.

Next, temporarily fasten the left/right with the end of the sub frame lightly pressed in. Putting the stopper up on oneside, move the head of knob bolt in the central direction. Lower the stopper after moving. If the knob bolt has not moved to the stipulated position, temporary fastening is not sufficient.

At the same time, the stopper cannot be returned all the way. Temporarily fasten the opposite side in the same manner.

(Figs. 34 and 35)

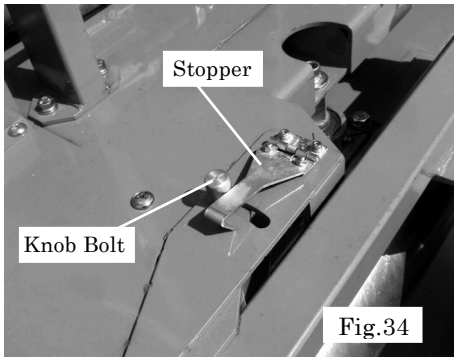


Fig.34

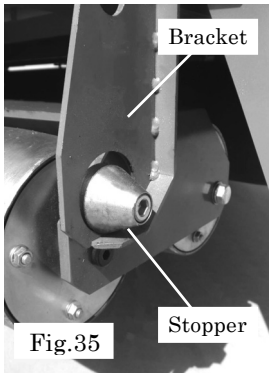


Fig.35

○ Move the machine to the place where it is to be hitched to the towing vehicle.
When moving, be cautious when traveling over embankments.

○ To move, attach the bracket on the end of the sub frame to the towing vehicle.

⚠ CAUTION	◆ Connect the bracket of the end securely to the towing vehicle. → Failure to connect the bracket to the towing vehicle could result in an accident.
⚠ CAUTION	◆ Make sure the stand at the end is stowed away. → If towed with the stand not stowed away, it will make contact with the road and could damage parts.

13. Maintenance

Routine maintenance is required to extend the product's service life. Observe the following on a daily basis. Park the machine on a flat, even place to perform maintenance such as cleaning, inspection and adjustment. Stop the engine and allow the engine and hydrostatic pump motor and surrounding are to cool sufficiently before performing maintenance. If the belt cover has to be removed, return it to its former position, press in and securely fasten the fasteners.

⚠ WARNING	◆ When performing maintenance, be sure not to forget to reassemble places where the bolts and screws have to be removed and make sure they are assembled correctly. → Attempting to perform work with parts not properly reassembled could result in serious injury or part damage.

○ Engine
See the pertinent item in "7. Inspections" in the Engine Instructions.

If changing engine oil, there is a drain plug in the right direction of the engine. Fasten the bushing at the bottom of the engine with a spanner (opposite side hexagonal dimension 19 mm) and loosen the drain plug at the end. When tightening, place a gasket in between the bushing and drain plug.
The opposite side hexagonal dimension of the drain plug is 14 mm. (Fig. 36)

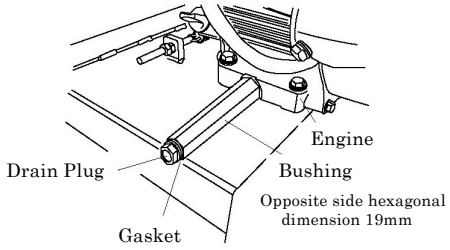


Fig.36

○ Hydrostatic pump motor
◎ If the hydraulic oil] Drain Plug ; tank is below the specified level, replenish with the following hydraulic oil until the level is above the specified level. When replenishing, use 10W-30 CD engine oil.

⚠ CAUTION	◆ Do not use any other oil other than the specified oil. → Doing so could cause the hydrostatic pump motor not to function properly.

Do not fill past the upper limit position. If the outdoor temperature is high or when performing work contaminated with water, dirt, dust, grease, etc., replace with the recommended oil. Make sure the hydraulic oil is less than 0.1% water. We recommend regularly changing hydraulic oil once a year or every 500 hours of operation.

◎ Remove any foreign matter that may be adhering to the outer circumference of the hydrostatic pump motor or fan.

⚠ CAUTION	◆ Do not allow foreign matter to adhere to the outer circumference of the hydrostatic pump motor or fan. → Dirt/dust can cause the hydrostatic pump motor not to be properly cooled or could result in equipment failure.
⚠ CAUTION	◆ Do not apply force to the fan blades. → Doing so could damage the fan.

◎ If the hydrostatic pump motor does not operate properly and hydraulic oil leaks, parts or the pump itself must be replaced. To purchase, contact the dealer from whom you purchased the equipment.

○ Grease application

Use grease or lithium soap lubrication.

Apply grease to the following locations. (Figs. 37, 38 and 39)

Pedal operation linkage Guide

Outer circumference of bearing at top rear of hydrostatic pump motor

Chain and circumference of sprocket where chain and sprocket meshes

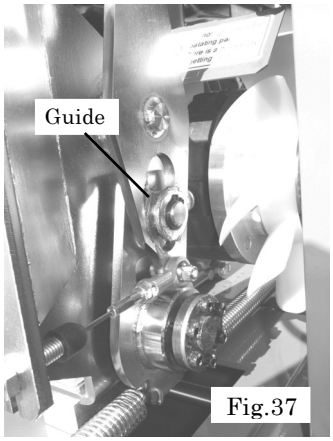


Fig.37

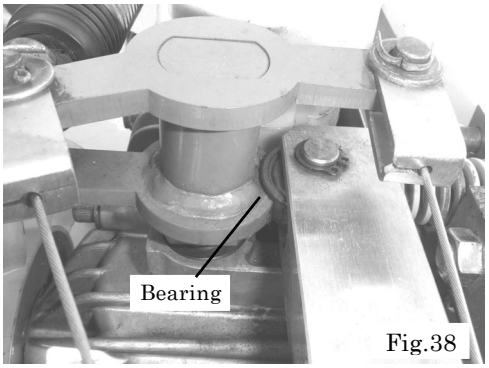


Fig.38

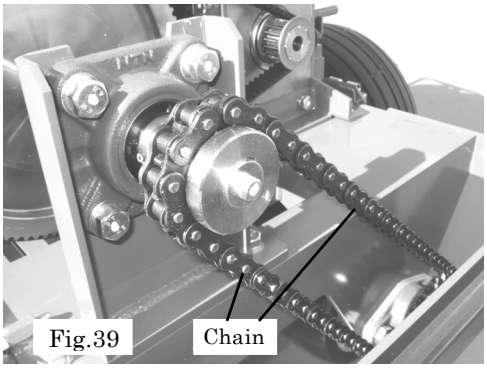


Fig.39

○ To prevent pedal operation increase, lubricate the following locations periodically (at least once every 10 hours of operation); do not spray.

Lubrication of place where wires are run near the hydrostatic pump motor (Figs. 40 and 41)

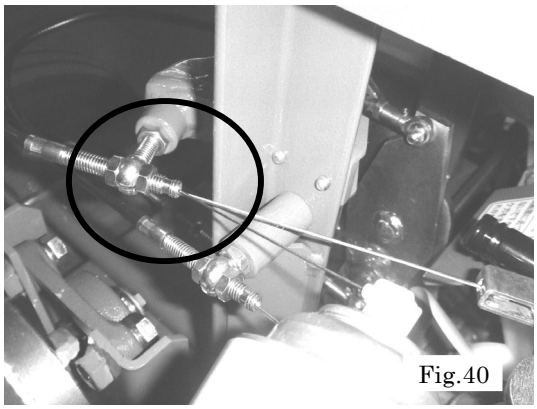


Fig.40

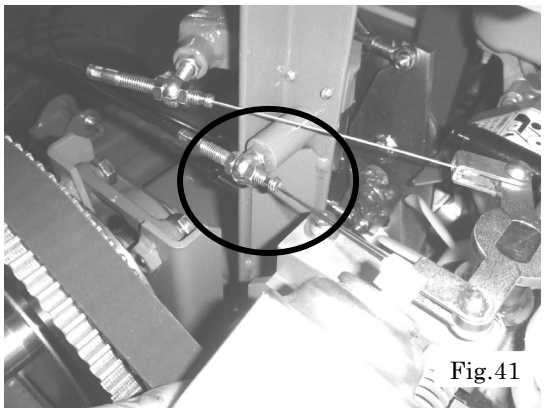


Fig.41

Lubrication of wire terminals near the hydrostatic pump motor (Figs. 42 and 43)

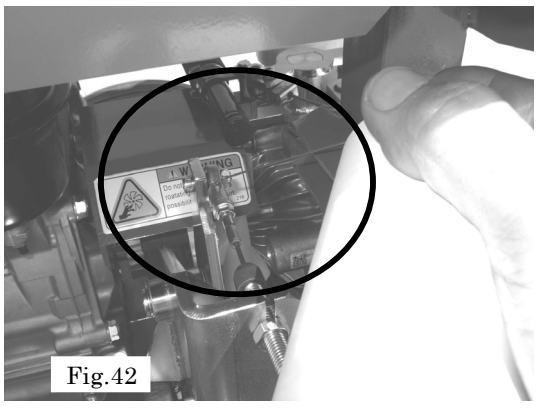


Fig.42

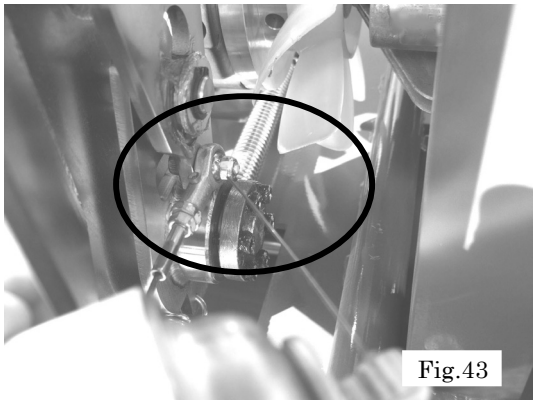


Fig.43

Lubrication of bearing in same area (Figs. 44 and 45)

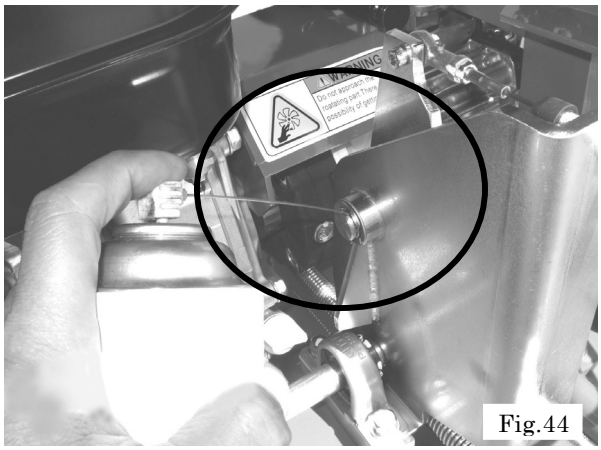


Fig.44

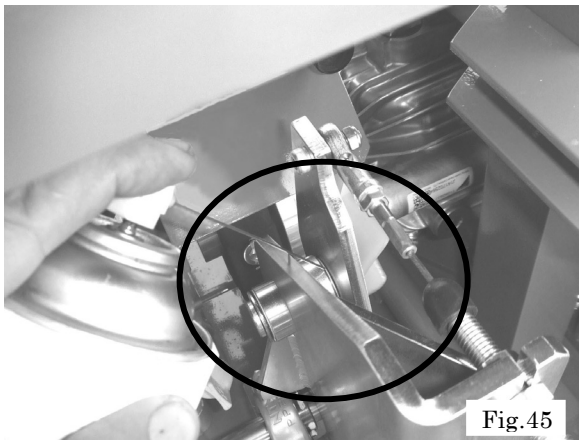


Fig.45

⚠ WARNING	◆ Lubricate the specified locations periodically. → Failure to lubricate may require more face to operate pedals and could result in wire breakage, part damage, or could result in serious injury.

○ Tire air pressure check

Keep tires inflated to the proper air pressure. Air pressure range is 0.2 to 0.23MPa (2 to 2.3kgf/cm²). If air pressure is insufficient, travel resistance increases when the machine is moved or handled, thus requiring more force than should be needed.

○ Timing belt tension adjustment and replacement

Open the belt cover to the rear before adjustment or replacement.

◎ If the timing belt does not appear damaged, but tension is insufficient

If there is slack in the chain, loosen the bolts (M10) fastening the bracket. Loosen the bolts in 4 locations slightly so the chain can slide (approx. 2 mm).

While pulling the chain horizontally, uniformly tightening the nut of each bolt (M8) a little at a time alternating right and left to keep the side of the frame and end of the bracket parallel to each other. After doing so, check the belt tension value. When the stipulated value is reached, fasten the bolts (M10) in 4 locations.

Then tighten the nuts (M8) all the way. (Figs. 46 and 47)

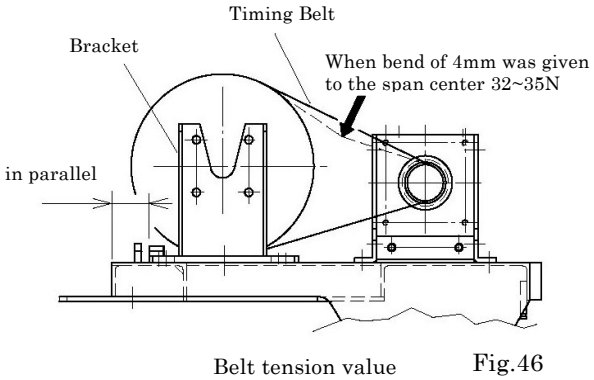


Fig.46

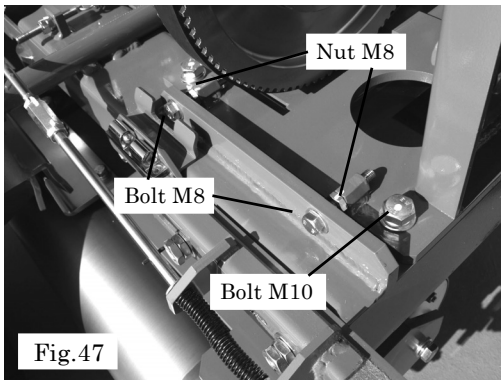


Fig.47

The tension of the timing belt must be adjusted, but if there is not play in the chain (drive), adjust the chain tension while referring to the following chain tension adjustment procedure.

After adjusting, mount the belt cover and make sure the left and right fasteners are securely pressed in to fasten the belt cover.

◎ If the belt appears damaged or is significantly stretched, it must be replaced.
The required part is as follows.

PART NO.	Description	Q' t y	Remarks
801699628	Timing Belt	1	250 S8M 1040

If replacing the timing belt, the settings must be checked, so contact the dealer from whom you purchased the equipment.

○ Chain tension adjustment
The proper amount of chain slack is approx. 8 mm for the distance shown in the figure.

(Fig. 48)

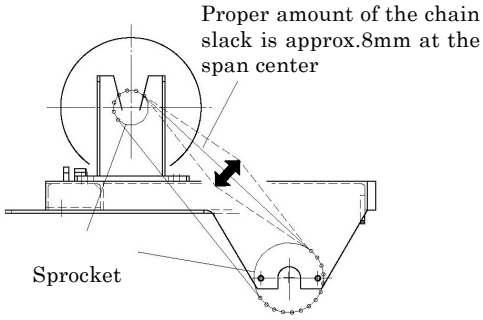


Fig.48

◎ If adjusting tension
Prepare the machine for towing; arrange for the machine to be level near the end frame of the sub frame (angle pipe). Be careful that the machine does not become unstable.

(Figs. 49 and 50)

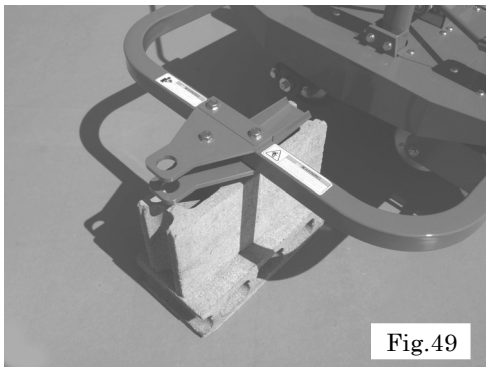


Fig.49

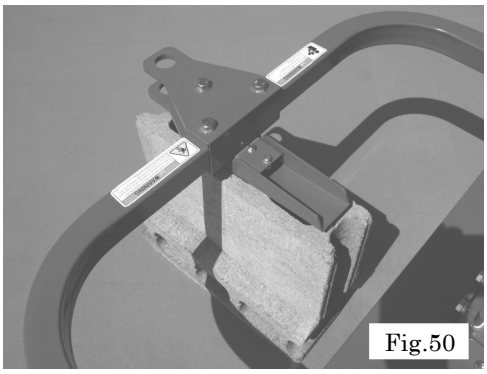


Fig.50

Remove the belt cover to perform adjustment. Slightly loosen the bolts (M10) fastening the pillow block (approx. 1/2 turn) that supports the rear of the roller (drive).

Then turn the spacers (opposite side hexagonal dimension 22 mm) on the bolts on both the left and right and apply tension to the chain. The holes of the spacers are eccentric. A mark is provided at the position that corresponds to maximum speed from the center of the axle to facilitate adjustment of the position of the hexagonal rotation tilt of the spacers (2). Make sure the two spacers are mounted in the same direction. If not, readjust.

Next, tighten the bolts (M10) while maintaining the positions of the spacers. Tightening torque is 24.5N/m Tighten securely.

(Figs. 51 and 52)

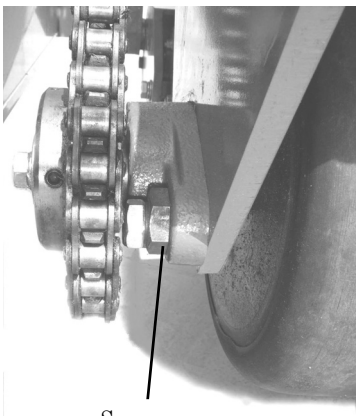


Fig.51

The front of the roller (drive) is supported by the same procedure. Adjust the position of the pillow block as well. In this case, the hexagonal positioning should be the same for both spacers in respect to the front/rear of the machine.

(Fig. 53)

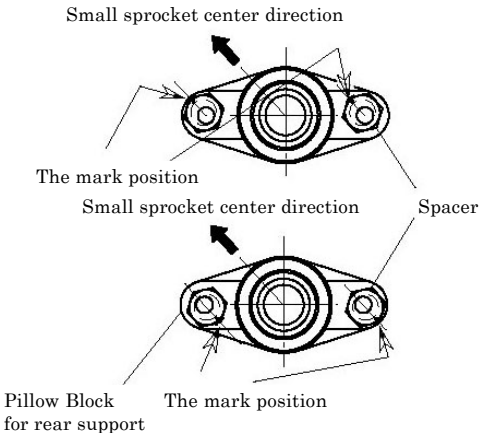


Fig.52

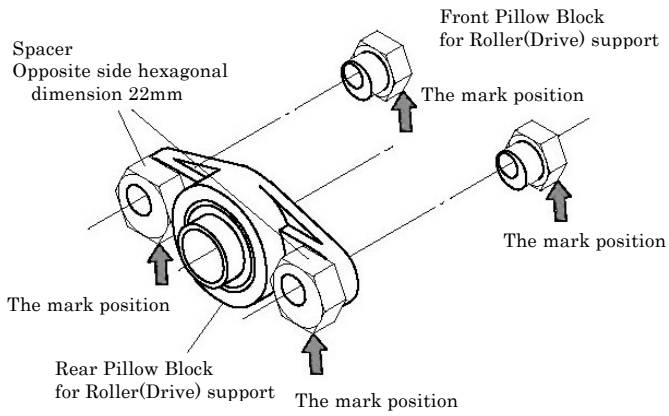


Fig.53

After adjusting, mount the belt cover and make sure the left and right fasteners are securely pressed in to fasten the belt cover.

◎ If replacing the chain

If the chain is stretched to the maximum and cannot be adjusted, the chain must be replaced. The required part is as follows.

PART NO.	Description	Q'ty	Remarks
801699635	Chain	1	Roller chain #50 67 links
801699636	Chain joint	1	Roller chain #50 1 link
801699637	Offset link	1	Roller chain #50 1 link

To replace, contact the dealer from whom you purchased the equipment.
To replace, park the machine in a flat, even location and remove the belt cover.
Slowly move the roller (drive) with your hand to a position where the chain joint can be removed easily.
After that, remove the grip of the chain joint with your hand and remove the sprocket.
Slightly loosen the bolts (M10) fastening the pillow block that supports the rear of the roller (drive).
Next, move the axle center position of the pillow block in the sprocket (small side) direction (left upper tilt) by turning the spacers on the right and left on the same bolt in the same direction.
Assemble a new chain and offset link and mount between the sprockets. Connect with the chain joint. After doing so, perform the chain tension adjustment procedure.
After adjustment, apply grease to chain and circumference of sprocket where chain and sprocket meshes.
When finished, mount the belt cover and make sure the left and right fasteners are securely pressed in to fasten the belt cover.

◎ Fan replacement

If cracking or damage of the fan is observed, the parts must be replaced.
The required part is as follows.

PART NO.	Description	Q'ty
801699616	Fan	1

To replace, contact the dealer from whom you purchased the equipment.

◎ If the rubber part of the coupling is damaged, the part must be replaced. When doing so, the cap bolts used for mounting cannot be reused. Mount with new cap bolts.

The required part is as follows.

PART NO.	Description	Q'ty
801707787	Coupling	1
801707788	Cap bolt	8

When replacing, the coupling must be checked for misalignment (allowable parallel error, allowable angle error, axial displacement); contact the dealer from whom you purchased the equipment.

◎ Adjustment of braking time when traveling

If you want to change braking time when traveling, the work must be performed safely; contact the dealer from whom you purchased the equipment.

◎ Wire tension adjustment

Use the following procedure to adjust wire tension given on page 20 (Figs. 40 to 43) of the Instructions.

1) Move the machine to a flat, even place.

2) Prepare the machine for towing, erect the stand and roll the roller over the ground.

(Fig. 54)

Fig.54

3) Open the belt cover to the rear.

(Fig. 55)

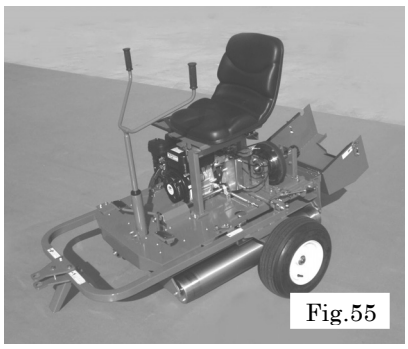


Fig.55

4) Loosen nuts A to D.

(Fig. 56)

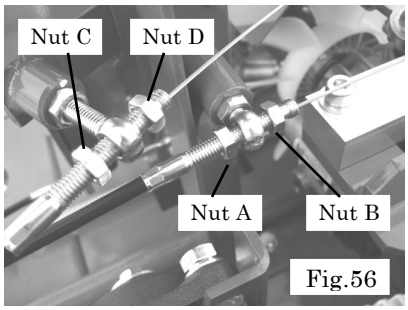


Fig.56

5) At this time, make sure the left and right pedals are level with the machine. If tilted, correct by performing the following procedure.

(1) Loosen the lock nut outside the left side panel of the machine.
(Fig. 57)

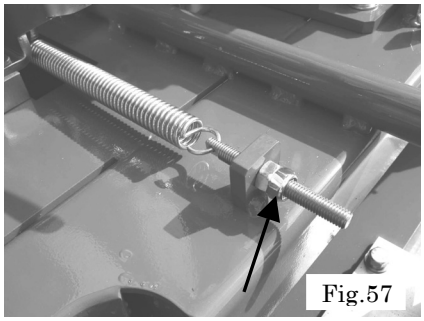


Fig.57

(2) Tighten the nuts inside the panel at the same location, or loosen and set the left and right pedals level with the machine.

(3) Tighten the outside lock nut.
The other does not have to be adjusted.

6) Eliminate clearance with spacers at the same height (58mm to 60mm) on both sides of the pedals.

(Fig. 58)

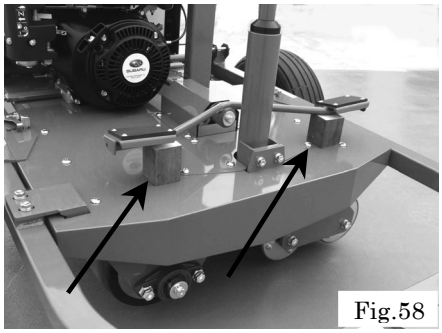


Fig.58

7) Check the screw fastening position shown in Figs. 59 and 60. Remove the rubber cap from the end of the screws and measure. After measuring, be sure to mount the rubber cap.

Fig.59

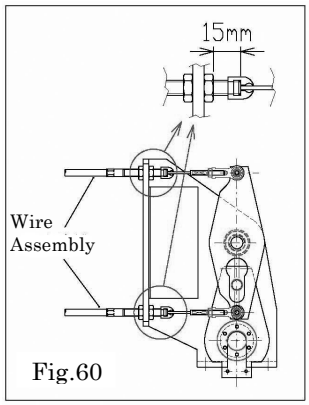


Fig.60

If not at the specified position, adjust so that it is the same value (approx. 15 mm).

8) Tighten nut A until there is light tension on the inner wire of the same side (no sagging).

(Fig. 61)

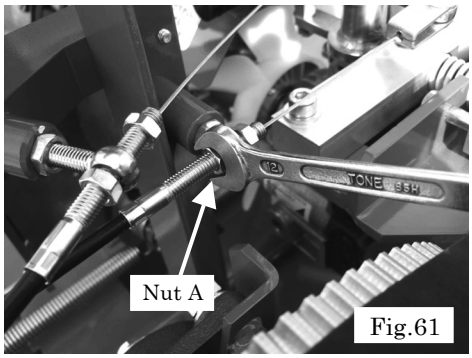


Fig.61

9) Return nut A 2/3 turn from this position.

(Fig. 62)

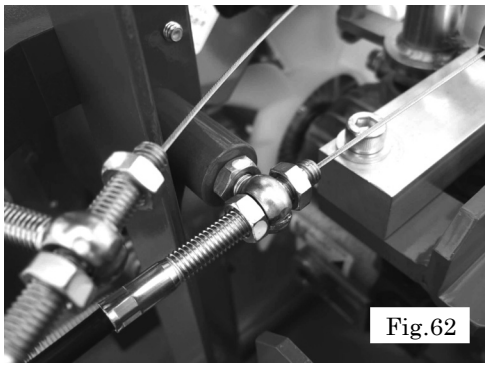
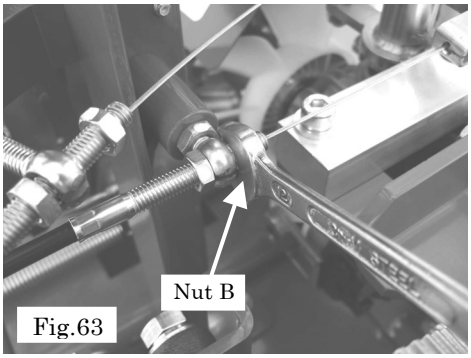
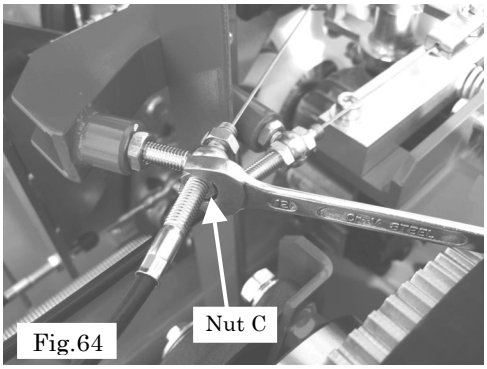


Fig.62

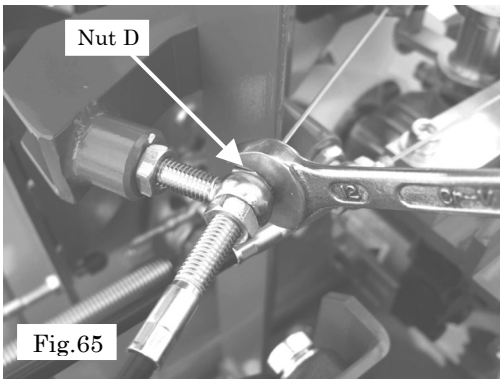
10) Tighten nut B while maintaining this position.
(Fig. 63)



11) Tighten nut C so that the tension of the upper and lower inner wires is the same (no sagging).
(Fig. 64)



12) Tighten and nut D and fasten.
(Fig. 65)

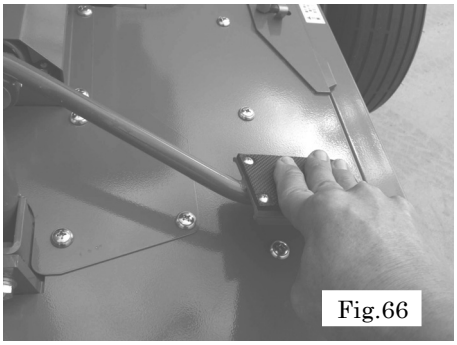


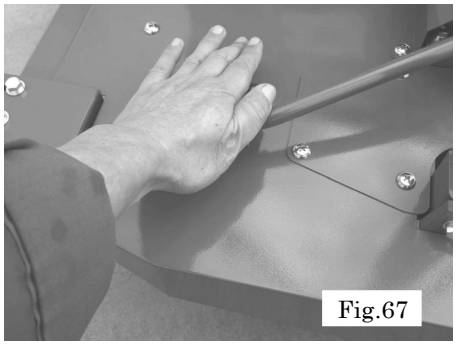
13) Lubricate the place where the wires are run.
Refer to page 20 (Figs. 40 and 41) of the Instructions and lubricate the inside of the inner wire with lubricant spray.

14) Remove the spacers from the left and right pedals.

15) Move the part of the machine where the pedals are to the position where they can be seen from the front.

16) Place each hand on top one pedal and press one side all the way down. Let the pedal up and then press the other one down. Repeat several times, and finally force the pedals to be level.
(Figs. 66 and 67)





17) Check the tension of the inner wires. If tension has been reduced, correct by performing the following procedure.
(1) Slightly loosen nuts B and D.
(2) Tighten nuts A and C at the same angle and see if the tension has been restored.
(3) Fasten with nuts B and D.
(4) Perform step 16 again and check the tension.
(5) If there is no change in tension, move on to the next step.

(Fig. 68)

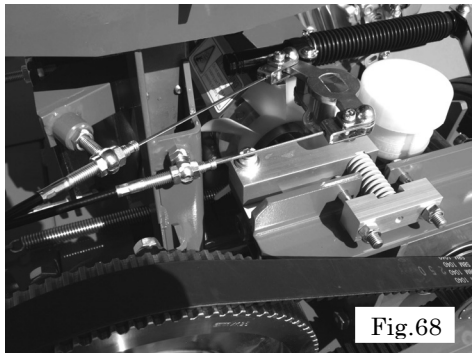


Fig.68

18) Return the belt cover and seat to their former status.

19) Open the fuel cock of the engine.

20) Move the stop switch of the engine to the run "I" side.

21) Start the engine and let it warm up by setting speed to the idle position.

22) Continue running the engine with speed set to the idle position and move the part of the machine where the pedals are to the position where they can be seen from the front.
(Do not sit in the seat.)

23) Slowly press one of the pedals with your hand just like in step 16. Make sure the roller (drive) starts rolling. Then let the pedal go, and make sure the same roller stops rolling. You can also check the movement of the pulley inside the belt cover instead of the same roller. When you remove your hands from where the pedals, the roller (drive) may continue to roll slowly without coming to a dead stop even after the pedals become level.

24) Check in the same manner with the other pedal.

25) Repeat steps 23 and 24 several times and make sure pedal operation is linked to the roller (drive).
Increase engine speed to maximum and check steps 23 to 25.

27) If pedal operation is similarly linked to the motion of the roller (drive), then lower engine speed to the idle position.

28) Move the stop switch of the engine to the run "O" side.

29) Shut the fuel cock of the engine.

30) Return the belt cover to its forward position and fasten with the fastener.

⚠ WARNING	◆ Adjust and check by proper procedure. → If not correct, the machine could suddenly move when the engine is started, resulting in injury.
⚠ WARNING	◆ Make sure the pedals are level before starting the engine. If either is tilted, return them to level by operating with your hands. → If the pedals are not level, the machine could suddenly move when the engine is started, resulting in injury.

14. Cleaning/storage

Store as follows if the machine is not to be used for an extended period of time.
○ Inspect the various parts and perform adjustment/maintenance as needed.
○ Inspect bolts, screws and nuts and tighten if loose.
○ See the pertinent item in "8. Long-term storage" in the Engine Instructions.
○ Wire away any dirt or water from the machine.
The circumference of the roller (steering) is not provided with surface treatment, and will rust if water is allowed to remain.
○ Move the machine to a flat even place and erect the stand.

⚠ CAUTION	◆ Store with the stand erected. → If stored in conventional towing status, the end of the roller (drive) could become deformed.

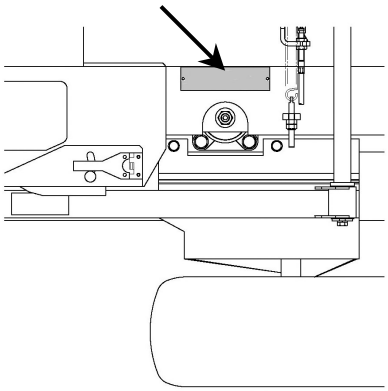
○ Check if safety labels are correctly applied.
○ Check if you have all the instruction manuals. Keep the manuals in a handy place near the machine.
○ Store in a place not exposed to excessive humidity or freezing. Also, keep indoors in a place not exposed to rain, fire or high temperatures. Do not allow children or people not familiar with the product to have access.

15. Troubleshooting

This section contains the possible causes and correction actions for problems that may occur while using. If the condition does not improve even if the corrective actions provided here are taken, do not attempt to disassemble; contact the dealer from whom you purchased the equipme nt.

When you do so, provide the following information.
1. Model
2. Serial No.
3. Description of problem (what the problem was, how it got like that, and how it is now).

The model and serial no. are given on the left center positi on.



Problem	Cause	Corrective measures
○ Engine does not start.	○ Out of fuel. ○ Fuel cock is not open. ○ Stop switch is at stop position. ○ Other	○ Replenish fuel. ○ Open the fuel cock. ○ Move the switch to the run position. ○ Read Engine Instructions.
○ Strange noise is emitted when the engine runs.	○ Something wrong with the hydrostatic pump motor. ○ Coupling part damage.	○ Contact your dealer. ○ Contact your dealer.
○ Leakage from hydrostatic pump motor.	○ Loose screws on oil tank. ○ Leakage from connection with machine.	○ Fasten screws securely and check oil level (full). ○ Contact your dealer.
○ Lots of play when handle is operated.	○ Loose screws in steering linkage.	○ Securely fasten bolts, screws and nuts.

16. After-sales service

If you notice something wrong with the machine, and the condition is not improved despite taking the prescribed corrective measures, check the following and contact the dealer from whom you purchased the equipment.

Information to be provided when you contact dealer.

- Model and serial No.
- Condition in which equipment is used
- How much equipment has been used (how many hours)
- Explanation of problem in as much detail as possible

17. Supply limit for repair parts

The limit for providing replacement parts for this product is nine (9) years of completion of manufacturing.

Contact us concerning special parts even nine years has not elapsed.

Under ordinary circumstances, replacement parts are no longer provided when the period given above has elapsed. Even if the limit has been exceeded, however, we will discuss delivery perio and price if there is a request to provide parts.

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