



# All Terrain Mini Transporter Operator's Manual

MODEL NUMBER : \_\_\_\_\_ SF0650A \_\_\_\_\_

SERIAL NUMBER : \_\_\_\_\_

Both model number and serial number can be found on serial label.  
You should record both of them in a safe place for future  
use.

## FOR YOUR SAFETY

READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE OPERATING

MACHINE



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## INTRODUCTION

Your new all terrain mini transporter will be more than satisfy your expectations. It has been manufactured under stringent quality standards to meet with superior performance criteria. You will find it easy and safe to operate, and with proper care, it will give you many years of dependable service.



Carefully read through this entire operator's manual before using this unit. Take special care to heed the cautions and warnings.

This mini transporter is fully driven by hydraulic oil and it has two running speed separately reverse and forward. It is oversized as to manage safely the huge torques generated by the engine, it is capable of moving around in every situation and bearing load.

The engine manufacture is responsible for all engine-related issues with regards to

performance, power rating, specifications, warranty and service. Please refer to the engine manufacturer's owner's/operator's manual, Packed separately with your unit for more information.

## Specifications

Item No.	SF0650A
Engine	270cc, 9.0HP
Transmission	Hydrostatic
Forward speed 1	3 km/h
Forward speed 2	2.5 km/h
Reverse speed 1	2.5 km/h
Reverse speed 2	1.25 km/h
Load Capacity	500 kg
Box Dimension(mm)	990x670x450
Track Width(mm)	180
Sound Power Level(LWA)	103dB(A)k
Sound Pressure Level(LpA)	92dB(A)k
Vibrating level on operating handle:(m/s <sup>2</sup> )	10.1m/s <sup>2</sup> k= 1.5m/s <sup>2</sup>
Weight	390 kg

## ENVIRONMENTAL



Recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be resorted, taken to the local recycling center and disposed of in an environment-friendly safe way.

## SAFETY SYMBOLS OR LABELS

On the machine there are various safety symbols that provide information on safety. Their collocation and corresponding description of danger is treated in this section. Be sure that all safety labels are legible. Clean and replace the illegible ones

or the images not visible. Clean labels by using a cloth with water and soap. Do not use solvents or fuel. Damaged or illegible labels must be replaced. If the label is positioned on a part of machine to be replaced, be sure to put a new one on the part replaced.



Wear eye protection.  
Wear hearing protection.



Read the operation manual for use carefully.



Wear safety footwear.



Wear safety gloves.



It is forbidden to remove or tamper with the protection devices and safety devices.



Keep away from hot parts on the machine.



Do not smoke or have open flames.



Thrown objects.



Keep your hands or feet away from track and rotating parts.



Keep bystanders away.

## SAFETY INFORMATION


This manual is a practical, safe guide to offer the operator all the rules and precautions needed for operating and inspecting the machine under safety conditions.

Before using the machine, this manual must be read through carefully. This is the

simplest way to prevent accidents.

Incorrect operation, inspection or maintenance may cause personal injury or even death.

Throughout this manual and on the machine

precautions are provided with  marks and classified by the words DANGER-  
-WARNING-CAUTION, according to their extent of danger.

The classification is as follows:



A hazardous situation which, if not avoided, could result in death or serious injury.



A potentially hazardous situation which, if not avoided, could result in death or serious injury.



A potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against possible damage to the machine and its components.

We have made every effort for you to prevent accidents during operations. However we cannot be held responsible for predicting every kind of danger in all operating circumstances.

It is the owner or user of the machine who is responsible for ALWAYS paying attention when operating the machine, as well as reading and understanding this manual enough to obtain the essential knowledge and skills fundamental to correct use of the machine.



Before operation, inspection or maintenance of the machine, be sure to read and understand this manual.

Incorrect operation or maintenance of the machine can cause accidents, serious injury and death.

Always keep this manual on hand, so that you can immediately consult it when necessary.

Should it be missing or damaged, ask your distributor for another copy.

There are various kinds of federal, state and local regulations associated with construction equipment. Since these regulations are subject to change and differ from one country to another, it is impossible for us to provide such information in this manual. It is the responsibility of the owner or operator to be familiar with the regulations.

Specifications and materials of the machine are subject to change with no prior notice.

## General Safety Information

### Understand your machine

Read and understand the operator's manual and labels affixed to the machine. Learn its application and limitations as well as the specific potential hazards peculiar to it.

This manual, relevant plates and labels on the machine contain the necessary instructions for correct and safe operation. You should read and understand them firstly. Injury or death may result should you ignore them. Do not leave what you do not understand to chance, your distributor will be glad to let you have any information you may need. If the manual, relevant plates or labels are missing or damaged, contact your distributor for replacement.

Be thoroughly familiar with the controls and their proper operation. Know how to stop the machine and disengage the controls quickly.

Make sure to read and understand all the instructions and safety precautions as outlined in the Engine Manufacturer's Manual packed separately with your machine. Do not attempt to operate the machine until you fully understand how to properly operate and maintain the Engine and how to avoid accident injuries and/or property damage.

With all hydraulically-operated devices it is **extremely important** to warm the hydraulic oil before starting to work. During warm up the operator should check that the machine is working properly or if any maintenance work is needed. Remember: that the basic principle of hydraulics is exactly the flow of the oil. If you hear a jarring noise, it means that pump lubrication is low due to cavitation, often caused by oil that is too thick or heavy. Absolutely never operate a machine in these conditions as serious damage to the pump could result.

### Work area

Never start or run the machine inside a closed area. The exhaust fumes are dangerous, containing carbon monoxide, an odorless and deadly gas. Operate the machine only in a well ventilated outdoor area.

Never operate the machine without good visibility or light.

Before starting to work, walk around the mini dumper and carefully check that there are no persons or obstacles hindering your working area.

### Personal safety

Do not operate the machine while under the influence of drugs, alcohol, or any medication that could affect your ability to use it properly.

Dress properly. Wear heavy long pants, boots and gloves. Do not wear loose clothing, short pants, and jewelry of any kind. Secure long hair, clothing and gloves away from moving

parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Use safety equipment. Always wear eye protection. Safety equipment such as a dust mask, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Check your machine before starting it. Keep guards in place or is in poor mechanical condition. Make sure all nuts, bolts, etc are securely tightened.

Never operate the machine when it is in need of repair or is in poor mechanical condition. Replace damaged, missing or failed parts before using it. Check for fuel leaks. Keep the machine in safe working condition.

Do not come close to moving or rotating parts such as belts or fans. Do not allow any object to come near moving or rotating parts. Serious accidents may result.

Never remove or tamper with safety device. Check their proper operation regularly.

Do not use the machine if the engine's switch does not turn it on or off. Any gasoline powered machine that cannot be controlled with the engine switch is dangerous and must be replaced.

Form a habit of checking to see that keys and adjusting wrenches are removed from machine area before starting it. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.

Stay alert, watch what you are doing and use common sense when operating the machine.

Do not overreach. Do not operate the machine while barefoot or when wearing sandals or similar lightweight footwear. Wear

protective footwear that will protect your feet and improve your footing on slippery surfaces. Keep proper footing and balance at all times. This enables better control of the machine in unexpected situations.

Avoid accidental starting. Be sure the engine is off before transporting the machine or performing any maintenance or service on the unit. Transporting or performing maintenance or service on a machine with engine on invites accidents.

### **Fuel safety**

Fuel is highly flammable, and its vapors can explode if ignited. Take precautions when using to reduce the chance of serious personal injury.

When refilling or draining the fuel tank, use an approved fuel storage container while in a clean, well-ventilated outdoor. Do not smoke, or allow sparks, open flames or other sources of ignition near the area while adding fuel or operating the machine. Never fill fuel tank indoors.

Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing. These events could ignite fumes or vapors.

Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot. Do not operate the machine with known leaks in the fuel system.

Loosen the fuel tank cap slowly to relieve any pressure in the tank.

Never over fill fuel tank. Fill tank to no more than 12.5mm (1/2") below the bottom of the filler neck to provide space for expansion as the heat of the engine can cause fuel to expand.

Replace all fuel tank and container caps securely and wipe up spilled fuel. Never operate the machine without the fuel cap securely in place.

Avoid creating a source of ignition for spilled fuel. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.

Store fuel in containers specially designed and approved for this purpose.

Store fuel in a cool, well-ventilated area, safely away from sparks, open flames or other sources of ignition.

Never store fuel or machine with fuel in the tank inside a building where fumes may reach a spark, open flame, or other sources of ignition, such as a water heater, furnace, clothes dryer and the like. Allow the engine to cool before storing in any enclosure.

### **Machine use**

Execute all operations carefully. Operating brusquely the machine can cause damages and reduce consistently efficiency. Take care of regulations that warrant safety on job site.

Never overload any cylinder enough to trigger the opening of the safety valve, this would cause an excessive rise in the oil temperature, lowering the useful life of the hydraulic components.

Make sure the machine footing is level and firm to avoid skidding or overturning if you need to use the machine on the shoulder of a road or a slope.

Do not force the machine. Use the correct machine for your application. The correct machine will do the job better and safer at the rate for which it was designed.

Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.

Do not run the engine at a high speed when you are not working.

Do not put hands or feet near rotating parts.

Avoid contact with hot fuel, oil, exhaust fumes and hot surfaces. Do not touch the engine or muffler. These parts get extremely hot from operation. They remain hot for a short time after you turn off the machine. Allow the engine to cool before doing maintenance or making adjustments.

The machine should be operated on a flat surface, but if you are moving material on slopping ground, be sure that the tracks are positioned in the direction of the slope and not crossways. If you need to work on soft, rough or unlevel ground, take care to avoid overturning.

In normal situations (not emergency) always try to turn as slowly as possible. Sharp turns or standing pivots will shorten the useful life of the machine and tracks. Changes in travel direction should be slow to avoid overloading the sprockets, especially on rough, unlevel ground.

If the ground is very rough or covered by stones or rocks, travel must be very slow. Control the travel speed with the engine throttle lever. Never cause shocks to the tracks and to the machine.

When using the machine on slopping ground, move upwards in reverse and guide the machine from ground. Even slight surface roughness can jolt the machine and may cause overturning.

Travel in reverse, the operator must always be above the load.



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**MAX.CLIMBABLE GARDIENT  
WITH MAXIMUM LOAD  
20° - 34%**

Never Steer on a slope or on unstable ground.This could cause overturning of the machine.

Never travel across a slope.When working on slopping land,always move in directions parallel with the slope(up or down).Pay the utmost attention when working on frozen ground as the machine may tend to be skid.

Position the machine in such a way that it can not move during maintenance ,cleaning, adjustment,assembly of accessories or spare parts,as well as under storage.

Use only attachments and accessories approved by the manufacture.Failure to do so can result in personal injury.

Maintain the machine.Check for misalignment or binding of moving parts,breakage of parts and any other condition that may affect the machine's operation.If damaged,have the machine repaired before use.Many accidents are caused by poorly maintained equipment.

Keep the engine and muffler free of grass,leaves,excessive grease or carbon build up to reduce the chance of a fire hazard.

Never douse or squirt the unit with water or any other liquid.Keep handles dry,clean and free from debris.Clean after each use.

If the machine should start to make an unusual noise or vibration,immediately shut

off the engine,disconnect the spark plug wire,and check for the cause.Unusual noise or vibration is generally warning of trouble.

Observe proper disposal laws and regulations for gas,oil,etc. to protect the environment.

Store idle machine out of the reach of children and do not allow persons unfamiliar with the machine or these instructions to operate it.Machine is dangerous in the hands of untrained users.

### Service

Before cleaning,repairing,inspecting,or adjusting,shut off the engine and make certain all moving parts have stopped. Disconnect the spark plug wire,and keep the wire away from the plug to prevent accident starting.

Have your machine serviced by qualified repair personnel using only identical replacement parts.This will ensure that the safety of the machine maintained.

### Specific Safety Information

Thoroughly inspect the area to be worked,keep the working area clean and free of debris to prevent tripping.Operate on a flat level ground.

Never place any part of your body where it would be in danger if movement should occur during assembly,installation,and operation,maintenance,repairing or moving.

Keep all bystanders,children,and pets at least 23m(75 feet) away.If you are approach -ed,stop the machine immediately.

Do not mount on dump box and never carry passengers.

Always load and unload the machine on a



level surface. Use ramps that are sufficiently Strong, wide and long in relation to the machine. Remove any ice, snow or slippery material from the ramps and from the truck deck before loading the machine. Never steer on ramps.

Start the engine carefully according to instructions and with feet well away from the moving parts.

Never leave the operating position when the engine is running. Before leaving the machine unattended, always switch it off, check that all locking devices are in the correct positions.

Do not overload the machine capacity. Drive at a safe speed, adjusting the speed to the slope of the land, the surface conditions of the road, and the weight of the load.

Use extreme caution when in reverse or pulling the machine towards you.

Exercise extreme caution when operating on a crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.

On soft ground, drive at the lowest F&R speed, do not rapidly accelerate, turn sharply or stop.

If possible, avoid driving on pebbly river bed, crushed stone terrains, steel concrete, stumpy field, logs etc., since such operation caused fatal damage or shortens life span of tracks.

Do not operate the machine in confined areas where there may be a risk of crushing the operator between the machine and another object.

When moving over a slope, whether moving forward or in reverse, always make certain that the weight is evenly balanced. Always move in directions parallel with the slope (up

or down). To avoid danger, do not change the speed on slopes.

When tipping the load from a dumper, the center of gravity will change continuously and the ground conditions will be essential for the stability of the machine. There are special hazards for dumpers working on soft ground and when the load is sticking to body e.g. wet clay.

Never park the machine in a place with unstable ground which could give way, particularly when it is full.

Never leave the machine on or near a bank that might cave in, or on the edge of an excavation that might give way. Keep the machine away from dangerous areas when it is to be left idle for a certain length of time. Whenever possible, park the machine on level ground.

If parking the machine on a road is necessary, its presence must be duly marked with barriers, flags, flares and warning signs.

Before leaving the machine unattended, Always switch it off. Check that all locking devices are in the correct position.

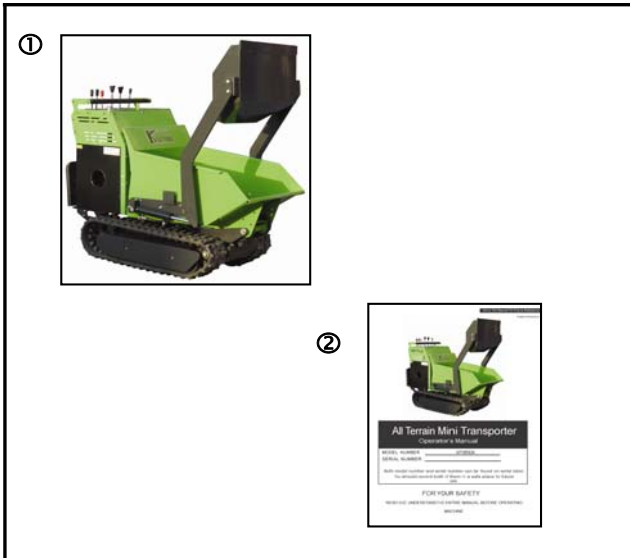
**WARNING**

**WHEN PARKING ON SLOPING GROUND  
ALWAYS CHOCK THE TRACKS  
APPROPRIATELY.**



## CONTENTS SUPPLIED

The all terrain mini transporter comes already well assembled and is shipped in carefully packed package. After opening up the package, you should have:



1. Complete machine
2. Operator's manual.

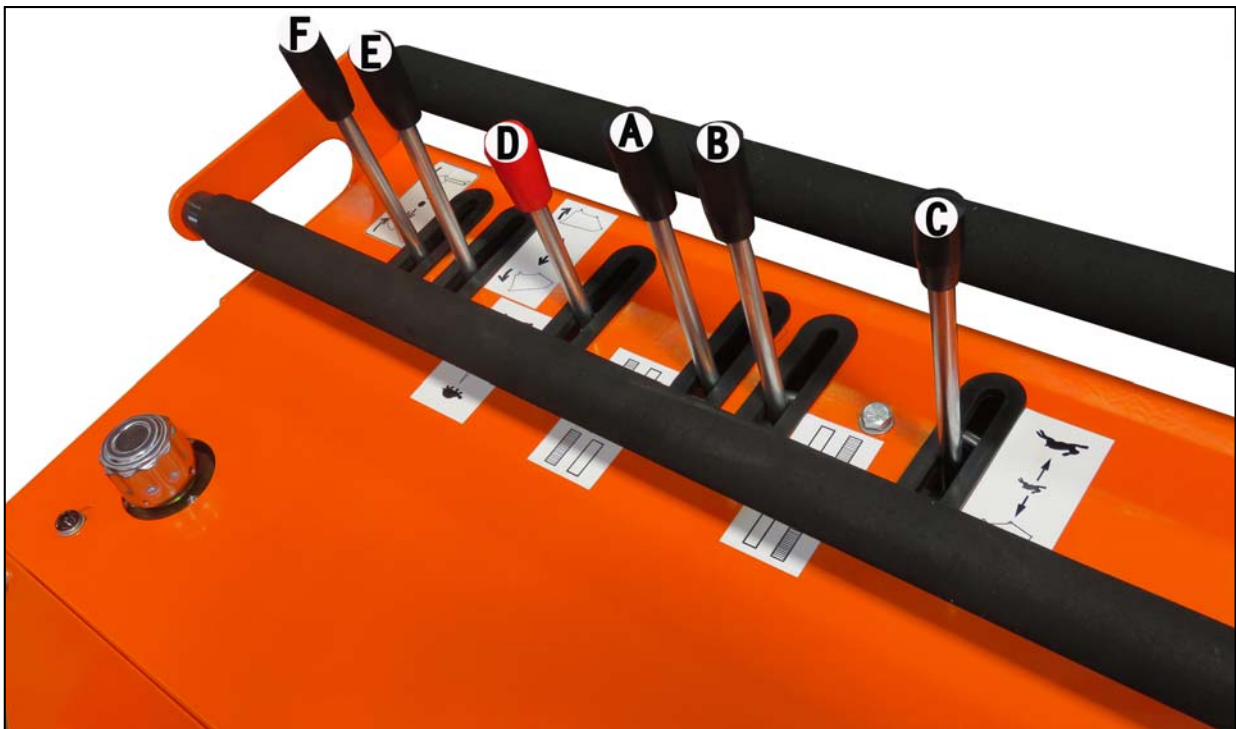
## WARNING

**ENGINE OIL HAS BEEN DRAINED FOR SHIPPING. SO BEFORE STARTING THE ENGINE, FILL ENGINE SUMP WITH OIL. FAILURE TO DO THIS WILL RESULT IN PERMANENT DAMAGE AND WILL VOID ENGINE WARRANTY.**

Add oil according to ENGINE MANUAL packed separately with the machine.

## KNOW YOUR MACHINE

### Operating platform Features and Controls

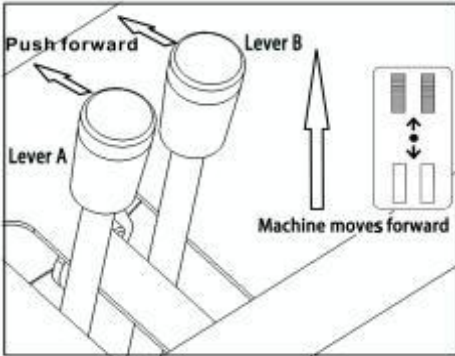


## Lever A & B

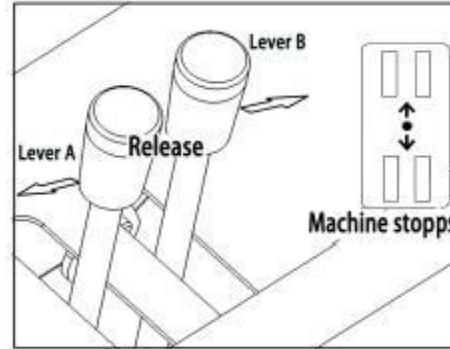
### -Machine travel control handles

#### 1. Straight travel

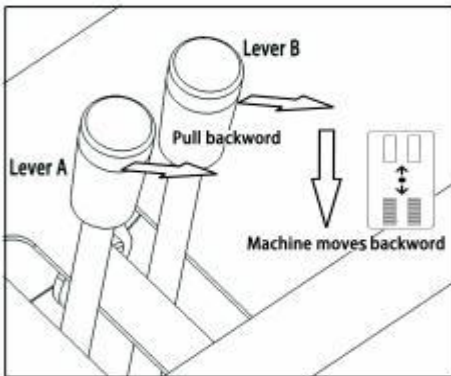
Push lever A & B forward, the machine will drive forward.



Release lever A & B, the machine will stop and leave engine working if you don't turn off the ON&OFF Switch.

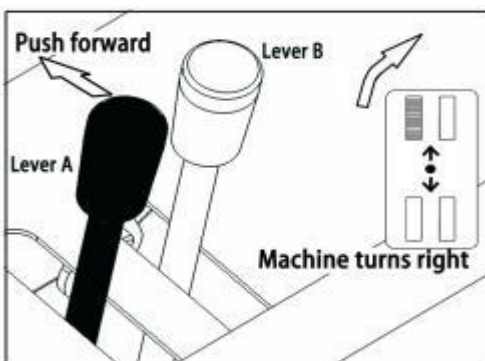


Pull lever A & B backward, the machine will move backward.

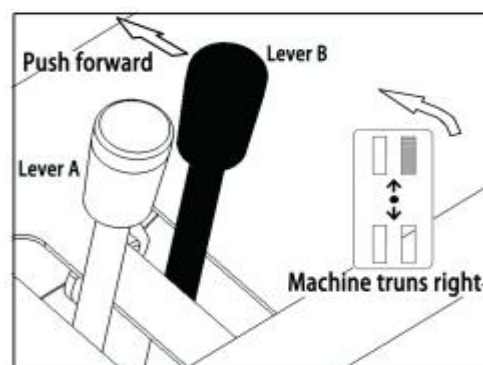


#### 2. Cornering

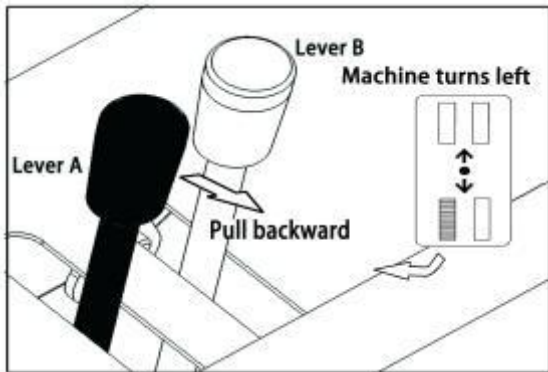
Push only **lever A forward**, the left track moves forward and machine **turns right**.



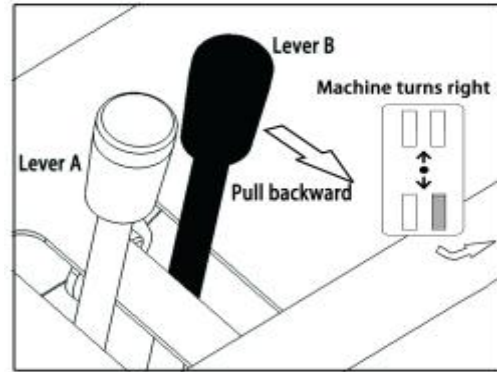
Push only **lever B forward**, the right track moves forward and machine **turns left**.



Pull only **lever A backward**,the left track moves backward and machine **turns left**.

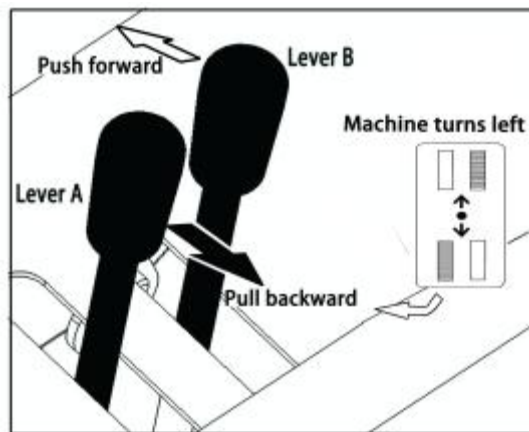


Pull only **lever B backward**,the right track moves backward and machine **turns right**.

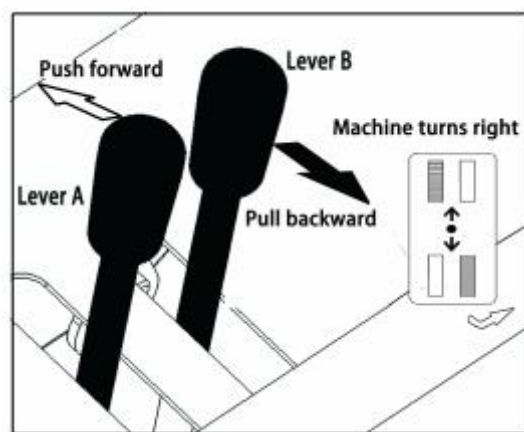


### 3.Spot turn

Push **lever B forward** and pull **lever A backward**,machine will move backward and **turn left** quickly.



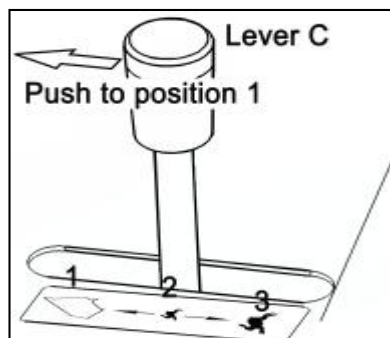
Push **lever A forward** and pull **lever B backward**,machine will move backward and **turn right** quickly.



### Lever C-Speed control handle

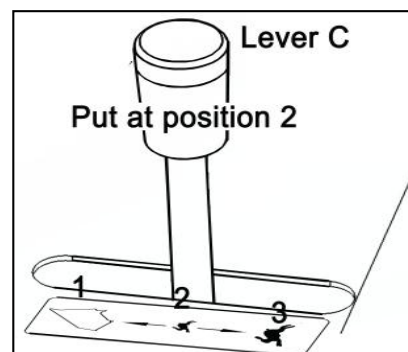
#### 1.Push Lever C to position 1:

- if machine stops,you can operate Lever E to tip the dumper box.
- machine can move forward at the lower speed,same as Lever C at position 2.



#### 2.Put Lever C at position 2:

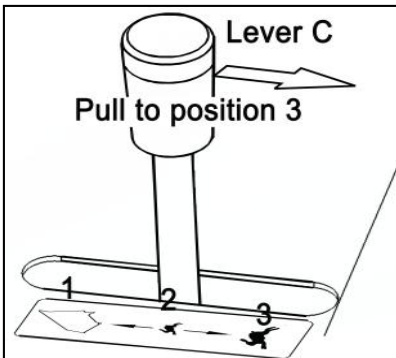
machine will move forward at the lower speed.



**NOTE:**never put Lever C at position 3 when you want machine to move forward.

### 3.Pull Lever C to position 3:

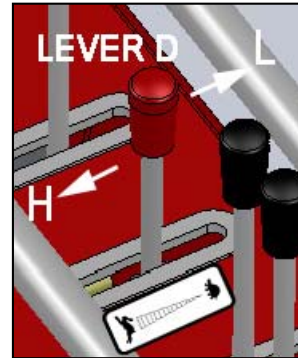
Machine will move forward at the faster speed,about double of position 2 .



### Lever D-Throttle control lever

Push Lever D forward,will reduce engine rpm.

Pull Lever D backward,will increase engine rpm.

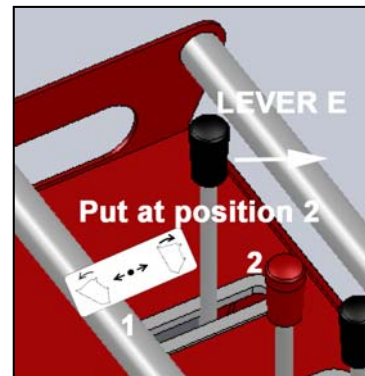
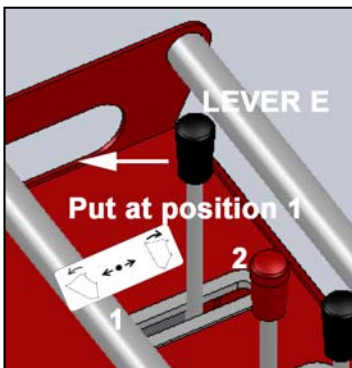


### Lever E-Tipping handle

Stop the machine and put Lever C at tipping position(position 1),then operate Lever E to tip the dumper box.

Put the handle at position 1 to tipping up the dumper box.

Put the handle at position 2 to tipping down the dumper box.

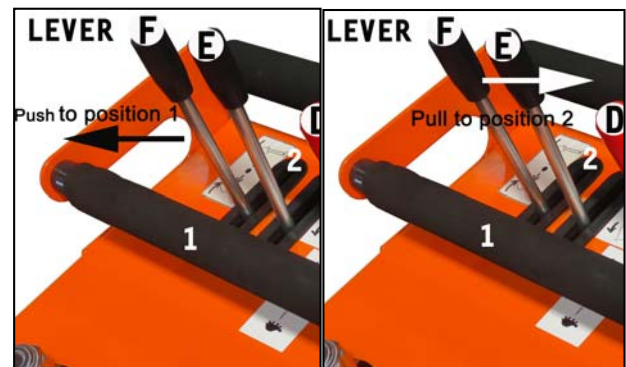


### Lever F-Loading Shovel Lever

Stop the machine, put Lever C at tipping position(position 1) and tipping down the dumper box,then operate Lever F to tip up and down the loading shovel.

Push Lever F to position 1,the loading shovel tipping down accordingly,then you can operate lever A and B to move forward to load things.

When the shovel is full,pull Lever F to position 2 to tipping up the shovel and unload things into the dumper box.



# INSTRUCTIONS OF OPERATION

## Filling engine oil

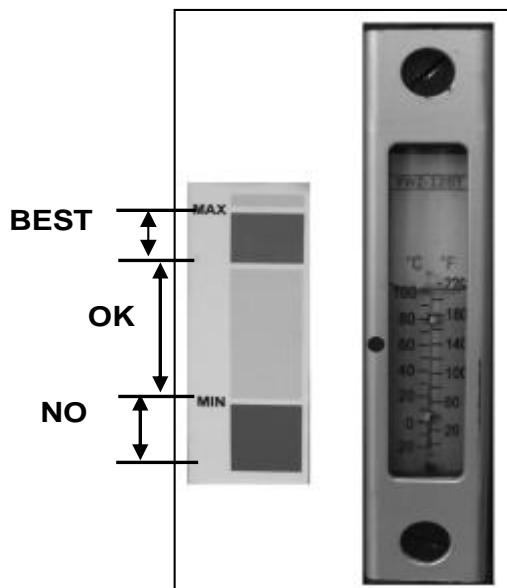


Fill the engine oil before your starting failing to do so, will make great damage to the engine and engine will be out of warranty as well .

## Filling hydraulic oil

Fill hydraulic oil to the hydraulic oil tank before starting the machine.

Fill the oil refer to the liquidometer, MAX is the best, but normally oil level between "MAX" and "MIN" is also OK for use.



## Adding fuel

Fill the fuel tank as instructed in the **Engine manual** packed separately with the machine



Fill oil tank to no more than 12.5mm (1/2") below the bottom of the filler Neck to provide space for expansion.

## Checks before starting the engine

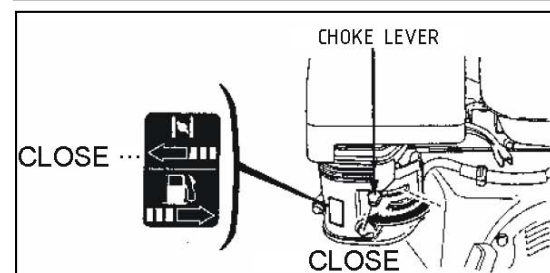
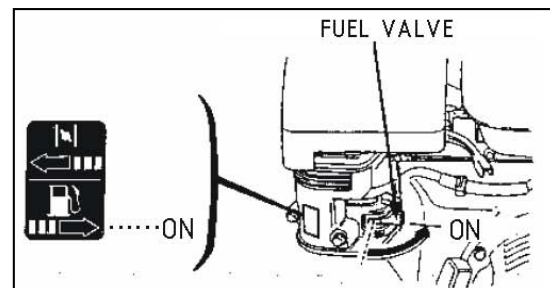
Check the levels of the hydraulic oil, engine oil and fuel.

For the checking methods, refer to the "Daily checks" section of this manual.

This paragraph describes the basic operations for starting. It is in any case necessary to better familiarized with the procedures described, consulting the engine manufacture's handbook provided with machine and contained in the special department.

## Starting engine

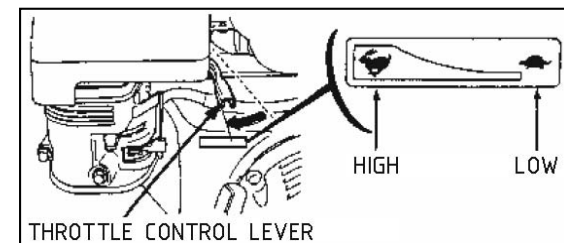
1. Turn the fuel valve to the "ON" position.
2. Move the choke lever to the "CLOSED" position.



### NOTE:

Do not use choke lever if the engine is warm or the air temperature is high.

3. Move the throttle control lever slightly to the left.

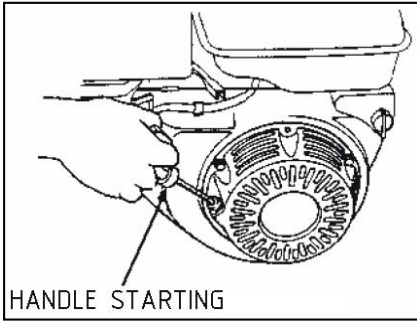


4. Start the engine.

. With recoil starter:

Turn the engine switch to the "ON" position. Pull the starter grip lightly until resistance is

felt, then pull briskly.



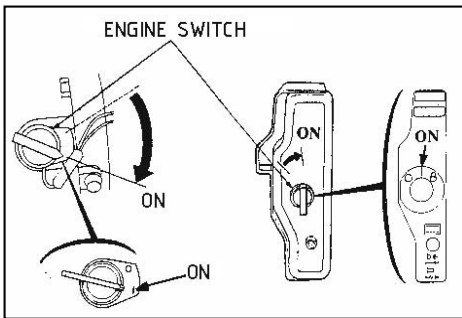
**CAUTION:**

Do not allow the starter grip to snap back against the engine. Return it gently to prevent damages to the starter.

If necessary, pull the rope several times until the engine starts.

. With electric starter (where equipped):

Turn engine switch to the start position and hold it there until the engine start.



**NOTE:**

Do not use electric starter for more than 5 seconds at a time.

If the engine fails to start, release the key and wait 10 seconds before operating the starter again.

When the engine starts, return the switch to the "ON" position.

5. Allow the engine to run for several seconds to warm up. Then, gradually move choke lever to "OPEN" position.

Restarting an engine that is already warm from previous running does not normally require use of the choke.

1. Turn the engine switch on.

2. Hold the start handle firmly and pull rope out a short distance until you feel some resistance. Then pull the rope smoothly and briskly, and allow rope to return gently. Do not let the rope snap back.

**Stopping engine**

To stop the engine in an emergency, release lever A and B, then turn the engine switch to the "OFF" position.

Under normal conditions, follow the instructions of "Parking your machine".

**CAUTION:**

Do not move choke control to "CHOKE" to stop engine. Backfire or engine damage may occur.

**Operating your machine**

. After engine warms up, slowly push lever A and B forward, machine will start to move.

. When machine running, operating lever C to select two different speed levels. Position 1 and 2 are both the slower speed level and position 3 is the faster speed level.

. Operating the throttle control lever to increase and reduce engine rpm.

. When you want to steer, operate lever A or B according to detailed instructions in "Operating platform Features and Controls" Section.

**CAUTION:**

For your safety, always steer at the lower speed.

. If you want machine to run backward, just pull lever A and B back, the speed lever C will automatically move back to the lower speed level position.

. The mini transporter has a maximum loading capacity of 500kgs. However it is advisable to assess the load and adjust it according to the ground on which the machine will be used.

. Keep an eye on the hydraulic oil temperature that showed on liquidometer,

especially during long time using. Normally temperature won't be higher than 60°C, but if exceed, you must stop using the machine, let the temperature cool down, then machine can be restarted.

. Always avoid sharp turns and frequent changes of direction while driving on the road, in particular on rough, hard terrains full of sharp, uneven points with a high degree of friction.

. Even though the machine has rubber tracks, remember to be careful when working in adverse weather conditions (ice, heavy rain and snow) or on types of ground that could make the mini transporter unstable.

. When lever A and B released, the machine will stop and brake automatically.

### **Parking your machine**

At the end of day's work, follow the procedure to park your machine:

Drive the machine to a safe place with a flat surface.

1. Move the accelerator lever forwards to reduce the engine speed.

2. Release the travel levers A and B to stop the machine.

3. Switch off the engine.

If freezing temperatures are expected, both tracks should be cleaned of mud and dirt and the machine should be parked on wooden planks.

## **MAINTENANCE**

A proper maintenance and lubrication will help the machine in perfect working condition.

### **Preventive maintenance**

Before your maintenance, turn off engine and make it cool.

Never check the oil level with the engine running.

To avoid engine problems, never exceed the maximum oil level. Excess oil in the engine can cause serious damage to it.

Never turn on the engine when the oil level is above the maximum or below the minimum mark.

Inspect the general condition of the machine. Check for loose screws, misalignment of binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation.

Remove all debris and other materials that may have accumulated to the track and machine. Clean after each use. Then use a premium quality lightweight machine oil to lubricate all moving parts.



Never use a "pressure washer" to clean your machine. Water can penetrate tight areas of the machine and cause damages to spindles, bearings or the engine. The use of the pressure washer will result in shortened life and reduce serviceability.

### **Maintenance intervals**

Check and maintain the engine always according to engine owner's manual, which has given detailed instructions.



Check points of the machine are as follows:

Check point	Item
<b>When required</b>	
Tracks	Check and adjust tension
Hydraulic oil	Check the hydraulic oil temperature to be lower than <b>60°C</b>
<b>Daily(every 8 hours of work)</b>	
Hydraulic oil tank	Check the hydraulic oil level
Machine checking	General daily check of conditions of machine
<b>One year or every 600 hours of work(Before performing the previous services)</b>	
Hydraulic oil	Change the hydraulic oil
Hydraulic system	Change the hydraulic oil tank strainer

### Check hydraulic oil tank level

**CAUTION**

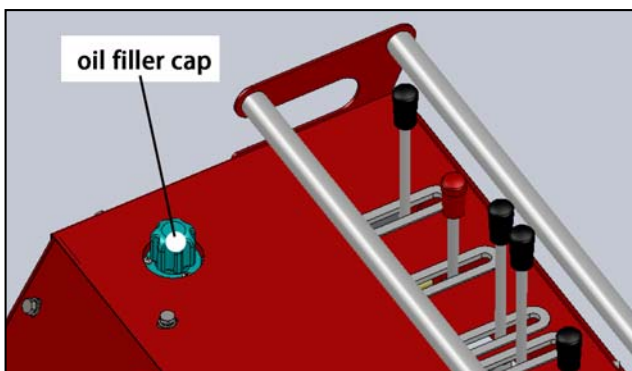
- . ALWAYS **CAUTION** AROUND THE CAP BEFORE REMOVING IT.
- . NEVER EXCEED THE MAXIMUM HYDRAULIC OIL LEVEL IN THE TANK.
- . NEVER USE THE MACHINE WHEN THE OIL LEVEL IS ABOVE “MAX” OR BELOW “MIN”LEVEL.

### Change the hydraulic oil

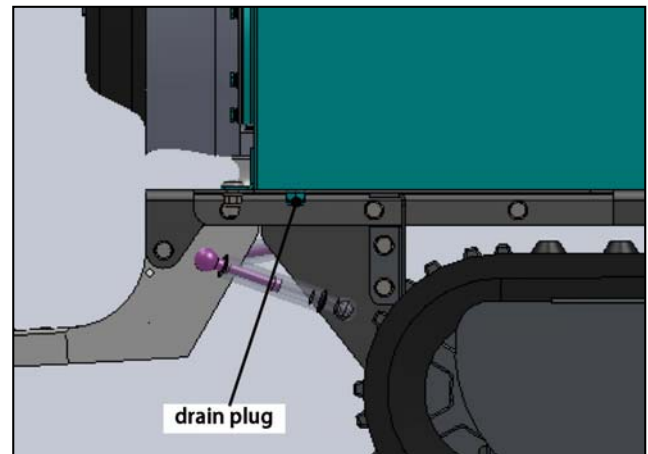
**CAUTION**

- . CONTACTING **CAUTION** OR PARTS CAN CAUSE BURNS.
- . REMOVE THE OIL FILLER CAP ONLY WITH ENGINE OFF AND WHEN IT IS COLD ENOUGH TO DO SO WITH BARE HANDS.

- 1.Place the machine on level ground with engine switching off.
- 2.Clean the area to keep dirt out of the tank.
- 3.Loosen the oil filler cap to relieve the tank pressure.



- 1.Remove the drain plug and drain all the oil from the system into a suitable container.



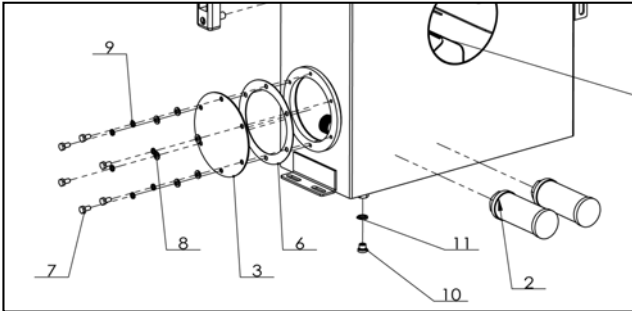
NOTE:dispose of used oil according to local regulations.

- 2.Clean the inside of the tank using clean oil.
- 3.Clean and refit the drain plug.
- 4.Fill the tank with new hydraulic oil.(Refer to hydraulic oil filling part for details)
- 5.Start the engine and run it for five minutes at idle speed.
- 6.Operate the control levers to fill the whole hydraulic circuit.
- 7.Take the machine back to the initial area and switch off the engine.
- 8.Check the hydraulic oil level and top up if necessary to keep the oil level between the two limits on the liquidometer.
- 9.Refit the filler cap.

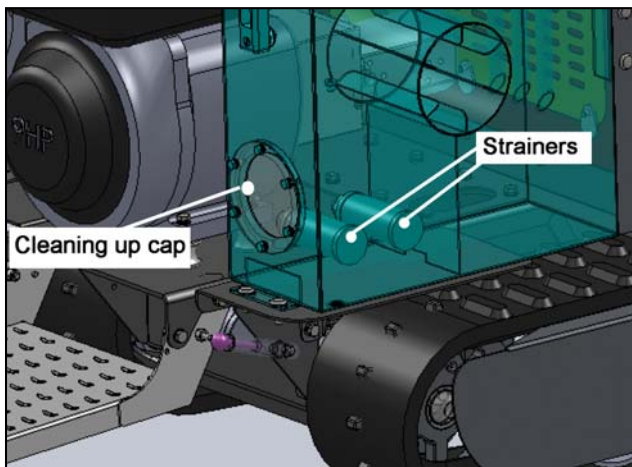
### Change the hydraulic oil tank strainers

After hydraulic oil draining from the tank and before adding new oil ,change the strainer following below instructions.

1. Disassemble the bolt (No.7), washer (No.8,9) cleaning up cap (No.3) and the gasket (No.6) in turns showed below.



2. Turn the two strainers off and change to new ones.



3. Assemble the gasket (No.6), cleaning up cap (No.3), washers (No.8,9) and the bolts (No.7) again in turns showed above.

4. Then can continue to add the new hydraulic Oil.

**Check and adjust track tension**


With use, tracks tend to be loose, when operating with loose tracks, they tend to slip over the driving wheel affecting the common using of machine.

To check track tightness, proceed as follows:

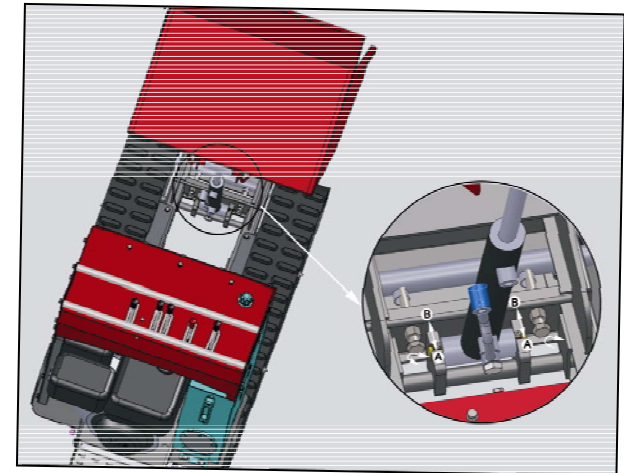
1. Place the machine on a level ground.
2. Lift the machine and set it on blocks or supports rated for the weight of the machine so that the tracks can be about 100mm off the ground.
3. Measure the track midline VS. the horizontal line. The reading must not be more than 10-15mm.

If the distance is greater, proceed as follows:

1. Tipping up the dumper box and better set it on blocks or supports rated for the weight of the box
2. Loosen lock nut B
3. Tighten bolt A until the correct tightness is restored.
4. Secure bolt A by tightening lock nut B thoroughly.
5. Return the dump box to its original position.



If the adjustment bolt has no more adjustment left, the tracks may have to be replaced.




**Replacing tracks**

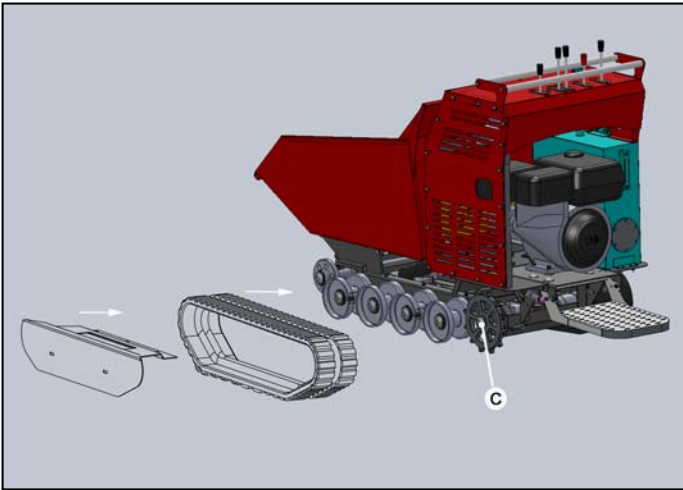
Check the condition of the tracks periodically. If any track is cracked or frayed, it should be replaced as soon as convenient.

Following below instructions to replace track:

1. Disassemble the protection cover of wheels
2. Loosen lock nut B and bolt A shown in above figure to let the tracks loose enough.
3. Disassemble bolt C.
4. Move the old track off and install new track.
5. Adjust bolt A to assure correct tightness.
6. Secure bolt A by tightening lock nut B thoroughly.
7. Finally install the protection cover



When removing or installing the tracks, be careful not to get your fingers caught between the Track and pulley.



## STORAGE

If the machine will not be used for a period longer than 30 days, follow the steps below to prepare for storage.

1. Drain the fuel tank completely. Stored fuel containing ethanol or MTBE can start to go stale in 30 days. Stale fuel has high gum content and can clog the carburetor and restrict fuel flow.

2. Start the engine and allow it to run until it stops. This ensures no fuel is left in the carburetor and helps prevent gum deposits from forming inside the carburetor and possible engine damage.

3. While the engine is still warm, drain the oil from the engine. Refill with fresh oil of the grade recommended in the engine manual.

4. Use clean cloths to clean off the outside of the machine and to keep the air vents free of obstructions.

5. Inspect for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts.

6. Store the machine on flat ground indoors, if storage outdoors is necessary, choose a flat place and cover the machine.

NOTE: During storage operate the machine once a month to maintain a film of lubricating oil.

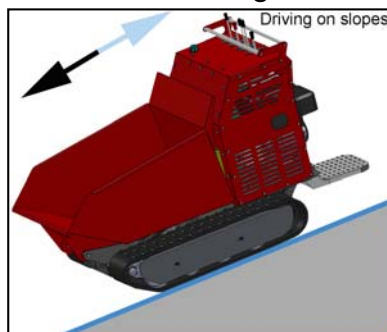
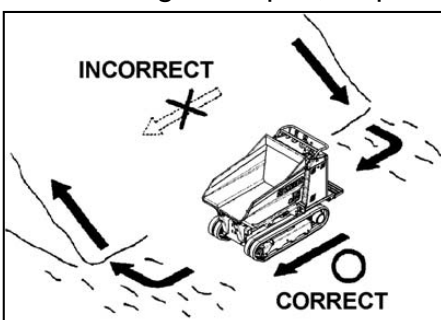
## TROUBLE SHOOTING

Problem	Probable cause	Solution
Control lever stiff or does not return automatically	<ul style="list-style-type: none"> <li>▪ Faulty control valve.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ask for service</li> </ul>
No operations possible or power failing	<ul style="list-style-type: none"> <li>▪ Low hydraulic oil.</li> <li>▪ Oil strainer clogged.</li> <li>▪ Engine output drop.</li> <li>▪ Pump or coupling failure.</li> <li>▪ Low adjustment valve pressure.</li> <li>▪ Faulty control valve.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Top up to the correct level.</li> <li>▪ Perform oil strainer maintenance.</li> <li>▪ Perform air cleaner maintenance and check supply</li> <li>▪ Ask for service.</li> <li>▪ Ask for service.</li> <li>▪ Ask for service.</li> </ul>
The drive isn't working on one or both sides.	<ul style="list-style-type: none"> <li>▪ Foreign matter, such as stone has got caught</li> <li>▪ Engine failing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove foreign matter</li> <li>▪ Ask for service.</li> </ul>
Straight travel defective	<ul style="list-style-type: none"> <li>▪ Something trapped.</li> <li>▪ Different track tension.</li> <li>▪ Defective travel levers.</li> <li>▪ Defective pump.</li> <li>▪ Engine or braking valve failure.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove foreign matter.</li> <li>▪ Adjust tensions on both track sides.</li> <li>▪ Ask for service.</li> <li>▪ Ask for service.</li> <li>▪ Ask for service.</li> </ul>
Bucket lifting power failure	<ul style="list-style-type: none"> <li>▪ Low hydraulic oil.</li> <li>▪ Low adjustment valve pressure.</li> <li>▪ Damaged control valve.</li> <li>▪ Hydraulic cylinder failure.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Top up to correct level.</li> <li>▪ Ask for service.</li> <li>▪ Ask for service.</li> <li>▪ Ask for service.</li> </ul>

Note any occurrence unusual in normal machine operation during daily operations. For every fault detected, try to investigate the cause, and act promptly. If unusual occurrences are overlooked due to neglect, more serious problems may arise later.

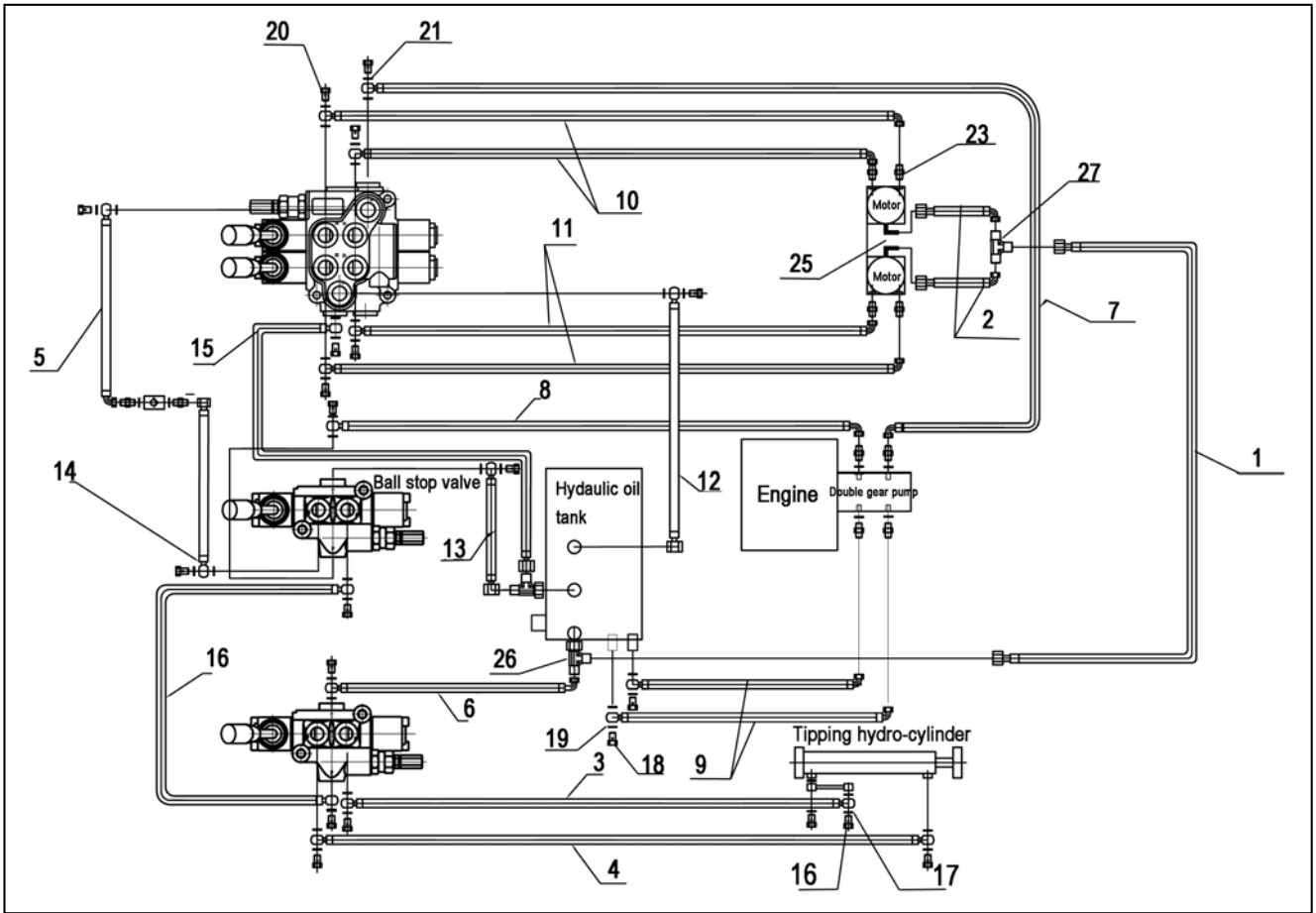
### Additional instructions about driving on sloping ground

- . Lower the engine speed
- . Do not change the travel speed when driving downhill.
- . When driving on sloping ground, make sure that the tracks are in line with the slope and not across it.
- . Never drive across a slope.
- . Avoid steering on slopes as this can result in skidding or tipping over.
- . When driving on slopes, keep the shovel as close to the ground as possible (if fitted).



# TECHNICAL DATA

## Hydraulic System



# Parts Schedule

