



SNOWBLOWERS

TERRA FORCE

TILLER MODELS NAME SBT 064

OPERATOR'S MANUAL

5200 East Grand Avenue, suite 600,
Dallas, Tx75223
TEL : 214-821-6400



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INTRODUCTION

TO THE PURCHASER

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read this manual before operation.**

This manual has been prepared to assist the owner and operation in the safe operation and suitable maintenance of the equipment. The information was applicable to products at the time of manufacture and does not include modifications made afterwards.

Read and understand this operator's manual before attempting to put equipment into service. Familiarize yourself with the operating instructions and all the safety recommendations contained in this manual and those labeled on the equipment and on the tractor. Follow the safety recommendations and make sure that those with whom you work follow them.

Illustrations

The illustrations may not necessarily reproduce the full detail and the exact shape of the or depict the actual models, but are intended for reference only.

Direction Reference

All references to right and left, forward or rearward, are from the operator's seat, facing the steering wheel.

To assist your dealer in handling your needs, please record hereafter the model number and the serial number of your implement and skid steer. It is also advisable to supply them to your insurance company. It will be helpful in the event that an implement or skid steer is lost or stolen.

TRACTOR

IMPLEMENT

MODEL :

SERIAL NUMBER :

DATA OF PURCHASE :

DEALER NAME :

SAFETY PRECAUTIONS



SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.



DANGER : Indicates an immediate hazardous situation which, if not avoided, will result in death or serious injury.



WARNING : Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.



CAUTION : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT : Indicates that equipment or property damage could result if instructions are not followed.

NOTE : Gives helpful information.

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation.** It is the owner's responsibility to be certain anyone operating this product reads this manual, and all other applicable manuals to become familiar with this equipment and all safety precautions. Failure to do so could result in serious personal injury or equipment damage. If you have any question consult your dealer.

BEFORE OPERATION

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are generally attracted to machines and work being done. Never assume children will remain where you last saw them.

1. Keep children out of the operating area and under the watchful eye of another responsible adult.
2. Be alert and turn machine off if children enter the work area.
3. Before and when backing, look behind for small children.
4. Never carry children while operating the machine. They may fall off and be seriously injured or interfere with the safe operation of the machine.
5. Never allow children to play on the machine or attachment even when they are turned off.
6. Never allow children to operate the machine even under adult supervision.
7. Use extra care when approaching blind corners, shrubs, trees, or other obstructions that might hide children from sight.

SAFETY PRECAUTIONS - CONTINUED

NOTICE

A safe operator is the best assurance against accidents. All operators, no matter how experienced they may be, should read this operator's manual and all other related manuals before attempting to operate the equipment. Please read the following section and pay particular attention to all safety recommendations contained in this manual and those labeled on the equipment and on the tractor.

THE SNOWBLOWER

Before Operation

1. Read and understand this operator's manual and tractor operator's manual. Know how to operate all controls and how to stop the unit and disengage the controls quickly.
2. Never wear loose, torn, or bulky clothing around the tractor and the snowblower. It may catch on moving parts or controls, causing injury.
3. Before and during the snow season, thoroughly inspect the area where the equipment is to be used and remove all objects that may be thrown or cause damage to the equipment.
4. Set transmission to neutral and disengage clutch, if equipped, before starting the engine.
5. Do not operate equipment in wintertime without wearing adequate winter garments and protective clothing.
6. Never attempt to make any adjustments while engine is running. Read this manual carefully to acquaint yourself with the equipment as well as the tractor operator's manual. Working with unfamiliar equipment can lead to accidents. Be thoroughly familiar with the controls and proper use of the equipment.
7. Keep all safety guards in place and verify hardware for proper tightening.
8. Check for moving parts excessive wear regularly. Replace worn parts with genuine parts.
9. Replace all missing, illegible, or damaged safety and warning decals.
See list of decals in operator's manual.
10. Keep safety decals clean of dirt and grime.
11. Do not modify or alter this equipment or any of its components, or any equipment function without first consulting your dealer.
12. Use of rear counterweights is recommended. Weights provide the necessary balance to improve stability, traction and steering. Use only those recommended by your dealer.

SAFETY PRECAUTIONS - CONTINUED

Snowblower operation

1. Before leaving the tractor unattended, take all possible precautions. Park the tractor/snowblower on level ground, place the brake, disengage the PTO, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key.
2. Before starting the tractor/ snowblower, remove any ice that has accumulated in the auger/fan.
3. Prior to operation, Clear work area of all objects that can be picked up and thrown. Mark all curbs, pipes, etc. that cannot be moved.
4. Be sure th PTO switch/lever is in OFF position before starting engine.
5. Exercise extreme caution when operating on or crossing a gravel drive, walks, or roads. Stay alert for hidden hazards or traffic.
6. Do not carry passengers.
7. Adjust collector-housing height to clear gravel or crushed rock surface.
8. Keep clear of rotating parts. Do not put hands or feet under, or into snowblower with engine running.
9. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the equipment to the ground, place all control levers in neutral, shut off the engine, remove the ignition key and allow the rotating parts to stop BEFORE unclogging the collector/fan housing or chute, and making any repairs, adjustments or inspections. Use only a 36" long piece of wood to unclog blower.
10. If the snowblower starts to vibrate abnormally, disengage the PTO, stop the engine immediately and check for cause. Excessive vibration is generally a sign of trouble.
11. Do not run the engine indoors except when starting engine and transporting attachment in or out of building. Carbon monoxide gas is colorless, odorless and deadly.
12. Do not attempt to operate on steep slopes. If operating on slopes is necessary, exercise extreme caution when changing and deadly.
13. Never operate snowblower without guards, and other safety protective devices in place.
14. Keep clear of chute discharge. This chute has the capability of throwing objects at far distances.
15. Never operate snowblower near glass enclosures, automobiles, window wells, embankments, etc., without proper adjustment of snow discharge angle.
16. Never operate machine at his transport speeds on a slippery surface.
17. Use extra caution when backing up.
18. Do not direct discharge at bystanders or animals. Ejected objects may cause injury.
19. Disengage power to auger/fan when transporting or when not in use.
20. Never operate the snowblower without good visibility and lighting.
21. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable noises.
22. Never allow anyone near the work area.

SAFETY PRECAUTIONS - CONTINUED

THE TRACTOR



General Information

1. Read the operator's manual carefully before using tractor. Lack of operating knowledge can lead to accidents.
2. Do not permit anyone but the operator to ride on the tractor. There is no safe place for passengers.

Operating the tractor

1. Never run the tractor engine in a closed building without adequate ventilation, as the exhaust fumes are very dangerous.
2. Adopt safe driving practice: Keep the brake pedals latched together at all times unless independent braking is required. Never use independent braking during transport.
3. Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure.
4. Reduce speed prior to turns to avoid the risk of overturning. Keep speed to a minimum.
5. Always keep the tractor in gear to provide engine braking when going downhill. Do not coast.
6. Never allow an open flame near the fuel tank or battery.
7. Make sure the PTO shield is installed when using the equipment and always replace the PTO shield if damaged.
8. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key BEFORE leaving the tractor
9. Never park the tractor on a steep slope.
10. Do not attempt to operate on steep slopes. Avoid sudden uphill turns on steep slopes.
11. Use of counterweights for better traction and stability is recommended.
12. Handle fuel with care, as it is highly flammable.
13. Use approved fuel container.
14. Never add fuel to running engine or a hot engine.
15. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
Replace fuel cap securely and wipe up spilled fuel.
16. Never allow anyone to operate the tiller until they have read the manual completely and are thoroughly familiar with basic tractor and snowblower operation.
17. Make sure the tractor is counterweighted as recommended by your dealer.
Weights provide the necessary balance to improve stability, traction and steering.
18. Always make sure all snowblower components are properly installed and securely fastened BEFORE operation.
19. Never attempt to start the engine and/or engage snowblower drive while standing beside the tractor.
20. Always start the engine from the operator's seat with all the transmission lever(s) and snowblower drive lever in neutral.
21. DO NOT bypass the safety system by shorting across the terminals of the starter motor to start the engine. This may cause the tractor to move suddenly.
22. If the safety start system does not work, consult your dealer immediately.

SAFETY PRECAUTIONS - CONTINUED

During Operation



1. Do not allow passengers on the tractor/snowblower at any time. There is no safe place for passengers on the equipment. The operator MUST sit in the tractor seat.
2. Eye and hearing protection is recommended when operating the snowblower.
3. Operate only during daylight hours, or when the area is well lit with bright artificial light.
4. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the Aux hydraulics, lower the equipment to the ground, place all control levers in neutral, shut off the engine and remove the ignition key BEFORE leaving the operator's seat.
5. Inspect the snowblower after striking any foreign object to assure that all tiller parts are safe and secure and not damaged.
6. Be especially observant of the operating area and terrain. Watch for holes, rocks, or other hidden hazards. ALWAYS inspect the area prior to blowing.
7. DO NOT blow near the edge of drop-offs or banks.
8. DO NOT blow on steep slopes as overturn may result.
9. Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.
10. Drive tractor backwards up steeper slopes with blower off. Then blow as you travel down the slope.
11. Slow down before you change directions on any slope.
12. Use wheel weights on your tractor to increase stability on slopes.
13. Never stand alongside of the unit while the engine is running.

Roll-Over Protective Structure (ROPS) During Operation

1. Do NOT weld, drill or alter the ROPS. Damaged ROPS must not be straightened or used. If damage does occur, consult your dealer.
2. If ROPS is lowered or removed from the tractor for any reason, it must be erected and/or refitted immediately. Original bolts or equivalent replacements must be used and tightened to the correct torque.
3. Your dealer does not recommend usage of tractor with ROPS removed.
4. If a fold-down ROPS is used, the ROPS can be folded down for storage, but it must be pinned in the upright position prior to operation.
5. Seat belt usage: With ROPS installed on the tractor it is imperative that the seat belt be times. Do NOT use a seat belt if operating without ROPS.
6. Keep all shields and covers in place. All tractor and equipment shields and covers must be correctly installed at all times. When necessary to remove these, they must be reinstalled immediately.
7. Keep clear of all rotating driveline component. Be especially observant of implement areas of discharge, intake or other mechanical motion.
8. Securely lock equipment drive shaft. Check that all tractor and equipment drivelines are in good working order. Equipment drive shaft coupler must securely lock to and be retained by annular groove on tractor drive shaft.
9. Additional safety equipment: A fire extinguisher and first aid kit should be kept readily accessible. These are available through your dealer.

Always use genuine parts when replacement parts are required

1. Keep the tractor and snowblower properly maintained.
2. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the equipment to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any snowblower adjustments.
3. To avoid injury, do not adjust, unclog or service the snowblower with the tractor engine running. Make sure rotating components have completely stopped before leaving the operator's seat.
4. Keep the tractor/tiller clean. Snow and ice build-up can lead to malfunction or personal injury from thawing and refreezing in garage.
5. Always wear eye protection when cleaning or servicing the snowblower.
6. Service the unit in safety: DO NOT service the tractor while the engine is running or hot. or if the unit is in motion. Always lower snowblower to the ground. If necessary to service unit with blower raised, securely support with stands or suitable blocking before working underneath. Do not rely on hydraulically supported devices for your safety. They can settle suddenly, leak down, or be accidentally lowered.
7. Do not attempt to service machine, clear obstructions or unplug blockages with the engine running. Always shut off engine and allow all motion to cease.
8. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
9. Make sure all shields and guards are securely in place following all service, cleaning, or repair work.
10. Do not modify or alter this equipment or any of its components or operating functions. If you have any questions concerning modifications, consult with your dealer.
11. Do not operate a unit which is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the unit.
12. Check all controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted.
13. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
14. snowblower fan and auger must be checked for tightness. Remove any twine, wire, etc. that may have wrapped on the fan or the auger.
15. To avoid serious personal injury: Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injuries. Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.
16. Stop engine and relieve pressure before connecting or disconnecting lines. Tighten all connections before starting engine or pressurizing lines.

SAFETY PRECAUTIONS - CONTINUED

TRANSPORTING

1. Transporting on public roadway : When driving the tractor and equipment on the road or highway under 25 mph, at night or during the day, use flashing amber warning lights and the Slow Moving Vehicle ("SMV") identification emblem.
2. Check local traffic codes that may apply to unit usage on public roads and highways in your area. The use of flashing amber lights is acceptable in most localities. However, some localities may prohibit their use
3. Always disengage equipment drive prior to transporting unit.

STORAGE

Before storing the snowblower, certain precautions should be taken to protect it from deterioration.

1. Clean the snowblower thoroughly.
2. Make all the necessary repairs.
3. Replace all safety signs that are damaged, lost, or otherwise become illegible.
If a part to be replaced has a sign on it, obtain a new safety sign from your dealer and install it in the same place as on the removed part.
4. Repaint all parts from which paint has worn or peeled.
5. Lubricate the tiller as instructed under the "*Lubrication*" section.
6. When the snowblower is dry, oil all moving parts. Apply oil liberally to all surfaces to protect against rust.
7. Store in a dry place.

DECALS

WARNING

Do not approach on its working or circling
Pay attention to physical injury

WARNING

SHIELDS AND DEFLECTORS MAINTAINED IN BAD CONDITION MAY CAUSE INJURY OR DEATH FROM ENANGLEMENT WITH ROTATING PARTS. BEING HIT BY OBJECTS THROWN WITH GREAT FORCE BY BLADES OR BY BLADE CONTACT

Always replace Guards which have been removed for maintenance. Never operate with guard missing or tampered.

*Chain Guards, Gearbox, Discharge Shields, essential PTO/Gearbox Deflectors, and other safety accessories are subject to wear and tear or damage parts must be replaced or repaired or worn or damaged to avoid injury.

*Safety shielding must be installed and in good condition to avoid the possibility of thrown objects when the machine is operated in any area where thrown objects could cause injury.

DANGER

TO AVOID SERIOUS INJURY, KEEP HANDS OUT OF THIS DISCHARGE CHUTE WHILE ENGINE IS RUNNING.

DANGER

FAILURE TO FOLLOW SAFETY WARNINGS AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.

1. READ OPERATORS MANUAL CAREFULLY AND STAY ATTENTION TO SAFETY DECALS FOR TRACTOR AND TILLAGE TOOLS ONLY TO AVOID SERIOUS INJURY AND ACCIDENTS BEFORE OPERATING.
2. OPERATE ONLY WITH SEAT AND FASTENED BELT SEATBELT AND PROPER CHAIRING BELTS FROM DISCHARGE CHUTE AND OTHER ON TILLAGE TOOLS. NEVER ALLOW ANYONE TO CLIMB ON OR USE TILLAGE OR TRACTOR.
3. TO AVOID INJURY FROM FALLING OBJECTS WEAR HAT, SAFETY GLASSES AND SHOES.
4. SLIDE UP OR SUPPORT MACHINE SEVERELY BEFORE RATTANDED OR FEET UNDER, OR WORKING UNDERMATH OTHER PARTS TO AVOID CHAINING INJURY OR EVEN DEATH FROM EXCESSIVE IMPACTS. STOPPING BEHIND CURB AFTER A CLIMB BEFORE OPERATING.
5. BEFORE TRANSPORTING, PUT OFF LEVER IN LEFT/REAR POSITION AND FOLDING TRAFFIC CORES SLOW DOWN AT RIGHT IN TURNS & CHECK POINTS.
6. MAKE SURE THAT ANY SIGN, WARNING LIGHTS AND REFLECTORS ARE CLEARLY VISIBLE.
7. MAJOR DAMAGE WITH TILLAGE TOOLS OF AVOIDING TO REDUCE POSSIBILITY OF INJURY FROM OBJECTS THROUGH UNDER TILLAGE STRUCTURE.
8. BEFORE TRANSPORTING SECURE TILLAGE IN TRANSPORT POSITION OR LOWER TO GROUND STOP PTO.
9. NEVER OPERATE WITH TILLAGE TOOLS IN TRANSPORT POSITION AND REMOVE KEY NEVER MOUNT OR OPERATING ANYONE TO PREVENT AVOIDABLE OPERATING INJURY OR DEATH.
10. TRANSPORT SAFELY.
11. USE SEAT BELT, SAFETY GLASSES AND SHOES.
12. DO NOT OPERATE WITH TILLAGE RAISED.
13. MONITORING & OBSERVANT.



SBT 064

TerraForce

TerraForce

DANGER

1. MAKE SURE DRIVELINE ARE OF THE CORRECT LENGTH AND PROPERLY CONNECTED. DRIVELINE SEPARATION AND/OR PTO SHAFT FAILURE CAN CAUSE INJURY OR DEATH (See Operator's Manual for procedure)

SEE MANUAL FOR VARIATION OF CORRECT DRIVELINE LENGTH

2. MAKE SURE THAT DRIVELINE SHIELDS ARE INSTALLED CORRECTLY AND TURN FREELY TO AVOID INJURY OR DEATH FROM ENT ANGLEMENT.

3. MAKE SURE THAT DRIVELINE IS INSTALLED CORRECTLY ON TRACTOR PTO SHAFT MOVE YOKE BACK AND FORTH UNTIL LOCKING COLLAR CLICKS FORWARD AND LOCKS YOKE IN PLACE.

4. 540 PTO RPM UNLESS SPECIFICALLY MARKED OTHERWISE.

Approved & Distributed by:
ANSUNG-USA, LLC
 5300 East Grand Avenue Suite 202 Dallas, TX 75229
 Tel: 714-937-6622 / 409-877-5246
 Home of Machine : Groundhouse for Tractor
 Import of Sale : SBT (USA)
 Manufacture : Young Jin Machinery Co., Ltd.
 Model No : Korea
 Serial : SBT 740 0 0 1

SNOWBLOWER ASSEMBLY

The snowblower is assembled at the factory, however, parts contained in the hardware bag must be assembled. Use the present manual and lay out all parts for assembly. Separate bolts and nuts into various sizes. After assembly, torque all the bolts according to the Torque Specification Table enclosed at the end of the manual.

Chute Installation

Install chute according to the instructions supplied with the chosen rotation-manual.

Installation of Snowblower with Three Point Hitch(Below Fig.)

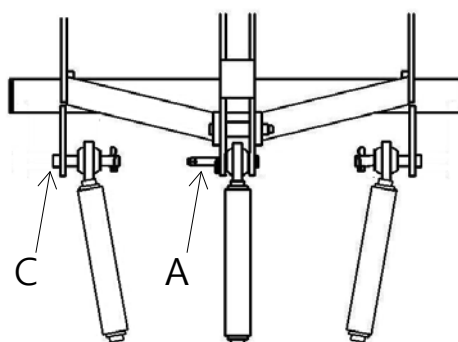
Carefully read this instruction manual and the manual of tractor and PTO shaft manufacturers. Snowblower is built to be attached to any tractor equipped with 540 rpm rear PTO(Power Take Off) and three point hitch of proper Category. According to the below figure.

(SBT 064 Model : Cat. I type)

It is possible to select the position of 3-point hitch attachment and the hitch category by moving the upper pin A (Part name : Top Link Pin, Part number : SBT064-203050) and the lower pin C (Part name:Lower Link Pin, Part number: S64-203040).



Before connecting snowblower driveline to tractor drive shaft, make sure driveline is not too long in raised, lowered and middle position. If the driveline is too long it must be shortened, to avoid damaged to tractor. See pages 13 to 15 for instructions.



Cat. 1-position

IMPORTANT:

A proper initial installation will give you years of satisfactory service on your equipment. Please read carefully following instructions that have been specially included to help you and ensure you are satisfied with your purchase.

WARNING:

Unfortunately, snowblowers will be faced with forgotten or hidden objects under the snow, such as : chain, tires, stones, pieces of wood, etc. In spite of all our efforts, machines are not built to resist all those conditions.

TECHNICAL DATA

How to Determine Driveline Angles

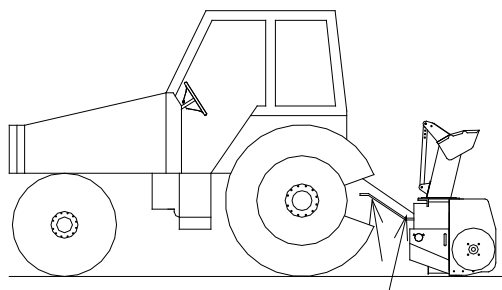
IMPORTANT: To obtain the proper adjust the three point hitch at the furthest point from the tractor recommended by the manufacturer

Model	SBT 064	
Recommended HP at PTO	18~30 Hp	
Weight	540 lbs	245 kg
Working Width	64 inch	162.8 cm
Main Body Height	26 inch	66 cm
Fan Diameter	24 inch	61 cm
Fan Width	7 inch	18 cm
No. of Blades	4	
Chute Rotation	Sprocket Type	
Auger Diameter	15 inch	38 cm
Drive Chain	# 60	
3 Point Hitch Cat	Cat. 1 Shear Bolt	

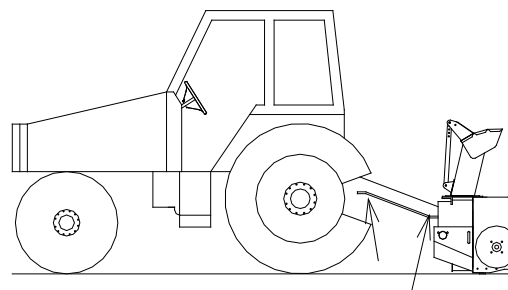
Danger: Tractors Too Big

It is dangerous to use a tractor that is too big and powerful. The tractor will always be able to overload the blower, even if the machine is already at maximum capacity. Furthermore, tractors being every high, the driveline angles will be excessive which means the universal joints will be very vulnerable and the life of the driveline will be dramatically reduced.

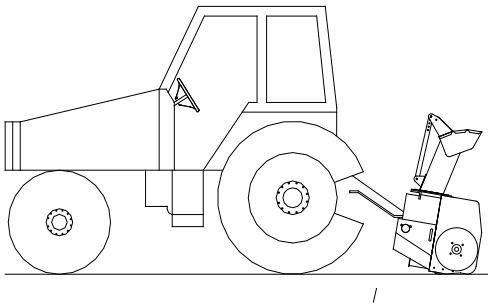
The universal joint angle is directly related with the life of driveline. In order to reduce the angle, it is necessary to increase the distance between the snowblower and the tractor.



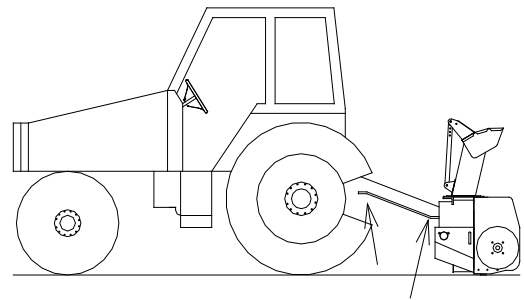
Angles of Driveline Joints Too Large
Avoid



Reasonable Angles of Driveline Joints
Acceptable



Unequal Angles at Driveline Joints
Avoided



Equal Angles at Driveline Joints
Recommended

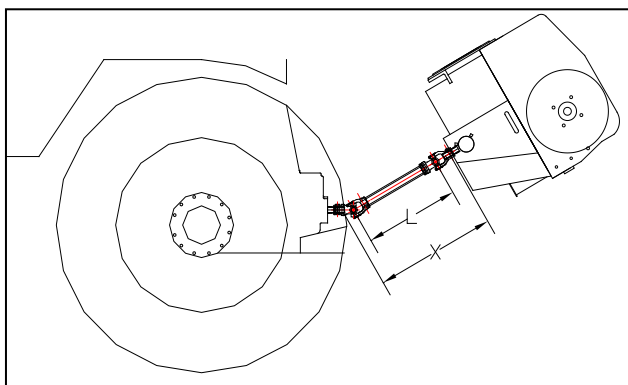
Angles at Each End of Driveline

A popular habit is to change the snowblower angle in order to obtain a better scraping effect. This practice can become harmful to the driveline since the angle at each end is unequal. This results in a fan speed variation as well as a drastic increases of load on cross and bearings. to be avoided: It is recommended to always keep tractor driveline and snowblower input shaft parallel.

Determining Driveline Length

IMPORTANT: Before using the equipment, make sure the driveline is not too long. At working position, the two half drivelines must intersect each other sufficiently to insure maximum efficiency but there must not be any interference.

1. To determine the "L" length for your tractor model first find the "X" factor by measuring the horizontal distance between the end of the snowblower's driven shaft when the snowblower is in transport position as shown following figure.
2. Choose in the table below the "Y" factor according to the tractor category and deduct that number from "x" to determine "L" which is the center-to-center length between the universal joints.



$L = X - Y$	
3 POINTS HITCH CAT.	Y
Cat. 1	4 1/2"

NOTE :

Before cutting, make sure the two shafts intersect by at least 7 3/4" when in working position that is when the snowblower rests on the ground.

3. Hold the two half-shaft side by side and locate the "L" length between the two center-to-center half-shaft universal joints. Make off the zone to be cut on both halves opposite each half-shaft guard as shown on belowing figure

4. Cut off inner and outer guard tubes as well as the inner and outer telescopic sections.

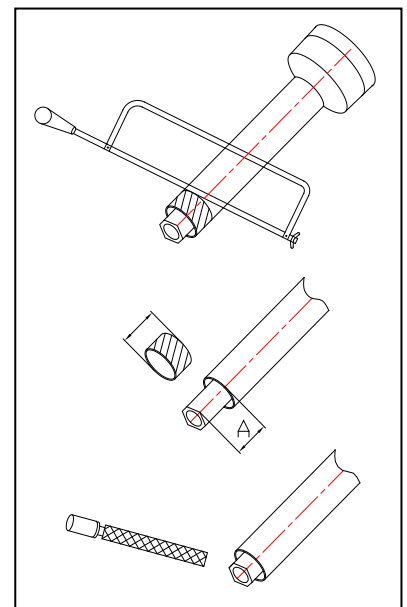
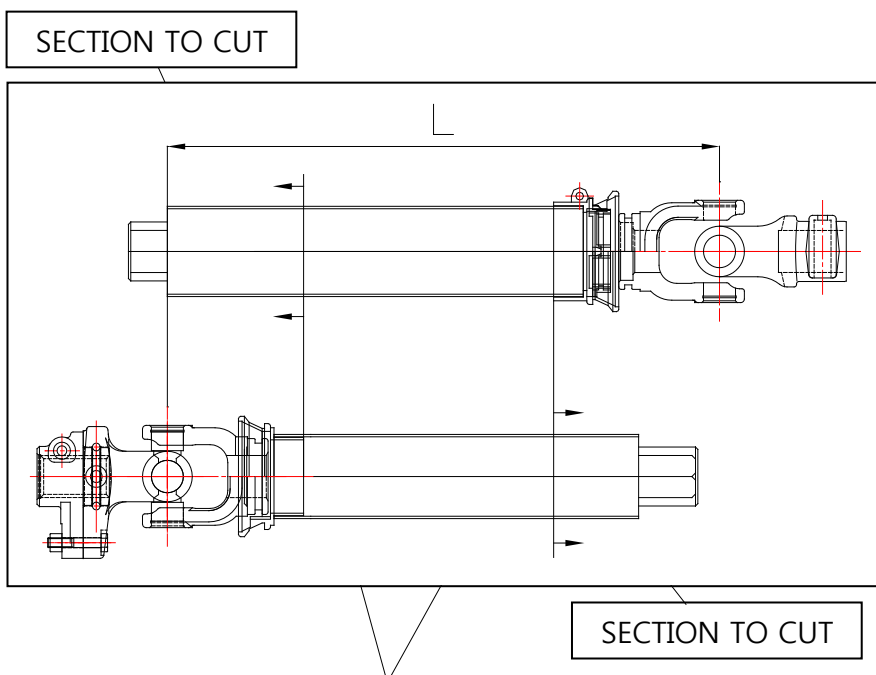
5. Cut the guard a second time leaving the same distance between the end of the guard and the end of the shaft as existed before. To obtain the proper distance "A" shown on below Fig., cut the guard according to the table :

DISTANCE A	
Male PTO	Female PTO
1 3/4"	1 1/4"

6. File down tubes and remove chips.

7. Apply grease to inside of outer telescopic section.

IMPORTAT: Always work with fully guarded shafts only!



MARK OFF THE ZONE TO BE CUT ON BOTH HALVES OPPOSITE EACH HALF-SHAFT GUARD.

GENERAL PREPARATION

1. Read the operator's manual carefully before using the tractor and snowblower. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Make sure the snowblower is clear of snow before engaging the driveline.
3. Make sure the auger and fan operate freely.
4. Check the oil level in the Gearbox and if necessary, and 80W90 SAE gear oil, AGMA 5EP oil or equivalent.
5. Check the two shear bolts, one on the driving shaft, and the one on the PTO, for proper tightness.
6. Adjust so that the snowblower skid shoes run level.
7. Wear adequate winter outer garments while operating equipment.

OPERATING CONTROLS

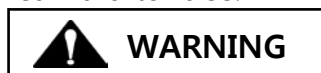
Work and Travel Speed

Working ground speed will depend on the depth and density of the snow to be cleared. Normally, ground speed will range from 4 to 7 MPH for light, dry snowfalls 3 to 6 inches, and 1 to 3 MPH for heavy, wet or drifted snow. To transport, disengage the drive shaft and raise the snowblower to full transport height.

Raising and Lowering the Snowblower



Move the three point lever on right hand side of seat down or forward to lower, and up or rearward to raise.



To avoid personal injury, be sure the tractor engine is off, the drive shaft disengaged, and all movement has stopped before making adjustments.

ADJUSTMENTS

Chain Tension Adjustment(Below Fig.)

The premature wear of the chain may be caused by tension being too tight. It is therefore important not to tighten chain to its maximum.

- To adjust the tension on the drive chain, loosen the bolt (item 1) securing the idler sprocket to the snowblower housing.
- To tighten the chain, lower the bolt. Leave approximately 1/8" deflection in one span of the chain. Retighten securely the bolt holding the idler sprocket.

Skid shoe Adjustment(Below Fig.)

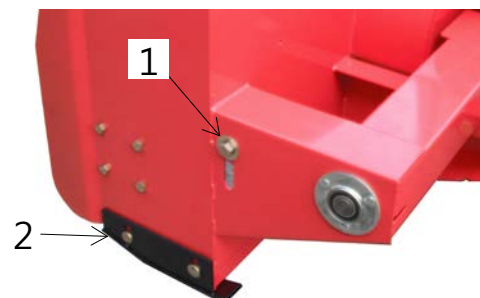
Adjust the skid shoes so that the snowblower runs level and according to the surface conditions so that stones are not thrown with the snow.

Adjust both skid shoes to the same height to keep the cutting edge level and adjust upwards for smooth surfaces.

Loosen skid shoe bolts (item 2) and adjust according to instructions the side, and securely tighten bolts:

Clearance between cutting edge and surface:

- Paved surface: Insert bolts in lower hole.
- Uneven or gravel surface: Insert bolts according to distance needed : 10mm quadrangle bolt



SNOW Removal Methods

Manual Deflector Adjustment

Set the angle of deflection according to the distance the snow must be thrown. To set the deflector angle, remove the adjusting pipe hairpin and adjust the adjusting rod to the desired deflector angle. Secure with the adjusting pipe hairpin.

When removing snow, do not use the snowblower as a dozer blade to push snow. Let the snowblower work its way through deep drifts. If the speed of your tractor is too fast, the snowblower may become overloaded and clog. For best results, raise the snowblower and remove a top layer of snow. A second pass with the snowblower will remove the remaining snow.

IMPORTANT: Use full RPM power when removing wet, sticky snow. Low RPM power will tend to clog the chute.

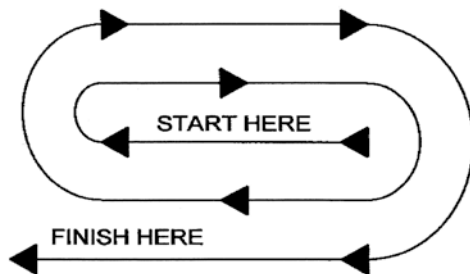


Do not use hands or feet to unclog chute. Do not attempt to clear clogged chute of snow while tractor engine is running. If the chute clogs, disengage the drive shaft, shut off the tractor engine, remove the ignition key, wait for all movement to stop, and then clear the snow from the chute.

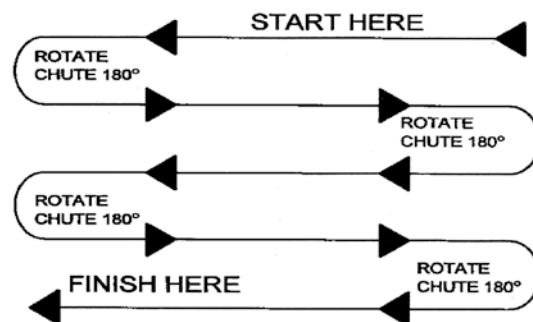
A definite pattern of operation is required to thoroughly clean the snow area. These area will avoid throwing snow in unwanted places as well as eliminating a second removal of snow.

PATTERN 1

DISCHARGE SNOW BOTH SIDES



PATTERN 2



DISCHARGE SNOW BOTH SIDES

Where it is possible to throw the snow to the left and right (above), as on a long driveway, it is advantageous to start in the middle. Plow from one end to the other, throwing snow to both sides without changing the direction of the discharge guide.

DISCHARGE SNOW THIS SIDE ONLY

If the snow can only be thrown to one side of the driveway or sidewalk (above), start on the opposite side. At the end of the first pass, rotate the discharge guide 180 degrees for the return pass. At the end of each succeeding pass, rotate the discharge guide 180 degrees to maintain direction of throw in the same area.

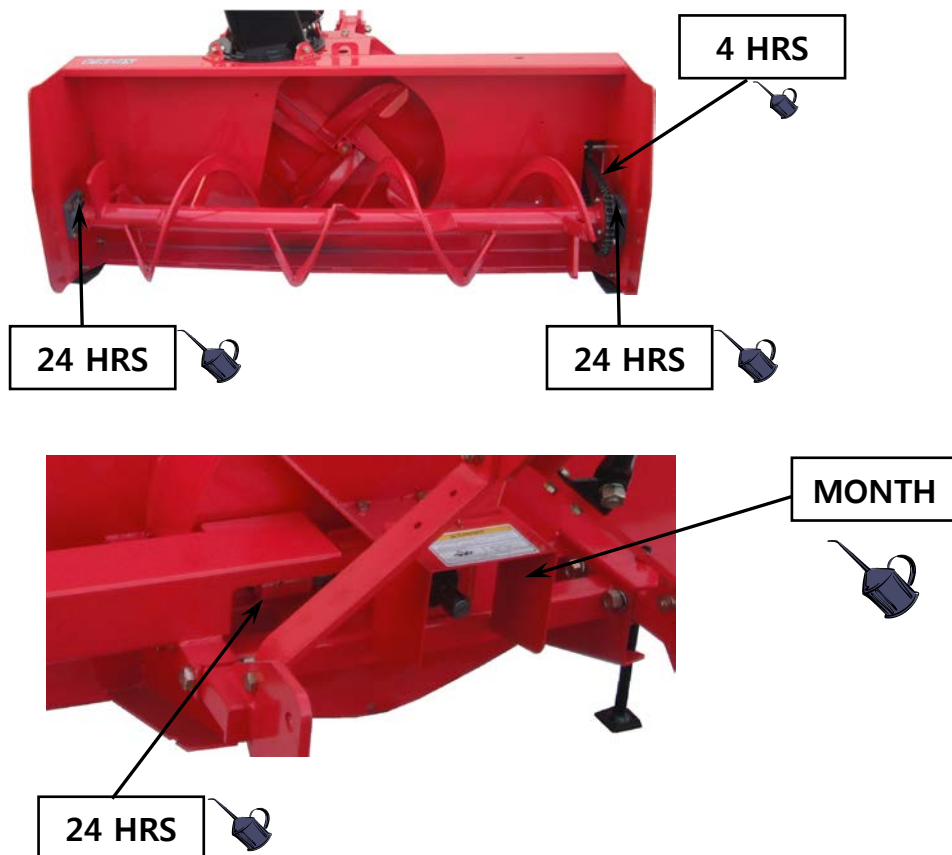
MAINTENANCE



LUBRICATION

Use oil or a grease gun and lubricate as follows:

DESCRIPTION	INTERVAL	LUBRICATION REQUIRED
Chain	4 hours and after each operation	Lubricate with chain lube
Drive Shaft	24 hours of operation	Grease fitting on shear plate
Gearbox	Every month	Check oil level. If needed, add SAE 80W90 gear oil or equivalent (0.5L)
	Once a year	Replace oil
Bearing	24 hours of operation	Grease each auger bearing



INTRODUCTION

All parts are illustrated in "exploded views" which show the individual parts in their normal relationship to each other. Reference numbers are used in the illustrations. These numbers correspond to those in the "Reference Number"(REF) column, and are followed by the description and quantity required.

O/L - "Obtain Locally" in the part number column indicates common hardware that is available at your local hardware supply.

Right hand and left hand are determined by those seen by the conductor standing behind the equipment.

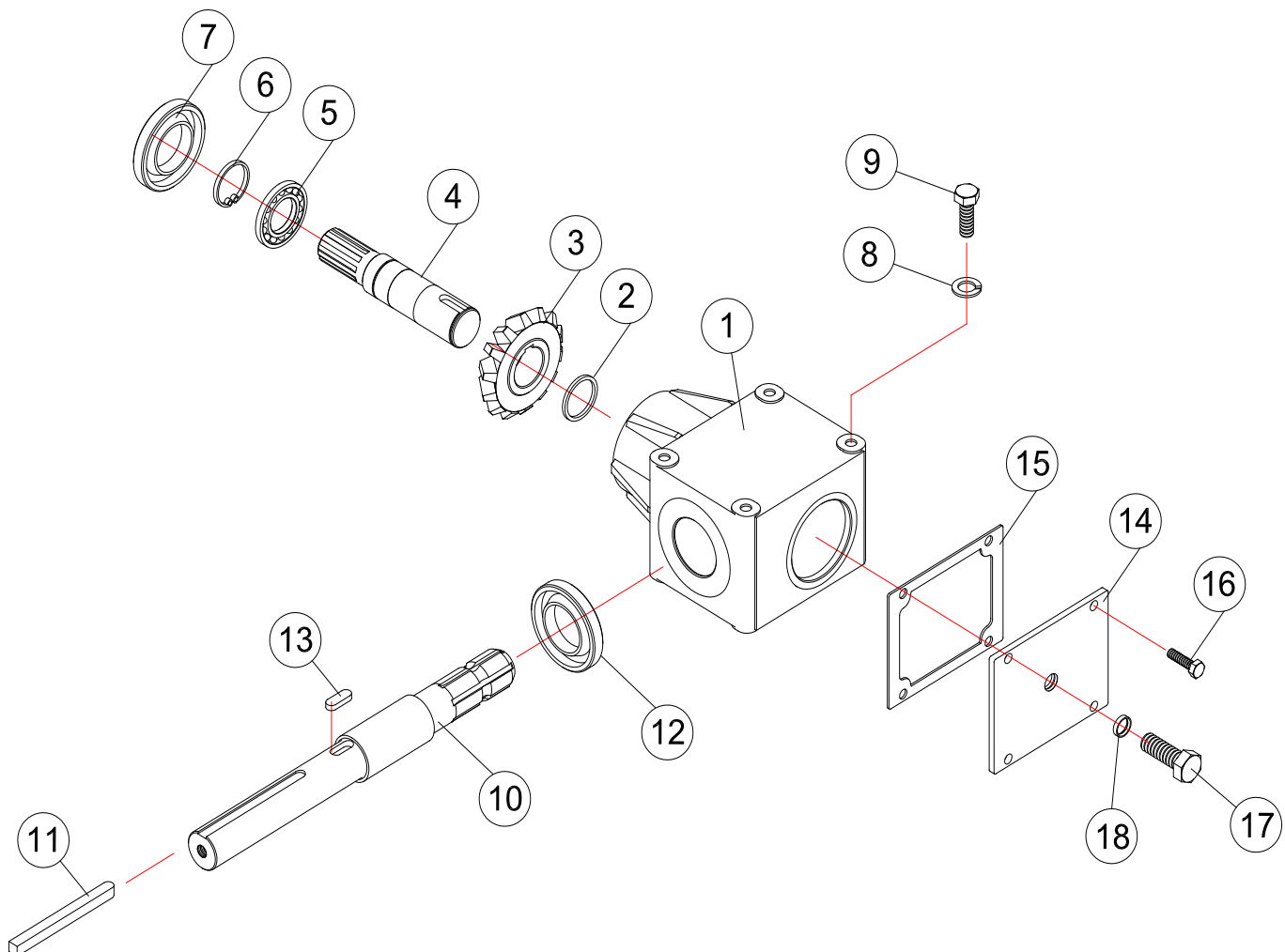
Orders must give the complete description, correct part number, the total amount required, the serial number, the method of shipment and the shipping address.

The manufacturer reserves the rights to change, modify, or eliminate from time to time, for technical or other reasons, certain or all data, specifications, or the product or products themselves, without any liability or obligation.

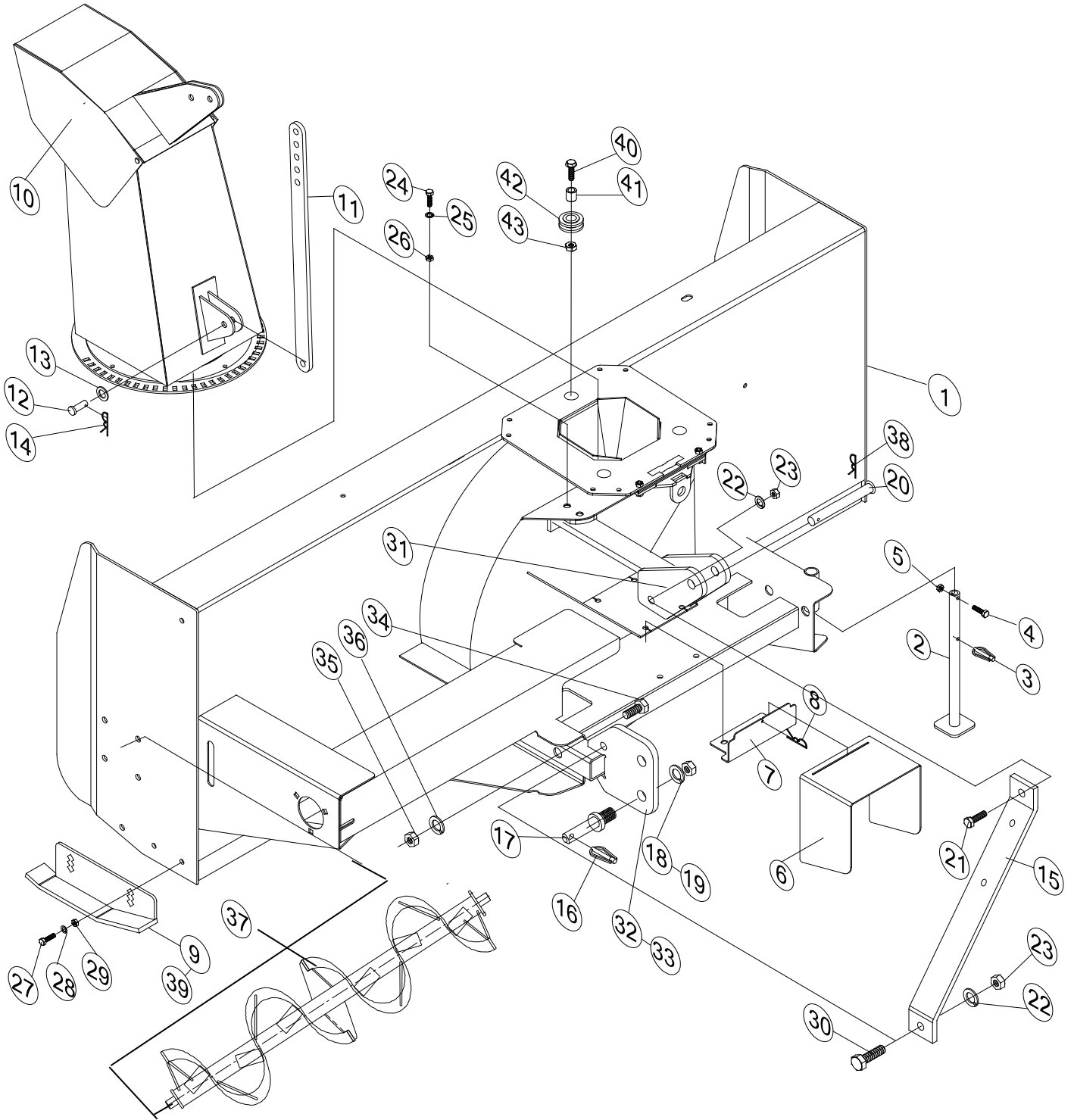
The parts listed here are available through your local dealer.

Mission Group

Ref No.	Part No.	Part Name	Q'ty
1	S64-101010	Case, Mission	1
2	0800-100035	Ring, Snap	2
3	SBT74-101020	15T Gear, Bevel	2
4	S64-101030	Shaft, Driver	1
5	0121-006207	Bearing, Ball	4
6	0800-200072	Ring, Snap	2
7	0240-357210	Seal, Oil	2
8	0931-010000	Washer, Spring	8
9	0322-010025	Bolt	8
10	S64-101040	Shaft, input	1
11	S64-101050	Key	1
12	0240-355207	Seal, Oil	1
13	S64-101060	Key, Round	2
14	S64-101070	Cover, Shaft, input	1
15	S64-101080	Packing, Cover, Shaft, input	1
16	0321-008025	Bolt, w/washer	4
17	YJR145-100500	Bolt	1
18	0920-020000	Washer, Packing	1

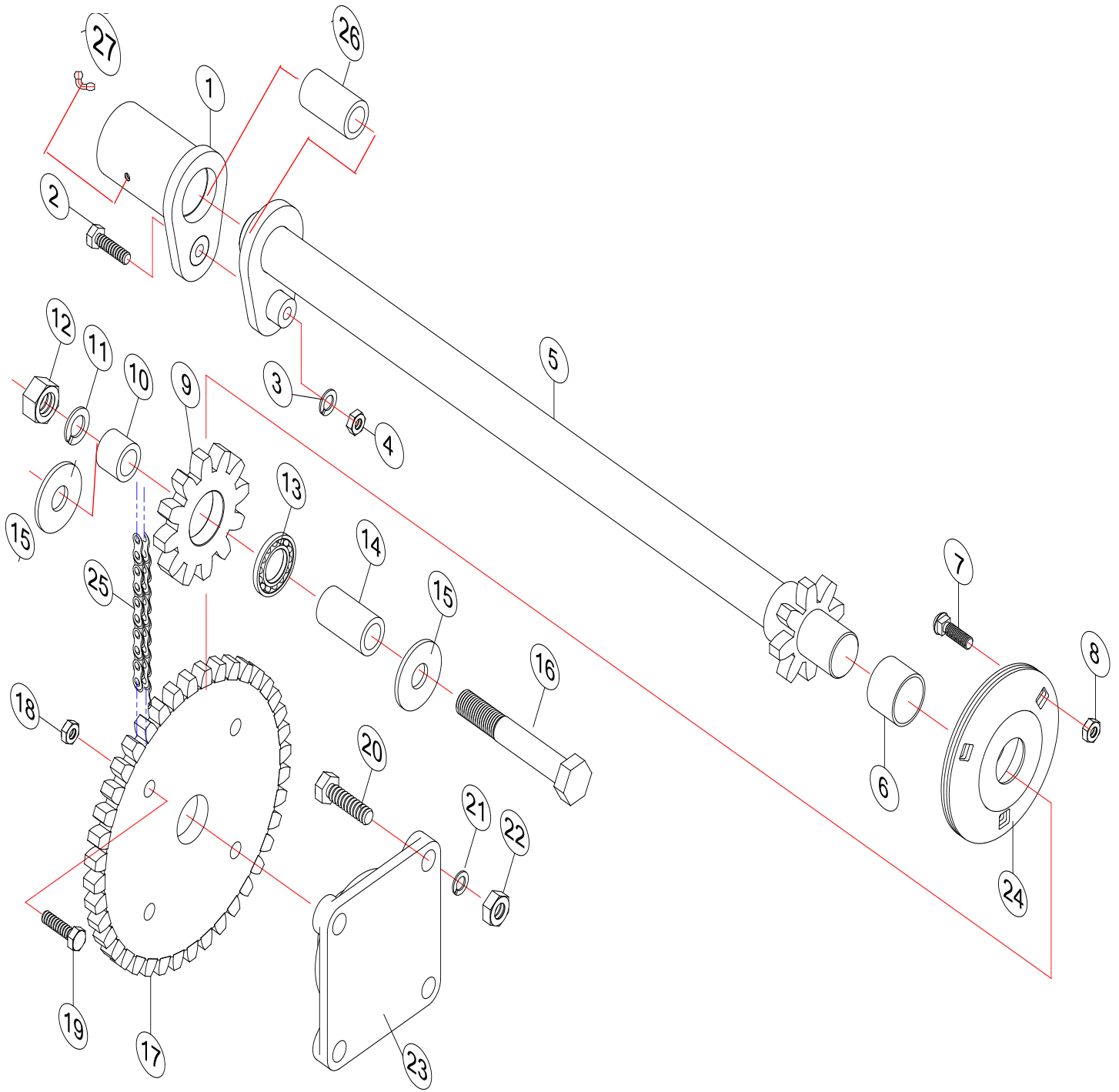


Frame & Chute Assembly Group



Ref No.	Part No.	Part Name	Q'ty
1	S64-200000	Frame Assembly	1
2	S64-201260	Stand	1
3	1461-306000	Pin, Ring	1
4	0310-060030	Bolt	1
5	0410-06000	Nut, Nylon	1
6	S64-801010	Cover, Safety	1
7	S64-801020	Bracket, cover	1
8	0820-200065	Pin, R-Shape	1
9	S64-901000	Skid, Lh	1
10	S64-500000	Chute Assembly	1
11	S64-501070	Adjust Rod	1
12	S64-501150	Pin	2
13	0930-012000	Washer	2
14	S64-501170	Pin, R-Shape	2
15	S64-206000	Stay	2
16	1461-306000	Pin, Ring	2
17	S64-203040	Pin, Lower Link	2
18	0931-024000	Washer, Spring	2
19	0410-024000	Nut	2
20	YJR145-301040	Pin, Top Link	1
21	0310-016120	Bolt	1
22	0931-016000	Washer, Spring	3
23	0410-016000	Nut	3
24	0310-012045	Bolt	2
25	0931-012000	Washer, Spring	2
26	0410-012000	Nut	2
27	0328-212026	Bolt, Carriage	4
28	0931-012000	Washer, Spring	4
29	0422-012000	Nut	4
30	0310-016045	Bolt	2
31	S64-202000	Master	1
32	S64-204000	Link Arm, Lh	1
33	S64-203000	Link Arm, Rh	1
34	0310-020085	Bolt	4
35	0410-020000	Nut	4
36	0931-020000	Washer, Spring	4
37	S64-400000	Auger Ass'y	1
38	0832-200050	Pin, R-Shape	1
39	S64-902004	Skid, Rh	1
40	0320-012040	Bolt, flange	3
41	S64-503031	Collar, spin	3
42	S64-503021	Roller, spin	3
43	0420-012000	Nut, flange	3

Driving Shaft Group

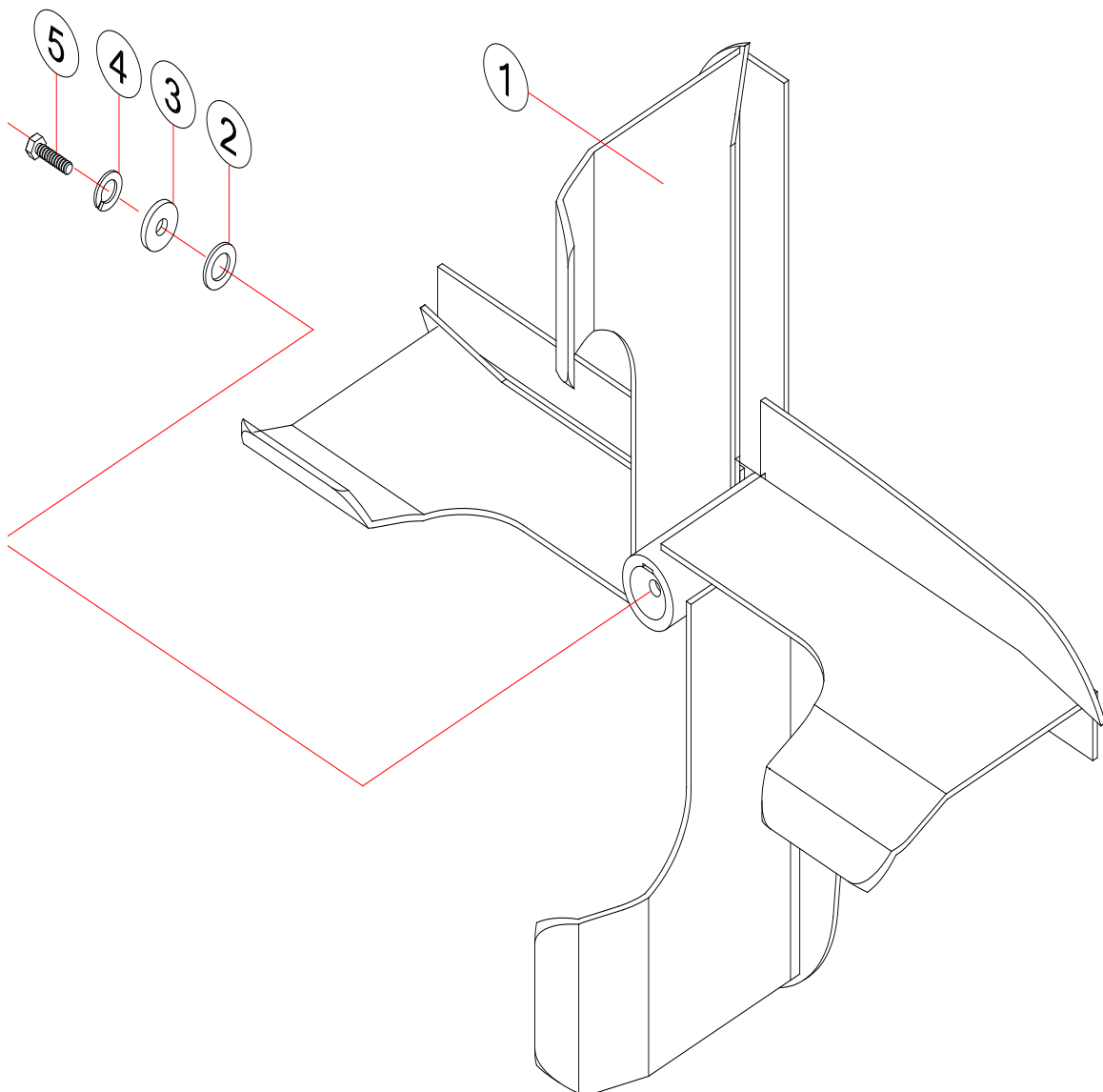


Ref No.	Part No.	Part Name	Q'ty
1	S64-301000	Spline	1
2	0321-008045	Bolt	1
3	0931-008000	Washer, Spring	1
4	0421-008000	Nut	1
5	S64-302000	Shaft, Driver	1
6	S64-302030	Collar 3	1
7	0328-210015	Bolt, Carriage	3
8	0422-010000	Nut, Nylon	3
9	S64-303030	Sprocket 2	1
10	S64-303040	Collar 2	1
11	0931-016000	Washer, Spring	1
12	0410-016000	Nut	1
13	0410-006003	Bearing, Ball	1
14	S64-303020	Collar 1	1
15	S64-303010	Collar	2
16	S64-016115	Shaft, Tension	1
17	S64-303050	Sprocket 1	1
18	0422-010000	Nut, Nylon	4
19	0321-010035	Bolt	4
20	0310-012035	Bolt	8
21	0931-012000	Washer, Spring	8
22	0410-012000	Nut	8
23	UCF207	Bearing unit	2
24	UBPF206	Bearing unit	1
25	S64-303060	Chain	1
26	S64-002020	Bushing	1
27	0240-060000	Plug, Grease	1

Ref No.	Part No.	Part Name	Q'ty
1	S64-601010	Bushing 1	1
2	S64-601020	Rod, Rotation Sprocket	1
3	S64-601050	Bushing 2	1
4	0831-105020	Pin, Spring	1
5	S64-601040	Plate, Hoder, Rotation Sprocket	1
6	S64-601080	Bar A, adjust	1
7	0831-105030	Pin, Spring	2
8	S64-601090	Block, connection	1
9	S64-601100	Bar B, adjust	1
10	S64-601110	Lever	1
11	0832-200035	Pin, R-Shape	1
12	P002-122000	Handle	1
13	S64-601120	Bracket 3	1
14	0310-020040	Bolt	1
15	0931-020000	Washer, Spring	1
16	0410-020000	Nut	1
17	0322-010030	Bolt	2
18	0921-010000	Washer, Spring	2
19	0422-010000	Nut	3
20	S64-601130	Pipe, Lever Rod	1
21	0422-010025	Bolt	1
22	S64-601140	Lever Rod	1
23	S64-601160	Bushing, Adjust	1
24	0800-300019	Ring, E-Shape, Snap	1
25	0321-080030	Bolt	2
26	0921-080000	Washer, Spring	2
27	0421-080000	Nut	2

Fan Assembly Group

Ref No.	Part No.	Part Name	Q'ty
1	S64-700000	Fan Assembly	1
2	S64-701050	Washer	1
3	0930-010000	Washer	1
4	0931-010000	Washer, Spring	1
5	0321-010040	Bolt	1



TORQUE SPECIFICATION TABLE

GENERAL SPECIFICATION TABLE

Use the following torques when special torques are not give. Note: Theses values apply to fasteners as received from supplier, when dry. These values do not apply if lubricants are used.

BOLT SIZES (SAE)	TORQUE	
INCHES	POUNDS-FOOT	NEWTONS-METER
1/4	5	7
1/3	10	14
3/8	20	27
4/9	25	41
1/2	88	119
4/7	121	164
5/8	165	224
3/4	297	403
7/8	440	597
1	638	865
1 1/8	840	1139
1 1/4	1180	1600
1 3/8	1570	2129
1 1/2	2070	2807

BOLT SIZES (METRIC)	TORQUE	
MILLIMETERS	POUNDS-FOOT	NEWTONS-METER
M6	10	13
M8	22	30
M10	40	54
M12	59	80
M14	93	126
M6	130	176
M18	168	228
M20	205	278

WARRANTY

TERRA FORCE INC ATTACHMENTS



Terra Force INC warrants to the original buyer that the equipment is free from defects in material and workmanship. Terra Force INC's obligation, under this warranty, will be limited to the repair or replacement of any non-wear part or component, which Terra Force INC finds to be defective within one year from the date of original purchase to be defective. (unless otherwise-specified) The applicable warranty period for commercial or rental use shall be ninety (90) days from the date of purchase

In no event Terra Force INC be liable for consequential, special, direct or indirect damages incurred by the buyer/user.

All components not manufactured by Terra Force INC(such as motors, actuators, hydraulic components, tires,...etc.)are covered by the original manufacture's warranty in conjunction with Terra Force INC.

Terra Force INC's obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser any part that, in Terra Force INC's judgment, of such defect, provided the distributor returns the part shall show evidence prepaid within thirty (0) days from date of failure.

This warranty shall not be interpreted to render Terra Force INC liable for injuries or damages of any kind or nature to person or property. This warranty does not extend to losses because of delays, or to any expenses or losses incurred for labor, substitute machinery, rental or for any other reason

Except as set forth above, Terra Force INC shall have no obligation or liability of any kind on on account of any of its equipment and shall not be liable for special or consequential damage, Terra Force INC makes no other warranty, expressed or implied, and specifically, Terra Force INC disclaims any implied warranty or merchantability or fitness for a particular purpose. Some states or provinces do not permit limitations or exclusions of implied warranties or incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts. Terra Force INC reserves the right to make improvements in design or changes in specifications at time, without incurring any obligation to owners of units previously sold.

No one is authorized to alter, modify or enlarge this warranty nor the exclusions, limitations and reservations.