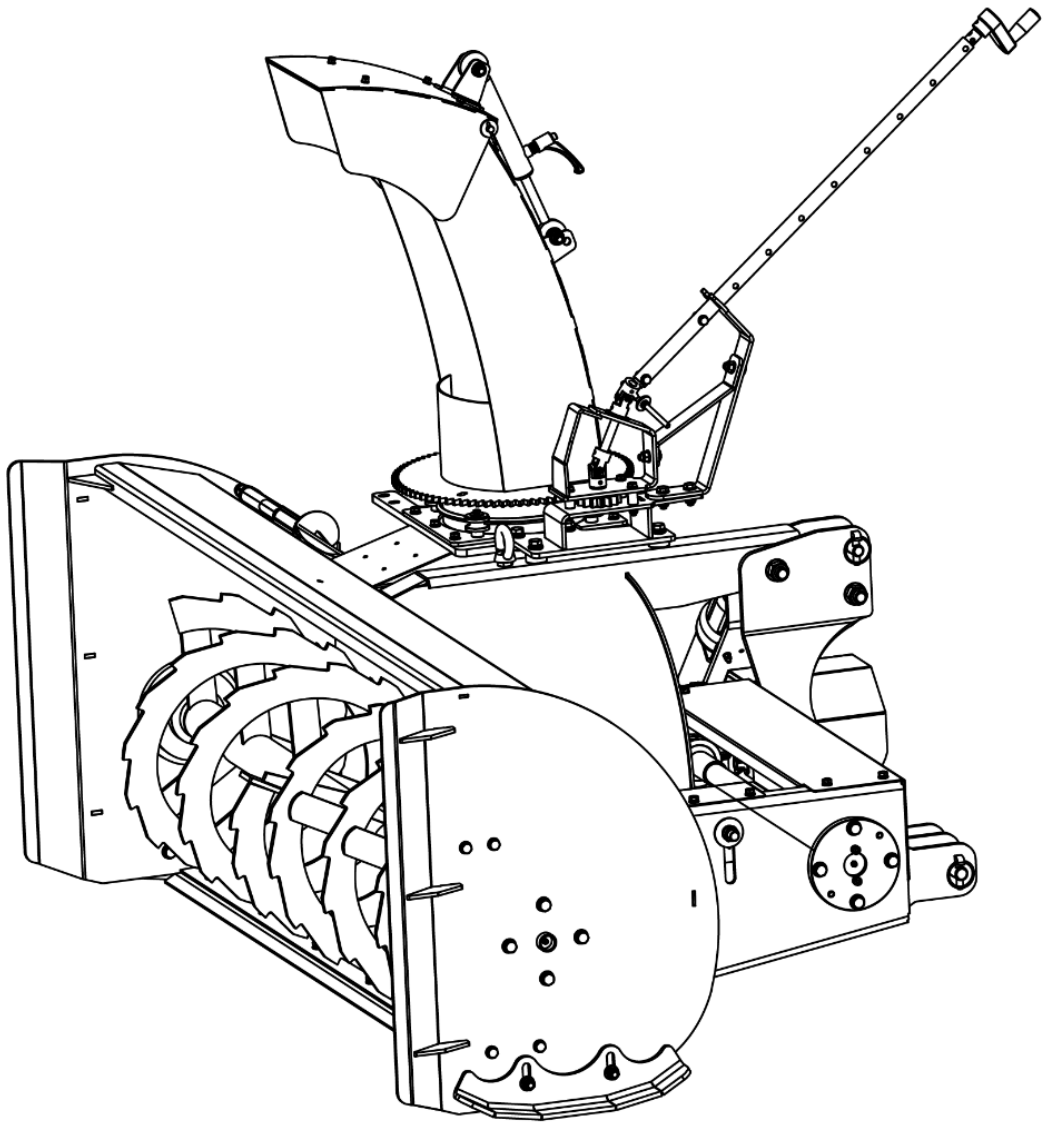
BILT HARD

Using tips:
Video on Youtube

SNOW BLOWER



Instruction & Assembly

SAVE THESE INSTRUCTION FOR FUTURE REFERENCE

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SAFETY PRECAUTIONS

Listed below are common practices that may or may not be applicable to the products described in this manual.

Safety First

Careful operation is your best assurance against an accident.

Please be fully aware that you are responsible for the safe operation and maintenance of your implement. You must ensure that you and anyone else who is going to operate, maintain or work around the implement is familiar with the operating and maintenance procedures and related safe information contained in this manual. This manual is prepared to guide you through all essential operations related to this implement and alert you to all good safety practices that should be strictly followed.



Please constantly bear in mind that good safety practices not only protect you but also the people around you. Incorporate these practices an inseparable part into your safety program. Make sure that who operates this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury of death by ignoring good safety practices.

- Thoroughly read and understand the **"Safety Labels"** section. Read all instructions noted on them.
- Do not operate the equipment while under the influence of drugs or alcohol, as they impair your ability to safely and properly operate the equipment.
- The operator should be familiar with all functions of the tractor and attached implement, and be able to handle emergencies quickly.
- Make sure all guards and shields appropriate for the operation are in place and secured before operating the implement.
- Keep all bystanders away from equipment and work area. Start tractor from the driver's seat with hydraulic controls in neutral.
- Operate tractor and controls from the driver's seat only.
- Never dismount from a moving tractor or leave tractor unattended with engine running.
- Do not allow anyone to stand between the implement and tractor while backing up to the implement.
- Keep hands, feet, and clothing away from power-driven parts.
- While transporting and operating equipment, watch out for objects overhead and along the sides

such as fences, trees, buildings, wires, etc.

- Do not turn tractor so tight as to cause hitched implement to ride up on the tractor's rear wheel.
- Store implement in a safe and secure area where children normally do not play. When needed, secure implement against falling with support blocks.

Safety Alert Symbol

The safety alert symbol indicates there is a potential hazard to personal safety and extra precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. Hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

Be Aware of Signal Words

A signal word designates a degree or level of hazard seriousness. They are:

⚠ **DANGER**: Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ **WARNING**: Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ **CAUTION**: Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

Be Aware of Special Notices

Special notices are intended to point out important and helpful information that should be followed. They are:

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

NOTE: Indicates supplementary explanations that will be helpful when using the equipment.

Safety for Children

Tragedy can occur if the operator is not alert to the presence of children, Children generally are attracted to implements and their work.

- Never assume children will remain where you last saw them.
- Keep children out of the work area and under the watchful eye of a responsible adult.
- Be alert and shut the implement and tractor down if children enter the work area.
- Never carry children on the tractor or implement. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the power machine.

- Never allow children to operate the power machine, even under adult supervision.
- Never allow children to play on the power machine or implement.

Operation Safety

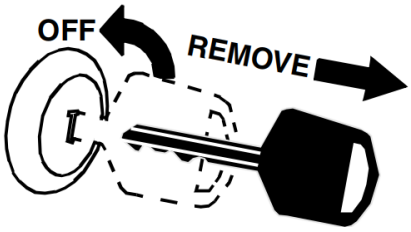
Use extra caution when backing up. Before the tractor starts to move, look down and behind to make sure the area is safety and clear.

Tractor Shutdown Safety

If engaged, disengage power take-off.

Park on solid, level ground and lower implement to ground or onto support blocks.

- Put tractor in park or set park brake.
- Turn off engine and remove ignition key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines.
- Wait for all components to stop before leaving operator's seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on or off the tractor.



Use a Safety Chain

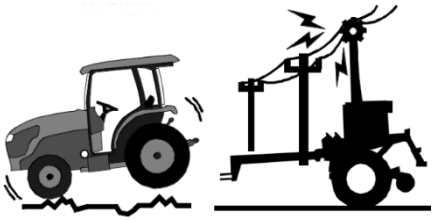
A safety chain will help control drawn machinery should it separate from the tractor drawbar. Use a chain with the strength rating equal to or greater than the gross weight of the towed implement.

- Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
- Always hitch the implement to the machine towing it. Do not use the safety chain to tow the implement.



Transport Safely

- Comply with federal, state, and local laws.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Engage park brake when stopped on an incline.
- Maximum transport speed for an implement is 30 km/h. Do not exceed.
- Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.



- Do not tow an implement that, when fully loaded, weights more than 1.5 times the weight of towing vehicle.

Avoid Crystalline Silica (Quartz) Dust

Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis). There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.



- Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- Know the work operations where exposure to crystalline silica may occur.
- Participate in air monitoring or training programs offered by the employer.
- Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators cannot have beards/ mustaches which interfere with the respirator seal to the face.
- If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
- Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.

- Store food, drink, and personal belongings away from the work area.
- Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

Operation

- Do not put hands or feet near, under or inside rotating parts.
- Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- Never tolerate bystanders in the working zone. Never use an accessory in the direction of by standers, it might throw gravel or debris that can hurt people or damage property.
- Never operate the accessory at high transport speeds on slippery surfaces. Use care when backing up.
- Do not carry passengers.
- Disengage power to the accessory when it is transported or not in use.
- Never operate the accessory without good visibility or light.
- Keep the accessory away from heat sources or flames.
- Never handle the winch cable or hook while in tension.
- Use only accessories approved by the manufacturer of the snow blower (such as wheel chains, and the like).
- Never operate the snow blower without good visibility or light.
- Keep all safety guards in place and in proper working order at all times.
- NEVER place fingers, hands, or body near the snow blower when it is running. Do not lean or reach over the snow blower when the machine is running.
- Keep all people (except the operator) a minimum of 25 feet from the snow blower during operation.
- Always aim the discharge chute away from people and animals.
- Do not leave the snow blower unattended when it is running. Turn off the engine before leaving the area.
- Do not use this piece of equipment while tired or under the influence of drugs, alcohol or medication.
- Parts, especially exhaust system components, get very hot during use. Stay clear of hot parts.
- Use extra caution when operating on gravel or other loose material.
- Exercise caution to avoid slipping or falling, especially when operating in reverse.
- Thoroughly inspect the area where the equipment is to be used. Remove all foreign objects, which could be tripped over or thrown by the auger/impeller.

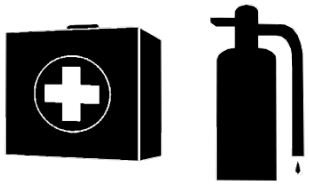
- Always wear safety glasses or eye shields during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
- Operate the equipment with appropriate foot ware, gloves and clothing. Avoid loose fitting clothing that can get caught in moving parts.
- The auger and drive controls must be depressed to operate. Do not override this safety feature. Both control levers must operate easily and automatically return to the disengaged position when released.
- Do not overload the snow blower by attempting to clear snow too quickly.
- Do not operate at high speed on icy or slippery surfaces.
- Always be sure of your footing especially when driving in reverse.

Maintenance Safety

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Follow good shop practices.
- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate the engine of the tractor in a closed area. The exhaust gas may cause healthy problem.
- Before maintenance, shut off the tractor (See **Tractor Shutdown**).
- Allow equipment to cool before maintenance operation.
- Never work under the machine unless it is secured by a mechanical stand.
- Use personal protection devices such as safety goggles, hand gloves and hearing protectors, when performing any service or maintenance work.
- Only use original parts for service and maintenance.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all pins are properly installed to ensure unit is in a safe condition.
- Do not weld or torch on galvanized metal as it will release toxic fumes.
- Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- Disconnect battery (If the implement has the battery) ground cable (-) before servicing or adjusting electrical systems or before welding on implement.

- Do not grease or oil implement while it is in operation.
- Do not work under any hydraulically supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing machine in service.

Preparation before Maintenance



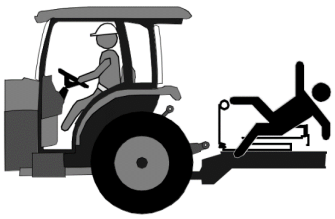
- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for ambulance, hospital and fire department near the working area.

Personal Protective Equipment



- Wear protective clothing and equipment appropriate for the job such as safety shoes, safety, glasses, hard hat, dust mask, and ear plugs.
- Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating a machine safely requires the operator's full attention. Avoid wearing headphones while operating equipment.

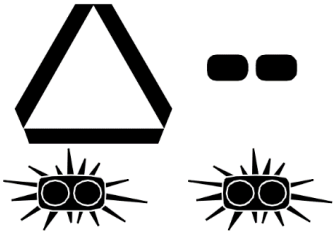
Keep Riders off Machinery



- Never carry riders on the tractor or implement.
- Riders obstruct operator's view and interfere with the control of the power machine.
- Riders can be struck by objects or thrown from the equipment.
- Never use the tractor or implement to lift or transport riders.

Safety Lights and Devices

- A slow moving power machine can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.
- For tractors and other agriculture equipment, a Slow Moving Vehicle (SMV) sign is required when traveling on public roads.



Seat Belt and ROPS

- We recommends the use of a CAB or roll-over-protective structures (ROPS) and seat belt in almost all power machines. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the power machine should be upset.
- If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.

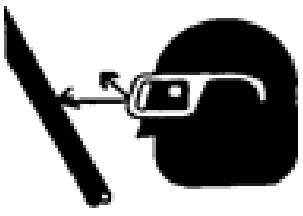


Hydraulic System Safety

- Escaping fluid under pressure will penetrate the skin or eyes causing serious injury.
- Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- Make sure all hydraulic fluid connections are properly tightened/torqued and all hydraulic hoses and lines are in good condition before applying pressure to the system.



- Use a piece of paper or cardboard, not body parts, to check for suspected leaks.
- Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
- Do not delay. If an accident occurs, seek immediate emergency medical care or gangrene may result.



Handle Chemicals Properly

- Protective clothing should be worn.

- Handle all chemicals with care.
- Follow instructions on container label.
- Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil, and property.
- Inhaling smoke from any type of chemical fire can be a serious health hazard.



- Store or dispose of unused chemicals as specified by the chemical manufacturer.

Tire Maintenance Safety

- Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- Always properly match the wheel size to the properly sized tire.
- Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator's Manual.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and not in front of or over the tire assembly. Use a safety cage if available.



- Securely support the implement when changing a wheel.
- When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Make sure wheel bolts have been tightened to the specified torque.

Transport Safety

- Read this owner's manual carefully. Be thoroughly familiar with the controls and proper use of the vehicle and snow blower. Know how to stop the unit and disengage the controls quickly.
- Never allow children to operate snow blower nor the vehicle. Never allow adults to operate snow blower nor the vehicle without proper instructions.



- No one should operate the vehicle nor the snow blower while intoxicated or while taking medication that impairs the senses or reactions.
- Keep the area of operation clear of all persons, particularly small children and pets.
- Comply with state and local laws governing safety and transporting of machinery on public roads.



- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Do not exceed a safe travel speed. Slow down for rough terrain and cornering
- Do not drink and drive.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing road- ways.
- Never allow riders on the machine.

Storage and Disposal Safety

Storage Safety

1. Store the machine in an area away from human activity. Do keep the machine out of the children's reach. Do not permit children to play on or around the stored machine.
2. Store the machine in a dry, level area.
3. Clean grease and oil as required and protect it from the elements.

Disposal Safety

1. Improper disposal of oil or other waste may be hazardous to the environment.
2. When oil is emptied from the machine, it must be poured into a leak-proof container suitable for oil. It is not permissible to store oil in a container used for food or drink, in order to avoid the oil being consumed by mistake and causing serious injury. It is prohibited to spill oil on the ground, or pour it into a drain or anywhere leading to a water source.
3. Discarded oil, fuel, coolant, brake fluid, filters and batteries may not be thrown away or emptied in just any way. Contact your local authority for further information.

Safety Labels

Your implement comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels.
3. When ordering new components make sure the correct safety labels are included in the request.
4. Refer to steps below for proper label placement.

a) Clean surface area where label is to be placed.

b) Spray soapy water onto the cleaned area.

c) Peel backing from label and press label firmly onto the surface.

d) Squeeze out air bubbles with edge of a card or with a similar type of straight edge.

Labels Location

Labels locations below are common practices of TSA-0507 snow blower that may or may not be applicable to the products described in this manual.

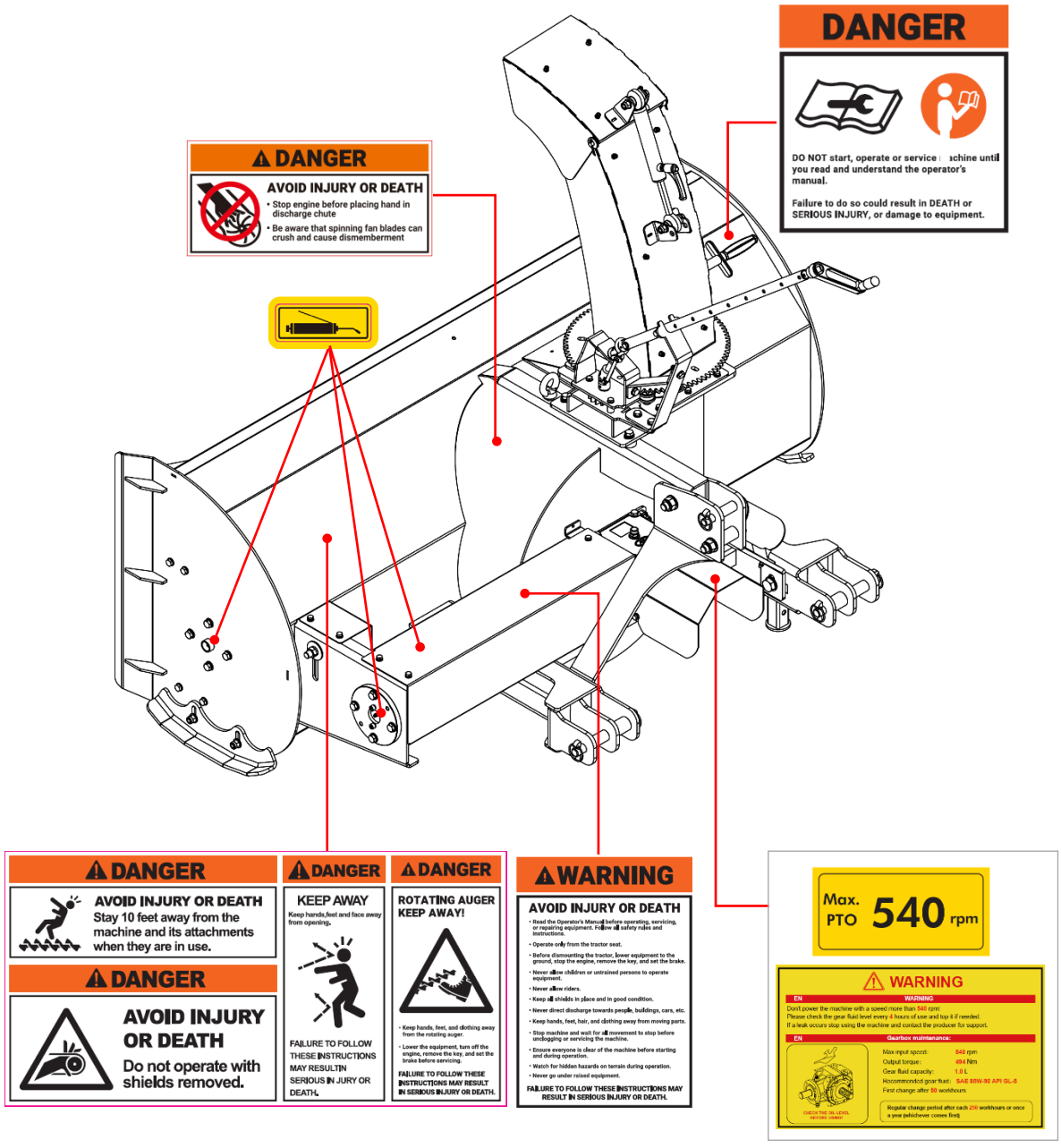


Figure1-1

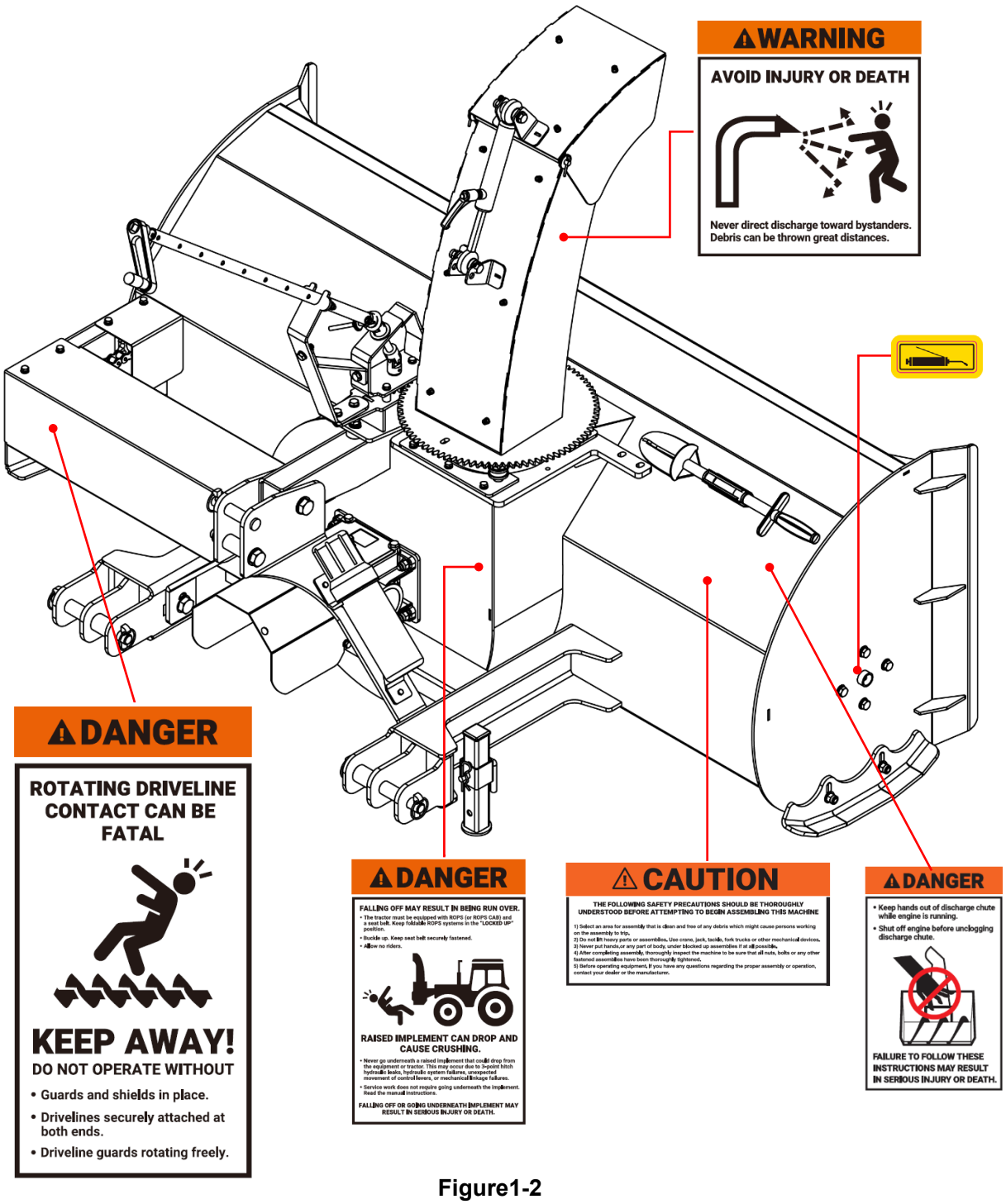

⚠WARNING
AVOID INJURY OR DEATH
Never direct discharge toward bystanders.
Debris can be thrown great distances.
⚠DANGER
ROTATING DRIVELINE CONTACT CAN BE FATAL
KEEP AWAY!
DO NOT OPERATE WITHOUT
• Guards and shields in place.
• Drivelines securely attached at both ends.
• Driveline guards rotating freely.
⚠DANGER
FALLING OFF MAY RESULT IN BEING RUN OVER.
RAISED IMPLEMENT CAN DROP AND CAUSE CRUSHING.
FALLING OFF OR GOING UNDERNEATH IMPLEMENT MAY RESULT IN SERIOUS INJURY OR DEATH.
⚠CAUTION
THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE THOROUGHLY UNDERSTOOD BEFORE ATTEMPTING TO BEGIN ASSEMBLING THIS MACHINE
⚠DANGER
• Keep hands out of discharge chute while engine is running.
• Shut off engine before unclogging discharge chute.
FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH.

Figure1-2

PRODUCT INTRODUCTION

Listed figure is common snow blower that may or may not be applicable to the products described in this manual.

The snow blower is an attachment that is suitable for use with tractor that are shown in **Technical Data**, and it is intended to spread snow evenly to the sides of the area instead of piling it up.

See Figure 2

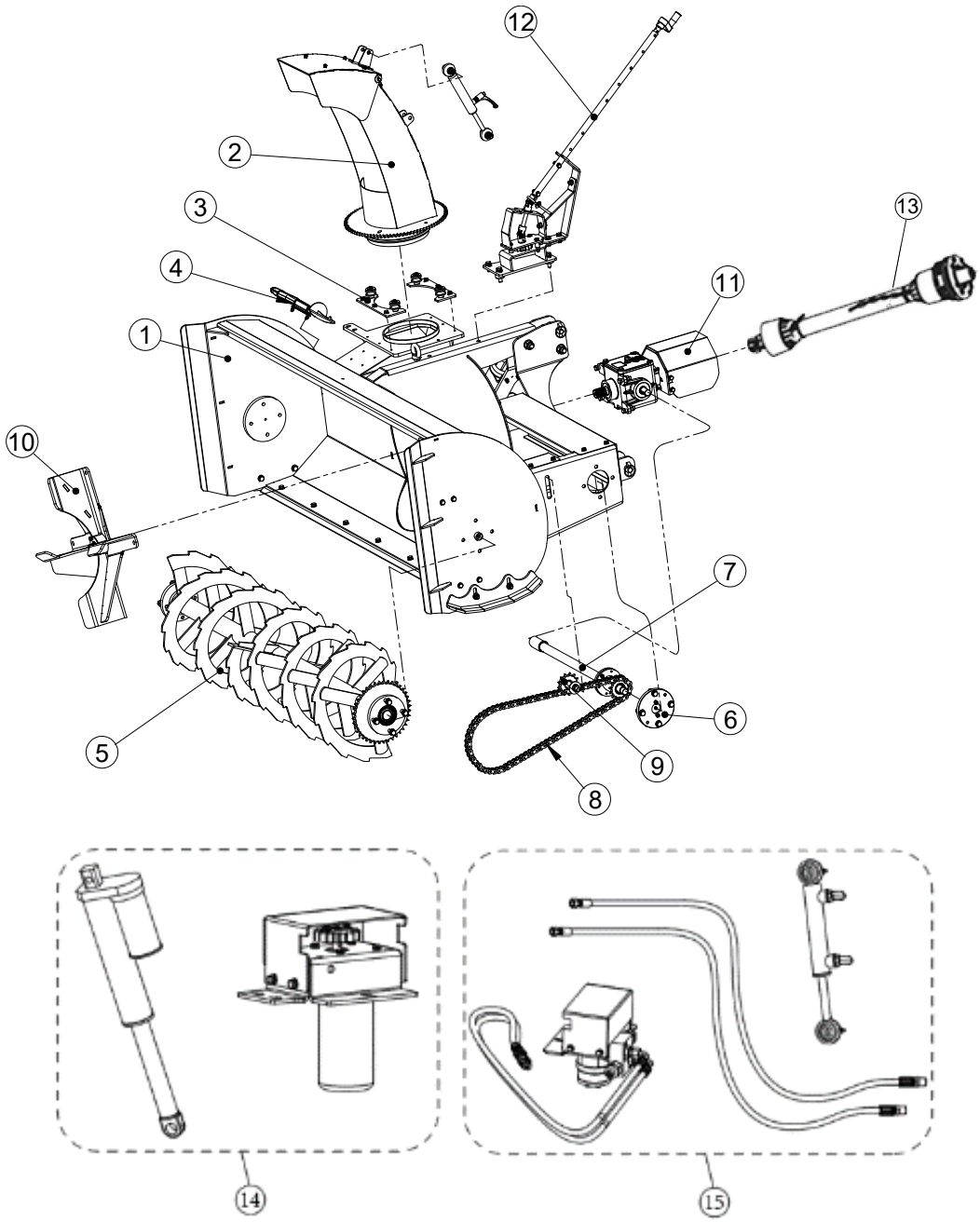


Figure 2

Core parts name list:

Item	Name	Functional Description
1	Bucket body	Collect the snow raised by the augers.
2	Outfeed component	Lift the snow out.
3	Pressboard	It is used to adjust and fix the snow outlet.
4	Snow shovel	Clean snow from snow chute or auger before and after use.
5	Stirring (Auger) system	Snow removal and ice breaking on roads.
6	Bearing seat	To power the stirring system.
7	Drive as-torque limiter	To power the stirring system.
8	Roller chain	To power the stirring system.
9	Tensioner pulley	To power the stirring system.
10	Fan	Blow up the snow.
11	Gearbox	It is used to connect the PTO to power the tractor
12	Manual steering	Control the direction and distance of the snow outlet by hands.
13	PTO shaft	Connect with tractor to provide power.
14	Electrical steering (optional)	Control the direction and distance of the snow outlet by electric box.
15	Hydraulic steering (optional)	Control the direction and distance of the snow outlet by hydraulic lever.

Technical Data

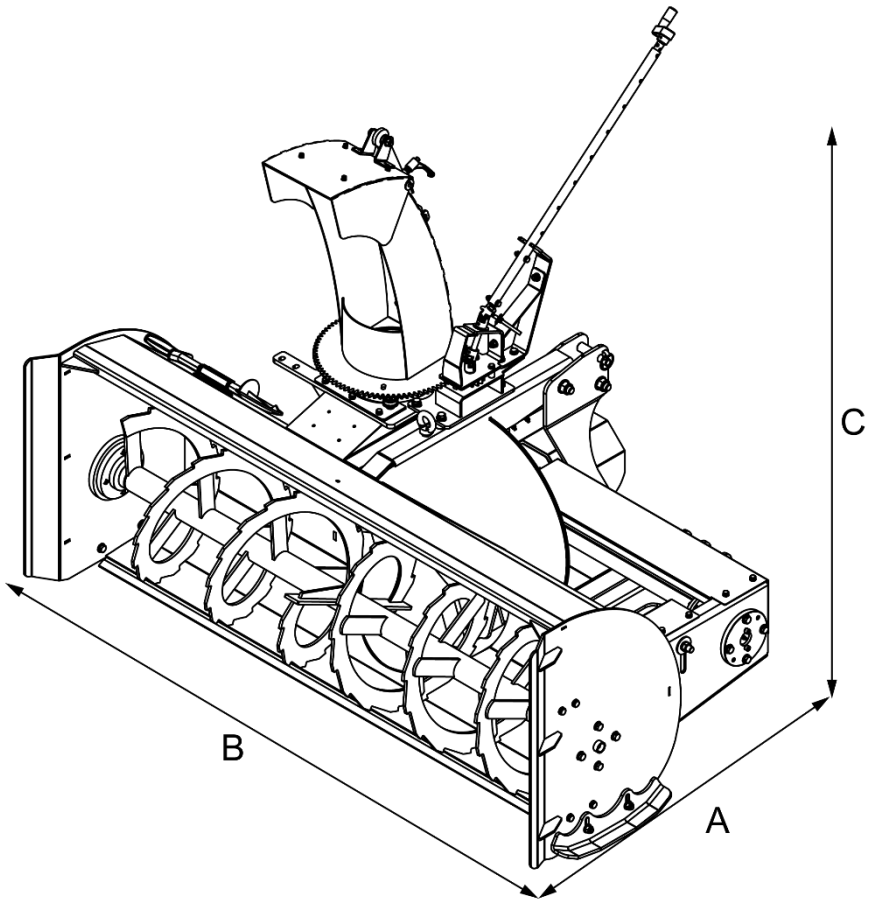


Figure 3

3-Point Tractor Snow Blower		
SNOW BLOWER	**TSA-0506**	**TSA-0507**
Shipping weight	822lbs(373.5kg)	935lbs(425kg)
Operating weight	734lbs(333.5kg)	832lbs(378kg)
DIMENSIONS		
Overall length	46 in(1170mm)	47 in(1195mm)
Overall width	63in(1600mm)	74.8 in(1902mm)
Overall height	59.8in(1518mm)	61 in(1548mm)
Working width	62.2 in (1580 mm)	74in (1882.5 mm)
Working height	26.4 in(670mm)	27.8 in(707mm)
Impeller diameter	22.4 in(570mm)	24 in(608mm)
Impeller housing depth	7.87 in(200mm)	7.87 in(200mm)
Auger diameter	15.75 in(400mm)	17.5 in(446mm)

3-Point Tractor Snow Blower		
Auger clearance from ground	1.77 in(45mm)	1.97 in(50mm)
DRIVE SYSTEM		
Primary drive	PTO	PTO
PTO input	540 RPM	540 RPM
Auger speed	180 RPM	180 RPM
Gearbox oil capacity	1 Qt SAE 90	1 Qt SAE 90
PTO horsepower requirement	25- 75 HP	25- 90 HP
Tractor hitch	CAT1 & CAT2	CAT1 & CAT2
Number of blades on impeller	4	4
Outfeed rotation	Manual/Electric/Hydraulic	Manual/Electric/Hydraulic
Outfeed rotation degrees	360 degrees(Manual steering) /360 degrees(Electric steering) /220degrees(Hydraulic steering)	360 degrees(Manual steering) /360 degrees(Electric steering) /220degrees(Hydraulic steering)
Discharge chute	8.66 in(220mm)	8.66 in(220mm)
Adjustable chute	Yes	Yes
Adjustable skid shoes	Yes	Yes
Replaceable working edge	Yes	Yes
Hitch system	Quick hitch system (ASABE)	Quick hitch system (ASABE)

Implement Identification

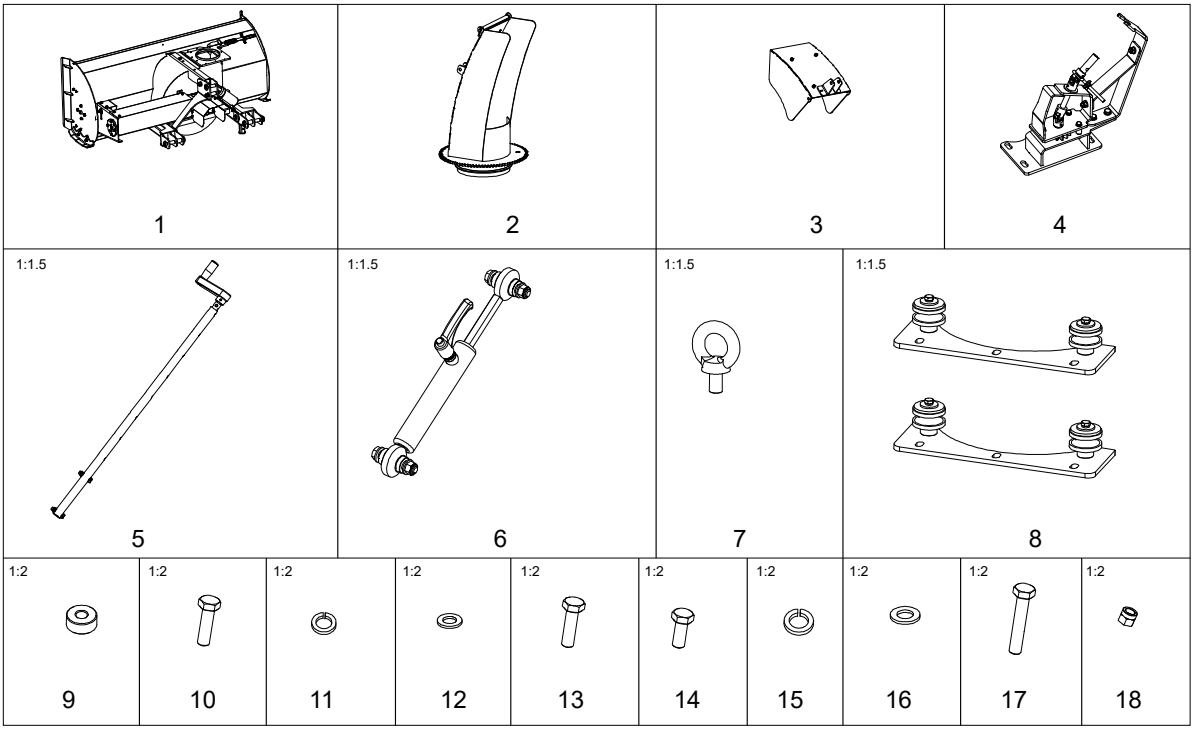
The identification nameplate is affixed to the frame of each implement. It contains: the Manufacturer, Model No., Description, Specification, Serial No. The nameplate (Shown in the below) is for reference only and is based on the real thing.



UNPACKING

1. **Manual steering:**

Check the components as shown below table after unpacking.



Item	Specification	Description	Qty.	Package
1	/	Main frame	1 pcs	Single pack
2	/	Discharge chute	1 pcs	Single pack
3	/	Deflector	1 pcs	Single pack
4	/	Manual steering seat	1 pcs	Single pack
5	/	Joystick	1 pcs	Single pack
6	R03002A20200-000	Manual rod	1 pcs	Single pack
7	GB/T825-M16×28-EP•Zn•P	Eyebolt	1 pcs	Bale
8	R03002B03000-000	Panel	2 pcs	Single pack
9	R03009A05100-002	Heel block	2 pcs	Bale
10	GB/T5783-M8×20-8.8-EP•Zn	Hex. bolt	6 pcs	Bale

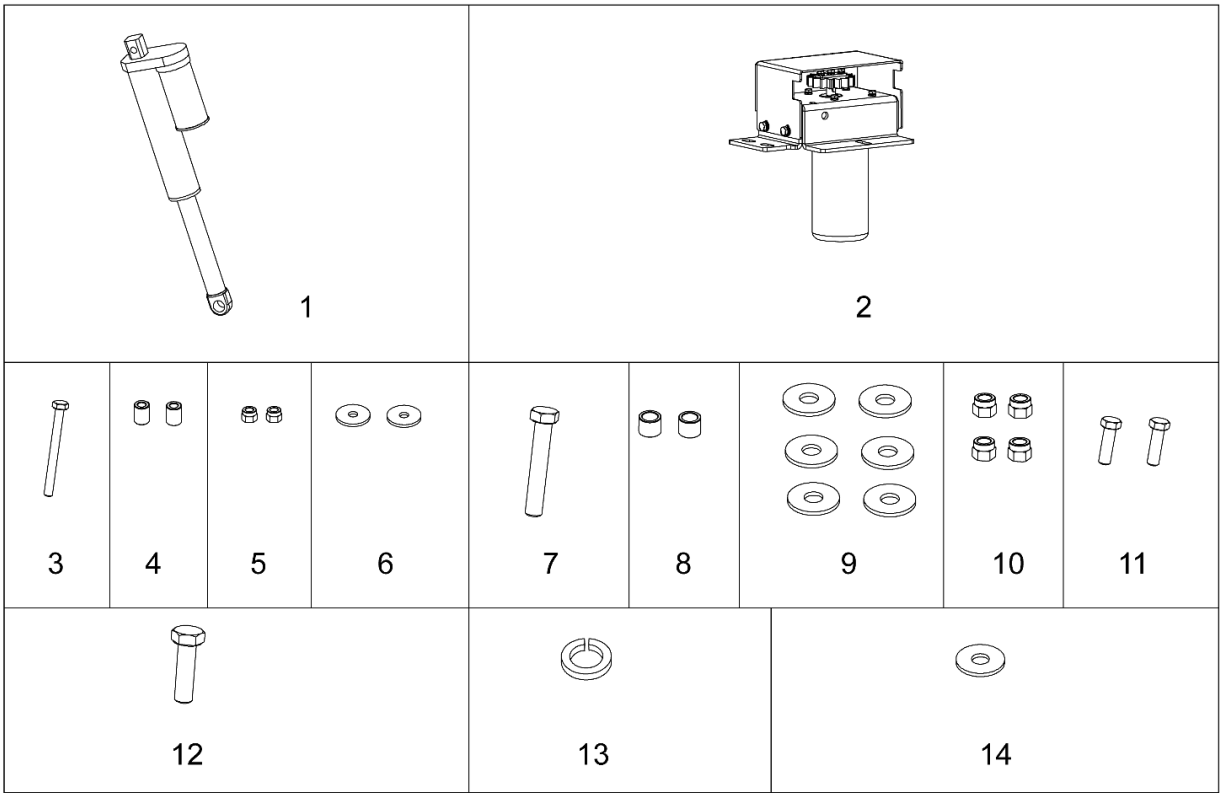
Item	Specification	Description	Qty.	Package
11	GB/T93-8-EP•Zn	Spring washer	6 pcs	Bale
12	GB/T95-8-EP•Zn	Flat washer	8 pcs	Bale
13	GB/T5783-M12×50-8.8-EP•Zn	Hex. bolt	2 pcs	Bale
14	GB/T5783-M12×30-8.8-EP•Zn	Hex. bolt	2 pcs	Bale
15	GB/T93-12-EP•Zn	Spring washer	4 pcs	Bale
16	GB/T95-12-EP•Zn	Flat washer	4 pcs	Bale
17	GB/T5783-M8×40-8.8-EP•Zn	Hex. bolt	1 pcs	Bale
18	GB/T889.1-M8-8-EP•Zn	Locking nut	1 pcs	Bale

Tools for installation process list:

No	Description	Specification	Conditions of Use	Qty.
1	Open end wrench	/	M8/M10 fastening	2 pcs
2	Hex key	/	M8/M11 fastening	1 pcs
3	hammer	/	/	1 pcs
4	Torque wrench	10-220N.m	Measuring torque	1 pcs
5	Wind gun	1280t	Match the corresponding sleeve instead of the wrench to tighten the bolt	1 pcs

2. Electric steering system:

NOTE：If you don't purchase the electric steering system, please skip this section.



Unpacking parts description list:

Item	Specification	Description	Qty.	Package
1	BP-401	Electric rod	1 pcs	Single pack
2	R03012A06100-000	Motor seat	1 pcs	Single pack
3	GB_T5783-M6×65-8.8-EP-Zn	Hex. bolt	1 pcs	Single pack
4	R03002A21200-002	Bushing 1	2 pcs	Single pack
5	GB_T889.1-M6-8-EP_Zn	Locking nut	1 pcs	Single pack
6	GB_T5287-6-EP_Zn	Washer 1	2 pcs	Bale
7	GB_T5783-M12×70-8.8-EP-Zn	Hex. bolt	1 pcs	Bale
8	R03002A21200-001	Bushing 2	2 pcs	Bale
9	GB_T96.2-12-EP_Zn	Washer 2	6 pcs	Bale
10	GB_T889.1-M12-8-EP_Zn	Locking nut	3 pcs	Bale

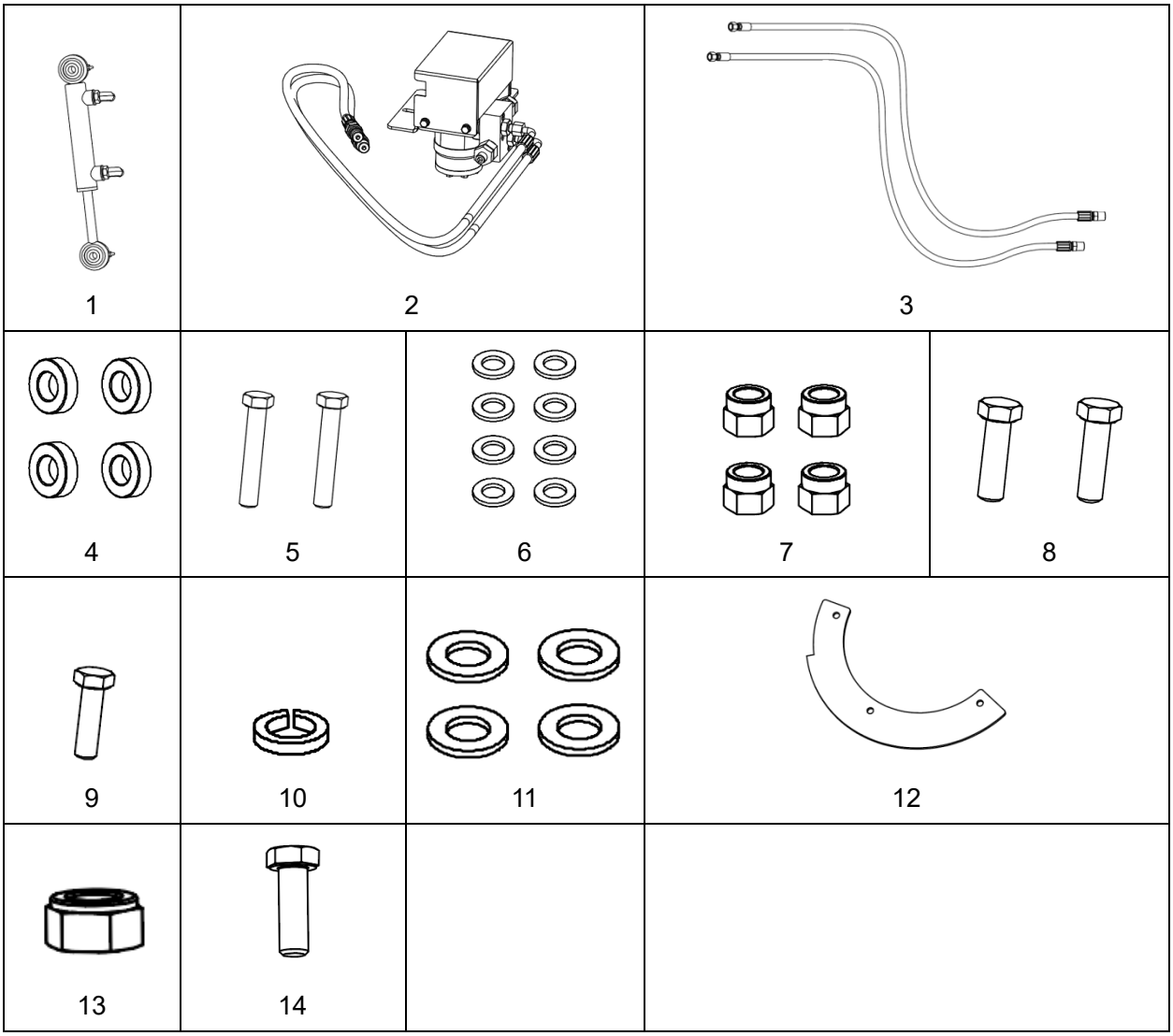
Item	Specification	Description	Qty.	Package
11	GB_T5783-M12×40-8.8-EP-Zn	Hex. bolt	2 pcs	Bale
12	GB_T5783-M10×35-8.8-EP_Zn	Hex. bolt	1 pcs	Bale
13	GB_T93-10-EP_Zn	Spring washer	1 pcs	Bale
14	GB_T96.2-10-EP_Zn	Washer 3	1 pcs	Bale

Tools for installation process list:

No	Description	Specification	Conditions of Use	Qty.
1	Open end wrench	/	M6/M10/M12 bolt fastening	2 pcs
2	Hex key	/	M6/M10/M12 bolt fastening	1 pcs
3	Hammer	/	/	1 pcs
4	Torque wrench	10-220N.m	Measuring torque	1 pcs
5	Wind gun	1280t	Match the corresponding sleeve instead of the wrench to tighten the bolt	1 pcs

3. Hydraulic steering system:

NOTE：If you don't purchase the hydraulic steering system, please skip this section.



Unpacking parts description list:

Item	Specification	Description	Qty.	Package
1	CDL1MP5-25 / 16 / 102-D-SAE6-1CFUM	Hydraulic rod	1 pcs	Single pack
2	R03018A22100-000	Hydraulic motor	1 pcs	Single pack
3	2SN06×M22513-04-06 / M12810-04-08×2000	Input oil tube	2 pcs	Single pack
4	R03002A22100-001	Spacer bushing	4 pcs	Bale
5	GB_T5783-M12×70-8.8-EP-Zn	Hex. bolt	2 pcs	Bale
6	GB_T95-12-EP_Zn	Flat washer	8 pcs	Bale

Item	Specification	Description	Qty.	Package
7	GB_T889.1-M12-8-EP_Zn	Locking nut	4 pcs	Bale
8	GB_T5783-M12×40-8.8-EP-Zn	Hex. bolt	2 pcs	Bale
9	GB_T5783-M10×35-8.8-EP-Zn	Hex. bolt	1 pcs	Bale
10	GB_T93-10-EP_Zn	Spring washer	1 pcs	Bale
11	GB_T95-10-EP_Zn	Flat washer	4 pcs	Bale
12	R03002A22300-001	plate as-stop	1 pcs	Single pack
13	GB/T889.1-M10-8-EP•Zn	Locking nut	3 pcs	Bale
14	GB/T5783-M10×30-8.8-EP•Zn	Hex. bolt	3 pcs	Bale

Tools for installation process list:

No	Description	Specification	Conditions of Use	Qty.
1	Open end wrench	/	M10/M12 bolt fastening	2
2	Hex key	/	M10/M12 bolt fastening	1
3	Hammer	/	/	1
4	Torque wrench	10-220N.m	Measuring torque	1
5	Wind gun	1280t	Match the corresponding sleeve instead of the wrench to tighten the bolt	1

ASSEMBLY & SET-UP

Connecting Deflector to Chute

To connect the deflector to discharge chute:

1. Remove the pin shaft (**A2**) with two flat washers (**A3**) and hairpins (**A4**), and set them aside for next installation.
2. Align both holes of deflector (**A1**) to the discharge chute, and then insert the pin shaft from right hole of deflector to left.
3. Locate them with two flat washers (**A3**) and hairpins (**A4**).

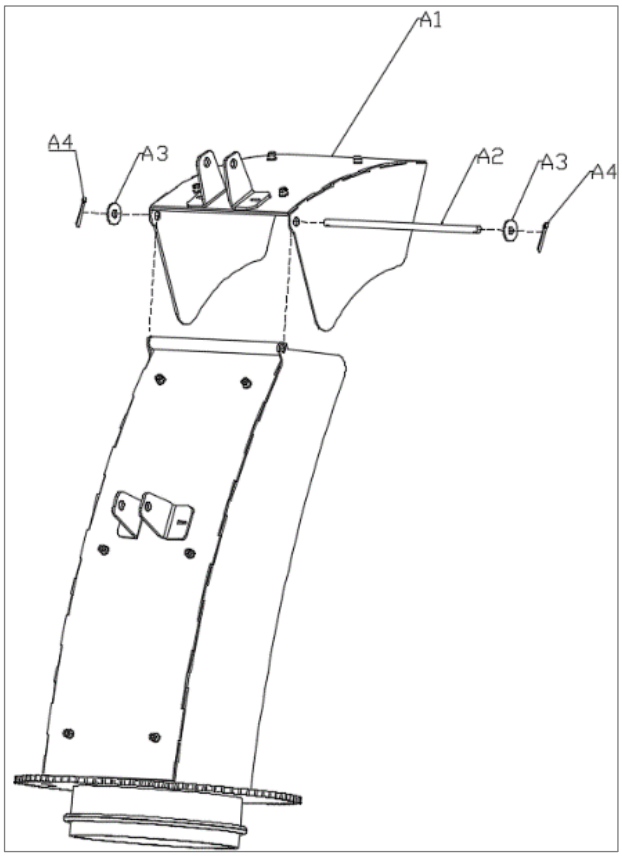


Fig.: Deflector Installation

Table: Deflector installation parts name list

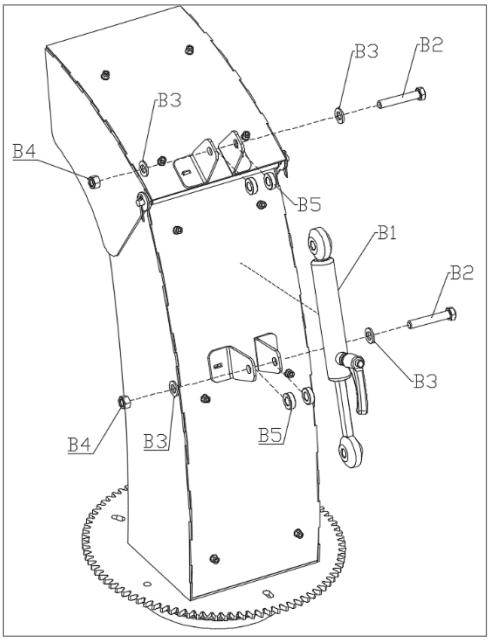
PART NO.	SPECIFICATION	DESCRIPTION	Qty.
A1	R03002A02200-000	Deflector	1
A2	R03002A02000-001	Pin shaft	1
A3	GB/T96.2-10-EP•Zn	Flat washer	2
A4	GB/T91-4×32	Hairpin	2

Assembling Manual Rod

To assemble manual rod:

1. Align the manual rod (**B1**) connection hole to the center of deflector assembly direction.

➢ Make sure two bushes (**B5**) and manual rod are inside of connection hole located on the deflector, see figure right.



2. Bolt the connection hole of manual rod to inside of the deflector, using an M12*70 Hex. bolt (**B2**), two bushes (**B5**) and flat washers (**B3**), assemble as shown below and tighten it with an M12 locking nut (**B4**) .

➢ The head of the bolt should be on the right side of the deflector with the washer and locking nut with flat washer on the left side of it.

3. Lift the manual rod and fasten it into the connection hole of discharge chute, using an M12*70 Hex. bolt (**B2**), two bushes (**B5**) and flat washers (**B3**), assemble as shown right and tighten it with an M12 locking nut (**B4**).

➢ The head of the bolt should be on the right side of the deflector with the washer and locking nut with flat washer on the left side of it.

Table: Manual rod installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
B1	R03002B20200-000	Manual rod	1
B2	GB/T5783-M12×70-8.8-EP•Zn	Hex. Bolt	2
B3	GB/T95-12-EP•Zn	Flat washer	4
B4	GB/T889.1-M12-8-EP•Zn	Locking nut	2
B5	R03002A22100-001	Bush	4

Assembling Outfeed Component

To assemble outfeed component:

1. Lift the outfeed component (**C1**) and fasten it into right top corner place of main frame, see figure below.
2. Place two panels (**C2**) and make sure they are located face to face.
3. Bolt the panels using eight M8*20 hex. bolts (**C3**), M8 spring washers (**C4**) with M8 flat washers (**C5**).

➢ Make sure bolt heads are on the outside of panels with spring washers and flat washers.

4. Tighten them with right torque, see Tightening Torque.

➢ Ensure the tab of discharge chute are in groove of four wheels located on the panels, otherwise outfeed component cannot be adjusted smoothly.

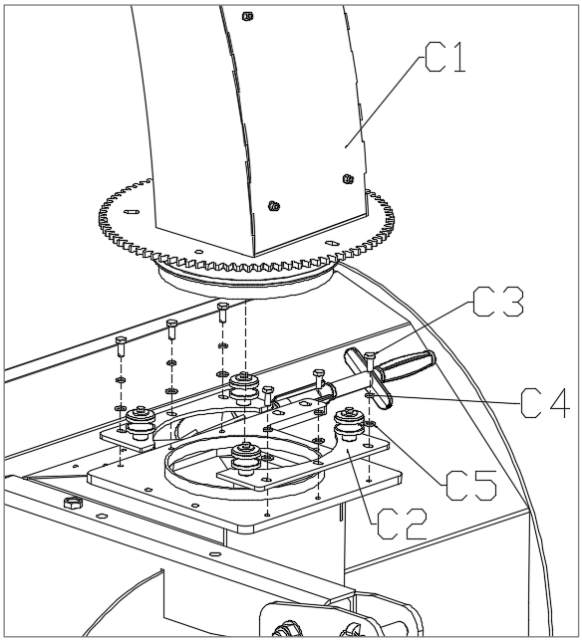


Fig.: Outfeed Component Installation

Table: Outfeed component installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
C1	R03002B02000-000	Outfeed component	1
C2	R03002B03000-000	Panel	2
C3	GB/T5783-M8×20-8.8-EP•Zn	Hex. bolt	6
C4	GB/T93-8-EP•Zn	Spring washer	6
C5	GB/T95-8-EP•Zn	Flat washer	6

Attaching Joystick

Attaching joystick should be performed after assembling outfeed component.

To attach joystick:

1. Slide the manual rod (**D1**) into manual steering seat (**D2**), and fasten it with an M8*40 hex. bolt (**D3**), M8 flat washers (**D4**).
2. Tighten it with an M8 locking nut (**D5**).

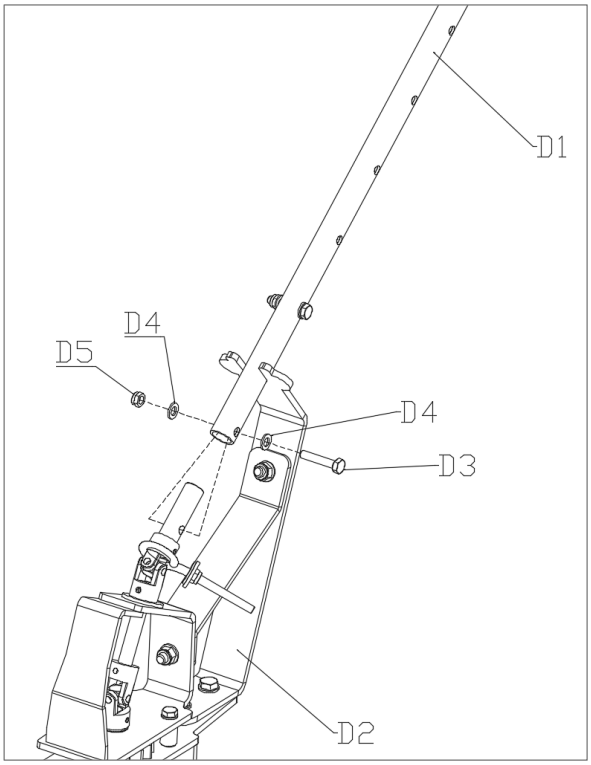


Fig. Manual rod installation

Table: Manual rod installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
D1	/	Manual rod	1
D2	/	Manual steering seat	1
D3	GB/T5783-M8×40-8.8-EP•Zn	Hex. bolt	1
D4	GB/T95-8-EP•Zn	Flat washer	2
D5	GB/T889.1-M8-8-EP•Zn	Locking nut	1

Attaching Manual Steering

Attaching manual steering should be performed after assembling manual rod.

To attach manual steering:

1. Slide into the tab of manual rod component (**E1**) between discharge chute and panel, and make sure their holes are aligned.
2. Attach manual steering seat to outfeed component with two M12*30 hex. bolts (**E5**), M12 spring washers (**E3**), M12 flat washers (**E4**), and tighten them.
3. Attach manual steering to upper panel of 3-point linkage, using two M12*50 hex. bolts (**E2**), M12 spring washers (**E3**) with heel blocks (**E6**), and tighten them, see figure below.
4. Tighten the eyebolts (**E7**).

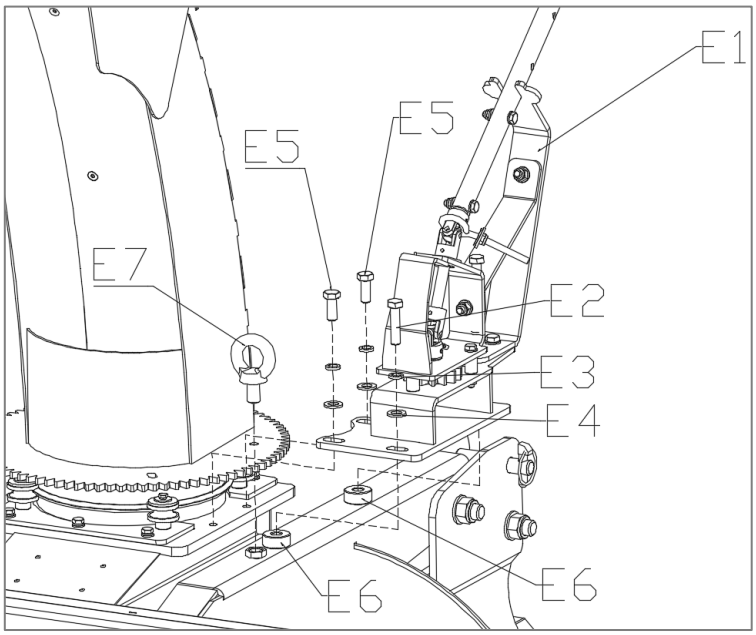


Fig. Manual steering installation

Table: Manual steering installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
E1	/	Manual rod component	1
E2	GB/T5783-M12×50-8.8-EP•Zn	Hex. bolt	2
E3	GB/T93-12-EP•Zn	Spring washer	4
E4	GB/T95-12-EP•Zn	Flat washer	4
E5	GB/T5783-M12×30-8.8-EP•Zn	Hex. bolt	2
E6	R03009A05100-002	Heel block	2
E7	GB/T825-M16×28-EP•Zn•P	Eyebolt	1

Assembling Electric steering system

If you have purchased an electric snow blower or have already purchased our snow blower and want to replace steering system with an electric one, you can perform the steps below to install it, otherwise ignore. The other steering system located on the snow blower should be removed before assembling electric steering system.

Note: Electric steering system should be ordered separately if you have our general snow blower.

Connecting Electric Rod to Chute

To connect electric handle to chute:

1. Align the electric rod (**A1**) connection hole to the center of deflector assembly direction.
   - Make sure two bushes 2 (**A5**) and electric rod are inside of connection hole located on the deflector, see figure below.
2. Bolt the connection hole of electric rod to inside of the deflector, using an M12*70 Hex. bolt (**A2**), two bushes 2 (**A5**) and flat washers (**A3**), assemble as shown below and tighten it with an M12 locking nut (**A4**).
   - The head of the bolt should be on the right side of the deflector with the washer and locking nut with flat washer on the left side of it.
3. Lift the electric rod and fasten it into the connection hole of discharge chute, using an M6*65 Hex. bolt (**A6**), two bushes 1 (**A9**) and flat washers (**A7**), assemble as shown below and tighten it with an M6 locking nut (**A8**).
   - The head of the bolt should be on the right side of the deflector with the washer and locking nut with flat washer on the left side of it.

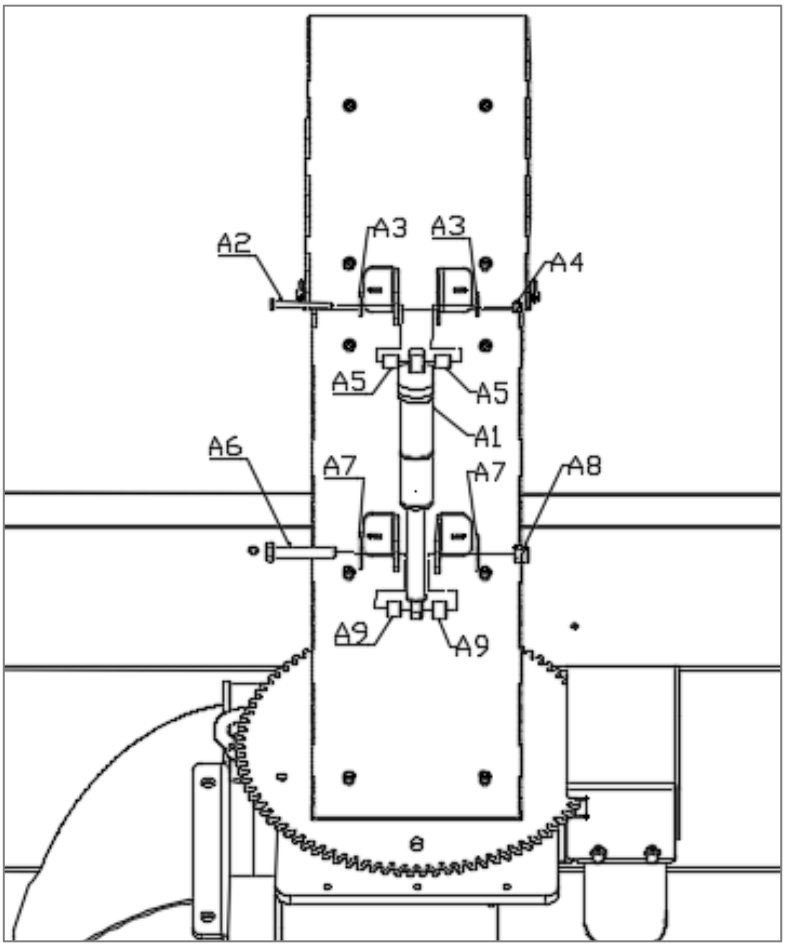


Fig.: Electric Rod Installation

Table: Electric rod installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
A1	BP-401	Electric rod	1
A2	GB_T5783-M12×70-8.8-EP-Zn	Hex. Bolt	1
A3	GB_T96.2-12-EP_Zn	Flat washer	2
A4	GB_T889.1-M12-8-EP_Zn	Locking nut	1
A5	R03002A21200-001	Bush 2	2
A6	GB_T5783-M6×65-8.8-EP-Zn	Hex. Bolt	1
A7	GB_T5287-6-EP_Zn	Flat washer	2
A8	GB_T889.1-M6-8-EP_Zn	Locking nut	1
A9	R03002A21200-002	Bush 1	2

Assembling Motor Seat

To assemble motor seat:

1. Align two connection holes of motor seat to the panel of main frame, and ensure the connection hole is under the panel.
2. Pre-bolt the motor seat (**B1**), using two M12×40 hex. bolts (**B2**), flat washers(**B3**), and locking nuts(**B4**).
3. Pro-bolt the other side of motor seat, using an M10×35 hex. bolt (**B5**), spring washer (**B6**), flat washer (**B7**).
4. Tighten them with right torque, see **Tightening Torque**.

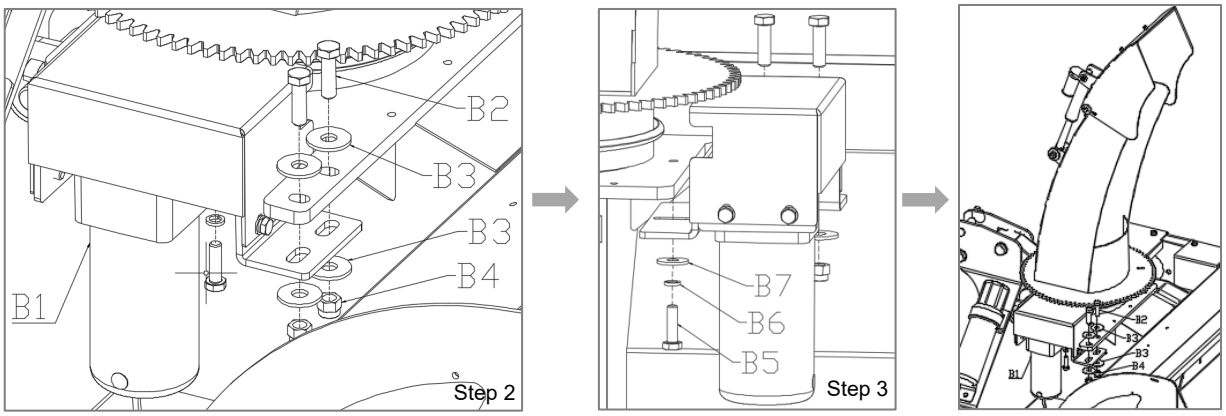


Table: motor seat installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
B1	R03012A06100-000	Motor seat	1
B2	GB_T5783-M12×40-8.8-EP-Zn	Hex. bolt	2
B3	GB_T96.2-12-EP_Zn	Flat washer	2
B4	GB_T889.1-M12-8-EP_Zn	Locking nut	2
B5	GB_T5783-M10×35-8.8-EP_Zn	Hex. bolt	1
B6	GB_T93-10-EP_Zn	Spring washer	1
B7	GB_T96.2-10-EP_Zn	Flat washer	1

Assembling Hydraulic steering system

If you have purchased a hydraulic snow blower or have already purchased our snow blower and want to replace steering system with a hydraulic one, you can perform the steps below to install it, otherwise ignore. The other steering system located on the snow blower should be removed before assembling hydraulic steering system.

Note: Hydraulic steering system should be ordered separately if you have our general snow blower.

Connecting Hydraulic Cylinder to Chute

To assemble hydraulic cylinder:

1. Align the hydraulic cylinder (**A1**) connection hole to the center of deflector assembly direction.
   - Make sure two bushes (**A5**) and hydraulic rod are inside of connection hole located on the deflector, see figure below.
2. Bolt the connection hole of hydraulic rod to inside of the deflector, using an M12*70 hex. bolt (**A2**), two bushes (**A5**) and flat washers (**A3**), assemble as shown below and tighten it with an M12 locking nut (**A4**).
   - The head of the bolt should be on the right side of the deflector with the washer and locking nut with flat washer on the left side of it.
3. Lift the hydraulic rod and fasten it into the connection hole of discharge chute, using an M12*70 bolt (**A2**), two hydraulic component bushes (**A5**) and flat washers (**A3**), assemble as shown below and tighten it with an M12 locking nut (**A4**).
   - The head of the bolt should be on the right side of the deflector with the washer and locking nut with flat washer on the left side of it.
4. Connect two input oil tubes (**A6**) into hoses of hydraulic rod, and tighten them.

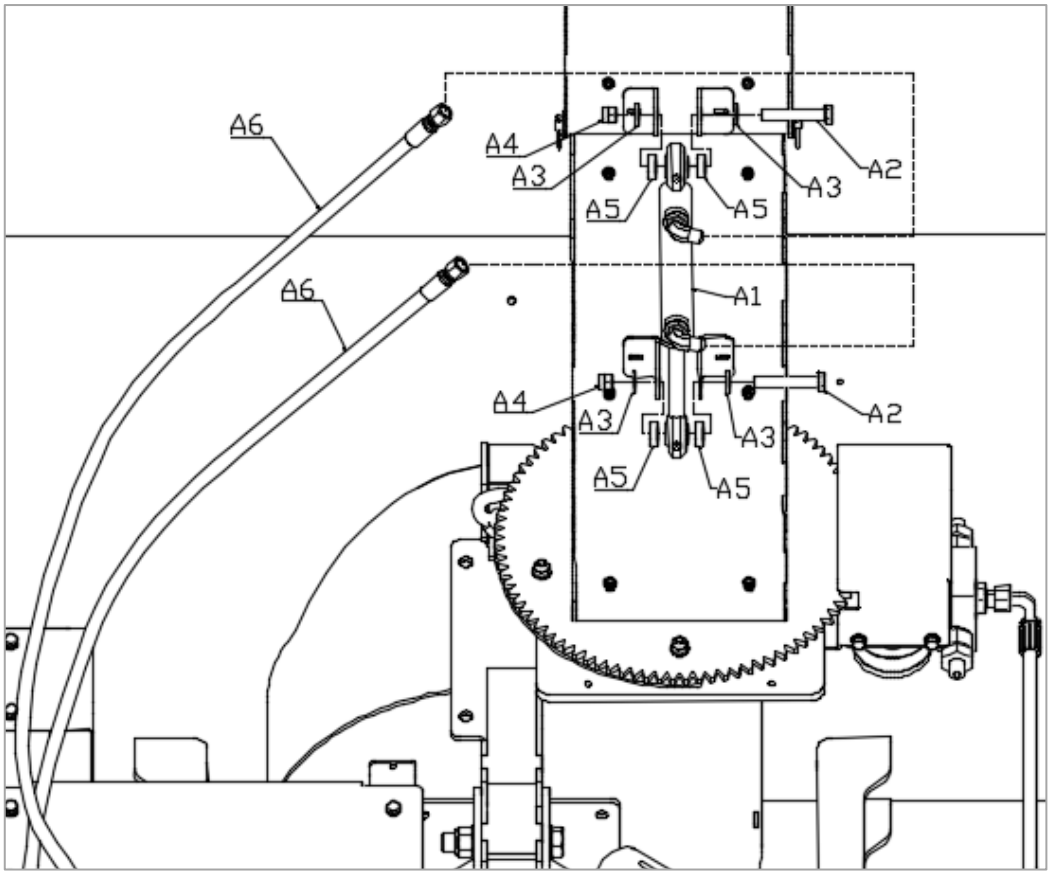


Fig.: Hydraulic Cylinder Installation

Table: Hydraulic cylinder installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
A1	CDL1MP5-25/16/102-D	Hydraulic cylinder	1
A2	GB_T5783-M12×70-8.8	Hex. bolt	2
A3	GB_T95-12-EP_Zn	Flat washer	8
A4	GB_T889.1-M12-8-EP_Zn	Locking nut	2
A5	R03002A22100-001	Hydraulic component bush	4
A6	2SN06×M22513-04-06	Input oil tube	2

Assembling Hydraulic Motor

To assemble hydraulic motor:

1. Align two connection holes of motor to the panel of main frame, and ensure the connection hole is under the panel.
2. Pre-bolt the hydraulic motor (**B1**), using two M12×40 hex. bolts (**B2**), flat washers(**B3**), and M12 locking nuts(**B4**).
3. Pro-bolt the other side of motor, using an M10×35 hex. bolt (**B5**), spring washer (**B6**), flat washer (**B7**).
4. Tighten them with right torque, see **Tightening Torque**.
5. Connect the pipes located in the motor into hydraulic supply system.

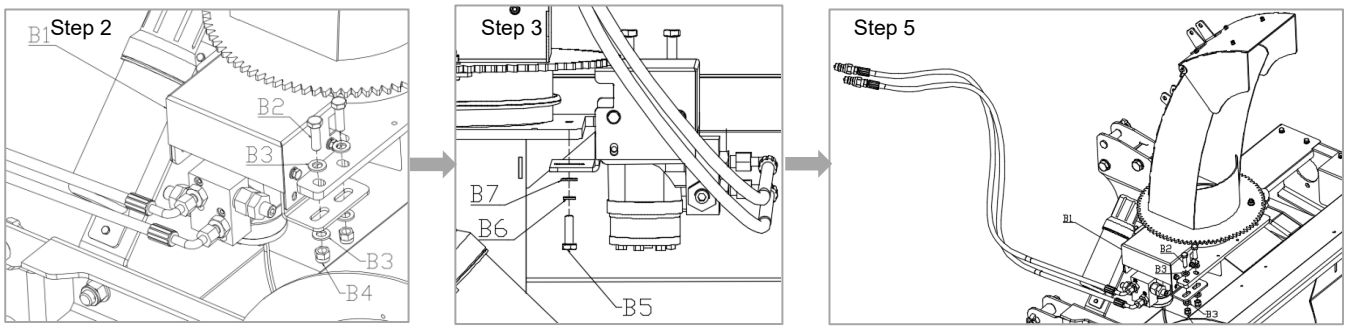


Fig.: Hydraulic Motor Installation

Table: Hydraulic motor installation parts name list

PART NO.	SPECIFICATION	DESCRIPTION	Qty.
B1	R03018A22100-000	Hydraulic motor	1
B2	GB_T5783-M12×40-8.8-EP-Zn	Hex. bolt	2
B3	GB_T95-12-EP_Zn	Flat washer	4
B4	GB_T889.1-M12-8-EP_Zn	Locking nuts	4
B5	GB_T5783-M10×35-8.8-EP-Zn	Hex. bolt	1
B6	GB_T93-10-EP_Zn	Spring washer	1
B7	GB_T95-10-EP_Zn	Flat washer	1

Tractor Hook-up

See Figure 9

About the tractor attachment

Note: This Snow Blower is featured with a hitch design compatible with CAT.I and CAT.II, see **Technical Data**.

Upper Hook-Up:

a. Attach Top center link to the snow blower with Hitch pin-Upper (#7) and pin (#6).

Lower Hook-Up:

b. Attach center 3-point link to the lower hitch clevis with Lower suspension pins (#2), lower suspension quick change sleeves (#3) and secure with pin (#4) and pin (#5)

Quick hitch compatible

Snow Blower mounted with Quick hitch, with Suspension sleeve (#3) and Lower suspension quick change sleeve (#2).

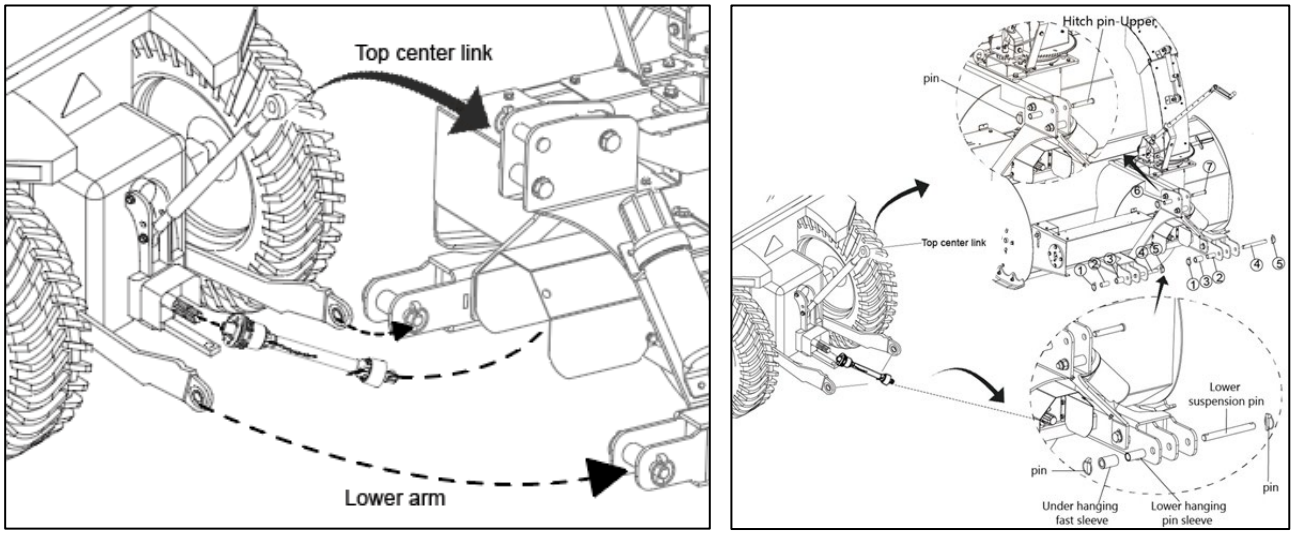


Figure 9

Driveline Installation

Listed below are common practices that may or may not be applicable to the products described in this manual.

Note: There are 3 types of PTO shafts available.

⚠DANGER

- Do not engage tractor PTO while hooking-up and unhooking the prop shaft or stand near a rotating prop shaft. A person's body and/or clothing may get entangled to cause severe injury.
- Do not use a power take-off adapter. The adapter will increase strain on the tractor's power take-off shaft causing possible damage to shaft and driveline. It will also defeat the purpose of the tractor's power take-off shield.

- Make certain driveline yokes are securely fastened at each end. A loose yoke can work free allowing the driveline to rotate uncontrollably.

See Figure 10

Type A shaft has interchangeable ends for installation;

Type B shaft shall have the end where safety pin locates connected with the implement;

Type C shaft shall have end where the clutch locates connected with the implement.

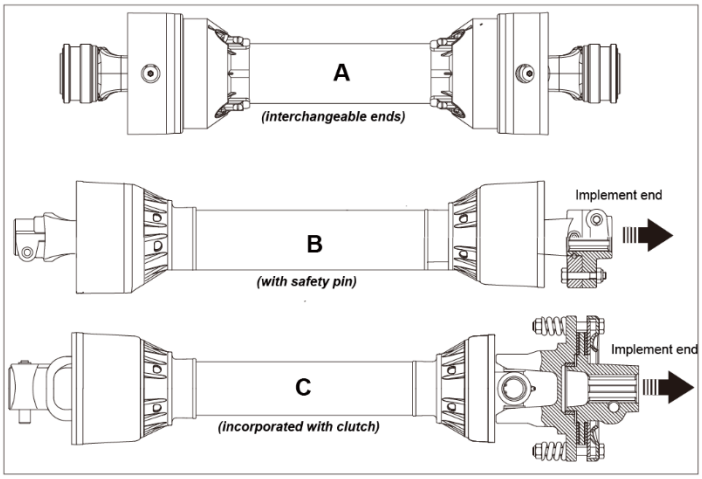


Figure 10

1. Park tractor on a level surface. Slowly engage tractor 3-Point lift lever to raise Snow blowers until gearbox shaft is in line (level) with tractor PTO shaft.
2. Support Snow blowers deck at this height with support jacks or blocks to keep Snow blowers from drifting down.
3. Place gear selector in park, set park brake, shut tractor off, and remove switch key.
4. Slide inner yoke (implement end) of driveline onto the gearbox. Secure driveline with yoke locking device.
5. Slide outer yoke of driveline over the tractor PTO shaft. Secure driveline with yoke locking device.
6. If the driveline is too long and does not fit between tractor and gearbox, skip to **Customize Driveline** to shorten the driveline.
7. The driveline should now be moved back and forth to ensure secured connection at both ends. Reattach any end that is loose. Go to **Driveline Length Check** to ensure proper accommodation.
8. Hook driveline safety chain on the tractor end of driveline to the tractor. Re-latch safety chain to the driveline shield.
9. Hook driveline safety chain on the Snow blowers end of driveline to the Snow blowers frame. Re-latch safety chain to the driveline shield.

Driveline Length Check

Before operating the Snow blower, ensure that the size of driveshaft is adequate. The driveshaft supplied with the machine has a standard length, therefore it may need an adaptation of the length, depending of the tractor which the Snow blower is attached with.
Maximum compressed position
The power take-off shaft and gearbox input shaft must be aligned and level with each other when checking driveline minimum length. A driveline that is too long can damage tractor and implement.

See Figure 11

Hold inner and outer drivelines parallel to each other as shown and measure distance ***L1:***

1. If ***L1*** is less than 1” (2.5 cm), skip to Customize Driveline to shorten the driveline.
2. If ***L1*** is greater than or equal to 1” (2.5 cm), skip to Maximum Extended Position below.

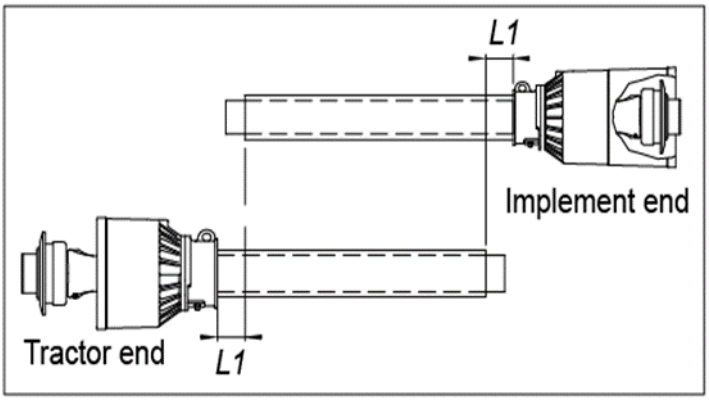


Figure 11

Maximum Extended Position

See Figure 12

The driveline maximum allowable length must, when fully extended, have a minimum overlap (***L2***) of profile tubes by not less than 1/3 the free length with both inner and outer profile tubes being of equal length.

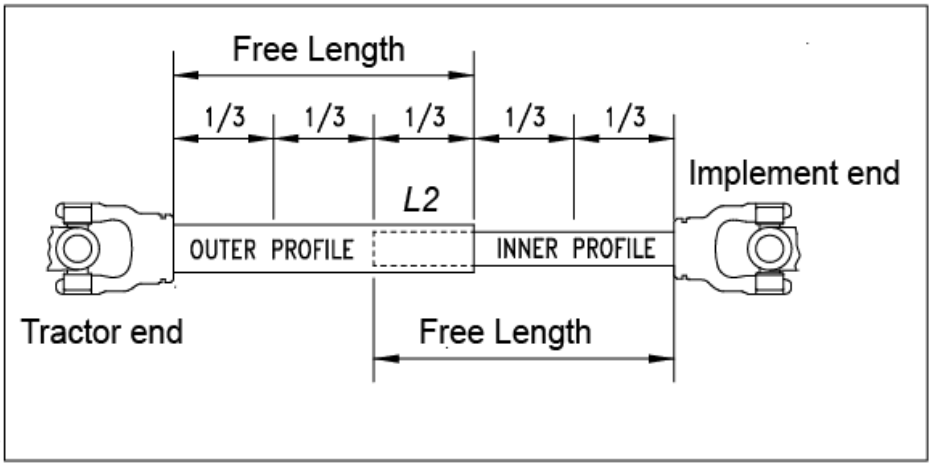


Figure 12

Customize Driveline

See Figure 13

1. Un-hook driveline from tractor PTO shaft and pull outer and inner drivelines apart.
2. Re-attach outer driveline to tractor PTO shaft. Pull on inner and outer drivelines to be sure universal joints are properly secured.
3. Hold inner and outer drivelines parallel to each other:

a. Measure 1" (2.5 cm) ("***L1***" dimension) back from outer driveline universal joint shield and make a mark at this location on the inner driveline shield.

b. Measure 1"(2.5 cm) ("***L1***" dimension) back from the inner driveline universal joint shield and make a mark at this location on the outer driveline shield.

4. Remove driveline from tractor and gearbox shafts.
5. Measure from end of inner shield to scribed mark ("X" dimension). Cut off inner shield at the mark. Cut same amount off the inner shaft ("X1" dimension).
6. Measure from end of outer shield to scribed mark ("Y" dimension). Cut off outer shield at the mark. Cut same amount off the outer shaft ("Y1" dimension).
7. Remove all burrs and cuttings.

8. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline.

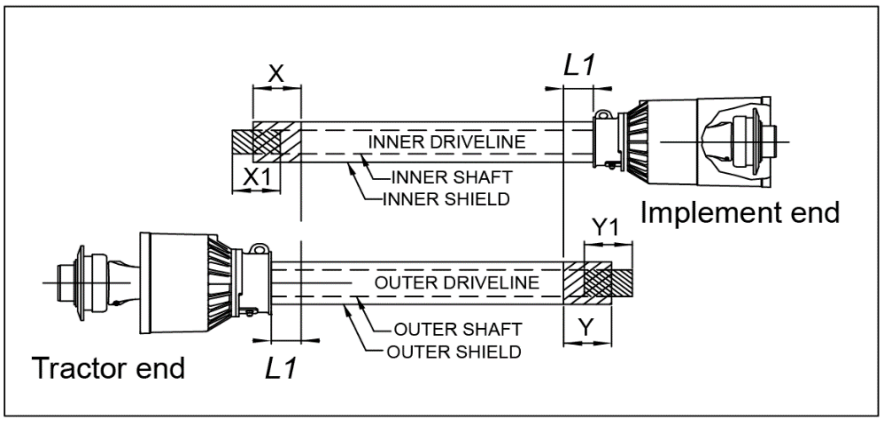


Figure 13

Driveline Interference Check

See Figure 14

Lowly engage tractor 3-Point control lever to snow blower while checking for sufficient tongue clearance. Move tongue ahead, aside, or remove if required.

1. Raise and lower implement to find maximum extended driveline length. Check to make certain the driveline does not exceed the maximum allowable length and lift it up or down in a reasonable range.
2. If needed, set tractor 3-Point lift height to keep driveline from exceeding the maximum allowable length and lift it up or down.

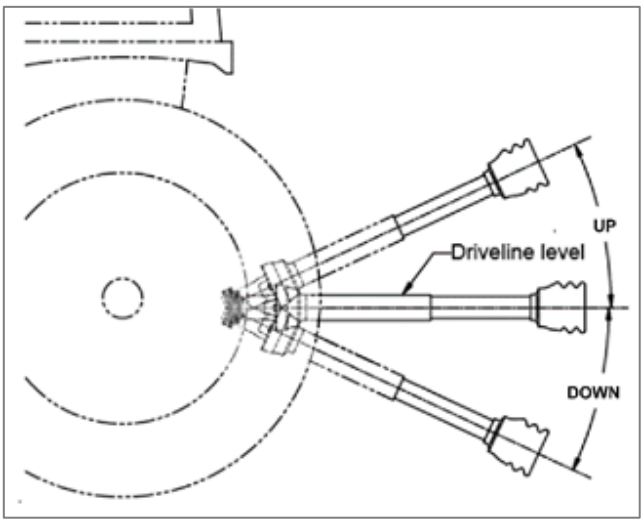


Figure 14

Note: if you have any problem during assembly and setup out of description, please contact us for supporting.

OPERATION

General Operating Instructions

Now that you have familiarized yourself with the Operator's Manual, completed the Operators Checklist, properly attached your Snow blowers to your tractor, you're almost ready to begin using the snow blower.

It's now time to do a running operational safety check. If at any time during this safety check you detect a malfunction in either the snow blowers or tractor shut the tractor off immediately, remove the key, and make necessary repairs or adjustments before continuing on.

Make sure the tractor's park brake is engaged, the tractor's PTO is disengaged, and the Snow blowers are resting on the ground. Start the tractor and then back the tractor throttle off till the engine is at low idle. With the tractor's rear hydraulic lift control lever, raise the Snow blowers to transport position making sure that the PTO shaft is not in a bind and does not come in contact with the snow blowers frame. If everything is running smoothly at this point increase the engine rpm until the tractor's engine reaches full PTO operating speed which will be 540 rpm. Slowly raise the snow blower to transport height to make sure the driveline does not bind or chatter. Then return the engine to low idle, disengage PTO, and position the adjustable stops on the tractor's hydraulic lift lever control console so the snow blower can be consistently returned to the same blowing and transport height.

You should now be ready to move to the blowing site to begin working. You should have inspected and should only be blowing in an area you are familiar with which is relatively free of debris and unseen objects. Never assume an area is clear. In the event you do strike an object, stop the tractor and Snow blowers immediately to inspect the rotor and make any necessary repairs before resuming operation. It pays to inspect a new area and to develop a plan before working.

Recommended working speed is less than 4 mph and you will need to maintain tractor PTO speed to produce a clean cut so make a tractor gear and range selection that will maintain this combination. Always blow downward on slopes and avoid crossing the face of steep slopes. Avoid sharp drops and cross diagonally through dips to prevent hanging up the tractor and Snow blowers. Slow down in turns and avoid sharp turns if at all possible. Remember to look back often.

Now you're prepared and well briefed so let's begin blowing snow. Reduce the tractor's engine rpm, make sure the Snow blowers is on the ground and in working position, engage the PTO, raise the engine rpm to the appropriate PTO speed, and begin working. Operators must plan a head and choose a working route that allows safe turns. Try increasing or decreasing ground speed to determine the effect on quality of blowing snow.

! CAUTION

Engage parking brake, shut off tractor, remove key, and disengage PTO before making any adjustments!

! CAUTION

Ensure Snow blowers with special supports if it is necessary to lift Snow blowers off the ground to make adjustments! If not supported, the Snow blowers could fall causing serious injury to those present.

Checklist before Operation

⚠CAUTION

Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training involved in the operation, transport, storage, and maintenance of the snow blower. Therefore, it is absolutely essential that no one operates the machine without first having read, fully understood, and become totally familiar with the Operator's Manual. Make sure all operators have completed the Checklist below.

Before operating the machine, the following steps should be inspected carefully:

1. Before starting up the machine, check and lubricate all grease points, on the machine and drive shaft. Check the oil level in the gearbox. Add as required.
2. Use only an agricultural tractor with horsepower within limits of the implement.
3. Check that the machine is properly attached to the tractor. Be sure retainers are used on the mounting pins.
4. Be sure extra weights are mounted on the front of the tractor, if required.
5. Check that the tractor PTO shaft turns freely and that the machine driving shaft can telescope easily.
6. Check the fans. Be sure they are not damaged or broken and swing freely in their mount. Repair or replace as required.
7. Check for entangled material in all rotating parts. Remove this material.
8. Install and secure all guards, hook and covers before starting.

9. Before installing the PTO ensure the engine is stopped and the PTO shaft is in safe working order.
10. All other people shall leave the area before connecting the driving power from the tractor.
11. Before cleaning, repairing and lubricating the machine, stop the motor and take the key away with you.
12. When the PTO shaft is not connected with the tractor, support it through the frame to protect it from lying in the dirt.
13. Don’t approach the machine when it is operating.
14. Check that the snow blower is properly attached to the tractor by inserting the safety latch.
15. Check that moving parts are free of any debris or tangled material.
16. Check that the machine is lubricated according to the schedule listed in the Maintenance section.
17. Check and ensure that all guards, shields and guards are in place, secured and working as designed.
18. Check that the snow outfeed assembly is turned in the proper working direction.
19. Check that the fan and angle go in the right direction of movement, the fan runs in the clockwise direction (towards the machine) for the right, and the angle rotates in the working direction.
20. Check and tighten all fasteners. Make sure the equipment is in good condition.
21. Check that appropriate personal protective equipment is available and being used.
22. Check that jewellery and loose clothing are not worn. Long hair must be tied behind the head.

Before startup

Each operator must be trained in the proper operating procedures prior to operating the machine. The new machine or machine long unused, you must first idling operation.

- Review location of the controls, their function, and movement direction when activated.
- Follow the Pre-Operation Check.

Lubrication Points Summary

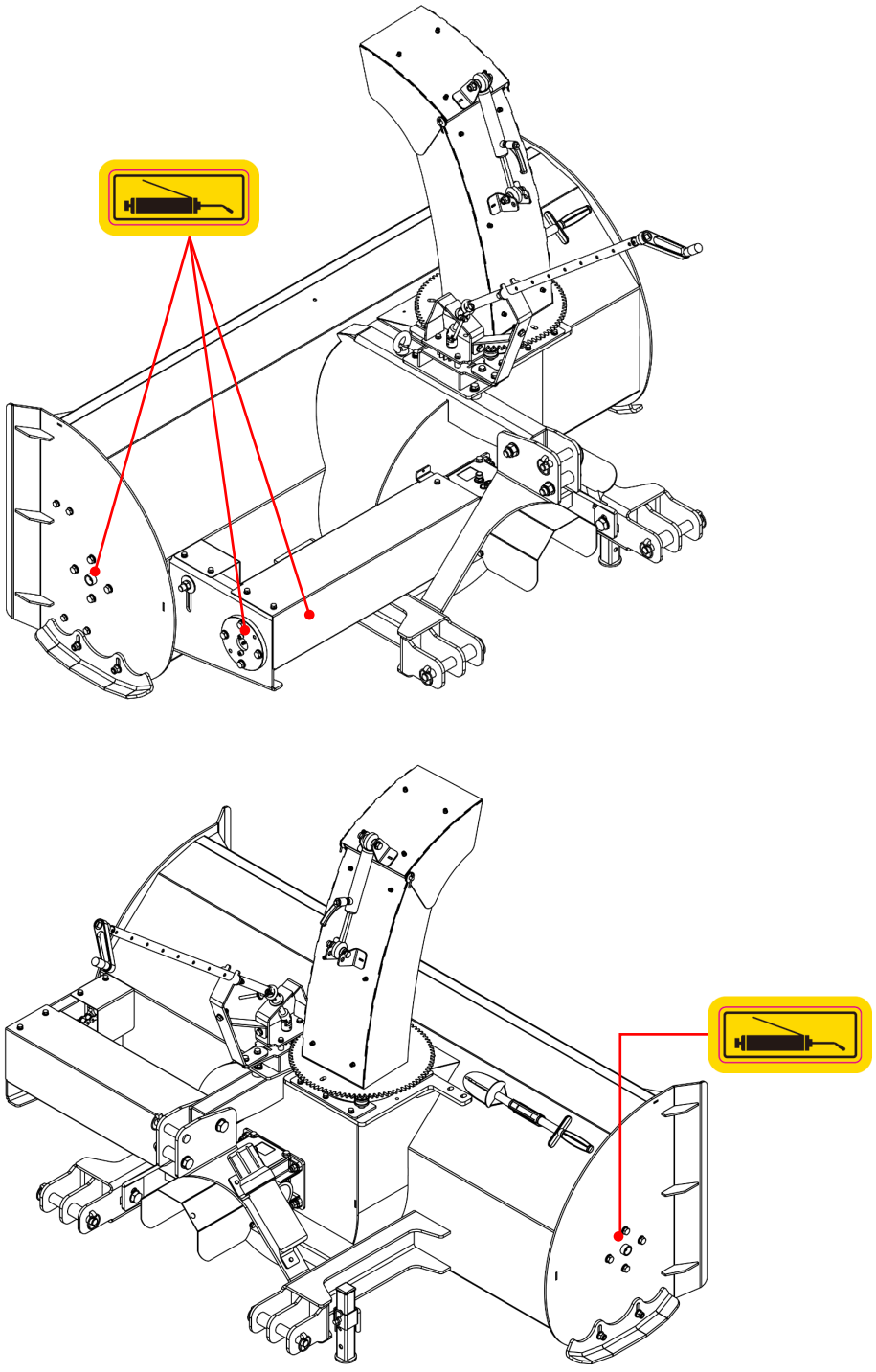


Figure 15

Operation

SNOW REMOVAL METHODS

When removing snow, do not use the snow blower as a dozer blade to push snow.

Let the snow blower work its way through deep drifts.

If the speed of your tractor is too fast, the snow blower may become overloaded and clog.

For best results, raise the snow blower and remove a top layer of snow.

A second pass with the snow blower will remove the remaining snow.

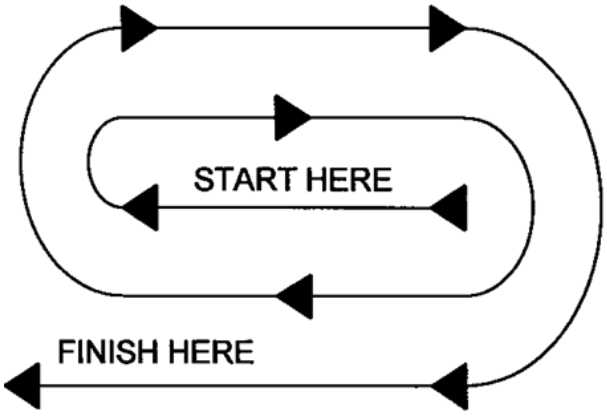
IMPORTANT: Use full RPM power when removing wet, sticky snow. Low RPM power will tend to clog.

WARNING: 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 patterns will avoid throwing snow in unwanted places as well as eliminating a second removal of snow.

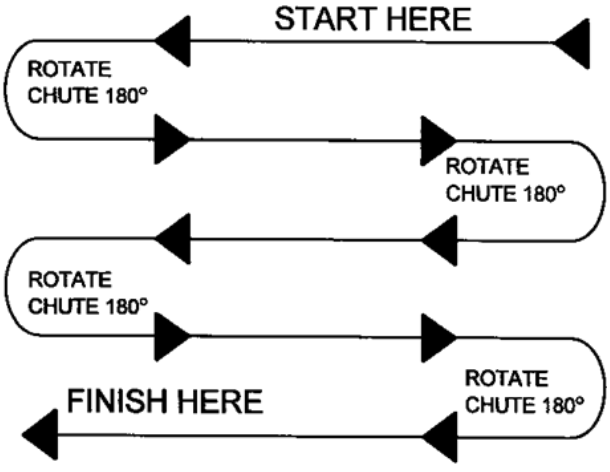
PATTERN 1

DISCHARGE SNOW BOTH SIDES



DISCHARGE SNOW BOTH SIDES

PATTERN 2



DISCHARGE SNOW THIS SIDE ONLY

PATTERN1:

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.

PATTERN2:

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.

Operating Finish



WARNING: Provide adequate blocking before working under the snow blower when in the raised position.

1. Park the machine on dry, level ground. Turn ignition to OFF and remove the key.
2. Allow the engine to idle for 5 minutes to cool.
3. Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
4. Inspect machine and replace worn or damaged parts.
5. Replace any safety decals that are missing or not readable.

1. Driveline

IMPORTANT: When the snow blower is not used for more than two weeks, perform driveline maintenance and always store it in a dry place, away from bad weather conditions.

2. Bolts

Check bolts for tightness to ensure the blower is in safe working condition.

3. Gearbox

NOTE: Do not overfill! Snow Blower should be level when checking oil. Oil expands when hot, therefore, always check oil level when cold. Remove oil level plug shown with arrow. If oil is below bottom of plug hole, add recommended gear lube through oil level plug hole until oil flows out of the hole. Reinstall and tighten oil level plug.

4. Lubrication

Use oil or a grease gun and lubricate as follows

DESCRIPTION	INTERVAL	LUBRICATION REQUIRED
Driveline	8 hours	Grease each universal joint. Separate the sliding parts and cover each one of them with grease
	16 hours	Oil the push pins
Chain	4 hours and after each operation	Lubricate with chain lube
Drive Shaft	24 hours of operation	Grease fitting on shear plate

DESCRIPTION	INTERVAL	LUBRICATION REQUIRED
Gearbox	Every month	Check oil level. If needed, add 1 Qt SAE 90 oil
	250 hours	Replace oil
Bearing	24 hours of operation	Grease each auger bearing

Inspection after Operation

Perform maintenance procedures at time shown or hour interval, whichever comes first.

Inspection unit list	Inspection time
Grease Gearbox	Regular refueling
Grease PTO shaft (if equipped)	Every 50 hours of operation or weekly
Check condition of bucket teeth	Every 50 hours of operation or weekly
Clean machine—remove any entangled material or debris build-up.	Every 100 hours of operation or annually
Check oil level in PTO Pump Kit reservoir (if equipped)	Every 100 hours of operation or annually
Replace return filter on PTO Pump Kit (if equipped)	Every 500 hours of operation

SERVICE AND MAINTENANCE

General Service

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent service.

Each 4 hours of work:

Check and tighten nuts and bolts.

Grease with lithium based grease when it is indicated by the symbol GREASE.

After 50 hours of work:

Check and fill the gearbox to the required level, using oil type SAE EP 90W.

Gearbox Maintenance

The oil should be drained out and replaced after the first 50 hours of operation. Then the oil should be changed every 250 hours.

Drain oil from the gearbox thoroughly. Check and clean it. Fill with new gear oil up to the dedicated oil level.

The draining procedure is as follows: remove the draining bolt under the gear box, so that the oil drains off. After the oil is drained out, put the plug back and fill with gear oil up to the dedicated oil level.

PTO Shaft Maintenance

It is recommended to lubricate the PTO shaft with multi-purpose grease after every 8 to 10 hours of use during heavy use. The PTO shaft is designed to telescope to allow for dimensional changes as the machine goes through its operating range. A tubular guard encloses the driving components and is designed to turn relative to the driving components. The shaft should telescope easily and the guard turn freely on the shaft at all times. Annual disassembly, cleaning and lubrication is recommended to insure that all components function as intended. To maintain the shaft, follow this procedure:

1. Remove the shaft from the machine.
2. Pull shaft apart.
3. Use a screwdriver to pry the tabs out of the sleeves on each end.
4. Pull the shaft out of the plastic tubular guard.
5. Use a solvent to clean the male and female portions of the telescoping ends.
6. Apply a light coat of grease to each end.

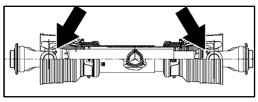
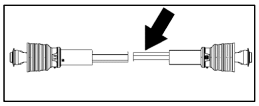
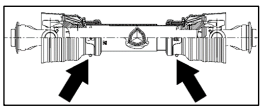
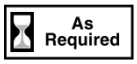
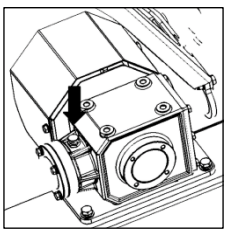
7. Clean the grooves on each end where the tabs are located. Clean each tab also.
8. Apply a light coat of grease to each groove.
9. Insert the shaft into its respective guard and align the slots with the groove.
10. Insert the tabs through the slots and seat in the groove.
11. Check that each guard turns freely on the shaft.
12. Assemble the shaft.
13. Check that the shaft telescopes easily.
14. Replace any components that are damaged or worn.
15. Install the shaft on the machine.

Lubrication Parts

Lubrication legend list:

Name	Multi-purpose spray lube	Multi-purpose grease lube	Multi-purpose oil lube	Intervals in hours at which lubrication is required
Image				

Lubrication parts list:

Interval	Type	Name	Parts Image	Remark
	 Multi-purpose Grease	**Driveline Shaft U-Joints**		Quantity - 4 to 8 Pumps
		Driveline Profiles		Quantity - Clean & coat inner profile tube of driveline with a light film of grease and then reassemble.
		Inner tube bearings		Quantity - As Required
	 SAE EP 90W Gear Lube	**Gearbox**		Add visual to the center of the gear oil Reinstall plugs and tighten. **Do not overfill!** Should your gearbox require service, take it to your manufacturer dealer.
	 Multi-purpose Grease	**Other parts**	If the GREASE labels () are posted on the machine, you need to lubricate it regularly. Recommend lubrication interval is 25hours.	

Tightening Torque

Please follow the table below to identify the torque value as required.

Torque Values Chart for Common Bolt Sizes													
	Bolt Head Identification							Bolt Head Identification					
Bolt Size (inches)	Grade 2		Grade 5		Grade 8		**Bolt Size** (Metric)	5. 8 Class 5.8		8. 8 Class 8.8		10. 9 Class 10.9	
in-tpi [1]	N · m [2]	ft-lb [3]	N · m	ft-lb	N · m	ft-lb	mm x pitch [4]	N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1-1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1-1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1-1/4" - 12	750	555	1680	1240	2730	2010	[1] in-tpi = nominal thread diameter in inches-threads per inch						
1-3/8" - 6	890	655	1990	1470	3230	2380	[2] N· m = newton-meters						
1-3/8" - 12	1010	745	2270	1670	3680	2710	[3] ft-lb= foot pounds						
1-1/2" - 6	1180	870	2640	1950	4290	3160	[4] mm x pitch = nominal thread diameter in millimeters x thread pitch						
1-1/2" - 12	1330	980	2970	2190	4820	3560							
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above. All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)													

- This chart is an approximate estimate of torque values.
- Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.
- Fasteners must always be replaced with the same grades as specified in the manual.
- Always use the proper tool for tightening hardware; SAE for SAE hardware and Metric for Metric hardware.
- Make sure that fastener threads are clean and that you properly start thread engagement.

STORAGE AND TRANSPORT

Storage

Listed general storage is the common that may or may not be application to implement the described in this manual.

Short-Term Storage

If the implement will not be used for a short period (less than 30 days), clean the machine thoroughly after each use. Store it in a cool, dry, and well-ventilated area that is inaccessible to children and protected from direct sunlight, rain, and other harsh weather conditions.
Turn off the power before storage and keep the machine clean and dry to avoid corrosion and premature wear.

Long-Term Storage

If the implement will not be used for a prolonged period (more than 30 days), turn off the power, clean the surface, and store it in a cool, dry location inaccessible to children and away from direct sunlight, wet and rain.
For long-term storage, the implement should be packed in its original shipping condition. If possible, store the machine indoors to reduce maintenance and extend its service life. If indoor storage is not available, use an appropriate breathable protective cover to keep the machine dry and clean. To ensure maximum performance and minimum deterioration, perform the following procedures when the implement will be idle for more than 30 days:

1. Remove any dirt and grease that may have accumulated on the implement and moving parts. Scrape off compacted dirt from under the hood. Clean the machine inside and out so as to avoid corrosion.
2. Wash the implement and let it dry (Waxing will help prevent paint oxidation). Don’t spray water on the rolling bearing, if you clean the machine with high pressure sprayer.
3. Inspect the machine for worn or broken parts fully. Replace or grease it as necessary.
4. Check blades and bolts etc. for wear and replace if necessary.
5. Check and clean the universal joint, driving belt press roller, or replace them if they are not in good condition. Lubricate wherever needed.
6. Grease all pivot pins. Liberally apply cup grease to all bare.
7. Re-coat the parts rubbed and damaged for anti-corrosion.
8. Use a protective on hoses to keep them from weathering.

Transport

⚠WARNING

- Always disengage power take-off before raising snow blower to transport position.
- When traveling on roadways, travel in such a way that other vehicles may pass you safely. Always use LED lights, clean reflectors, and a slow moving vehicle sign that is visible from the back to warn operators in other vehicles of your presence.
- Always comply with all federal, state, and local laws.

Before transport the implement, you should following the steps below:

1. When raising snow blower to transport position, be sure driveline does not contact tractor or snow blower. If needed, adjust and set tractor 3-point lift height to limit snow blower movement and to protect driveline.
2. Be sure to reduce tractor ground speed when turning, leaving enough clearance so that the snow blower does not contact obstacles such as buildings, trees, fences, etc.
3. Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.

TROUBLESHOOTING

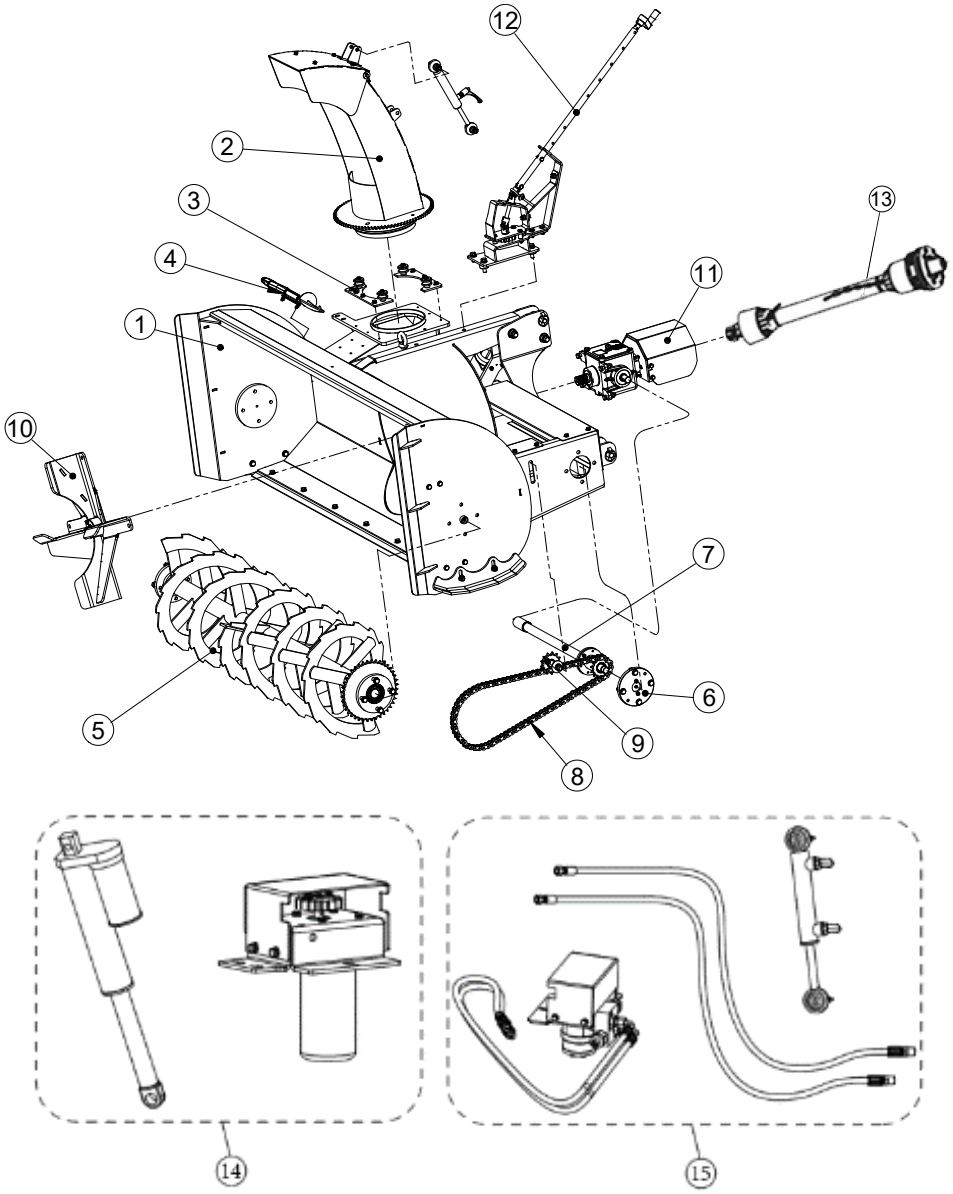
Listed general troubleshooting is the common malfunction that may or may not be application to the described in this manual. If you have any problem not covered in the list, please contact us for technical supporting.

Malfunction	Possible Solution
Not throwing snow	Operate at full throttle (540 PT0 rpm), check PTO speed and tractor engine shift transmission to a lower gear Discharge chute is plugged. Clear chute.
Excessive vibration	Discharge fan blade is bent or missing
Gearbox noisy	Check oil level
Auger is not turning	Replace shear bolts on auger torque limited
Discharge fan is not turning	Tighten the clutch bolt of the PTO drive shaft
Snow not completely removed from surface Skid shoe needs adjustment	• Disengage the auger and drive controls, wait ten seconds for the auger to stop rotating. Loosen the two hex nuts on the skid show on either side of the snow blower. •Raise the skid shoes so the entire bottom surface of the skid show rests on the ground evenly. Retighten the hex nuts on both sides. This adjustment allows the auger to come into closer contact with the ground surface.
Snow blower continually clogs Machine does not propel itself forward	• Operate at a slower pace to allow the snow blower to dispel snow through the discharge chute. •Forcing the snow blower to move faster than it can remove the snow will result in clogged auger and/or discharge chute. Do not overload the blower in extremely heavy or wet snow.

EXPLODED VIEW AND PARTS LIST

SNOW BLOWER

Applies to model: TSA-0506, TSA-0507



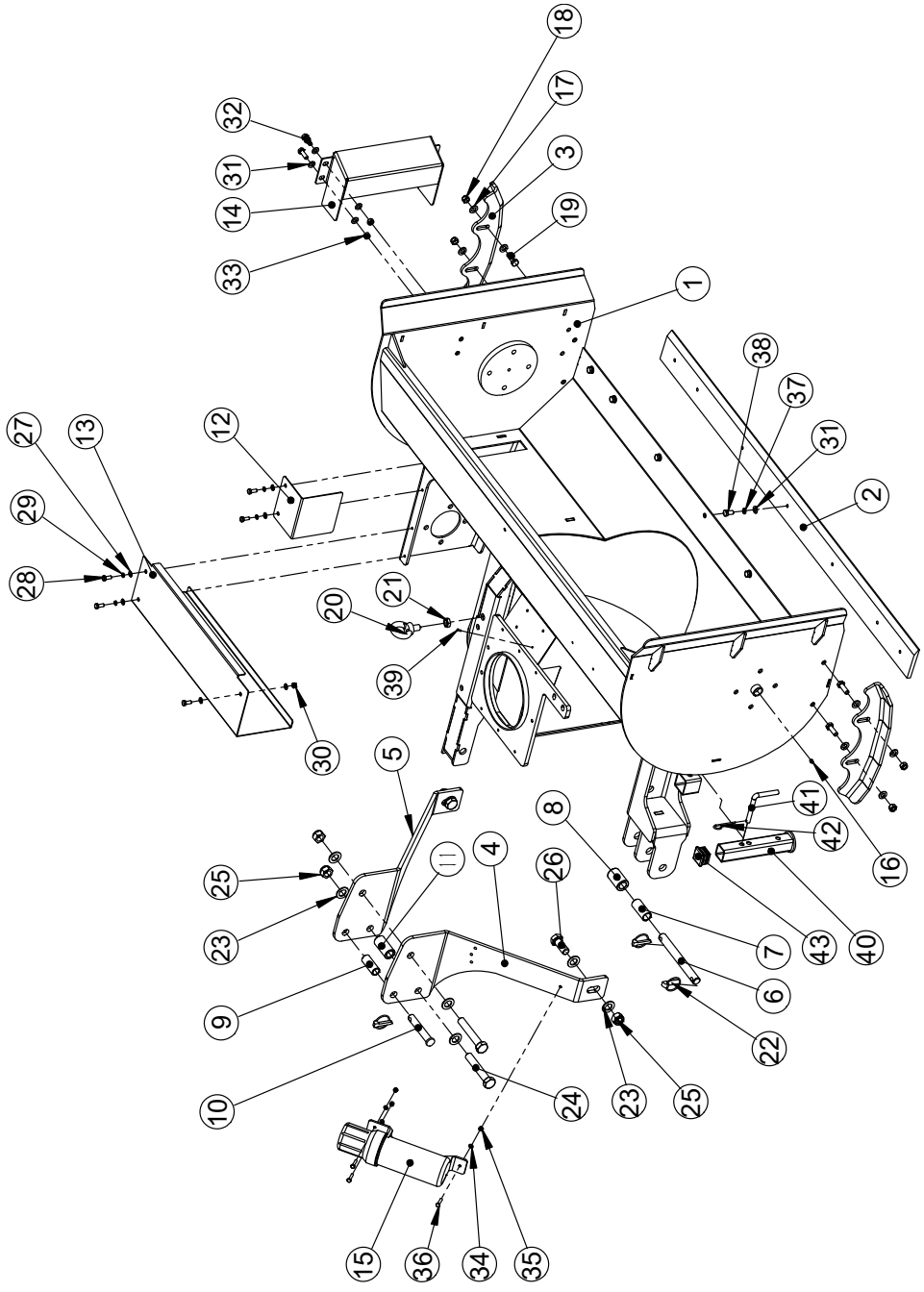
Machine (TSA-0506/ TSA-0507) parts name list:

POS.	COD.	Specification	Description	TSA-0506 Qty.	TSA-0507 Qty.
1	2060109244	R03019B01000-000	Bucket body	1	-
	2060109243	R03020B01000-000		-	1
2	2090005116	R03002B02000-000	Outfeed system	1	1

POS.	COD.	Specification	Description	TSA-0506 Qty.	TSA-0507 Qty.
3	2090005117	R03002B03000-000	Pressboard	2	2
4	2060105420	R03002B09000-000	Snow shovel	1	1
5	2060108539	R03019A03000-000	Stirring system	1	-
	2060108544	R03020A03000-000		-	1
6	2060105422	R03002B08000-000	Bearing seat	1	1
7	2090005120	R03002B06000-000	Drive as-torque limiter	1	-
	2090005137	R03003B06000-000		-	1
8	3160800005	GB_T1243-12A-1×84	Roller chain	1	-
	3160800006	GB_T1243-12A-1×86		-	1
9	2090005121	R03002B07000-000	Tensioner pulley	1	1
10	2060108410	R03017A04000-000	Fan	1	-
	2060107282	R03009A04000-000		-	1
11	2060107280	R03009A02000-000	Gearbox	1	1
12	2090006056	R03009A05000-000	Manual steering	1	1
13	3160200025	T4S-BS-4S.0507-4S.FF1*800	PTO shaft	1	1
14	2090006481	R03018A21000-000	Electric steering system (optional)	1	1
15	2090006482	R03018A22000-000	Hydraulic steering system (optional)	1	1

BUCKET BODY

Applies to model: TSA-0506



Bucket body (TSA-0506) parts name list:

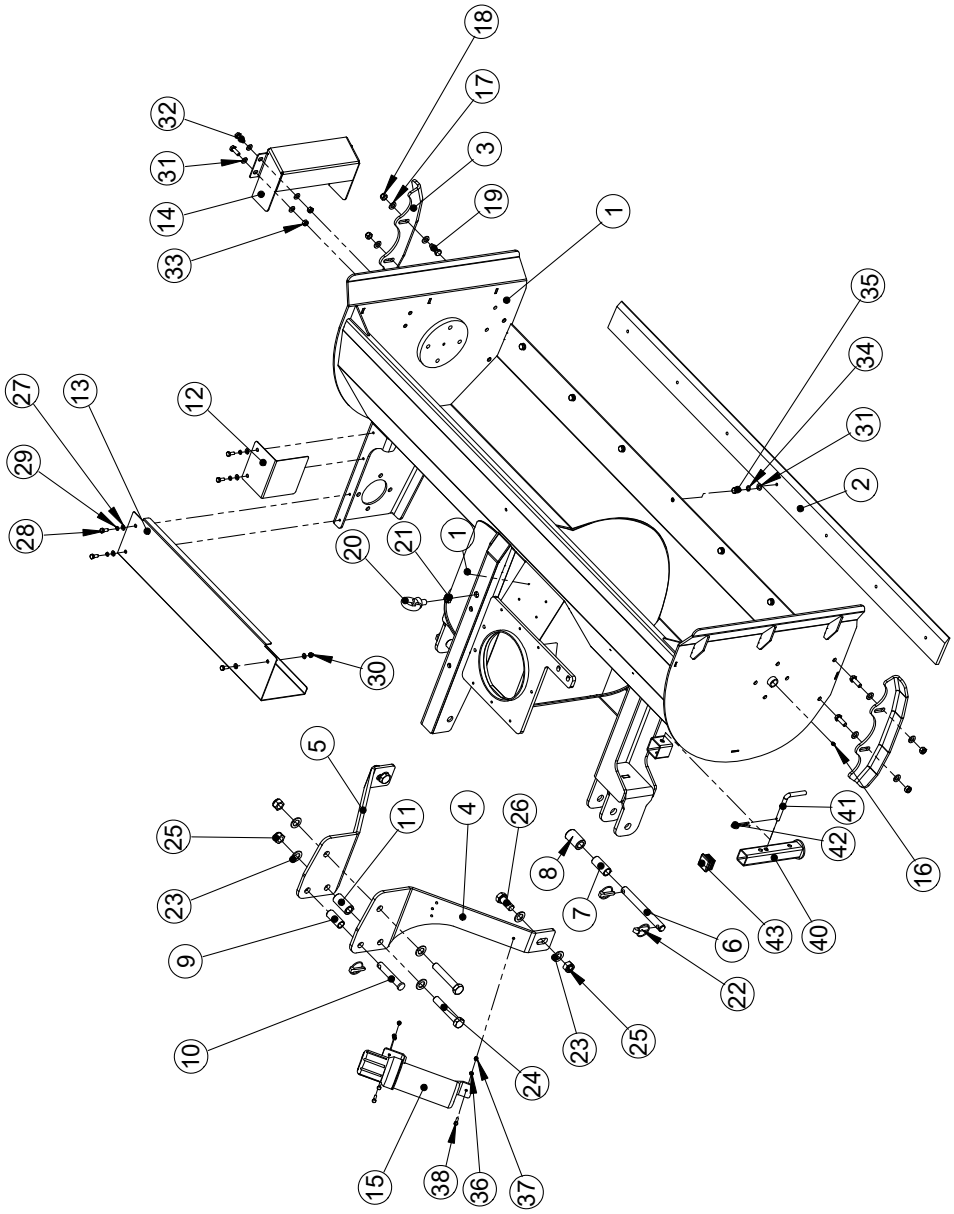
POS.	COD.	Specification	Description	Qty.
1	2020009387	R03019B01100-000	Hood weldment	1
2	3220100682	R03017A01000-001	Blade	1
3	2000006109	R03009A01000-002	skid plate	2
4	2000006110	R03009A01000-003	Left side of suspension	1

POS.	COD.	Specification	Description	Qty.
5	2000006112	R03009A01000-004	Right side of suspension plate	1
6	2010005656	F24008A01000-003	Lower suspension pin	2
7	2010005657	F24008A01000-004	Type 2 lower suspension quick sleeve	2
8	2010005658	F24008A01000-005	Hang Lower suspension quick change sleeve pin	2
9	2010005729	R03009A01000-005	Suspension sleeve	1
10	3120500007	MT95012	Hitch pin-Upper	1
11	2010005728	R03009A01000-006	Suspension sleeve	1
12	2000006113	R03009A01000-007	Sprocket cover	1
13	2000006942	R03019A01000-001	Transmission shaft cover	1
14	2000006115	R03009A01000-009	Front baffle	1
15	3210300013	Blank logo-L	manual barrel	1
16	3170400002	JB/T7940.1-M6 304	Grease nipple	2
17	3080100007	GB/T95-12-EP•Zn	Plain washer	8
18	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	4
19	3040100069	GB/T5783-M12×35- 8.8EP•Zn	Full-thread hex. bolts	4
20	3041300002	GB/T825-M16×28-EP•Zn•P	Eye bolt	1
21	3050300006	GB/T6172.1-M16-04-EP•Zn	Hex. thin nut	1
22	3120400007	GB/T4329-12-EP•Zn	Pin	5
23	3080100011	GB/T95-20-EP•Zn	Flat washer	8
24	3040300075	GB/T5782-M20×120- 8.8EP•Zn	Hex. head bolts	2
25	3050500011	GB/T889.1-M20-8-EP•Zn	Locknut	4
26	3040100137	GB/T5783-M20×50- 8.8-EP•Zn	Full-thread hex. bolts	2
27	3080100004	GB/T95-8-EP•Zn	Plain washer	6

POS.	COD.	Specification	Description	Qty.
28	3040100022	GB/T5783-M8×20- 8.8-EP•Zn	Full-thread hex. bolts	5
29	3080500007	GB/T93-8-EP•Zn	Spring washer	4
30	3050500003	GB/T889.1-M8-8-EP•Zn	Locknut	1
31	3080100006	GB/T95-10-EP•Zn	Plain washer	15
32	3040100045	GB/T5783-M10×30- 8.8-EP•Zn	Full-thread hex. bolts	4
33	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	4
34	3080100003	GB/T95-6-EP•Zn	Plain washer	3
35	3050500002	GB/T889.1-M6-8-EP•Zn	Locknut	3
36	3040100009	GB/T5783-M6×30- 8.8-EP•Zn	Full-thread hex. bolts	3
37	3080500008	GB/T93-10-EP•Zn	Spring washer	7
38	3040100041	GB/T5783-M10×20- 8.8-EP•Zn	Full-thread hex. bolts	7
39	3070100001	GB/T12618.4-3×10	Open end Oind rivets	4
40	2020008770	R03018A01200-000	Leg weldment	1
41	2010000017	G01001A16000-001	Rake pin	1
42	3120400008	Din11024-4-EP•Zn	R Pin	1
43	3210200004	41×41	Square pipe plug	1

BUCKET BODY

Applies to model: TSA-0507



Bucket body (TSA-0507) parts name list:

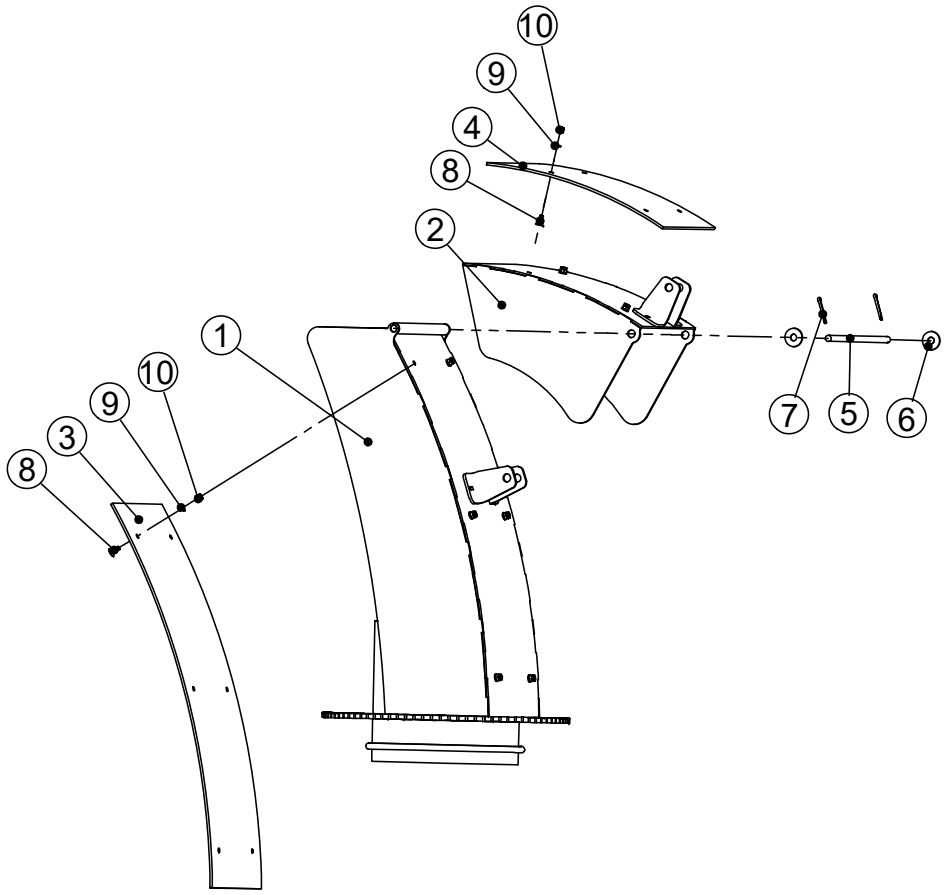
POS.	COD.	Specification	Description	Qty.
1	2020009386	R03020B01100-000	Hood weldment	1
2	2000006111	R03009A01000-001	Blade	1
3	2000006109	R03009A01000-002	Skid plate	2
4	2000006110	R03009A01000-003	Left side of suspension	1
5	2000006112	R03009A01000-004	Right side of suspension	1
6	2010005656	F24008A01000-003	Lower suspension pin	2

POS.	COD.	Specification	Description	Qty.
7	2010005657	F24008A01000-004	Type 2 lower suspension	2
8	2010005658	F24008A01000-005	Hang Lower suspension	2
9	2010005729	R03009A01000-005	Suspension sleeve	1
10	3120500007	MT95012	Hitch pin-Upper	1
11	2010005728	R03009A01000-006	Suspension sleeve	1
12	2000006113	R03009A01000-007	Sprocket cover	1
13	2000006902	R03009B01000-008	Transmission shaft cover	1
14	2000006115	R03009A01000-009	Front baffle	1
15	3210300013	Blank logo-L	manual barrel	1
16	3170400002	JB/T7940.1-M6 304	Grease nipple	2
17	3080100007	GB/T95-12-EP•Zn	Plain washer	8
18	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	4
19	3040100069	GB/T5783-M12×35- 8.8-EP•Zn	Full-thread hex. bolts	4
20	3041300002	GB/T825-M16×28-EP•Zn•P	Eye bolt	1
21	3050300006	GB/T6172.1-M16-04-EP•Zn	Hexagon thin nut	1
22	3120400007	GB/T4329-12-EP•Zn	Pin	5
23	3080100011	GB/T95-20-EP•Zn	Flat washer	8
24	3040300075	GB/T5782-M20×120- 8.8EP•Zn	Hex. head bolts	2
25	3050500011	GB/T889.1-M20-8-EP•Zn	Locknut	4
26	3040100137	GB/T5783-M20×50- 8.8-EP•Zn	Full-thread hex. bolts	2
27	3080100004	GB/T95-8-EP•Zn	Plain washer	6
28	3040100022	GB/T5783-M8×20- 8.8-EP•Zn	Full-thread hex. bolts	5
29	3080500007	GB/T93-8-EP•Zn	Spring washer	4
30	3050500003	GB/T889.1-M8-8-EP•Zn	Locknut	1
31	3080100006	GB/T95-10-EP•Zn	Plain washer	15
32	3040100045	GB/T5783-M10×30- 8.8-EP•Zn	Full-thread hex. bolts	4

POS.	COD.	Specification	Description	Qty.
33	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	4
34	3080500008	GB/T93-10-EP•Zn	Spring washer	7
35	3040100041	GB/T5783-M10×20- 8.8-EP•Zn	Full-thread hex. bolts	7
36	3080100003	GB/T95-6-EP•Zn	Plain washer	3
37	3050500002	GB/T889.1-M6-8-EP•Zn	Locknut	3
38	3040100009	GB/T5783-M6×30- 8.8-EP•Zn	Full-thread hex. bolts	3
39	3070100001	GB/T12618.4-3×10	Open end Oind rivets	4
40	2020008770	R03018A01200-000	Leg weldment	1
41	2010000017	G01001A16000-001	Rake pin	1
42	3120400008	Din11024-4-EP•Zn	R Pin	1
43	3210200004	41×41	Square pipe plug	1

OUTFEED SYSTEM

Applies to model: TSA-0506, TSA-0507

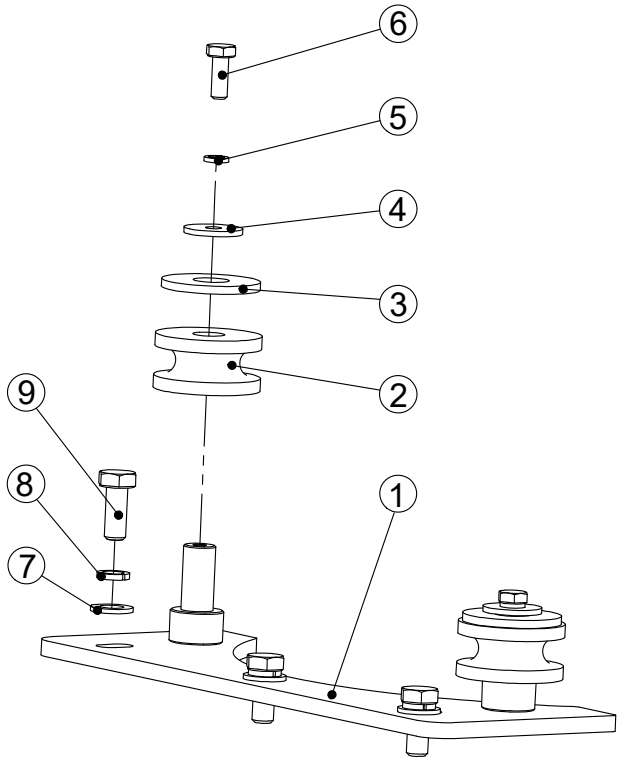


Outfeed system (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2020000969	R03002A02100-000	Discharge chute	1
2	2020000968	R03002A02200-000	Deflector	1
3	2000000477	R03002A02000-002	Back panel	1
4	2000000476	R03002A02000-003	Flap cover plate	1
5	2010000353	R03002A02000-001	Install pin	1
6	3080200009	GB/T96.2-10-EP•Zn	Large plain washer	2
7	3120100093	GB/T91-4×32	Split pin	2
8	3060200005	GB/T70.3-M6×16-8.8-EP•Zn	HSCS-Countersunk	10
9	3080100003	GB/T95-6-EP•Zn	Plain washer	10
10	3050500002	GB/T889.1-M6-8-EP•Zn	Locknut	10

PRESSBOARD

Applies to model: TSA-0506, TSA-0507

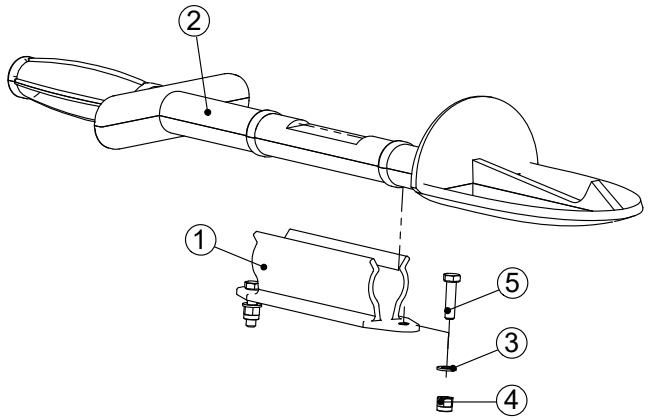


Pressboard (TAS-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2020000967	R03002A03100-000	Press plate weldment	1
2	2010000354	R03002A03000-001	pulley	2
3	3080200010	GB/T96.2-12-EP•Zn	Large plain washer	2
4	3080300002	GB/T5287-6-EP•Zn	Large plain washer	2
5	3080500006	GB/T93-6-EP•Zn	Spring washer	2
6	3040100005	GB/T5783-M6×16- 8.8-	Full-thread hex. bolts	2
7	3080100004	GB/T95-8-EP•Zn	Plain washer	3
8	3080500007	GB/T93-8-EP•Zn	Spring washer	3
9	3040100022	GB/T5783-M8×20- 8.8-	Full-thread hex. bolts	3

SNOW SHOVEL

Applies to model: TSA-0506, TSA0507

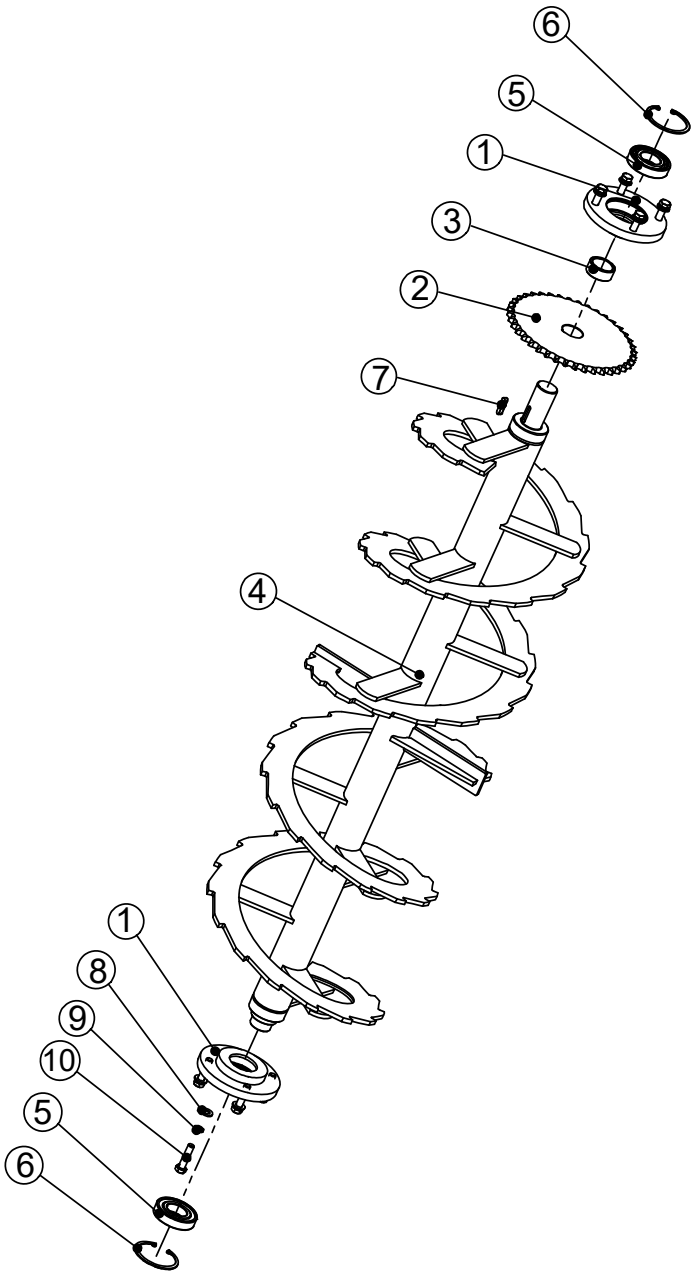


Snow shovel (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	3210500026	BP-T1	Rubber	1
2	3210500027	BP-T2	Rubber	1
3	3080100002	GB/T95-5-EP•Zn	Plain washer	2
4	3050500001	GB/T889.1-M5-8-EP•Zn	Locknut	2
5	3040100002	GB/T5783-M5×20- 8.8-EP•Zn	Full-thread hex. bolts	2

STIRRING (AUGER) SYSTEM

Applies to model: TSA-0506

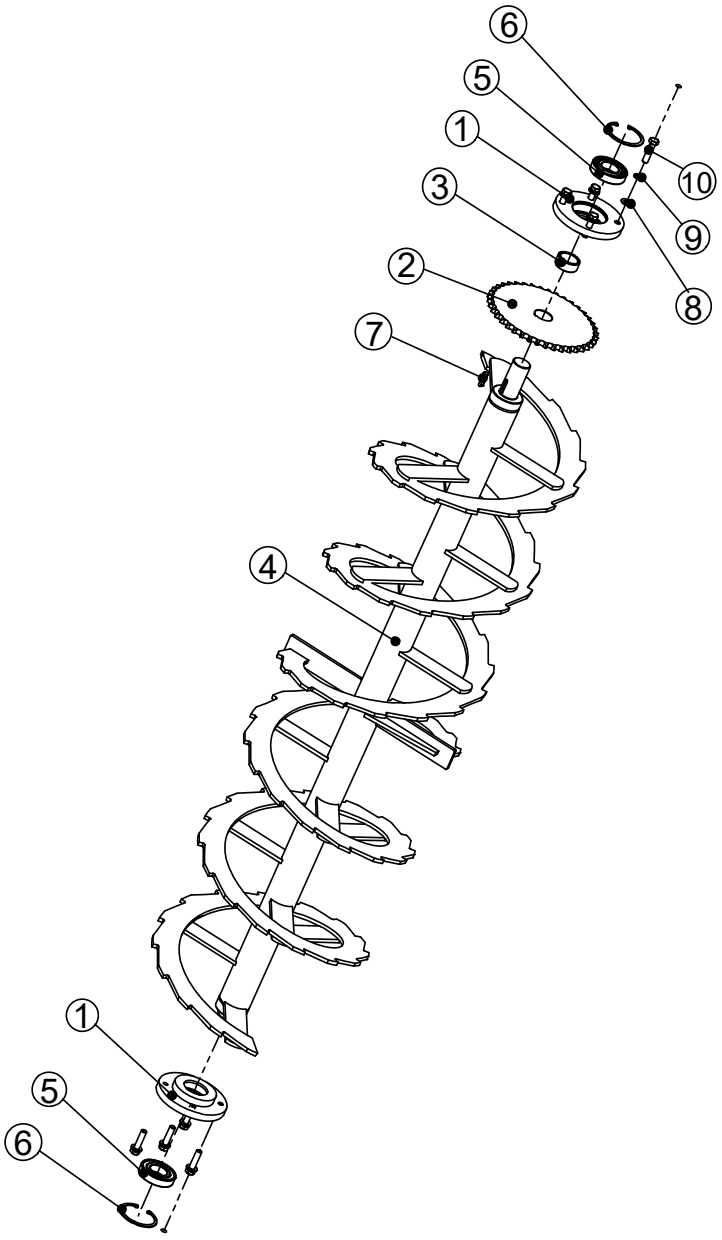


Stirring (auger) system (TSA-0506) parts name list:

POS.	COD.	Specification	Description	Qty
1	2010000360	R03002A04000-001	Agitating bearing seat	2
2	3160700011	R03002A04000-003	Chain wheel	1
3	2010000359	R03002A04000-002	Stirring shaft end bushing	1
4	2020008404	R03017A03100-000	Stir up welding parts	1
5	3100100044	GB_T276-6208-RS	Deep groove ball bearing	2
6	3080600046	GB/T893-80-A	Retaining rings for borP	2
7	3090100615	BP.GBT4	Key	1
8	3080100007	GB/T95-12-EP•Zn	Plain washer	8
9	3080500009	GB/T93-12-EP•Zn	Spring washer	8
10	3040100073	GB/T5783-M12×50- 8.8-EP•Zn	Full-thread hex. bolts	8

STIRRING (AUGER) SYSTEM

Applies to model: TSA-0507

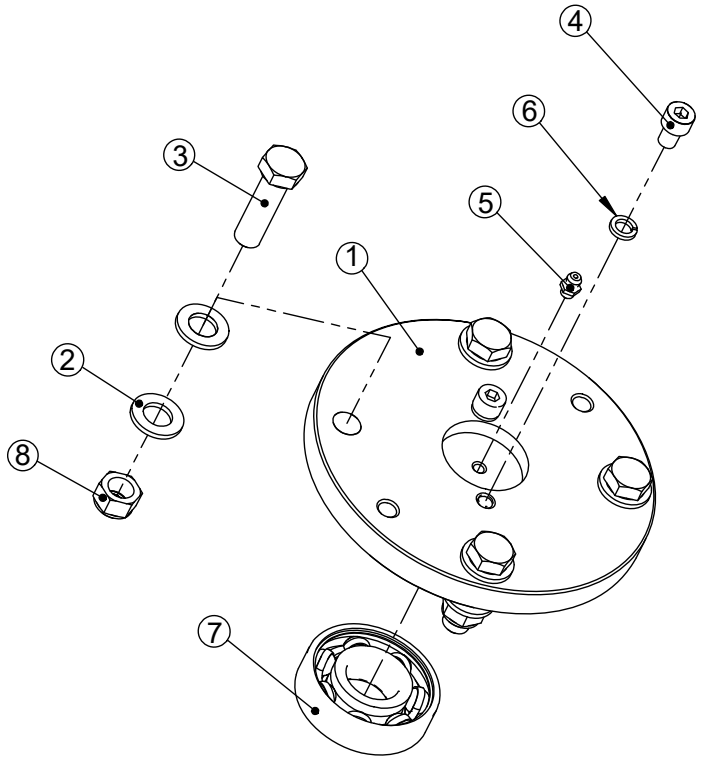


Stirring (auger) system (TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty
1	2010000360	R03002A04000-001	Agitating bearing seat	2
2	3160700011	R03002A04000-003	Chain wheel	1
3	2010000359	R03002A04000-002	Stirring shaft end bushing	1
4	2020007215	R03009A03100-000	Stir up welding parts	1
5	3100100044	GB_T276-6208-RS	Deep groove ball bearing	2
6	3080600046	GB/T893-80-A	Retaining rings for borP	2
7	3090100615	BP.GBT4	Key	1
8	3080100007	GB/T95-12-EP•Zn	Plain washer	8
9	3080500009	GB/T93-12-EP•Zn	Spring washer	8
10	3040100073	GB/T5783-M12×50- 8.8-EP•Zn	Full-thread hex. bolts	8

BEARING SEAT

Applies to model: TSA-0506, TSA-0507

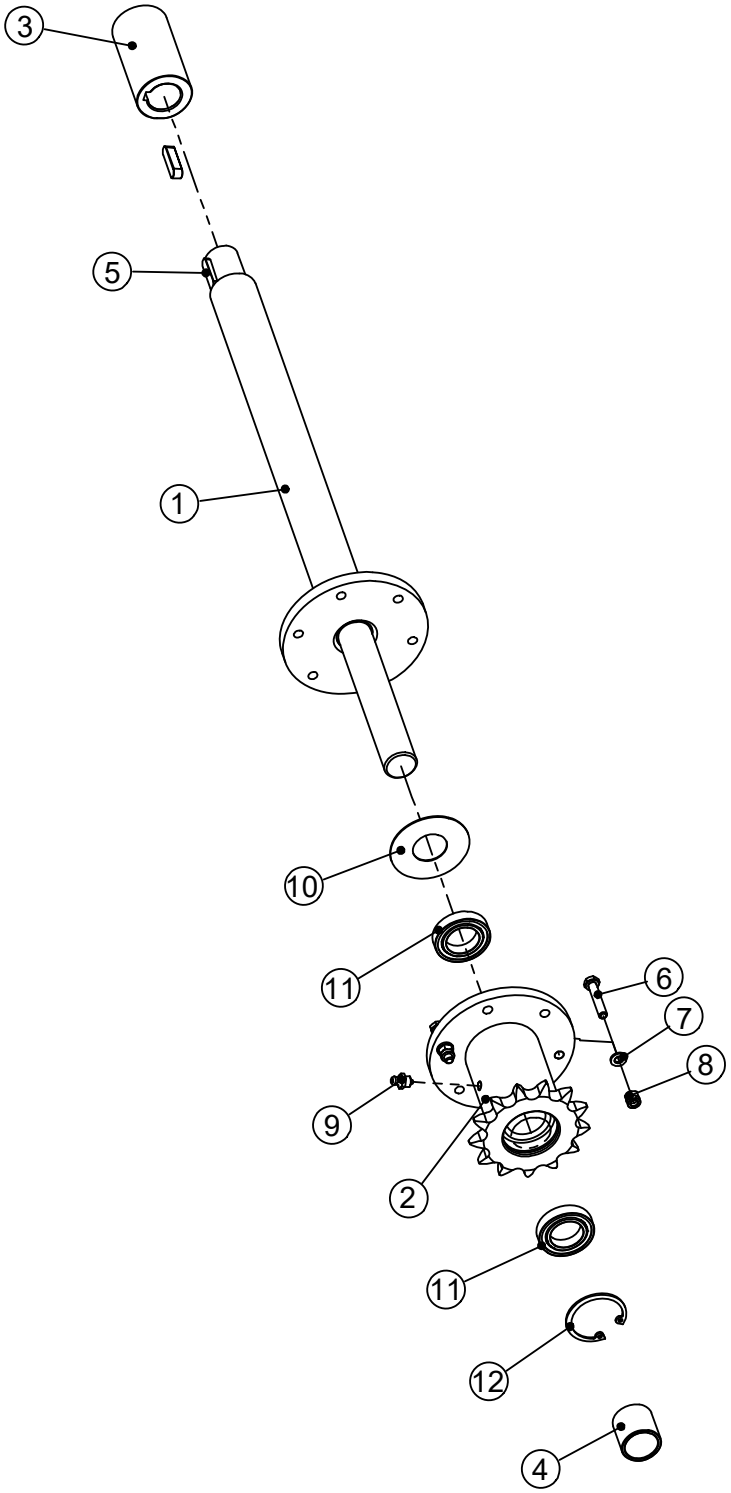


Bearing seat (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty
1	2010000356	R03002A08000-001	Drive shaft bearing seat	1
2	3080100007	GB/T95-12-EP•Zn	Plain washer	8
3	3040100072	GB/T5783-M12×45- 8.8-EP•Zn	Full-thread hex. bolts	4
4	3060100024	GB/T70.1-M8×12-8.8-EP•Zn	Hex. socket head cap screws	2
5	3170400002	JB/T7940.1-M6 304	Grease nipple	1
6	3080500007	GB/T93-8-EP•Zn	Spring washer	2
7	3100100603	GB_T276-6305-RZ	Deep groove ball bearing	1
8	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	4

DRIVE AS-TORQUE LIMITER

Applies to model: TSA-0506

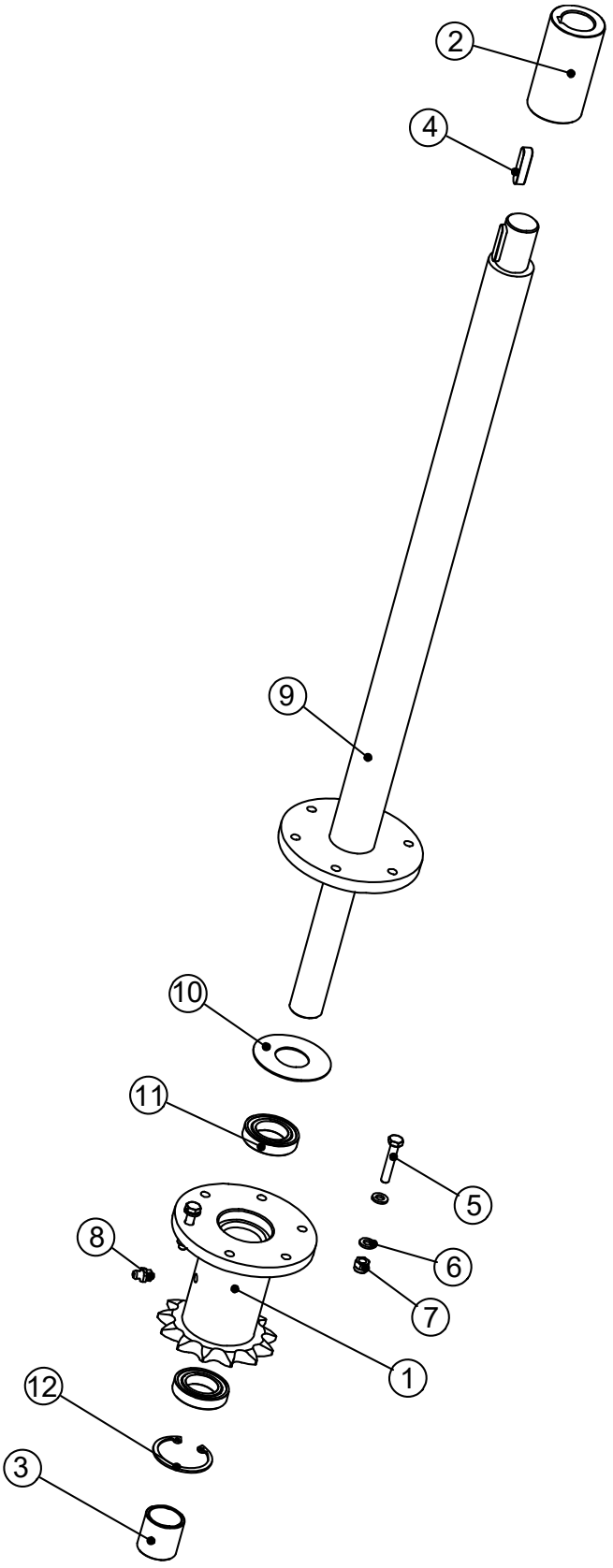


Drive as-torque limiter (TSA-0506) parts name list:

POS.	COD.	Specification	Description	Qty
1	2020000976	R03002A06100-000	Clutch drive shaft welding	1
2	3160700009	R03002A06000-001	Chain wheel	1
3	2010000355	R03002A06000-002	Gearbox connecting sleeve	1
4	2010000357	R03002A06000-003	Sprocket bushing	1
5	3090400006	BP.GBT2	Key	2
6	3040100605	GB/T5781-M6×35- 4.8 EP•Zn	Full-thread hex. bolts	2
7	3080100003	GB/T95-6-EP•Zn	Plain washer	4
8	3050500002	GB/T889.1-M6-8-EP•Zn	Locknut	2
9	3170400003	JB/T7940.1-M8×1	Grease nipple	1
10	3210500091	R03002A06000-004	Rubber	1
11	3100100604	GB_T276-61905-2RS	Deep groove ball bearing	2
12	3080600028	GB/T893-42-A	Retaining rings for borP	1

DRIVE AS-TORQUE LIMITER

Applies to model: TSA-0507

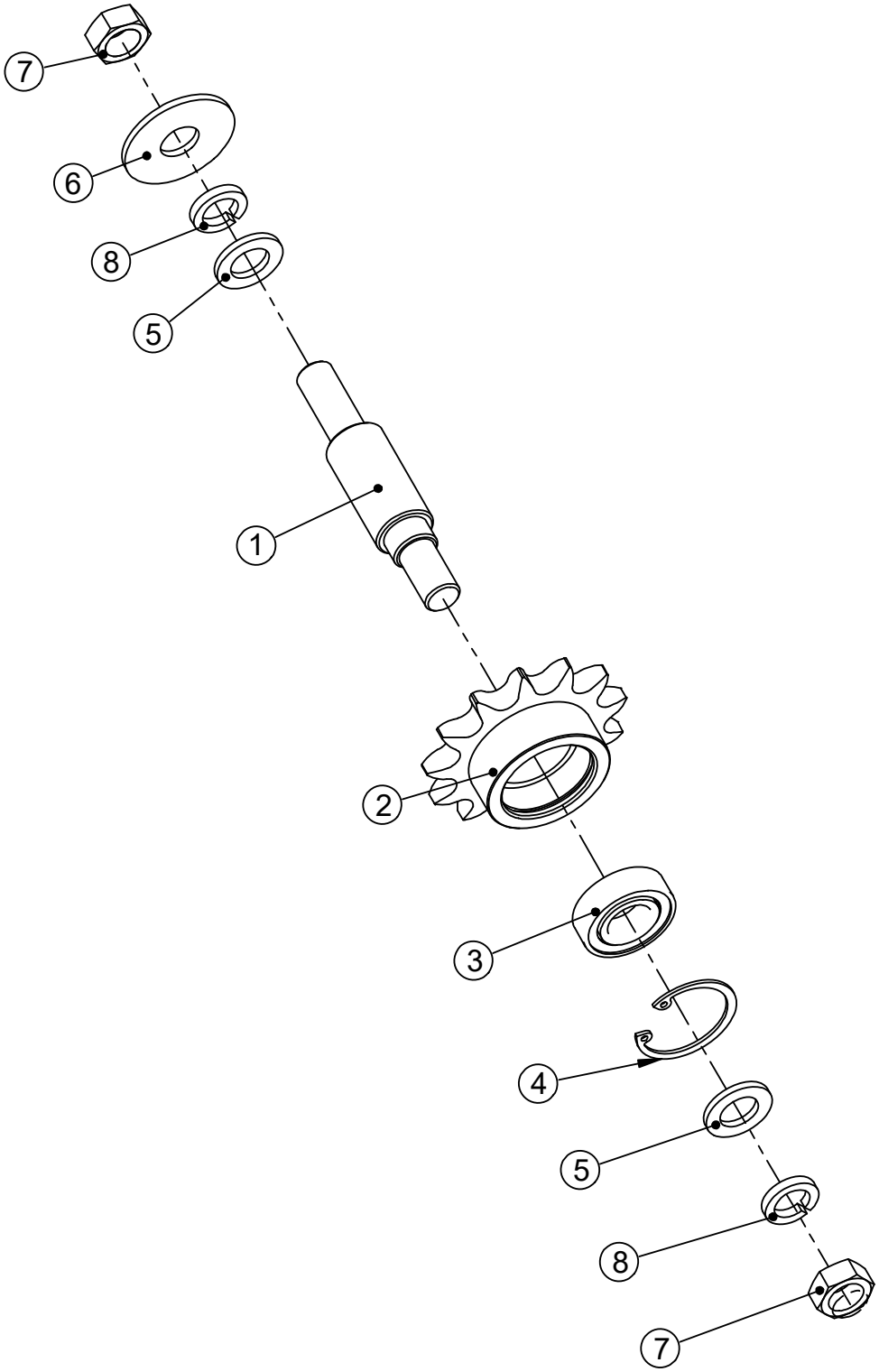


Drive as-torque limiter (TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty
1	3160700009	R03002A06000-001	Chain wheel	1
2	2010000355	R03002A06000-002	Gearbox connecting sleeve	1
3	2010000357	R03002A06000-003	Sprocket bushing	1
4	3090400006	BP.GBT2	Key	2
5	3040100605	GB/T5781-M6×35-4.8-EP•Zn	Full-thread hex. bolts	2
6	3080100003	GB/T95-6-EP•Zn	Plain washer	4
7	3050500002	GB/T889.1-M6-8-EP•Zn	Locknut	2
8	3170400003	JB/T7940.1-M8×1	Grease nipple	1
9	2020000981	R03003A06100-000	Clutch drive shaft welding	1
10	3210500091	R03002A06000-004	Rubber	1
11	3100100604	GB_T276-61905-2RS	Deep groove ball bearing	2
12	3080600028	GB/T893-42-A	Retaining rings for borP	1

TENSIONER PULLEY

Applies to model: TSA-0506, TSA-0507

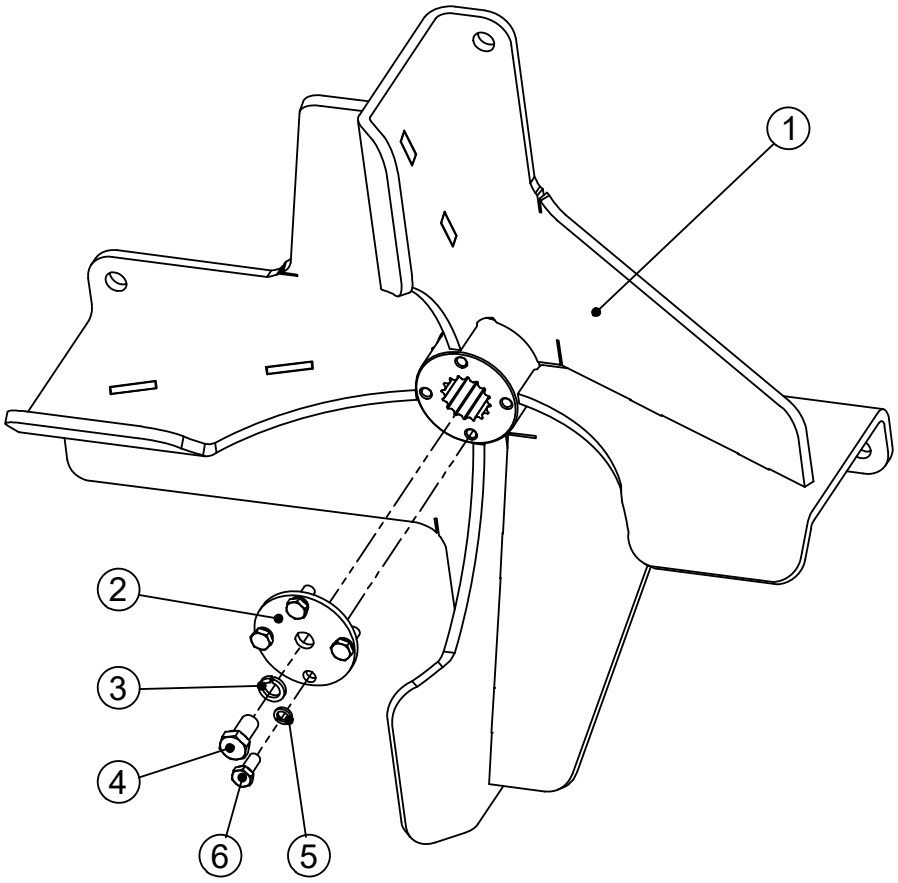


Tensioner pulley (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty
1	2010000358	R03002A07000-002	Tighten axle	1
2	3160700010	R03002A07000-001	Chain wheel	1
3	3100100018	GB/T276-6004-2RS	Deep groove ball bearing	1
4	3080600028	GB/T893-42-A	Retaining rings for borP	1
5	3080100009	GB/T95-16-EP•Zn	Plain washer	2
6	3080200012	GB/T96.2-16-EP•Zn	Large plain washer	1
7	3050100010	GB/T41-M16-5-EP•Zn	Hex. nuts	2
8	3080500011	GB/T93-16-EP•Zn	Spring washer	2

FAN

Applies to model: TSA-0506

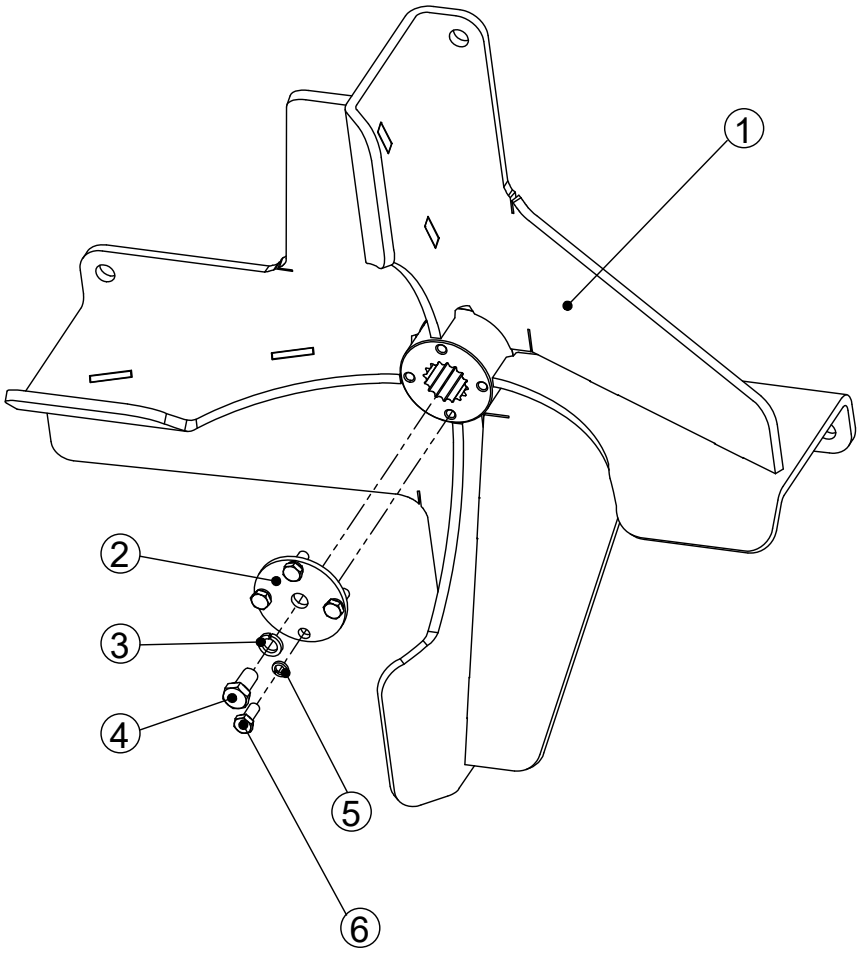


Fan (TSA-0506) parts name list:

POS.	COD.	Specification	Description	Qty
1	2020008405	R03017A04100-000	Fan weldment	1
2	2000006116	R03009A04000-001	Fan gasket	1
3	3080500009	GB/T93-12-EP•Zn	Spring washer	1
4	3040100065	GB/T5783-M12×25- 8.8-EP•Zn	Full-thread hex. bolts	1
5	3080500007	GB/T93-8-EP•Zn	Spring washer	4
6	3040100022	GB/T5783-M8×20- 8.8-EP•Zn	Full-thread hex. bolts	4

FAN

Applies to model: TSA-0507

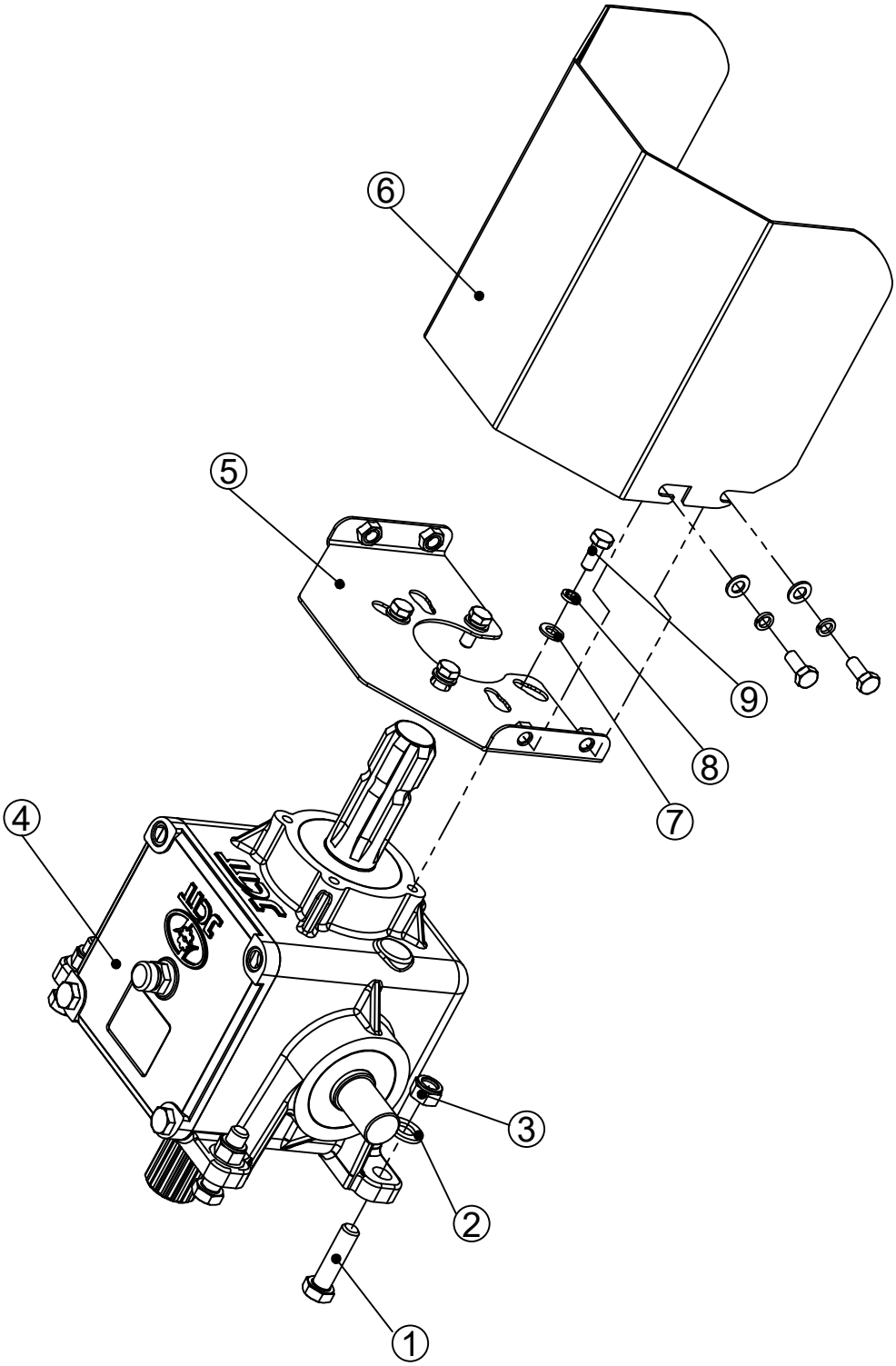


Fan (TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty
1	2020007217	R03009A04100-000	Fan weldment	1
2	2000006116	R03009A04000-001	Fan gasket	1
3	3080500009	GB/T93-12-EP•Zn	Spring washer	1
4	3040100065	GB/T5783-M12×25- 8.8-EP•Zn	Full-thread hex. bolts	1
5	3080500007	GB/T93-8-EP•Zn	Spring washer	4
6	3040100022	GB/T5783-M8×20- 8.8-EP•Zn	Full-thread hex. bolts	4

GEARBOX

Applies to model: TSA-0506, TSA-0507

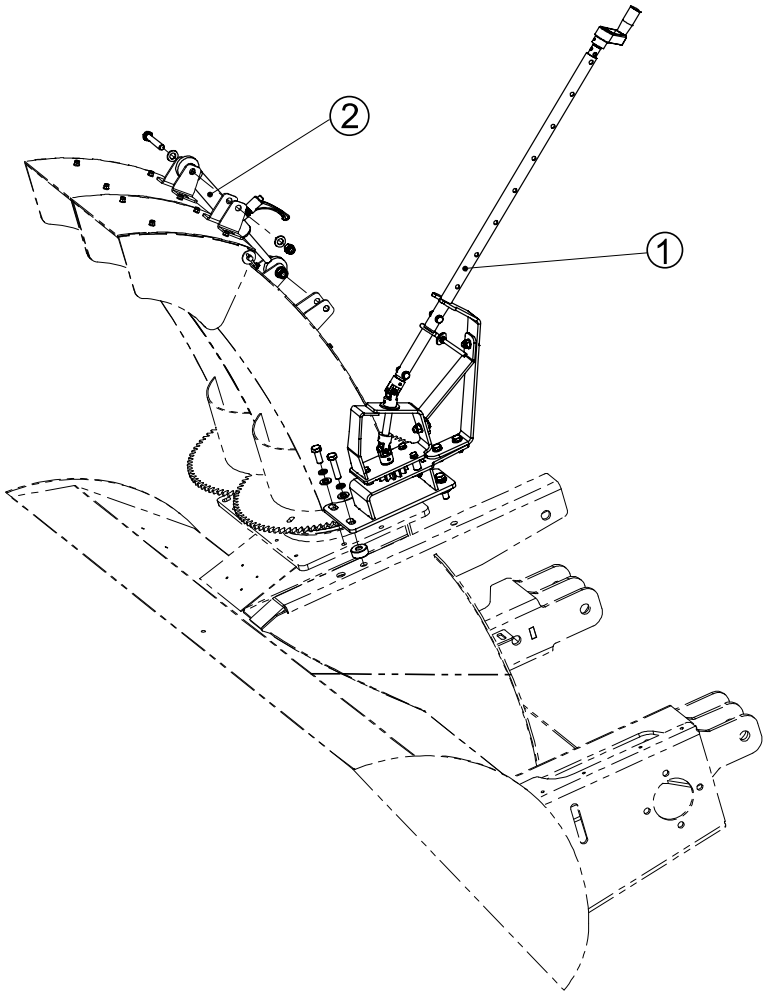


Gearbox (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty
1	3040100072	GB/T5783-M12×45- 8.8-EP•Zn	Full-thread hex. bolts	4
2	3080100007	GB/T95-12-EP•Zn	Plain washer	4
3	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	4
4	3160100748	KF038R100J0200	Gear box	1
5	2020001786	F01001A07100-000	Welding of shield bottom plate	1
6	2000000029	F01001A07000-001	PTO Guard	1
7	3080100004	GB/T95-8-EP•Zn	Plain washer	8
8	3080500007	GB/T93-8-EP•Zn	Spring washer	8
9	3040100022	GB/T5783-M8×20-8.8-EP•Zn	Full-thread hex. bolts	8

MANUAL STEERING

Applies to model: TSA-0506, TSA-0507

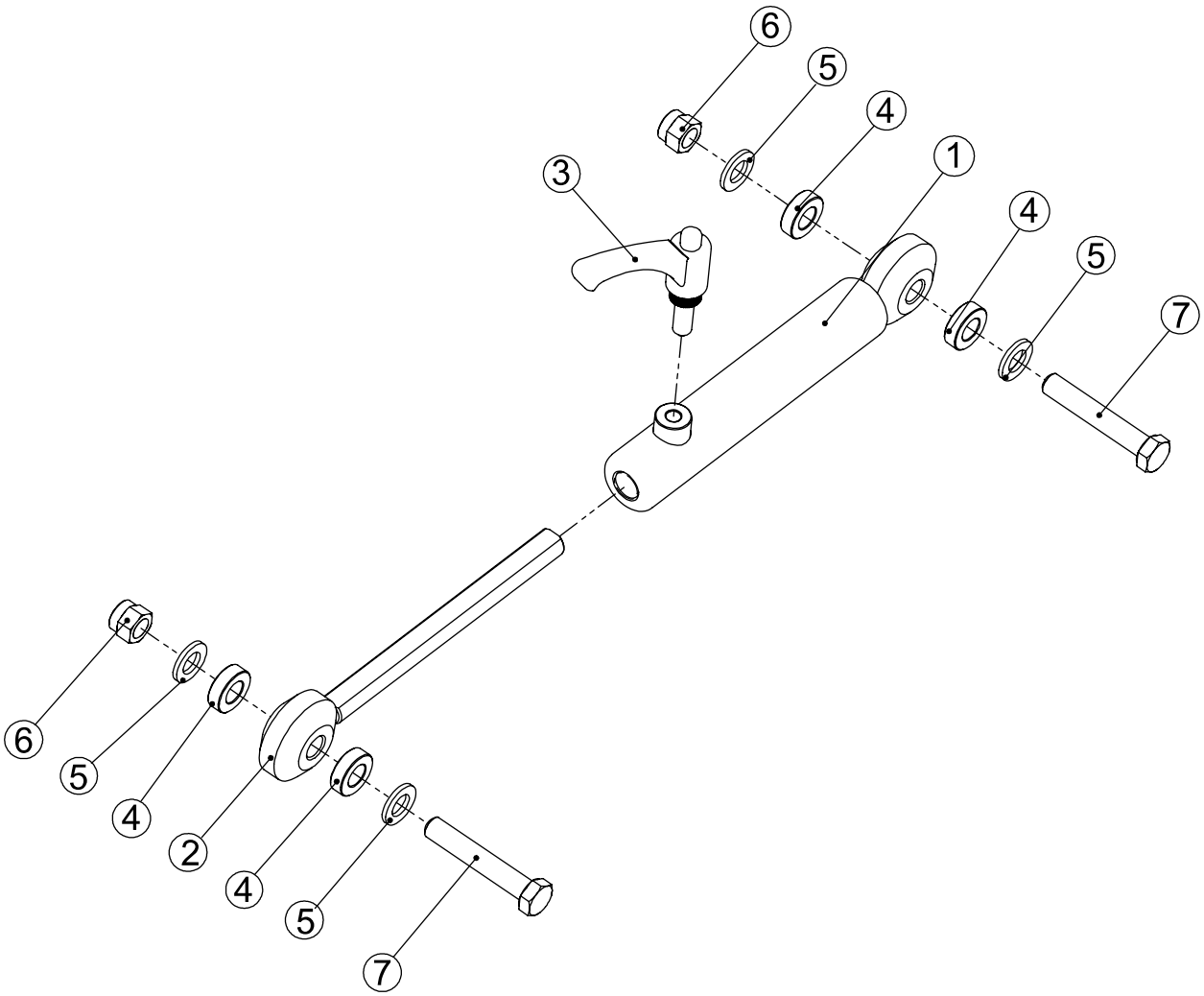


Manual steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2090005124	R03002B20200-000	Push rod	1
2	2060205385	R03009A05100-000	Manual rod	1

PUSH ROD FOR MANUAL STEERING

Applies to model: TSA-0506, TSA-0507

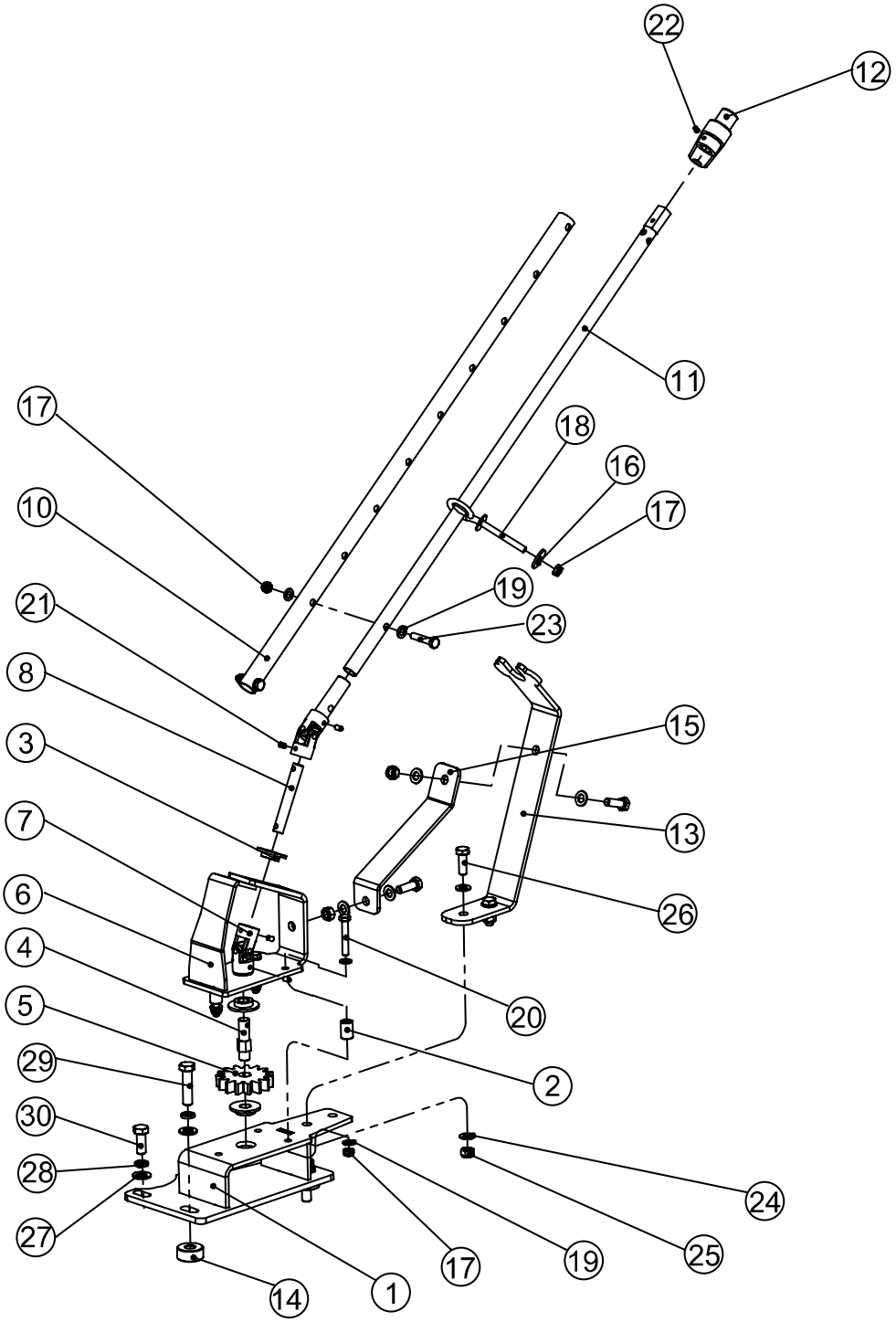


Push rod for manual steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2020000974	R03002A20220-000	Manual cylinder welding	1
2	2020000975	R03002A20210-000	Manual push rod welding	1
3	3140100009	M10x1.25x25	Handle	1
4	2010000365	R03002A22100-001	Hydraulic assembly spacer	4
5	3080100007	GB/T95-12-EP•Zn	Plain washer	4
6	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	2
7	3040100077	GB/T5783-M12×70- 8.8EP•Zn	Full-thread hex. bolts	2

MANUAL ROD FOR MANUAL STEERING

Applies to model: TSA-0506, TSA-0507



Manual rod for manual steering (TSA-0506/TSA-0507) parts name list:

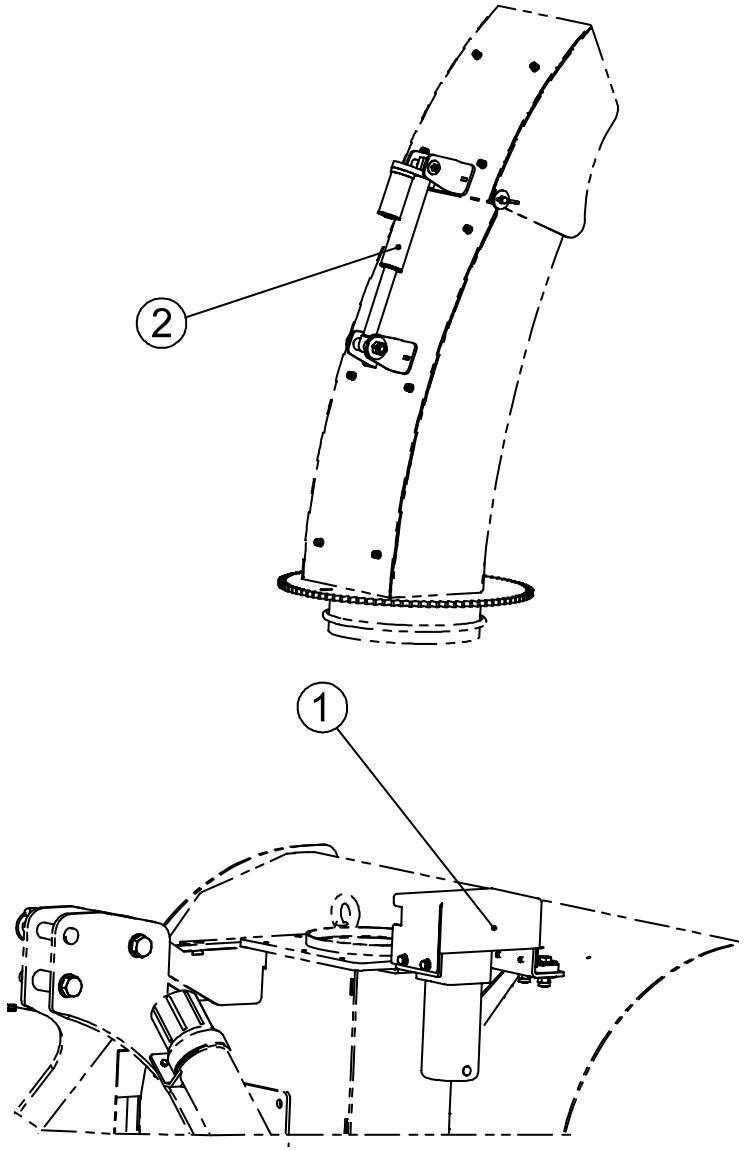
POS.	COD.	Specification	Description	Qty.
1	2020007218	R03009A05110-000	Handle mount welded	1
2	2010000352	R03002A20100-002	Positioning sleeve	3

POS.	COD.	Specification	Description	Qty.
3	2010000351	R03002A20100-005	Rotary spacer	3
4	2010000350	R03002A20100-006	Link bar	1
5	3160600001	R03002A20100-004	Gear	1
6	2020007219	R03009A05120-000	Pinion clamp welding	1
7	3160900001	SQR.G14	Cardan	2
8	2010000349	R03002A20100-007	Link round steel	1
9	2010000348	R03002A20100-008	Handle link bar	1
10	2010000347	R03002A20100-009	Extension bar	1
11	2020000980	R03002A20120-000	Adjusting rod weldment	1
12	3140100006	CH06.424	Handle	1
13	2000006117	R03009A05100-001	Manual rocker support plate	1
14	2010005757	R03009A05100-002	Backing block	2
15	2000006177	R03009A05100-003	Tie bar	1
16	3080300003	GB/T5287-8-EP•Zn	Extra Large plain washer	1
17	3050500003	GB/T889.1-M8-8-EP•Zn	Locknut	6
18	2020004927	R03002A20130-000	Welding of eyebolt	1
19	3080100004	GB/T95-8-EP•Zn	Plain washer	10
20	3040100029	GB/T5783-M8×50-8.8-EP•Zn	Full-thread hex. bolts	3
21	3060400004	GB/T77-M6×10-45H-EP•Zn	Hex. socket screws with flat point	4
22	3060400001	GB/T77-M5×8-45H-EP•Zn	Hex. socket screws with flat point	1
23	3040100027	G20B24/-T056-71383-M8×40-8.8-EP•Zn	Full-thread hex. bolts	2
24	3080100006	GB/T95-10-EP•Zn	Plain washer	8
25	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	4
26	3040100045	GB/T5783-M10×30- 8.8-EP•Zn	Full-thread hex. bolts	4

POS.	COD.	Specification	Description	Qty.
27	3080100007	GB/T95-12-EP•Zn	Plain washer	4
28	3080500009	GB/T93-12-EP•Zn	Spring washer	4
29	3040100073	GB/T5783-M12×50- 8.8-EP•Zn	Full-thread hex. bolts	2
30	3040100067	GB/T5783-M12×30- 8.8-EP•Zn	Full-thread hex. bolts	2

ELECTRIC STEERING

Applies to model: TSA-0506, TSA-0507

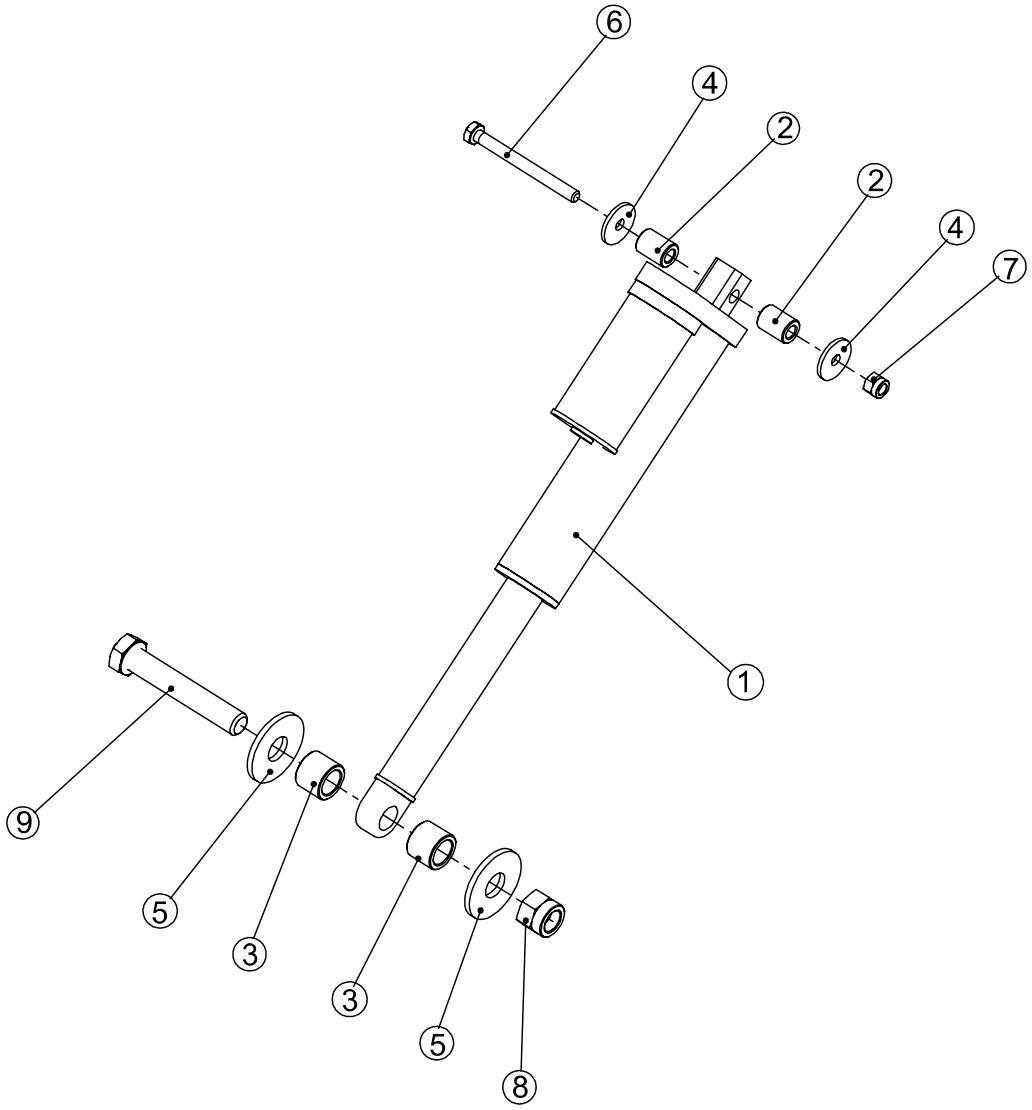


Electric steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2060205429	R03012A06100-000	Motor component	1
2	2090005127	R03002B21200-000	Electric rod	1

ELECTRIC ROD FOR ELECTRIC STEERING

Applies to model: TSA-0506, TSA-0507



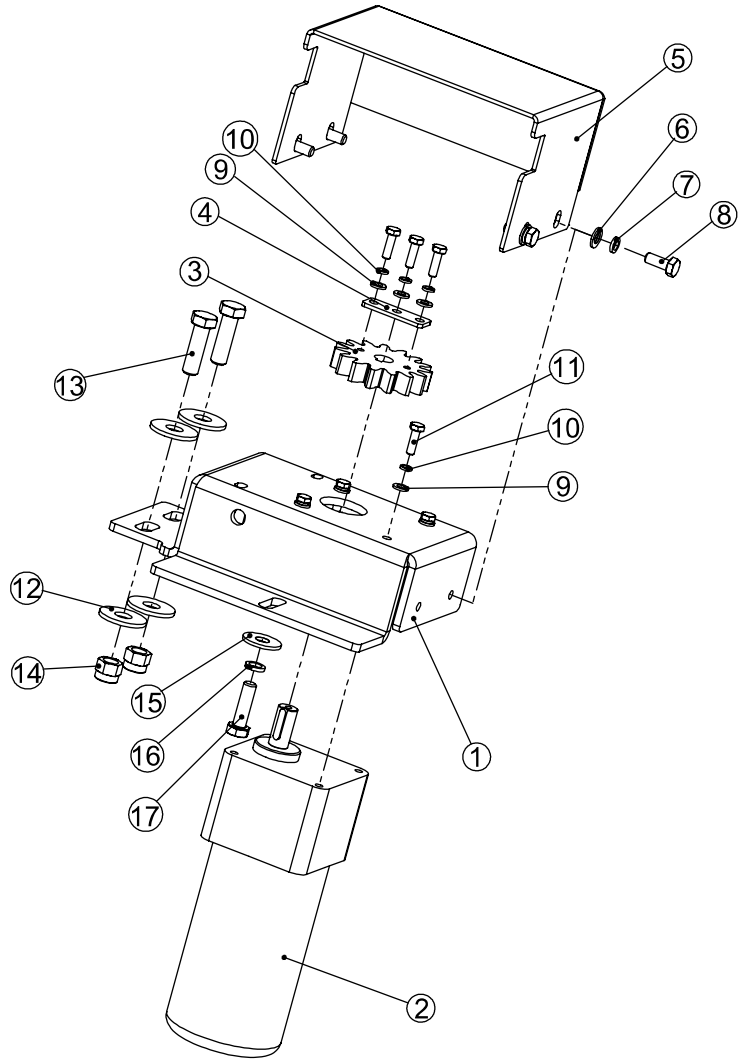
Electric rod for electric steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	3190500001	BP-401	Electric Drive	1
2	2010000364	R03002A21200-002	Electric module spacer 1	2

POS.	COD.	Specification	Description	Qty.
3	2010000346	R03002A21200-001	Electric module spacer 2	2
4	3080300002	GB/T5287-6-EP•Zn	Extra Large plain washer	2
5	3080200010	GB/T96.2-12-EP•Zn	Large plain washer	2
6	3040100017	GB/T5783-M6×65- 8.8-EP•Zn	Full-thread hex. bolts	1
7	3050500002	GB/T889.1-M6-8-EP•Zn	Locknut	1
8	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	1
9	3040100077	GB/T5783-M12×70- 8.8-EP•Zn	Full-thread hex. bolts	1

MOTOR SEAT FOR ELECTRIC STEERING

Applies to model: TSA-0506, TSA-0507

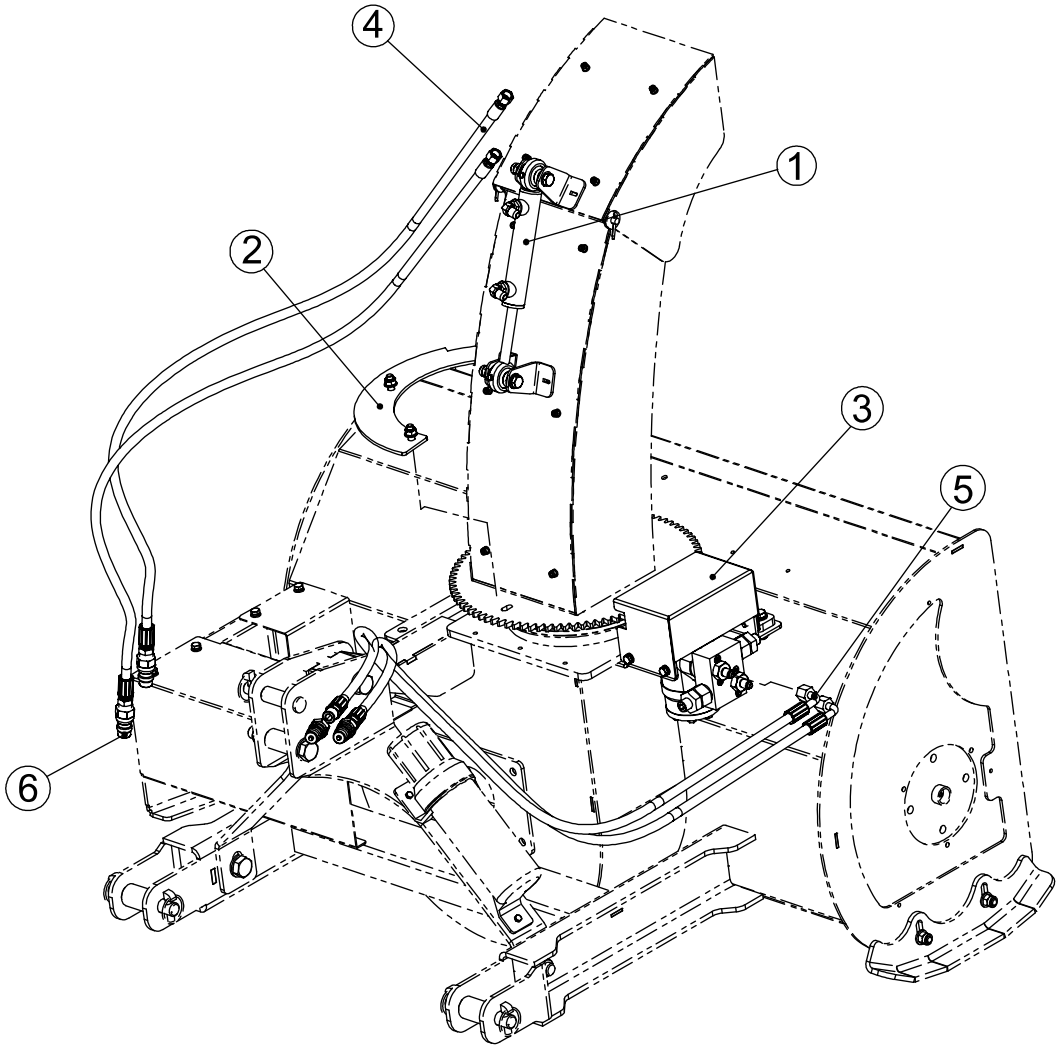


Motor seat for electric steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2000006276	R03012A06100-001	Motor seat	1
2	3190500002	BP-402	Electric Drive	1
3	3160600002	R03002A21100-004	Gear	1
4	2000000481	R03002A21100-002	Electric pinion press plate	1
5	2000000457	R03002A21100-003	Protective cover	1
6	3080100004	GB/T95-8-EP•Zn	Plain washer	4
7	3080500007	GB/T93-8-EP•Zn	Spring washer	4
8	3040100022	GB/T5783-M8×20- 8.8-EP•Zn	Full-thread hex. bolts	4
9	3080100003	GB/T95-6-EP•Zn	Plain washer	7
10	3080500006	GB/T93-6-EP•Zn	Spring washer	7
11	3040100007	GB/T5783-M6×20- 8.8-EP•Zn	Full-thread hex. bolts	7
12	3080200010	GB/T96.2-12-EP•Zn	Large plain washer	4
13	3040100071	GB/T5783-M12×40- 8.8-EP•Zn	Full-thread hex. bolts	2
14	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	2
15	3080200009	GB/T96.2-10-EP•Zn	Large plain washer	1
16	3080500008	GB/T93-10-EP•Zn	Spring washer	1
17	3040100046	GB/T5783-M10×35- 8.8-EP•Zn	Full-thread hex. bolts	1

HYDRAULIC STEERING

Applies to model: TSA-0506, TSA-0507

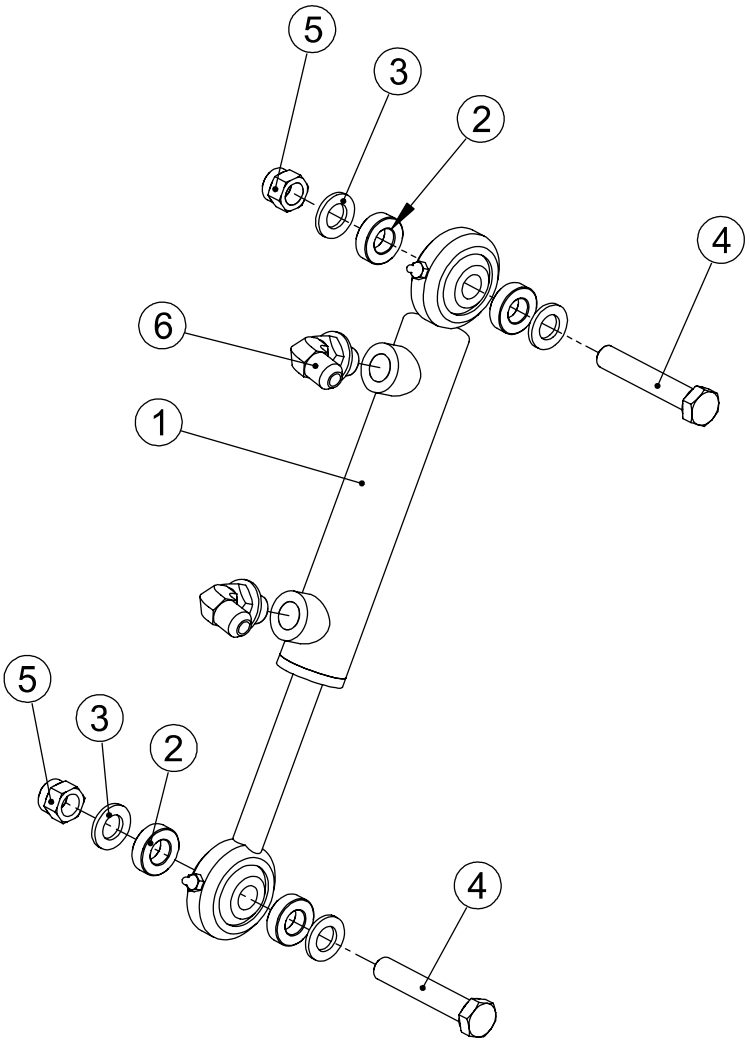


Hydraulic steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2090005129	R03002B22100-000	Hydraulic rod	1
2	2090005131	R03002B22300-000	Pressboard	1
3	2060205610	R03018A22100-000	Motor component	1
4	3180201271	2SN06×M22513-04-06 / M12810-04-08×2000	Hose	2
5	3180201272	2SN06×M22593-04-06 / M12810-04-08×1850	Hose	2
6	3180500008	Q00211341A-08-08	Hollow bolt	4

HYDRAULIC ROD FOR HYDRAULIC STEERING

Applies to model: TSA-0506, TSA-0507

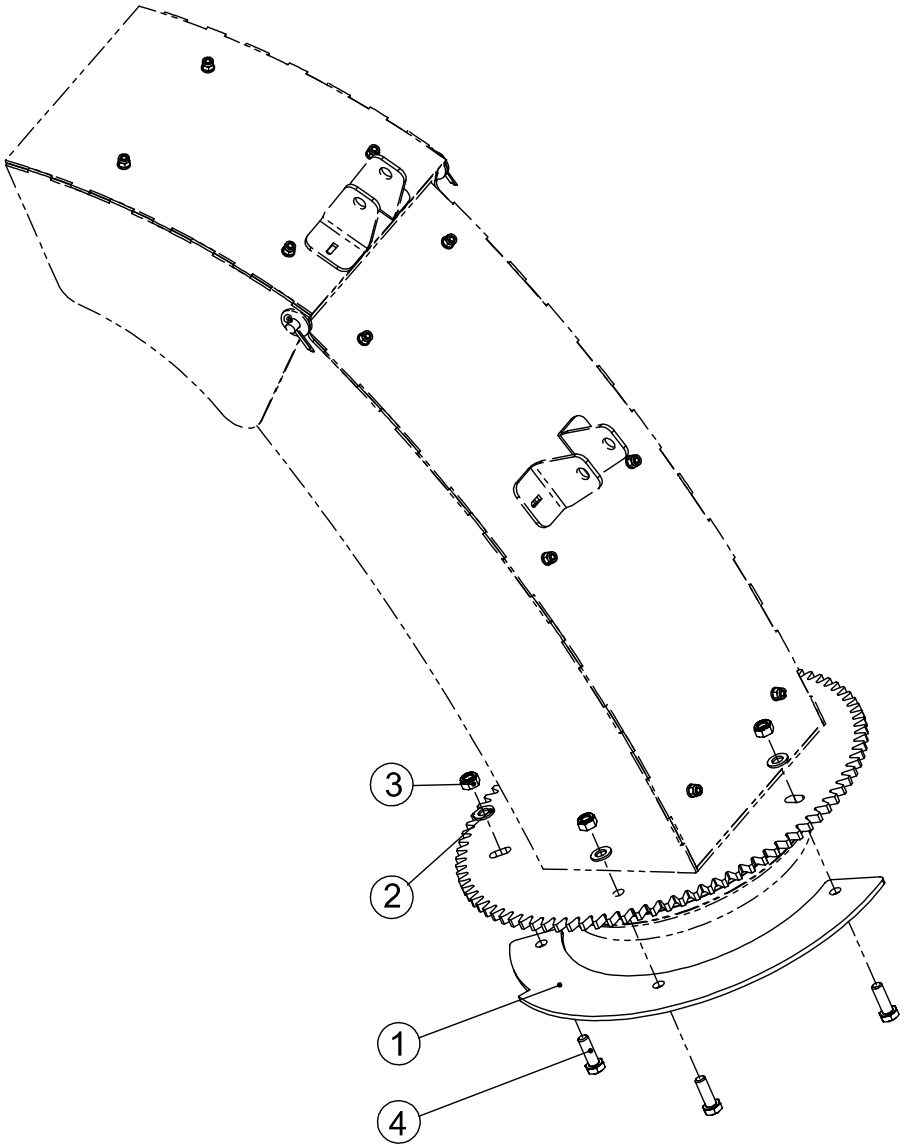


Hydraulic rod for hydraulic steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	3181300026	CDL1MP5- 25 / 16 / 102-D-SAE6-1CFUM	Hydraulic cylinder	1
2	2010000365	R03002A22100-001	Hydraulic assembly spacer	4
3	3080100007	GB/T95-12-EP•Zn	Plain washer	4
4	3040100077	GB/T5783-M12×70- 8.8-EP•Zn	Full-thread hex. bolts	2
5	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	2
6	3181100611	MT85008	SAE6 fitting	2

PRESSBOARD FOR HYDRAULIC STEERING

Applies to model: TSA-0506, TSA-0507

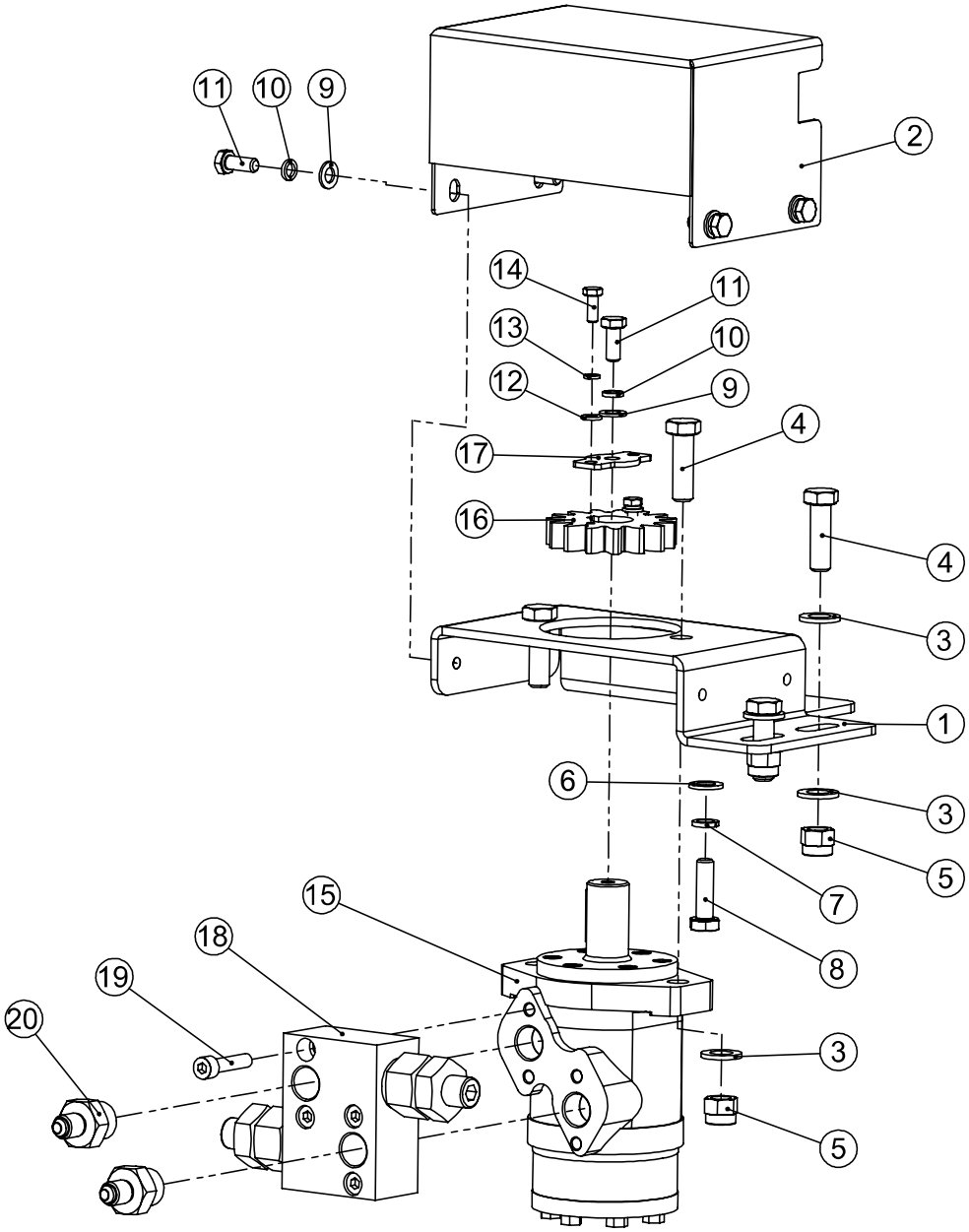


Pressboard for hydraulic steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2000000478	R03002A22300-001	Limit plate of snow funnel	1
2	3080100006	GB/T95-10-EP•Zn	Plain washer	3
3	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	3
4	3040100045	GB/T5783-M10×30- 8.8 EP•Zn	Full-thread hex. bolts	3

MOTOR COMPONENT FOR HYDRAULIC STEERING

Applies to model: TSA-0506, TSA-0507



Motor component for hydraulic steering (TSA-0506/TSA-0507) parts name list:

POS.	COD.	Specification	Description	Qty.
1	2000006941	R03018A22100-001	Hydraulic motor base	1
2	2000006140	R03010A04100-004	Protective cover	1
3	3080100007	GB/T95-12-EP•Zn	Plain washer	6

POS.	COD.	Specification	Description	Qty.
4	3040100071	GB/T5783-M12×40-8.8-EP•Zn	Full-thread hex. bolts	4
5	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	4
6	3080100006	GB/T95-10-EP•Zn	Plain washer	1
7	3080500008	GB/T93-10-EP•Zn	Spring washer	1
8	3040100046	GB/T5783-M10×35-8.8-EP•Zn	Full-thread hex. bolts	1
9	3080100004	GB/T95-8-EP•Zn	Plain washer	5
10	3080500007	GB/T93-8-EP•Zn	Spring washer	5
11	3040100022	GB/T5783-M8×20-8.8-EP•Zn	Full-thread hex. bolts	5
12	3080100003	GB/T95-6-EP•Zn	Plain washer	2
13	3080500006	GB/T93-6-EP•Zn	Spring washer	2
14	3040100005	GB/T5783-M6×16-8.8-EP•Zn	Full-thread hex. bolts	2
15	3181000620	BMR-160-2-C-D-B	Gerotor motor	1
16	3160600003	R03002A22200-004	Gear	1
17	2000006940	R03018A22100-002	Hydraulic pinion press plate	1
18	3180700633	FY-RH-D-4-S-B	Double relief valve stack block	1
19	3060100029	GB/T70.1-M8×35-8.8-EP•Zn	Hex. socket head cap screws	4
20	3180100104	TL-GE10UNF7/8-14OMDCF	Transition joints	2

WARRANTY

The Manufacturer warrants to the original purchaser that this product will be free from defects in material and workmanship beginning on the date of purchase by the end user according to the following schedule when used as intended and under normal service and conditions for personal use.

Overall Unit and Driveline: 18 months Parts and Labor

Gearbox: 36 months on all components.

This Warranty is limited to the replacement of any defective part by the Manufacturer and the installation by the dealer of any such replacement part, and does not cover common wear items. The Manufacturer reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Manufacturer's judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. Misuse also specifically includes failure to properly maintain oil levels, grease points, and driveline shafts.

Claims under this Warranty should be made to the dealer which originally sold the product and all warranty adjustments must be made through an authorized Manufacturer dealer. The Manufacturer reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Manufacturer liable for damages of any kind, direct, consequential, or contingent to property. Furthermore, the Manufacturer shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.