OPERATOR'S MANUAL

SNOWBLOWER

SB2164 SB2176

Serial # XFSB21X100058 and up
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IMPORTANT NOTICE

Frontier loader mounted hydraulic snowblowers are calibrated and tested at the plant in order to ensure the best possible performance. The calibration of these snowblowers requires the proper equipment and a certain expertise.

Any partial modification or adjustment made on the snowblower without the written consent of the manufacturer will automatically void the snowblower warranty.

The adjustments of the hydraulic components must never be modified. A breaking in period is necessary before the snowblower is operated at full capacity. See the "Operation" section for more details.

The Frontier loader mounted hydraulic snowblowers is designed to blow snow and not to push snow. Any use resembling a snow pusher will automatically void the snowblower warranty.

TO THE PURCHASER

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

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

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

Illustrations

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

Direction Reference

Right Hand and Left Hand are determined by those seen by the operator sitting on the tractor.

The Dealer is responsible for warranty registration of the unit you have purchased. To assist your dealer in handling your needs, please record hereafter the model number and serial number of your implement and tractor. It is also advisable to supply them to your insurance company. It will be helpful in the event that an implement or tractor is lost or stolen.

MODEL :

SERIAL NUMBER :

DATE OF PURCHASE :
SAFETY FIRST

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

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

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

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

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

NOTE : Gives helpful information.

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

BEFORE OPERATION

**Children**

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

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

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

THE SNOWBLOWER

Before Operation

1. Read and understand this operator's manual and the tractor operator's manual. Know how to operate all controls and how to stop the unit and disengage the controls quickly.

2. Never wear loose, torn, or bulky clothing around the tractor and the snowblower. It may catch on moving parts or controls, causing injury.

3. Before and during the snow season, thoroughly inspect the area where the equipment is to be used and remove all objects that may be thrown or cause damage to the equipment.

4. Set transmission to neutral and disengage clutch, if equipped, before starting the engine.

5. Do not operate equipment in wintertime without wearing adequate winter garments and protective clothing.

6. Never attempt to make any adjustments while engine is running. Read this manual carefully to acquaint yourself with the equipment as well as the tractor operator's manual. Working with unfamiliar equipment can lead to accidents. Be thoroughly familiar with the controls and proper use of the equipment.

7. Keep all safety guards in place and verify hardware for proper tightening.

8. Check for moving parts excessive wear regularly. Replace worn parts with genuine parts.

9. Replace all missing, illegible, or damaged safety and warning decals. See list of decals in operator's manual.


11. Do not modify or alter this equipment or any of its components or any equipment function without first consulting your dealer.

12. The use of rear counterweights is recommended. Weights provide the necessary balance to improve stability, traction and steering. Use only those recommended by your dealer. Please refer to tractor's operator's manual for proper ballasting information.
SAFETY PRECAUTIONS - continued

**Snowblower Operation**

1. Before leaving the tractor unattended, take all possible precautions. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the equipment drive, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key.

2. Before starting the tractor/ snowblower, remove any ice that has accumulated in the auger/fan.

3. Prior to operation, clear work area of all objects that can be picked up and thrown. Mark all curbs, pipes, etc. that cannot be moved.

4. Be sure the PTO switch/lever is in OFF position before starting engine.

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

6. Do not carry passengers.

7. Adjust collector-housing height to clear gravel or crushed rock surface.

8. Keep clear of rotating parts. Do not put hands or feet under, or into snowblower with engine running.

9. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the equipment drive, lower the equipment to the ground, place all control levers in neutral, shut off the engine, remove the ignition key and allow the rotating parts to stop BEFORE unclogging the collector/fan housing or chute, and making any repairs, adjustments or inspections. Use only a 36" long piece of wood to unclog blower.

10. If the snowblower starts to vibrate abnormally, disengage the equipment drive, stop the engine immediately and check for cause. Excessive vibration is generally a sign of trouble.

11. Do not run the engine indoors except when starting engine and transporting attachment in or out of building. Carbon monoxide gas is colorless, odorless and deadly.

12. Do not attempt to operate on steep slopes. If operating on slopes is necessary, exercise extreme caution when changing direction.

13. Never operate snowblower without guards, and other safety protective devices in place.

14. Keep clear of chute discharge. This chute has the capability of throwing objects at far distances.

15. Do not direct discharge at bystanders or animals. Ejected objects may cause injury and never operate snowblower near glass enclosures, automobiles, window wells, embankments, etc., without proper adjustment of snow discharge angle.

16. Never operate machine at high transport speeds on a slippery surface.

17. Use extra caution when backing up.

18. Disengage power to auger/fan when transporting or when not in use.

19. Never operate the snowblower without good visibility and lighting.

20. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable noises.

21. Never allow anyone near the work area.
SAFETY PRECAUTIONS - continued

THE TRACTOR

General Information

1. Read the operator’s manual carefully before using tractor. Lack of operating knowledge can lead to accidents.

2. Do not permit anyone but the operator to ride on the tractor. There is no safe place for passengers.

Operating the Tractor

1. Never run the tractor engine in a closed building without adequate ventilation, as the exhaust fumes are very dangerous.

2. Adopt safe driving practice. If so equipped, keep the brake pedals latched together at all times unless independent braking is required. Never use independent braking during transport.

3. Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure.

4. Reduce speed prior to turns to avoid the risk of overturning. Keep speed to a minimum.

5. Always keep the tractor in gear to provide engine braking when going downhill. Do not coast.

6. Never allow an open flame near the fuel tank or battery.

7. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the equipment drive, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key BEFORE leaving the tractor.

8. Never park the tractor on a steep slope.

9. Do not attempt to operate on steep slopes. Avoid sudden uphill turns on steep slopes.

10. Handle fuel with care, as it is highly flammable.

11. Use approved fuel container.

12. Never add fuel to a running engine or a hot engine.


14. Never allow anyone to operate the snowblower until they have read the manual completely and are thoroughly familiar with basic tractor and snowblower operation.

15. Make sure the tractor is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering. Please refer to tractor’s operator’s manual for proper ballasting information.

16. Always make sure all snowblower components are properly installed and securely fastened BEFORE operation.

17. Never attempt to start the engine and/or engage snowblower drive while standing beside the tractor.

18. Always start the engine from the operator’s seat with all the transmission lever(s) and snowblower drive lever in neutral.

19. DO NOT bypass the safety system by shorting across the terminals of the starter motor to start the engine. This may cause the tractor to move suddenly.

20. If the safety start system does not work, consult your dealer immediately.
**SAFETY PRECAUTIONS - continued**

**During Operation**

1. Do not allow passengers on the tractor/snowblower at any time. There is no safe place for passengers on this equipment. The operator MUST sit in the tractor seat.

2. Eye and hearing protection is recommended when operating the snowblower.

3. Operate only during daylight hours, or when the area is well lit with bright artificial light.

4. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the equipment to the ground, place all control levers in neutral, shut off the engine and remove the ignition key BEFORE leaving the operator’s seat.

5. Inspect the snowblower after striking any foreign object to assure that all snowblower parts are safe and secure and not damaged.

6. Be especially observant of the operating area and terrain. Watch for holes, rocks, or other hidden hazards. ALWAYS inspect the area prior to operating snowblower.

7. DO NOT operate snowblower near the edge of drop-offs or banks.

8. DO NOT operate snowblower on steep slopes as overturn may result.

9. Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.

10. Drive tractor backwards up steeper slopes with blower off. Operate blower as you travel down the slope.

11. Slow down before you change directions on any slope.

12. Use wheel weights on your tractor to increase stability on slopes.

13. Never stand alongside of the unit while the engine is running.

**Roll-Over Protective Structure (ROPS) (If so equipped)**

1. DO NOT weld, drill or alter the ROPS. Damaged ROPS must not be straightened or used. If damage does occur, consult your dealer.

2. If the ROPS is lowered or removed from the tractor for any reason, it must be erected and/or refitted immediately. Original bolts or equivalent replacements must be used and tightened to the correct torque.

3. Your dealer does not recommend usage of tractor with ROPS removed.

4. If a fold-down ROPS is used, the ROPS can be folded down for storage, but it must be pinned in the upright position prior to operation.

5. Seat belt usage: With ROPS installed on the tractor it is imperative that the seat belt be installed, used and correctly adjusted, at all times. DO NOT use a seat belt if operating without ROPS.

6. Additional safety equipment: A fire extinguisher and first aid kit should be kept readily accessible.
SAFETY PRECAUTIONS - continued

MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

1. Keep the tractor and snowblower properly maintained.

2. Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the equipment drive, lower the equipment to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any snowblower adjustments.

3. To avoid injury, do not adjust, unclog or service the snowblower with the tractor engine running. Make sure rotating components have completely stopped before leaving the operator’s seat.

4. Keep the tractor/snowblower clean. Snow and ice build-up can lead to malfunction or personal injury from thawing and refreezing in garage.

5. Always wear eye protection when cleaning or servicing the snowblower.

6. Service the unit in safety: DO NOT service the tractor while the engine is running or hot, or if the unit is in motion. Always lower snowblower to the ground. If necessary to service unit with blower raised, securely support with stands or suitable blocking before working underneath. Do not rely on hydraulically supported devices for your safety. They can settle suddenly, leak down, or be accidentally lowered.

7. Do not attempt to service machine, clear obstructions or unplug blockages with the engine running. Always shut off engine and allow all motion to cease.

8. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.

9. Make sure all shields and guards are securely in place following all service, cleaning, or repair work.

10. Do not modify or alter this equipment or any of its components or operating functions. If you have questions concerning modifications, consult with your dealer.

11. Do not operate a unit, which is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the unit.

12. Check all controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted.

13. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.

14. Snowblower fan and auger must be checked for tightness. Remove any twine, wire, etc. that may have wrapped on the fan or the auger.

15. To avoid serious personal injury: Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury. Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.

16. Stop engine and relieve pressure before connecting or disconnecting lines. Tighten all connections before starting engine or pressurizing lines.
SAFETY PRECAUTIONS - continued

TRANSPORT

1. When driving the tractor and equipment on the road or highway under 25 mph, at night or during the day, use flashing amber warning lights and the Slow Moving Vehicle ("SMV") identification emblem.

2. Check local traffic codes that may apply to unit usage on public roads and highways in your area. The use of flashing amber lights is acceptable in most localities. However, some localities may prohibit their use.

3. Always disengage equipment drive prior to transporting unit.

STORAGE

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

1. Clean the snowblower thoroughly.

2. Make all the necessary repairs.

3. Replace all safety signs that are damaged, lost, or otherwise become illegible. If a part to be replaced has a sign on it, obtain a new safety sign from your dealer and install it in the same place as on the removed part.

4. Repaint all parts from which paint has worn or peeled.

5. Lubricate the snowblower as instructed under "Lubrication" section.

6. When the snowblower is dry, oil all moving parts. Apply oil liberally to all surfaces to protect against rust.

7. Store in a dry place.
Replace immediately if damaged

**Switches**

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**Hydraulic fluid under pressure can penetrate the skin causing serious injury.**

**ATTENTION**

Un liquide hydraulique sous pression peut pénétrer la peau et causer des blessures sérieuses.

**WARNING**


- Ne jamais laisser des passagers monter sur l’équipement.
- Garder les spectateurs loin de l’équipement pendant les opérations.
- Toujours transmettre l’équipement à partir du siège du tracteur.
- Remarquer les gestes en place sur son temps et en bonne condition.
- Abaisser l’équipement au sol, couper le contact, retirer le nœud et appliquer le frein avant de quitter le tracteur.
- Ne jamais laisser un enfant ou une personne non formée utiliser l’équipement.

**ATTENTION**

Pour Éviter Des Blessures...

- Utilisez l’Opérateur montre des manœuvres d’efficacité l’entretien ou de réparer l’équipement. Suivre toutes les consignes de sécurité. Les manœuvres sont disponibles chez votre concessionnaire.

- Ne jamais laisser des passagers monter sur l’équipement.
- Garder les spectateurs loin de l’équipement pendant les opérations.
- Toujours transmettre l’équipement à partir du siège du tracteur.
- Remarquer les gestes en place sur son temps et en bonne condition.
- Abaisser l’équipement au sol, couper le contact, retirer le nœud et appliquer le frein avant de quitter le tracteur.
- Ne jamais laisser un enfant ou une personne non formée utiliser l’équipement.

**CAUTION**

To Avoid Serious Injury:

- Read operator’s manual before operating, servicing or repair equipment. Follow all safety rules and instructions. Manuals are available from your selling dealer.
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Operate from tractor seat only.
- Keep all shields in place and in good condition.
- Lower equipment to ground, stop engine, remove key and set brake before demounting tractor.
- Never allow children or untrained persons to operate equipment.
**SNOWBLOWER ASSEMBLY**

The snowblower is pre-assembled at the factory, some components must be assembled. Use the present manual and lay out all parts for assembly. Separate bolts and nuts into various sizes. After assembly, torque all the bolts according to the "Torque Specification Table" enclosed at the end of the manual.

**NOTE:** before proceeding with assembling the snowblower, install the Hydraulic Pump Kit HP2134 or HP2025.

**Installation of the Chute for SB2176**  
(Figures 1-2-3-4)

1. **Figure 1:** Remove the six 1/2" NC serrated flange nuts (item 1), the four 1/2" NC x 1 3/4" lg. carriage bolts (item 2) and the two retaining plates (items 3-4).

2. **Figure 1:** Remove the four 5/16" NC x 3/4" serrated flange bolts (item 5), the four 5/16" serrated flange nuts (item 6) and slightly loosen the four bolts (item 7) until the motor can move and loosen the two nuts and the two adjustment bolts (Fig. 3, items 1-2).

3. **Figure 2:** Install the chute (item 1) on the snowblower placing the teeth of the chute gear between the teeth of the motor gear as shown and secure in place with the two retaining plates (items 2-3), the four 1/2" NC x 1 3/4" lg. carriage bolts (item 4) and the six serrated 1/2" NC flange nuts (item 5).

**NOTE:** The chute must be placed in the exact position illustrated to make it easier to install the two bolts (item 4) from the top.
4. **Figure 3a-3b:** Adjust the gears to a distance between 1/32" and 1/16" by screwing in the two adjustment bolts (item 1) and secure with the nuts (item 2) moving them against the anchoring flat bar. Tighten the four bolts (item 3) at 30 ft-lb (41 N-M).

5. Run a test at low speed. If the gears have an irregular sound while testing, it means the adjustment is incorrect. Bring the gears closer to each other until the sound becomes regular and even.

6. **Figure 4:** Reinstall the gear shield (item 2) with the four 5/16" NC x 3/4" serrated flange bolts and the four 5/16" serrated flange nuts (items 3-4).
**Installation of the Chute for SB2164**
*(Figures 5 à 8)*

1. **Figure 5:** Remove the eight 5/16" NC serrated flange nuts (item 1), the eight 5/16" NC x 1 1/4" lg. bolts (item 2) and the three retaining plates (items 3-4).

2. **Figure 5:** Remove the three 5/16" NC x 3/4" serrated flange bolts (item 5), the three 5/16" serrated flange nuts (item 6) and unscrew slightly the four bolts of the hydraulic motor (item 7).

3. **Figure 6:** Install the chute (item 1) with the rotation bushing (item 6) on the snowblower as illustrated and secure with the three retaining plates (items 2-3), the four 5/16" NC x 1 1/4" lg. carriage bolts upside down (front chute), the four 5/16" NC x 1 1/4" lg. hex bolts (item 4) head up (behind chute) and the eight serrated flange nuts (item 5).
4. **Figure 7:** Adjust the gears to a distance between 1/32" and 1/16" by screwing in the two adjustment bolts (item 1) and secure with the nuts (item 2) moving them against the anchoring flat bar. Tighten the four bolts (item 3) at 30 ft-lb (41 N-M).

5. Run a test at low speed. If the gears have an irregular sound while testing, it means the adjustment is incorrect. Bring the gears closer to each other until the sound becomes regular and even.

6. **Figure 8:** Reinstall the guard (item 2) with the three 5/16" NC x 3/4" serrated flange bolts and three 5/16" serrated flange nuts (items 3-4).

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**Snowblower Installation**  
*(Figure 9)*

1. **Figure 9:** Attach the two hooks of the universal hitch (item 1) to the two brackets of the front loader (item 2). Insert the two pins of the universal hitch (item 3) in the attaching holes of the front loader (item 4) and lock in place with two linchpins included with the front loader brackets (item 5).
Installation of the Hydraulic Hoses
(Figures 10-11)

1. **Figure 10:** Insert the hydraulic hoses (items 1-2) through the hose support of the universal hitch (item 3) then through the front support of the loader (item 4). Make sure the hose protector (item 5) is under the bar of the universal hitch hose support (item 3). Place the other hose protector (item 7) above the front loader tube (item 6).

2. **Figure 11:** Connect the male coupler of the snowblower hose (item 1) to female coupler of the hydraulic pump hose (item 2). Connect the female coupler of the snowblower hose (item 3) to male coupler of the hydraulic pump hose (item 4).
Installation of the Electrical Wiring – Tractor with Cabin
(Figures 12 to 22)

NOTE: Tractor side wiring harness refers to the 132” long harness (part #5RD4000077 of 5RDF0039 kit) in this section. The 58” harness (5RDF0038 kit) is not used when the tractor has a cabin.

1. Figure 12: Run the 170" snowblower wiring harness (item 2) along the same course as the hydraulic hoses previously installed (item 1) and insert the harness (item 2) in the rear support of the front loader (item 3).

2. Figure 13: Run the snowblower wiring harness down the loader arm (item 1) and bring the male connector of the harness (item 2) to the position illustrated. Connect the female connector of the tractor wiring harness (item 3) to the male connector (item 2) of the snowblower harness.
3. **Figure 14:** Run the tractor wiring harness (item 1) alongside the tractor hydraulic hoses (item 2) and attach with a tie wrap (item 3).

4. **Figure 15:** Run the tractor wiring harness (item 1) behind the support plate of the loader (item 2) and secure where shown with a tie wrap (item 3).
5. **Figure 16:** Run the tractor wiring harness (item 1) under the tractor where illustrated and secure to safe places (item 2) away from tractor moving parts, with a tie wrap (item 3). Bring the harness to the back of the tractor.

6. **Figure 17:** Bring the tractor wiring harness (item 1) over the transmission housing (item 2) and towards the right fender of the tractor. Attach the harness (item 1) to the cable (item 3) with a tie wrap (not illustrated).
7. **Figure 18**: Bring the wiring harness (item 1) through the hole located besides the seat in the rear right side corner of the cabin. If it is not possible to bring those wirings through this hole, use the hole item 4 on figure 17.

8. **Figure 19**: Install the switch (item 1) in one of the available holes of the console. If there are no available holes, an optional switchbox is available (see page 28).

9. **Figure 20a-20b**: Partially remove the plastic cover and the flexible panel on the side of the seat by unscrewing the three bolts (item 1) and the molding clip (item 2). Run the harness behind the flexible panel and bring it to the console switches.
10. **Figure 21a**: Insert the male terminals (items 1-2) in the female connector (item 6). Insert the female terminals (items 3-4) in the two male connectors (item 5).

**IMPORTANT**: Connect the red wires in the A cavities and the black wires in the B cavities.

11. **Figure 22**: Connect the male connector (item 1) to the available female connector of the tractor wiring harness (item 2). If some tractor equipment is already using that female connector (item 2), remove the existing male connector, place the snowblower's male connector (item 1) in that female connector (item 2) and then attach the male connector initially removed to the second female connector (item 3) of the snowblower wiring harness.

12. **Figure 21b**: Connect the red wire to blade 1, the white wire to blade 2 and the blue wire to blade 3 of the switch. The red wire must be connected on the center blade (item 1).

**NOTE**: If the chute does not rotate as illustrated on the switch, reverse the white and blue wires.

13. **Figures 20a-20b**: Place the extra wiring harness inside the console and reinstall the console and the cover removed previously.
Installation of the Electrical Wiring – TRACTOR WITHOUT CABIN
(Figures 23 to 41)

1. **Figure 23**: Connect the red wire terminal of the 58" wiring harness (item 1) (with fuse holder) to the positive terminal of the battery and the black wire terminal (item 3) to the negative terminal of the battery (item 4). Connect the terminal on the orange wire (item 5) to the hydraulic pump harness flat terminal installed on the tractor. Attach the harness to the tractor wiring near the relay with a tie wrap (not illustrated).

2. **Figure 24**: Insert the wiring harness (item 1) in the rubber boot (item 2). On certain tractor models, it may be necessary to remove the hose tie (fig.3, item 3) to run the harness. Reinstall the tie once the harness is installed.

3. **Figure 25**: Run the wiring harness (item 1) along the front of the tractor frame and attach to the tractor wiring and/or hose (item 4) with tie wraps (item 2-3).

4. **Figures 26**: Run the 2 cavity connector near the starter.
5. **Figure 27**: Connect the 132” harness (item 1) to the 58” harness (item 2). If the 132” harness is not installed, install it and then connect it.

6. Attach the harness in the appropriate areas to make sure all removable parts (ex. oil plug, dip stick) can be removed.

7. **Figure 28**: Run the snowblower wiring harness along the same course as the hydraulic hoses previously installed (item 1) and insert the harness (item 2) in the rear support of the front loader (item 3).

8. **Figure 29**: Run the snowblower wiring harness down the loader arm (item 1) and bring the male connector of the harness (item 2) to the position illustrated. Connect the female 3 cavity connector of the 132” tractor side wiring harness (item 3) to the male 3 cavity connector (item 2) of the snowblower harness.
9. **Figure 30:** Run the 132" wiring harness tractor side (item 1) alongside the tractor hydraulic hoses (item 2) and attach with a tie wrap (item 3).

10. **Figure 31:** Run the harness tractor side (item 1) behind the support plate of the loader (item 2) and secure where shown with a tie wrap (item 3).
ASSEMBLY

11. **Figure 32:** Run the harness tractor side (item 1) under the tractor where illustrated and secure to safe places (item 2), away from tractor moving parts, with a tie wrap (item 3). Bring the harness to the back of the tractor.

12. **Figure 33:** Bring the 132" harness (item 1) over the transmission housing (item 2) and towards the right fender of the tractor. Attach the harness (item 1) to the cable (item 3) with a tie wrap (not illustrated).

13. **Figure 34:** If the optional switchbox is used, bring the harness close to the front loader control lever (item 1).
14. **Figure 35**: Unscrew the two bolts (items 1-2) under the rear right fender.

15. **Figure 36a-36b**: Remove the cover located under the rear right fender by removing the three bolts (items 1-2-3), and the screw (item 4) for the 3000 series tractors.

16. **Figures 39a-39b**: Insert the 132” harness (item 1) through the hole of the right fender (item 2) then through the guard of the console (item 3). Attach the harness where shown on the figure.
17. **Figure 38:** Install the switch in one of the available holes of the console (item 1). If there are no available holes, an optional switchbox is available (see page 29).

18. **Figure 39:** Insert the male terminals of the 132" harness (items 1-2) in the female connector (item 6) and insert the female terminals (items 3-4) in the 2 cavity male connector (item 5).

**IMPORTANT:** Connect the red wires in the A cavities and the black wires in the B cavities.

19. **Figure 41:** If this is the installation of a first 132" harness, connect the 2 cavity connector to the 58" harness located near the loader left arm. If it is for a second 132" harness installation, connect the 2 cavity male connector of the second harness to the 2 cavity female connector of the first harness in the tractor right console.

20. **Figure 40:** Connect the red wire to blade 1, the white wire to blade 2 and the blue wire to blade 3 of the switch. The red wire must be connected on the center blade (item 1).

**NOTE:** If the chute does not rotate as illustrated on the switch, reverse the white and blue wires.

21. **Figures 35-36a-36b:** Place the harness surplus inside the console and reinstall the console and the cover removed previously.
Installation of the Switchbox Kit 5RD669285 – Option (Figures 41-42)

NOTE: Figure 41 represents a tractor with a cabin but the same installation procedure applies to a tractor without a cabin.

1. **Figure 41**: Install the switch (item 1) in one of the holes of the switchbox (item 2). Place the switchbox against the control stick of the front loader (item 3) and secure in place with the two clamps (item 4) and the four 1/4" NC X 3/4" lg.hex. bolts (item 5).

2. **Figure 41**: Insert the wire harness (item 6) through the rubber boot (item 7).

3. **Figure 42**: Connect the red wire to blade 1, the white wire to blade 2 and the blue wire to blade 3 of the switch. The red wire must be connected on the center blade (item 1).

   NOTE: If the chute does not rotate as illustrated on the switch, reverse the white and blue wires.
Installation of Hydraulic Deflector 5RDF0025 (SB2176) and 5RDF0027 (SB2164) (Figures 43 to 70)

1. **Figure 43**: Remove one of the retaining rings (items 1-4) from each cylinder pin (items 2-3) and remove the pins. Place the cylinder ports pointing to the left of the snowblower as shown on figure 46 and attach the base of the cylinder (item 5) to the chute base and the rod end to the deflector using the pins and retaining rings (items 1-2-3-4). For the 64” snowblower, make sure to position the cylinder in the rear hole (item 6).

2. **Figure 44**: Remove the plugs (items 1-2) from the "C3" and "C4" ports of the hydraulic block.

3. **Figure 45**: Install the 90° 7/16" ORB male x 7/16 JIC male elbows (items 1-2) in the "C3" and "C4" ports of the hydraulic block pointing the elbows in the direction illustrated.

4. **Figure 46**: Install the 90° 3/8 NPT male x 1/4 NPT swivel female (items 1-2) in the cylinder ports pointing the elbows in the direction illustrated. Put thread sealant on the male portion of the elbows.
5. **Figure 47:** Remove the 5/8" NC X 4 1/12" lg. bolt, lockwasher and nylon insert nut (items 1-2-3) and install the hose support with the hardware just removed.

6. **Figure 48:** Put thread sealant on the male end of each hose (items 1-2) and connect them to the cylinder’s 90° elbows (items 3-4).

7. **Figure 49:** Connect the female end of each hose (items 1-2) to the hydraulic block’s 90° elbows (items 2-3) making sure to connect the hose from the rod end of the cylinder to the "C4" port of the hydraulic block.

8. **Figure 50:** Attach the hoses to the hose support (item 1) with the clamp (item2), 3/8" x 1 1/4" lg bolt (item 3) and nylon insert nut (item 4) making sure to leave enough slack in the hoses to allow for full rotation of the chute. Install the hose protector (item 5) as shown on figure.
9. Figure 51: Remove the Allen socket head capscrews (item 1) and remove the plate (item 2). Remove the O rings stuck to the hydraulic block and clean the four holes thoroughly before installing the valve.

IMPORTANT: Figure 52: Make sure the electric valve is installed in the right direction. It must be installed in the same direction that the one already installed with the "T" indication toward the overpressure valves (item 3).

10. Figure 52: Attach the electric valve (item 1) to the block with the four Allen socket capscrews supplied with the valve (item 2) making sure the O-rings are securely installed on the valve.

11. Figure 53: Remove the DIN connectors (items 3-4) by taking off the bolts (items 1-2).

12. Figure 54a-54b: Take the DIN connector apart (Fig. 54b, item 1) and connect the wires of the 170" harness as shown on Figure 54a. When connecting the wires, make sure to position the terminal board in the proper direction in the block so the wires point down once installed on the valve.

13. Figure 53: Reinstall the DIN connectors (items 3-4) on the valve making sure the white wire is in the upper connector and the blue wire is in the lower one and that the wires point down.
14. *Figures 55a-55b.* The 160" harness (item 1) follows the same course as the hydraulic rotation harness (item 2) previously installed. Attach the new harness with tie wraps (item 3) in the same location as the first harness installed and insert in the hose protectors (item 4).

15. *Figure 56:* Take the harness down to the base of the front loader (item 3), close to the ignition of the tractor engine (item 4). In the case of a reinstallation of the deflector, connect the male connector of the 170" harness (item 1) to the female connector of the tractor side 132" harness (item 2). If it's a new installation, go to the next step.
Installation of the 132" Tractor Side Harness - TRACTOR WITH CABIN
(Figures 57 to 63)

1. Figure 57: Place the 3 cavity female connector to the tractor side harness (item 1) next to the 3 cavity female connector of the hydraulic rotation (item 2) and attach the two harnesses together with a tie wrap (item 3). Take the harness to the rear of the tractor following the same course as the hydraulic rotation harness installed previously. Attach the harness with tie wrap in the same locations as the hydraulic rotation harness.

2. Figure 58: Insert the harness (item 1) through the hole located besides the seat in the rear right side corner of the cabin.

3. Figure 59: Install the switch (item 1) in one of the available holes of the console. If there are no available holes, an optional switchbox is available (see page 29).
4. **Figure 60a-60b:** Partially remove the plastic cover and the flexible panel on the side of the seat by unscrewing the three bolts (item 1) and the molding clip (item 2). Run the harness behind the flexible panel and bring it to the console switches.

5. **Figure 61:** Insert the male terminals (items 1-2) in the female connector (item 6). Insert the female connectors (items 3-4) in the two cavity connector (item 5). **IMPORTANT:** Connect the red wires in the A cavities and the black wires in the B cavities.

6. **Figure 62:** Connect the male connector (item 1) to the available female connector of the 132" rotation wiring harness (item 2).
7. **Figure 63**: Connect the red wire (item 1), the white wire (item 2) and the blue wire (item 3) to the switch in the order. The red wire *must* be connected on the center blade. Reinstall the plastic cover previously removed.

**NOTE**: If the deflector does not operate as illustrated on the switch, reverse the white and blue wires.

8. **Figures 60a-60b**: Place the extra wiring harness inside the console and reinstall the cover and the panel removed previously.

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**Installation of the 132” Tractor Side Harness - TRACTOR WITHOUT CABIN**

(Figures 64 to 70)

1. **Figure 64**: Place the 3 cavity female connector for the tractor side harness (item 1) next to the 3 cavity female connector of the hydraulic rotation (item 2) and attach the two harnesses together with a tie wrap (item 3). Take the harness to the rear of the tractor following the same course as the hydraulic rotation harness installed previously. Attach the harness with tie wrap in the same locations as the hydraulic rotation harness.

2. **Figures 65a-65b-65c**: Unscrew the two bolts (items 1-2) under the rear right fender. Remove the cover located under the rear right fender by removing the three bolts (Fig. 65a, items 1-2-3) then unscrew the two screws (Fig. 65b, items 1-2) to release the console on the right side of the seat, and the screw (Fig. 65c, item 4) for 3000 series tractor.
3. **Figures 66a-66b:** Insert the 132" harness (item 1) through the hole of the right fender (item 2) then through the guard of the console (item 3).

4. **Figure 67:** Install the switch in one of the available hole of the console (item 1). If there are no available holes, an optional switchbox is available (see page 29).

5. **Figure 68:** Insert the male terminals of the 132" harness (items 1-2) in the female connector (item 6) and insert the female terminals (item 3-4) in the male connector (item 5). **IMPORTANT:** Connect the red wires in the A cavities and the black wires in the B cavities.
6. **Figure 69**: Connect the male connector (item 1) to the female connector of the rotation wiring harness (not illustrated).

7. **Figure 70**: Connect the red wire to blade 1, the white wire to blade 2 and the blue wire to blade 3 of the switch. The red wire **must** be connected on the center blade (item 1).

   **NOTE**: If the deflector does not operate as illustrated on the switch, reverse the white and blue wires.

8. **Figures 65a-65b-65c**: Place the extra wiring harness inside the console and reinstall the console and the cover removed previously.
**Installation of the Drift Cutters 5RDF0026**
*(Figure 71)*

1. Remove the 1/2" NC x 1 1/4" bolt (item 5) from the motor support (item 17) and the 5/16" NC x 1 1/4" bolt (item 4) from the hose guard (item 16).

2. Position the left drift cutter (item 2) next to the holes in the housing and install the 1/2" NC x 1 1/2" bolt (item 18), 9/16" flat washer (item 8), 1/2" lockwasher (item 9) and 1/2" NC nut (item 10) in the lower hole.

3. In the middle hole, reinstall the 5/16" NC x 1 1/4" bolt (item 4), 5/16" flat washer (item 11), 5/16" lockwasher (item 12) and 5/16" NC nut (item 13).

4. In the upper hole, insert a 3/8" NC x 1" bolt (item 3), 3/8" lockwasher (item 14) and 3/8" NC nut (item 15).

5. Position the right drift cutter (item 1) next to the holes in the housing and secure in place using the 3/8" NC x 1" upper bolt (item 3), 3/8" lockwasher (item 15) and 3/8" NC nut (item 14).

6. Make sure that the right drift cutter is aligned with the housing and drill an 11/32" hole in the housing, using the right drift cutter's (item 1) middle hole as a template. Insert a 5/16" NC x 1" bolt (item 6), 5/16" lockwasher (item 12) and 5/16" NC nut (item 13).

7. Drill a 17/32" hole in the housing using the lower hole in the right drift cutter item 1). Insert a 1/2" NC x 1 1/4" bolt (item 7), 1/2" lockwasher (item 9) and 1/2" NC nut (item 10).
Removing the Snowblower
(Figures 72 to 75)

1. **Figure 72:** Disconnect the harnesses snowblower side (item 1) from the harnesses tractor side (item 2).

2. **Figure 73:** Disconnect the male coupler (item 1) of the snowblower hose from the female coupler (item 2) of the hydraulic pump hose. Disconnect the female coupler (item 3) of the snowblower hose from the male coupler (item 4) of the hydraulic pump hose. Install the dust caps (item 5) on each coupler (items 1-2-3-4).

3. **Figure 74:** Remove the hydraulic hoses (items 1-2) and the electrical harness (item 3) from the front support of the loader (item 4). Roll up the hoses around the chute so they don’t drag on the ground.

4. **Figure 75:** Remove the two linchpins (item 5). Disengage the two universal hitch pins (item 3) from the holes of the front loader (item 4).

5. Disengage the two universal hitch hooks (item 1) from the loader brackets (item 2). Back away slowly.
**OPTIMUM PERFORMANCES**

**IMPORTANT:** The hydraulic motors of the snowblower must have a breaking in period. If it is not respected, the warranty could be voided. The breaking in period must follow these steps:

1. 15-30 minutes of operation without any load and at half speed (tractor RPM around 1250).

2. Check for unusual noises coming from the motors. If everything sounds normal, the load and engine speed can be increased.

Optimum snowblower performances are only achieved after 10 to 15 minutes of operation. It is therefore important to make certain that the hydraulic oil reaches a temperature over 40°C (104°F) before evaluating the performances.

The new HP2025 and HP2134 pumps are equipped with a safety system to prevent the hydraulic oil from overheating. When the hydraulic block is not power supplied, the oil is in recirculation mode meaning that the equipment will not function. To power the block, the ignition key must be in the "ON" or "START" position. If the system remains in the recirculation mode, refer to the "Troubleshooting" section at page 46.

Snowblower performances are highly sensitive to hydraulic pressure. The higher the pressure (while still remaining below 3000 psi), the higher the snowblower performances will be.

**GENERAL PREPARATION**

1. Read the operator's manual carefully before using the tractor and snowblower. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.

2. Wear adequate winter outer garments while operating equipment.

3. Make sure the snowblower is clear of snow before engaging the hydraulic system.

4. Make sure the auger and fan operate freely.

5. Adjust the skid shoes so the snowblower runs level.

6. To obtain optimum performances of the snowblower, the oil in the hydraulic system must be warmed up for 10 to 15 minutes.

**OPERATING CONTROLS**

**Manual Deflector Adjustment**

Set the angle of the deflector according to the distance the snow must be thrown. To set the deflector angle, remove the round wire lock pin from the adjustment tube, adjust the deflector to the appropriate angle and reinstall the wire round wire lock pin.

**Hydraulic Deflector Adjustment**

**IMPORTANT:** The snowblower drive system must be engaged to move the hydraulic deflector.

To adjust the angle of the deflector, push the switch down to lower the deflector. Push the switch up, to raise it. If the operation is not as described, reverse the switch wires.

**Hydraulic Rotation Adjustment**

**IMPORTANT:** The snowblower drive system must be engaged to rotate the hydraulic chute.

To turn the chute left (counterclockwise), move the switch forward. Move the switch rearward, to move the chute to the right (clockwise). If the operation is not as described, reverse the switch wires.
**Ground Speed**

Ground speed will depend on the thickness and density of the snow to be cleared away. Normally, ground speed will range from 4 to 7 MPH for light, dry snow 3 to 6 inches thick, and 1 to 3 MPH for heavy, wet or icy snow. To transport, disengage the hydraulic system and raise the snowblower to a reasonable height.

**Skid Shoes Adjustment**

Adjust the snowblower so that the skid shoes run level. Adjust the skid shoes according to the surface conditions so that stones are not thrown with the snow, and adjust upwards for smooth surfaces. Adjust both skid shoes to the same height to keep the cutting edge level.

To adjust skid shoes, remove the pin and do the following adjustment:

**Clearance between cutting edge and surface:**

- **Level paved surface:** Adjust to 1/16” to 1/8”
- **Uneven or gravel surface:** Adjust to 1/2” and more according to size of gravel

**IMPORTANT:** Avoid overloading the snowblower or driving it in reverse for too long. Driving the snowblower in reverse now and then to dislodge an object blocking the snowblower is acceptable.

**IMPORTANT:** The fan and auger are driven directly by hydraulic motors. Relief valves have replaced the shear bolts.

When an object blocks the fan or the auger, they stop turning. They start turning again when the object is removed.

**DANGER:** To avoid serious injuries: Keep clear of rotating parts. Do not put hands or feet under, or into snowblower with engine running.

Park the tractor/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the equipment drive, lower the equipment to the ground, place all control levers in neutral, shut off the engine, remove the ignition key and allow the rotating parts to stop BEFORE unclogging the collector/fan housing or chute, and making any repairs, adjustments or inspections. Use only a 36” long piece of wood to unclog blower.

Not respecting these instructions can result in serious injuries.
SNOW REMOVAL METHODS

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

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

WARNING: To avoid serious personal injury: 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**

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.

**PATTERN 2**

**DISCHARGE SNOW THIS SIDE ONLY**

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

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

Storage

1. Check hardware at regular intervals to ensure it is always tightened properly.
2. Never park the tractor inside a building where an open flame or sparks are present. Allow the engine to cool down before storing in any enclosure.
3. Run the snowblower a few minutes after blowing snow to prevent freeze up of the auger and fan.

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

Hydraulic Oil

Check oil level before each use. Refer to the operation’s manual of the HP2120, HP2025 and HP2134 hydraulic pumps.

ATTENTION: Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing severe injuries.

- Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.
- Shut engine off and relieve pressure before connecting or disconnecting lines.
- Tighten all connections before starting engine or pressurizing lines.
- If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result.

1. Hydraulic line
2. Cardboard
3. Magnifying glass
MAINTENANCE

LUBRICATION

Use a grease gun and lubricate as follows:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>INTERVAL</th>
<th>LUBRICATION REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bearing</td>
<td>24 hours of use</td>
<td>Grease the auger bearing (item 1)</td>
</tr>
<tr>
<td>Hydraulic Pump</td>
<td>After each use</td>
<td>Check the oil level of the oil tank</td>
</tr>
<tr>
<td>(refer to the HP2120,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP2025 and HP2134</td>
<td>400 hours or once a year</td>
<td>Change the oil</td>
</tr>
<tr>
<td>Operator’s Manual)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chute</td>
<td>24 hours of use</td>
<td>Grease the underside of the retaining plates (items 2)</td>
</tr>
</tbody>
</table>

REGULAR INSPECTIONS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>INTERVAL</th>
<th>INSPECTION REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow restrictors (items 1)</td>
<td>50 hours of use</td>
<td>Check that the hole is not obstructed</td>
</tr>
<tr>
<td>Hoses</td>
<td>200 hours of use</td>
<td>Replace with the appropriate hole size</td>
</tr>
<tr>
<td>Hydraulic motor</td>
<td>At each lubrication</td>
<td>Check for leaks</td>
</tr>
<tr>
<td>Hydraulic block</td>
<td>At each lubrication</td>
<td>Check for leaks</td>
</tr>
<tr>
<td>Skid shoes / Cutting edge</td>
<td>100 hours of use</td>
<td>Check for wear and change if needed</td>
</tr>
<tr>
<td>Housing / Fan/Auger &amp; Oil cooler located under the snowblower's upper</td>
<td>100 hours of use</td>
<td>Repair if needed</td>
</tr>
<tr>
<td>Hardware</td>
<td>24 hours of use</td>
<td>Check and tighten if needed</td>
</tr>
</tbody>
</table>

![LUBRICATION](image1.png)  ![REGULAR INSPECTIONS](image2.png)
## MAINTENANCE

### TROUBLESHOOTING

**Optimum Performance**

**IMPORTANT:** The optimum performances of the snowblower are only achieved after 10 to 15 minutes of snowblower operation. It is therefore important to ensure that the hydraulic oil reaches a temperature of over 40°C (104°F) before judging the snowblower's performances.

The snowblower performances are very sensitive to the hydraulic pressure. The higher the pressure is (while remaining under 3000 psi) the more the performances of the snowblower will be high.

The following chart serves as a guide in case of a malfunction. If the problem is not solved after taking the appropriate corrective measure, contact your dealer.

### WARNING

Several corrective measures present a certain risk, which may cause serious injuries or death.

Only a qualified person, familiar with the risks associated with hydraulics, electricity and machinery should perform the repairs. Review the safety precautions at the beginning of this manual.

### WARNING

Hot engine parts and hydraulic oil can cause serious burns. Always let the engine cool before proceeding with repairs or maintenance.

### CAUTION

The oil temperature must never go above 65°C (149°F) to avoid damages to the hydraulic components.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CORRECTIVE MEASURE</th>
</tr>
</thead>
</table>
| 1. The auger and fan do not turn | • Check if an object is blocking the fan or auger  
• Check that the PTO is engaged  
• Check for oil leaks  
• Check if the pump is in recirculation mode  
• Check hydraulic pump oil level and add some if needed  
• Check that the input and output hoses are connected  
• Check that the input and output hoses are in the right position, if not reverse their position  
• Check if the flow restrictor is obstructed and replace if needed |
| 2. The auger and fan are turning in reverse | • Check that the hoses are connected correctly to the hydraulic manifold and reverse their position if necessary |
| 3. The snow is not being ejected from the chute | • Check if the fan is turning, refer to problem # 1  
• Check if the fan is turning in the right direction, refer to problem # 2  
• Check if the snow output is obstructed, unclog with a 36" stick |
| 4. The snowblower clogs up easily | • Check the viscosity of the hydraulic oil  
• Check hydraulic pump oil level and add some if needed  
• Check if the tractor engine is at full RPM  
• Check the hydraulic pressure of the system  
• Check the hydraulic flow of the system  
• Check if the flow restrictor is obstructed and replace if needed  
• Check if the sequence valve is working and adjust or replace if needed |
<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CORRECTIVE MEASURE</th>
</tr>
</thead>
</table>
| **5. Snow doesn’t enter the snowblower properly** | • Check the viscosity of the hydraulic oil  
• Check hydraulic pump oil level and add some if needed  
• Check if the tractor engine is at full RPM  
• Check hydraulic pump hydraulic pressure  
• Check hydraulic pump hydraulic flow  
• Check is the flow restrictor is worn and replace if needed  
• Check the motor and auger relief valve  
• Check if the sequence valve is working and adjust or replace if needed |
| **6. The snow is not thrown very far** | • The engine is not at full RPM  
• Check hydraulic pump oil level and add some if needed  
• Check hydraulic pump hydraulic pressure, adjust if too low  
• Check hydraulic pump hydraulic flow  
• Reduce the ground speed (Refer to Operation section)  
• Check the hoses for leaks, replace if needed  
• Check if the flow restrictor is obstructed and replace if needed  
• Check the motor and fan relief valve  
• The sequence valve is not adjusted properly, adjust or replace if needed |
| **7. The chute’s hydraulic rotation or deflector does not operate** | • Check if the snowblower is engaged  
• Check if the attachment flow restrictor is obstructed, replace if needed  
• Check if the fuse of the 58” wiring harness or the tractor one is burnt  
• Check if the hoses and wires are connected properly |
| **8. The chute’s hydraulic rotation or deflector is working, but in a erratic way** | • The engine is not revving at full RPM  
• Check for dirt in the oil and replace if needed  
• Check if the hoses and wires are connected properly  
• Check if the attachments flow restrictor is obstructed, replace if needed |
| **9. The hydraulic motor of the auger and/or fan and/or hydraulic rotation leaks oil from the shaft** | • Check that the maximum hydraulic pressure is below the allowable level  
• Check that the maximum return pressure is below the allowable level  
• Check that the hydraulic motors relief valve is operating properly  
• Replace the motor seals  
• Replace the motor |
INSTRUCTION FOR VALVES ADJUSTMENT

Parts needed: 1 1/16” ORB plug (2x), 3000 psi pressure gauge (1x), 1/8” NPT plug (1x)
Tools: 1 1/4” wrench, 1 1/8” wrench, 3/16” allen wrench, 1/4” allen wrench, 5/16” allen wrench

NOTE: Adjustments must be done without charge on the snowblower

A - Sequence valve (fig. 1, item A)

1. Figure 1: Remove the two hydraulic hoses (items B and C) and the fittings (item D and E).

2. Figure 2: Install two 1 1/16” ORB hydraulic plugs (items 1 and 2) to replace hoses removed previously.

3. Figure 3: Remove the hydraulic plug of port 1 shown on figure and install a pressure gauge. (the figure shows the bottom of the manifold).
4. Run the tractor engine at idle and engage the PTO. Check the pressure on gauge. It should be around

- **1700 psi for SB2176**
- **1850 psi for SB2164**.

If not, adjust pressure.

5. **Figure 4: PRESSURE ADJUSTMENT**
   - Remove the cap (item A) to access at the adjustment screw (item B).
   - SCREW to increase pressure or UNSCREW to decrease pressure.
   - Reinstall the cap, but DO NOT reinstall the hoses and DO NOT remove the pressure gauge.

**B - Auger Motor valve (fig.5, item A)**

1. **Figure 5**: Make sure the two hydraulic hoses are removed and the two 1 1/16"ORB hydraulic plug are installed to replace hoses removed.

2. **Figure 6**: Remove the hydraulic plug of port 1 show on figure and install a pressure gauge. (the figure shows the bottom of the manifold).
3. **Figure 7**: Remove the ORB plug (item A) and the flow restrictor (item B) and replace it by a plug (item C). Reinstall the ORB plug (item A).

4. Run the tractor engine at idle and engage the PTO. Check the pressure on gauge. It should be around **2200 psi**. If not, adjust pressure.

5. **Figure 8**: PRESSURE ADJUSTMENT
   - Remove the cap (item A) to access at the adjustment screw (item B).
   - SCREW to increase pressure or UNSCREW to decrease pressure.
   - Reinstall the cap.

6. **Figure 7**: Remove the ORB plug (item A) to remove the plug (item C) and reinstall the flow restrictor (item B) and the ORB plug (item A).

7. **Figure 9**: Reinstall the hydraulic hoses and fittings (items B, C, D, E) of the auger motor as the original setting of the manifold.

8. Remove the pressure gauge and reinstall the plug removed previously.
**MAINTENANCE**

**C - Impeller Motor valve (fig. 10, item A)**

1. **Figure 10**: Remove the two hydraulic hoses and the fittings (item B and C).

2. **Figure 11**: Install two 1 1/16” ORB hydraulic plugs (items 1) to replace hoses removed previously.

3. **Figure 12**: Remove the hydraulic plug (item A) of port shown on figure and install a pressure gauge.

4. Run the tractor engine at idle and engage the PTO. Check the pressure on gauge. It should be around 3200 psi. If not, adjust pressure.

5. **Figure 13**: PRESSURE ADJUSTMENT
   - Remove the cap (item A) to access at the adjustment screw (item B).
   - SCREW to increase pressure or UNSCREW to decrease pressure.
   - Reinstall the cap.

6. **Figure 10**: Reinstall the hydraulic hoses and fittings (items B, C) of the impeller motor as the original setting of the manifold.

7. Remove the pressure gauge and reinstall the plug removed previously.
HYDRAULIC DIAGRAM
GENERAL SPECIFICATION TABLE

Use the following torques when special torques are not given

NOTE: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly sulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

### BOLT HEAD IDENTIFICATION MARKS AS PER GRADE

NOTE: MANUFACTURING MARKS WILL VARY.

<table>
<thead>
<tr>
<th>BOLT SIZES</th>
<th>Inches</th>
<th>Millimeters</th>
<th>MIN.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>MAX.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>6.35</td>
<td>5</td>
<td>6</td>
<td>6.8</td>
<td>8.13</td>
<td>9</td>
<td>11.0</td>
<td>12.2</td>
<td>14.9</td>
<td>12</td>
<td>15</td>
<td>16.3</td>
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<tr>
<td>5/16</td>
<td>7.94</td>
<td>10</td>
<td>12</td>
<td>13.6</td>
<td>16.3</td>
<td>17</td>
<td>20.5</td>
<td>23.1</td>
<td>27.8</td>
<td>24</td>
<td>29</td>
<td>32.5</td>
</tr>
<tr>
<td>3/8</td>
<td>9.53</td>
<td>20</td>
<td>23</td>
<td>27.1</td>
<td>31.2</td>
<td>35</td>
<td>42.0</td>
<td>47.5</td>
<td>57.0</td>
<td>45</td>
<td>54</td>
<td>61.0</td>
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<tr>
<td>7/16</td>
<td>11.11</td>
<td>25</td>
<td>30</td>
<td>40.7</td>
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<td>54</td>
<td>64.0</td>
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<td>86.8</td>
<td>70</td>
<td>84</td>
<td>94.9</td>
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<tr>
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<td>52</td>
<td>61.0</td>
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<td>80</td>
<td>96.0</td>
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<td>130.2</td>
<td>110</td>
<td>132</td>
<td>149.2</td>
</tr>
<tr>
<td>9/16</td>
<td>14.29</td>
<td>65</td>
<td>75</td>
<td>88.1</td>
<td>101.6</td>
<td>110</td>
<td>132.0</td>
<td>149.2</td>
<td>179.0</td>
<td>160</td>
<td>192</td>
<td>217.0</td>
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<td>5/8</td>
<td>15.88</td>
<td>95</td>
<td>105</td>
<td>128.7</td>
<td>142.3</td>
<td>150</td>
<td>180</td>
<td>203.4</td>
<td>244.1</td>
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<td>3/4</td>
<td>19.05</td>
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<td>185</td>
<td>203.3</td>
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<td>270</td>
<td>324</td>
<td>366.1</td>
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<td>380</td>
<td>456</td>
<td>515.3</td>
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<td>22.23</td>
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<td>200</td>
<td>216.8</td>
<td>271.0</td>
<td>400</td>
<td>480</td>
<td>542.4</td>
<td>650.9</td>
<td>600</td>
<td>720</td>
<td>813.6</td>
</tr>
<tr>
<td>1</td>
<td>25.40</td>
<td>250</td>
<td>300</td>
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<td>580</td>
<td>696</td>
<td>786.5</td>
<td>943.8</td>
<td>900</td>
<td>1080</td>
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</tr>
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<td>1 1/4</td>
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<td>-</td>
<td>-</td>
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</tr>
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<td>1 3/8</td>
<td>34.93</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>1 1/2</td>
<td>38.10</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
</tbody>
</table>

### METRIC BOLT TORQUE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Size of Screw</th>
<th>Grade No.</th>
<th>Pitch (mm)</th>
<th>Coarse Thread</th>
<th>Fine Thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6</td>
<td>4T 7T 8T</td>
<td>1.0</td>
<td>3.6</td>
<td>5.8</td>
</tr>
<tr>
<td>M8</td>
<td>4T</td>
<td>1.25</td>
<td>7.2</td>
<td>7.2</td>
</tr>
<tr>
<td>M10</td>
<td>4T 7T 8T</td>
<td>1.5</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>M12</td>
<td>4T 7T 8T</td>
<td>1.75</td>
<td>28</td>
<td>51</td>
</tr>
<tr>
<td>M14</td>
<td>4T 7T 8T</td>
<td>2.0</td>
<td>49</td>
<td>81</td>
</tr>
<tr>
<td>M16</td>
<td>4T 7T 8T</td>
<td>2.0</td>
<td>67</td>
<td>116</td>
</tr>
<tr>
<td>M18</td>
<td>4T 7T 8T</td>
<td>2.0</td>
<td>88</td>
<td>150</td>
</tr>
<tr>
<td>M20</td>
<td>4T 7T 8T</td>
<td>2.5</td>
<td>108</td>
<td>186</td>
</tr>
</tbody>
</table>

**Note:** The values provided are for reference and may vary depending on specific application requirements. Always consult the manufacturer's guidelines for the most accurate specifications.

---

**OM 0393SB-A**

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## TORQUE SPECIFICATION TABLE

**TORQUE SPECIFICATION TABLE FOR HYDRAULIC FITTINGS**

Use the following torques when a specific torque is not given. Note: These values apply to fittings when dry. These values do not apply if lubricants are used.

<table>
<thead>
<tr>
<th>SIZE OF FITTINGS</th>
<th>TORQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE (JIC) - INCHES</td>
<td>foot-pounds</td>
</tr>
<tr>
<td>03 - 3/8&quot; - 24</td>
<td>8-9</td>
</tr>
<tr>
<td>04 - 7/16&quot; - 20</td>
<td>13-15</td>
</tr>
<tr>
<td>05 - 1/2&quot; - 20</td>
<td>14-15</td>
</tr>
<tr>
<td>06 - 9/16&quot; - 18</td>
<td>23-24</td>
</tr>
<tr>
<td>08 - 3/4&quot; - 16</td>
<td>40-43</td>
</tr>
<tr>
<td>10 - 7/8&quot; - 14</td>
<td>43-48</td>
</tr>
<tr>
<td>12 - 1 1/16&quot; - 12</td>
<td>68-75</td>
</tr>
<tr>
<td>14 - 1 3/16&quot; - 12</td>
<td>83-90</td>
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<tr>
<td>16 - 1 5/16&quot; - 12</td>
<td>112-123</td>
</tr>
<tr>
<td>20 - 1 5/8&quot; - 12</td>
<td>146-161</td>
</tr>
<tr>
<td>24 - 1 7/8&quot; - 12</td>
<td>154-170</td>
</tr>
<tr>
<td>32 - 2 1/2&quot; - 12</td>
<td>218-240</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIZE (ORB) - INCHES</th>
<th>foot-pounds</th>
<th>Newton-meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 - 3/8&quot; - 24</td>
<td>8-10</td>
<td>11-13</td>
</tr>
<tr>
<td>04 - 7/16&quot; - 20</td>
<td>14-16</td>
<td>20-22</td>
</tr>
<tr>
<td>05 - 1/2&quot; - 20</td>
<td>18-20</td>
<td>24-27</td>
</tr>
<tr>
<td>06 - 9/16&quot; - 18</td>
<td>24-26</td>
<td>33-35</td>
</tr>
<tr>
<td>08 - 3/4&quot; - 16</td>
<td>50-60</td>
<td>68-78</td>
</tr>
<tr>
<td>10 - 7/8&quot; - 14</td>
<td>72-80</td>
<td>98-110</td>
</tr>
<tr>
<td>12 - 1 1/16&quot; - 12</td>
<td>125-135</td>
<td>170-183</td>
</tr>
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<td>14 - 1 3/16&quot; - 12</td>
<td>160-180</td>
<td>215-245</td>
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<td>16 - 1 5/16&quot; - 12</td>
<td>200-220</td>
<td>270-300</td>
</tr>
<tr>
<td>20 - 1 5/8&quot; - 12</td>
<td>210-280</td>
<td>285-380</td>
</tr>
<tr>
<td>24 - 1 7/8&quot; - 12</td>
<td>270-360</td>
<td>370-490</td>
</tr>
</tbody>
</table>
### ASSEMBLY

The method used to assemble fittings with NPT threads is in two stages. First tighten firmly by hand then tighten one again according to the number of turns listed on the above table. The following method is recommended to minimize the risks of leaks and/or damages to the parts.

1. Inspect threads and tapping to make sure they are clean.
2. Apply a sealant/lubricant product to the NPT threads (Teflon covered threads are preferable to other lubricating products). If PTFE tape (Teflon) is used, make 1, 5 or 2 turns clockwise.
   
   **Attention:** More than 2 turns can cause distortion or cracks in the orifice.
3. Tighten the fitting by hand.
   
   4. Screw the fitting the number of turns listed on the above table making sure that in the case of a shape fitting the end is aligned to the desired position. **Never unscrew a fitting to obtain the proper alignment.**
   
   5. If the leak persists after having followed the preceding instructions, check that the threads are not damaged and the number of seated threads.

If the threads are very damaged, replace the fitting. If the tapping is damaged, retap if possible or replace the part.

Usually, the number of threads seated is between 3, 5 and 6. If the range is different it would indicate that the fitting was tightened too much or not enough or that the tightening was not within thread tolerances. If the fitting is not tight enough, tighten but never more than one turn. If it's too tight, control the threading and tapping and replace the section that has threads that are not within tolerances.

<table>
<thead>
<tr>
<th>SIZE (NPT) - INCHES</th>
<th>Torque FFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;- 27</td>
<td>2.0 - 3.0</td>
</tr>
<tr>
<td>1/4&quot;- 18</td>
<td>2.0 - 3.0</td>
</tr>
<tr>
<td>3/8&quot;- 18</td>
<td>2.0 - 3.0</td>
</tr>
<tr>
<td>1/2&quot;- 14</td>
<td>2.0 - 3.0</td>
</tr>
<tr>
<td>3/4&quot;- 16</td>
<td>2.0 - 3.0</td>
</tr>
<tr>
<td>1&quot;- 11 1/2&quot;</td>
<td>1.5 - 2.5</td>
</tr>
<tr>
<td>1 1/4&quot;- 11 1/2&quot;</td>
<td>1.5 - 2.5</td>
</tr>
<tr>
<td>1 1/2&quot;- 11 1/2&quot;</td>
<td>1.5 - 2.5</td>
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