ASHLAND INDUSTRIES

# OPERATOR'S MANUAL

FOR ASHLAND 1509E

MODEL: 001
VERSION: 1.00

1509E

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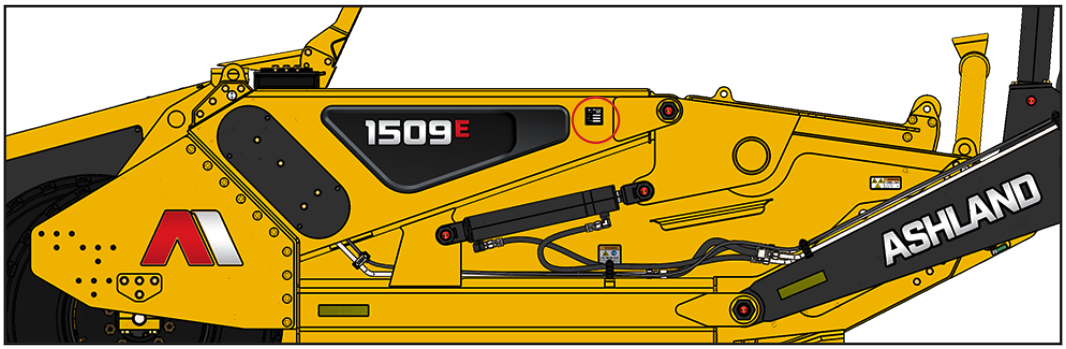
Flip over for parts manual

## PRODUCT IDENTIFICATION

Always give your dealer the serial number of your Ashland Scraper when ordering parts or requesting service or other information.

The serial number plate is stamped into the frame indicated below. Please mark the numbers in the space provided for easy reference.




**SERIAL NUMBER PLATE LOCATION FOR 1509E**


**ASHLAND INDUSTRIES INC. ORIGINAL INSTRUCTIONS**
Box 717, Ashland, WI 54806, United States. 1-715-682-4622

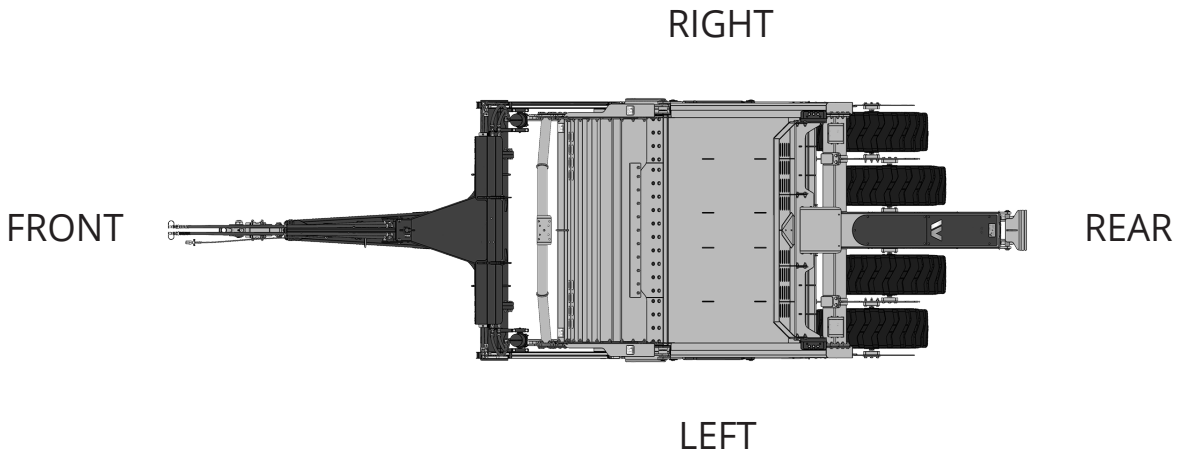
**Read this manual carefully and become familiar with your Ashland Scraper. Know its applications, it's limitations and any hazards involved.**

**THANK YOU FOR PURCHASING AN ASHLAND PRODUCT**
Congratulations for purchasing a new Ashland Scraper to complement your earth moving operation. We appreciate having you as a customer and wish you many years of safe and satisfied use of your Scraper.

**USING YOUR OPERATOR'S MANUAL**
This Scraper has been designed and manufactured to provide efficient earthmoving solutions. Safe, efficient, and trouble free operation of your Ashland Scraper requires that you and anyone else who will be operating or maintaining the Scraper, read and understand all information contained within this operator's manual.

This manual is an important part of your Scraper, keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Ashland distributor or Authorized Dealer if you need assistance, information or additional copies of this manual.

**OPERATOR ORIENTATION**
The directions left, right, front, and rear, as mentioned through out the manual, are as seen from the driver's seat and facing in the direction of travel.




**INTENDED USE**

This machine attachment is intended to cut, collect, and transport material in an efficient manner. Once the user has reached the dump site, the collected material can be unloaded or deposited in a desired way.

This attachment is commonly used in areas that tractors can operate. Normally, tractors work well with larger scrapers in dry, arid soil conditions. If the application is in wet or soft conditions, the same size tractor must utilize a smaller size scraper. Flotation of the tractor and scraper within wet areas will dramatically affect speed and efficiency of this machine attachment.

Ashland Industries strongly recommends the operator knows the type of conditions they are operating in and size the scraper accordingly.

## QUALITY POLICY

It is our mission to exceed our customers' expectations in quality, delivery, and cost through continuous improvement and customer interaction.

Please read and understand this manual before attempting to attach or operate this scraper. This manual should always remain with the machine. Be sure and fill out and send in the owner's registration form attached to this manual. Alternatively you can fill out the form online by going to ashlandind.com. If you have questions, please feel free to call or email us. Owners that do not register their machine with Ashland Industries forfeit the ability to file for warranty claims.

Ashland Industries hours of operation are 8:00 a.m. to 5:00 p.m. CST.

You can visit us online at: www.ashlandind.com or call toll free at: 877-634-4622

## CONTACT INFORMATION

To offer you the best service and support possible, please record the following reference information:

Ashland Model Number: _____

Serial Identification Number: _____

Local Dealer Name: _____

Address: _____

Phone Number: _____

## PARTS

Parts must be ordered through your local authorized Ashland dealer. Be sure to state MODEL and SERIAL NUMBER of your machine. Ashland Industries weldable replacement parts are also available to rebuild, modify, or update your scraper to current factory specifications.

Use only Ashland replacement parts for needed repairs. Please refer to the corresponding Parts Manual to ensure the least amount of downtime. Do not use inferior replacement parts or modify the equipment in any way. Unauthorized modifications may affect function, safety, and life of the equipment. Custom factory modifications, implemented outside the purview of the original machines design, unique for an individual customer or machine, may create serviceability challenges. These alterations are completed at the customers discretion.

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## SAFETY INTRODUCTION

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before operating your new Ashland Scraper.**

**YOU** are responsible for the **SAFE** operation, maintenance, transport, and storage of your Ashland Scraper. **YOU** must ensure that you and anyone else who is going to operate, maintain, transport, or work around the Scraper be familiar with the operating, maintenance, and transport procedures and related **SAFETY** information contained in this manual. The sections in this manual are placed in a specific order to help you understand all safety messages, instructions, and practices and learn the controls so you can operate, maintain, transport and store an Ashland Scraper safely for you and everyone around you. Your Ashland Scraper is subject to the current Ashland **WARRANTY STATEMENT**.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this Scraper is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

Ashland Industries Inc. uses a harmonized safety format to meet the standards of ISO 3864-2, ANSI Z535.4, and ANSI Z535.6 in it's manuals and safety signs.

**SAFETY ALERT SYMBOL**
The safety alert symbol identifies important safety messages throughout this manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Note the use of the Signal words **DANGER, WARNING, CAUTION** on the hazard severity panel below. These signal words will be used throughout this manual in conjunction with the safety alert symbol to warn users of potential hazards. **NOTICE & SAFETY INSTRUCTIONS**. These signal words will be used throughout this manual to indicate messages and practices related/not related to personal injury.


**DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.


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


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


**NOTICE:** Indicates a message or practices not related to personal injury.


**SAFETY INSTRUCTIONS:** Indicates a message or practices, if not followed may/will relate to personal injury.

## SAFETY INTRODUCTION CONTINUED

**Examples of how the signal word in conjunction with the safety alert symbol will be depicted as a safety message in this manual.**

Example A:

**WARNING:** Please read general safety from the Safety section of this operator's manual before attempting any of the operational procedures provided below.

Example B:

**⚠ WARNING**

Please read general safety from the Safety section of this operator's manual before attempting any of the operational procedures provided below.

## 1.1 GENERAL SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before operating your new Ashland Scraper.**

Safety of the operator and bystanders is one of the main concerns in designing and developing a Scraper. Unfortunately, our efforts to provide a safe Scraper can be wiped out by a single careless act of an operator or bystander. Every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling the Scraper. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.

In addition to the design and configuration of our Scraper, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, maintenance, transport, and storage of this Scraper.

**TO SCRAPER OWNERS AND EMPLOYERS**
It is your responsibility to provide this manual and operating instructions to all operators and personnel that will be working with the Scraper. Make certain that the operator reads and understands the operator's manual and is instructed in safe and proper use, and at least annually thereafter.

- Train all new personnel and review instructions frequently with existing employees. Be certain only a properly trained and physically abled person will operate the Scraper. Personnel who have not read and understood all operating and safety instructions is not qualified to operate the Scraper. An untrained operator exposes themselves and bystanders to possible serious injury or death.
- Provide a first-aid kit, fire extinguisher, and safety training for employees for use in case of an accident or emergency. Store in a highly visible place.

**TO SCRAPER OPERATORS AND SERVICE TECHNICIANS**
It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand **ALL** safety and operating instructions in the manual and to follow these. Accidents can be avoided.

- Working with an unfamiliar Scraper can lead to careless injuries. Read this manual, and manuals for your auxiliary equipment to acquaint yourself with the machines, before assembly or operation.
- Know your controls and how to stop the power unit, Scraper, and any other auxiliary equipment quickly in an emergency. Read this manual and all other safety manuals provided with your power unit/auxiliary equipment.
- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this Scraper. Consult your doctor about operating this Scraper while taking prescription medications.

**TO ALL**
Never operate the power unit and Scraper until you have read and completely understood this manual, the power unit's operator's manual, and each of the safety messages found on the safety signs on the power unit and Scraper.

In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with safety shield removed. However the Scraper should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

Remember never exceed the limits of this Scraper. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT**.

## 1.1 GENERAL SAFETY CONTINUED

**TO ALL - CONTINUED**

- Before starting, give the Scraper a “once over” for any loose bolts, worn parts, cracks, leaks, and make necessary repairs. Always follow maintenance instructions.

**Under no circumstances should young children be allowed to work with this Scraper. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

- This Scraper is dangerous to children and persons unfamiliar with its operation. The operator should be responsible, physically able, and be familiar with the Scraper and properly trained in its operations. An untrained operator is not qualified to operate the Scraper. Review the safety instruction with all users annually.
- Do not modify the Scraper in any way. Unauthorized modifications may result in serious injury or death and may impair the function and life of the Scraper.
- Ensure that all safety shielding and safety signs are properly installed and in good condition. Replace any safety sign or instructional sign that is not readable or is missing. Locations of such safety signs are indicated in the safety signs section of this manual.
- Be sure Scraper is properly attached to the power unit, adjusted and in good operating condition, and only operate in daylight or good artificial light.
- Always operate with a power unit equipped with an approved Roll-Over-Protective-Structure (ROPS). Always wear your seat belt. Serious injury or even death could result from falling off the power unit particularly during a turn over when the operator could be pinned under the ROPS or the power unit.
- Lower cutting edge to the ground, place all controls in neutral. Stop power unit engine, set park brake, remove ignition key. Put all safety latches and pins in place before servicing, adjusting, repairing, or unplugging.
- Read and understand this operator’s manual and all safety signs before operating, maintaining, adjusting or unplugging the Scraper.
- Clear working area of stones, branches, or hidden obstacles that might be hooked or snagged, causing injury, damage.
- Wear appropriate protective gear including hard hat, protective goggles, neoprene gloves, water repellent clothing, hearing protection, respirator or filter mask, and protective shoes with slip resistant soles for assembly, installation, operation, adjustment, maintaining, repairing, removal, or transporting. Do not allow long hair, loose fitting clothing, or jewelry to be around the Scraper.
- **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**
  Power units with or without Scraper attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear suitable hearing protection on a full-time basis for prolonged exposure to excessive noise. Noise emissions are audible at operator station, including hydraulic functioning of operating moving assemblies. If the noise level at the operator’s position exceeds 80 dB, caution is required. Prolonged exposure to noise levels above 85 dB can result in significant hearing loss. Sustained exposure to noise levels exceeding 90 dB near the operator may lead to permanent, total hearing loss.

  **NOTE:** Hearing loss from loud noise (from power units, impact wrenches, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.

## 1.1 GENERAL SAFETY CONTINUED

**TO ALL - CONTINUED**

- Also refer to safety messages, operation instruction, and other appropriate sections of the auxiliary equipment manuals. Pay close attention to the safety signs affixed to all auxiliary equipment.
- Review safety related items annually with all personnel who will be operating or maintaining the Scraper.

## 1.2 OPERATING SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before operating your Ashland Scraper.**

- To safely park the Scraper, lower cutting edge to the ground, place all controls in neutral, stop power unit engine, set park brake, remove ignition key.
- Keep hands, feet, hair, and clothing away from all moving parts.
- Do not allow riders on the Scraper or power unit during operating or transporting.
- Clear the area of bystanders, especially children, before starting or filling with earth.
- Stay away from frame and gate pinch points when raising or lowering frame and gate. Keep others away.
- Engage gate and frame locks before working under gate or frame. Do not allow anyone to go under gate or frame unless the locks are engaged.
- Always hitch positively to the power unit with a retainer through the lock pin/bracket.
- Always use a large enough power unit to support hitch and provide stability during loading, transporting and dumping.
- Be sure that the power unit brakes are in good operating condition before using with Scraper.
- Before applying pressure to the hydraulic system, make sure all components are tight and that steel lines, hoses, and couplings are in good condition.
- Clean reflectors, SMV (if applicable), and lights before transporting.
- Always use hazard flashers on power unit and Scraper when transporting.

## 1.3 MAINTENANCE SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before attempting any service, maintenance or repair your Ashland Scraper.**

- Lower blade to the ground, place all controls in neutral, stop the power unit engine, set park brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- Always wear protective gear when performing any service or maintenance work. Always wear heavy canvas or leather gloves when handling repair components.
- 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.
- Before applying pressure to a hydraulic system, make sure all components are tight and that steel lines, hoses and couplings are in good condition. Relieve pressure from hydraulic circuit before servicing or disconnecting from power unit.
- Keep hands, feet, hair, and clothing away from all moving parts.
- Engage gate and frame locks before working under assembly.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your Scraper to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this Scraper.

## 1.4 ASSEMBLY SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before assembling any components on your Ashland Scraper.**

- Assemble in an area with sufficient space to handle the largest component and be accessible to all sides of the Scraper.
- Use only lifts, cranes, jacks, and tools with sufficient capacity for the load.
- If lifting entire Scraper, lift only from the lift hooks marked with decals. Use two people to handle large, bulky components.
- Do not allow spectators in the working area.

## 1.5 HYDRAULIC SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before servicing hydraulics on your Ashland Scraper.**

- Always place all power unit hydraulic controls in neutral before dismounting.
- Make sure that all components in the hydraulic system are kept in good condition and are clean.
- Replace any worn, cut, abraded, flattened, or crimped hoses and steel lines.
- Do not attempt any makeshift repairs to the hydraulic lines, fittings, or hoses, by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
- 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.
- If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
- Before applying pressure to the system, make sure all components are tight and that lines, hoses, and couplings are in good condition.
- Relieve pressure before disconnecting or uncoupling hydraulic lines.

## 1.6 TIRE SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before relating to tires on your Ashland Scraper.**

- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
- Have a qualified tire dealer or repair service perform required tire maintenance.
- Check tires daily to ensure correct inflation levels. Tire pressure ranges can be found in the corresponding Parts Manual. For a fully loaded machine, the maximum PSI is listed for an ideal load rating.
- Check tire pressure with an accurate gauge having 6.9 kPa [(0.07 bar) 1 PSI] gradations.

***NOTICE***

Tire pressure recommendations vary based on environment, load weight, speed, and other variables. There is no single tire pressure reference for every condition.

ALWAYS CONSULT THE TIRE MANUFACTURER for exact PSI recommendations for your specific tire series and job site situation. IF manufacturer recommendations are not followed it may void the tire manufacturers warranty.

All warranty claims on tires are to be filed with the tire manufacturer or service center directly and are not covered under Ashland Industries warranty policy.

## 1.6 TIRE SAFETY CONTINUED

| RECOMMENDED TIRE PRESSURE CHART STANDARD | | | | | | |
|---|---|---|---|---|---|---|
| Tire Size | MAX. | MAX LOAD RATING LBS | | | | |
| | PSI | 6 MPH | 13 MPH | 19 MPH | 25 MPH | 31 MPH |
| 17.5 -25 Bias | 68 | 16094 | 14346 | 12732 | 10984 | 9370 |
| 20.5 R25 | 76 | 22930 | 21154 | 19515 | 17739 | 16100 |
| 23.5 R25 | 76 | 28940 | 26720 | 24670 | 22450 | 20400 |
| 26.5 R25 | 76 | 36920 | 33925 | 31160 | 28165 | 25400 |

| RECOMMENDED TIRE PRESSURE CHART METRIC | | | | | | |
|---|---|---|---|---|---|---|
| Tire Size | MAX. | MAX LOAD RATING KG | | | | |
| | BAR | 10 KM/H | 20 KM/H | 30 KM/H | 40 KM/H | 50 KM/H |
| 17.5 -25 Bias | 4.7 | 7300 | 6507 | 5775 | 4982 | 4250 |
| 20.5 R25 | 5.2 | 10400 | 9594 | 8850 | 8044 | 7300 |
| 23.5 R25 | 5.2 | 13125 | 12118 | 11188 | 10180 | 9250 |
| 26.5 R25 | 5.2 | 16745 | 15381 | 14123 | 12759 | 11500 |

Please note: The recommended tire pressure chart is based on the tire manufacturers suggested tire pressure and load ratings, and is subject to change without notice.

## 1.7 TRANSPORT SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before transporting your Ashland Scraper.**

- Read and understand ALL the information in the operator's manual regarding procedures and safety when operating the Scraper in the field and/or on the road.
- Check with local authorities regarding Scraper transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.
- Make sure the Slow Moving Vehicle sign (if applicable) and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic.
- Be sure the Scraper is hitched positively to the towing vehicle. Always use retainers through the mounting pins.
- Use extreme caution when exceeding 35 mph (56 km/h). Reduce speed on rough surfaces.
- Always use hazard flashers on the power unit when transporting unless prohibited by law.
- Transport Scraper in the fully up position with safety latches engaged. Remove all Scraper control masts before transporting.

## 1.8 STORAGE SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before storing your Ashland Scraper.**

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the Scraper.
- Store the unit in a dry and level area.

## 1.9 TRAILERING SAFETY

**Pay extreme attention to this section of the manual. Read and understand all instructions and practices provided here before trailering your Ashland Scraper.**

**Lifting Machines**

There are specially designed lift points for each machine. If you are uncertain of what constitutes a safe point to lift from, consult your Ashland dealer. Lifting the machine from an improper location will result in damage to the machine and potentially cause harm or death. Lifting and loading should be done in a flat area clear of moving equipment, bystanders, and heavy winds.


**Look for the designated lifting point decal on the machine.**

## 1.9 TRAILERING SAFETY CONTINUED

**Lifting Machines (Cont'd)**

NEVER under any circumstance allow a person to stand underneath a machine while it's off the ground. Risk of crushing any objects under the scraper is a likely possibility. Only lift a machine with the suitable rigging equipment and always inspect equipment before use. Only lift a machine when absolutely necessary. The appropriate Standard of Care must be taken when lifting or moving any heavy machinery.

**Lifting Instructions**

Remove any hanging debris from the scraper and confirm that it is empty before lifting.

Always install locks before lifting.

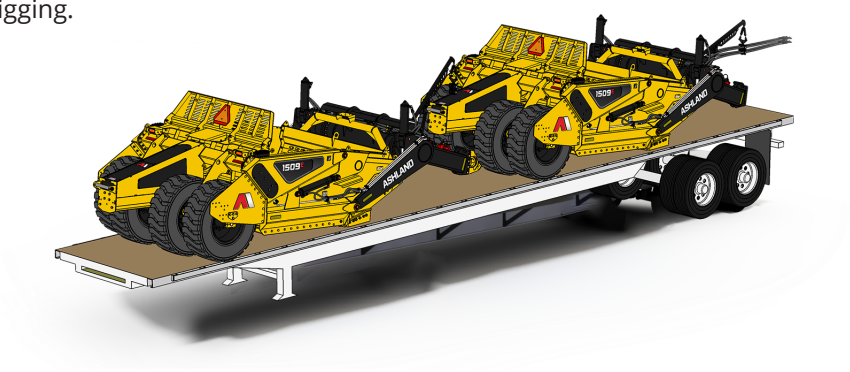
Secure a strong rope that is 30+ feet (9.1m) to the front of the scraper to safely move while lifting.

With a helper maintaining the secured rope at a safe distance, slowly raise the machine slightly off the ground. Depending upon the direction of the wind and rigging, the scraper may begin to rotate after being lifted.

If necessary, the helper should change locations to prevent the machine from rotating.

If the scraper is being put onto a trailer, continue to lift the scraper to safely clear the deck. A second helper may need to guide the trailer into position.

Carefully lower the scraper and remove all rigging.




**Lifting Instructions**

The direction a scraper is placed onto the trailer should be determined before the scraper is disconnected from the tractor or power unit.

Depending upon the model of the scraper, the tie down locations may vary. D rings, lifting point, front hitch, frame truss, axles, etc. are good options.

Make sure the machine is fully lowered, positioning as much mass onto the trailer deck as possible. Block the wheels and bottom surfaces where necessary to maximize scraper to trailer contact.

Always follow local regulations with tie down devices for each machine. The load rating, quantity of tie downs per machine, and type of binders will vary between state, province, or country.

Ashland Industries and its dealers are not liable for any accidents or damage while transporting your machinery. It is the sole responsibility of the operator transporting the machine that it is tightly and properly secured. As the load is being moved, the operator should periodically stop and check that the rigging is tight and secure.

## 1.10 SAFETY SIGNS

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the same sign.
- Safety signs displayed in Section 1.10 each have a part number in the lower right hand corner. Use this part number when ordering replacement parts.
- Safety signs are available from your authorized distributor, dealer parts department, or the factory.

**HOW TO INSTALL SAFETY SIGNS:**

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

**Safety Signs Layout:**


**PICTORIAL PANEL**
This panel will provide a visual representation of the potential hazard or visual depictions of messages and practices described in the safety sign.

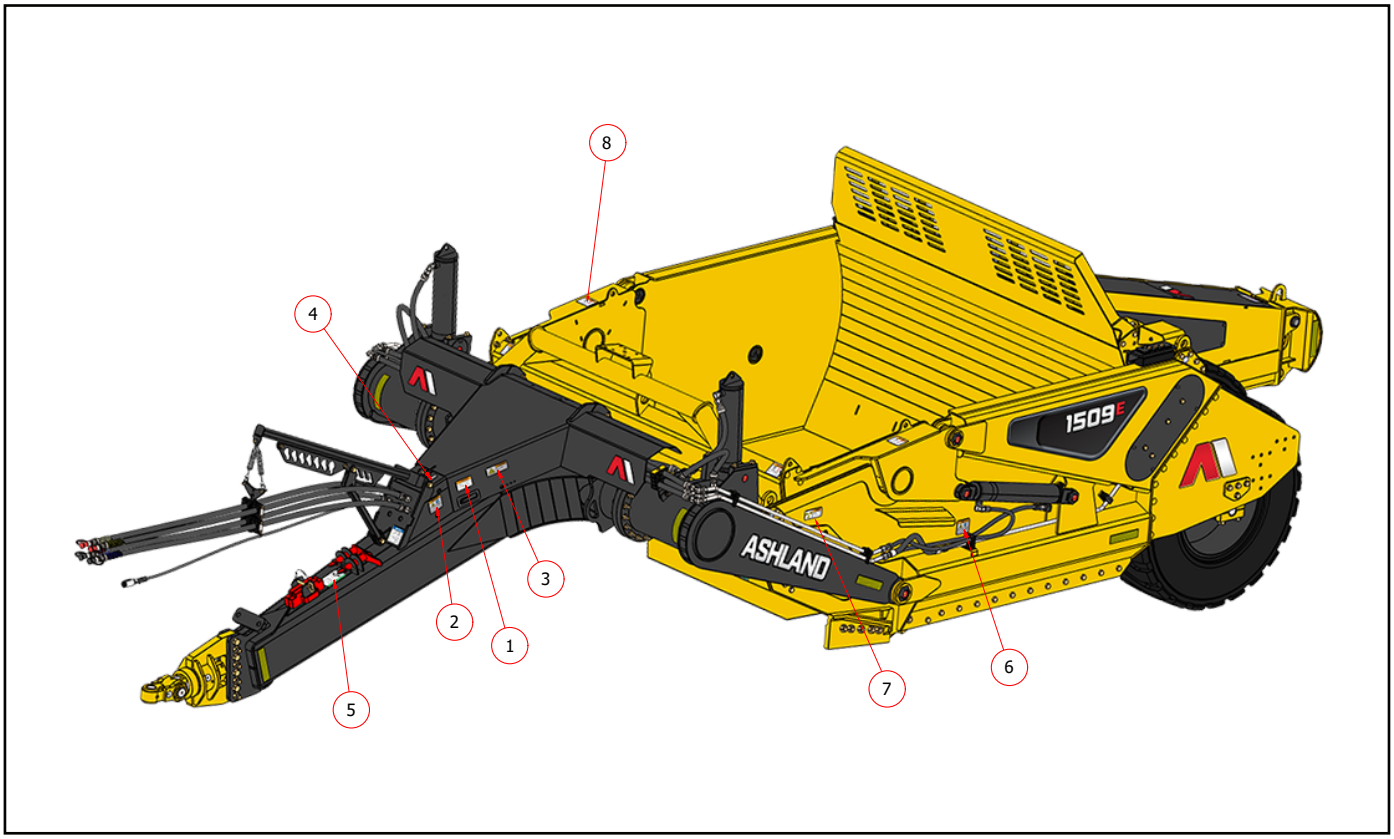
**HAZARD SEVERITY PANEL**
This panel identifies the severity level of a hazard or to notify instructions or practices.

**MESSAGE PANEL**
This panel identifies the specific hazard with clear and simple language, with instructions of how to avoid hazards.

*In the event when spacing is an issue Ashland will use a 2 panel layout where the hazard severity panel is removed.

## 1.11 SAFETY SIGN LOCATIONS

The types of safety signs and locations on the Scraper are shown in the illustration below. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your **SAFETY AWARENESS**.




*The illustration shown above is of an Ashland Scraper model “1509E”. Safety signs on other Ashland models can be found in the same general areas.

## 1.11 SAFETY SIGN LOCATIONS CONTINUED

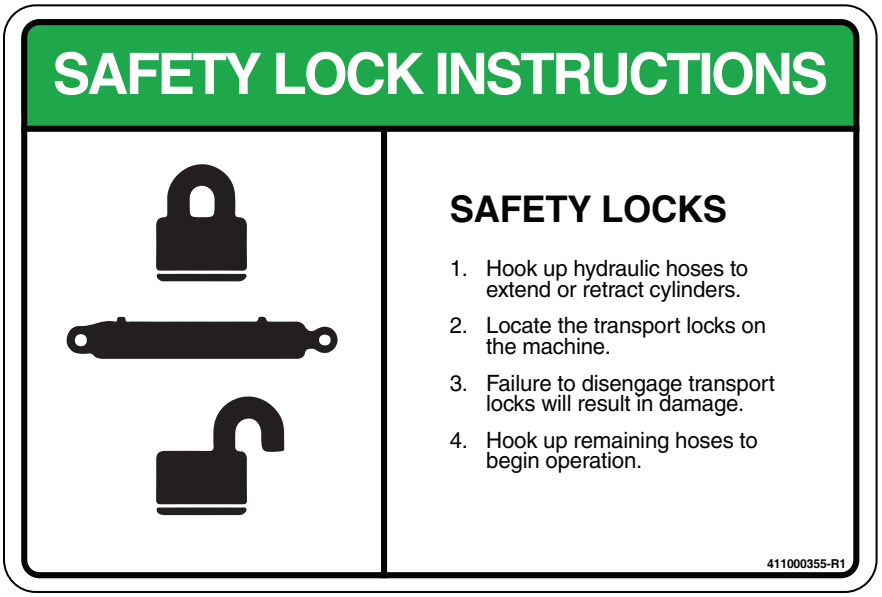
1.


2.


3.

## 1.11 SAFETY SIGN LOCATION CONTINUED

4.

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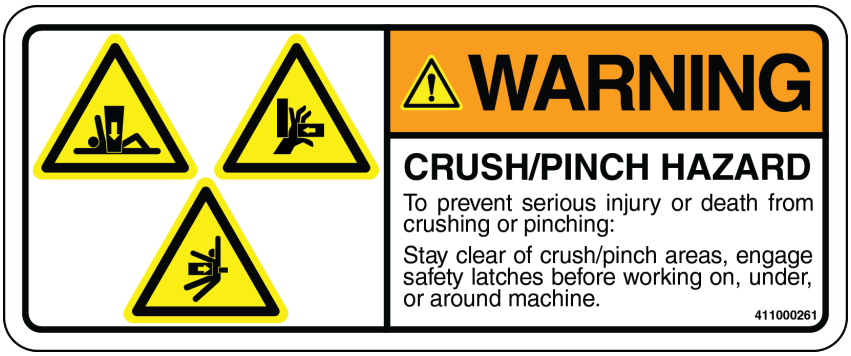


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## 1.12 SAFETY SIGN-OFF FORM

Ashland Industries Inc. follows the general safety standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the Scraper must read and clearly understand ALL safety, operating, and maintenance information presented in this manual.

Do not operate or allow anyone else to operate this Scraper until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of **SAFETY** and **OPERATION** a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate a Scraper.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the Scraper have read and understood the information in this operator's manual and have been instructed in the proper operation of the Scraper.

**SIGN-OFF FORM**

| DATE | EMPLOYEES SIGNATURE | EMPLOYERS SIGNATURE |
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## TO THE NEW OPERATOR OR OWNER

**Review Section 1: Safety. Read and understand all instructions and practices provided before attempting to operate your new Ashland Scraper. All operators should date, initial and sign section 1.12 once they have read section 1: Safety.**

**WARNING:** Failure to read section 1: Safety could lead to a hazardous situation which, if not avoided, could result in death or serious injury.

The Ashland Scraper is designed to cut a shallow layer of ground and move it into the bowl of the Scraper as the unit moves forward over the work area, then hauling dirt to the desired location and ejected. Be familiar with the Scraper before starting.

In addition to the design and configuration of or Scraper, hazard control and accident prevention are dependent upon the awareness, concern, and prudence, of personnel involved in the operation, transport, maintenance, and storage of Scraper or in the use and maintenance of facilities. It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the Scraper. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders, and the area around the work site. Untrained operators are not qualified to operate the Scraper.

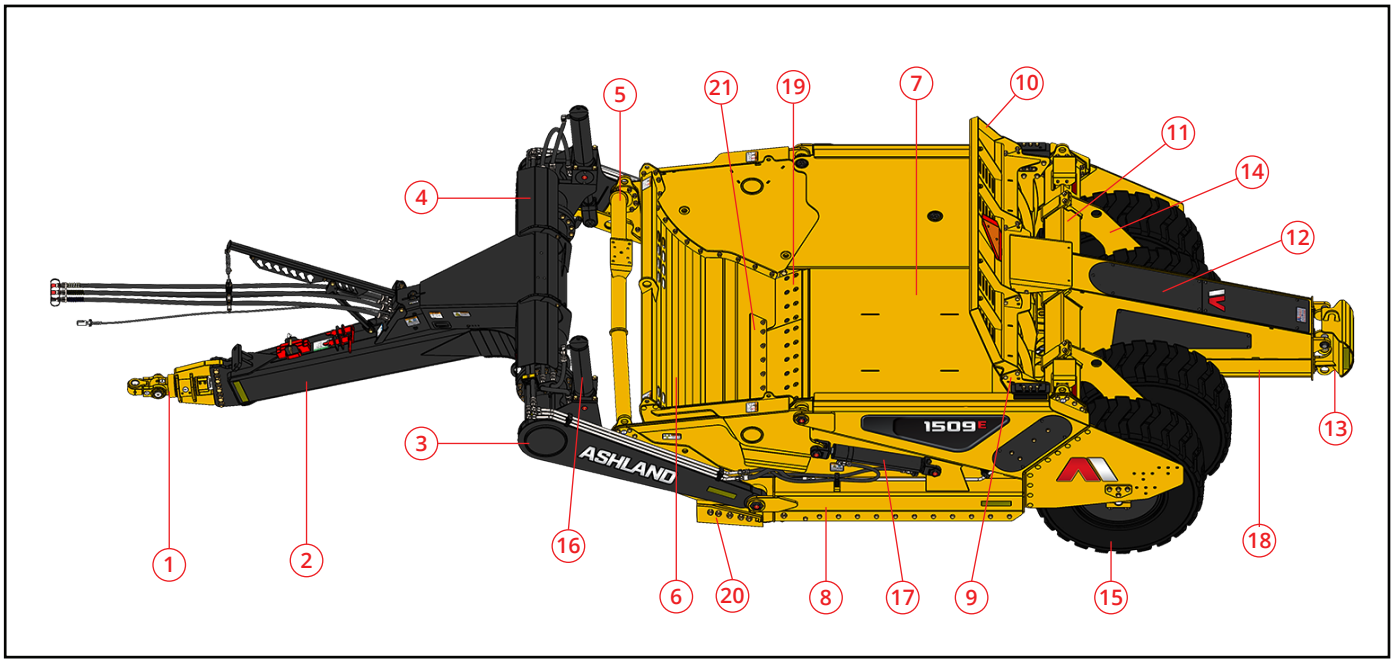
Many features incorporated into Ashland Scraper are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the Scraper safely and how to set it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your Scraper will provide many years of trouble free service.

## 2.1 SCRAPER COMPONENTS

The Ashland Scraper is a large transportable implement with a cutting edge on the front for gathering, and transporting Earth. The cutting edge can be moved up and down as required for transporting or loading. The gate on the front is raised for loading and lowered for transporting. An ejector mounted to the rear frame is used to unload or dump the load.

All cutting components are designed with hardened surfaces to improve wear and life.

**Scraper Components**

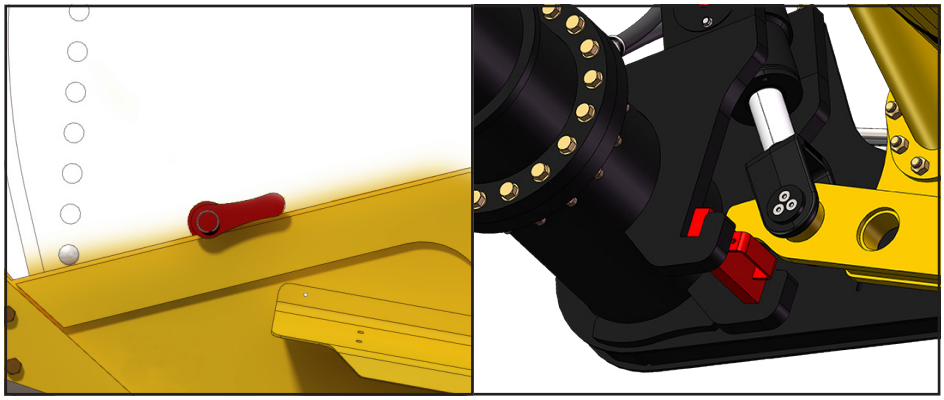



1. Knuckle/Hitch
2. Hitchpole
3. Left Trailing Arm
4. Right Trailing Arm
5. Laser Mount
6. Gate/Apron
7. Floor
8. Sidewall
9. Ejector
10. Rack
11. Rear Cross Tube
12. Tail/Center Truss
13. Push Bumper
14. Wheel Truss
15. Wheel Asm
16. Lift Cylinder
17. Gate Cylinder
18. Ejector Cylinder
19. Cutting Edge Kit
20. Router Blade
21. Gate Cutting Blade

## 2.2 SCRAPER FEATURES

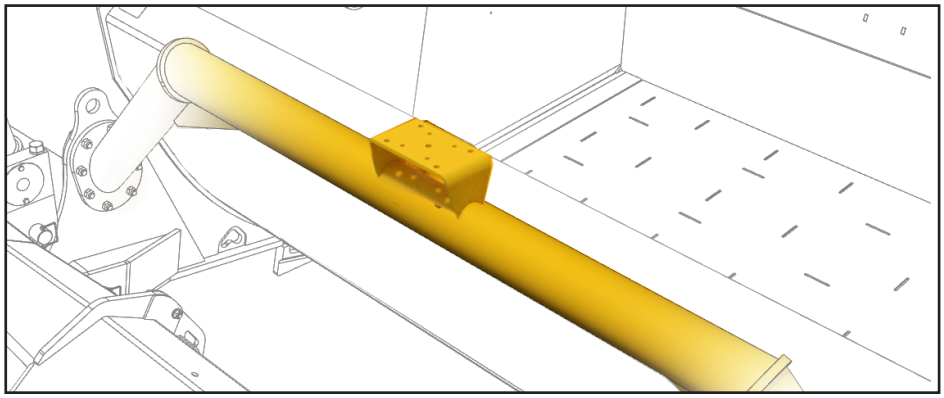
### FRAME LOCKS

The Scraper is designed with 2 sets of frame safety locks that must be engaged prior to work under the frame or in the bowl. The frame locks are stored on the hitchpole.



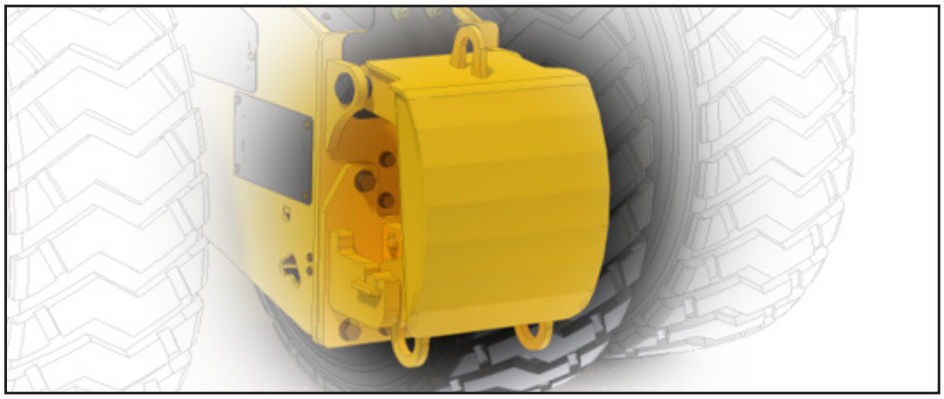
### LASER/GPS MOUNT

The front shell is designed with a Cross tube that is used to mount a laser system if required. Be sure mounting hardware is tightened to it's specified torque.



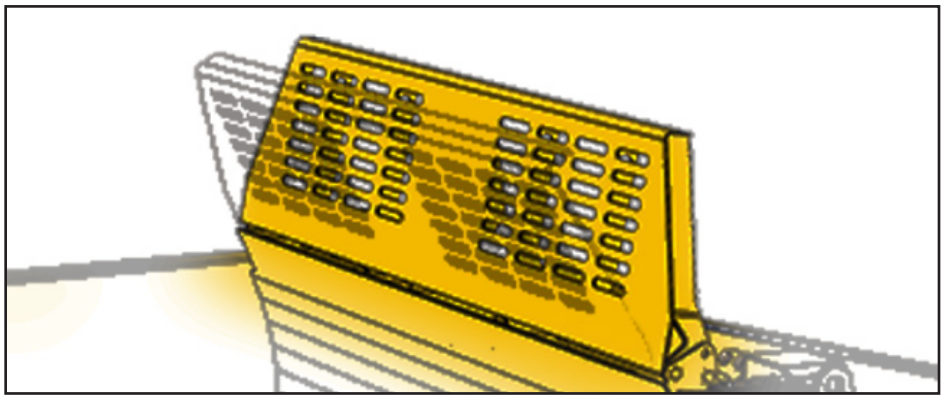
### PUSH BUMPER

The rear frame is equipped with a push block to allow another power unit to help push the unit during heavy loading conditions. Be sure the pushing power unit is equipped with an appropriate pushing frame.



### TILT-ABLE RACK

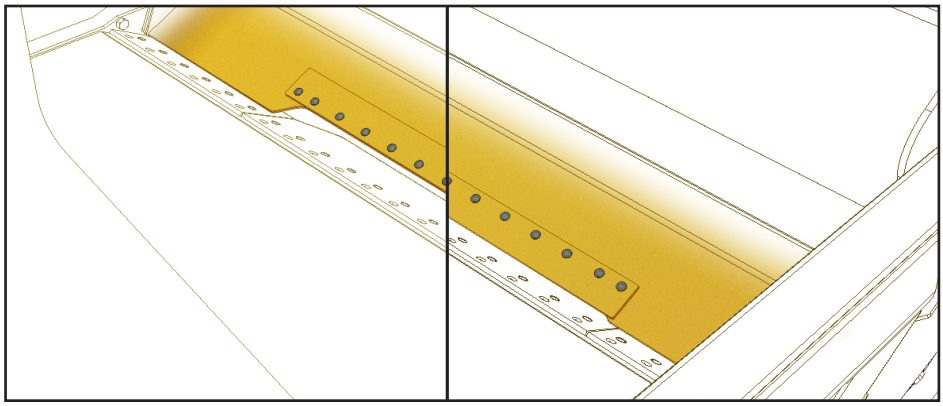
The rack can be tilted back to allow for maximum top loading area.



## 2.2 SCRAPER FEATURES CONTINUED

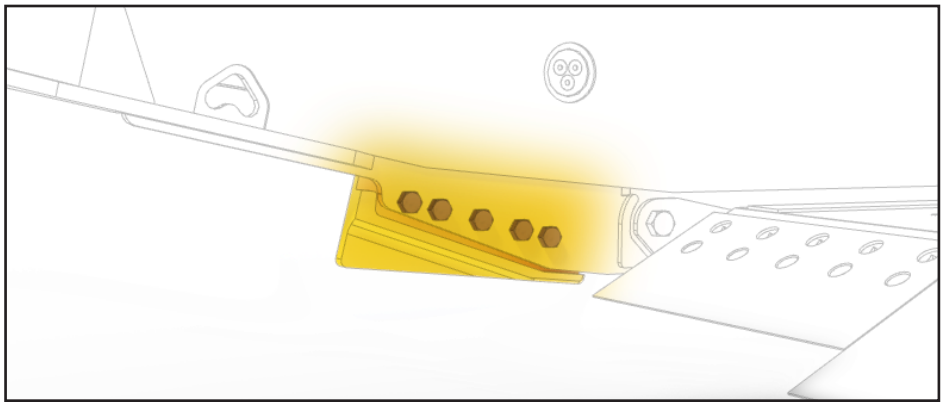
### GATE CUTTING BLADE

The bottom of the gate is designed with a replaceable cutting edge. This blade is used in dry sand or other similar conditions where the load can spill from the seams of the gate and shell. By default the blade is bolted in the up position (unused), flip blade down to use.



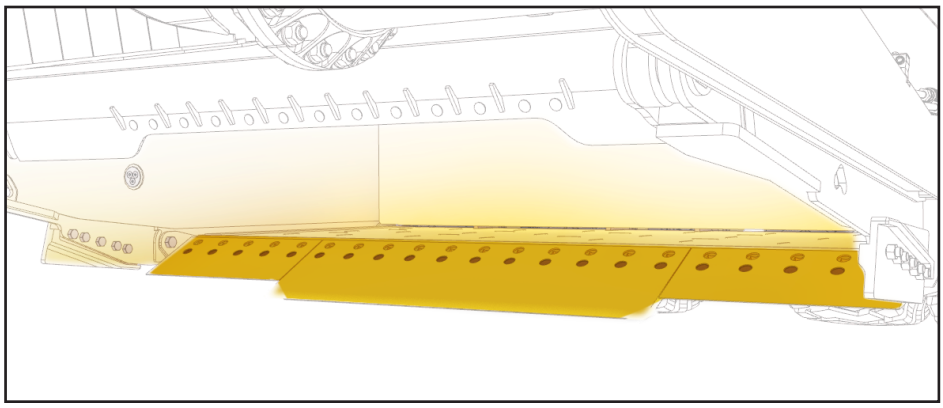
### ROUTER BLADE

Each side of the bowl entrance is designed with a replaceable cutting edge that directs the material into the bowl itself. Router blades are made from hardened material with a layer of abrasion resistant coating on the surface.



### CUTTING BLADE

Bolt-on 3 piece cutting blades that can be replaced when worn or damaged.



***NOTICE***

See service and maintenance for replacement procedures.

## 2.3 EQUIPMENT MATCHING

To ensure the safe and reliable operation of the Scraper, it is necessary to use a power unit with the correct specifications. Use the following list as a guide in selecting a power unit that is suitable to use with your Ashland Scraper.

**HORSEPOWER:**

Refer to recommended horse power table below for the minimum recommended horsepower for your Scraper. Increase the power by 25% if operating in soft field or hilly conditions. It is recommended that the power unit be run at rated RPM when operating in all conditions.

**RECOMMENDED HORSEPOWER**

**Ag Tractor**

| Model | Loading Style | Horsepower (HP) | Kilowatt (KW) |
|---|---|---|---|
| 1509E | Self Loading | 250-525 | 184-391 |

**TIRE CONFIGURATION:**

Any tire/track combinations can be used on the power unit, see power unit operators manual for recommended tires and options.

**HYDRAULIC SYSTEM:**

The power unit hydraulic system must be capable of 25 gpm (92 lpm) at 3000 psi (20,700 kPa). The Scraper requires a minimum of 2 remote outlets.

Many newer power units are equipped with “Load Sensing” hydraulics that can be used on a laser leveling system.

## 2.4 FIRST USE

Scrapers shipped within North America have the hydraulics factory oiled, and pressure tested prior to shipping. For Scrapers shipped to overseas destinations, the hydraulics must be charged and pressure tested prior to use. To charge the hydraulic system, please have the required hydraulic oil volume available to fill all the hydraulic cylinders listed below. Please follow the recommended steps listed below to properly charge your scrapers hydraulic system.

| Cylinder Vol. (Gal) | | |
|---|---|---|
| | | |
| **Model** | **1509E DM** | **1509E DW** |
| Apron 1 of 2 | 0.86 | 0.86 |
| Apron 2 of 2 | 0.86 | 0.86 |
| | | |
| Lift 1 of 2 | 1.29 | 1.64 |
| Lift 2 of 2 | 1.29 | 1.64 |
| | | |
| Push off | 3.26 | 3.26 |
| | | |
| Total Gallons (US) | 7.56 | 8.26 |
| Total Litres | 28.62 | 31.27 |

1. Park power unit with the correct hitch system and Scraper on a level area.
2. Connect hydraulic hoses. See hooking/unhooking for more detail.
3. Add an extra 10 - 55 litres (2.6 - 14.5 US gal) of hydraulic oil to the power unit hydraulic reservoir.
4. a. Raise the Lift to it's fully up position and then lower. Cycle several times to ensure the cylinders are filled.

   b. Raise the bowl fully up, fully close the gate and retract the ejector all the way back to check oil.
5. Repeat with the gate system and ejector ram. Be sure all cylinders are filled with oil.
6. Check oil level in power unit hydraulic reservoir. Top up as required.

## 2.5 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Scraper requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both personal safety and maintaining the good mechanical condition of the Scraper that this checklist is followed.

Before operating the Scraper and each time thereafter, the following areas should be checked off:

- Lubricate the Scraper per the schedule outlined in Service and Maintenance (section 3).
- Use only a power unit of adequate power and weight to pull the Scraper.
- Check that the Scraper is properly attached to the power unit. Be sure a retainer is used through the lock pin.
- Check that the power unit brakes are in good condition and functioning properly. Do not use power unit unless brakes are functioning properly.
- Check the tire pressure. Bring to the specified level (See section 1.6).
- Check the cutting components. Be sure they are not bent, damaged or broken. Repair or replace as required.
- Remove entangled material from all components. Material caught next to bearings will cause seal damage.
- Inspect all hydraulic lines, hoses, couplers, and fittings. Tighten, repair, or replace any leaking or damaged components.
- Install and secure all guards, doors, and covers before starting.
- Operator must be sure to avoid excessive material build up on top of the scraper tires. Excessive material can lead to premature tire wear and possible failure.

Before operating the earthmover, and each time thereafter, the following areas should be checked for condition and replacement, if needed:

- Loose or missing bolts or pins, including the hitch pin.
- Blade cutting edge wear.
- Guards and covers.
- Structural cracks.
- Hydraulic fluids, hoses, fittings, couplers, and lines.
- Proper equipment lubrication where necessary.
- Moving parts wear or damage.
- Rims and tires.
- Operating controls.
- Safety decals affixed and visible.
- Inspect hydraulic cylinders for leaks or damage.

## 2.6 SCRAPER BREAK-IN

Although there are no operational restrictions on the Scraper when used for the first time, it is recommended that the following mechanical items be checked:

**FOLLOW THE GUIDELINES BELOW OR WARRANTY WILL BE VOID:**

**A.** AFTER OPERATING FOR 5 HOURS

1. Tighten wheel bolts and other fasteners to their specified torque levels.
2. Check that all hydraulic components are in good condition.
3. Check that the ejector frame moves freely.
4. Lubricate all grease points.
5. Check for and remove all entangled material.

**B.** AFTER OPERATING FOR 10 HOURS:

1. Repeat items 1 through 5 of Section A
2. Then go to the regular service schedule as defined in section 3.

## 2.7 HOOKING/UNHOOKING

Follow this procedure when hooking a single Scraper to a tractor:

1. Make sure that all bystanders, especially small children are clear of the working area.
2. Make sure there is enough room and clearance to safely back up to the Scraper.

**NOTICE**

Make sure Tractor is equipped with a compatible hitch.

3. Slowly back the tractor until the tractor is close enough to connect hydraulic hoses.
4. Stop engine, set park brake, and remove ignition key before leaving cab.
5. Remove the lock pin and retainer from the retaining lock bracket and let the bracket hang free.
6. Connect the hydraulics. Be sure to check the couplers are securely seated.

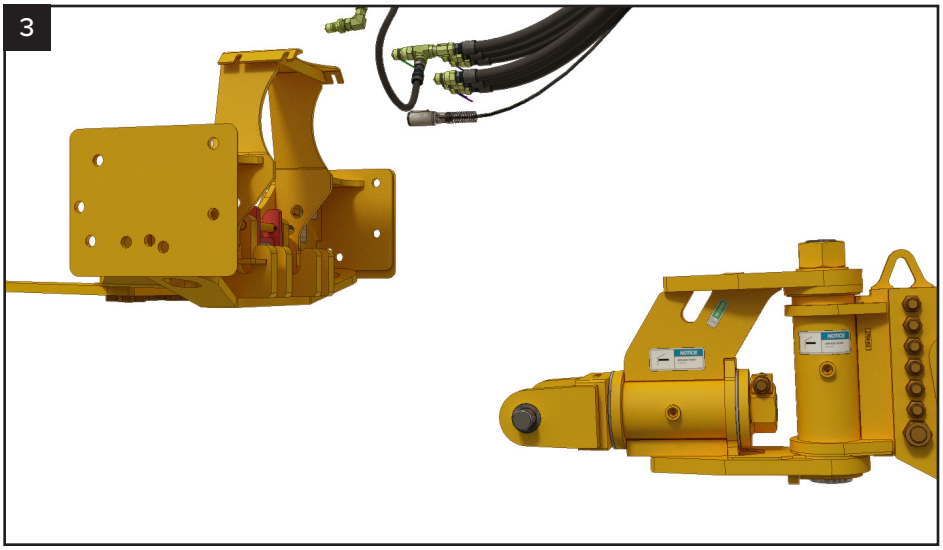
   Clean couplers of dirt before connecting.

**⚠ WARNING**

**HIGH-PRESSURE HAZARD**

Exercise caution; wear hand and eye protection when working with high pressure hydraulic systems

3



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## 2.7 HOOKING/UNHOOKING CONTINUED

7. Connect the wiring harness between tractor and Scraper. Route the harness along the hitch to prevent snagging. Be sure to provide slack for turning.
8. Make sure hitch is free of debris to ensure proper hitching. Start tractor and use hydraulics to raise hitch until the pins are above the hitch claws.
9. Back the tractor until the pins are above the hitch cradles.
10. Lower the hitch until the pins seat themselves in the cradle
11. Stop tractor, set park brake, and removing ignition key before leaving cab.
12. Swing lock bracket back over the hitch pin.
13. Install the lock pin through the bracket and secure with the retainer.
14. Reverse the above procedure when unhooking tractor. Be sure to place blocks under the hitch if on soft ground.

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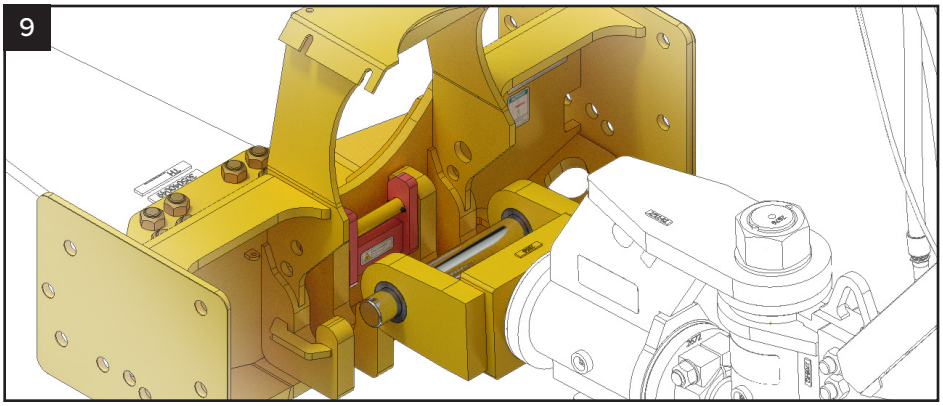

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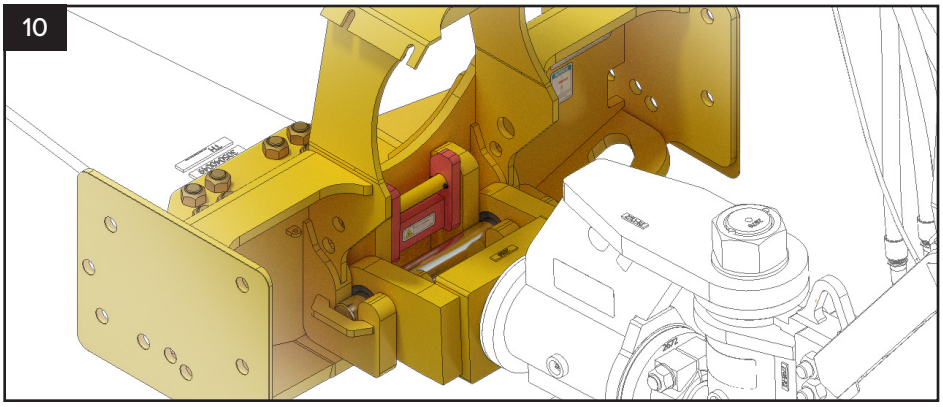

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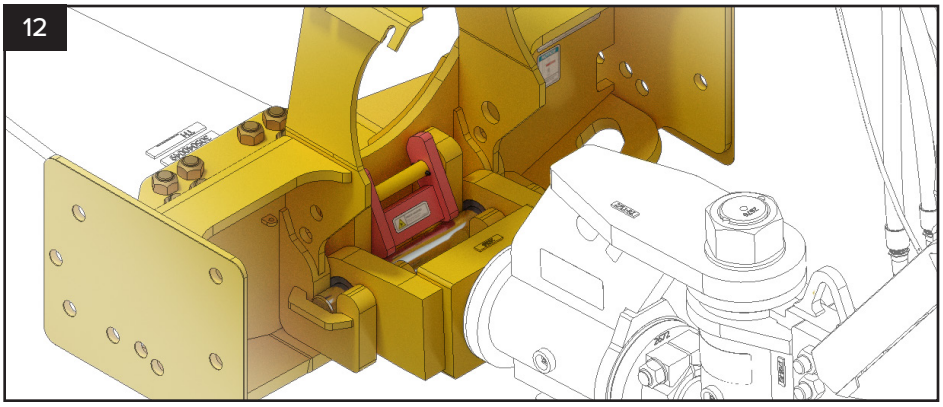

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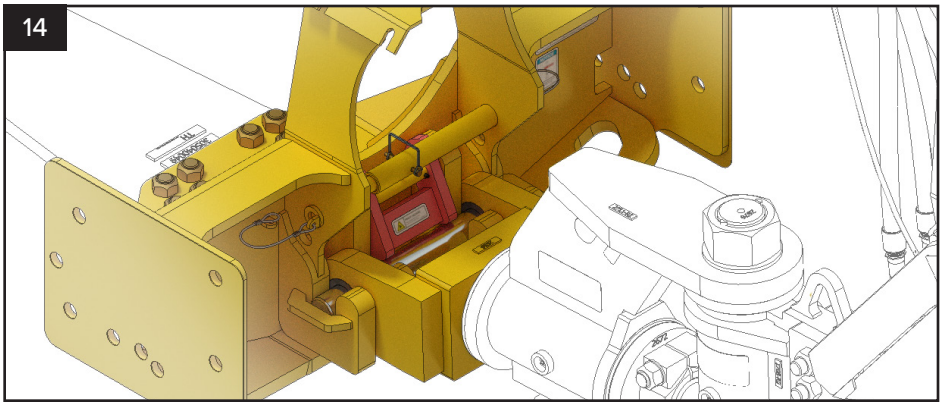


## 2.8 FIELD OPERATION

Scrapers are designed to pick up a layer of soil and load it into the bowl. Before starting, the operator has the responsibility of being familiar with all operating and safety procedures and following them.

Each operator should review this section of the manual at the start of the season and as often as required to be familiar with the Scraper. When using, follow this procedure:

1. Review the Pre-Operation Checklist (Section 2.5) before starting.
2. Hooking up Scraper to power unit (Section 2.7).
3. Before going to the field, review Transport Safety (Section 1.7) and Trailering Safety (Section 1.9).
4. Pull into the field and position the power unit and Scraper in a level area.
5. Raise the bowl and remove the transport locks.

**STARTING:**

a. Start engine and place power unit transmission in the working gear.

b. Drive to working area.

**STOPPING:**

a. Stop forward motion. Drive to working area.

b. Slowly decrease engine speed.

c. Raise the cutting edge out of the ground.

d. Lower Gate.

**EMERGENCY STOPPING:**

Place gear in neutral, set park brake and lower cutting edge into earth. Do not use a power unit that does not have brakes that are in good operating condition. To remain in control and prevent run-aways, do not coast down hills.

**⚠ WARNING**

**RUN-AWAY/CRUSHING HAZARD**

To prevent serious injury or death; Lower machine, stop engine, place all controls in neutral, set park brake, and wait for all moving parts to stop before dismounting.

## 2.8 FIELD OPERATION CONTINUED

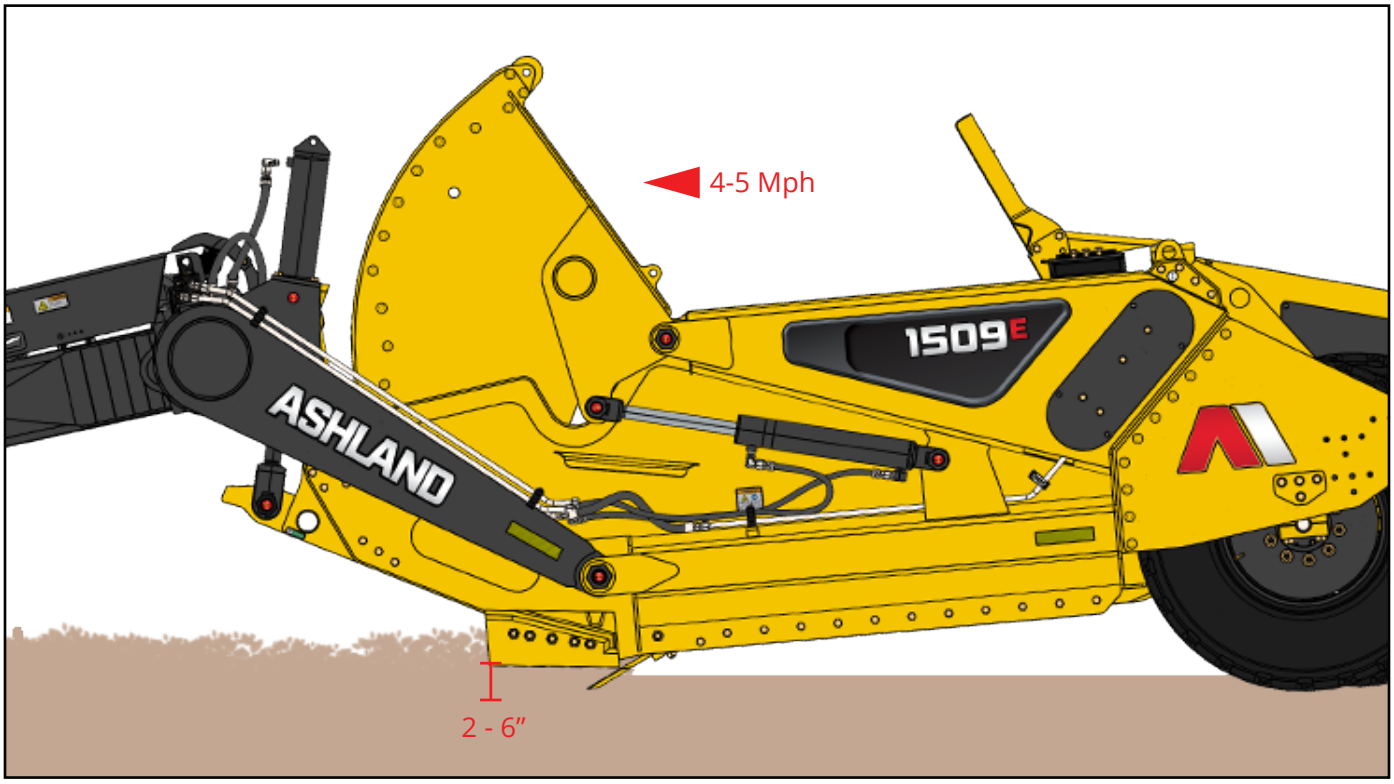
**LOADING:**

a. Drive at 4 to 5 mph (6 to 8 kph) when loading.

b. Raise the gate and lower the cutting edge 2 to 4 inches (50 to 100 mm) into the ground when loading.

c. Always drive down the slope when loading.

d. Push with another power unit if the loading is difficult.




***NOTICE***

Cut thin slices of dirt when loading to minimize the chance of overloading the power unit.

## 2.8 FIELD OPERATION CONTINUED

**GROUND SPEED:**
The machine works well when operated at 4 to 5 mph (6 to 8 kph) in most conditions. Raise or lower the cutting edge to control the load factor. If working in sandy or light soil conditions, drive at 6 to 8 mph (9 to 12 kph). The best speed while loading is to have power unit power out and spin out at the same time.

**DEPTH:**
The machine works well when set 4 to 6 inches (100 to 152 mm) deep. Use in conjunction with ground speed when establishing the best loading conditions. Although the blade can go as deep as 10 inches (250 mm), it is seldom used that deep. Go deeper or faster if the soil is loose and dry. Raise if hard or wet and sticky. Raise or lower as required to allow the power unit to move forward and fill the bowl.

**⚠ WARNING**

**DO NOT OVERLOAD**
Overloading can cause damage or excessive wear to the machine. Improper use may result in serious injury or death.


**FILLING:**
The optimum production can be obtained if the machine bowl is heaped up when loading. Continue driving across the working area until the earth piles up in the bowl. Raise the cutting edge to reduce the draw bar load if required when heaping the earth in the bowl. The optimum production can be obtained if load time is kept between 30-50 seconds.

If soils are light or sandy it can be impossible to reach the ISO heaped capacity of the unit. The operator will be more productive if they keep their load times within specification, and commit to faster cycles.

**DO NOT** drag the Scraper for an additional 30-50 seconds to gain 1-2 yards of material. **Work Efficiently.**

## 2.8 FIELD OPERATION CONTINUED

**UNLOADING:**

a. Drive to unloading or dumping area.

b. Slow down to 4 to 8 mph (6 to 13 kph).

c. Lower bowl and cutting edge to 6 to 10 inches (152 to 254 mm) above the ground.

d. Raise the gate.

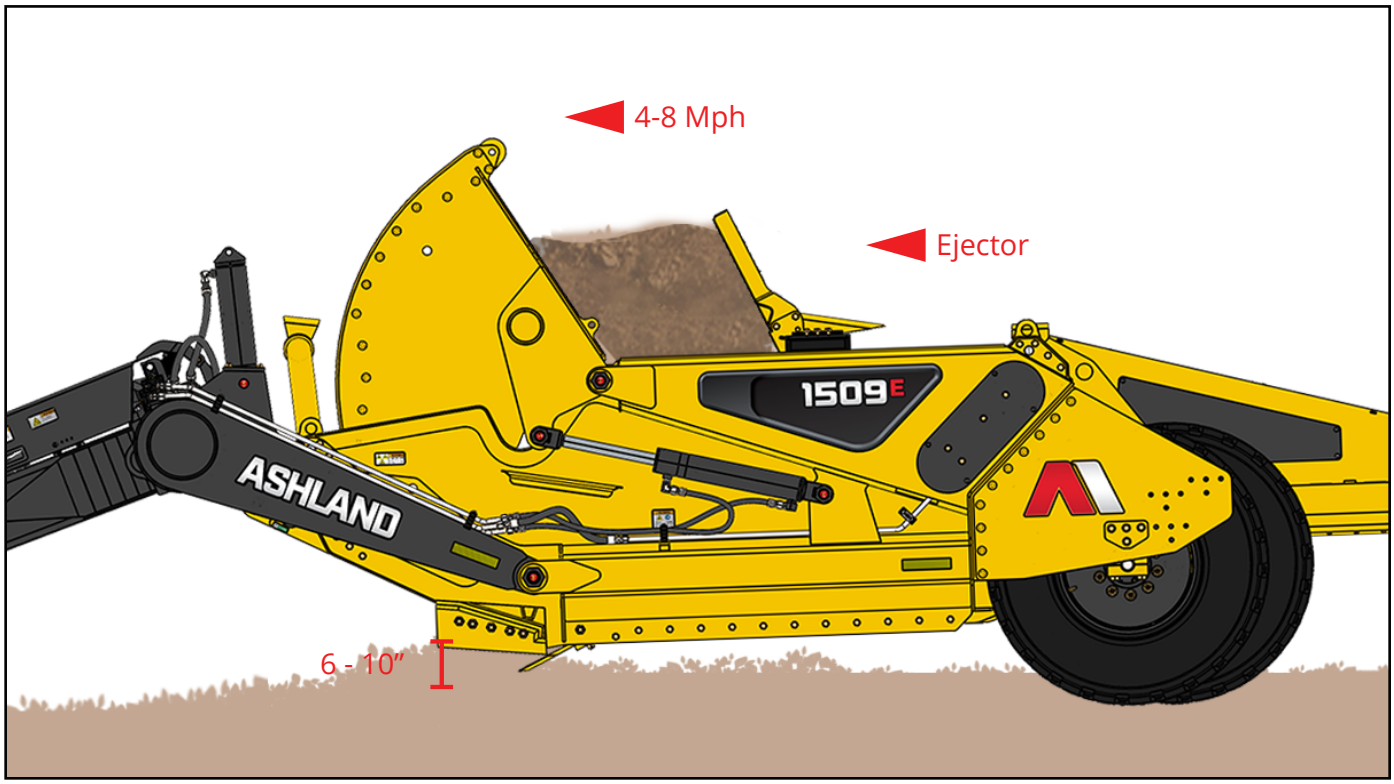
e. Engage the ejector and push the material out of the bowl.

f. Retract the ejector.

g. Close the gate.

h. Raise the frame.

i. Travel back to the loading area and reload.




| ***NOTICE*** |
| --- |
| While unloading ensure there is a steady flow of earth leaving the machine for smooth operating. |

## 2.9 OPERATION TIPS

**NOTE: THIS CYCLE STARTS WITH AN EMPTY SCRAPER.**

1. Get in the power unit seat, make sure steering wheel and all controls are within comfortable reach.
2. Make sure you know how to shift the transmission up and down as well as in and out of gear.
3. If windows are dirty, clean them. No one can be productive when they cannot see what they are doing.
4. You need to be 100% relaxed. No one can be safe, productive, and tense at the same time. If you become tense, STOP. Take a break, and then try again.
5. Now put the power unit in gear, find a gear that is a comfortable speed with engine rpm at about 1500 unless haul road is very smooth, use extreme caution when traveling at speeds of over 35 mph (56 km/h).
6. While traveling the haul road, keep your eyes open for chunks of dirt that may have fallen off the Scrapers from previous loads. Scoop them up by lowering cutting edge, scooping them into the Scraper.
7. As you get close to the cut area with the rpm approximately 1500, shift down till you are in a 5-6 mph (8-10kph) gear at 2100 rpm.
8. Look over the whole cut area and find a ridge to cut off. Cut the ridge because it takes the least amount of hp to fill the Scraper.
9. If the cut area is clean, KEEP it that way. If it is not, plan ahead by keeping the cutting going in a straight line.
10. The operator should never use 100% of the hp in the start of the cut, unless there is a large ridge you want to remove to level the cut area.
11. Soon after you begin to cut, at about 25% load, shift to a 4-5 mph (6-8kph) gear at 2100 rpm and keep power unit at about 1800-1900 rpm. As the load builds higher the operator will have to keep lifting the cutting edge, little by little.
12. Keep an eye on the load and how it is flowing into the Scraper. When the load has stopped building, the engine is lugging and there is no ridge left to cut, lift the cutting edge up and bring the gate down. Do not waste more time.
13. At this point, lift up the Scraper and head for the haul road. It is best to run the cutting edge approximately 6-12 in. (15-30cm) off the ground when traveling on the haul road when loaded. It is best to travel on the haul road on one side with one load then move over ½ the Scraper width the next load. This reduces rutting the road, as well as pounding it out. If there are bumps or clods of dirt on the road lower the cutting edge till it is skimming the ground and blade them smooth.
14. When you reach the fill area, check the grade sticks to see where the dirt is needed. Dump as smooth as possible, cutting edge should be 4 - 10 in from the ground depending on the dirt condition.
15. When you are finished unloading and you are on the haul road, start to shift up to the desired gear and bring throttle to your desired speed. Bring the cutting edge down to approximately 6 in. (15cm) above the ground and lower the gate to the correct position for the next cut (the predetermined reference spot for the cut as per item #8). Retract the ejector all the back while you drive down the haul road. This way you are completely ready for the cut and do not have to make adjustments to the Scraper when you get there.
16. Operator must be sure to avoid excessive material build up on top of the scraper tires. Excessive material can lead to premature tire wear and possible failure.

**NOTE:** Keeping engine rpm's low will save fuel.

## 2.10 OPERATING ON HILLS

### UPHILL OPERATION

Extreme caution should be used when transporting loaded scraper(s) uphill. Slope, weight, and ground conditions will dramatically affect the ability of the tractor or power unit to climb uphill.

- Lower the cutting edge to the ground if it is necessary to stop the machine in an emergency.
- Use a tractor large enough to provide sufficient braking and control when transporting loaded scraper(s).
- If the tractor and scraper(s) begin to have difficulty in climbing uphill, reduce the size of the payload accordingly.
- When approaching an uphill slope, engage axle differential locks and maintain suitable ground speed.
- If conditions of the surface change, make necessary changes to improve conditions or travel another route.
- Once the tractor and scraper(s) have reached the top of the hill, disengage axle differential lock.

### DOWNHILL OPERATION

Extreme caution should be used when transporting loaded scraper(s) downhill. Slope, weight, and ground conditions will dramatically affect the ability of the tractor or power unit to climb downhill.

- Lower the cutting edge to the ground if it is necessary to stop the machine in an emergency.
- Use a tractor large enough to provide sufficient braking and control when transporting loaded scraper(s).
- Never leave items on the floor of the cab. While going downhill, items can shift if left on the floor and interfere with operating the foot controls.
- Before the tractor or power unit begins to go downhill, downshift to a lower gear and dramatically reduce the engine throttle. On steeper grades or slopes, it might be necessary to reduce the throttle to the idle position. Failure to do so may cause engine over speed, resulting in engine damage. Latch the tractor brake pedals together.
- When operating tandem scrapers on steeper downhill grades or slopes, lower the cutting edge of the REAR scraper to drag on the ground. This will reduce the possibility of jack knifing and losing control while traveling downhill.
- The tractor or power unit MUST ALWAYS BE IN GEAR when going downhill.
- The tractor or power unit must NEVER be allowed to roll with the gear lever in neutral.

| ***NOTICE*** |
| --- |
| Avoid going sideways across slopes to prevent tipping or rolling. |

## 2.12 TRANSPORT

### 2.12.1 VIA: POWER UNIT

Follow this procedure when hooking up the Scraper.

1. Be sure all bystanders are clear of the power unit and Scraper.
2. Be sure that the Scraper is securely attached to the power unit and the lock pin is installed.
3. Raise the Scraper, engage the transport lock and rest bowl weight on lock.
4. Clean the SMV emblem (if applicable), reflectors and lights and make sure they are working.
5. Be sure you are in compliance with all applicable lighting and marking regulations when transporting. Check with your local authorities.
6. Drive on the road only if permitted by law.
7. Do not allow riders.
8. Always use hazard flashers on the power unit when transporting unless prohibited by law.
9. Use extreme caution when transporting the Scraper faster than 35 mph (56 km/h)

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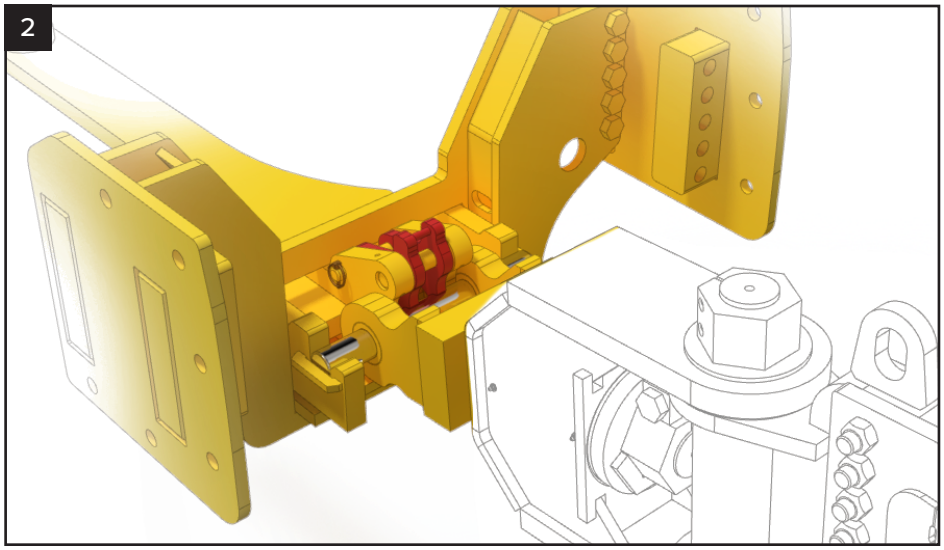

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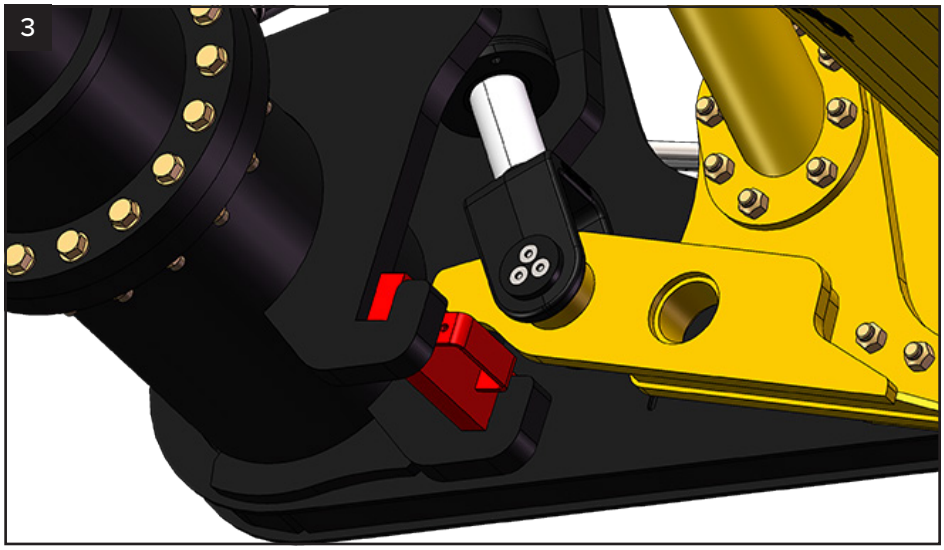

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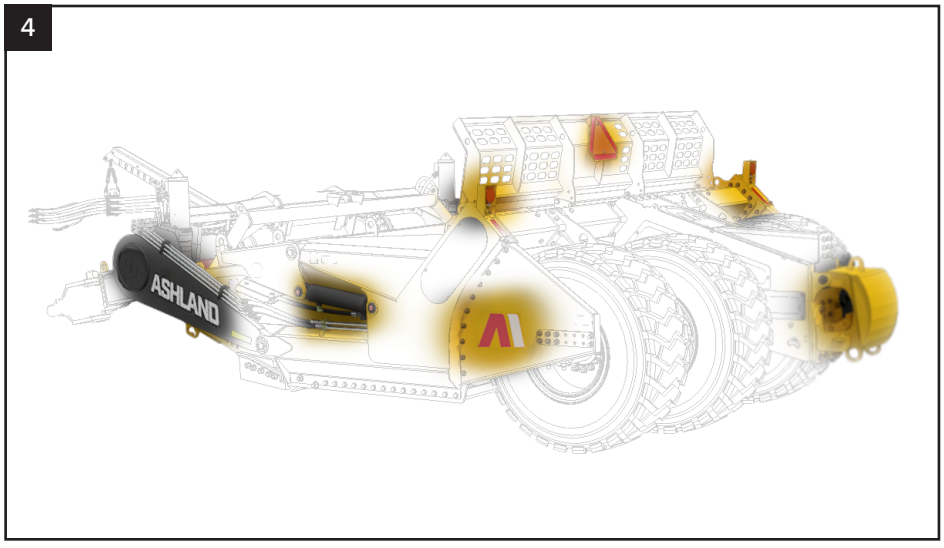


## 2.13 STORAGE

After a season of use, the Scraper should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at the start of next season. To ensure a long, trouble free life, this procedure should be followed when preparing the unit for storage:

1. Clear the area of bystanders, especially small children.
2. Thoroughly wash the entire machine using a pressure washer to remove all dirt, mud, debris, or residue.
3. Inspect the cutting edges and moving parts for damage or entangled material. Repair or replace damaged parts. Remove all entangled material.
4. Inspect all hydraulic hoses, lines, couplers, and fittings. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded, or is separating from the crimped end of a fitting.
5. Lubricate all grease fittings. Make sure that all grease cavities have been filled with grease to remove any water residue from washing. This will also protects the bearing seals.
6. Touch up all paint chips and scratches to prevent rusting.
7. Move to storage area.
8. Unhook from power unit.
9. Install transport brackets
10. Store machine in an area away from human activity.
11. Do not allow children to play on or around the stored Scraper.

## 3.1 MAINTENANCE PROCEDURES

### 3.1.1 TIRE SERVICE

Visually inspect tires and wheels daily. Carefully inspect any rim and tire assembly that has been run underinflated or flat before reinflating the tire to make sure there is no damage to either the rim or tire.

- INSPECT any rim and tire assembly that has been run flat or severely underinflated before reinflating the tire. Damage to the rim and tire may have developed.
- DO NOT operate with damaged rims, tire cuts or bubbles, missing lug bolts, or nuts or damaged rims.
- DO NOT leave a tire, wheel, or assembly unsecured in a vertical position.
- DO NOT re-inflate a tire that has lost air pressure or has been run flat without determining and correcting the problem.
- DO NOT try to repair wheel, rim, or tire components parts. Parts that are cracked, worn, pitted with corrosion, or damaged must be discarded and replaced with good parts.
- DO NOT weld or cut on an inflated tire assembly. Welding heat can cause increased pressure which could result in tire explosion.
- ALWAYS wear personal protection equipment such as gloves, footwear, eye protection, hearing protection, and head gear when servicing tire and wheel components.
- ALWAYS maintain the correct tire pressure. NEVER exceed maximum tire inflation pressure.
- ALWAYS use approved tire and rim combinations for the model scraper that you have and verify that part numbers of components are correctly matched for the assembly.
- ALWAYS exhaust all air from the tire prior to demounting.
- ALWAYS place wheel and tire assemblies in restraining devices (safety cage) when inflating tires. Use a clip on chuck and long extension hose to allow you to stand to the side of the tire and not in front of it.
- ALWAYS use proper lifting techniques and mechanized lifting aids to move heavy components and assemblies.
- ALWAYS take care when moving tires and wheels, making sure that other people in the area are not endangered.

**⚠ WARNING**

The task of servicing tires and wheels can be extremely dangerous and should be performed by trained personnel only, using the correct tools and following best practice.

Do not attempt to mount, demount, or inflate a tire if you do not have the proper equipment and experience to perform the job.

Call a qualified repair service to inspect the assembly and make necessary repairs. Failure to heed warnings could lead to serious injury or death.

## 3.1 MAINTENANCE PROCEDURES

### 3.1.2 HUB SERVICE

**Grease Maintenance Schedule**

- 5 pumps every 50 hours of operation
- Inspect/re-pack wheel bearings after initial 300 hours of operation
- Complete cleaning and inspection every 2,000 hours

The bearings within the hubs of the scraper are fully greased with a Mobilith SHC™ 460 grease at the factory. Ashland uses a special bearing grease packer to ensure the bearing is effectively and evenly lubricated. Generous amounts of additional grease are added on both sides of the bearing prior to install within the hub.

**Mobilith SHC™ 460**
Mobilith SHC™ Series high performance, lithium complex synthetic greases are developed to protect equipment in severe applications operating at extreme temperatures. Their excellent adhesion, structural stability, and resistance to water conditions found in wet environments make them suitable for use in a wide variety of machinery and components. This grease exhibits excellent wear, rust, and corrosion protection, to help with mechanical efficiency, enhance bearing and equipment life, and extended grease life. Resulting in reduced maintenance costs, energy consumption, starting torque, and provided protection at high and low temperatures.

**Reinstalling Hubs**
Before re-installing the hub, follow this procedure to ensure spindle machined surfaces are clean and undamaged.

- Remove old lubricant and thoroughly clean spindle.
- Inspect machined spindle seal surface for nicks, scratches, burrs or marks. If needed, use crocus cloth or emery cloth to repair damaged areas.
- Clean spindle threads thoroughly with a wire brush to avoid false bearing adjustments and to avoid introduction of contaminates into the hub.
- Thoroughly clean spindle machined surfaces of rust, dirt, grease, or other contaminants that could damage the hub seal and cause it to leak.

**⚠ CAUTION**

Too much grease volume (overgreasing) in a bearing cavity will cause the rotating bearing elements to begin churning the grease, pushing it out of the way, resulting an increase of bearing component temperatures.

This leads to rapid oxidation (chemical degradation) of the grease as well as an accelerated rate of oil bleed, which is a separation of the oil from the thickener.

The heat that has been generated over time along with the oil bleed eventually will cook the grease thickener into a hard, crusty build up that can impair proper lubrication and even block new grease from reaching the core of the bearing.

This can result in accelerated rolling element wear and may lead to failure.

## 3.1 MAINTENANCE PROCEDURES

### 3.1.3 GREASING

**NOTICE**

Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multi-purpose lithium based grease.

Place lubricants in clean containers and store in an area protected from dust, moisture, and other contaminants.

Use a hand-held grease gun for all greasing.

Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.

Replace and repair broken fittings immediately.

If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fittings if necessary.

**10 HOURS (DAILY)**

Grease yoke hitch and properly marked pin assemblies.

**50 HOURS**

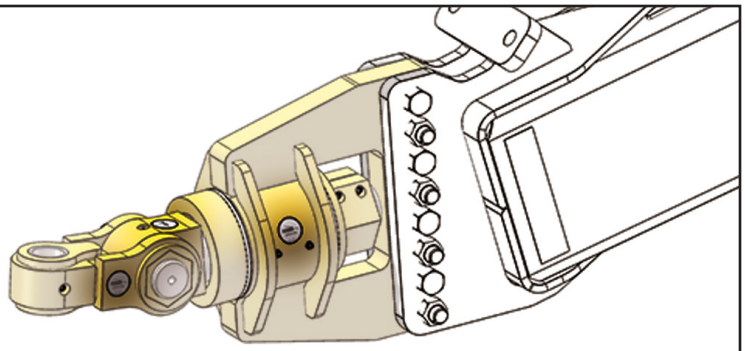
Grease wheel bearings (Mulitple).

**⚠ WARNING**

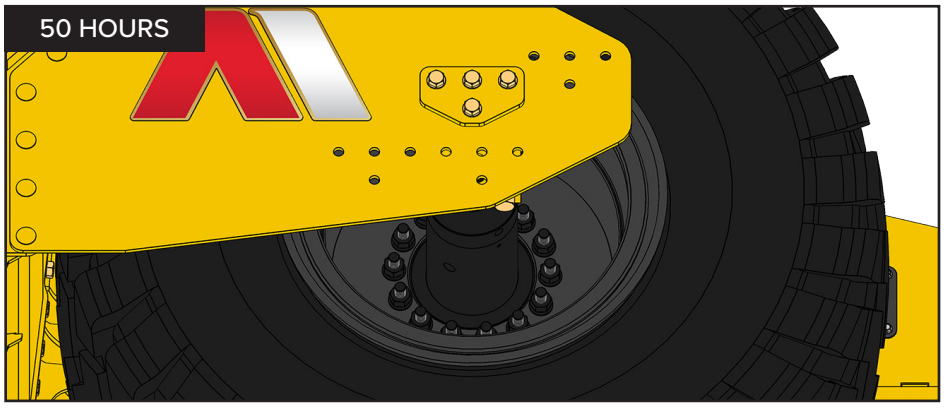
**CRUSHING HAZARD**

To prevent serious injury or death; park Scraper on flat surface and use gate and trailing arm safety locks before lubricating or greasing the machine.

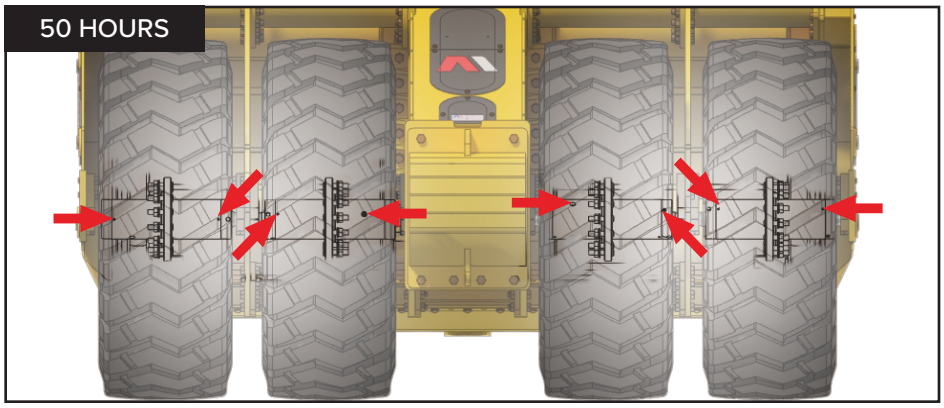
10 HOURS



50 HOURS



50 HOURS



## 3.1 MAINTENANCE PROCEDURES CONTINUED

### 3.1.4 CUTTING EDGES

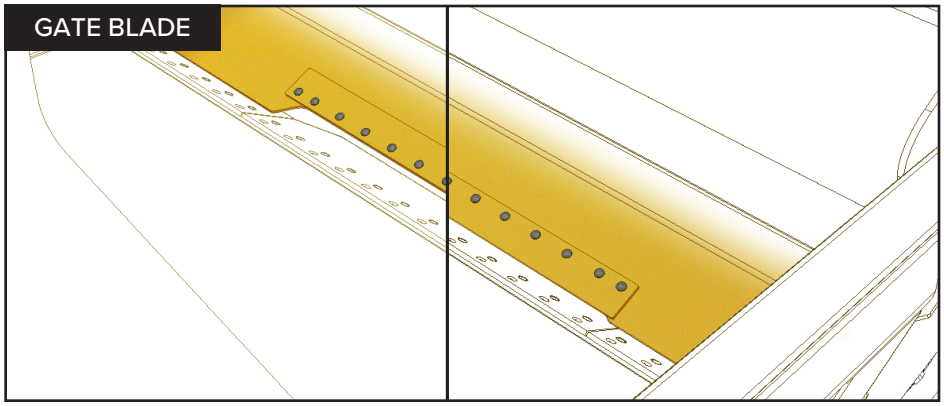
1. Clear the area of bystanders, especially small children.
2. Raise gate & bowl to their fully up position, place all controls in neutral, stop engine, set park brake, remove ignition key, and wait for all moving parts to stop before dismounting.
3. Engage gate and bowl locks on both sides.
4. Slowly lower gate and bowl until the frames are resting on the locks.
5. Place all controls in neutral, stop engine set park brake, remove ignition key, and wait for all moving parts to stop before dismounting.
6. Loosen and remove mounting bolts.
7. Remove cutting components and replace with genuine Ashland parts.
8. Tighten mounting bolts to their specified torque.
9. Raise frame and remove locks.

**⚠ WARNING**

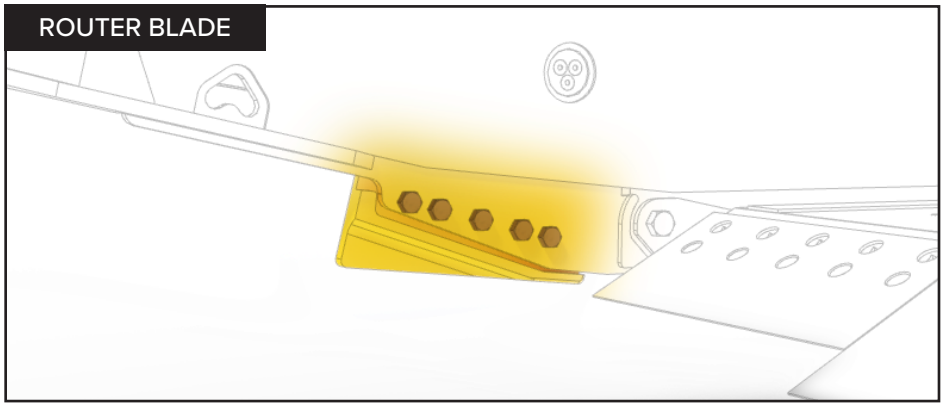
**CRUSHING HAZARD**

To prevent serious injury or death; park Scraper on flat surface and use gate and trailing arm safety locks before working under Scraper.

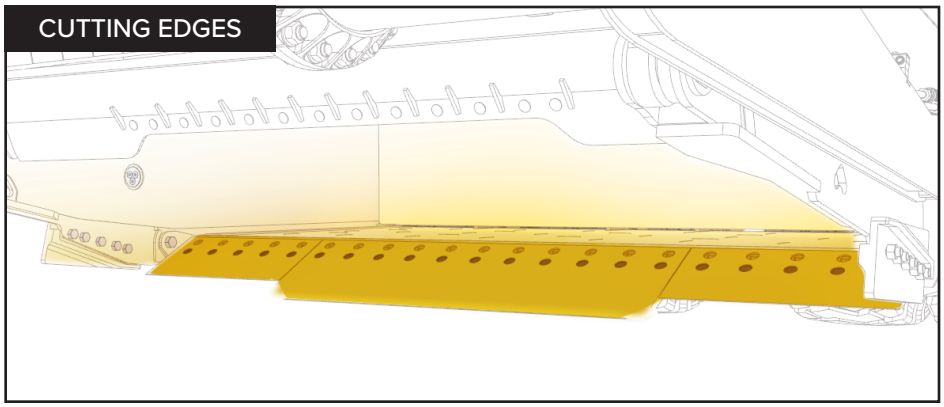
GATE BLADE



ROUTER BLADE



CUTTING EDGES



***NOTICE***

**BLADE REPLACEMENT**

Failure to replace worn cutting edges may result in unnecessary wear to the machines sides and floor. Blades must be replaced before damage occurs to other components.

## 3.1 MAINTENANCE PROCEDURES CONTINUED

### 3.1.5 FIBER BUSHINGS

Fiber bushings are used on each pivot point of the Scraper and must be replaced every 1200 hours or if wear is more than 1/8 inch (3mm), which ever comes first.

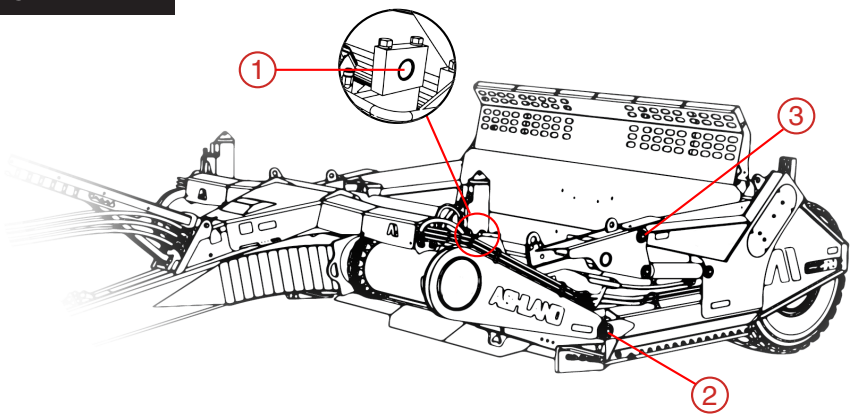
**INSPECT WEAR**

1. Clear the area of bystanders, especially small children.
2. Measure the clearance between the pin bushing and housing.
3. Replace the bushing if the wear is more than 1/8 inch (3mm).

**REPLACING BUSHINGS**

1. Install all safety pins and latches.
2. Remove cylinder pins. Hammer the bushings out. Use a saw to cut the bushings first if they are to tight to come out with just a hammer.
3. Tap new bushings in place with out damaging.
4. Install cylinder pins.

STANDARD




1 - Lift Cyl. (Barrel End)
2 - Trailing Arm Pivot
3 - Gate Lug Pivot

**⚠ WARNING**

**CRUSHING HAZARD**

To prevent serious injury or death; park Scraper on flat surface and use gate and trailing arm safety locks before working under Scraper.

***NOTICE***

Extremely dry, sandy conditions could reduce the life of the fiber bushings.

## 3.2 HYDRAULICS

### HYDRAULIC SYSTEM PURGE

Hook your scraper up to the tractor and cycle it through several times on all circuits to ensure all air has been purged from the system and to check the apron pushoff sequence where applicable.

Check the oil level in the tractor hydraulic system to ensure proper operation.

### CYLINDER MAINTENANCE

Refer to the parts manual for location, description, and ordering information for cylinder repair parts.

| ***NOTICE*** |
| --- |
| Use appropriate container to prevent oil spillage! |

- Lower bowl to the ground
- Relieve hydraulic pressure by actuating hydraulic control valve lever in both directions to neutralize pressure.
- Loosen hydraulic line connections at the cylinder.
- Remove hoses and cap/plug hose ends on scraper to prevent contamination of hydraulic oil.
- Plug cylinder ports.
- Remove rod end cylinder pointed pin.

| ⚠ **WARNING** |
| --- |
| Oil may be hot. Cylinder may fall when pin is removed. |

- Remove butt end mounting pin.
- Remove cylinder from scraper.

For installation, follow removal procedure in reverse order. Discard all hydraulic fluid collected in appropriate containers.

### CYLINDER LEAKAGE

Internal leakage:

- Definition: Concealed leakage past piston seal.
- Indication: No visual indication, but cylinder will not hold position when valve is closed

External leakage:

- Definition: Oil leaking from rod seal or gland seal.
- Indication: Visible oil leaking from cylinder.

Both conditions require removal, disassembly, and repair of cylinder.

## 3.3 SERVICE RECORD

Copy this page to continue record.

SERVICE RECORD

| MONTH: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HOURS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SERVICED BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 8 HOURS (DAILY) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GREASE SCRAPER HITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK GATE BLADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK ROUTER BLADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK CUTTING BLADES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 HOURS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GREASE WHEEL BEARINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK FIBRE BUSHINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1200 HOURS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REPLACE FIBRE BUSHINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANNUALLY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLEAN SCRAPER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SERVICE RECORD

| MONTH: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HOURS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SERVICED BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 8 HOURS (DAILY) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GREASE SCRAPER HITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK GATE BLADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK ROUTER BLADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK CUTTING BLADES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 HOURS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GREASE WHEEL BEARINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK FIBRE BUSHINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1200 HOURS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REPLACE FIBRE BUSHINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANNUALLY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLEAN SCRAPER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## 4.0 TROUBLESHOOTING

The Ashland Scraper is designed as a large bowl with a cutting edge for pulling through the working area and filling with soil. It is a simple and reliable system that requires minimal maintenance.

In the following section, we have listed many of the problems, causes, and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local Ashland dealer or distributor. Before you call, please have this Operator's Manual and the serial number from your Scraper ready.

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Bowl doesn't lower | Engaged lock. | Remove lock. |
| | Failed hydraulic line. | Replace hydraulic line or component. |
| | Failed quick couplers. | Replace quick couplers. |
| | | |
| Gate doesn't lower | Engaged lock. | Remove lock. |
| | Failed hydraulic line. | Replace hydraulic line or component. |
| | Failed quick couplers. | Replace quick couplers. |
| | | |
| Ejector doesn't move | Failed hydraulic line. | Replace hydraulic line or component. |
| | Failed quick couplers. | Replace quick couplers. |
| | Ejector contacts floor. | Shim / Adjust slider blocks. |
| | | |
| Scraper pulls hard | Wore out cutting edge. | Replace cutting edge. |
| | Overloaded. | Raise bowl slightly to reduce load when filling. |
| | | |
| Can not grease zerk | Grease zerk plugged. | Remove and replace grease zerk. |
| | Pin is frozen. | • Remove, clean, and inspect pin.<br>• Replace pin if necessary. |
| | Bushing grease passage is not aligned. | • Remove, clean, inspect, and realign bushing.<br>• Replace bushing if necessary and realign. |
| | | |
| Cylinder creeps | Seals leaking internally. | Remove and replace seal kit. |
| | | |
| Machine cuts unevenly | Cutting edges worn unevenly. | Replace cutting edges. |
| | Improperly inflated tires. | Check air pressure in tires. |

## 5.2 BOLT TORQUE

### CHECKING BOLT TORQUE

The tables shown right give correct torque values for various bolts. Tighten all bolts to the torques specified in chart unless otherwise noted in the parts manual. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque figures indicated (Right) are valid for non-greased or non-oiled threads and heads. Therefore, do not grease or oil bolts or cap screws.

**US STANDARD SPECIFICATIONS**

| STANDARD/PLOW/CARRIAGE BOLTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bolt Size | Thread per inch | GRADE 2 | | GRADE 5 | | GRADE 8 | |
| | | DRY | | DRY | | DRY | |
| | | ft/lbs | N.m | ft/lbs | N.m | ft/lbs | N.m |
| 1/4 | 20 | 5.5 | 7.4 | 9.5 | 12.9 | 12 | 16.2 |
| 1/4 | 28 | 6.3 | 8.5 | 10.9 | 14.8 | 14 | 18.5 |
| 5/16 | 18 | 11 | 15.3 | 20 | 26.6 | 25 | 33.3 |
| 5/16 | 24 | 13 | 17.0 | 22 | 29.5 | 27 | 36.9 |
| 3/8 | 16 | 20 | 27.2 | 35 | 47.3 | 44 | 59.1 |
| 3/8 | 24 | 23 | 30.8 | 40 | 53.6 | 49 | 67.0 |
| 7/16 | 14 | 32 | 43.5 | 56 | 75.7 | 70 | 94.6 |
| 7/16 | 20 | 36 | 48.6 | 62 | 84.5 | 78 | 105.6 |
| 1/2 | 13 | 49 | 66.4 | 85 | 115.4 | 106 | 144.3 |
| 1/2 | 20 | 55 | 74.8 | 96 | 130.1 | 120 | 162.6 |
| 5/8 | 11 | 97 | 132.1 | 170 | 229.8 | 212 | 287.3 |
| 5/8 | 18 | 110 | 149.7 | 192 | 260.3 | 240 | 325.4 |
| 3/4 | 10 | 173 | 234.3 | 301 | 407.6 | 376 | 509.4 |
| 3/4 | 16 | 193 | 261.7 | 336 | 455.1 | 420 | 568.9 |
| 7/8 | 9 | 243 | 328.9 | 485 | 657.7 | 606 | 822.1 |
| 7/8 | 14 | 267 | 361.3 | 534 | 724.6 | 668 | 905.8 |
| 1 | 8 | 364 | 493.0 | 636 | 842.7 | 909 | 1232.4 |
| 1 | 12 | 398 | 539.3 | 696 | 943.9 | 995 | 1348.4 |
| 1 1/4 | 7 | 727 | 985.3 | 1272 | 1724.3 | 1817 | 2463.4 |
| 1 1/4 | 12 | 805 | 1091.1 | 1408 | 1909.4 | 2012 | 2727.7 |
| 1 1/2 | 6 | 1265 | 1714.4 | 2213 | 3000.3 | 3161 | 4286.1 |
| 1 1/2 | 12 | 1423 | 1929.2 | 2490 | 3376.1 | 3557 | 4823.0 |
| 2 | 4.5 | 3000 | 4067.5 | 5250 | 7118.0 | 7500 | 10168.6 |
| 2 | 8 | 3324 | 4506.7 | 3878 | 5257.9 | 8310 | 11266.8 |

* Torque value for bolts identified by their head markings.

## 5.2 BOLT TORQUE

### CHECKING BOLT TORQUE

The tables shown right give correct torque values for various bolts. Tighten all bolts to the torques specified in chart unless otherwise noted in the parts manual. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque figures indicated (Right) are valid for greased or oiled threads including thread locks.

**US STANDARD SPECIFICATIONS**

| STANDARD/PLOW/CARRIAGE BOLTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bolt Size | Thread per inch | GRADE 2 | | GRADE 5 | | GRADE 8 | |
| | | LUBRICATED | | WET | | WET | |
| | | ft/lbs | N.m | ft/lbs | N.m | ft/lbs | N.m |
| 1/4 | 20 | 4.1 | 5.6 | 7.2 | 9.7 | 9 | 12.11 |
| 1/4 | 28 | 4.7 | 6.4 | 8.2 | 11.1 | 10 | 13.9 |
| 5/16 | 18 | 8 | 11.5 | 15 | 20.0 | 18 | 25.0 |
| 5/16 | 24 | 9 | 12.7 | 16 | 22.1 | 20 | 27.6 |
| 3/8 | 16 | 15 | 20.4 | 26 | 35.5 | 33 | 44.3 |
| 3/8 | 24 | 17 | 23.1 | 30 | 40.2 | 37 | 50.2 |
| 7/16 | 14 | 24 | 32.6 | 42 | 56.7 | 52 | 70.9 |
| 7/16 | 20 | 27 | 36.4 | 47 | 63.4 | 58 | 79.2 |
| 1/2 | 13 | 37 | 49.8 | 64 | 86.6 | 80 | 108.2 |
| 1/2 | 20 | 41 | 56.1 | 72 | 97.6 | 90 | 121.9 |
| 5/8 | 11 | 73 | 99.1 | 127 | 172.4 | 159 | 215.4 |
| 5/8 | 18 | 83 | 112.3 | 144 | 195.2 | 180 | 244.0 |
| 3/4 | 10 | 130 | 175.8 | 225 | 305.7 | 282 | 382.1 |
| 3/4 | 16 | 145 | 196.3 | 252 | 3041.4 | 315 | 426.7 |
| 7/8 | 9 | 182 | 246.6 | 364 | 493.3 | 455 | 616.6 |
| 7/8 | 14 | 200 | 271.7 | 401 | 543.5 | 501 | 679.3 |
| 1 | 8 | 273 | 369.7 | 477 | 647.0 | 682 | 924.3 |
| 1 | 12 | 298 | 404.5 | 522 | 707.9 | 746 | 1011.3 |
| 1 1/4 | 7 | 545 | 739.0 | 954 | 1293.3 | 1363 | 1847.5 |
| 1 1/4 | 12 | 604 | 818.3 | 1056 | 1432.1 | 1509 | 2045.8 |
| 1 1/2 | 6 | 948 | 1285.8 | 1660 | 2250.2 | 2371 | 3214.6 |
| 1 1/2 | 12 | 1067 | 1446.9 | 1868 | 2532.1 | 2668 | 3617.2 |
| 2 | 4.5 | 2250 | 3050.6 | 3938 | 5338.5 | 5625 | 7626.5 |
| 2 | 8 | 2493 | 3380.1 | 2909 | 3943.4 | 6233 | 8450.1 |

* Torque value for bolts are identified by their head markings.

## 5.2 BOLT TORQUE

### CHECKING BOLT TORQUE

The tables shown right give correct torque values for various bolts. Tighten all bolts to the torques specified in chart unless otherwise noted in the parts manual. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

**US STANDARD SPECIFICATIONS**

| SOCKET HEAD BOLTS | | | | | |
|---|---|---|---|---|---|
| Bolt Size | Thread per inch | GRADE 2 | | | |
| | | DRY | | LUBRICATED | |
| | | ft/lbs | N.m | ft/lbs | N.m |
| 1/4 | 20 | 14 | 19.0 | 10 | 13.6 |
| 1/4 | 28 | 16 | 21.7 | 12 | 16.3 |
| 5/16 | 18 | 29 | 39.3 | 22 | 29.8 |
| 5/16 | 24 | 32 | 43.4 | 25 | 32.5 |
| 3/8 | 16 | 51 | 69.1 | 28 | 38.0 |
| 3/8 | 24 | 58 | 78.6 | 43 | 58.3 |
| 7/16 | 14 | 81 | 109.8 | 61 | 82.7 |
| 7/16 | 20 | 91 | 123.4 | 68 | 92.2 |
| 1/2 | 13 | 124 | 168.1 | 93 | 126.1 |
| 1/2 | 20 | 140 | 189.8 | 105 | 142.4 |
| 5/8 | 11 | 238 | 322.7 | 179 | 242.7 |
| 5/8 | 18 | 270 | 366.1 | 202 | 273.9 |
| 3/4 | 10 | 423 | 573.5 | 317 | 429.8 |
| 3/4 | 16 | 472 | 639.9 | 354 | 480.0 |

| LAG BOLTS | | | |
|---|---|---|---|
| Bolt Size | Thread per inch | GRADE 2 | |
| | | DRY | |
| | | ft/lbs | N.m |
| 5/8 | 5 | 50 | 67.8 |

* Torque value for socket head & lag bolts are identified by their head markings.

## 5.3 HYDRAULIC FITTING TORQUE

### JIC FLARE TORQUE VALUES

**ASSEMBLY STEPS WITH A VISUAL CHECK**

1. With the tube flared, make sure the tubing and threads are clean.
2. Lubricate the threads with 10W hydraulic oil.
3. Hand tighten the nut/sleeve (approx. 30 lb-in.).
4. Make alignment marks on the nut and fitting.
5. Proceed to tighten to F.F.F.T. or lb-ft. values.
6. When fully tightened make a 2nd set of alignment marks at the fully tightened position.

| SAE | Tube Size | Nut Size | Torque Value* | | F.F.F.T |
|---|---|---|---|---|---|
| No. | OD in. | Flats in. | N.m | lb.-ft. | Flats |
| -04 | 1/4” | 9/16" | 15-16 | 11-12 | 2 |
| -06 | 3/8” | 11/16" | 24-27 | 18-20 | 1 1/2 |
| -08 | 1/2” | 7/8" | 41-53 | 36-39 | 1 1/2 |
| -12 | 3/4” | 1-1/4" | 107-119 | 79-88 | 1 1/4 |
| -16 | 1” | 1-1/2" | 146-153 | 108-113 | 1 |
| -20 | 1 1/4” | 1-7/8" | 172-180 | 127-133 | 1 |
| -24 | 1 1/2” | 2-1/8" | 214-226 | 158-167 | 1 |

* The torque values shown are based on lubricated connections as in reassembly.

**FLATS FROM FINGER TIGHT (F.F.F.T)**
Is a Turn Method that counts the number of hex flats past the finger tightened position.

### O-RING BOSS TORQUE VALUES

**O-Ring Boss Assembly**

1. Inspect the components and make sure the port, O-ring, sealing surfaces, and threads are clean, and free of damage.
2. Install an O-ring if needed. Take special care not to cut it on the threads. We install our O-rings with special mandrels, or cones.
3. Lubricate the threads and O-ring with 10W hydraulic oil.
4. For an adjustable ORB, completely back off the locknut/ washer.
5. Hand tighten the fitting until it contacts the port spot face.
6. Proceed to tighten the proper specified torque value.

| SAE | Tube Size | Nut Size | Torque Value* | | F.F.F.T |
|---|---|---|---|---|---|
| No. | OD in. | Flats in. | N.m | lb.-ft. | Flats |
| -04 | 1/4” | 9/16" | 18-20 | 13-15 | 1 |
| -06 | 3/8” | 11/16" | 27-34 | 22-25 | 1 |
| -08 | 1/2” | 7/8" | 54-58 | 40-43 | 1 |
| -12 | 3/4” | 1-1/4" | 92-102 | 68-75 | 1 |
| -16 | 1” | 1-1/2" | 152-169 | 112-123 | 3/4 |
| -20 | 1 1/4” | 1-7/8" | 198-226 | 146-200 | 3/4 |
| -24 | 1 1/2” | 2-1/8" | 209-291 | 154-215 | 1/2 |

* The torque values shown are based on lubricated connections as in reassembly.

**FLATS FROM FINGER TIGHT (F.F.F.T)**
Is a Turn Method that counts the number of hex flats past the finger tightened position.

## 5.3 HYDRAULIC FITTING TORQUE CONTINUED

### O-RING BOSS FACE SEAL TORQUE VALUES

| SAE | Tube Size | Nut Size | Torque Value* | | F.F.F.T |
|---|---|---|---|---|---|
| No. | OD in. | Flats in. | N.m | lb.-ft. | Flats |
| -04 | 1/4" | 9/16" | 14-16 | 10-12 | 1 |
| -06 | 3/8" | 11/16" | 24-27 | 18-20 | 1 |
| -08 | 1/2" | 7/8" | 43-47 | 32-35 | 1 |
| -12 | 3/4" | 1-1/4" | 88-95 | 65-70 | 1 |
| -16 | 1" | 1-1/2" | 125-136 | 92-100 | 3/4 |
| -20 | 1 1/4" | 1-7/8" | 170-190 | 125-140 | 3/4 |
| -24 | 1 1/2" | 2-1/8" | 203-224 | 150-165 | 3/4 |

* The torque values shown are based on lubricated connections as in reassembly.

**FLATS FROM FINGER TIGHT (F.F.F.T)**
Is a Turn Method that counts the number of hex flats past the finger tightened position.

| Pipe Thread Torque Values | | | | | |
|---|---|---|---|---|---|
| SAE | Tube Size | Nut Size | Torque Value* | | F.F.F.T |
| No. | OD in. | Flats in. | N.m | lb.-ft. | Flats |
| -04 | 1/4" | 9/16" | 34 | 25 | 3/4-1 3/4 |
| -06 | 3/8" | 11/16" | 54 | 40 | 3/4-1 3/4 |
| -08 | 1/2" | 7/8" | 73 | 54 | 1/2-1 1/2 |
| -12 | 3/4" | 1-1/4" | 106 | 78 | 1/2-1 1/2 |
| -16 | 1" | 1-1/2" | 152 | 112 | 1/2-1 1/2 |
| -20 | 1 1/4" | 1-7/8" | 209 | 154 | 1/2-1 1/2 |
| -24 | 1 1/2" | 2-1/8" | 286 | 211 | 1/2-1 1/2 |

## WARRANTY EXCLUSION

**THE WARRANTY OF THIS PRODUCT APPLIES ONLY TO DEFECTS IN MATERIAL AND WORKMANSHIP AND DOES NOT COVER PARTS THAT FAIL BECAUSE OF POOR MAINTENANCE OR IMPROPER USE.**

**Warranty Voids**

- Adding or extending to the size or shape of the scraper to increase yardage capacity.
- Damage to hydraulic components due to high pressure spikes beyond the designed limitation.
- Pulling a scraper by a tractor above the horsepower rating.
- Operating above rated tire load capacity or running tires with low air pressure.
- Loading rock or large minerals.
- Using excavator or wheel loader to pack material in the scraper bowl.
- Transporting the scraper at high speeds over rough terrain.
- Transporting empty scraper at a high rate of speed with the apron gate raised.
- Excessive transport speed of a loaded scraper that bounces or duck walks excessively.
- Leveling haul roads/fields with the apron/gate closed.

## WARRANTY STATEMENT

**The Purpose of Warranty**

Ashland Industries, Inc. warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the product or components, not to exceed one year from the date of delivery of the new Ashland Industries product to the original purchaser, or the date the product is first put into service via a rental agreement or other means, whichever occurs first.

**Dealers Responsibilities**

The following responsibilities are to be performed when the dealer delivers a product to the purchaser or otherwise places it into warranty service:

- Complete the Warranty Registration Form and forward it to Ashland Industries within 30 days of the sale, rental or other use of the product. Warranty reimbursement is contingent upon product registration.
- Review the warranty statement and operator's manual with purchaser to assure understanding of purchaser's responsibilities as related to warranty, service, and the proper and safe operation of the product. Purchasers/Renters should be advised to have failed parts repaired or replaced immediately upon failure, as continued use will result in additional damage, excessive wear, and may result in personal injury.
- Contact Ashland Industries prior to beginning repair or replacement of failed parts to make certain that the cost of repairs are consistent with the value of the product being sold.
- Warranty requests for units in dealer's inventory may be submitted to Ashland Industries when defects are noted in products prior to the retail sale or rental of that unit.
- Provide warranty and service repairs as directed by Ashland Industries' "Service Repairs Bulletins" or other instructions.
- All warranty work must be completed within 30 days of failure. Notify Ashland Industries' warranty department if repairs will require more than 30 days after failure for an extension. No claim will be accepted for warranties that exceed this 30 day period.
- No warranty will be allowed on units delivered to the retail customer prior to the full payment of that unit to the manufacturer by the dealer.
- If diagnostic time is required, contact Ashland Industries prior to beginning the warranty repair for approval. Ashland Industries must approve travel time reimbursement prior to beginning the warranty repair.

**Ashland Industries Responsibilities**

- Reimbursement for parts used in warranty repair will be credited only when the parts are purchased from Ashland Industries Inc. Parts will be credited at dealer's net cost. No warranty will be allowed on parts that are past due.
- Dealer should use parts from their parts inventory first. In the event that parts must be shipped from Ashland Industries Inc., freight will be paid by Ashland Industries and will be shipped by the most economical means to arrive in the shortest possible time. Air, Next Day Air, Priority and other special shipment methods requested by the dealer will be at the customer's expense.
- Warranty Labor Reimbursement for labor expense to the dealer is made by payment of the established hourly shop rate.
- Repair times will be reviewed by Ashland Industries and may be adjusted to average repair time required by other dealers to make similar repairs. Labor is not paid on the warranty associated with repair parts purchased by the retail customer that are used on a product that is not currently in warranty time frame.

## WARRANTY STATEMENT CONTINUED

**Ashland Industries Responsibilities (Cont'd)**

- Reimbursements for repairs made by an outside source (not dealer personnel) will be made for those services deemed necessary for the resolution of the warranty by Ashland Industries' warranty department. Outside repair invoices must have prior approval from Ashland Industries service department and must be attached to the warranty claim after approval.

**Other Warranty Provisions**

- In all cases, the most economical repair should be performed unless otherwise directed. Credit will not be allowed for assemblies or groups if it is practical to make the repair with individual parts. In some cases, the assembly or group price may be less than the total of the parts and labor required to complete the repair. In those cases, an assembly or group may be used.
- Only those parts provided by Ashland Industries are covered under Warranty. The use of parts from other sources will not be eligible for warranty consideration.
- All parts removed during warranty repair should be held for a period of 90 days after the warranty claim has been submitted to Ashland Industries. These parts can be discarded if disposition or return request has not been made during this period. Parts that are requested must be returned within 30 days of claim disposition. These parts will be discarded after the 30-day period.
- Ashland Industries reserves the right to deny or reverse any and all warranty claims for parts, labor, or miscellaneous charges when errors are found, warranty provisions are abused, or fraudulent claims are submitted.

**Warranty Reimbursement is Not Possible**

- When failure falls under the "limitations" as identified in Ashland's Limited Warranty Statement.
- When Ashland Industries has requested the return of certain parts, assemblies, or information and has not received the material with 30 days of date posted on return request.
- On claims due to damage or shortage that are obviously the responsibility of dealer or the delivering carrier.
- On the entire claim when warranty policy and provisions are not followed.

**All dealers will warranty their technician's work to the purchaser and will indemnify Ashland Industries Inc. from such claims.**

## WARRANTY STATEMENT CONTINUED

**Service Bullentins**

Service Bulletins will be issued when necessary to alert dealers of special repairs. Each bulletin will give detailed directions and procedures to complete the service.

**Procedures For Completion Of Warranty Form**

Complete the warranty form available at www.ashlandind.com or attached with this manual. Return this form to Ashland Industries within 30 days of failure.

**Use of Photographs**

Pictures of the failure are recommended but not required. Photos should be attached to dealer's claim when their inclusion will help identify the condition of the part being repaired or replaced, and thus assisting in approval of the claim. In many cases, the use of photos may eliminate the need to return parts for evaluation. Photos will not be returned unless specifically requested. Digital photos are preferred and can be email to warranty@ashlandind.com

**Delayed Warranty Repairs**

Warranty repairs should be scheduled and performed as soon as possible after notifying your dealer and Ashland Industries. There may be circumstances that require the use of the product for a short period of time by the retail customer, or the availability of repair parts may require the work to extend past a 30 day period. In these cases, the dealer must notify Ashland Industries in writing of the extenuating circumstance and advise that the continued use of the product will not enlarge the warranty claim. These claims will then be processed as if the product is still within the warranty period.

**Denied Claim**

Dealers will be notified of a denied claim and notification will state the reason for denial. A dealer has the right to appeal this claim and must do so within 30 days of notification of denial. If there has been no appeal within the 30 day period, the claim will be considered closed.

**Limited Warranty Statement**

Ashland Industries, Inc. warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the product or components, not to exceed one year from the date of delivery of the new Ashland Industries, Inc. product to the original purchaser, or the date the product is first put into service via a rental agreement or other means, whichever occurs first.

The major components of swivel hitches used on scrapers are warranted for three consecutive months from the date of delivery of the new Ashland Industries, Inc. product to the purchaser, or the date the product is first put into service via a rental agreement or other means, whichever occurs first, except those components described below.

Genuine Ashland Industries, Inc. replacement parts and components will be warranted for 30 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer.

Under no circumstances will it cover any merchandise or components thereof, which in the opinion of the company, has been subjected to misuse, unauthorized modification, alterations, an accident, or if repairs have been made with parts other than those obtained through Ashland Industries, Inc.

Ashland Industries, Inc. in no way warrants tires since their respective manufacturer warrants these items separately. Please call Ashland Industries, Inc. to receive phone numbers of tire suppliers. Ashland Industries, Inc. in no way warrants wearable items such as cutting edges, front dolly wheel balls, sockets, rollers, bushings, yoke hitch pins, hitch bushings, etc.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that, in our judgement, shall show evidence of such defect, provided further that such part shall be returned within 30 days from the date of failure to Ashland Industries, Inc. routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid. Upon warranty approval, proper credits will be reimbursed for transportation.

## WARRANTY STATEMENT CONTINUED

**Limited Warranty Statement (Cont'd)**

This warranty shall not be interpreted to render Ashland Industries, Inc. liable for injury or damages of any kind or nature to person or property. This warranty does not extend to the loss revenue, extra labor cost associated with downtime, substitute machinery, rental, or for any other reason.

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

This warranty is subject to any existing conditions of supply which may directly affect our ability to obtain materials or manufacture replacement parts.

Ashland Industries, Inc. reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold. No one is authorized to alter, modify, or enlarge this warranty nor the exclusion, limitations, and reservations.

**Owner Registration**

Be sure to complete the Owner Registration form that you received with your machine and return it to Ashland Industries within 30 days of the sale, rental, or other use of your product. Warranty reimbursement is contingent upon product registration. If your product is not registered, it is NOT covered under warranty.