ASHLAND INDUSTRIES

Parts Manual

04-17

220TS4-003

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Ashland Industries

Crafting Quality since 1953!

www.ashlandind.com
www.scraperdrawbar.com

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Categorized Listing

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Alphabetized Listing

PH: 715-682-4622 FX: 715-682-9717

ASHLAND SCRAPERS

Introduction

Thank you for choosing an Ashland scraper for your earthmoving needs. Years of research, testing and successful application have been spent to ensure quality and maximum performance for our customers.

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 owners registration form at the beginning of this manual, or you may fill out the form on-line by going to ashlandind.com and click on "Register your Machine" in the parts section drop-down. If you have questions, please feel free to call or email us. You can visit us on-line at www.ashlandind.com.

Ashland Industries hours of operation are 8:00 a.m. to 5:00 p.m. CST. We can be reached toll free at: 877-634-4622.

SCRAPER ID NUMBER

The serial number plate for the scraper is located on the right rear area of the scraper. The letter and numbers stamped identify the serial number, model number and capacity of the scraper. Please record this serial number for use in ordering parts, warrantee issues and to track your equipment if it is ever stolen.

References to serial number breaks on parts are located in the manual with a reference sequence of XXXXX-XXXXX. The beginning number records the serial number start of the use of that part. The ending number is the final serial number use of the part within this machine.

IMPORTANT

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.

Operation and Maintenance

Your Ashland scraper is a durable piece of equipment and with proper care will yield many years of trouble free operation. However, the life of your scraper can be severely shortened by poor maintenance. You must follow consistent maintenance practices and use good quality grease and hydraulic oil (compatible with the power unit's hydraulic system) to insure the longer, most productive use from your scraper.

Your scraper should be greased at all points where grease fittings are provided. **REMOVE TRANSPORT LOCKS** prior to operation. Next, extend and retract all cylinders several times to force out any air from the hydraulic cylinders and lines. Check the oil levels in the tractor hydraulic system and add to maintain the proper level. Care should be used when adding oil or when disconnecting any oil line to keep all dirt out of the oil as dirt is a major factor in the failure of hydraulic components.

When your scraper is placed into operation, the operator will have to "feel out" the amount of depth of cut to obtain maximum loading efficiency. This is usually accomplished by taking a lesser and more uniform cut; however, some soil conditions such as loose sand may require a "pumping action" obtained by taking successive deep cuts and lifting out of cut as the tractor begins to lose power or traction.

- After 8 hours of operation, all bolts should be checked and tightened if necessary and all grease fittings lubricated. Check tire pressures daily. Also, check pins and cutting edges for signs of wear.

- After 50 hours work, all bolts should be rechecked and tightened if necessary. Check wheel bearings and adjust if necessary.

- Check wheel lug nut torque.
  - After first 2 hours of operation.
  - Recheck daily for the next 2 weeks.
  - Tighten wheel lug nuts in a star pattern.
  - Torque wheel lug nut (see Torque Specifications).

- After 300 hours work, clean and repack wheel bearings and replace, if necessary, cutting edges, worn pins, etc.

Failure to replace worn cutting edges may result in unnecessary wear to the earthmover sides and floor.

Operation and Maintenance

Before starting a job, make sure Diggers Hot Line has been contacted and all underground utilities have been properly located (electric, phone and pipelines). Have a clear understanding of all local, OSHA and MSHA rules that apply to the job. Beware of your environment and keep others a safe distance from the machine while familiarizing yourself with the machine's controls. The scraper requires a power source with **TWO** 4-way (double acting) hydraulic control valves.

Scraper damage can occur if:

1. The scraper is running over the haul road with the bowl fully raised. On scrapers that have factory installed nitrogen over hydraulic accumulators, the lift cylinders should be lowered 3 to 4 inches to allow the cushioned ride to work properly.
2. The heaped payload repeatedly exceeds the design ISO 6485 Earth-moving machinery-Tractor-scraper volumetric rating.
3. The fully loaded scraper exceeds the 10 mph on smooth haul roads and dramatically less on uneven haul roads.
4. The scraper is being top-loaded without the bowl being fully lowered to the ground prior to placing the material into the bowl.
5. The scraper is being used to level haul roads with the apron closed, not allowing material to enter the bowl.
6. The scraper is being used to load rock.
7. The scraper is being aggressively push loaded with a dozer.
8. A power unit that is above the horsepower rating is pulling the scraper.

These types of damage are not covered by warranty. Warranty only covers defects in material or workmanship and not abuse because of improper use.

Know the job:

1. Know the weight of the material to be moved.
2. Lay the job out to take advantage of grades when loading, if possible.
3. Keep hauls as short as possible.
4. Keep haul roads smooth.
5. If more than one unit is on the job, make sure the haul roads are one way and that the operators understand the direction.
6. Brief the operators as to what the job consists of so there is not misunderstanding.
7. Know the moisture content in the material to be moved.
8. Will water be needed for proper compaction?
9. Will drainage be a problem?
10. How many units will be needed to efficiently complete the job?

Transport the scraper safely:

1. Always empty scraper.
2. Clean all material from exterior of scraper.
3. Make sure all road rules are followed.
4. Use proper lighting and flagging.
5. Lower scraper bowls to provide just enough clearance over obstacles.
6. Transport at a safe speed to avoid roll over.
7. Reduce speed on curves and when going downhill.

Apron Opening Guidelines:

You will need to determine the ideal opening for your soil condition. It is important to have the apron opened prior to loading. To receive the highest production possible, it is important to know the general characteristics of the material that you will be loading. In heavier soils like clay or gumbo, the soil will slab up and remain together after being cut by the blades. In lighter soils, like sand or dry loose top soil, the material will pile up or push after being cut by the blade. Use the suggestions listed below:

Topsoil with heavy vegatation (12" to 24" opening):

When cutting undisturbed soils, you will need to open the apron high enough to allow debris to easily enter the scraper bowl. If the apron is opened too high, the rolling up sod will fall out past the apron and hinder the incoming material. If the apron is not adjusted quick enough, the material will bunch or push ahead of the machine. If this happens, you should close the apron and pull out the cut quickly. If you wait too long, you may develop too large a pile to clear the scraper while rising out of the cut. This can cause the power unit to lose traction and possibly cause you to get stuck.

Clay or loamy material: (6" to 12" opening):

To cut clay or loam soils, lower the apron to approximately 6" to 12" between the blades and the bottom of the apron. When you first lower the bowl, you'll see the material being cut by the blades and entering the bowl. As you continue to move forward, small clumps will fall past the apron and develop a small pile ahead of the apron. By limiting this apron opening, the small pile will "blade off" any loose material ahead of the machine. Adjustments should be made if large objects such as rocks or deep gouges are within the cut.

Sand or loose topsoil (15" to 30" topsoil):

Loading sand or loose top soil is the most difficult type of soil to load. In combination with the larger apron opening, you'll want to operate at a faster ground speed. By traveling faster and lowering the blade deeper than normal, it forces the material into the scraper bowl.

We encourage you to experiment with different apron openings to determine the best condition for your jobsite.

The Apron is designed to capture material inside of the scraper bowl and should not be used as a large blade. Obstructions like large rocks or dense piles may cause the apron to bend inward after prolonged exposure to these conditions.

Safety Guidelines

Safety Signal Words: Please note the use of signal words such as DANGER, WARNING, and CAUTION paired with the safety messages on your scraper. The appropriate signal word for each safety message has been selected using the following guidelines:

- **Danger**: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations—typically for machine components which, for functional purposes, cannot be guarded.
- **Warning**: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. For example, hazards that are exposed when guards are removed. This signal word may also be used to alert against unsafe practices.
- **Caution:** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. This signal word may also be used to alert against unsafe practices.

Operator safety is a main concern in designing and developing equipment. Designers and manufacturers include as many safety features as possible. However, every year many accidents occur which could have been avoided by extra thought and a more careful approach to handling equipment. The operator can avoid many accidents by observing the precautions in this section. To avoid personal injury, study the following precautions and insist those working with, or for you, follow them.

Replace any CAUTION, WARNING, DANGER or instruction safety decal that is not readable or missing. Locations of decals are indicated in this booklet.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions in the operator's manual with all users annually.

Operators should be responsible adults who are familiar with machinery and trained in the equipment's operations. Do not allow persons to operate or assemble this unit until they have read this manual and the owner's manual and have developed a thorough understanding of the safety precautions and scraper operation.

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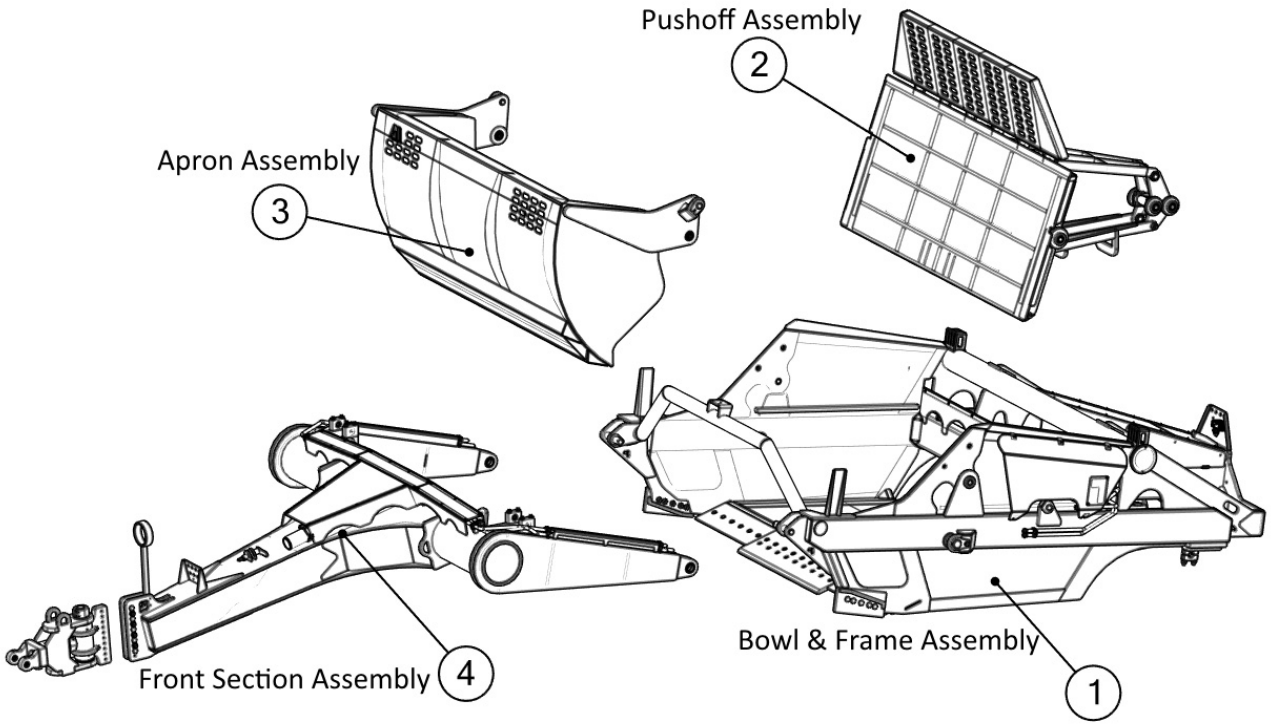
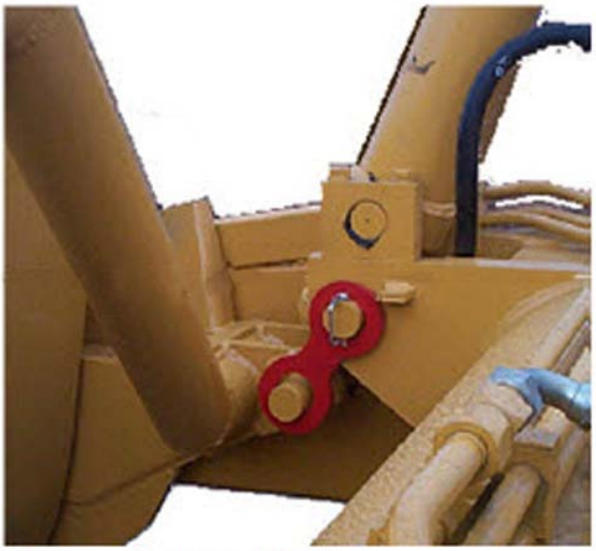
ASHLAND SCRAPERS

Assembly - 220TS4-003



ITEM	PART	DESCRIPTION
1	701014	Bowl and Frame Assembly
2	702011	Pushoff Assembly
3	703006	Apron Assembly
4	704018	Front Section Assembly

Transport Locks (TS)

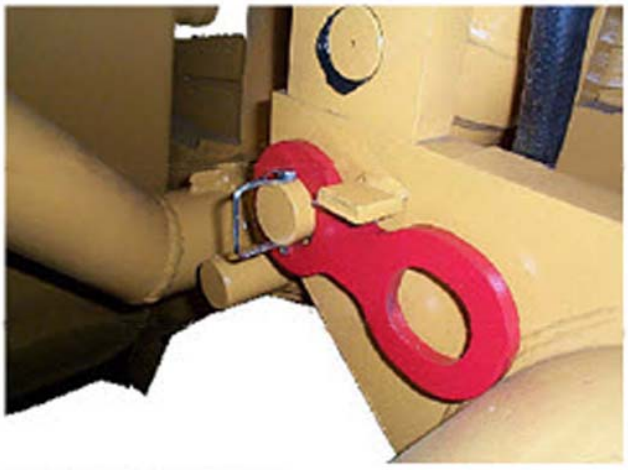


Transport position

Please locate red Transport Links and remove prior to operation.

Retract Lift Cylinder Circuit, remove safety snap pin, remove link

and replace into storage position shown below. Reinstall safety snap pins.



Storage position

PART	DESCRIPTION
A123320-20	Transport Lock

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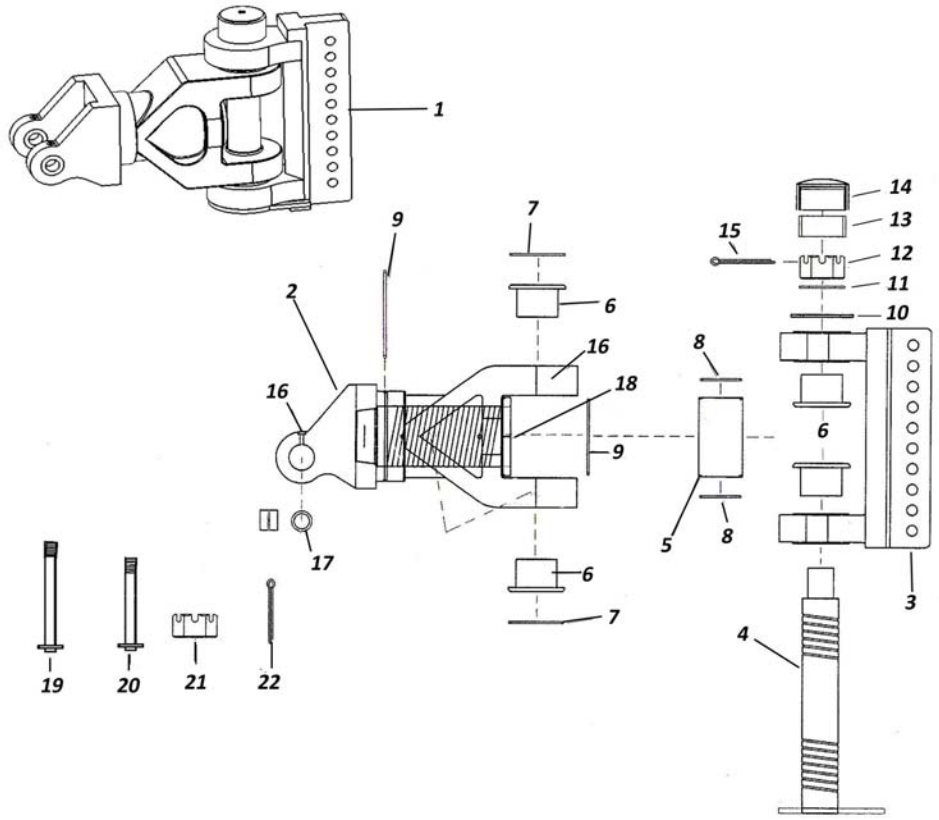
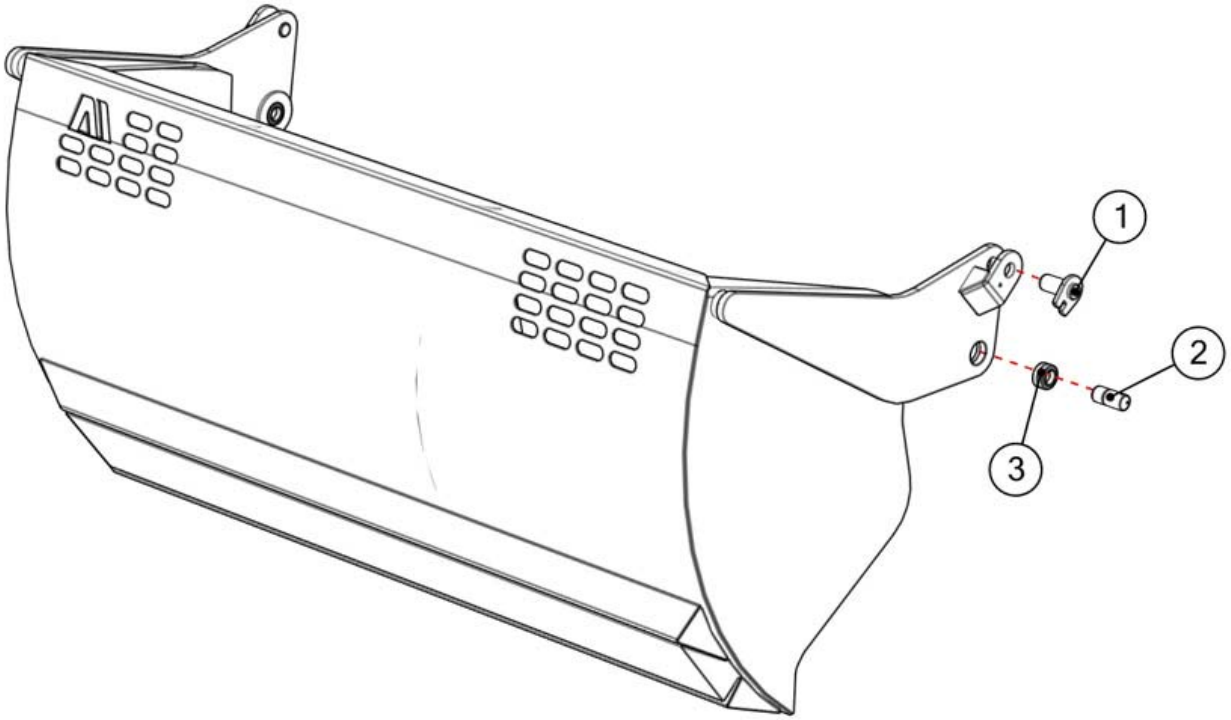
Swivel Hitch (#A125224)



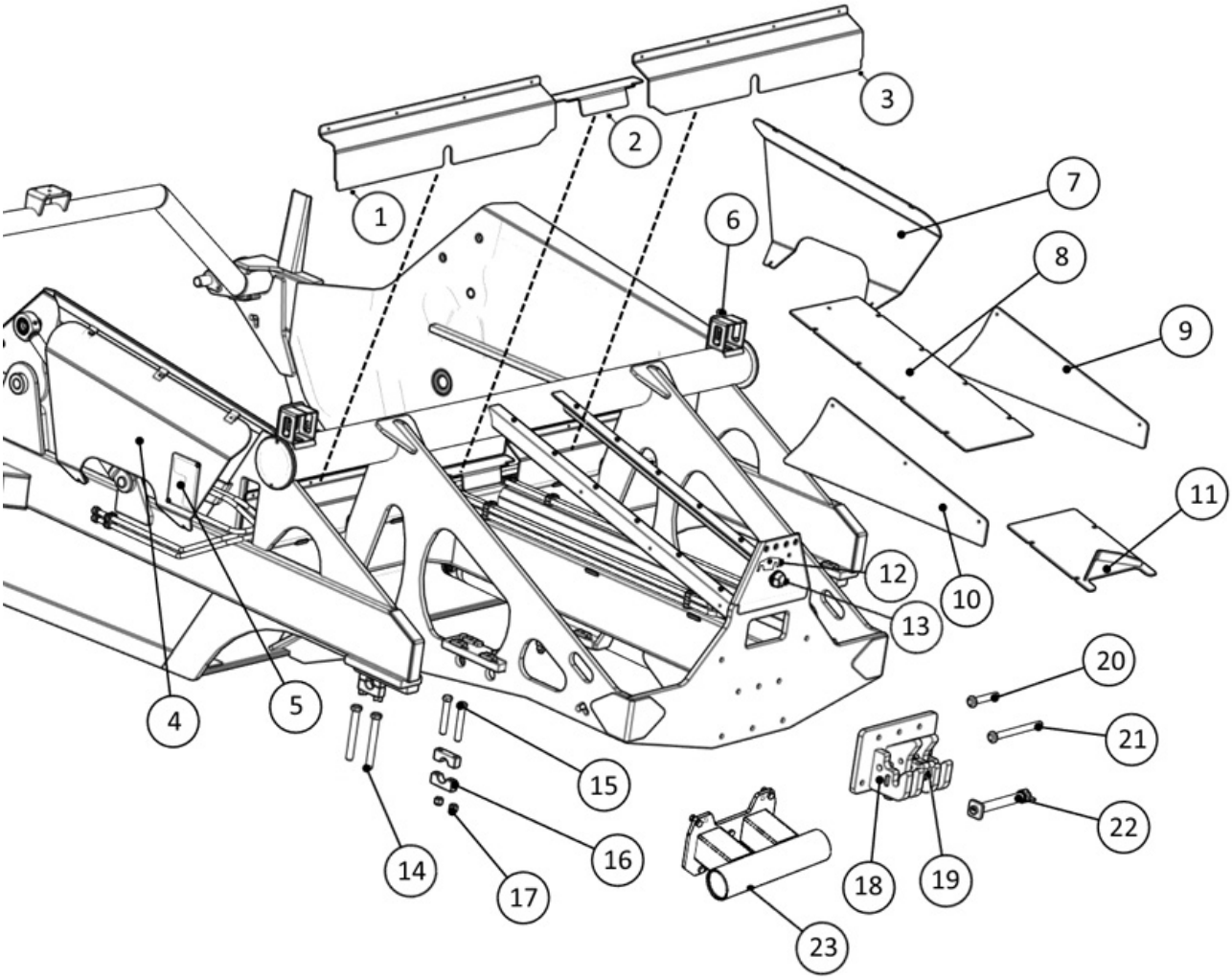
ITEM	PART	DESCRIPTION
1	A125224	Swivel Hitch: 360 deg. cast
2	A125224-01	Yoke: A-Frame Swivel
3	A125224-03	Bracket: 10 Hole
4	A125224-04	Pin: Main Vertical
5	A125224-05	Spacer Tube
6	A125224-07	Bushing
7	A125224-08	Seal: O-ring
8	A125224-09	Seal: O-ring
9	A125224-10	O-ring
10	A125224-13	Spacer: 6"
11	A125224-14	Washer: 2 1/2"
12	A125224-15	Nut: Slotted 2 1/2" NC
13	A125224-16	Sleeve: 2" Rubber
14	A125224-17	Cap: For Vertical Pin
15	A125224-18	Pin: Cotter 3/8 X 5"
16	14505	Grease Fitting Straight
17	A125057-02A	Bushing
18	AHF-00027	Zerk 45 deg.
19	A123299-08	Pin: Four Ear Drawbar to Hitch 1 1/2" x 15 5/8"L
20	A123299-07	Pin: Two Ear Drawbar to Hitch 1 12" X 12 5/8"L
21	AFN-00014	Nut: 1 1/2" Slotted
22	AFP-00001	1/4" X 3" Cotter Pin

Apron - 703006



ITEM	PART	DESCRIPTION
1	A123322-14	Pin, Apron Cyld. Rod End
	A123358	(Fastener) Bushing, Pin Keeper
	AFB-00079	(Fastener) Bolt: 5/8 X 1 1/2" Hex Cap
2	A123321-113	Pin, Apron Pivot
3	A125257-35	Bushing: 2" ID Ball

Bowl & Frame - 701014



ITEM	PART	DESCRIPTION
1	502543	Guard: Rear
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
2	502545	Guard: Hyd, Rear Center
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
3	502544	Guard: Rear
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
4	501504	Guard: Apron Cylinder
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
5	501512	Guard: Pivot - Valve
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
6	A125410	Light: 4" Round Amber LED
7	501513	Guard: Apron Cylinder RH
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
8	501994	Guard: Pushoff Top
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw

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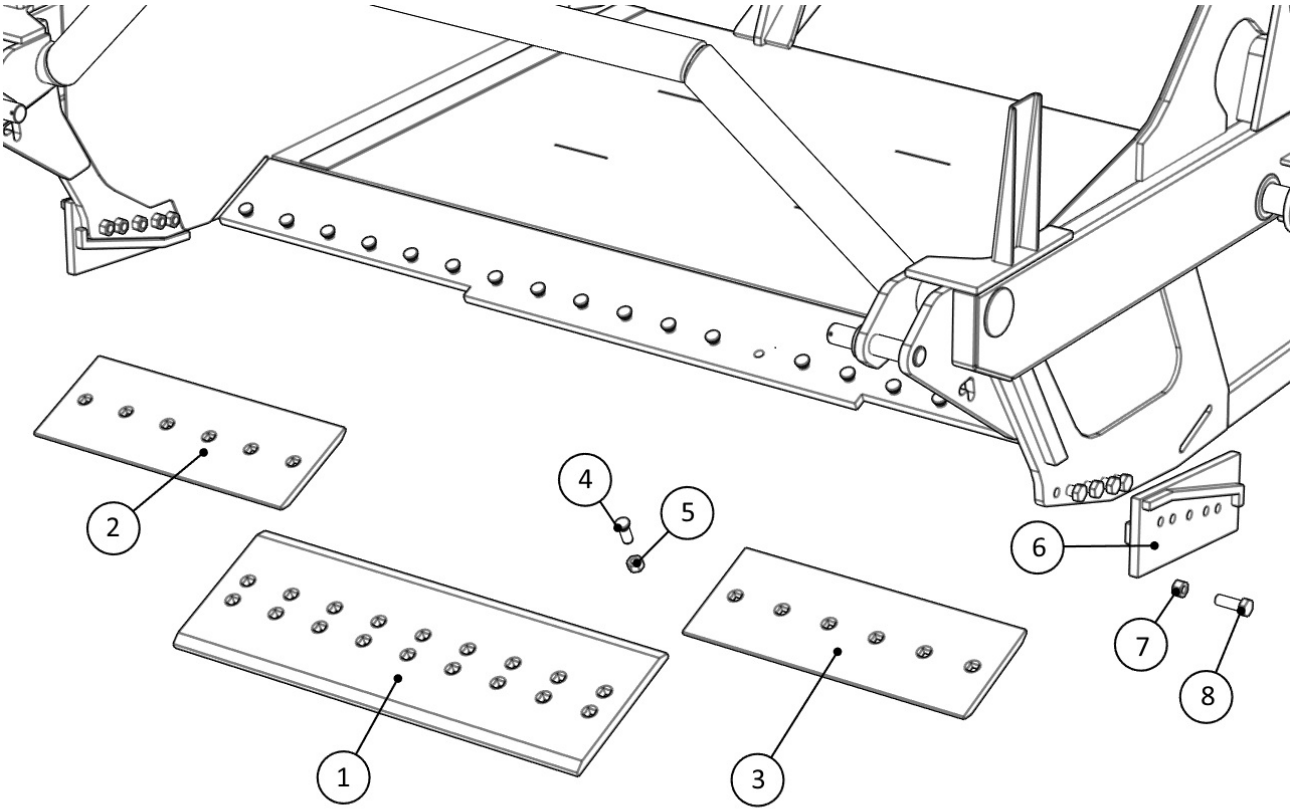
Bowl & Frame - 701014

ITEM	PART	DESCRIPTION
	AFW-00022	(Fastener) Washer: 3/8" Flat
9	501650	Guard: Rear Frame
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
10	501650	Guard: Rear Frame
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
11	600842	Guard: Rear Frame
	AFB-00094	(Fastener) 3/8X 1" Hex Cap Screw
	AFW-00022	(Fastener) Washer: 3/8" Flat
12	500966	Plate: Shim Axle Clamp
13	A125447	Socket: 7 Way Electrical Connector
14	AFB-00135	(Fastener) 1 X 9" Gr 8 Hex Cap Screw
15	AFB-00024	(Fastener) 1 X 7" Gr 8 Hex Cap Screw
16	500205	Mount Block: Axle
17	AFN-00074	(Fastener) Nut: 1" Gr 8 Lock Nut
18	600476	Hitch: Rear Weldment
	AFB-00018	(Fastener) 1" X 3" Gr 8 Hex Cap Screw
	AFN-00037	(Fastener) Nut: 1" Gr C Top Lock
19	600363	Center Lug: Quick Hitch
20	600480	Pin Assy: Quick Hitch-Short
21	600452	Pin Assy: Quick Hitch-Long
	Keeper	(Fastener)
22	CNH 84268964	Pin Assy: CNH DB (with nut & cotter pin)
23	600478	Pushbar, Bumper
	AFB-00018	(Fastener) 1" X 3" Gr 8 Hex Cap Screw
	AFN-00037	(Fastener) Nut: 1" Gr C Top Lock

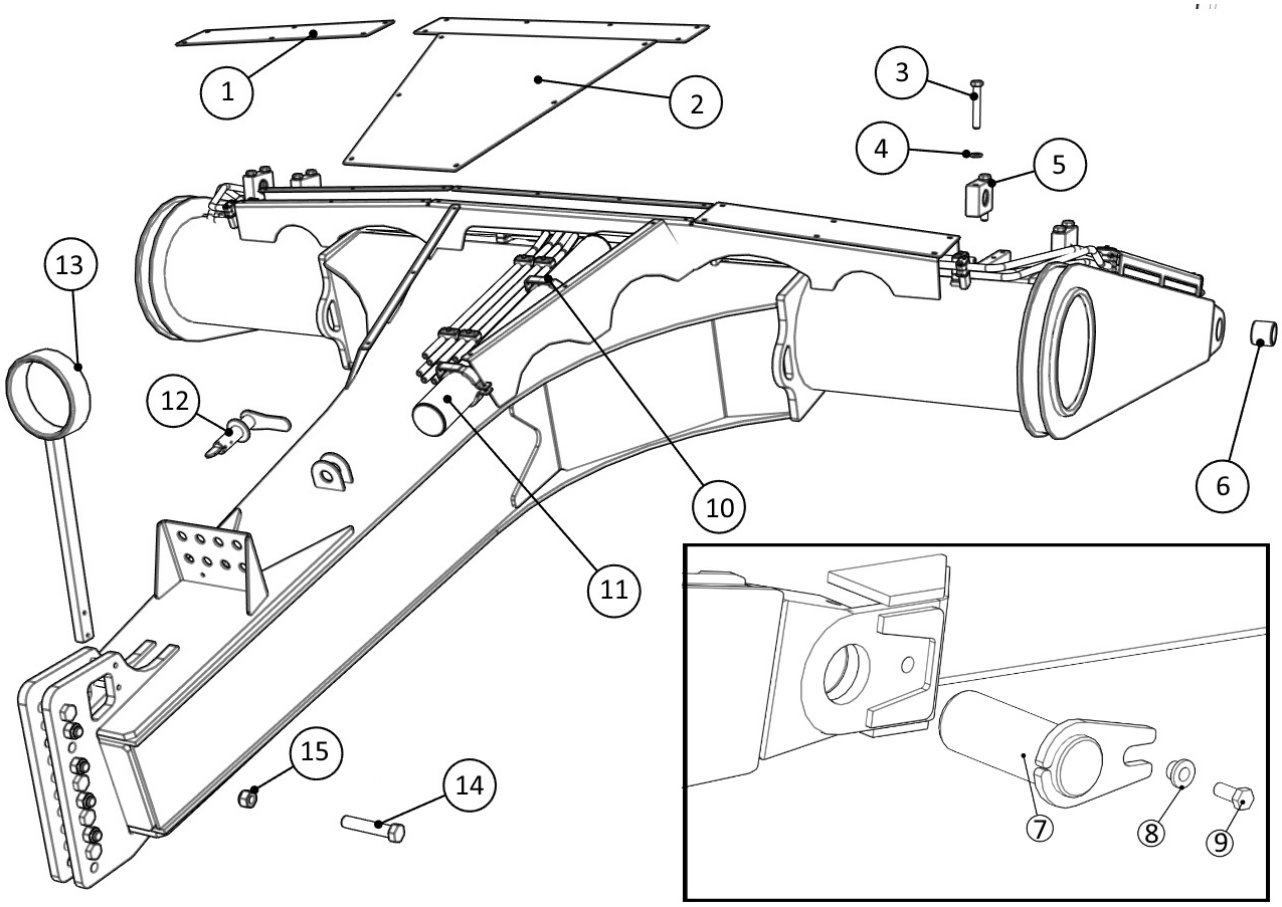
Bowl & Frame - 701014-Blades



ITEM	PART	DESCRIPTION
1	A125072	Blade: Center 1 1/8 X 18 x 54 1/4" Straight (reversable)
2	A125103	Blade: Corner 7/8 X 13 X 35 9/32" Straight
3	A125103	Blade: Corner 7/8 X 13 X 35 9/32" Straight
	500788	Blade (Optional): Str. Corner Leveling
4	PB1P-NC-100-0275	(Fastener)
5	AFN-00012	(Fastener)
6	A123357	Blade: Router Bit
7	AFN-00012	(Fastener)
8	AFB-00018	(Fastener)

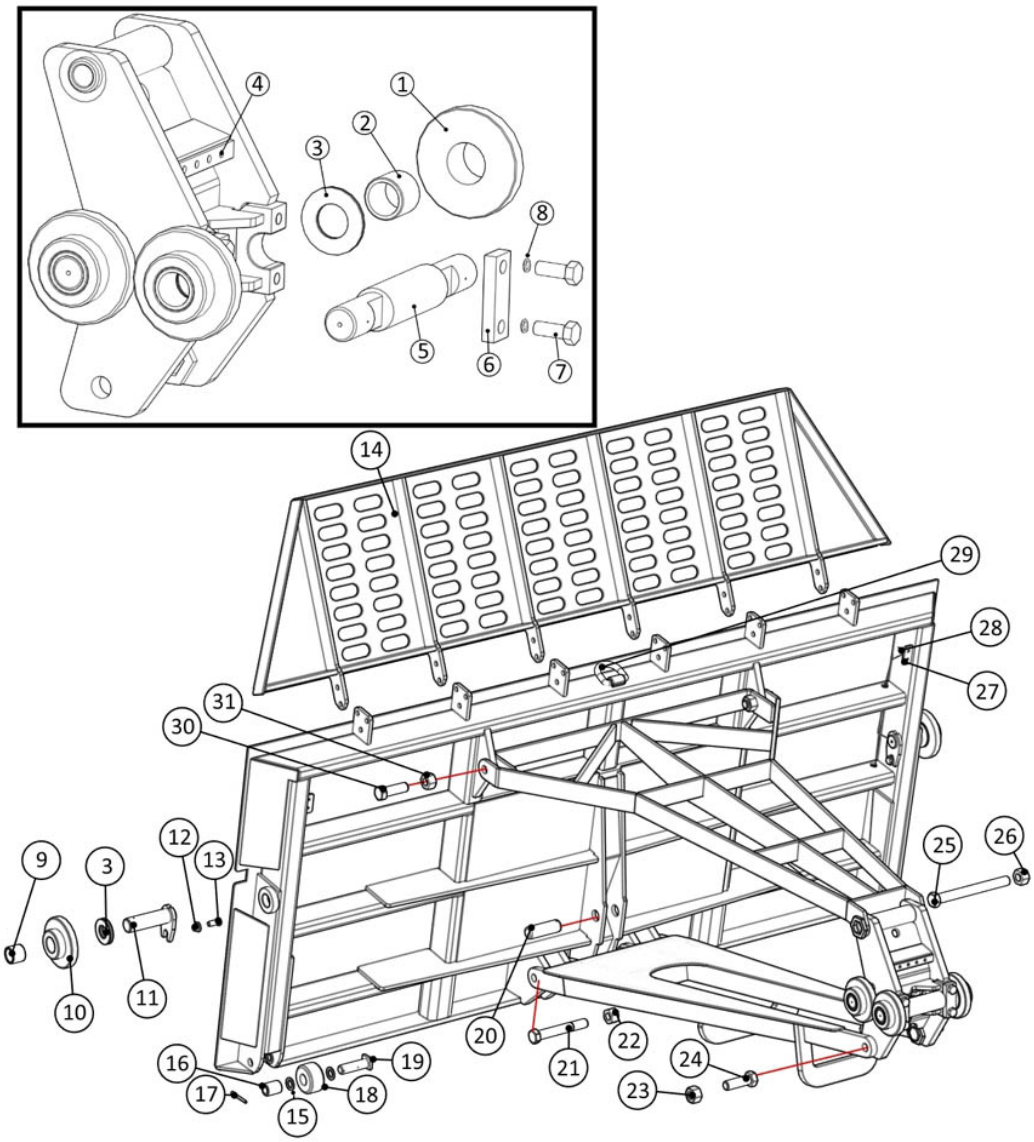
ASHLAND SCRAPERS

704018 - 215/220



ITEM	PART	DESCRIPTION
1	502513	Guard: Front Sect. Side Cover
	AFB-00094	Fastener: Bolt 3/8 X 1" Gr 5 Hex
2	502508	Guard: Front Section Cover
	AFB-00094	Fastener: Bolt 3/8 X 1'" Gr 5 Hex
3	AFB-00039	Bolt: 3/4 X 5 1/2" Gr 8 Hex Cap Screw
4	AFW-00024	Washer: 3/4" Flat
5	502143	Trunion Mount Block
6	A123320-08	Bushing: Bronze
7	A123321-09	Pin: Main Frame
8	A123358	Bushing: Pin Keeper w/Flange
9	AFB-00079	Bolt: 5/8 X 1 1/2" Gr 8 Hex Cap Screw
10	A125009	Accumulator Bracket
11	A125005	Accumulator
12	600121	Lock Pin: Apron
13	600119-C	Hose Holder Assembly
14	AFB-00021	Bolt: 1 X 5 1/2" Gr 8 Hex Cap Screw
15	AFN-00037	Nut: 1"

Push-Off - 702011



ITEM	PART	DESCRIPTION
1	501617	Roller: Push-off Guide
2	501619	Bushing: 2" ID
3	501598	Spacer/Shim
4	A125022	Grease Line: 18" assy
5	501615	Spinde: Push-off
6	501550	Flat Clamp
7	AFB-00037	Bolt: 3/4 X 2" Hex Cap
8	AFW-00002	Washer: 3/4" Split Lock
9	A14039	Bushing: 2"ID X 2 3/8"OD X 2"L
10	502049	Roller: Pushoff Hold Down
11	A123323-23	Pin: Upper Roller
12	A123358	Bushing: Pin Keeper
13	AFB-00079	Bolt: 5/8 X 1 1/2" Gr 8 Hex Cap
14	601032	Spill Plate Assembly: tiltable
	AFB-00037	(Fastener) Bolt: 3/4 X 2" Hex Cap

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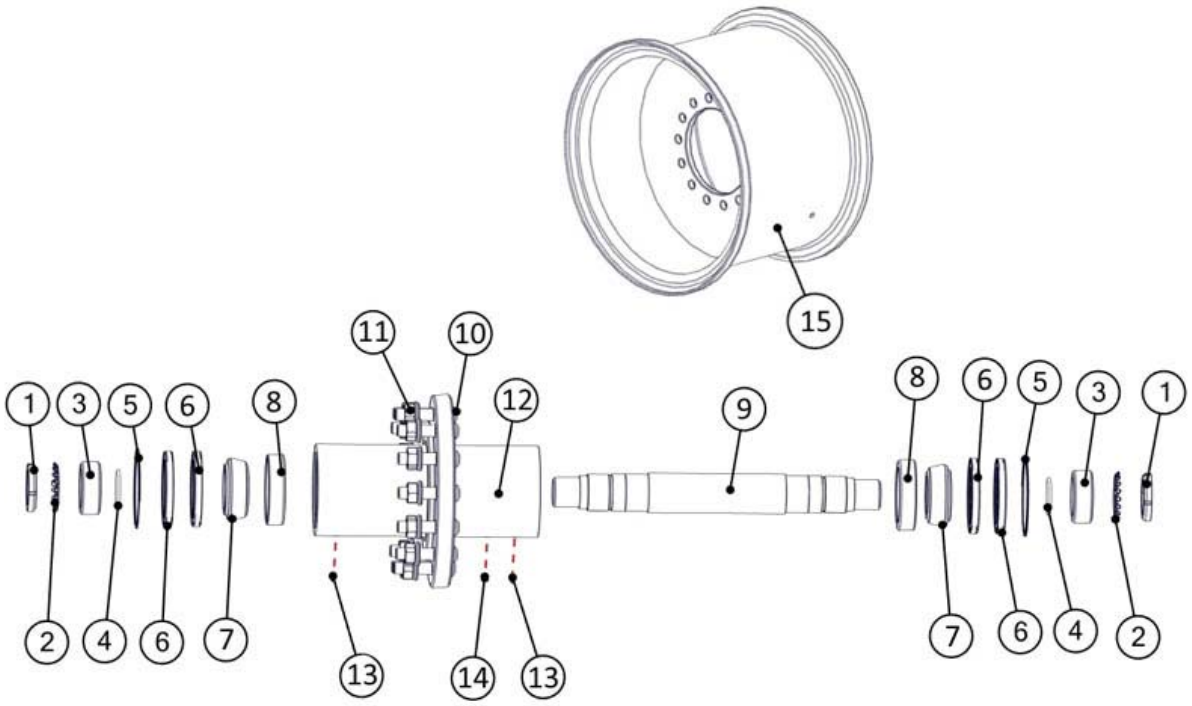
Push-Off - 702011

ITEM	PART	DESCRIPTION
	AFW-00002	(Fastener) Washer: 3/4" Split Lock
	AFN-00006	(Fastener) Nut: 3/4" Gr 8 Hex Nut
15	AFW-00015	Washer: 1 1/4" Flat
16	A10163	Bushing: Roller
17	AFP-00001	Cotter Pin
18	A10164	Roller: Gate Front Floor Roller
19	A123323-21	Pin: Lower Roller
20	501511	Pin: Pushoff Cylinder
21	AFB-00109	Bolt: 1 1/4 X 9" Gr 8 Hex Cap Screw
22	AFN-00039	Nut: 1 1/4" Hex Jam
23	AFN-00039	Nut: 1 1/4" Hex Jam
24	AFB-00076	Bolt: 1 1/4 X 4 Gr 8 Hex Cap Screw
25	AFB-00147	Bolt: 1 1/4 X 13 Gr 8 Hex Cap Screw
26	AFN-00039	Nut: 1 1/4" Hex Jam
27	A125021	Grease Line: 54" assy
28	A125020	Grease Line: 32" assy
29	A125334	D-ring 3/4 X 4 1/2"
30	AFB-00076	Bolt: 1 1/4 X 4 Gr 8 Hex Cap Screw
31	AFN-00039	Nut: 1 1/4" Hex Jam

Rear Wheel - 600456



ITEM	PART	DESCRIPTION
1	A125202	Nut: Spindle 2 3/4"
2	A125203	Washer: Tab Lock
3	500140	Spacer: Bearing
4	A130H13	Seal: O-Ring
5	A125204	Retaining Ring
6	400221	Seal: Grease
7	A14015	Bearing Cone: Outer
8	A14014	Bearing Cup: Outer
9	502424	Axle: 3" dia. X 25L
10	A125236	Stud
11	A125229	Nut: Wheel flanged
12	600705	Hub: 14 Hole
13	14505	Fitting: 1/8"
14	A125466	Vent: Pressure
15	400068	Wheel: 17 X 25" 14 Hole

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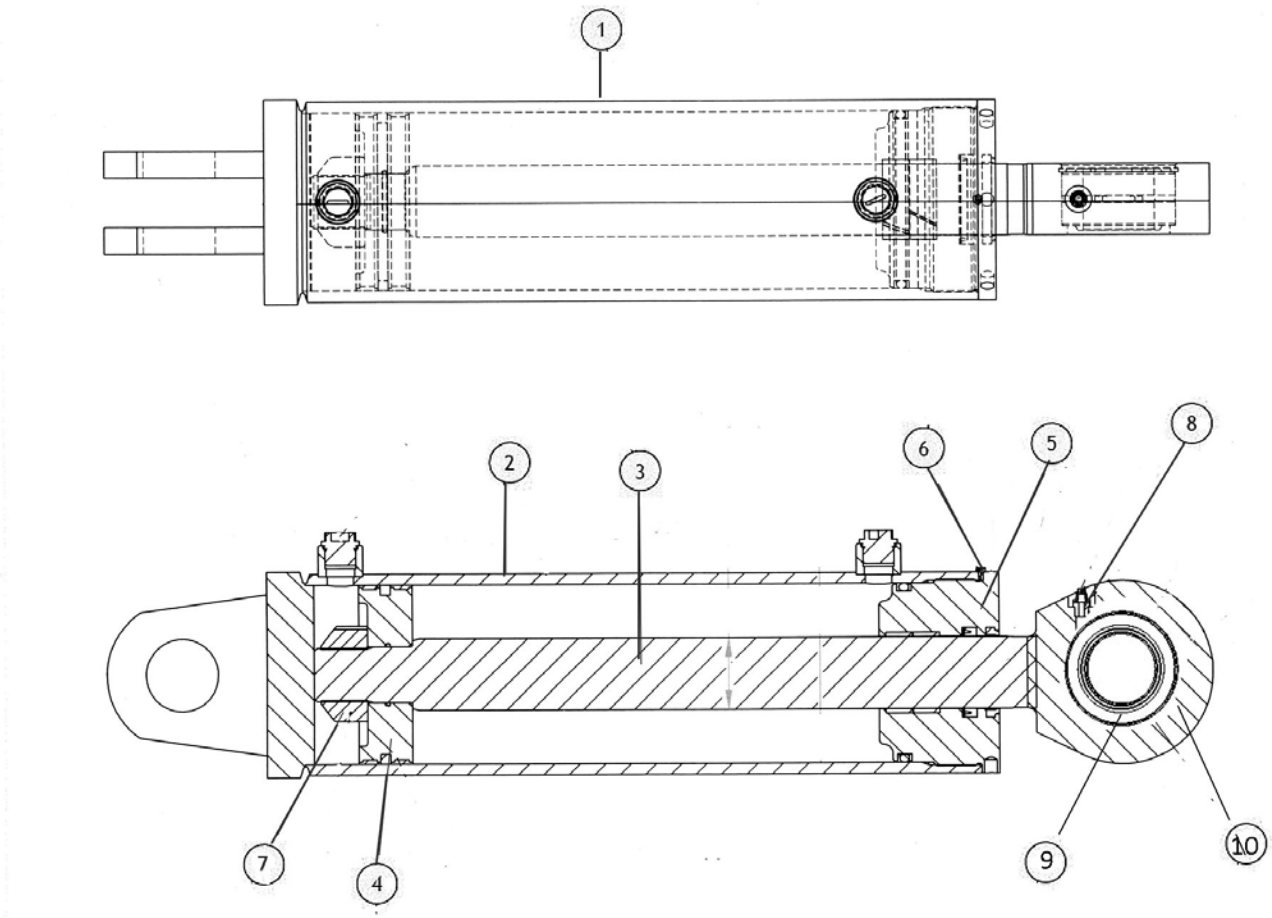
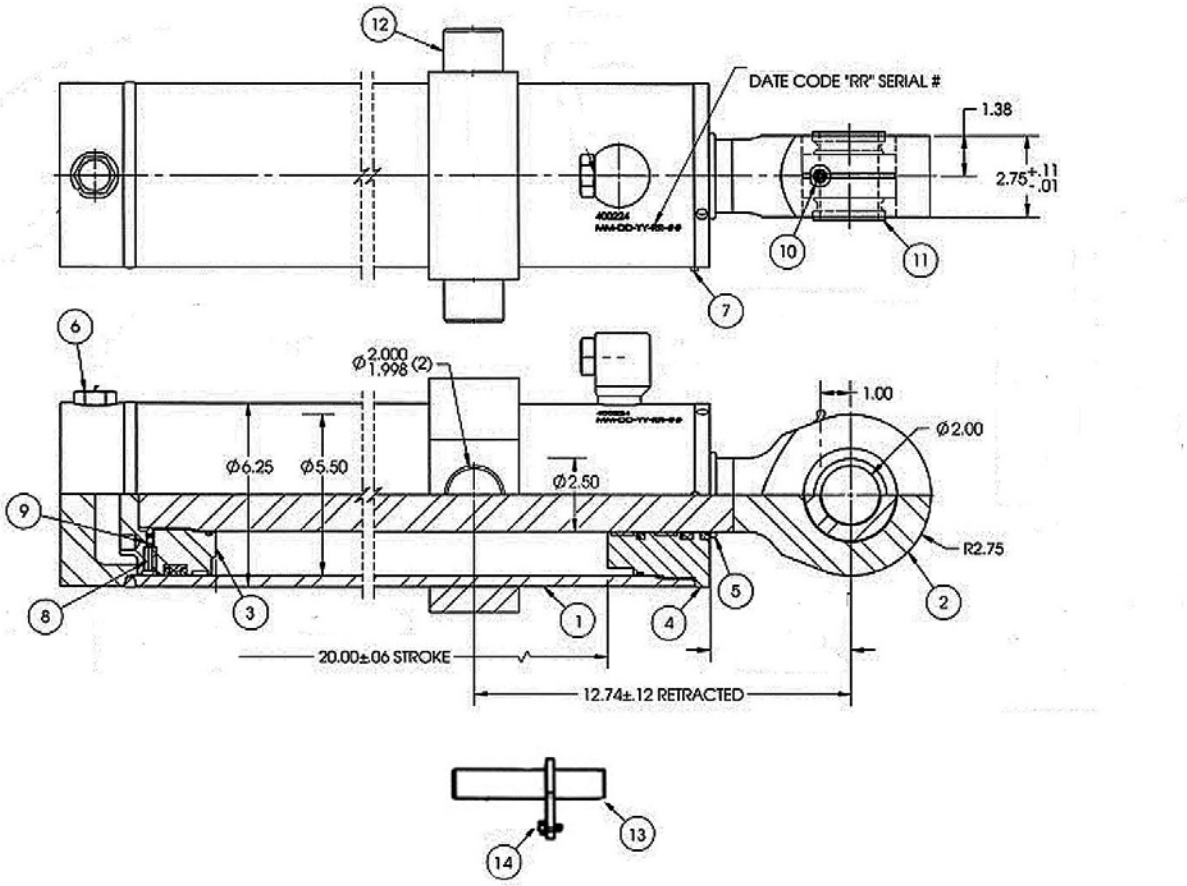
Apron Cylinder - 400047



ITEM	PART	DESCRIPTION
1	400047	APRON CYLINDER (4 x 13)
2	J204146B	Barrel
3	J302792B	Rod
4	J401404A	Piston
5	J501491B	Rod Bearing Assembly
6	J711127A	Locking Screw
7	J712049A	Self Locking Nut
8	J717000A	Grease Fitting
9	A125257-35	Bushing
10	A125257-36	Snap Ring

ASHLAND SCRAPERS

Lift Cylinder - 400224



ITEM	PART	DESCRIPTION
	400224	LIFT CYLINDER (5.5 X 20)
1	201870	Barrel Assembly
2	301537	Rod
3	400692	Piston
4	500847	Head Gland
5	703332	O-Ring
6	710085	O-Ring Plug
7	711004	Self-Tapping Screw
8	713103	Dowel Pin
9	715045	SHSS Cone
10	717002	Grease Fitting
11	720019	Bearing
12	714149	Pin Covers
13	600221	Pin Assembly: Front Sec. Lift
14	AFB-00128	Bolt: 1/2 X 1 Gr 5

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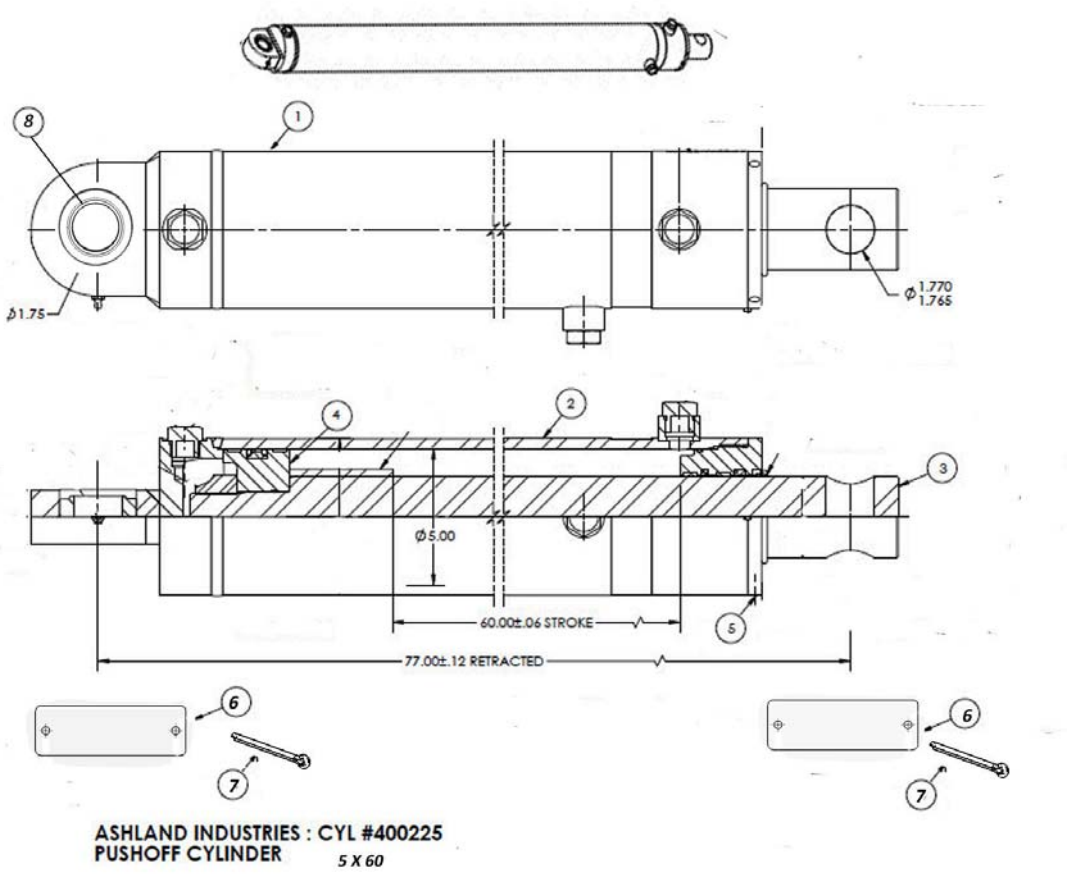
Push-Off Cylinder - 400225



ITEM	PART	DESCRIPTION
1	400225	PUSH-OFF CYLINDER (5 X 60")
2	201872P	Barrel
3	301539P	Rod
4	411079P	Piston
	432007	Seal Kit
5	511202P	Head Assy.
	432008	Seal Kit
6	501511	Pin
7	AFP-00001	Cotter Pin
8	720006P	Bushing

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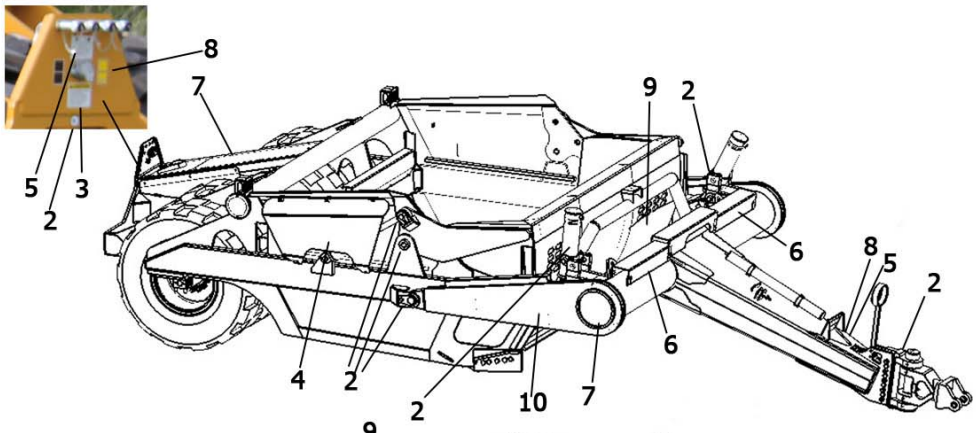
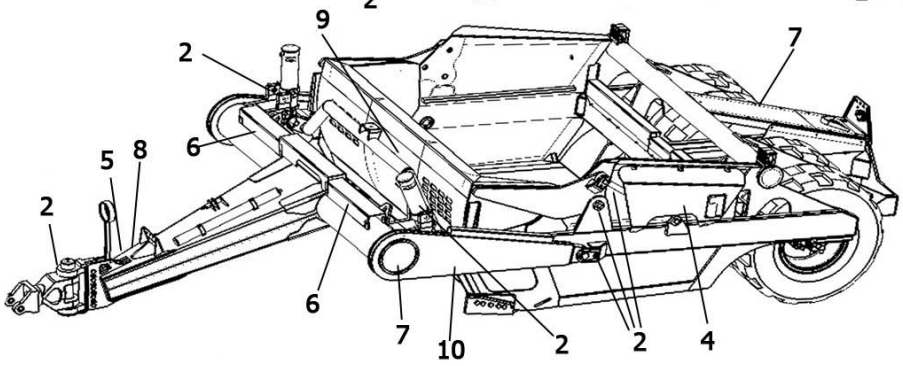
Decals (220TS4)





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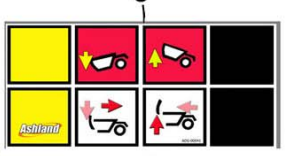

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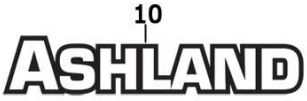

Scraper Decals

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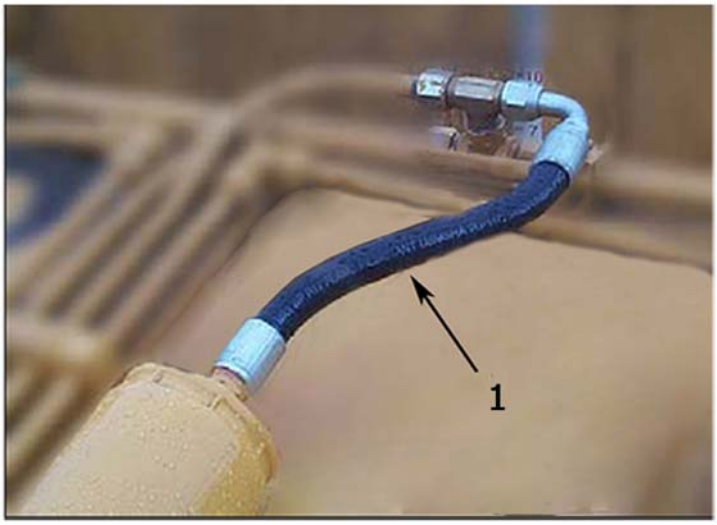
Scraper Decals

ITEM	PART	DESCRIPTION
1	ADS-00011	Pinch Point
2	ADS-00019	Grease Point
3	A123286	Depth Gauge
4	750464	High Pressure Fluid Hazard
5	ADS-00064	Small "Ashland"
6	ADS-00065	Large "Ashland"
7	ADS-00047	Transport Lock Advisory
8	ADS-00065	AI Logo Large
9	ADS-00054	Tighten Bolt Guide
10	ADS-00041	Plumbing Controls
11	ADS-00015	'Caution' Tandem Use
12	ADS-00060	Model 220TS4 Badge
13	ADS-00059	Model 215TS2 Badge
14	ADS-00058	Model 175XL2 Badge
15	ADS-00063	Model TS2 Badge Insert
16	ADS-00057	Model 155XL2 Badge
17	ADS-00067	Model 140XL2 Badge
18	ADS-00055	Model 950 Badge
19	ADS-00073	Model 25 CS Badge
20	ADS-00076	Mdel 2014 CS Badge
21	ADS-00070	Model 50 CS Badge
22	ADS-00072	Model 2500 SS Badge

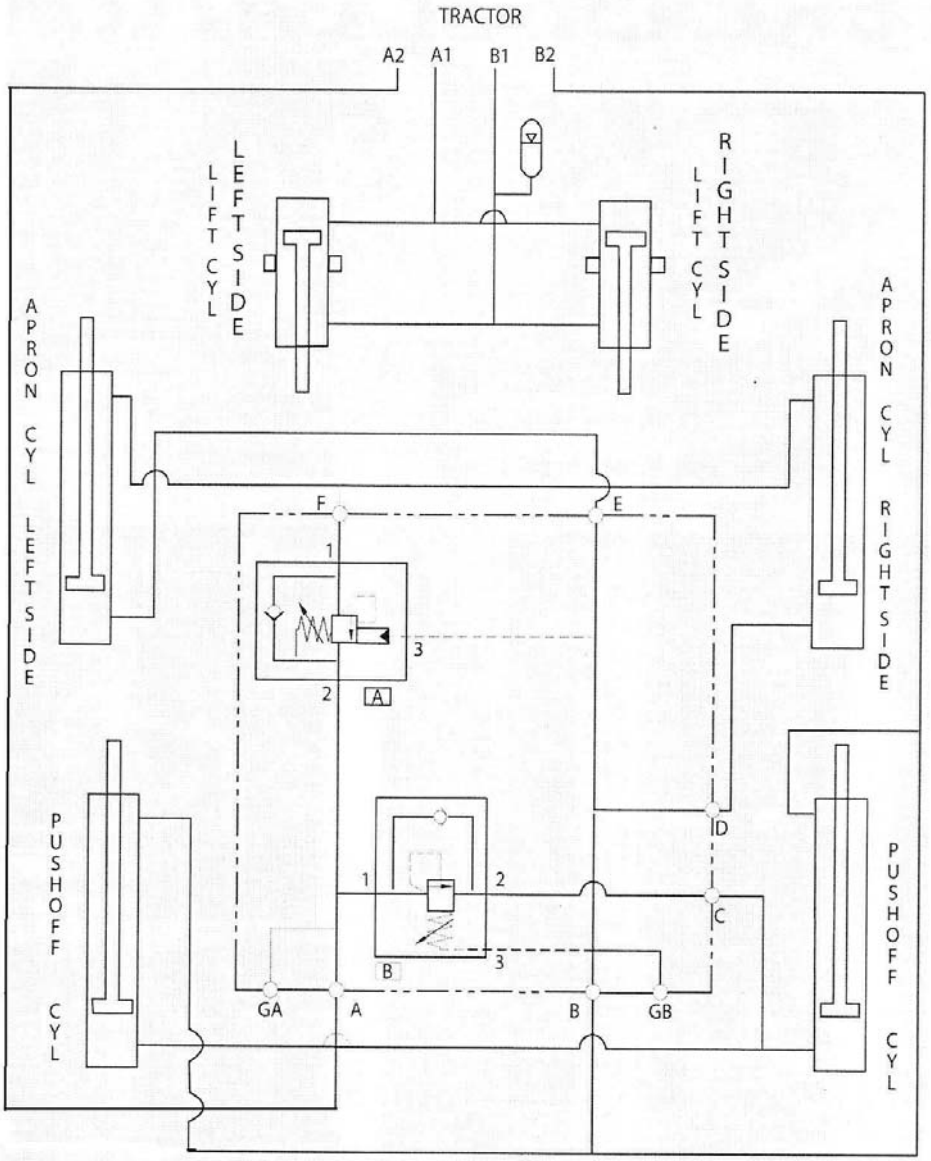
Hydraulic Accumulator



ITEM	PART	DESCRIPTION
1	A155H67	Hose, 3/4" X 16" MORB with sweep
2	A125009	Bracket, Welded with bolts
3	A125005	Accumulator Cylinder (Optional on 140TS models)

Hydraulic Schematic

I-220TS4 Hydraulic Schematic

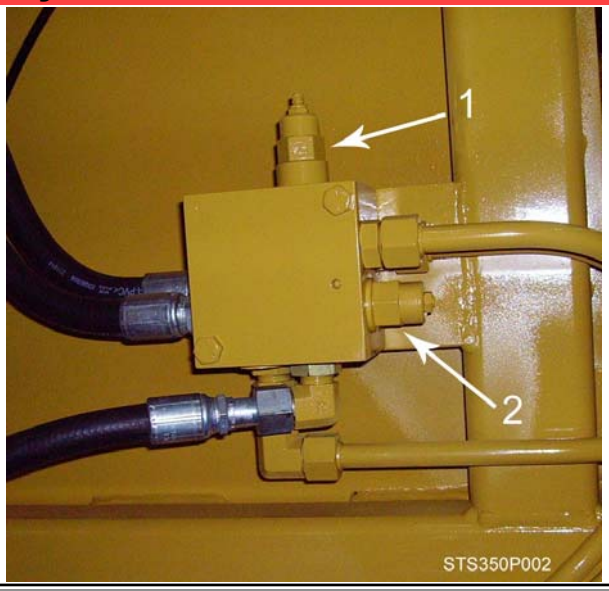


PORT GA AND GB are pressure test ports

A - Counter balance cartridge

B - Sequence cartridge

Hydraulic Manifold - A125174



ITEM	PART	DESCRIPTION
1	A125162-02	PUSHOFF SEQUENCE CARTRIDGE
2	A125162-01	COUNTER BALANCE CARTRIDGE

SETTING THE APRON AND PUSHOFF VALVE

The manifold block containing the pushoff sequence valve cartridge and apron sequence valve cartridge is used to control two hydraulic circuits with one hydraulic remote. When the tractor hydraulic remote is activated, oil flows first to the apron cylinders until they are fully extended. Once the cylinders are fully extended, the apron circuits' hydraulic pressure begins to increase. Once the pressure threshold is surpassed (which is adjustable. See adjustment section), the sequence valve diverts the oil flow to the pushoff's hydraulic circuit. Once the push off is completely extended the operator then reverses the tractors hydraulic remote. The counterbalance valve will hold the apron open until the push off is fully retracted. The Apron sequence valve then opens and allows the apron to close.

Setting the valves:

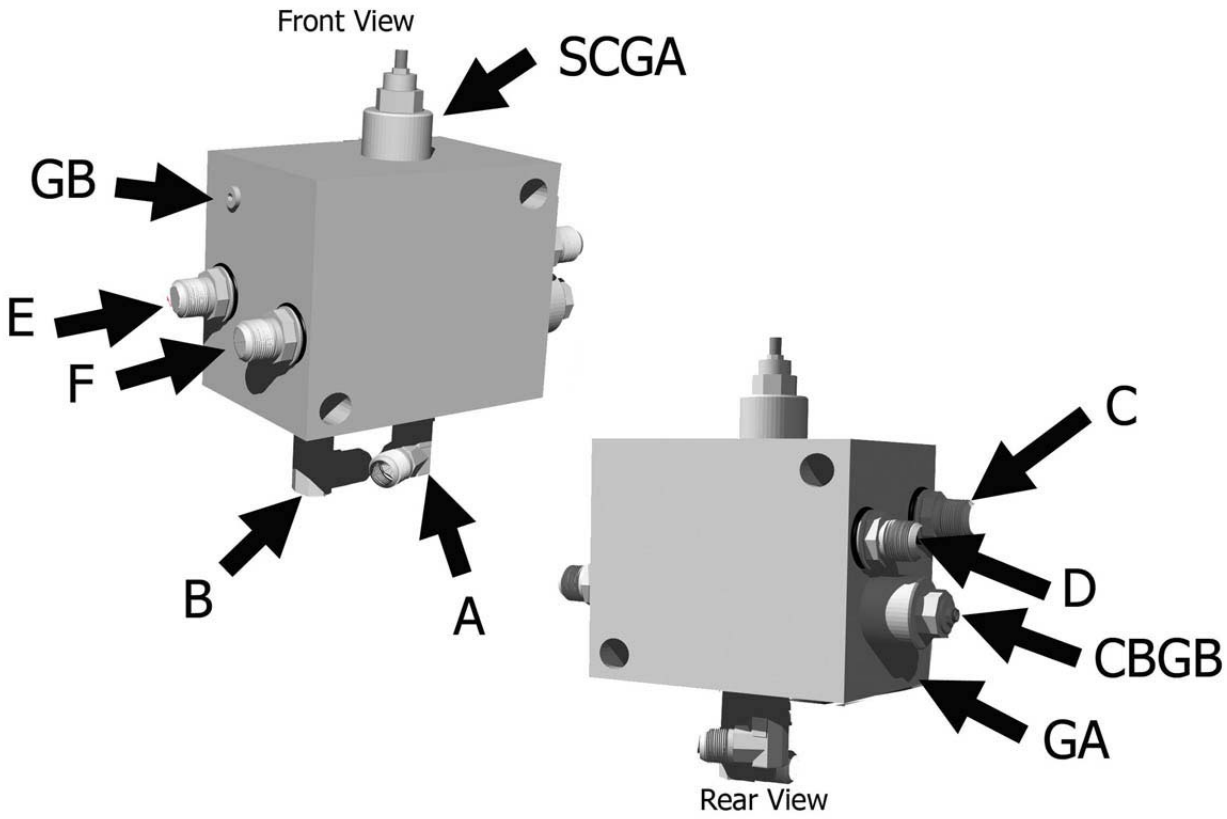
STEP 1 PUSHOFF SEQUENCE VALVE

Loosen the lock nut (9/16") on the sequence valve cartridge. Turn the setscrew (4mm) clockwise until the front apron rises before the push-off begins to advance. (Earthmover should be empty) Turn the adjustment screw an additional 1/4 turn clockwise and tighten jam nut.

STEP 2 COUNTER BALANCE VALVE

Loosen the lock nut (9/16") on the counterbalance valve cartridge. Turn the setscrew (4mm) counter-clockwise until the apron holds in a raised position while rear gate is being retracted. Turn adjustment screw an additional 1/4 turn, tighten jam nut. DO NOT tighten adjusting screw more than necessary.

Hydraulic Valve Ports-215-220

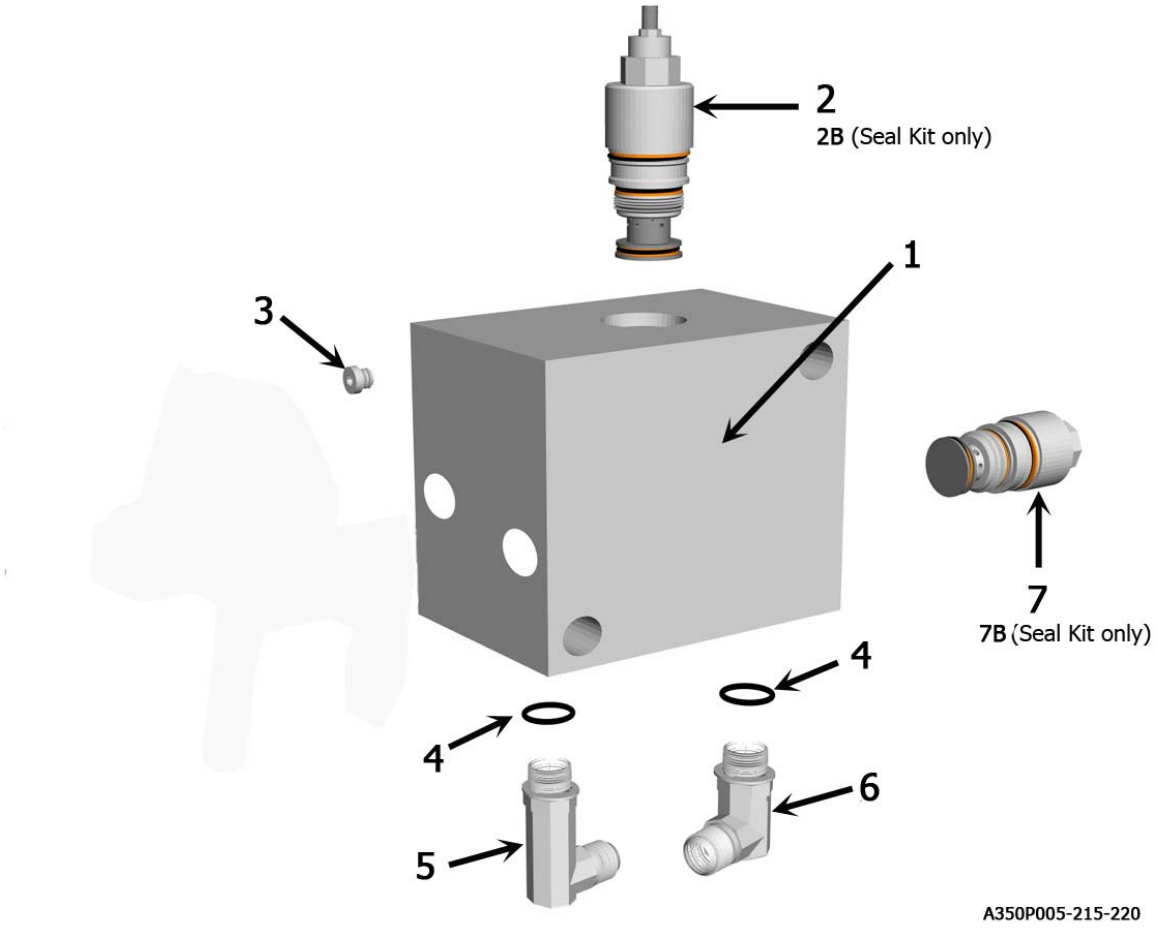


The lettering for the port locations are stamped on the block

A350P010

ITEM	PART	DESCRIPTION
A		Supply Line
B		Pushoff Cyl. (Rod End)-apron Cyl., Rightside (Base End)-Supply Line
C		Pushoof Cylinder, (Base End)
D		Apron Cylinder, Right Side (Rod-End)
E		Apron Cylinder, Left side, (Base End)
F		Apron Cylinder, Left side, (Rod End)
CBGB		Counterbalance Valve, adjustable
SCGA		Sequence Valve, adjustable
GA		Pressure test port
GB		Pressure test port

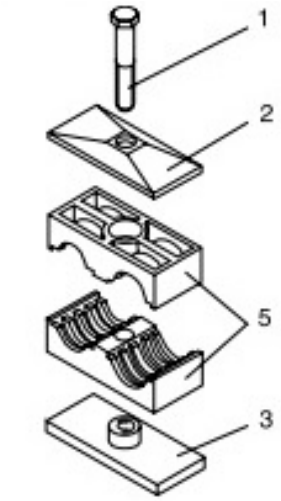
Hydraulic Valve Seals-215-220



ITEM	PART	DESCRIPTION
1	A125174	Valve: Manifold Block IV Body
2	A125162-02	Valve: Sequence Cartridge for Ver. III & IV
2b	A125162-02 KIT	Seal Kit for A125162-02 Valve Cartidge
3	AHS-00046	6 ORB Plug
4	AHS-00153	O-Ring for 12 M ORB Fitting
5	AHA-00047	Adapter: 90 Deg. XL 3/4 MJX 1 1/6 M ORB
6	AHA-00044	Adapter: 90 Deg. 3/4 MJ X 1 1/6 M ORB
7	A125162-01	Valve: Counterbalance Cartridge for Ver. III & IV
7b	A125162-01 KIT	Seal Kit for A125162-01 Valve Cartridge

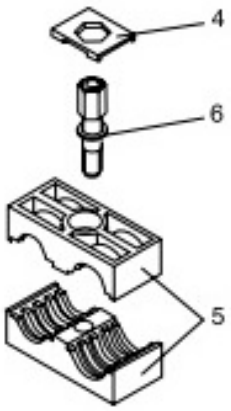
ASHLAND SCRAPERS

Hydraulic Plumbing Clamps



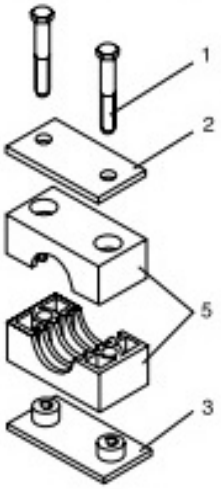
Twin Clamp with Weld Plate

AHL-00002



Twin Clamp Stacking Module

AHL-00022



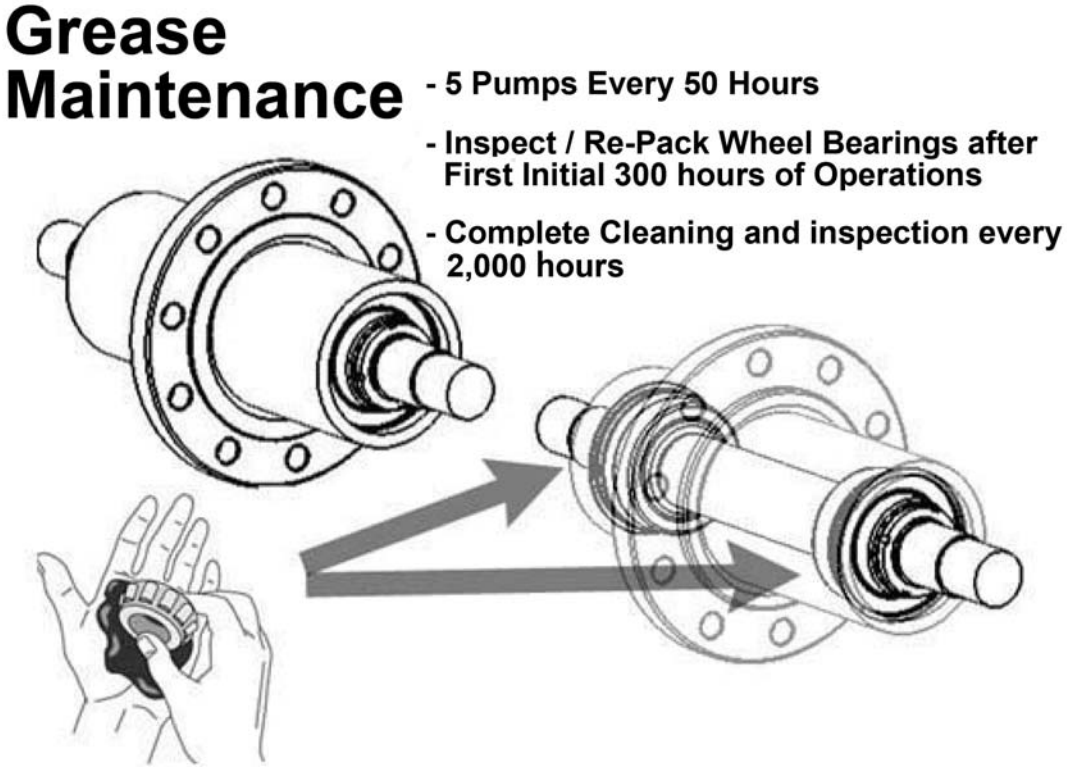
Single Clamp with Weld Plate

AHL-00001

Parts Legend

1	Hex Head Bolt	5	Clamp Pair
2	Top Plate	6	Stacking Bolt
3	Weld Plate		
4	Safety Plate		

Axle Service Recommendations



The bearings within the rear axle of the scraper are fully greased with a Mobilgrease XHP 222 series grease at the factory. This series of grease is an extended service lithium complex greases intended for a wide variety of applications and severe operating conditions. Ashland uses special bearing grease packer to ensure the bearing is effectively & evenly lubricated. Generous amounts of additional grease are added on both sides of the bearing prior to install within the hub.

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

1. Remove old lubricant and thoroughly clean spindle.

2. Inspect machined spindle seal surface for nicks, scratches, burrs or marks. If needed, use crocus cloth or emery cloth to repair damaged areas.

3. Clean spindle threads thoroughly with a wire brush to avoid false bearing adjustments and to avoid introduction of contaminates into the hub.

4. Thoroughly clean spindle machined surfaces of rust, dirt, grease or other contaminants that could damage the hub seal and cause it to leak.

Axle Service Recommendations

Mobilgrease XHP™ 222

Mobilgrease XHP 222, part of the Mobilgrease XHP™ 220 series, is an extended service lithium complex greases intended for a wide variety of applications and severe operating conditions. These greases were designed to outperform conventional products by applying cutting edge, proprietary, lithium complex manufacturing technology. They are formulated to provide excellent high temperature performance with superb adhesion, structural stability and resistance to water contamination. These greases have a high level of chemical stability and offer excellent protection against rust and corrosion. These greases feature high dropping points and maximum recommended operating temperature of 140º C (284°F).

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 wear of the rolling elements and then component failure.

Service: Grease Locations TS

Trunion Cylinder Points

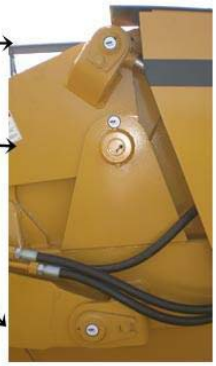
Hitch Points

Grease Line - Rear

Apron Rod End

Apron Pivot

Main Frame Pivot



Hold Down and Floor Rollers

Rear Push-Off Cylinder (Inside)

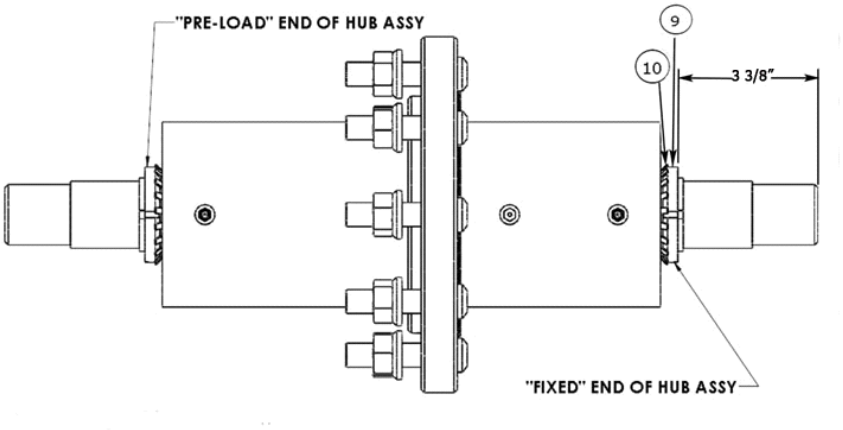
Service: Grease Locations TS

Lubrication Points (see Ill.)

1. Hitch – Horizontal and vertical pins.
2. Lift Cylinders – Rod end & Base End; Both left & right sides.
3. Front Arm Pivot Joint – Both left & right sides.
4. Apron Cylinders – Rod clevis pin; Both left & right sides.
5. Apron Pivot Pin – Both left & right sides.
6. Hold-down Rollers – Both left & right sides.
7. Floor Rollers – Both left & right sides.
8. Tapered Rollers – Both left & right sides.
9. Hubs

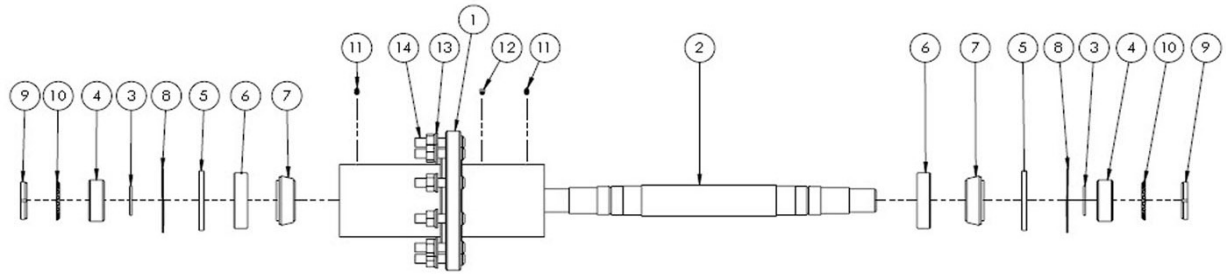
Hub-Axle Assembly

1. Lubricate bearings cones (item 7,X2).
2. Install (1) bearing cones onto axle.
3. Install new o-rings (item 3, x2) onto axle.
4. Install bearing spacer against lubricated bearing.
5. Install (1) lockwasher against bearing spacer with internal tab positioned in keyway of axle.
6. Installl (1) locknut. Torque to 50 ft-lb. Bend appropriate lockwasher tab into locknut slot.
7. Install axle assembly into hub from “fixed” end.
8. Repeat steps 2-5 for parts on “pre-load” end of hub.
9. Install locknut and torque as follows:
    - Initial torque locknut to 200 ft-lb.
    - Back off locknut one full turn.
    - Rotate axle at least 5 revolutions.
    - Torque locknut to 50 ft-lb while rotating axle.
    - Back off locknut 1/4-1/2 turn.
    - Final torque locknut to 55-65 in-lb.
10. Bend appropriate lockwasher tab into locknut slot.
11. Lubricate seals and install into hub.
12. Install retaining rings (item 8,x2).



Hub-Axle Disassembly

1. Disengage lock tab on “pre-load” side of axle lockwasher (item 10).
2. Remove axle locknut (item 9) and lockwasher (item 10).
3. Remove seal retaining rings (item 8, x2).
4. Remove hub seals (item 5, x2).
5. Remove axle (item 2) out “fixed” end of hub.
6. Remove bearing spacers (item 4, x2).
7. Remove bearing cones (item 7, x2).
8. Remove o-rings from axle (item 3, x2).



ASHLAND INDUSTRIES
PH: 715-682-4622 FX: 715-682-9717

ASHLAND SCRAPERS

Scraper Specifications 220TS4

I-220TS4 SPECIFICATIONS

CAPACITY, STRUCK	16 cu yd
CAPACITY, HEAPED	22 cu yd
OVERALL DIMENSIONS: Length Width Height	 339 in. 143 in. 97.5 in.
APRON CLEARANCE:	56”
WEIGHT: (empty) Std. Rear Tire Opt. Radial Tire	25,420 lbs. 26,090 lbs.
CUTTING WIDTH:	126 in.
GROUND CLEARANCE:	18 in.
DEPTH OF CUT:	8 in.
BLADE: 5 pc. Center Corner Router	 1 1/8 x 18 x 54.25 in. 7/8 x 13 x 35/5 in. 1 x 9 x 20 ¼ in.
CYLINDERS: Apron Lift Pushoff	 Two (5 x 13) in. Two (5.5 x 20) in. One (5 x 60) in.
HORSEPOWER REQUIREMENTS: Single (Tractor)	 400 + hp

Tire Inflation

ASHLAND INDUSTRIES

TIRE INFLATION & TORQUE CHARTS

TIRE INFLATION (PSI)				
Scraper Model	Front Tire Size (XL)	Max PSI	Rear Tire Size	Max PSI
25			11L-15.8 8 Ply	36
50			16.9-24 8 Ply	24
950	16.5L-16.1 10 Ply	36	16.9-24 8 Ply	24
140	550/45-22.5" 16 Ply	51	18.4-26 18 ply	28
140 LGP	550/45-22.5" 16 Ply	51	23.5-25 20 Ply	54
155	20.5-25 12 Ply	51	29.5-25 28 Ply	62
175	20.5-25 12 Ply	51	29.5-25 28 Ply	62
175 (Big Tire)	23.5-25 20 Ply	54	29.5-25 28 Ply	62
215 TS			20.5-25 20 Ply	62
220			20.5-25 20 Ply	62
2014CS				

On new machines, the wheels should be retorqued after the first two hours of use. Then check tires daily to ensure correct inflation levels. Check tire pressure with an accurate gauge having 6.9 kPa (0.07 bar) 1 psi) gradations. Check tires daily to ensure correct inflation levels. Also check for:

- Tire Damage
- Loose or missing wheel lugs, nuts or caps
- Uneven wear
- Damaged Rims

Torque Ft-lbs	Lug nuts (by model
85-100	900-950
450	110-140
450	155-175 front
750	155-175 rear
450-500	220
450-500	2014
Torque Ft-lbs	**Bolt Diameter**
12	¼"
25	5/16"
45	3/8"
70	7/16"
110	½"
150	9/16"
220	5/8"
380	¾"
600	7/8"

Maintenance Check List

1. Grease all zerks.
   a) Every 8 hours of operation.
   b) See Lubrication Points section on next page.

2. Greasing the hubs.
   a) Re-pack wheel bearings after 300 hrs of operation.
   b) Completely clean grease out of hub and bearings every 1200 hours of operation.

3. Check tire pressure.
   a) See Tire Pressure Chart.

4. Check all pins for signs of wear.
   a) Daily

5. Check wheel lug nut torque.
   a) After first 2 hours of operation.
   b) Recheck daily for next 2 weeks.
   c) Tighten wheel lug nuts in a star pattern.
   d) Torque wheel lug nuts (See Torque Specifications).

6. Check and retighten all bolts.
   a) After initial 10 hours of use.
   b) Again after 50 hours of use.
   c) See Torque Specifications.

7. Inspect cutting edges.
   a) Daily
   b) Replace cutting edges when center blade has been worn to approximately 6” and side edges worn to approximately 4”.

CAUTION! Failure to replace worn cutting edges may result in unnecessary wear to the earthmover sides and floor.

Note: Please specify left or right “L” shaped cutting edges when ordering replacements. Left or right side parts are determined by viewing from rear of the scraper.

Service: Tire Service

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 specific procedures. 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.

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.

- ALWAYS wear personal protection equipment such as gloves, footwear, eye protection, hearing protection and head gear when servicing tire and wheel components.
- DO NOT operate with damaged rims, tire cuts or bubbles, missing lug bolts or nuts or damaged rims.
- ALWAYS maintain the correct tire pressure. NEVER exceed recommended tire inflation pressure.
- 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.
- NEVER reinflate a tire that has lost air pressure or has been run flat without determining and correcting the problem.
- NEVER 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.
- 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.
- NEVER weld or cut on an inflated tire assembly. Welding heat can cause increased pressure which could result in tire explosion.
- ALWAYS use proper lifting techniques, and mechanized lifting aids to move heavy components and assemblies.
- NEVER leave a tire, wheel, or assembly unsecured in a vertical position.
- ALWAYS take care when moving tires and wheels that other people in the area are not endangered.

Tools Required

SAE Tool Sizes Required to Service Ashland Scrapers

Direct-Mount Scrapers	I-215 -220
Hitch	.
Hitch Pin	2-1/4"
MDU Hitch	3-3/4"
Super Swivel Hitch	3-3/4"
Secure Hitch to Front Section	1-1/2"
Dolly-Wheeled Scraper	
Sockets	
Ball	
Front Section	
Trunion Blocks	1-1/8"
Accumulator Clamps	3/4"
Plumbing	
Steel Hyd. Lines	1-1/4"
Steel Hyd. Lines Clamps	1/2"
Rubber Hyd. Lines 3/4"	1-1/16"1-1/4"1-3/8
Rubber Hyd. Lines 1/2"	
Bulk-Head adaptors	1-3/8"
Dirt Shields	9/16"
Plumbing	
Steel Hyd. Lines	1-1/4"
Steel Hyd. Lines Clamps	1/2"
Rubber Hyd. Lines 3/4"	same
Rubber Hyd. Lines 1/2"	same
Blades	
Blades	1-1/2"
Automatic Sequencing Valves	
Cartridge, Sequence Jam Nut	9/16" Jam Nut
Cartridge, Sequence, Adj. Set-Screw	5/32" Allen Wrenc
Cartridge, Counter Balance, Jam Nut	9/16" Jam Nut
Cartridge, Counter Balance, Adj Set-Screw	5/32" Allen Wrenc
Pressure relief valve, Cap & Jam Nut	
Pressure relief valve, Adj. Set-Screw	
Ejector	
Dirt Shields, Ejector	3/4"
Braces	1-7/8"
rollers	15/16"
Slides	1-1/8"
Wear pads	
Wheels	
Hub, Internal	
Hub, wheel nuts or bolts	
Axle	1-7/8" 2"
Brakes (VCE machines only)	
Brakes	
Miscellaneous	
Grease fitting	5/16"7/16"
Grease Lines	7/16"1/2"
Apron Pivot Pins	
Dirt Shields	9/16"

Troubleshooting

With proper care and maintenance, your Ashland Scraper will give many years of reliable service. When a situation arises where the earthmover performance is not satisfactory, this section will give some pointers on finding and correcting the problem.

Grease zerk will not take grease.

1. Grease zerk plugged.
   a) Remove and replace grease zerk.
2. Pin is frozen.
   a) Remove, clean, and inspect pin.
   b) Replace pin if necessary.
3. Bushing grease passage is not aligned with grease zerk.
   a) Remove, clean, inspect, and realign bushing.
   b) Replace bushing if necessary and realign.

Push-off rollers do not roll.

1. The rollers need lubrication.
   a) Check zerk hole and grease.
   b) Remove pin, clean, inspect, and replace if necessary.
2. The roller bushing is worn out.
   a) Remove roller assembly and replace bushing.
   b) See parts manual.

Cylinders will not hold in preset position, i.e. the cylinder creeps.

1. Seals leaking internally.
   a) Remove and replace seal kit.

Machine cuts unevenly.

1. Cutting edges worn unevenly.
   a) Replace cutting edges.
2. Improperly inflated tires.
   a) Check air pressure in tires.

Warrantee Statement

The Purpose of Warranty

Ashland Industries 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.

Dealer 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 Inc. 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 Inc. 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.

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.

Warrantee Statement

Other Warranty Provisions

The following guidelines are to be followed when performing warranty repairs:

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 Inc. These parts can be discarded if disposition or return request hasn't 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 Inc. 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.

Service Bulletins

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 in your dealer's yellow Ashland Sales Book. Return this form to Ashland Industries within 30 days of failure.

Use of Photos

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 may cases, the use of photos may eliminate the need to return parts for evaluation. Photos will not be returned unless specifically requested. Digital photography will also be acceptable and can either be mailed or email to warranty@ashlandind.com

Delayed Warranty Repairs

Warranty repairs should be scheduled and performed as soon as possible after notifying 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 in writing, 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.

Warrantee Statement

Limited Warranty Statement

Ashland Industries Inc. warrants each new product to be free from defects in material and workmanship. This warranty is applicable for products 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.

The major components of swivel hitches used on Industrial series scrapers are warranted for three consecutive months from the date of delivery of the new Ashland Industries 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, socket halves, 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.

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. make 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.