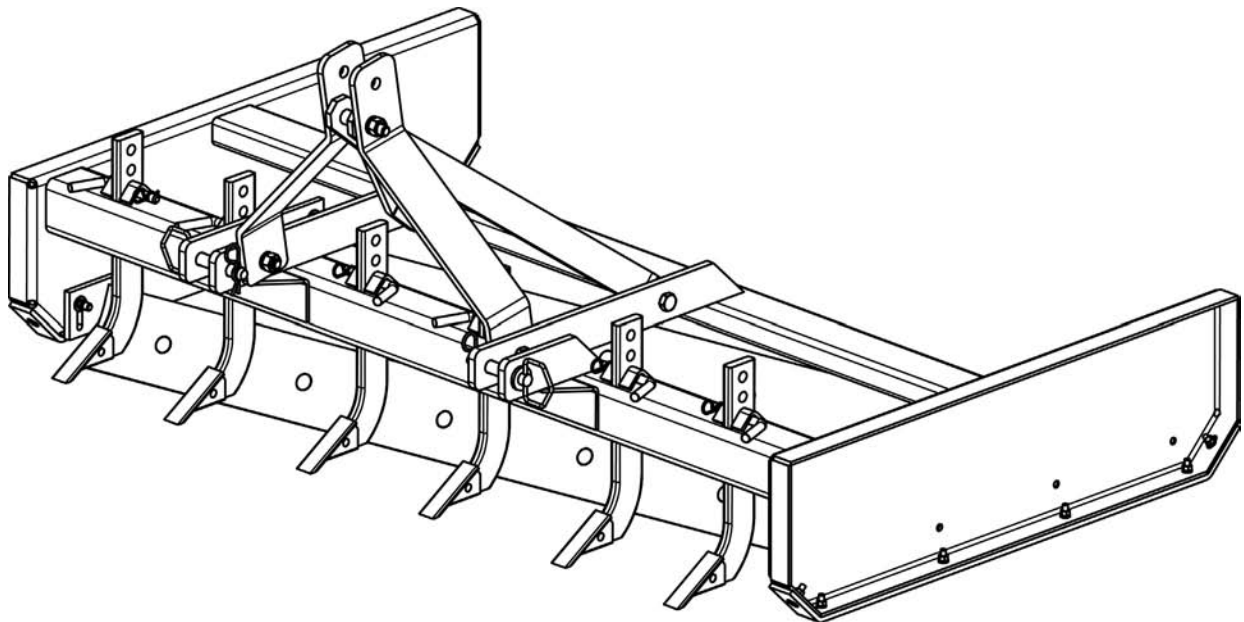


abiATTACHMENTS®

Operator's Manual

LAND PLANES / GRADING SCRAPERS

AILP60, AILP72, AILP84



The operator's manual is a technical service guide and must always accompany the machine.

Manual 980-398B

March 2015

SAFETY

Take note! This safety alert symbol found throughout this manual is used to call your attention to instructions involving your personal safety and the safety of others. Failure to follow these instructions can result in injury or death.



*This symbol means:
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!*

Signal Words

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal words for each have been selected using the following guidelines:



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



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It 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.

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1 - GENERAL INFORMATION

Thank you and congratulations for having chosen our implement. Your new land plane is a technologically advanced machine constructed of high quality, sturdy components that will fulfill your working expectations. Read this manual carefully. It will instruct you on how to operate and service your implement safely and correctly. Failure to do so could result in personal injury and/or in equipment damage.

1.01 - General



CAUTION: Right hand and left hand sides of the implement are determined by facing in the direction the implement will travel when going forward (see fig. 2).

1.02 - Warranty Information

Carefully read the Warranty section, detailing coverage and limitations of this warranty. **Warranty** is provided for customers who operate and maintain their equipment as described in this manual.

Warranty does not cover the following:

1. Cleaning, transporting, mailing and service call charges.
2. Normal wear items such as shanks, grading blades, skid shoes, etc.
3. Depreciation or damage caused by normal wear, accidents, improper maintenance, improper protection or improper use.
4. The use of non-original spare parts and accessories.

ABI has genuine parts in stock. Only these approved replacement parts should be used. This limited warranty covers defective material and workmanship. The cost of normal maintenance or repairs for accidents or improper use and related labor will be borne by the owner.

1.03 - Model and Serial Number ID

Attached to the frame is an ID plate showing the model and the serial number. Record your implement model and serial number in the space provided. ABI needs this information to give you prompt, efficient service when you order parts.

Model:	<input type="text"/>
Serial:	<input type="text"/>
Version:	<input type="text"/>

2 - SAFETY PRECAUTIONS

Safety is the primary concern in the design and manufacture of our products. Unfortunately our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment. It is the operator's responsibility to read and understand all safety and operating instructions in the manual and to follow these.

Allow only properly trained personnel to operate the implement. Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operation, to acquaint yourself with the machines. It is the owner's responsibility, if this machine is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating, reads and understands the operator's manuals and is instructed in safe and proper use.

2.01 - Preparation



1. Before operating equipment read and understand the operator's manual and the safety signs (**see fig. 2**).
2. Thoroughly inspect the implement before initial operation to assure that all packaging materials, i.e. wires, bands, and tape have been removed.
3. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining and/or repairing the implement.
4. Operate the implement only with a tractor equipped with an approved Roll-Over-Protective-System (ROPS). Always wear your seat belt. Serious injury or even death could result from falling off the tractor.
5. Clear area to be cut of stones, branches or other debris that might be thrown, causing injury or damage.
6. Before beginning operation, contact local utility companies to make certain there are no bundled gas lines, electrical cables, etc., in the work area.
7. Operate only in daylight or good artificial light.
8. Ensure implement is properly mounted, adjusted and in good operating condition.
9. Ensure that all safety decals are properly installed and in good condition.

2.02 - Starting and Stopping



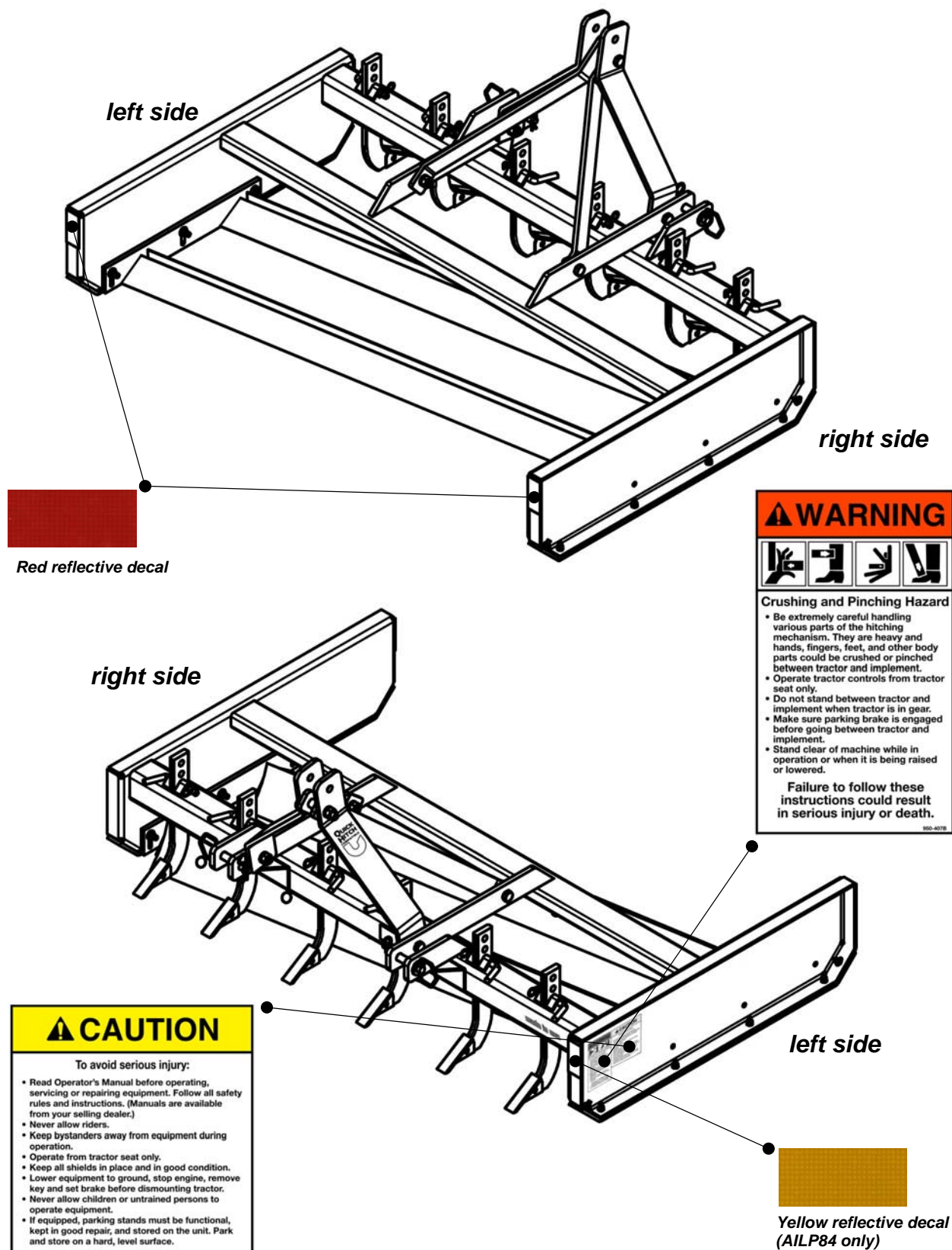
1. Be sure that no one is near the machine prior to engaging or while the machine is working.
2. Be sure the tractor is in "Neutral" before starting engine.
3. Equipment operating power is ground driven. Know how to stop the tractor quickly in case of an emergency.
4. After striking an obstacle, shut the tractor off, remove key and thoroughly inspect for damage before restarting.

2.03 - Messages and Signs



1. Read and adhere to all safety and operating decals on this machine (**see fig. 2**).
2. Before dismounting tractor: Allow moving parts to stop, stop engine, set brake and remove the key of unattended equipment.
3. Keep safety decals in place and in good condition.
4. Do not use with bystanders in area.
5. Allow no riders on tractor or implement.
6. Allow moving parts to stop before repair.
7. Securely support implement before working underneath.

Additional warning and operating decals are available at no extra charge. Please specify model and serial number when ordering.

Fig. 2 - Safety decals; replace immediately if damaged.

3 - OPERATION

You have purchased a land plane designed especially for leveling and grading applications for landscaping and maintenance operations with tractors ranging from 25 to 65 HP. While it can be used for a variety of duties it is an ideal machine for leveling farmland, construction sites and road projects. The land planes are available in 60", 72" and 84" working widths and are designed to be mounted on a category 1 three point hitch or to be used with a category 1 Quick Hitch system. All models are equipped with two bolt-on heat treated blades with reversible cutting edge and replaceable and reversible full length skid shoes bolted on the frame. These models are also equipped with adjustable or removable ripping shanks with replaceable tips. The grading blade carrier can be adjusted up to 1½" below the skid shoes. This feature will help control the desired level of blade penetration or may be used to lower the blades to ground level as the cutting edge wears out.

3.01 - Operational Safety



CAUTION: Our land planes are designed considering safety as the most important aspect and are the safest available in today's market. Unfortunately, human carelessness can override the safety features built into our machines. Injury prevention and work safety, aside from the features on our land planes, are very much due to the responsible use of the equipment. It must always be operated prudently following with great care, the safety instructions laid out in this manual.



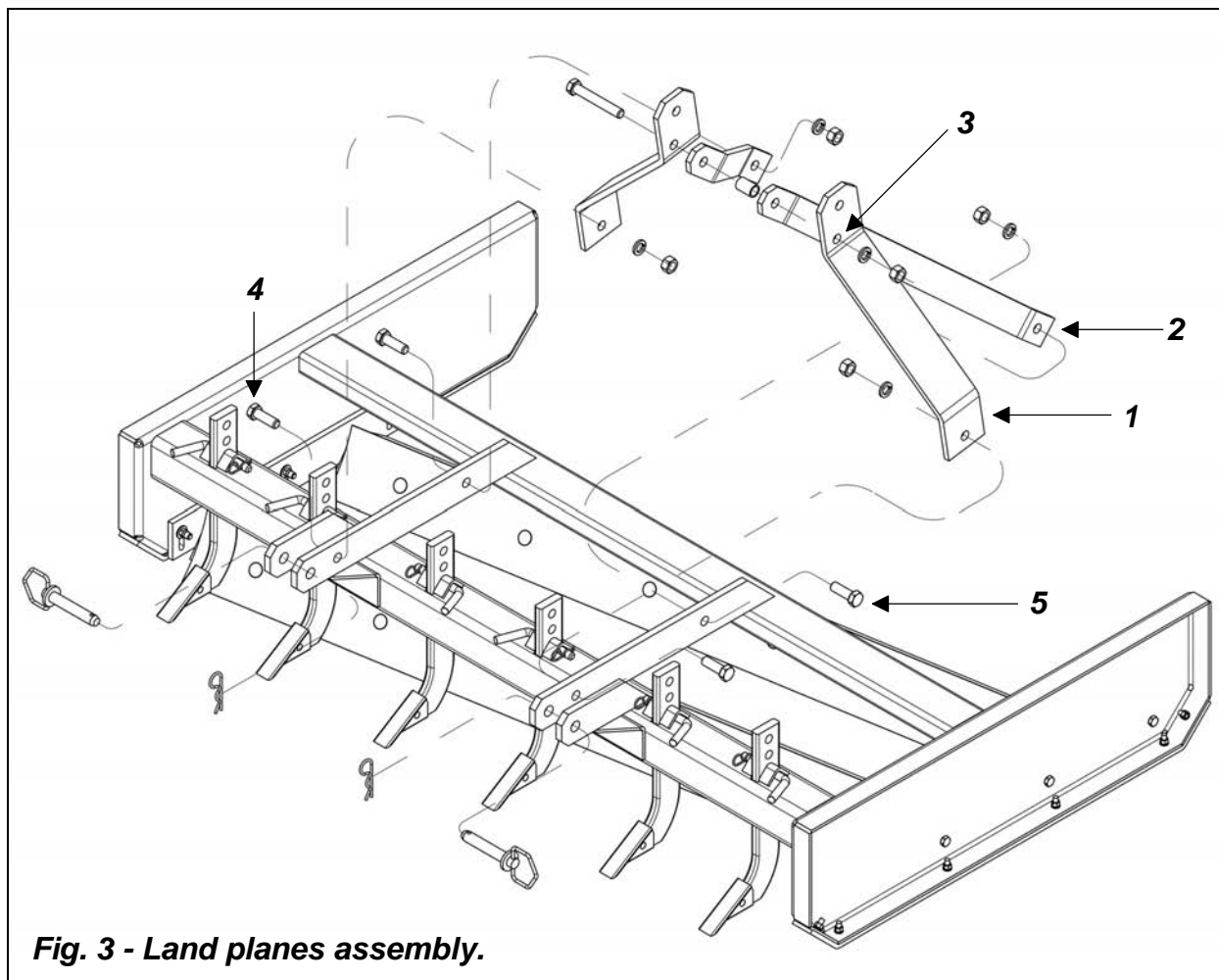
1. The use of this equipment is subject to certain hazards which cannot be prevented by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using.
2. Do not operate the tractor and implement when you are tired, sick or when using medication.
3. Keep all helpers and bystanders at least several yards from the implement. Only properly trained people should operate this machine.
4. Accidents are most likely to occur with machines that are loaned or rented to someone who has not read the operator's manual and is not familiar with the implement.
5. Always stop the tractor, set brake, shut off the tractor engine, remove the ignition key, lower implement to the ground before dismounting tractor. Never leave equipment unattended with the tractor running.

6. Never place hands or feet under implement with tractor engine running or before you are sure all motion has stopped. Stay clear of all moving parts.
7. Do not reach or place yourself under equipment until it is blocked securely.
8. Do not allow riders on the implement or tractor at any time. There is no safe place for riders.
9. Before backing up, look behind carefully.
10. Never operate tractor and implement under trees with low hanging limbs. Operators can be knocked off the tractor and then run over by the implement.
11. The parts of this machine have been designed and tested for rugged use. However, they could fail upon impact with heavy, solid objects such as steel guard rails and concrete abutments. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the machine to contact such obstacles.
12. Frequently check shanks and cutting blades. They should be free of nicks and cracks and securely fastened.
13. Stop implement immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.
14. Stay alert for holes, rocks and roots in the terrain and other hidden hazards. Keep away from drop-offs.
15. Use extreme care and maintain minimum ground speed when transporting on hillside, over rough ground and when operating close to ditches or fences. Be careful when turning sharp corners.
16. Before beginning operation, contact local utility companies to make certain there are no bundled gas lines, electrical cables, etc., in the work area.
17. Reduce speed on slopes and sharp turns to minimize tipping or loss of control. Be careful when changing directions on slopes. Do not start or stop suddenly on slopes. Avoid operation on steep slopes.
18. When using a unit, a minimum 20% of tractor and equipment weight must be on tractor front wheels. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a front end loader, front wheel weights, ballast in tires or front tractor weights. When attaining a minimum 20% of tractor and equipment weight on the front wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. Do not guess or estimate!
19. Inspect the entire machine periodically¹. Look for loose fasteners, worn or broken parts, and leaky or loose fittings.
20. Pass diagonally through sharp dips and avoid sharp drops to prevent "hanging up" tractor and implement.
21. Avoid sudden starts and stops while traveling up or downhill.
22. Always cut down slopes; never across the face. Avoid operation on steep slopes. Slow down on sharp turns and slopes to prevent tipping and/or loss of control.
23. Comply with all federal, state and local laws during transport on roads.

¹ See Chapter 4 - Maintenance.

3.02 - Assembly Instructions

For transportation purposes the three point hitch of the land planes is loosely assembled to the frame and folded down.



To assemble the three point hitch proceed as follows:

1. The bolts (**see #4, fig. 3**) that secure the vertical supports (**see #1, fig. 3**) to the main frame of the machine are shipped mounted in the holes of the supports. Remove the bolts and nuts.
2. Loosen the bolts (**see #5, fig. 3**) that attach the horizontal supports (**see #2, fig. 3**) to the main frame.
3. Raise the three point hitch and reinstall the bolts and nuts to the vertical supports.
4. **Before tightening down ensure that the lower hole on the vertical supports is offset towards the tractor (see #3, fig. 3).**
5. Tighten down all hardware.



CAUTION: Stand clear of bands when cutting as they could be under sufficient tension to cause them to fly loose. Take care in removing bands and wire. They often have extremely sharp edges and cut very easily.

3.03 - Pre-Operational Check

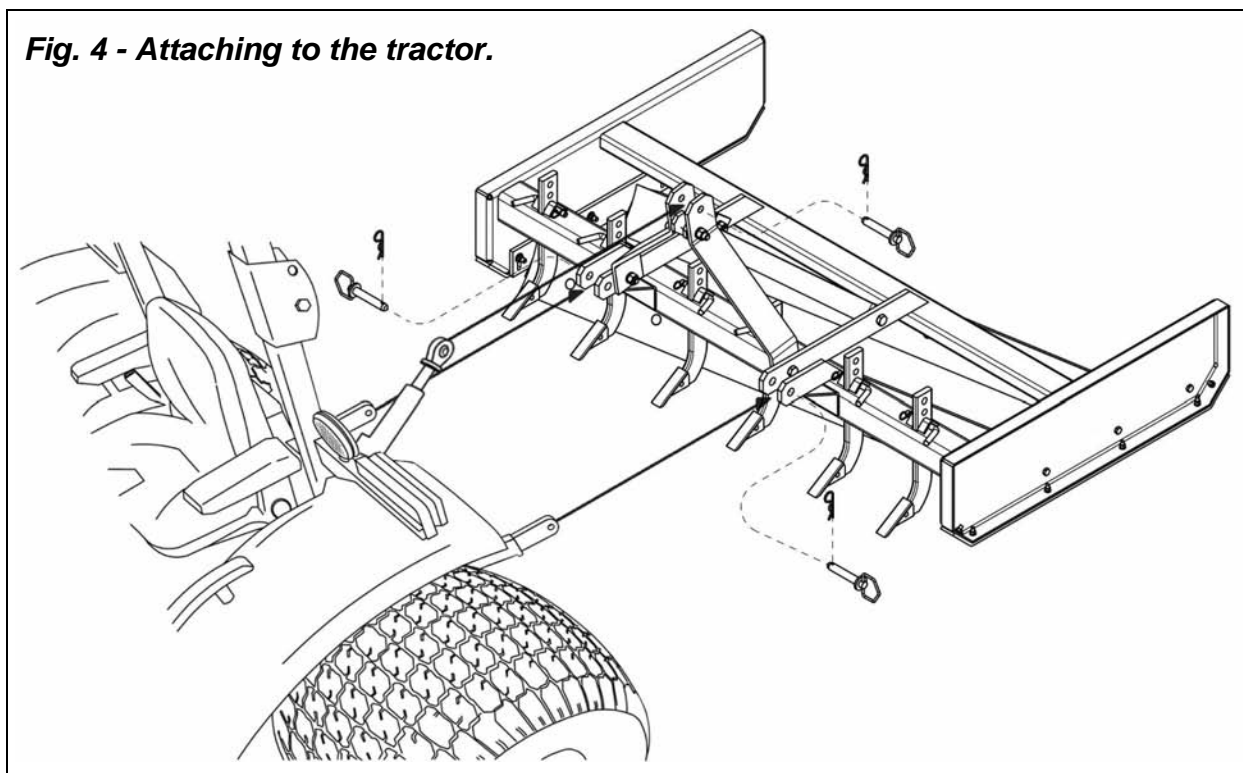
IMPORTANT: Check each of the following, carefully, prior to engaging the equipment:

1. No wrappings or foreign objects are around the implement.
2. The shanks and blades are properly installed and the bolts properly torqued².
3. All hardware is tight.
4. No people or animals are in the work area.

3.04 - Attaching to the Tractor

Models AILP60, AILP72 and AILP84 may be used on tractors up to 65 horsepower and a category 1 three point hitch or a category 1 Quick Hitch³.

Fig. 4 - Attaching to the tractor.



² Refer to Table 1 - Torque Specifications, page 18.

³ Refer to Table 2 - Technical Features, page 18.



DANGER: Never allow anyone to stand between the implement and tractor during hookup operations.

To attach the land plane to the tractor proceed as follows (**see fig. 4**):

1. Back the tractor to the land plane until the draft links align with the hitch pins.
2. Stop engine, engage parking brakes and remove key before dismounting tractor.
3. Secure the draft links to the hitch pins and secure them in place with cotter pins.
4. Attach top link to the top hitch of the land plane using a top link pin (supplied by customer).
5. Adjust the tractor sway chains/bars to center the land plane behind the tractor and control the side sway.
6. Ensure the land plane is leveled by adjusting both the draft links and the top link.



DANGER: Never attempt to attach the implement to the tractor or make any adjustments to it without first turning the tractor off.



DANGER: Failure to ensure a secure coupling of the implement to the tractor can cause injury and damage to the implement or tractor.

3.05 - Start Up



DANGER: Never allow anyone around the implement when it is in operation.



CAUTION: For emergency reasons, learn how to stop the tractor and implement quickly.

Before starting to work, never forget that the **operator is responsible** for the following:

1. Safe and correct driving of the tractor and implement.
2. To learn precise safe operating procedures for both the tractor and the implement.
3. To ensure all maintenance and lubrication has been performed on the implement.
4. To have read and understood all safety aspects for the implement in the operator's manual.
5. To have read and understood all safety decals on the implement.
6. To have contacted the local utility companies to make certain there are no bundled gas lines, electrical cables, etc., in the work area.
7. Checking the overall condition of the machine.

8. Checking to see if front weights need to be added to the tractor in order to maintain balance.
9. Checking the tractor tires for the proper pressure in accordance with the tractor operator's manual.
10. Making sure the proper attire is worn. Avoiding loose fitting clothing which can become entangled. Wearing sturdy, tough-soled work shoes and protective equipment for eyes, hands, ears and head. Never operate tractor or implements in bare feet, sandals or sneakers.
11. Checking area for stones, branches and other debris that might be thrown.
12. Ensuring proper lighting is available, sunlight or good artificial lighting.

3.06 - Working Speed

Ground speed is determined by the soil condition and tractor power. Simple experimentation will determine the best speed for the desired results, usually 2 to 5 mph.

Lower ground speed will enable better coverage of low spots and grading of high spots, while higher speeds will allow for a cleaner, smoother finish.

3.07 - Operating Techniques

The land plane should be operated level with the ground. This is obtained by properly adjusting the tractor's top and bottom links.

Blade carrier adjustment:

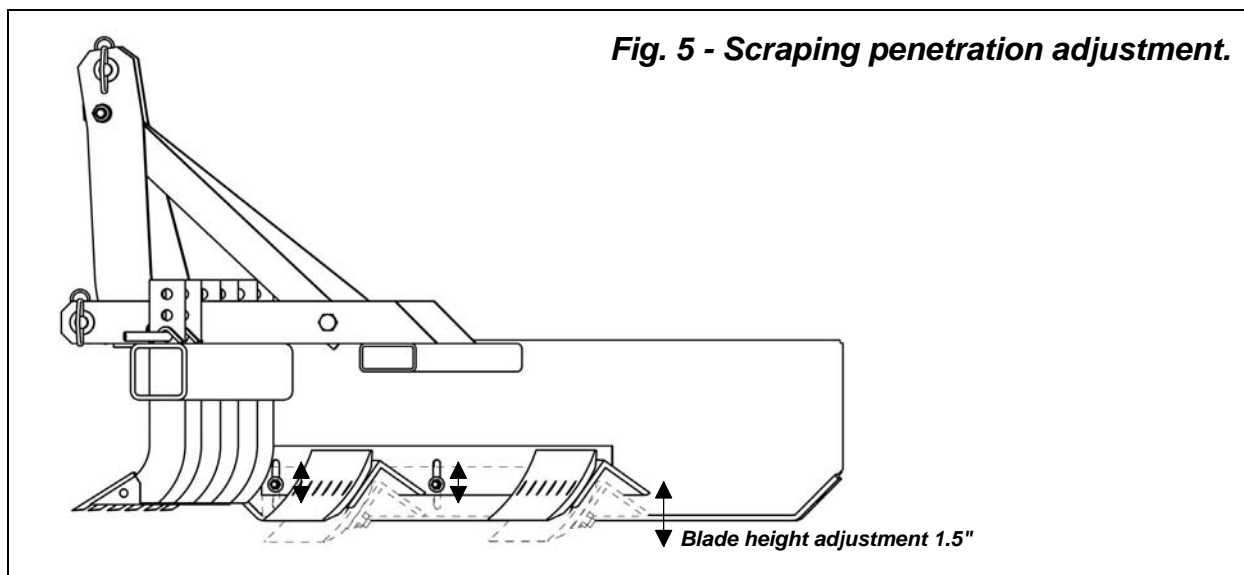
For a non-aggressive action the blade carrier should be positioned evenly with the bottom of the skid shoes allowing these to carry the weight of the implement.

When a more aggressive blade penetration is desired the grading blade carrier can be adjusted up to 1½" below the skid shoes (**see fig. 5**). This feature can also be used to lower the blades to ground level as the cutting edge wears out.

The height of the grading blade carrier can also be adjusted only on one side of the implement allowing to dome your roadway. In order to do this lower the right side of the blade carrier more than the left side and start operating on the far right side of the roadway and returning on the far left side of the roadway working your way towards the middle of the road.

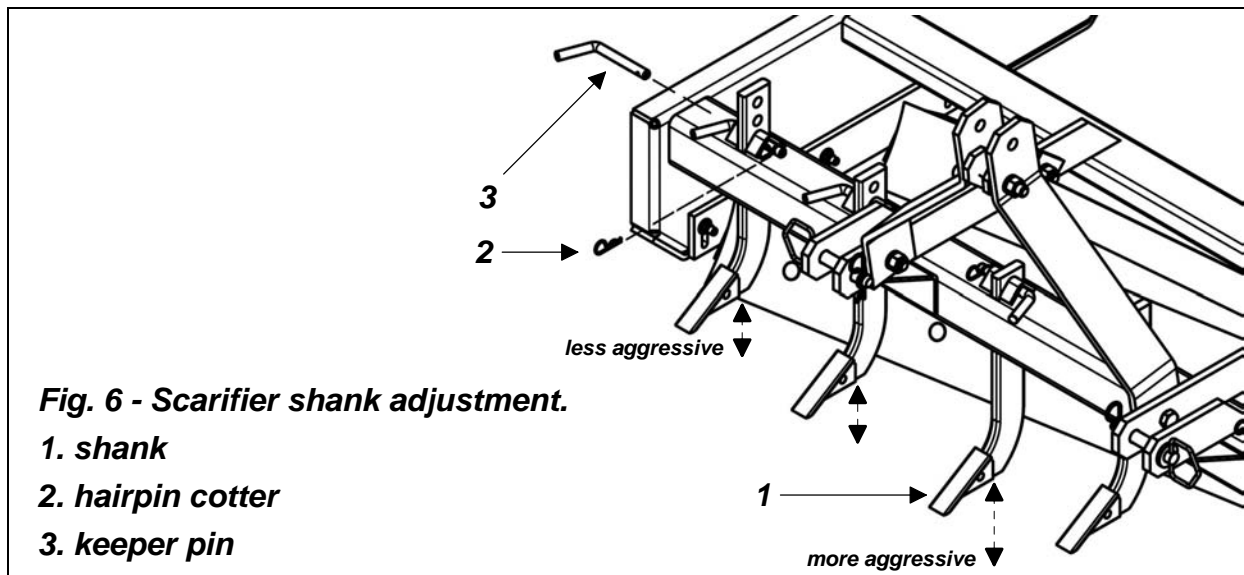
To adjust blade carrier height proceed as follows:

1. Using the tractor's controls raise the land plane from the ground.
2. Stop engine, engage parking brakes and remove key before dismounting tractor.
3. Properly support the implement using blocks to support the side plates.
4. Without starting the tractor's engine, operate the controls to slowly lower the implement on the blocks.
5. Loosen the bolts on both sides of the blade carrier to the frame and re-tighten at the desired height.



Scarifying adjustment:

Models AILP60, AILP72 and AILP84 are equipped with scarifier shanks. The shanks' height can be adjusted in 3 different positions to accommodate for the desired level of ground penetration (**see fig. 6**). Lowering the shanks will provide a more aggressive ripping action and may help penetrate the ground in tough soil conditions. Ensure that the scarifier points are installed facing towards the tractor.



3.08 - Uneven Terrain



DANGER: Be careful of rollover when operating tractor and implement over uneven ground.

The following precautions should always be observed when working on uneven terrain:

1. In extremely uneven terrain rear wheel weights, front tractor weights, and/or tire ballast should be used to improve stability.
2. Observe the type of terrain and develop a safe working pattern.
3. Operate the implement up and down steep slopes, not across slopes, to prevent the tractor from tipping. Avoid sudden stops and starts, and slow down before changing directions on a slope.
4. Pass diagonally through sharp dips and avoid sharp drops to prevent hanging up the tractor and implement.
5. Slow down on sharp turns and slopes to prevent tipping or loss of control.
6. Watch for holes, roots or other hidden objects. Do not use near the edge of a gully, ditch or stream bank.

3.09 - Transport



CAUTION: Do not tow tractor and implement behind other vehicles. Use a properly equipped trailer with heavy tie-downs for towing operations.

Before transporting:

1. Always select a safe ground speed that is appropriate for the terrain.
2. Beware of traffic on public roads. Install a SMV (Slow Moving Vehicle) sign when traveling on roads or streets. Comply with all federal, state and local laws.
3. Reduce ground speed when turning and take care that the implement does not strike obstacles such as trees, fences or buildings.

4 - MAINTENANCE



DANGER: Stop engine, lock parking brake and remove key before performing any service or maintenance.

Never rely on the tractor lift system. Install blocks or stands under the implement to prevent it from falling.

Always use personal protection devices, such as glasses or gloves when performing maintenance.

Keep fingers out of slots to prevent injury.

4.01 - Maintenance Safety



1. Good maintenance is your responsibility.
2. Keep service area clean and dry. Be sure electrical outlets and tools are properly grounded. Use adequate light for the job at hand.
3. Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
4. Make no repair or adjustments with the tractor engine running. Before working on the machine, shut off the engine, set the brakes, and remove the ignition key.
5. Be certain all moving parts have come to a complete stop before attempting to perform maintenance.
6. Never work under equipment unless it is blocked securely.
7. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance.
8. Frequently check shanks. They should be free of nicks and cracks and securely fastened.
9. Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.
10. After servicing, be sure all tools, parts and service equipment are removed.
11. Never replace hex bolts with less than grade five bolts unless otherwise specified, i.e. shear bolts⁴.
12. Where replacement parts are necessary for periodic maintenance and servicing, genuine replacement parts must be used to restore your equipment to original specifications. The company will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.

⁴ Refer to Table 1 - Torque Specifications, page 18.

13. Unauthorized modifications to the machine may impair the function and/or safety of the machine and reduce its life. If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.

4.02 - Service

Hourly or whenever an obstacle is hit:







1. Check machine condition, particularly the shanks and cutting blades.
2. Replace any damaged or worn shank, shank tip or blade.
3. Remove any wrapping (stalks, weeds, trash, etc.) from implement.

Every 25 hours:

Check hardware tightness; vibration can loosen bolts⁵.

⁵ See Table 1, page 18.

TABLE 1 - TORQUE SPECIFICATIONS

Metric (ISO) treaded bolts head marking		 Class 5.8		 Class 8.8		 Class 10.9		Inch (SAE) treaded bolts head marking		 Grade 2		 Grade 5		 Grade 8	
		N.m	ft-lb	N.m	ft-lb	N.m	ft-lb	Bolt size inch	Thread inch tpi	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb
M5	0.8	4	3	6	4	9	7	1/4"	20	7	5	11	8	16	12
M6	1	6	4	10	7	15	11	1/4"	28	8	6	13	10	19	14
M8	1.25	16	12	25	18	36	27	5/16"	18	15	11	24	17	33	25
M8	1	17	13	26	19	38	28	5/16"	24	17	13	26	19	37	27
M10	1.5	31	23	48	35	71	52	3/8"	16	27	20	42	31	59	44
M10	1.25	33	24	51	38	75	55	3/8"	24	31	23	47	35	67	49
M10	1	35	26	53	39	78	58	7/16"	14	43	32	67	49	95	70
M12	1.75	54	40	84	62	123	91	7/16"	20	48	36	75	55	106	78
M12	1.5	56	41	87	64	128	94	1/2"	13	66	48	102	75	144	106
M12	1.25	59	44	90	66	133	98	1/2"	20	75	55	115	85	163	120
M14	2	84	62	133	98	195	144	9/16"	12	95	70	147	109	208	154
M14	1.5	94	69	142	105	209	154	9/16"	18	106	79	164	121	232	171
M16	2	131	97	206	152	302	223	5/8"	11	132	97	203	150	287	212
M16	1.5	141	104	218	161	320	236	5/8"	18	149	110	230	170	325	240
M18	2.5	181	133	295	218	421	310	3/4"	10	233	172	361	266	509	376
M18	2	196	145	311	229	443	327	3/4"	16	261	192	403	297	569	420
M18	1.5	203	150	327	241	465	343	7/8"	9	226	167	582	430	822	606
M20	2.5	256	189	415	306	592	437	7/8"	14	249	184	642	473	906	668
M20	1.5	288	212	454	335	646	476	1"	8	339	250	873	644	1232	909
M22	2.5	344	254	567	418	807	595	1"	12	371	273	955	704	1348	995
M22	1.5	381	281	613	452	873	644	1-1/8"	7	480	354	1077	794	1746	1288
M24	3	444	327	714	526	1017	750	1-1/8"	12	539	397	1208	891	1958	1445
M24	2	488	360	769	567	1095	808	1-1/4"	7	677	500	1519	1120	2463	1817
M27	3	656	484	1050	774	1496	1103	1-1/4"	12	750	553	1682	1241	2728	2012
M27	2	719	530	1119	825	1594	1176	1-3/8"	6	888	655	1992	1469	3230	2382
M30	3.5	906	668	1420	1047	2033	1499	1-3/8"	12	1011	746	2268	1673	3677	2712
M30	2	1000	738	1600	1180	2250	1659	1-1/2"	6	1179	869	2643	1949	4286	3161
M36	4	1534	1131	2482	1830	3535	2607	1-1/2"	12	1326	978	2974	2194	4823	3557

When using lock washers with nuts, increase torque values by 5%.

TABLE 2 - LAND PLANES - TECHNICAL FEATURES

For tractors up to 65 HP, 3 point hitch cat. 1.							
Model	HP	Working width	Overall width	Weight lb.	# Shanks	Side panel height	Grading blade adjustment
AILP60	25-65	60"	64"	592	5	12 1/2"	0" to 1 1/2"
AILP72	25-65	72"	76"	703	6	12 1/2"	0" to 1 1/2"
AILP84	25-65	84"	89"	764	7	12 1/2"	0" to 1 1/2"

5 - REPAIR PROCEDURES



CAUTION: It is not recommended that untrained individuals perform any repair work. The following operations are detailed for qualified personnel only. Never work under the implement without properly blocking the unit.

5.01 - Shanks and Shank Tips Replacement



CAUTION: Always keep feet away from under the shanks. It is possible that they could slip and fall causing injury.

To remove or adjust operating height of the shanks proceed as follows (**see fig. 6**):

1. Properly support the implement using blocks to support the side plates.
2. Pull the hairpin cotter from shank keeper pin, hold shank to prevent it from falling and remove keeper pin.
3. Adjust or remove shank and reinstall keeper pin and hairpin cotter.

Shank tips can be replaced by (**see fig. 7**):

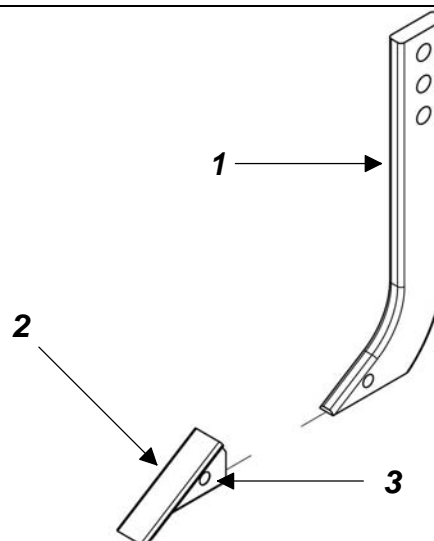
1. Driving off worn tip with a hammer and a chisel.
2. Installing the replacement tip by using a hammer and a punch to bend the locking tab into the retaining hole on both sides of the shank.

Fig. 7 - Shank tip replacement.

1. shank

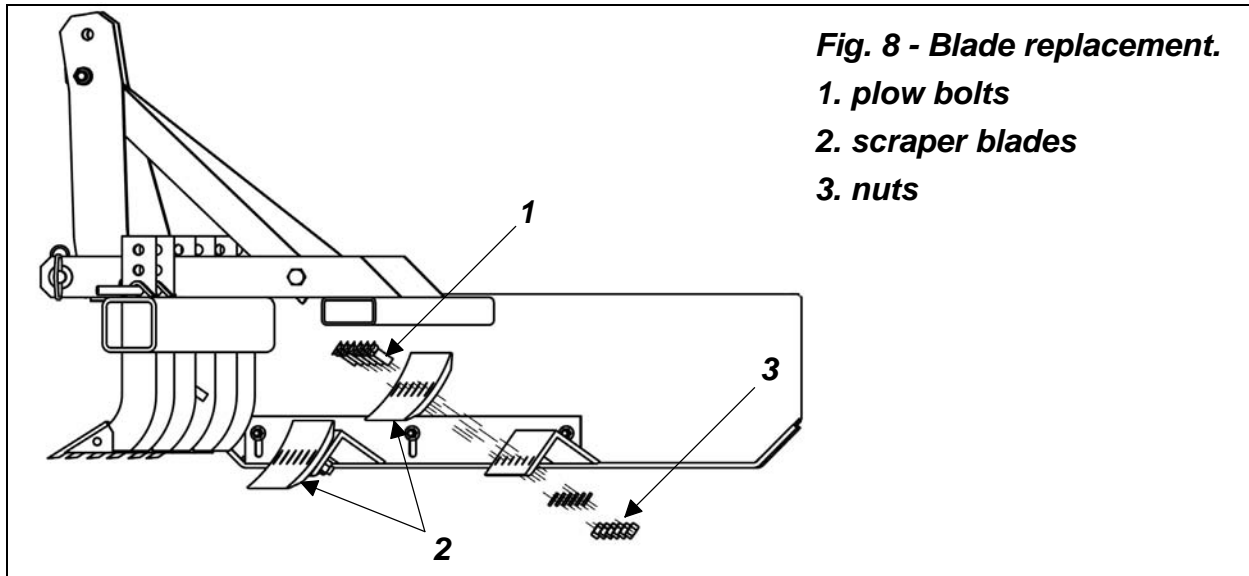
2. shank tip

3. locking tab



5.02 - Scraper Blade Replacement

Our scraper blades are interchangeable and reversible, they may be rotated to give a fresh cutting edge.



To remove the blades proceed as follows (**see fig. 8**):

1. Properly support the implement using blocks to support the side plates.
2. Remove the nuts from the plow bolts and turn the blade over.
3. Inspect nuts and bolts and replace them with 5/8"x1.75" G5 plow bolts if necessary.
4. Reinstall the blade and properly torque the nuts to 150 ft. lb.



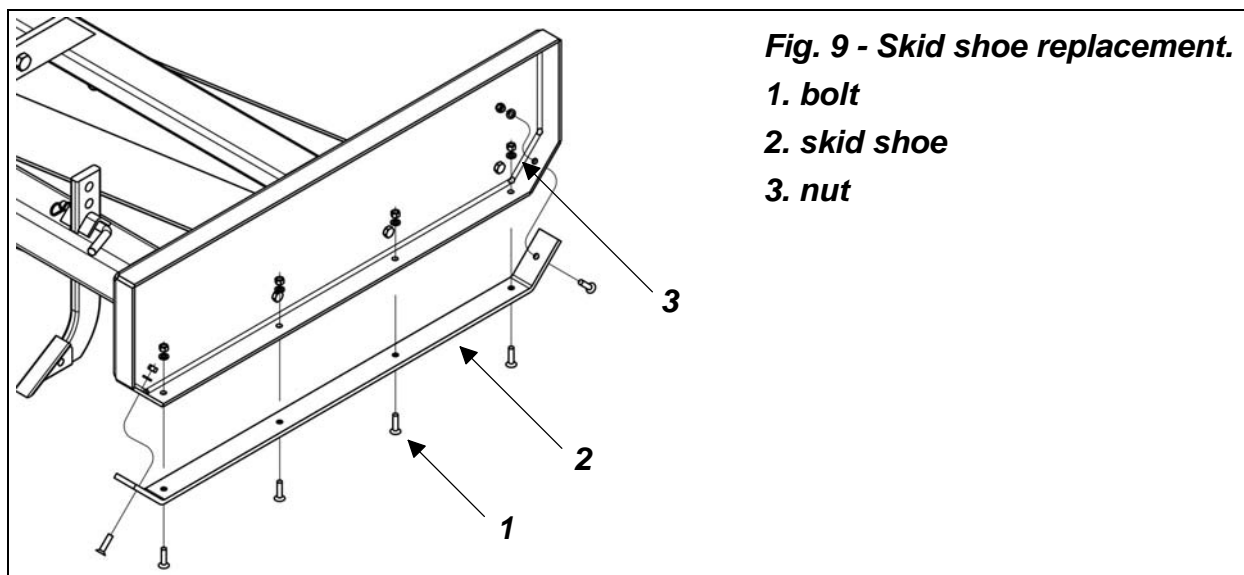
CAUTION: Scraper blades are heavy and you may require assistance to remove and install them.

5.03 - Skid Shoe Replacement

The land plane has replaceable and reversible full length skid shoes bolted on the frame. The skid shoes are reversible and therefore can be rotated if one end is wearing faster than the other end, this will help prolong their life.

To replace or reverse the skid shoes proceed as follows (**see fig. 9**):

1. Properly support the land plane with blocks.
2. Remove nuts, lock washers, bolts and skid shoe.
3. Inspect all hardware and check for wear, replace if necessary.
4. Reverse skid shoes or install new ones.
5. Properly torque all hardware.



5.04 - Suggested Spare Parts

It is suggested that the following spare parts be kept on hand for the implement at all times to prevent a minor problem from delaying work.

Description	Quantity
Shanks	1 set
Shank tips	8

5.05 - Storage

After seasonal use it is important to perform the following for prolonged storage:

1. Wash the implement carefully.
2. Inspect the implement and replace worn or damaged parts.
3. Tighten all hardware⁶.
4. Cover the implement from the elements in order to have it in perfect condition for the start of the next season.



WARNING: Be sure to store the implement on a hard level surface and away from people especially children.

⁶ See Table 1, page 18.

6 - TROUBLESHOOTING



WARNING: Be sure tractor engine is off, parking brake is locked, and key is removed before making any adjustments.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Shanks won't penetrate ground surface.	Shank height not adjusted properly.	Lower shanks to increase ground penetration.
	Soil condition is extremely packed.	Shorten tractor's top link to increase scarifier tip penetration.
	Land plane not leveled.	Level frame from front to back and side to side.
	Shank tips may be worn.	Replace tips or shanks.
Scraper blade won't penetrate the ground surface.	Tractor's top link not adjusted properly.	Lengthen tractor's top link to increase blade penetration.
	Blade carrier too high, not allowing blades to touch the surface.	Lower grading blade carrier to increase blade penetration.
	Cutting blade worn out.	Rotate or replace scraper blade.



24 MONTH LIMITED WARRANTY

REAR BLADE, TINE RAKE, BOX BLADE, LAND PLANE & DISC HARROW

TERMS & CONDITIONS

“ABI” means Absolute Innovations, Inc. 1320 Third Street, Osceola, IN 46561 - 877.788.7253

The **ABI Rear Blade, Tine Rake, Box Blade, Land Plane, or Disc Harrow** product is warranted for twenty-four (24) months from the original invoice date, against defects in materials and/or workmanship when put to normal and designed consumer, non-commercial use. This warranty is only valid on new equipment to the original purchaser with proof of purchase.

For the purpose of the warranties, “normal & designed use” refers to such uses shown in **ABI** marketing materials, websites & videos specific to the **ABI Rear Blade, Tine Rake, Box Blade, Land Plane, or Disc Harrow** and does not include misuse, abuse, accidents, or damage due to inadequate maintenance. However, final judgment of “normal & designed use” is the sole opinion of **ABI**.

The warranty holder is responsible for performing reasonable and proper maintenance. The warranty holder is further responsible for performing replacement of normally wearing parts at additional consumer expense.

ABI's obligation and or liability, under this warranty, of any product defect or claim for injury or damages is limited to repair or replacement of the product, or payment of the reasonable cost of repair or replacement of the product, at **ABI's** sole discretion. During the warranty period, warranty replacement parts or replacement product will ship by a standard method at no charge to the warranty holder, in the United States & Canada only. Expedited shipping of warranty parts or replacement product is the responsibility of the warranty holder.

To secure warranty service the warranty holder must, (1) report the defect immediately to **ABI** customer service for warranty consideration within the applicable warranty term in writing and discontinue use of the product; (2) present photographic evidence of the warranty claim and valid proof of purchase; (3) return the product or part to **ABI** or independent service technician within 30 days of defect discovery or failure for return, inspection or repair, if required. If **ABI** is unable to repair the product to conform to the warranty after a reasonable number of attempts, **ABI** will provide, at its option, one of the following: (a) a replacement for the product or, (b) a full refund of the purchase price after the defective product is returned to **ABI**. Repair, replacement, or refunds are the warranty holder's **EXCLUSIVE** remedies against **ABI** under this limited warranty.

ABI IS NOT RESPONSIBLE FOR THE FOLLOWING: (1) Equipment purchased used; (2) Any equipment that has been altered or modified in ways not approved by **ABI**, including, but not limited to, unauthorized repair, and acts of God; (3) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions/recommendations; misuse, abuse, lack of proper protection during storage or use, vandalism, the elements, collision or accident; (4) Normal replacement, maintenance, and/or service of wear parts, including but not limited to: tines, tips, shanks, cutting blades, bolts, nuts, washers, pins, and bearings. Periodic replacement of normally-wearing parts is the responsibility of the warranty holder.

To the extent permitted by law, **the limited warranty stated above is the exclusive warranty given by ABI, to the original purchaser, and ABI disclaims any other warranties. There are no other warranties, either express or implied, including any warranty of merchantability, fitness for a particular purpose, or arising from course of dealing or trade usage. ABI shall not be liable in any event for incidental or consequential or other special damages under any theory of strict liability or negligence, or expenses of any kind, including, but not limited to, personal injury, damage to property, cost of equipment rentals, loss of profit, or cost of hiring services to perform tasks normally performed by these products. ABI 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.**

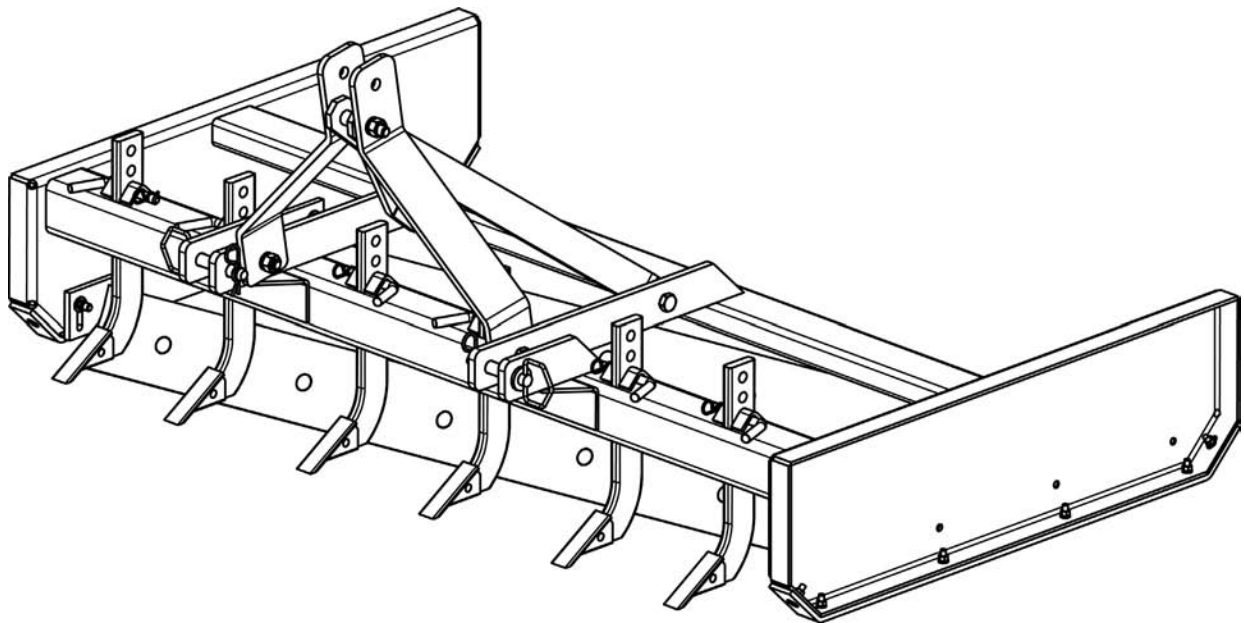
Some jurisdictions do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from jurisdiction to jurisdiction.

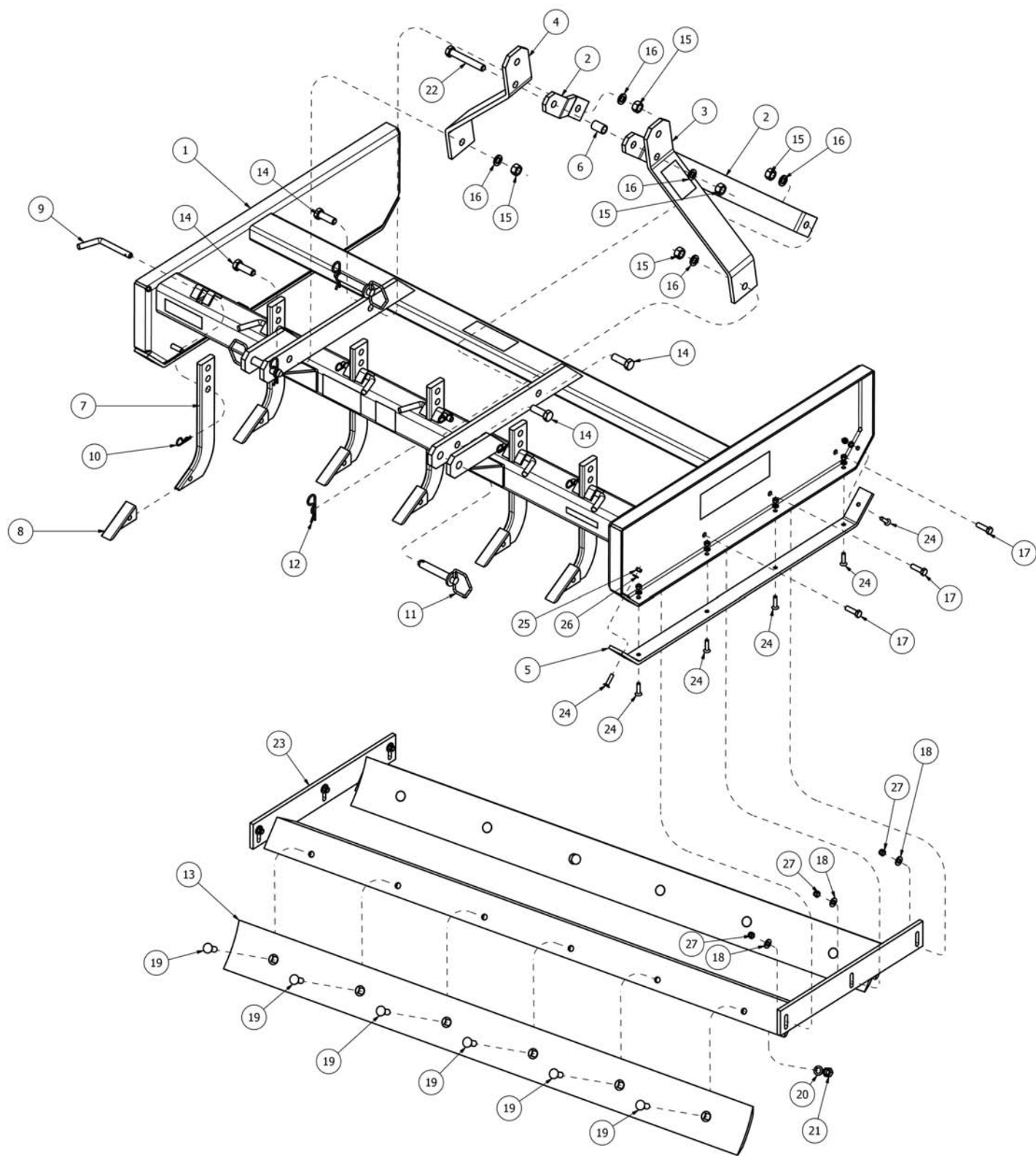
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Parts Manual

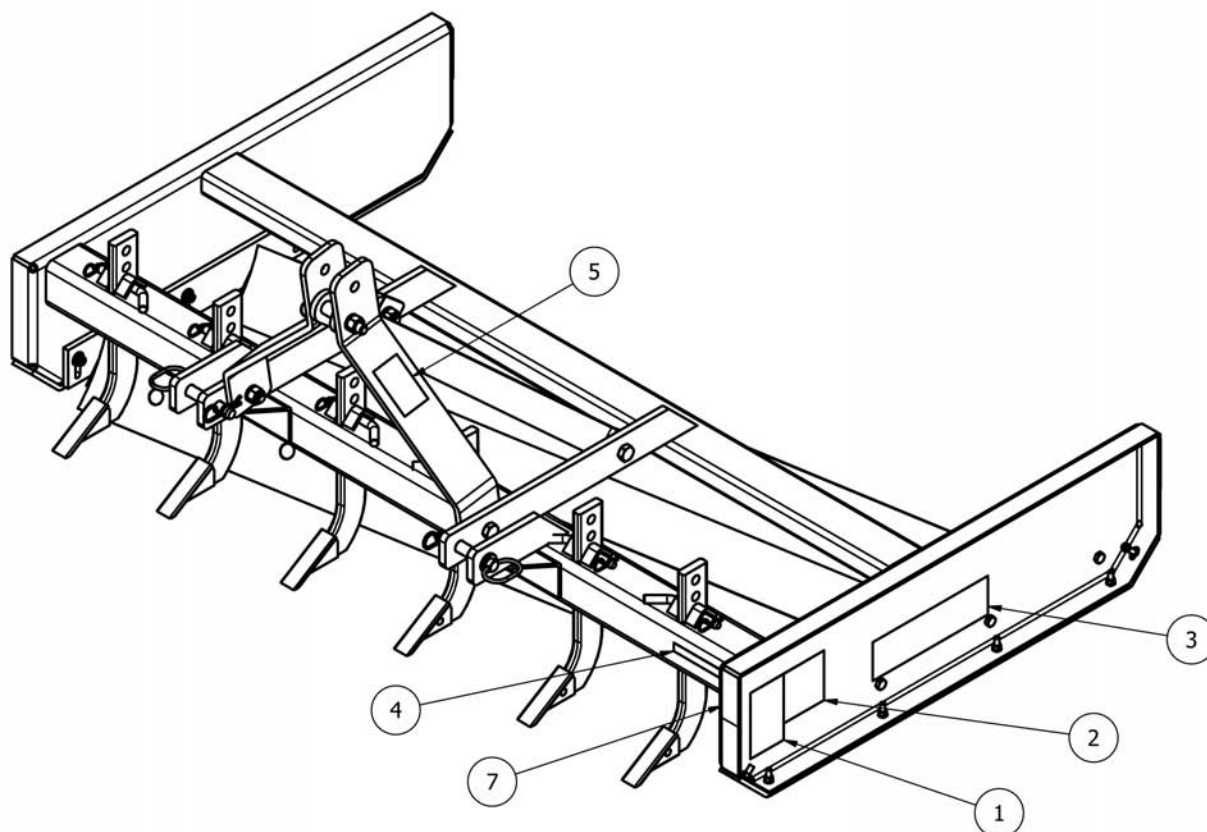
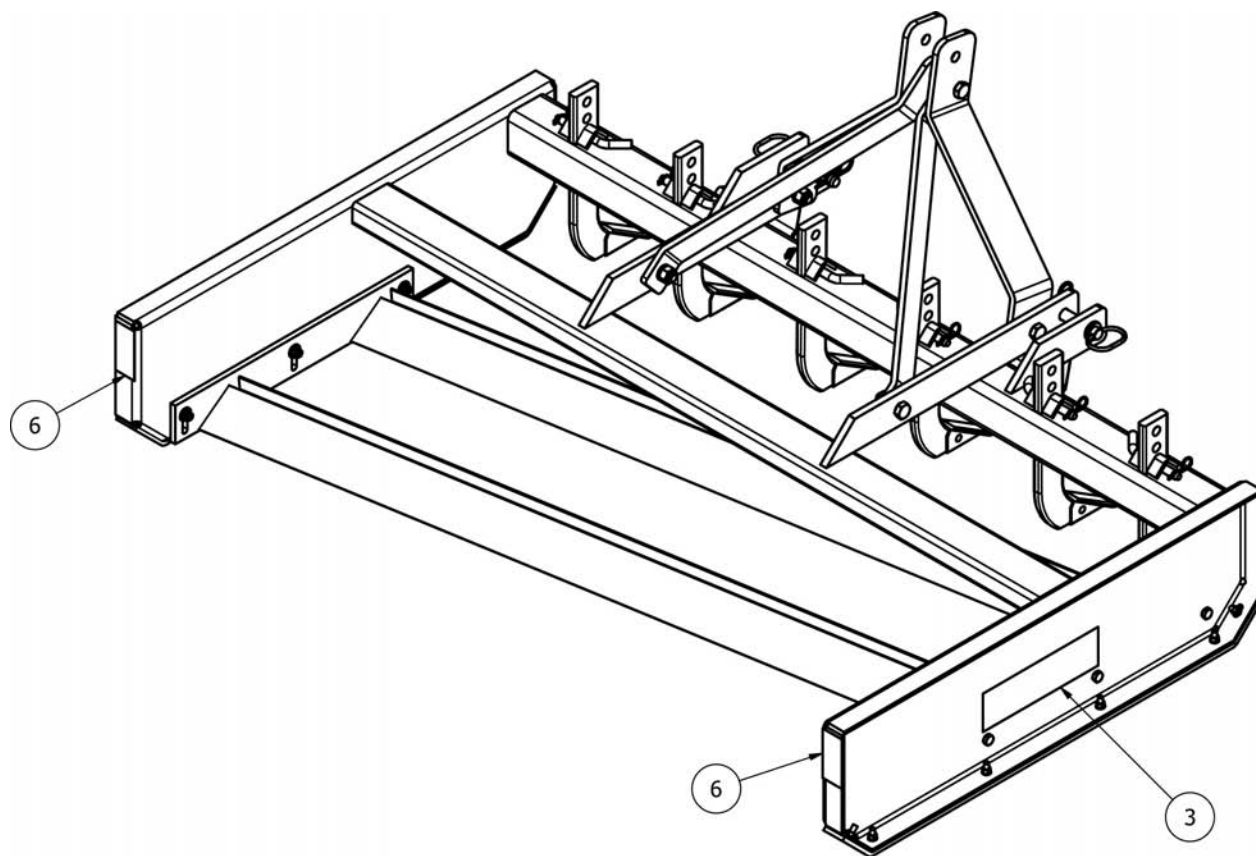
LAND PLANES / GRADING SCRAPERS

AILP60, AILP72, AILP84





Ref.	Part #	Description	Qty.
1	7900010	Frame, land plane 60"; AILP60	1
	7900020	Frame, land plane 72"; AILP72	1
	7900030	Frame, land plane 84"; AILP84	1
2	006-9014	Horizontal support	2
3	006-9033	Vertical support, left	1
4	006-9034	Vertical support, right	1
5	7900012	Skid shoe 60"-72"; AILP60, AILP72	2
	7900032	Skid shoe 84"; AILP84	2
6	006-9016	Spacer, inner	1
7	006-9017	Scarifier shank	-
8	006-9026	Scarifier tip	-
9	503-639B	Keeper pin	-
10	001-5240	Hairpin cotter Ø3	-
11	006-9023	Hitch pin	2
12	009-1507	Hairpin cotter Ø4	2
13	016-9019	Scraper blade 60"; AILP60	2
	036-9019	Scraper blade 72"; AILP72	2
	046-9019	Scraper blade 84"; AILP84	2
14	006-9613	Bolt HH 3/4"-10x2.25" G5 Z	4
15	006-9027	Nut HH 3/4"-10 G2 Z	5
16	006-9614	Washer lock 3/4" Z	5
17	503-999B	Bolt HH 7/16"-14x1.25" G5 Z F	6
18	110-1221	Washer flat 7/16" Z	6
19	503-651B	Bolt PB 5/8"-11x1.75" G5 Z	-
20	502-866B	Washer lock 5/8" Z	-
21	502-865B	Nut HH 5/8"-11 G2 Z	-
22	006-9021	Bolt HH 3/4"-10x5.00" G5 Z	1
23	7900011	Blade holder 60"; AILP60	1
	7900021	Blade holder 72"; AILP72	1
	7900031	Blade holder 84"; AILP84	1
24	503-998B	Bolt CS 3/8"-16x1.25" G5 Z F	-
25	006-9620	Nut HH 3/8"-16 G2 Z	-
26	006-9629	Washer lock 3/8" Z	-
27	504-000B	Nut PT 7/16"-14 G2 Z	6



Ref.	Part #	Description	Qty.
1	950-407B	Decal "WARNING - Crushing and pinching hazard"	1
2	950-417B	Decal "CAUTION - Read operator's manual"	1
3		Decal "ABlattachments"	2
4	950-358B	Decal "Made in USA"	1
5	950-940B	Decal "Quick Hitch Compatible"	1
6	950-366B	Decal, red reflective	2
7	950-405B	Decal, yellow reflective; AILP84	1
	980-398B	Operator's & Parts Manual AILP60, AILP72, AILP84	1

Use only original spare parts

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