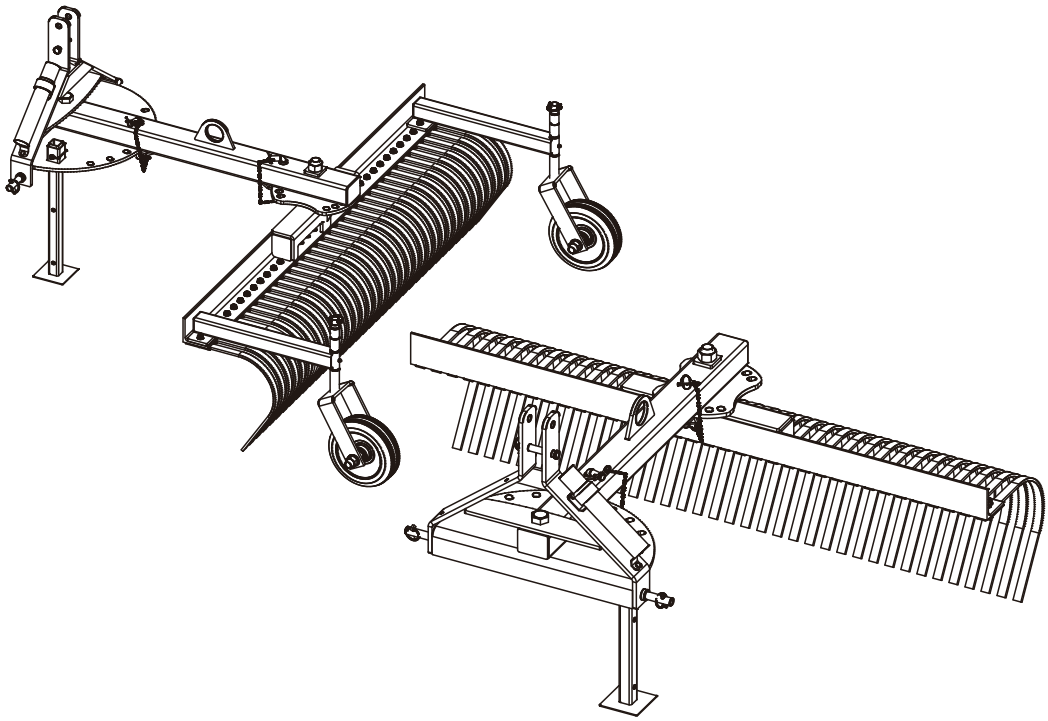
MechMaxx
RELIABLE EFFICIENT VALUE

3 POINT OFFSET LANDSCAPE RAKE

SKU	201049	201050	201051	201052	201053	201054
Model	**LRA60**	**LRA72**	**LRA84**	**LRA60W**	**LRA72W**	**LRA84W**



OPERATOR'S MANUAL

This manual contains important safety precautions. Read and understand this manual carefully before using the product. Failure to follow these instructions may result in serious injury.

The specifications, descriptions, and illustrations in this manual are as accurate as possible at the time of publication, but are subject to change without notice.

Keep this manual with the product for future reference.

INTRODUCTION

This manual provides safety, assembly, operation, adjustment, maintenance, and storage information for a 3-point hitch offset landscape rake. Read and understand this manual before attempting to assemble, transport, operate, adjust, maintain, or store this implement. Keep this manual with the machine at all times.

The 3-Point Offset Landscape Rake is a ground-engaging implement designed for leveling, grading, spreading, raking, and general ground-finishing work. It is equipped with a row of spring steel rake tines that help collect loose debris, break up light surface material, smooth uneven ground, and prepare soil or gravel surfaces.

This implement can be adjusted to offset to the left or right, allowing the operator to move material away from the tractor path, work alongside fences, roadsides, driveways, ditches, field edges, and other areas where straight-behind operation is not ideal. The rake angle and working position should be adjusted according to site conditions, tractor stability, and the desired material flow.

Depending on the configuration, the rake may be equipped with gauge wheels to help control working depth, improve ground following, and provide a smoother finish during operation.

Common Applications Include:

- Landscape leveling and finish grading
- Spreading and smoothing topsoil, gravel, sand, or loose material
- Raking leaves, loose roots, sticks, and light surface debris
- Driveway, pathway, and roadside maintenance
- Seedbed preparation and general lawn or field renovation
- Pulling loose material away from fences, edges, ditches, or other restricted areas using the offset function

Not Recommended For:

- Ripping or removing concrete, asphalt, or blacktop
- Stump removal or contact with immovable objects
- Operating in rocky conditions where repeated heavy impacts are expected
- Deep subsoiling or primary tillage operations
- Pulling buried roots, large rocks, or heavy compacted material
- Using the offset position for high-impact pushing, ramming, or side-loading operations

Ordering Parts

Use only genuine MechMaxx parts when servicing or repairing this machine. Replacement parts manufactured by other companies may fit this machine, but they may present potential safety hazards. Replacement parts can be purchased from your authorized MechMaxx dealer.

- The serial number of your machine
- The part number
- The part description
- The quantity needed





SCAN THE QR CODE TO CONTACT US

Safety Definitions

⚠ DANGER!

Indicates an imminently hazardous situation which, if not avoids, will result in death or serious injury.

⚠ WARNING!

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

⚠ CAUTION!

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

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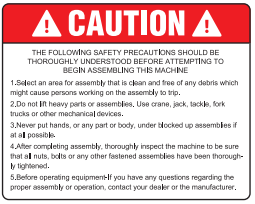
SAFETY INFORMATION

⚠ CAUTION!

THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE THOROUGHLY UNDERSTOOD BEFORE ATTEMPTING TO BEGIN ASSEMBLING THIS MACHINE.

Safety Alert Symbol And Signal Words

A safety alert symbol is used to identify safety messages. When you see a safety message, be alert to the possibility of injury. Follow recommended precautions and safe operating practices.

LABEL	MEANING
	**CRUSHING HAZARD WARNING LABEL DESCRIPTION** This warning label indicates a crushing hazard. Keep all bystanders away from the equipment while it is operating. Before leaving the operator's seat, fully lower the implement to the ground to prevent accidental movement, crushing injury, or death.
	**WARNING – READ MANUAL BEFORE USE** This warning label reminds the operator to read and understand the Operator's Manual before operating or servicing the machine. Unsafe operation or maintenance may cause serious injury or death. If the manual is lost, contact the dealer or manufacturer for a replacement manual.
	**CAUTION – ASSEMBLY SAFETY PRECAUTIONS** This caution label reminds users to understand all safety precautions before assembling the machine. Assemble the machine in a clean, debris-free area, use proper lifting equipment for heavy parts, and keep hands and body parts away from supported or raised assemblies. After assembly, inspect the machine and make sure all nuts, bolts, and fasteners are securely tightened. Contact the dealer or manufacturer if there are any questions about assembly or operation.
	**DANGER – REVERSE OPERATION WARNING** This danger label warns operators to use extra care when operating the implement in reverse. Do not ram into dirt, snow piles, rocks, stumps, or other fixed objects, as impact may cause loss of control, serious injury, or equipment damage.

They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels. mechmaxx.com
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by mechmaxx. When ordering new components make sure the correct safety labels are included in the request.

SAFETY

General Safety Rules

1.Select an area for assembly that is clean and free of any debris which might cause persons working on the assembly to trip.

2.Do not lift heavy parts or assemblies. Use a crane, jack, tackle, forklift, or other mechanical devices.

3.Preview the assembly instructions in your operator's manual before proceeding further.

4.If the assembly instructions call for parts or assemblies to be blocked up, use only blocking material that is in good condition and is capable of handling the weight of the assembly to be blocked. Also ensure that the blocking material is on a clean, dry surface.

5.Never put hands, or any part of the body, under blocked-up assemblies if at all possible.

6.After completing assembly, thoroughly inspect the machine to be sure that all nuts, bolts, pins, locking pins, pivot points, and any other fastened assemblies have been thoroughly tightened and properly secured.

⚠WARNING!

Read and understand this manual and all safety labels attached to the machine before operation. Become familiar with the machine's **controls, limitations, proper operation, and potential hazards.**



7.Before operating, read the machine section of your operator's manual to be sure that any parts requiring lubrication, such as pivot points, bushings, grease fittings, or other lubricated components, are properly lubricated to avoid any possible damage.

8.Before operating the equipment — if you have any questions regarding the proper assembly or operation, contact your dealer or representative.

⚠WARNING!

If this machine is loaned, rented, sold, or used by someone other than the original purchaser, always provide this manual and proper safety training before operation.

Equipment Safety Guidelines

1.Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.

2.Review the safety instructions with all users annually.

3.This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with your machinery and trained in this equipment's operations. 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.

4.Never exceed the limits of a piece of machinery.

5.Do not modify the equipment in any way. Unauthorized modification may impair the function and could affect the life of the equipment.

6.Always make sure the rake angle, offset position, and all locking pins are properly secured before operation, transport, or storage.

⚠WARNING!

Keep children, pets, and bystanders away from the work area.



Operational Safety

1.The use of this equipment is subject to certain hazards which cannot be protected against by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to the operating procedures prior to use. If there is something in this manual you do not understand, ask your supervisor or your dealer to explain it to you.

⚠WARNING!

Always wear proper personal protective equipment during operation, including **safety glasses with side shields, hearing protection, gloves, heavy long pants, and protective footwear.**



2.Never permit any person to ride or board the implement at any time.

3.A heavy load or offset load can cause instability when driving a tractor. Make sure the front or rear of the tractor is properly counter-balanced with weights. Always drive slowly — especially around turns. An unstable tractor could steer badly and possibly tip over, causing injury or death.

4.Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders at a safe distance.

5.Do not operate close to ditches or creeks. Slow down when operating over rough ground.

6.When adjusting the position, angle, or offset of the implement, be sure that your feet are never under the implement.

⚠ DANGER!

Keep hands, feet, and body parts away from pivot points, offset adjustment areas, locking holes, and rake tines when adjusting or operating the implement.

7.Be careful to avoid catching the implement on stumps, large rocks, buried roots, or other immovable objects.

8.Do not use the implement for ramming, pushing heavy objects, pulling buried material, or striking immovable objects.

9.When using the implement in an offset position, use extra care. Offset operation can increase side loading and may affect tractor stability, steering, and implement control.

10.Always raise the implement and reduce speed before turning sharply, backing up, or crossing uneven ground.

Maintenance Safety

1.Keep all persons away from the operator control area while performing service or maintenance.

2.Periodically tighten all bolts, nuts, and screws and check that all cotter pins, lock pins, and retaining pins are properly installed to ensure the unit is in a safe condition.

3.Keep all pivot points, bushings, wheel assemblies, and grease fittings properly lubricated as specified in the maintenance section.

4.Inspect rake tines, tine supports, wheel brackets, offset a djustment plates, locking pins, and hitch components regularly for wear, bending, cracks, or other damage. Replace damaged parts before operation.

5.Never replace hex bolts with less than grade five bolts unless otherwise specified. Refer to the bolt torque chart for head identification markings.

Even if certain safety precautions are not specifically mentioned in this manual, always stay alert, follow safe operating practices, and operate the machine properly according to the instructions provided.

ASSEMBLY INSTRUCTIONS

Assembly procedures vary by model. If assembly is required, use appropriate lifting equipment and follow safe handling practices. Loosely assemble components first, align parts, and then tighten hardware to final torque.

The exploded views and complete parts lists are provided in the "Exploded View and Parts List" section at the end of this manual. The figures in this section are for assembly reference only.

Preparation Before Assembly

- Park the tractor and implement on a firm, level surface. Set the parking brake, shut off the engine, and remove the key.
- Check all parts and hardware against the parts lists before assembly.
- Do not place hands, feet, or any part of the body under unsupported components.
- Loosely assemble components first, then tighten hardware after all parts are aligned. All pins, lock pins, retaining clips, and lynch pins must be fully inserted and secured.
- Some bolts, nuts, pins, or washers may be shipped pre-installed in the corresponding holes. Remove and reinstall them as required during assembly.

Main Rake Assembly

Install the rake tines

1. Position the tine bar welded assembly on suitable supports with the tine mounting holes facing upward. Refer to Fig. 1.

2. Install the rake tines to the tine bar using the supplied M10 bolts, φ10 flat washers, φ10 spring washers, tine supports, and M10 nuts.

3. Install all tines in the same direction and align them evenly along the rake bar.

4. Loosely install all tine hardware first. After all tines and supports are aligned, tighten the hardware securely.

A	**Hex lock nut M10** — **X30/36/42**	**B**	**Flat washer 10** — **X30/36/42**
C	**Hex bolt M10 X 35mm** — **X26/32/38**	**D**	**Spring washer 10** — **X30/36/42**
E	**Hex bolt M10 X 50mm** — **X4**		

⚠ CAUTION!

The 60 in. model uses 30 tines, the 72 in. model uses 36 tines, and the 84 in. model uses 42 tines. The quantities of nuts, flat washers, spring washers, tine supports, and tine bolts vary by model.

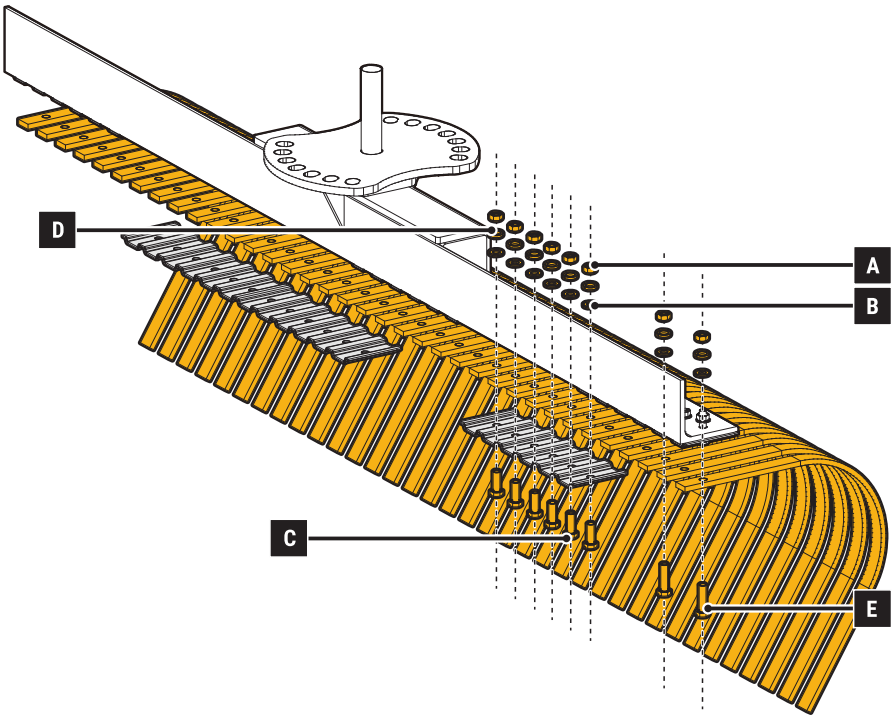


Fig. 1 **Tine Installation**

Install the mount frame to the rake assembly

1. Place the mount frame welded assembly above the center pivot area of the rake assembly. Refer to Fig. 2.
2. Align the pivot holes and install the supplied L pins, R pins with chains, and M30 lock nut as shown.
3. Make sure the mount frame can rotate smoothly for angle adjustment, but does not have excessive looseness.
4. Do not fully tighten any pivot hardware until alignment and movement have been checked.

A	**Hex lock nut M30** X1	**B**	**L pin** X1
C	**R pins** X2		

⚠ CAUTION!

This is the rake angle adjustment structure. After assembly, verify that the mount frame can rotate normally, the locking holes can align correctly, and there is no excessive looseness.

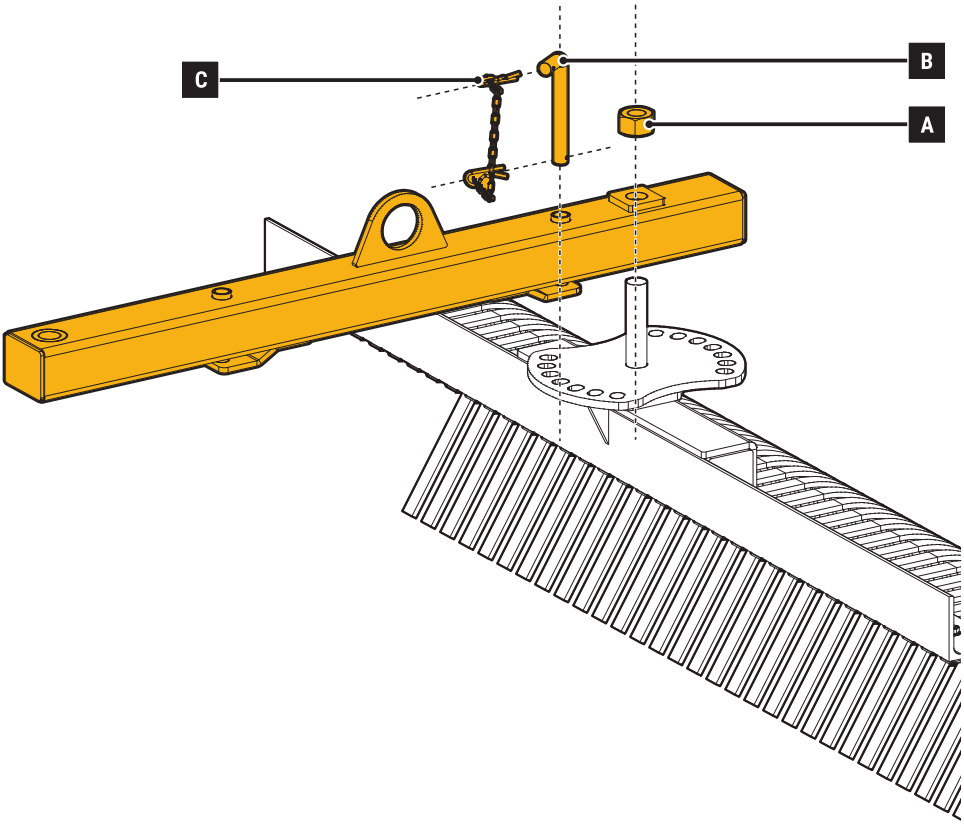


Fig. 2 **Mount Frame Installation**

Install the A-frame and parking stand

1. Position the A-frame in front of the mount frame welded assembly. Refer to Fig. 3.
2. Align the offset adjustment plate and pivot connection holes.
3. Install the M30 x 140 bolt, φ30 flat washer, and M30 lock nut as shown.
4. Install the parking stand into the A-frame receiver and secure it with the lock pin.
5. Set the rake to the desired centered or offset position. Install the locking pin and retaining clip securely.

A	**Hex lock nut M30**	**X1**	**B**	**Flat washer 30**	**X1**
C	**Hex bolt M30 X 140mm**	**X1**	**D**	**L pin**	**X1**
E	**R pins**	**X2**	**F**	**Lock Pin**	**X1**

⚠ CAUTION!

This is the left/right offset adjustment structure. Before operation or transport, make sure the offset lock pin and retaining clip are fully installed and secured.

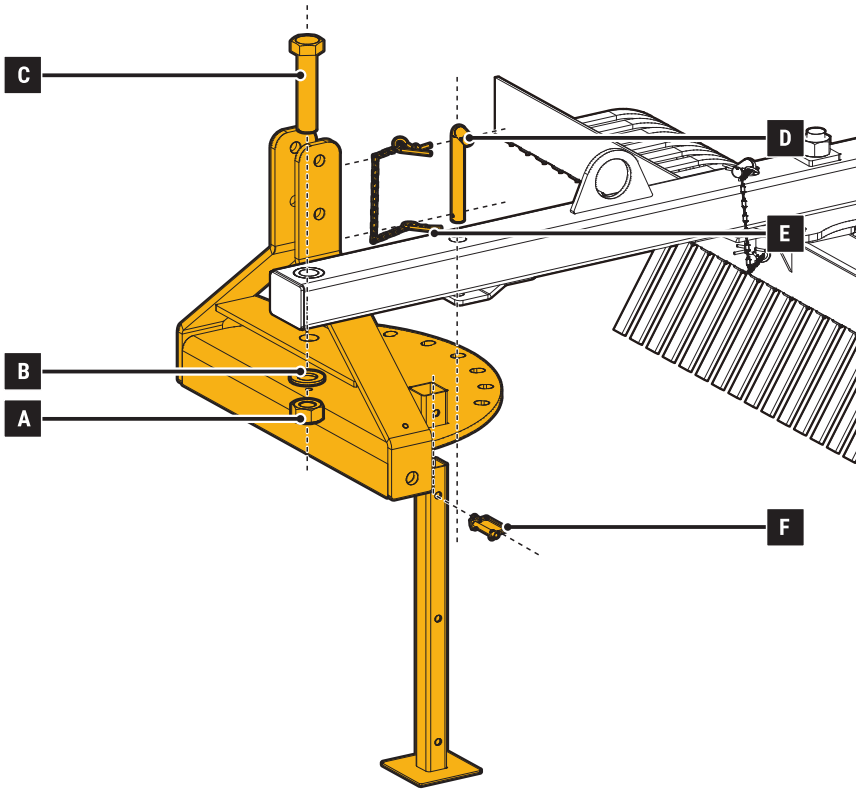


Fig. 3 **A-Frame and Stand Installation**

Install hitch pins and manual canister

1. Install the lift pins to the lower hitch points on the A-frame using φ22 flat washers, φ22 spring washers, and M22 nuts. Secure with O pins as required. Refer to Fig. 4.
2. Install the top hitch pin to the top mast and secure it with the supplied retaining pin.
3. Install the manual canister to the A-frame using the supplied M8 x 25 bolts, φ8 flat washers, and M8 lock nuts.
4. Tighten all A-frame, hitch, manual canister, and adjustment hardware to the specified torque values.

A	Hex lock nut M22	X2	B	Flat washer 22	X2
C	Spring washer 22	X2	D	O pin	X3
E	Lift Pin	X2	F	Pin Φ19	X1
G	Hex bolt M8 X 25mm	X2	H	Flat washer 8	X2
I	Hex lock nut M8	X2			

⚠ CAUTION!

The Manual canister must be securely mounted so the operator's manual can remain with the machine. All hitch pins, lock pins, and retaining clips must be installed and secured.

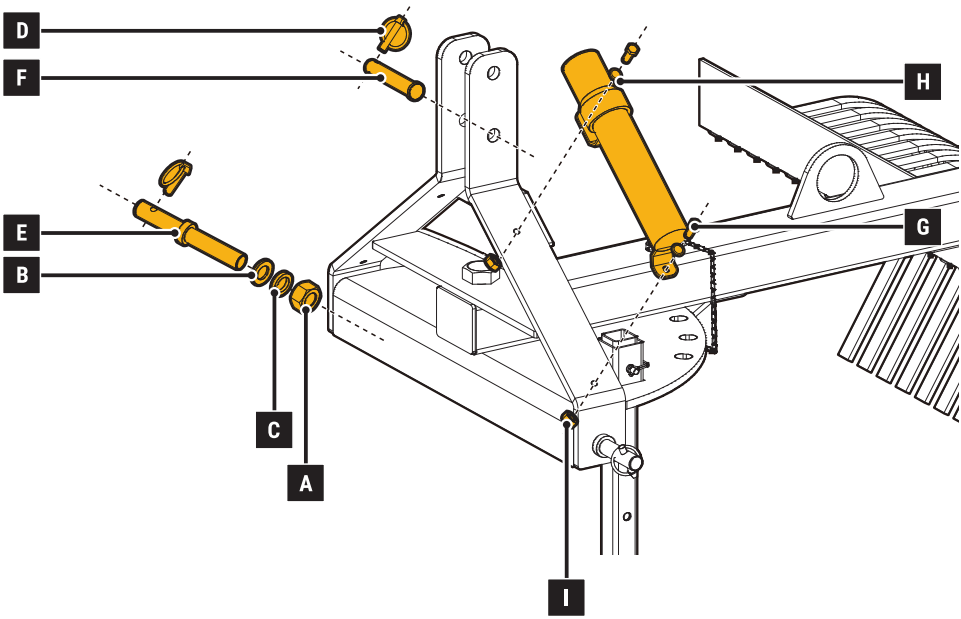


Fig. 4 **Hitch Pin and Manual Canister Installation**

Optional Gauge Wheel Kit Assembly

⚠ CAUTION!

The wheel kit is optional. If the unit is not equipped with the wheel kit, skip this section.

1. Remove all wheel kit components from the crate and verify that all parts are included.
2. Install the wheel tubes to both sides of the rake frame using the supplied M10 x 45 bolts. Do not fully tighten until both sides are aligned. Refer to Fig. 5.
3. Install the bushings, wheel holders, grease fittings, D pins, and height adjustment components as shown.
4. Assemble each wheel using the M24 x 190 bolt, spacers, bearings, wheel, φ24 flat washers, and M24 lock nut.
5. Adjust both wheels to the same height before operation. Uneven wheel height can cause poor finish and uneven tine contact.
6. Lubricate the grease fittings and check that the wheels rotate freely. Tighten all hardware securely.

A	Hex lock nut M10	X4	B	Flat washer 10	X4
C	Spring washer 10	X4	D	Hex bolt M10 X 45mm	X4
E	Hex bolt M24 X 190mm	X2	F	Flat washer 24	X6
G	Hex lock nut M24	X2	H	D Pin	X2

⚠ CAUTION!

Both gauge wheels must be set to the same height. After assembly, check that the wheels rotate freely, the wheel brackets are secure, and all pins and retaining hardware are properly installed.

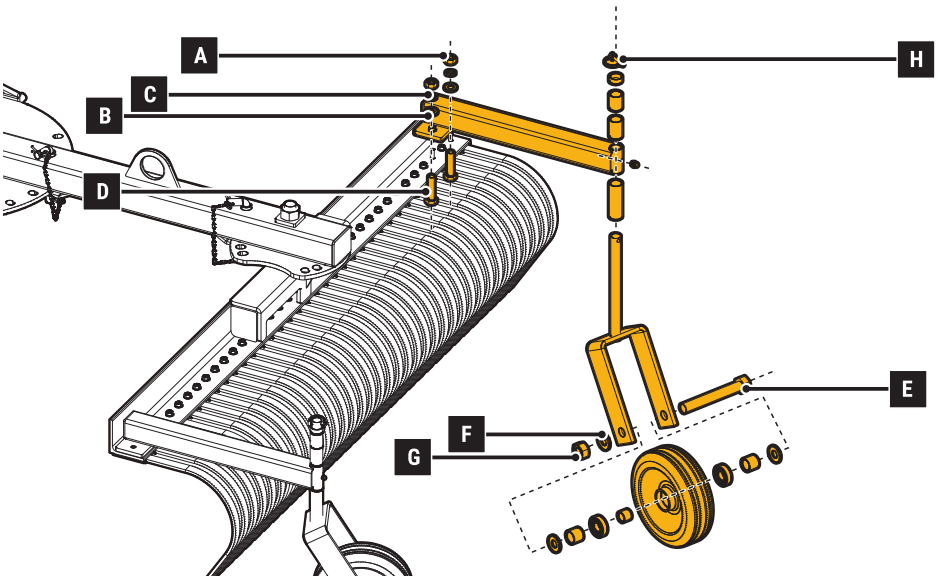


Fig. 5 **Optional Gauge Wheel Kit Installation**

Final Assembly Inspection

- All rake tines installed in the correct direction and tightened securely.
- Tine supports, rake bar, and mount frame hardware tightened.
- A-frame pivot bolt, offset adjustment plate, locking pin, and retaining clips properly installed.
- Lift pins, top hitch pin, O pins, lynch pins, and retaining clips installed and secured.
- Manual canister installed securely.
- Parking stand installed and secured.
- If equipped, both gauge wheels are installed at the same height and rotate freely.
- All grease fittings and pivot points lubricated as required.
- No loose hardware, missing pins, cracked welds, or interference during angle/offset adjustment.

Delivery Checklist

Use the following checklist prior to delivery or prior to first use:

- All components are included.
- Grease fittings checked and lubricated as needed.
- Safety decals are in place and legible.
- All hardware tight.
- Bolts torqued correctly.
- Lock pins, retaining clips, and lynch pins properly installed.
- Rake tines, tine supports, offset adjustment plate, and wheel assemblies inspected.
- Attached unit to tractor.
- Offset position and rake angle adjusted.
- Gauge wheels adjusted, if equipped.
- Test run.

Tractor Requirements And Compatibility

Ensure the tractor and implement are properly matched before use.

- The tractor must be equipped with a Category 1 3-point hitch compatible with the implement.
- Tractor horsepower must be within the implement's rating.
- Tractor must be adequately ballasted to maintain steering control and stability, especially when operating with the rake in an offset position.
- Tire track width and 3-point geometry must provide clearance for turns and transport.
- Tractor lift capacity must be sufficient for the weight of the implement and any offset load during operation.

⚠WARNING!

Use ROPS and seat belt as recommended by the tractor manufacturer.



Tractor Hook-Up

Follow this sequence for safe and correct attachment:

- Back tractor to implement and align lower lift arms with hitch points.
- Set parking brake, shut off engine, remove key, and dismount.
- Attach lower lift arms using correct hitch pins; secure with retaining clips/lynch pins.
- Attach the top link to the implement A-frame/top mast using the top hitch pin; secure with retaining clip.
- Adjust sway/limit chains or stabilizers to reduce side-to-side movement.
- Slowly raise the implement a few inches and check for interference with tires, drawbar, or other tractor components.
- Level implement side-to-side using the tractor's leveling box/turnbuckle.
- Adjust top link to set desired implement pitch, front-to-rear level or slightly nose-down per field conditions.
- Adjust the rake angle and offset position as needed for the intended operation.
- Make sure all offset adjustment pins, lock pins, retaining clips, and lynch pins are fully installed and secured before operation.

OPERATION

Operator Responsibilities

The operator must be trained and competent to operate the tractor and implement. Keep all bystanders at a safe distance. Never allow riders on the tractor or implement.

Pre-Operation Inspection

Before each use, perform a complete inspection and service check to ensure the tractor and landscape rake are in safe working condition. Do not operate if any condition affecting safe operation is found.

Landscape rake inspection items:

- Operator's manual stored in the canister and secured.
- All safety decals present and legible.
- Hitch pins properly installed and retained.
- Lock pins, retaining clips, and lynch pins properly installed and secured.
- No cracks in hitch, frame, rake bar, or offset adjustment components; weldments intact.
- All frame bolts in place and tightened to specification.
- Pivot points, bushings, and grease fittings lubricated as needed.
- Rake tines clear of mud, vegetation, wire, roots, and debris.
- Rake tines properly retained; damaged, bent, or missing tines replaced before operation.
- Tine support bolts and rake bar hardware in place and tight.
- Offset adjustment plate, pivot pin, and locking holes free of damage and properly secured.
- Gauge wheels, wheel brackets, bearings, and height adjustment pins inspected and properly secured, if equipped.

Start-Up And Field Operation

Recommended operating sequence:

- Clear the area of obstacles and foreign objects before starting work.
- Select the desired rake angle and offset position before operation. Make sure all adjustment pins and retaining clips are fully installed and secured.
- Lower the implement slowly to the ground before beginning forward motion.
- Begin at a low ground speed; increase speed only as conditions allow and the desired finish is achieved.
- Use straight passes with slight overlap to avoid ridges.
- When operating in an offset position, drive slowly and monitor tractor stability, steering response, and implement tracking.
- Avoid sharp turns while the implement is fully engaged with the ground; lift slightly before turning.
- Raise the implement before backing up, crossing rough ground, or transporting.

Operating Tips

- Dry, friable soil or loose material will produce a finer finish; overly wet soil may clod and stick to the rake tines.
- Multiple light passes are generally preferable to one aggressive pass in compacted or uneven material.
- Adjust the rake angle according to the desired material flow. A greater angle moves more material to the side, while a straighter angle provides lighter leveling and finishing.
- Use the offset position when working along fences, driveways, ditches, field edges, roadsides, or other areas where the rake needs to work outside the tractor path.
- If equipped with gauge wheels, adjust wheel height gradually to control working depth and improve the finished surface.
- Reduce ground speed in rocky, uneven, or debris-covered areas to avoid bending tines or damaging the rake frame.
- Do not use the rake to pull buried roots, large rocks, stumps, concrete, asphalt, or other immovable objects.
- Do not ram the implement into piles of soil, gravel, snow, or other heavy material.

TRANSPORT AND STORAGE

Transport

Follow these guidelines when transporting the tractor and implement:

- Raise the implement to a safe transport height and ensure adequate ground clearance.
- Make sure the rake angle, offset position, lock pins, retaining clips, and lynch pins are fully installed and secured before transport.
- If possible, place the rake in a centered or straight position for transport to reduce side overhang and improve stability.
- Reduce speed and use extra caution on turns, slopes, and rough ground.
- Allow extra clearance when transporting with the rake in an angled or offset position.
- Do not allow anyone to ride on the implement.
- Comply with all federal, state, and local roadway requirements; use lighting and marking as required.

Storage

- Clean the implement thoroughly and remove mud, vegetation, wire, roots, and debris from the rake tines, frame, wheels, and pivot areas.
- Inspect for worn or damaged parts and repair before storage.
- Lubricate all grease points prior to storage.
- Place the rake in a centered or stable position before storage, if possible.
- Lower the implement to the ground on a firm, level surface; block securely if needed.
- Make sure the stand, lock pins, retaining clips, and lynch pins are properly installed and secured.
- Protect exposed metal surfaces with rust preventive if stored outdoors or for extended periods.
- Store away from human activity and keep children away from the stored implement.

MAINTENANCE

Maintenance Schedule (Minimum Recommendations)

Before each use:

- Inspect for loose fasteners, cracked welds, and missing hardware.
- Inspect rake tines for damage, bending, wear, missing hardware, and debris buildup; clean as needed.
- Inspect tine supports, rake bar, hitch frame, and offset adjustment components for wear, bending, cracks, or other damage.
- Inspect lock pins, retaining clips, lynch pins, and hitch pins to make sure they are properly installed and secured.
- Inspect gauge wheels, wheel brackets, bearings, and height adjustment pins, if equipped.

After first 10 hours of use and every 10 hours thereafter:

- Lubricate grease fittings, pivot points, bushings, and wheel bearings with multi-purpose grease, as required.
- Re-check fastener tightness and re-torque critical hardware.
- Check the offset adjustment plate, pivot pin, locking holes, and rake angle adjustment hardware for wear or looseness.
- Replace damaged, bent, or excessively worn rake tines when needed. Replace tines as a set when practical to maintain uniform working height.

Hardware Retention and Replacement

Periodically tighten all bolts, nuts, and screws. Replace damaged fasteners with equivalent grade hardware. Use new cotter pins, lock pins, retaining clips, or retainers after removal.

TROUBLESHOOTING

Use the table below to diagnose common operating issues.

PROBLEM	POSSIBLE CAUSE	REMEDY
Rake tines bounce or do not stay on the ground	Ground speed too high; implement pitch incorrect; gauge wheels set too low, if equipped	Reduce speed; adjust top link; adjust gauge wheels if equipped; make multiple light passes
Rake tines bend or are damaged	Turning while tines are engaged; striking rocks, stumps, roots, or other fixed objects	Raise implement before turning; clear obstacles; reduce speed; replace damaged tines
Rake does not move material effectively	Rake angle too straight; tines not contacting material properly; material too wet or compacted	Adjust rake angle; adjust top link or gauge wheels; make multiple passes
Uneven finish or ridges	Implement not level; overlap inconsistent; rake angle too aggressive	Level implement side-to-side and front-to-rear; maintain consistent overlap; reduce rake angle
Offset position shifts during operation	Lock pin not fully secured; retaining clip missing; pivot hardware loose or worn	Stop operation; secure lock pin and retaining clip; inspect and tighten pivot hardware
Excessive noise or vibration	Loose hardware; dry pivot points or wheel bearings; debris caught in moving areas	Tighten hardware; clean debris; lubricate pivot points, bushings, and wheel bearings

TORQUE GUIDELINES

The tables shown below give the correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same length and grade of bolt.

TORQUE VALUES CHART FOR COMMON BOLT SIZES

Bolt Size (Inches) in-tpi[1]	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8	
	N.m[2]	ft-lb[3]	N.m	ft-lb	N.m	ft-lb
1/4"-20	7.4	5.6	11	8	16	12
1/4"-28	8.5	6	13	10	18	14
5/16"-18	15	11	24	17	33	25
5/16"-24	17	13	26	19	37	27
3/8" -16	27	20	42	31	59	44
3/8" -24	31	22	47	35	67	49
7/16" -14	43	32	67	49	95	70
7/16"-20	49	36	75	55	105	78
1/2" -13	66	49	105	76	145	105
1/2" -20	75	55	115	85	165	120
9/16"-12	95	70	150	110	210	155
9/16"-18	105	79	165	120	235	170
5/8" - 11	130	97	205	150	285	210
5/8" -18	150	110	230	170	325	240
3/4" -10	235	170	360	265	510	375
3/4" -16	260	190	405	295	570	420
7/8" -9	225	165	585	430	820	605
7/8" -14	250	185	640	475	905	670
1"-8	340	250	875	645	1230	910
1"-12	370	275	955	705	1350	995
1-1/8"-7	480	355	1080	795	1750	1290
1-1/8" -12	540	395	1210	890	1960	1440
1-1/4"-7	680	500	1520	1120	2460	1820
1-1/4" -12	750	555	1680	1240	2730	2010
1-3/8"-6	890	655	1990	1470	3230	2380
1-3/8" -12	1010	745	2270	1670	3680	2710
1-1/2" -6	1180	870	2640	1950	4290	3160
1-1/2" -12	1330	980	2970	2190	4820	3560

Bolt Size (Inches) mm x pitch[4]	Bolt Head Identification					
	 Class 5.8		 Class 8.8		 Class 10.9	
	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb
M5X0.8	4	3	6	5	9	7
M6X1	7	5	11	8	15	11
M8X 1.25	17	12	26	19	36	27
M8X1	18	13	28	21	39	29
M10X 1.5	33	25	52	39	72	53
M10X0.75	39	29	61	45	85	62
M12X 1.75	58	42	91	67	125	93
M12X 1.5	60	44	95	70	130	97
M12X1	90	66	105	77	145	105
M14 X2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16X2	145	105	225	165	315	230
M16X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24X3	480	355	760	560	1050	780
M24 X2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30×2	1060	785	1680	1240	2320	1710
M36 X3.5	1730	1270	2650	1950	3660	2700
M36X2	1880	1380	2960	2190	4100	3220

[1] in-tpi = nominal thread diameter in inches-threads per inch

[2] N.m= newton-meters

[3] ft-lb= foot pounds

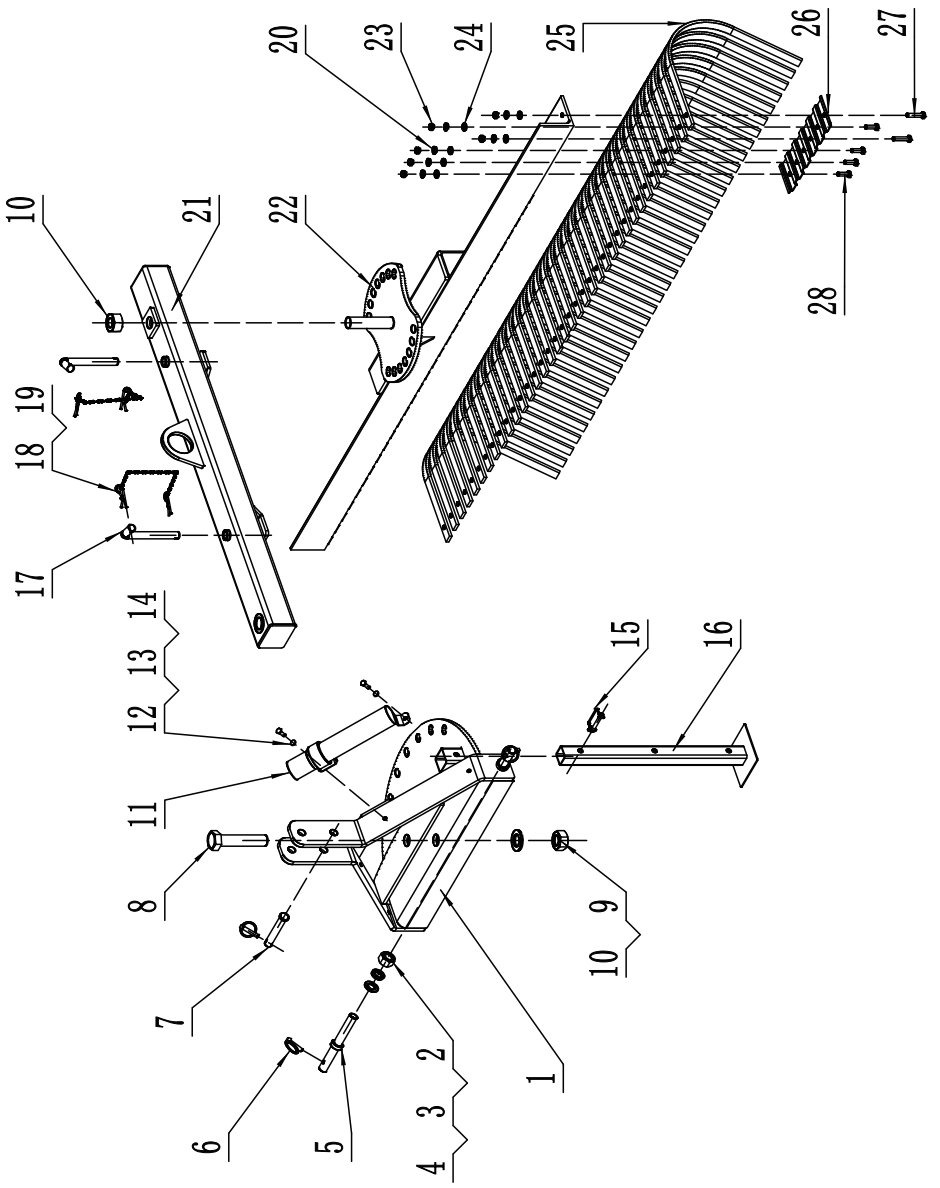
[4] mm x pitch = nominal thread diameter in millimeters x thread pitch

Torque tolerance +0%,-15% of torquing values. Unless otherwise specified use torque values listed above.

Torque figures indicated above are valid for non-greased or non-oiled threads and heads otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

PARTS DIAGRAM

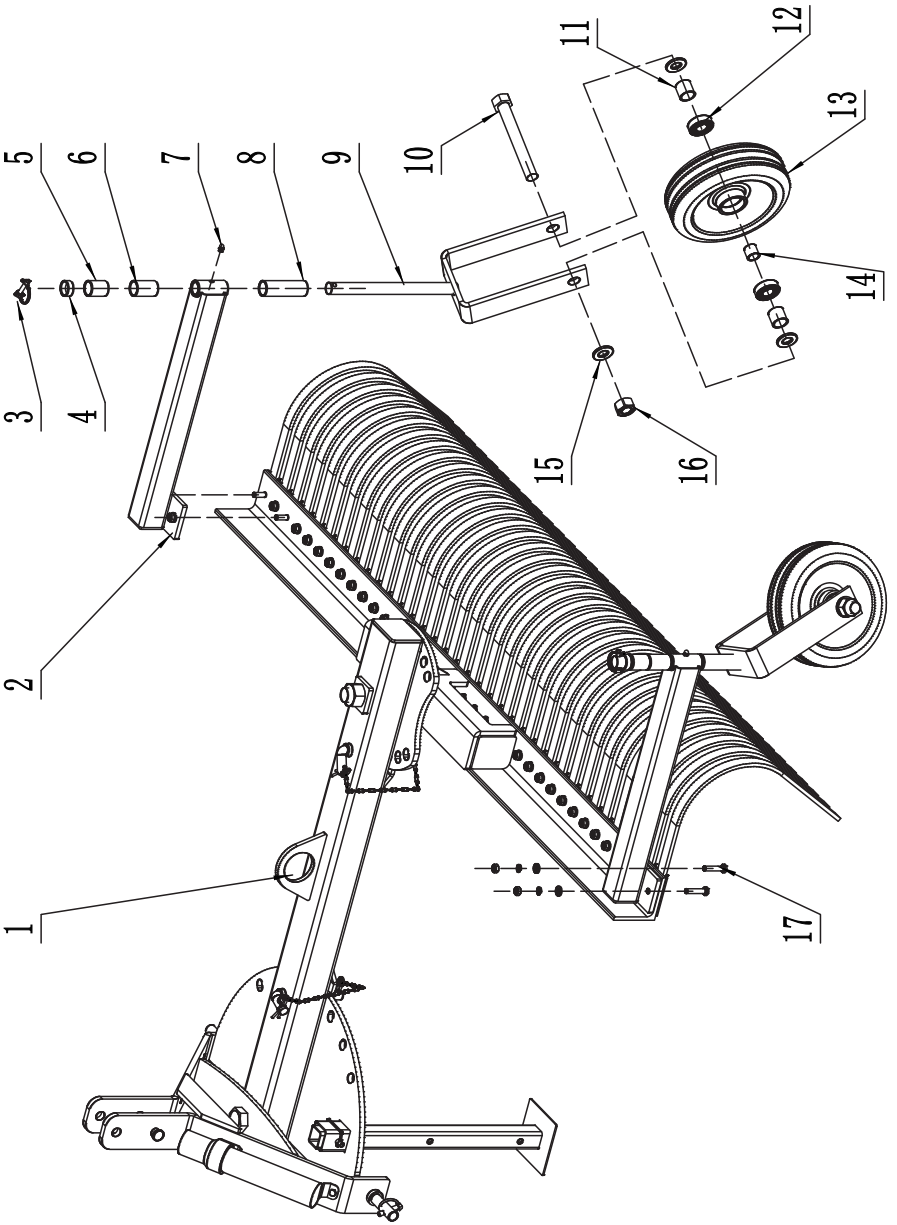
Offset Landscape Rake Assembly



Parts List

NO.	DESCRIPTION	QTY.
1	A Frame	1
2	Flat washerφ22	2
3	Spring washerφ22	2
4	Nut M22	2
5	Lift Pin	2
6	O Pin	3
7	Pin φ19	1
8	Bolt M30*140	1
9	Flat washerφ30	1
10	Lock Nut M30	2
11	Manual canister	1
12	Bolt M8*25	2
13	Flat washerφ8	4
14	Lock Nut M8	2
15	Lock Pin	1
16	Stand	1
17	L Pin φ19	2
18	R Pin	4
19	Chain	2
20	Spring washerφ10	30/36/42
21	Mount Frame Welded	1
22	Tine Bar Welded	1
23	Nut M10	30/36/42
24	Flat washerφ10	30/36/42
25	Tine	30/36/42
26	Tine Support	5/6/7
27	Bolt M10*50	4
28	Bolt M10*35	26/32/38

Wheels Assembly (ONLY FOR LRA60W, LRA72W, LRA84W)



Parts List

NO.	DESCRIPTION	QTY.
1	Rake	1
2	Tube	2
3	D Pin	2
4	Bushing 1	2
5	Bushing 2	2
6	Bushing 3	2
7	Grease Fitting	2
8	Bushing 4	2
9	Wheel Holder	2
10	Bolt M24*190	2
11	Spacer 1	4
12	Bearing	4
13	Wheel	2
14	Spacer 2	2
15	Flat washerφ24	6
16	Lock Nut M24	2
17	Bolt M10*45	4

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