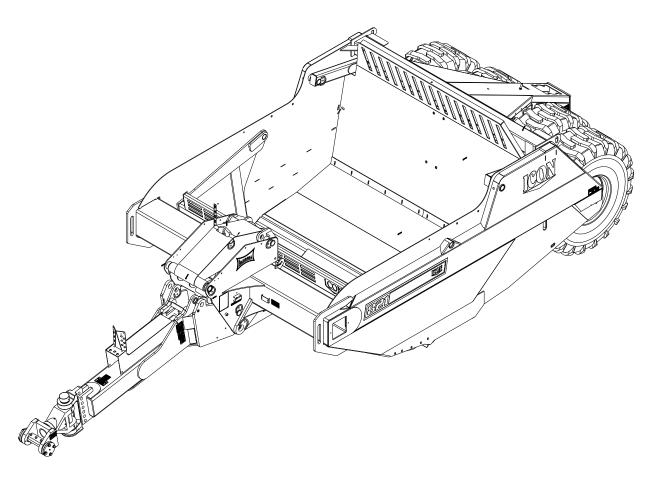


Model 821 Scraper Service and Parts Manual



LANDOLL CORPORATION

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Foreword

Literature Information

This information should be stored in the literature holder located on the machine.

This manual contains safety information, operating instructions, lubrication and maintenance information.

Some of the photographs or illustrations in the publication show details that can differ slightly from your personal machine. Shields and covers may have been removed to allow for illustrations.

Constant improvement and knowledge of product design may cause changes to your personal machine that is not listed in this manual. Read, understand, and keep this manual with the machine to aid in repairs, adjustment, service and parts identification.

Whenever a question arises regarding your machine, or this manual, please contact Product Support for assistance.

Safety

The safety section of this manual lists basic safety precautions. In addition, this section shows the location of safety signs and decals used on this machine.

Read and understand the basic precautions listed in the safety section before operating or performing lubrication, maintenance or repair work on this machine.

NOTE: Before any service or repair work is performed, make certain that all safety stops are in place.

Be certain to remove all safety stops when repairs are complete.

Operation

This operation section is a reference guide for the new operator and a refresher for the experienced operator. Operating techniques shown are basic, skill and technique will increase with knowledge and usage of the machine.

Maintenance

The maintenance section is a guide to machine care. The illustrated step by step procedures covers the most important of the maintenance schedule. Regular routine lubrication is described in less detail.

Maintenance Intervals

Normally, all lubrication should be on a daily basis. However, certain locations only require lubrication on a weekly basis or require a specific quantity. These locations will be marked clearly, showing and describing requirements.

Under extremely severe, dusty/wet/sandy conditions, or if the haul is long and rough, more frequent lubrication and inspection of highly stressed areas is recommended.

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Safety Information

Introduction

This manual is compiled as a guide for owners and operators of the Scraper. Read it carefully so as to be able to follow the suggestions made. Please take time to understand the proper maintenance schedule and SAFE operation of your equipment.

In the event that a new and inexperienced operator is placed in charge of running the equipment, they should read and understand, that part of the manual for proper maintenance and SAFE operation, and to be trained in regard by an experienced operator.

Owner Assistance

If customer service or repairs are needed, contact your loon dealer. They have trained personnel, parts and service equipment specially designed for Icon products. Your machine's parts should only be replaced with Icon parts. Have the Serial Number and complete Model Number available when ordering parts from your Icon dealer (See Figure 2-1.)



Figure 2-1: ID Plate

Warranty Registration

Be certain to register the grader, by Online registration at <u>www.landoll.com</u> within 10 days of purchase or lease, in order to be on file at Landoll and eligible for Warranty.

Take time to read and understand the Warranty for this product. That Warranty is printed in the Owner's Manual (See Figure 2-2), and a separate copy enclosed in the packet.

ICON/Landoll reserves the right to make changes and/or add improvements to it's products at any time without obligation to previously manufactured equipment.

Please take time to complete the following information for your personal reference, should you need to contact your Dealer with questions or parts needs.

MODEL	
SERIAL #	
DATE OF PURCHASE	
DEALER NAME	

We at ICON/Landoll wish to thank you for purchasing our product. We have spent considerable time and effort to research, design, test and develop this machine and are confident it will serve you in the use for which it was designed.

LANDOLL CORPORATION Product Warranty

LANDOLL CORPORATION 1600 W. 8th St. Beloit KS 67420 (referred to as LANDOLL in this document)

LANDOLL shall Warrant workmanship and materials on the **ICON Industrial Products** for a period of 270 calendar day from the date of original purchase, lease, or rental, from the original Dealer, and in accordance with the following terms and conditions.

Should any part or component fail within the Warranty period, and under normal use conditions, LANDOLL shall supply a new part or component for replacement through the original Dealer. Cost of normal ground freight, for that part or component to the Dealer, shall be paid by LANDOLL. Repair and replacement labor cost, from the original Dealer, shall be paid by LANDOLL at a rate negotiated by LANDOLL.

No further expense shall be paid by LANDOLL, including but not limited to, loss of time or income.

LANDOLL shall not provide Warranty on any part or component that has failed due to abuse, misuse, alteration, improper maintenance, or normal wear. Failure occurring while being pulled by a tractor in excess of engine horsepower, as described in the owners manual and/or posted on the machine, is considered abuse and misuse and shall not receive Warranty. Warranty applies only to normal. intermittent agricultural use, and not commercial or industrial use.

In regard to some components manufactured by other companies and sold by LANDOLL, including but not limited to tires, said Warranty shall be provided solely by that manufacturing company.

This Warranty applies to products sold in the United States and Canada, and is made expressly in place of all other warranties, expressed or implied.

Understanding Safety Statements

You will find various types of safety information on the following pages and on the machine decals (signs) attached to the implement. This section explains their meaning.

NOTICE

Special notice - read and thoroughly understand.



CAUTION

Proceed with caution. Failure to heed caution may cause injury to person or damage product.



WARNING

Proceed with caution. Failure to heed warning <u>will</u> cause injury to person or damage product.



DANGER

Proceed with extreme caution. Failure to heed notice will cause injury or death to person and/or damage product.

NOTE

Means that failure to follow these instructions could cause damage to the equipment or cause it to operate improperly.

NOTE

Make sure you read and understand the information contained in this manual and on the machine signs (decals) before you attempt to operate or maintain this vehicle.

The safety statements contained in this manual relate to the operation of the Grader.

NOTE

You should read and understand the information contained in this manual and on the machine decals before you attempt to operate or maintain this equipment.

- Examine safety decals and be sure you have the correct safety decals for the machine. Order replacement decals through your Icon dealer.
- Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the machine. Wash with soap and water or a cleaning solution as required.
- Replace decals that become damaged or lost. Also, be sure that any new machine components installed during repair include decals which are assigned to them by the manufacturer.
- When applying decals to the machine, be sure to clean the surface to remove any dirt or residue. Where possible, sign placement should protect the sign from abrasion, damage, or obstruction from mud, dirt, oil etc.

DANGER

- Keep Riders Off of Machinery
- Do not allow anyone to ride on tractor or machine. Riders could be struck by foreign objects or thrown from the machine.
- Never allow children to operate equipment.
- Keep bystanders away from machine during operation.

Safety Decals

See Decal Listing for decal locations.

NOTE

Replace all missing or damaged safety signs/decals.

Pinching or Crushing Danger

- Moving parts that are operated by hydraulic pressure can cause serious injury or death.
- 2. Use extreme caution when working around any moving part.
- 3. Do not allow any person to be on or near the machine while it is in motion.

Moving Parts

- 1. Be aware of all moving parts of the machine.
- Do not allow anyone to be near, or on the machine while operating any moving part.

Danger

- 1. Read and understand the operator's manual before using the machine.
- Allow no person to operate the machine before reading the manual and being instructed on proper operation.

Caution

This machine is designed for off road use only.

Danger, High Pressure

- 1. High pressure fluid can cause serious damage to hands and eyes.
- 2. Carefully relieve pressure before attempting any
- adjustments.
- 4. Tighten all fittings before applying pressure.

NOTE

If fluid is sprayed into eyes or injected into skin, **See a** doctor immediately!

Lubrication

- 1. Lubrication information is placed near each zerk.
- 2. Proper maintenance should be followed to assure the working life of the machine.

Proper Notification

- 1. Contact the proper authorities before you dig.
- When digging in a populated area, it is recommended that a call be made to area utilities to establish the local of any buried pipes, lines, or structures. When digging in open areas, research and know the local of any underground structures and objects.
- Striking the blades or bits against buried objects can cause damage to the machine, and is considered as abuse to the unit.

Storage Recommendations

NOTE

If the machine is being stored or not in use for a long period of time, it is recommended that a coating of heavy grease be applied to the exposed chrome cylinder rods. This will help to protect the coating from moisture and rust during this time.

Standard Specifications

Model Specification

Specification Sp				
	Model 821			
Capacity Struck	18.4yd			
Capacity Heaped	21 yd			
Shipping Weight	28,900 lbs			
Width of Cut	11'			
Overall Width	11' - 11"			
Transport Height	9' - 1"			
Replaceable Cutting Edge Center	7/8" X 19" X 60"			
Replaceable Cutting Edge Outside	7/8" X 13" X 35.75"			
Ground Clearance Full Raised	18"			
Maximum Cut Depth	9"			
Length Overall	29' - 3"			
Cylinders Lift	5.5" X 22"			
Cylinders Gate	6" X 22"			
Cylinders Push Off	5 X 40"			
Hydraulic Hoses	3,000 psi rated			
Hydraulics use a Sequencing Valve and requires 2 Tractor Remotes	2 Valve System			
Hitches	Cast 360° Swivel			
Grease Locations	30 total			
Safety Warning Lights	Standard LED			
Hub & Spindle	10 Bolt 25,000lbs.			

Tire Inflation						
Tire Size	Tire Manufacturer	Ply/Load Rating	Inflation Pressure (Psi) (Max.)			
23.5 X 25	Titan or equivalent	16 Ply 20,900LBS. @ 5MPH	44 psi			
20.5 X 25	Titan or equivalent	20 Ply 20,900LBS. @ 5MPH	65 psi			

Recommended Torque	Specification For Lug Bolts and Nuts
Bolt Size	Torque (FT. LBS.)
7/8-14	450ft. lbs.

General Torque Specifications (rev. 4/97)

TORQUE SPECIFIED IN FOOT POUNDS - This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and cap-screws assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 cap-screws. Use value in [] if using prevailing torque nuts.

UNC SIZE		AE de 2		AE de 5		AE de 8	UNF SIZE		AE de 2		AE ide 5		AE ide 8
1/4-20	4	[5]	6	[7]	9	[11]	1/4-28	5	[6]	7	[9]	10	[12]
5/16-18	8	[10]	13	[13]	18	[22]	5/16-24	9	[11]	14	[17]	20	[25]
3/8-16	15	[19]	23	[29]	35	[42]	3/8-24	17	[21]	25	[31]	35	[44]
7/16-14	24	[30]	35	[43]	55	[62]	7/16-20	27	[34]	40	[50]	60	[75]
1/2-13	35	[43]	55	[62]	80	[100]	1/2-20	40	[50]	65	[81]	90	[112]
9/16-12	55	[62]	80	[100]	110	[137]	9/16-18	60	[75]	90	[112]	130	[162]
5/8-11	75	[94]	110	[137]	170	[212]	5/8-18	85	[106]	130	[162]	180	[225]
3/4/10	130	[162]	200	[250]	280	[350]	3/4-16	150	[188]	220	[275]	320	[400]
7/8-9	125	[156]	320	[400]	460	[575]	7/8-14	140	[175]	360	[450]	500	[625]
1-8	190	[237]	408	[506]	680	[850]	1-14	210	[263]	540	[675]	760	[950]
1-1/8-7	270	[337]	600	[750]	960	[1200]	1-1/8-12	300	[375]	660	[825]	1080	[1350]
1-1/4-7	380	[475]	840	[1050	1426	[1782]	1-1/4-12	420	[525]	920	[1150]	1500	[1875]
1-3/8-6	490	[612]	1010	[1375]	1780	[2225]	1-3/8-12	560	[700]	1260	[1575]	2010	[2512]
1-1/2-6	650	[812]	1460	[1825]	2360	[2950]	1-1/2-12	730	[912]	1640	[2050]	2660	[3325]
1-3/4-5	736	[920]	1651	[2063]	2678	[3347]	1-3/4-12	920	[1150]	2063	[2579]	3347	[4183]

METRIC:

Coarse thread metric class 10.9 fasteners and class 10.0 nuts and through hardened flat washers, phosphate coated, Rockwell "C" 38-45. Use value in [] if using prevailing torque nuts.

Nominal thread diameter (mm)	Newton Meters (Standard Torque)	Foot Pounds (Standard Torque)	Nominal Thread Diameter (mm)	Newton Meters (Standard Torque)	Foot Pounds (Standard Torque
6	10 [14]	7 [10]	20	385 [450]	290 [335]
7	16 [22]	12 [16]	24	670 [775]	500 [625]
8	23 [32]	17 [24]	27	980 [1105]	730 [825]
10	46 [60]	34 [47]	30	1330 [1470]	990 [1090]
12	80 [125]	60 [75]	33	1790 [1950]	1340 [1450]
14	125 [155]	90 [115]	36	2325 [2515]	1730 [1870]
16	200 [240]	150 [180]	39	3010 [3210]	2240 [2380]
18	275 [330]	205 [245]			

Table 3-1: General Torque Specifications

Hydraulic Fitting Torque Specifications

TORQUE IS SPECIFIED IN FOOT POUNDS- 37° JIC, ORS, & ORB (REV. 10/97)

This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [] if using prevailing torque nuts.

Parker Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-13	15-17	13-15
-5	14-16		21-23
-6	20-22	34-36	25-29
-8	43-47	58-62	40-44
-10	55-65	100-110	58-62
-12	80-90	134-146	75-85
-16	115-125	202-218	109-121
-20	160-180	248-272	213-237
-24	185-215	303-327	238-262
-32	250-290		310-340

Gates Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	10-11	10-12	14-16
-5	13-15		
-6	17-19	18-20	24-26
-8	34-38	32-40	37-44
-10	50-56	46-56	50-60
-12	70-78	65-80	75-83
-14		65-80	
-16	94-104	92-105	111-125
-20	124-138	125-140	133-152
-24	156-173	150-180	156-184
-32	219-243		

Aeroquip Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-12	10-12	14-16
-5	15-16		16-20
-6	18-20	18-20	24-26
-8	38-42	32-35	50-60
-10	57-62	46-50	75-80
-12	79-87	65-70	125-135
-14			160-180
-16	108-113	92-100	200-220
-20	127-133	125-140	210-280
-24	158-167	150-165	270-360
-32	245-258		

Table 3-2: Hydraulic Fitting Torque Specifications

A quality, high temperature grease should be used when lubricating the machine. Most areas of lube are scheduled daily, (8 to 10 hrs. of running). There are 27 grease zerks on the 800 Series that should be greased daily. There are also 2 zerks per axle that are greased weekly with 3 pumps of grease. (Reference to their location is listed in the Grease Guide, at the front of this book.

All bolts are torqued at the factory during assembly. After 24 to 36 hours of running, the Dealer service should recheck the torque on bolts, wheel, axle, and pin retainers. Each time the machine is greased, the operator or maintenance should look at these areas and the bolts involved, to be sure none are working loose. After each 1000 hours of operation with the machine, the hitch, wheel, axle and pin retainers should be retorqued, per the torque value chart in this manual. The axle jam nuts should be adjusted to a snug fit, seating the bearings, then locked in place with the outside star washer.

For safety, identification, and general information, all missing or damaged decals on the machine should be replaced.

The ICON earthmovers have the interior of the bowl painted with a carbon base graphite paint, which rejects dirt. Should that paint wear off over a period of time, replacement paint may be ordered by the gallon through the original Dealer.

The cutting bits for the the earthmover are available through ICON. The bevel is reversed as compared to the normal bits, in order to make loading easier in tough ground. The reverse bevel will not have the same longevity in wear as the normal bevel. Replacement bits may be ordered from ICON, or your Dealer. Refer to the cutting edge section of this manual for size and part numbers. A new set of bits and side router edges have been added to the available options. The center stinger bit is 3 inches longer, to allow a more aggressive cut, and the side bits are 4 inches longer, to aid in loading by slicing the ground on the out edges.

All retaining pins have replaceable bushings. Watch the pin locations in action to review for loose and worn operation.

All 800 series machines come standard with a ride cushioning accumulator. This unit is charged to 650 psi and is located inside the access door on the main frame. (see photos)

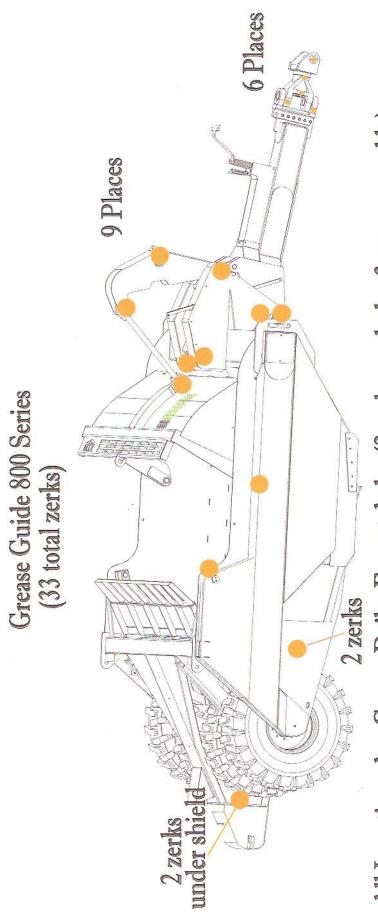
The timing of the loaded machine is critical to it's performance. On a 2 valve setup, it is important that the gate and push off wall work as they should. Adjustments to the timing can be made at the sequence block on the tongue of the machine. (Refer to the timing chart in the manual for instructions).

Remember, the longevity of your machine will depend on proper operation and maintenance.

Warning!

To prevent a hazardous situation, which if not avoided can result in injury or death, read and follow these instructions!

- Read and understand the operator's manual before operating the machine. Allow no one to operate the machine before reading the manual and being instructed on the proper operation.
- Before servicing the machine, block the wheels, shut the tractor off, set the brakes, and remove the key. If working under the machine, block the machine up for a safe and secure working area. Apply any safety stops provided.
- When working with hydraulic lines, cylinders, or fittings, wear protective clothing and safety glasses to guard against high pressure oil leaks.
- Do not allow anyone on, or near the machine while it is running or in motion.
- Do not operate the machine on a steep incline or slope that could create an imbalance or rollover.



All Locations Are Grease Daily, Except Axles (2 zerks per hub - 3 pumps weekly)

About the ICON 821 Limited Warranty......

The ICON 821 scraper is designed with front lowering and a push bumper on the rear. The responsibility of use of this push bumper is left up to the discretion of the owner and operator.

When push loading a pull type scraper, there are many issues to contend with so as not to damage the scraper or the pull type tractor. The most important is the operator. The push tractor can be an issue. Size and power must be kept within reasonable range. Should the pull tractor operator put the scraper bit too deep into the ground, damage can occur due to undue stress on the frog of the scraper. A straight push is necessary. Out of line or side stress can damage the rear frame and possibly the scraper tires. Hard hits on link up with the push bumper can also damage the machine. Whether loading single or tandem machines, care must be taken not to jackknife the machines. Trained operators and common sense will create less damage and downtime. When pushing in a bogged down or stuck condition, extreme care must be taken so as not to side stress or damage the rear frame.

Due to the many ways in which the scraper can be damaged while pushing.

ICON will not Warranty damage to the scraper occurred while pushing.



Mounting/Dismounting of Earthmover

Hook Up

NOTE: The ICON hitch is designed for safety, and one man operation — However, as with any moving part, the potential for injury is present. Be aware of your surroundings while backing. Make certain no one is between the scraper and the tractor while backing. Keep hands, feet and all body parts away from any machine component that pivots, swings, or moves in any way, to avoid a potential injury.



Back the power unit into position, attach the hydraulic lines. Pull the snap pin and slide the lock down pin out, allowing the lock down ears to pivot forward.

(shown in the adjoining photo)

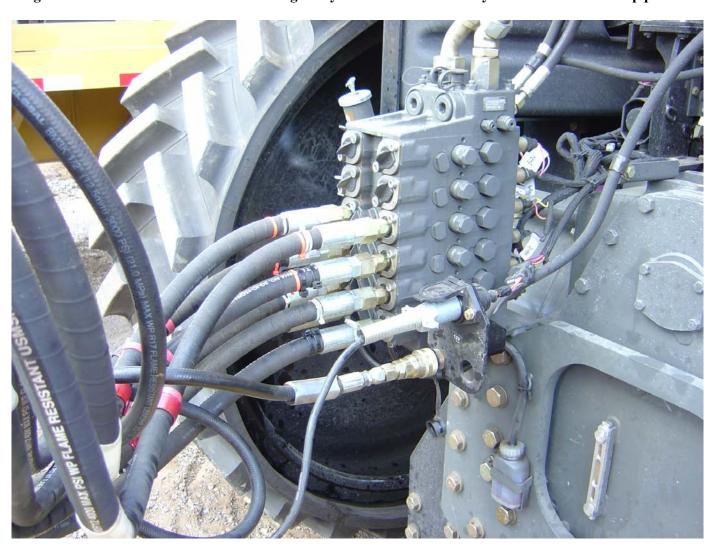
Position the swivel hitch above the quick hitch, and hydraulically lower it into the cradle of the quick hitch. Pivot the lock down ears over the adapter and replace the lock down pin and snap pin. Valve #1 should be placed in the #1 outlet (raise/lower) # 2 should control the gate/wall.

If the machines are being pulled as a tandem unit, Valve #3 should control the gate/wall of the tandem machine and Valve #4 should control the raise/lower of the tandem machine.

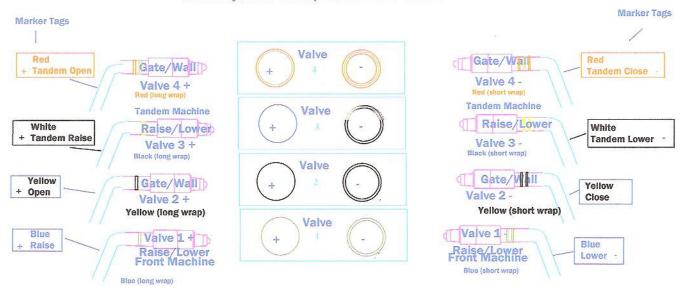
This hook up is only recommended, the operator should adjust for his/her own convenience.

Shown below is the current hydraulic configuration of the 800 Series Challenger. The covers are marked with a + or -, and the ICON hoses are marked accordingly. Also the optional brake hook up is shown.

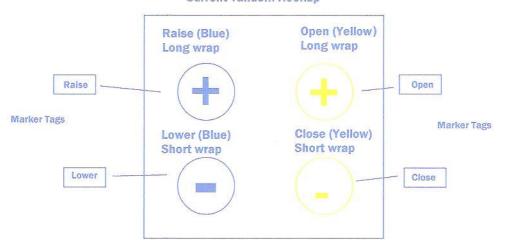
NOTE: High Pressure fluid can cause serious damage to eyes and hands. See Safety Section for safe hookup procedures.



Current Hydraulic Hookup For MT series Tractors



Shown rear of front scraper Current Tandem Hookup



Hitch Options For The 821 Earthmover





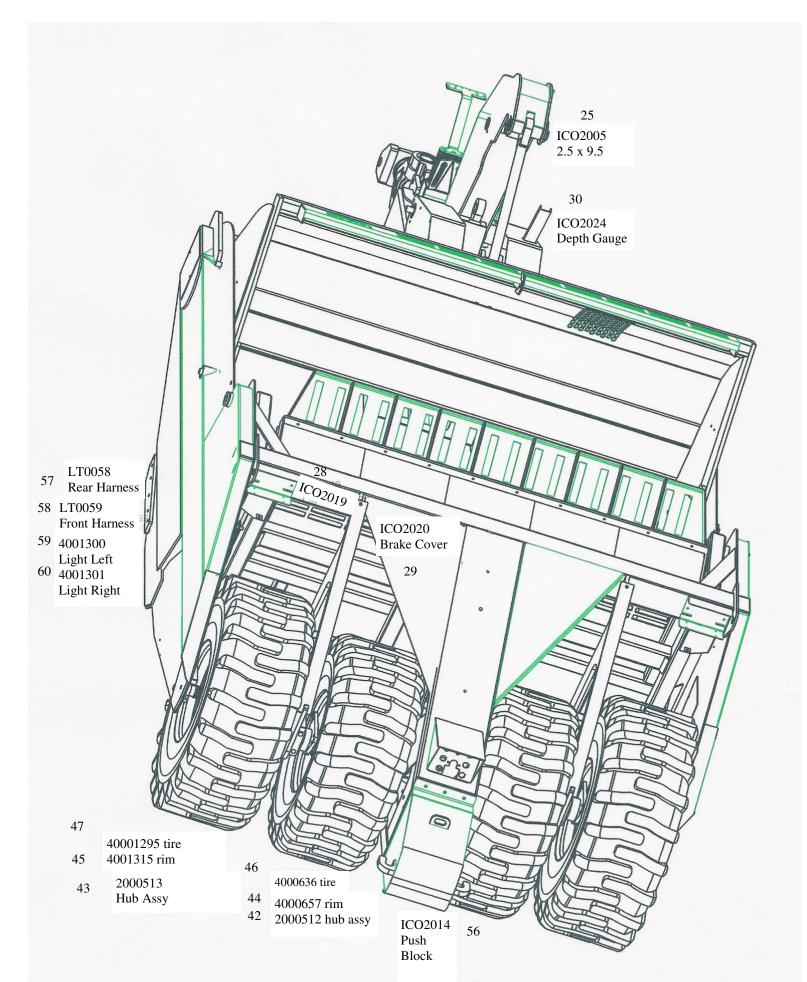
Parts Listing For 821 Earthmover

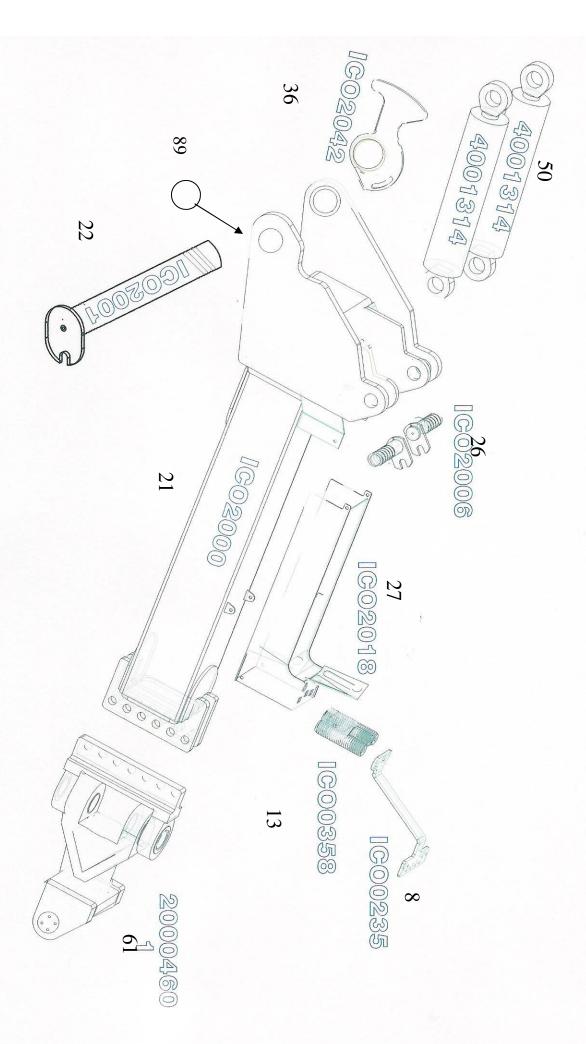
Ref#	Part #	Description	Qty
1.	ICO0204	Push Off Wear Strip	2
2.	ICO0206L	Left Side Cutting Edge	1
3.	ICO0206R	Right Side Cutting Edge	1
4.	ICO2089	Push Off Linkage	2
5.	ICO0213	Push Off Support	1
6.	ICO2045	Pin, 1 1/2" x 4 1/4" (chrome)	4
7.	ICO1128	Brake Hose Protector	4
8.	ICO0235	Hose Support	1
9.	ICO0236	Push Off Pin Cap	2
10.	ICO0259	Push Off Frame	1
11.	ICO2046	Push Off Wall	1
12.	ICO0335	Axle Nut Wrench	1
13.	ICO0358	Hose Support Spring	3
14.	ICO0420	Pin, 2 1/2" x 5 3/8"	3
15.	ICO0464	Accumulator Mount	$\frac{3}{2}$
16.	ICO0498	Gate Link	1
16. 16a	ICO2132	Gate Link Gate Link (new after #6297)	1
10a 17.	ICO2132 ICO0501	Pin, 2 1/2" x 4 1/2"	3
18.	ICO0501	Tandem Coupler Holder	1
16. 19.	ICO0512 ICO0523	Pin, Gate Tapered	2
20.	ICO0525	Pin, 2 1/2" x 10 3/4" (PO Frame)	$\frac{2}{2}$
20.	ICO0323 ICO2000		1
22.	ICO2000 ICO2001	821 Straight Hitch Pin, 32 3/8" x 3 1/2"	
23.	ICO2001 ICO2002	821 Gate Arm	1
			1
24.	ICO2003	Pin, 31 13/16" x 2 1/2"	1
25.	ICO2005	Pin, 9 1/2" x 2 1/2"	4
26.	ICO2006	Pin, 6 1/16" x 2 1/2"	2
27.	ICO2018	Hose Guard	1
28.	ICO2019	Light Holder	2
29.	ICO2020	Brake Cover	2
30.	ICO2024	Depth Gauge	1
31.	ICO2108	Cylinder Stop (gate)	1
32.	ICO2031	Accumulator Valve Bracket	1
33.	ICO2032	Accumulator Valve Bracket #2	1
34.	ICO2033	Tongue Cover (right)	1
35.	ICO2041	Tongue Cover (Left)	1
36.	ICO2042	Accumulator Valve Actuator	1
37.	ICO2043	821 Gate	1
37a	ICO2101	821 Gate (new style after # 6297)	1
38.	ICO2044	Accumulator Valve Mounting Block	1
39.	ICO2079	Safety Stop (lift)	1
40.	4000851	Cutting Edge, 7/8 x 13 x 35.75"	2
41.	4000951	Cutting Edge, 7/8 x 16 x 60"	1
42.	2000512	Hub Assembly 28"	2
43.	2000513	Hub Assembly 29"	2
44.	4000657	Rim, 17 x 25 3pc.	2
45.	4001315	Rim, 19 x 25 5pc.	2

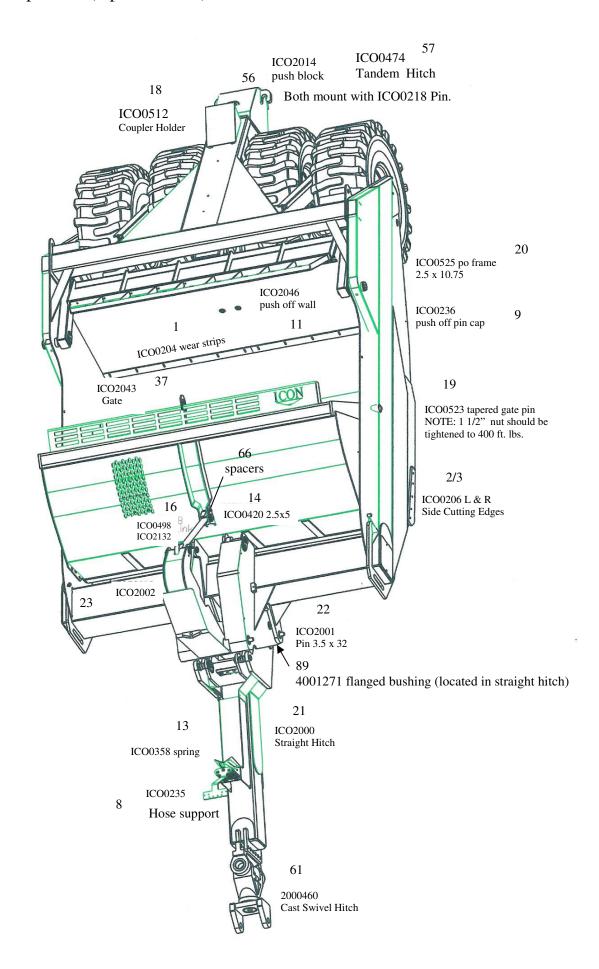
Parts Listing For 821 Earthmover

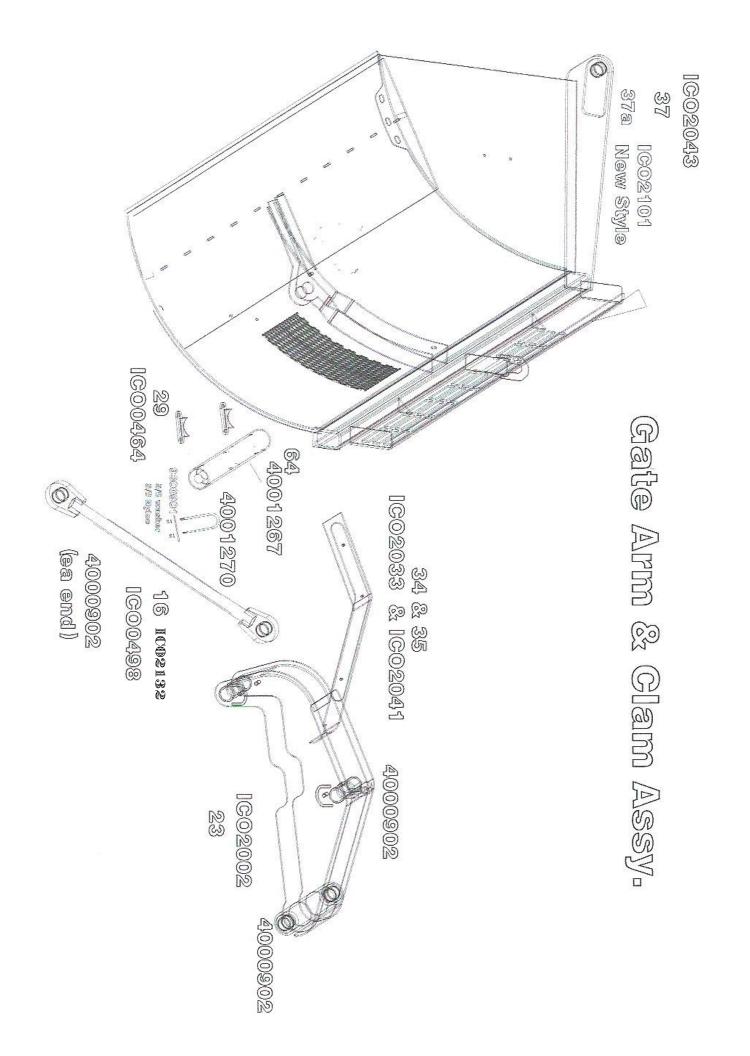
Ref#	Part #	Description	Qty
46.	4000636	Tire, 20.5 x 25-16 ply	2
47.	4001295	Tire, 23.5 x 25-16 ply	$\frac{-}{2}$
48.	4001035	Hyd. Cylinder 5 x 40 (53 3/4")	1
49.	4001236	Hyd. Cylinder 6 x 22 (37 1/4")	1
50.	4001314	Hyd Cylinder 5 1/2 x 22 (821 lift)	2
51.	4001317	Hyd. Accumulator Valve VS4BCBF9	1
52.	4001449	Hyd. Counter Valve CBGB-LHN	1
53.	4001450	Hyd. Sequence Valve SCGA-LAN	1
54.	4001451	Hyd. Pilot Chk Valve CKGB-XCN	1
55.	4001452	Hyd. Valve Block Sequence	1
56.	2002014	Push Block	1
57.	LT0058	Lights 821 Rear Harness	1
58.	LT0059	Lights 821 Front Harness	1
59.	4001300	Lights, Modular (left w/brake)	1
60.	4001301	Lights, Modular (right w/brake)	1
61.	2000460	Cast Swivel Hitch	1
	4001302	Swivel Hitch Bushing (early model 640591300)	2
	4001455	" (late model 640591500)	$\frac{-}{2}$
62.	4001094	Snap ring for 17x25 rims	4
63.	4001422	Rubber O-Ring for 17x25 rims	4
64.	4002081	Accumulator (charged to 600psi)	1
65.	4001414	Bushings (175150150) Plastic (non grease)	4
66.	ICO0350	Gate Link Spacer	2
67.	2000474	Optional Tandem Hitch	1
68.	ICO0218	Pin, 2 1/2 x 5 3/4" (tandem hitch mounting pin)	1
69.	2000524	Decal Kit (821)	1
70.	ICO2009	821 Main Frame	1
71.	ICO0258	Push Off Bearing	1
72.	ICO0488	Axle Clamp w/groove	4
73.	ICO2091	Axle Bolt Washer	16
74.	SCR2078	Wheel Bolt Spacers	40
75.	4001420	Hyd Shutoff Valve (lift)	1
76.	W000004	821 Mud Scraper (retro)	1
77.	ICO2007	Pin, 2 1/2 x 20 5/16"	1
78.	4001419	Bearing, Sealed NTN SBX0339	1
79.	ICO2068	Washer For 3 1/2" Pin (straight hitch)	1
80.	ICO2069	Gate Pin Cover	2
81.	ICO2016	Model 821 Cover	2
82.	ICO2017	Model 821 Cover	2
83.	ICO2053	821 Axle Nut	8
84.	2000523	821 Brake Assembly	1
85.	2000521	821 Bolt Kit	1
86.	5000985	821 Hose Kit (single)	1
87.	5000982	821 Hyd. Fittings Kit	1
88.	4001276	821 Brake Caliper	4
89.	4001271	Bushing 4"OD - 3.5ID Flanged	2

Starting with serial # 6297, the steel block and larger cartridges were used to control the 2 valve system.









Bolt Listing For Model 823

Part #	Description	Ref# Where Used	Qty
BC WFH NH	Bolt, Carriage 1/2 x 1 1/2" Washer, Flat Hard 1/2 Nut, Hex	PO Wall Wear Strip (1)	12 12 12
BP WFH NJ	Bolt, Plow 3/4 x 2 1/2" Washer, Flat, Hard 3/4 Nut, Jam 3/4	Side Cutting Edges (2 & 3)	10 10 10
BH NL WF	Bolt, Hex 1 x 6" Nut, Nyloc 1" Washer, Flat 1"	Push Off Support to Wall	4 4 4
BP WFH NJ	Bolt, Plow 1 x 2 1/2" Washer, Flat, Hard 1" Nut, Jam 1"	Cutting Bits & Frost Bit	22 22 22
WFH NJ	Washer, Flat, Hard 1 1/2" Nut, Jam 1 1/2"	Clam Pins	2 2
BH NH	Washer, Flat, Hard 1 1/2" Nut, Hex 1 1/2"	Swivel Hitch Mount	6 6
BH WF WFH	Bolt, Hex 1/2 x 1" Washer, Flat 1/2" Washer, Flat, Hard 1/2"	Springs on Hose Holders	6 6 6
BH NL	Bolt, Hex 1/2 x 3" Nut, Nyloc 1/2"	Pin Keepers on all 1 1/2" Pins	5 5
WM	Washer, Machine 2.5 x 3.5OD	Push Off Frame Spacers	8
BH BH WF WFH ICO1118 ICO1117	Bolt, Hex 3/4 x 1 1/2" Bolt, Hex 3/4 x 1 3/4" Washer, Flat 3/4" Washer, Flat, Hard 3/4" Pin Spacer 9/16" Pin Spacer 3/4"	Pin Keepers For All 2 1/2" pins (except ICO0222 center frame pin)	
4000067 4000720	Zerk Straight 1/8" Zerk Adapter 1/8 –27-18NPT 90 ELB		15 2
BH WFH	Bolt, Hex 5/8 x 1 1/2" Washer, Flat 5/8"	Push Off Frame Pin Caps Washer, Flat 5/8"	4 4
WM	Washer, Machine 2.5 x 3.5OD	PO to PO Frame Spacers	4
ICO0350	Spacer	Gate Link	2
BH WFH	Bolt, Hex 3/4 x 2 1/2" Washer, Flat, Hard 3/4"	Depth Gauge	1 1
BH WFH	Bolt, Hex 1 x 9" Washer, Flat, Hard 1"	Axle Clamp Bolts	16 16
BH BH WFH	Bolt, Hex 3/4 x 1 3/4" Bolt, Hex 3/4 x 2 1/2" Washer, Flat, Hard 3/4"	Acc Valve to Tongue	1 1 2

Bolt Listing Continued

Part#	Description	Where Used	Qty
SCR2078 BH WFH	Spacer For Wheels Bolt, Hex 7/8 x 3" Fine Washer, Flat, Hard 7/8"	Wheel Bolts	40 40 40
BH WFH	Bolt, Hex 1/2 x 1" Washer, Flat, Hard 1/2"	Front Hyd Cover Plates	4 4
BH NW	Bolt, Hex 1/2 x 1 1/2" Nut, Whiz 1/2"	PO Wall Extension	10 10
BH WFH	Bolt, Hex 1/2 x 1" Washer, Flat, Hard 1/2"	Hyd Covers (rear)	4 4
ВН	Bolt, Hex 3/8 x 2"	Accumulator Valve to Block	2
BH WF	Bolt, Hex 1/4 x 3/4" Washer, Flat 1/4"	Bracket to Acc. Valve	4 4
BH NL	Bolt, Hex 1/2 x 4" Nut, Nyloc 1/2"	Acc. Pivot to Bracket	1 1
BH WFH	Bolt, Hex 5/8 x 2 1/2" Washer, Flat, Hard 5/8"	Acc. Valve Roller to Pivot	1 2
BH NW WF	Bolt, Hex 1/2 x 6" Nut, Whiz 1/2" Washer, Flat 1/2"	Hyd Block to Main Frame	2 2 4
BH WFH	Bolt, Hex 1/2 x 1" Washer, Flat, Hard 1/2"	Rear Hyd Cover	4 4
BH WF WL NH	Bolt, Hex 1/4 x 1" Washer, Flat 1/4" Washer, Lock 1/4" Nut, Hex 1/4"	Lights to Top Hyd Covers	8 8 8
BH WFH	Bolt, Hex 1/2 x 1 1/2" Washer, Flat, Hard 1/2"	Gate Arm Side Covers	6 6
BH WFH NW	Bolt, Hex 1/2 x 1" Washer, Flat, Hard 1/2" Nut, Whiz 1/2"	Hose Cover	4 4 4
Bh	Bolt, Hex 1/2 x 1 1/2"	Tandem Cover Plate	4
BH NL WFH	Bolt, Hex 1 x 6" Nut, Nyloc 1" Washer, Flat, Hard 1"	Gate Safety Stop	1 1 1
NL WFH	Nut, Nyloc 1/2" Washer, Flat, Hard 1/2"	Bulk Head	2 2

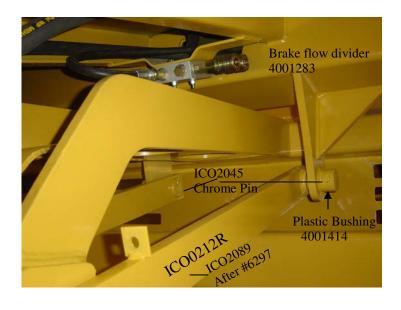
Components of the 821

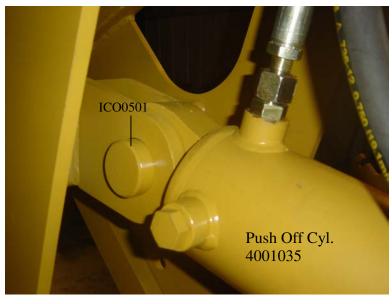












821 Parts & Components















Shown is the push off bearing ICO0258 and pin ICO0218.

This bearing rolls on the curved pad (shown). This allows a smooth and stable cycle through the full motion of the push off wall.

The bushing and pin are located just below the push off cylinder mounting pin.

Clam Pivot Pin (ICO0523)



Shown is the ICO0523 Clam Pivot Pin. The tapered pin is threaded for an 1 1/2" nut. NOTE: The nut should be torqued to 600 ft. lbs. max.



Assembled 821











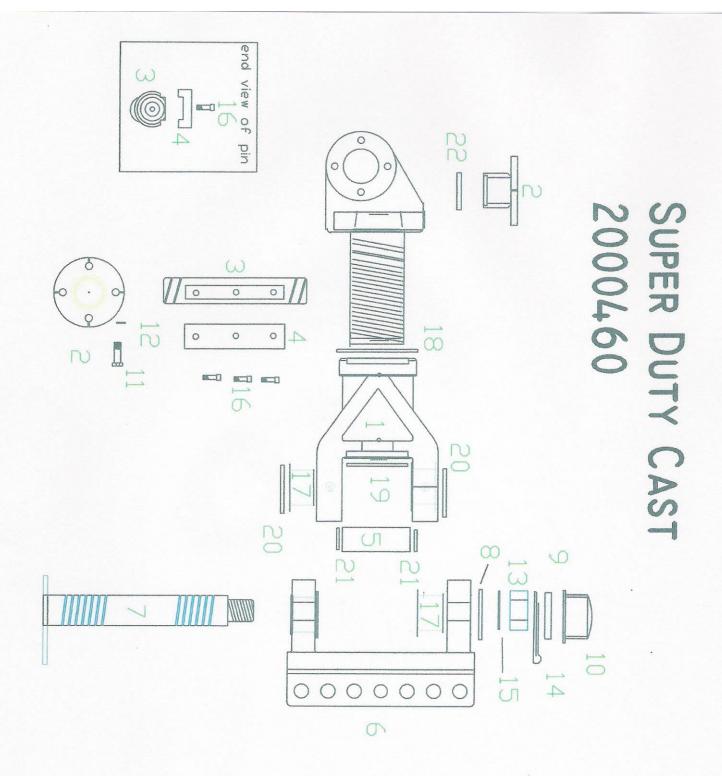


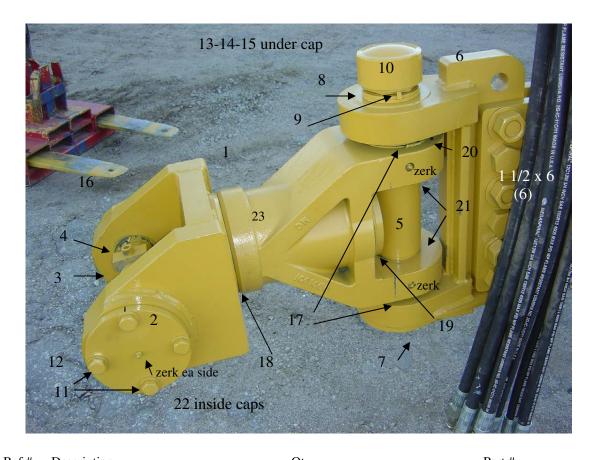


Shown is the 3" pin (ICO2052) used with the cast hitch. The top is milled to allow the retainer plate (ICO2051) to bolt on using $(3) 5/8 \times 3$ " bolts.









Ref # Description	Qty	Part #
1 Cast Swivel	1	ICO1092
2 Quick Attach 3" Pin Cap	2	ICO1093
3 Quick Attach 3" Pin	1	ICO2052
4 Quick Attach Pin Keeper	1	ICO2051
5 Hitch Spacer Tube	1	ICO1061
6 Cast Hitch Bracket	1	ICO1055
7 Main Vertical Pin	1	ICO1062
8 6" Swivel Hitch Spacer	1	ICO1086
9 2" Rubber Hose	1	ICO1087
10 4" PVC Cap	1	4001292
11 Bolt, Hex 3/4 x 2" gr. 8	8	BH 3/4
12 Washer, Flat Hard 3/4"	8	WFH 3/4
13 Nut, Slotted 2 1/2" Course	1	NS 2 1/2
14 Pin, Cotter 3/8 x 5"	1	PC 3/8
15 Washer, Flat 2 1/2" Hard	1	WFH 2 1/2
16 Bolt, 5/8 x 3"	3	BH 5/8
17 Bushing	4	4001271
18 O-Ring 8 7/8x8 1/2" ID	1	4001272
19 O-Ring 7 3/8x7" ID	1	4001286
20 O-Ring 5 7/8x 5" ID	2	4001275
21 O-Ring 4 x 3 5/8" ID	2	4001274
22 Wiper Seal 3 1/2 x 3 1/4"	2	4001298
23 Bushng (old style) 64059136	00 2	4001302
Bushing (new style) 6405915	500 2	4001442

Hub & Axle Assembly

Axle and Hub assembly shown with brake package.

Caliper # 4001276



Rear frame of the 821 shows the horizontal mounting blocks for the axle assembly. 1 x 9" bolts are used to mount the assembly to the frame.

NOTE: The axle clamp mounting bolts are placed horizontally to aid in installation/removal of assy.

A thin walled socket with a max of 2 1/16"OD and an extension of at least 24" is needed to perform this operation properly.

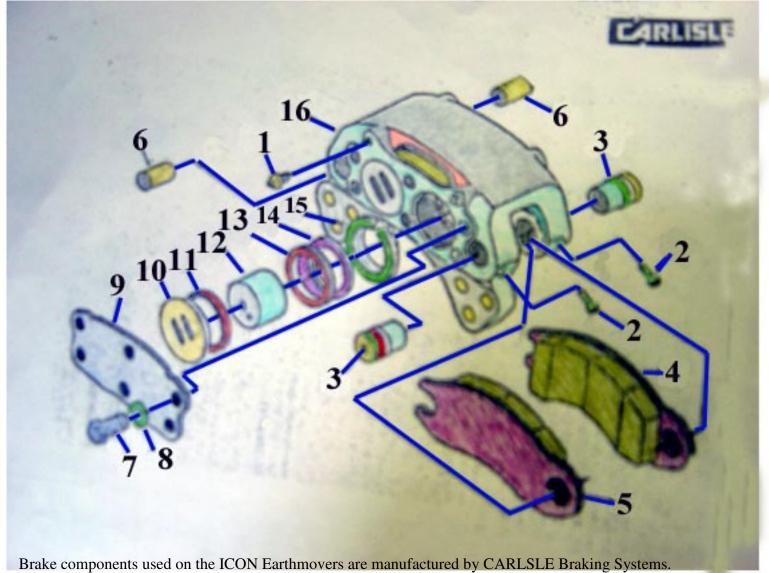


Brake assembly mounted on tire/rim



The assembled rear, with 23.5 tires on the outside and 20.5's of the inside. Along with the offset of the axles add a larger footprint for greater floatation.





Below is a list of the components currently used on the Earthmover brakes. ICON does not stock or supply these components, they must be ordered directly from the Mfr. NOTE: Use only CARLISLE Approved parts.

Brake Head Assembly #419-888

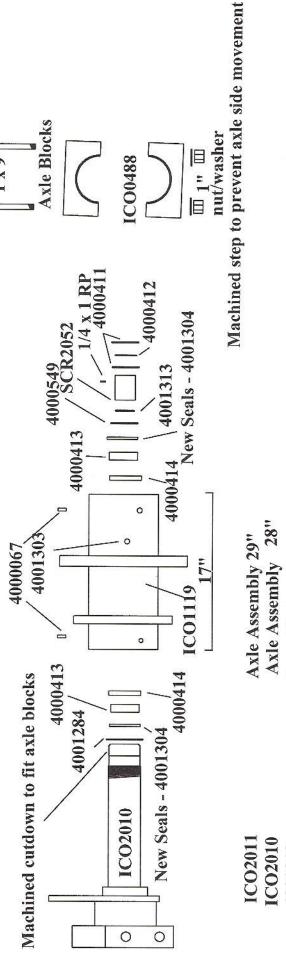
		Drake nead Assembly #419-88	o	
Index	Part	Description		Qty.
1.	84-35	Bleeder Valve	(CAT #7K-4942)	1
2.	43-1140	Bolt, Hex	(CAT #3V-0197)	4
3.	20-554	Pin		2
4.	244-741-2	Lining & Carrier Assy.		1
5.	244-741-1	Lining & Carrier Assy.		1
6.	20-490	Pin	(CAT #4V-7277)	2
7.	43-1299	Bolt, Hex		6
8.	80-717	Washer		6
9.	93-986	Plate, Cover		1
10.	49-402	Plug, Piston	(CAT #114-9304)	2
11.	*NSS	Packing Plug		2
12.	74-927	Piston	(CAT #114-9306)	4
13.	*NSS	Packing Piston		4
14.	*NSS	Retainer Ring		4
15.	*NSS	Boot		4
16.	+184-979	Torque Plate		1
	**306-7376	Parts Kit		1
	328-741	Lining Kit		1
44001	. 11 . 1 . 11.	-		

^{*}These items not sold separately: see parts kit

^{**} Kit contains — 4 ea of item 13, 14, and 15. (2) of item 11.

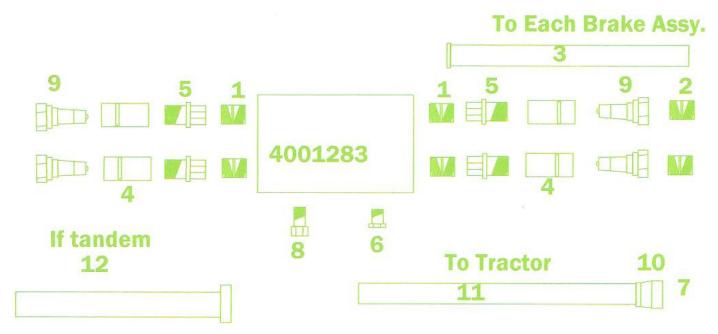
⁺ Not a repairable or replaceable item, do not stock as spares.

Parts List For ICON Earthmovers With Individual Axles W/O Brakes Assembled - 20000512 & 2000513



Axle Assembly 29"	Axle Assembly 28"	Snap Ring	Bearing Seal CR42627	Bearing, Timken Cone	Bearing (Race) Timken Cup	Zerk, 45 1/8"	Hub Assembly	Hyd. O-Ring	Axle Spacer	Bearing, Lock Washer	Bearing Nut	Zerk - Spsi relief	
107071	ICO2010	4001313	4001304	4000413	4000414	4000552	IC01119	4000549	SCR2052	4000412	4000411	4001303	

Brake Fittings/Hose Package For 800 Series Block is located on upper rear frame.



If tandem unit, (2) 5001015 instead of plug. (5000355)

Item #	Description	Qty	Ref. #
5000919	Hyf-Adap 6MB-6MB	4	1
5000903	Hyf-Adap 6FB-10MB	4	2
5000997	Hose - 4MB-4M3Kx98"-6MB	4	3
5000845	Pioneer 1/2" Female End	4	4
5000920	Hyd-Adap 8MB-6FB	4	5
5000355	Hyd-Plug 8MB	1	6
5000907	Brake Coupler VF-0/1815	1	7
5001015	Hyf-Adap 8MB-8FFORX (2 if tandem)	1	8
5000835	Pioneer Male End 8010-16P 10FB	4	9
5000906	Hyd-Adap JIC to M 7400-10-18	1	10
5000996	Hose - 8MFFOR-8M3Kx538"-10FJX	1	11
5001016	Hose-10FJX-8M3Kx65-8MFFOR (#12 used on tandem)	1	12

Brake Components

Used on all ICON Earthmovers Equipped with Brakes





Location	Dimensions	#	CAT #
Side (2)	7/8 x 13 x 48	4001051	
Side (2)	7/8 x 13 x 35.75	4000851	178-4080
Center	7/8 x 16 x 60	4000951	174-8001
	If a straight cut for finish work is req	uired, a 13" center blade is a	vailable from CAT
Center SC	7/8 x 13 x 60	4000619	4T6620
Center	7/8 x 19 x 60 (More aggress	ive cut) 4001511	

Bolts Per Blade

40008516	Cutting Edges
400095110	1 x 2 1/2" gr. 8 Plow Bolt
	1" gr. 8 Jam Nuts
	1" Hardened Flat Washers

Side Cutting Edges

Each side requires (5) 3/4 x 2 1/2" Plow Bolts, Hard Washers and Hex Nuts. ICO0206L & R 4" longer for deeper cut ICO2172/2173

ICON now installs hydraulic accumulators on all machines. The 2 gallon unit is charged to 600 psi and greatly reduces the shock and bounce of a loaded machine.

Shown in the first picture is the accumulator unit that is used on all models. Here it is shown mounted on a rear lowering machine. Since the 823 lowers from the front, the accumulator is now mounted inside the frame. (as fig.2 shows).







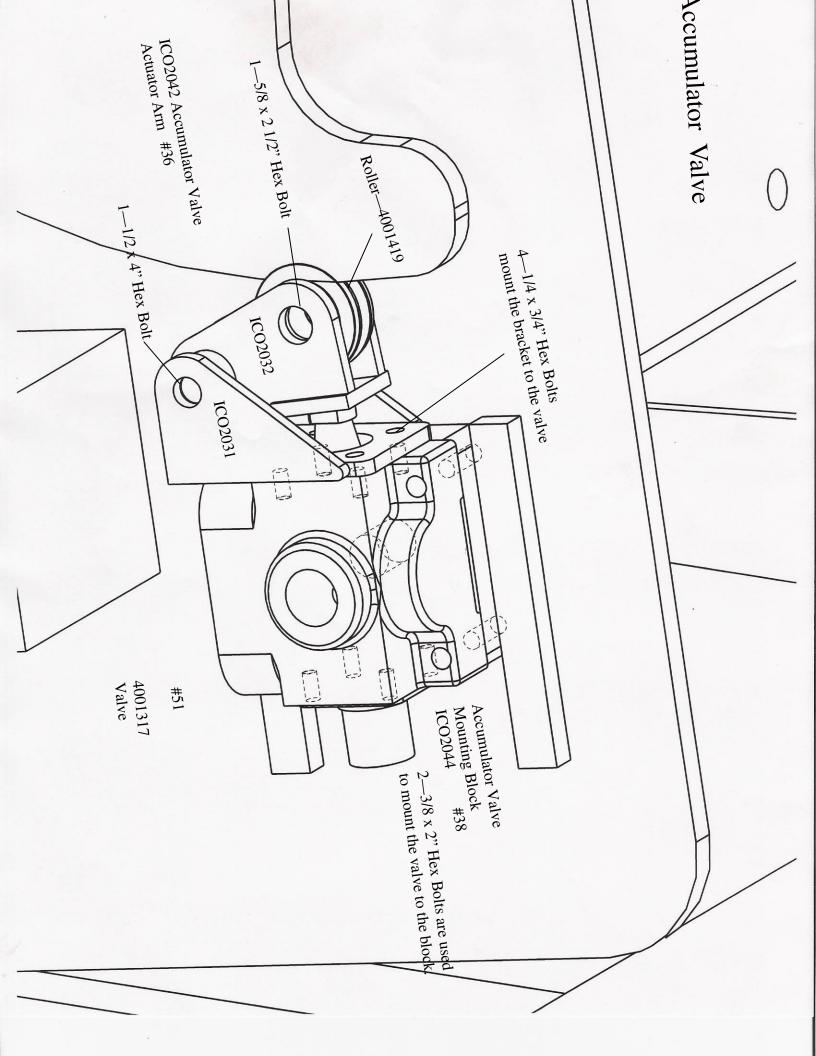
Accumulator Components

Complete Assembly—2000459

# 4001267	Description (2 gal. Accumulator (600psi)	Qty 1
5000736	Hyd, Tee—JIC 16MJ-16MJ-16FJX	1
4001270	5/8 U Bolt	1
ICO0464	Accumulator Mount	1
WF	Washer, Flat 5/8"	2
NL	Nut, Nyloc 5/8" gr. 5	2



Accumulator Installed



Shown are the components of the Accumulator Valve and Actuator Arm This setup was standard on the early model 821's. Later models are not adjustable.











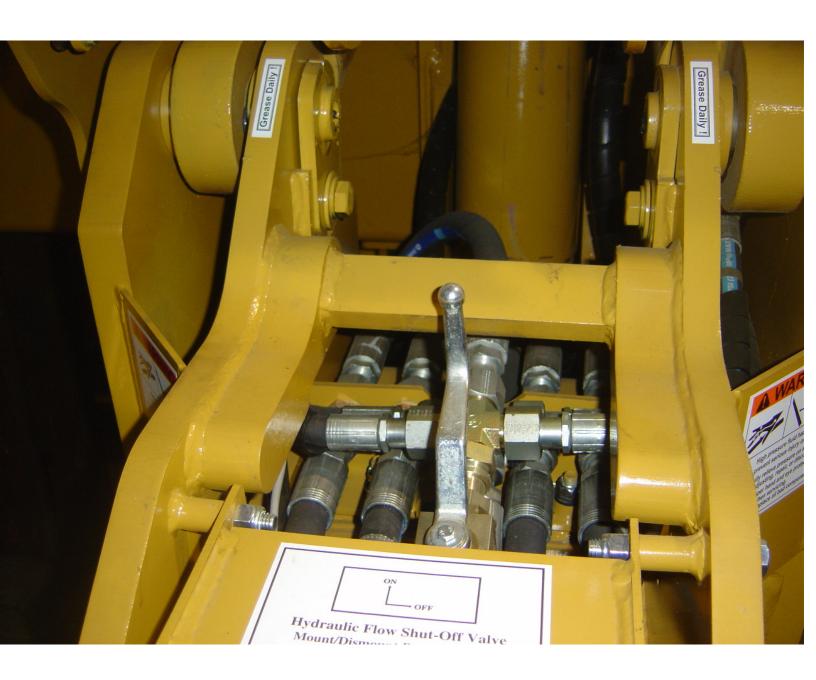


Adjustment is set at the factory to activate the accumulator when the center stinger is app. 4" above the ground. This allow for a cushioned ride while loaded. De-activation of the accumulator occurs at the same point, when lowering, to allow a smooth cut.

The adjustment of the actuator is up to the operator and may be adjusted to his or her preference.

NOTE: After serial # 6297 the accumulator adjustment has been set at the factory and the adjustment slot has been removed. No adjustment should be needed.





Front view of the cylinder mounts and hydraulic shut off valve. All hydraulic connections are made at the bulkhead (shown)

Hydraulic Flow Shut—Off Valve

The shut off valve is located at the rear of the tongue. It is designed to relieve the hydraulic pressure in the system to aid in hook up of the machine. To shut off the hydraulic flow, turn the lever 90° to the side (see decal).

NOTE: This shut off valve should also be turned to **OFF** position when the safety stops are in place and any service is to be performed on the machine, while in the raised position. **BE CERTAIN** to remove the safety stops before cycling the machine, or damage to the cylinders and the machine can occur.

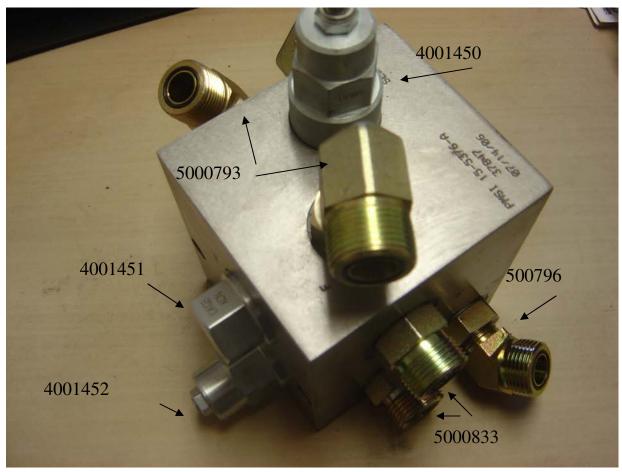


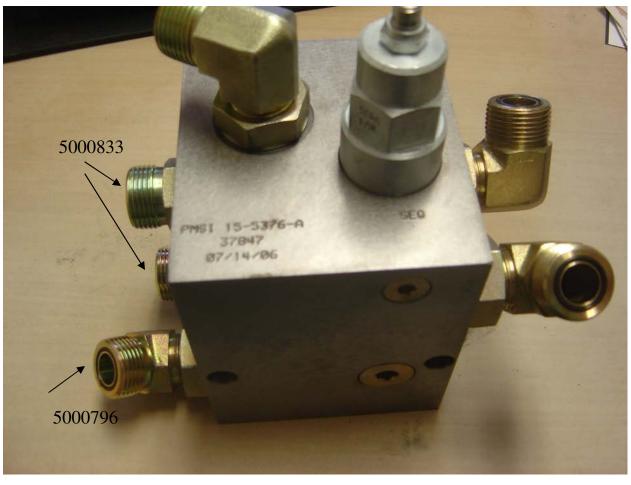




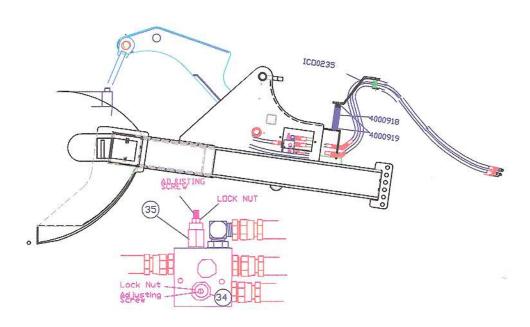
Current valve block and fittings for Model 823 Earthmovers, beginning with serial # 6297. This assembly is adaptable to existing models of 821. (part # 2000536)







Valve Adjustment 2 - valve hydraulics



Valve Adjustment

Problem:

Push wall comes forward before gate is fully up. Answer:

- *Loosen locknut on top of valve
- *Adjust sequence valve 1/4 turn clockwise and check performance.
- *Repeat until remedied
- *Retighten locknut

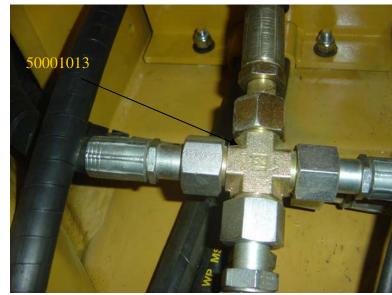
Problem:

Gate comes down before push wall is fully back. Answer:

- *Adjust counterbalance valve (located on side of valve block in tongue)
- *Loosen locknut on tup of valve
- *Adjust counterbalance valve 1/4 turn counterclockwise and check performance.
- *Repeat until remedied
- *Retighten locknut.

Hydraulic Components of the 821



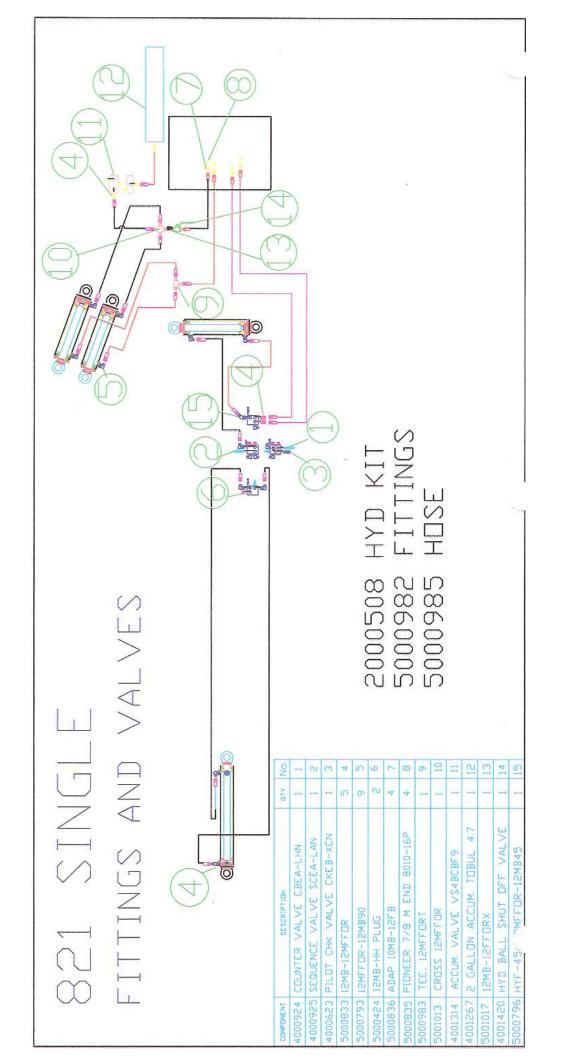


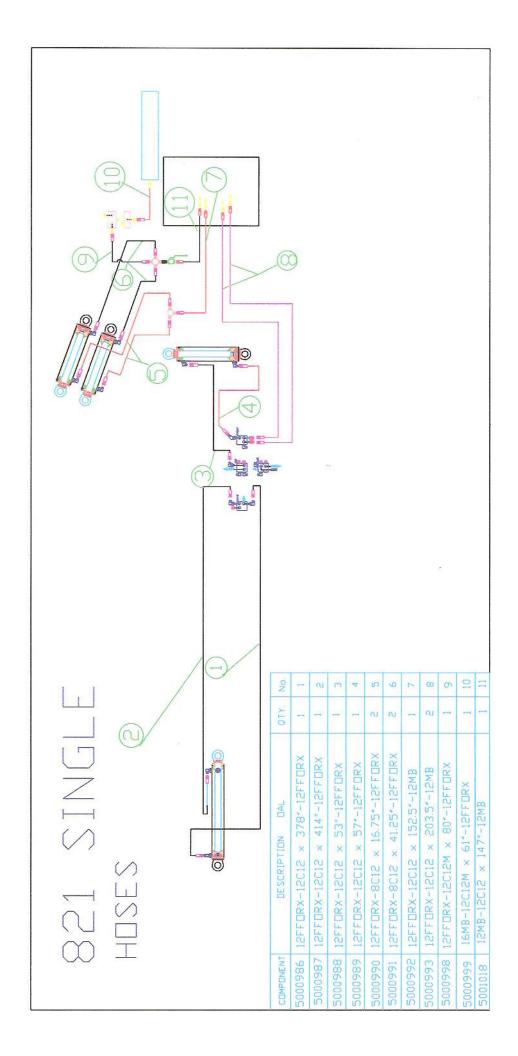


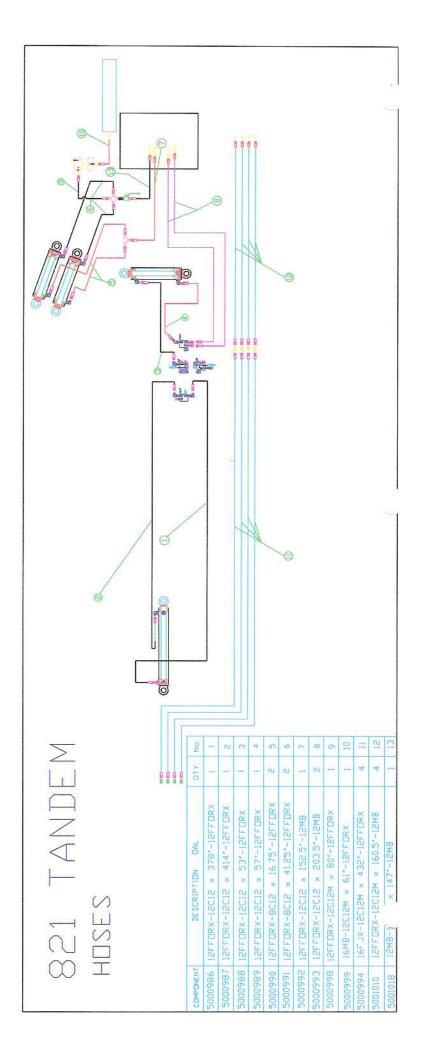


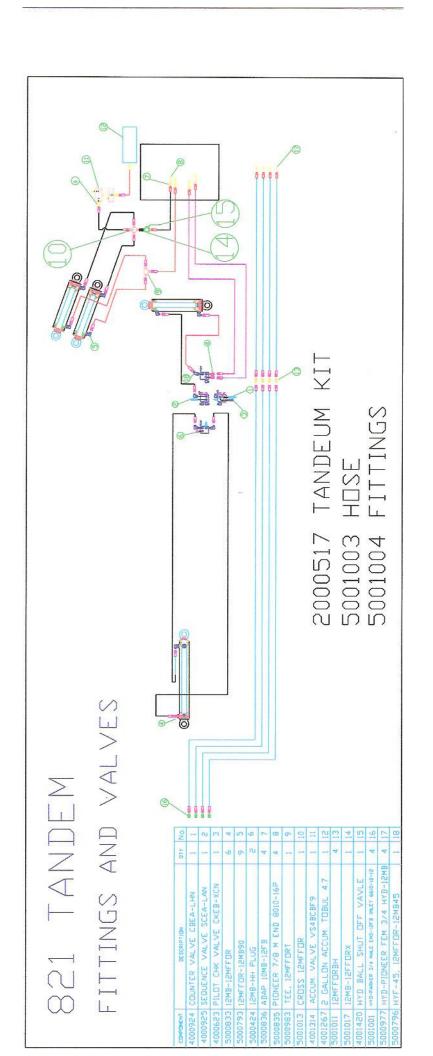


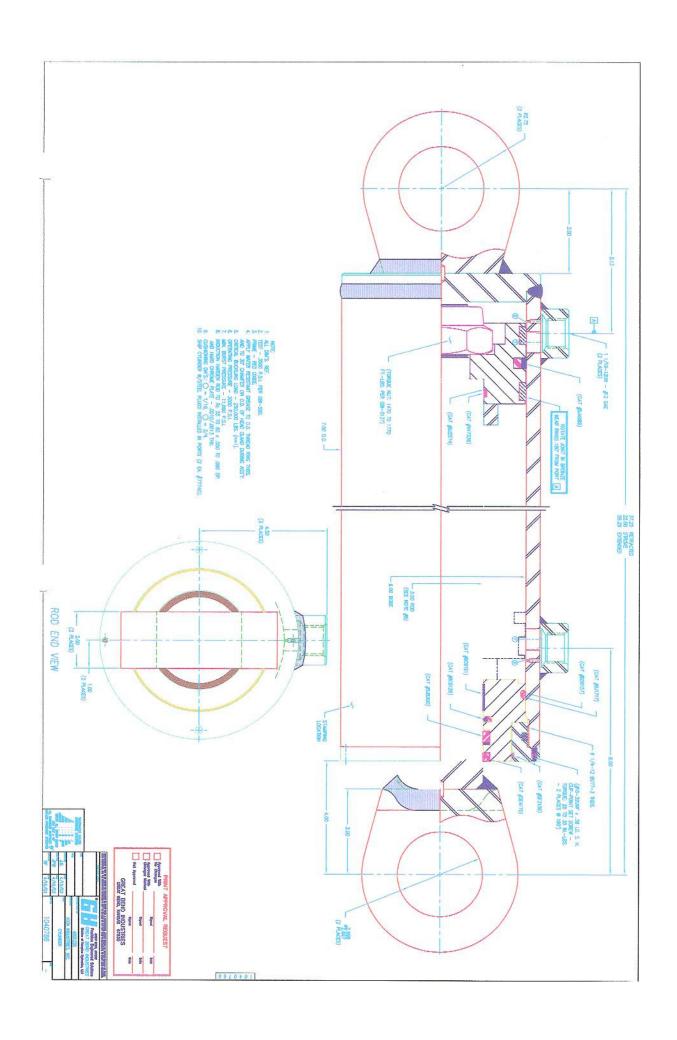




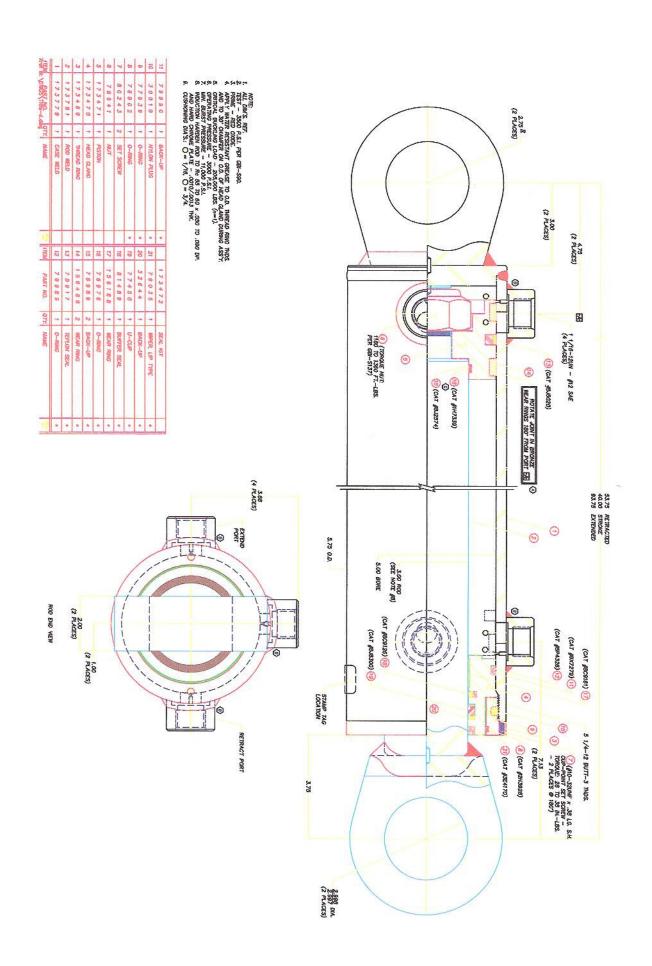












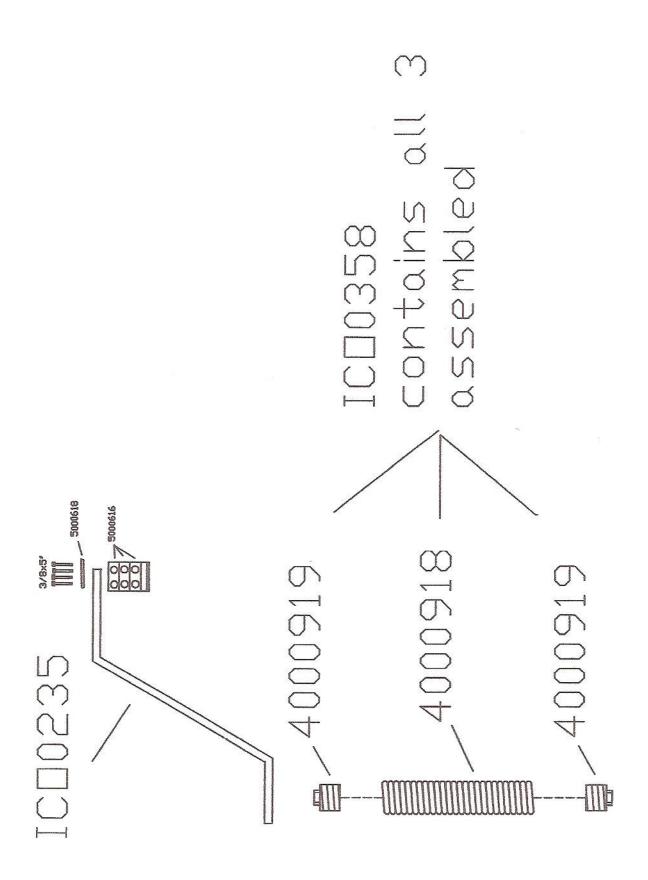
ICON and CAT Crossover Part #'s For 5x22/5x40 KAYDON Cyl's

Ref#	Description	Size	ICON#	CAT#	
11.	Back Up	5.00ODx3/16 CS	4000975	9X7279	
12.	O-Ring	5.00ODx3/16 CS	4000974	5P4326	
13.	Teflon Seal	5.00OD	4000973	5J5020	
14.	Wear Ring	5.00ODx.63 LG	4000972	660 BRZ	
15.	Back Up	3.00IDx1/8 CS	4000971	8J2574	
16.	O-Ring	3.00IDx1/8 CS	4000970	IH7339	
17.	Wear Ring	3.00IDx.98 LG	4000969	8C9161	
18.	Buffer Seal	3.00ID	4000968	8C9126	
19.	U-Cup	3.00ID	4000967	5J8300	
21.	Wiper, Lip Type	3.00ID	4000965	3E4170	

ICON and CAT Crossover Part #'s For 4 x 50 KAYDON Cyl's

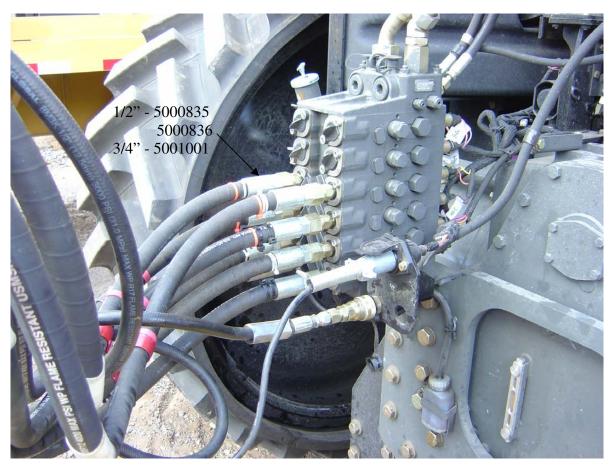
Ref#	Description	Size	ICON#	CAT#	
11.	Back Up	4.00OD	4000995	2K6830	
12.	O-Ring	4.00OD	4000994	1H8128	
13.	Teflon Ring	4.00OD	4000993	5J5402	
14.	Wear Ring	$4.00 \times .63LG$	4000992	660 BRZ	
15.	Q-Ring	2.50ID	3 4000991	1H5728	
16.	Back Up	2.50ID	4000990	4J9225	
17. 18.	Wear Ring	2.50ID x .98LG	4000989	8T0785	
19.	Buffer Seal	2.50ID	4000988	8C3839	
71	U-Cup	2.50ID	4000987	5J0964	
A 3 s	Wiper, Lip Type	2.50ID	4000985	3E4166	

77		ICON and CA	Crossover Part #'s Fo	r 6.5 x 22 KA	YDON Cvi's
Ref#		Description	Size	ICON#	CAT#
11.		Back Up	6.38OD x 3/16CS	4000982	7J8956
12.		O-Ring	6.38OD x 3/16CS	4000981	7J8955
13.		Teflon Seal	6.50OD	4000980	5J4991
14.		Wear Ring	6.500D x .63LG	4000979	660BRZ
15.		Back Up	3.00ID x 1/8CS	4000971	8J2574
16.		O-Ring	3.00ID x 1/8CS	4000970	1H7339
17.		Wear Ring	3.00ID x .98LG	4000969	8C9161
18.		Buffer Seal	3.00ID	4000968	8C9126
19.	2.4	U-Cup	3.00ID	4000967	5J8300
21.		Wiper, Lip Type	3.00ID	4000965	3E4170



Either 1/2" or 3/4" Pioneer ends may be used. This depends upon the tractor's hydraulic setup. If 3/4" ends are required, the part #'s are Male End 5001001, and 5000977 for the Female.

1/2" Male ends are 5000835 and require 5000836 adapters. The 5000836 adapters are needed at the tandem hookup also and the Female couplers are 5000385.



The tandem connectors are clearly marked with function, color, and + or -. The operator only needs to match color codes and signs to correctly hook hydraulics.

On models equipped with brakes, the connector is shown.



821 Decal Locations











Decal Listing For 821 Earthmovers Complete Kit #2000524

Part #	Qty	Description
4000931	5	Warning—High Pressure
4000934	2	Loading Hard/Loose Material
4000935	1	Safety/Operation Manual
4001435	2	Tire Pressure/Torque (29.5 tires)
4000937	2	3 Pumps Of Grease Weekly
4000938	27	Grease Daily
4000940	5	Danger Pinch/Crush
4000396	1	Gate Gauge (A-B-C-D)
4000941	1	Danger—To Prevent a Hazardous Situation
4000702	4	18"Reflective Tape
4000372	3	Warning Moving Parts
4001248	1	This Machine is Designed To Be Pulled By (600)
4001254	1	Icon Axle Nut Wrench
4000960	4	ICON 4"
4001309	2	ICON 11 x 24
4001416	2	821 5x12
4001415	2	American Flag
4001306	1	821 Side Graphics
4001418	1	821 Raise/Lower
4001432	2	Made In USA
4001433	1	Hyd. Shutoff Valve
4000949	1	Hyd. Color Codes
4001445	3	Safety Stops
4001446	1	Warning Remove Safety Stops
4001447	1	Caution Before Any Repair



Equipment from Landoll Corporation is built to exacting standards ensured by ISO 9001 registration at all Landoll manufacturing facilities.

Model 821 Scraper Service and Parts Manual

Re-Order Part Number F-883-0118

LANDOLL CORPORATION

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