

ES Series 2047/2647/3247

SERVICE & PARTS MANUAL

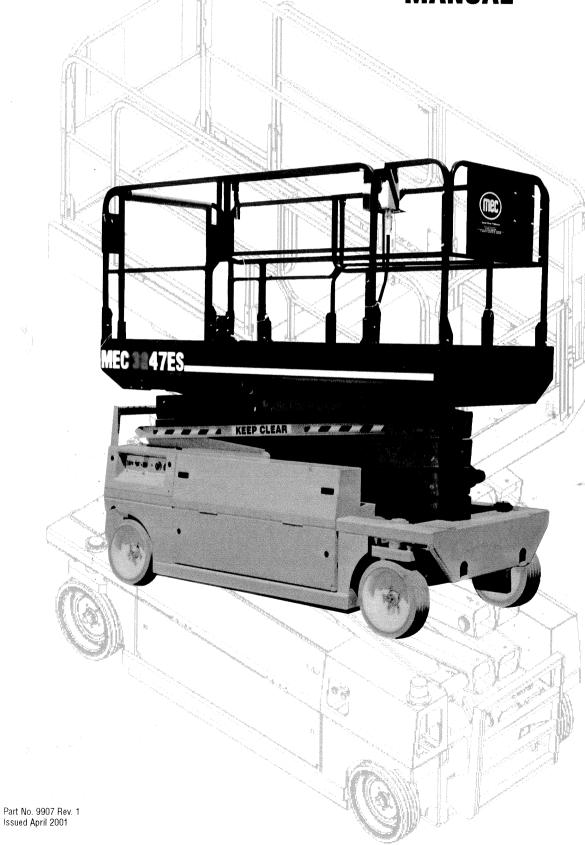


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HYDRAULIC SCHEMATICS - 2047ES/2647ES

HYDRAULIC SCHEMATICS - 3247ES

ELECTRICAL SCHEMATICS - 47 SERIES

INTRODUCTION

This manual consists of Service and Parts illustrations sections.

The Service Section of this manual is designed to provide you, the customer, with the instructions needed to properly maintain the MEC self-propelled scissors lift. When used in conjunction with the illustrated parts section and the Operators Manual (provided separately), this manual will assist you in making necessary adjustments, repairs, identifying, and ordering the correct replacement parts.

All parts represented here are manufactured and supplied in accordance with MEC's quality standards.

We recommend that you use Genuine MEC parts to insure proper OPERATION and reliable PERFORMANCE.

To obtain maximum benefits from your MEC scissors lift, always follow the proper operating and maintenance procedures. Only trained authorized personnel should be allowed to operate or service this machine. Service personnel should read and study the Operator's, Service and Parts Manuals in order to gain a thorough understanding of the unit prior to making any repairs.

To help you recognize important safety information, we have identified warnings and instructions that directly impact on safety with the following signals:



"DANGER" INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY. THIS SIGNAL WORD IS LIMITED TO THE MOST EXTREME SITUATIONS.



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. "Caution" is used for property-damage only accidents. **NOTE:** The best method to protect yourself and others from injury or death is to use common sense. If you are unsure of any operation, <u>don't start</u> until you are satisfied that it is safe to proceed and have discussed the situation with your supervisor.

Service personnel and machine operators must understand and comply with all warnings and instructional decals on the body of the machine, at the ground controls, and platform control console.



MODIFICATIONS OF THIS MACHINE FROM THE ORIGINAL DESIGN AND SPECIFICATIONS WITHOUT WRITTEN PERMISSION FROM MEC ARE STRICTLY FORBIDDEN. A MODIFICATION MAY COMPROMISE THE SAFETY OF THE MACHINE, SUBJECTING OPERATOR(S) TO SERIOUS INJURY OR DEATH.

MEC's policies and procedures demonstrate our commitment to Quality and our relentless ongoing efforts towards Continuous Improvement, due to which product specifications are subject to change without notice.

Any procedures not found within this manual must be evaluated by the individual to assure oneself that they are "proper and safe."

Your MEC Scissors Lift has been designed, built, and tested to provide many years of safe, dependable service. Only trained, authorized personnel should be allowed to operate or service the machine.

MEC, As Manufacturer, Has No Direct Control Over Machine Application And Operation. Proper Safety Pratices Are The Responsibility Of The User And All Operating Personnel.

If There Is A Question On Application And/Or Operation Contact:



Aerial Work Platforms
Mayville Engineering Co., Inc.

An Employee Owned Company

210 Corporate Drive - Box 990 • Beaver Dam, WI 53916-0990 USA

Ph: 1-800-387-4575 • 920-887-2518 • Fax: 920-887-2480

E-mail: awp@mayvl.com • Web: www.mayvl.com

Machine Specifications - 2047ES

DAZ 1: II:IZ	00.6	T-7.00
Working Height	26 ft	7.92 m
Platform Height	20 ft	6.10 m
Stowed Height:	85.6 in	2.17 m
Folded Down Rails	55.9 in	1.42 m
Lift Capacity (Evenly Distributed):	1,250 lbs	568 kg
Roll-out Deck Capacity	300 lbs	136 kg
Platform Dimensions:		
With Roll-Out Deck	46x106 in	1.17 x 2.69 m
Guard Rail Height	43.5 in	1.10 m
Toe Board Height	7.0 in	18 cm
Roll-out Deck Length	42.0 in	1.07 m
Overall Length	112 in	2.84 m
Overall Width	47 in	1.19 m
Wheel Base	81 in	2.06 m
Wheel Track	42 in	1.07 m
Turning Radius:		
Inside	0 in	0 m
Outside	95.5 in	2.43 m
Ground Clearance	3.6 in	91.4 mm
Machine Weight (Unloaded) (Approx.) 5060	-5000-lbs	2272 kg
Drive System (Proportional):	11	<u> </u>
Drive Speed (Platform Elevated)	0 - 0.75 mph	0 - 1.2 kph
Drive Speed (Platform Lowered)	0 - 2.50 mph	0 - 4.0 kph
Lift/Lower Speed (Approx.)	25 seconds / 25 seconds	
Gradeability	25% / 14 degrees	
Ground Pressure/Wheel (Maximum)	120 psi	8.27 bar
Wind Speed (Maximum)	0 mph	0 kph
Tire Size-Standard (Super Terra Grip-Pneumatic)	16 in dia. x 5 in	406.4 x 127 mm
Tire Pressure (Not Applicable For Foam Filled Tires)	N/A	N/A
Wheel Lug Nut Torque	75-85 ft lbs	102-115 Nm
Hydraulic Pressure:		
Main System	3,0 00 psi	207.0 bar
Lift System 1650	2,500 psi	172.4 bar
Steer	1,000 psi	68.9 bar
Hydraulic Fluid Capacity	6 gal	22.7 liters
Fuel Capacity	N/A	N/A
Power System – Voltage	36 Volts DC	
Battery Charger	00 10:10 20	
Input	120 Volt AC, 60	Hz. 10.8 Amn
Output	36 Volt DC, 20 Amps Tapering,	
Timed Shutoff		po iapoiiiig,
Battery Six 6 Volt deep-cycle; 218 A		cycle: 218 Amn
1 ,		-
Electric Motor	hours @ 20 hour rating 6.9 h.p. : 4000 r.p.m.	
EIGCUIC MOTOL	0.9 n.p. : 4000 f.	h.iii.

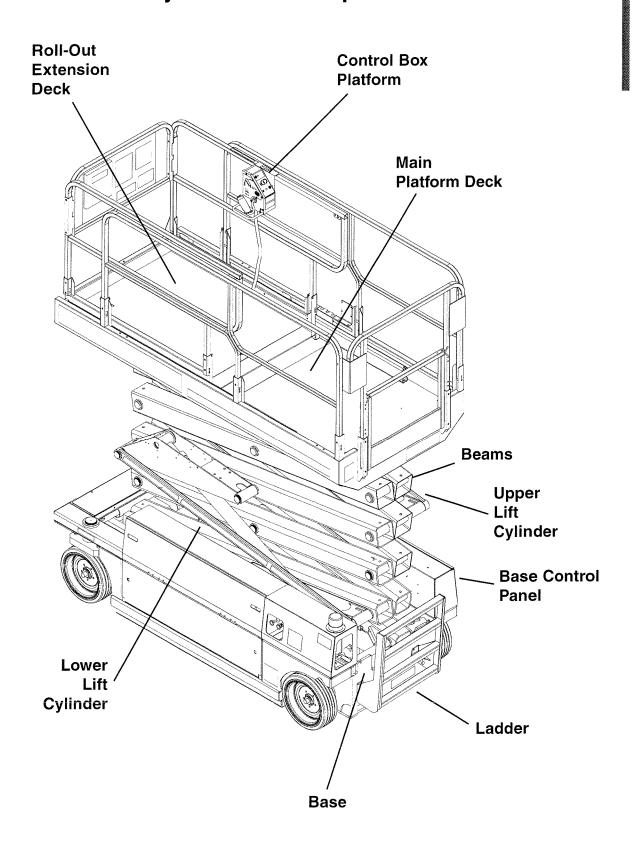
Machine Specifications - 2647ES

Working Hoight	32 ft	9.75 m
Working Height Platform Height	26 ft	7.92 m
	91.6 in	2.33 m
Stowed Height: Folded Down Rails	61.9 in	1.57 m
	1,000 lbs	454 kg
Lift Capacity (Evenly Distributed):	300 lbs	136 kg
Roll-out Deck Capacity Platform Dimensions:	300 103	100 kg
With Roll-Out Deck	46x106 in	1.17 x 2.69 m
Guard Rail Height	43.5 in	1.10 m
Toe Board Height	7.0 in	18 cm
l ~	42.0 in	1.07 m
Roll-out Deck Length	112 in	2.84 m
Overall Length	47 in	1.19 m
Overall Width	81 in	2.06 m
Wheel Base		1.07 m
Wheel Track	42 in	1.07 111
Turning Radius:	0 in	0 m
Inside	95.5 in	2.43 m
Outside		
Ground Clearance	3.6 in	91.4 mm
Machine Weight (Unloaded) (Approx.) 5735	- 5400 -lbs	2455 kg
Drive System (Proportional):	0 0.75 mmh	0 10kph
Drive Speed (Platform Elevated)	0 - 0.75 mph	0 - 1.2 kph
Drive Speed (Platform Lowered)	0 - 2.50 mph	0 - 4.0 kph
Lift/Lower Speed (Approx.)	30 seconds / 30 seconds	
Gradeability (Maximum)	25% / 14 degree	8.62 bar
Ground Pressure/Wheel (Maximum)	125 psi	
Wind Speed (Maximum)	0 mph	0 kph 406.4 x 127 mm
Tire Size-Standard (Super Terra Grip-Pneumatic)	16 in dia. x 5 in	N/A
Tire Pressure (Not Applicable For Foam Filled Tires)	N/A	102-115 Nm
Wheel Lug Nut Torque	75-85 ft lbs	102-115 NIII
Hydraulic Pressure:	0.000	207 0 bor
Main System	3,000 psi	207.0 bar
Lift System 2250	-2,500 psi	172.4 bar
Steer steel	1,000 psi	68.9 bar
Hydraulic Fluid Capacity	6 gal	22.7 liters
Fuel Capacity	N/A	N/A
Power System – Voltage	36 Volts DC	
Battery Charger	400 Valt 40 00	U= 100 Amm
Input	120 Volt AC, 60	· -
Output 36 Volt DC, 20 Amps Taper		imps rapering,
	Timed Shutoff	avale, 010 Aman
Battery	Six 6 Volt deep-cycle; 218 Amp	
	hours @ 20 hour rating	
Electric Motor	6.9 h.p. : 4000 r.	p.m.

Machine Specifications - 3247ES

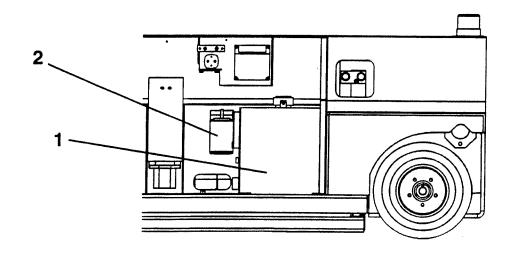
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Working Height	38 ft	11.58 m
Platform Height	32 ft	9.75 m
Stowed Height:	97.6 in	2.48 m
Folded Down Rails	67.9 in	1.72 m
Lift Capacity (Evenly Distributed):	700 lbs	318 kg
Roll-out Deck Capacity	300 lbs	136 kg
Platform Dimensions:		
With Roll-Out Deck	46x106 in	1.17 x 2.69 m
Guard Rail Height	43.5 in	1.10 m
Toe Board Height	7.0 in	18 cm
Roll-out Deck Length	42.0 in	1.07 m
Overall Length	112 in	2.84 m
Overall Width	47 in	1.19 m
Wheel Base	81 in	2.06 m
Wheel Track	42 in	1.07 m
Turning Radius:		
Inside	0 in	0 m
Outside	95.5 in	2.43 m
Ground Clearance	3.6 in	91.4 mm
Machine Weight (Unloaded) (Approx.) 6960	-6700 lbs	3045 kg
Drive System (Proportional):		
Drive Speed (Platform Elevated)	0 - 0.75 mph	0 - 1.2 kph
Drive Speed (Platform Lowered)	0 - 2.50 mph	0 - 4.0 kph
Lift/Lower Speed (Approx.)	40 seconds / 40	
Gradeability	25% / 14 degrees	
Ground Pressure/Wheel (Maximum)	136 psi	9.38 bar
Wind Speed (Maximum)	0 mph	0 kph
Tire Size-Standard (Super Terra Grip-Pneumatic)	16 in dia. x 5 in	406.4 x 127 mm
Tire Pressure (Not Applicable For Foam Filled Tires)	N/A	N/A
Wheel Lug Nut Torque	75-85 ft lbs	102-115 Nm
Hydraulic Pressure:		
Main System	3,000 psi	207.0 bar
Lift System 1950	2,500 psi	172.4 bar
Steer 8550	1,000 psi	68.9 bar
Hydraulic Fluid Capacity	6 gal	22.7 liters
Fuel Capacity	N/A	N/A
Power System - Voltage	36 Volts DC	I */ / *
Battery Charger	33 1310 50	
Input	120 Volt AC, 60	Hz 108 Amn
Output	36 Volt DC, 20 A	
Julipul	Timed Shutoff	impo iapeiniy,
Battery	Six 6 Volt deep-	cycle: 218 Amn
Dattery	hours @ 20 hou	
1		
Electric Motor	6.9 h.p. : 4000 r.	

Primary Machine Components

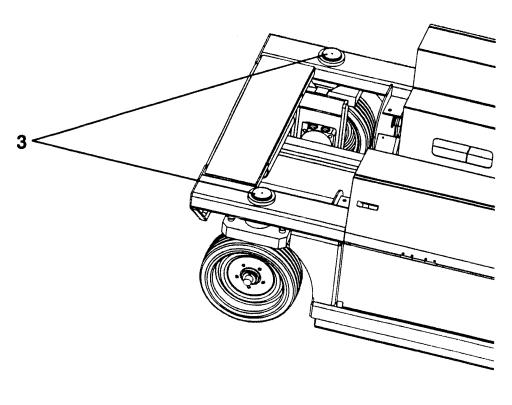


LUBRICATION DIAGRAM

Hydraulic Lubrication



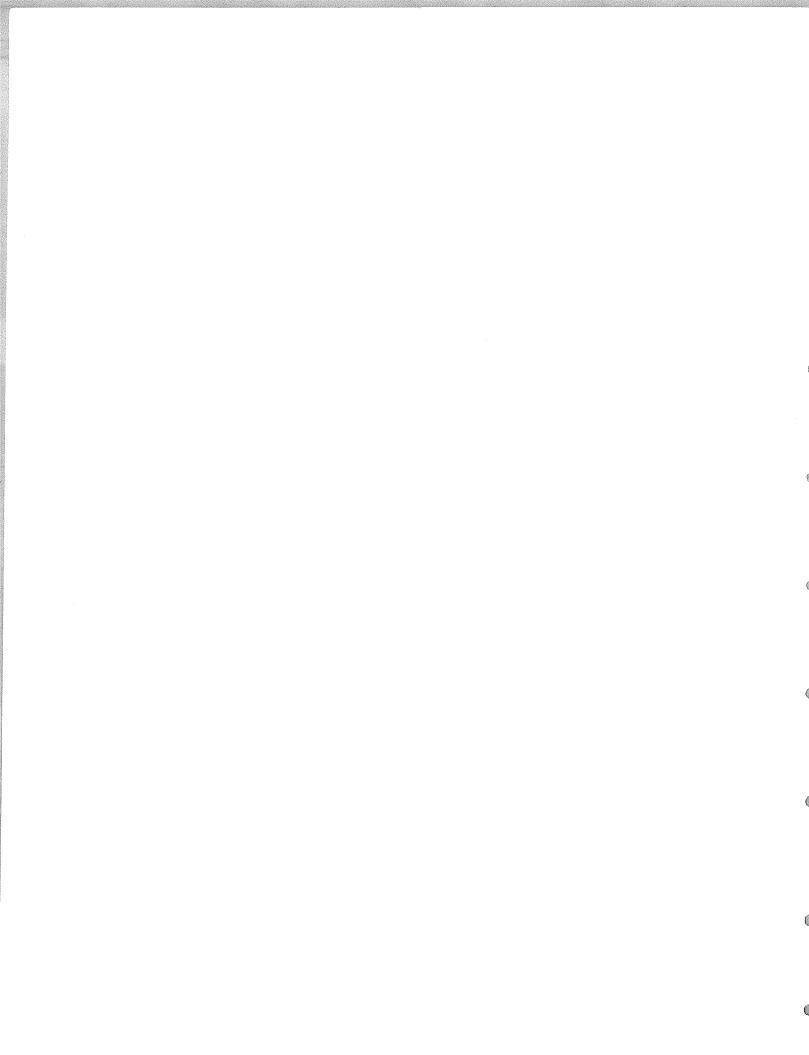
Wheel Motor Mount Lubrication

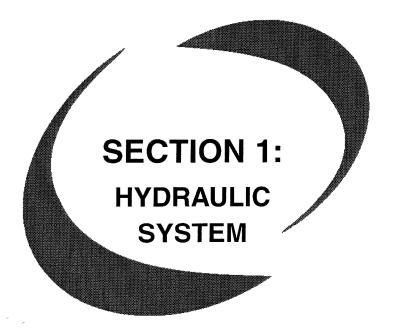


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LUBRICATION CHART

NO.	ITEM	SPECIFICATION	FREQUENCY OF LUBRICATION
1	Hydraulic Reservoir	Anti-Wear 150 SSU (ISO 32/mil spec 0-5606) Fill To The Top Of The Sight Gauge With Platform In The Stowed Position.	Check Daily. Analyze Every Six (6) Months Or 500 Hours. Change Yearly Or Every 1,000 Hours, Whichever Occurs First.
2	Hydraulic Filter	Filter Element	Change Every Six Months Or 500 Hours, Whichever Occurs First For Normal Usage. Change Every Three Months Or 300 Hours, Whichever Occurs First For Severe Usage.
3	Wheel Motor Mount	Gear Oil - EP 90 Add A Few Drops To Each Pivot Point.	Weekly Or Every 25 Hours, Whichever Occurs First.





HYDRAULIC FLUID

HANDLING PRECAUTIONS



PERSONS IN REGULAR CONTACT WITH MINERAL-BASED HYDRAULIC FLUID NEED TO BE AWARE OF THE IMPORTANCE OF THOROUGH HYGIENE, AND THE PROPER METHODS FOR HANDLING MINERAL OILS IN ORDER TO AVOID POTENTIAL HAZARDS TO HEALTH.

If mineral- based hydraulic fluid is SPLASHED INTO THE EYES, it must be WASHED OUT THOROUGHLY using abundant quantities of water. If irritation persists, medical advice should be sought.



HYDRAULIC FLUID UNDER PRESSURE CAN PENETRATE AND BURN SKIN, DAMAGE EYES, AND MAY CAUSE SERIOUS INJURY OR BLINDNESS.

FLUID LEAKS UNDER PRESSURE MAY NOT ALWAYS BE VISIBLE.

Fluid Recommendations

MEC recommends the use of ISO Grade 32 hydraulic fluid. A 150SSU EQUIVALENT substitute can be used if absolutely necessary. Mineral-based hydraulic fluids produced by different companies will USUALLY mix with each other satisfactorily, but this IS NOT RECOMMENDED. When in doubt, consult with your supplier.

ISO Grade 32 has proven to be suitable for use in all climates. For continued operation in temperatures below 32° F (0°C), use of an ATF hydraulic fluid is satisfactory.

The only exception to the above is to drain and fill the system with ATF oil or its equivalent. This will also start up at temperatures down to -20 degrees F (- 29 degrees C). However, use of this oil will give poor performance at temperatures above 120 degrees F (49 degrees C).

Hydraulic Fluid Analysis

Use the following as a guide to determine when analysis of the hydraulic fluid is necessary:

- Anytime the hydraulic pump is replaced.
- If fluid discoloration is noticed in the hydraulic reservoir sight gauge tube.
- If after the first 50 hours of operation, the hydraulic filter element is plugged.
- Anytime the hydraulic filter element shows signs of metal contamination.
- Once every six (6) months, under normal operating conditions.
- Every three (3) months, in extremely dusty or dirty operating conditions.

The hydraulic fluid analysis must be done by a qualified laboratory. Always provide the following information with the test sample.

- Type of hydraulic fluid (see lubrication chart for recommended hydraulic fluid and/or your records).
- Model and Serial number of machine from which sample was taken.
- Purpose of analysis: pump failure, discoloration, etc.
- Type of analysis: complete to show additive breakdown, acid buildup, viscosity, type and percent of contaminants; also, comparison to new fluid and recommendations.

Following the above guidelines will prevent premature failure of pumps, cylinder seals, drive motors, and unnecessary downtime.

If system flushing and replacement of fluid is recommended, refer to the flushing procedures.

System Flushing Procedure

- 1. With platform fully down, drain hydraulic fluid from hydraulic reservoir into a clean, empty container. Use an oil filter cart so the fluid may be reused if analysis is good.
- 2. When the hydraulic reservoir is empty, remove suction strainer and hoses.
- 3. Remove return line hoses on the hydraulic reservoir.
- 4. Remove the bypass filter and hose.
- 5. Flush the hoses with clean hydraulic fluid.
- 6. Discard old bypass filter element and replace.
- 7. Flush out the tank with hoses removed from the hydraulic reservoir.
- 8. Reinstall all hoses removed in the previous steps.

- 9. Fill hydraulic reservoir with filtered, fresh hydraulic fluid (refer to Lubrication Chart).
- 10. Loosen output hose fittings at pump to flood with hydraulic fluid. Tighten fittings.
- 11. Start up the machine. Briefly operate all functions. Two or three lift cycles may be necessary to purge all air from lift cylinder(s).
- 12. When the above procedures have been completed, fill hydraulic reservoir to full mark on sight gauge.
- 13. Check all leaks and correct as necessary. Machine is now ready to be placed back in operation.

NOTE: AVOID MIXING PETROLEUM AND SYNTHETIC BASE OILS. IT IS NOT ADVISABLE TO MIX OILS OF DIFFERENT BRANDS OR TYPES, EXCEPT AS RECOMMENDED.

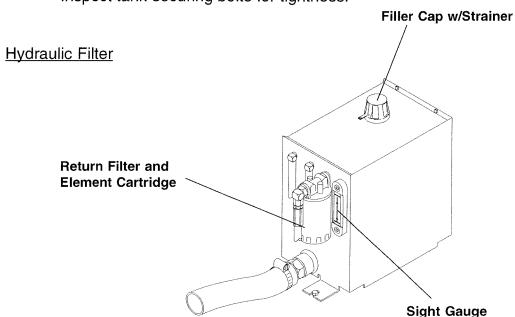
HYDRAULIC SYSTEM COMPONENTS

Hydraulic Fluid Reservoir

This consists of the tank, a filler cap with breather, a drain plug, a sight gauge, and a bypass filter with a 10 micron filter element.

Perform the following steps weekly:

- · Check tank for signs of leakage.
- Inspect tank securing bolts for tightness.





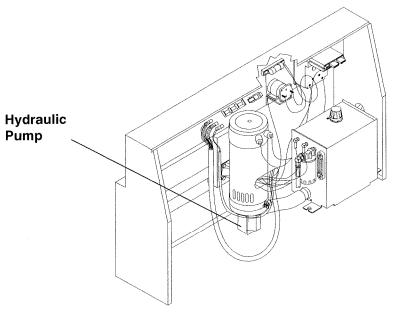
"ES" Series Service & Parts Manual

All machines are produced with a filter. It is a 10 micron spin-on, bypassing filter. When the filter is clogged, hydraulic flow bypasses the filter element. The filter element must be changed every 6 months or 500 hours. Extremely dirty conditions may require that the filter be replaced more often.

Beware of hot oil. Contact with hot oil may cause severe burns.

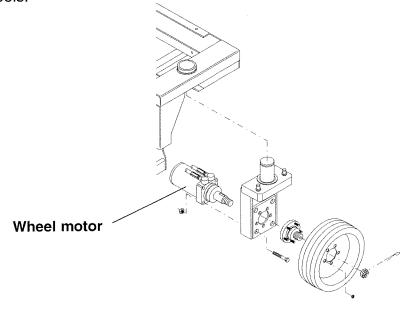
Hydraulic Pump

A 6.9 HP, 36 Volt Electric Motor drives the fixed displacement, gear pump. The pump provides hydraulic fluid flow to operate the machine functions at 6 GPM. There are no adjustments on the pump. The pump provides power for the lift, drive, brake and steering functions.



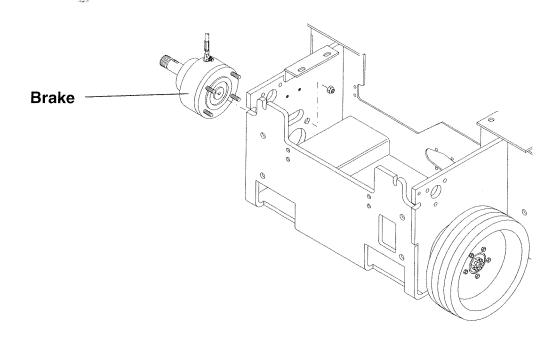
Wheel Drive Circuit

There are two (2) hydraulic, fixed-displacement gear wheel motors to provide power to two (2) front wheels.



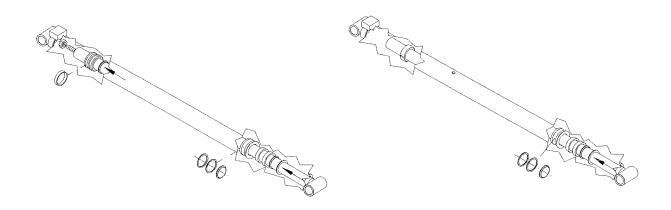
Dynamic Braking Circuit

Rear brakes are released whenever the machine is commanded to drive.



Lift Cylinder

There is one hydraulic cylinder in the 2047ES and the 2647ES scissors lift circuit. There are two (2) hydraulic lift cylinders in the 3247ES scissors lift circuit. Cylinder(s) are of the single acting type. Refer to the Mechanical Section of this manual for cylinder disassembly, or replacement.



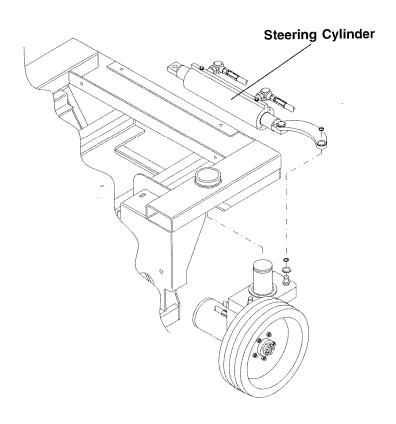
Each cylinder has an integrated 2-position, 2-way solenoid operated platform lower valve and a counter balance valve for holding the platform in position The counter balance valve is also externally piloted via a hand pump for manually lowering the platform.

The holding valve (counterbalance) prevents retraction of the cylinder rod should a hydraulic line rupture or a leak develop between the cylinder and its related control valve.

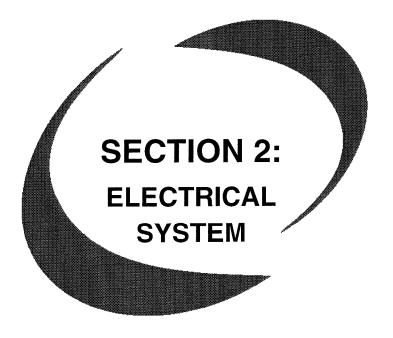
Steer Cylinder

There are one (1) cylinder utilized in the steering system. This cylinder is a double acting type which requires oil flow to operate the cylinder rod in both directions. Directing oil forces the piston to travel towards the rod end of the barrel, extending the cylinder rod. By directing oil to the rod side of the cylinder the piston will be forced in the opposite direction and the cylinder rod will retract.

Refer to the Mechanical Section of this manual for cylinder disassembly, or replacement.







ELECTRICAL SYSTEM- GENERAL

The electrical control system consists of two (2) mutually exclusive control stations namely ground control station and platform station.

The ground station, when enabled via the Base/Platform Selector Switch, disables the platform station and provides control for a fixed speed Lift UP/DOWN functionality.

The platform station consists of a joystick controller with enable switch (trigger), Lift/Drive Mode (Foward/Down, Reverse/UP and accelerator demand), Steer (Right/Left). A torque mode switch causes both hydraulic drive motors to operate in parallel rather than in series for speed mode (normal).

BATTERIES

Six (6), 12 volt batteries supply the 36 volt electrical power required to operate the electrical circuits.

Battery Maintenance (in storage)

Follow these procedures for maintenance of battery on a machine not in use:

- Keep battery clean. Electrolyte of "wet" batteries should be checked regularly and kept at proper level.
- Never stack one battery directly on top of another because post or container damage can result. If batteries are stored individually, place supporting boards between layers. Rotate stock so that the oldest batteries are used first.
- "Wet" batteries should be kept fully charged. A "wet" battery, while in storage, should be recharged to full charge at recommended intervals.

A battery fully (100%) charged at 80° F (26.6°C)

- drops to 65% at 32°F (0°C)
- drops to 40% at 0°F (-32°C)

Recommended Intervals

If Stored At:	Recharge:
Below 40°F (4°C)	None required
Above 60°F (15°C)	Every month
40°-60°F (4°-15°C)	Every 2 months

Battery Maintenance (in use)

Check battery and surrounding area for signs of damage or corrosion.

Check battery terminals for:

- Corrosion: Regularly clean connections and apply a non-metallic grease or protective spray to retard corrosion.
- Loose connections: Be sure all cable connections are tightly secured, and that good contact is made with terminals.
- Broken or Frayed cables: Be sure all connections are good and that no loose or broken wires are exposed. Replace as necessary.

Check battery electrolyte level. Replenish the electrolyte, if necessary. Remove vent caps before filling, and USE ONLY DISTILLED WATER. DO NOT OVERFILL. Fill to level indicator (or ½ inch over the top of separators, if there is no level indicator). Fill after charging to prevent overflow of acid due to expansion. Do not use a hose to add water to batteries.

Allowing the electrolyte level to drop below the top of the separators will lead to shortened battery life.

Excessive water usage can indicate that a battery has been overcharged, has been subjected to excessively high temperatures, or is nearing the end of its service life.

Battery Preventative Maintenance:

Every 15 hours (after battery has been charged), spot-check the specific gravity of two or more cells. A fully charged battery should indicate 1.28 specific gravity. If low readings are noted, check the following:

- Check terminals for corrosion, loose connections and broken or frayed cables.
- Check all cells with a hydrometer for variance in specific gravity. A variation of 0.03 points or more between cells is a cause for concern. Mark the low cells.

Recheck specific gravity of all cells after recharging. Wash the top of the battery, making sure all vents are in place. Do not allow cleaning water or other foreign matter to enter the cells. Use a solution of bicarbonate soda (5 tsp. of baking soda per quart of warm water) and water to wash the battery if there is an accumulation of acid.

Battery Replacement

To remove batteries, follow these procedures.



BEFORE REMOVING THE BATTERIES FROM THE MACHINE, TURN OFF THE SELECTOR/ KEY SWITCH. THERE SHOULD BE NO POWER.

Batteries are located in the side compartment of the machine.

Always disconnect the negative battery cable first.

Remove bolts holding battery. Lift the battery from the compartment. Put the battery to the side and dispose off properly.



Always connect the positive battery cable first.

To install battery, reverse the process by positioning the battery in the compartment securely with hold down bolts. Connect battery cables.

Movement Alarm (OPTIONAL)

This alarm is activated as soon as the platform control console joystick (controller) lever is moved off the center "Neutral" position.



THE MOVEMENT ALARM IS PROVIDED FOR YOUR PROTECTION, AND PROTECTION OF PERSONS WORKING IN THE IMMEDIATE AREA. DISABLING THIS IMPORTANT SAFETY DEVICE MAY RESULT IN SERIOUS INJURY OR DEATH.

Tilt Alarm

A warning indicator light provided at the platform console will give a visual warning when machine is at an unsafe angle; lift function is disabled in this condition.

An audible warning is activated once machine is in the raised position and reaches an unsafe angle; drive function is disabled in this condition.

Tilt Alarm Test

This can be tested by manually tipping the sensor. This "Push-To-Test" feature enables tilt alarm to be tested without losing its adjustment. Individually push down on each of the three fastened corners of the tilt alarm. There should be enough travel to cause the alarm to sound as each corner is pressed. (There is approximately a three second delay). If the alarm does not sound, the flange nuts have been tightened too far. Loosen the nut on the 90° corners and repeat this test procedure.

Tilt Alarm Sensor Adjustment

- Before attempting to adjust the alarm, park the machine on a firm, flat, lever surface.
 Use of an inclinometer is recommended to ensure front and rear of chassis is level.
- Open the base control panel to access the sensor. Adjust the three flange nuts until the bubble on top of the sensor is centered.
- Check that the electrical connections are correct and secured tight.
- Close/shut the base control panel.

Relay

The relays are located inside the compartment (Refer to the schematic at the end of this manual for relay functions and interconnect).

Limit Switch

There is a limit switch to prevent driving in high speed when the platform is raised above approximately 10 feet (3.04 meters), then machine will be in the slow speed mode.

Emergency Stop Button

There are two red emergency stop buttons: one located on the platform control console and the other on the base control panel.

This stop button, when in the ON (OUT) position, provides power to the desired control station. Also, the stop button, in the event of an emergency can be used to turn off the power by pushing "IN". All functions stop immediately when depressed.

Turn the button clockwise to reset.

NOTE: As a safety feature, selecting and operating the base controls will override the platform controls, except the platform emergency stop button.

The base control emergency stop button will stop all machine operations, even if the selector switch is switched to platform controls.

Selector Switch

Machine can be operated from the base/ground or platform controls. Activation of one or the other is achieved with this switch.

With the platform controls selected, from the base control panel, if the platform up/lower function is operated there should be NO movement. Similarly with the base controls selected, from the platform control console if any machine function is operated, there should be NO movement.

Horn

It is activated at the platform controls and sounds at the ground alerting ground personnel to clear the machine's path to avoid hazards or unsafe conditions.

Master Disconnect Switch

Battery disconnect is provided to facilitate servicing and also to prevent unauthorized use of vehicle by using a padlock (to provide security).

Continuity Checks

Check Toggle Switch:

- Disconnect wires and connect one probe of ohm meter to the connection on toggle switch and other probe on other connection.
- When toggle is open, there should be no reading, and when closed there should be a low reading.

Check Selector Switch

- Disconnect wires and connect one probe to common of switch and the other to normally open terminal.
- With the switch flipped, there should be a low resistance.

Check Emergency Stop Button

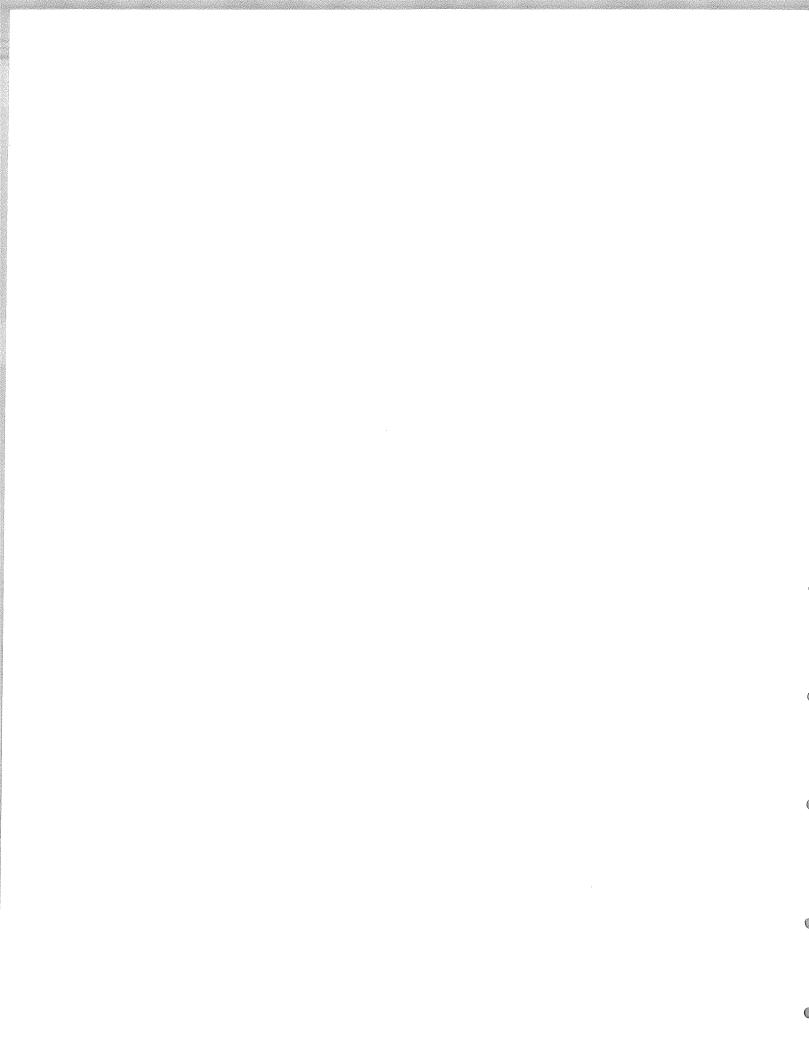
- Disconnect wires and connect one probe of other meter to connection on button and other probe on other connection.
- There should be no reading with the button pressed and a low resistance with it reset.

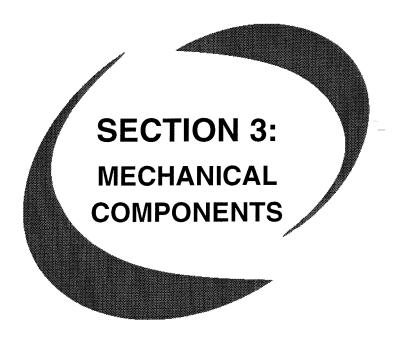
Check Relay Operation

- With one connection grounded, apply voltage to other relay connection.
- Confirm normally closed contacts are opening and vice-versa.

Check Limit Switch Operation

- Disconnect wires.
- With one probe of ohm meter to common and other probe to open contact, move limit switch arm. Low resistance should be seen.
- With one probe of ohm meter to common and other probe to closed contact, low resistance should be seen. Move limit switch arm and no resistance should be seen.





MECHANICAL COMPONENTS

Following is a description of the major mechanical components of the scissors lift.

Chassis/ Undercarriage



When steam cleaning the base/ undercarriage, cover electrical components to prevent water penetration.

Steam clean the chassis as necessary, and inspect all welds and brackets. Check for cylinder pins that turn in their mounting, which will indicate sheared retaining pins.

Tires

Inspect for cuts, chunking, side-wall damage, or abnormal wear. Any tire faults MUST BE CORRECTED before further machine operation. Refer to Parts Manual Section for replacement tires.

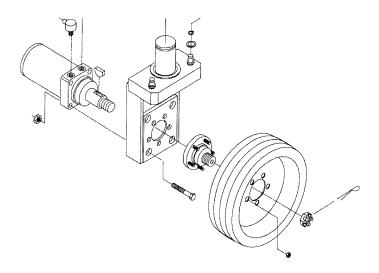


FAILURE TO USE APPROVED PARTS MAY CAUSE DEATH OR SERIOUS PERSONAL INJURY.

NOTE: Replace tires with the correct tires to maintain the rating of this equipment.

Changing Tires

When a tire change is necessary, follow these tips:





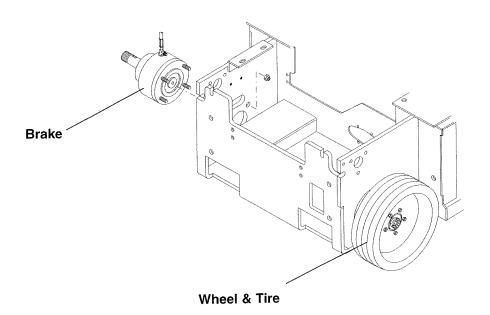
ALWAYS BLOCK THE WHEELS BEFORE RAISING THE MACHINE.

- 1. Chock tires on one end of machine and raise the other end of machine.
- 2. Loosen and remove lug nuts and pull wheel off.
- 3. Install the replacement wheel.
- 4. Fasten lug nuts and tighten to proper torque.
- 5. Lower the machine and remove the chocks.

Brakes

There are two (2) brakes. These can be damaged or leaks may occur; repair or replace as necessary.

To replace drive motor brake:



Remove the wheel and tire assembly to access drive motor.

Steer Cylinder

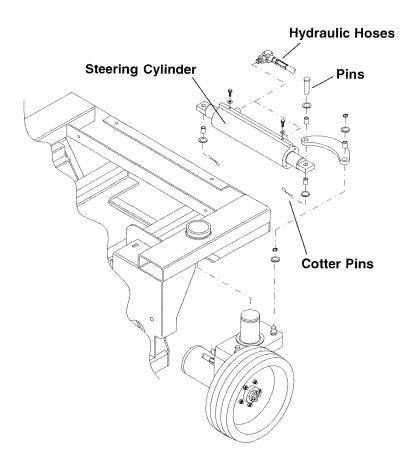
There is one (1) double acting type steer cylinder on this machine. During operation, cylinder should not leak, but a slight damping at the rod seal is acceptable. The pins should be checked for wear.

To replace steer cylinder:



Plug all open hydraulic fittings to prevent contamination by dirt or other foreign objects.

- 1. Disconnect hydraulic hoses and cap them.
- 2. Remove the pins and cotter pin holding the steer cylinder to the motor mounting bracket.
- 3. Remove the pin and cotter pin holding the steer cylinder to the steer axle cross member.



- 4. Carefully lift off the steer cylinder.
- 5. Position the new steer cylinder and install pin and cotter pin to hold cylinder to the steer axle cross member.
- 6. Install pin and cotter pin to hold cylinder to motor mounting bracket.
- 7. Connect hydraulic hoses.

Cylinder Seal Replacement



Take care not to damage rod surface and guard against dirt on other foreign objects entering system.

- 1. Drain all oil from cylinder.
- 2. Clean all dirt and grit from outside of cylinder.
- 3. Insert cylinder into vise.
- 4. Remove cylinder retainer using a spanner wrench inserted in the holes provided in the head: you might have to use sharp pointed object to start retainer removal thru the slotted barrel.
- 5. Remove the shaft assembly from the barrel, pulling in a straight lie, so as not to scar the internal parts.
- 6. Insert shaft into a **soft jawed** vise so that the head and piston can be removed. Be sure the shaft and vise are both clean before using.
- 7. Remove nut at the end of the shaft and pull head and piston off of the rod.
- 8. Remove all seals from the head and piston using a non-sharp seal tool. These tools are available from various seal suppliers.
- 9. Clean all oil and debris off of the head, piston, shaft, collar and barrel using solvent, rags, and an air hose.
- 10. Inspect all parts for any wear or damage, if damage is found replace with new part.
- 11. Reinstall all seals on the head and piston using the non-sharp seal tool.
- 12. Place a small amount of oil on the inside seals of the head and reinstall it on the shaft, by slipping head over the piston end of the shaft being very careful not to damage the inside seals.

Cylinder Seal Replacement (Continued)

- 13. Place a small amount of oil on the inside seals of the piston and reinstall it on the shaft by slowly twisting the piston on over the threads of the shaft being very careful not to damage the inside seals.
- 14. Reinstall the shaft nut; torque 3/4" nut to 160 Ft-lbs.
- 15. Grease the outside seals of the head and piston.
- 16. Reinstall the shaft into the barrel of the cylinder and push in until groove of the head lines up with the slot in the barrel.
- 17. Reinstall the cylinder retainer with the use of the spanner wrench.
- 18. Cycle the cylinder using air to check for proper operation.

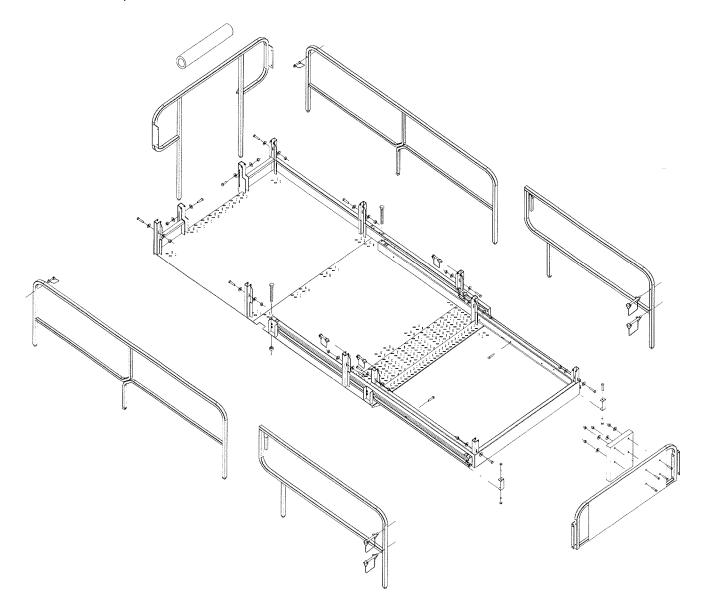
NOTE: It is very important to keep all parts clean when working with hydraulic cylinders, even one small piece of dirt or grit can damage the cylinder.

Hoses and Cables.

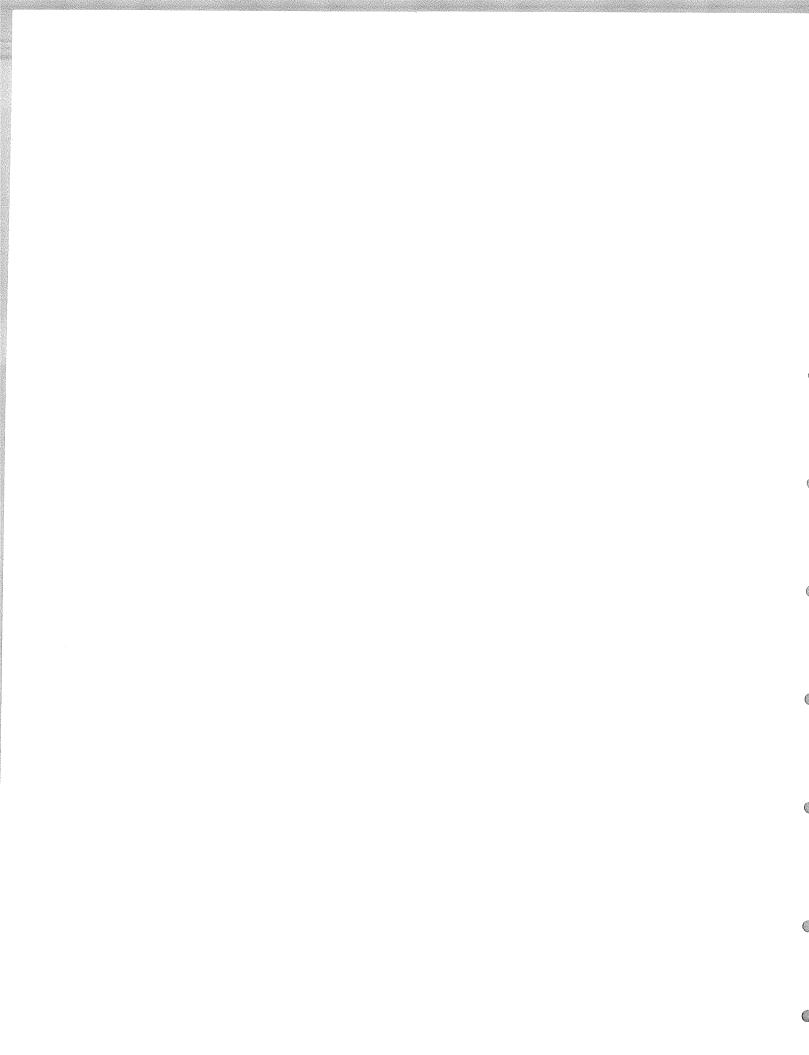
Inspect all hoses and electrical cables for security and damage. Hoses and cables should be examined for rubbing and chafing. Check for leaks at fittings. Replace any damaged hoses or cable. (Refer to the Parts Section.)

Platform Removal

- Raise platform about three (3) feet (1.0 m) and block the arms in the raised position. Also, connect overhead crane by appropriate lifting device to platform.
 - 2. Disconnect all platform wires.
 - 3. Remove the bolts from each platform bracket at the rear of the machine.
 - 4. Slide platform and roll out deck off the machine.



Platform Removal





TROUBLESHOOTING

GENERAL TROUBLESHOOTING TIPS

Before investigating a malfunction, check the following items:

- Check that battery connections are secure and battery if fully charged.
- Check that the emergency stop button is released (UP/OUT position).
- Check that the hydraulic fluid is at the correct level.
- Check that the brake release valve is open.
- Check that the circuit breaker is in the "ON" position.

Common Causes of Hydraulic System Malfunctions:

- Incompatible hydraulic fluids mixed, destroying the additives and causing varnish build up, resulting in the valves sticking.
- Water in the hydraulic fluid due to a damp climate.
- Improper hydraulic fluid used. Viscosity too high in cold climates. Viscosity too low in warm climates.

NOTE: 150SSU (ISO 32) is a multiple viscosity oil that is light enough for cold climates and resists thinning in warm climates.

Following is a step by step basic troubleshooting guide.

NOTES: Contamination always causes failure in any hydraulic system. It is very important to be careful not to introduce any contamination into your hydraulic system during the assembly procedures. Please make sure all ports and cavities of the manifold and cylinders are properly covered while other works are performed during the assembly of the machine.

Troubleshooting of the hydraulic integrated system (Manifold) can be easily accomplished by using a series of cavity plugs designed for the troubleshooting of the manifold. MEC has already established these plugs.

TROUBLESHOOTING CHART

Problem	Probable Cause	Remedy/Solution
Platform will not raise from base or platform	Procedure fault-lift selected while power on	2 flashes of the LED on the motor controller indicates a procedure fault. To clear move the joystick to the neutral position.
	Accelerator fault-joystick not in neutral or wire disconnected from joystick when power was turned on	6 flashes of the LED on the motor controller indicates an accelerator fault. To clear, move joystick to neutral and/or repair wiring, then recycle power.
	Faulty up valve coil or wiring	Replace coil and/or repair wiring
	Faulty up valve	Replace up valve
	Faulty down valve	Replace down valve
	Faulty or misadjusted relief valve	If relief pressure is below specification replace relief valve See hydraulic schematic for proper setting
	Faulty motor controller logic board	Replace logic board in motor controller
Platform will not raise	Faulty lift switch	Replace lift switch
from base only	Faulty base/platform selector switch	Replace base/platform selector switch
	Faulty wiring	Inspect and repair wiring

Problem	Probable Cause	Remedy/Solution
Platform will not raise from platform only	Faulty enable switch and/or wiring	Replace enable switch and/or repair wiring
	Note: If enable switch and/ or wiring is faulty then drive, steering and torque functions will not be operational	
	Faulty mode selector switch	Replace mode selector switch
	Faulty reverse/up switch	Replace reverse/up switch
	Faulty wiring or cable	Inspect and repair wiring and/or cable
Platform raises slow or erratic	Faulty joystick potentio- meter	If voltage across joystick potentio- meter is more than 0.2VDC when in full lift then joystick potentiometer requires adjustment or replacement
	Faulty or misadjusted relief valve	If relief pressure is below specification replace relief valve. See hydraulic schematic for proper setting
	Faulty lift cylinder(s)	Repair or replace lift cylinder(s)
	Faulty up valve	Replace up valve
	Faulty down valve	Replace down valve
	Faulty emergency down valve	Replace emergency down valve

Problem	Probable Cause	Remedy/Solution
Platform will not lower from base or platform	Procedure fault-down selected at power on	2 flashes of the LED on the motor controller indicates a procedure fault. To clear move the joystick to the neutral position.
	Accelerator fault-joystick not in neutral or wire dis- connected from joystick when power was turned on	6 flashes of the LED on the motor controller indicates an accelerator fault. To clear, move joystick to neutral and/or repair wiring, then recycle power.
	Faulty down valve coil or wiring	Replace coil and/or repair wiring
	Faulty down valve	Replace down valve
	Faulty up valve	Replace up valve
	Faulty motor controller logic board	Replace logic board in motor controller
Platform will not lower	Faulty lift switch	Replace lift switch
from base only	Faulty base/platform selector switch	Replace base/platform selector switch
	Faulty wiring	Inspect and repair wiring
Platform will not lower	Faulty mode selector switch	Replace mode selector switch
from platform only	Faulty forward/down switch	Replace forward/down switch
	Faulty wiring or cable	Inspect and repair wiring and/or cable
Platform lowers slow	Faulty lift cylinder(s)	Repair or replace lift cylinder(s)
or erratic	Faulty down valve	Replace down valve
	Faulty up valve	Replace up valve
	Down orifice in down hydraulic line obstructed	Remove orifice and clear obstruction

Problem	Probable Cause	Remedy/Solution
Steering inoperative in both directions	Faulty enable switch and/or wiring	Replace enable switch and/or repair wiring
	Note: If enable switch and/ or wiring is faulty then drive and lift functions will not be operational	
	Faulty steering valve	Replace steering valve
	Faulty up valve	Replace up valve
	Faulty or misadjusted relief valve	If relief pressure is below specification replace relief valve. See hydraulic schematic for proper settings
Steering inoperative in right	Faulty steering valve	Replace steering valve
iii iigiit	Faulty right steering coil or wiring	Replace coil and/or repair wiring.
	Battery voltage below 30 volts	Charge batteries
	Faulty steering rocker switch	Replace joystick rocker switch
	Faulty wiring	Inspect and repair wiring
	Faulty motor controller logic board	Replace logic board in motor controller

Problem Probable Cause		Remedy/Solution
Steering inoperative	Faulty steering valve	Replace steering valve
in left	Faulty left steering coil or wiring	Replace coil and/or repair wiring
	Faulty steering rocker switch Faulty wiring Faulty motor controller	Replace joystick rocker switch Inspect and repair wiring Replace logic board in motor controller
	logic board	
No motion in for- ward and no motion in reverse	Procedure fault-forward/ reverse selected at power on	2 flashes of the LED on the motor controller indicates a procedure fault. To clear move the joystick to the neutral position.
	Accelerator fault-joystick not in neutral or wire dis- connected from joystick when power was turned on	6 flashes of the LED on the motor controller indicates an accelerator fault. To clear, move joystick to neutral and/or repair wiring, then recycle power.
	Faulty enable switch and/or wiring	Replace enable switch and/or repair wiring
	Note: If enable switch and/ or wiring is faulty then lift and steering functions will not be operational	
	Tow valve open	Close tow valve
	Faulty dump valve coil	Replace dump valve coil
	Faulty dump valve	Replace dump valve
	Faulty up valve	Replace up valve
	Faulty mode selector switch	Replace mode selector switch
	Faulty wiring or cable	Inspect and repair wiring and/or cable

Problem	Probable Cause	Remedy/Solution
No motion in for- ward and no motion	Faulty pothole system	Inspect and repair pothole system
in reverse when elevated	Misadjusted pothole limit switch	Readjust pothole limit switch
	Faulty pothole limit switch and/or wiring	Replace pothole limit switch and/or repair wiring
Motion is slow in forward and motion	Partially open tow valve	Close tow valve completely
is slow in reverse	Faulty dump valve	Replace dump valve
	Faulty decel valve or decel valve coil	Replace decel valve or decel valve coil
	Faulty steering valve	Replace steering valve
No motion in forward only	Faulty forward drive valve	Replace forward drive valve
lorward orny	Faulty torque valve	Replace torque valve
	Faulty forward/down switch	Replace forward/down switch
	Faulty wiring	Inspect and repair wiring
	Faulty motor controller logic board	Replace logic board in motor controller
No motion in reverse only	Faulty reverse drive valve	Replace reverse drive valve
Toverse of my	Faulty reverse/up switch	Replace reverse/up switch
	Faulty wiring	Inspect and repair wiring
	Faulty motor controller logic board	Replace logic board in motor controller
forward only potentiometer m		If voltage across joystick potentio- meter is more than 0.2VDC when in full forward then joystick potentio- meter requires adjustment or replacement

Problem	Probable Cause	Remedy/Solution
Motion is slow in reverse only	Faulty joystick potentiometer	If voltage across joystick potentio- meter is more than 0.2VDC when in full reverse then joystick potentio- meter requires adjustment or replacement
Accelerates while driving on an incline	Faulty counterbalance valve	Replace counterbalance valve
Movement alarm does not operate	Faulty movement alarm or wiring	Replace movement alarm and/or repair wiring
	Faulty motor controller logic board	Replace logic board in motor controller
Movement warning light does not	Faulty warning light and/or wiring	Replace warning light and/or repair wiring
operate	Faulty motor controller logic board	Replace logic board in motor controller
Horn does not	Faulty horn or wiring	Replace horn and/or repair wiring
operate	Faulty horn switch	Replace horn switch
Tilt alarm does not operate when elevated	Misadjusted slow speed limit switch	Readjust slow speed limit switch
Note: Tilt alarm and horn are the same device. Test horn by depressing the horn switch. If the horn is not operational refer to "Horn does not operate". If the horn is operational then proceed.	Note: If the slow speed limit switch is misadjusted, slow speed can be operational but the tilt alarm may not activate.	
	Faulty slow speed limit switch and/or wiring	Replace slow speed limit switch and/or repair wiring

Problem	Probable Cause	Remedy/Solution
Torque mode not operational	Faulty torque switch and/or wiring	Replace torque switch and/or repair wiring
	Faulty torque valve coil and/or wiring	Replace torque valve coil and/or repair wiring
	Faulty torque valve(s)	Replace torque valve(s)
	Faulty motor controller logic board	Replace logic board in motor controller

9586 DECAL, FAULT CODES

Motor controller self diagnostics as transcribed from the motor controller specification sheet

1 flash Personality/CRC fault

This fault is usually an internal failure of the non-volatile memory. To clear this fault, check all adjustable personality settings and power-recycle. If fault persists or this failure is recurrent, replace logic card.

2 flash Procedure fault

This includes direction, enable switch, steer or lift selected at power on; direction or lift or steer selected without enable switch; enable switch neutral 20 second time-out.

Recycle through neutral to clear.

3 flash Motor permanently low

This includes MOSFET short circuit. This fault shuts down all modes. Recycle through neutral to clear.

4 flash Motor permanently high

This includes pump line contactor welded or open. This fault shuts down all modes. Key switch recycle to clear.

5 flash Power frame capacitor charge fault Check wiring. Replace powerpak.

6 flash Faulty accelerator

This includes the accelerator greater than 15% at power on, and wire off. If wire-off occurs during active function, motor speed will default to accelerator fault creep.

7 flash Battery voltage fault

This includes battery voltage excessively high or low (set by special adjustable personalities) or BDI has reached cutout level. Neutral recycle to clear.

8 flash Thermal cutback

This includes MOSFET temperature above 75 degrees centigrade. Self-clearing.

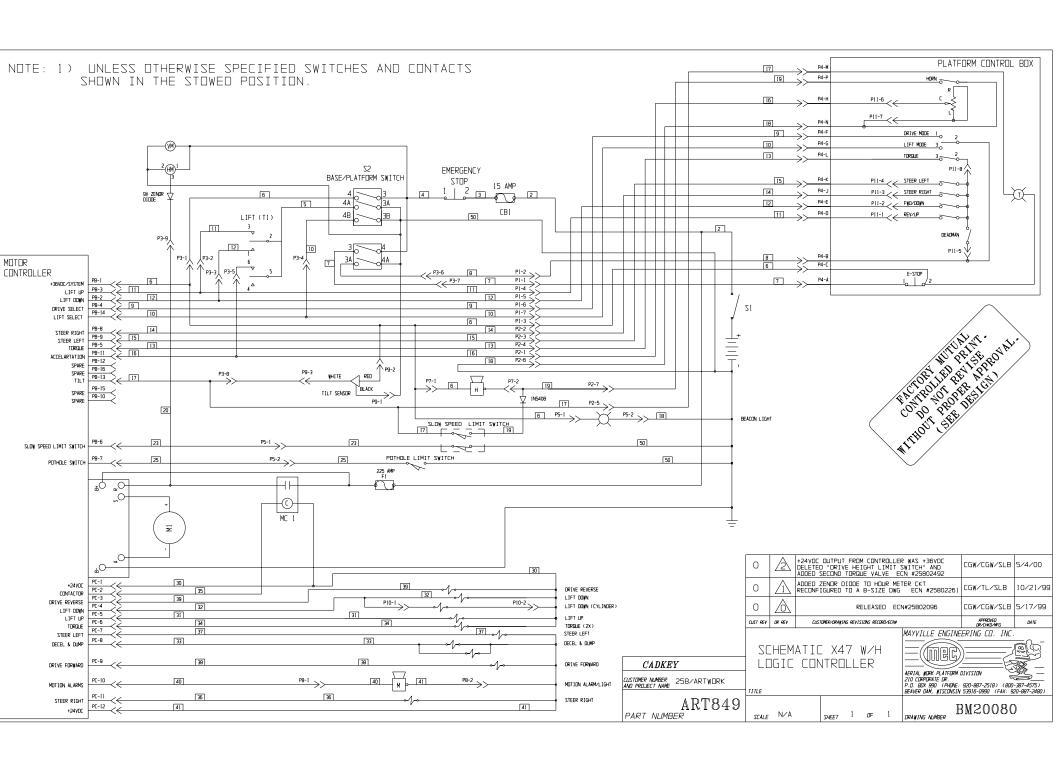
9 flash Pump line contactor coil is shorted or mis-wired.

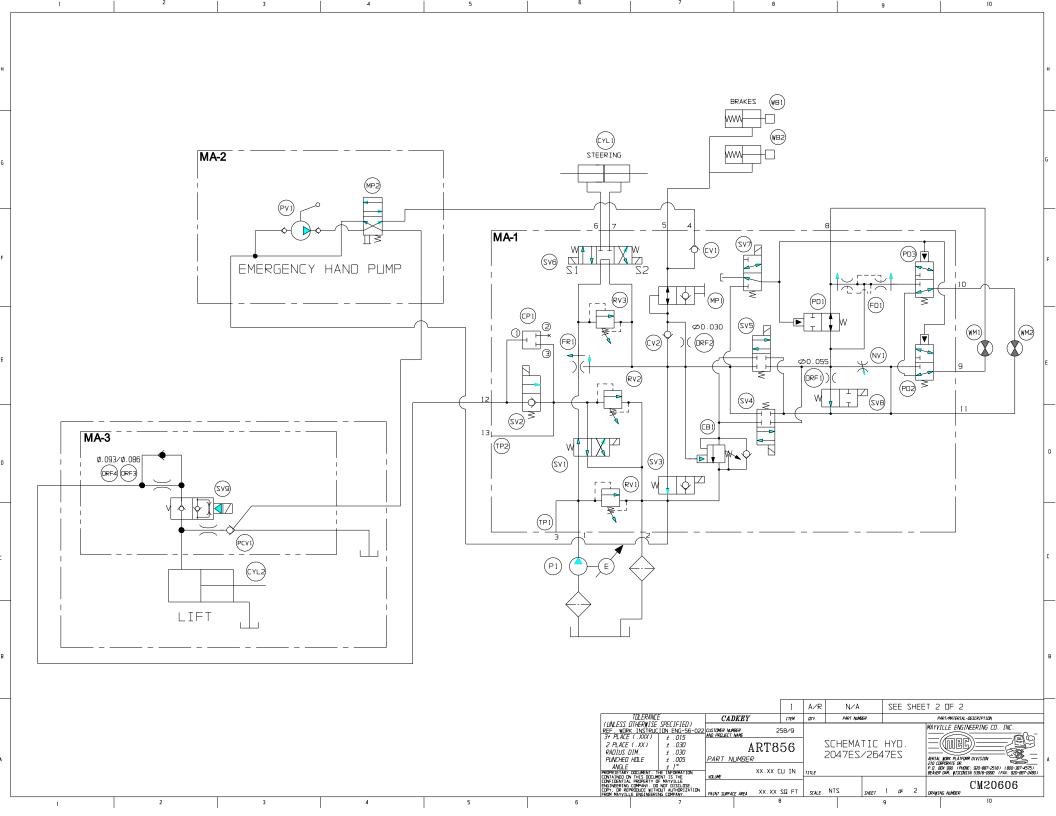
Power recycle to clear.

10 flash Pothole deployment failed Lower scissors to clear

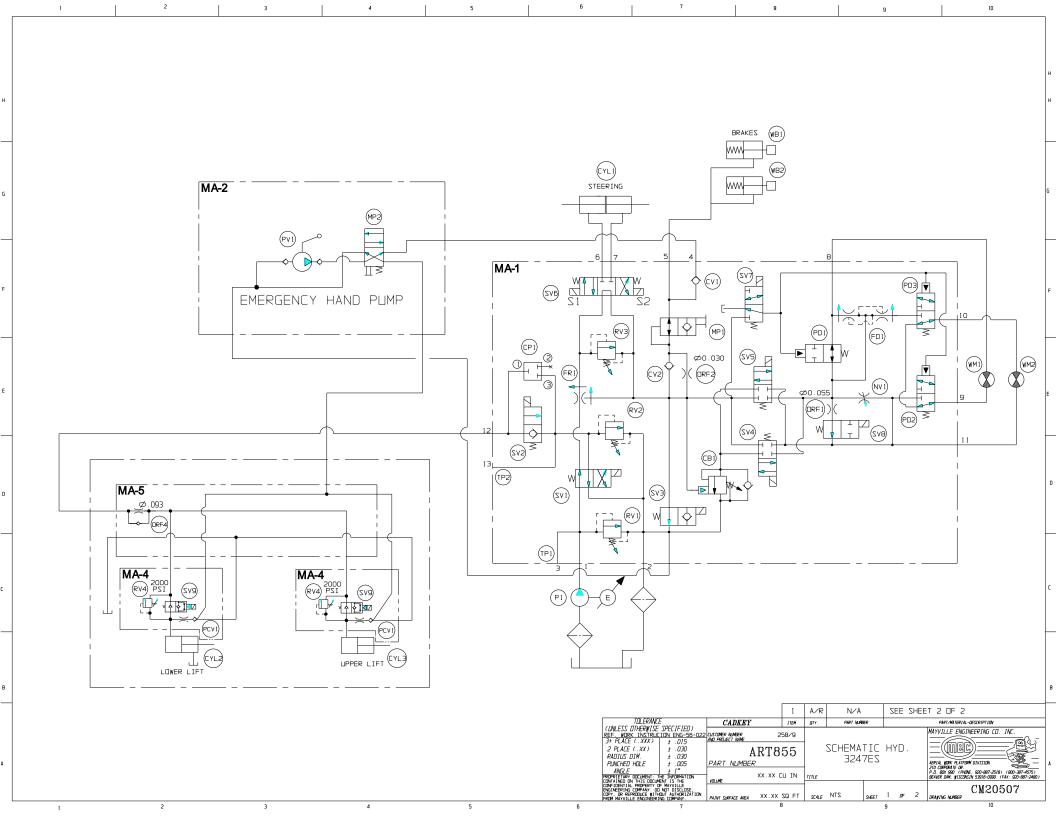
11 flash Tilt and scissor up shutdown

In traction mode lower scissors to clear. Lift down will always be allowed.





LETTER CALLOUT	MAYVILLE PART NO.	PART DESCRIPTION VALVE - PRESSUR SETTINGS		
MA-1	9677	MANIFOLD ASM. W/O PROPORT DOWN N/A		
CP1	90103	PLUG, CAMTY, 3-WAY, N/A		
CV1, CV2	90104	VALVE, CHECK N/A		
FD1	90105	FLOW DIVIDER/COMBINER	N/A	
FR1	90106	REGULATOR, PRESSURE-COMPNSATED	N/A	
NV1	90107	NEEDLE VALVE	N/A	
MP1	90108	VALVE, MANUAL PULL	N/A	
PD1	90109	2 WAY SPL. N.O. PILOT OPERATED	N/A	
PD2,PD3	90110	EXTERNAL VENT, PILOTED 3-WAY	N/A	
RV1	90111	RELIEF VALVE, POPPET,	2750 PSI.	
RV2	9951	RELIEF VALVE, POPPET (2047ES)	1600 PSI.	
RV2	9950	RELIEF VALVE, POPPET (2647ES)	2050 PSI.	
RV3	90113	RELIEF VALVE, POPPET	850 PSI.	
SV1	90114	VALVE, SPOOL, 4-WAY 2-POS	N/A	
SV2	90115	VALVE, SPOOL, POP, 2-WAY, N.C.	N/A	
SV3	90116	VALVE, SPOOL, POP, 2-WAY, N.O.	N/A	
SV4,SV5	90117	VALVE, SPOOL, 4 WAY, 2 POSTION		
SV6	90118	VALVE, SPOOL 4-WAY 3 POS TANDM N		
SV7	90119	VALVE, SPOOL, 3-WAY		
SV8	90120	VALVE, SPOOL, 2-WAY, NORM OPEN N/A		
CB1	90123	VALVE, CONTERBALANCE N/A		
ORF1	90124	ORIFICE DISC .055 N/A		
ORF2	90125	ORIFICE PLUG .030 N/A		
N/A	90121	COIL, 36VDC, SMALL (NOT SHOWN) N/A		
N/A	90122	COIL, 36VDC, LARGE (NOT SHOWN) N/A		
MA-2	90126	MAIN, MANIFOLD BLOCK N/A		
PV1	8849	HYDRAULIC HAND PUMP VALVE	N/A	
MP2	8848	MANUAL PULL 4-WAY VALVE	N/A	
MA-3	14523	MANIFOLD, LIFT CYLINDER	N/A	
SV9	6923	VALVE, N.O. POPPET, 2-WAY	N/A	
PCV1	7445	VALVE, PILOT OPERATED CHECK	N/A	
N/A	7673	COIL, 36VDC (NOT SHOWN)	N/A	
ORF3	9883	ORFICE, UNI DIRECTION086 (2647ES)	N/A	
ORF4	9767	ORIFICE, UNI DIRECTION093 (2047ES)	N/A	
TP-1	N/A	MAIN PRESSURE TEST POINT #1 N/A		
TP-2	N/A	LIFT PRESSURE TEST POINT #2 N/A		
WB1/WB2	9277	WHEEL BRAKE	N/A	
WM1/WM2	9567	WHEEL MOTOR	N/A	
P1	9661	PUMP, 6GPM. NO LOAD	N/A	
CYL1	9449	CYLINDER, STEERING	N/A	
CYL2	9361	CYLINDER, LIFT	N/A	



LETTER MAYVILLE PART NO.		PART DESCRIPTION	VALVE - PRESSURI SETTINGS
MA-1	9677	MANIFOLD ASM. W/O PROPORT DOWN	N/A
CP1	90103	PLUG, CAVITY, 3-WAY, N/A	
CV1, CV2	90104	VALVE, CHECK	N/A
FD1	90105	FLOW DIVIDER/COMBINER	N/A
FR1	90106	REGULATOR, PRESSURE-COMPNSATED	N/A
NV1	90107	NEEDLE VALVE	N/A
MP1	90108	VALVE, MANUAL PULL	N/A
PD1	90109	2 WAY SPL. N.O. PILOT OPERATED	N/A
PD2,PD3	90110	EXTERNAL VENT, PILOTED 3-WAY	N/A
RV1	90111	RELIEF VALVE, POPPET,	2750 PSI.
RV2	9949	RELIEF VALVE, POPPET	1750 PSI.
RV3	90113	RELIEF VALVE, POPPET	850 PSI.
SV1	90114	VALVE, SPOOL, 4-WAY 2-POS	N/A
SV2	90115	VALVE, SPOOL, POP, 2-WAY, N.C.	N/A
SV3	90116	VALVE, SPOOL, POP, 2-WAY, N.O.	N/A
SV4,SV5	90117	VALVE, SPOOL, 4 WAY, 2 POSTION	N/A
SV6	90118	VALVE, SPOOL 4-WAY 3 POS TANDM	N/A
SV7	90119	VALVE, SPOOL, 3-WAY	N/A
SV8	90120	VALVE, SPOOL, 2-WAY, NORM OPEN	N/A
CB1	90123	VALVE, CONTERBALANCE	N/A
ORF1	90124	ORIFICE DISC .055	N/A
ORF2	90125	ORIFICE PLUG	N/A
N/A	90121	COIL, 36VDC, SMALL (NOT SHOWN)	
N/A	90122	COIL, 36VDC, LARGE (NOT SHOWN)	
MA-2	90126	MAIN, MANIFOLD BLOCK N	
PV1	8849	HYDRAULIC HAND PUMP VALVE	N/A
MP2	8848	MANUAL PULL 4-WAY VALVE	N/A
MA-4	20395	MANIFOLD, LIFT CYLINDER	N/A
RV4	9769	RELIEF VALVE	2000 PSI.
SV9	6923	VALVE, N.O. POPPET, 2-WAY	N/A
PCV1	7445	VALVE, PILOT OPERATED CHECK	N/A
N/A	7673	COIL, 36VDC (NOT SHOWN)	N/A
MA-5	30029	BLOCK, JUNCTION	N/A
ORF4	9767	ORIFICE, UNI DIRECTION093	N/A
TP-1	N/A	MAN PRESSURE TEST POINT #1	
TP-2	N/A	LIFT PRESSURE TEST POINT #2 N//	
WB1/WB2	9277	WHEEL BRAKE	N/A
WM1/WM2	9567	WHEEL MOTOR	N/A
P1	9661	PUMP, 6GPM. NO LOAD N/A	
CYL1	9449	CYLINDER, STEERING	N/A
CYL2	9361	CYLINDER, LOWER LIFT N/A	
CYL3	9359	CYLINDER, UPPER LIFT	N/A

D

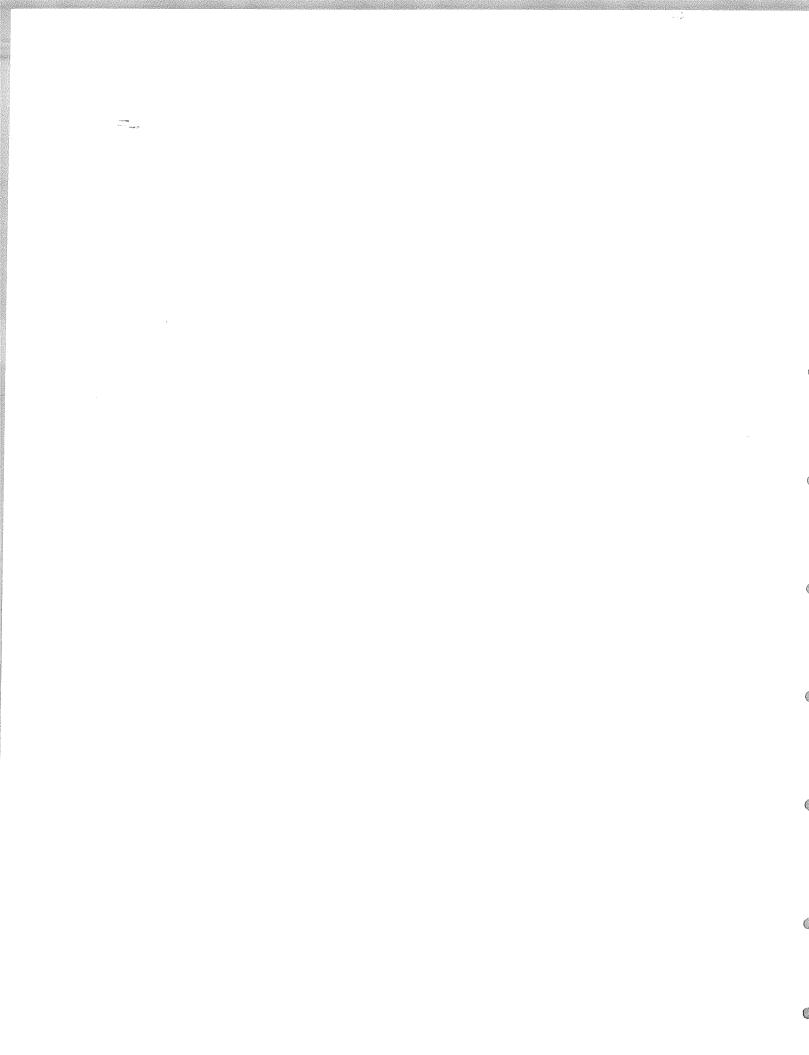


TABLE OF CONTENTS PARTS MANUAL

SECTION 1: Control boxes

SECTION 2: Platform and Rails

SECTION 3: Scissors

SECTION 4: Hydraulics

SECTION 5: Base

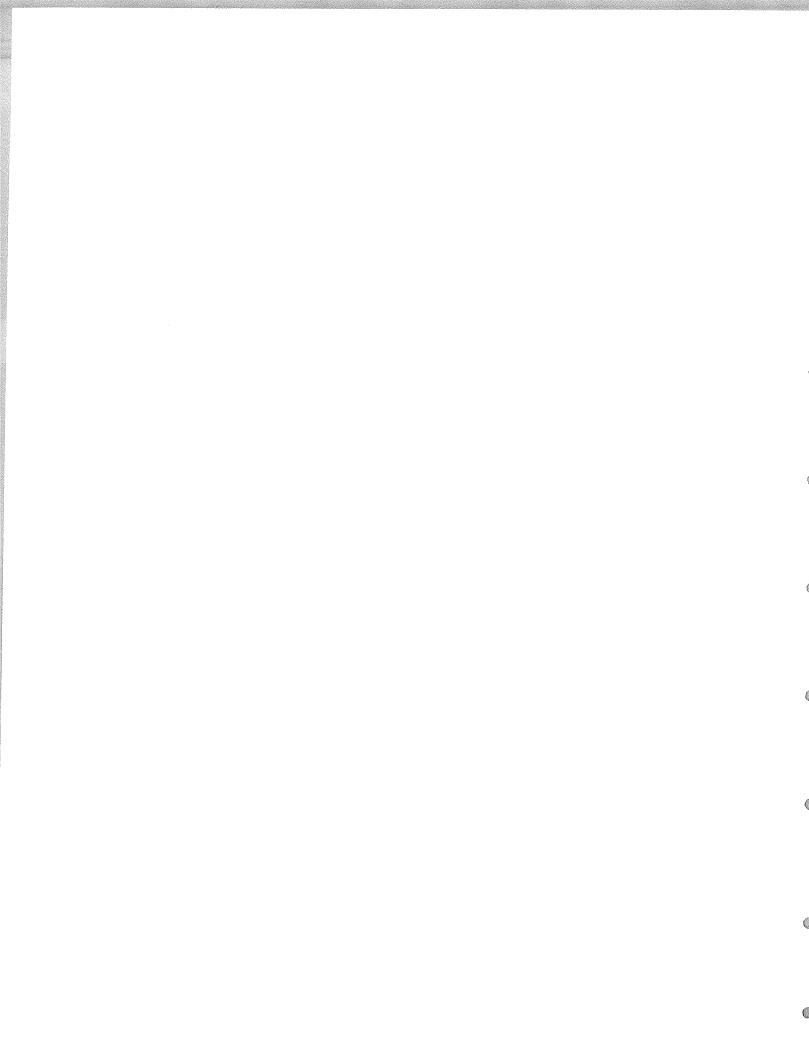
SECTION 6: Decais

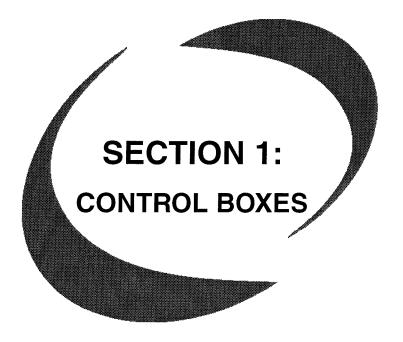
SECTION 7: Options

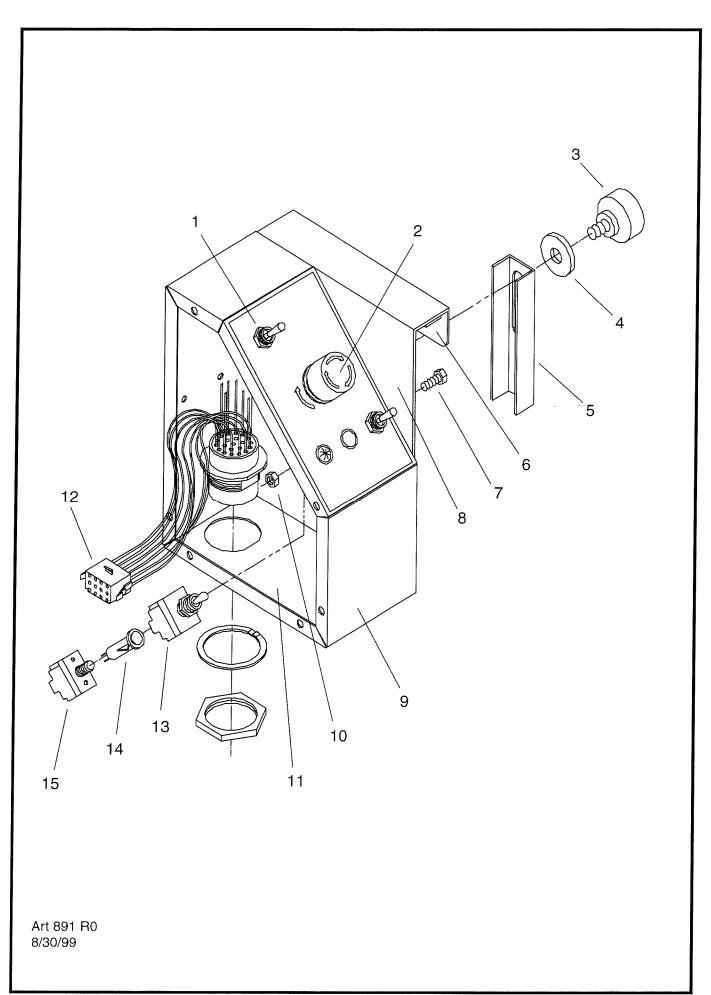
APPENDIX: Hydraulic Schematics - 2047ES/2647ES

Hydraulic Schematics - 3247ES

Electrical Schematics - 47 Series

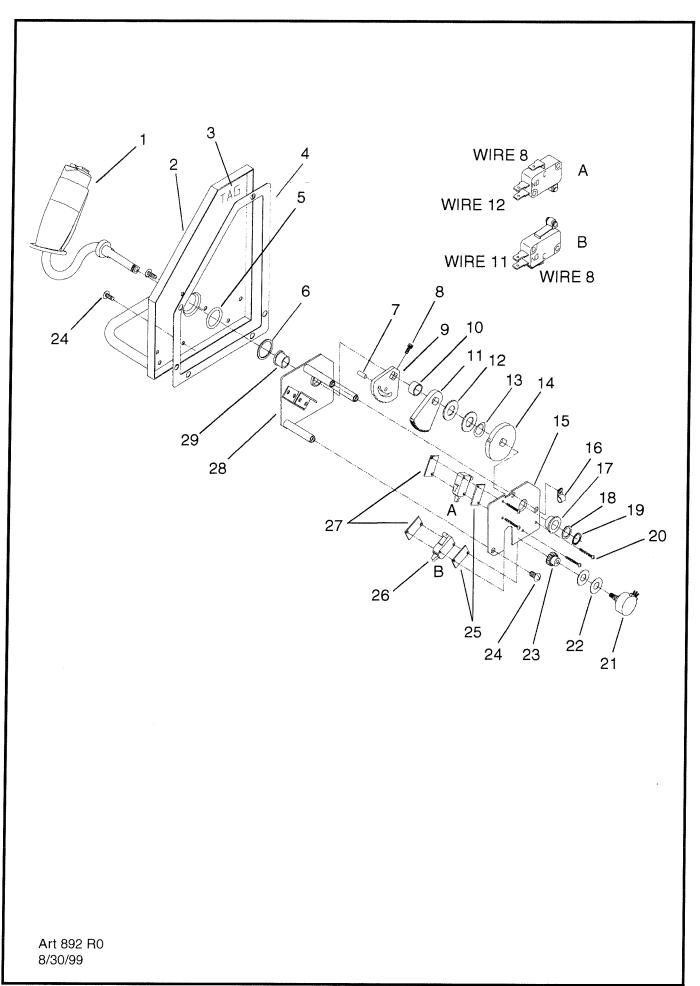






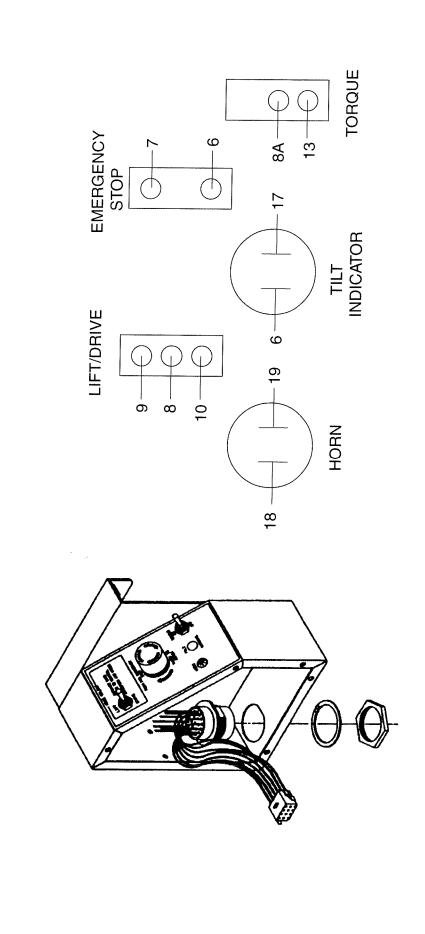
ITEM	PART NO.	QTY	DESCRIPTION
	30621		CONTROL BOX ASSEMBLY
1	5230	1	SWITCH, TOGGLE, 3 POSITION, MOMENTARY
2	7800	1	EMERGENCY STOP SWITCH ASSEMBLY
	9345	1	BLOCK-CONTACT N.C.
3	8826	1	THUMBSCREW, 5/16" - 18, FLOWER
4	HDW8294	1	WASHER, FLAT
5	13864	1	LOCK, CONTROL BOX BRACKET
6	6350	.5	TAPE, FOAM
7	HDW5724	1	SCREW, 5/16" - 18, 3/4" LG
8	13865	1	BRACKET, CONTROL BOX HOLDER
9	13867	1	WRAPPER, CONTROL BOX
10	HDW7120	1	NUT, 5/16" - 18
11	8066	1	TAG (INSPECTION)
12	9764	1	WIRE HARNESS, W/CONNECTOR
13	5630	1	SWITCH, TOGGLE, TORQUE
14	9179	1	SOCKET, LIGHT
	9184	1	LENS, YELLOW
	9182	1	LIGHT, BAYONET, 28 VOLT
15	8044	1	SWITCH
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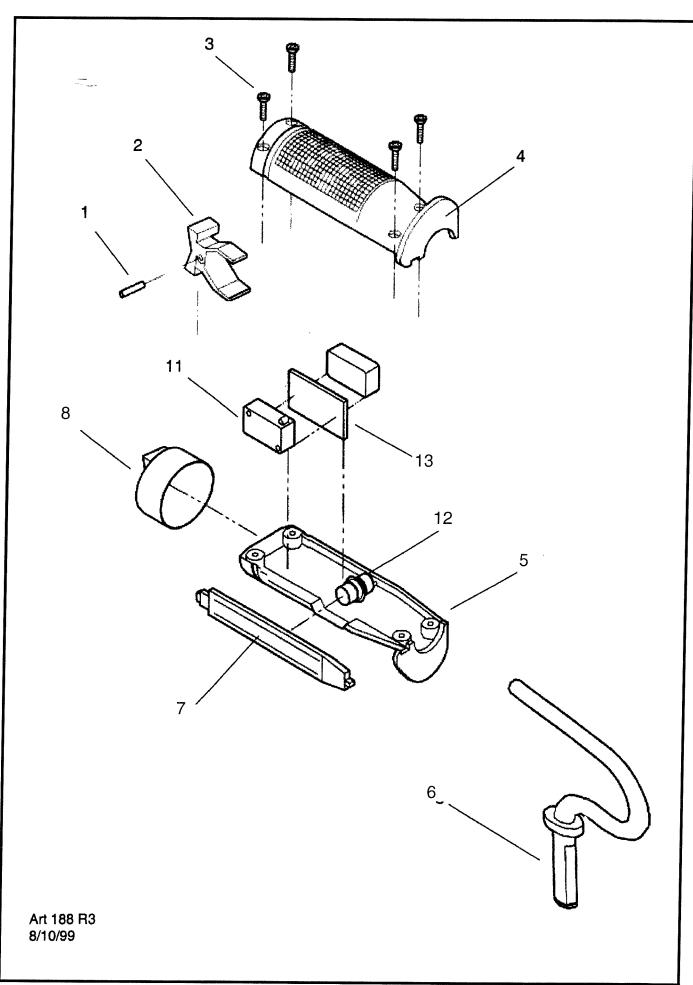


ITEM	PART NO.	QTY	DESCRIPTION
	30619		CONTROL BOX COVER ASSEMBLY
- lage	30620	1	CONTROL ARM ASSEMBLY
2	3772	1	COVER
3	8066	1	TAG, INSPECTION
4	7875	1	GASKET
5	7882	1	O-RING, 7/8" ID X 1 1/8" OD
6	HDW3768	1	WASHER, FLAT
7	100/8348	1	PIN, HOLD DOWN
8	HDW7887	1	SCREW, #6 - 32, 1/2" LONG
9	13502	1	BRACKET, CENTERING
10	3763	1	SPACER, STEP
11	13402	1	GEAR, LARGE
12	HDW8531	2	WASHER, FLAT
13	HDW7881	1	WASHER, BEVEL
14	3782	1	CAM, DIRECTIONAL
15	13403	1	PLATE, BOTTOM
16	6917	1	CLAMP, CABLE 1/4"
17	7818	1	BEARING, BRONZE, FLANGED
18	HDW3771	1	WASHER, FLAT
19	5736	1	RING, RETAINING, 1/2"
20	HDW8399	4	SCREW, #4 - 40, 5/8" LG
21	8383	1	POTENTIOMETER
22	HDW8567	2	WASHER, FLAT
23	8389	1	GEAR, SPUR
24	HDW7888	9	SCREW, #10 - 32, 1/2" LG
25	3764	2	PLATE, SPACER
26	8696	2	SWITCH, LIMIT, MICRO V7
27	3765	2	PLATE, STRAP
28	3766	1	PLATE, TOP
29	7819	1	BEARING, BRONZE, FLANGED
	13527	1	POTENTIOMETER ASSEMBLY:
	8383	1	POTENTIOMETER
	8389	1	SPUR GEAR
	HDW8567	2	WASHER, FLAT
	9766	1	HARNESS, JOYSTICK

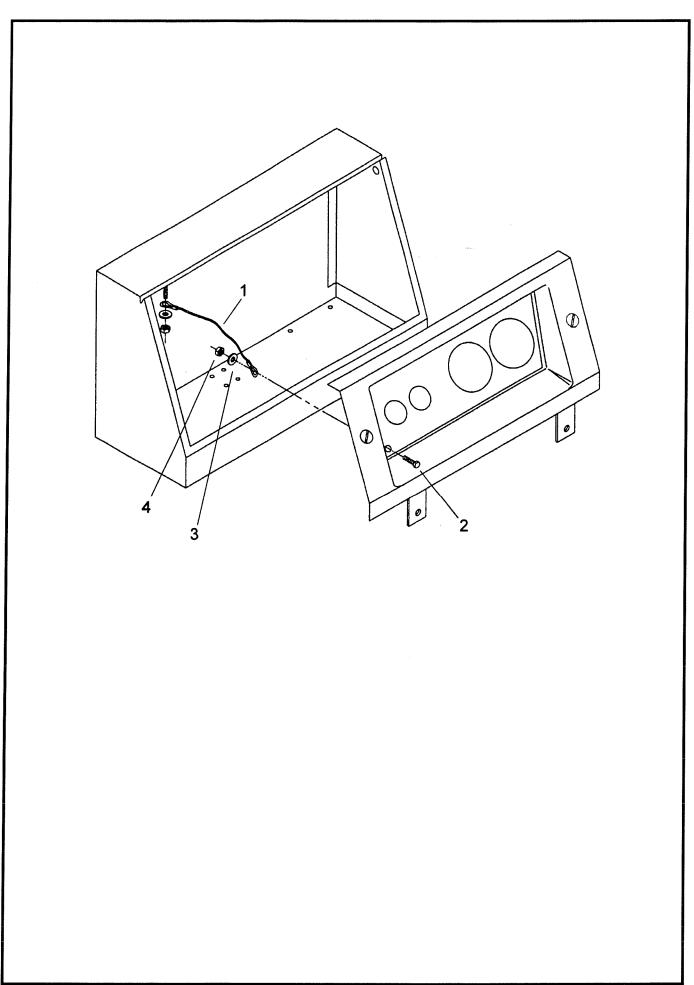
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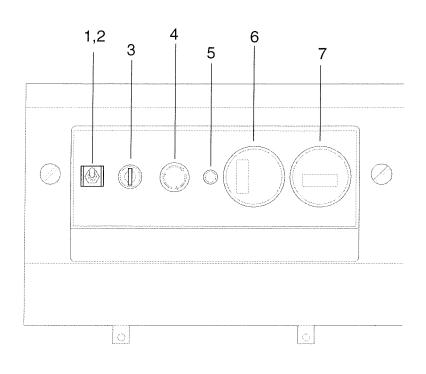


ITEM	PART NO.	QTY	DESCRIPTION
	30620	-	CONTROL ARM ASSEMBLY, JOYSTICK
1	7476	1	PIN
2	8453	1	SWITCH ACTUATOR (SERVICE ONLY)
3	HDW8455	4	SCREW, 6-1/2" LONG (SERVICE ONLY)
4	8752	1	GRIP-TOP HALF (SERVICE ONLY)
5	8751	1	GRIP - BOTTOM HALF (SERVICE ONLY)
6	13638	1	CONTROL ARM WITHOUT WIRE
7	8748	1	TRIGGER (SERVICE ONLY)
8	8456	1	ROCKER BOOT (SERVICE ONLY)
	8089	1 FT.	WIRE, BULK 18 GAUGE, 300 VOLT
	7777	2	TERMINAL, PUSH ON, 3/16"
	8630	1	HANDLE, GRIP
	8761	-	SWITCH ASSEMBLY (NOT SHOWN)
11	8447	1	SWITCH SEPARATOR (SERVICE ONLY)
12	8753	1	MOTION SWITCH, ON-OFF (SERVICE ONLY)
13	8448	2	SWITCH (SERVICE ONLY)
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ITEM	PART NO.	QTY	DESCRIPTION
1	9771	1	LANYARD, 12"
2	HDW5904	1	SCREW, 1/4" - 20, 3/4" LONG
3	HDW5217	2	WASHER, FLAT
4	HDW6461	2	NUT, 1/4" - 20
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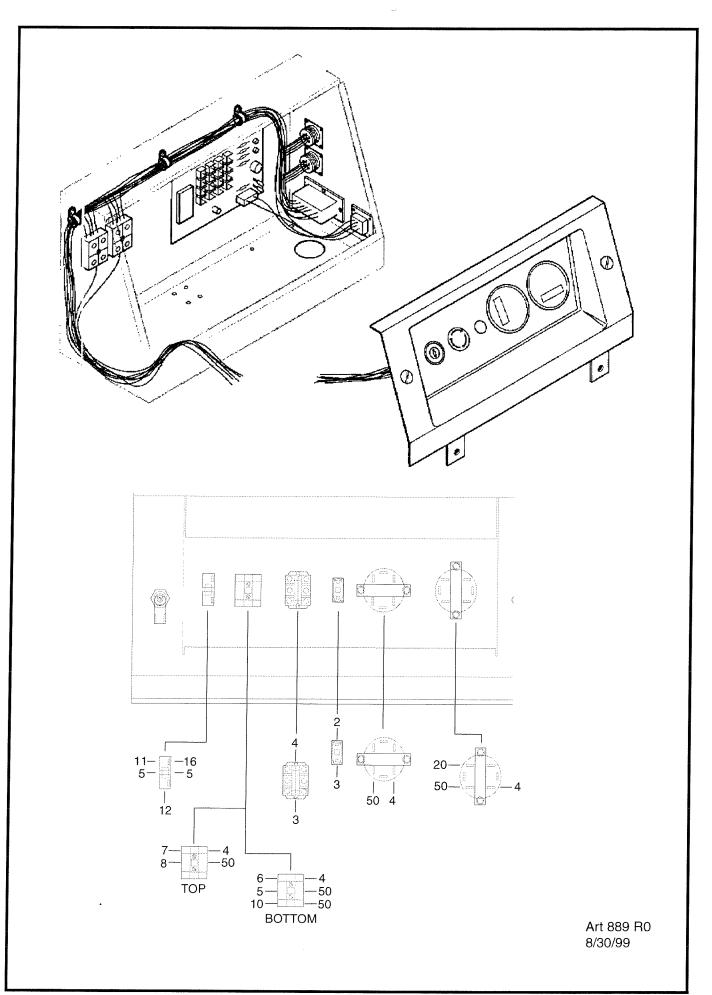
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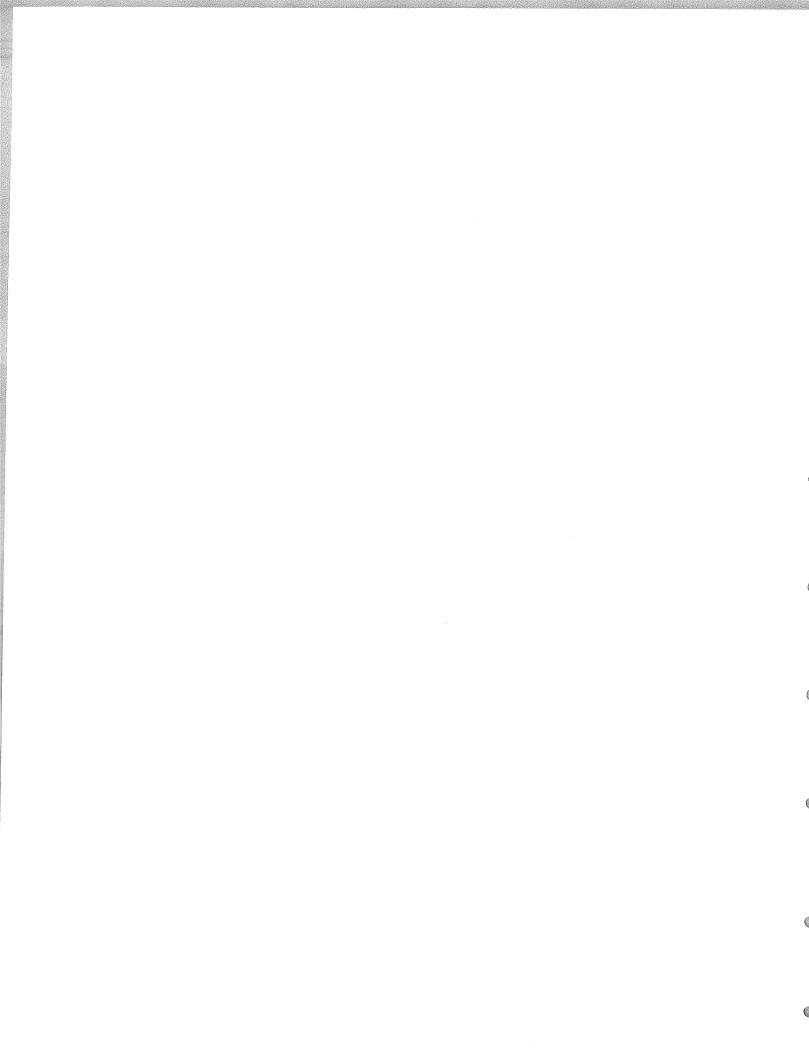
Art 894 R0 8/30/99

ITEM	PART NO.	QTY	DESCRIPTION
1	1313	1	SWITCH GUARD
2	5694	1	SWITCH, TOGGLE
3	9690	1	TUMBLER, LEVER SWITCH
	8082	1	BLOCK, CONTACT, N.O.
4	7800	1	SWITCH, EMERGENCY STOP
	9345	1	BLOCK, CONTACT, N.C. (ABB)
5	9477	1	CIRCUIT BREAKER, 20 AMP
6	7100	1	BATTERY GAUGE, 36 VOLT (OPTIONAL)
	7115	1	PLUG, PRY OUT (IF GAUGE IS NOT PRESENT)
7	7909	1	METER, HOUR

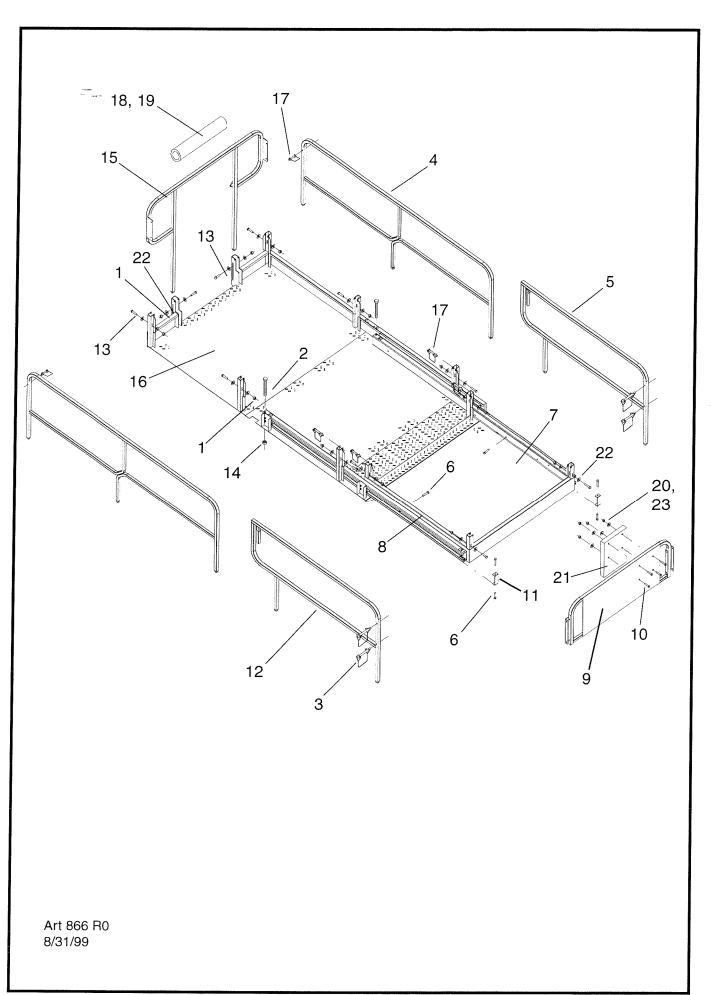
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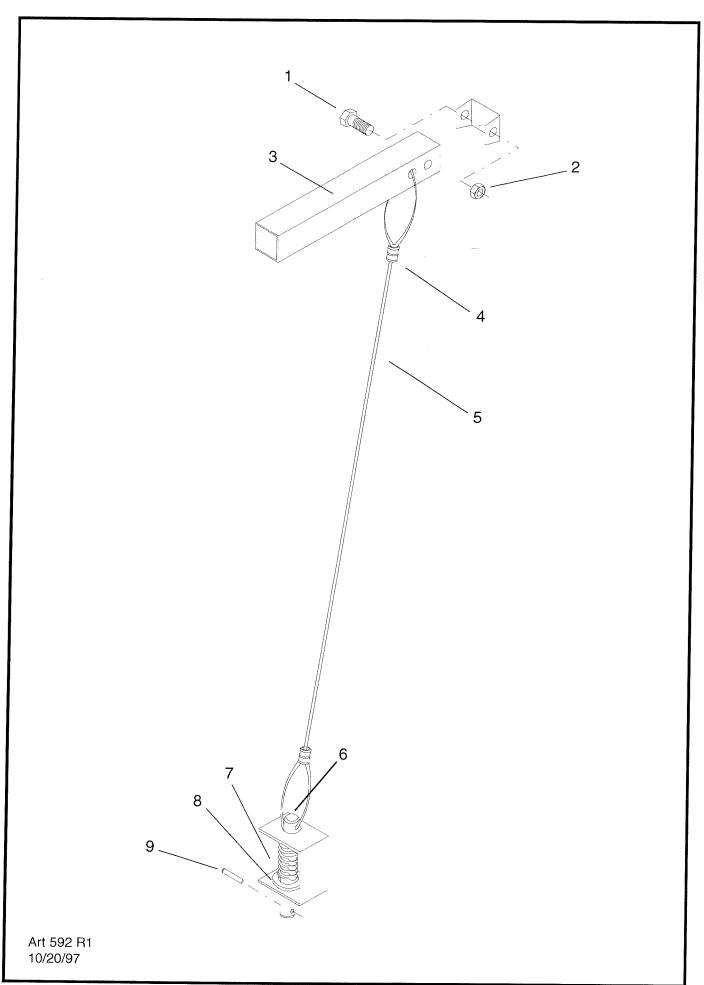
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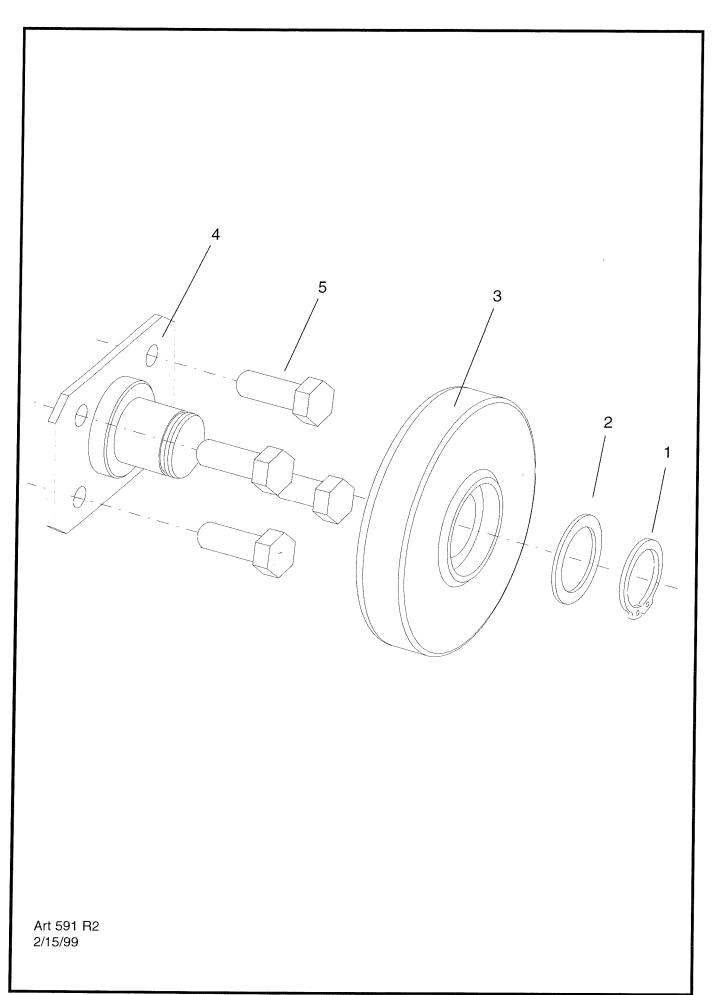




ITEM	PART NO.	QTY	DESCRIPTION
1	HDW8304	12	NUT, 5/16" - 18
2	HDW8856	2	SCREW, 1/2"-13, 5" LG
3	HDW8974	4	WIRE LOCK PIN, SQUARE, 3/8" X 3" LG
4	30117	2	SIDE RAIL WELDMENT-MAIN PLATFORM
5	14301	1	SIDE RAIL WELDMENT-EXTENSION PLATFORM
6	HDW5724	20	SCREW, 5/16" - 18, 3/4" LG, GR 5
7	30054	1	EXTENSION PLATFORM WELDMENT
8	30053	2	EXTENSION CHANNEL
9	30129	1	FRONT RAIL WELDMENT-EXTENSION
10	HDW5723	4	SCREW, 1/4" - 20, 1/2" LG
11	14415	2	EXTENSION STOP BRACKET
12	14313	1	RIGHT SIDE RAIL WELDMENT-EXTENSION PLATFORM
13	HDW7119	12	SCREW, 5/16" - 18, 2 1/4" LG, GR 5
14	HDW6349	2	NUT, 1/2" - 13
15	30126	1	REAR RAIL WELDMENT-MAIN PLATFORM
16	30000	1	MAIN PLATFORM WELDMENT
17	HDW7593	6	WIRE LOCK PIN, SQUARE, 3/8" X 2 1/4" LG
18	7805	1	RAIL PAD
19	7048	1	RAIL PAD COVER
20	HDW6461	4	NUT, 1/4" - 20
21	8909	1	MANUAL ENCLOSURE
22	HDW5217	24	FLAT WASHER
23	HDW8294	4	FLAT WASHER
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	20552	1	PLATFORM CORD COVER (NOT SHOWN)
	HDW5723	4	SCREW, 1/4" - 20, 1/2" (NOT SHOWN)
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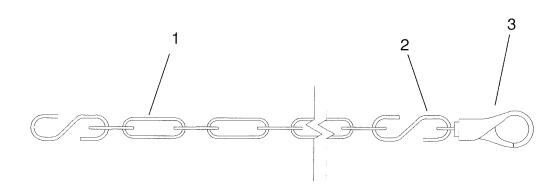


ITEM	PART NO.	QTY	DESCRIPTION
1	HDW8486	1	SCREW, 5/16" - 18, 1 7/8" LG
2	HDW8304	1	LOCKNUT, 5/16" - 18
3	14344	1	HANDLE - ROLLOUT PLATFORM
4	8814	2	SLEEVES, ALUMINUM OVAL
5	7184	3.7 FT	CABLE, COATED AND ROLLED
6	13737	1	PIN, EXTENSION LOCK
7	7408	1	SPRING, DECK LOCK
8	HDW7031	1	WASHER, FLAT, 1/2" ID 7/8" OD
9	HDW8513	1	PIN, SPRING, 1/8" DIA. 3/4" LG
	14713	-	ROLLOUT LOCK PIN ASSEMBLY
	13737	1	PIN, EXTENSION LOCK
	14344	1	HANDLE - ROLLOUT PLATFORM
	7184	3.7 FT	CABLE, COATED AND ROLLED
-	8814	2	SLEEVES, ALUMINUM OVAL
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ITEM	PART NO.	QTY	DESCRIPTION
1	5918	1	RETAINING RING, HEAVY DUTY 1"
2	HDW8370	1	WASHER, FLAT
3	13230	1	ROLLER
4	14062	1	ROLLER PLATE WELDMENT
5	HDW5724	4	SCREW, 5/16" - 18, 3/4" LG
J	HDW3724	4	3011EW, 3/10 16, 3/4 EG
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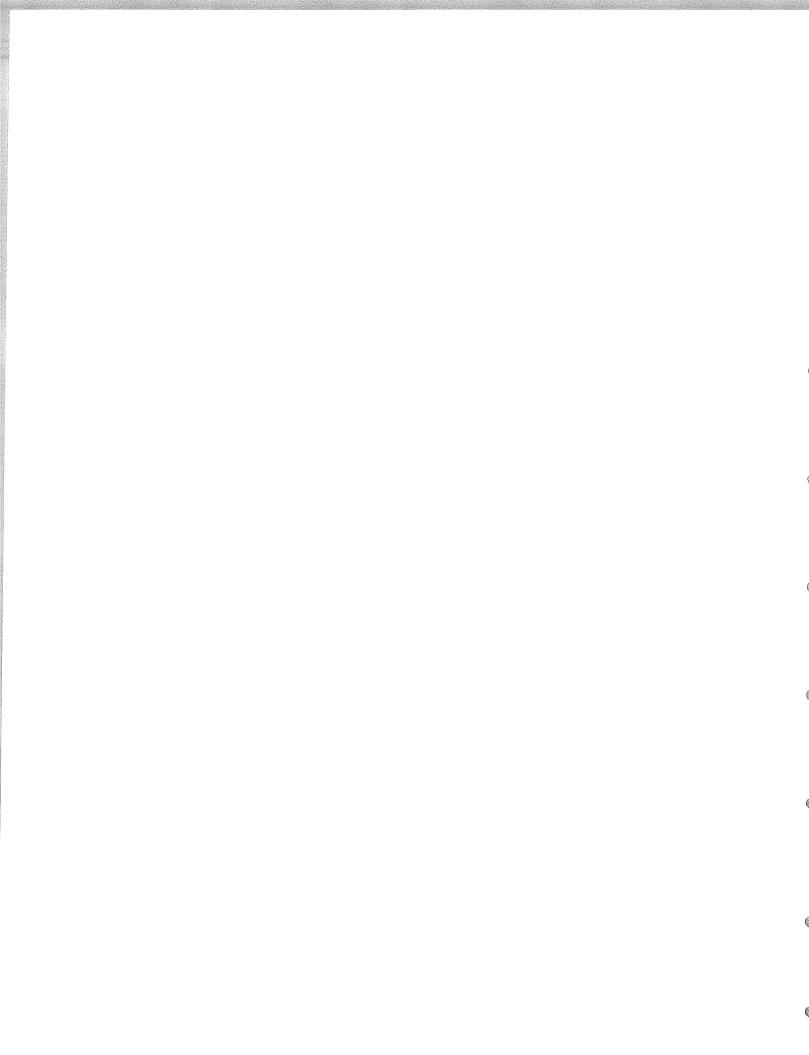


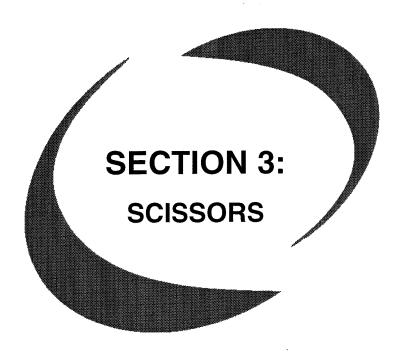
Art 593 R0 . 3/6/97

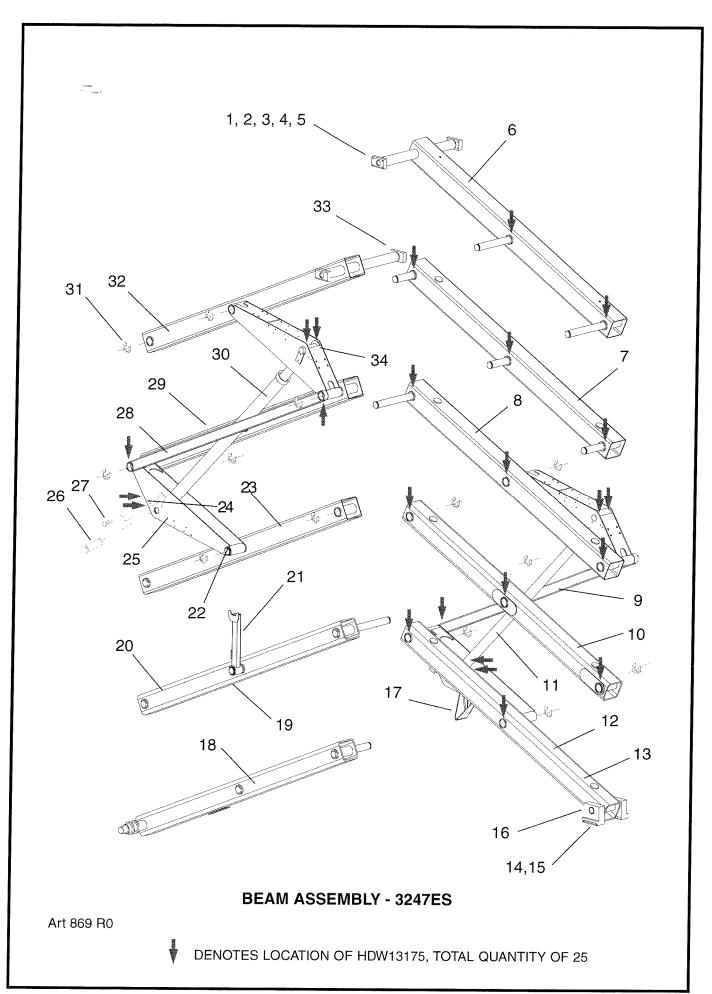
1 13850 - CHAIN CLOSURE - STANDARD 1 13846 1 GUARD CHAIN 2 5239 2 CONNECTING LINK, S-HOOK 3 8781 1 CHAIN LINK SNAP	ITEM	PART NO.	QTY	DESCRIPTION
1 13846 1 GUARD CHAIN 2 5239 2 CONNECTING LINK, S-HOOK 3 8781 1 CHAIN LINK SNAP	- 1 - 141			
2 5239 2 CONNECTING LINK, S-HOOK 3 8781 1 CHAIN LINK SNAP	1 1		1	GUARD CHAIN
3 8781 1 CHAIN LINK SNAP	2		2	
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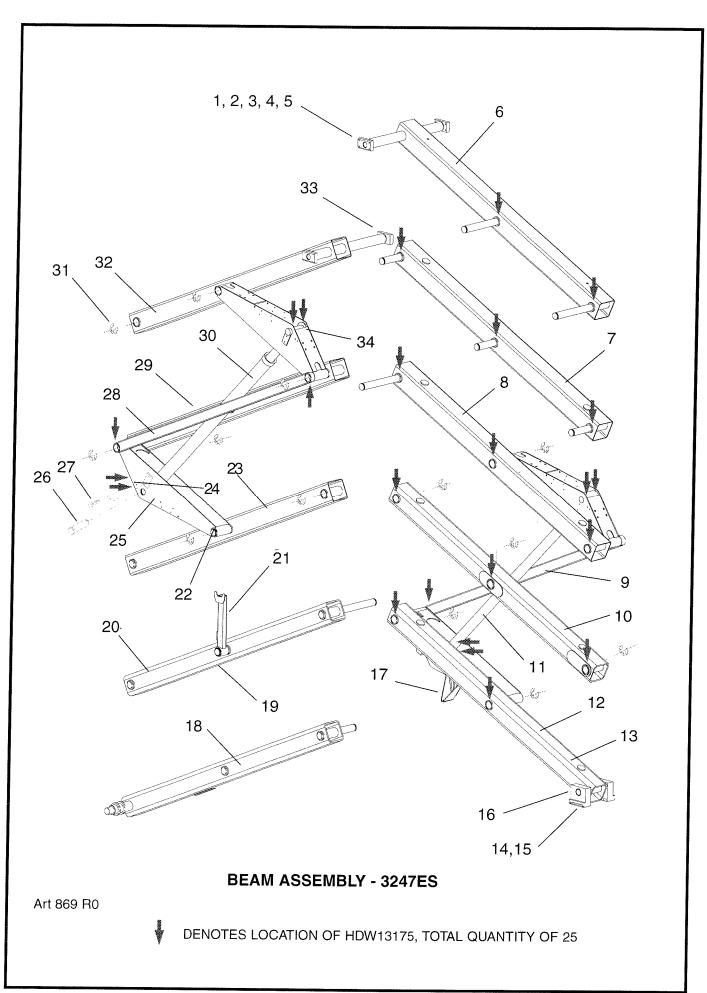
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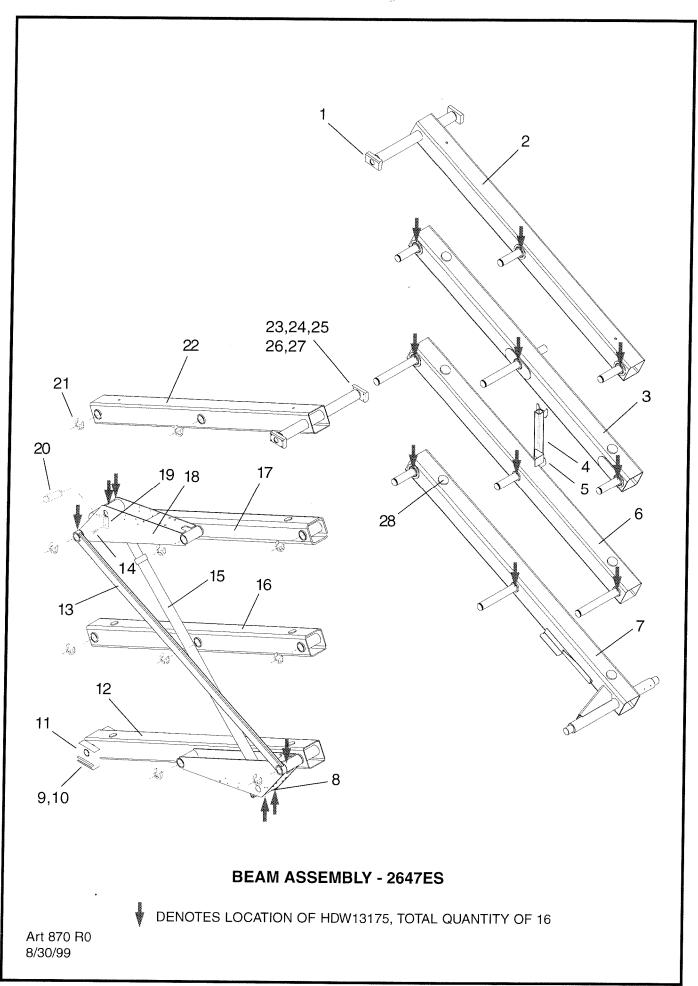


1 HDW8304 8 NUT, 5/16" - 18 2 HDW8294 8 WASHER, FLAT 3 HDW5217 8 WASHER, FLAT 4 HDW8486 8 SCREW, 5/16" - 18, 1 7/8" LG 5 13777 2 BLOCK, FIXED PLATFORM 6 30255 1 BEAM, WITH PINS 7 30252 1 BEAM, WITH PINS 8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 18 30243 1 BEAM,	ITEM	PART NO.	QTY	DESCRIPTION
3 HDW5217 8 WASHER, FLAT 4 HDW8486 8 SCREW, 5/16" - 18, 1 7/8" LG 5 13777 2 BLOCK, FIXED PLATFORM 6 30255 1 BEAM, WITH PINS 7 30252 1 BEAM, WITH PINS 8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED WEAR PAD WEAR PAD WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 17 30523 1 BRACKET, POTHOLE ACTUATOR <tr< td=""><td></td><td>HDW8304</td><td>8</td><td>NUT, 5/16" - 18</td></tr<>		HDW8304	8	NUT, 5/16" - 18
4 HDW8486 8 SCREW, 5/16" - 18, 1 7/8" LG 5 13777 2 BLOCK, FIXED PLATFORM 6 30255 1 BEAM, WITH PINS 7 30252 1 BEAM, WITH PINS 8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEARING, 21/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518	2	HDW8294	8	WASHER, FLAT
5 13777 2 BLOCK, FIXED PLATFORM 6 30255 1 BEAM, WITH PINS 7 30252 1 BEAM, WITH PINS 8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEARING, 28DU32 17 30523 1 BEARING, 21/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WI	3	HDW5217	8	WASHER, FLAT
6 30255 1 BEAM, WITH PINS 7 30252 1 BEAM, WITH PINS 8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPER, DEAD, 1X 3, UPPER	4	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LG
7 30252 1 BEAM, WITH PINS 8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEARING, 28DU32 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2"LIND	5	13777	2	BLOCK, FIXED PLATFORM
8 30251 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	6	30255	1	BEAM, WITH PINS
9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	7	30252	1	BEAM, WITH PINS
9 30286 1 SUPPORT, BEAM, 1 X 3, LOWER 10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	8	30251	1	BEAM, WITH BEARINGS
10 30248 1 BEAM, WITH BEARINGS 6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER		6669	4	BEARING, 32DU32
6669 6 BEARING, 32DU32 11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT	9	30286	1	SUPPORT, BEAM, 1 X 3, LOWER
11 9361 1 CYLINDER, LIFT, 3" 12 30245 1 BEAM, WITH BEARINGS 6669 4 BEARING, 32DU32 13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3,	10	30248	1	BEAM, WITH BEARINGS
12 30245		6669	6	BEARING, 32DU32
13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	11	9361	1	CYLINDER, LIFT, 3"
13 25429 16 SPACER BLOCK 14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	12	30245	1	BEAM, WITH BEARINGS
14 8785 .67 FT TAPE, DOUBLE COATED 15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER		6669	4	BEARING, 32DU32
15 9587 2 WEAR PAD 16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	13	25429	16	SPACER BLOCK
16 30699 2 SLIDE BLOCK WITH BEARINGS 7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	14	8785	.67 FT	TAPE, DOUBLE COATED
7160 2 BEARING, 28DU32 17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	15	9587	2	WEAR PAD
17 30523 1 BRACKET, POTHOLE ACTUATOR 18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	16	30699	2	SLIDE BLOCK WITH BEARINGS
18 30243 1 BEAM, WITH PINS 19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER		7160	2	BEARING, 28DU32
19 8675 2 BEARING, 2 1/4" X 2" X 1 1/2" LG 20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	17	30523	1	BRACKET, POTHOLE ACTUATOR
20 30246 1 BEAM, WITH PINS 21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	18	30243	1	BEAM, WITH PINS
21 30518 1 MAINTENANCE LOCK 22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	19	8675	2	BEARING, 2 1/4" X 2" X 1 1/2" LG
22 30407 1 PIN, 2" 23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	20	30246	1	BEAM, WITH PINS
23 30249 1 BEAM, WITH PINS 24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	21	30518	1	MAINTENANCE LOCK
24 14538 4 BRACKET, CYLINDER RETAINING 25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	22	30407	1	PIN, 2"
25 30264 4 CYLINDER MOUNT 26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	23	30249	1	BEAM, WITH PINS
26 14537 4 PIN, CYLINDER MOUNT 27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	24	14538	4	BRACKET, CYLINDER RETAINING
27 HDW6455 8 SCREW, 1/4" - 20, 1/2" LG 28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	25	30264	4	CYLINDER MOUNT
28 30409 1 SUPPORT, BEAM, 1 X 3, UPPER	26	14537	4	PIN, CYLINDER MOUNT
	27	HDW6455	8	SCREW, 1/4" - 20, 1/2" LG
29 30254 1 BEAM, WITH BEARINGS	28	30409	1	SUPPORT, BEAM, 1 X 3, UPPER
	29	30254	1	BEAM, WITH BEARINGS
6669 6 BEARING, 32DU32		6669	6	BEARING, 32DU32



ITEM	PART NO.	QTY	DESCRIPTION
11 -101	TAITI NO.	α	(CONTINUED)
30	9359	1	CYLINDER, LIFT, 2 1/2"
31	6701	14	RING, RETAINING, 2" SHAFT
32	30257	1	BEAM, WITH BEARINGS
	6669	4	BEARING, 32DU32
33	14488	2	BLOCK, SLIDE, PLATFORM
34	HDW8899	8	RING, RETAINING
	HDW3809	UP	AT PLATFORM FOR ADJUSTMENT
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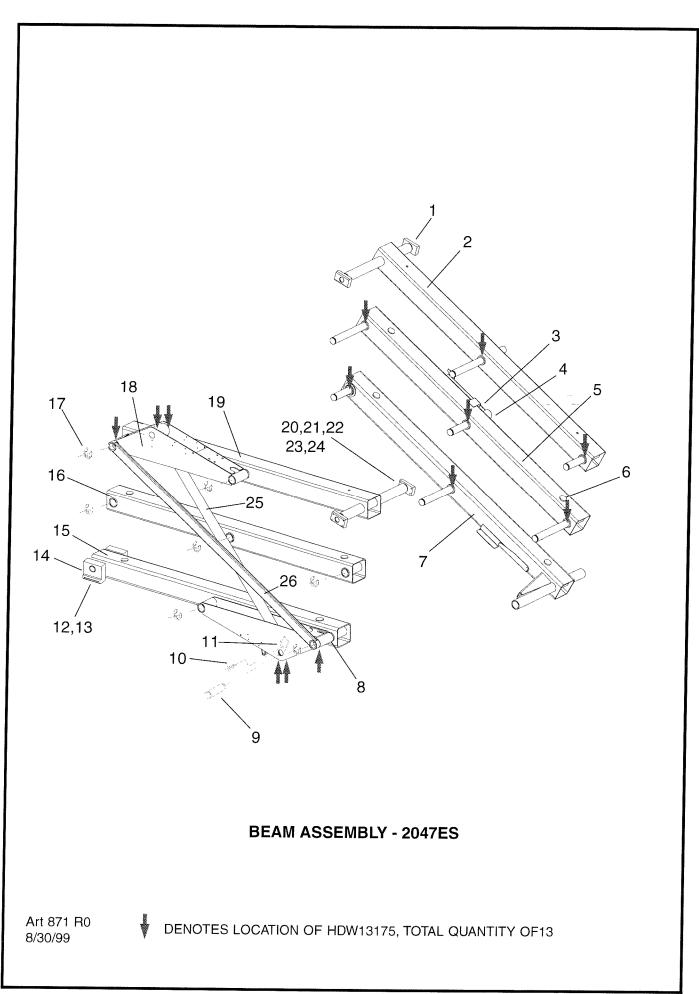
ITEM	PART NO.	QTY	DESCRIPTION
1	14488	2	BLOCK, SLIDE PLATFORM
2	30277	1	BEAM, WITH PINS
3	30274	1	BEAM WITH PINS
4	30518	1	MAINTENANCE LOCK
5	8675	2	BEARING, 2 1/4" X 2" X 1 1/2" LG
6	30271	1	BEAM WITH PINS
7	30267	1	BEAM WITH PINS
8	HDW8899	4	RETAINING RING
9	8785	.67 FT	TAPE, DOUBLE COATED
10	9587	2	WEAR PAD
11	30699	2	SLIDE BLOCK WITH BEARINGS
	7160	2	BEARING, 28DU32
12	30269	1	BEAM WITH BEARINGS
	6669	4	BEARING, 32DU32
13	30286	1	SUPPORT, BEAM, 1 X 3
14	HDW6455	4	SCREW, 1/4" - 20, 1/2" LG
15	9361	1	CYLINDER, LIFT, 3"
16	30273	1	BEAM WITH BEARINGS
	6669	6	BEARING, 32DU32
17	30276	1	BEAM WITH BEARINGS
	6669	6	BEARING, 32DU32
18	30264	2	CYLINDER MOUNT
19	14538	2	BRACKET, CYLINDER RETAINING
20	14537	2	PIN, CYLINDER MOUNT
21	6701	10	RING, RETAINING, 2" SHAFT
22	30279	1	BEAM WITH PINS
23	HDW5217	8	WASHER, FLAT
24	HDW8294	8	WASHER, FLAT
25	HDW8304	8	NUT, 5/!6" - 18
26	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LG
27	13777	2	BLOCK, FIXED PLATFORM
28	25429	12	SPACER BLOCK
	HDW3809	UP	AT PLATFORM FOR ADJUSTMENT
		TO 4	
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September 1999

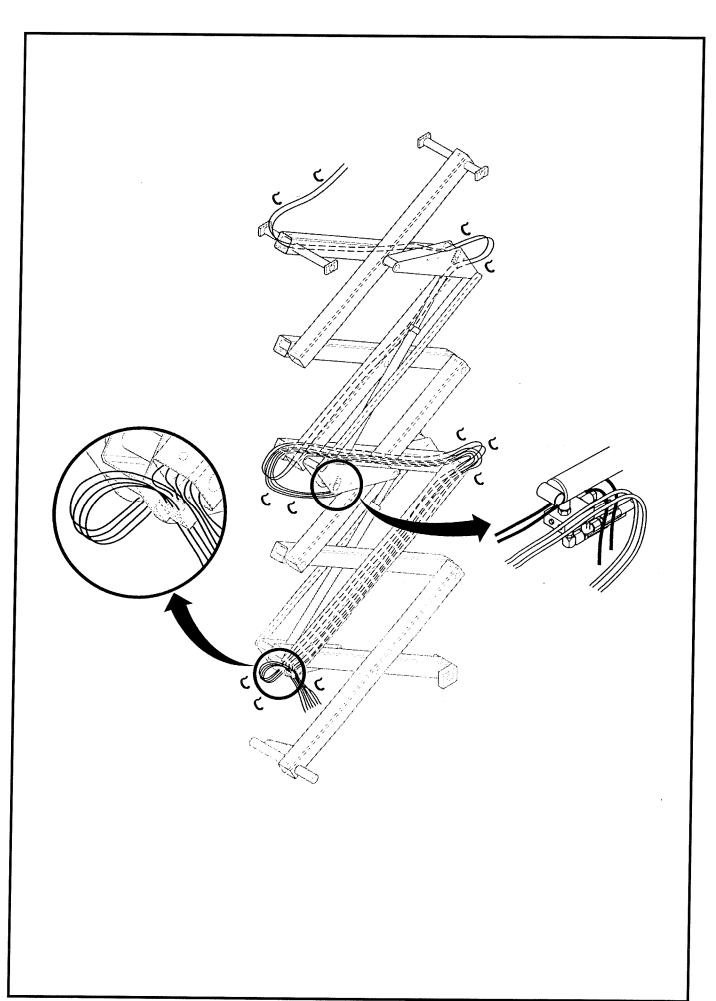
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ITEM	PART NO.	QTY	DESCRIPTION
1	14488	2	BLOCK, SLIDE PLATFORM
2	30256	1	BEAM WITH PINS
3	30518	4	MAINTENANCE LOCK
4	8675	2	BEARING, 2 1/4" X 2" X 1 1/2" LG
5	30284	1	BEAM WITH PINS
6	25429	8	SPACER BLOCK
7	30281	1	BEAM WITH PINS
8	HDW8899	4	RETAINING RING
9	14537	2	PIN, CYLINDER MOUNT
10	HDW6455	4	SCREW, 1/4" X 20, 1/2" LG
11	14538	2	BRACKET, CYLINDER RETAINING
12	9587	2	WEAR PAD
13	8785	.67 FT	TAPE, DOUBLE COATED
14	30699	2	SLIDE BLOCK WITH BEARINGS
	7160	2	BEARING, 28DU32
15	30270	1	BEAM WITH BEARINGS
	6669	4	BEARING, 32DU32
16	30283	1	BEAM WITH BEARINGS
	6669	6	BEARING, 32DU32
17	6701	7	RING, RETAINING, 2" SHAFT
18	30264	2	CYLINDER MOUNT
19	30263	1	BEAM WITH BEARINGS
	6669	4	BEARING, 32DU32
20	13777	2	BLOCK, FIXED PLATFORM
21	HDW8304	8	NUT, 5/16" - 18
22	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LG
23	HDW5217	8	WASHER, FLAT
24	HDW8294	8	WASHER, FLAT
25	9361	1	CYLINDER, LIFT, 3"
26	30286	1	SUPPORT, BEAM, 1 X 3
	HDW3809	UP	AT PLATFORM FOR ADJUSTMENT
		TO 4	
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ITEM	PART NO.	QTY	DESCRIPTION
			CABLE ROUTING - 3247ES
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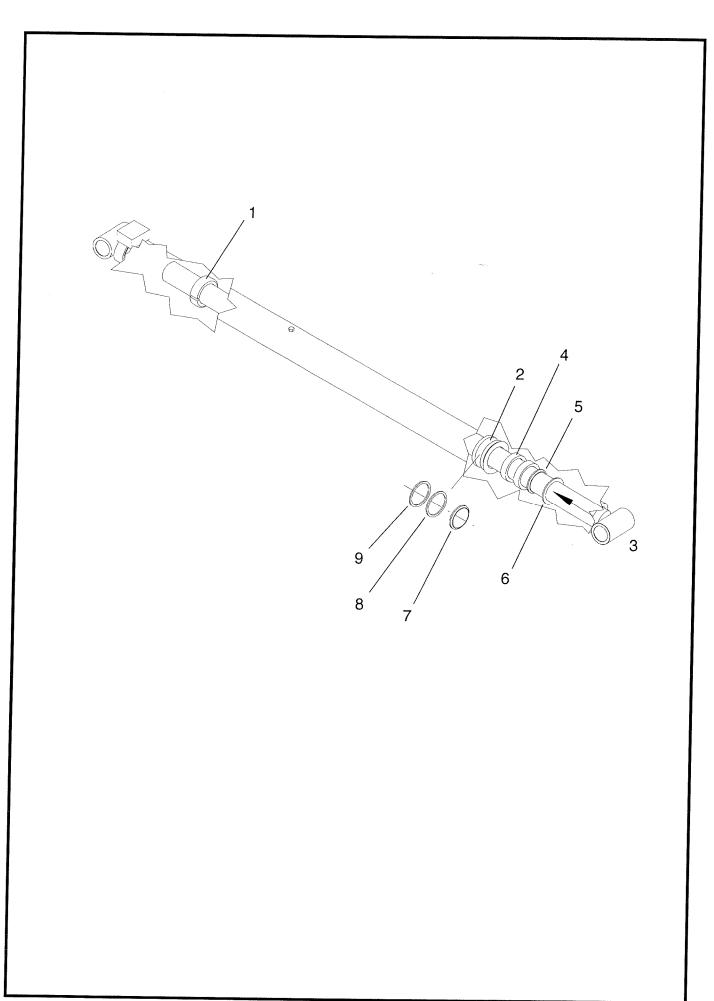
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ITEM	PART NO.	QTY	DESCRIPTION
			CABLE ROUTING - 2647ES
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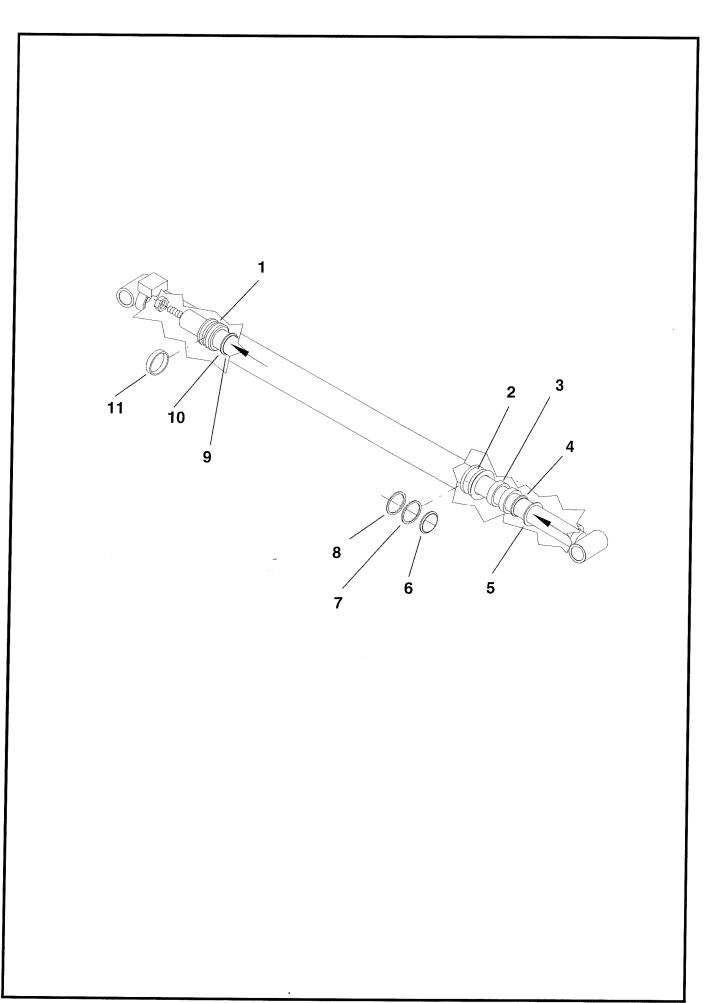
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ITEM	PART NO.	QTY	DESCRIPTION
11 - 141	I AIII IIOI		CABLE ROUTING - 2047ES
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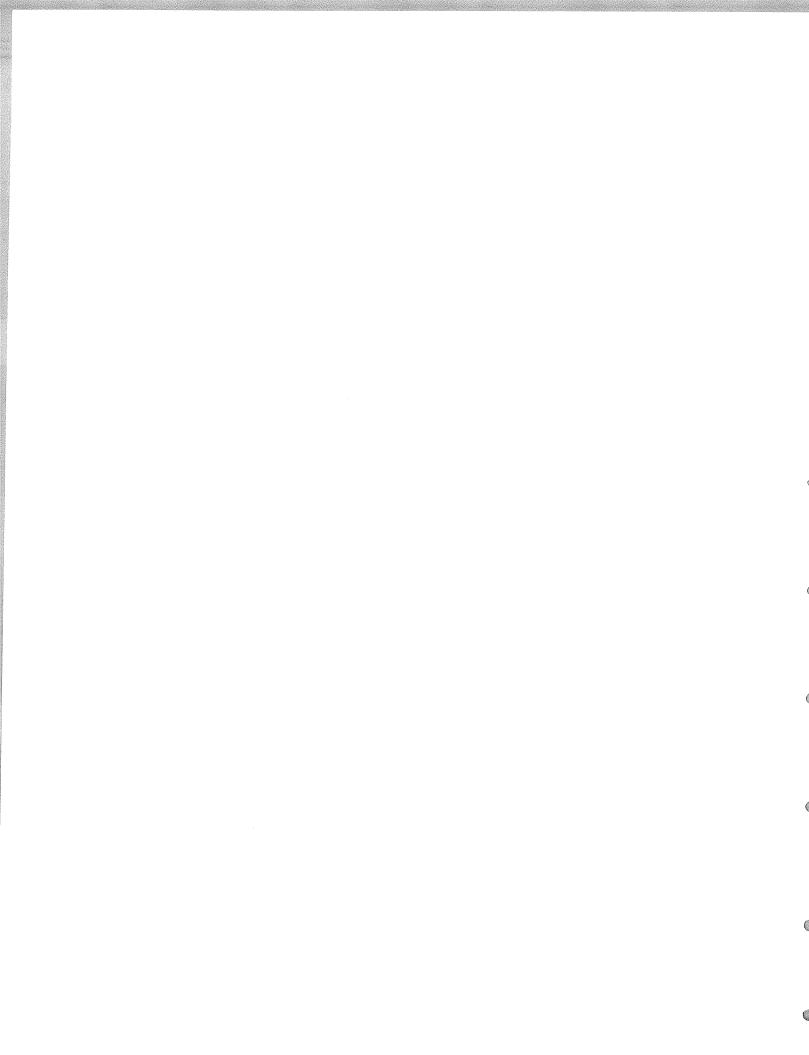
175.5	DA DT NO	OTV	DESCRIPTION
ITEM	PART NO. 9359	QTY -	DESCRIPTION LIFT CYLINDER, UPPER
	9339	_	PISTON
2			HEAD
3			UNDER HEAD
3	90149	_	SEAL KIT FOR CYLINDER 9359
4	90149	2	WEAR RING
4 5		1	SEAL
		1	WIPER
6 7		1	O-RING
8		4	BACK-UP O-RING
9		1	O-RING
9		[OFITING .
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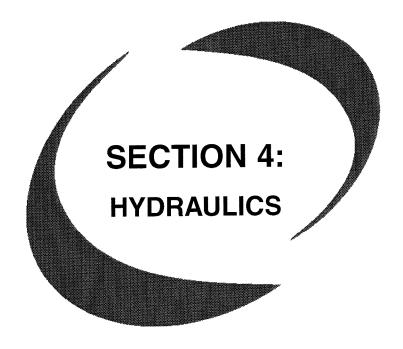


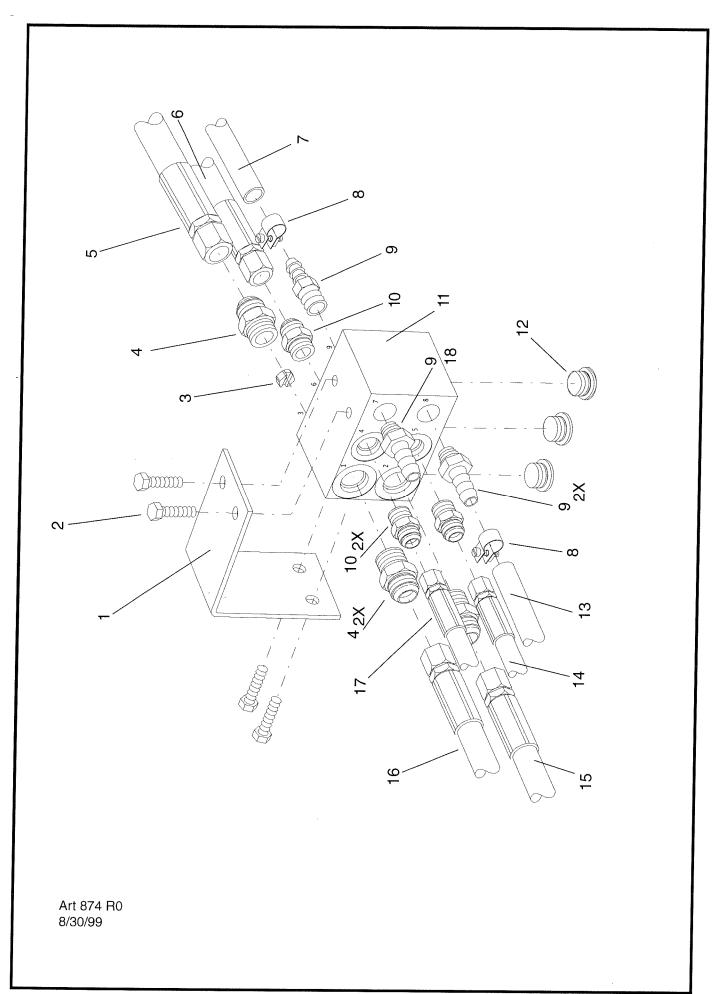
ITEM	PART NO.	QTY	DESCRIPTION
11 1-11/1	9361	-	LIFT CYLINDER, LOWER
1			PISTON
2	1,1074,1004		HEAD
	90148	_	SEAL KIT FOR CYLINDER 9361
3		2	WEAR RING
4		1	SEAL
5		1	WIPER
6		1	O-RING
7		1	BACK-UP O-RING
8		1	O-RING
9		1	O-RING
10		1	SEAL
11		1	WEAR RING
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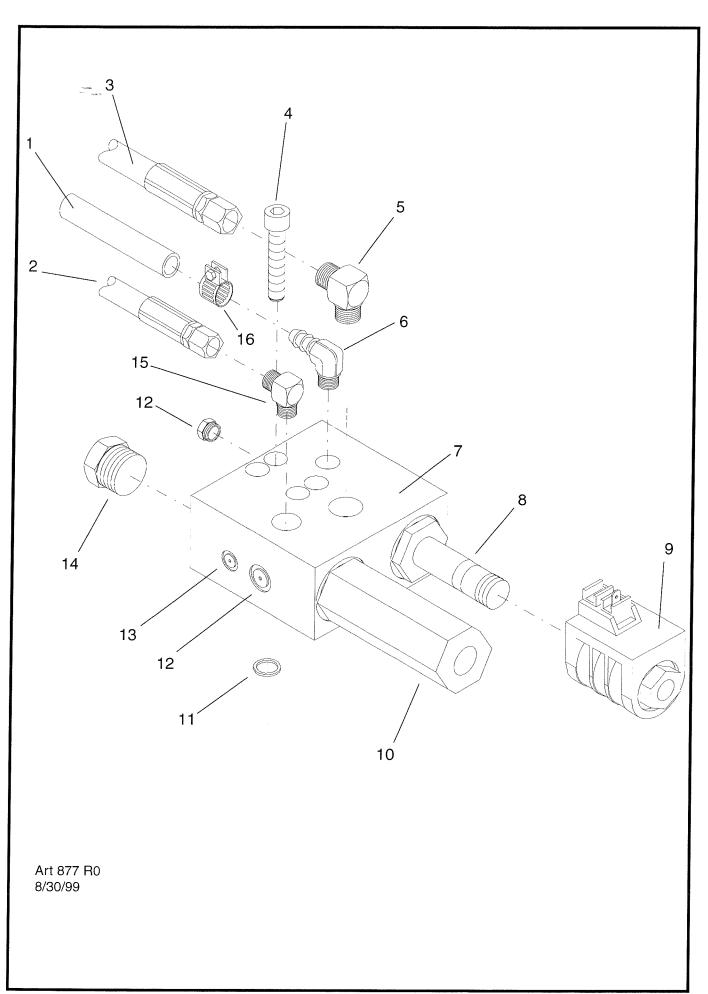
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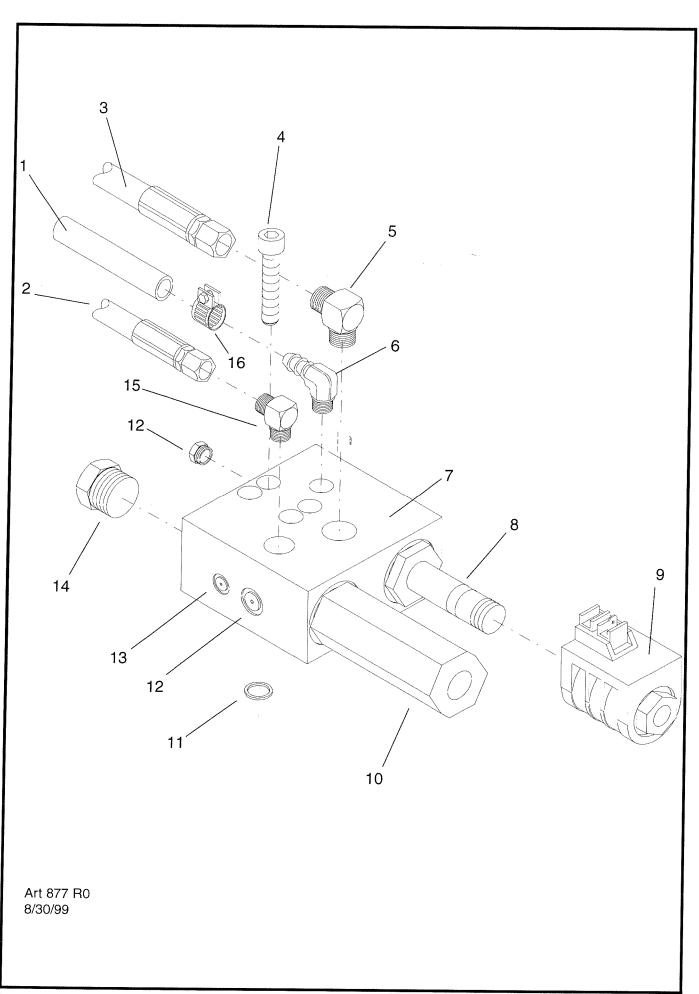




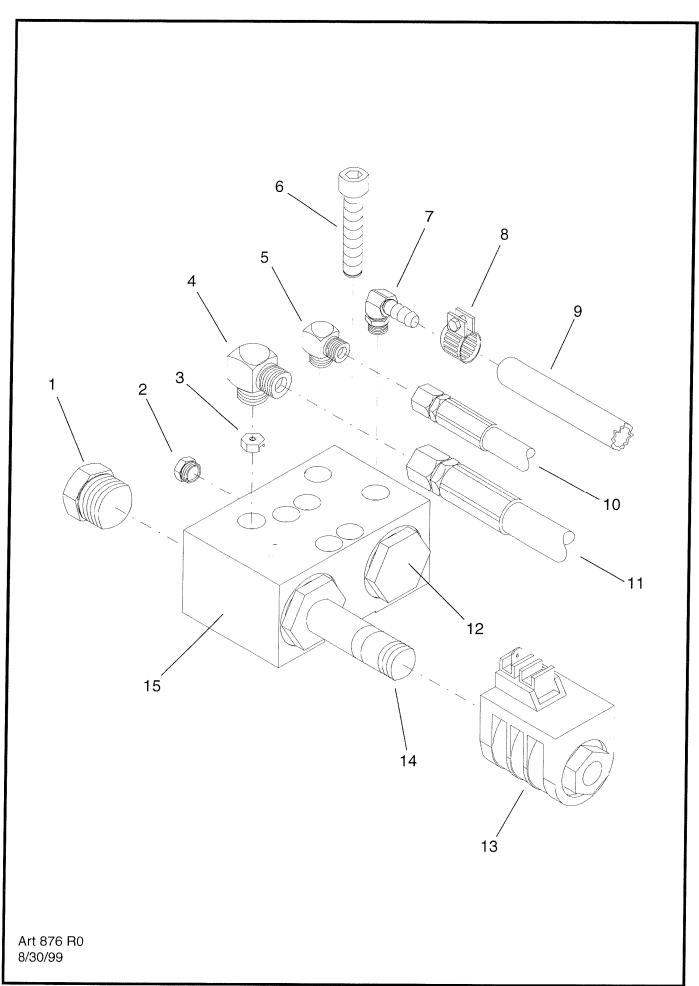
ITEM	PART NO.	QTY	DESCRIPTION
1 1 L-1V1	IAIII IIO.	<u> </u>	JUNCTION MANIFOLD
1	30568	1	BRACKET
2	HDW6455	4	SCREW, 1/4" - 20, 1/2" LG
3	9767	1	ORIFICE
4	HDW7438	3	ADAPTER, MALE 3/8", MALE 9/16"
5	9749	1	STRAIGHT FEMALE, STRAIGHT FEMALE, 3/8" - 136" LG
			TO MAIN MANIFOLD PORT 12
6	9919	1	STRAIGHT FEMALE, STRAIGHT FEMALE, 1/4" - 120" LG
			TO EMERGENCY DOWN
7	6548	10 FT	HOSE, RETURN LINE, 5/16"
8	7788	2	CLAMP, 5/8" HOSE
9	HDW6459	2	UNION, MALE 1/4", HOSE BARB 5/16"
10	HDW8881	3	ADAPTER, MALE 1/4" ORIING, MALE 1/4"
11	30629	1	BLOCK, JUNCTION
12	HDW7314	3	PLUG, MALE 43, O-RING
13	6458	4 FT	HOSE, RETURN LINE, 5/16"
14	9752	1	STRAIGHT FEMALE, STRAIGHT FEMALE, 1/4" - 46" LG
			TO LOWER CYLINDER
15	9038	1	STRAIGHT FEMALE, STRAIGHT FEMALE, 3/8" - 46" LG
			TO LOWER LIFT CYLINDER
16	9750	1	STRAIGHT FEMALE, STRAIGHT FEMALE, 3/8" - 300" LG
			TO UPPER CYLINDER
17	9753	1	STRAIGHT FEMALE, STRAIGHT FEMALE, 1/4" - 300" LG
			TO UPPER CYLINDER
18	6458	25 FT	HOSE, RETURN LINE, 5/16"
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ITEM	PART NO.	QTY	DESCRIPTION
112171	1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		LIFT MANIFOLD, LOWER (3247ES)
1	6458	4 FT	HOSE, RETURN LINE, 5/16"
		:	LOWER CYLINDER TO JUNCTION BLOCK
2	9752	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 46" LG
			JUNCTION BLOCK TO LOWER CYLINDER
3	9038	1	HOSE ASSEMBLY, STRGHT FML, STRGHT FML, 3/8" - 46" LG
			JUNCTION BLOCK TO LOWER CYLINDER
4	HDW8065	4	SCREW, SOCKET HEAD, 1/4" - 20, 2 1/4' LG
5	HDW7601	1	FITTING, 90° ELBOW, MALE 3/8", MALE, O-RING
6	HDW8879	1	FITTING, 90° ELBOW, MALE 1/8" HOSE BARB, 5/16"
7	20395	1	MANIFOLD, LIFT CYLINDER
8	6973	1	VALVE, NC POPPET, 2 WAY
9	7673	1	COIL, 36 VOLT
10	9769	1	VALVE, RELIEF
11	6426	1	O-RING
12	HDW7314	4	FITTING, PLUG, MALE 43, O-RING
13	HDW8975	1	FITTING, PLUG, MALE 120, O-RING
14	7445	1	VALVE, PILOT OPERATED BALL CHECK
15	HDW8877	1	FITTING, 90° ELBOW, MALE 1/4", O-RING
16	7788	1	HOSE CLAMP, 5/8"
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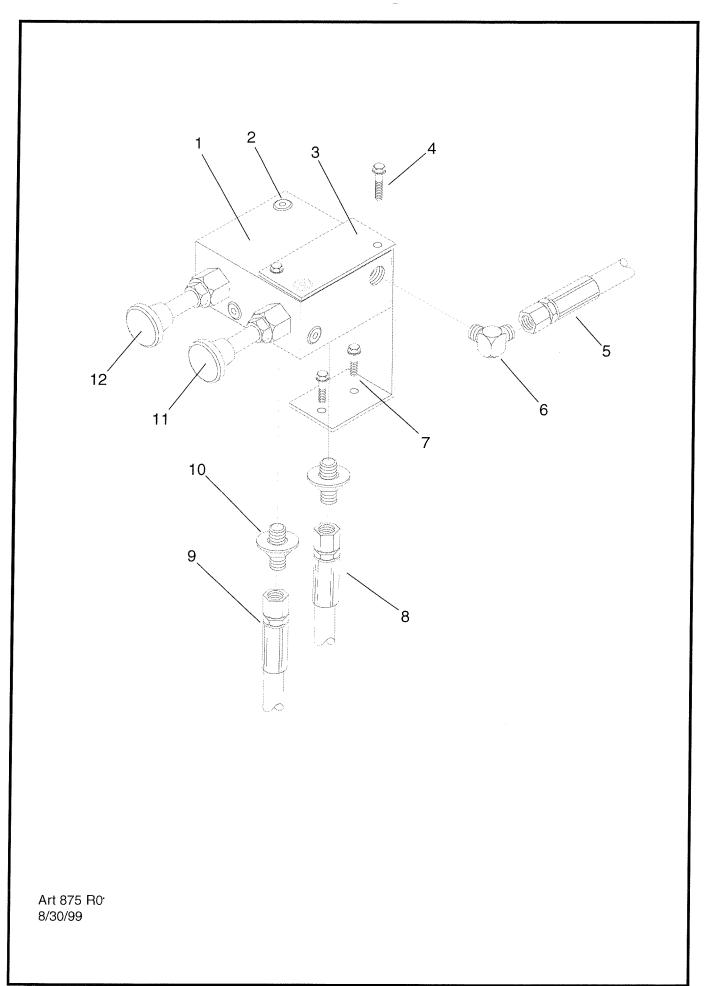


ITEM	PART NO.	QTY	DESCRIPTION
11 - 101	FANT NO.	GII	LIFT MANIFOLD, UPPER (3247ES)
1	6458	25 FT	HOSE, RETURN LINE, 5/16"
			UPPER CYLINDER TO JUNCTION BLOCK
2	9753	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 300" LG
			JUNCTION BLOCK TO UPPER CYLINDER
3	9750	1	HOSE ASSY, STRGHT FML, STRGHT FML, 3/8" - 300" LG
			JUNCTION BLOCK TO UPPER CYLINDER
4	HDW8065	4	SCREW, SOCKET HEAD, 1/4" - 20, 2 1/4" LG
5	HDW7601	1 1	FITTING, 90° ELBOW, MALE 3/8" MALE, O-RING
6	HDW8879	1	FITTING, 90° ELBOW, MALE 1/8" HOSE BARB, 5/16"
7	20395	1	MANIFOLD, LIFT CYLINDER
8	6973	1	VALVE, NC POPPET, 2 WAY
9	7673	1	COIL, 36 VOLT
10	9769	1	VALVE, RELIEF
11	6426	1	O-RING
12	HDW7314	4	FITTING, PLUG, MALE 43, O-RING
13	HDW8975	1	FITTING, PLUG, MALE 120, O-RING
14	7445	1	VALVE, PILOT OPERATED BALL CHECK
15	HDW8877	1	FITTING, 90° ELBOW, MALE 1/4", O-RING
16	7788	1	HOSE CLAMP, 5/8"

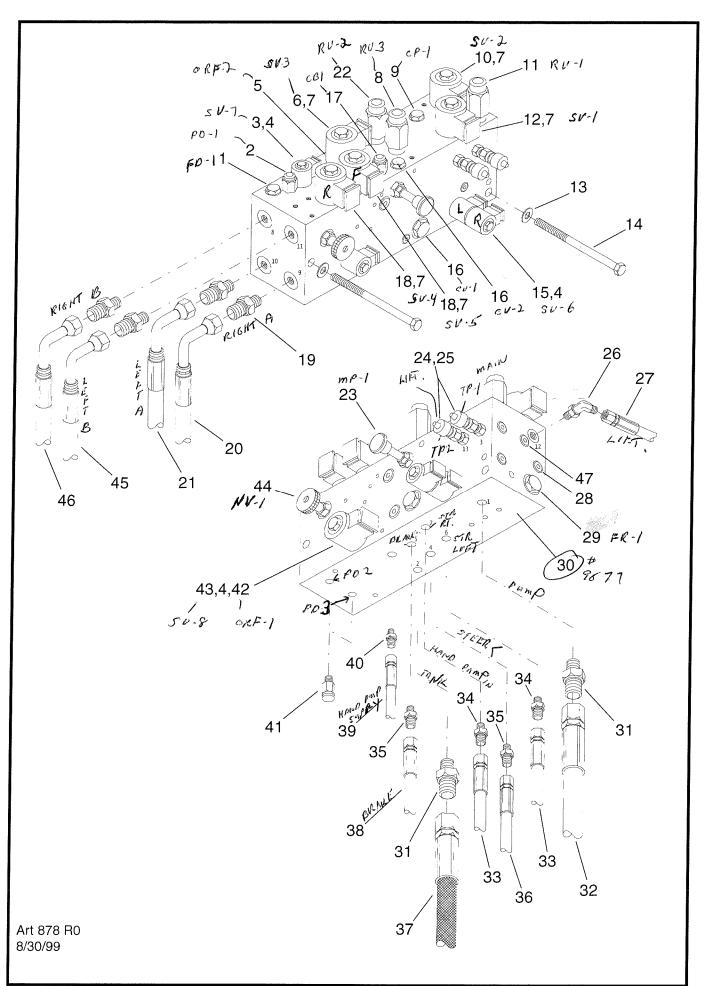


ITEM	PART NO.	QTY	DESCRIPTION
1 1 5 171	TAILLING.	<u> </u>	LIFT MANIFOLD (2047ES & 2647ES)
1 1	7484	1	PLUG, O-RING, SOCKET HEAD
2	HDW7314	1	PLUG, PIPE FITTING, MALE, O-RING
3	9767	1	ORIFICE - 2047ES
	9883	1	ORIFICE - 2647ES
4	HDW7601	1	FITTING, 90° ELBOW, MALE 3/8" MALE O-RING
5	HDW8877	1 1	FITTING, 90° ELBOW, MALE 1/4" MALE O-RING
6	HDW8592	4	SCREW, 1/4" - 20, 1 1/2" LG
7	HDW8879	1	FITTING, 90° ELBOW, MALE 1/8" HOSE BARB, 5/16"
8	7788	1	HOSE CLAMP, 5/8"
9	6458	15 FT	HOSE, RETURN LINE, 5/16"
10	9852	1	HOSE ASSY-STRGHT FML, STRGHT FML, 1/4" - 153" LG
11	9851	1	HOSE ASSY-STRGHT FML, STRGHT FML, 3/8" - 198" LG
12	7445	1	VALVE, CHECK
13	7673	1	COIL, 36 VOLT
14	6973	1	VALVE, N.C. POPPET, 2 WAY
15	14523	1	MANIFOLD, LIFT CYLINDER
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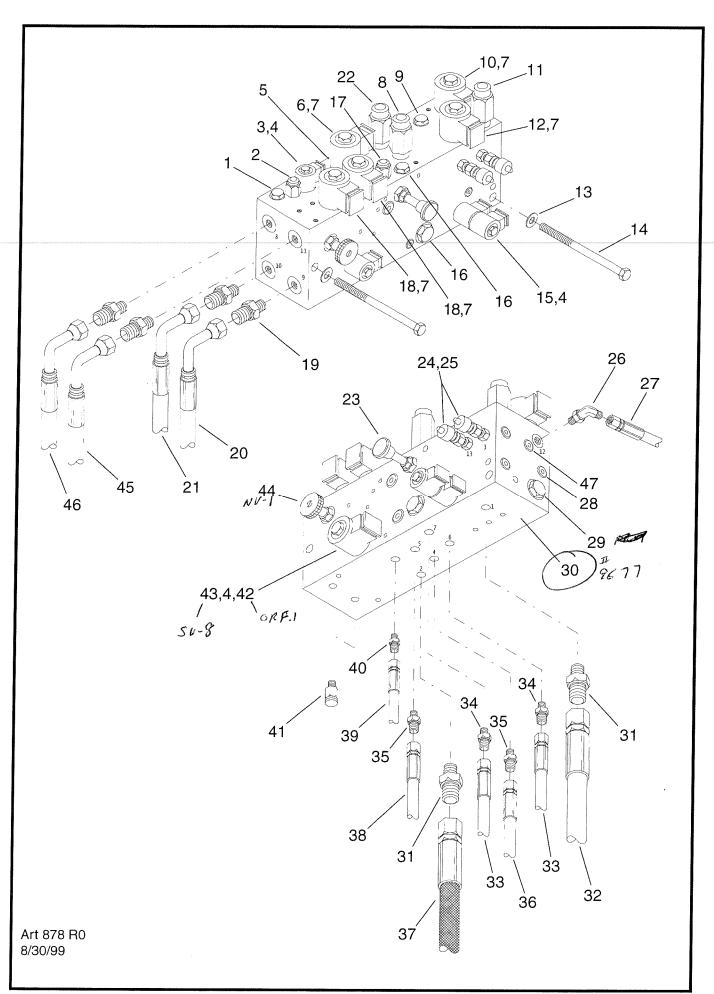


ITEM	PART NO.	QTY	DESCRIPTION
			EMERGENCY DOWN MANIFOLD
1	20437	1 1	BLOCK MANIFOLD
2	HDW8975	5	PLUG
3	30609	1	BRACKET
4	HDW6455	2	SCREW, 1/4" - 20, 1/2" LG
5	9847	1	HÖSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 76" LG
6	HDW8877	1	FITTING, 90 DEG. ELBOW, MALE 1/4" O-RING, MALE 1/4"
7	HDW5723	2	SCREW, 1/4" - 20, 3/4" LG
8	9846	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 73" LG
9	9919	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 120" LG
	9852	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 153" LG
10	HDW8881	2	FITTING, ADAPTER, MALE 1/4" O-RING, MALE 1/4"
11	8848	1	VALVE, MANUAL PULL, 4 WAY
12	8849	1	VALVE, HYDRAULIC HAND PUMP



· 	ITEM	PART NO.	QTY	DESCRIPTION
		1741411401		MAIN MANIFOLD ASSY
J=0-J	1	90105	1	FLOW DIVIDER/COMBINER
PD-1	2	90109	1	EXTERNAL VENT
SV-7	3	90119	1	VALVE, SPOOL, 3 WAY
SMALL	4	90121	4	COIL, 36 VOLT
ORF-2	5	90125	1	PLUG, ORIFICE
SV-3	6	90116	1	VALVE, SPOOL, POP, 2 WAY, N.O.
LARGE	7	90122	5	COIL, 36 VOLT
RV3	· 8	90113	1	RELIEF VALVE, POPPET, 850 PSI
CP1	9	90103	1	PLUG, CAVITY, 3 WAY, 7/8" - 14
SV-2	10	90115	1	VALVE, SPOOL, POP, 2 WAY, N.C.
RV-1	11	90111	1	VALVE, RELIEF, POPPET, 2750 PSI
5V-1	12	90114	1	VALVE, SPOOL, 4 WAY, 2 POSITION
	13	HDW5217	2	WASHER, FLAT
	14	HDW9881	2	SCREW, 5/16" - 18, 5 1/2" LG
SV-6	15	90118	1	VALVE, SPOOL, 4 WAY, 3 POSITION
cv-1+2	16	90104	2	VALVE, CHECK
CB-1	17	30123	1	VALVE, COUNTERBALANCE
5VH 45	18	90117	2	VALVE, SPOOL, 4 WAY, 2 POSITION
	19	HDW7489	4	ADAPTER, MALE 1/2", MALE 3/8", O-RING
	20	9746	. 1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 75" LG
	21	9747	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 67" LG
RU.2	22	9949	1	VALVE, RELIEF, 3247ES ONLY - BLUE
		9950	1	VALVE, RELIEF, 2647ES ONLY - BLACK
		9951	1	VALVE, RELIEF, 2047ES ONLY - RED
mp-1	23	90108	1	VALVE, MANUAL PULL
	24	HDW7572	2	ADAPTER, MALE 1/4", MALE 1/4"
	25	HDW7971	2	DISCONNECT, MALE 1/4"
	26	HDW7601	1	FITTING, 90° ELBW, MALE 3/8", MALE 3/8" O-RING
	27	9749	1	HOSE ASSY, STRGHT FML, STRGHT FML, 3/8" - 136" LG -
				3247ES ONLY
		9851	1	HOSE ASSY, STRGHT FML, STRGHT FML, 3/8" - 198" LG -
				2647ES & 2047ES ONLY
	28	HDW8975	13	PLUG, MALE, 1/8" O-RIING
FR·1	29	90106	1	REGULATOR, PRESSURE COMPENSATED Continued

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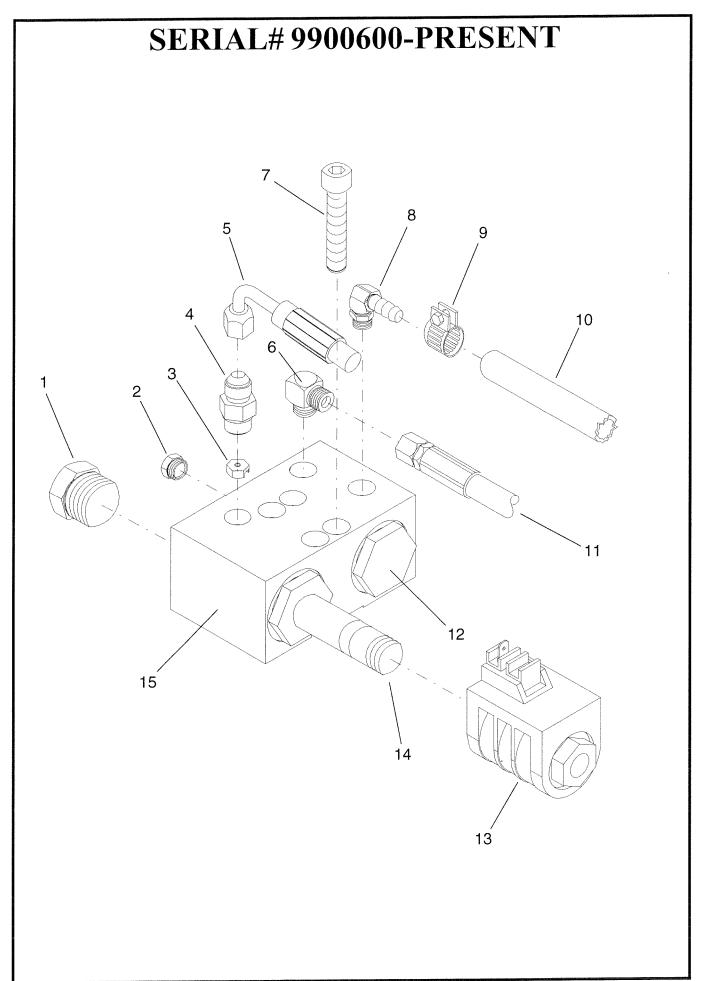


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	ITEM	PART NO.	QTY	
				MAIN MANIFOLD ASSY (CONTINUED)
	-30	9677	1	MANIFOLD FROM VENDOR
		90126	1	MANIFOLD BLOCK ONLY
	31	HDW7390	2	FITTING, MALE 1/2", MALE 1/2", O-RING
	32	9848	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 12" LG
	33	9845	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 61" LG
	34	7438	2	ADAPTER, MALE 3/8", MALE 9/16"
1	35	HDW9472	2	FITTING, UNION, MALE 1/4", MALE 3/8", O-RING
	36	9846	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 73" LG
l	37	9849	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 44" LG
	38	9,755	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 84" LG
	39	9847	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 76" LG
	40	HDW8881	1	ADAPTER, MALE 1/4" O-RING, MALE 1/4"
	41	90110	2	EXTERNAL VENT, PILOTED 3 WAY
./	42	90124	1	ORIFICE
8	43	90120	1	VALVE, SPOOL, 2 WAY N.O.
1	44	90107	1	VALVE, NEEDLE
	45	9748	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 72" LG
Ī	46	9745	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 69" LG
	47	7484	1	PLUG, O-RING, SOCKET HEAD
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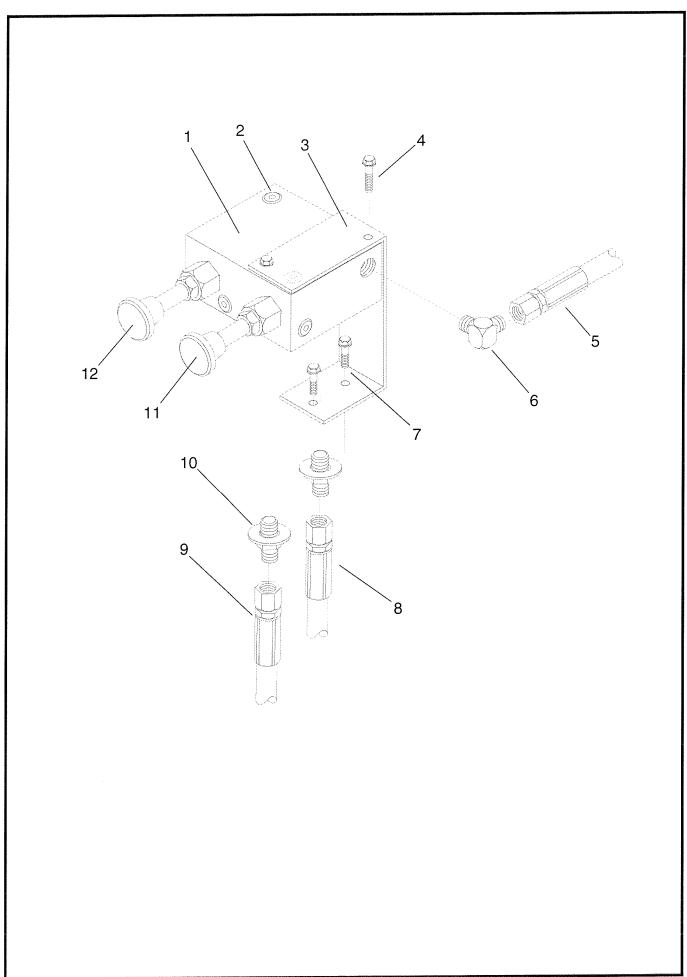
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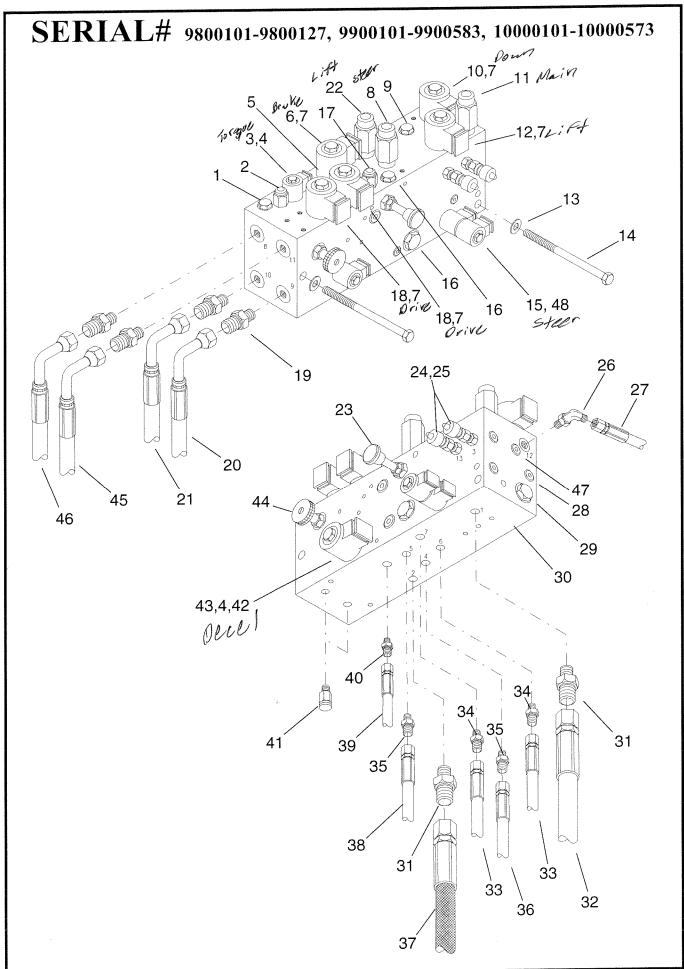
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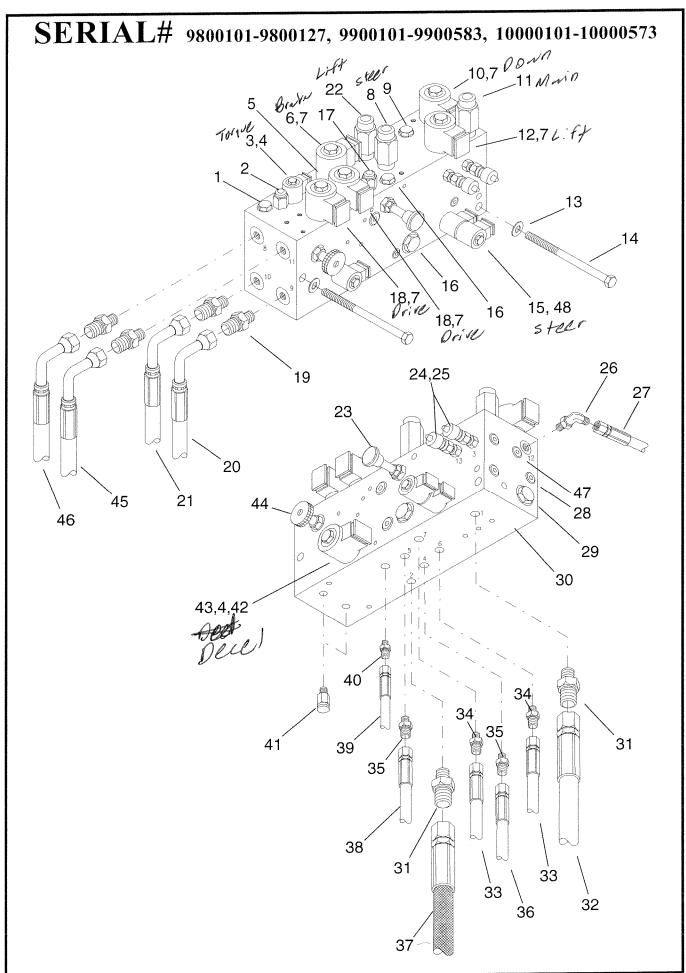
ITEM	PART NO.	QTY	DESCRIPTION
		-	LIFT MANIFOLD - SERIAL# 9900600-PRESENT (2647ES)
1	7484	1	PLUG, O-RING, SOCKET HEAD
2	HDW7314	1	PLUG, PIPE FITTING, MALE, O-RING
3	9883	1	ORIFICE - 2647ES
4	HDW7438	1	ADAPTER, 90°, MALE 3/8" MALE O-RING
5	90593	1	HOSE ASSY-STRGHT FML, 90° FML, 3/8" - 198" LG
6	HDW8877	1	ELBOW, 90°, MALE 1/4" MALE O-RING
7	HDW8592	4	SCREW, 1/4" - 20, 1 1/2" LG
8	HDW8879	1	ELBOW, 90°, MALE 1/8" HOSE BARB, 5/16"
9	7788	1	HOSE CLAMP, 5/8"
10	6458	15 FT	HOSE, RETURN LINE, 5/16"
11	9852	1	HOSE ASSY-STRGHT FML, STRGHT FML, 1/4" - 153" LG
12	7445	1	VALVE, CHECK
13	8914	1	COIL, 24 VOLT
14	6973	1	VALVE, N.C. POPPET, 2 WAY
15	14523	1	MANIFOLD, LIFT CYLINDER
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	1 999		



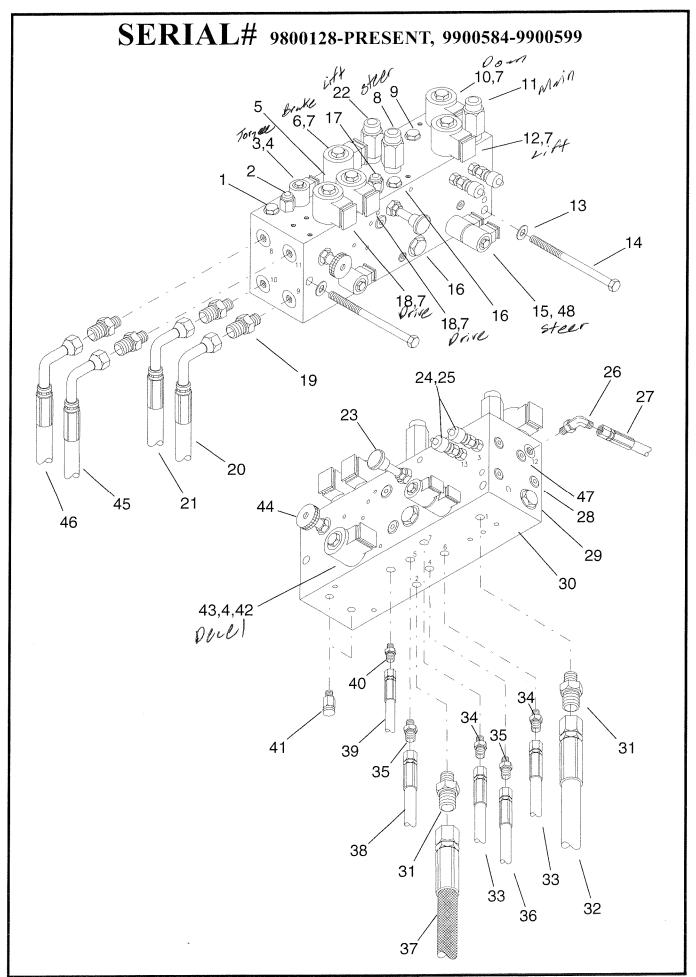
ITEM	PART NO.	QTY	DESCRIPTION
		-	EMERGENCY DOWN MANIFOLD
1	20437	1	BLOCK MANIFOLD
2	HDW8975	5	PLUG
3	30609	1	BRACKET
4	HDW6455	2	SCREW, 1/4" - 20, 1/2" LG
5	9847	1 1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 76" LG
6	HDW8877	1	ELBOW, 90°, MALE 1/4" O-RING, MALE 1/4"
7	HDW5723	2	SCREW, 1/4" - 20, 3/4" LG
8	9846	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 73" LG
9	9852	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 153" LG
10	HDW8881	2	ADAPTER, MALE 1/4" O-RING, MALE 1/4"
11	8848	1	VALVE, MANUAL PULL, 4 WAY
12	8849	1	VALVE, HYDRAULIC HAND PUMP



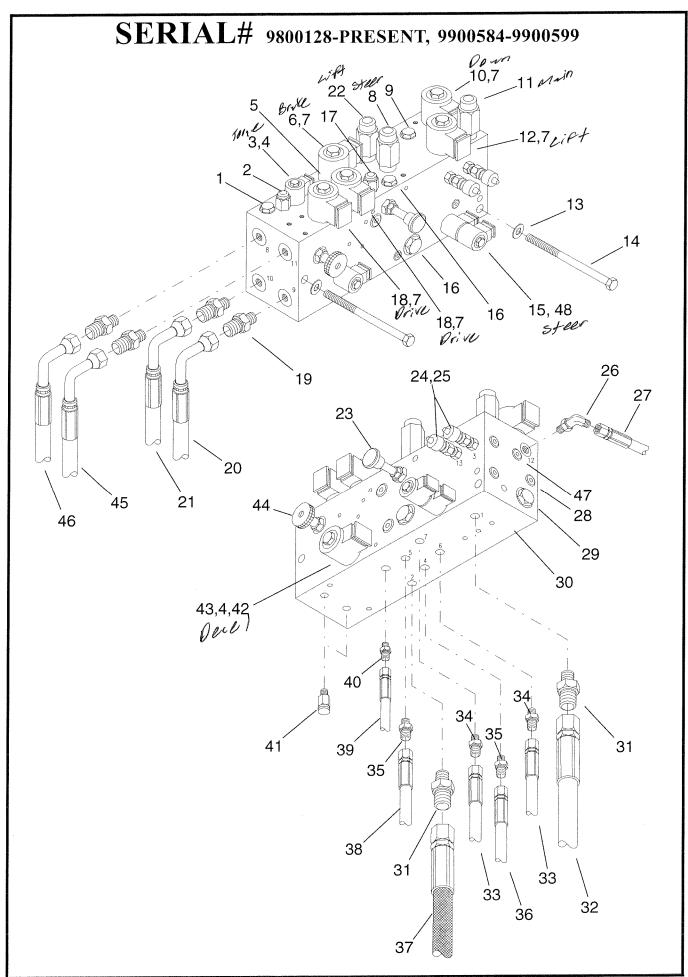
ITEM	PART NO.	QTY	DESCRIPTION
		-	MAIN MANIFOLD ASSY-SERIAL# 9800101-9800127
			(2047ES), 9900101-9900583, (2647ES), 10000101-10000573
			(3247ES)
1	90105	1	FLOW DIVIDER/COMBINER
2	90109	1	EXTERNAL VENT Torque? Pilot operated 2 may
3	90119	1	VALVE, SPOOL, 3 WAY Torque
4	90121	2	COIL, 36 VOLT
5	90125	1	PLUG, ORIFICE
6	90116	1	VALVE, SPOOL, POP, 2 WAY, N.O. Broke
7	90122	5	COIL, 36 VOLT
8	90113	1	RELIEF VALVE, POPPET, 850 PSI
9	90103	1	PLUG, CAVITY, 3 WAY, 7/8" - 14
10	90115	1	VALVE, SPOOL, POP, 2 WAY, N.C. DO ~n
11	90111	1	VALVE, RELIEF, POPPET, 2750 PSI
12	90114	1	VALVE, SPOOL, 4 WAY, 2 POSITION Lift
13	HDW5217	2	WASHER, FLAT
14	HDW9881	2	SCREW, 5/16" - 18, 5 1/2" LG
15	90118	1	VALVE, SPOOL, 4 WAY, 3 POSITION Steen
16	90104	2	VALVE, CHECK
17	9606	1	VALVE, COUNTERBALANCE
18	90117	2	VALVE, SPOOL, 4 WAY, 2 POSITION Prive
19	HDW7489	4	ADAPTER, MALE 1/2", MALE 3/8", O-RING
20	9746	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 75" LG
21	9747	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 67" LG
22	9949	1	VALVE, RELIEF, 3247ES ONLY - BLUE
	9950	1	VALVE, RELIEF, 2647ES ONLY - BLACK
	9951	1	VALVE, RELIEF, 2047ES ONLY - RED
23	90108	1	VALVE, MANUAL PULL
24	HDW7572	2	ADAPTER, MALE 1/4", MALE 1/4"
25	HDW7971	2	DISCONNECT, MALE 1/4"
26	HDW7601	1	ELBOW, 90°, MALE 3/8", MALE 3/8" O-RING
27	9749	1	HOSE ASSY, STRGHT FML, STRGHT FML, 3/8" - 136" LG -
			3247ES ONLY
	9851	1	SAME AS ABOVE EXCEPT: 198" LG-2647ES/2047ES ONLY
28	HDW8975	13	PLUG, MALE, 1/8" O-RIING
		1	



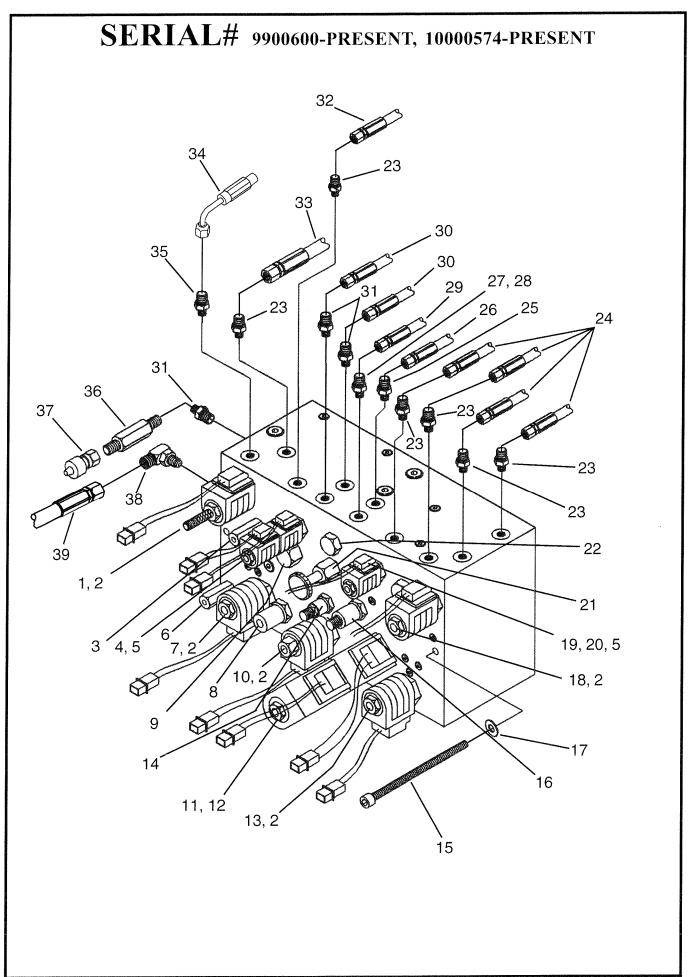
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ITEM	PART NO.	QTY	
		_	MAIN MANIFOLD ASSY-SERIAL# 9800101-9800127
			(2047ES), 9900101-9900583, (2647ES), 10000101-10000573
00	00100		(3247ES) (CONTINUED)
29	90106	1	REGULATOR, PRESSURE COMPENSATED
30	9677	1	MANIFOLD FROM VENDOR
	90126	1	MANIFOLD BLOCK ONLY
31	HDW7390	2	ADAPTER, MALE 1/2", MALE 1/2", O-RING
32	9848	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 12" LG
33	9845	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 61" LG
34	90195	2	ADAPTER, MALE 3/8", MALE 9/16"
35	HDW9472	2	UNION, MALE 1/4", MALE 3/8", O-RING
36	9846	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 73" LG
37	9849	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 44" LG
38	9755	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 84" LG
39	9847	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 76" LG
40	HDW8881	1	ADAPTER, MALE 1/4" O-RING, MALE 1/4"
41	90110	2	EXTERNAL VENT, PILOTED 3 WAY
42	90124	1	ORIFICE
43	90120	1	VALVE, SPOOL, 2 WAY N.O. Dece
44	90107	1	VALVE, NEEDLE
45	9748	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 72" LG
46	9745	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 69" LG
47	7484	1	PLUG, O-RING, SOCKET HEAD
48	90196	1	COIL, 28 VDC
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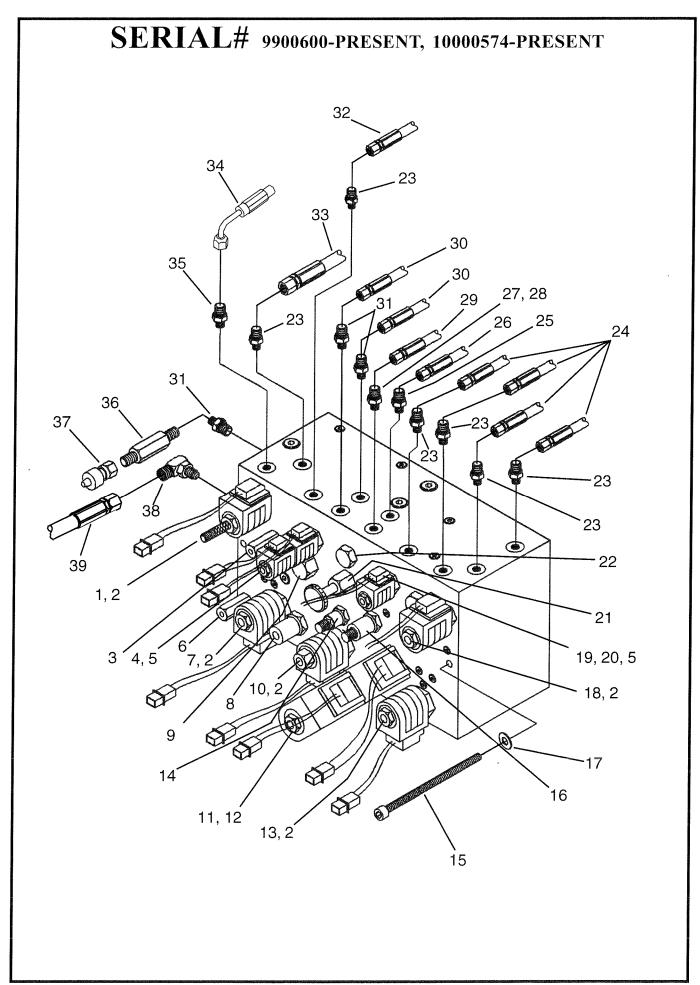
ITEM	PART NO.	QTY	DESCRIPTION
		_	MAIN MANIFOLD ASSEMBLY-SERIAL# 9800128-PRESENT
			(2047ES), 9900584-9900599 (2647ES)
1	90105	1	FLOW DIVIDER/COMBINER
2	90109	1	EXTERNAL VENT
3	90119	1	VALVE, SPOOL, 3 WAY TOrque
4	90121	2	COIL, 36 VOLT
5	90125	1	PLUG, ORIFICE
6	90116	1	VALVE, SPOOL, POP, 2 WAY, N.O. Brake
7	90122	5	COIL, 36 VOLT
8	90113	1	RELIEF VALVE, POPPET, 850 PSI
9	90103	1	PLUG, CAVITY, 3 WAY, 7/8" - 14
10	90115	1	VALVE, SPOOL, POP, 2 WAY, N.C. Ooun
11	90111	1	VALVE, RELIEF, POPPET, 2750 PSI
12	90114	1	VALVE, SPOOL, 4 WAY, 2 POSITION Lift
13	HDW5217	2	WASHER, FLAT
14	HDW9881	2	SCREW, 5/16" - 18, 5 1/2" LG
15	90118	1	VALVE, SPOOL, 4 WAY, 3 POSITION Steer
16	90104	2	VALVE, CHECK
17	9606	1	VALVE, COUNTERBALANCE
18	90117	2	VALVE, SPOOL, 4 WAY, 2 POSITION Drive
19	HDW7489	4	ADAPTER, MALE 1/2", MALE 3/8", O-RING
20	9746	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 75" LG
21	9747	1 1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 67" LG
22	9949	1	VALVE, RELIEF, 3247ES ONLY - BLUE
	9950	1	VALVE, RELIEF, 2647ES ONLY - BLACK
	9951	1	VALVE, RELIEF, 2047ES ONLY - RED
23	90108	1	VALVE, MANUAL PULL
24	HDW7572	2	ADAPTER, MALE 1/4", MALE 1/4"
25	HDW7971	2	DISCONNECT, MALE 1/4"
26	HDW7601	1	ELBOW, 90°, MALE 3/8", MALE 3/8" O-RING
27	9749	1	HOSE ASSY, STRGHT FML, STRGHT FML, 3/8" - 136" LG -
			3247ES ONLY
777/48	90593	1	HOSE ASSY, STRGHT FML, 90° FML, 3/8" - 198" LG -
			2647ES/2047ES (NOT SHOWN)
28	HDW8975	13	PLUG, MALE, 1/8" O-RIING
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ITEM	PART NO.	QTY	DESCRIPTION
		_	MAIN MANIFOLD ASSEMBLY-SERIAL# 9800128-PRESENT
			(2047ES), 9900584-9900599 (2647ES) (CONTINUED)
29	90106	1	REGULATOR, PRESSURE COMPENSATED
30	9677	1	MANIFOLD FROM VENDOR
	90126	1	MANIFOLD BLOCK ONLY
31	HDW7390	2	ADAPTER, MALE 1/2", MALE 1/2", O-RING
32	9848	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 12" LG
33	9845	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 61" LG
34	90195	2	ADAPTER, MALE 3/8", MALE 9/16"
35	HDW9472	2	UNION, MALE 1/4", MALE 3/8", O-RING
36	9846	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 73" LG
37	9849	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 44" LG
38	9755	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 84" LG
39	9847	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 76" LG
40	HDW8881	1	ADAPTER, MALE 1/4" O-RING, MALE 1/4"
41	90110	2	EXTERNAL VENT, PILOTED 3 WAY
42	90124	1	ORIFICE
43	90120	1	VALVE, SPOOL, 2 WAY N.O. Decel
44	90107	1	VALVE, NEEDLE
45	9748	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 72" LG
46	9745	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 69" LG
47	7484	1	PLUG, O-RING, SOCKET HEAD
48	90196	1	COIL, 28 VDC
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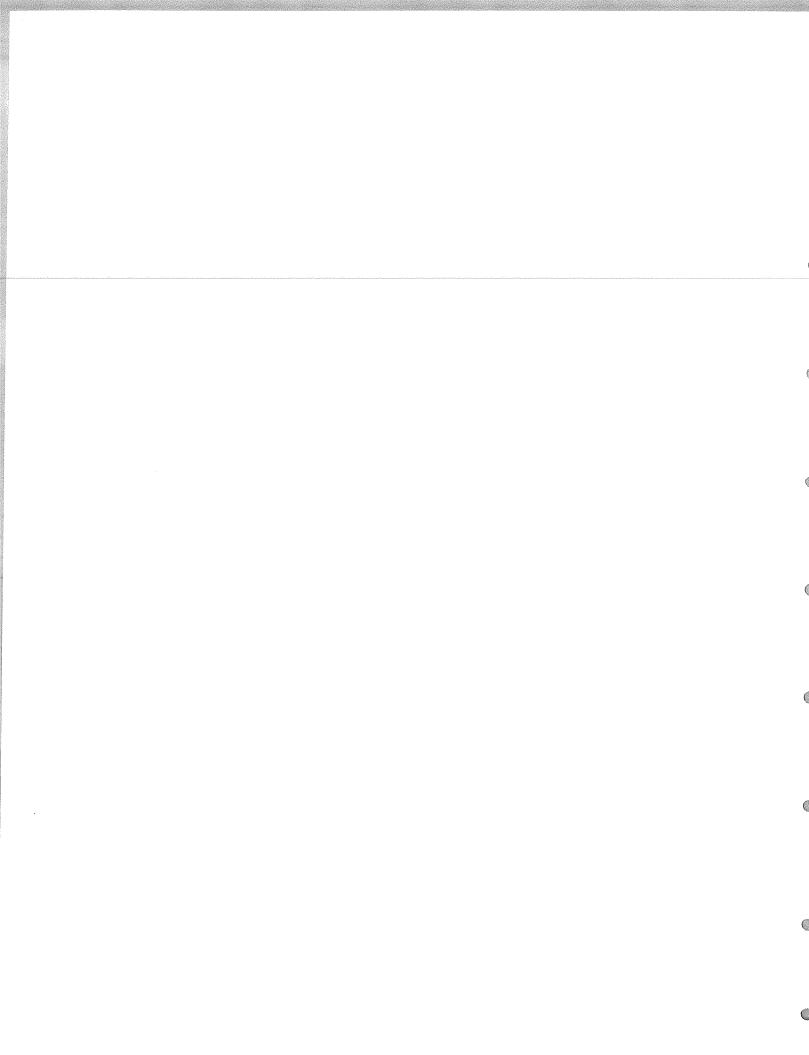


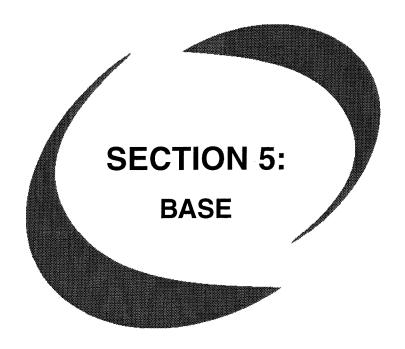
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ITEM	PART NO.	QTY	
	90428	-	MAIN MANIFOLD ASSY -SERIAL# 9900600-PRESENT
			(2647ES), 10000574-PRESENT (3247ES)
1	6973	1	VALVE, SPOOL, POP, 2 WAY, N.C.
2	9996	5	COIL, 24 VOLT
3	9992	1	VALVE, RELIEF
4	9986	1	VALVE, SPOOL, 4 WAY, 3 POSITION (STEERING)
5	9988	3	COIL, 24 VOLT
6	9993	1	VALVE, RELIEF
7	9982	1	VALVE, SPOOL, 4 WAY
8	9984	1	VALVE, RELIEF
9	90499	1	VALVE, PRIORITY FLOW CONTROL
10	6975	1	VALVE, SPOOL, N.O.
11	9995	1	VALVE, SPOOL, 4 WAY, 3 POSITION (DRIVE)
12	9997	2	COIL, 24 VOLT
13	6976	1	VALVE, SPOOL, 3 WAY
14	9606	1	VALVE, COUNTER BALANCE
15	HDW90287	2	SCREW, 1/4" - 20, 4.5" LG
16	90378	1	VALVE, NEEDLE (TOW VALVE)
17	HDW5217	2	WASHER, FLAT
18	8373	1	VALVE, SPOOL, 4 WAY
19	9985	1	VALVE, SPOOL, N.O.
20	90498	1	ORIFICE 0.0595" DIA. (NOT SHOWN)
21	9665	1	VALVE, MANUAL (BRAKE RELEASE)
22	9990	1	VALVE, CHECK
23	HDW7390	6	ADAPTER, MALE 1/2", MALE 1/2" O-RING
24	9386	4	HOSE ASSY, STRGHT FML, 1/2"- 68" LG
25	HDW9472	1	ADAPTER, MALE 1/4", MALE 3/8" O-RING
26	9846	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4"- 73" LG
27	HDW8813	1	ADAPTER, MALE 3/8", MALE 3/8" O-RING TAPPED
28	10526	1	ORIFICE, .031" DIA (NOT SHOWN)
29	90510	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4"- 89" LG
30	9845	2	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4"- 61" LG
31	HDW7438	3	ADAPTER, MALE 3/8", MALE 3/8" O-RING
32	9849	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2"- 44" LG
33	8317	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2"- 19" LG
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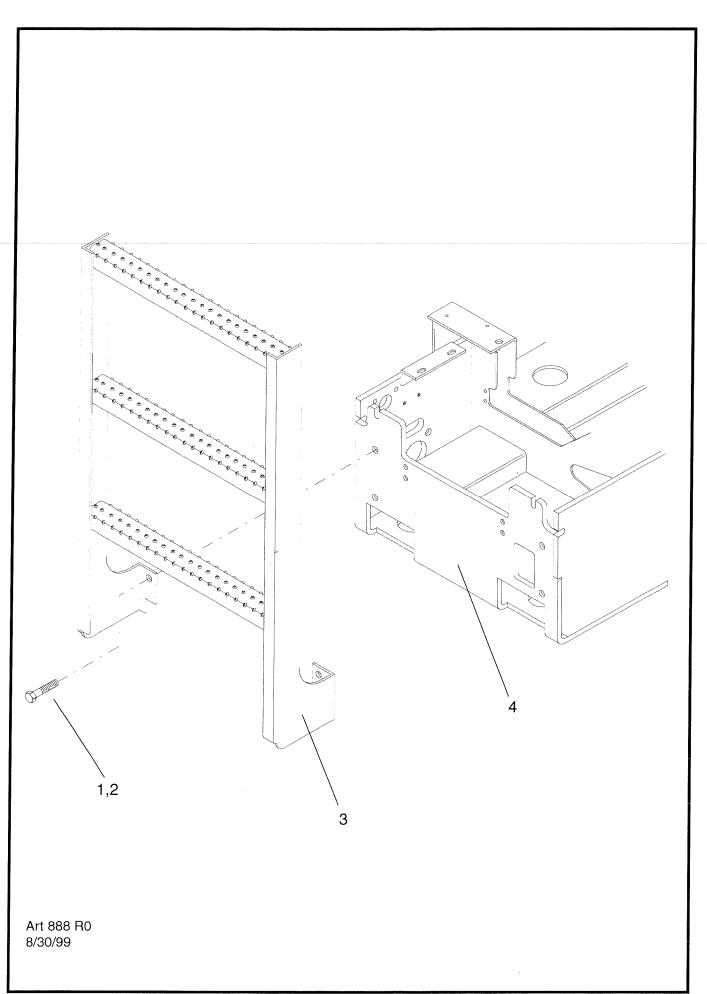


ITEM		QTY	
	90428	-	MAIN MANIFOLD ASSY -SERIAL# 9900600-PRESENT
			(2647ES), 10000574-PRESENT (3247ES) (CONTINUED)
34	90593	1	HOSE ASSY, STRGHT FML, 90°, FML, 3/8"- 98" LG
35	HDW7389	1	ADAPTER, MALE 3/8", MALE 3/8" O-RING
36	HDW9604	1	UNION, MALE 3/8" JIC, MALE 1/4" NPT
37	HDW7971	1	DISCONNECT, MALE 1/4"
38	HDW90329	1	ELBOW, 90°, MALE 1/4", MALE 3/8" O-RING
39	9847	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4"- 76" LG
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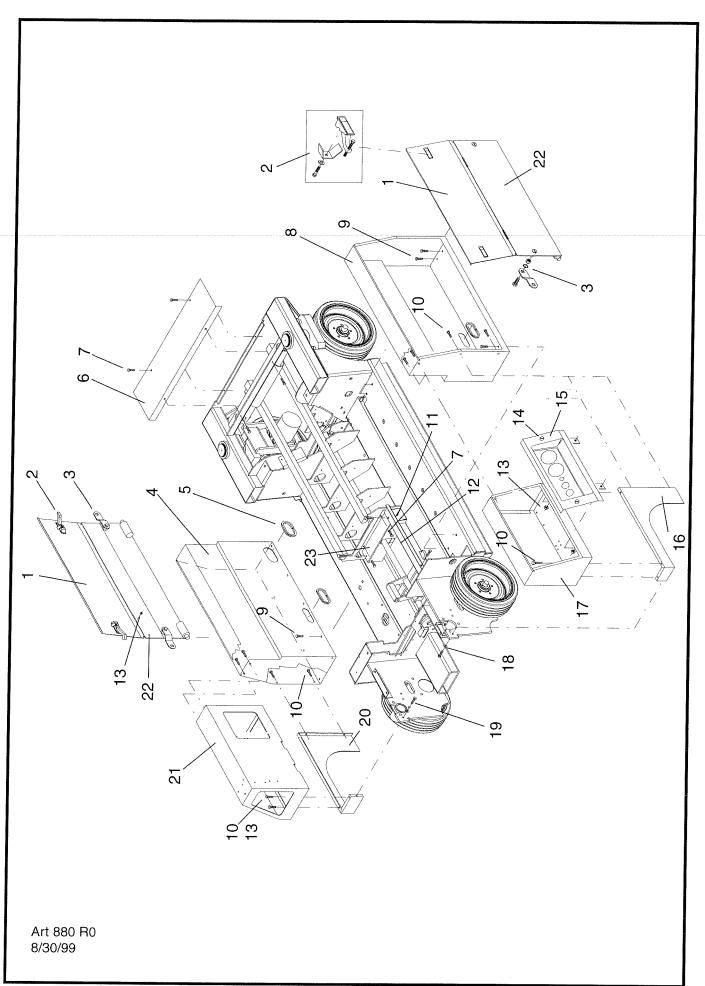
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ITEM	PART NO. HDW8283	QTY 4	SCREW, 1/2" - 13, 1 1/2" LG
1			NUT, 1/2" - 13
2	HDW6349	4	
3	30578	1	LADDER (3247ES)
	30581	1	LADDER (2047ES & 2647ES)
4	30300	1	BASE WELDMENT
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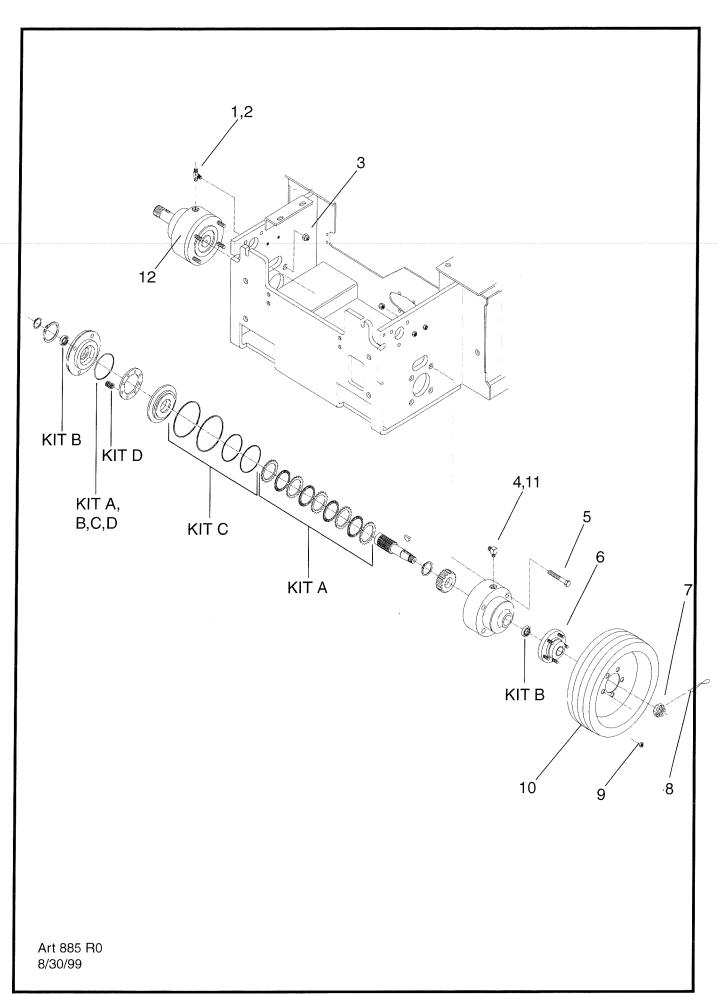
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ITEM	PART NO.	QTY	DESCRIPTION
1	30539	2	DOOR, LOWER
2	8386	4	LATCH, TRIGGER
3	9647	4	LATCH
4	30503	1	CABINET, HYDRAULIC
5	6121	3	TRIM, 1/4"
6	30634	1	COVER, STEERING
7	HDW5723	9	SCREW, 1/4" - 20, 3/4" LG
8	30499	1	CABINET, BATTERY
9	HDW7116	11	SCREW, 5/16" - 18, 1 1/4" LG
10	HDW8685	13	SCREW, 1/4" -20, 3/4" LG WITH SERATIONS
11	30624	1	COVER, WIRES/BATTERY CABLES
12	30626	1	COVER, WIRES/BATTERY CABLES
13	HDW6461	20	NUT, 2 WAY, LOCK, 1/4" - 20
14	9647	2	LATCH, CABINET
15	30478	1	PANEL, CONTROL
16	30546	1	FENDER, RIGHT REAR
17	30472	1	CABINET, BASE CONTROL
18	HDW5217	2	WASHER, FLAT
19	HDW5988	2	SCREW, 1/4" - 20, 1 1/4" LG
20	30547	1	FENDER, LEFT REAR
21	30559	. 1	CABINET, CHARGER
22	30683	1	DOOR, LOWER
23	30625	1	COVER, WIRES/BATTERY CABLES
· · · · · · · · · · · · · · · · · · ·			2047ES & 2647ES ONLY
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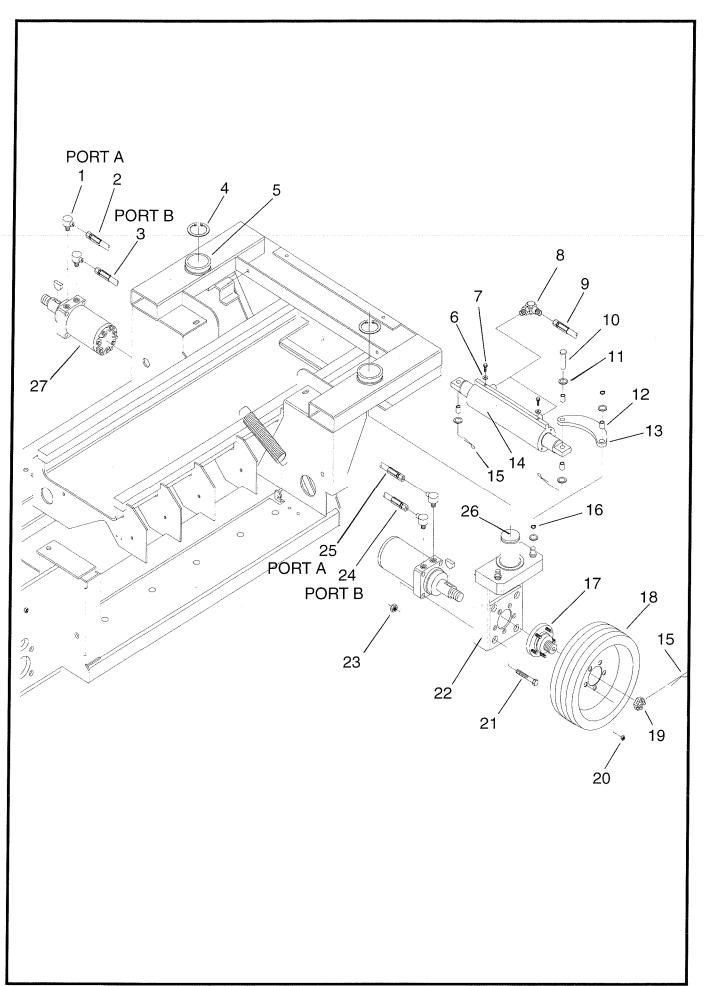
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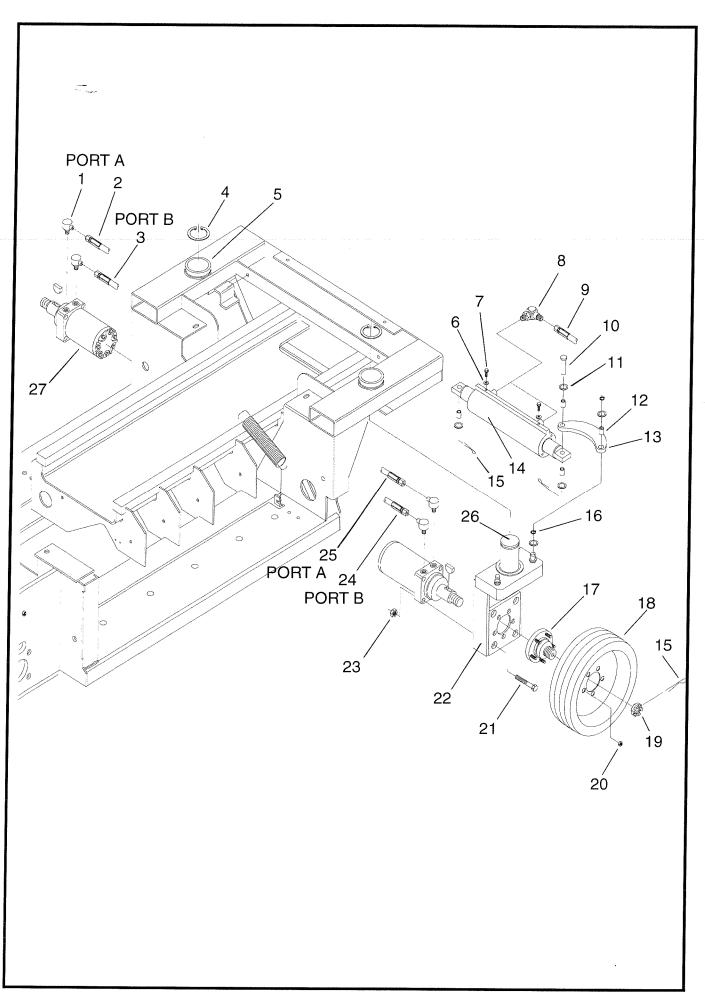
ITEM	PART NO.	QTY	DESCRIPTION	
1	9755	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 84" LG	
The State			TO MAIN MANIFOLD	
2	HDW8876	1	FITTING, RUN T, SWIVEL, MALE 1/4",	
			O-RING, MALE 1/4"	
3	HDW6349	8	NUT, 1/2" - 13, 2 WAY	
4	HDW8877	1	FITTING, 90° ELBOW, MALE 1/4"	
	Account of the second of the s		O-RING, MALE 1/4"	
5	HDW7018	8	SCREW, 1/2" - 13, 3" LG	
6	25387	2	HUB, TAPERED	
7	HDW8568	2	NUT, SLOTTED HEX, 1 1/8" - 18	
8	HDW5290	2	PIN, COTTER, 5/32" X 1 3/4" LG	
9	HDW6677	10	NUT, HEX LUG, 1/2" - 20	
10	8261	2	WHEEL/TIRE, NON - MARKING	
11	9754	1	HOSE ASSY, ELBOW FML, ELBOW FML, 1/4" - 46" LG	
12	9277	2	HYDRAULIC BRAKE ASSEMBLY	
	90132		LINING KIT (KIT A)	
	90133		BEARING KIT (KIT B)	
	90134		O-RING KIT (KIT C)	
	90135		SPRING KIT (KIT D)	
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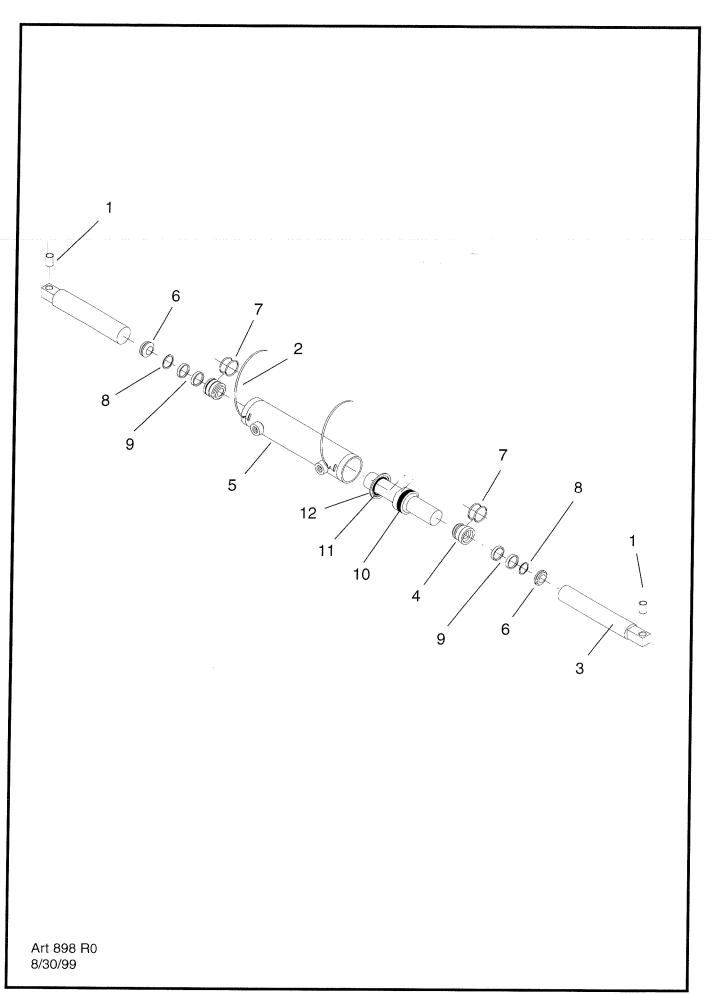
ITEM	PART NO.	QTY	DESCRIPTION
1	9872	4	SWIVEL, WHEEL MOTOR
2	9747	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 67" LG
			TO MAIN MANIFOLD PORT 11
3	9748	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 72" LG
			TO MAIN MANIFOLD PORT 10
/ 4	9602	2	RING, RETAINING, 3"
√ 5	30365	2	WASHER, THRUST
⊬ 6	HDW5216	2	WASHER, FLAT, 1/2"
V7	HDW8287	2	SCREW, 1/2" - 20, 3/4" LG
8	HDW7601	2	FITTING, 90° ELBOW, MALE 3/8", MALE 3/8", O-RING
9	9845	2	HOSE ASSY, STRGHT FML, STRGHT FML, 1/4" - 61" LG
<i>i</i> 10	HDW9598	2	PIN, CLEVIS
J/1	HDW9817	8	WASHER, FLAT
⊭ 12	9591	4	BEARING
1/3	30363	2	BAR, STEERING LINKAGE
√14	9449	1	CYLINDER, DOUBLE HEADED STEERING
15	HDW5290	6	PIN, COTTER
√16	9601	4	RING, RETAINING, 3/4"
17	25387	2	HUB, TAPERED DRIVE
18	8261	4	WHEEL/TIRE NON-MARKING
19	HDW8568	4	NUT, SLOTTED, 1 1/8" - 18
20	HDW6677	10	NUT, LUG, 1/2" - 20
2 1	HDW7018	8	SCREW, 1/2" - 13, 3" LG
√22	30340	2	WELDMENT, WHEEL MOTOR MOUNT
√ 23	HDW6349	8	NUT, 1/2" - 13
24	9745	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 69" LG
			TO MAIN MAINIFOLD PORT 9
25	9746	1	HOSE ASSY, STRGHT FML, ELBW FML, 1/2" - 75" LG
			TO MAIN MAINIFOLD PORT 8
			Continued

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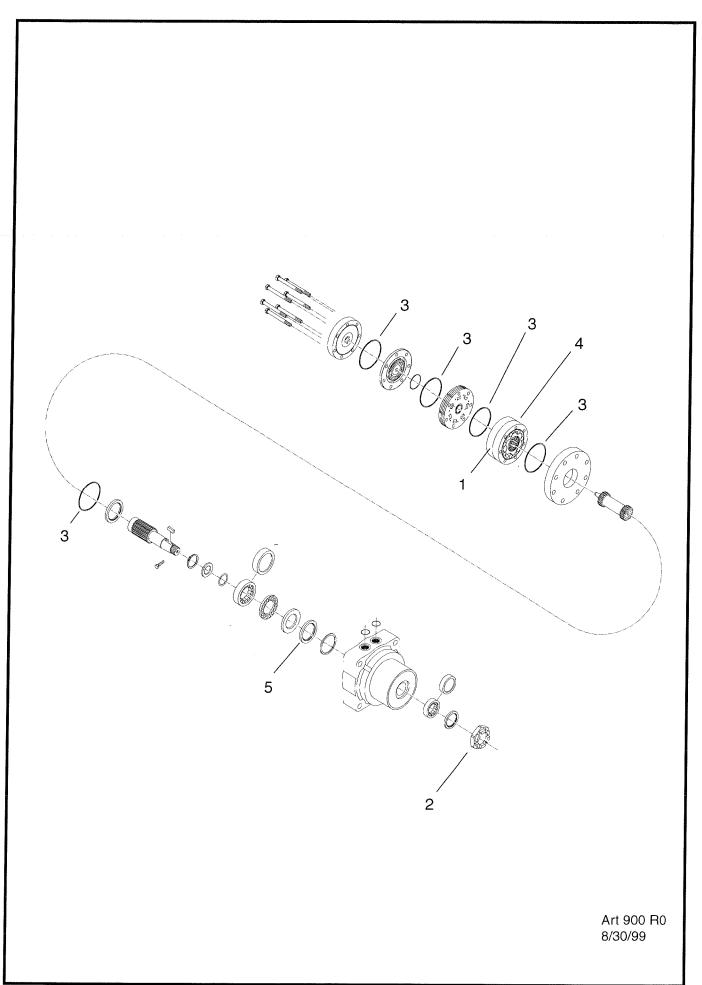


ITEM	PART NO.	QTY	DESCRIPTION
			Continued
26	5432	2	FITTING, GREASE
27	-9567 FARKE	R2	MOTOR, HYDRAULIC WHEEL
	7941	4	CLAMP, HOSE - WHEEL MOTOR HOSES TO BASE
	HDW5217	4	WASHER, FLAT - CLAMP TO BASE
	HDW5276	4	NUT, 1/4" - 20 - CLAMP TO BASE
	HDW6414	4	SCREW, 1/4" -20, 3 1/4" LG - CLAMP TO BASE
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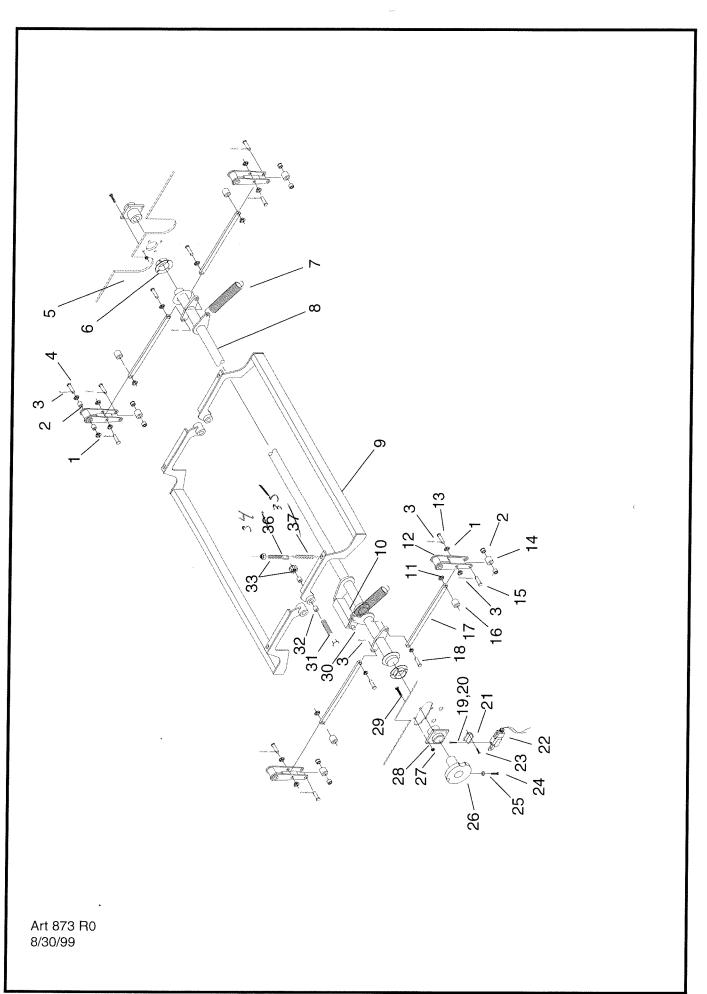


ITEM	PART NO.	QTY	DESCRIPTION
	9449	-	STEERING CYLINDER, DOUBLE ENDED
1	9480	2	BUSHING
2		1	RETAINING RING
3		1	CYLINDER
4	4444	1	HEAD
5		1	ROD
	90147	-	SEAL KIT FOR CYLINDER 9449
6		2	WIPER INSIDE HEAD
7		2	O-RING & BACK-UP O-RING
8		2	SEAL INSIDE HEAD
9		2	WEAR RINGS INSIDE HEAD
10		1	WEAR RING
11		1	O-RING
12		1	SEAL
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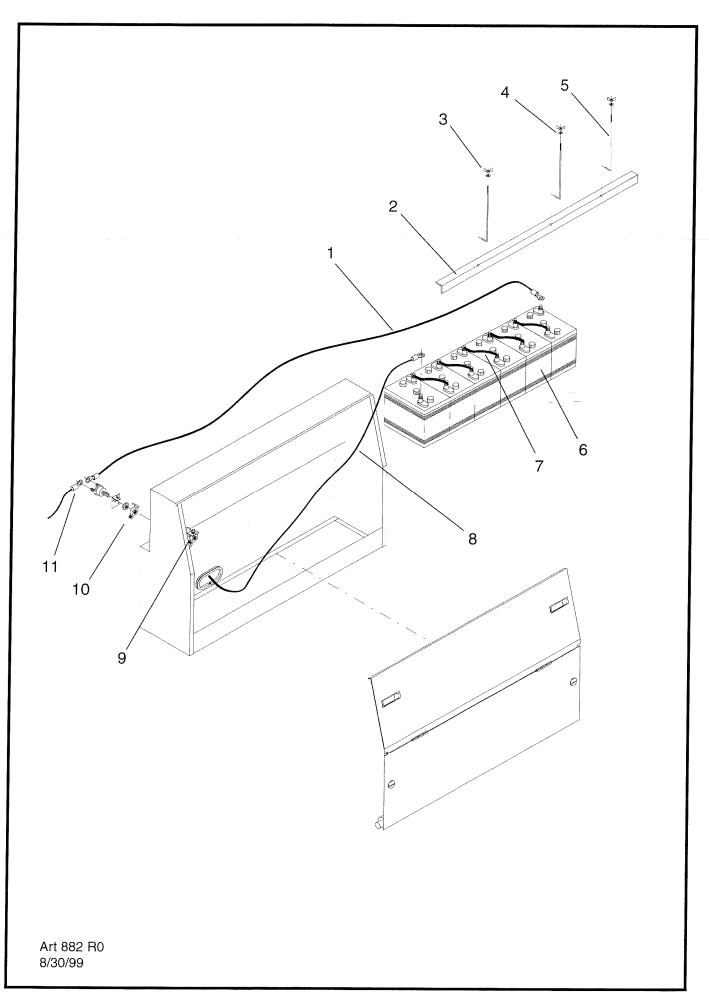
ITEAN	DADT NO	QTY	DESCRIPTION
ITEM	PART NO. 9567	QIY -	WHEEL MOTOR
1	9307	2	STATOR HALVES
2	HDW90143	1	NUT
	HDW90143	ı	1401
	90136	_	SEAL KIT FOR WHEEL MOTOR 9567
3	90130	5	SEAL RING
4		1	SEAL BING BETWEEN HALVES
5		1	SHAFT SEAL
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ITEM	PART NO.	QTY	DESCRIPTION
v 1	7220	16	BEARING, NYLINER, 1/2" X 7/32"
v 2	9591	16	BEARING, 12FDU08
V 3	HDW5290	18	PIN, COTTER, 1 3/4" LG
V 4	HDW9596	4	PIN, CLEVIS, 3/4" X 3 1/2" LG
5	30300	1	BASE WELDMENT
<u>_6</u>	5898	2	BÜSHING, NYLINER
127	14667	2	SPRING
18	30320	1	ROD, ACTUATOR
√9	30310	2	POTHOLE WELDMENT
√10	30702	1	BLOCK, POTHOLE BAR ACTUATOR
V11	8181	8	BEARING, NYLINER, 1/2" X 5/16"
√12	30330	4	POTHOLE ACTUATOR WELDMENT
1 3	HDW9904	4	PIN, CLEVIS, 1/2" X 2 1/4" LG
<i>v</i> 14	30352	4	ROLLER, POTHOLE ACTUATOR
√15	HDW9598	4	PIN, CLEVIS, 3/4"
46	30351	4	SPACER, POTHOLE ACTUATOR
47	30362	4	LINKAGE ARM
1 8	HDW8834	4	PIN, CLEVIS, 1/2" X 1 1/8" LG
-19	HDW5251	4	NUT, #8 - 32
-20	HDW8482	4	SCREW, #8 - 32, 1 1/2" LG
√21	13840	1	BRACKET, LIMIT SWITCH MOUNT
-22	8776	1	SWITCH, LIMIT, SINGLE POLE
√23	HDW5723	2	SCREW, 1/4" - 20, 3/4" LG
√24	HDW8489	1	SCREW, 5/16" - 18, 1 5/8" LG
√25	HDW5006	1	WASHER, SPLIT
⊬ 26	30622	1	CAM, POTHOLE LIMIT SWITCH
√27	HDW6461	8	NUT, 1/4" - 20
<i>ب</i> 28	14243	2	PIVOT WELDMENT, POTHOLE
∠ 29	HDW8273	8	SCREW, 1/4" - 20, 1" LG
3 0	14705	1	PIN, POTHOLE BAR ACTUATOR BUSHING
1∕31	HDW7052	4	SCREW, 1/2" - 13, 3 1/2" LG
√32	7015	8	BEARING, FLANGED NYLINER
√33 °	HDW6349	8	NUT, 1/2" - 13
√34	8947	4	SCREW, 1/2" - 13, FLATHEAD HANGER
√ 35	30443	4	SPRING
1		1	

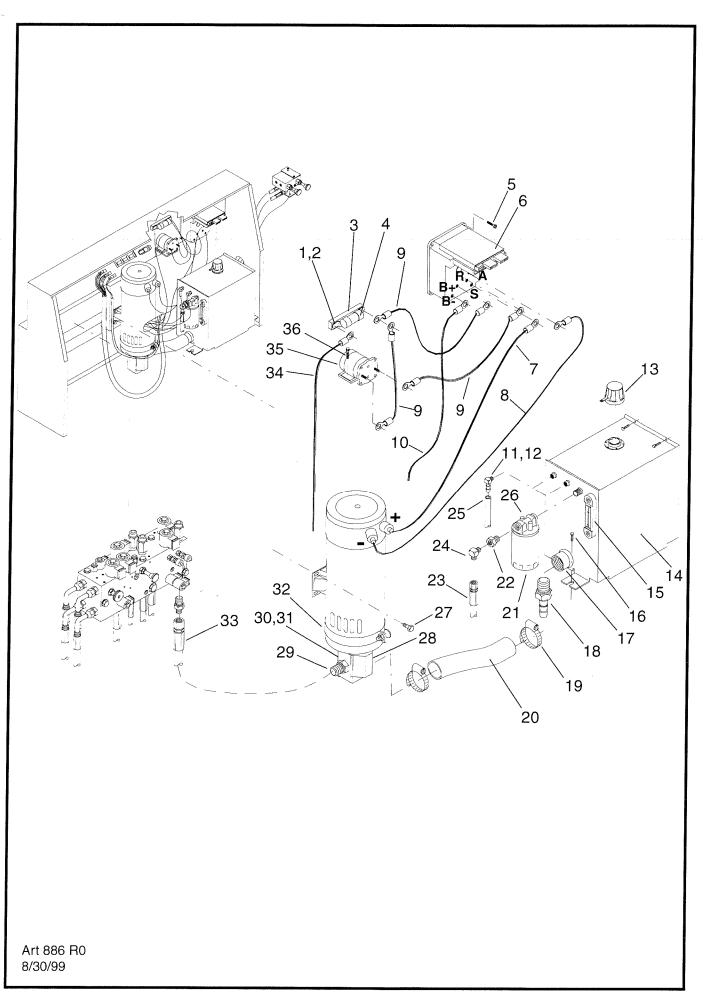
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ITEM	PART NO.	QTY	DESCRIPTION
1	9012	1	CABLE, BATTERY, UL1283, #2 RED, 72" LG, TO POSITIVE
2-	9729	1	HOLD DOWN, BATTERY
3	HDW6110	3	NUT, WING, 1/4" - 20
4	HDW5217	3	WASHER, FLAT
5	13263	3	ROD, HOLD DOWN - STANDARD
	30690	3	ROD, HOLD DOWN - HEAVY DUTY
6	5970	6	BATTERY, 6 VOLT - STANDARD
	7739	6	BATTERY, 6 VOLT - HEAVY DUTY
7	6208	5	CABLE, BATTERY, UL1283, #2, BLACK, 8 1/2" LG
8	8835	1 1	CABLE, BATTERY, UL1283, #2, BLACK,
			85" LONG - NEGATIVE TO SEVCON
9	HDW6455	2	SCREW, 1/4" - 20, 1/2" LG
10	8841	1	SWITCH, MASTER DISCONNECT
11	8836	1	CABLE, BATTERY, UL1283, #2, RED, 85" LG
	7172	6	BOOT, TERMINAL INSULATOR, BLACK
	7173	8	BOOT, TERMINAL INSULATOR, RED
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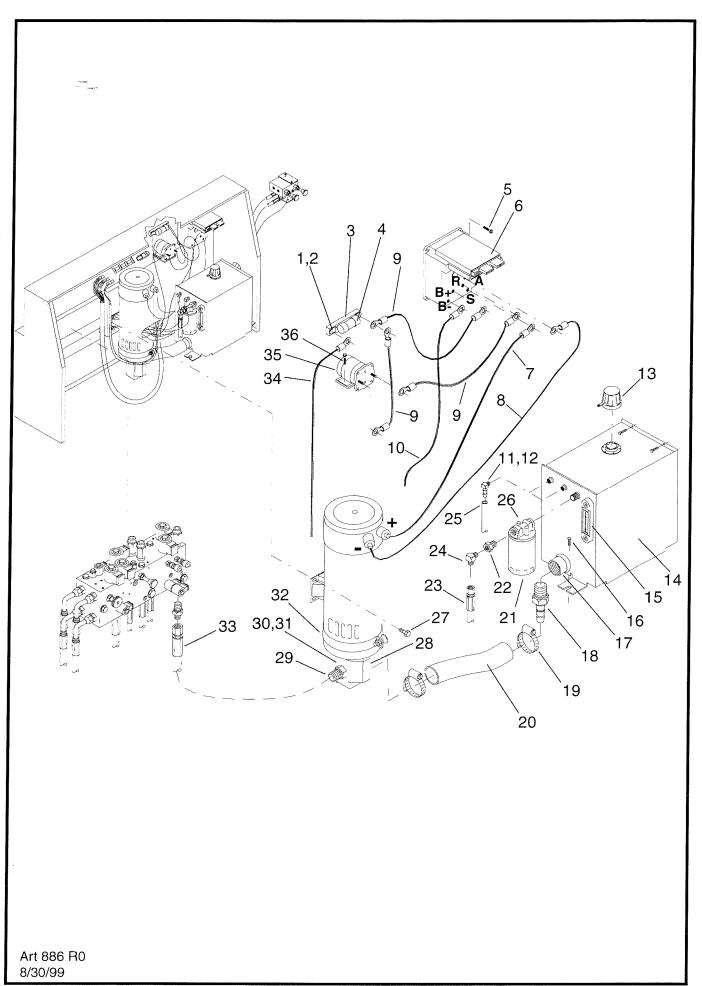
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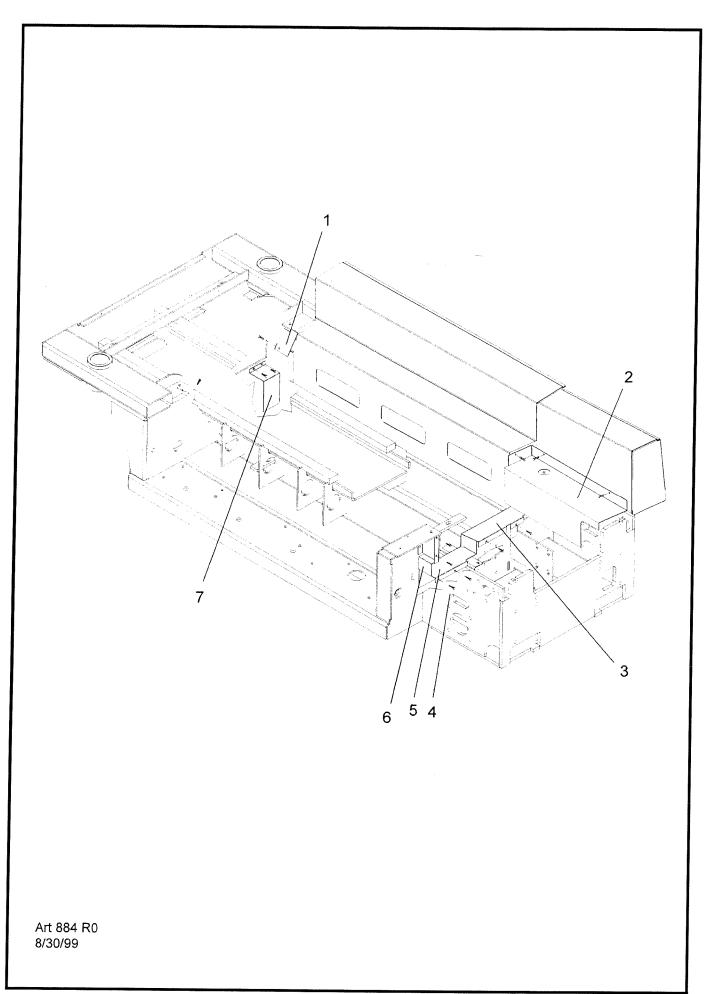


ITEM	PART NO.	QTY	DESCRIPTION
1	HDW7778	2	SCREW, 1/4" - 20, 1 1/4" LG, FLAT COUNTERSINK
2	HDW5276	2	NUT, 1/4" - 20
3	7785	1	FUSE HOLDER
4	7784	1	FUSE, 225 AMP
5	HDW8273	4	SCREW, 1/4" - 20, 1" LG
6	9712	1	CONTROLLER, MOTOR, 300A
7	8127	1	CABLE, BATTERY, UL1283-#2, RED, 23" LG
8	6207	1	CABLE, BATTERY, UL1283-#2, BLACK, 23" LG
9	8425	3	CABLE, BATTERY, UL1283-#2, RED, 13 1/2" LG
10	8835	1	CABLE, BATTERY, UL1283-#2, BLACK, 85" LG
			TO BATTERY NEGATIVE
11	HDW6727	2	FITTING, 90° ELBW, MALE 5/16" HOSE BARB, MALE 1/4"
12	7164	2	CLAMP, HOSE, 5/16"
13	9367	1	TANK FILL WITH STRAINER
14	30602	1	RESERVOIR, HYDRAULIC
15	9370	1	GAUGE, LEVEL, HYDRAULIC TANK
16	HDW7116	3	SCREW, 5/16" - 18, 1 1/4"
17	7712	1	FILTER, SUCTION, 1 1/4"
18	HDW7498	1	FITTING, UNION, MALE 3/4", HOSEBARB 1"
19	8064	2	CLAMP, HOSE, 1 3/4"
20	7944	1	HOSE 1" LOW PRESSURE
21	6156	1	FILTER CARTRIDGE
22	HDW6752	1	FITTING, ADAPTER, MALE 3/4", FEMALE 1/2"
23	9849	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 44" LG
24	HDW8400	1	FITTING, 90° ELBOW, MALE 1/2", MALE 1/2"
25	6458	10/15F	HOSE, RETURN LINES
26	6714	1	FILTER HEAD
27	HDW5204	4	SCREW, 5/16" 18, 1" LG
28	HDW9871	1	FITTING, ADAPTER, MALE 3/4", O-RING MALE 1" HOSEBARB
29	HDW6725	1	FITTING, ADAPTER, MALE 1/2", MALE 5/8" O-RING
30	9661	1	PUMP, HYDRAULIC
31	HDW5004	2	SCREW, 3/8" - 16, 1" LG
		1	Continued

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PART NO	OTY	DESCRIPTION
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9675	1	MOTOR, ELECTRIC, 36 VOLT, 6.9 HP
9848	1	HOSE ASSY, STRGHT FML, STRGHT FML, 1/2" - 12" LG
	1	CABLE, BATTERY, UL1283-#2, RED, 85" LG
		TO BATTERY DISCONNECT
6674	1	CONTACTOR, 36 VOLT
HDW6455	2	SCREW, 1/4" - 20, 1/2" LG
9742	1	HARNESS, MOTOR CONTROLLER TO BULKHEAD
7172	3	BOOT, INSULATOR, BLACK
7173	8	BOOT, INSULATOR, RED
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	9848 8836 6674 HDW6455 9742 7172	9675 1 9848 1 8836 1 6674 1 HDW6455 2 9742 1 7172 3



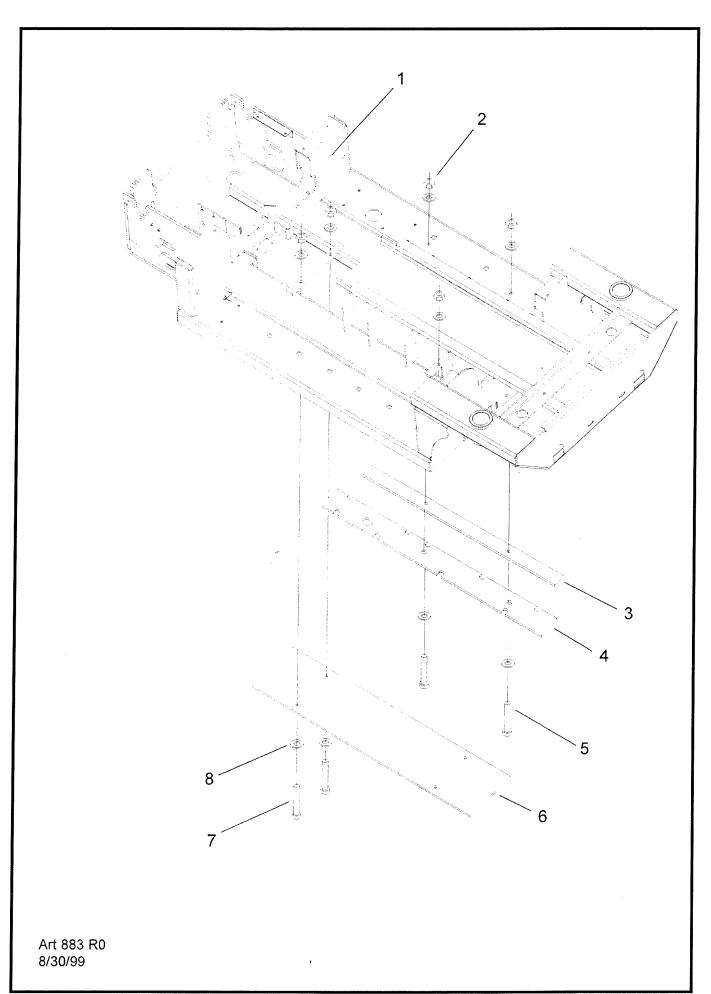
ITEM	PART NO.	QTY	DESCRIPTION
1	30703	2	PLATE, FRONT POTHOLE COVER
2	30689	1	COVER, SPEED LIMIT SWITCH
3	30704	1	COVER, REAR POTHOLE, RIGHT, #1
4	HDW5723	15	SCREW, 1/4" - 20, 3/4" LG
5	30707	1	COVER, REAR POTHOLE, LEFT
6	30705	1	COVER, REAR, POTHOLE, RIGHT, #2
7	30708	1	COVER, FRONT, POTHOLE
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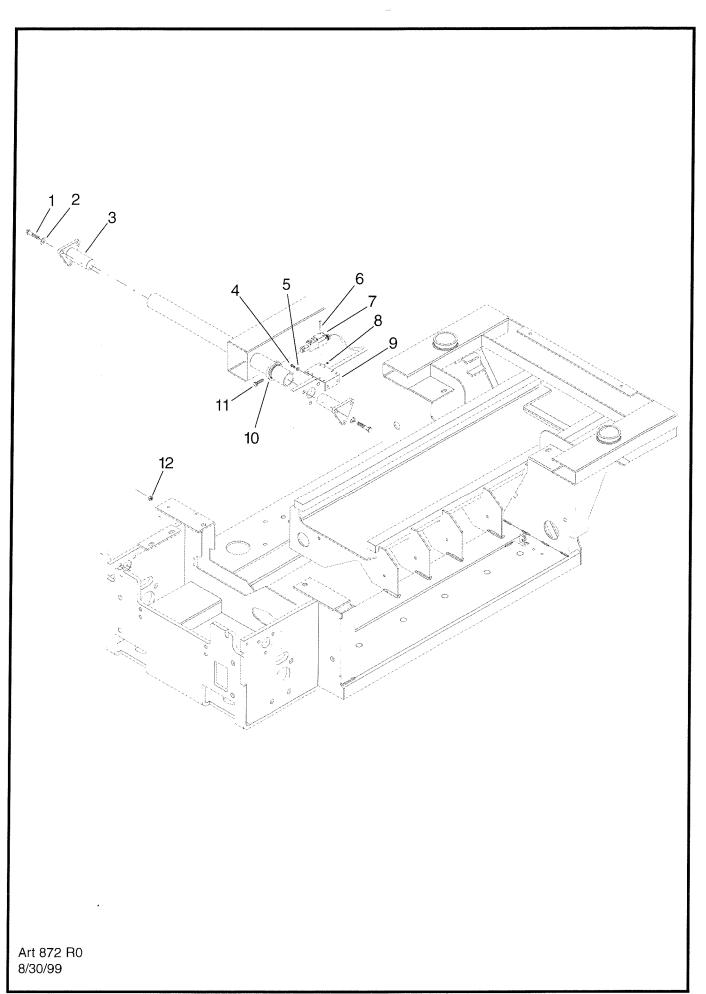
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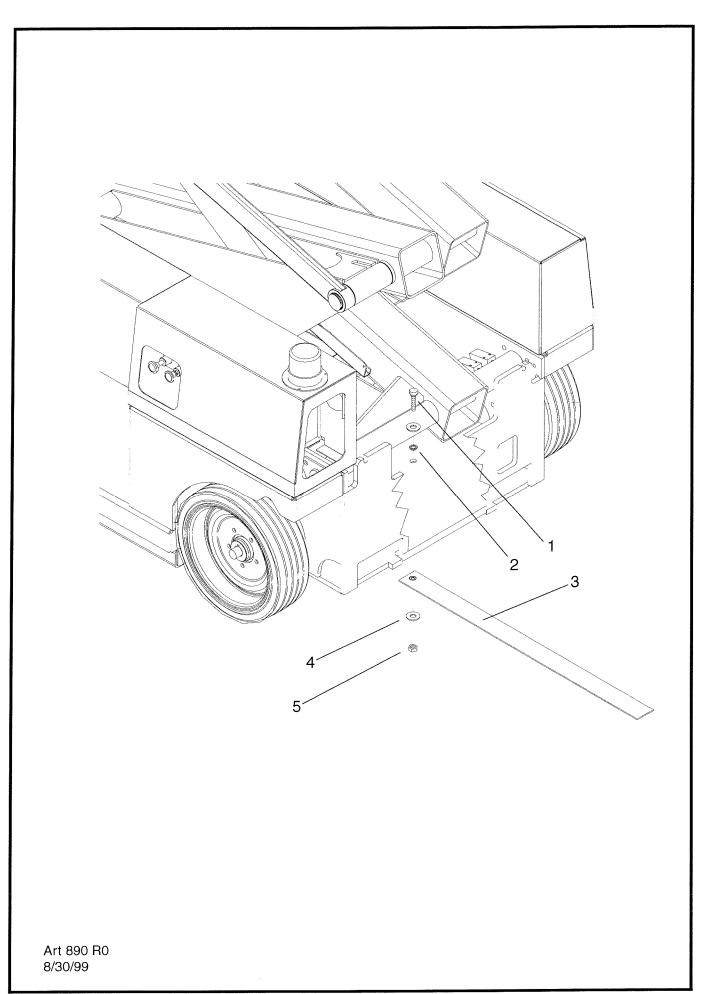


ITEM	PART NO.	QTY	DESCRIPTION
11 E IVI	30300	1	BASE WELDMENT
2	HDW6349	6	NUT, 1/2" - 13
3	30696	2	BALLAST WEIGHT - BAR
4	30725	3	BALLAST WEIGHT - FLOOR PAN
5	HDW8498	2	SCREW, 1/2" - 13, 4" LG
6	30692	4	BALLAST WEIGHT - PLATE
7	HDW7018	4	SCREW, 1/2" - 13, 3" LG
8	HDW13195	12	WASHER, FLAT
			3, 4, 5, 6, 7 AND 8 USED WITH 3247ES ONLY
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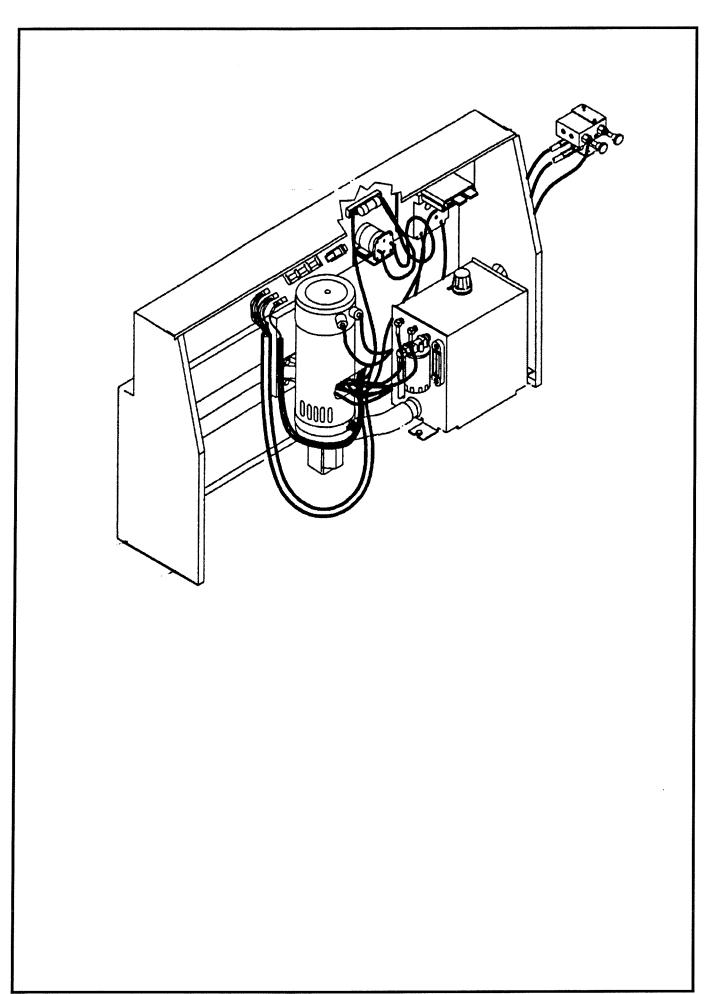


ITEM	PART NO.	QTY	DESCRIPTION
1	HDW8283	6	SCREW, 1/2" - 13, 1 1/2" LG
2	HDW13175	6	WASHER, FLAT NYLON
3	13101	2	PIN WELDMENT, STATIONARY MOUNT
4	HDW8273	2	SCREW, 1/4' - 20, 1" LG
5	HDW8267	2	NUT, 1/4" - 20
6	HDW8482	4	SCREW, #8 - 32, 1 1/2" LG
7	8776	2	SWITCH, LIMIT, SINGLE POLE
8	HDW5251	4	NUT, #8 - 32
9	13838	1	BRACKET, LIMIT SWITCH
10	13837	1	CAM
11	HDW8870	1	SET SCREW, 1/4" - 20, 1/2" LG
12	HDW6349	6	NUT, 1/2" - 13
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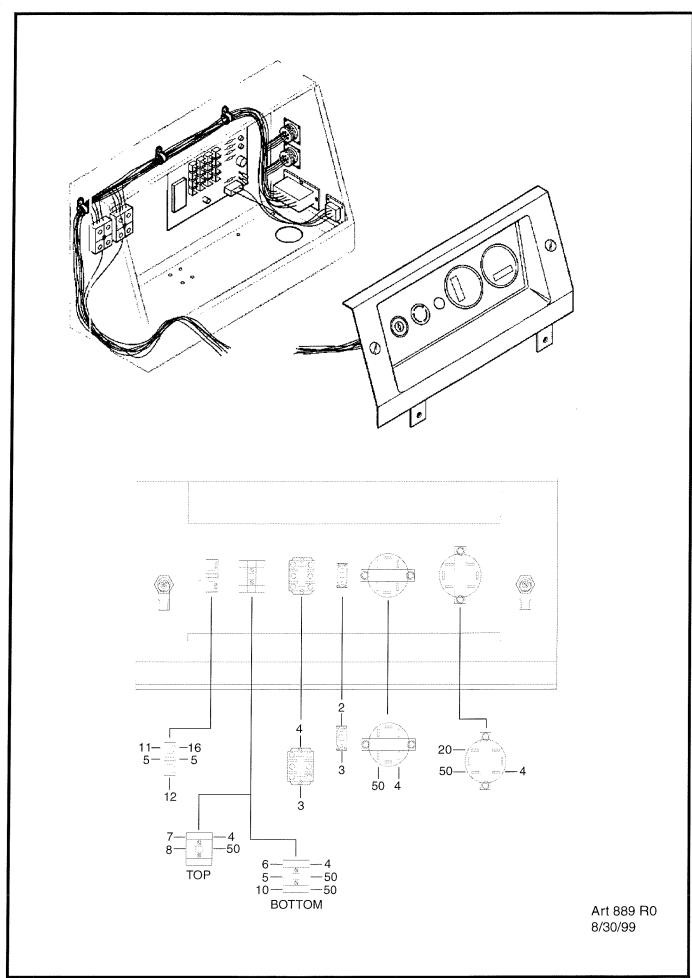


ITEM	PART NO.	QTY	DESCRIPTION
1	HDW5756	1	SCREW, 3/8" - 16, 1 3/4" LG
2	HDW8741	1	WASHER, LOCK, 3/8"
3	7638	1	STRAP, GROUNDING, 1" WIDE, 24" LG
4	HDW5355	2	WASHER, FLAT
5	HDW5039	1	NUT, 3/8" - 16
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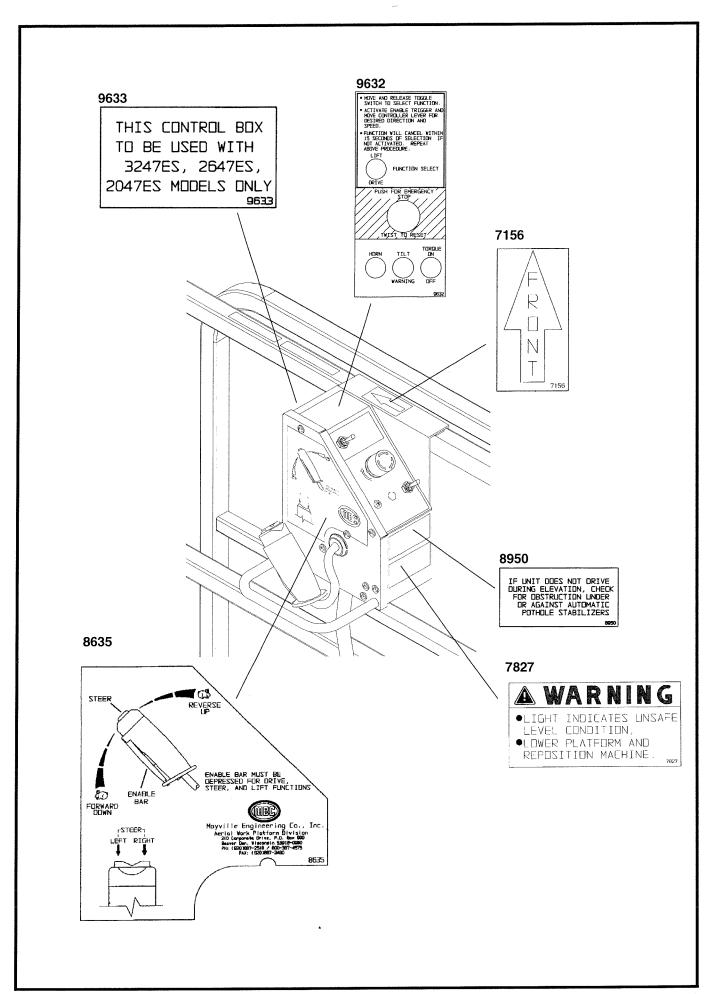
PART NO	OTV	DESCRIPTION
	-	HARNESS, PLATFORM TO CONTROL BOX
	-	HARNESS, CONTROL BOX
	-	HARNESS, JOYSTICK
9854	-	HARNESS, SAFETY
9855	_	HARNESS, ACCESSORIES
9856	_	HARNESS, DOWN
9738	-	HARNESS, MANIFOLD
9742	_	HARNESS, CONTROL
9860	-	HARNESS, CHARGER
9739	-	HARNESS, PLATFORM TO BASE - 2047ES
9741	-	HARNESS, PLATFORM TO BASE - 2647ES
9740	-	HARNESS, PLATFORM TO BASE - 3247ES
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	9855 9856 9738 9742 9860 9739 9741	9853 - 9764 - 9766 - 9854 - 9855 - 9856 - 9738 - 9742 - 9860 - 9739 -



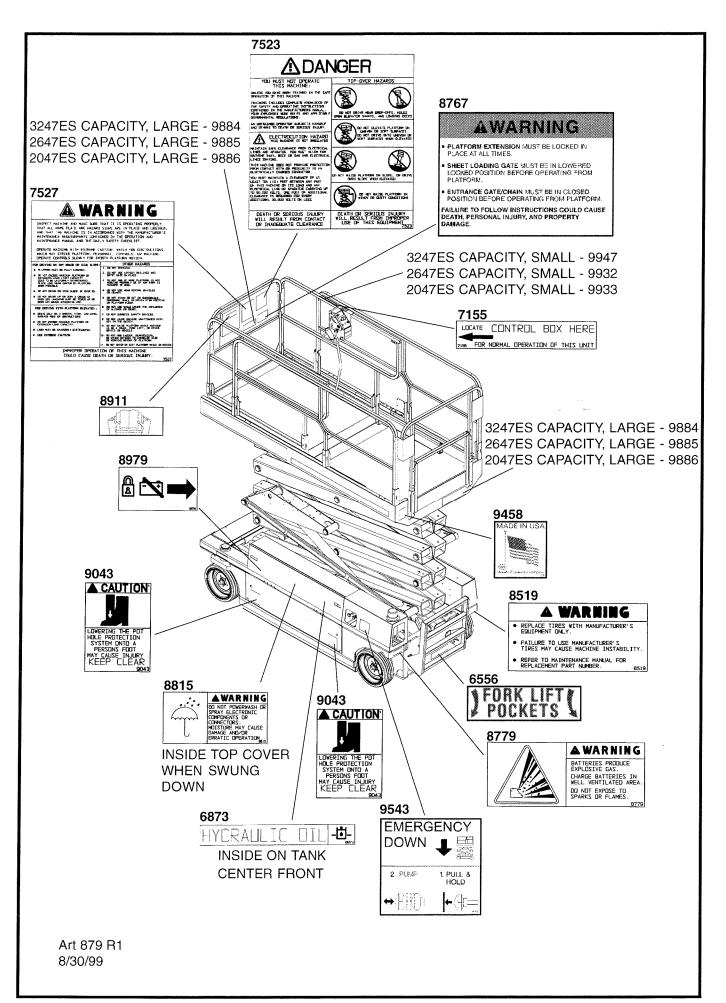
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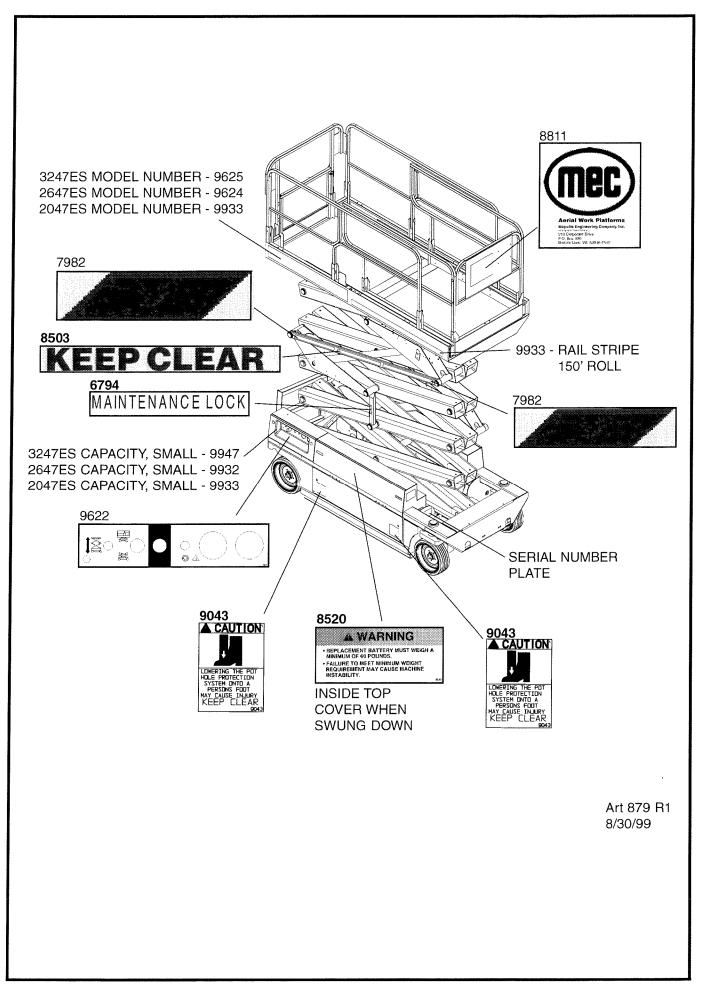
ITEM	PART NO.	QTY	DESCRIPTION
	30655	1	DECAL KIT - 2047ES
	30654	1	DECAL KIT - 2647ES
	30653	1	DECAL KIT - 3247ES
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ITEM	PART NO.	QTY	DESCRIPTION
	30655	1	DECAL KIT - 2047ES
	30654	1	DECAL KIT - 2647ES
	30653	1	DECAL KIT - 3247ES
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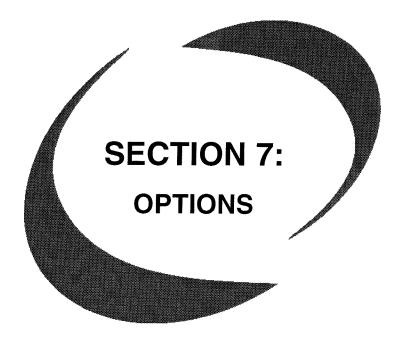
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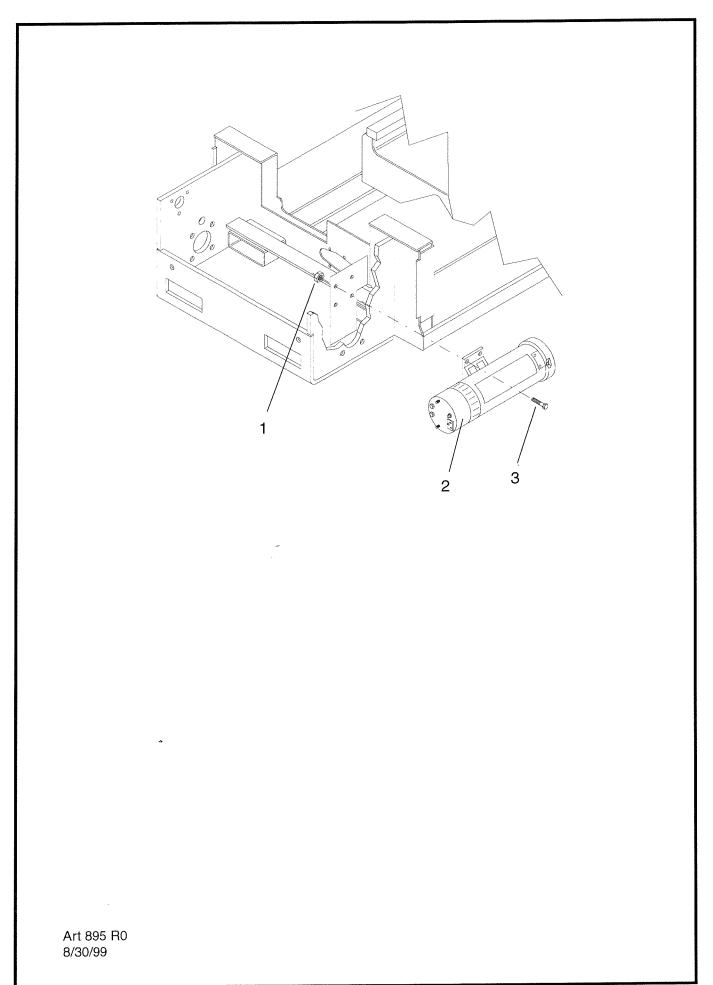
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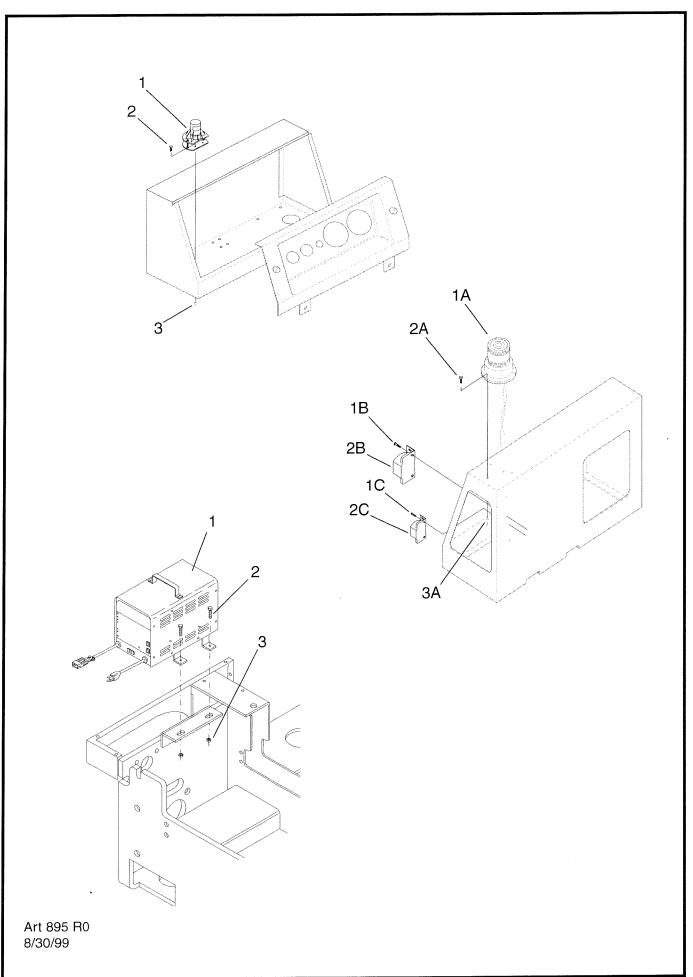
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ITEM		QTY	
	30655	1	DECAL KIT - 2047ES
	30654	1	DECAL KIT - 2647ES
	30653	1	DECAL KIT - 3247ES
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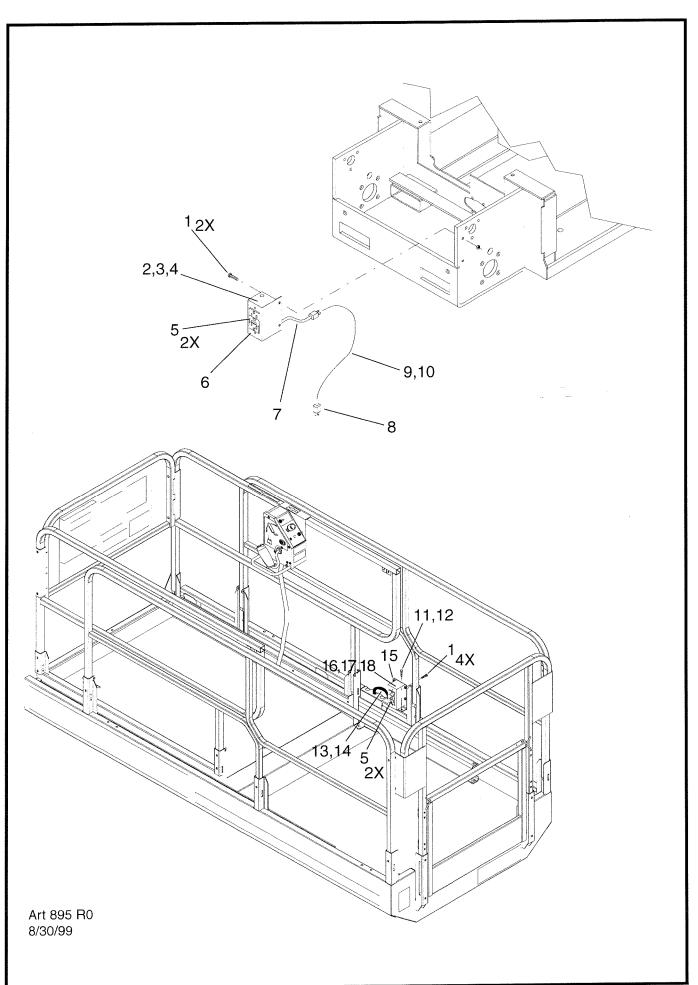




ITEM	PART NO.	QTY	DESCRIPTION
	30680	_	CONVERTER OPTION
1	HDW5005	4	NUT, 5/16" - 18
2	7104	1	CONVERTER, DC-AC, 36 VOLT
3	HDW5204	4	SCREW, 5/16" - 18, 1" LG
	7109	1	BOOT, INSULATOR, BLACK
	7110	1	BOOT, INSULATOR, RED
	9974	1	CABLE, CONVERTER POWER SUPPLY
			#6 BATTERY CABLE, BLACK-42" LG, 5/16" EYELETS
	9975	1	CABLE, CONVERTER POWER SUPPLY
			#6 BATTERY CABLE, RED-42" LG, 5/16" EYELETS
	7130	1	CAPACITOR, CERAMIC, .1 MICROFARE
	30679	_	2047ES AIRLINE TO PLATFORM OPTION
	5351	3	CABLE TIE
	8548	45 FT.	HOSE, 1/4" AIR LINE
	8557	1	CLAMP, 1 HOLE, 9/16" DIAMETER
	8559	2	CLAMP, HOSE, TWO EAR, 9/16"
	HDW5052	2	FITTING, MALE 1/4", HOSEBARB 1/4"
	HDW6455	1	SCREW, 1/4" - 20, 1/2" LG
	30679	-	2647ES AIRLINE TO PLATFORM OPTION
	5351	3	CABLE TIE
	8548	52 FT.	HOSE, 1/4" AIR LINE
	8557	1	CLAMP, 1 HOLE, 9/16" DIAMETER
	8559	2	CLAMP, HOSE, TWO EAR, 9/16"
	HDW5052	2	FITTING, MALE 1/4", HOSEBARB 1/4"
	HDW6455	1	SCREW, 1/4" - 20, 1/2" LG
	V-744.		
	30679	-	3247ES AIRLINE TO PLATFORM OPTION
	5351	3	CABLE TIE
n social veign	8548	60 FT.	HOSE, 1/4" AIR LINE
	8557	1	CLAMP, 1 HOLE, 9/16" DIAMETER
	8559	2	CLAMP, HOSE, TWO EAR, 9/16"
	HDW5052	2	FITTING, MALE 1/4", HOSEBARB 1/4"
	HDW6455	1	SCREW, 1/4" - 20, 1/2" LG
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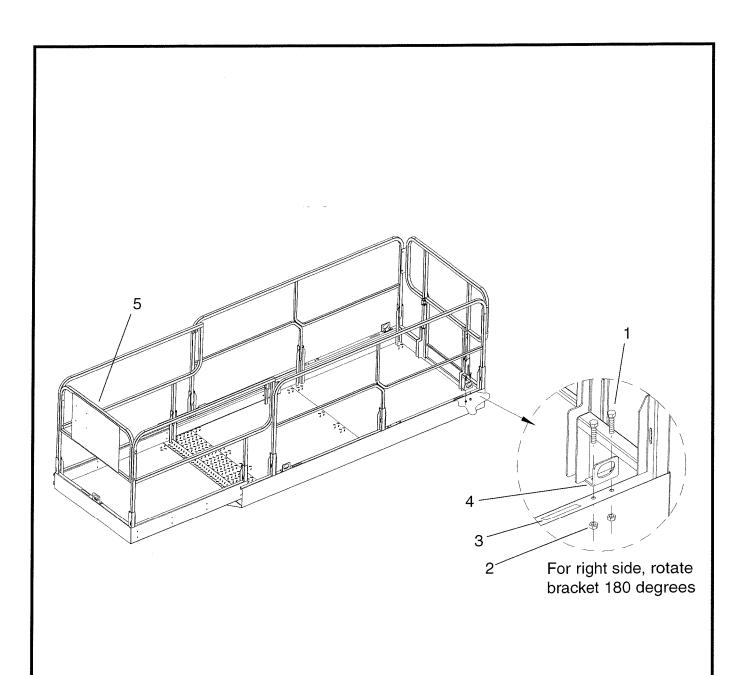
ITEM	PART NO.	QTY	DESCRIPTION
	30681		2.0 DEGREE TIP SENSOR OPTION
1	9329	1	SENSOR, TIP, 36 VOLT, 2.0 DEGREE
2	HDW5904	2	SCREW, 1/4" - 20, 3/4" LG
3	HDW5276	2	NUT, 1/4" - 20
	30682	-	4.5 DEGREE TIP SENSOR OPTION
1	9326	1	SENSOR, TIP, 36 VOLT, 4.5 DEGREE
2	HDW5904	2	SCREW, 1/4" - 20, 3/4" LG
3	HDW5276	2	NUT, 1/4" - 20
	30674	-	MOTION LIGHT OPTION
1A	9770	1	LIGHT, STROBE
	9836	1	TUBE, REPLACEMENT
2A	HDW7888	3	SCREW, #10 - 32, 1/2" LG
ЗА	HDW7543	3	NUT, #10 - 32
			HORN - STANDARD
1B	HDW5723	2	SCREW, 1/4" - 20, 3/4" LG
2B	9716	1	HORN, 12 - 48 VOLT, ELECTRONIC
	8		
	30675	-	MOTION ALARM OPTION
1C	HDW5723	2	SCREW, 1/4" - 20, 3/4" LG
2C	8698	1	ALARM, 12 - 48 VOLTS
	8709	1	INSULATOR, TERMINAL, RED
	8710	1	INSULATOR, TERMINAL, BLACK
	30645	-	60/120 STANDARD CHARGER
1	9642	1	CHARGER, 36/115/60
2	HDW5724	4	SCREW, 5/16" - 18, 3/4" LG
3	HDW8304	4	NUT, 5/16" - 18
	30646	-	50/60 110/220 CHARGER OPTION
1	9643	1	CHARGER, 36/115/60
2	HDW5724	4	SCREW, 5/16" - 18, 3/4" LG
3	HDW8304	4	NUT, 5/16" - 18



ITEM	PART NO.	QTY	DESCRIPTION
	30649	_	110 OUTLET OPTION, 2047ES
	30648	-	110 OUTLET OPTION, 2647ES
	30647	-	110 OUTLET OPTION, 3247ES
1	HDW6455	6	SCREW, 1/4" - 20, 1/2" LG
2	7263	1	RECEPTACLE, DUPLEX, GROUND FAULT
3	8476	1	CONNECTOR, WIRE NUT
4	4319	1	BOX, GROUND FAULT
5	HDW5229	4	SCREW, #6 - 32, 3/8"
6	8006	2	NUT, CONNECTOR, 1/2" CONDUIT
7	6456	2	CORD, GRIP, STEEL
8	5382	1	PLUG, 110 VOLT
9	8208	1	CONDUIT, FLEXIBLE 3/8" X 18" LG
10	8209	2	FERRULE, CONDUIT 3/8"
11	HDW5724	2	SCREW, 5/16" - 18, 3/4" LG
12	HDW8304	2	NUT, 5/16' - 18
13	8207	1	CONNECTOR, CONDUIT, 90°
14	7617	45 FT	WIRE BULK, 14 GA 2047ES
	DOMESTIC CONTRACTOR OF THE CON	52 FT	WIRE BULK, 14 GA 2647ES
		60 FT	WIRE BULK, 14 GA 3247ES
15	11373	1	BRACKET, OUTLET
16	HDW8501	2	NUT, SELF-RETAINING "U", #6 - 32
17	4333	1	BOX, RECEPTACLE, DUPLEX
18	5381	1	RECEPTACLE, DUPLEX
	110000000		
İ	30652	-	CABLE ONLY OPTION, 2047ES
	30651	-	CABLE ONLY OPTION, 2647ES
	30650	-	CABLE ONLY OPTION, 3247ES
	5351	2	CABLE TIE
	0444	47	MIDE DINK 44 OA COATEO
	9441	47 FT	WIRE, BULK, 14 GA 2047ES
	9441	54 FT	WIRE, BULK, 14 GA 2647ES
	9441	62 FT	WIRE, BULK, 14 GA 3247ES
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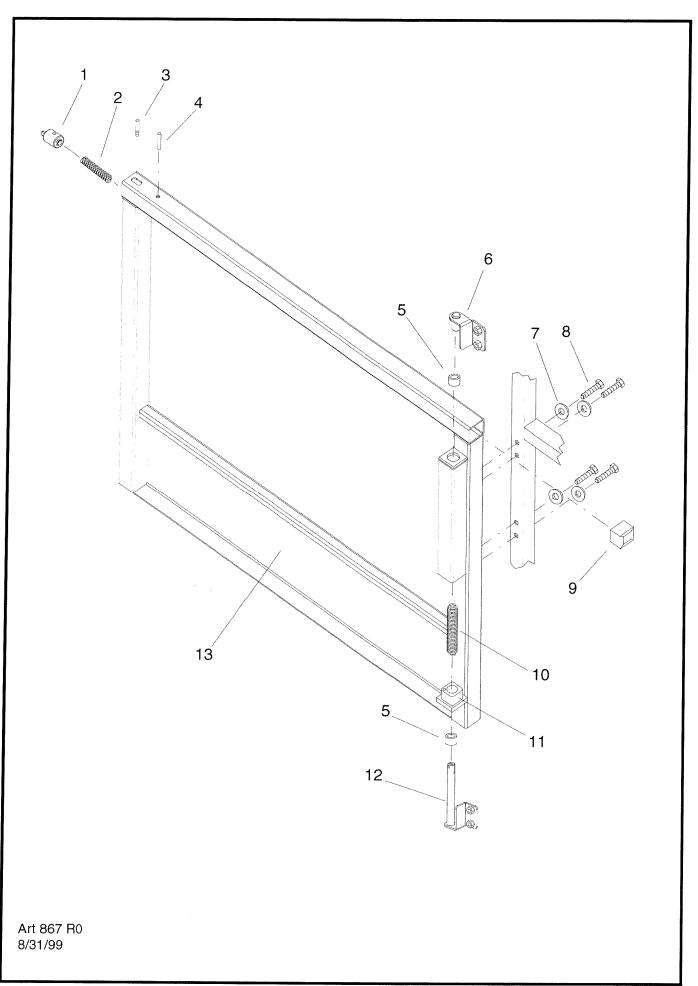
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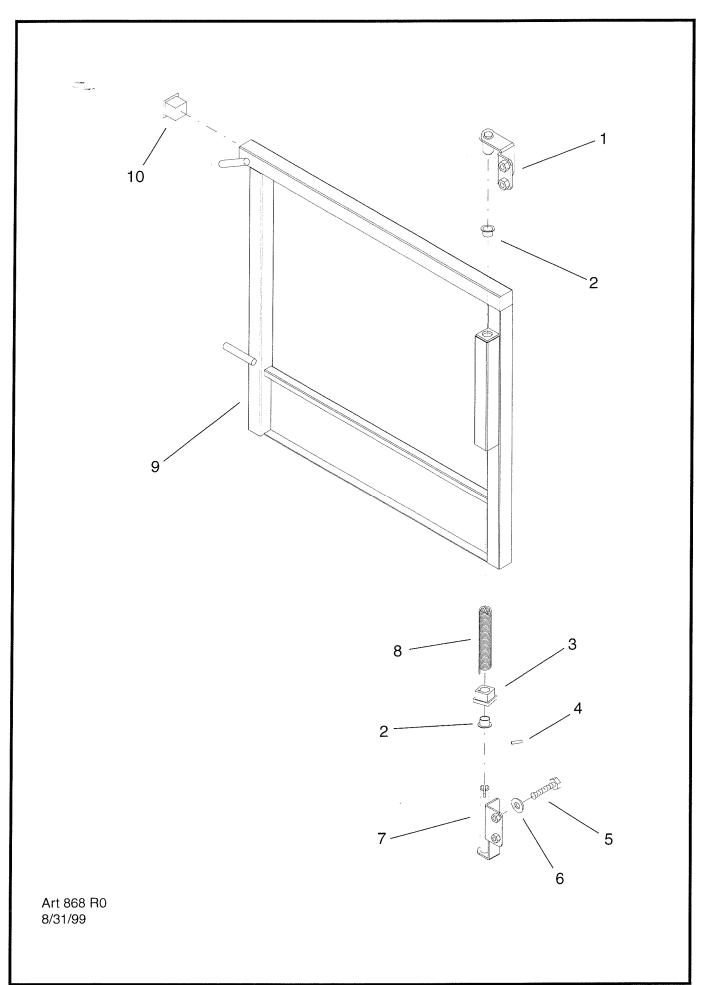


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ITEM	PART NO.	QTY	DESCRIPTION
1	HDW6433	10	SCREW, 3/8" - 16, 1" LG
2	HDW8268	10	NUT, 3/8" - 16
3	8605	5	DECAL, LANYARD ATTACH POINT
4	3923	5	BRACKET, ATTACH POINT, 90°
5	8606	1	DECAL, WARNING
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PART NO.	QTY	DESCRIPTION
40087	-	SHEET LOAD GATE OPTION - EUROPE
40003	1	LATCH PIN
7055	1	SPRING, LATCH
40006	1	ROD, LATCH LEVER
HDW7455	1	PIN, SLOTTED SPRING, 3/16" DIA X 3/4" LG
8187	2	BEARING, NYLINER, FLANGED
40014	1	MOUNTING BRACKET, UPPER
HDW8294	4	WASHER, FLAT
HDW8486	4	SCREW, 5/16" - 18, 1 7/8" LG
6823	1	CAP PLUG, 1 1/4" SQUARE
8300	1	SPRING, TORSION, 1" OD, 4" LG
13272	1	BLOCK, PIVOT
40015	1	MOUNTING BRACKET, LOWER
40017	1	GATE, REAR WELDMENT
	40087 40003 7055 40006 HDW7455 8187 40014 HDW8294 HDW8486 6823 8300 13272 40015	40087 - 40003 1 7055 1 40006 1 HDW7455 1 8187 2 40014 1 HDW8294 4 HDW8486 4 6823 1 8300 1 13272 1 40015 1



ITEM	PART NO.	QTY	
	14593	-	SHEET LOAD GATE OPTION - DOMESTIC
1	14613	1	UPPER REAR GATE MOUNTING BRACKET
2	8187	2	BEARING, FLANGED 5/8" ID X 5/8" LG
3	13272	1	REAR GATE PIVOT BLOCK
4	HDW7455	1	SPRING PIN 3/16" DIA X 3/4" LG
5	HDW8303	4	SCREW, 5/16" - 18, 2" LG
6	HDW8294	4	FLAT WASHER, 3/8"
7	14615	1	LOWER REAR GATE MOUNTING BRACKET
8	8300	1	SPRING, TORSION
9	14605	1	REAR SWING GATE
10	6823	1	CAP PLUG, 1 1/4" SQUARE
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Limited Owner Warranty

Mayville Engineering Company, Inc. (MEC) warrants its equipment to the original purchaser against defects in material and/or workmanship under normal use and service for one (1) year from date of registered sale or date the unit left the factory if not registered.

MEC further warrants the structural weldments of the main frame and elevating system as defined in MEC's current Warranty Policy & Procedures, to be free from defects in material or workmanship for five (5) years from date of registered sale or date unit left the factory if not registered.

Warranty claims within such warranty period shall be limited to repair or replacement, at MEC's option, of the defective part in question and labor to perform the necessary repair or replacement based on MEC's then current flat rate, provided the defective part in question is shipped prepaid to MEC and is found upon inspection by MEC to be defective in material and/or workmanship.

Mayville Engineering Company, Inc. shall not be liable for any consequential, incidental or contingent damages whatsoever. Use of other than factory authorized parts; misuse, improper maintenance, or modification of the equipment voids this warranty.

The foregoing warranty is exclusive and in lieu of all other warranties, express or implied. All such other warranties, including implied warranties of merchantability and of fitness for a particular purpose, are hereby excluded.

No Dealer, Sales Representative, or other person purporting to act on behalf of MEC is authorized to alter the terms of this warranty, or in any manner assume on behalf of MEC any liability or obligation which exceeds MEC's obligations under this warranty.





Aerial Work Platforms

Mayville Engineering Co., Inc.

An Employee Owned Company

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