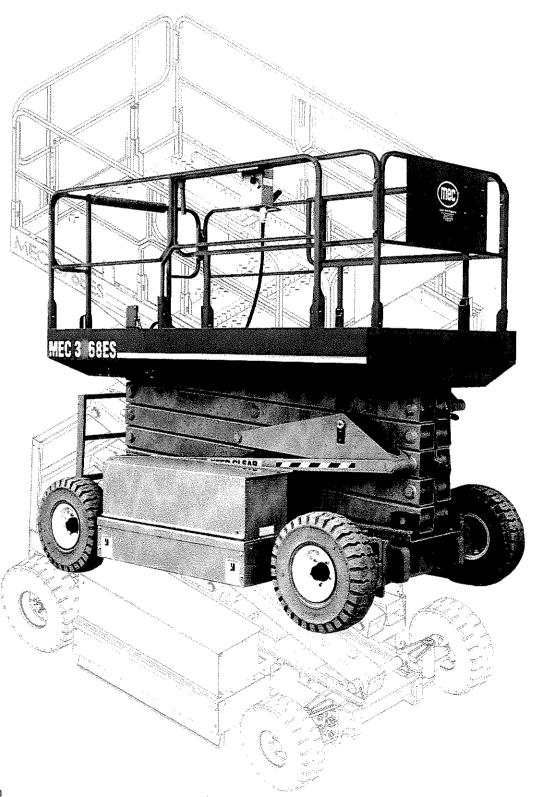
Copy Comprs

# 3068ES/3768ES

# **Service and Parts Manual**



# TABLE OF CONTENTS SERVICE MANUAL

INTRODUCTION	iv
MACHINE SPECIFICATIONS	
Model 3068ES	
Model 3768ES	
PRIMARY MACHINE COMPONENTS	
LUBRICATION DIAGRAM	
LUBRICATION CHART	
SECTION 1: HYDRAULIC SYSTEM	
Hydraulic Fluid	1-2
Fluid Recommendations	
Hydraulic Fluid Analysis	
System Flushing Procedure	
Hydraulic System Components	
Hydraulic Fluid Reservoir	
Wheel Drive Circuit	
Dynamic Braking Circuit	
Lift Cylinder	
Steer Cylinder	
	' '
SECTION 2: ELECTRICAL SYSTEM	
Electrical System- General	2-2
Batteries	
Battery Maintenance (in storage)	
Battery Maintenance (in use)	
Battery Preventative Maintenance	
Battery Replacement	
Movement Alarm (optional)	
Tilt Alarm	
Tilt Alarm Sensor Adjustment	
Relay2	
Limit Switch	
Emergency Stop Button	
Selector Switch	
Horn	
Master Disconnect Switch	- 0 2-6
Continuity Checks	

SECTION 3: MECHANICAL COMPONENTS	
Mechanical Components	3-2
Chassis/Undercarriage	3-2
Tires	3-2
Changing Tires	3-2
Brakes	3-3
Steer Cylinder	3-3
Steer Cylinder Seal Replacement	3-5
Hoses and Cables	3-6
Platform Removal	3-7
SECTION 4: TROUBLESHOOTING	
General Troubleshooting Tips	4-2
Troubleshooting Chart - Hydraulic	4-3
Relief Pressure Adjustment Procedure	
Troubleshooting Chart - Electrical	4-8
LED Diagnostics Definitions	4-15

# 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: DECALS** 

**SECTION 7: OPTIONS** 

**APPENDIX:** 

**HYDRAULIC SCHEMATIC - 3068ES** 

**HYDRAULIC SCHEMATIC - 3768ES** 

**ELECTRICAL SCHEMATIC - 3068ES/3768ES** 

# 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 Practices 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 - 3068ES**

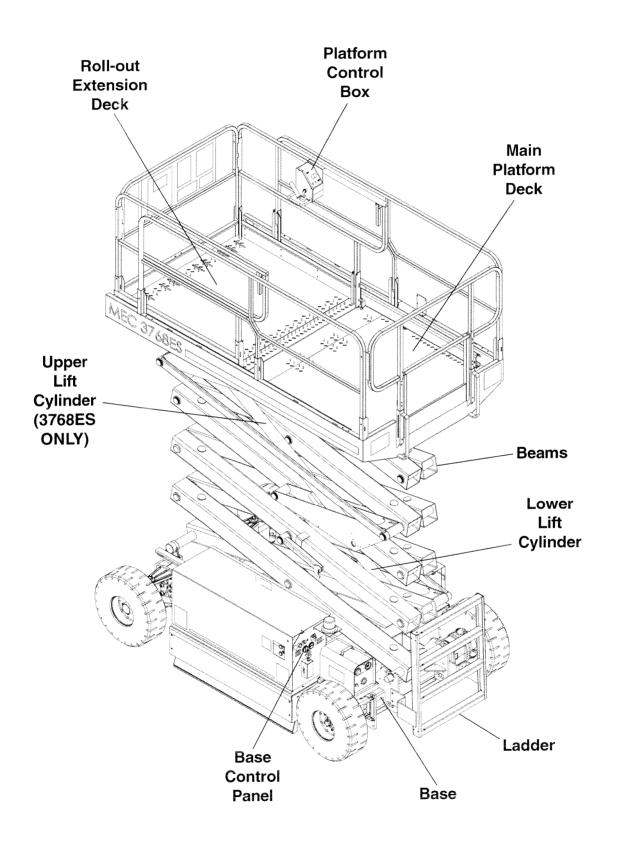
Working Height	36.0 ft	11.0 m	
Platform Height	<b>30.0 ft</b> 9.14 m		
Stowed Height:	106.5 in 2.71 m		
Folded Down Rails	77.0 in	1.95 m	
Lift Capacity (Evenly Distributed):	1,000 lbs 454 kg		
Roll-out Deck Capacity	400 lbs	181 kg	
Platform Dimensions:		J	
With Roll-Out Deck Retracted	60.0 in x 110 in	1.52 x 2.79 m	
Guard Rail Height	43.5 in	1.10 m	
Toe Board Height	6.0 in	15.0 cm	
Roll-out Deck Length	48.0 in	1.22 m	
Overall Length	10.0 ft	3.05 m	
Overall Width	68.0 in	1.73 m	
Wheel Base	86.0 in	2.18 m	
Wheel Track	60.5 in	1.54 m	
Turning Radius:	The state of the s		
Inside	81.0 in	2.06 m	
Outside	14.0 ft 5.0 in	4.45 m	
Ground Clearance	4.38 in	11.11 cm	
Machine Weight (Unloaded) (Approx.)	6,785 lbs	3,078 kg	
Drive System (Proportional):	The second secon		
Drive Speed (Platform Elevated)	0 - 0.5 mph	0 - 0.8 km/hr	
Drive Speed (Platform Lowered)	0 - 3.0 mph	0 - 5.0 km/hr	
Lift/Lower Speed (Approx.)	36 sec / 26 sec		
Gradeability	25% / 14°		
Ground Pressure/Wheel (Maximum)	129 psi	8.89 bar	
Wind Speed (Maximum)	0 mph 0 m/sec		
Tire Size-Standard (Solid, non-marking rubber)	<b>25.5 in dia. x 7.9 in</b> 64.77 cm dia. x 20.07 cm		
Tire Pressure (Not Applicable For Foam Tires)	N/A		
Wheel Lug Nut Torque	75-85 ft lbs	102-115 Nm	
Hydraulic Pressure:			
Main System (at Port 3)	2,750 psi	190 bar	
Lift System (at Port 13)	2,200 psi	152 bar	
Steer (at Port 3)	800 psi	55 bar	
Hydraulic Fluid Capacity	14.0 gal	53.0 liters	
Power System – Voltage	48 Volts DC		
Battery Charger Input	120 Volts AC, 60 Hz, 12 Amp		
	230 Volts AC, 50		
Output	48 Volts DC, 20 /	Amps Tapering,	
	Timed Shutoff		
Batteries	Eight 6 Volt deep	_	
		@ 20 hour rating	
Electric Motor	8 h.p. (6 kW): 3,	400 r.p.m.	

# **Machine Specifications - 3768ES**

Marking Haight	T 4000	T40.40
Working Height	43.0 ft	13.12 m
Platform Height	37.0 ft	11.28 m
Stowed Height:	100.5 in	2.56 m
Folded Down Rails	73.25 in	1.86 m
Lift Capacity (Evenly Distributed):	750 lbs	340 kg
Roll-out Deck Capacity	400 lbs	181 kg
Platform Dimensions:		
With Roll-Out Deck Retracted	1	1.52 m x 2.79 m
Guard Rail Height	43.5 in	1.10 m
Toe Board Height	6.0 in	18.0 cm
Roll-out Deck Length	48.0 in	1.22 m
Overall Length	10.0 ft	3.05 m
Overall Width	68.0 in	1.73 m
Wheel Base	86.0 in	2.18 m
Wheel Track	60.5 in	1.54 m
Turning Radius:		
Inside	81.0 in	2.06 m
Outside	14.0 ft 5.0 in	4.45 m
Ground Clearance	4.38 in	11.11 cm
Machine Weight (Unloaded) (Approx.)	7,020 lbs	3,184 kg
Drive System (Proportional):		
Drive Speed (Platform Elevated)	0 - 0.5 mph	0 - 0.8 km/hr
Drive Speed (Platform Lowered)	0 - 3.0 mph	0 - 5.0 km/hr
Lift/Lower Speed (Approx.)	40 sec / 43 sec	
Gradeability	25% / 14°	
Ground Pressure/Wheel (Maximum)	136 psi	9.38 bar
Wind Speed (Maximum)	0 mph	0 m/sec
Tire Size-Standard (Solid, non-marking rubber)	25.5 in dia. x 7.9 in	64.77 cm dia. x 20.07 cm
Tire Pressure (Not Applicable For Foam Tires)	N/A	
Wheel Lug Nut Torque	75-85 ft lbs	102-115 Nm
Hydraulic Pressure:		
Main System (at Port 3)	2,750 psi	190 bar
Lift System (at Port 13)	2,500 psi	172 bar
Steer (at Port 3)	800 psi	55 bar
Hydraulic Fluid Capacity		53.0 liters
Power System – Voltage	48 Volts DC	
Battery Charger Input	120 Volts AC, 60 Hz, 10.8 Amp	
	230 Volts AC, 50 Hz (Europe)	
Output	48 Volts DC, 20 Amp Tapering,	
Datte di a	Timed Shutoff	
Batteries	Eight 6 Volt deep	
	245 Amp hours	@ 20 hour rating
Electric Motor	8 h.p. (6kW): 3,40	00 r.p.m.



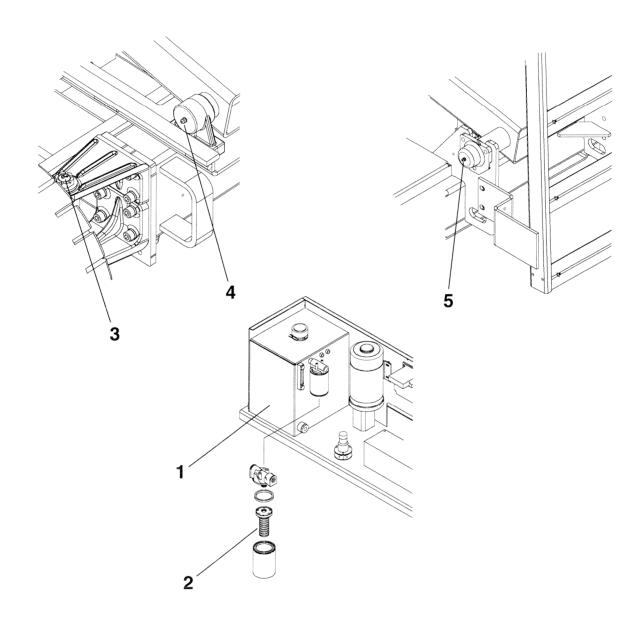
# **Primary Machine Components**



This page is blank.

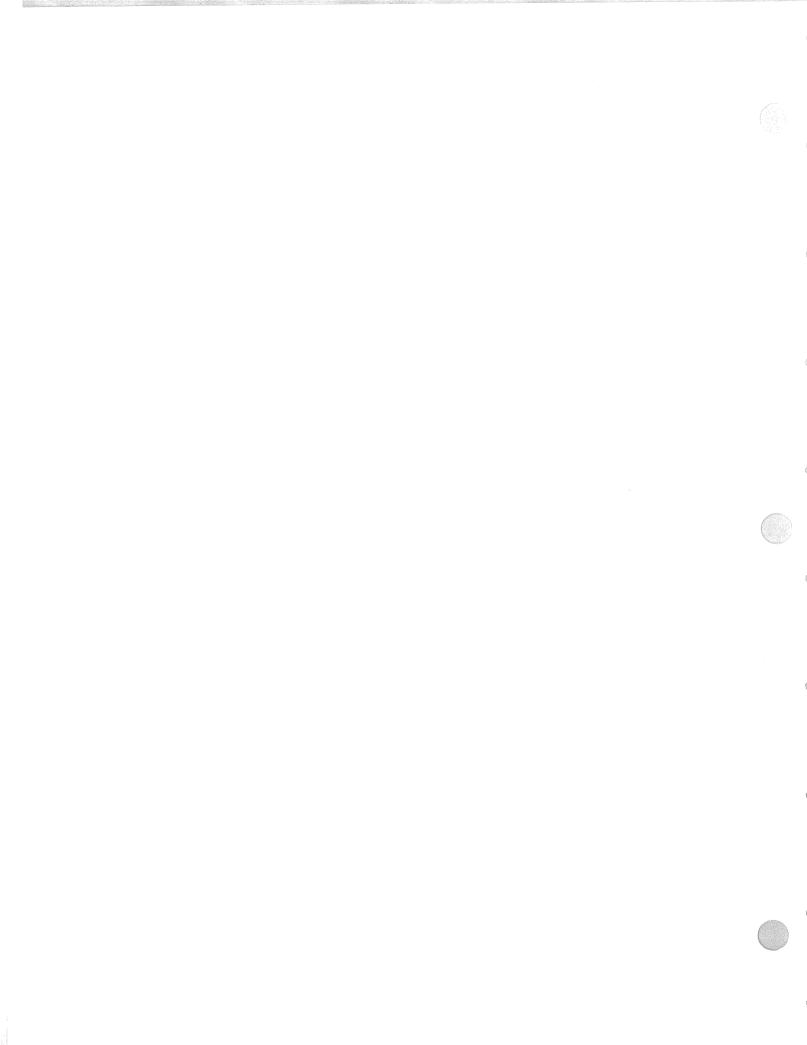
# **LUBRICATION DIAGRAM**

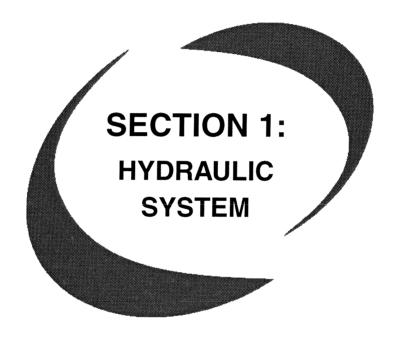
# **Hydraulic Lubrication**



# **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	Front Hubs	Lithium N.L.G.I. #2 EP Purge Old Grease.	Weekly Or Every 25 Hours Whichever Occurs First.
4	Slide Block	Lithium N.L.G.I. #2 EP Purge Old Grease.	Weekly Or Every 25 Hours Whichever Occurs First.
5	Fixed Beam	Lithium N.L.G.I. #2 EP Purge Old Grease.	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°F (- 29°C). However, use of this oil will give poor performance at temperatures above 120°F (49°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.



# **System Flushing Procedure (Continued)**

- 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.

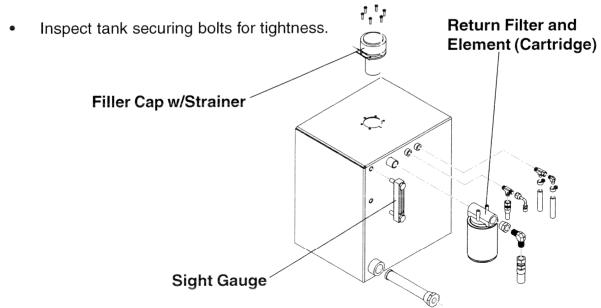
# HYDRAULIC SYSTEM COMPONENTS

# 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.





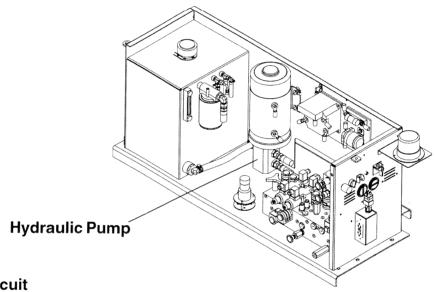


All machines are produced with a filter. It is a 10 micron spin-on, bypassing filter. When the filter is clogged, hydraulic flow bypasses the filter element. The filter must be changed every 6 months or 500 hours. Extremely dirty conditions may require that the filter be replaced more often.

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

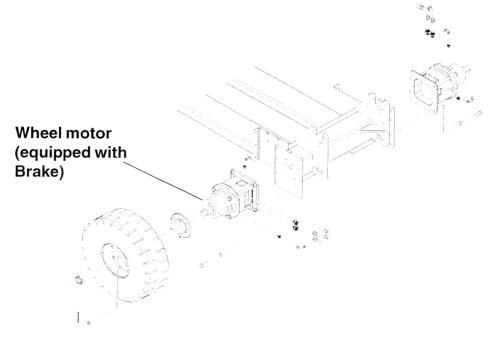
# Hydraulic Pump

A 8 HP, 48 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.

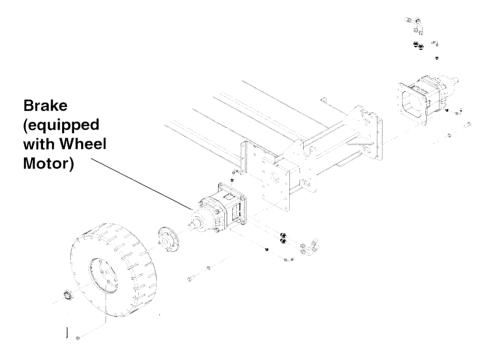


# **Wheel Drive Circuit**

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

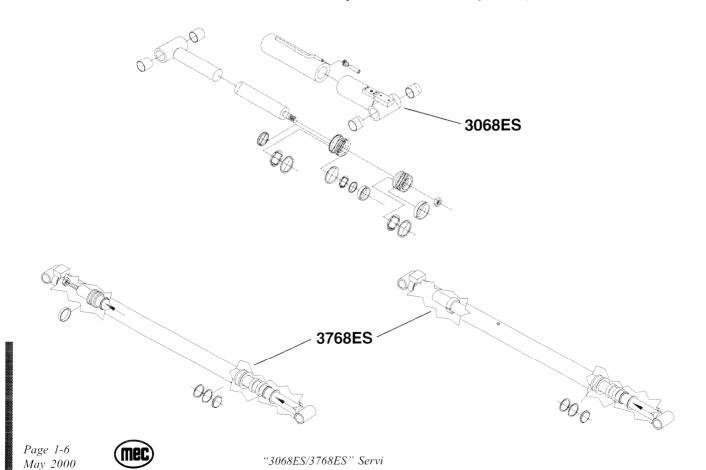


# **Dynamic Braking Circuit**



# Lift Cylinder

There is one hydraulic cylinder in the 3068ES scissors lift circuit. There are two (2) hydraulic lift cylinders in the 3768ES scissors lift circuit. Cylinder(s) are of the single acting type. Refer to the Mechanical Section of this manual for cylinder disassembly, or replacement.



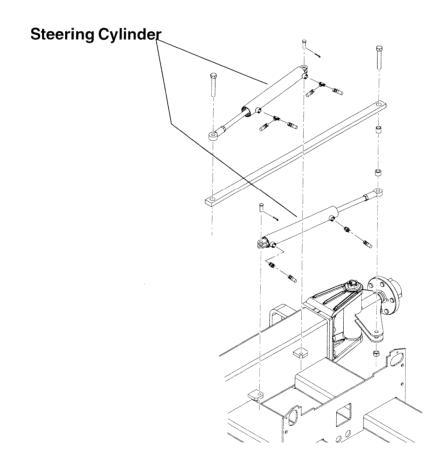
Each cylinder has an integrated 2-position, 2-way solenoid operated platform lower valve and a counter balance valve for holding the platform in position The counter balance valve is also externally piloted via a hand pump for manually lowering the platform.

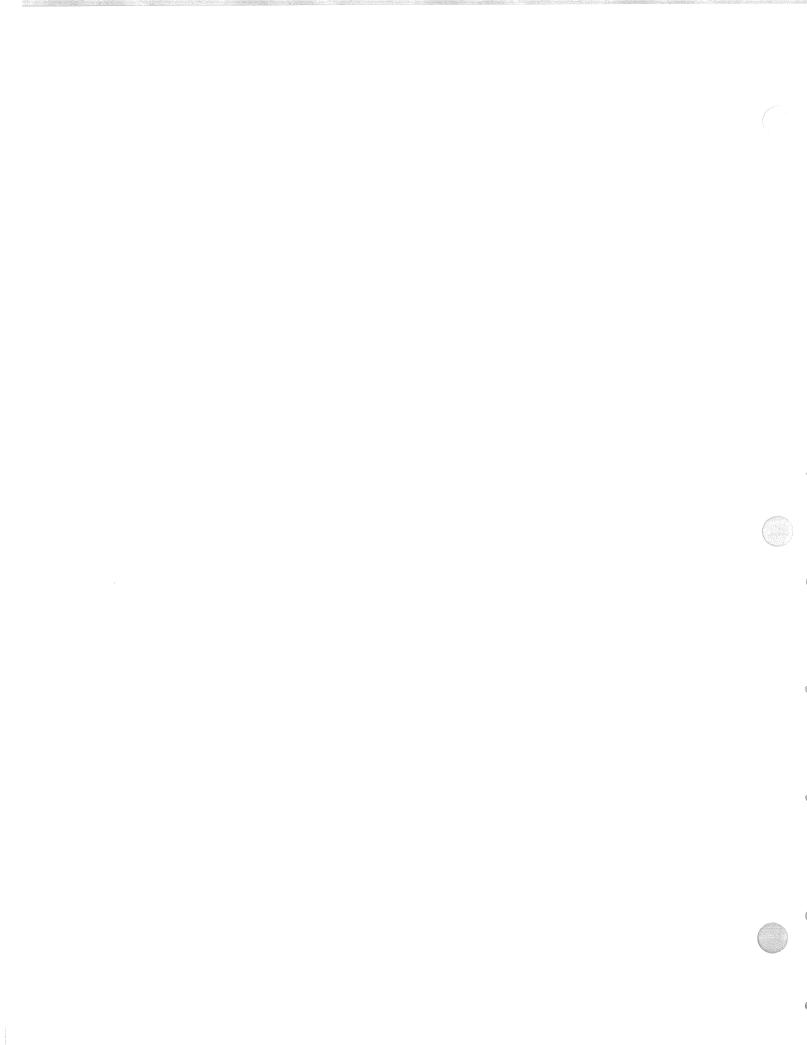
The holding valve (counterbalance) prevents retraction of the cylinder rod should a hydraulic line rupture or a leak develop between the cylinder and its related control valve.

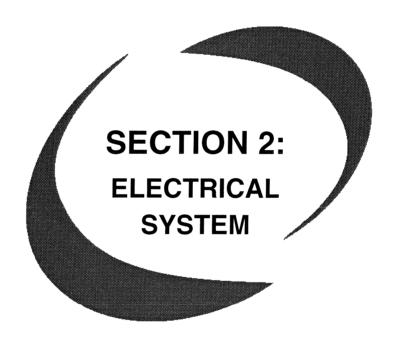
# **Steer Cylinder**

There are two (2) cylinders utilized in the steering system. Together these cylinders are 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**

Eight (8), 6 volt batteries supply the 48 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:

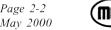
- Keep battery clean. Electrolyte of "wet" batteries should be checked regularly and kept at proper level.
- Never stack one battery directly on top of another because post or container damage can result. If batteries are stored individually, place supporting boards between layers. Rotate stock so that 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 hydraulic compartment door 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 hydraulic compartment door.

# 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**

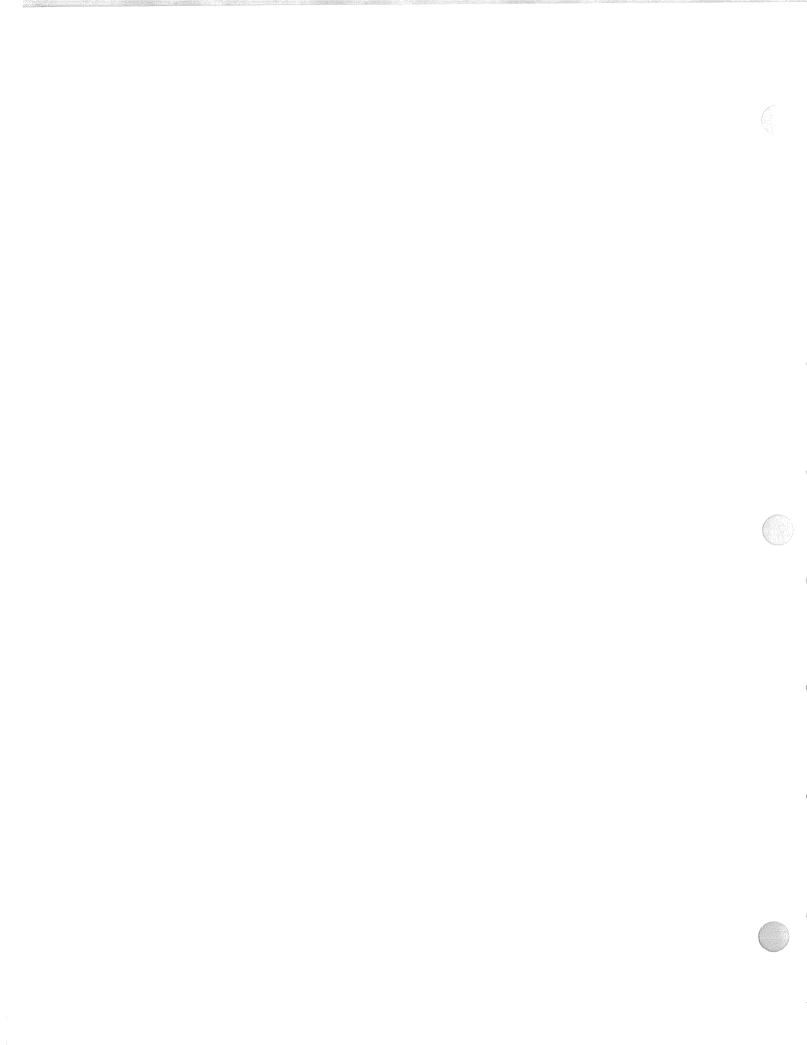
- Disconnect wires and connect one probe of ohm meter to connection on button and other probe on other connection.
- There should be no reading with the button pressed and a low resistance with it reset.

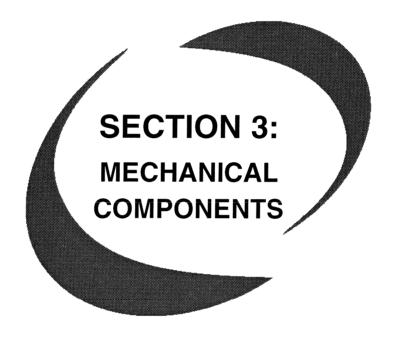
# **Check Relay Operation**

- 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.

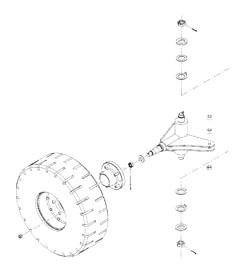


# FAILURE TO USE APPROVED PARTS MAY CAUSE DEATH OR SERIOUS PERSONAL INJURY.

**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:









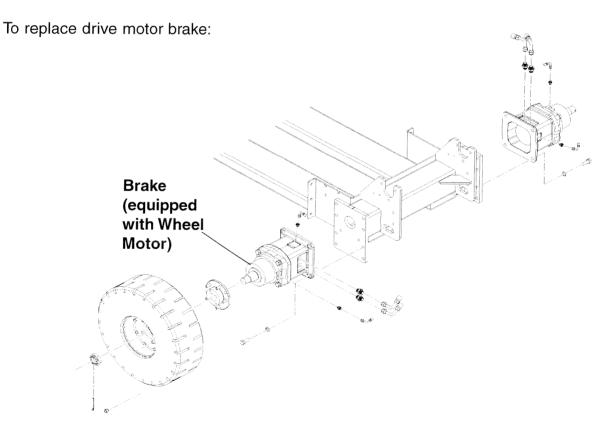
# ALWAYS BLOCK THE WHEELS BEFORE RAISING THE MACHINE.

- 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.



Remove the wheel and tire assembly to access drive motor.

# Steer Cylinder

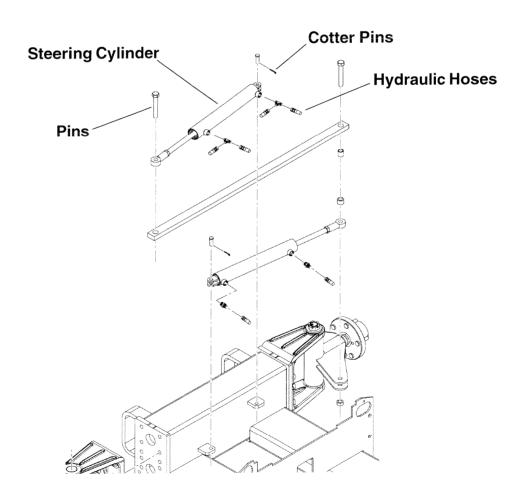
There are two (2) double acting type steer cylinders on this machine. During operation, cylinders should not leak, but a slight damping at the rod seal is acceptable. The pins should be checked for wear.

# 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 steering mount bracket.
- 3. Remove the pin and cotter pin holding the steer cylinder to the steer axle cross member.



# Steer Cylinder (Continued)

- 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 steering mount 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 line, 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.

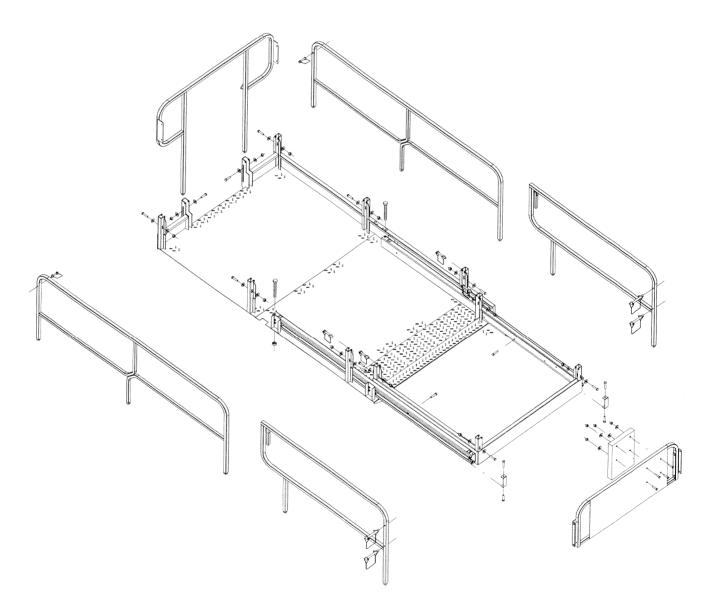
#### Hoses and Cables.

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.)

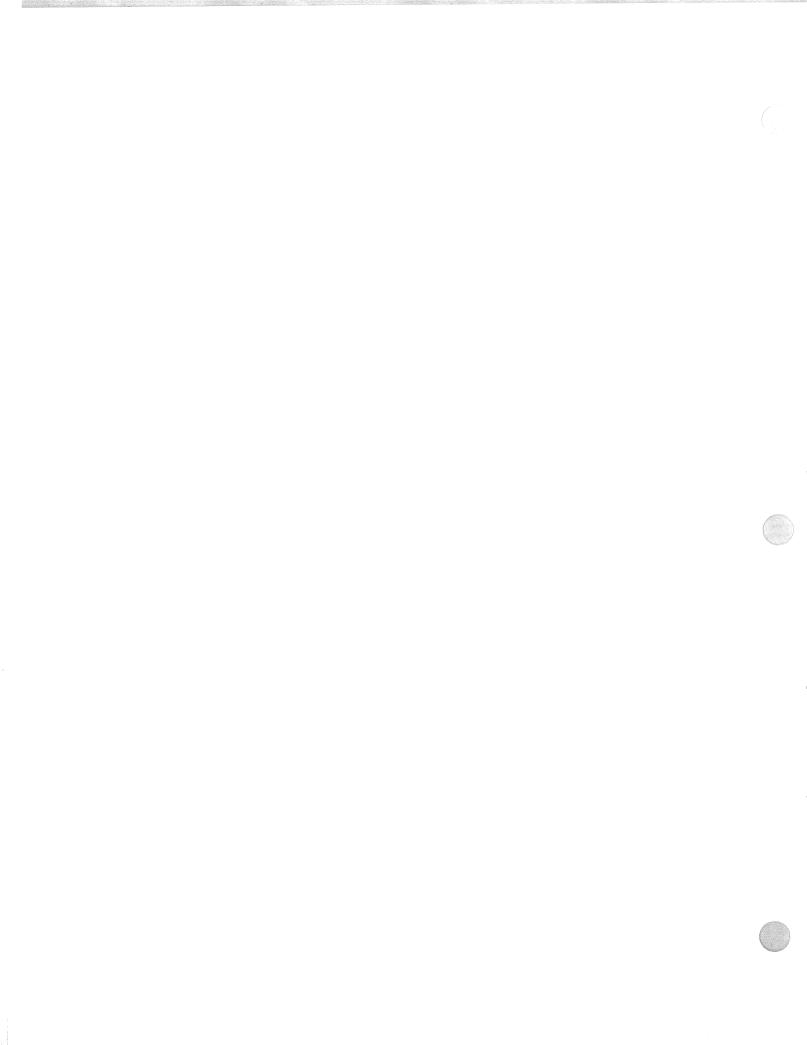


### **Platform Removal**

- 1. 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 the 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 - HYDRAULIC**

Function	Problem	Remedy/Solution
Steering	Will not steer in either or both directions.  Pressure at the test port is significantly lower than 1000 psi	Check pressure at test port (3) while trying to steer When functioning correctly, the pressure should be about 1000 psi at the end of steering stroke.  Check the setting on relief valve <b>A.</b> It should be 2750 psi.  Check the setting on relief valve <b>G.</b> It should be 800 psi.  Check valve <b>F</b> for contamination.  Check the voltage at valve <b>F.</b> One coil should be energized for each steering direction.
	Pressure at the test port is significantly higher than 1000 psi  Pressure at the test port is about 1000 psi	Check the voltages at valves <b>B</b> and <b>H</b> . The coils should not be energized while steering.  Check valves <b>B</b> , <b>F</b> , and <b>H</b> for contamination.  Check valve <b>F</b> for contamination.
Lift	Platform will not raise.  Pressure at the test port is significantly lower than 2200 psi - 3068ES 2500 psi - 3768ES	Check pressure at test port (3) while trying to raise. When functioning correctly, the pressure should be about 2200 psi - 3068ES (2500 psi - 3768ES) while raising.  Check the setting on relief valve A. It should be 2750 psi.  Check the setting on relief valve R. It should be 2200 psi.  Check the voltage at valve B. The coil should be energized while lifting.  Check the voltage at valve S. The coil should not be energized while lifting.  Check valves B and S for contamination.

### TROUBLESHOOTING CHART - HYDRAULIC (Continued)

Function	Problem	Remedy/Solution
Lift (Continued)	Pressure at the test port is significantly higher than 2200 psi - 3068ES 2500 psi - 3768ES	Check valve <b>P</b> for contamination.  Check the voltage at valve <b>P</b> . The coil should not be energized while lifting.
	Slow down platform speed.	Check the unidirectional orifice in the base end of the platform cylinder for possible contamination.
		Check valve <b>S</b> for contamination.
	Platform doesn't lower manually.	Check manual valve by the hand pump to see if it is working.
		Make sure the manual hand pump is working.
Drive	No drive or reduced speed, drive in forward or reverse.	Check pressure at test port (3) while driving. When functioning correctly, the drive pressure should be about 700 psi on level ground.
	Pressure at the test port is significantly	Check the voltage at valve <b>H</b> . The coil should be energized while driving.
	lower than 700 psi	Check the setting on relief valve <b>A</b> . It should be 2750 psi.
		Check the voltage at valve <b>K</b> . The coil should be energized while driving.
	·	Check valves <b>H</b> and <b>K</b> for contamination.
		Make sure valve <b>L</b> is completely closed (clockwise).
	Pressure at the test port is significantly	Check the voltage at valves <b>J</b> and <b>T</b> . Opposing coils should be energized for each driving direction.
	higher than 700 psi	Check the voltage at valves <b>M</b> , <b>N</b> , and <b>O</b> . These coils must be energized for torque mode on and deenergized for torque mode off.
		Check valves <b>B</b> , <b>F</b> , <b>J</b> , <b>T</b> , <b>M</b> , <b>N</b> , and <b>0</b> for contamination.

# **TROUBLESHOOTING CHART - HYDRAULIC (Continued)**

Function	Problem	Remedy/Solution
Drive (Continued)	Torque mode will not engage.	Check the pressure at port 5. It should be about the same as the test port.
		Check valves <b>M</b> , <b>N</b> , and <b>0</b> for contamination.
	Machine drives on level ground but will not climb grade.	Check the voltage at valves <b>M</b> , <b>N</b> , and <b>0</b> . These coils must be energized for torque mode to engage.
	Machine doesn't stop smoothly.	Check the setting on relief valve <b>A</b> . It should be 2750 psi.
		Check the voltage at valve <b>K</b> . The coil should deenergize when drive is stopped.
		Check the orifice under valve <b>K</b> for contamination.
Brakes	Pressure can't be built manually.	Check manual push valve <b>C</b> to determine if it holds pressure.  Once this valve is pushed in the closed position, by pumping oil with the manual hand pump, pressure should be built to disengage the brakes.
		Check valve <b>D</b> for contamination.

### RELIEF PRESSURE ADJUSTMENT PROCEDURE

#### Steering

Connect pressure gauge (0-3500PSI) with a female quick disconnect to main test port. Energize the steering to full left. Hold the switch for 20 seconds to get an accurate reading on the pressure gauge.

If adjustment is required, set pressure to the correct setting. Refer to Machine Specifications or the Hydraulic Schematic.

Remove the tamper proof cap, turn adjustment screw "IN" to increase the pressure and "OUT" to decrease. When correct pressure is obtained replace tamper proof cap with a new one.

#### Lift

Connect pressure gauge (0-3500PSI) with a female quick disconnect to main test port. Elevate the platform to full extension with **no load on platform**. Hold the switch for 20 seconds to get an accurate reading on the pressure gauge.

If adjustment is required, set pressure to the correct setting. Refer to Machine Specifications or the Hydraulic Schematic.

Remove the tamper proof cap, turn adjustment screw "IN" to increase the pressure and "OUT" to decrease. When correct pressure is obtained replace tamper proof cap with a new one.

### Main/System

Connect pressure gauge (0-3500PSI) with a female quick disconnect to main test port. Disconnect forward or reverse coil of drive valve. Energize drive function by moving joystick (lever) in the direction of the already disconnected coil. Hold the switch for 20 seconds to get an accurate reading on the pressure gauge.

If adjustment is required, set pressure to the correct setting. Refer to Machine Specifications or the Hydraulic Schematic.

Remove the tamper proof cap, turn adjustment screw "IN" to increase the pressure and "OUT" to decrease. When correct pressure is obtained replace tamper proof cap with a new one.



### TROUBLESHOOTING CHART - ELECTRICAL

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.
	Battery voltage below preset limit-indicated by 7 flashes on controller	Turn power off - charge batteriesturn power on.  Note: If batteries are charged with power turned on, then power must be reset to enable lift command.
	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 selec- tor switch	Replace base/platform select 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 Note: If enable switch and/ or wiring is faulty then drive, steering and torque functions will not be operational	Replace enable switch and/or repair wiring
	Faulty mode selection switch	Replace mode selection 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 potentiometer	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.
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.

Problem	Probable Cause	Remedy/Solution
Platform will not lower from base or platform (Continued)	Faulty down valve coil or wiring	Replace coil and/or repair wiring
(Continued)	Faulty down valve	Replace down valve
	Faulty motor controller logic board	Replace logic board in motor controller
Platform will not lower from base only	Faulty lift switch	Replace lift switch
mom saccomy	Faulty base/platform selector switch	Replace base/platform selector switch
	Faulty wiring	Inspect and repair wiring
Platform will not lower from platform only	Faulty mode selector switch	Replace mode selector switch
Tom planorm omy	Faulty forward/down switch	Replace forward/down switch
	Faulty wiring or cable	Inspect and repair wiring and/or cable
Platform lowers slow or erratic	Faulty lift cylinder(s)	Repair or replace lift cylinder(s)
or orrang	Faulty down valve	Replace down valve
,	Down orifice in down hydraulic line obstructed	Remove orifice and clear obstruction
Steering inoperative in both directions	Faulty enable switch and/or wiring  Note: If enable switch and/ or wiring is faulty then drive and lift functions will not be operational	Replace enable switch and/or repair wiring
	Faulty steering valve	Replace steering valve
	Faulty up valve	Replace up valve

Problem	Probable Cause	Remedy/Solution
Steering inoperative in both directions (Continued)	Faulty or misadjusted relief valve	If relief pressure is below specification, replace relief valve. See hydraulic schematic for proper setting
Steering inoperative	Faulty steering valve	Replace steering valve
in right	Faulty right steering coil or wiring	Replace coil and/or repair wiring
	Battery voltage below 40 volts	Charge batteries
	Faulty steering rocker switch	Replace joystick grip
	Faulty wiring	Inspect and repair wiring
	Faulty motor controller logic board	Replace logic board in motor controller
Steering inoperative	Faulty steering valve	Replace steering valve
in left	Faulty left steering coil or wiring	Replace coil and/or repair wiring
	Battery voltage below 40 volts	Charge batteries
	Faulty steering rocker switch	Replace joystick grip
	Faulty wiring	Inspect and repair wiring
	Faulty motor controller logic board	Replace logic board in motor controller
No motion in forward 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.

Problem	Probable Cause	Remedy/Solution
No motion in forward and no motion in reverse (Continued)	Accelerator fault-joystick not in neutral or wire discon- nected 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 Note: If enable switch and/or wiring is faulty then lift and steering functions will not be operational	Replace enable switch and/or repair wiring
	Tow valve open	Close tow valve
	Faulty brake valve coil	Replace brake valve coil
	Faulty brake valve	Replace brake valve
	Faulty mode selector switch	Replace mode selector switch
	Faulty wiring or cable	Inspect and repair pothole system
No motion in forward and no motion in reverse when elevated	Faulty pothole system  Misadjusted pothole limit switch	Inspect and repair wiring and/or cable 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 brake valve	Replace brake valve
	Faulty up valve	Replace up 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/down switch	Replace forward/down switch
·	Faulty wiring	Inspect and repair wiring

Problem	Probable Cause	Remedy/Solution
No motion in reverse only	Faulty motor controller logic board	Replace logic board in motor controller
	Faulty reverse/up switch	Replace reverse/up switch
	Faulty wiring	Inspect and repair wiring
	Faulty motor controller logic board	Replace logic board in motor contoller
Motion is slow in forward only	Faulty joystick potentiometer	If voltage across joystick potentiometer is more than 0.2VDC when in full forward, then joystick potentionmeter requires adjustment or replacement
	Faulty forward drive valve or coil	Replace forward drive or coil
	Faulty torque valve	Replace torque valve
Motion is slow in reverse only	Faulty joystick potentiometer	If voltage across joystick potentiometer is more than 0.2VDC when in full reverse, then joystick potentionmeter requires adjustment or replacement
	Faulty reverse drive valve or coil	Replace forward drive or coil
	Faulty torque valve	Replace torque valve
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

Problem	Probable Cause	Remedy/Solution
Movement warning light does not operate	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 operate	Faulty horn or wiring	Replace horn and/or repair wiring
	Faulty horn switch	Replace horn switch
Tilt alarm does not operate when elevated Note: Tilt alarm and horn are the same device. Test horn by depressing the horn switch. If the horn is	Misadjusted slow speed limit switch  Note: If the slow speed limit switch is misadjusted, slow speed can be operational but the tilt alarm may not activate.	Readjust slow speed limit switch
not operational refer to "Horn does not operate". If the horn is operational then proceed.	Faulty slow speed limit switch and/or wiring	Replace slow speed limit switch and/ or repair wiring
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	Replace torque valve
	Faulty motor controller logic board	Replace logic board in motor controller

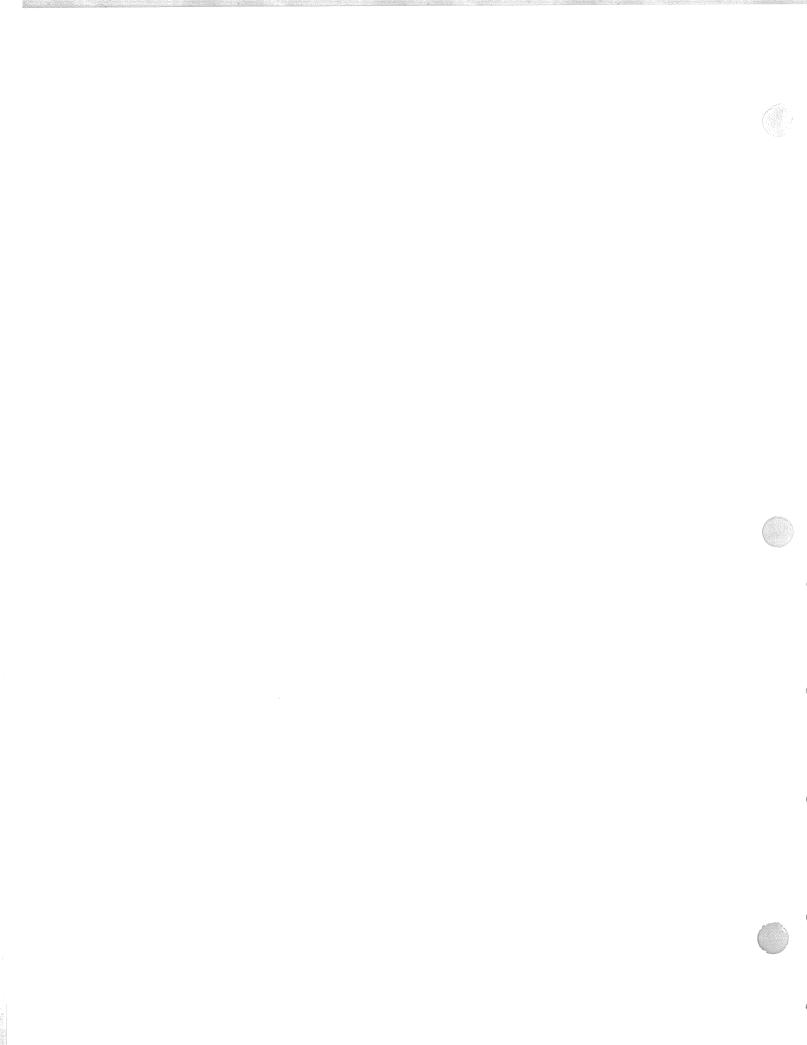


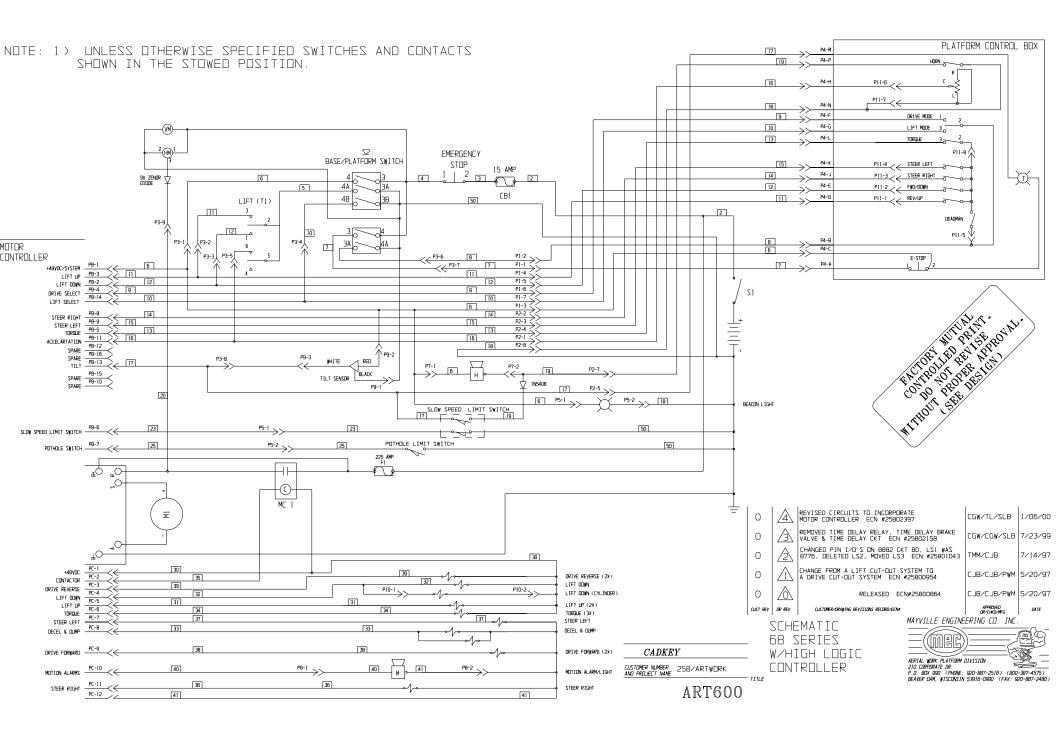
### **LED Diagnostics Definitions**

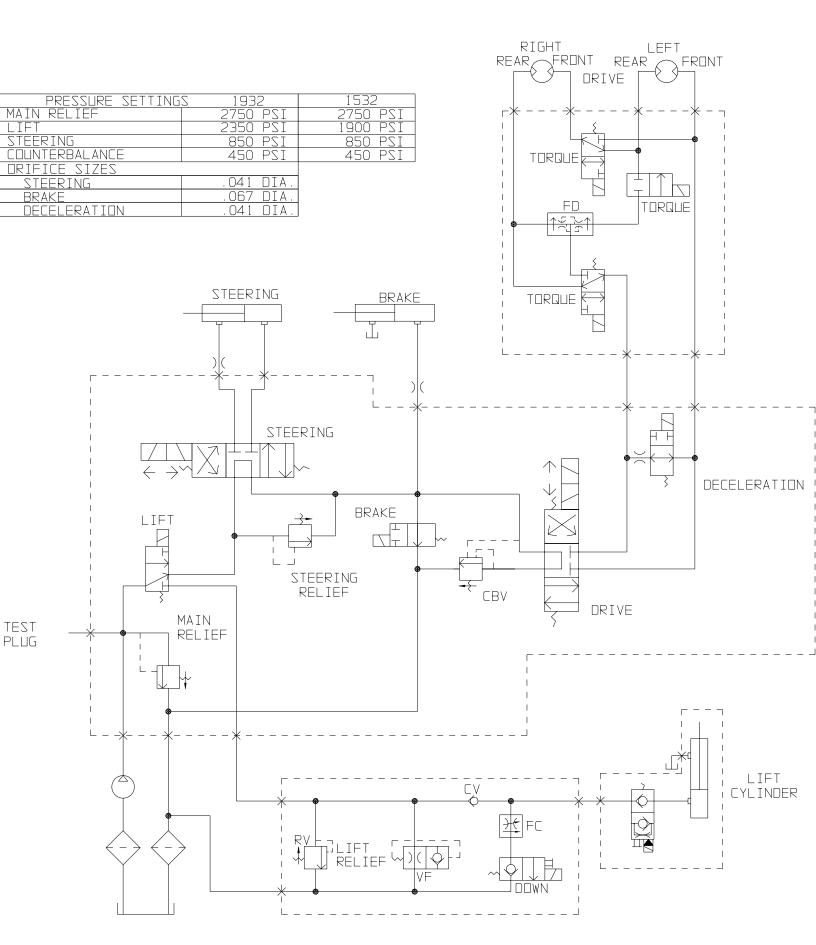
LED READING	DIAGNOSIS
LED on	Controller is operational
LED off	Internal fault
1 flash	Personality/CRC fault
	This fault is usually an internal failure of the non-volatile memory. To clear this fault, check all adjustable personality settings and power-recycle. If fault persists or this failure is recurrent, replace logic card.
2 flashes	Procedure fault
	This includes drive, enable-bar, steer or lift function selected at power on; drive or lift or steer selected without enable-bar; enable-bar neutral 20 second time-out. Recycle through neutral to clear.
3 flashes	Motor permanently low
	This includes MOSFET short circuit. This fault shuts down all modes. Recycle through neutral to clear.
4 flashes	Motor permanently high
	This includes pump line contactor welded or open. This fault shuts down all modes. Platform/Base selector switch recycle to clear.
5 flashes	Power frame capacitor charge fault
	Check wiring. Replace powerpak.
6 flashes	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 flashes	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.

# **LED Diagnostics Definitions (Continued)**

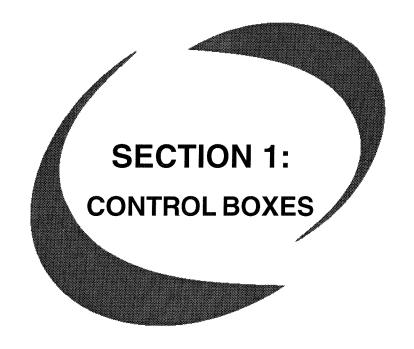
LED READING	DIAGNOSIS
8 flashes	Thermal cutback
	This includes MOSFET temperature above 75°C. Self-clearing.
9 flashes	Pump line contactor coil is shorted or mis-wired.
	Power recycle to clear.
10 flashes	Pothole deployment failed
	Lower scissors to clear
11 flashes	Tilt and scissor up shutdown
	In drive mode lower scissors to clear. Lift down will always be allowed.

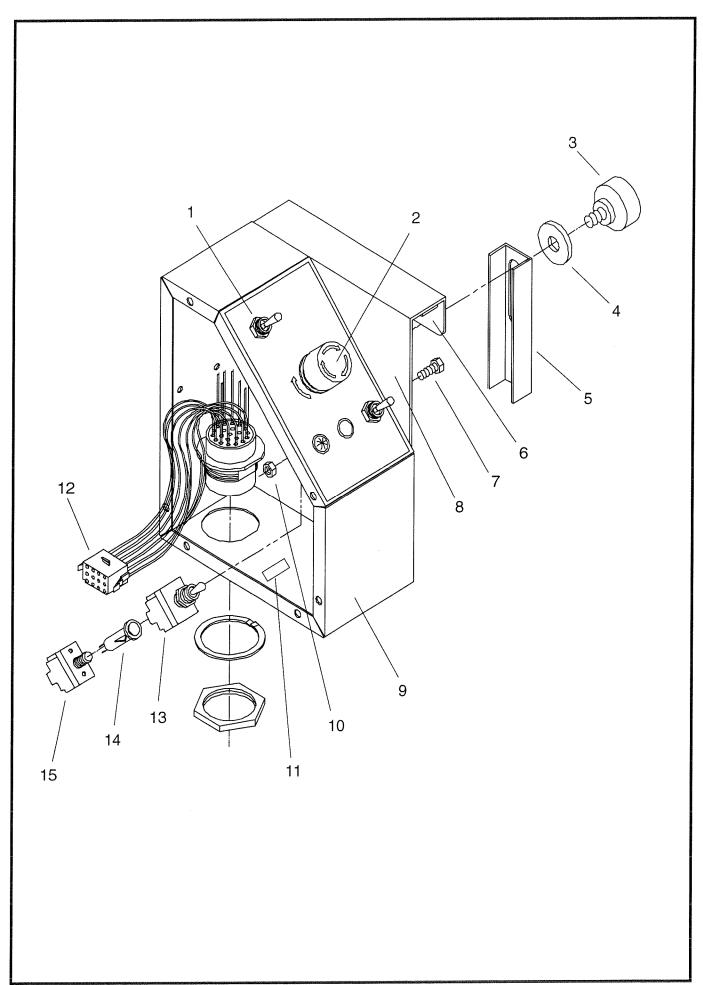




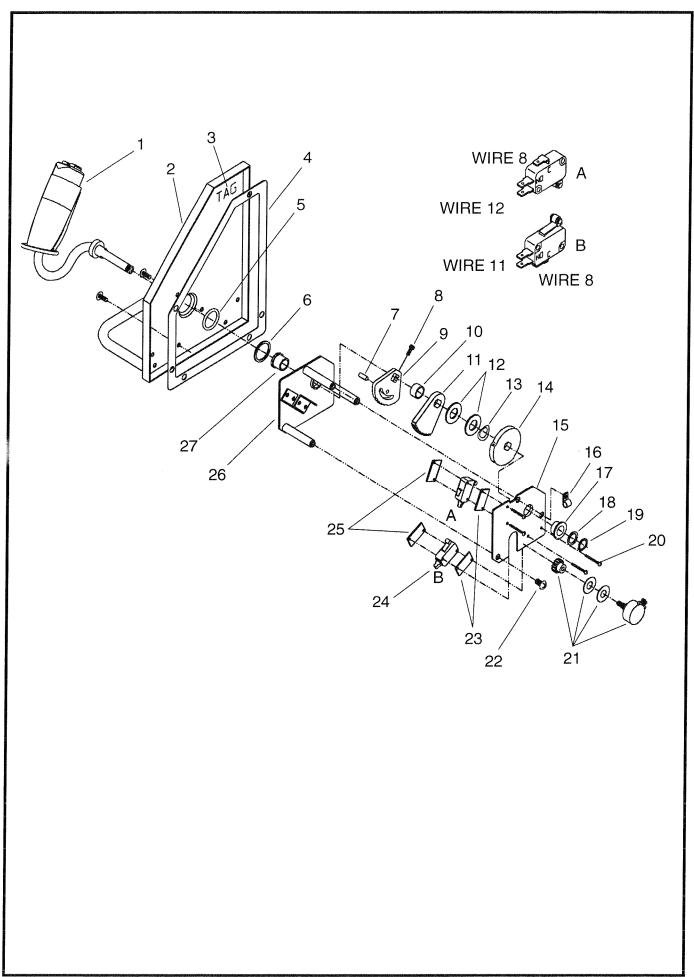


ART699 RO BM14730 11/04/97

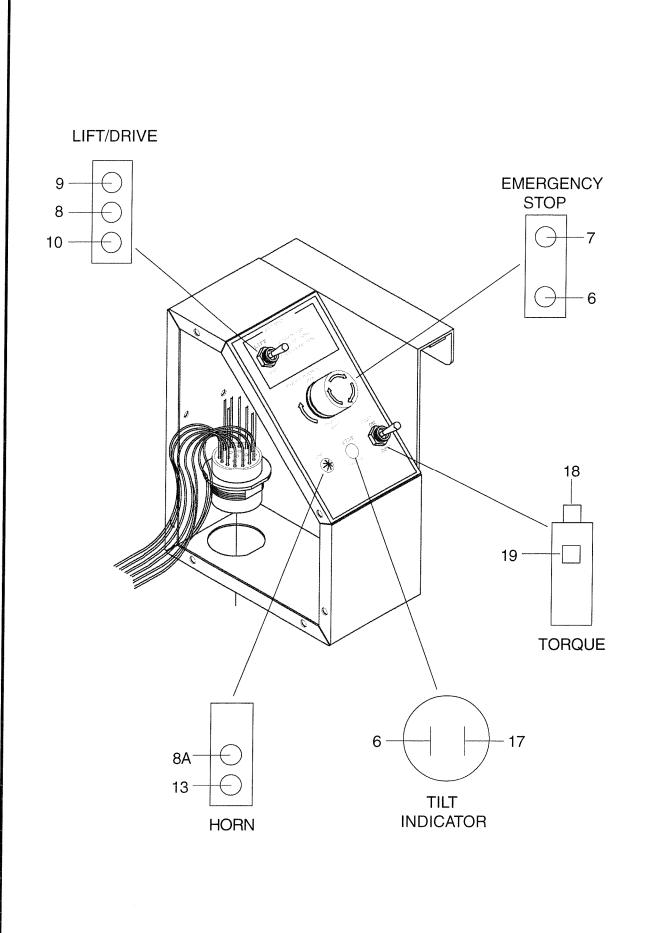




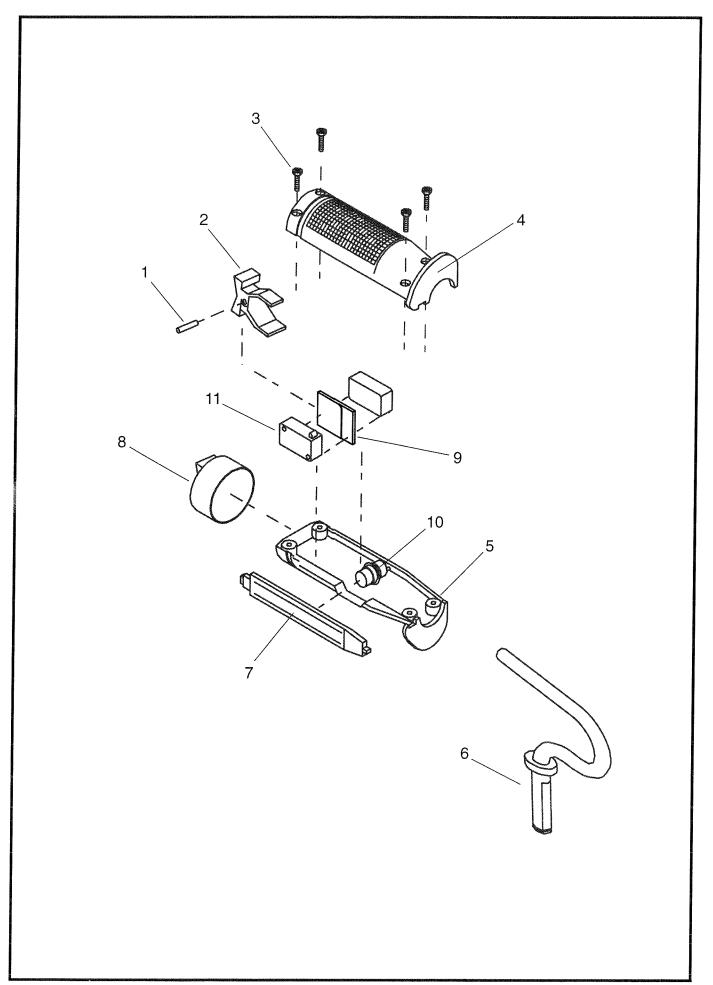
ITEM	PART NO.	QTY	DESCRIPTION
E E Man IVI	30621		CONTROL BOX ASSEMBLY
1	5230	1	SWITCH, TOGGLE, 3 POSITION, MOMENTARY
2	7800	1	EMERGENCY STOP SWITCH ASSEMBLY
	9345	1	BLOCK-CONTACT N.C.
3	8826	1	THUMBSCREW, 5/16" - 18, FLOWER
4	HDW8294	1	WASHER, FLAT, .328 OD X 1.000 ID X .100 THK
5	13864	1	LOCK, CONTROL BOX BRACKET
6	6350	0.5ft	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
	9180	1	LIGHT, BAYONET 55 VOLT T - 3.25
15	8044	1	SWITCH, MOTION
	9741	1	HARNESS, CNTRL BOX TO BASE-3068ES (NOT SHOWN)
	9740	1	HARNESS, CNTRL BOX TO BASE-3768ES (NOT SHOWN)
	North City		



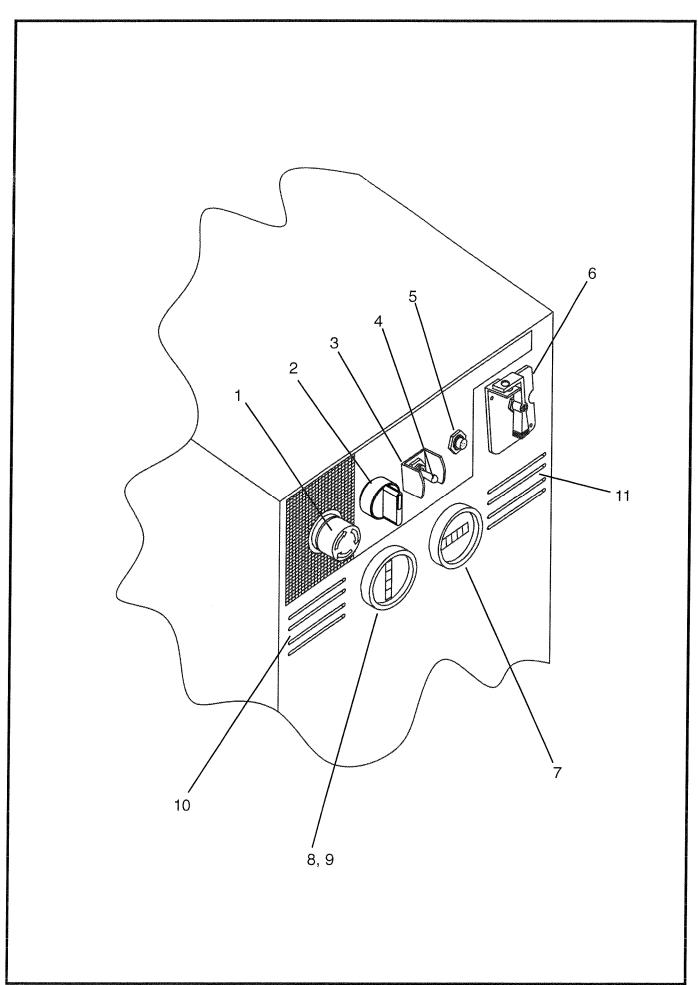
ITEM	PART NO.	QTY	DESCRIPTION
	30619	ods	CONTROL BOX COVER ASSEMBLY
1	30620	1	CONTROL ARM ASSEMBLY (SEE PAGE 1-8)
2	3772	1	COVER
3	8066	1	TAG, INSPECTION
4	7875	1	GASKET
5	7882	1	O-RING, 7/8" ID X 1 1/8" OD
6	HDW3768	1	WASHER, FLAT, .895 ID X 1.077 OD X .055 THK
7	8348	1	PIN, HOLD DOWN
8	HDW7887	1	SCREW, #6 - 32, 1/2" LG
9	13502	1	BRACKET, CENTERING
10	3763	1	SPACER, STEP
11	13402	1	GEAR, LARGE
12	HDW8531	2	WASHER, FLAT, .531 ID X 1.000 OD X .063 THK
13	HDW7881	1	WASHER, BEVEL, .531 ID X .795 OD X .011 THK
14	3782	1	CAM, DIRECTIONAL
15	13403	1	PLATE, BOTTOM
16	6917	1	CLAMP, CABLE 1/4"
17	7818	1	BRNG, BRONZE, FLANGED
18	HDW3771	1	WASHER, FLAT, 500 ID X .688 OD X .033 THK
19	5736	1	RING, RETAINING, EXT, 1/2 SHAFT
20	HDW8399	4	SCREW, #4 - 40, 5/8" LG
21	13527	1	POTENTIOMETER ASSEMBLY
	8389	1	SPUR GEAR
	HDW8567	2	WASHER, FLAT, .380 ID X .844 OD X .048 THK
	9766	1	HARNESS, JOYSTICK (NOT SHOWN)
	8383	1	POTENTIOMETER 20K
22	HDW7888	9	SCREW, #10 - 32, 1/2" LG
23	3764	2	PLATE, SPACER
24	8696	2	SWITCH, LIMIT, MICRO V7
25	3765	2	PLATE, STRAP
26	3766	1	PLATE, TOP
27	7819	1	BRNG, BRONZE, FLANGED
	i		



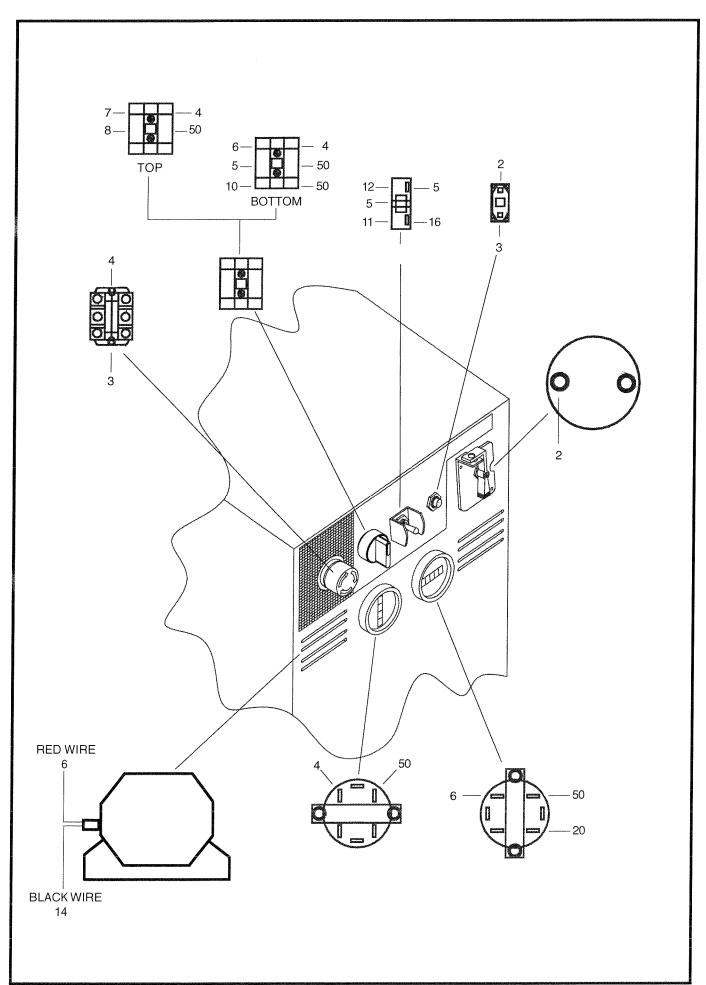
ITEM	PART NO.	QTY	DESCRIPTION
		500	CONTROL BOX - WIRING CONNECTION
		***	
	AND THE PROPERTY OF THE PROPER		
		Í.	
	A - Company of the second of t		
	<u> </u>		



ITEM	PART NO.	QTY	DESCRIPTION
	30620	-	CONTROL ARM ASSEMBLY, JOYSTICK
1	7476	1	PIN
2	8453	1	SWITCH ACTUATOR
3	HDW8455	4	SCREW, #6 - 1/2" LG
4	8752	1	GRIP - TOP HALF
5	8751	1	GRIP - BOTTOM HALF
6	13638	1	CONTROL ARM WITHOUT WIRE
	8089	1 FT.	WIRE, BULK 18 GA. 300 VOLT
	7777	2	TERMINAL, PUSH ON, 3/16"
	8630	1	HANDLE, GRIP
7	8748	1	TRIGGER
8	8456	1	ROCKER BOOT
	8761		SWITCH ASSEMBLY (NOT SHOWN)
9	8447	1	SWITCH SEPARATOR
10	8753	1	MOTION SWITCH, ON-OFF
11	8448	2	SWITCH
	A CALLEST AND A	and the state of t	

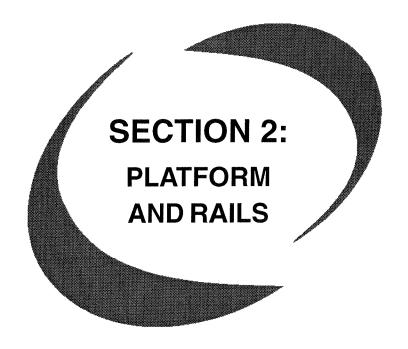


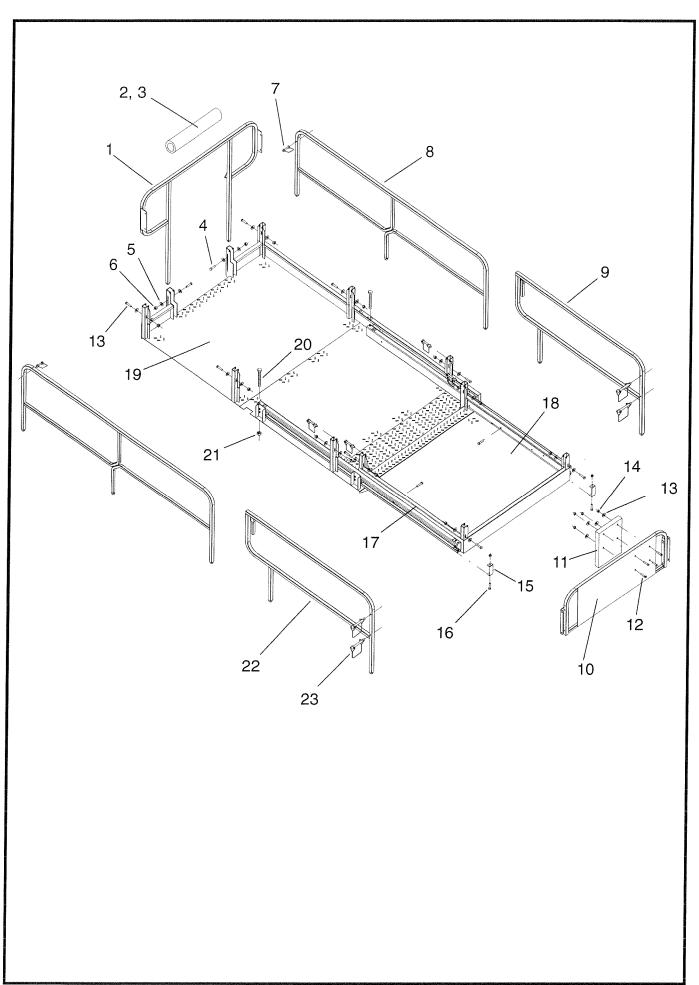
ITEM	DADTNO	OTV	DECORPTION
	PART NO.	QTY	
1	7800	1	SWITCH, EMERGENCY STOP
	9345	1	BLOCK, CONTACT, N.C.
2	9690	1	TUMBLER, LEVER SWITCH
ļ	8082	1	BLOCK, CONTACT, N.O.
	9549	1	TUMBLER, KEY SWITCH - EUROPE ONLY
***************************************	90159	1	KEY FOR SWITCH 9549 - EUROPE ONLY
3	1313	1	SWITCH, GUARD
4	5694	1	SWITCH, TOGGLE
5	9477	1	CIRCUIT BREAKER, 15 AMP
6	8841	1	SWITCH, MASTER DISCONNECT
7	7909	1	HOUR METER
8	7100	1	BATTERY GAUGE, 36 VOLT - <b>OPTIONAL</b>
9	7115	1	PLUG, PRY OUT (IF GAUGE IS NOT PRESENT)
10	9716	1	HORN, ELECTRONIC, 12 - 48V - <b>OPTIONAL</b>
11	8698	1 1	MOTION ALARM
		***************************************	



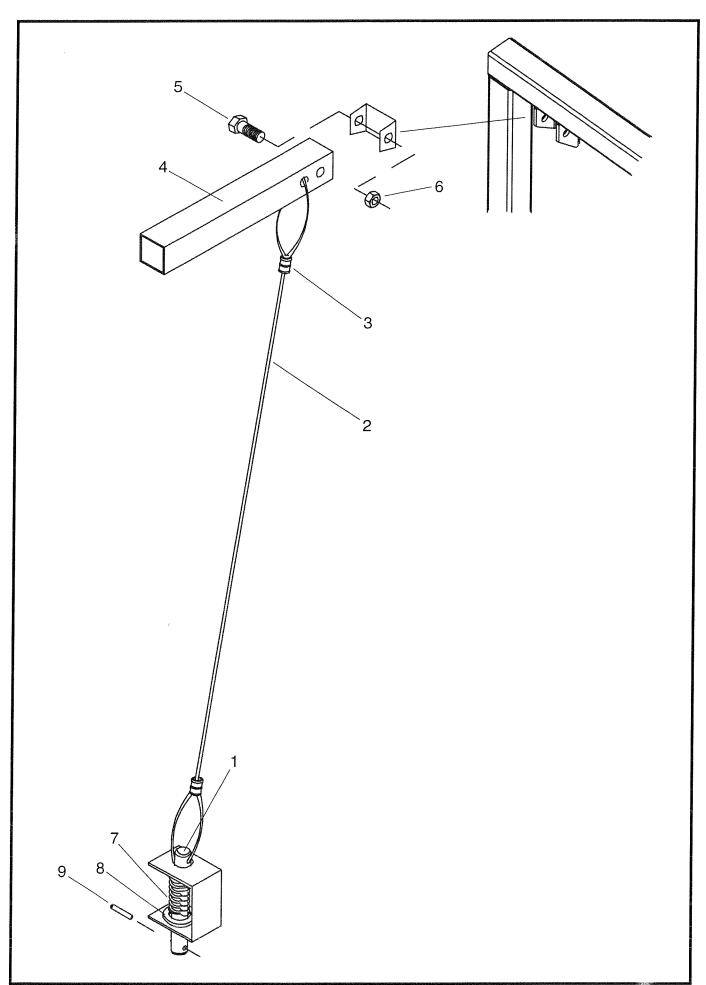
ITEM	PART NO.	QTY	DESCRIPTION
		ita	BASE CONTROL PANEL - WIRING CONNECTION
		The state of the s	
	and the second s		



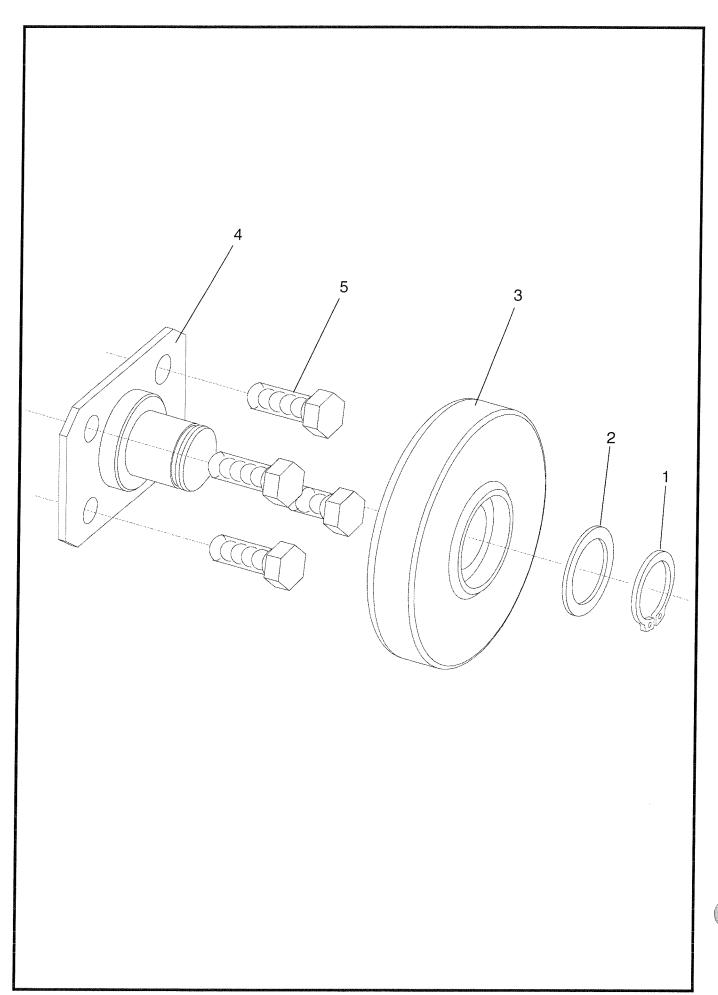




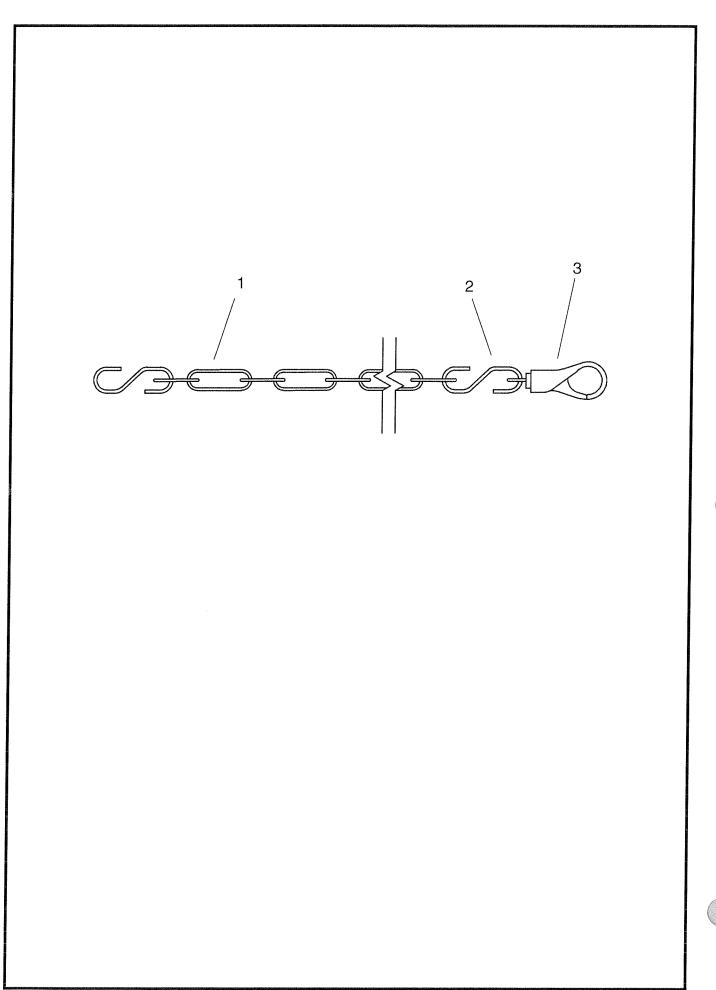
ITEM	PART NO.	QTY	DESCRIPTION
		Nha!	PLATFORM ASSEMBLY
1	40016	1	REAR RAIL WELDMENT
2	7805	1	PADDING, RAIL
3	7048	1	COVER, RAIL PADDING
4	HDW7119	12	SCREW, 5/16" - 18, 2 1/4" LG, GR 5
5	HDW5217	24	FLAT WASHER, .343 ID X .688 OD X .063 THK
6	HDW8304	12	NUT, 5/16" - 18
7	HDW7593	6	PIN, WIRE LOCK, SQUARE, 3/8" X 2 1/4" LG
8	14124	2	SIDE RAIL WELDMENT
9	14301	1	SIDE RAIL WELDMENT - EXTENSION
10	14306	1	FRONT RAIL WELDMENT
11	8909	1	MANUAL ENCLOSURE
12	HDW5723	4	SCREW, 1/4" - 20, 1/2" LG
13	HDW8294	4	FLAT WASHER, .328 ID X 1.000 OD X .100 THK
14	HDW6461	4	NUT, 1/4" - 20
15	14415	2	BRACKET, EXTENSION STOP
16	HDW5724	20	SCREW, 5/16" - 18, 3/4" LG, GR 5
17	14152	2	CHANNEL, EXTENSION
18	40053	1	EXTENSION PLATFORM WELDMENT
19	40261	1	MAIN PLATFORM WELDMENT
20	HDW8856	2	SCREW, 1/2"-13, 5" LG
21	HDW6349	2	NUT, 1/2" - 13
22	14313	1	RIGHT SIDE RAIL WELDMENT - EXTENSION
23	HDW8974	4	PIN, WIRE LOCK, SQUARE, 3/8" X 3" LG
	20552	1	COVER, PLATFORM CORD (NOT SHOWN)
	HDW5723	4	SCREW, 1/4" - 20, 1/2" LG (NOT SHOWN)



14713 - ROLLOUT LOCK PIN ASSEMBLY 1 13737	ITEM	PART NO.	QTY	DESCRIPTION
2 7184 3.7 ft CABLE, COATED AND ROLLED 3 8814 2 SLEEVE, ALUMINUM OVAL 4 14344 1 HANDLE - ROLLOUT PLATFORM 5 HDW8486 1 SCREW, 5/16" - 18, 1 7/8" LG 6 HDW8304 1 LOCKNUT, 5/16" - 18 7 7408 1 SPRING, DECK LOCK 8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD				
3 8814 2 SLEEVE, ALUMINUM OVAL 4 14344 1 HANDLE - ROLLOUT PLATFORM 5 HDW8486 1 SCREW, 5/16" - 18, 1 7/8" LG 6 HDW8304 1 LOCKNUT, 5/16" - 18 7 7408 1 SPRING, DECK LOCK 8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD	1	13737	1	PIN, EXTENSION LOCK
4 14344 1 HANDLE - ROLLOUT PLATFORM 5 HDW8486 1 SCREW, 5/16" - 18, 1 7/8" LG 6 HDW8304 1 LOCKNUT, 5/16" - 18 7 7408 1 SPRING, DECK LOCK 8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD	2	7184	3.7 ft	CABLE, COATED AND ROLLED
5 HDW8486 1 SCREW, 5/16" - 18, 1 7/8" LG 6 HDW8304 1 LOCKNUT, 5/16" - 18 7 7408 1 SPRING, DECK LOCK 8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD	3	8814	2	SLEEVE, ALUMINUM OVAL
6 HDW8304 1 LOCKNUT, 5/16" - 18 7 7408 1 SPRING, DECK LOCK 8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD	4	14344	1	HANDLE - ROLLOUT PLATFORM
7 7408 1 SPRING, DECK LOCK 8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD	5	HDW8486	1	SCREW, 5/16" - 18, 1 7/8" LG
8 HDW7031 1 WASHER, FLAT, 1/2" ID 7/8" OD	6	HDW8304	1	LOCKNUT, 5/16" - 18
	7	7408	1	SPRING, DECK LOCK
9 HDW8513 1 PIN, SPRING, 1/8" DIA. 3/4" LG	8	HDW7031	1	WASHER, FLAT, 1/2" ID 7/8" OD
	9	HDW8513	1	PIN, SPRING, 1/8" DIA. 3/4" LG
			10000	
			!	
	·			
		MANAGEMENT (17.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		
			Mercen brentenne	

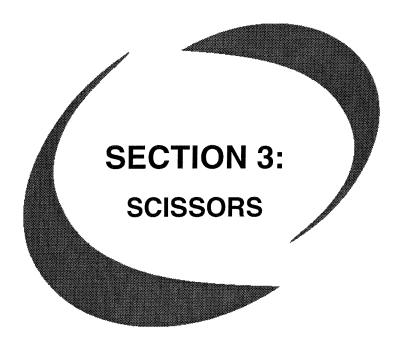


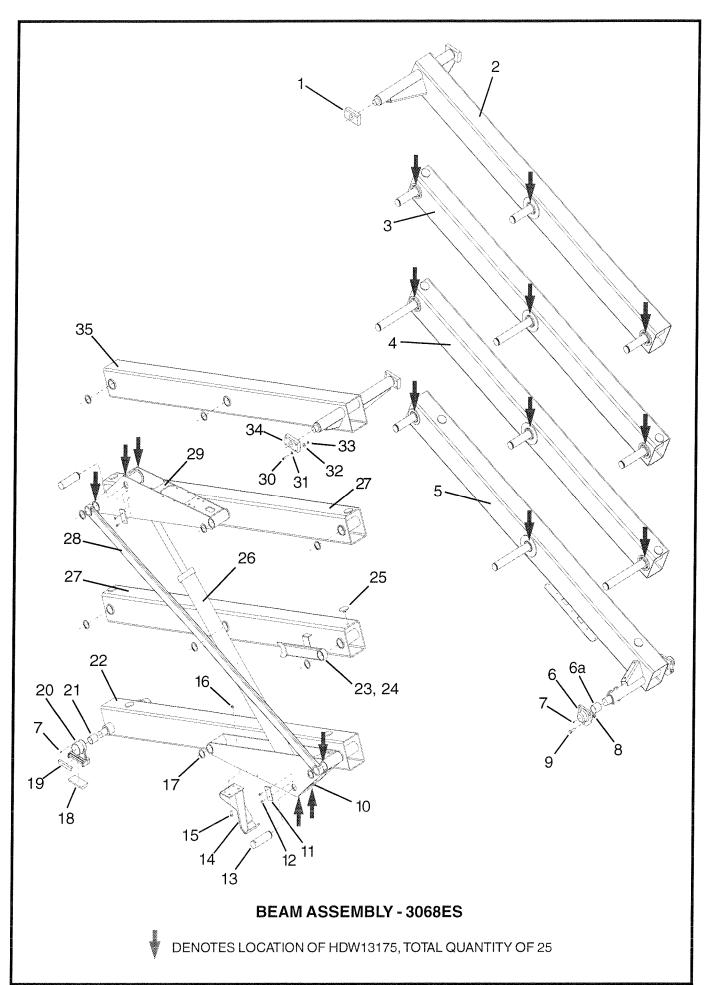
ITEM	PART NO.	QTY	DESCRIPTION
			ROLLER ASSEMBLY
1	5918	1	RETAINING RING, HEAVY DUTY 1"
2	HDW8370	1	WASHER, FLAT, 1.015 ID X 1.375 OD X .062 THK
3	13230	1	ROLLER
4	14062	1	ROLLER PLATE WELDMENT
5	HDW5724	4	SCREW, 5/16" - 18, 3/4" LG
	200 ZALISTO CONTROLO		·
	· · · · · · · · · · · · · · · · · · ·		
		Ì	



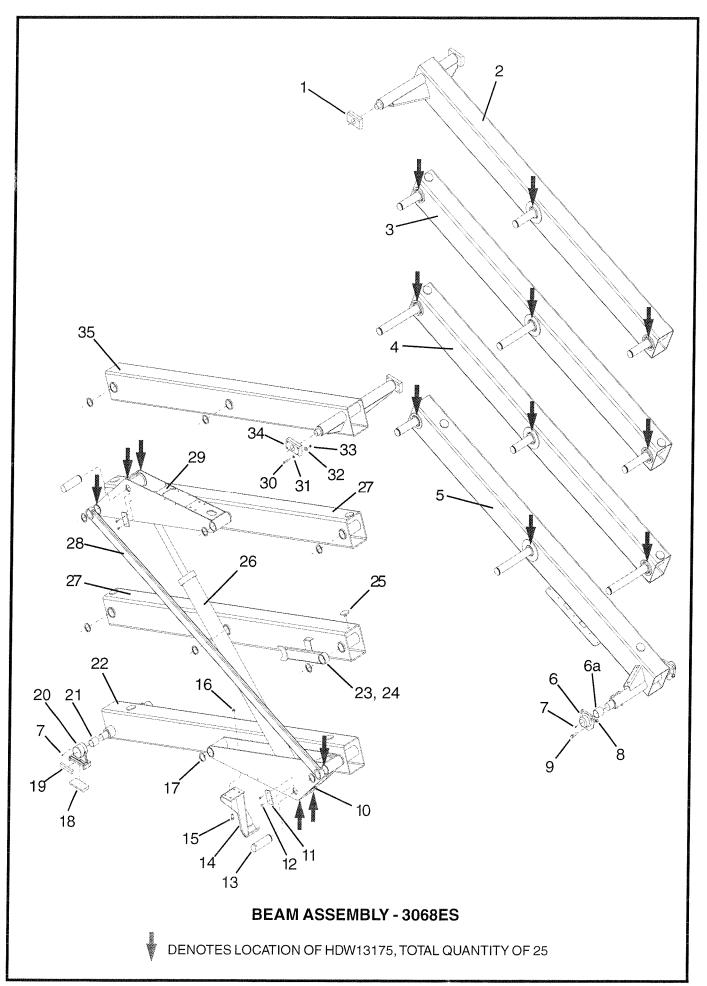
ITEM	PART NO.	QTY	DESCRIPTION
	13850		CHAIN CLOSURE
1	13846	1	CHAIN
2	5239	2	S-HOOK, CONNECTING LINK
3	8781	1	SNAP, CHAIN LINK
Live			
		,	
		Participation of the Control of the	



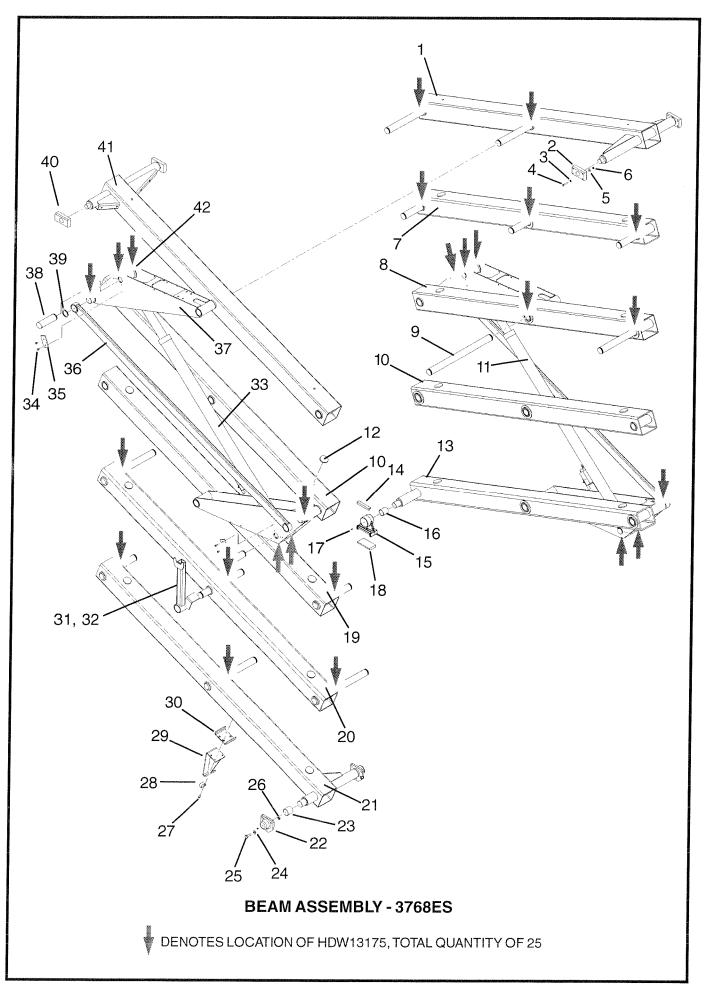




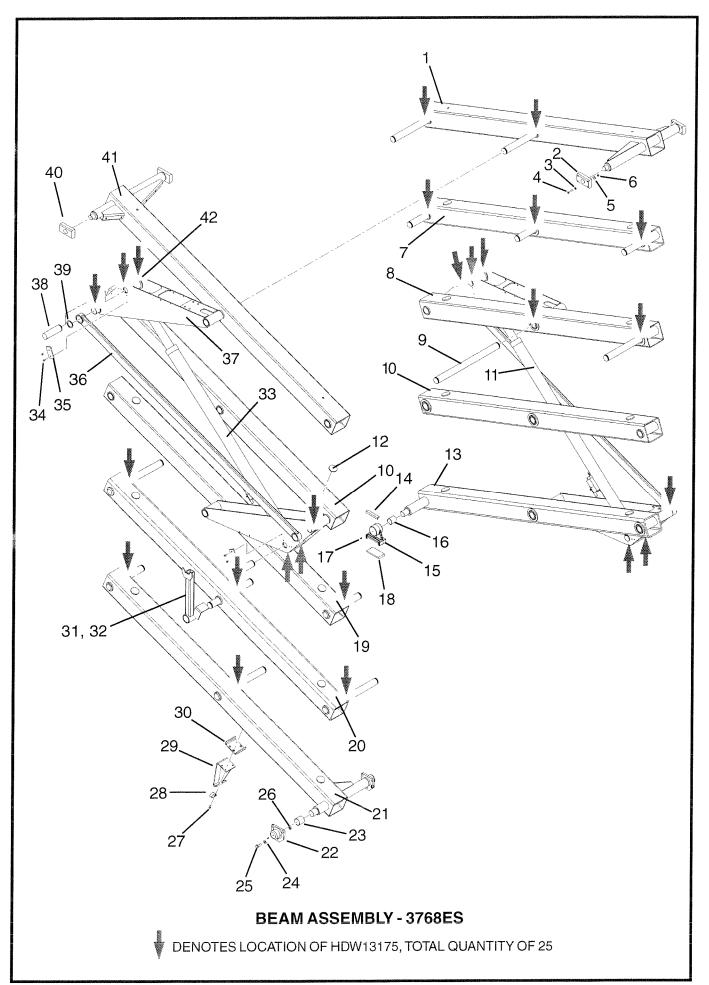
ITEM	PART NO.	QTY	DESCRIPTION
		-	BEAM ASSEMBLY - 3068ES
1	14488	2	BLOCK, SLIDE, PLATFORM
2	40448	1	BEAM, 6 X 8 X .250, TOP SLIDE, W/PINS
3	40084	1	BEAM, 6 X 8 X .313 W/PINS
4	40081	1	BEAM, 6 X 8 X .313 W/PINS
5	40444	1	BEAM, 6 X 8 X .250, BOTTOM FIXED, W/PINS
6	40459	2	CASTING, MACHINED, LOWER PIVOT
6a	6669	2	BRNG, 2" X 2" - 32DU32
7	5432	4	GREASE FITTING
8	HDW8457	6	LOCKNUT, 1/2" - 13, GR B
9	HDW8283	6	SCREW, 1/2" - 13, 1 1/2" LG, GR 5
10	HDW8899	4	RING, RETAINING (NOT SHOWN)
11	14538	2	BRACKET, CYLINDER RETAINING
12	HDW6455	4	SCREW, 1/4" - 20, 1/2" LG
13	14537	2	PIN, CYLINDER MOUNT
14	40466	1	BRKT, ACTUATOR WLDMNT, PTHL
15	HDW6349	4	SCREW, 1/2" - 13, 1" LG
16	HDW6349	4	NUT, 1/2" - 13
17	6701	8	RING, RETAINING, 2" SHAFT
18	9587	2	WEAR PAD, SLIDE BLOCK, BOTTOM
19	90235	2	WEAR PAD, ANGLE, SLIDE BLOCK TOP
20	40306	2	SLIDE PVT, LWR CAST, MACHINED
			(P/N 30699 - FABRICATED SLIDE BLOCK)
	8785	.67FT	TAPE, DOUBLE COATED
21	7160	2	BRNG, 1 3/4" X 2" - 28DU32
22	40446	1	BEAM, 6 X 8 X .250, BOTTOM SLIDE, W/BRNGS
23	14990	1	MAINTENANCE LOCK WELDMENT
24	8675	1	BRNG, 2 1/4" X 2" X 1 1/2" LG (NOT SHOWN)
25	25429	12	SPACER BLOCK - BEAMS
26	8809	1	LIFT CYLINDER
27	40083	2	BEAM, 6 X 6 X .313
	6669	4	BRNG, 2" X 2" - 32DU32
28	14806	1	SUPPORT BEAM WELDMENT
29	14218	2	CYLINDER MOUNT
30	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LG



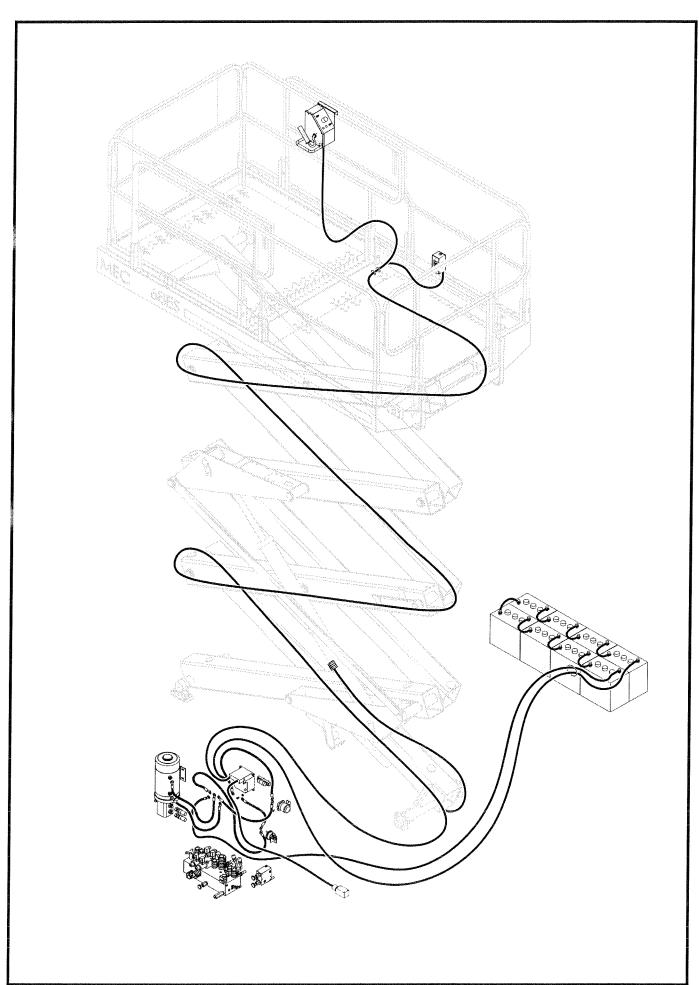
ITEM	PART NO.	QTY	DESCRIPTION
7 1 141	TAITI IIO.	-	BEAM ASSEMBLY - 3068ES (CONTINUED)
31	HDW5217	8	WASHER, FLAT, .343 ID X .688 OD X .063 THK
32	HDW8294	8	WASHER, FLAT, .328 ID X 1.000 OD X .100 THK
33	HDW8304	8	NUT, 5/6" - 18
34	14487	2	BLOCK, SLIDE, PLATFORM
35	40447	1	BEAM, 6 X 8 X .250, TOP FIXED, W/BRNGS
	HDW3809	UP	WASHER, FLAT, 1.512 ID X 2.512 OD X .072 THK
		TO 4	(AT PLATFORM FOR ADJUSTMENT)
		200	
	THE STATE OF THE S		
	į		
		THE STATE OF THE S	
		1	



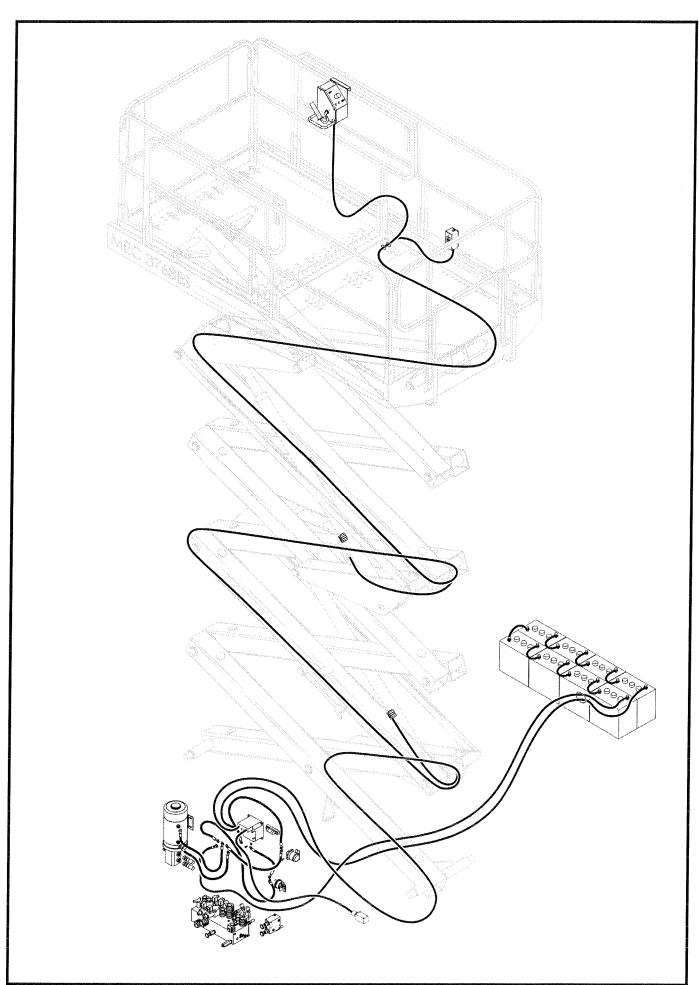
ITEM	PART NO.	QTY	DESCRIPTION
6		-	BEAM ASSEMBLY - 3768ES
1	40113	1	BEAM 6 X 6X .188
2	14487	2	BLOCK, SLIDE, PLATFORM
3	HDW5217	8	WASHER, FLAT, .343 ID X .688 OD X .063 THK
4	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LG
5	HDW8294	8	WASHER, FLAT, .328 ID X 1.000 OD X .100 THK
6	HDW8304	8	NUT, 5/6" - 18
7	40124	1	BEAM 6 X 6 X .250
8	40117	1	BEAM 6 X 6 X .188
9	30407	1	PIN 2.00 DIA. X 25.90" LG
10	40115	2	BEAM 6 X 6 X .250 W/BEARINGS
11	90229	1	LIFT CYLINDER, LOWER, 2.75" X 56.5", RAM W/MNFLD
12	25429	16	SPACER BLOCK - BEAMS
13	40104	1	BEAM 6 X 6 X .375, BOTTOM FIXED
14	90235	2	WEAR PAD, ANGLE, SLIDE BLOCK, TOP
15	40306	2	SLIDE PVT LWR CAST MACHINED
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		(P/N 30699 - FABRICATED SLIDE BLOCK)
	8785	.67FT	TAPE, DOUBLE COATED (NOT SHOWN)
16	7160	2	BRNG, 1 3/4" X 2" - 28DU32
17	5432	4	GREASE FITTING
18	9587	2	WEAR PAD, SLIDE BLOCK, BOTTOM
19	40108	1	BEAM 6 X 6 X .188
	6669	2	BRNG 2.000 X 2.000 - 32DU32 (NOT SHOWN)
20	40106	1	BEAM 6 X 6 X .375
	6669	2	BRNG 2.000 X 2.000 - 32DU32 (NOT SHOWN)
21	40100	1	BEAM 6 X 6 X .250
	6669	2	BRNG 2.000 X 2.000 - 32DU32 (NOT SHOWN)
22	40459	2	CASTING, MACHINED, LOWER PIVOT
23	6669	2	BRNG 2.000 X 2.000 - 32DU32
24	HDW6491	6	WASHER, FLAT, .562 ID X 1.375 OD X .109 THK
25	HDW8283	6	BOLT, 1/2" - 13, 1.50" LG GR 8
26	HDW8457	6	LOCKNUT, 1/2" - 13, GR B
27	HDW5004	1	BOLT, 3/8 - 16, 1.00 LG GR 5
28	8702	2	CLAMP, TUBE, 1.625 I.D.
29	40303	1	BRKT, ACT WELD PTHL



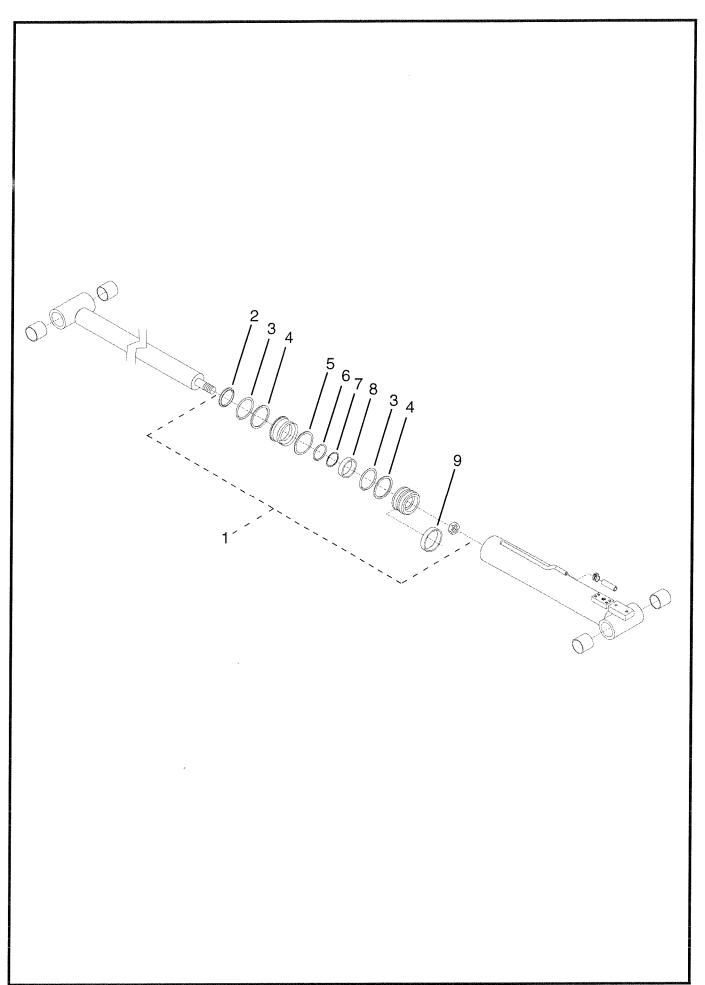
	DADT NO	QTY	DESCRIPTION
ITEM	PART NO.	GIT	BEAM ASSEMBLY - 3768ES (CONTINUED)
30	40307	1	BRACKET, MOUNT, ACTUATOR
31	14990	1	MAINTENANCE LOCK WELDMENT
32	8675	1	BRNG, 2 1/4" X 2" X 1 1/2" LG (NOT SHOWN)
33	90228	1	LIFT CYLINDER, UPPER, 3" X 56.5", SNGL ACT W/MNFLD
34	HDW6455	8	SCREW, 1/4" - 20, 1/2" LG
35	14538	4	BRACKET, CYLINDER RETAINING
36	14806	2	SUPPORT BEAM WELDMENT
37	14218	4	MOUNT CYLINDER W/CAP
38	14537	4	PIN, CYL MOUNT, 1.998 X 6.408
39	6701	15	RING, RETAINING, 2" SHAFT
40	14488	2	BLOCK, SLIDE PLATFORM
41	40111	1	BEAM 6 X 6 X .187 W/PINS
42	HDW8899	4	RING, RETAINING (NOT SHOWN)
	HDW3809	UP	WASHER, FLAT, 1.512 ID X 2.512 OD X .072 THK
		TO 4	(AT PLATFORM FOR ADJUSTMENT) (NOT SHOWN)
		111111111111111111111111111111111111111	
	Anna de la companya d		
	gue, amantes		



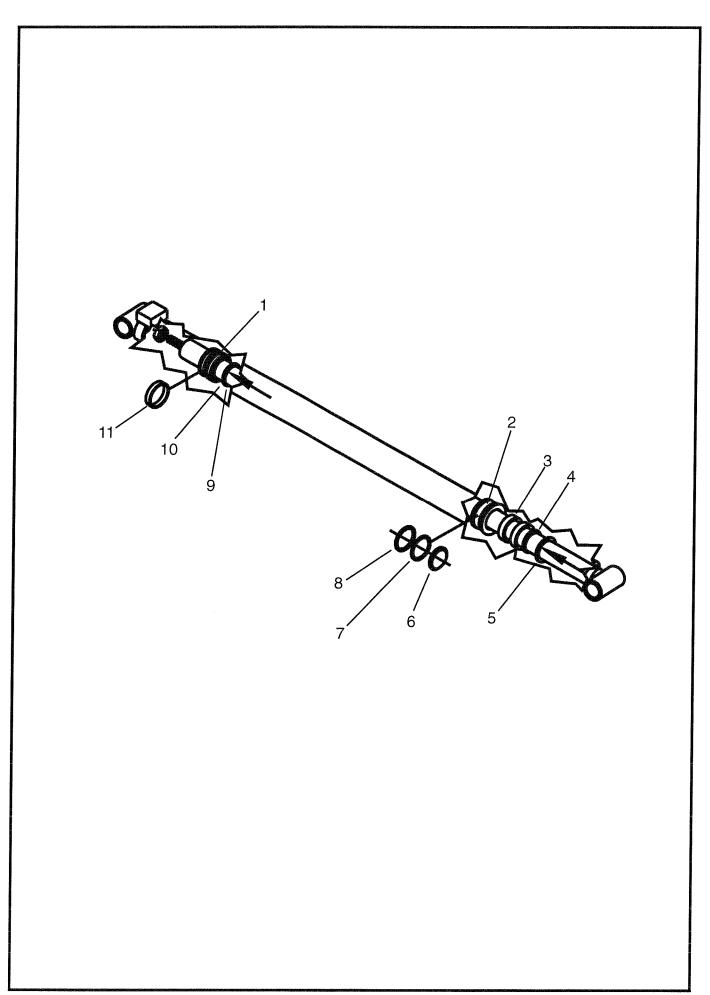
ITEM	PART NO.	QTY	DESCRIPTION
			CABLE ROUTING - 3068ES
	4		
		. Transport	
To a second second			



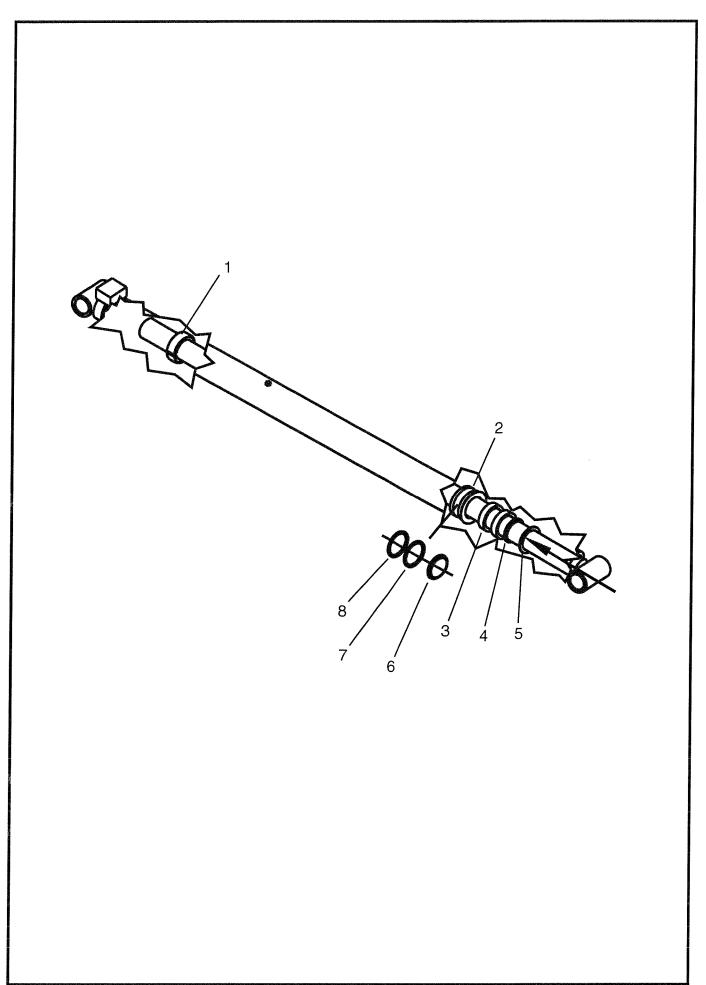
ITEM	PART NO.	QTY	DESCRIPTION
			CABLE ROUTING - 3768ES
***************************************			
	4.4		
ļ			
		, volume	
Í		Ī	
l i		İ	



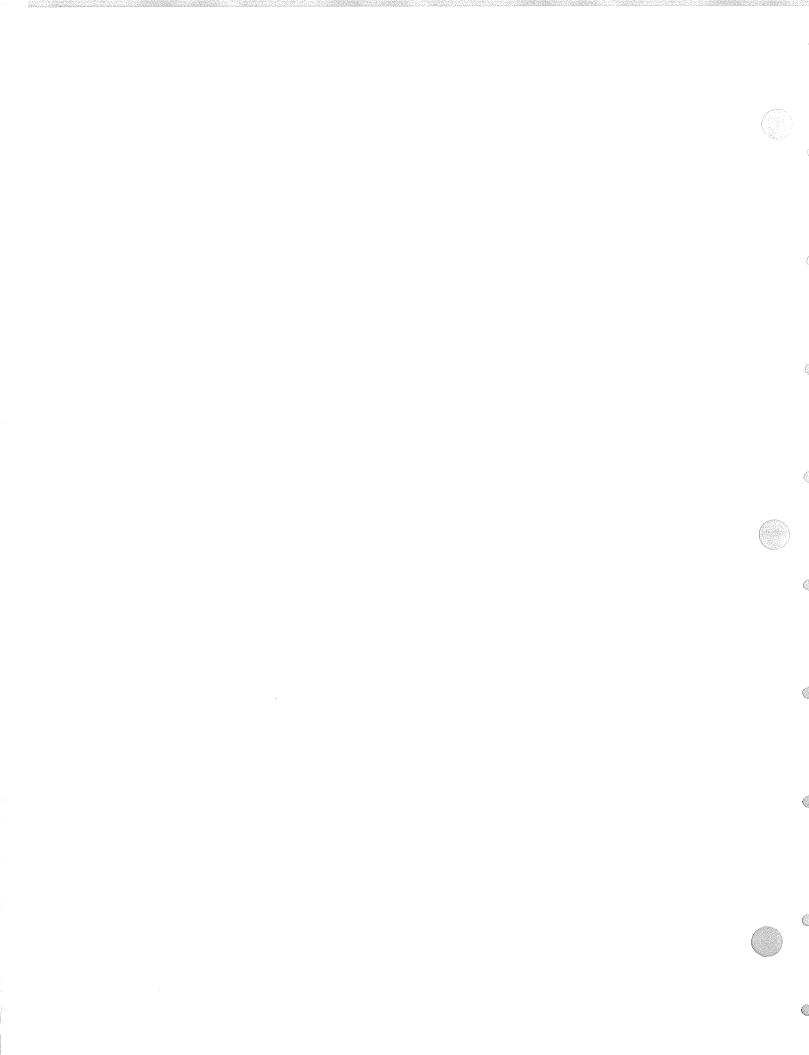
ITEM	PART NO.	QTY	DESCRIPTION
	8809	-	LIFT CYLINDER, LOWER - 3068ES
1	8894	1	SEAL KIT FOR CYLINDER 8809
2	-	1	DUST SEAL
3	-	2	O-RING
4	_	2	BACK-UP O-RING
5	wa .	1	O-RING
6		1	BACK-UP O-RING
7		1	O-RING
8	-	1	WEAR RING
9	-	1	WEAR RING
		T P PAGE AND	i
		<u> </u>	
		1	
		<del>  </del>	
	ı		
		MANAGEMENT	

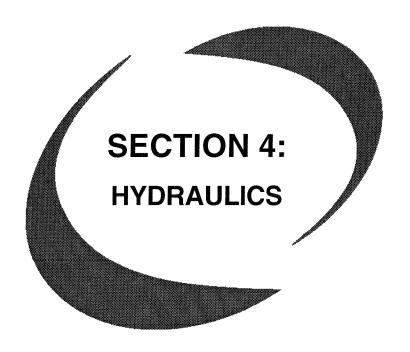


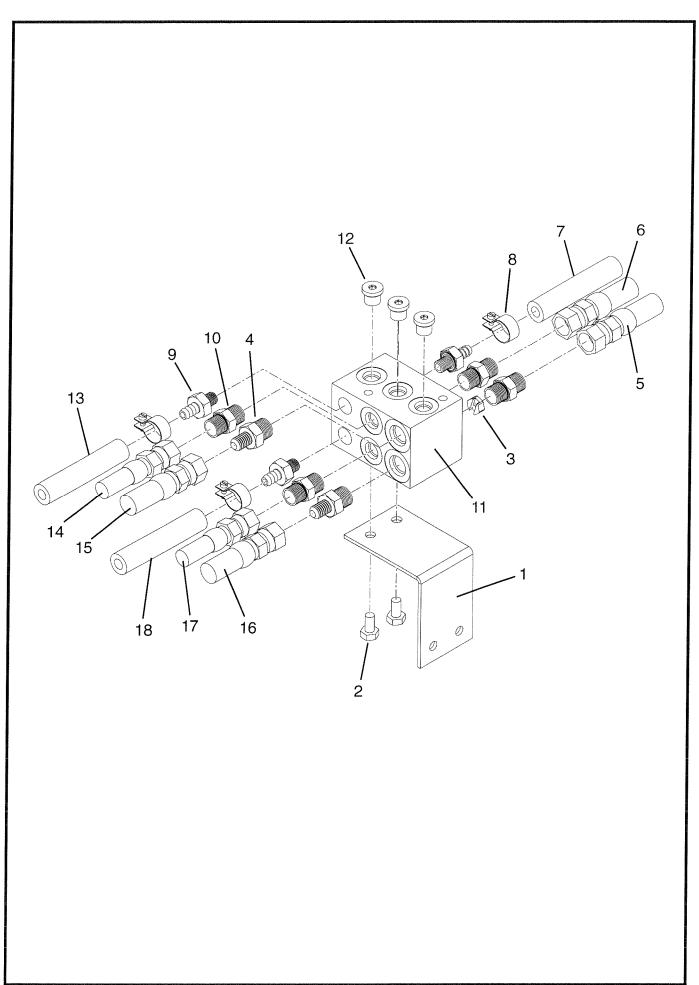
ITEM	PART NO.	QTY	DESCRIPTION
	9361	Cva	LIFT CYLINDER, LOWER - 3768ES
1		and .	PISTON
2	<b>1</b> 24	-	HEAD
	90148	1	SEAL KIT FOR CYLINDER 9361
3	-	2	WEAR RING
4	-	1	SEAL
5	-	1	WIPER
6	~	1 1	O-RING
7	_	1	BACK-UP O-RING
8		1	O-RING
9		1	O-RING
10	_	1	SEAL
11	-	1	WEAR RING
		***	



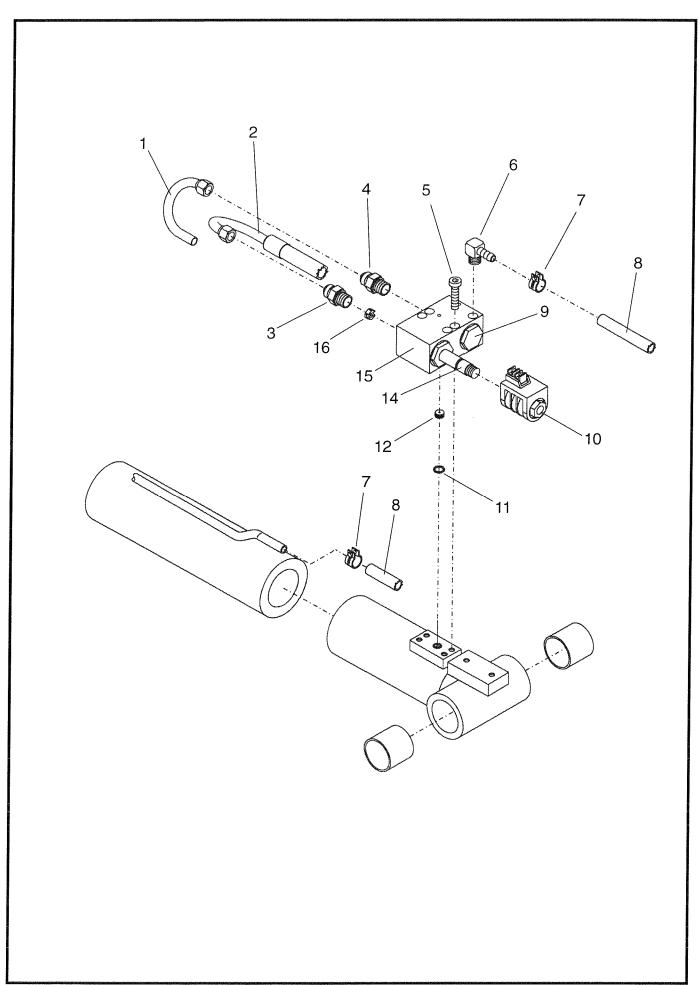
I TERA	DADTAIA	OTV	DESCRIPTION
ITEM	<b>PART NO.</b> 90229	QTY	DESCRIPTION  LIFT CYLINDER, UPPER - 3768ES
1	90229	1	PISTON
2	_	1	HEAD
	90149	1	SEAL KIT FOR CYLINDER 90229
3	30143	2	WEAR RING
4		1	SEAL
5		1	WIPER
6	_	1	O-RING
7		1	BACK-UP O-RING
8	- -	1	O-RING
0			O-ning
		711111111111111111111111111111111111111	
		1	
		7	
		THE PARTY OF THE P	



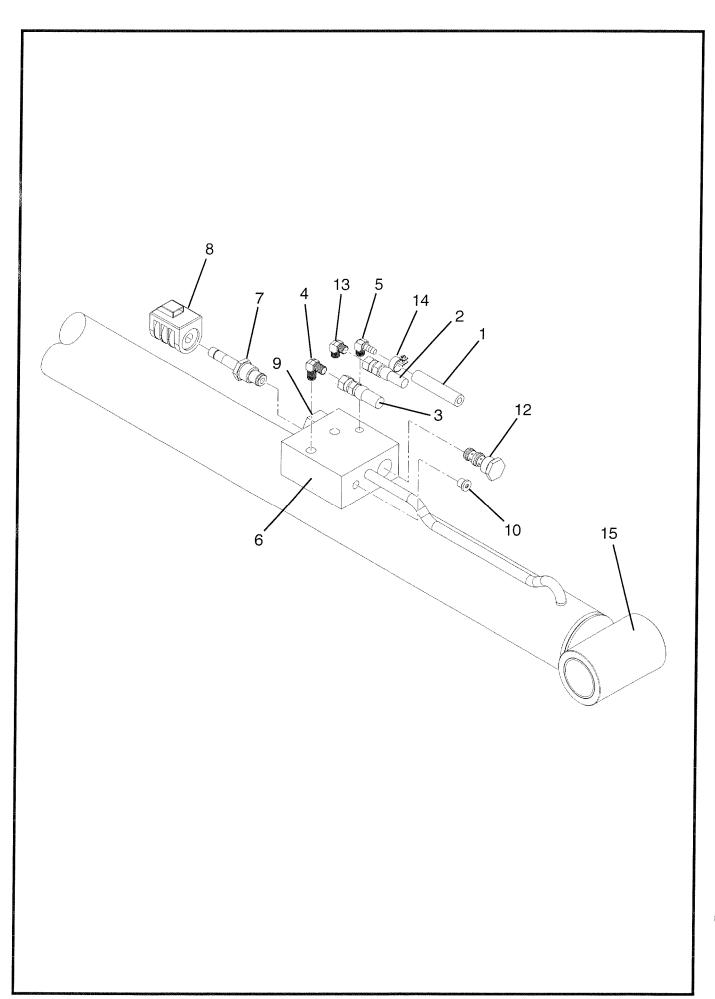




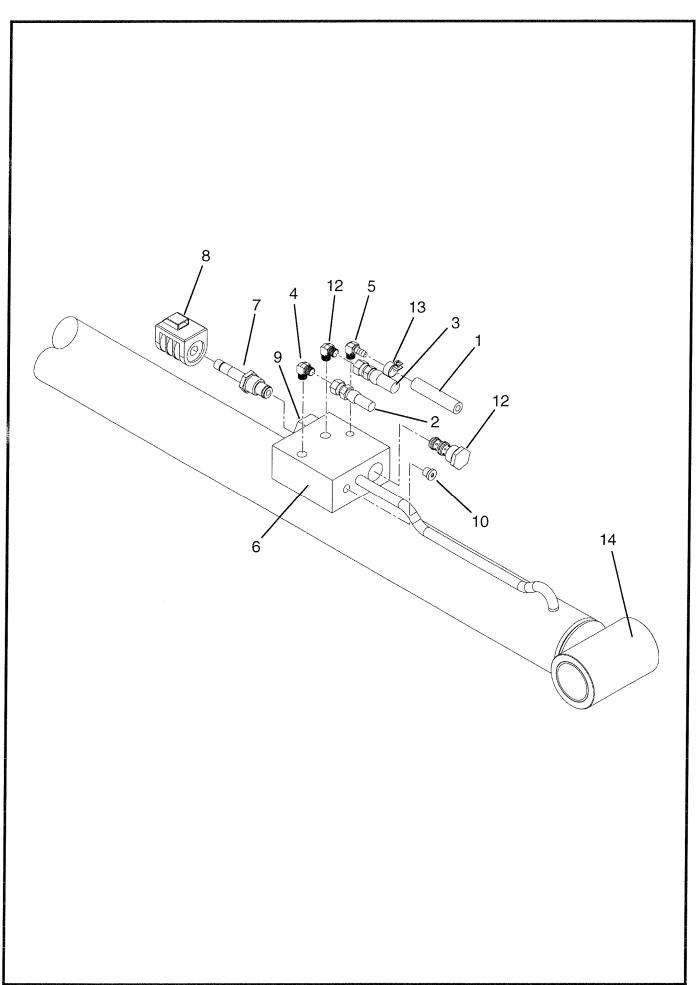
ITEM PART NO. QTY DESCRIPTION	
- JUNCTION MANIFOLD	
1 30568 1 BRACKET, JUNCTION BLOCK, MNT	
2 HDW6455 4 SCREW, 1/4" - 20, 1/2" LG	
3 90361 1 ORIFICE, .073 DIA	
4 HDW7438 2 ADAPTER, MALE 3/8", MALE 9/16"	
5 90331 1 HOSE ASSEMBLY 3/8" X 131" - TO MAIN MANIFOLD F	ORT
6 90314 1 HOSE ASSEMBLY 1/4" X 138" - TO EMERGENCY DOV	<b>IN</b>
7 6458 17 FT HOSE, RETURN LINE, 5/16"	
8 7788 3 CLAMP, 5/8" HOSE	
9 HDW6459 3 UNION, MALE 1/4", HOSE BARB 5/16"	
10 HDW8881 4 ADAPTER, MALE 1/4" O-RING, 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 90323 1 HOSE ASSEMBLY 1/4" X 46" - TO LOWER LIFT CYLINI	DER
15 9038 1 HOSE ASSEMBLY 3/8"X 46" - TO LOWER LIFT CYLING	ER
16 90321 1 HOSE ASSEMBLY 3/8" X 306" - TO UPPER LIFT CYLIN	DER
17 90320 1 HOSE ASSEMBLY 1/4" X 306" - TO UPPER LIFT CYLIN	DER
18 6458 26 FT HOSE, RETURN LINE, 5/16"	

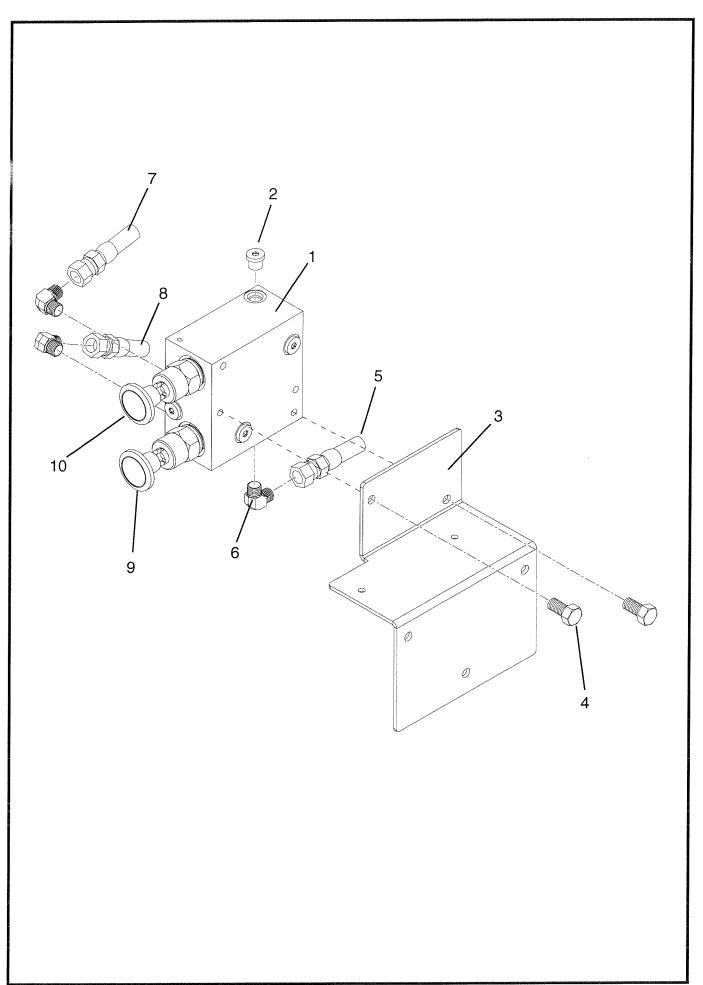


		4 100 /	
ITEM	PART NO.	QTY	MANIFOLD, LIFT CYLINDER - 3068ES
1	9229	1	HOSE ASSEMBLY 1/4"X 184"
	9230	1 1	HOSE ASSEMBLY 3/8"X 174"
2			
3	HDW7438	1	ADAPTER, 3/8", 37° X 9/16" - 18 UNF
4	8881	1 1	ADAPTER, MALE 1/4", O-RING, MALE 1/4" 37°
5	HDW8592	4	SCREW, 1/4" - 20, 1 1/2" LG
6	HDW8879	1	ELBOW, 90°, MALE 1/8" HOSE BARB, 5/16"
7	7788	2 15 FT	HOSE CLAMP, 5/8"
8	6458	15 FT	HOSE, RETURN LINE, 5/16"
9	7445	1	VALVE, CHECK
10	8840	1 1	COIL, 48VDC, 2 SPADE W/DIODE O-RING, MANIFOLD BLOCK
11	6426	1 1	VALVE, CHECK
12	7445	1 1	PLUG, PIPE FITTING - <b>EUROPE ONLY</b> (NOT SHOWN)
13	HDW8647		VALVE, N.C. POPPET, 2 WAY
14	6973	1	
15	14523	1	MANIFOLD, LIFT CYLINDER
16	9554	1	ORIFICE, .083 DIA
	Market .		
	# 10444794479479	,	
		-	
	4 WWW.7.7.	1	
	1.3444.097		

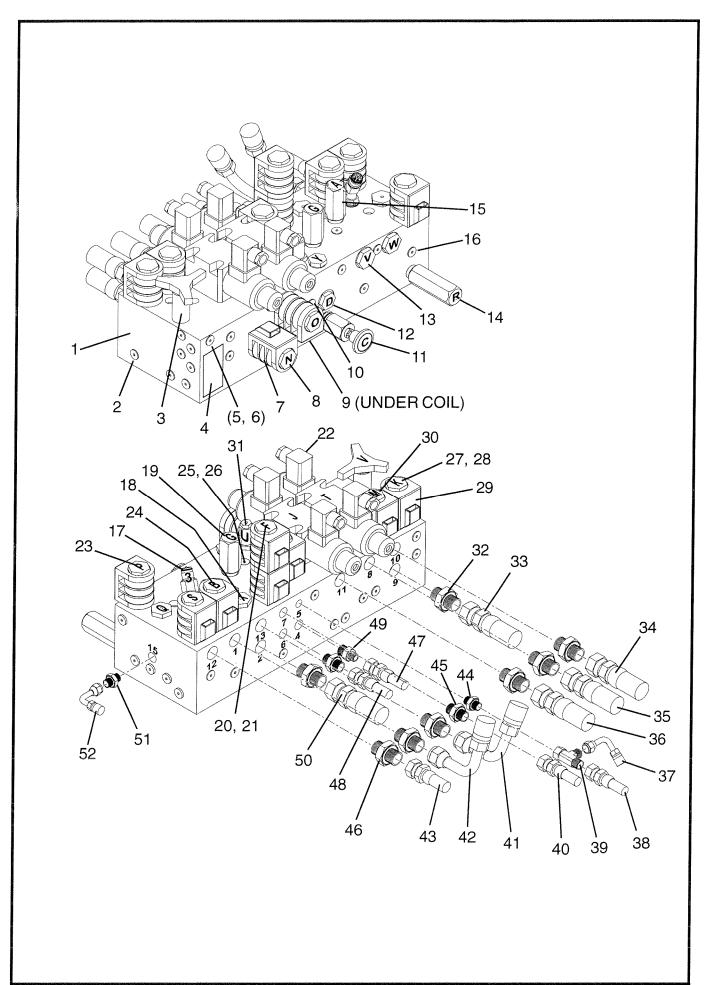


		ugassammen vistanie	
ITEM	PART NO.	QTY	
		N200	MANIFOLD, LOWER LIFT CYLINDER - 3768ES
1	6458	4 FT	HOSE, RETURN LINE, 5/16"
			LOWER LIFT CYLINDER TO JUNCTION BLOCK
2	90323	1	HOSE ASSEMBLY 1/4" X 46" - JUNCTION BLOCK TO
			LOWER LIFT CYLINDER
3	9038	1	HOSE ASSEMBLY, STRGHT FML, STRGHT FML, 3/8" - 46" LG
			JUNCTION BLOCK TO LOWER LIFT CYLINDER
4	HDW7601	1	ELBOW, 90°, MALE 3/8", MALE, O-RING
5	HDW8879	1	ELBOW, 90°, MALE 1/8" HOSE BARB, 5/16"
6	20395	1	MANIFOLD, LIFT CYLINDER
7	6973	1 1	VALVE, N.C. POPPET, 2 WAY
8	8840	1	COIL, 48VDC, 2 SPADE W/DIODE
9	9769	1	VALVE, RELIEF
10	HDW7314	4	PLUG, MALE 43, O-RING
11	HDW8975	1	PLUG, MALE 120, O-RING (NOT SHOWN)
12	7445	1	VALVE, P.O., BALL CHECK
13	HDW8877	1	ELBOW, 90°, MALE 1/4", O-RING
14	7788	1	HOSE CLAMP, 5/8"
15	90228	1	LOWER LIFT CYLINDER, 3" X 56.5" SNGL ACT W/MNFLD
		***************************************	
		1	
7777111			
30			

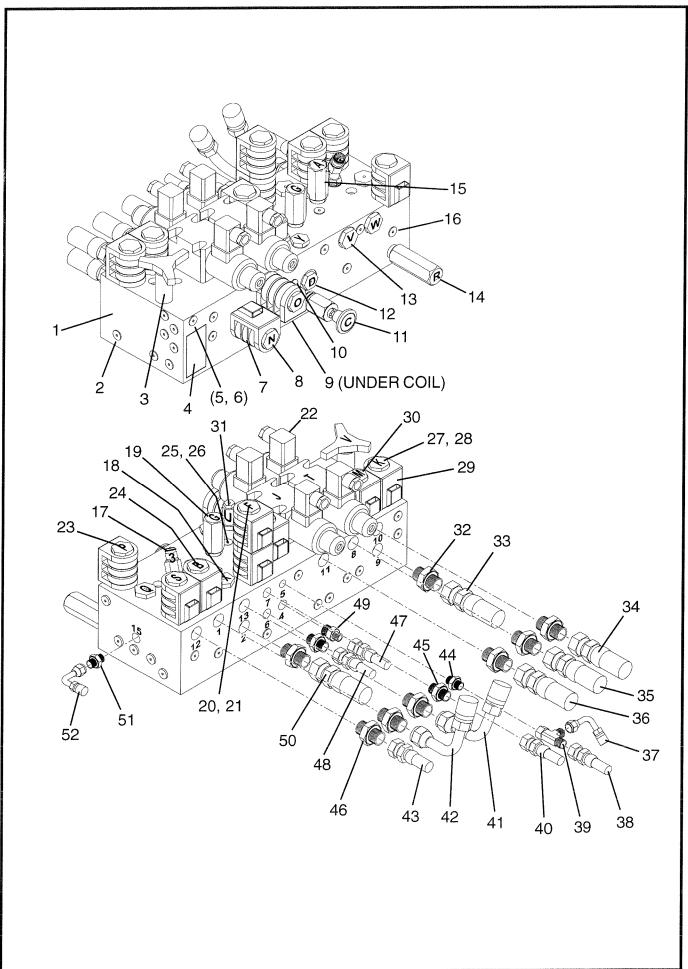




ITEM	PART NO.	QTY	DESCRIPTION
		100	EMERGENCY DOWN MANIFOLD
1	20437	1	BLOCK, MANIFOLD
2	HDW8975	5	PLUG
3	40507	1	BRKT, EMER MNFLD/HORN SP MNT
4	HDW6455	2	SCREW, 1/4" - 20, 1/2" LG
5	90317	2	HOSE ASSEMBLY 1/4" X 18" LG
6	HDW8877	3	ELBOW, 90°, MALE 1/4" O-RING, MALE 1/4"
7	90316	1	HOSE ASSEMBLY 1/4" X 21" LG
8	9229	1	HOSE ASSEMBLY 1/4" X 184" LG - 3068ES
	90314	1	HOSE ASSEMBLY 1/4" X 138" LG - 3768ES
9	8848	1	VALVE, MANUAL PULL, 4 WAY
10	8849	1	VALVE, HYDRAULIC HAND PUMP
1			
	:	111124	
1			
		and the state of t	
7200			

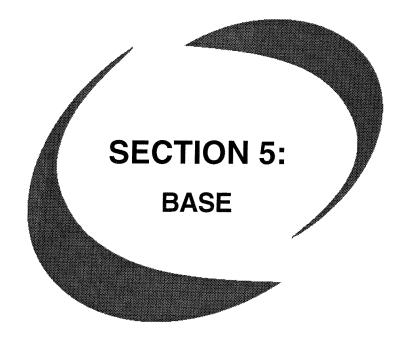


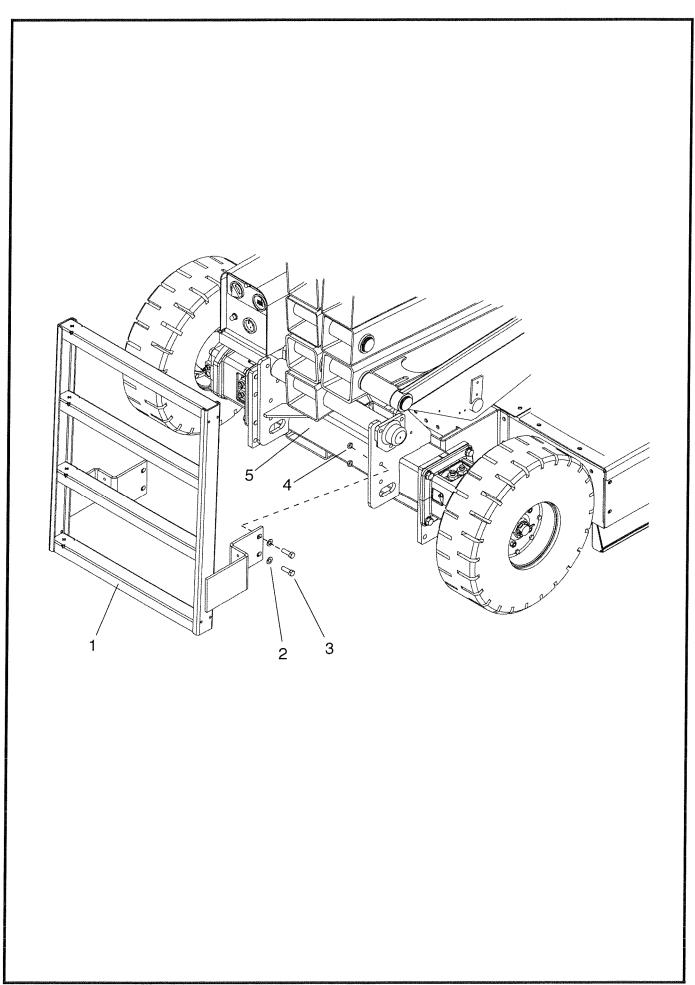
ITEM	PART NO.	QTY	DESCRIPTION
	9964	and .	MAIN MANIFOLD ASSEMBLY
1	90370	1	MANIFOLD
2	90382	21	PLUG, SAE #4, ZL
3	90378	1	VALVE, NEEDLE
4	90309	1	TAG, MANIFOLD
5	90395	1	PLUG, 1/16"-27 NPTF
6	HDW7314	2	PLUG, PIPE FITTING, MALE 43, O-RING
7	90375	7	COIL, 48 VDC, SERIES 7/8
8	6976	2	VALVE, 3 WAY 2 POSITION
9	90371	1	PLUG, EXPANDER, 8MM
10	90251	5	PLUG, EXPANDER, 7MM
11	9665	1	VALVE, MANUAL
12	9990	2	VALVE, CHECK
13	90382	21	PLUG, SAE #4, ZL
14	90426	1	VALVE, RELIEF, 2,200 PSI - 3068ES
15	90424	1	VALVE, RELIEF, 2,750 PSI - 3768ES
16	90383	18	PLUG, SAE #6, ZL
17	HDW7971	1	FITTING, MALE DISCONNECT 1/4NPT
	HDW7969	1	ELBOW, 45°, MALE 1/4", FEMALE 1/4"
	HDW9604	1	ADAPTER, MALE 3/8", MALE 1/4"
18	7765	1	PLUG, CAVITY 2 WAY
19	90427	1	VALVE, RELIEF, 800 PSI
20	9730	1	VALVE, TANDEM CNTR SCREEN, 4 WAY 7 POS
21	90381	2	COIL, 48 VDC, 4 WAY 3 POS
22	90374	2	VALVE, CNTRL
23	6973	2	VALVE, N.C. POPPET, 2 WAY
24	6975	2	VALVE, N.O. SPOOL
25	90384	1	PLUG, SAE #10
26	90379	1	ORIFICE PLUG, .025 DIA
27	9985	1	VALVE, N.O. SPOOL
28	90373	1	ORIFICE PLUG, DIA.062
29	90380	1	COIL, 48 VDC, SERIES 3/4
30	90372	1	VALVE, N.O. POPPET
31	9606	2	VALVE, COUNTER BALANCE
32	HDW7390	7	UNION, MALE 1/2", MALE 1/2", O-RING
İ		i	l l



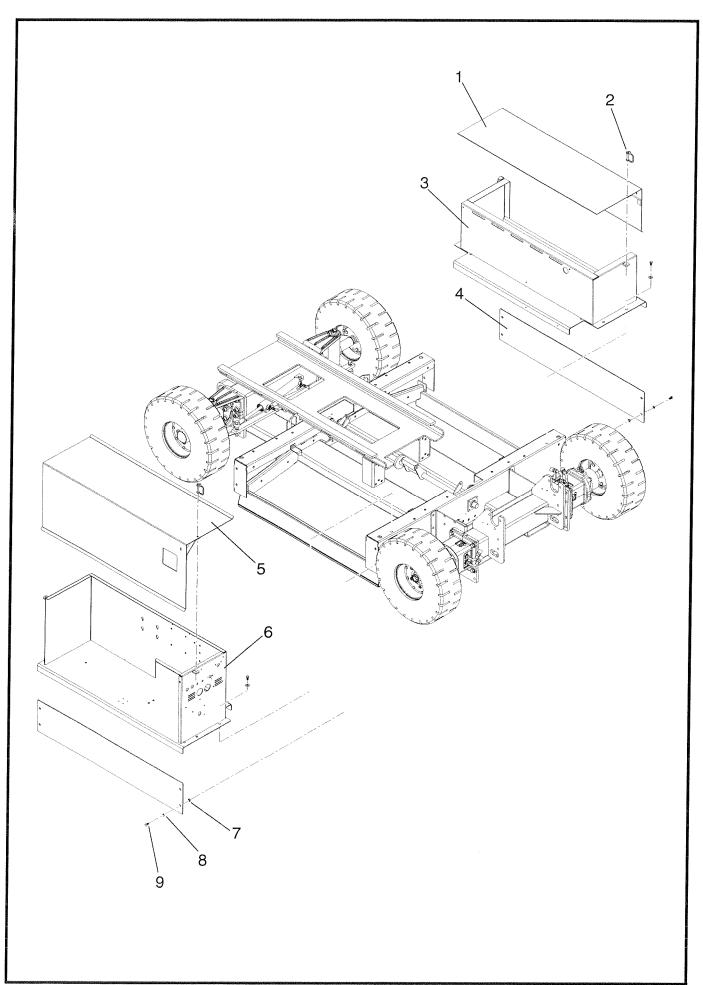
ITEM	PART NO.	QTY	DESCRIPTION
		100	MAIN MANIFOLD ASSY (CONTINUED)
33	90307	1	HOSE ASSEMBLY 1/2" X 51" LG
34	9745	1	HOSE ASSEMBLY 1/2"X 69" LG
35	90308	1	HOSE ASSEMBLY 1/2" X 49" LG
36	9748	1	HOSE ASSEMBLY 1/2"X 72" LG
37	90313	1	HOSE ASSEMBLY 1/4"X 64" LG
38	90312	1	HOSE ASSEMBLY 1/4" X 52" LG
39	90332	1	TEE, MALE 1/4", FEMALE 1/4"
40	90306	1	HOSE ASSEMBLY 1/4" X 76" LG
41	90315	1	HOSE ASSEMBLY 1/2" X 21" LG
42	90330	1	HOSE ASSEMBLY 1/2" X 23" LG
43	90316	1	HOSE ASSEMBLY 1/4" X 21" LG
44	HDW8881	1	ADAPTER, MALE 1/4", MALE 1/4", O-RING
45	HDW7438	2	ADAPTER, MALE 3/8", MALE 3/8"
46	HDW7389	1	ADAPTER, MALE 3/8", MALE 1/2"
47	90316	1	HOSE ASSEMBLY 1/4" X 21" LG
48	8897	1	HOSE ASSEMBLY 1/4"X 66" LG
49	HDW9472	1	UNION, MALE 1/4", MALE 3/8", O-RING
50	9849	1	HOSE ASSEMBLY 1/2"X 44" LG
51	HDW9472	1	UNION, MALE 1/4", MALE 3/8", O-RING
52	90317	1	HOSE ASSEMBLY 1/4" X 18" LG
		6	PLUG, PLASTIC, SAE #6
		8	PLUG, PLASTIC, SAE #8
		1	PLUG, PLASTIC, SAE #4
A La .			
		- Constitution of the Cons	



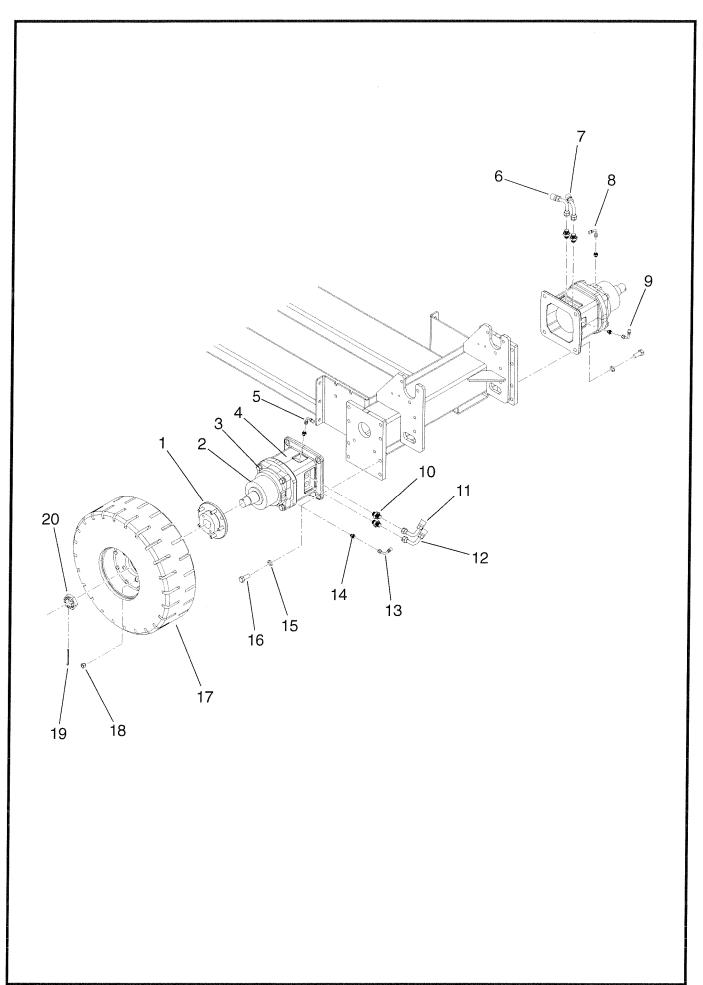




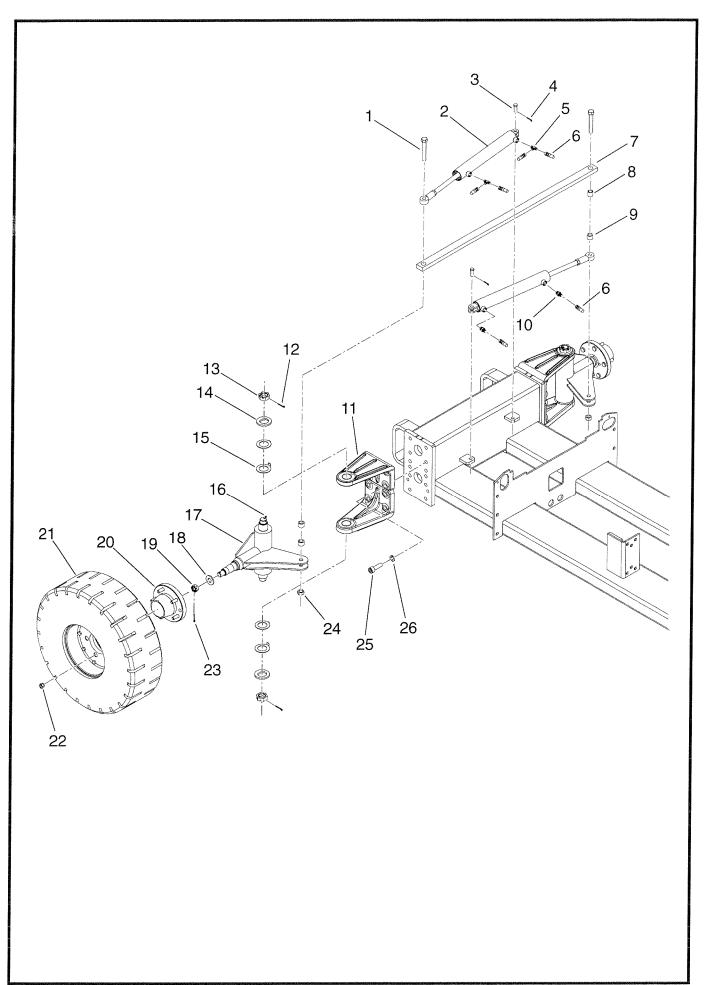
		***************************************	
ITEM	PART NO.	QTY	
1	40455	1	LADDER WELDMENT - 3068ES
	40502	1	LADDER WELDMENT - 3768ES
2	HDW8531	4	WASHER, .531 ID X 1.000 OD X .063 THK
3	HDW8283	4	SCREW, 1/2" - 13, 1 1/2" LG
4	HDW6349	4	NUT, 1/2" - 13, GR 5
5	40159	1	BASE WELDMENT
1			
	***************************************		
		774	



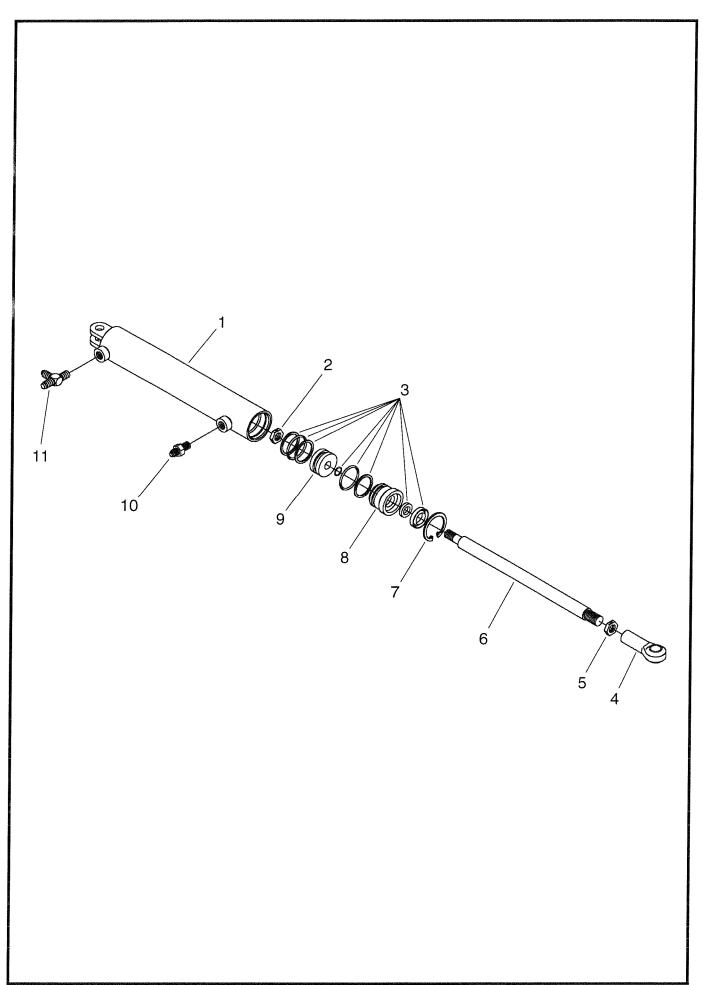
ITEM	PART NO.	QTY	DESCRIPTION
1	14390	1	DOOR, CABINET, BATTERY
2	HDW7593	2	PIN, WIRE LOCK, 3/8" DIA X 2 1/4" LG
3	14400	1	CABINET WELDMENT, BATTERY
4	40487	2	PANEL, CABINET, SIDE
5	40517	1	DOOR, COMPONENT, HYD/ELEC
6	40472	1	CABINET WELDMENT, HYD COMPONENTS
7	HDW8268	8	NUT, 3/8" - 16, GR 5
8	HDW5355	16	WASHER, .438 ID X 1.000 OD X .078 THK
9	HDW5004	16	SCREW, 3/8" - 16, 1.00" LG, GR 5
		***	
			· -
	***************************************		
		-	



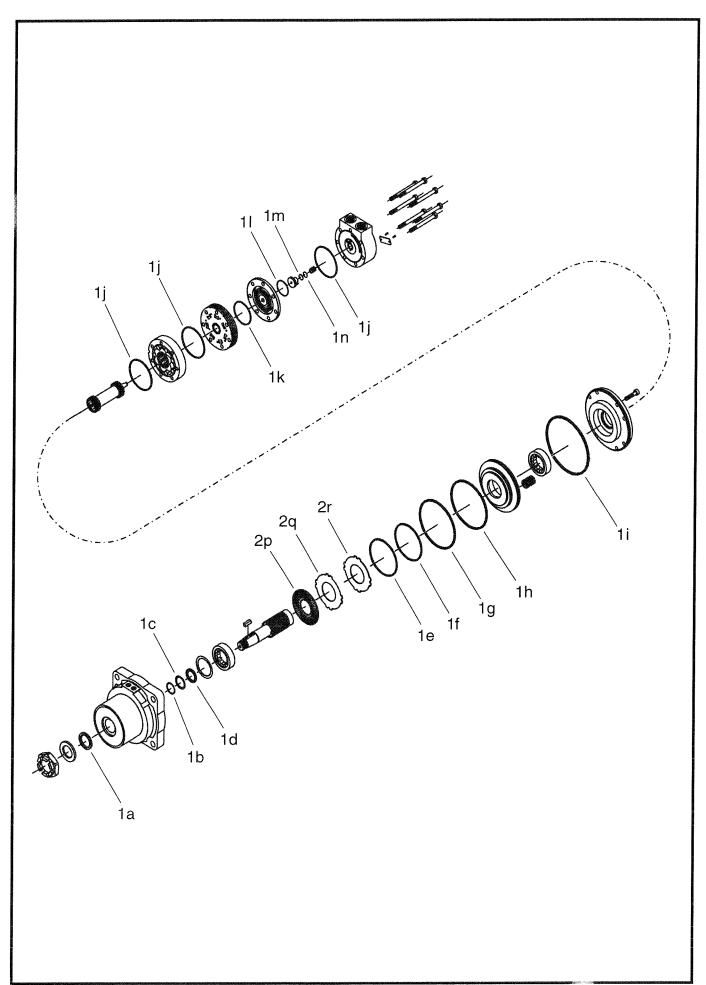
ITEM	PART NO.	QTY	DESCRIPTION
			REAR AXLE ASSEMBLY
1	14399	2	HUB, 5 BOLT X Ø5.5" BOLT CENTER, 1:10 TAPER
2	8843	2	MOTOR, WHEEL, HYD W/BRAKE
3	HDW5989	8	BOLT, 5/8" - 11, 2 1/4" LG
4	40257	2	MOUNT, MOTOR, REAR AXLE
5	90318	1	HOSE ASSEMBLY 1/4" X 83" LG
6	9746	1	HOSE ASSEMBLY 1/2"X 75" LG
7	9745	1	HOSE ASSEMBLY 1/2"X 69" LG
8	90313	1	HOSE ASSEMBLY 1/4"X 64" LG
9	90319	1	HOSE ASSEMBLY 1/4" X 103" LG
10	8984	4	ADAPTER, MALE 3/4" O-RING, MALE 1/2"
11	90307	1	HOSE ASSEMBLY 1/2" X 51" LG
12	90308	1	HOSE ASSEMBLY 1/2" X 49" LG
13	90312	1	HOSE ASSEMBLY 1/4" X 52" LG
14	HDW8881	4	ADAPTER, MALE 1/2" O-RING, MALE 1/2"
15	HDW5994	16	WASHER, LOCK, .640 ID X 1.050 OD X .165 THK
16	HDW90409	8	BOLT, 5/8" - 11, 1 1/2" LG
17	8857	2	TIRE, SOLID BLACK, 7.5 X 10, WHEEL 5.5 X 10
	8858	2	TIRE, NON-MARKING, 7.5 X 10, WHEEL 5.5 X 10 - <b>OPTION</b>
18	HDW6677	10	NUT, LUG, 1/2" - 20, GR 5
19	8925	2	PIN, COTTER, .250 X 3" LG
20	HDW9037	2	NUT, CASTLE, M42 X 3
		-	
000000000000000000000000000000000000000		The state of the s	
i l			



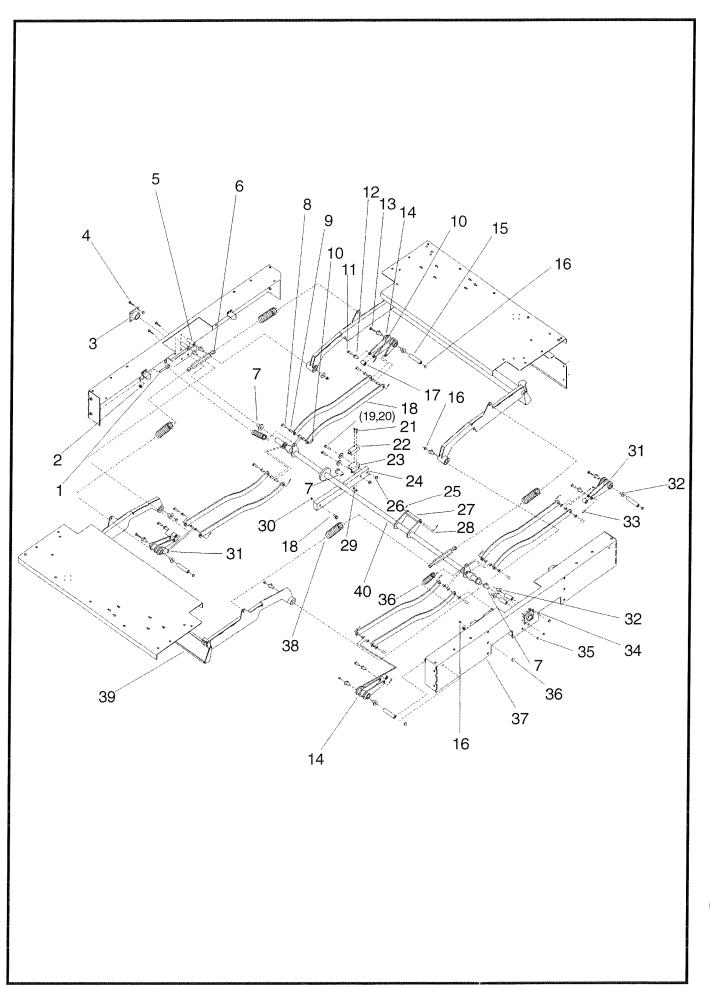
ITEM	PART NO.	QTY	DESCRIPTION
		pine .	FRONT AXLE ASSEMBLY
1	HDW7326	2	SCREW, 5/8" - 11. 4" LG, GR 5
2	10329	2	CYL, STEERING
3	HDW5710	2	PIN, CLEVIS, 1/2 DIA. X 1 1/4" LG
4	HDW5920	2	PIN, COTTER, .12 DIA. X 1" LG
5	HDW8895	2	TEE, MALE 1/4", MALE 3/8"
6	8898	2	HOSE ASSEMBLY 1/4" X 19" LG
7	14331	1	SPACER, STEERING LINK
8	14224	2	SPACER, STEERING LINK
9	7292	2	BEARING, SLEEVE, BRONZE
10	HDW8306	2	ADAPTER, MALE 3/8", MALE 1/4"
11	40334	4	MOUNT, MOTOR
12	HDW5787	4	PIN, COTTER, .12 DIA. X 1 1/2" LG
13	HDW8568	4	NUT, 1 1/8" - 18
14	20311	4	WASHER, 1.375 ID X 2.75 OD X .250 THK
15	20312	8	WASHER, 1.575 ID X 2.50 OD X .074 THK
16	9607	2	FITTING, GREASE, 90°
17	40374 - į	2	SPINDLE WELDMENT, FRONT
18	8936	2	WASHER, .820 ID X 1.75 OD X .187 THK
19	HDW5737	2	NUT, 3/4" - 16, GR 5
20	8865	2	HUB, ASSEMBLY, 5 X 5.5" BOLT CENTER
21	8857	2	TIRE, SOLID BLACK, 7.5 X 10", WHEEL 5.5 X 10"
	8858	2	TIRE, NON-MARKING, 7.5 X 10, WHEEL 5.5 X 10 - <b>OPTION</b>
22	HDW6677	10	NUT, LUG, 1/2" - 20, GR 5
23	8937	2	PIN, COTTER, .149 DIA X .312" LG
24	HDW6633	2	NUT, LOCK, 5/8" - 11, GR 5
25	HDW90410	16	SCREW, 5/8" - 11, 2" LG, GR 8
26	HDW5994	16	WASHER, LOCK, .640 ID X 1.050 OD X .165 THK
		-	



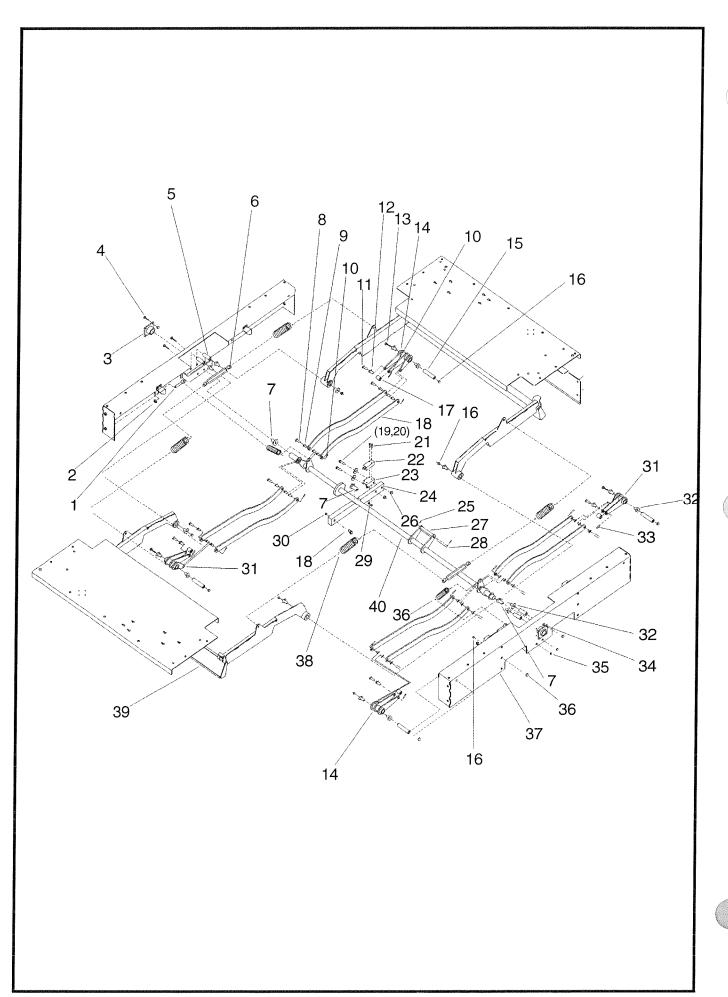
ITEM		QTY	
	10329		STEERING CYLINDER ASSEMBLY
1	10048	1	WELDMENT, CYLINDER, STEERING
2	HDW6338	1	NUT, 1/2" - 20, GR 5
3	5947	2	SEAL KIT FOR CYLINDER 10329
4	7293	1	ROD, END, BALL JOINT
5	HDW5925	1	NUT, 5/8" - 18, GR 5
6	10041	1	ROD, CYLINDER
7	6337	1	RING, RETAINING, INTERNAL
8	2493	1	HEAD, CYLINDER
9	2494	1	PISTON, CYLINDER
10	HDW8306	2	ADAPTER, MALE, 3/8", MALE 1/4"
11	HDW8895	2	TEE, MALE 1/4" NPT, MALE 3/8"
900.00			
	2002		
		***************************************	
		THE STATE OF THE S	



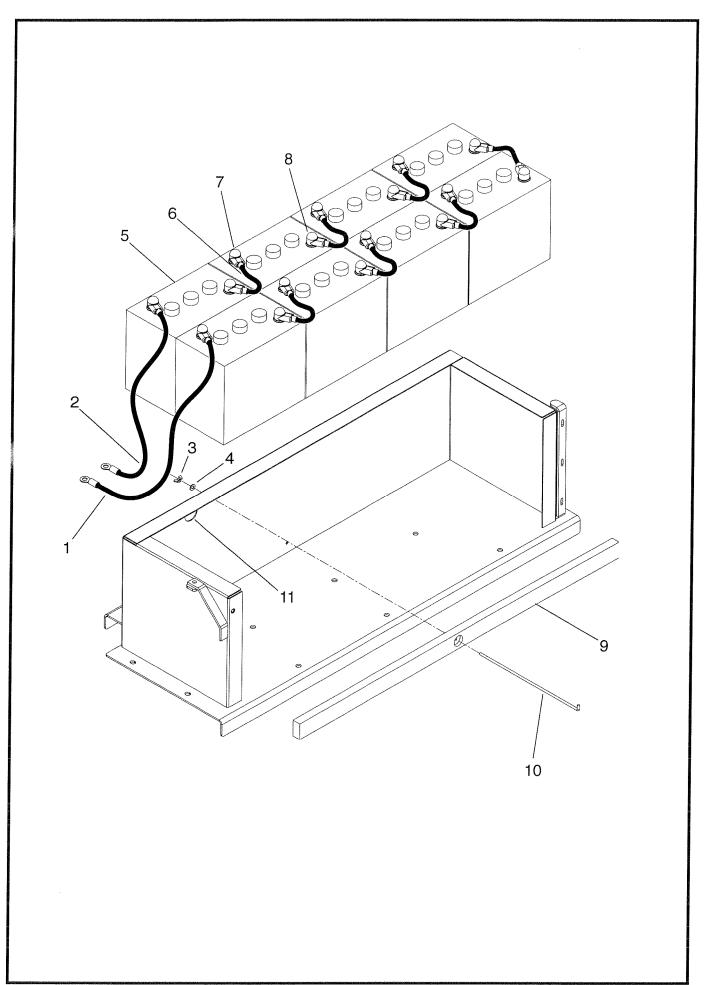
ITEM	PART NO.	QTY	DESCRIPTION
	8843		WHEEL MOTOR W/BRAKE
1	9781	1	SEAL KIT
1a		1	DUST SEAL
1b		1	METAL BACKUP SHIM
1c		1	TEFLON BACK UP SEAL
1d	mair	1	SHAFT SEAL
1e	•	1	SMALL O-RING SEAL
1f	_	1	SMALL TEFLON SEAL
1g	-	1	LARGE O-RING SEAL
1h	<u>-</u>	1	LARGE TEFLON SEAL
1i	-	1	O-RING SEAL
1j	-	3	O-BODY SEAL
1k	-	1	MANIFOLD SEAL
11	<b>60</b>	1	COMMUTATOR SEAL
1m	-	1	PISTON O-RING SEAL
1n	-	1	PISTON TEFLON SEAL
2	9782	1	DISC KIT
2p	-	1	FRICTION DISC
2q	-	1	DISC STAMPING
2r		1	DISC STAMPING
1g 1h 1i 1j 1k 1l 1m 1n 2 2p 2q	- - - - - - - 9782	1 1 3 1 1 1 1 1	LARGE O-RING SEAL  LARGE TEFLON SEAL  O-RING SEAL  O-BODY SEAL  MANIFOLD SEAL  COMMUTATOR SEAL  PISTON O-RING SEAL  PISTON TEFLON SEAL  DISC KIT  FRICTION DISC  DISC STAMPING



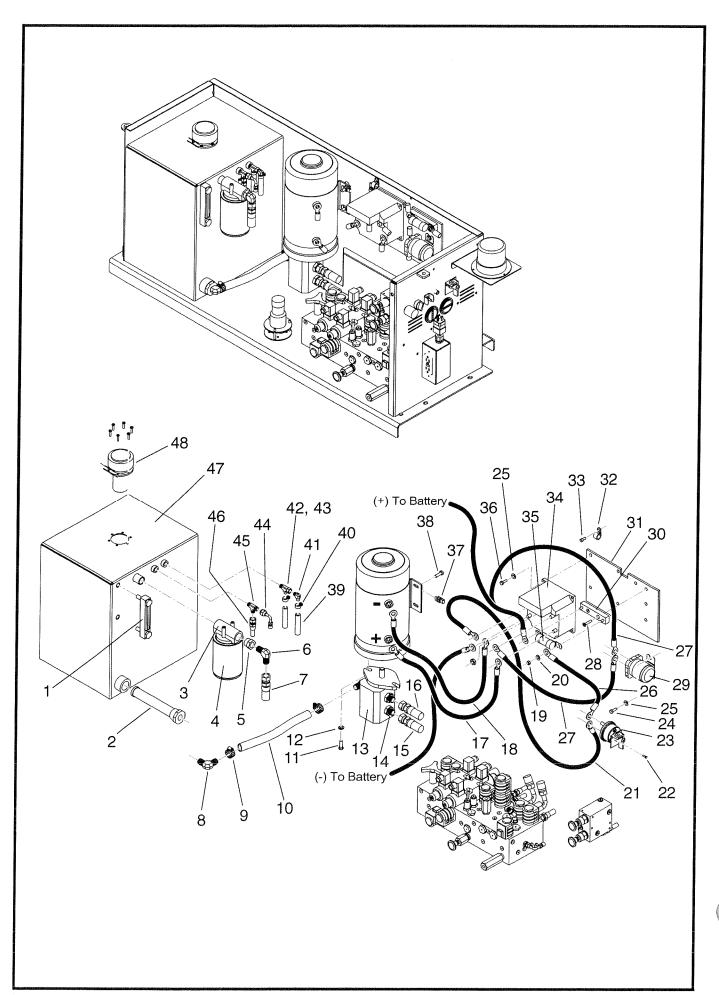
ITEM	PART NO.	QTY	DESCRIPTION
11-11/1	I ANI NO.		POTHOLE ASSEMBLY
1	8947	2	BOLT, 1/2" - 13, 3 3/4" LG
2	HDW6463	2	NUT, 1/2" - 13, GR 5
3	14243	2	WELDMENT, PTHL ,PIVOT ACTUATE
4	HDW8273	8	SCREW, 1/4" - 20, 1" LG, GR 8
5	14438	4	SPACER, PTHL BAR WELDMENT, PIVOT
6	HDW9003	2	TURNBUCKLE, 3/8", WITH EYE BOLT
7	5898	3	BUSHING, NYLINER
8	HDW8834	8	PIN, CLEVIS, 1/2" DIA. X 1 1/8" LG
9	7220	24	BRNG, NYLINER, 1/2" X 7/32"
10	HDW5920	12	PIN, COTTER, .12 DIA. X 1" LG
11	HDW7229	4	PIN, CLEVIS, 1/2" X 2" LG
12	7200	8	BRNG, NYLINER, .510 X 1/2", 2"LG
13	HDW8856	4	SCREW, 1/2" - 13, 5" LG, GR 5
14	14623	4	BRACKET, ACTUATOR, PTHL LOCK
15	14428	4	SPACER, LOCK BRKT PIVOT, PTHL BAR
16	HDW6349	24	NUT, 1/2" - 13, GR 5
17	14432	4	ROLLER, PTHL BAR LOCK
18	14625	8	LINK, PTHL ACTUATOR
19	HDW10490	2	WASHER, .317 ID X 1.125 OD X .112 THK
20	HDW7546	2	SCREW, 1/4" - 20, 2" LG, GR 5
21	HDW8482	2	SCREW, #8 - 32, 1 1/2" LG, GR 2
22	8776	1	SWITCH, LIMIT, SINGLE POLE
23	13840	1	BRKT, MOUNT, LIMIT SWITCH
24	14686	1	SUPPORT, CENTER, PTHL BAR
25	HDW6461	10	NUT, 1/4" - 20, GR 5
26	HDW5920	2	PIN, COTTER, .12 DIA. X 1" LG
27	30702	1	BLOCK, PTHL BAR ACTUATOR
28	14705	1	PIN, 1/2" DIA. X 5.545" LG
29	HDW5251	2	NUT, #8 - 32, GR 5
30	HDW6281	4	NUT, 3/8" - 16, GR 5
31	14454	2	WELDMNT, ACTUATE, POTHOLE SYSTEM
32	7015	16	BRNG, .877 DIA. X 1.312" LG, NYLINER
33	14667	2	SPRING, 1 3/4"OD X .283" THK X12 1/2" LG
34	HDW7052	8	SCREW, 1/2" - 13, 3 1/2" LG, GR 5
		1	



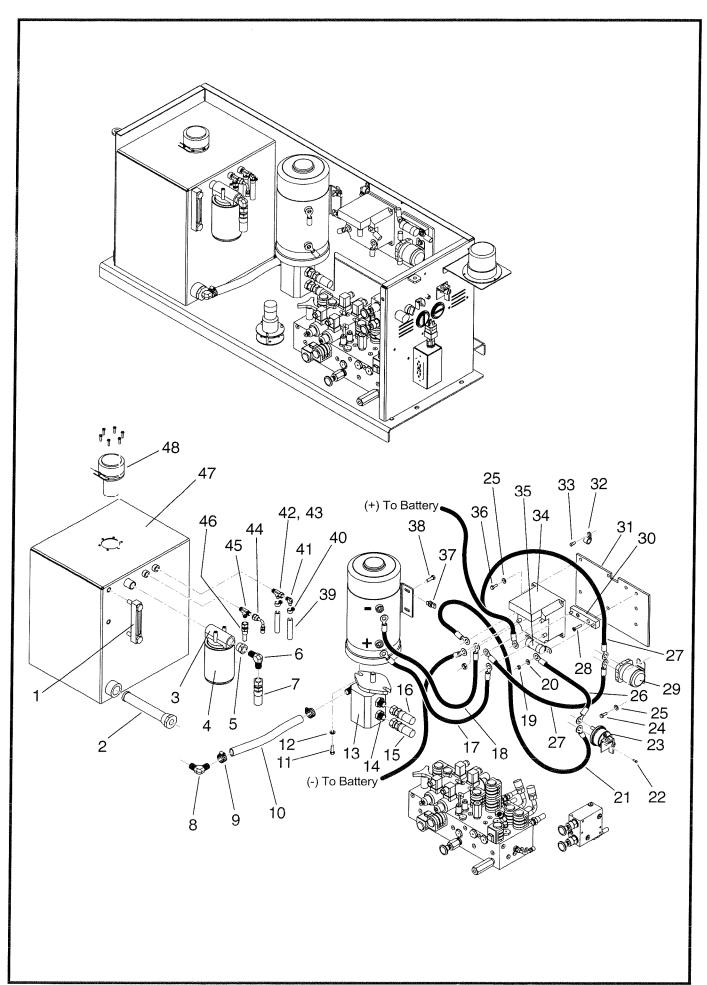
ITEM	PART NO.	QTY	DESCRIPTION
		1504	POTHOLE ASSEMBLY (CONTINUED)
35	HDW6349	12	NUT, LOCK, 1/2" - 13, GR 5
36	HDW5881	12	SCREW, 1/2" - 13, 1" LG, GR 5
37	40480	2	WELDMENT, BULKHEAD, PTHL
38	14668	4	SPRING, 1 1/2" OD X .262" THK X 11" LG
39	14458	2	WELDMENT, POTHOLE BAR
40	14941	1	WELDMENT, POTHOLE, ACTUATOR
		100	



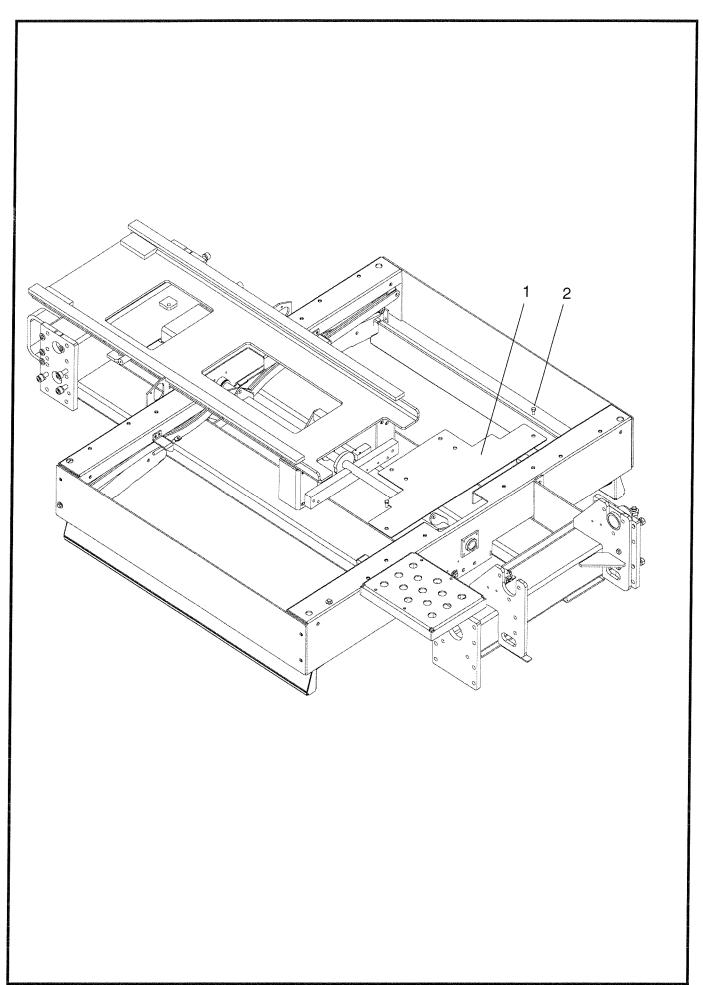
I solve hom M VI		~~V	
ITEM	PART NO.	QTY	DESCRIPTION  BATTERY CABLES CONNECTION
1	8836	1	
			CABLE, BATTERY, UL1283, #2, RED, 85" LG
2	8835	1	CABLE, BATTERY, UL1283, #2, BLACK,
	LIDIMOAAO		85" LG - NEGATIVE TO SEVCON
3	HDW6110	1	NUT, WING, 1/4" - 20 - CE OPTION
4	HDW5217	1	WASHER, FLAT - CE OPTION
5	5970	8	BATTERY, 6 VOLT - LIEANOV BUTY
	7739	8	BATTERY, 6 VOLT - HEAVY DUTY
6	6208	7	CABLE, BATTERY, UL1283, #2, BLACK, 8 1/2" LG
7	7172	8	BOOT, TERMINAL INSULATOR, BLACK
8	7173	8	BOOT, TERMINAL INSULATOR, RED
9	14701	1	SPACER, HOLDER, BATTERY - LARGE
10	40193	1	ROD, HOLD DOWN, BATTERY - CE OPTION
11	5863	1	GROMMET, 3/16" X 1 1/2" X 1 3/4"
		777 774	
	auer 11 de nick de Versier en de Park Malaine hallit aus de Nader de West and Andre de Versier de Land		
		`	
		77.77	
		and a principle of the state of	
		101000	



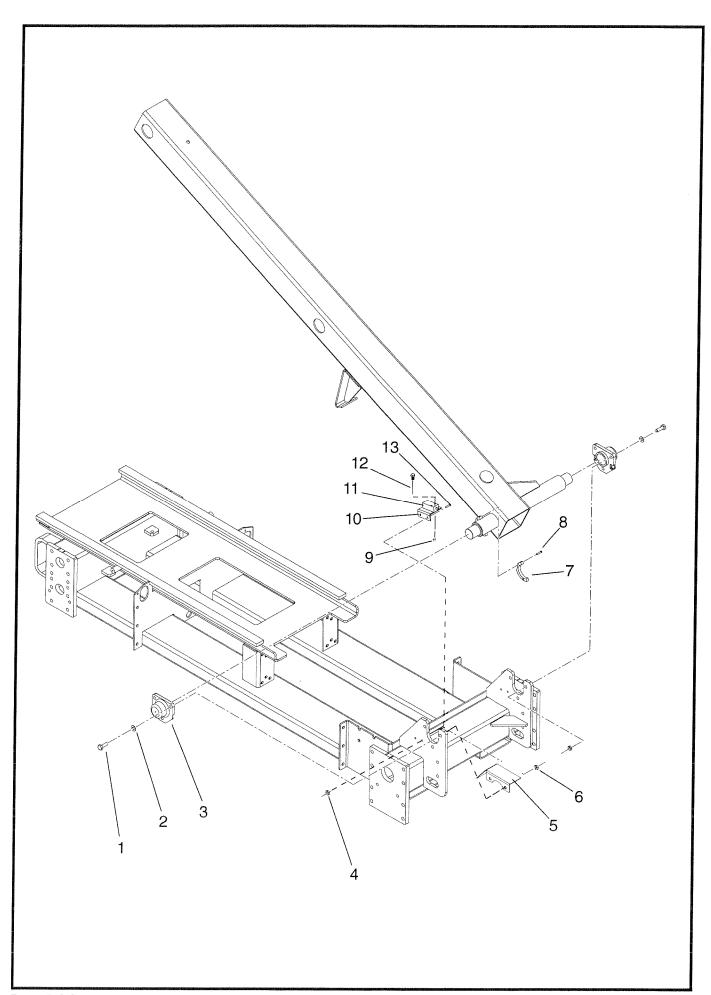
ITEM	PART NO.	QTY	DESCRIPTION
		-	ELECTRICAL CABINET INSTALLATION
1	9370	1	GUAGE, LEVEL, HYD TANK
2	7712	1	FILTER, SUCTION, 1 1/4" NPT
3	6714	1	FILTER HEAD
4	6156	1	FILTER, OIL CARTRIDGE
5	HDW6752	1	ADAPTER, MALE 3/4" NPTF, FEMALE 1/2" NPTF
6	HDW6510	1	ELBOW, 90°, MALE 1/2" SAE, MALE 1/2" NPT
7	9849	1	HOSE ASSEMBLY 1/2"X 44" LG
8	HDW7499	1	ELBOW, 90°, MALE 3/4" NPTF X 1" HOSE END
9	8064	2	CLAMP, HOSE 1 3/4" DIA.
10	90417	1	HOSE, 1" ID X 11" LG - LOW PRESSURE
11	HDW90354	2	SCREW, 3/8" - 24, 1" LG, GR 5
12	HDW7783	2	WASHER, SPLIT, 3/8" ID
13	9954	1	PUMP, HYD, DUPLEX, 4.0CC
14	HDW7390	2	UNION, MALE 1/2", MALE 1/2" O-RING
15	90315	1	HOSE ASSEMBLY 1/2" X 21" LG
16	90330	1	HOSE ASSEMBLY 1/2" X 23" LG
17	9438	1	CABLE, BATTERY, UL1283 - #2, RED 15" LG
18	8852	1	CABLE, BATTERY, UL1283 - #2, BLK 13 1/2" LG
19	HDW8267	2	NUT, 1/4" - 20, GR 5
20	HDW8552	2	WASHER, .281 ID X .625 OD X .062 THK
21	8425	1	CABLE, BATTERY, UL1283 - #2, RED 13 1/2" LG
22	HDW5385	2	SCREW, SELF-TAP, #8 - 32, 3/8" LG, GR 5
23	8841	1	SWITCH, MASTER DISCONNECT
24	HDW6455	2	SCREW, 1/2" - 20, 1/2" LG, GR 5
25	HDW5217	6	WASHER, .343 ID X .688 OD X .063 THK
26	8837	1	CABLE, BATTERY, UL1283 - #2, RED 10" LG
27	8426	2	CABLE, BATTERY, UL1283 - #2, RED 9" LG
28	HDW7778	2	SCREW, CROSS-RECESSED, 1/4" - 20, 1 1/4" LG, GR 2
29	7688	1	CONTACTOR, 48 VOLT DC
30	7785	1	FUSE HOLDER
31	40510	1	PLATE, HEAT TRANSFER, SEVCON
32	9356	1	CLAMP, CABLE, DEK-NYLON
33	HDW5723	1	SCREW, SELF-TAP, 1/4" - 20, 3/4" LG, GR 5
34	90137	1	MOTOR CONTROLLER



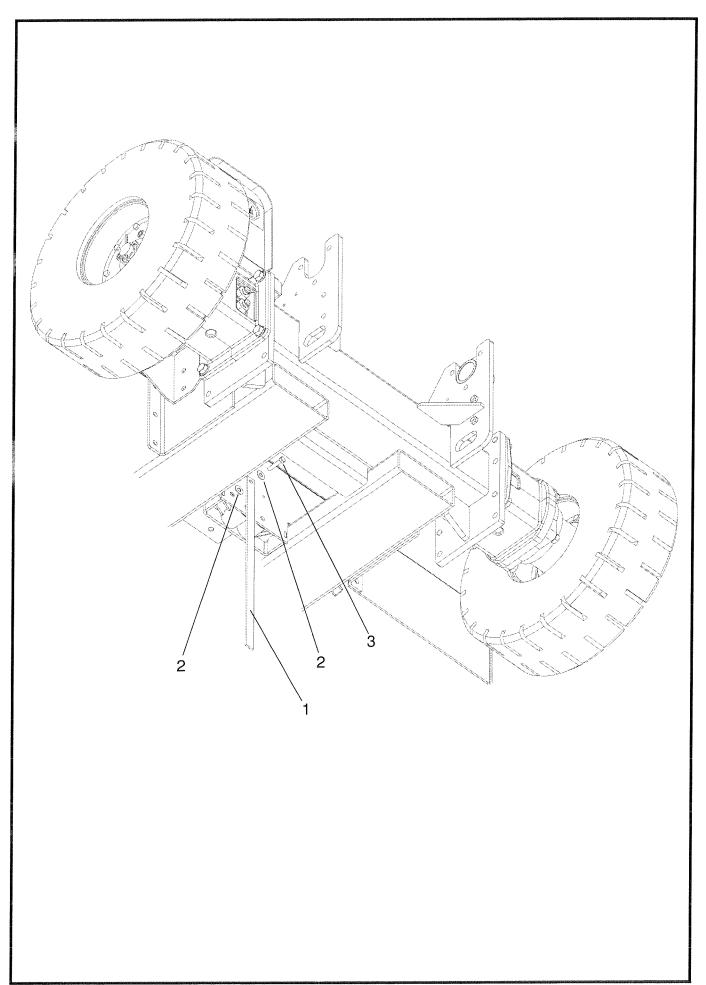
)) 
Т
)
***************************************
_



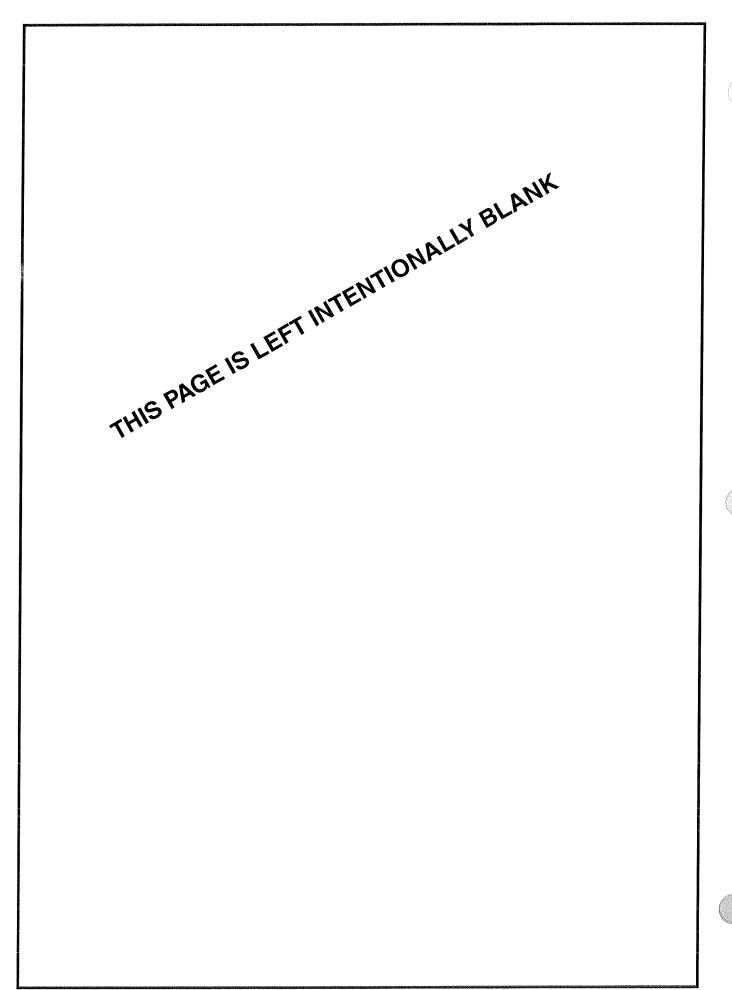
ITEM	PART NO.	QTY	DESCRIPTION
1	40531	1	COVER, REAR PTHL ACTUATOR
2	HDW5009	2	BOLT, 3/8" - 16, 3/4" LG
		700	
	M		
			ž
		111111111111111111111111111111111111111	



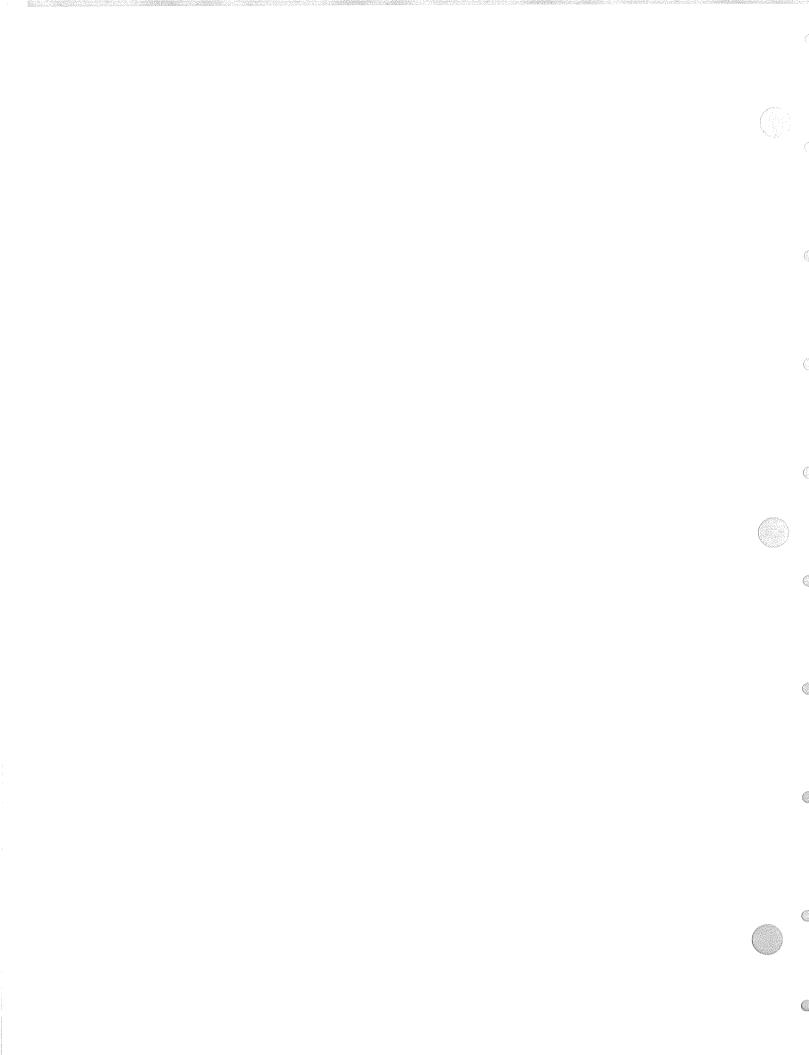
ITEM	PART NO.	QTY	DESCRIPTION
		-	FIXED BEAM INSTALLATION
1	HDW8283	6	BOLT, 1/2" - 13, 1.50" LG GR 8
2	HDW6491	6	WASHER, FLAT, .562 ID X 1.375 OD X .109 THK
3	40459	2	LOWER PIVOT, CASTING, MACHINED
4	HDW8267	2	NUT, 1/4" - 20
5	40605	1	COVER, LIMIT SWITCH
6	HDW8457	6	LOCKNUT, 1/2" - 13, GR B
7	40524	1	CAM, SLOW SPEED, 2.75 DIA PIN
8	HDW5881	2	SCREW, 1/2" - 13, 1" LG, GR 5
9	HDW5251	4	NUT, #8 - 32
10	40516	1	MOUNT BRKT, LIMIT SWITCH
11	8776	1	SWITCH, LIMIT DOUBLE POLE
12	HDW8482	4	SCREW, #8 - 32, 1 1/2" LG
13	HDW8273	2	SCREW, 1/4" - 20, 1" LG
		***************************************	
***************************************	1		
		-	



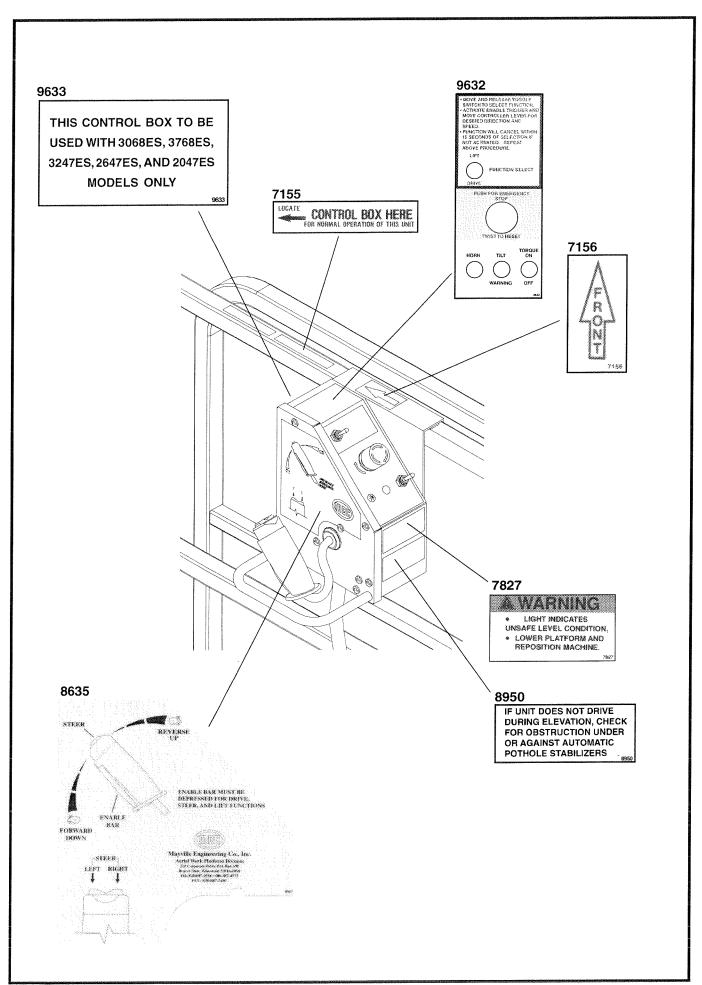
ITEM	PART NO.	QTY	DESCRIPTION
3 I bost VI	TAITI NO.	_	STATIC STRAP INSTALLATION
1	7638	1	STRAP, GROUNDING, 1" WIDE, 24" LG
2	HDW5355	2	WASHER, FLAT
3	HDW5756	1	SCREW, 3/8" - 16, 1 3/4" LG
		•	
		7.70	
		0.000.000	
		- Action of the Control of the Contr	



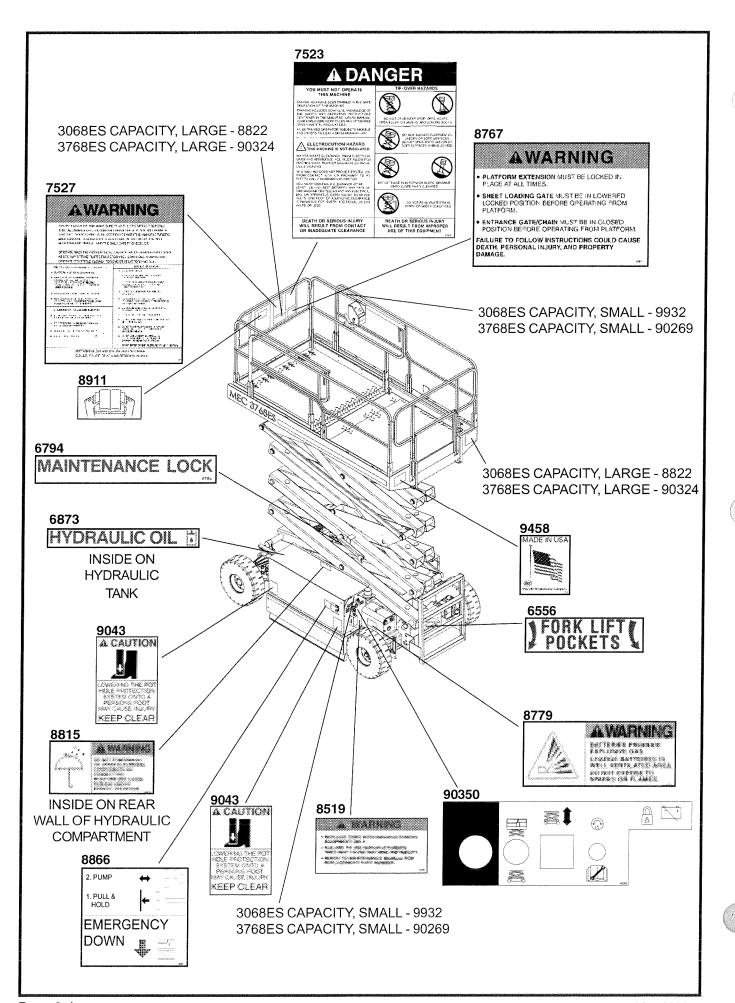
ITEM	PART NO.	QTY	DESCRIPTION
	9853	-	HARNESS, PLATFORM TO CONTROL BOX
	9764		HARNESS, CONTROL BOX
	9766	-	HARNESS, JOYSTICK
	90352		HARNESS, SAFETY
	9857	-	HARNESS, DOWN - 3768ES
	9856	_	HARNESS, DOWN - 3068ES
	90353	-	HARNESS, MANIFOLD
	9878	_	HARNESS, CONTROL
	8924	_	HARNESS, CHARGER
	9740	_	HARNESS, PLATFORM TO BASE - 3768ES
	9741		HARNESS, PLATFORM TO BASE - 3068ES
	9877		HARNESS, INSTRUMENT
		E.	
-			
		-	
	ALL CONTROL OF THE CO		
and the second			



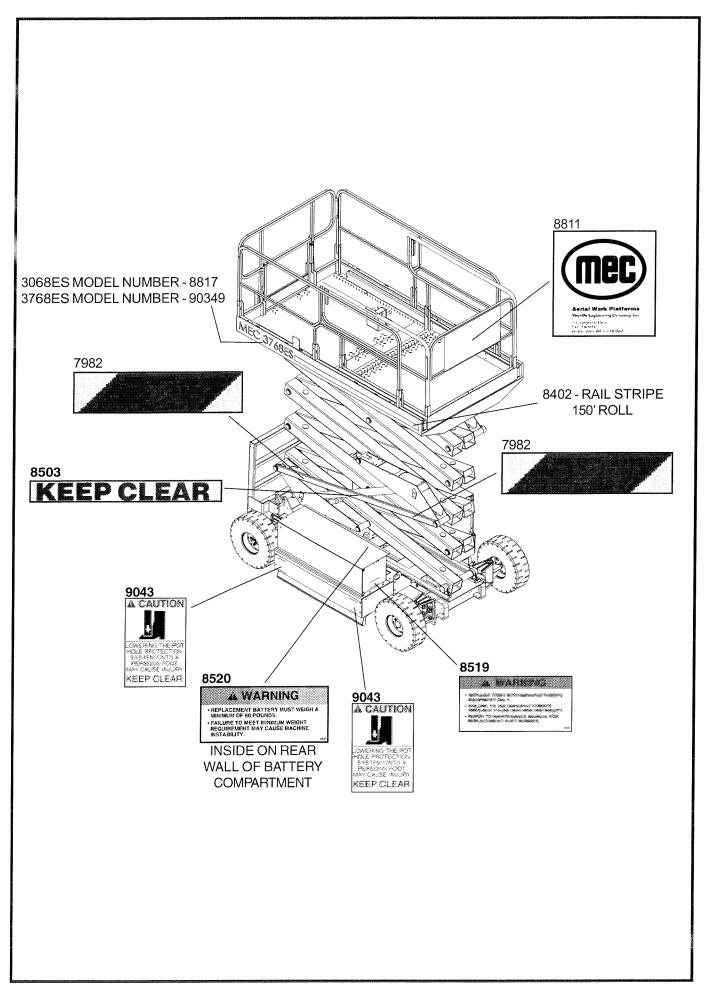




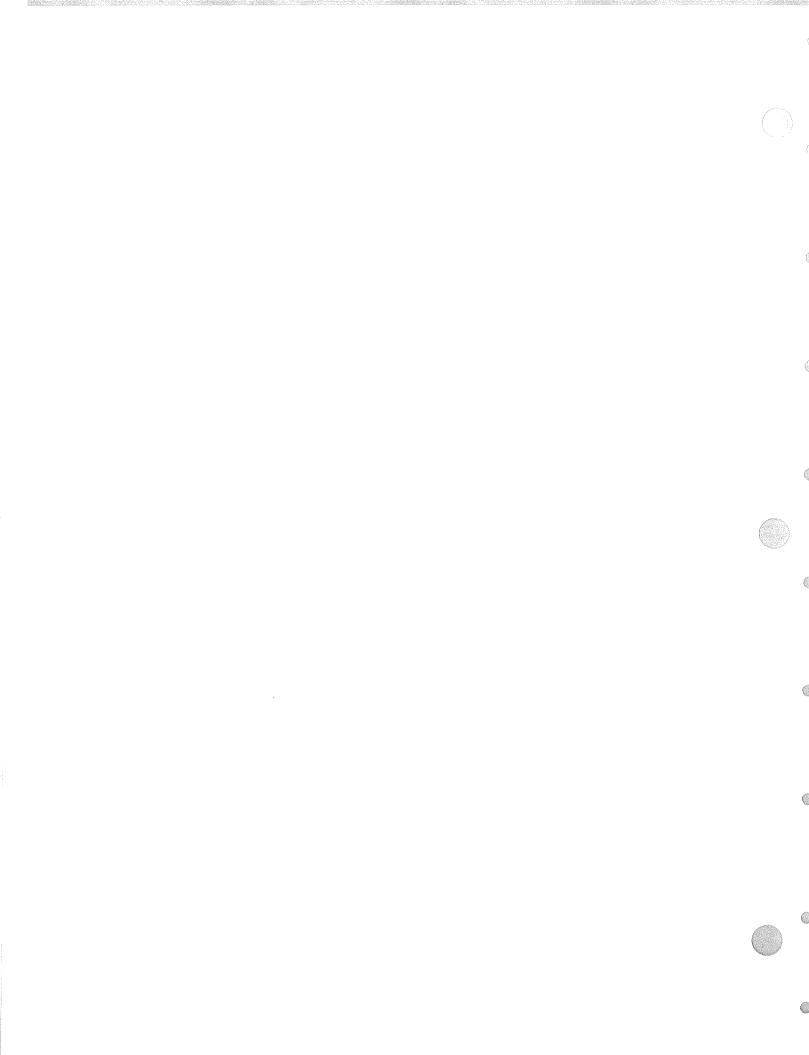
ITEM	PART NO.	QTY	DESCRIPTION
	14311	1	DECAL KIT - 3068ES
	40532	1	DECAL KIT - 3768ES
	A		
		The second secon	
		***************************************	
À			
		AAA.	
	AND THE PROPERTY OF THE PROPER		

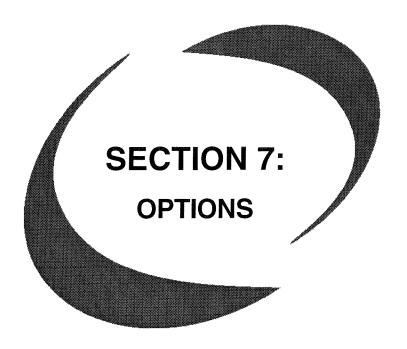


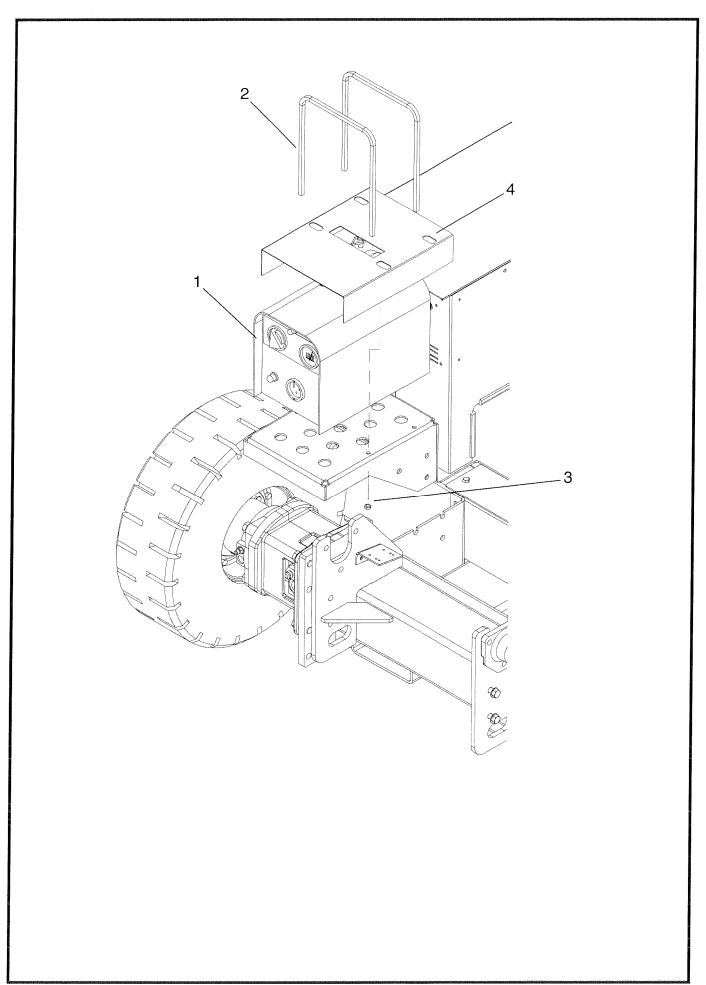
ITEM	PART NO.	QTY	DESCRIPTION
	13411	1	DECAL KIT - 3068ES
	40532	1	DECAL KIT - 3768ES
	and the state of t		
		***************************************	
		77.4440	



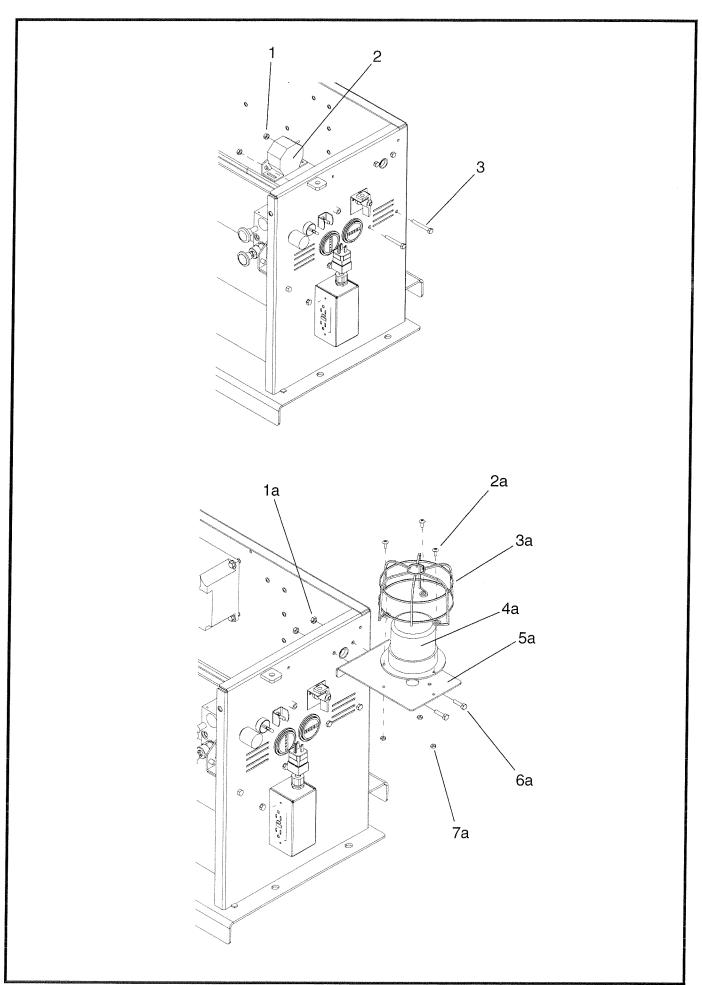
ITEM	PART NO.	QTY	DESCRIPTION
I I E IVI	13411	1	DECAL KIT - 3068ES
	40532	1	DECAL KIT - 3768ES
		77 150 000	
ļ			
	,		
	-		
<b>i</b>			



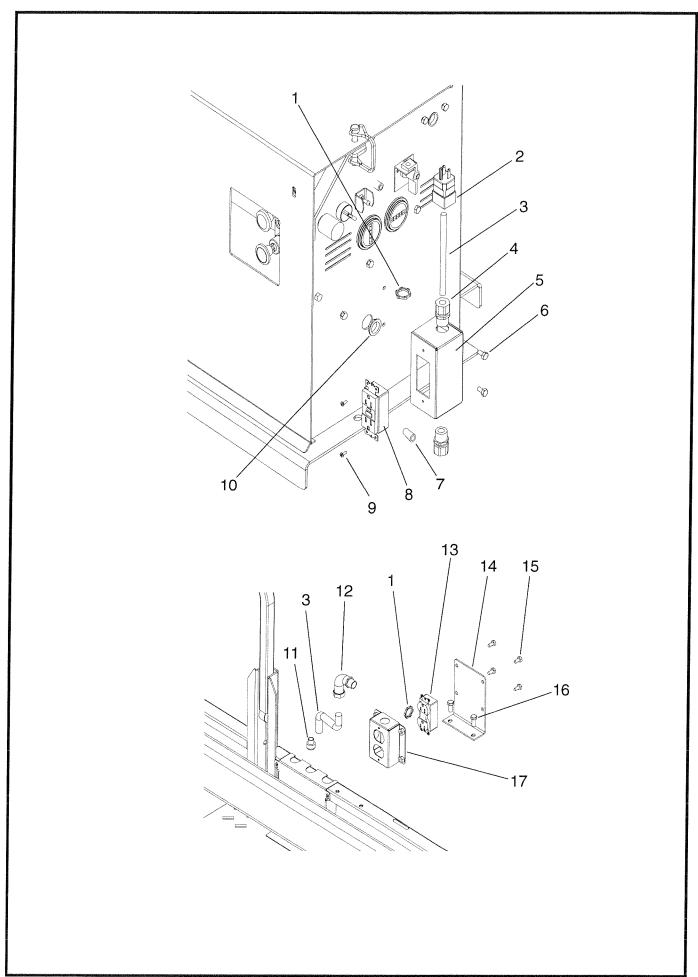




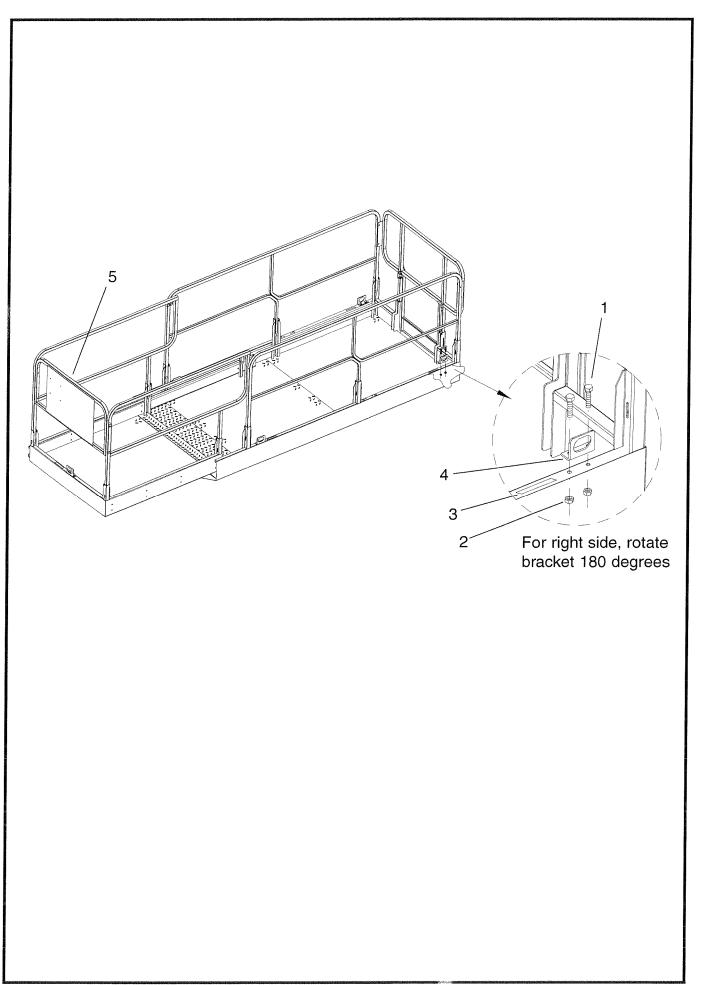
ITEM	PART NO.	QTY	DESCRIPTION
	14589	-	CHARGER, 48V, 60HZ, 110V AUTO - <b>OPTION</b>
1	7689	1	CHARGER, 48V DC, 110V AC - 60HZ
	8930	1	TERMINAL RING, 3/8"
2	14603	2	BRACKET, HOLD DOWN, CHARGER
3	HDW5680	4	NUT, 3/8" - 24
	40155	-	CHARGER, 48V, 60 HZ, 120V AUTO- <b>OPTION</b>
1	8956	1	CHARGER, 48V DC, 120V AC, 60HZ
	9908	1	HARNESS, CHARGER
2	14603	2	BRACKET, HOLD DOWN, CHARGER
3	HDW5680	4	NUT, 3/8" - 24
	14590	-	CHARGER, 48V, 50HZ, 230V AUTO - <b>OPTION</b>
1	8725	1	CHARGER, 48V DC, 230V AC, 50HZ
	8924	1	HARNESS, CHARGER
2	14603	2	BRACKET, HOLD DOWN, CHARGER
3	HDW5680	4	NUT, 3/8" - 24
4	40621	1	COVER, CHARGER - " <b>CE</b> "
	14591	-	CHARGER 48V, 50HZ, 230V, AUTO - <b>OPTION</b>
1	8736	1	CHARGER, 48V DC, 230V AC, 50HZ
	8924	1	HARNESS, CHARGER
2	14603	2	BRACKET, HOLD DOWN, CHARGER
3	HDW5680	4	NUT, 3/8" - 24
		77.00	
			<b>.</b>

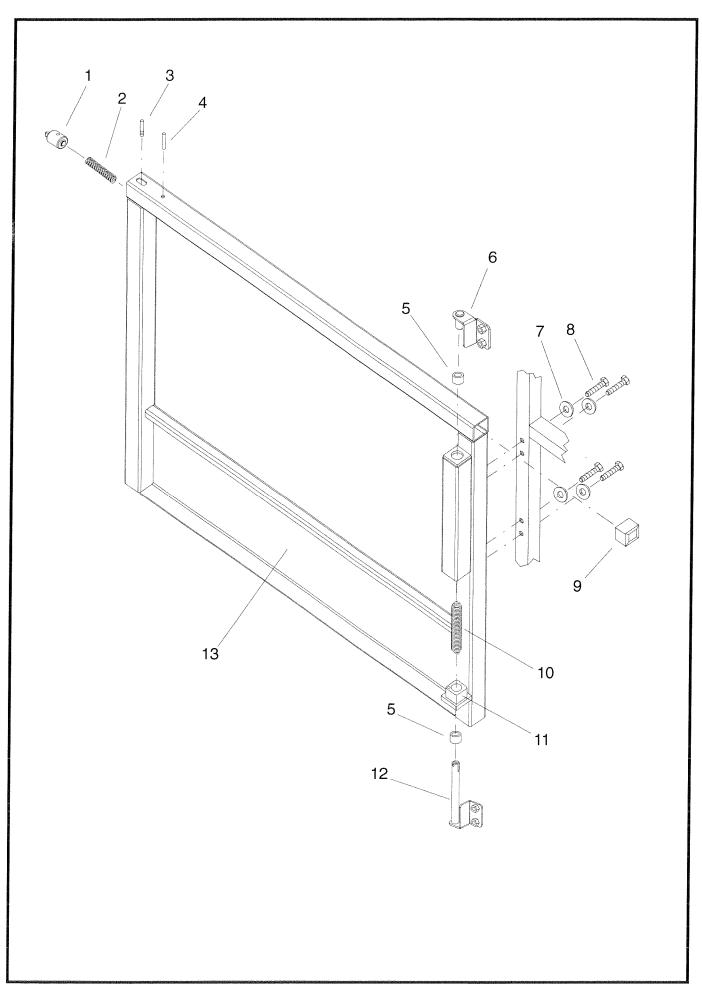


ITEM	PART NO.	QTY	DESCRIPTION
	14582	- C	MOTION ALARM - OPTION
1	HDW6461	2	NUT, 1/4" - 20, GR 5
2	8698	1	ALARM, MOTION, 12 - 48 VOLTS
	8709	1	INSULATOR, TERMINAL, RED
	8710	1	INSULATOR, TERMINAL, BLACK
3	HDW7546	2	SCREW, 1/4" - 20, 2" LG, GR 5
	14577	_	MOTION LIGHT - <b>OPTION</b>
1a	HDW6461	2	NUT, 1/4" - 20, GR 5
2a	HDW7888	3	SCREW, #10 - 32, 1/2" LG, GR 2
3a	90213	1	GUARD, LENS
4a	9770	1	LIGHT, STROBE
	9836	1	TUBE, REPLACEMENT
5a	40439	1	BRKT, FLASHING LIGHT
6a	HDW8273	2	SCREW, 1/4" - 20, 1" LG, GR 8
7a	HDW7543	3	NUT, #10 - 32, GR 2
		ą	
		7777	

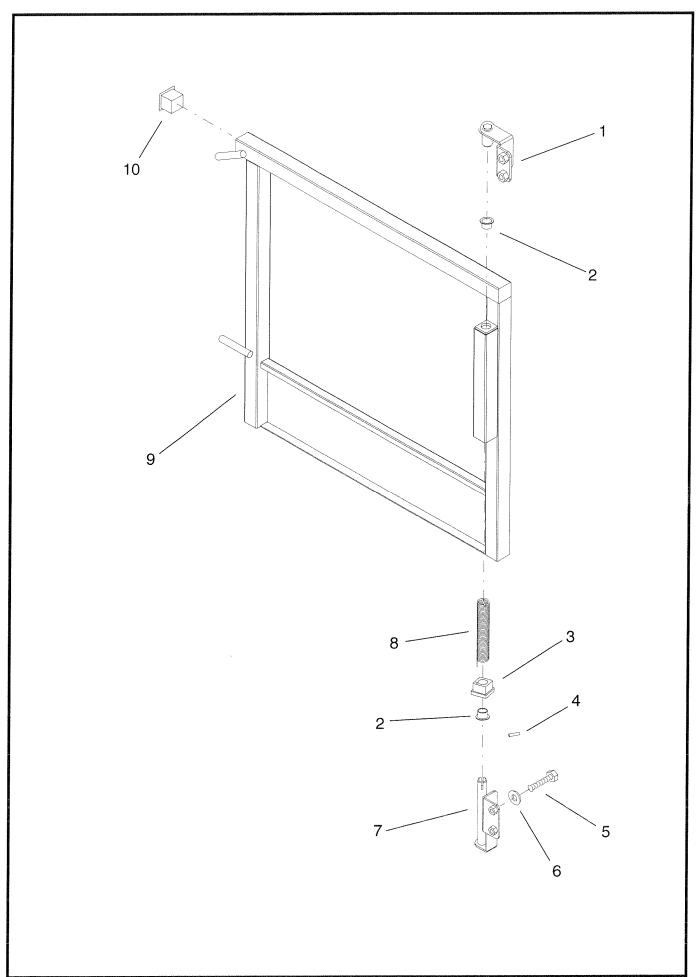


ITEM	PART NO.	QTY	DESCRIPTION
	14595	_	110V OUTLET, 3068ES - OPTION
	40540	-	110V OUTLET, 3768ES - <b>OPTION</b>
1	8006	2	NUT, CONNECTOR, 1/2" CONDUIT
2	5382	1	PLUG, 110V
3	7617	60 FT	WIRE, BULK, 14 GA - 3068ES
		51 FT	WIRE, BULK, 14 GA - 3768ES
4	6456	2	CORD, GRIP, STEEL
5	4319	1	BOX, GROUND, FAULT
6	6455	6	SCREW, 1/4" - 20, 1/2" LG, GR 5
7	8006	1	NUT CONNECTOR, 1/2"
8	7263	1	RECEPTACLE, DUPLEX, GRND FAULT
9	HDW5229	2	SCREW, #6 - 32, 3/8" LG, GR 2
10	8479	1	BUSHING, .750" ID X 1.125" OD X .406" LG
11	8209	1	CONDUIT, FERRULE, 3/8"
12	8207	1	CONNECTOR, CONDUIT, 90° ELBOW
13	5381	1	RECEPTACLE BOX, DUPLEX
14	11373	1	BRACKET, OUTLET
15	HDW6455	4	SCREW, 1/4" - 20, 1/2" LG, GR 5
16	HDW5724	2	SCREW, 5/16" - 18, 3/4" LG, GR 5
17	40477	1	RECEPTACLE BOX, DUPLEX
	14597	-	220V WIRE, 3068ES - <b>OPTION</b>
	40541	-	220V WIRE, 3768ES - <b>OPTION</b>
-	5351	2	TIE CABLE (NOT SHOWN)
18	9441	53 FT	WIRE, BULK, 14 GA - 3068ES
		51 FT	WIRE, BULK, 14 GA - 3768ES
		7,117	
- Control of the Cont		***************************************	
And the second s			

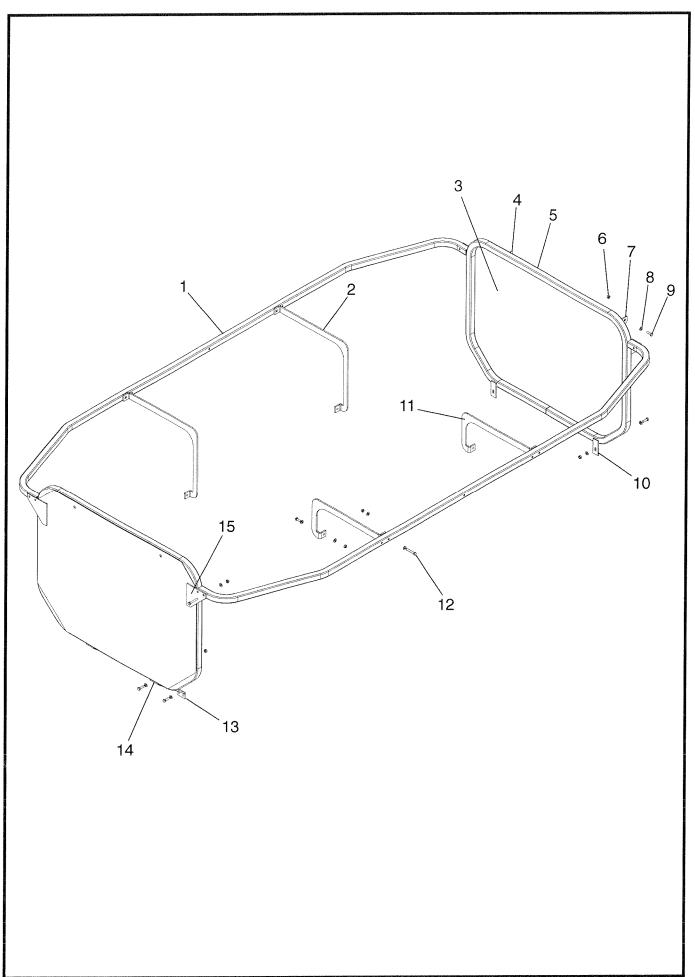




ITEM	PART NO.	QTY	DESCRIPTION
	40087	_	SWING GATE EUROPE - OPTION
1 1	40003	1	LATCH PIN, REAR GATE
2	7055	1	SPRING, LATCH, .480 DIA. OD X 1.5" LG
3	40006	1	ROD, LATCH LEVER, REAR GATE
4	HDW7455	1	PIN, SLOTTED SPRING, 3/16" DIA X 3/4" LG
5	8187	2	BEARING, NYLINER, 5/8" ID X 5/8" LG
6	40014	1	MOUNTING BRACKET, UPPER
7	HDW8294	4	WASHER, .328" ID X 1" OD X .100" THK
8	HDW8486	4	SCREW, 5/16" - 18, 1 7/8" LG, GR 5
9	6823	1	CAP PLUG, 1 1/4" SQUARE
10	8300	1	SPRING, TORSION, 1" DIA. OD X 4" LG
11	13272	1	BLOCK, PIVOT, REAR GATE
12	40015	1	MOUNTING BRACKET, LOWER
13	40353	1	SWING GATE WELDMENT
		- Calcino	
	egeneral and the second second second second second second second second second second second second second se		
	. Vermonte button between the second		
		77.00	
	; ventamen		
	***************************************		
		47.00	



ITEM	PART NO.	QTY	DESCRIPTION
	14593	-	SWING GATE DOMESTIC - OPTION
1	14613	1	MOUNTING BRACKET, UPPER
2	8187	2	BEARING, NYLINER, 5/8" ID X 5/8" LG
3	13272	1	BLOCK, PIVOT, REAR GATE
4	HDW7455	1	PIN, SLOTTED SPRING, 3/16" DIA X 3/4" LG
5	HDW8303	4	SCREW, 5/16" - 18, 2" LG, GR 5
6	HDW8294	4	WASHER, .328" ID X 1" OD X .100" THK
7	40015	1 1	MOUNTING BRACKET, LOWER
8	8300	1	SPRING, TORSION, 1" DIA. OD X 4" LG
9	40353	1	SWING GATE WELDMENT
10	6823	1	CAP PLUG, 1 1/4" SQUARE
		111111111111111111111111111111111111111	
000000000000000000000000000000000000000			



ITEM	PART NO.	QTY	DESCRIPTION
		-	GUARD, SCISSORS, EUROPE - <b>OPTION</b>
1	40498	2	TUBE, GUARD, SIDE, 1.25" SQ.
2	40537	2	BRKT, GUARD MNT, BATTERY SIDE
3	40535	2	GUARD, PANEL, FRONT
4	40287	1	BRKT, UPPER RAIL RR, RIGHT
5	40534	2	RAIL, SCISSORS GUARD
6	HDW8304	6	NUT, 5/16" - 18, GR 5
7	40288	1	BRKT, UPPER RAIL RR, LEFT
8	HDW5217	11	WASHER, .343" ID X .688" OD X .063" THK
9	HDW5204	5	SCREW, 5/16" - 18, 1" LG, GR 5
10	40286	2	BRKT, LOWER RAIL, REAR
11	40538	2	BRKT, GUARD MNT, ELEC/HYD COMP
12	HDW8303	2	SCREW, 5/16" - 18, 2" LG, GR 5
13	40279	2	BRKT, RAIL FRONT, LOWER
14	40508	2	BRKT, LOWER RAIL, FRONT
15	40280	2	BRKT, UPPER RAIL, FRONT
	May May .		
		777	



## **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

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

1-800-387-4575 • PH: 920-887-2518 • FAX: 920-887-2480

Email: awp@mayvl.com • Web: www.mayvl.com