

SERVICE & PARTS MANUAL



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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: 920-887-2518 • Fax: 920-887-2480

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



Machine Specifications - 3072 4WD

Working Height	36.0 ft	11.0 m
Platform Height	30.0 ft	9.1 m
Stowed Height	108.5 in	2.75 m
Folded Down Rails	78.75 in	2.00 m
Lift Capacity (Evenly Distributed):	800 lbs	362 kg
Roll-out Deck Capacity	400 lbs	181 kg
Platform Dimensions:		
With Roll-Out Deck	60.0 in x 110.0 in	i e e e e e e e e e e e e e e e e e e e
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	72.0 in	1.83 m
Wheel Base	86.0 in	2.18 m
Wheel Track	60.5 in	1.54 m
Turning Radius:		
Inside	73.25 in	1.86 m
Outside	14.0 ft 2.5 in	4.43 m
Ground Clearance	8.375 in	21.3 cm
Machine Weight (Unloaded) (Approx.)	6,570 lbs	2,981 kg
Drive System:		
Max Drive Height with 800 LBS. Capacity	30.0 ft	9.12 m
with 1,000 LBS. Capacity	27.0 ft	8.21 m
Drive Speed (Platform Elevated) - Slow	0 - 0.40 mph	0 - 0.6 km/h
Drive Speed (Platform Lowered) - Medium		0 - 1.7 km/
Drive Speed (Platform Lowered) - Fast	0 - 2.00 mph	0 - 3.2 km/h
2 Speed Lift/Lower Speed (Approx.)	26 & 54 sec / 28 sec	
Gradeability	35% / 19.6°	
Ground Pressure/Wheel (Maximum)	33 psi	2.28 bar
Wind Speed (Maximum)	28 mph	12.5 m/sec
Tire Size-Standard (Ditch Digger)	26.0 x 12.0 x 12.0 in	66.0 x 30.5 x 30.5 cm
Tire Pressure (10 Ply Pneumatic / Foam Filled Tires)	60 psi / N/A	4.14 bar / N/A
Wheel Lug Nut Torque	75-85 ft lbs	102-115 Nm
Hydraulic Pressure:		
Main System	3,000 psi	207 bar
Lift System (800#/1000#)	2,050 / 2,200 psi	141 / 152 bar
Steer	1,500 psi	103 bar
Hydraulic Fluid Capacity	17.0 gal	64.0 liters
Fuel Capacity	10.6 gal	40.3 liters
Power System - Voltage	12 Volts DC	
Alternator (Lighting Coil)	20 Amp	
Engine Availability:		

Engine Availability:

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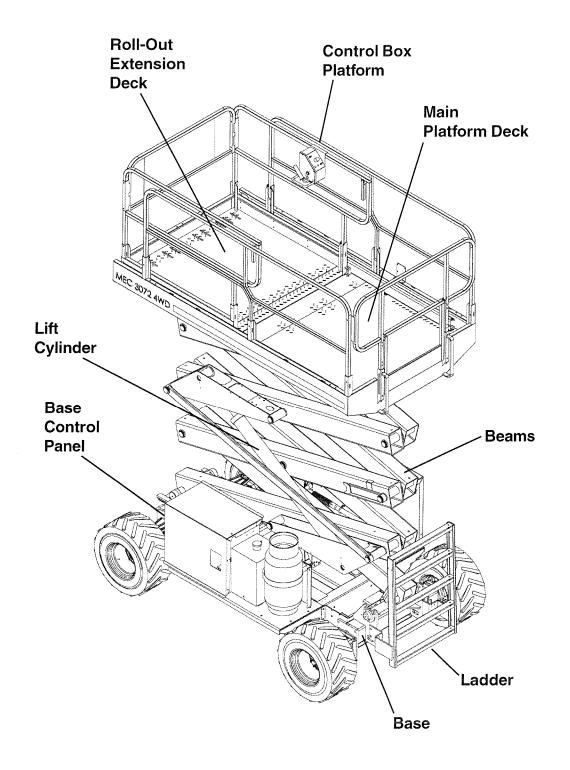
Standard - Kawasaki FD620D, 20 HP (14.9 kW), Dual Fuel, Liquid Cooled

Optional - Isuzu 3LB1, 25 HP (18.6 kW), Diesel, Liquid Cooled

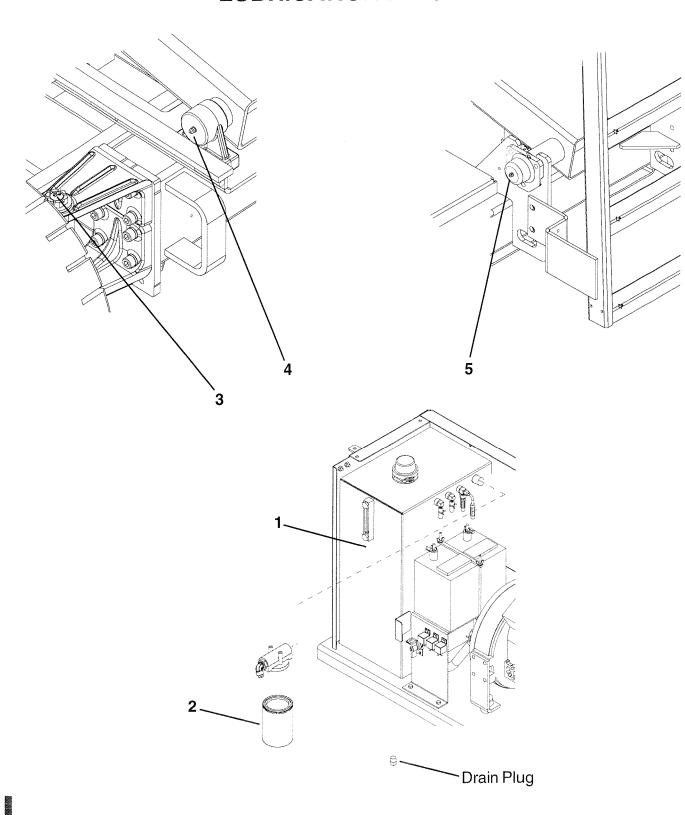
- Kubota DF750E, 22 HP (16.4 kW), Dual Fuel, Liquid Cooled



Primary Machine Components



LUBRICATION DIAGRAM

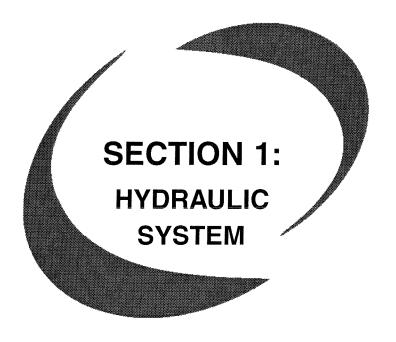


LUBRICATION CHART

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	Lithium N.L.G.I. #2 EP	Weekly Or Every 25 Hours Whichever
	Hubs	Purge Old Grease.	Occurs First.
4	Slide	Lithium N.L.G.I. #2 EP	Weekly Or Every 25 Hours Whichever
	Block	Purge Old Grease.	Occurs First.
5	Fixed	Lithium N.L.G.I. #2 EP	Weekly Or Every 25 Hours Whichever
	Beam	Purge Old Grease.	Occurs First.







HYDRAULIC SYSTEM - GENERAL

The hydraulic system is an open center, open- loop type. Generally in this type of system, hydraulic fluid is provided by a positive fixed displacement pump which is directly coupled to the engine. As the engine turns, the hydraulic pump drains oil from the reservoir and pumps this fluid to the valve packages.

If no function is selected to perform, fluid will bypass the valve (manifold) package through a dump valve and return to tank. Each function has a maximum pressure control limit set by pressure relief valve.

Hydraulic integrated circuit, generally known as the manifold system (valve type) is designed to control all or part of machine functions by integrating various hydraulic cartridge valves into a manifold to provide directional, pressure, flow, and load control.

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 (- 7°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 procedure.

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 the bypass filter and hose.
- 4. Flush the hoses with clean hydraulic fluid.
- 5. Discard old bypass filter element and replace.
- 6. Flush out the tank with hoses removed from the hydraulic reservoir.
- 7. Reinstall all hoses removed in the previous steps.
- 8. Fill hydraulic reservoir with filtered, fresh hydraulic fluid (refer to Lubrication Chart).
- 9. Loosen output hose fittings at pump to flood with hydraulic fluid. Tighten fittings.
- 10. Start up the machine. Briefly operate all functions. Two or three lift cycles may be necessary to purge all air from lift cylinder(s).
- 11. When the above procedures have been completed, fill hydraulic reservoir to full mark on sight gauge.
- 12. 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.

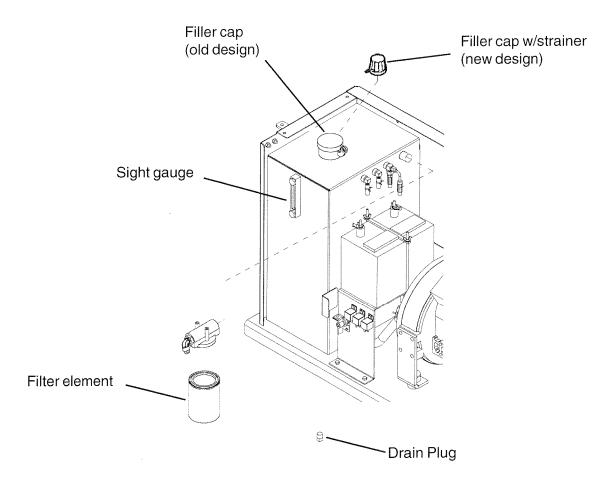


HYDRAULIC SYSTEM COMPONENTS

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.

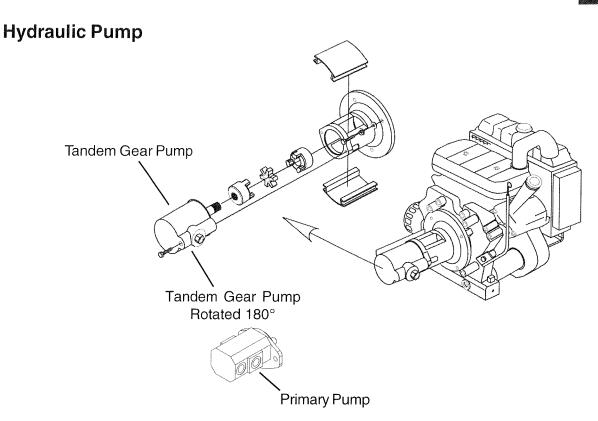
• Check tank for signs of leakage, every week.



Hydraulic Reservoir Assembly

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

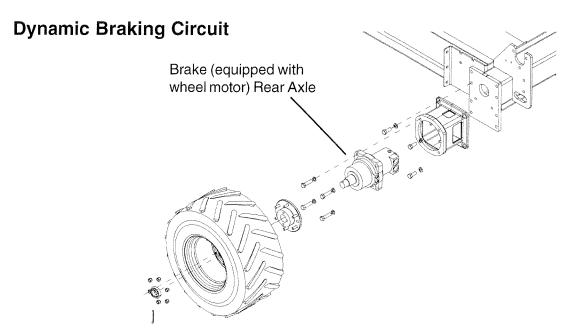
Beware of hot oil. Contact with hot oil may cause severe burns.



A gasoline or optional Diesel engine drives two (2) tandem fixed displacement gear pumps. Each pump provides 3 GPM (11.4 liters) of hydraulic fluid flow to operate the machine functions at 6 GPM (22.7 liters). There are no adjustments on the pump. The primary pump provides power for the lift, drive, brake and steering functions.

Wheel Drive Circuit

There are four (4) hydraulic, fixed-displacement gear wheel motors to provide power to all four wheels [two (2) front and two (2) rear].



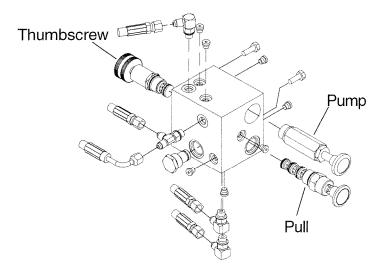
Dynamic Braking Circuit (Continued)

The two rear wheel motors have integeral brakes that are spring held. Hydraulic pressure developed in the drive circuit, during drive mode, releases the brakes. A fixed orifice in the brake circuit controls the deceleration rate and initiates a smooth stop.

Parking Brake and Towing Circuit

In order to tow the machine for service purposes, the brakes can be manually released in the following manner:

- Turn thumbscrew clockwise until completely closed.
- Cycle hand pump until pressure completely builds and becomes impossible to pump. The unit may now be towed slowly over short distances.



To return to normal operation:

Turn thumbscrew counter - clockwise until fully open and lock.

Note: Check braking capability on a level surface before taking the machine up an incline.

Steering Circuit

The steering system consists of the following components:

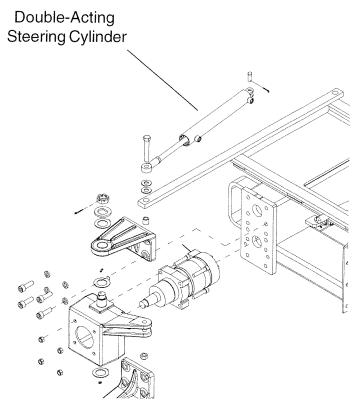
- The wheel motor housings have pivots on the top and bottom, and are mechanically linked together via a tie-rod.
- Steering is accomplished hydraulically by using two (2) double-acting cylinders, and a 4w3p solenoid-operated, hydraulic directional control cartridge valve. (See page 1-9)
- Maximum steering pressure is limited by the relief valve.

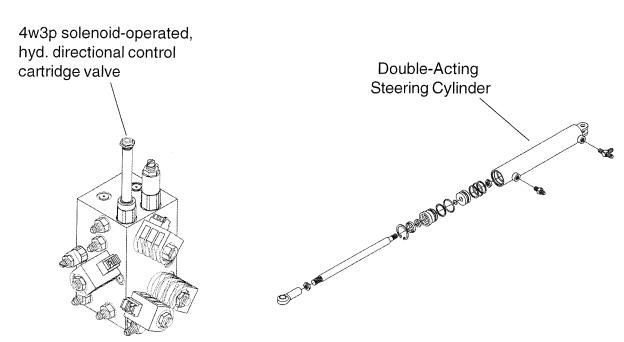




Steer Cylinder

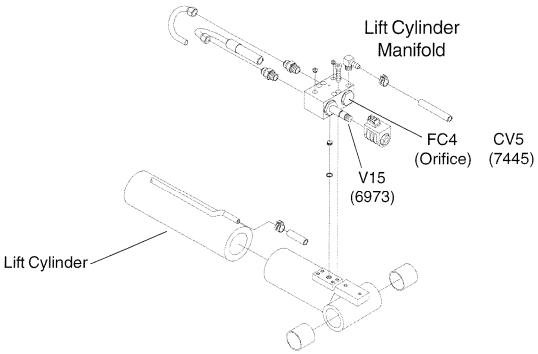
There are two (2) cylinders utilized in the steering system. These cylinders are a double acting type which requires oil flow to operate the cylinder rod in both directions. Directing oil forces the piston to travel towards the rod end of the barrel, extending the cylinder rod. By directing oil to the rod side of the cylinder the piston will be forced in the opposite direction and the cylinder rod will retract.

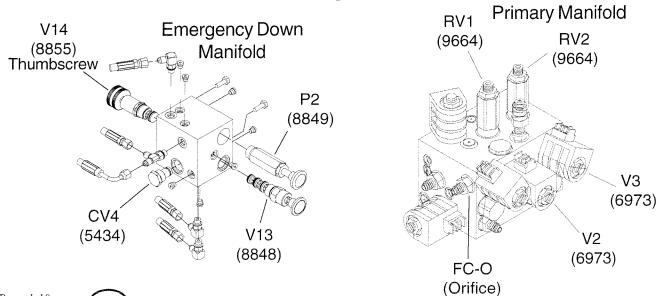




Platform Lift Circuit

- The lift system uses the combination of the hydraulic pumps to obtain a two speed lifting function controlled by the lift valves.
- Lowering is single speed controlled by the two holding valves and regulated by a fixed orifice (FC-O) located in the main manifold.
- Platform capacity is limited by a hydraulic relief valve in the lift circuit. (Refer to Machine Specifications or the Hydraulic Schematic for proper setting)
- A pilot operated check valve (CV5) is located at the cylinder manifold and is pressurized by the hand pump at the base to manually lower the platform.





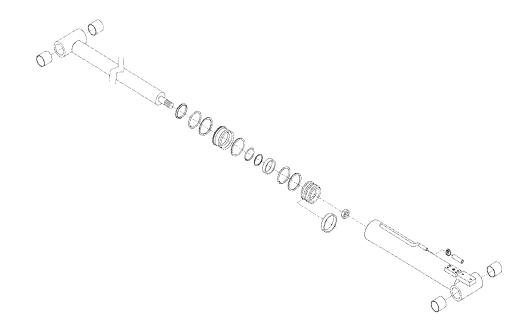
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"3072 4WD" Service & Parts Manual

Lift Cylinder

There is one hydraulic cylinder in the scissors lift circuit. This cylinder is of the single acting type.



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

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

RELIEF PRESSURE ADJUSTMENT PROCEDURE

If valves have tamper proof caps remove and replace with new ones when settings have been adjusted.

Steering

Connect pressure gauge (0-3500 PSI) 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 correct setting. Refer to Machine Specifications or the Hydraulic Schematic.

Turn adjustment screw "IN" to increase the pressure and "OUT" to decrease.

Lift

Connect pressure gauge (0-3500 PSI) 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 correct setting. Refer to Machine Specifications or the Hydraulic Schematic.

Turn adjustment screw "IN" to increase the pressure and "OUT" to decrease.

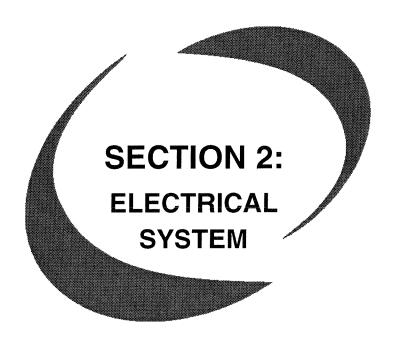
Main/System

Connect pressure gauge (0-3500 PSI) with female quick disconnect to main test port. Disconnect forward on 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 correct setting. Refer to Machine Specifications or the Hydrauilic Schematic.

Turn adjustment screw "IN" to increase the pressure and "OUT" to decrease.





ELECTRICAL SYSTEM - GENERAL

The electrical control system consists of a ground control station and a platform station. The control system for operation of drive/steer and lift/lower are electric-over-hydraulic type. The drive system is a three (3) speed-step system controlled by position and direction of the upper control box controller. The ground control station primarily is used as an auxiliary control station. It enables operator to operate all functions except steering and drive. The platform control station located on the platform contains the controls for drive/steer and lift/lower. Momentary bi-directional rocker switch on the drive controller handle provides the steering function.

Battery

A 12 volt battery supplies the 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 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.
- Batteries should be kept fully charged. A 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 battery, follow these procedures.



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

Battery is located in the engine side compartment of the machine.

Always disconnect the negative battery cable first.

Remove bolts ('J') 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 - Light

This light 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, level surface. Use of an inclinometer is recommended to ensure front and rear of chassis is level.
- 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.

Relay

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

Limit Switch

There are limit switches 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 "OUT" (ON) 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" (OFF). 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 platform 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

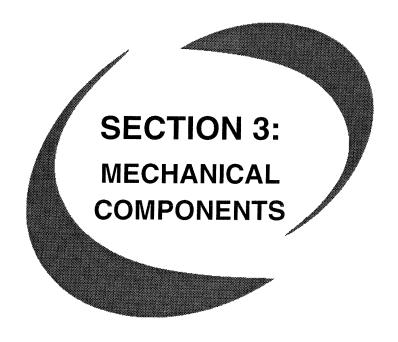
- Disconnect wires and connect one probe of ohm meter to connection on button and other probe on other connection.
- There should be no reading with the button pressed and a low resistance with it reset.

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



FOAM FILLED TIRES ARE EXTREMELY HEAVY. CARE MUST BE TAKEN TO AVOID PERSONAL INJURY.

When a tire change is necessary, follow these tips:



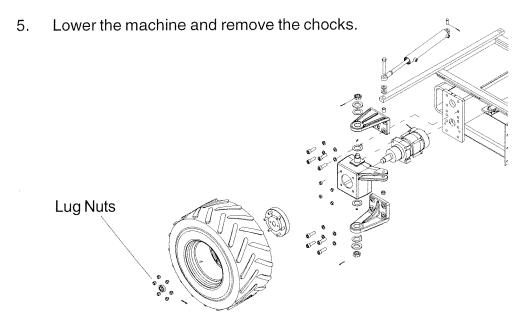
ALWAYS BLOCK THE WHEELS BEFORE RAISING THE MACHINE.

- 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.



Changing Tires (Continued)

- 3. Install the replacement wheel.
- 4. Fasten lug nuts and tighten to proper torque. (Refer to machine specifications)

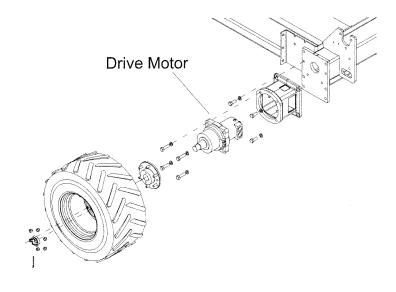


Drive Motor Brakes

There are two (2) drive motor brakes on the rear drive axle. These can be damaged or leaks may occur; repair or replace as necessary.

To replace drive motor brake:

Remove the wheel and tire assembly to access drive motor.



Steer Cylinder

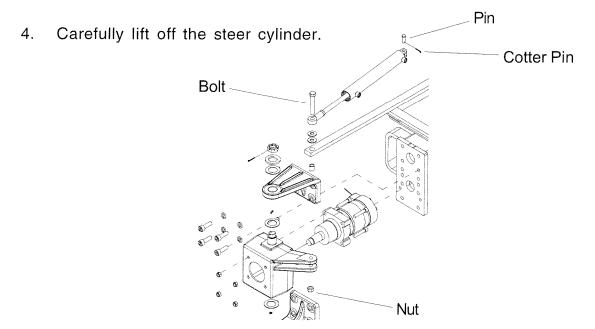
There are two (2) double acting type steer cylinders on this machine. During operation, cylinder(s) should not leak, but a slight damping at the rod seal is acceptable. The pins should be checked for wear.

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 nut and bolt holding the steer cylinder to the motor mounting bracket.
- 3. Remove the pin and cotter pin holding the steer cylinder to the steer axle cross member.



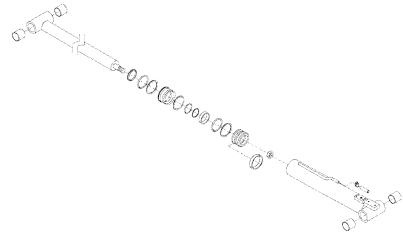
- 5. Position the new steer cylinder and install pin and cotter pin to hold cylinder to the steer axle cross member.
- 6. Install nut and bolt to hold cylinder to motor mounting bracket.
- 7. Connect hydraulic hoses.

Steer Cylinder Seal Replacement



Take care not to damage rod surface and guard against dirt or 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.



Steer Cylinder Seal Replacement (Continued)

- 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.
- 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 1 1/2" 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.

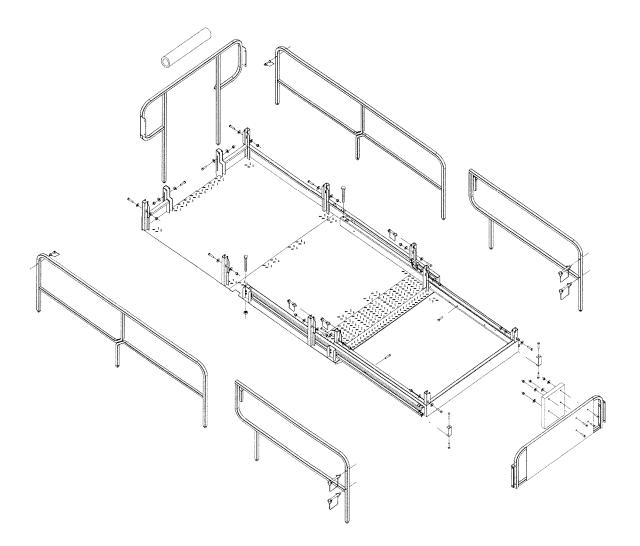
Hoses and Cables

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 hose or cable. (Refer to the Parts Manual 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 both platform brackets at the rear of the machine.
- 4. Slide platform and roll out deck off the machine.







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: ISO Grade 32, Anti Wear Hydraulic Oil, is a multiple viscosity oil that is light enough for cold climates and resists thinning in warm climates.

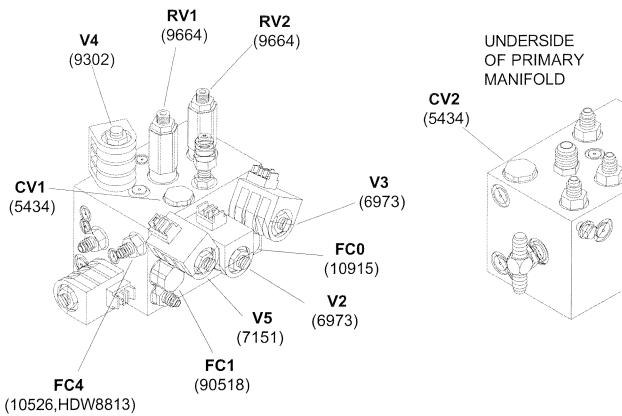
Following is a step by step basic troubleshooting guide.

NOTES: Contamination always causes failure in any hydraulic system. It is very important to be careful not to introduce any contamination into hydraulic system during the assembly procedures. Please make sure all ports and cavities of the manifold and cylinders are properly covered/plugged during maintenance activities.

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.



PRIMARY MANIFOLD



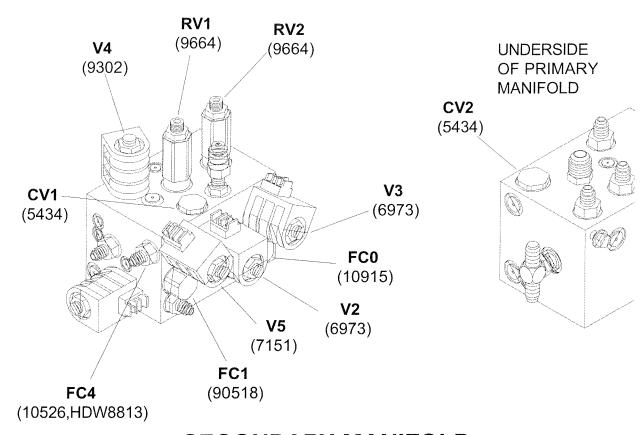
SECONDARY MANIFOLD V7 (9730)RV3 (9664)CV3 CB1 (5434)(9606)V12 0 (7151)V6 (6974)V8 (9290)V11 (6975)FC2 **V9** V10 (6975) (2975) (7151)Page 4-4 July 2000 mec

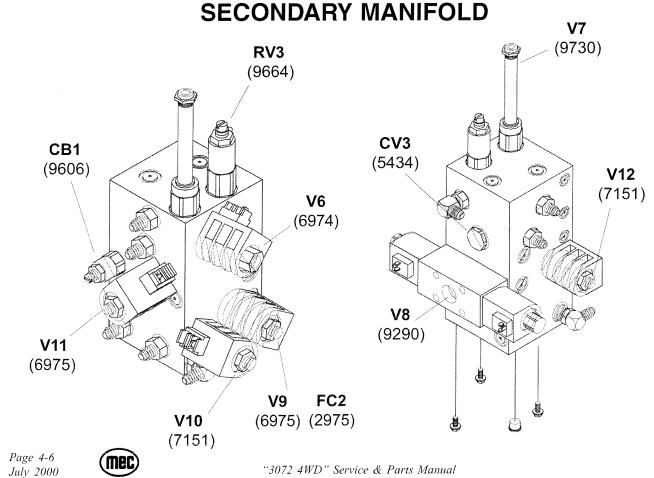
"3072 4WD" Service & Parts Manual

PROBLEM	PROBABLE CAUSE	REMEDY/SOLUTION
LIFT:		
Platform will not raise	Lift valves V3 and V4 not energized	Check electrical circuit from lift switch to valve for proper activation
	Main system pressure inadequate	Check main relief for proper operation and correct setting
	Lift relief RV2 set incorrectly or not working	Replace and/or reset pressure setting as per specification in hydraulic schematic
	Down valve V2 stuck open	Check and remove contamination or replace
Platform will not lower or lowers slowly	Down valves V2 and V15 are not being energized	Check electrical circuit from lift switch to valves for proper activation
	Down valves V2 and V15 malfunctioning, blocking flow	Check and remove contamination or replace
	Down flow control FC-O restricted or blocked causing slow or no descent	Remove from main manifold and clean
Manual Emergency down inoperative	Hand pump and 4-way pull valve fails to develop pressure	Check for prime to hand pump (see if brake pressure can be developed) Hoses to lift cylinder are in tack and tight Pilot operated check at cylinder manifold is working, if not replace Orifice FC-4 plugged and needs to be cleaned
DRIVE:		
No drive function	Valves V6 , V8 , or V9 are not being electrically energized	Check drive circuit from platform control box to valve solenoids
	Directional drive 4-way valve V8 malfunction	Check and remove contamination or replace
	Dump valve V6 or Deceleration valve V9 not closing	Check and remove contamination or replace
	Main relief valve malfunctions, no pressure	Replace or set per specifications on hydraulic schematic.
	Brakes not releasing	Check brake orifice for contamination
CODULET ON MOSS MAN	IFOLD AND EMERGENCY DOWN	Ensure needle valve V14 is open and locked or no other contamination is in brake lines N MANIFOLD CALLOUTS SEE SERVICE SECTION p. 1-10



PRIMARY MANIFOLD

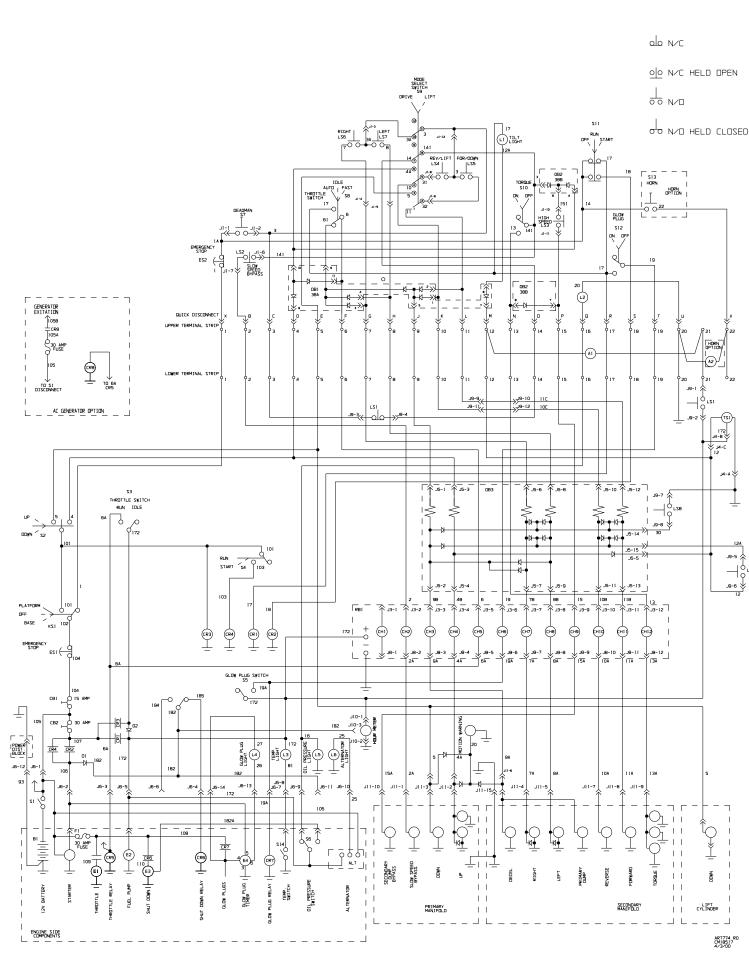




PROBLEM	PROBABLE CAUSE	REMEDY/SOLUTION
DRIVE: (Continued)		
Drives one direction only	Drive 4-way not shifting one direction	Check for electrical input at appropriate coil, Replace valve
No drive slow speed or slow speed only	Slow speed bypass valve V5 stuck in open position or does not activate to open	Check and remove contamination or replace
	Priority flow control FC1 not metering properly causing erratic slow speed	Replace with new valve of same value
No power mode when selected	Valves V10 , V11 , and V12 not energized	Check wiring from platform control box to valve coils for open circuit
	Valve malfunction in power circuit: V10 , V11 , or V12	Remove and inspect valves one at a time to determine performance and replace as necessary
BRAKE:		
Speed down incline increases rapidly	Counterbalance valve CB1 not developing holding pressure	Replace with new preset valve
STEERING:		A DESCRIPTION OF THE PROPERTY
No steering	Steering valve V7 not shifting	Replace 4-way valve
	Primary dump valve V6 not closing during steer command	Check to see if valve V6 coil is being energized Replace valve if not closing when energized
	Steering relief RV3 not generating pressure	Check pressure for proper setting Replace if unable to adjust to specifications
FOR LIFT CYLINDER MANIF	OLD AND EMERGENCY DOWN	I MANIFOLD CALLOUTS SEE SERVICE SECTION p. 1-10

PROBLEM	PROBABLE CAUSE	REMEDY/SOLUTION
Machine free wheels when returned to neutral	Brake orifice obstructed	Remove orifice and clear obstruction
Choke does not operate (dual fuel only)	Faulty choke solenoid or wiring	Replace solenoid and/or repair wiring
	Choke solenoid misaligned	Realign solenoid
	Faulty choke switch	Replace choke switch
	Faulty wiring from switch	Inspect and repair wiring as required
Glow plugs do not operate (diesel only)	Faulty glow plug relay or wiring	Replace relay and/or repair wiring
	Faulty glow plug timer or glow plugs	Refer to engine service manual
	Faulty wiring from switch	Inspect and repair wiring as required
Throttle does not	Faulty throttle relay or wiring	Replace relay and/or repair wiring
operate	Faulty throttle solenoid	Replace throttle solenoid
	Faulty throttle switch	Replace throttle switch
	Faulty wiring from switch	Inspect and repair wiring as required
Throttle does not remain energized	Faulty throttle solenoid or wiring	Replace solenoid and/or repair wiring
	Misadjusted throttle solenoid	Readjust throttle solenoid
Fuel solenoid does not operate (diesel only)	Faulty fuel relay or wiring	Replace relay and/or repair wiring
	Faulty fuel solenoid	Replace fuel solenoid
Fuel solenoid does not remain energized (diesel only)	Faulty fuel solenoid or wiring	Replace solenoid and/or repair wiring
Engine does not start	Faulty start relay or wiring	Replace start relay and/or repair wiring
	Faulty starter	Refer to engine service manual
	Faulty wiring or battery	Inspect and repair/service as requried

PROBLEM	PROBABLE CAUSE	REMEDY/SOLUTION
Movement alarm does not operate	Faulty movement alarm or wiring	Replace faulty alarm and/or repair wiring.
Horn does not operate	Faulty horn or wiring	Replace horn and/or repair wiring.
	Faulty horn switch	Replace horn switch
When base/plafform selector switch is in platform, no functions operate	Faulty platform control box or cable from base to platform	Inspect wiring in control box and cable. Repair as necessary

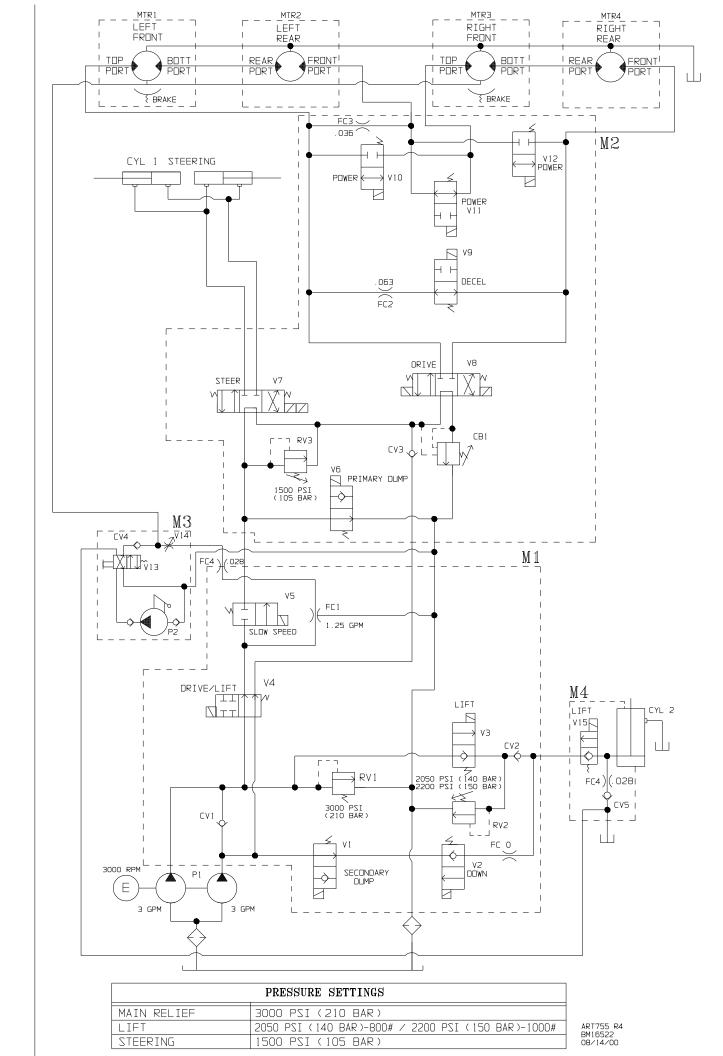


ITEM	PART NO.	QTY. DESCRIPTION	FUNCTION	LOCATION
A1	7435	1 12V WARNING ALARM	TO WARN WHEN MACHINE HAS PASSED 4.5 DEG ABOVE 10 FEET	UNDER RIGHT SIDE OF PLATFORM
A2	14839	1 HORN OPTION PARTS	TO BEEP WHEN THE HORN SWITCH IS DEPRESSED	UNDER RIGHT SIDE OF PLATFORM
B1	6854	1 BATTERY, 12 VOLT STARTING	SUPPLY POWER	IN ENGINE CABINET ABOVE PUMP
CB1	7235	1 CIRCUIT BREAKER-15 AMP MANUAL	TO FUSE CONTROL CIRCUITRY	LOWER CONTROL PANEL
CB2	7447	1 CIRCUIT BREAKER 30 AMP MANUAL	TO FUSE STARTER AND BASE POWER	LOWER CONTROL PANEL
CR1	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO TURN ON POWER FROM PLATFORM	BACK RIGHT WALL INSIDE ELECTRICAL CABINET
CR2	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO ENERGIZE STARTER FROM PLATFORM	BACK RIGHT WALL INSIDE ELECTRICAL CABINET
CR3	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO TURN ON POWER FROM BASE	BACK RIGHT WALL INSIDE ELECTRICAL CABINET
CR4	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO ENERGIZE STARTER FROM BASE	BACK RIGHT WALL INSIDE ELECTRICAL CABINET
CR5	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO ENERGIZE THROTTLE SOLENOID TIMER	BACK LEFT WALL INSIDE ENGINE CABINET
CR6	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO ENERGIZE SHUT DOWN SOLENDID TIMER	BACK LEFT WALL INSIDE ENGINE CABINET
CR7	9278	1 POWER RELAY 12 VOLT DC 25 AMP	TO ENERGIZE GLOW PLUGS	BACK LEFT WALL INSIDE ENGINE CABINET
D1	6070	1 DIODE ASSEMBLY	ACTIVATE FUEL SHUTOFF SOLENOID DURING START	FROM POWER RELAY CR2 TO WIRE 183
D2	6070	1 DIDDE ASSEMBLY	DISABLE BASE THROTTLE SWITCH WHILE IN PLATFORM	X
DB1	7451	1 CIRCUIT BOARD - CONTROL BOX	THROTTLE UP DURING DRIVE / LIFT / STEER FUCTIONS	INSIDE CONTROL BOX
DB2	7451	1 CIRCUIT BOARD - CONTROL BOX	TO ALLOW USE OF THE HIGH SPEED SWITCH	INSIDE CONTROL BOX
DB3	90328	1 CIRCUIT BOARD	PICK UP DRIVE / LIFT SIGNALS FOR TIP CUT-OUT	BACK RIGHT WALL INSIDE ELECTRICAL CABINET
E1	X	1 THROTTLE SOLENOID & TIMER	TO BRING ENGINE SPEED UP	RIGHT SIDE OF ENGINE
E2	X	1 FUEL PUMP	PUMP DIESEL FUEL FROM TANK TO ENGINE	OUTBOARD EDGE OF ENGINE CABINET
E3	X	1 SHUT DOWN SOLENDID & TIMER	OPENS AND CLOSES FUEL RACK	FRONT TOP OF ENGINE
E4	X	1 GLOW PLUG TIMER	ACTIVATE AND DEACTIVATE GLOW PLUG INDICATOR	BACK LEFT WALL INSIDE ENGINE CABINET
ES1	7800	1 SWITCH STOP, ASSEMBLY	STOP POWER TO BASE CONTROLS	LOWER CONTROL PANEL
E25	7800	1 SWITCH STOP, ASSEMBLY	STOP POWER TO CONTROL BOX CONTROLS	INSIDE CONTROL BOX
F1		1 FUSE, 30AMP AGC	TO FUSE CHARGING CIRCUIT	RIGHT LOWER SIDE OF MOTOR
KZ1	9549	1 SMITCH-KEY	TO SELECT BASE OR PLATFORM CONTROLS	LOWER CONTROL PANEL
L1	9188	1 LIGHT, BAYONET	TO WARN WHEN MACHINE HAS PASSED 4.5 DEG	INSIDE CONTROL BOX
L2	9188	1 LIGHT, BAYONET	TO INFORM OPERATOR OIL PRESSURE IS LOW	INSIDE CONTROL BOX
L3	6906	1 INDICATOR LIGHT	TO INFORM THAT ENGINE TEMP. IS TO HOT	LOWER CONTROL PANEL
L4	6906	1 INDICATOR LIGHT	TO INDICATE THAT GLOW PLUGS ARE ON	LOWER CONTROL PANEL
L5	6906	1 INDICATOR LIGHT	TO INFORM THAT OIL PRESSURE IS LOW	LOWER CONTROL PANEL
L6	6906	1 INDICATOR LIGHT	TO INFORM THAT ALTERNATOR IS NOT FUNCTION CORRECTLY	LOWER CONTROL PANEL
LS1	8932	1 SWITCH, LIMIT TWO POLE	ACTIVATE SLOW SPEED, AND TILT SENSOR CIRCUIT	REAR OF MACHINE AT BEAM BASE ATTACHMENT
LS2	8696	1 SWITCH, LIMIT MICRO - V7	ACTIVATE THE SLOW SPEED BYPASS VALVE	INSIDE CONTROL BOX
LZ3	8696	1 SWITCH, LIMIT MICRO - V7	ACTIVATE THE SECONDARY DUMP BYPASS VALVE	INSIDE CONTROL BOX
LS4	8696	1 SWITCH, LIMIT MICRO - V7	ACTIVATE THE REVERSE OR LIFT VALVE	INSIDE CONTROL BOX
LZ5	8696 8448	1 SWITCH, LIMIT MICRO - V7	ACTIVATE THE FORWARD OR DOWN VALVE ACTIVATE THE RIGHT VALVE ACTIVATE THE LEFT VALVE	INSIDE CONTROL BOX
LS6		1 SWITCH V3 P-Q	ACTIVATE THE RIGHT VALVE	INSIDE CONTROL BOX
LS7	8448 8776	1 SWITCH V3 P-Q 1 SWITCH, LIMIT ONE POLE	ACTIVATE THE LEFT VALVE DISABLE DRIVE AT PRESET HEIGHT	INSIDE CONTROL BOX REAR OF MACHINE AT BEAM BASE ATTACHMENT
RB1	9021	1 RELAY BOARD 2, SOLID STATE	SUPPLY THE COILS WITH POWER AFTER RECIEVING A FUCTION SIGNAL	
21	8841	1 SWITCH, BATTERY DISCONNECT	TO LOCK OUT POWER TO MACHINE CONTROLS	REAR OF ENGINE COMPARTMENT
25	5694		R)TO SELECT LIFT OR LOWER AT THE BASE CONTROLS	LOWER CONTROL PANEL
23	5630	1 SWITCH, TOGGLE (2 POSITION)	ENERGIZES CR5, THROTTLE SOLENDID RELAY, WHEN IN BASE	LOWER CONTROL PANEL
S4	7423	1 SWITCH, TOGGLE (2 POSITION) 1 SWITCH, TOGGLE (RETURN TO CTR)	ENERGIZES CR4, START RELAY, WHEN IN BASE	LOWER CONTROL PANEL
S5	7423	1 SWITCH, TOGGLE (RETURN TO CTR)	ENERGIZES CHOKE SOLENDID	LOWER CONTROL PANEL
25	X	1 SWITCH, DIL PRESSURE	TO ACTIVATE WHEN DIL PRESSURE IS LOW	RIGHT SIDE OF MOTOR
S7	8753	1 SWITCH, DEADMAN	TO ALLOW OTHER CONTROLS TO BE USED AT THE PLATFORM CONTROLS	
28	6905	1 SWITCH, TOGGLE (3 POSITION)	TO SELECT IDLE / RUN / DR AUTO AT THE PLATFORM CONTROLS	INSIDE CONTROL BOX
20	8638	1 SWITCH, TOGGEL (4 POLE, DT)	TO SELECT LIFT OR DRIVE AT THE PLATFORM CONTROLS	INSIDE CONTROL BOX
210	5630	1 SWITCH, TOGGLE (2 POSITION)	TO SELECT TORQUE AT THE PLATFORM CONTROLS	INSIDE CONTROL BOX
S11	9617	1 SWITCH, SELECTOR ANTI-RESTART	TO SELECT STOP, RUN, OR START AT THE PLATFORM CONTROLS	INSIDE CONTROL BOX
S12	7423	1 SWITCH, TOGGLE (RETURN TO CTR)	ENERGIZES CHOKE SOLENDID	INSIDE CONTROL BOX
513	8044	1 SWITCH, HORN	TO ACTIVATE THE HORN AT THE PLATFORM CONTROLS	INSIDE CONTROL BOX
S14	X	1 SWITCH, TEMP.	TO ACTIVATE WHEN TEMP IS HOT	LEFT SIDE OF MOTOR
TSI	90160	1 12VOLT 4.0 DEG TILT SENSOR	ACTIVATE AT 4.0 DEG.	BACK LOWER RIGHT WALL OF ELEC. CABINET
				NEAR RADIATOR AT FRONT OF MOTOR CABINET
	1		1	THE PARTY OF THE P

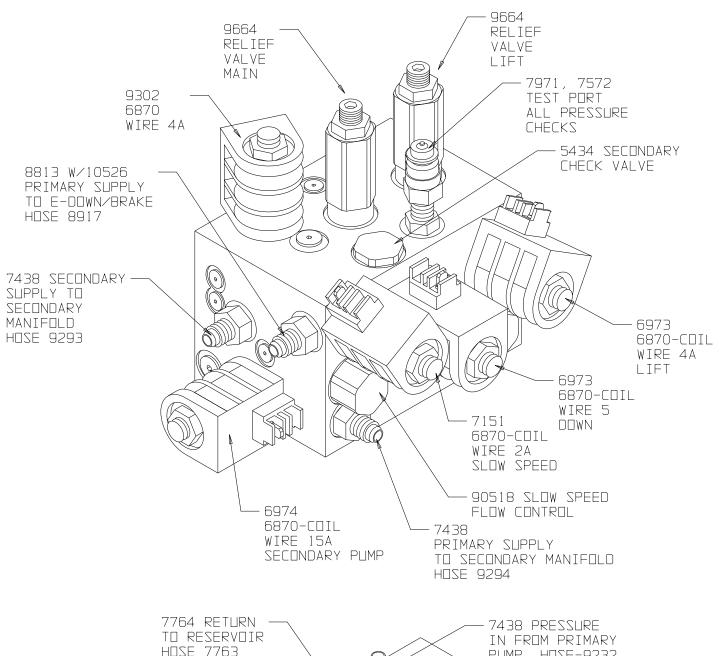
WIRE HARNESS ASSEMBLIES AND CABLES

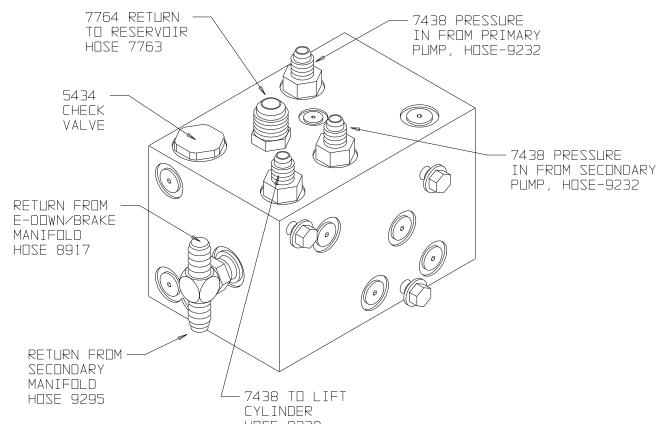
8859	COVER ASSEMBLY WIRE HARNESS
9210	CONTROL BOX ASSEMBLY WIRE HARNESS
9566	3072 MAIN WIRE HARNESS ASSEMBLY
9211	18 GA 25 COND. CABLE ASSEMBY
9158	UPPER CONTROL CORD CABLE ASSEMBLY
9214	DOWN CABLE ASSEMBLE
90517	DIESEL ENGINE HARNESS
9212	LIMIT SWITCH CABLE ASSY.
90201	MANIFOLD HARNESS
9304	HARNESS, MOTION ALARM

ART774 RO CM18517 4/3/00



ITEM	PART #	DESCRIPTION
P1 MTR1 MTR2 MTR3 MTR4 CYL1 CYL2	6855 8843 7300P 8843 7300P 10329 8809	HYD. PUMP HYD. WHEELMOTOR W/BRAKE HYD. WHEEL MOTOR HYD. WHEELMOTOR W/BRAKE HYD. WHEEL MOTOR STEERING CYLINDER ASSY CYLINDER
M1 CV1 CV2 FC0 FC1 RV1 RV2	14958 5434 5434 10915 90518 9664 9664	PRIMARY MANIFOLD VALVE, CHECK-IN LINE VALVE, CHECK-IN LINE METERING PLUG VALVE, PRIORITY FLOW 1.25 GPM VALVE, PRESSURE RELIEF 3000 PSI (210 BAR) VALVE, PRESSURE RELIEF 2050 PSI - 800# CAP. (140 BAR) VALVE, PRESSURE RELIEF 2200 PSI - 1000# CAP. (150 BAR)
V1 V2 V3 V4 V5	6974 6973 6973 9302 7151	VALVE, PRESSURE RELIEF 2200 PST - TOOO# CAP. (TSO BAR) VALVE, N.O. POPPET 2 WAY VALVE, N.O. POPPET 2 WAY VALVE, N.O. POPPET 2 WAY VALVE, 4 WAY, 2 POS VALVE, N.O. SPOOL 2 WAY
M2 CB1 CV3	14957 9606 5434	SECONDARY MANIFOLD COUNTER BALANCE VALVE VALVE, CHECK-IN LINE
RV3 V6 V7 V8 V9 V10 V11 V12	9664 6974 9730 9290 6975 7151 6975 7151 6870 9296 2975	VALVE, PRESSURE RELIEF 1500 PSI (105 BAR) VALVE, N.O. POPPET 2 WAY VALVE, 4 WAY, 3 POSITION VALVE, DO1, 4 WAY, 3 POS VALVE, N.O. SPOOL 2 WAY VALVE, N.C. SPOOL 2 WAY VALVE, N.O. SPOOL 2 WAY VALVE, N.C. SPOOL 2 WAY COIL, 12 VDC, 1 SPADE, 1/2" BORE COIL, 12 VDC, 1 SPADE, 5/8" BORE ORIFICE, 1/8" NPTF, .067" DIA.
M3 CV4 V13 V14 P2	14510 5434 8848 8855 8849	MANIFOLD, EMERGENCY DOWN VALVE, CHECK-IN LINE VALVE, MANUAL PULL 4-WAY VALVE, MANUAL ADJ FLOW CONTROL VALVE, HYD. HAND PUMP
M4 CV5 FC4 V15	14523 7445 10526 HDW8813 6973 6870	MANIFOLD LIFT CYLINDER VALVE, PILOT OPER. BALL CHECK DRILLED ORIFICE, NON SERVICEABLE FITTING, ORIFICE HOLDER VALVE, N.C. POPPET 2 WAY COIL, 12 VDC, 1 SPADE





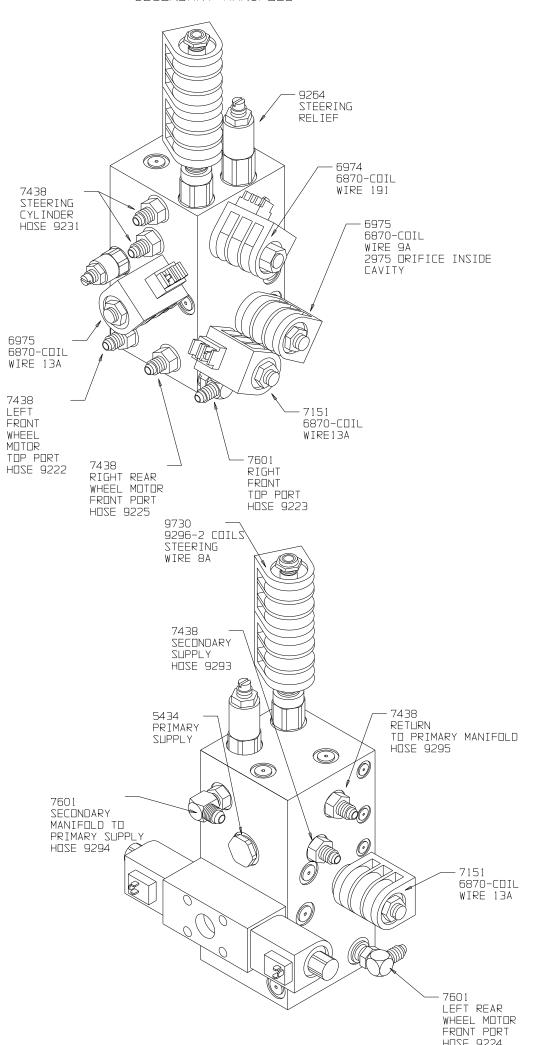


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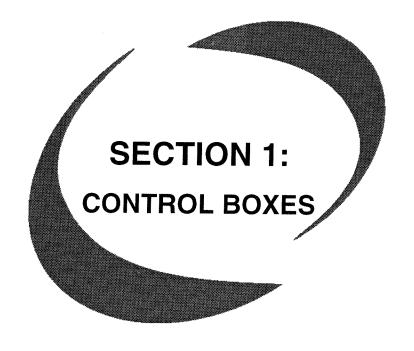
SECTION 4: AXLES

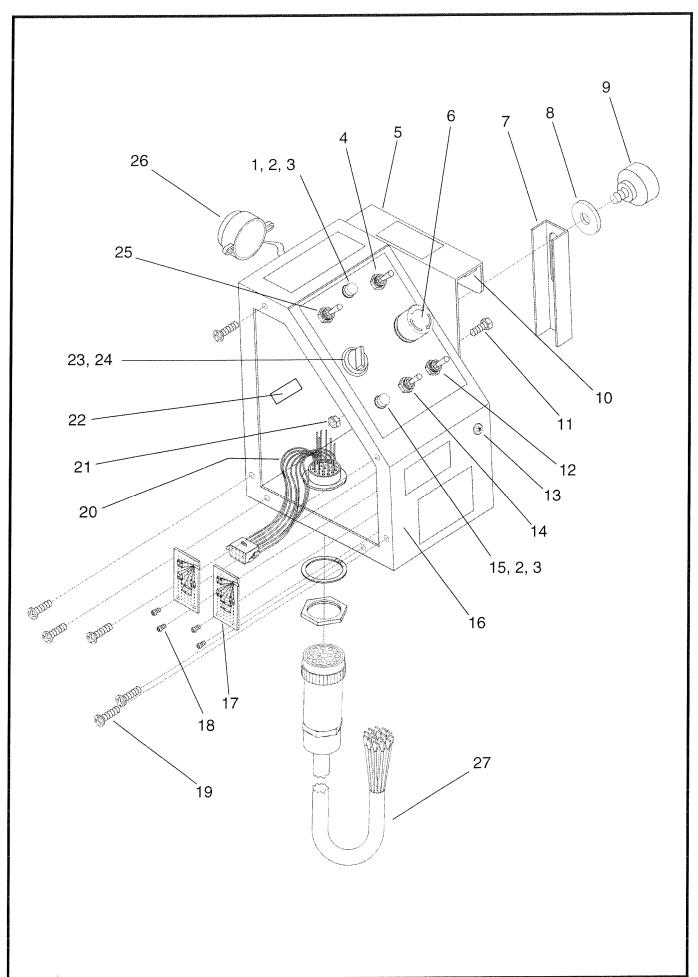
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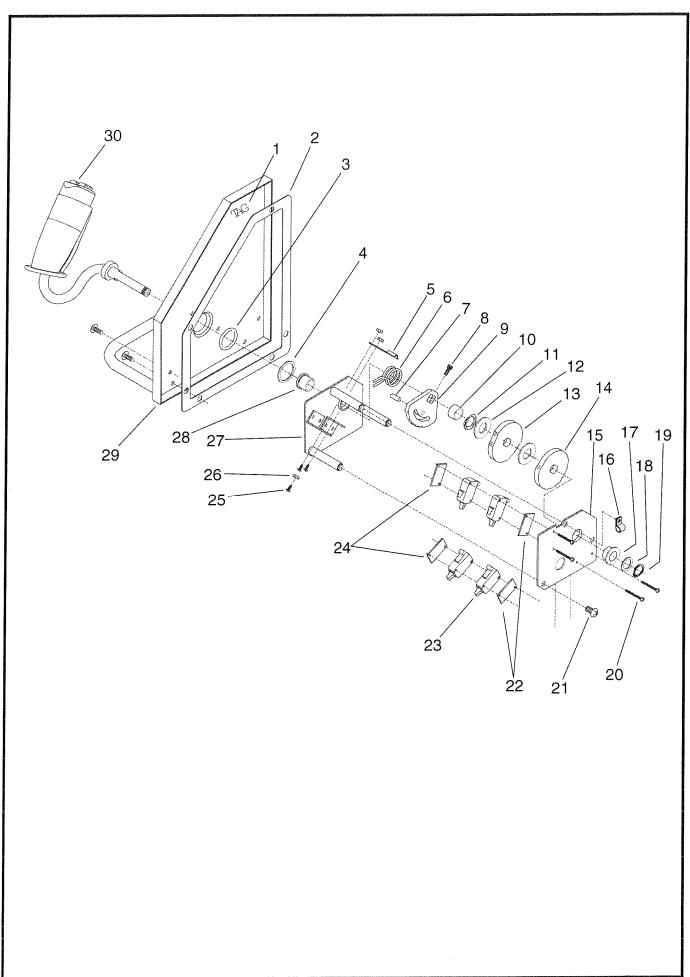
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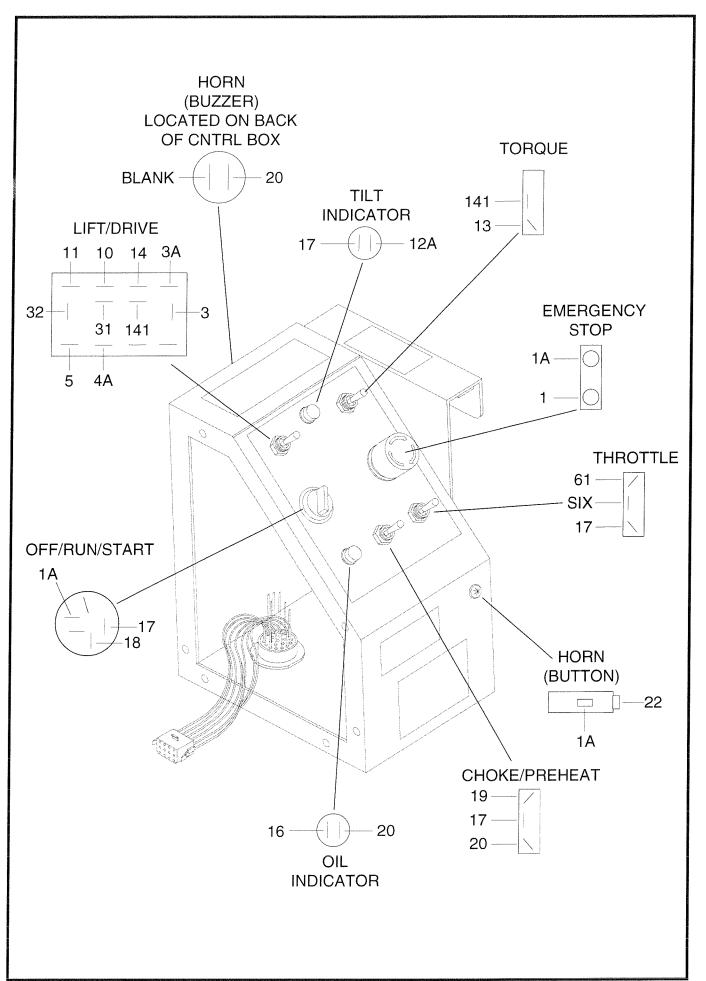




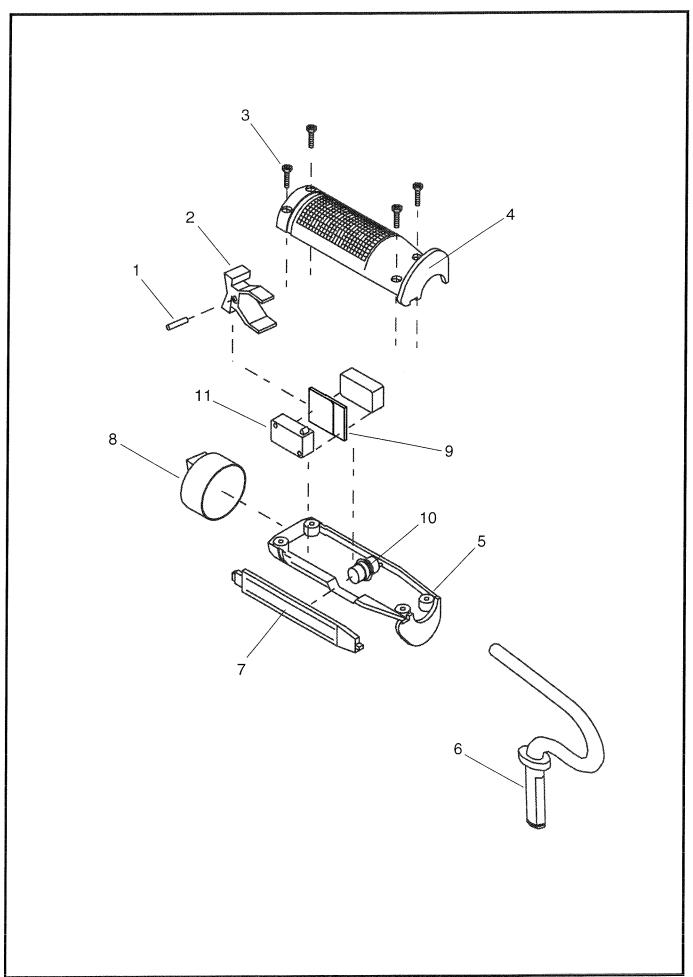
20197 - CONTROL BOX ASSEMBLY - WITH H 1 9184 1 LENS, LIGHT, YELLOW	IORN
1 9184 1 LENS, LIGHT, YELLOW	
2 9188 2 LIGHT, BAYONET, 14 VOLT	
3 9179 2 SOCKET, INDICATOR LIGHT	
4 5630 1 SWITCH, TOGGLE, 2 POSITION	
5 13865 1 BRACKET, CONTROL BOX HOLDER	
6 7800 1 SWITCH, EMERGENCY STOP	
7 13864 1 BRACKET, CONTROL BOX, LOCK	
8 HDW8294 1 WASHER, .328 ID X 1.000 OD X .100 T	ГНК
9 8826 1 SCREW, THUMB, 5/16" - 18	
10 6350 .5 FT TAPE, FOAM	
11 HDW5724 1 SCREW, 5/16" - 18, 3/4" LG, GR 5	
12 6905 1 SWITCH, TOGGLE, 3 POSITION	
13 8044 1 SWITCH, HORN	
14 7423 1 SWITCH, TOGGLE, 1 POLE, 2 POSITION	ON
15 9183 1 LENS, LIGHT, RED	
16 20134 1 WELDMENT, CONTROL BOX	
17 7451 2 CIRCUIT BOARD	
18 HDW5978 4 SCREW, #6 - 32, 1/4" LG, GR 5	
19 HDW7888 6 SCREW, #10 - 32, 1/2" LG, GR 2	
20 9619 1 WIRE HARNESS, CONTROL BOX	
21 HDW7120 1 NUT, 5/16" - 18, GR 5	
22 8066 1 TAG (INSPECTION)	7-7-7-7-10-1-1
23 8075 1 SWITCH, SELECTOR, 3 POSITION	
24 8076 1 MOUNTING BASE WITH 2 CONTACT E	BLOCKS
25 8638 1 SWITCH, TOGGLE, 4 POLE, 2 POSITION	ON
26 9173 1 BUZZER, 10-48 VOLT DC	
27 9158 1 CABLE, UPPER CONTROL	



ITEM	PART NO.	QTY	DESCRIPTION
	14504		CONTROL BOX COVER ASSEMBLY
1	8066	1	TAG, INSPECTION
2	7875	1	GASKET, JOYSTICK
3	7882	1	O-RING, 7/8" ID X 1 1/8" OD
4	HDW3768	1	WASHER, .895 ID X 1.077 OD X .055 THK
5	3770	1	SPRING, SPEED LEVEL, JOYSTICK
6	8435	1	SPRING, TORSION, JOYSTICK
7	100/8348	1	PIN, HOLD DOWN
8	HDW7887	1	SCREW, #6 - 32, 1/2" LG, GR 8
9	13502	1	BRACKET, CENTERING, JOYSTICK
10	3763	1	SPACER, STEP, JOYSTICK
11	HDW7881	1	WASHER, .531 ID X .795 OD X .011 THK
12	HDW8531	2	WASHER, .531 ID X 1.00 OD X .063 THK
13	3781	1	CAM, SPEED CONTROL, JOYSTICK
14	3782	1	CAM, DIRECTIONAL, JOYSTICK
15	3759	1	PLATE, TOP, CONTROL BOX, JOYSTICK
16	6917	1	CABLE CLAMP, 1/4"
17	7818	1	BEARING, .502 ID X .627 OD X 5/16" LG.
18	HDW3771	1	WASHER, 1/2" ID X .688 OD X .033 THK
19	5736	1	RETAINING RING, 1/2" SHAFT
20	HDW7884	4	SCREW, #4 - 40, 1 1/4" LG, GR 5
21	HDW7888	12	SCREW, #10 - 3, 1/2" LG, GR 2
22	3764	2	PLATE, SPACER, JOYSTICK
23	8696	4	SWITCH, LIMIT, MICRO-V7
24	3765	2	PLATE, STRAP, JOYSTICK
25	HDW7885	3	SCREW, #4 - 40, 1/4" LG, GR 5
26	HDW7886	3	NUT, #4 - 40, GR 2
27	3766	1	PLATE WELDMENT, TOP, JOYSTICK
28	7819	1	BEARING, .502 ID X .627 OD X 5/18" LG.
29	3772	1	COVER WELDMENT, JOYSTICK
30	13647	1	CONTROL ARM ASSEMBLY, JOYSTICK
31	8859	1	HARNESS, JOYSTICK (NOT SHOWN)
	7914	2	CABLE TIE (NOT SHOWN)
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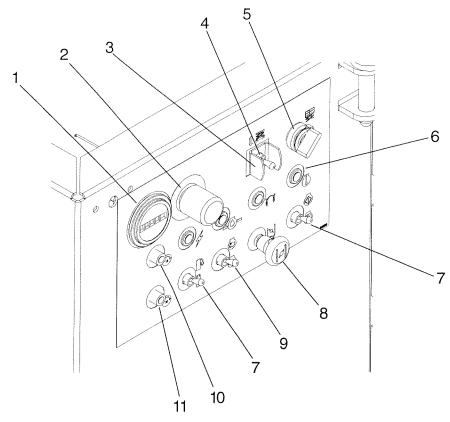


ITEM	PART NO.	. QTY	DESCRIPTION
		-	CONTROL BOX - WIRING CONNECTION
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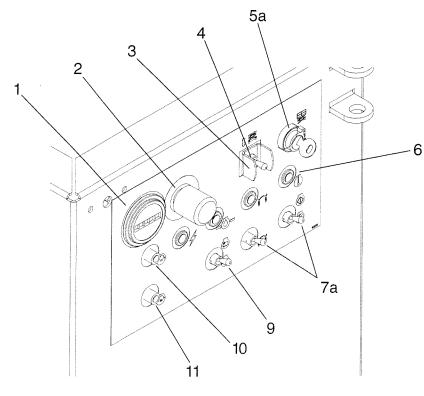


ITEM	PART NO.	QTY	DESCRIPTION
	30620	_	CONTROL ARM ASSEMBLY, JOYSTICK
1	7476	1	PIN
2	8453	1	SWITCH ACTUATOR
3	HDW8455	4	SCREW, #6 - 1/2" LG, SELF TAPPING
4	8752	1	GRIP-TOP HALF
5	8751	1	GRIP - BOTTOM HALF
6	13638	1	CONTROL ARM WITHOUT WIRE
7	8748	1	TRIGGER
8	8456	1	ROCKER BOOT
	8761		SWITCH ASSEMBLY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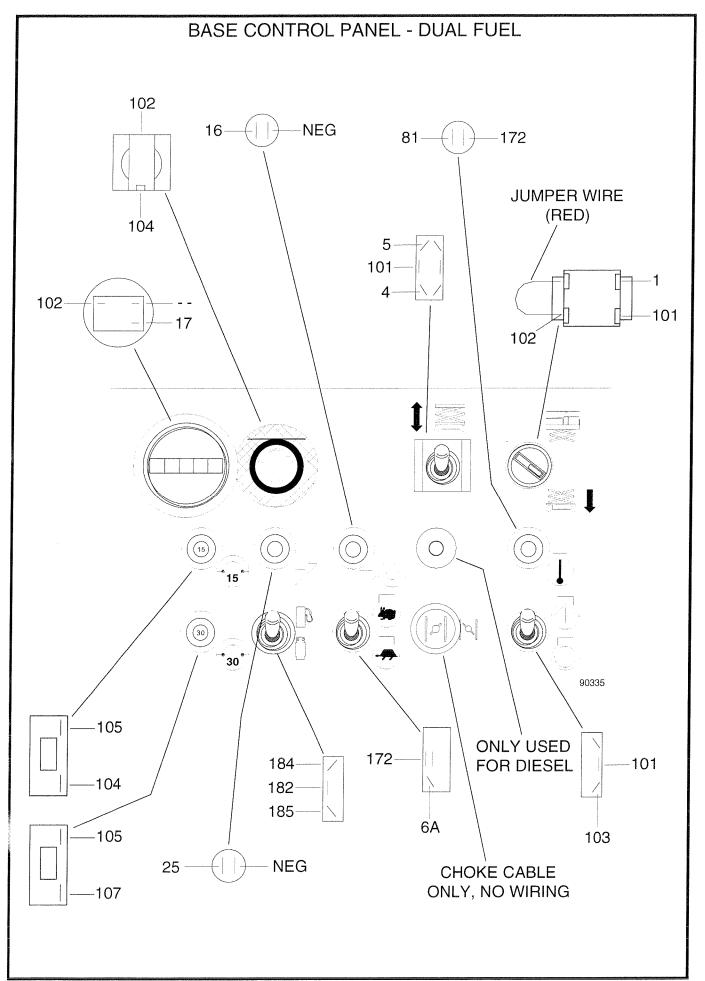
BASE CONTROL PANEL - DUAL FUEL



BASE CONTROL PANEL - DIESEL

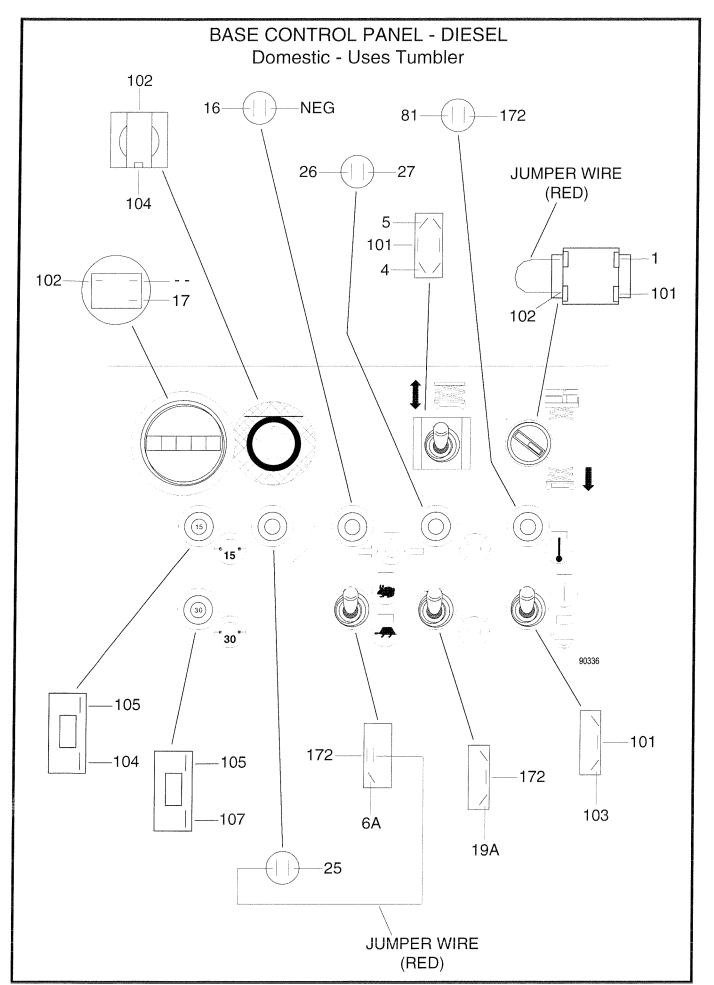


ITEM	PART NO.	QTY	DESCRIPTION
		_	BASE CONTROL PANEL - COMPONENTS
1	6857	1	HOUR METER, 2 WIRE
	90530	1 1	HARNESS, 2 WIRE
2	7800	1	SWITCH, EMERGENCY STOP
3	1313	1 1	GUARD, SWITCH
4	5694	1	SWITCH, TOGGLE
	9345	1	BLOCK, CONTACT, N.C.
5	9690	1	TUMBLER, LEVER SWITCH
	8082	1	BLOCK, CONTACT, N.O.
5a	9549	1	TUMBLER, KEY SWITCH - EUROPE ONLY
	90159	1 1	KEY FOR SWITCH 9549
6	6906	4	LIGHT, INDICATOR
7	5694	2	SWITCH, TOGGLE
7a	7423	2	SWITCH, TOGGLE
8	9887	1	CONTROL ASSEMBLY, CHOKE
9	5630	1	SWITCH, TOGGLE
10	7235	1	CIRCUIT BREAKER, 15 AMP
11	7447	1	CIRCUIT BREAKER, 30 AMP
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ІТЕМ	PART NO.	QTY	DESCRIPTION
		-	BASE CNTRL PANEL, DUAL FUEL - WIRING CONNECTION

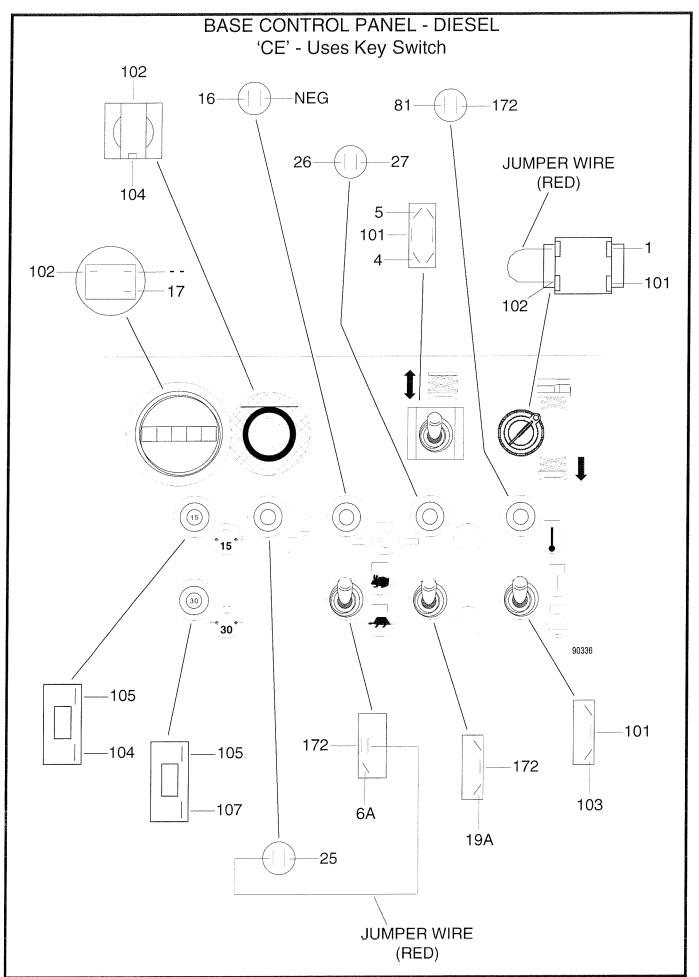
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ITEM	PART NO.	QTY	DESCRIPTION
		-	BASE CNTRL PANEL, DIESEL - WIRING CONNECTION

	771-71-7		

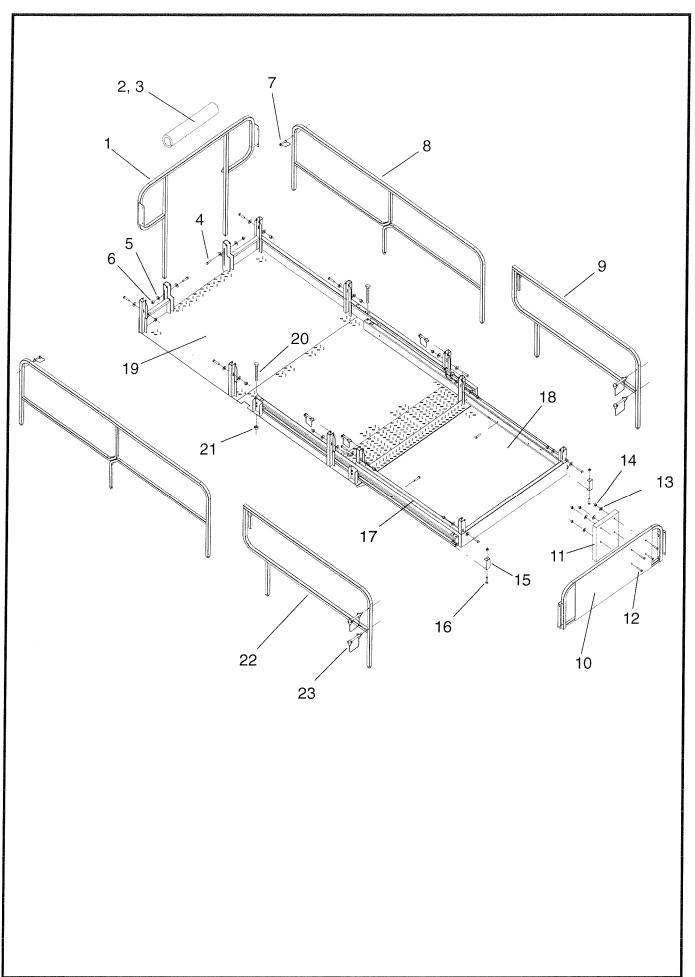
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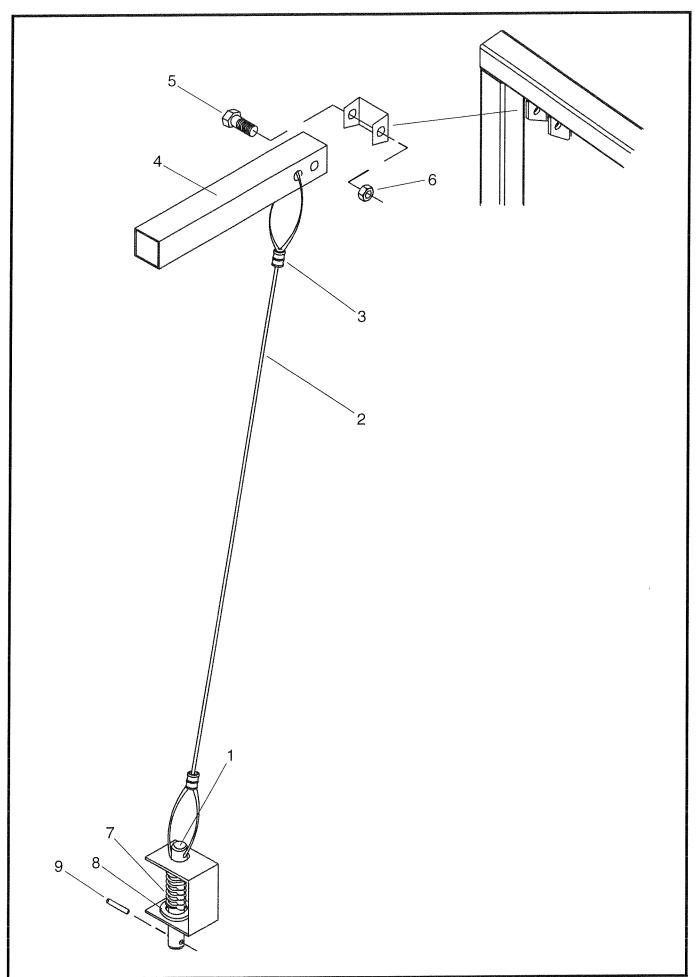
ITEM	PART NO.	QTY	DESCRIPTION
			BASE CNTRL PANEL, DIESEL - WIRING CONNECTION
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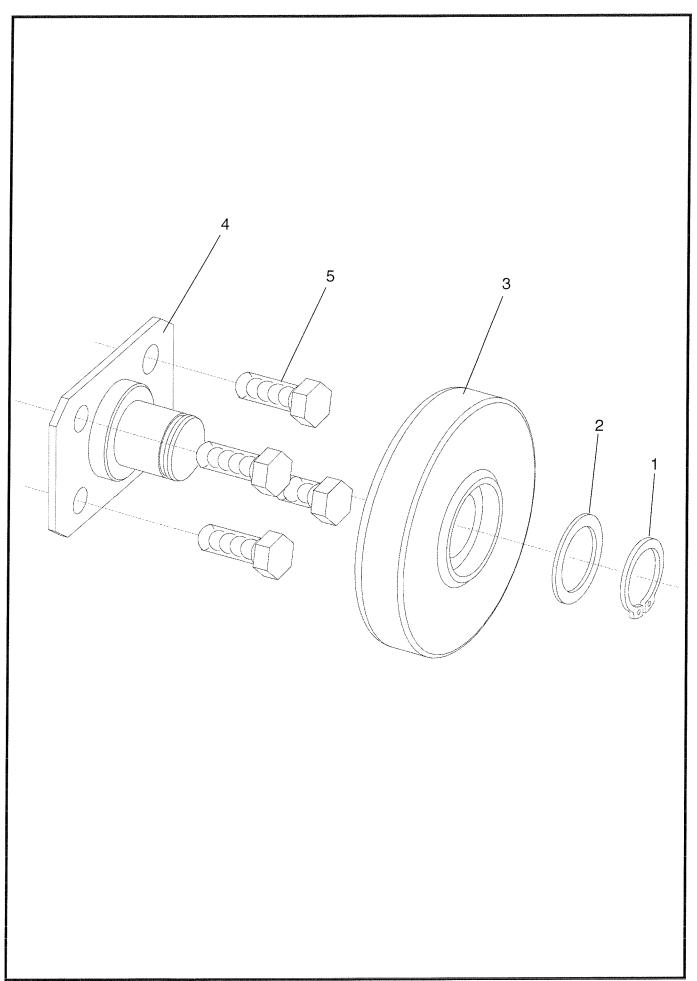




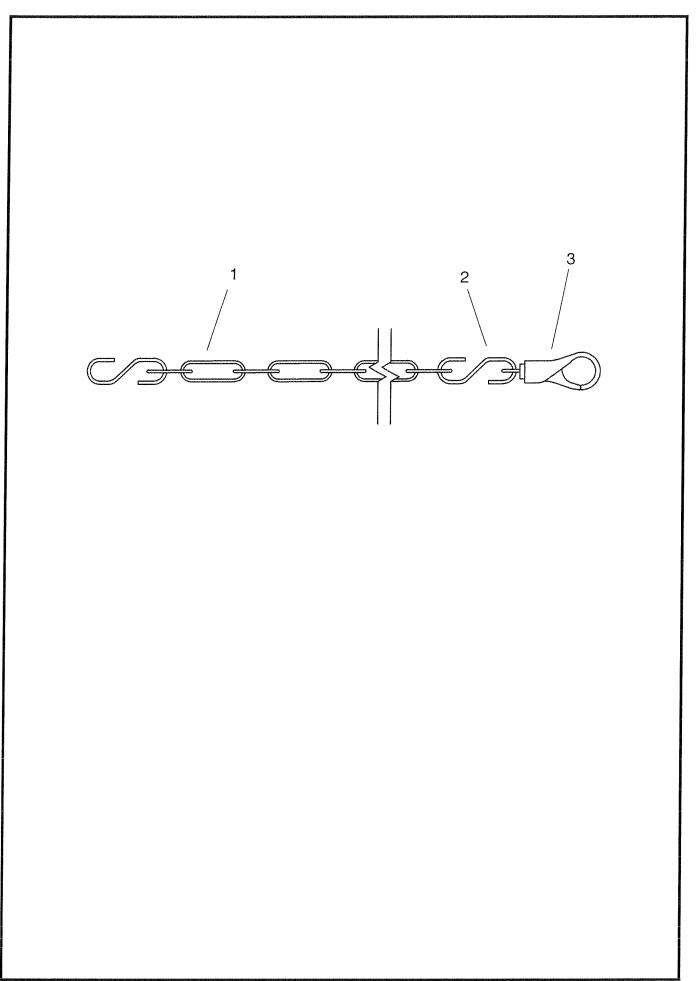
ITEM	PART NO.	QTY	DESCRIPTION
		140	PLATFORM ASSEMBLY
1	40016	1	REAR RAIL WELDMENT
2	7805	1	PADDING, RAIL
3	7048	1	COVER, RAIL PADDING
4	HDW7119	12	SCREW, 5/16" - 18, 2 1/4" LG, GR 5
5	HDW5217	24	FLAT WASHER, .343 ID X .688 OD X .063 THK
6	HDW8304	12	NUT, 5/16" - 18
7	HDW7593	6	PIN, WIRE LOCK, SQUARE, 3/8" X 2 1/4" LG
8	14124	2	SIDE RAIL WELDMENT
9	14301	1	SIDE RAIL WELDMENT - EXTENSION
10	14306	1 1	FRONT RAIL WELDMENT
11	8909	1	MANUAL ENCLOSURE
12	HDW5723	4	SCREW, 1/4" - 20, 1/2" LG
13	HDW90479	4	FLAT WASHER, .375 ID X .890 OD X .070 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)
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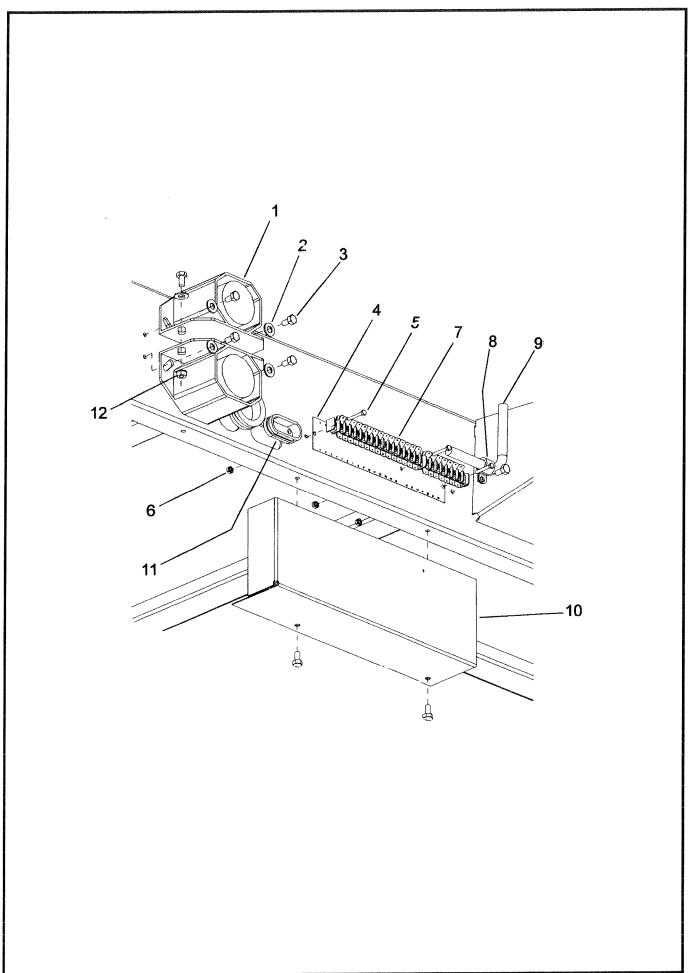
ITEM	PART NO.	QTY	DESCRIPTION
	14713		ROLLOUT LOCK PIN ASSEMBLY
1	13737	1	PIN, EXTENSION LOCK
2	7184	3.7 ft	CABLE, COATED AND ROLLED
3	8814	2	SLEEVE, ALUMINUM OVAL
4	14344	1	HANDLE
5	HDW8486	1	SCREW, 5/16" - 18, 1 7/8" LG
6	HDW8304	1	LOCKNUT, 5/16" - 18
7	7408	1	SPRING, DECK LOCK
8	HDW7031	1	WASHER, FLAT, 1/2" ID 7/8" OD
9	HDW8513	1 1	PIN, SPRING, 1/8" DIA. 3/4" LG
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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
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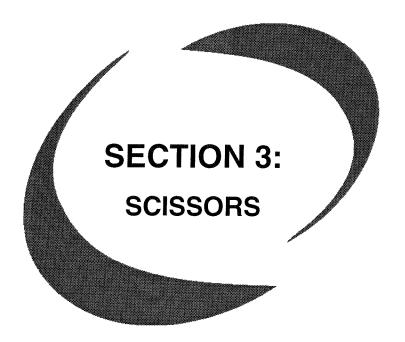
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ITEN	PART NO.	QTY	DESCRIPTION
	13850	_	CHAIN CLOSURE
1	13846	1	CHAIN
2	5239	2	S-HOOK, CONNECTING LINK
3	8781	1	SNAP, CHAIN LINK
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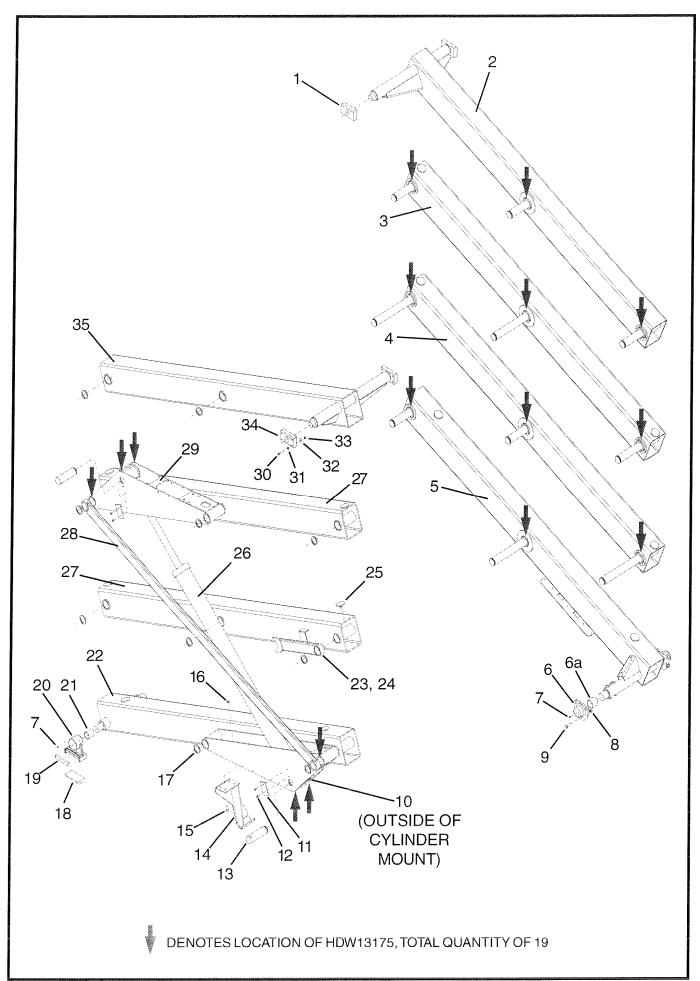


ITEM	PART NO.	QTY	DESCRIPTION
		-	CONTROL CABLE/HORN INSTALLATION
1	9176	2	HORN, 12-48V
2	HDW5217	6	WASHER, FLAT, .343 ID X .688 OD X .063 THK
3	HDW6455	10	SCREW, 1/4"-20, 1/2" LG, GR 5
4	7970	1	STRIP MARKER, NUMBERS: 1-22
5	HDW5363	3	SCREW, #6-32, 1" LG, GR 5
6	HDW5364	3	NUT, KEPS, #6-32 , GR 5
7	6947	1	TERMINAL STRIP
8	6964	1	CLAMP, CABLE, 1" DIA.
9	9158	REF	CABLE, UPPER CONTROL
10	14604	1 1	COVER, TERMINAL STRIP
11	5863	2	GROMMET, 1.5 ID X 1.75 OD X .187 THK
12	HDW5276	2	NUT, 1/4"-20, GR 5

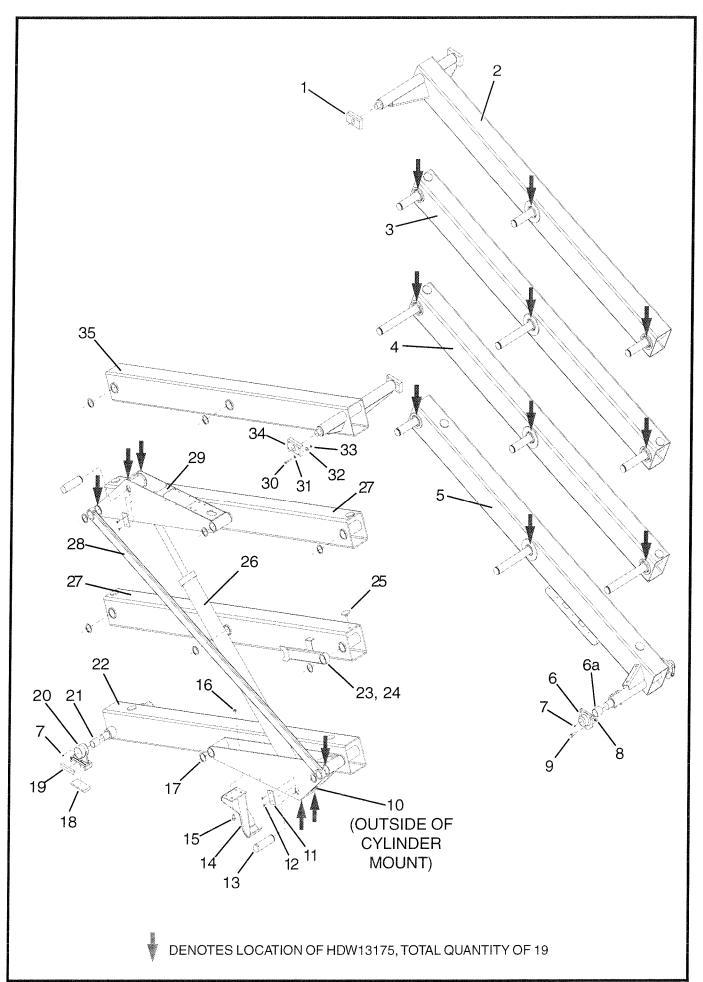
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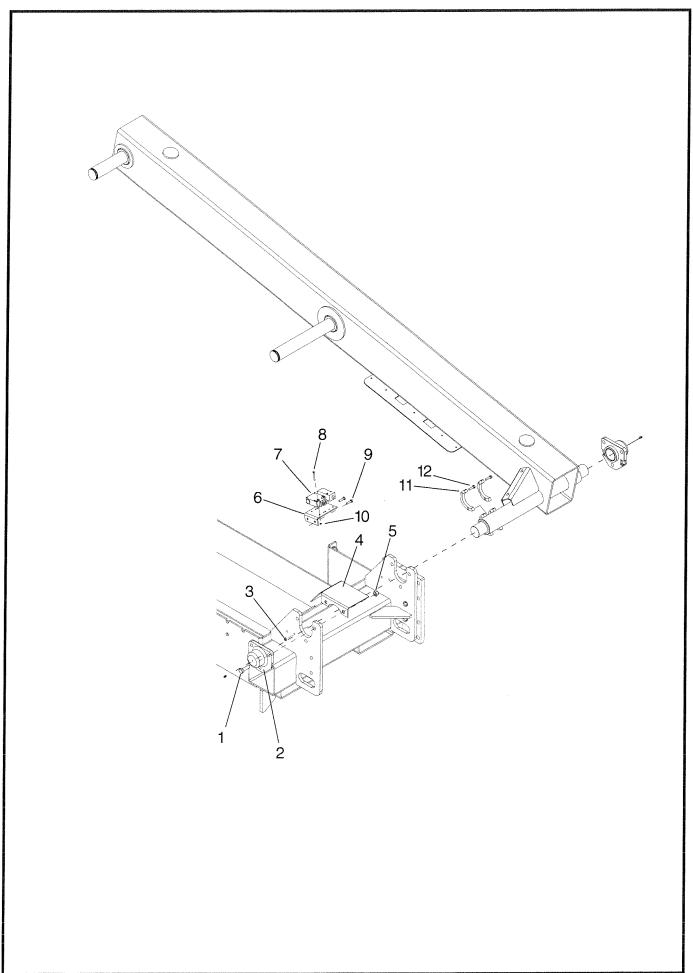




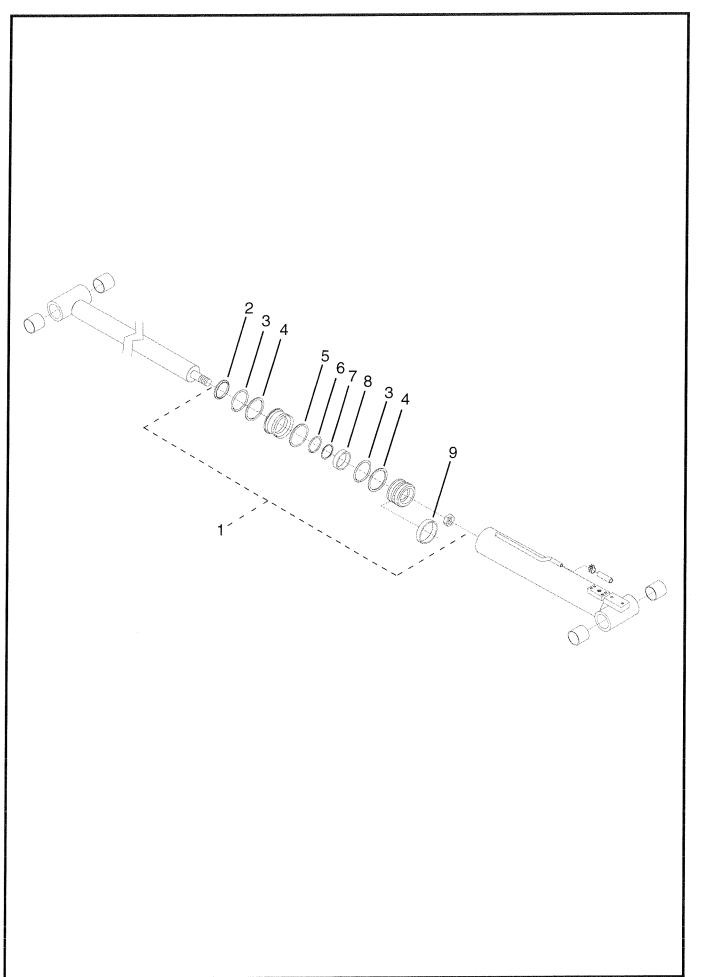
ITEM	PART NO.	QTY	DESCRIPTION
		-	BEAM ASSEMBLY
1	14488	2	BLOCK, SLIDE, PLATFORM
2	40448	1	BEAM, 6 X 8 X .250, TOP SLIDE, W/PINS
3	40084	1	BEAM, 6 X 8 X .313 W/PINS
4	40081	1	BEAM, 6 X 8 X .313 W/PINS
5	40444	1	BEAM, 6 X 8 X .250, BOTTOM FIXED, W/PINS
6	40459	2	LOWER PIVOT, MACHINED CASTING
6a	6669	2	BRNG, 2" X 2"
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, POTHOLE
15	HDW6349	4	SCREW, 1/2" - 13, 1" LG
16	HDW6349	4	NUT, 1/2" - 13
17	6701	8	RING, RETAINING, 2"
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"
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" (NOT SHOWN)
28	14806	1	SUPPORT BEAM WELDMENT
29	14218	2	CYLINDER MOUNT
30	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LG
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ITEM	PART NO.	QTY	
	LIDIMEGAT	-	BEAM ASSEMBLY - (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
	HDW13175		WASHER, 2.062 ID X 2.620 OD X .030 THK (NOT SHOWN)
	HDW3809	UP	WASHER, FLAT, 1.512 ID X 2.512 OD X .072 THK
		TO 4	(AT PLATFORM FOR ADJUSTMENT)
	9211	1	CABLE, MAIN CONTROL (NOT SHOWN)
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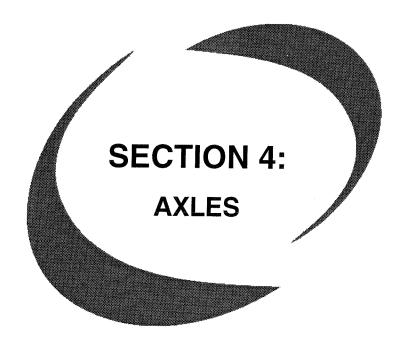


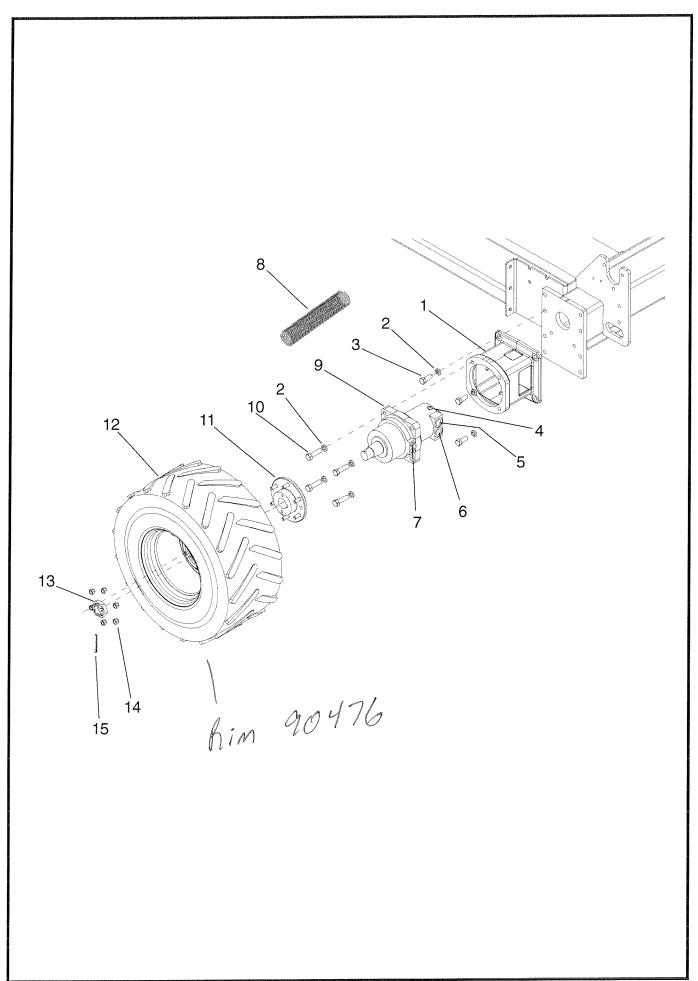
ITEM	PART NO.	QTY	DESCRIPTION
		_	FIXED BEAM INSTALLATION
1	HDW8283	6	BOLT, 1/2"-13, 1 1/2" LG, GR 8
2	40459	2	LOWER PIVOT, MACHINED CASTING
3	HDW8267	2	NUT, 1/4"-20
4	40604	1	COVER, LIMIT SWITCH
5	HDW8457	6	LOCKNUT, 1/2"-13, GR B
6	13838	1	BRKT, LIMIT SWITCH
7	8776	1 1	LIMIT SWITCH, SLOW SPEED
8	HDW8482	2	#8-32, 1 1/2" LG, GR 2
9	HDW8273	2	1/4"-20, 1" LG, GR 8
10	HDW5251	2	NUT, #8-32
11	40524	1	CAM, DRIVE CUTOUT, 2.75 DIA.
12	HDW5881	2	SCREW, 1/2"-13, 1" LG, GR 5
	9212	1	CABLE, LIMIT SWITCH, SLOW SPEED (NOT SHOWN)
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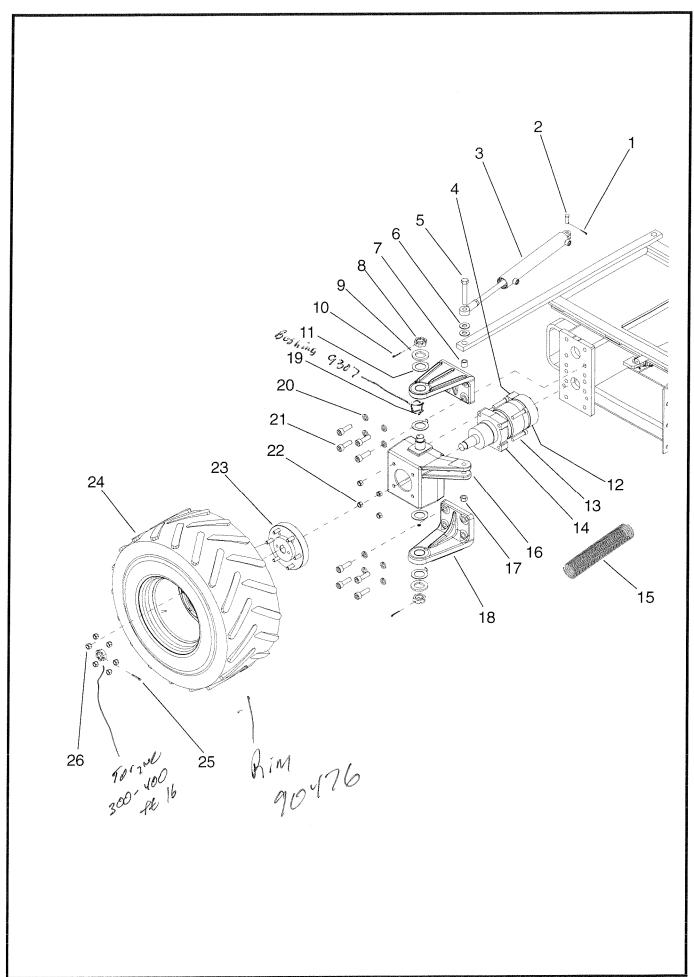
ITEM	PART NO.	QTY	DESCRIPTION
	8809	_	LIFT CYLINDER
1	8894	1	SEAL KIT FOR CYLINDER 8809
2	==	1	DUST SEAL
3	-	2	O-RING
4	-	2	BACK-UP O-RING
5	-	1	O-RING
6		1	BACK-UP O-RING
7	-	1	O-RING
8	-	1	WEAR RING
9	-	1	WEAR RING
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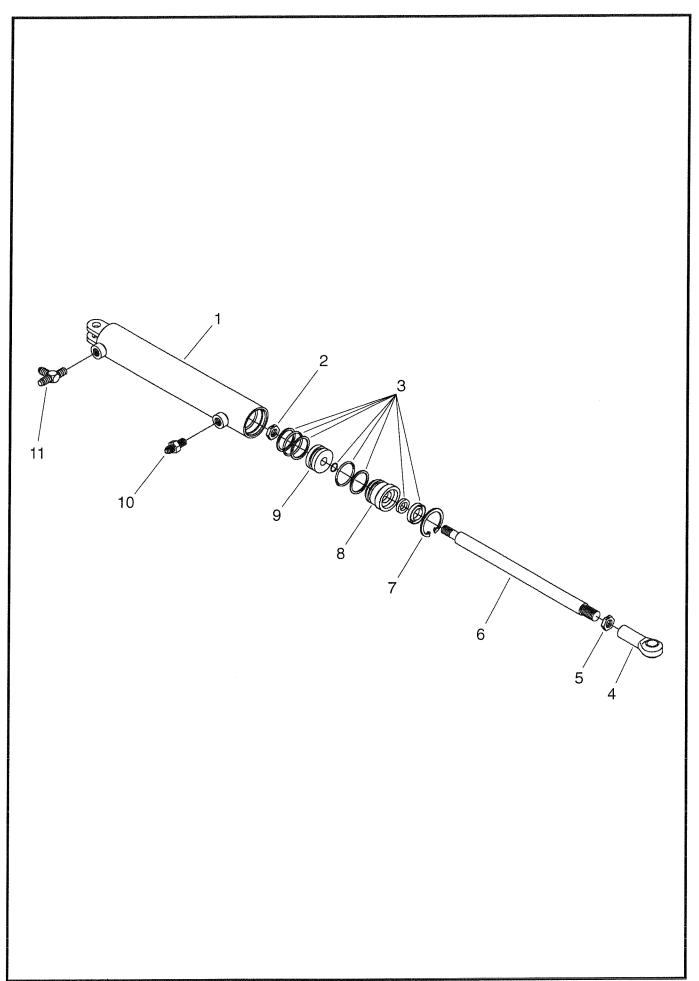




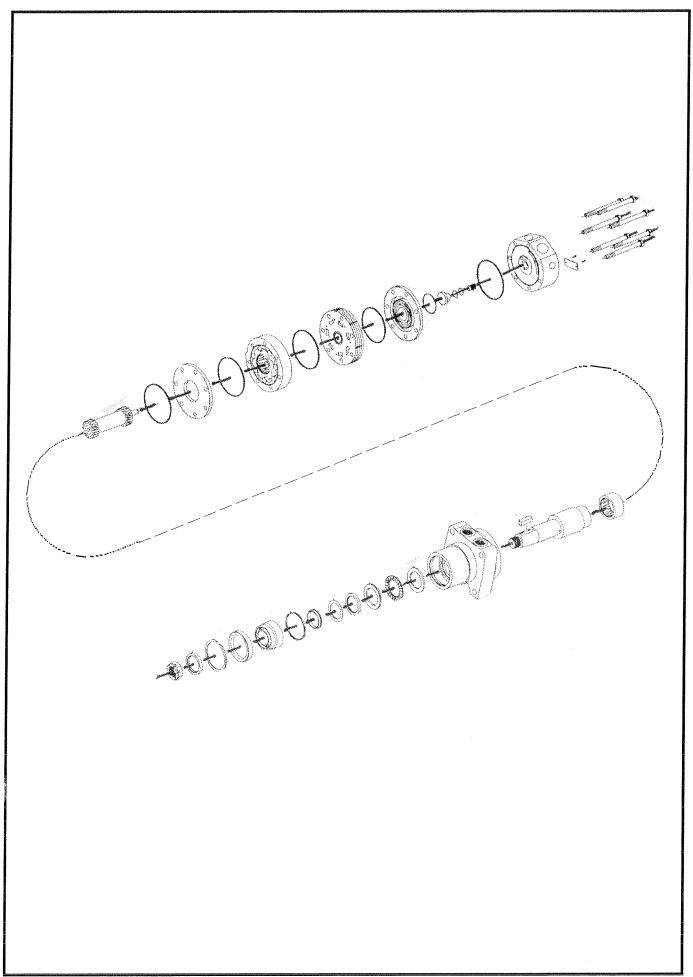
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ITEM	PART NO.	QTY	DESCRIPTION
		-	REAR AXLE ASSEMBLY
1	40258	2	MOUNT, MOTOR, REAR AXLE, MACHINED
2	HDW5994	16	WASHER, LOCK, .640 ID X 1.050 OD X .165 THK
3	HDW90409	8	BOLT, 5/8" - 11, 1 1/2" LG
4	90280	2	HOSE ASSEMBLY 1/4" X 67" LG, (NOT SHOWN)
5	9224	1	HOSE ASSEMBLY 3/8" X 77" LG, LH ONLY (NOT SHOWN)
6	9226	2	HOSE ASSEMBLY 3/8" X 116" LG, (NOT SHOWN)
	9225	1	HOSE ASSEMBLY 3/8" X 97" LG, RH ONLY (NOT SHOWN)
7	9227	1 1	HOSE ASSEMBLY 1/4" X 83" LG, LH ONLY (NOT SHOWN)
	9228	1	HOSE ASSEMBLY 1/4" X 107"LG, RH ONLY (NOT SHOWN)
8	9323	2	SPRING, HOSE PROTECTION
9	8843	2	WHEEL MOTOR, HYD W/BRAKE
10	HDW5989	8	SCREW, 5/8"-11, 2.25" LG, GR 5
11	14773	2	HUB
12	40552	1	WHEEL/TIRE ASSY, RH - 10 PLY - PNEUMATIC
	40554	1	WHEEL/TIRE ASSY, RH - 10 PLY - FOAM - OPTION
	40553	1	WHEEL/TIRE ASSY, LH - 10 PLY - PNEUMATIC
	40555	1	WHEEL/TIRE ASSY, LH - 10 PLY - FOAM - OPTION
13	HDW9037	2	NUT, CASTLE, M42 X 3
14	HDW6677	12	NUT, LUG, 1/2" - 20, GR 5
15	8925	2	PIN, COTTER, .250 DIA. X 3" LG
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TITEN	PART NO.	QTY	DESCRIPTION
* * * * * * * * * * * * * * * * * * *	TAIR NO.		FRONT AXLE ASSEMBLY
1	HDW5920	2	PIN, COTTER, .12 DIA. X 1" LG
2	HDW5710		PIN, CLEVIS, 1/2 DIA. X 1 1/4" LG
3	10329	2	CYLINDER, STEERING
4	9223	1	HOSE ASSEMBLY 3/8" X 96" LG - RH ONLY (NOT SHOWN)
	9226	2	HOSE ASSEMBLY 3/8" X 116" LG - (NOT SHOWN)
	9222	1	HOSE ASSEMBLY 3/8" X 62" LG - LH ONLY (NOT SHOWN)
5	HDW7326	2	SCREW, 5/8" - 11. 4" LG, GR 5
6	HDW5785	4	WASHER, .687 ID X 1.500 OD X .109 THK
7	7292	2	BEARING, SLEEVE, BRONZE
8	HDW8568	6	NUT, 1 1/8" - 18
9	20311	4	WASHER, 1.375 ID X 2.75 OD X .250 THK
10	HDW5787	4	PIN, COTTER, .12 DIA. X 1 1/2" LG
11	20312	8	WASHER, 1.575 ID X 2.50 OD X .074 THK
12	90282	1	HOSE ASSEMBLY 1/4" X 50" LG - RH ONLY (NOT SHOWN)
	90283	1 1	HOSE ASSEMBLY 3/8" X 60" LG - LH ONLY (NOT SHOWN)
13	HDW7043	8	SCREW, 1/2"-13, 2.50" LG, GR 8
14	7300P	2	MOTOR, WHEEL, HYD.
15	9323	2	SPRING, HOSE PROTECTION
16	40464	2	MOUNT, WHEEL MOTOR, LH, FRONT
17	HDW6633	2	NUT, LOCK, 5/8" - 11, GR 5
18	40334	4	MOUNT, MOTOR
19	9607	2	FITTING, GREASE, 90°
20	HDW5994	16	WASHER, LOCK, .640 ID X 1.050 OD X .165 THK
21	HDW90410	16	SCREW, 5/8" - 11, 2" LG, GR 8
22	HDW8457	8	NUT, 1/2"-13, GR B
23	10709	2	HUB
24	40552	1	WHEEL/TIRE ASSY, RH - 10 PLY - PNEUMATIC
	40554	1	WHEEL/TIRE ASSY, RH - 10 PLY - FOAM - OPTION
	40553	1	WHEEL/TIRE ASSY, LH - 10 PLY - PNEUMATIC
	40555	1	WHEEL/TIRE ASSY, LH - 10 PLY - FOAM - OPTION
25	HDW5290	2	PIN, COTTER, .156 DIA. X 1.75" LG
26	HDW6677	10	NUT, LUG, 1/2" - 20, GR 5
		MACHINE THE PROPERTY OF THE PR	
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ITEM	PART NO.	QTY	
1	10329	-	STEERING CYLINDER ASSEMBLY
1	10048	1	WELDMENT, CYLINDER
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
7	6337	1	RING, RETAINING, INTERNAL
8	2493	1	HEAD
9	2494	1	PISTON
10	HDW8306	2	ADAPTER, MALE, 3/8", MALE 1/4"
11	HDW8895	2	TEE, MALE 1/4" NPT, MALE 3/8"



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	M/A	1 1	SHAFT SEAL
1e	MM.	1	SMALL O-RING SEAL
1f	12.0	1	SMALL TEFLON SEAL
1 g		1	LARGE O-RING SEAL
1h	-	1	LARGE TEFLON SEAL
1i	-	1	O-RING SEAL
1j	-	3	O-BODY SEAL
1k	_	1	MANIFOLD SEAL
11	-	1	COMMUTATOR SEAL
1m	-	1	PISTON O-RING SEAL
1n	•	1	PISTON TEFLON SEAL
2	9782	1	DISC KIT
2p	-	1	FRICTION DISC
2q	100	1	DISC STAMPING
2r	-	1	DISC STAMPING
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		7.74 to 100	
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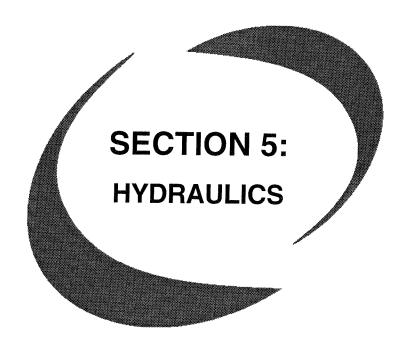
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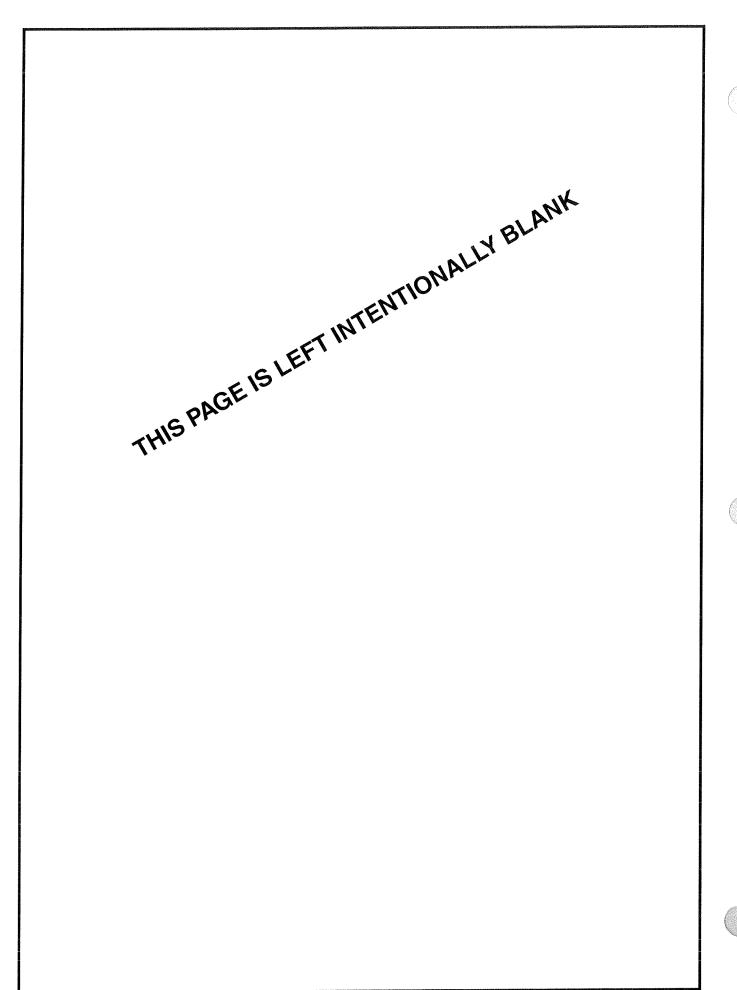
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ITEM	PART NO.	QTY	
	7300P	-	MOTOR WHEEL HYD PAINTED
	90592	1	SEAL KIT
1	-	1	DUST SEAL
2	-	1	HIGH PRESSURE SEAL SEAL
3		1	METAL BACKUP SHIM
4	•	1	TEFLON BACK UP SEAL
5	-	1 1	SHAFT SEAL
6	W	1	HOUSING SEAL
7	-	3	BODY SEALS
8		1	MANIFOLD SEAL
9	-	1	COMMUTATOR SEAL
10	-	1 1	O-RING SEAL
11	-	1	TEFLON BACKUP SEAL

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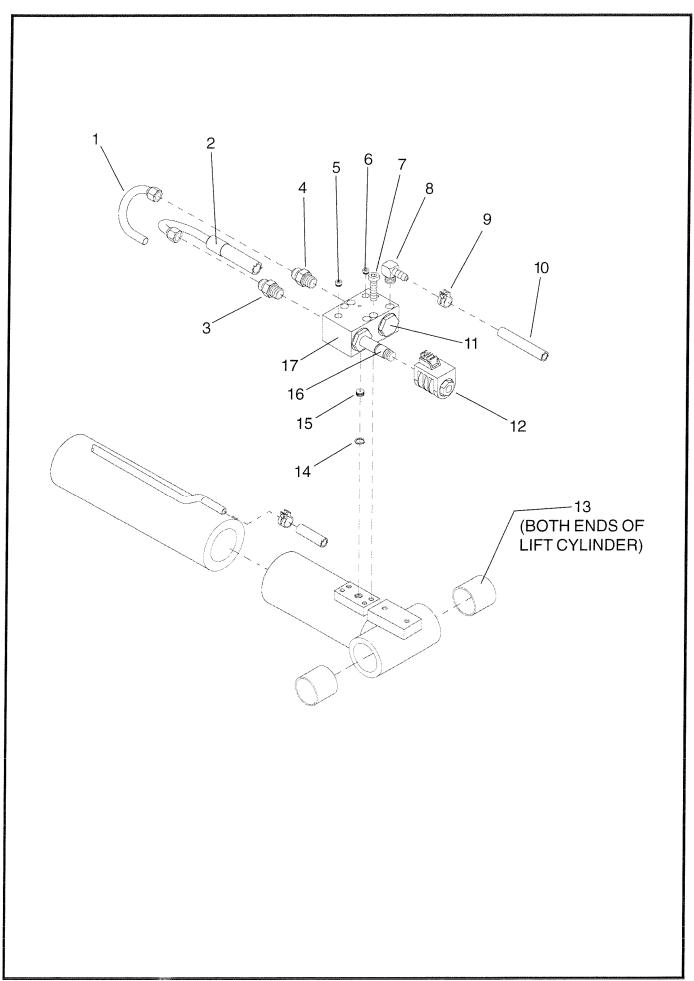
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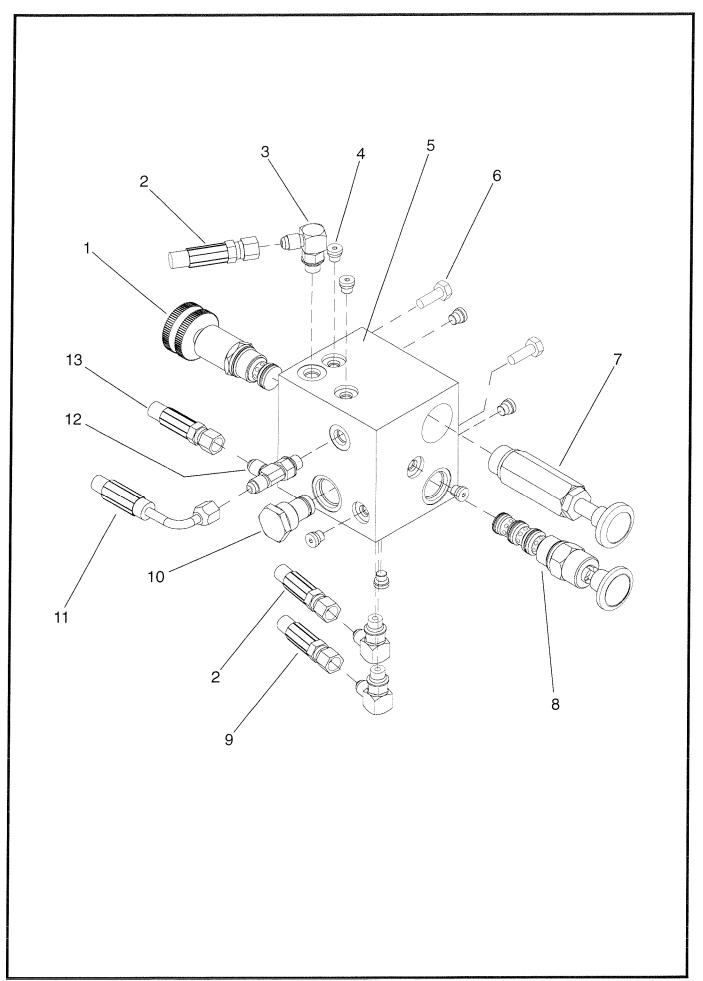




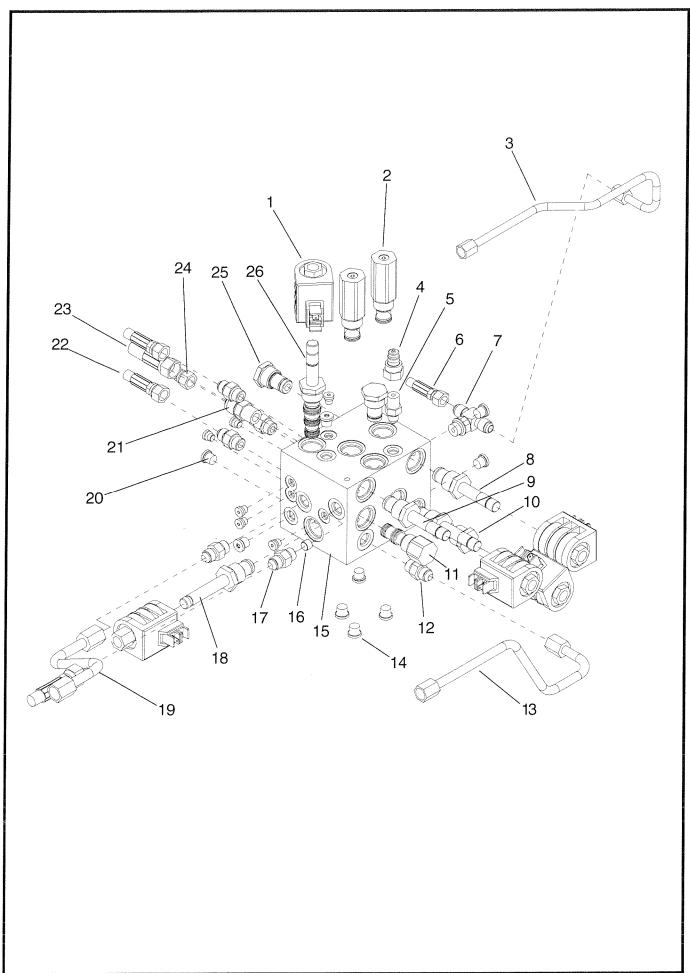
ITEM	PART NO.	QTY	DESCRIPTION
	90278	-	HOSE KIT 3072 4WD
	7783	1	HOSE ASSEMBLY 1/2" X 80" LG
	9232	2	HOSE ASSEMBLY 3/8" X 60" LG
	9231	2	HOSE ASSEMBLY 1/4" X 46" LG
	9228	1	HOSE ASSEMBLY 1/4" X 107" LG
	9227	1	HOSE ASSEMBLY 1/4" X 83" LG
	9225	1	HOSE ASSEMBLY 3/8" X 97" LG
	9224	1	HOSE ASSEMBLY 3/8" X 77" LG
	9223	1	HOSE ASSEMBLY 3/8" X 96" LG
	9222	1	HOSE ASSEMBLY 3/8" X 62" LG
	8917	2	HOSE ASSEMBLY 1/4" X 18" LG
			BASE HOSE KIT
	90283	1	HOSE ASSEMBLY 1/4" X 83" LG
	90282	2	HOSE ASSEMBLY 1/4" X 50" LG
	90281	1	HOSE ASSEMBLY 1/4" X 73" LG
	90280	2	HOSE ASSEMBLY 1/4" X 67" LG
	8898	2	HOSE ASSEMBLY 1/4" X 19" LG
	9226	2	HOSE ASSEMBLY 3/8" X 116" LG
			LIFT HOSE KIT
	9238	1	HOSE, .750 ID X 8" LG, LOW PRESSURE
	9230	1	HOSE ASSEMBLY 3/8" X 174" LG
	9229	1	HOSE ASSEMBLY 1/4" X 184" LG
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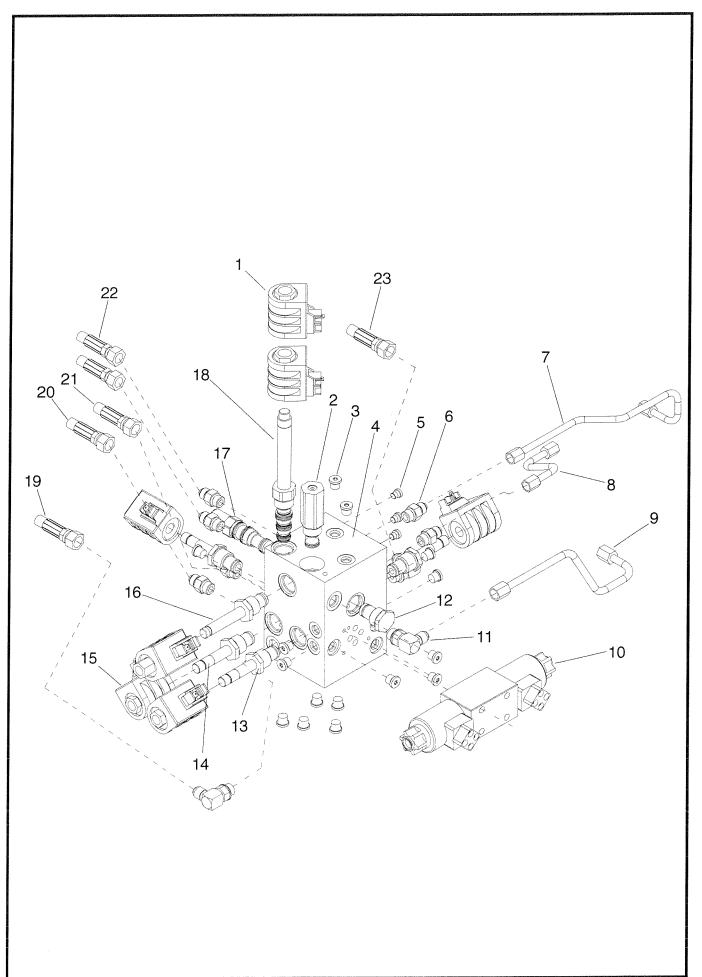
ITEM	PART NO.	QTY	DESCRIPTION
	14825	-	MANIFOLD, LIFT CYLINDER
1	9229	1	HOSE ASSEMBLY 1/4"X 184" LG
2	9230	1	HOSE ASSEMBLY 3/8"X 174" LG
3	HDW7438	1	ADAPTER, 3/8", 37° X 9/16" - 18 UNF
4	8881	1	ADAPTER, MALE 1/4", O-RING, MALE 1/4" 37°
5	7484	1	PLUG, O-RING
6	HDW7314	1	PLUG, 7/16"-20, O-RING
7	HDW8592	4	SCREW, 1/4" - 20, 1 1/2" LG
8	HDW8879	1	ELBOW, 90°, MALE 1/8" HOSE BARB, 5/16"
9	7788	2	HOSE CLAMP, 5/8"
10	6458	18 FT	HOSE, RETURN LINE, 5/16"
11	7445	1 1	VALVE, CHECK
12	6870	1	COIL, 12V DC, 1 SPADE W/DIODE
13	6669	4	BRNG, 2" X 2"
14	6426	1	O-RING, MANIFOLD BLOCK
15	HDW8647	1	PLUG, PIPE FITTING - 'CE'
16	6973	1	VALVE, N.C. POPPET, 2 WAY
17	14523	1	MANIFOLD
18	9214	1	CABLE, MANIFOLD (NOT SHOWN)
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ITEM	PART NO.	QTY	DESCRIPTION
**************************************	14485	_	MANIFOLD ASSEMBLY, EMERGENCY DOWN/BRAKE
1	8855	1	VALVE, MANUAL, FLOW CONTROL
2	8917	2	HOSE ASSEMBLY 1/4"X 18" LG
3	HDW8877	3	ELBOW, 90°, MALE 1/4" O-RING, MALE 1/4"
4	HDW8975	7	PLUG, MALE 1/4", O-RING
5	14510	1	MANIFOLD
6	HDW5723	2	SCREW, 1/4" - 20, 3/4" LG, GR 5
7	8849	1	VALVE, MANUAL PULL, 4 WAY
8	8848	1	VALVE, HAND PUMP
9	9229	1	HOSE ASSEMBLY 1/4" X 184" LG
10	5434	1	VALVE, CHECK, IN-LINE
11	9228	1	HOSE ASSEMBLY 1/4" X 107" LG
12	HDW8876	1	TEE, PIPE, MALE 1/4", O-RING
13	9227	1	HOSE ASSEMBLY 1/4" X 83" LG
1,1			

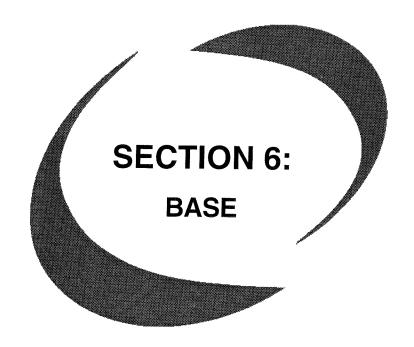


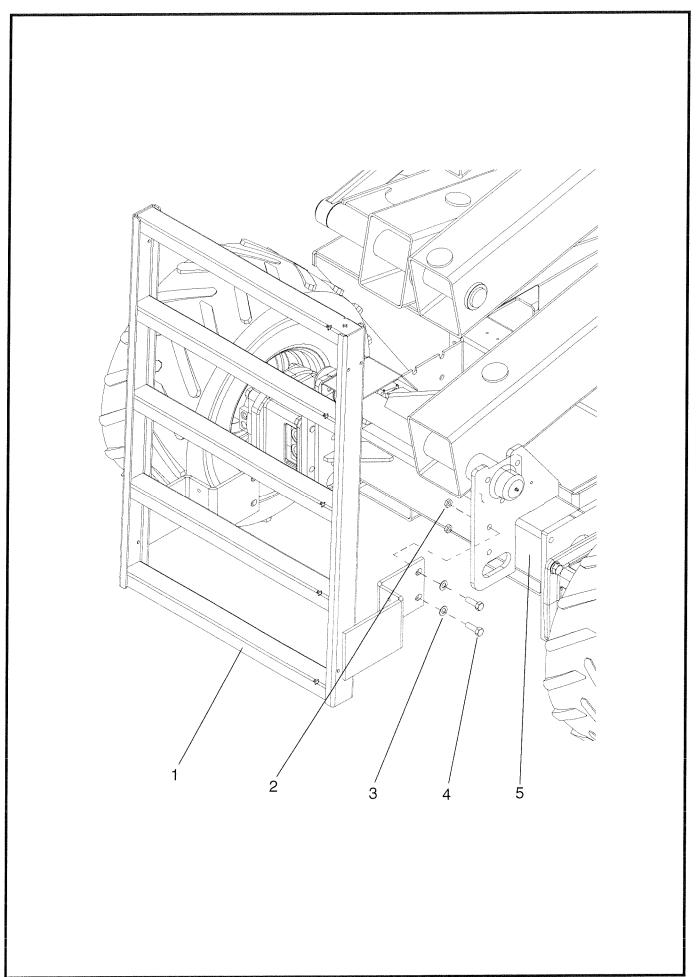
ITEM	PART NO.	QTY	DESCRIPTION
	14960	-	PRIMARY MANIFOLD ASSEMBLY
1	6870	5	COIL, 12 VDC, 1 SPADE
2	9664	2	VALVE, PRESSURE RELEASE, 1500 PSI
3	9295	1	TUBE, 3/8" O.D., RETURN
4	HDW7971	1	FITTING, MALE DISCONNECT, 1/4" NPT
5	HDW7572	1	ADAPTER, PIPE FITTING, MALE 1/4"
6	8917	2	HOSE ASSEMBLY, 1/4" X 18" LG
7	HDW7780	1	TEE, PIPE FITTING, MALE 3/8" O-RING
8	6973	2	VALVE, N.C., 2 WAY, POPPET
9	7151	1	VALVE, N.C., 2 WAY
10	10915	1	PLUG, 7/8" NPTF
11	90518	1	VALVE, FLOW CONTROL, 1 1/4 GPM
12	HDW7438	5	ADAPTER, PIPE FITTING, MALE 3/8"
13	9294	1	TUBE, 3/8" O.D., PRIMARY
14	HDW7314	9	PLUG, PIPE FITTING, MALE #43 O-RING
15	14958	1	MANIFOLD
16	10526	1	ORIFICE, 1/8" NPTF
17	HDW8813	1	ADAPTER, MALE 3/8", MALE 5/16" O-RING
18	6974	1	VALVE, N.O., POPPET, REV. FLOW
19	9293	1	TUBE, 3/8" O.D., SECONDARY
20	HDW8975	6	PLUG, PIPE FITTING, MALE 1/4" O-RING
21	HDW7764	1	UNION, PIPE FITTING, MALE 1/2", MALE 3/8"
22	9232	2	HOSE ASSEMBLY, 3/8" X 77" LG
23	7763	1	HOSE ASSEMBLY, 1/2" X 80" LG
24	9230	1	HOSE ASSEMBLY 3/8"X 174" LG
25	5434	2	VALVE, CHECK, IN LINE
26	9302	1	VALVE, 3 WAY, 2 POS
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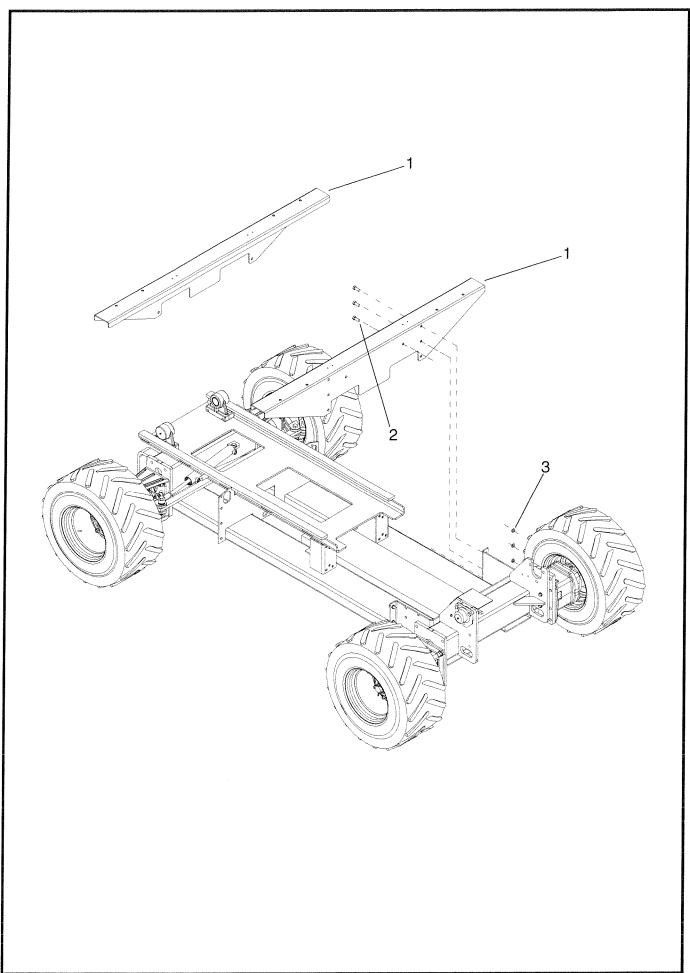
ITEM	PART NO.	QTY	DESCRIPTION
	14961	-	SECONDARY MANIFOLD ASSEMBLY
1	9296	2	COIL, 12 VDC, 1 SPADE WITH DIODE
2	9664	1	VALVE, PRESSURE RELIEF, 1500 PSI
3	HDW7314	15	PLUG, PIPE FITTING, MALE
4	14957	1	MANIFOLD, SECONDARY
5	HDW8975	3	PLUG, PIPE FITTING, 1/4" O-RING
6	HDW7438	6	ADAPTER, PIPE FITTING, MALE 3/8"
7	9295	REF	TUBE, 3/8" O.D., RETURN
8	9293	1 1	TUBE, 3/8" O.D., SECONDARY
9	9294	REF	TUBE, 3/8" O.D., PRIMARY
10	9290	1	VALVE, 4 WAY, 3 POS
11	HDW7601	3	ELBOW, PIPE FITTING, MALE 3/8"
12	5434	1 1	VALVE, CHECK, IN LINE
13	6975	2	VALVE, N.O., SPOOL
14	7151	2	VALVE, N.C., 2 WAY
15	6870	5	COIL, 12 VDC, 1 SPADE
16	6974	1	VALVE, N.O., POPPET, REV. FLOW
17	9606	1	VALVE, COUNTER BALANCE
18	9730	1	VALVE, 4 WAY, 7 POLE, TANDEM CENTER
19	9223	1	HOSE ASSEMBLY, 3/8" X 96" LG
20	9225	1	HOSE ASSEMBLY, 3/8" X 97" LG
21	9222	1	HOSE ASSEMBLY, 3/8" X 62" LG
22	9231	2	HOSE ASSEMBLY, 1/4" X 46" LG
23	9224	1	HOSE ASSEMBLY, 3/8" X 77" LG



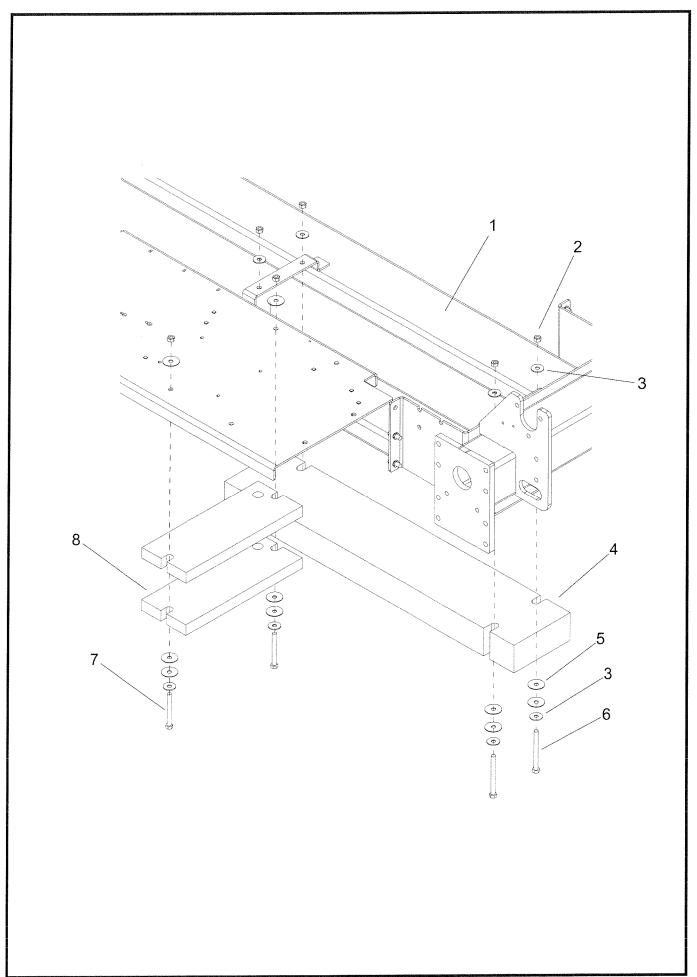




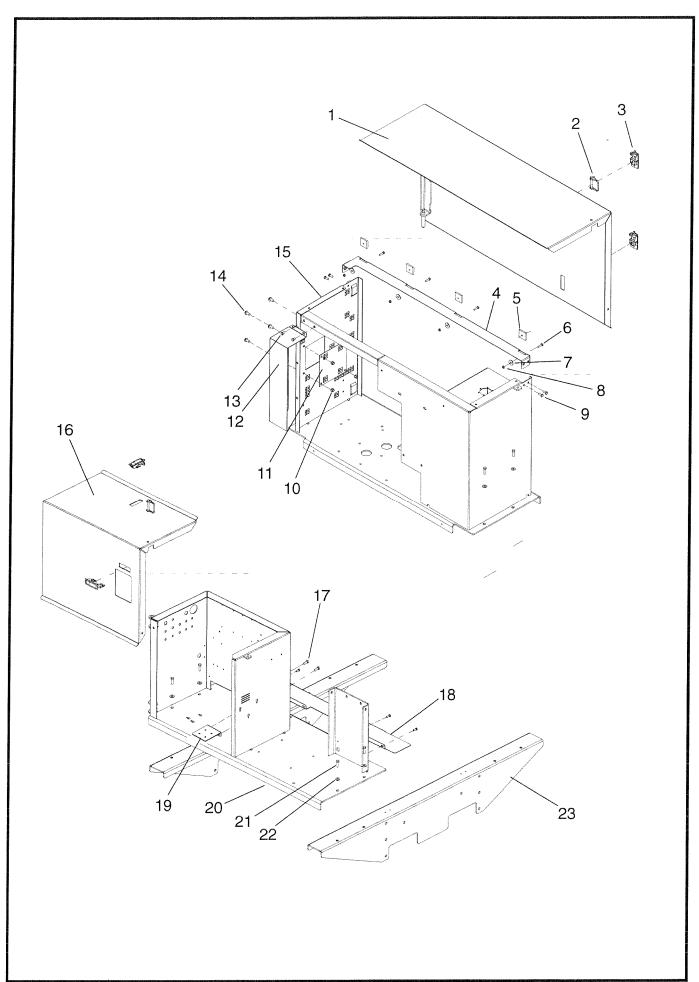
ITEM	PART NO.	QTY	
		-	LADDER INSTALLATION
1	40455	1	LADDER WELDMENT
2	HDW6349	4	NUT, 1/2" - 13, GR 5
3	HDW8531	4	WASHER, .531 ID X 1.000 OD X .063 THK
4	HDW8283	4	SCREW, 1/2" - 13, 1 1/2" LG
5	40159	1	BASE WELDMENT
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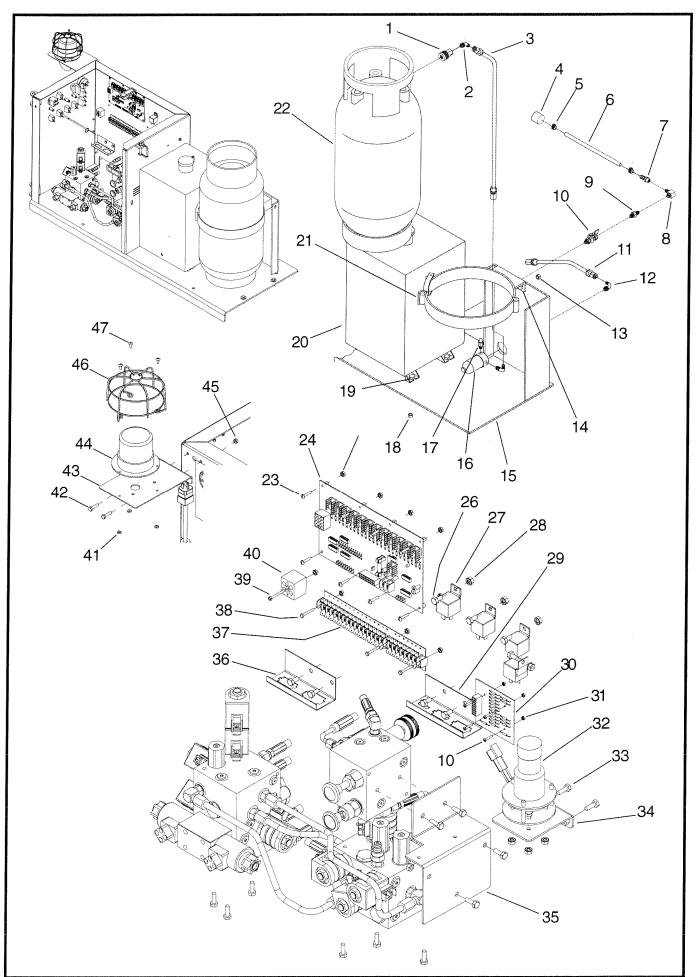
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ITEM	PART NO.	QTY	DESCRIPTION
		_	CABINET SUPPORT INSTALLATION
1	14993	2	SUPPORT, CABINET
2	HDW6211	12	SCREW, 1/2"-13, 1 1/4" LG, GR 5
3	HDW6349	12	NUT, 1/2"-13, GR 5
			·



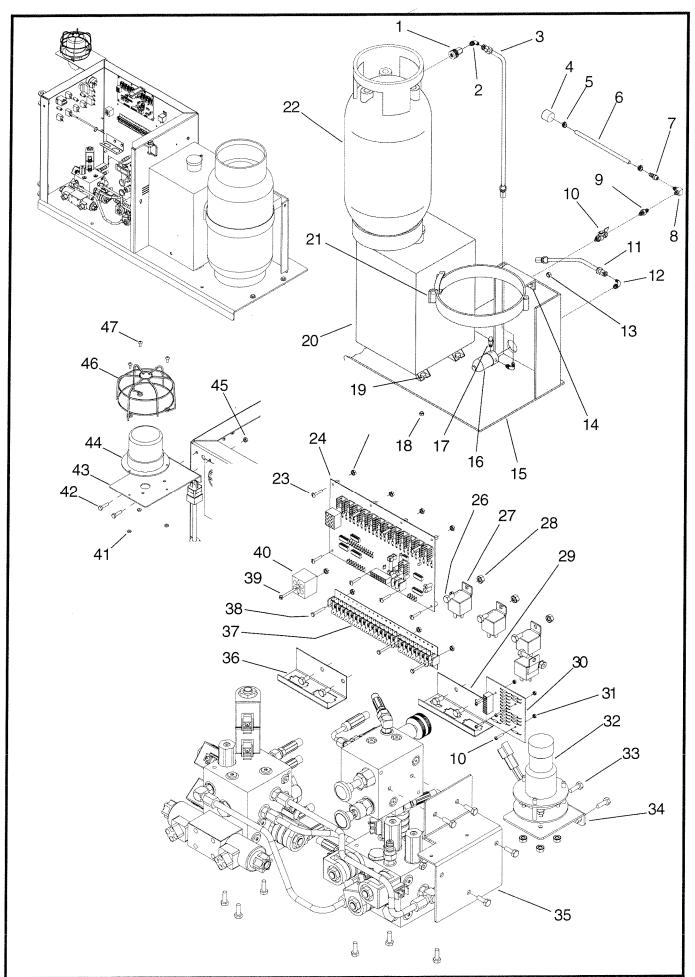
ITEM	PART NO.	QTY	DESCRIPTION
			BALLAST (COUNTERWEIGHT) INSTALLATION
1	40159	REF	
2	HDW6349	6	NUT, LOCK, 1/2"-13, GR 5
3	HDW13195	12	WASHER, FLAT, .515 ID X 1.512 OD X .098 THK
4	40590	1	BAR, BALLAST WEIGHT
5	HDW90460	12	WASHER, FLAT, .531 ID X 2.000 OD X .062 THK
6	HDW90528	4	SCREW, 1/2"-13, 5 1/2" LG, GR 5
7	HDW7312	2	SCREW, 1/2"-13, 4 1/2" LG, GR 5
8	90406	2	PLATE, BALLAST WEIGHT
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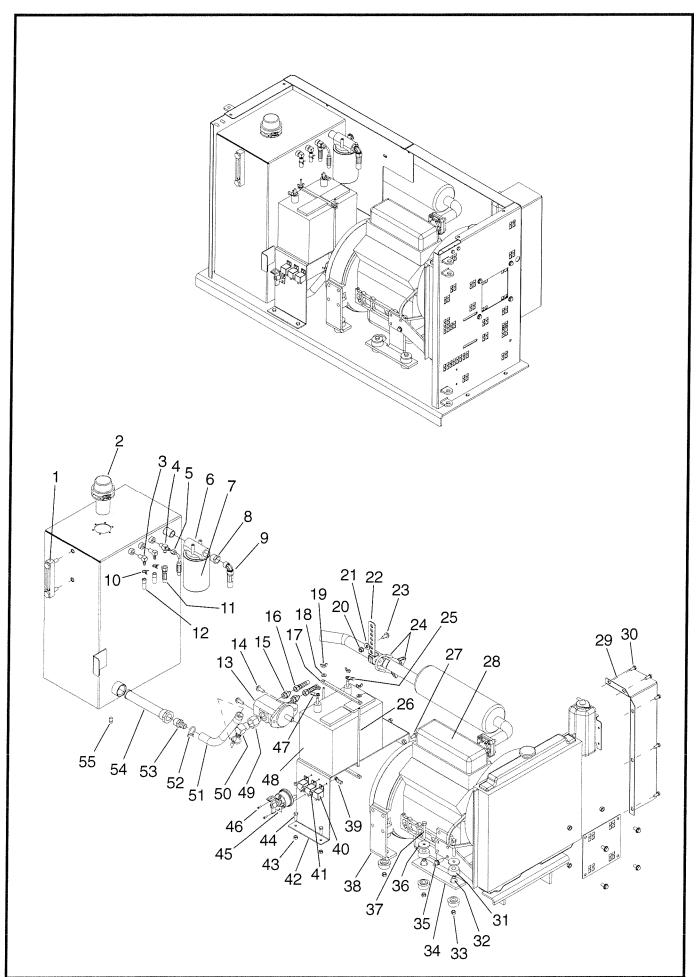
ITEM	PART NO.	QTY	DESCRIPTION
		-	CABINETS INSTALLATION
1	40613	1	DOOR WELDMENT, ENGINE CABINET
2	HDW7593	2	PIN, WIRE LOCK, 3/8" DIA X 2 1/4" LG
3	8 836 3386	4	LATCH TRIGGER
4	14826	1	BRACKET, CROSS SUPPORT
5	14896	4	BLOCK, SLIDE, ENGINE DOOR
6	HDW8273	4	SCREW, 1/4"-20, 1" LG, GR 8
7	HDW10490	4	WASHER, .317 ID X 1.125 OD X .112 THK
8	HDW6461	4	NUT, 1/4"-20, GR 5
9	HDW5724	4	SCREW, 5/16"-18, 3/4" LG, GR 5
10	HDW5039	REF	NUT, 3/8"-16, GR 5
11	10913	REF	COVER, GENERATOR PANEL
12	40608	1	COVER, RADIATOR, ISUZU DIESEL - OPTION ONLY
13	HDW8663	4	SCREW, 5/16"-18, 1/2" LG, GR 2
14	HDW6432	REF	SCREW, 3/8"-16, 3/4" LG, GR 5
15	40609	1	CABINET WELDMENT, ENGINE
16	40485	1	DOOR WELDMENT, ELEC & FUEL
17	HDW5723	8	BOLT, 1/4"-20, 3/4" LG, GR 5
18	40454	1	COVER, HOSE TRAY, LH
19	13683	1	BRACKET, MNTG, TILT SENSOR
20	40483	1	CABINET WELDMENT, ELEC & FUEL
21	HDW8276	8	SCREW, 3/8"-16, 1.25" LG, GR 8
22	HDW5355	8	WASHER, .438 ID X 1.000 OD X .078 THK
23	14993	REF	SUPPORT, CABINET
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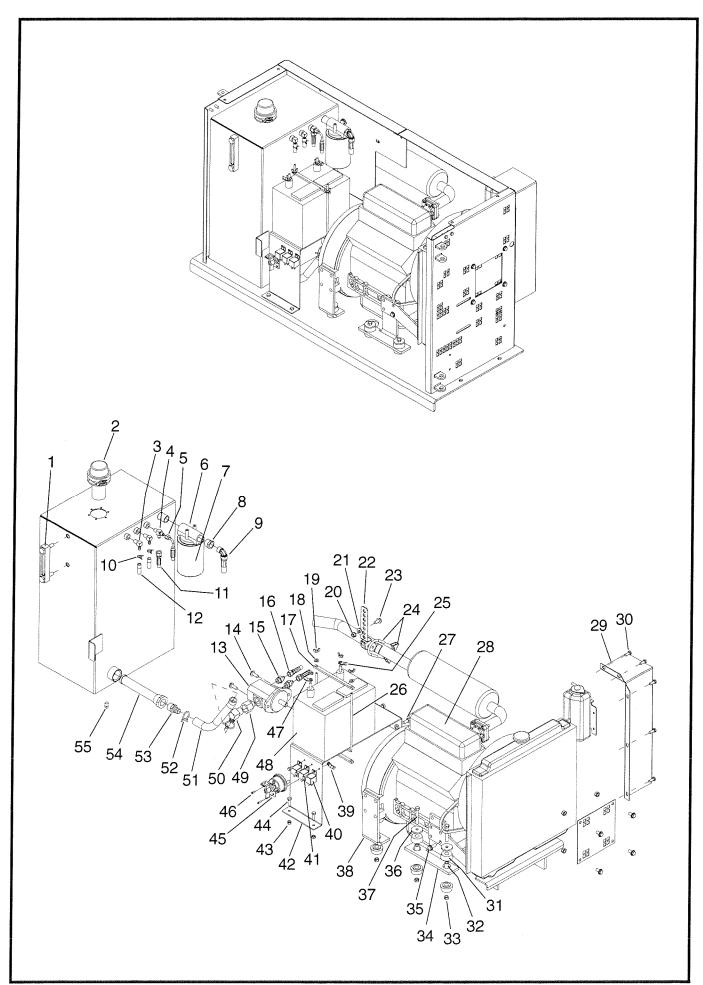
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ITEN	PART NO.	QTY	DESCRIPTION
		-	HYDRAULIC COMP. INSTALLATION - DUAL FUEL
1	6868	1 1	QUICK DISCONNECT
2	HDW6895	1	ELBOW, 45°, MALE 3/8", MALE 1/4" NPT
3	6890	1	HOSE ASSEMBLY
4	8514	1	FUEL FILTER
5	7788	2	CLAMP, 5/8" OD HOSE
6	6458	A/R	RETURN LINE HOSE
7	HDW7508	1	UNION, FEMALE 1/8" DRY SEAL, MALE 5/16" BARB
8	6863	1	ELBOW, MALE, 1/8"
9	HDW7509	1	UNION, MALE 1/8" DRY SEAL, MALE 1/8" DRY SEAL
10	6919	1	SHUT OFF VALVE - GAS LINE
11	7406	1	HOSE ASSEMBLY - LP GAS
12	6894	2	ELBOW, 90°, MALE 3/8" SAE, MALE 1/4" NPT
13	HDW5039	1	NUT, 3/8"-16, GR 5
14	HDW6433	2	SCREW, 3/8"-16, 1" LG, GR 5
15	14766	1	ELECTRIC AND FUEL CABINET
16	6861	1	BULKHEAD FILTER
17	6938	1	RELIEF VALVE, LP GAS
18	HDW7032	4	NUT, 5/16"-18, GR 2
19	HDW8310	4	SCREW, 5/16"-18, 1 1/4" LG, GR 8
20	9835	1	FUEL TANK, 10 GALLON
21	6860	1	BRACKET, MNTG, LPG TANK
22	6859	1	TANK, PROPANE
23	HDW7561	8	SCREW, #6-32, 3/4" LG, GR 5
24	9021	1	RELAY BOARD
25	HDW5364	12	NUT, KEPS, #6-32
26	HDW6455	8	BOLT, 1/2"-20, 1/2" LG, GR 5
27	9278	4	RELAY, 12V, N.O., W/SUPPRESION
28	HDW5276	8	NUT, 1/4"-20, GR 5
29	14801	1	PLATE, JUNCTION
30	90328	1	BOARD, DIODE, W/DRIVE CUTOUT
31	HDW7886	4	NUT, KEPS, #4-40, GR 2
32	90506	1	TIP SENSOR, 12V, 3 DEG
33	HDW5723	16	BOLT, 1/4"-20, 3/4" LG, GR 5
34	13683	1	BRACKET, MTG, TILT SENSOR

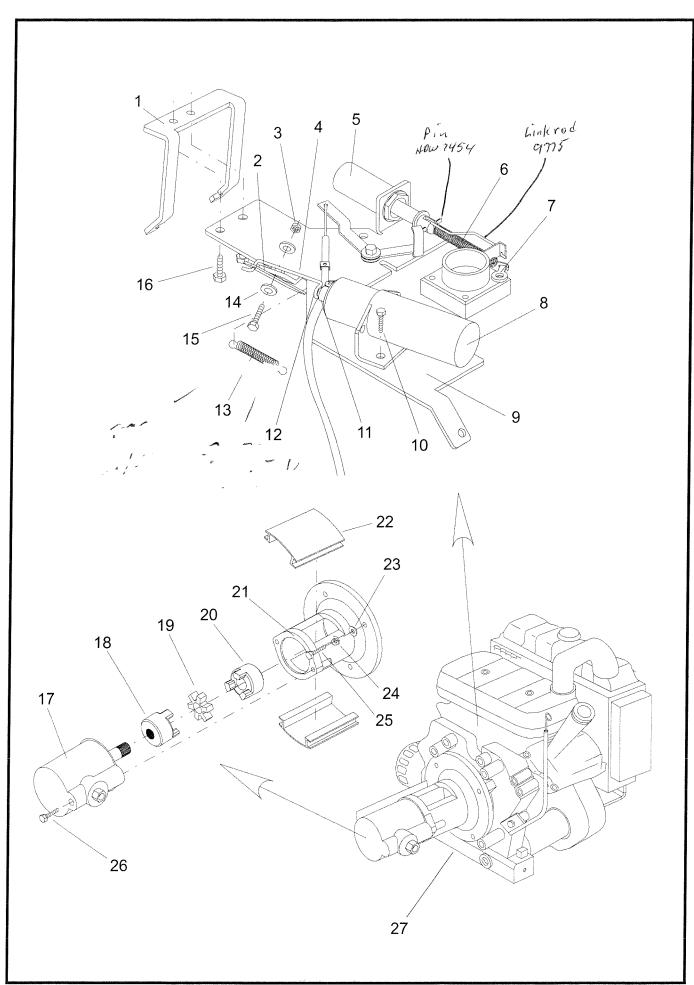


ITEM	PART NO.	QTY	DESCRIPTION
			HYD. COMP. INSTALLATION - DUAL FUEL (Continued)
35	14566	1	BRACKET, E-STOP/BRAKE, MANIFOLD
36	14848	1 1	PLATE, JUNCTION, ENGINE HARNESS
37	7970	1	STRIP, MARKER, NUMBERS: 1-22
38	HDW5363	3	BOLT, #6-32, 1" LG, GR 5
39	HDW7231	1	BOLT, #6-32, 1 1/4" LG, GR 5
40	7492	1 1	TERMINAL BLOCK
41	HDW7543	3	NUT, #10 - 32, GR 2
42	HDW8273	2	SCREW, 1/4" - 20, 1" LG, GR 8
43	40439	1	BRKT, FLASHING LIGHT
44	9770	1	LIGHT, STROBE
	9836	1	LIGHT TUBE, STROBE REPLACEMENT
45	HDW6461	2	NUT, 1/4" - 20, GR 5
46	90213	1	GUARD, LENS
47	HDW7888	3	SCREW, #10 - 32, 1/2" LG, GR 2
	9289	1	HARNESS, MANIFOLD (UNTIL OCT. 2000) (NOT SHOWN)
	90201	1	HARNESS, MANIFOLD (AFTER OCT. 2000) (NOT SHOWN)
		POPULATION	

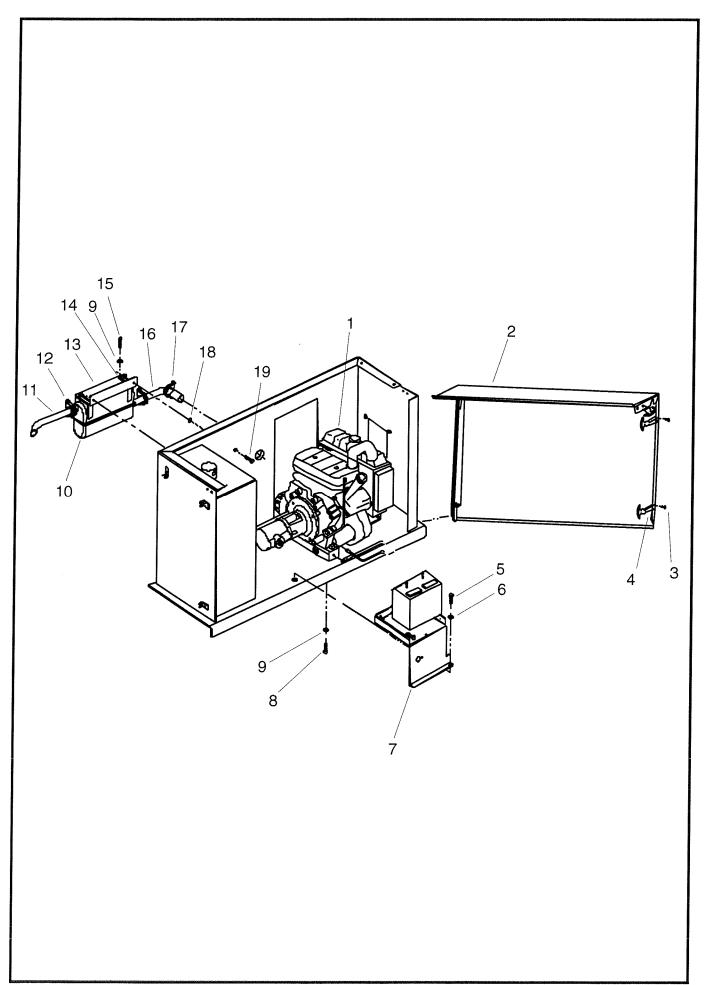


ITEM	PART NO.	QTY	DESCRIPTION
		-	COMPONENT INSTALLATION, ENGINE CAB., DUAL FUEL
1	9370	1	GUAGE, LEVEL, HYD TANK
2	9367	1	TANK FILL W/ STRAINER
3	HDW6727	2	ELBOW, 90°. MALE 5/16" HOSE END, MALE 1/4" NPT
4	HDW8892	1	TEE, MALE 1/4" NPT, MALE 1/4" JIC
5	90281	1	HOSE ASSEMBLY 1/4" X 73" LG
6	6714	1	HEAD, FILTER
7	6156	1	OIL CARTRIDGE, FILTER
8	HDW6752	1	ADAPTER, MALE 3/4" NPTF, FEMALE 1/2" NPTF
9	7763	1	HOSE ASSEMBLY 1/2"X 80" LG
10	7164	2	CLAMP, 5/16" I.D. HOSE
11	90282	1	HOSE ASSEMBLY 1/4" X 50" LG
12	6458	2	RETURN LINE, 5/16" HOSE
13	6855	1	PUMP, HYD, GAS
14	HDW6433	2	SCREW, 3/8"-16, 1" LG, GR 5
15	HDW7389	2	ADAPTER, MALE 3/8" JIC, MALE 1.2" O-RING
16	9232	2	HOSE ASSEMBLY 3/8" X 60" LG
17	3436	2	HOLD DOWN BAR, BATTERY
18	HDW5217	2	WASHER, .343 ID X .688 OD X .063 THK
19	HDW6110	4	WING NUT, 1/4"-20, GR 2
20	HDW5039	1	NUT, KEPS, 3/8"-16, GR 5
21	HDW5355	1	WASHER, .438ID X 1.000 OD X .078 THK
22	9696	2	MUFFLER HANGER VIBRATION MNT
23	HDW6432	1	SCREW, 3/8"-16, 3/4" LG, GR 5
24	9868	1	CLAMP, EXAUST 1 3/4"
25	9243	1	CABLE, BATTERY, #2, BLACK, 30" LG - UL1283
			(BATTERY GROUND TO ENGINE GROUND)
26	2987	2	ROD, HOLD DOWN
27	HDW5009	2	SCREW, 3/8"-16, 3/4" LG, GR 5
28	8987	1	ENGINE, KAWASAKI FD620D - 20HP
29	40608	1	COVER, RADIATOR
30	HDW5724	5	SCREW, 5/16"-18, 3/4" LG, GR 5
31	90524	14	INSULATOR, RUBBER
32	40620	6	SPACER, INSULATOR, 1.59" LG

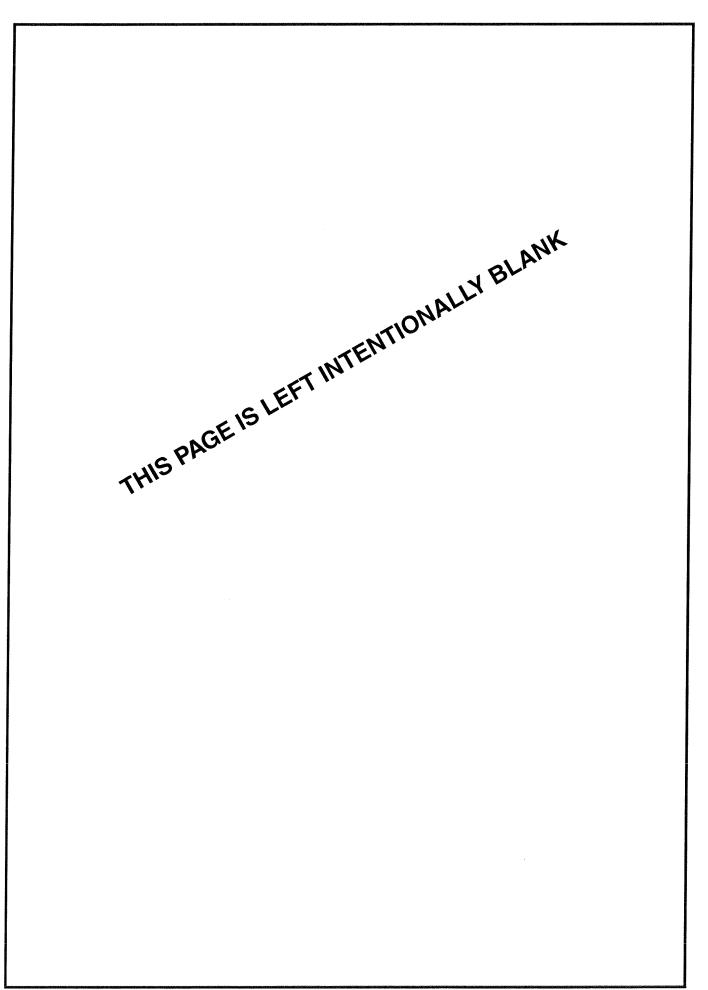




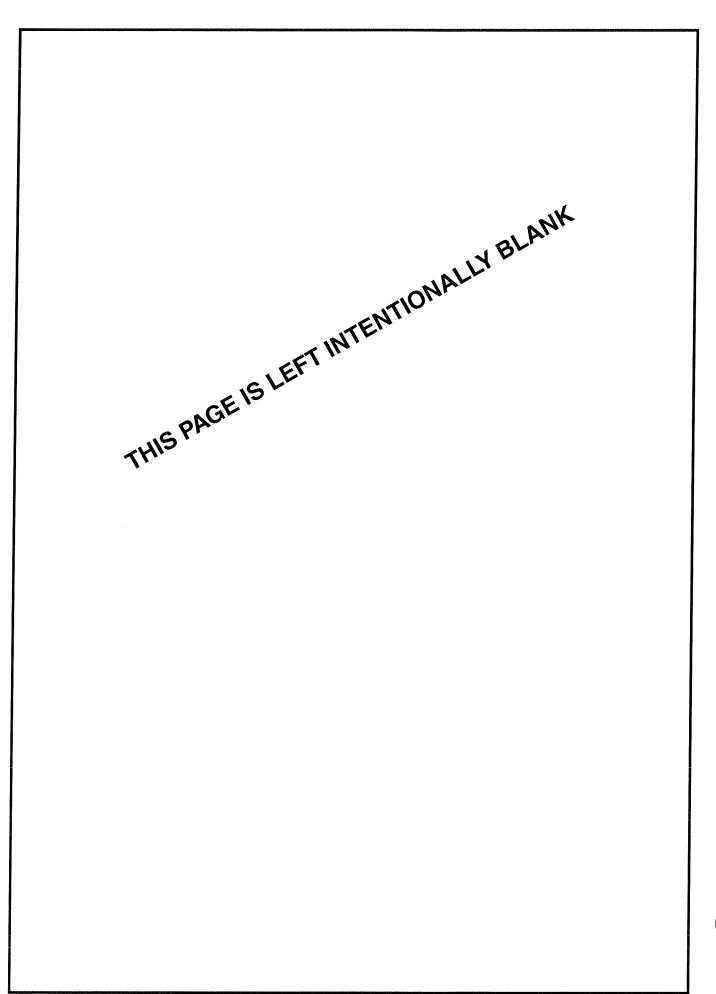
ITEM	PART NO.	QTY	DESCRIPTION
		-	ENGINE ASSEMBLY - DUAL FUEL - KAWASAKI, FD620D
1	14788	1	BRACKET, LP REGULATOR
2	14803	1	THROTTLE, LIFT LEVER
3	HDW304J	1	NUT, NYLON, #10-24
4	9171	1	LINK, THROTTLE-DUAL FUEL
5	7397	1	SOLENOID, CHOKE
6	8981	1	SPRING, CHOKE-STATIONARY MOUNT
7	9246	1	MOUNT, STATIONARY, CHOKE SPRING
8	7398	1	SOLENOID
9	14789	1	BRACKET, THROTTLE LINKAGE
10	HDW6455	2	SCREW, 1/4"-20, 1/2" LG
11	HDW7475	1	NUT, 1/4"-28
12	HDW9247	1	SCREEW, 1/4"-28, 1" LG
13	 90703	1	SPRING, OD .312" X 2.5" LG
14	HDWN153834	2	WASHER, FLAT, OD .300 X ID .600 X .030 THK
15	HDW14875	1	SCREW, 3/16"-24, .60" LG, GR STE
16	HDW5723	2	SCREW, 1/4"-20, 3/4" LG, GR 5
17	6855	1	PUMP, HYDRAULIC
18	9004	1	COUPLING, SPLINE, L100, 16/32
19	7287	1	SPIDER, COUPLING, LOVEJOY, L100
20	7286	1	COUPLING, LOVEJOY, L100, 1 1/8" - 1/4"
21	8973	1	PUMP, MOUNTING BRACKET
22	8978	2	COVER, PUMP MOUNTING
23	HDW5217	4	WASHER, FLAT, ID .343 X OD .688 X .063 THK
24	HDW5006	4	WASHER, SPLIT, ID .328 X OD .578 X .062 THK
25	9593	4	SCREW, #M8-1 1/2" LG
26	HDW6433	2	SCREW, 3/8"-16, 1" LG
27	8987	REF	ENGINE, KAWASAKI FD620D - 20HP
	9901		Stanten



ITEM	PART NO.	QTY	DESCRIPTION
		-	COMPONENT INSTALLATION, ENGINE CABINET - DIESEL
1	90516	1	ENGINE, DIESEL, ISUZU 3LB1 - 25HP
2	14751	1	DOOR WELDMENT, ENGINE CABINET
3	HDW6455	6	SCREW, 1/4"-20, 1/2" LG, GR 5
4	7697	3	LATCH, T-HANDLE
5	HDW8276	3	SCREW, 3/8"-16, 1 1/4" LG, GR 8
6	HDW5355	3	WASHER, .438 ID X 1.000 OD X .078 THK
7	14945	1	TRAY, BATTERY
8	HDW7482	4	SCREW, #8-1.25MM, 20MM LG, GR 4.6
9	HDW5217	8	WASHER, .343 ID X .688 OD X .063 THK
10	9084	1	MUFFLER
11	9100	1	TAIL PIPE
12	9273	1	CLAMP, 1 1/4"
13	20210	1	BRACKET, SUPPORT, EXHAUST
14	HDW5039	2	NUT, 3/8"-16, GR 5
15	HDW19M7881	2	SCREW, TAP, M8-1.25MM, 20MM LG, GR 10
16	9099	1	EXHAUST MANIFOLD
17	9205	2	CLAMP, 1 1/8"
18	HDW5355	2	.438 ID X 1.000 OD X .078 THK
19	HDW6433	2	SCREW, 3/8"-16, 1" LG, GR 5
		and the	



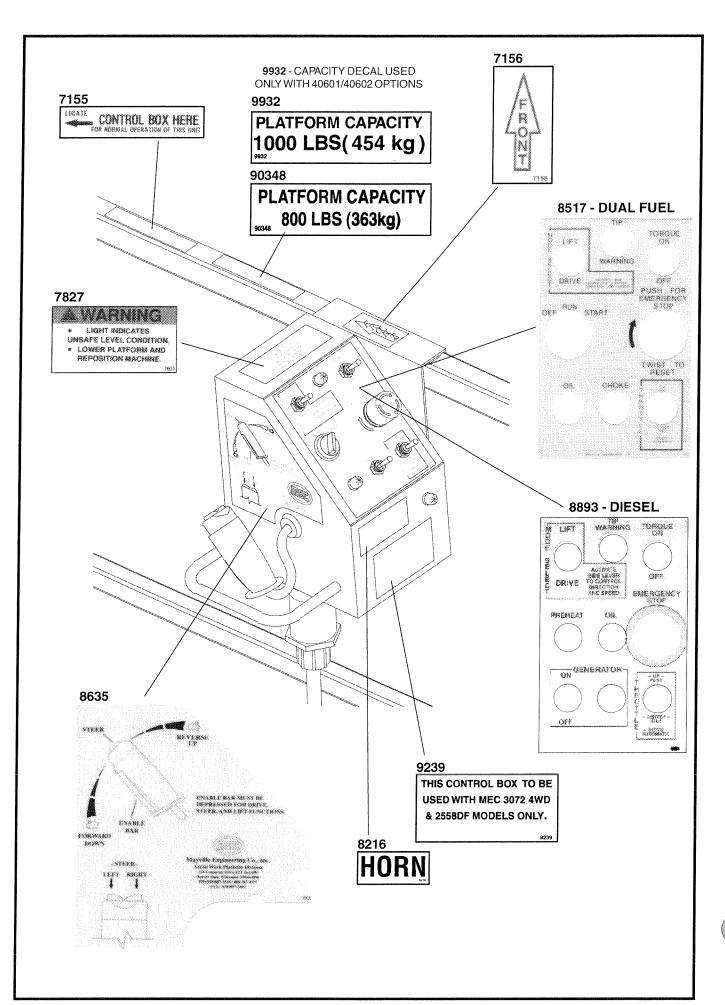
ITEM	PART NO.	QTY	DESCRIPTION
	40606	-	ENGINE ASSEMBLY DIESEL, ISUZU 3LB1 - OPTION
	90516	1	ENGINE, DIESEL - ISUZU, 25HP - 3LB1
	90611	1	BELT, ALTERNATOR
	90612	1	ALTERNATOR
	90613	1	OIL FILTER
	90614	1	FUEL FILTER
	90615	1	WATER PUMP
	90616	1	STARTER
	90617	1	GLOW PLUG
	90618	1	FUEL PUMP
	90619	1	SOLENOID, SHUT OFF
	90620	1	THERMOSTAT
-	90621	1	AIR FILTER
	90517	1	HARNESS, ENGINE, DIESEL
		TO CONTROL OF	
	***************************************	T TANKE	



ITEM	PART NO.	QTY	DESCRIPTION
		<u> </u>	WIRE HARNESSES
	90530	_	HARNESS, HOUR METER, 2 WIRE
	9212	_	HARNESS, LIMIT SWITCH
	9289	_	HARNESS, MANIFOLD (UNTIL OCTOBER 2000)
	90201	_	HARNESS, MANIFOLD (AFTER OCTOBER 2000)
	9304	-	HARNESS, MOTION LIGHT
	9566	-	HARNESS, CABINET
	9620	_	HARNESS, ENGINE, DUAL FUEL WITH ONE RELAY
	9158	-	CABLE, CONTROL BOX - SEE SERVICE SECTION p.1-3
	9211	_	CABLE, MAIN CONTROL
	9214	-	CABLE, LIFT CYLINDER MANIFOLD
	90517	_	HARNESS, ENGINE, DIESEL, ISUZU
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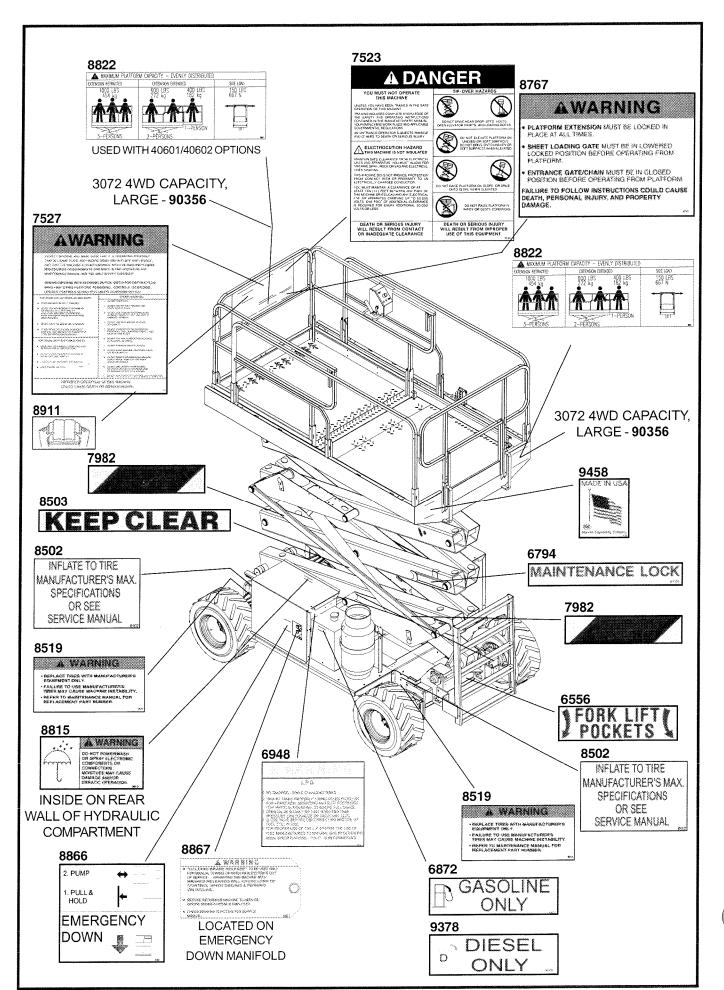




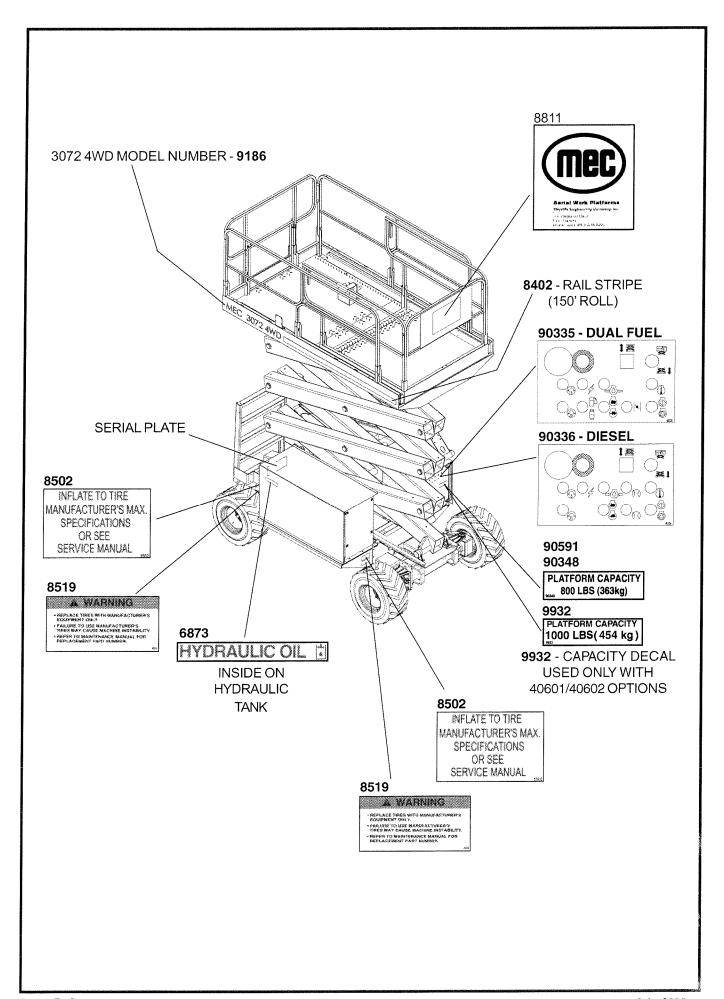


ITEM	PART NO.	QTY	DESCRIPTION
11 - 10			
	40561	1	DECAL KIT
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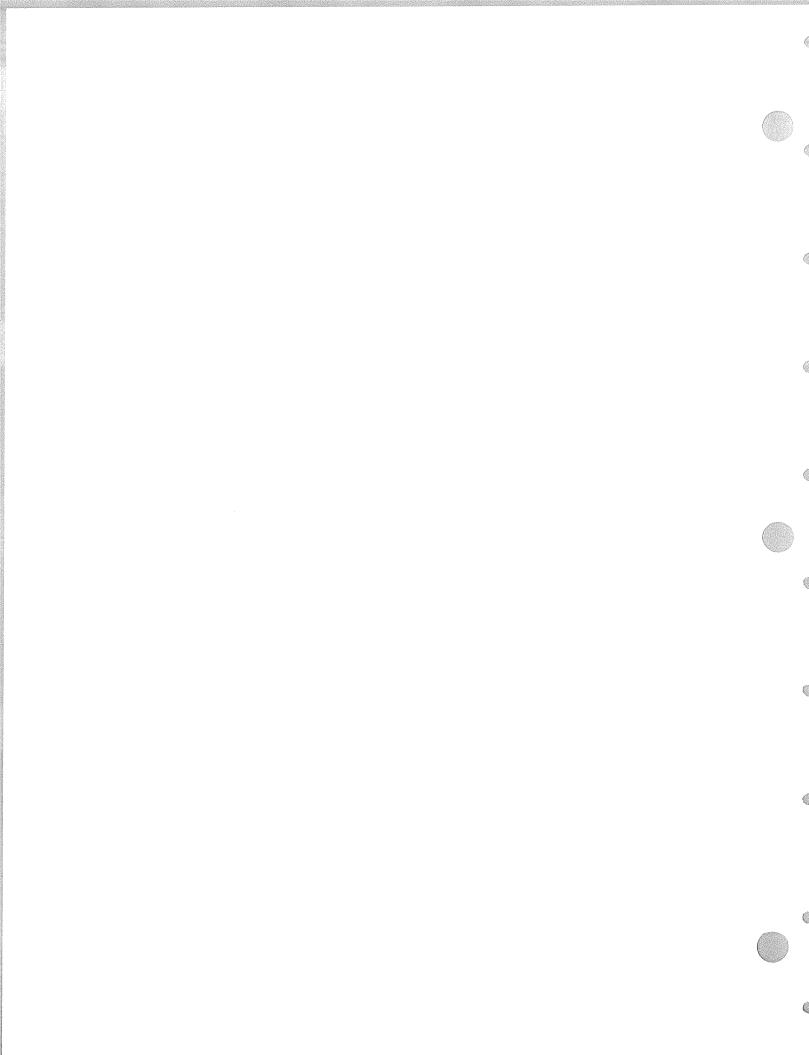
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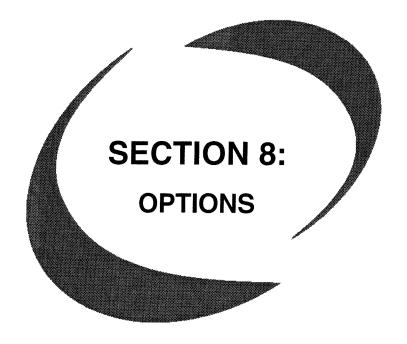


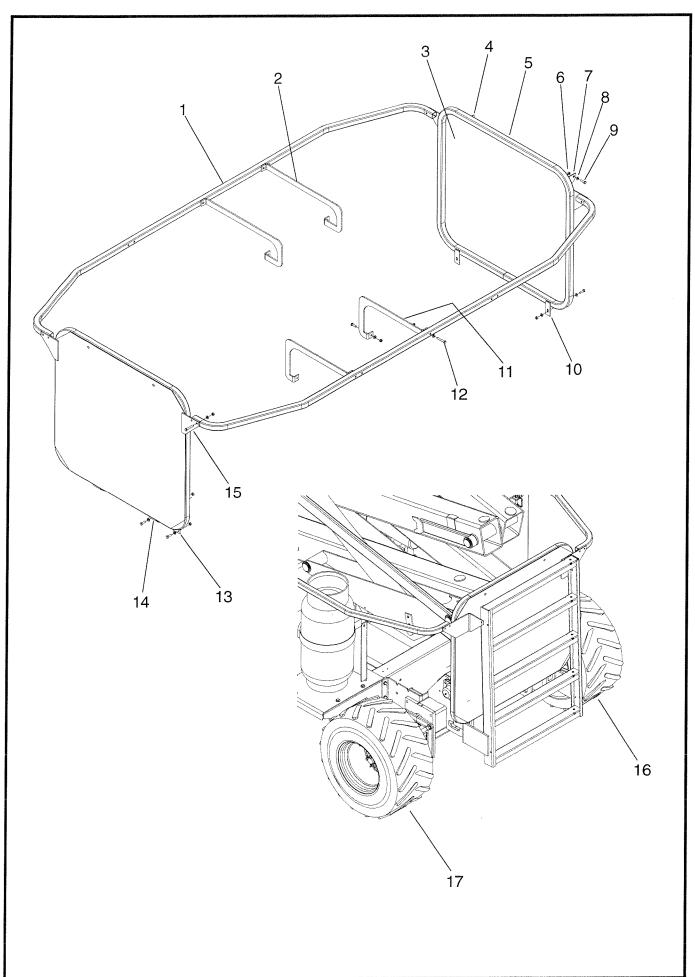
ITEM	PART NO.	QTY	DESCRIPTION
	40561	1	DECAL KIT (CONTINUED)
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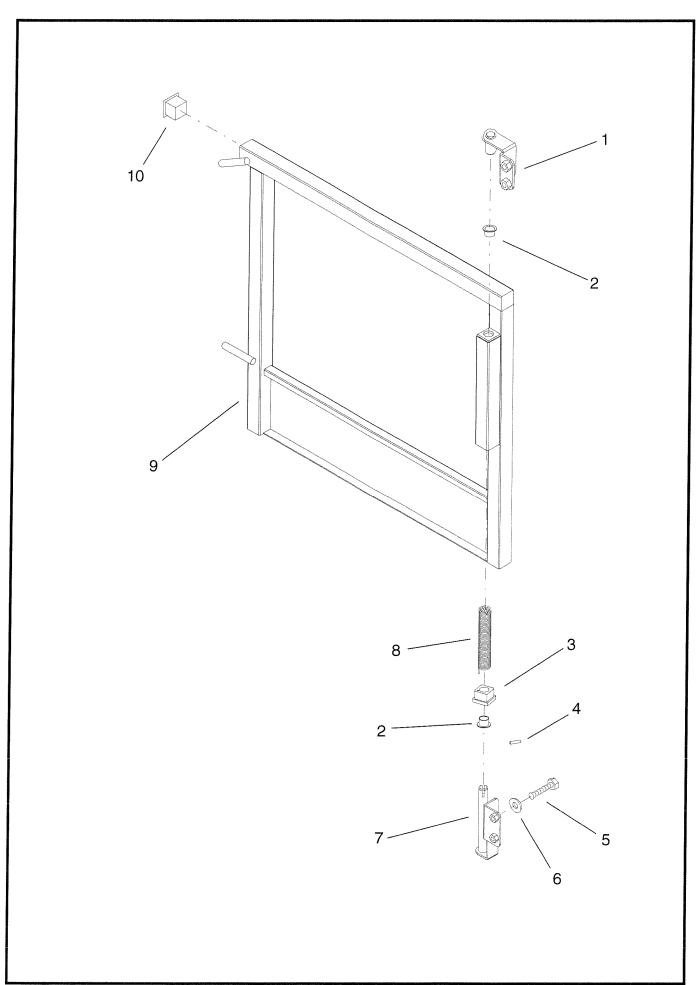
ITEM	PART NO.	QTY	DESCRIPTION
	40561	1	DECAL KIT (CONTINUED)
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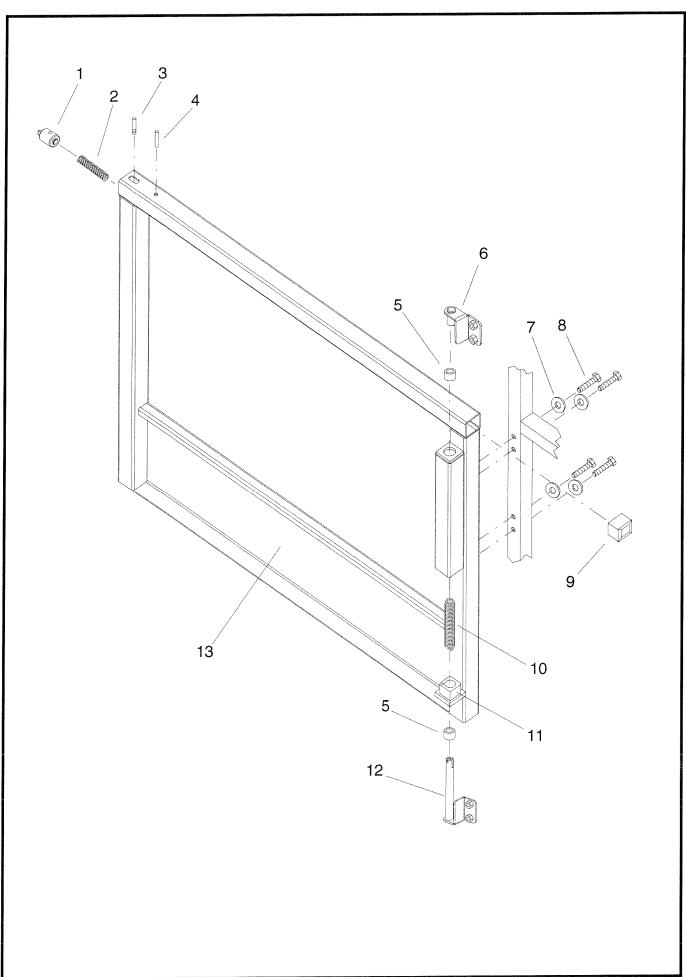




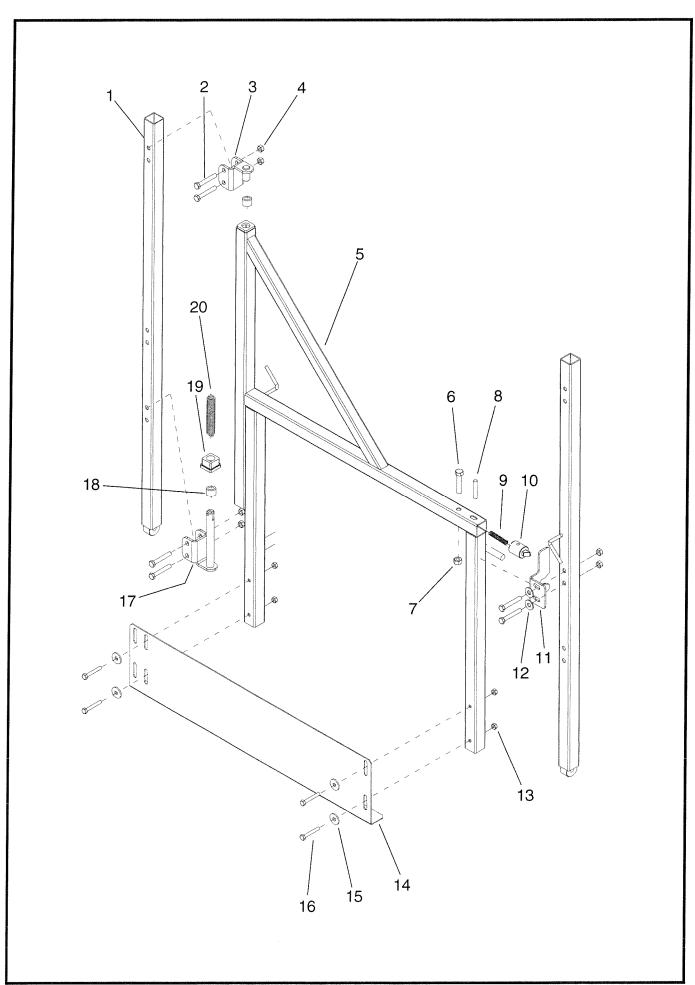
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ITEM	PART NO.	QTY	DESCRIPTION
	40506	-	SCISSORS GUARDING - EUROPE 'CE' ONLY - OPTION
1	40498	2	TUBE, GUARD, SIDE
2	40537	2	BRKT, GUARD MNT, BATTERY SIDE
3	40535	2	GUARD, PANEL
4	40287	1	BRKT, UPPER RAIL RR, RIGHT
5	40534	2	RAIL
6	HDW8304	22	NUT, 5/16" - 18, GR 5
7	40288	1	BRKT, UPPER RAIL RR, LEFT
8	HDW5217	30	WASHER, .343" ID X .688" OD X .063" THK
9	HDW5204	14	SCREW, 5/16" - 18, 1" LG, GR 5
10	40286	2	BRKT, LOWER RAIL, REAR
11	40538	2	BRKT, GUARD MNT, ELEC/HYD COMP. SIDE
12	HDW8303	8	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
16	40554	REF	TIRE/WHEEL ASSY, FOAM FILLED, RH
17	40555	REF	TIRE/WHEEL ASSY, FOAM FILLED, LH
	90476		him for 3072 new + old



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

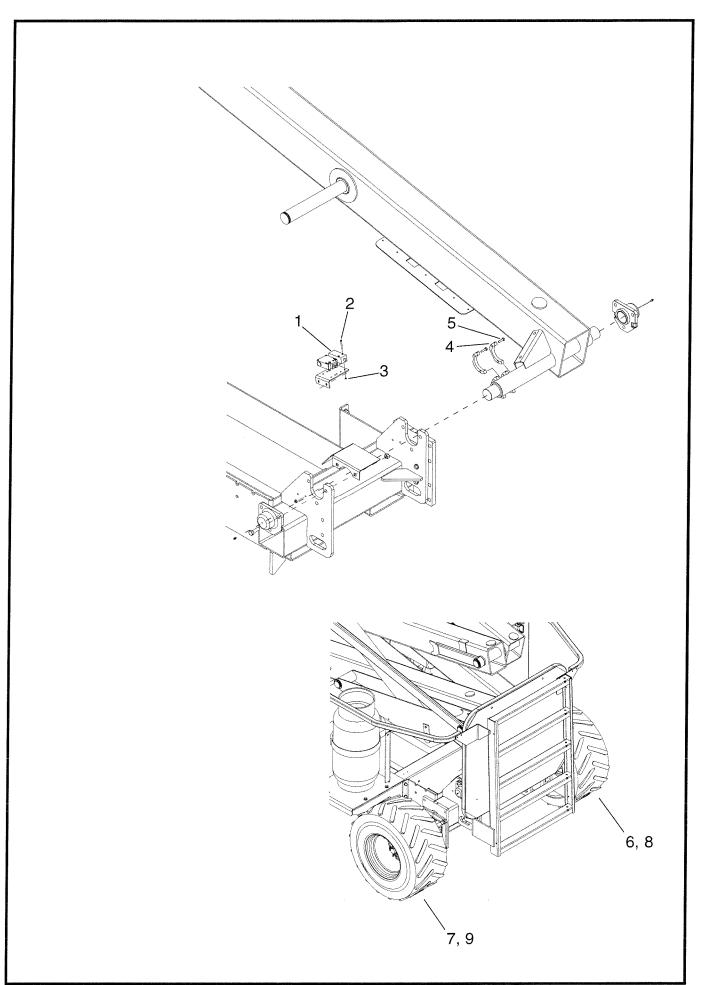


40087	ITEM	PART NO.	QTY	DESCRIPTION
2 7055 1 SPRING, LATCH, .480 DIA. OD X 1.5" LG 3 40006 1 ROD, LATCH LEVER, REAR GATE 4 HDW7455 1 PIN, SLOTTED SPRING, 3/16" DIA X 3/4" LG 5 8187 2 BEARING, NYLINER, 5/8" ID X 5/8" LG 6 40014 1 MOUNTING BRACKET, UPPER 7 HDW8294 4 WASHER, .328" ID X 1" OD X .100" THK 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		40087	_	
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	1	40003	1	LATCH PIN, 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	2	7055	1	SPRING, LATCH, .480 DIA. OD X 1.5" 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	3	40006	1	ROD, LATCH LEVER, REAR GATE
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	4	HDW7455	1	PIN, SLOTTED SPRING, 3/16" DIA X 3/4" LG
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	5	8187	2	BEARING, NYLINER, 5/8" ID X 5/8" LG
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	6	40014	1	MOUNTING BRACKET, UPPER
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	7	HDW8294	4	WASHER, .328" ID X 1" OD X .100" THK
10 8300 1 SPRING, TORSION, 1" DIA. OD X 4" LG 11 13272 1 BLOCK, PIVOT, REAR GATE 12 40015 1 MOUNTING BRACKET, LOWER	8	HDW8486	4	SCREW, 5/16" - 18, 1 7/8" LG, GR 5
11 13272 1 BLOCK, PIVOT, REAR GATE 12 40015 1 MOUNTING BRACKET, LOWER	9	6823	1	CAP PLUG, 1 1/4" SQUARE
12 40015 1 MOUNTING BRACKET, LOWER	10	8300	1	SPRING, TORSION, 1" DIA. OD X 4" LG
MOONTHIC BINGS ENVERY	11	13272	1	BLOCK, PIVOT, REAR GATE
13 40353 1 SWING GATE WELDMENT	12	40015	1	MOUNTING BRACKET, LOWER
	13	40353	1	SWING GATE WELDMENT
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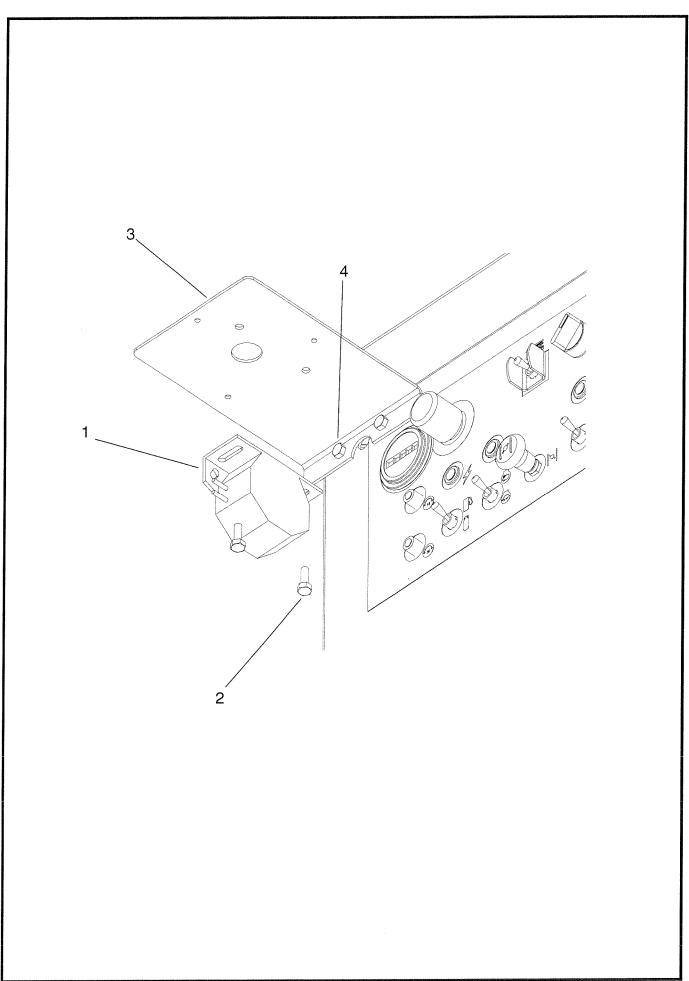


ITEM	PART NO.	QTY	DESCRIPTION
	30828	_	SWING GATE, OPTION (AVAILABLE OCTOBER 2000)
1	30126	1	REAR RAIL MAIN PLTFRM WELDMNT
2	HDW8303	6	SCREW, 5/6"-18, 2" LG, GR 5
3	30808	1	PIVOT WELDMENT , UPPER
4	HDW7120	6	NUT, 5/16"-18, GR 5
5	30802	1	SWING GATE WELDMENT
6	HDW6281	1	NUT, 3/8"16, GR 5
7	HDW8277	1	SCREW, 3/8"-16, 1 3/4" LG, GR 8
8	40006	1	ROD, LATCH LEVER, REAR GATE
9	7055	1	SPRING, LATCH, .480 DIA. OD X 1.5" LG
10	40003	1	LATCH PIN, REAR GATE
11	30814	1	BRACKET, STRIKER
12	HDW90479	2	WASHER, .375 ID X .890 OD X .070 THK
13	HDW6461	4	NUT, 1/4"-20, GR 5
14	40355	1	KICK PANEL
15	HDW8294	4	WASHER, .328 ID X 1.000 OD X .100 THK
16	HDW8302	4	SCREW, 1/4"-20, 1 3/4" LG, GR 8
17	30807	1	PIVOT WELDMENT, LOWER
18	8187	2	BEARING, NYLINER, 5/8" ID X 5/8" LG
19	13272	1	BLOCK, PIVOT, REAR GATE
20	8300	1	SPRING, TORSION, 1" DIA. OD X 4" LG

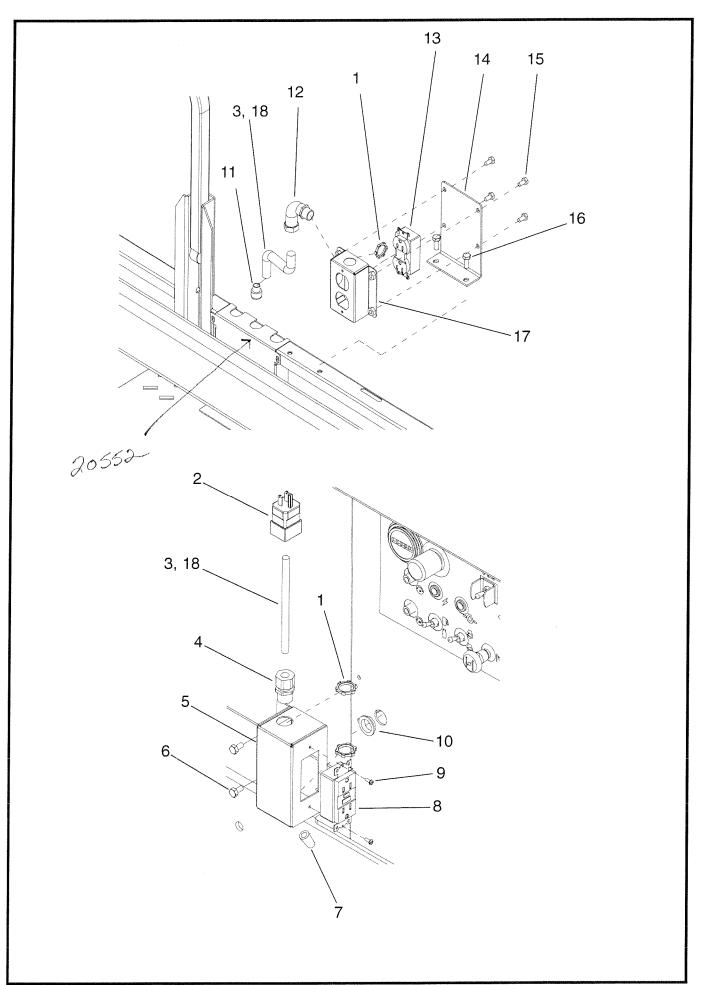
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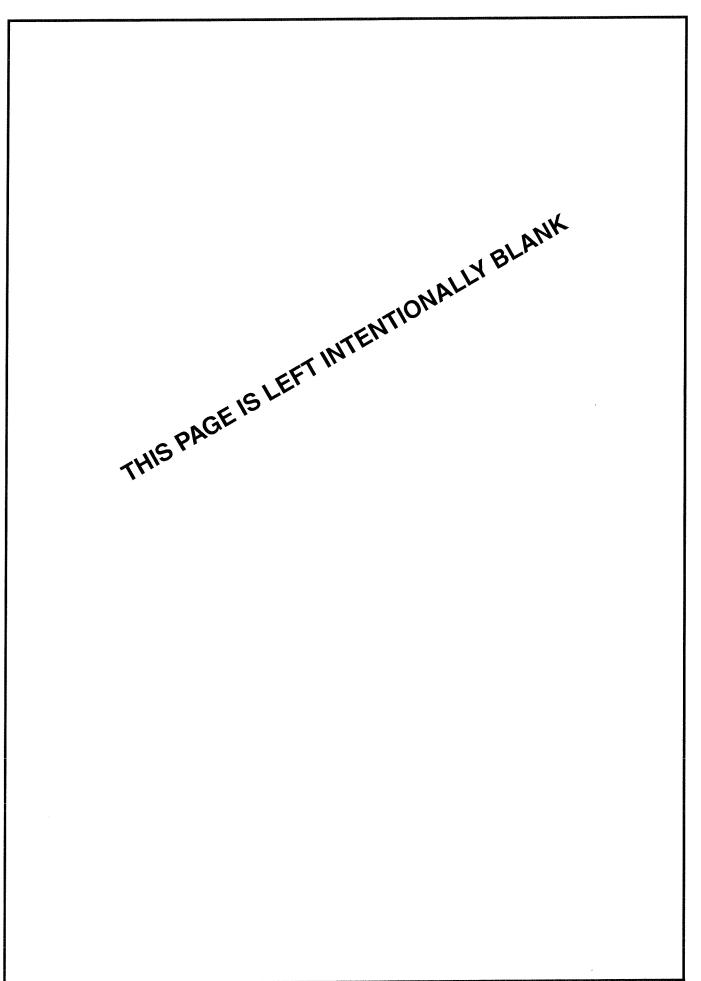
ITEM	PART NO.	QTY	DESCRIPTION
	40601	end	1000# 27 FT CUTOUT - OPTION
1	8932	1	LIMIT SWITCH, DRIVE CUTOUT
2	HDW8482	1	#8-32, 1 1/2" LG, GR 2
3	HDW5251	2	NUT, #8-32
4	40524	1	CAM, DRIVE CUTOUT, 2.75 DIA.
5	HDW5881	2	SCREW, 1/2"-13, 1" LG, GR 5
6	40552	REF	WHEEL/TIRE ASSY, PNEUMATIC - RH
7	40553	REF	WHEEL/TIRE ASSY, PNEUMATIC - LH
-	HDW5988	2	SCREW, 1/4" - 20, 1 1/4" LG, GR 5 (NOT SHOWN)
-	90506	1	TIP SENSOR, 12V, 3° (NOT SHOWN)
-	8822	2	DECAL, CAPACITY, 1000# - LARGE (NOT SHOWN)
-	90504	1	DECAL, DRIVE CUTOUT (NOT SHOWN)
-	9932	2	DECAL, CAPACITY, 1000# - SMALL (NOT SHOWN)
	40602	-	1000# FULL HEIGHT - OPTION
8	40554	REF	TIRE /WHEEL ASSY, FOAM FILLED - RH
9	40555	REF	TIRE /WHEEL ASSY, FOAM FILLED - LH
-	HDW5988	2	SCREW, 1/4" - 20, 1 1/4" LG, GR 5 (NOT SHOWN)
-	90506	1	TIP SENSOR, 12V, 3° (NOT SHOWN)
-	9932	1	DECAL, CAPACITY, 1000# - SMALL (NOT SHOWN)
-	8822	1	DECAL, CAPACITY, 1000# - LARGE (NOT SHOWN)
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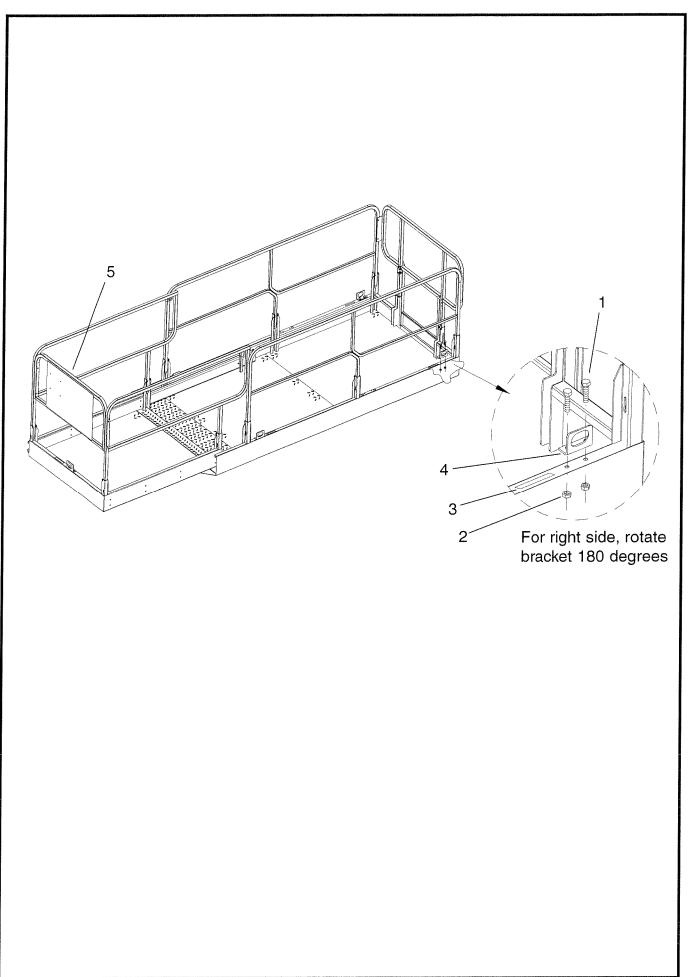
ITEM	PART NO.	QTY	DESCRIPTION
	14963		MOTION ALARM - OPTION
1	8698	1	ALARM, MOTION, 12 - 48 VOLTS; 97 dB(A)
2	HDW5723	2	BOLT, 1/4" - 20, 3/4" LG, GR 5 - SELF TAP
3	40439	REF	BRKT, FLASHING LIGHT
4	HDW8273	REF	SCREW, 1/4" - 20, 1" LG, GR 8
5	HDW6461	REF	NUT, 1/4" - 20, GR 5 (NOT SHOWN)
	8709	1	INSULATOR, TERMINAL, RED (NOT SHOWN)
	8710	1	INSULATOR, TERMINAL, BLK (NOT SHOWN)
	9304	1	HARNESS, MOTION ALARM (NOT SHOWN)
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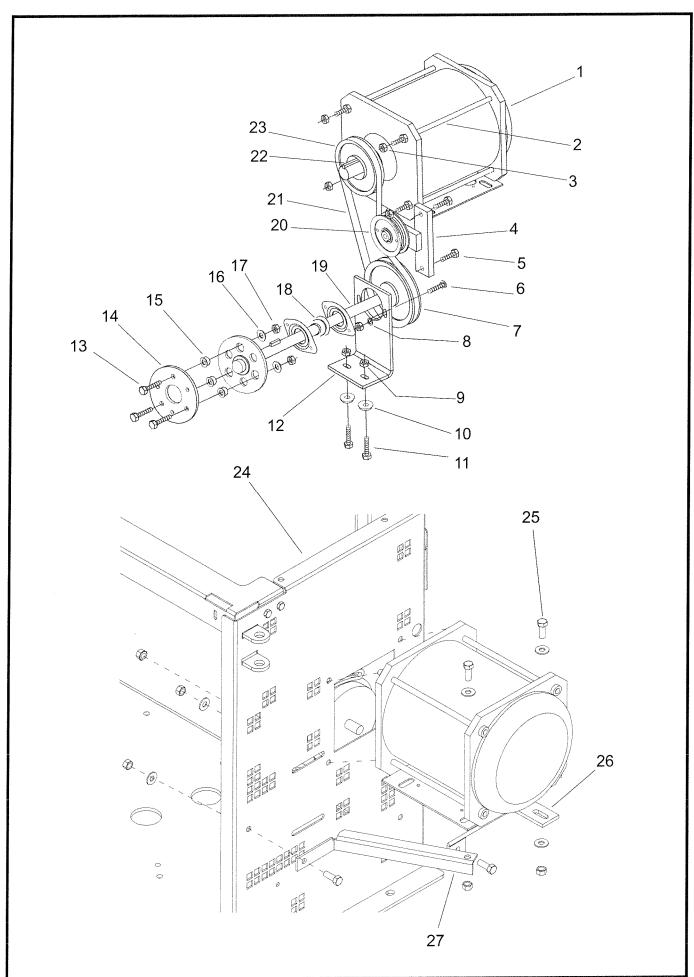
ITEM	PART NO.	QTY	DESCRIPTION
	14595	-	110V OUTLET - OPTION
1	8006	3	NUT, CONNECTOR, 1/2" CONDUIT
2	5382	1	PLUG, 110V
3	7617	60 FT	WIRE, BULK, 14 GA
4	6456	1 1	CORD, GRIP, STEEL
5	4319	1	BOX, GROUND, FAULT
6	6455	6	SCREW, 1/4" - 20, 1/2" LG, GR 5
7	8476	1	CONNECTOR, WIRE NUT
8	7263	1	RECEPTACLE, DUPLEX, 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, 90° ELBOW, CONDUIT
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 EUROPE 'CE' - OPTION
18	9441	53 FT	WIRE, BULK, 14 GA .
-	5351	2	CABLE TIE (NOT SHOWN)
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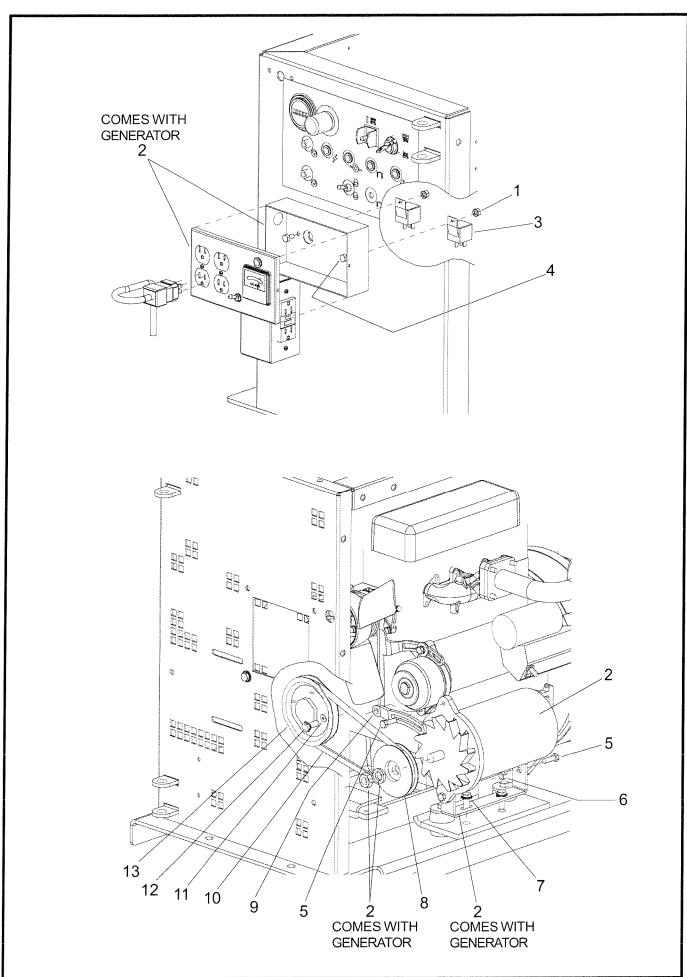
ITEM	PART NO.	QTY	DESCRIPTION
	14578	-	AIRLINE TO PLATFORM - OPTION
1	HDW5052	1	UNION, MALE 1/4" NPT, 1/4" HOSE BARB
2	8548	49FT	
3	8557	1	HOSE CLAMP, 9/16" DIA
4	HDW6455	1	SCREW, 1/4"-20, 1/2" LG
5	8559	1	HOSE CLAMP, 2 EAR , 9/16" DIA
6	5351	3	CABLE TIE
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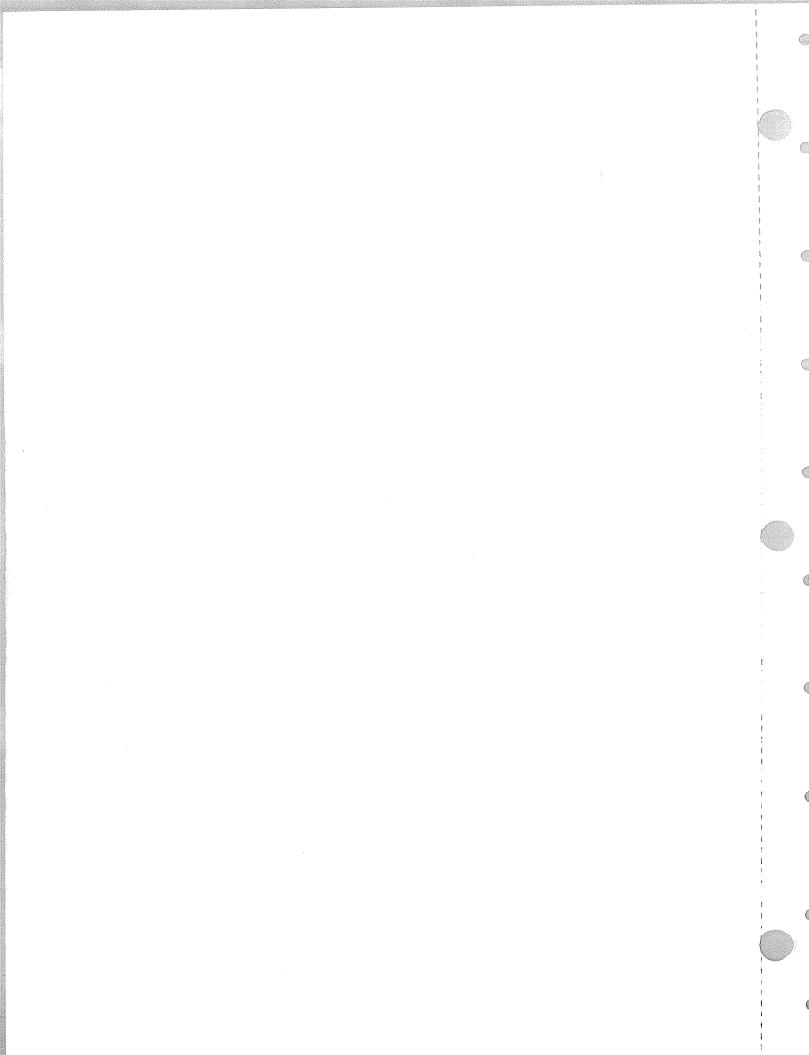
ITEM	PART NO.	QTY	DESCRIPTION
	14583	<u> </u>	LANYARD ATTACHMENT - OPTION
1	HDW6433	10	SCREW, 3/8" - 16, 1" LG, GR 5
2	HDW8268	10	NUT, 3/8" - 16, GR 5
3	8605	5	DECAL, LANYARD ATTACH POINT
4	3923	5	BRACKET, ATTACH POINT
5	8606	1	DECAL, WARNING, POS RESTRAINTS
	0000	'	DEGAE, WARRING, FOSTILOTHAINTS
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ITEM	PART NO.	QTY	DESCRIPTION
	14583	_	GENERATOR - KAWASAKI FD620, DUAL FUEL - OPTION
1	6876	1	GENERATOR (WITH 3470 GENERATOR KIT)
2	3457	4	MOUNTING ROD (WITH 3470 GENERATOR KIT)
3	HDW5039	8	NUT, KEPS, 3/8"-16, GR 5 (WITH 3470 GENERATOR KIT)
4	3454	1	BRACKET, IDLER
5	HDW6433	3	SCREW, 3/8"-16, 1" LG, GR 5
6	HDW9195	2	SCREW, 5/16"-18, 1" LG, GR 5
7	6878	1	PULLEY, 4 1/2" DIA, 1" BORE
8	HDW5006	2	WASHER, SPLIT, .328 ID X .578 OD X .062 THK
9	HDW8304	4	NUT, 5/16"-18, GR 5
10	HDW8567	2	WASHER, FLAT, .380 ID X .844 OD X .048 THK
11	HDW8310	2	SCREW, 5/16"-18, 1 1/4" LG, GR 8
12	20128	1	PLATE, PILOT BEARING
13	HDW6788	3	SCREW, 3/8"-16, 1 1/2" LG, GR 5
14	14925	1	COUPLING, ENGINE HALF
15	9265	3	ISOLATOR, VIBRATION
16	HDW90479	8	WASHER, FLAT, .375 ID X .890 OD X .070 THK
17	HDW8268	7	NUT, 3/8"-16, GR 5
18	9178	1	BEARING, FLANGE, 1" DIA.
19	20131	1	SHAFT, PILOT, WELDMENT
20	9202	1	PULLEY, IDLER
21	7913	1	V-BELT
22	6910	2	KEY, 1/4" X 1/4" X 1 1/4" LG
23	6877	1	PULLEY, 4" DIA, 1 1/8" BORE
24	40609	REF	ENGINE CABINET WELDMENT
25	HDW6432	4	SCREW, 3/8"-16, 3/4" LG, GR 5
26	20115	1	BRACKET SUPPORT
27	40097	1	BRACKET MOUNT SUPPORT
	7617	10'	WIRE, BULK 14 GAUGE (NOT SHOWN)
	5382	1	110V PLUG (NOT SHOWN)
	6456	1	CORD GRIP - STEEL (NOT SHOWN)
	8006	1	NUT, CONNECTOR, 1/2" CONDUIT (NOT SHOWN)



ITEM	PART NO.	QTY	DESCRIPTION
			GENERATOR - ISUZU 3LB1, DIESEL - OPTION
1	HDW5276	2	NUT, 1/4"-20, GR 5
2	90602	1	GENERATOR KIT
3	9278	2	RELAY, 12V, N/O W/SUPPRESION
4	HDW6455	2	SCREW, 1/4"-20, 1/2" LG, GR 5
5	HDW5204	2	SCREW, 5/16"-18, 1" LG, GR 5
6	HDW8304	1	5/16"-18, GR 5
7	HDW6433	2	SCREW, 3/8"-16, 1" LG, GR 5
8	90623	1	PULLEY, GENERATOR 110V
9	40634	1	BRKT, GENERATOR MTG.
10	90627	1	BELT
11	HDW5006	4	WASHER, .328 ID X .578 OD X .062 THK
12	HDW9288	4	SCREW, #8-1.25, 1 3/16" LG, GR 8
13	90626	1	PULLEY
	90628	1	WIRE HARNESS (NOT SHOWN)
	77.7	9	
11410			
		P. Andrews	



Limited Owner Warranty

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

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

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

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

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

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





Aerial Work Platforms

Mayville Engineering Co., Inc.

An Employee Owned Company

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