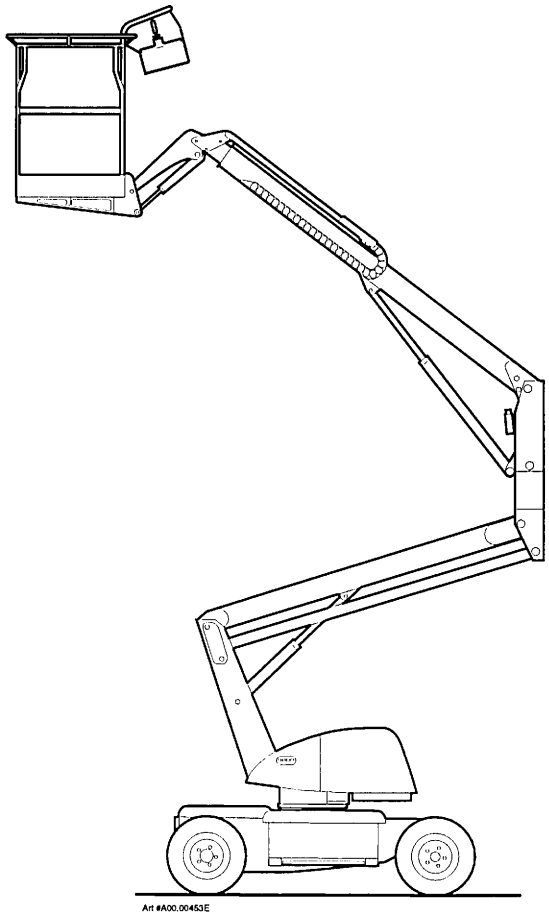
EAGLE JR.
32/21Jr.

TECHNICAL MANUAL



For Service Concerns Only:
Direct Phone Line to Service Department, 8:00 AM to 5:00 PM Central Time, Monday thru Friday.
Phone (414) 355-3181

Part No. 89-411788 • Revision "A.2" dated Dec. 1996 •

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INTRODUCTION

This Technical Manual has been designed to provide you with the instructions needed to properly and safely maintain your Simon Eagle Jr. 32/21.

⚠ DANGER

THIS TECHNICAL MANUAL MUST BE READ AND UNDERSTOOD PRIOR TO SERVICING YOUR SIMON EAGLE JR. 32/21.

OPERATORS MUST BE AWARE OF AND COMPLY WITH ALL MANUFACTURER'S INSTRUCTIONS AND APPLICABLE OSHA/ANSI (OR APPROPRIATE GOVERNMENT) SAFETY GUIDELINES.

FAILURE TO COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND OSHA/ANSI (OR APPROPRIATE GOVERNMENT) SAFETY GUIDELINES WILL RESULT IN SERIOUS INJURY OR DEATH.

Your Simon Eagle Jr. 32/21 has been designed, built, and tested to provide many years of safe, dependable service. To obtain the full benefit of your machine, always follow the proper operating and maintenance procedures as outlined in this manual. Only trained, authorized personnel should be allowed to operate or service this machine. Service personnel should read and study this manual and the Operator's Manual in order to gain a thorough understanding of the functions of the machine prior to making any repairs.

⚠ DANGER

MODIFICATIONS TO THIS MACHINE FROM THE ORIGINAL DESIGN AND SPECIFICATION WITHOUT WRITTEN PERMISSION FROM SIMON ARE STRICTLY FORBIDDEN. A MODIFICATION MAY COMPROMISE THE SAFETY OF THE MACHINE, SUBJECTING USERS TO SERIOUS INJURY OR DEATH. ANY SUCH MODIFICATION WILL VOID ANY REMAINING WARRANTY.

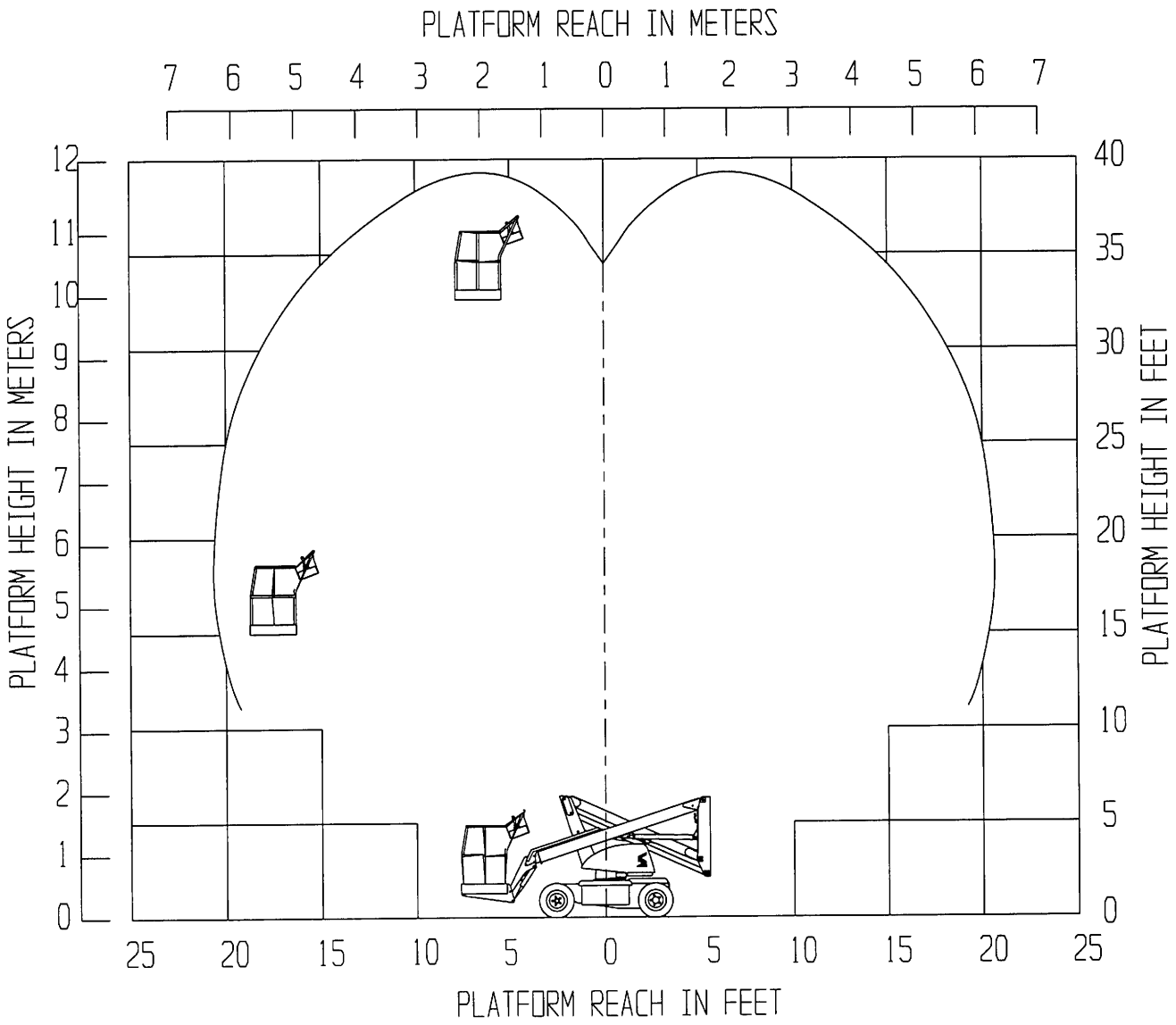
Simon reserves the right to change, improve, modify or expand features of its equipment at any time. Specifications, models or equipment are subject to change without notice, and without incurring any obligations to change, improve, modify or expand features of previously delivered equipment. All Simon manuals are periodically updated to reflect changes that occur in the equipment. Please contact the factory with any questions you may have regarding your machine, or the availability of more recent manuals.

MACHINE SPECIFICATIONS

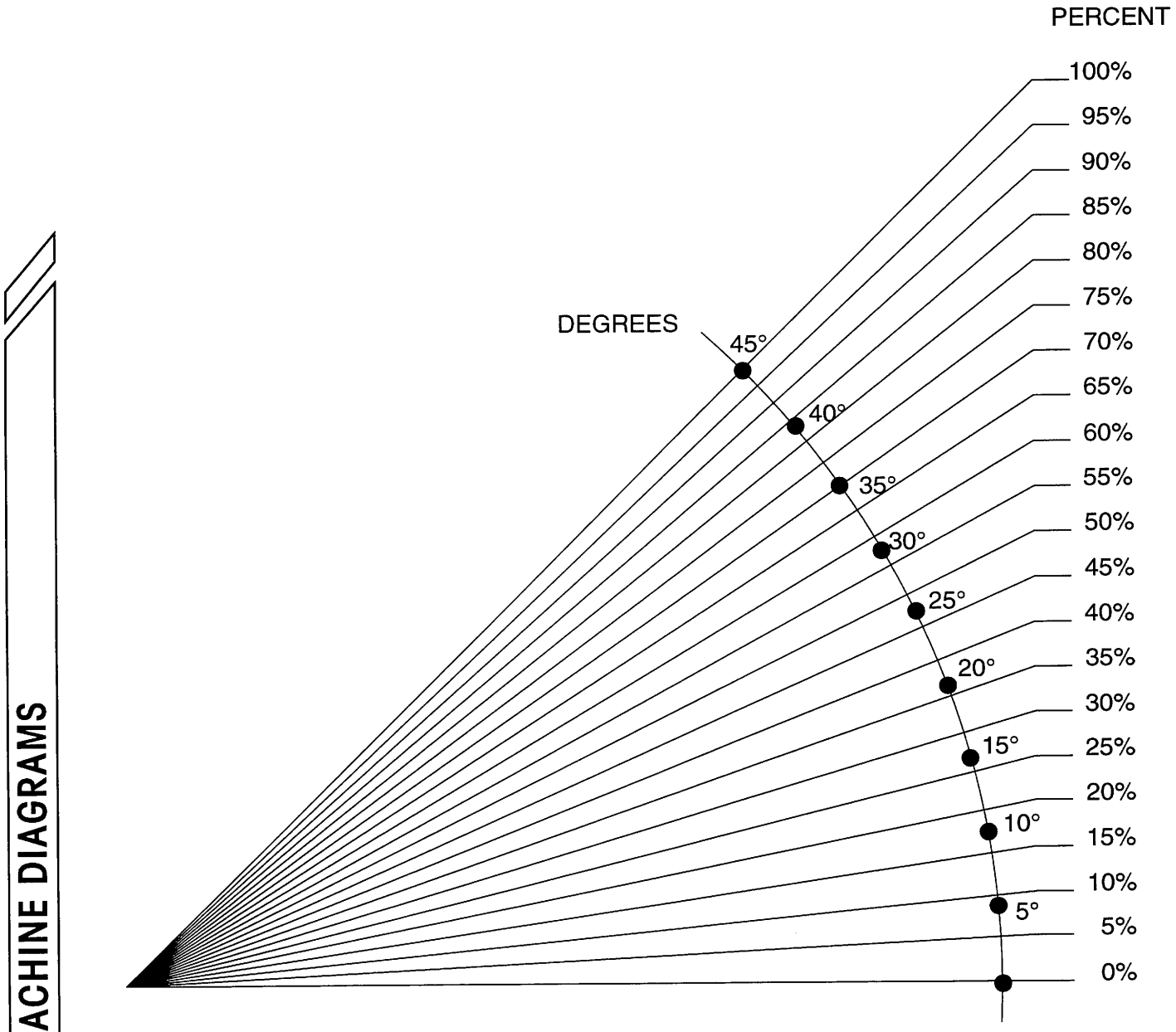
Working Height	**38 Ft 10 In./** 11.84 M
Platform Height	**32 Ft 10 In./** 10.00 M
Horizontal Reach	**21 Ft 0 In./** 6.40 M
Stowed Height	**6 Ft 6 In./** 1.97 M
Stowed Length	**13 Ft 2 In./** 4.00 M
Platform Capacity (Unrestricted)	**500 Lbs./** 225 Kg
Platform Dimensions	**30 In. X 50 In./** .76 M X 1.27 M
Width	**4 Ft 11 In./** 1.50 M
Wheelbase	**63 In./** 1.60 M
Inside Turning Radius	**4 Ft 3 In./** 1.30 M
Outside Turning Radius	**9 Ft 3 In./** 2.82 M
Ground Clearance	**5.5 In./** 14 cm
Gross Vehicle Weight (Approx.)	**8,530 Lbs./** 3,879 Kg
Superstructure Rotation	**360 ° Non-Continuous**
Travel Speed-Platform Stowed	**2.5 MPH/** 4.0 KPH
Travel Speed-Platform Elevated	**0.5 MPH/** 0.8 KPH
Gradeability (on hard surface) (ref. page vi)	**14°/ 25%**
Tires	**23 X 10.5 X 12 SOLID**
Hydraulic Fluid Capacity	**2.5 GAL./** 9.0 Liters
Hydraulic Operating Pressure	**2175 PSI/** 150 Bar/ 153Kg-cm^2
Hydraulic Pump Output	**2.1 GPM/** 8 LPM
Power System (Electric)	**Eight 6-Volt Batteries (24VDC) @ 217 Amp/ Hr**
Battery Charger	**40 Amp, Automatic**
Electric Pump Motor	**4.03 HP/** 3.0 Kw
Steer Wheel Nut Torque	**150 Ft-Lbs/** 203 Nm/ 21 Kg-m
Drive Wheel Nut Torque	**105 Ft-Lbs/** 143 Nm/ 14.5 Kg-m
Motor Wheel Bolt Torque	**62 Ft-Lbs/** 84 Nm/ 8.6 Kg-m
Swing Bearing Bolt Torque	**88 Ft-Lbs/** 120 Nm/ 12.16 Kg-m

MACHINE DIAGRAMS

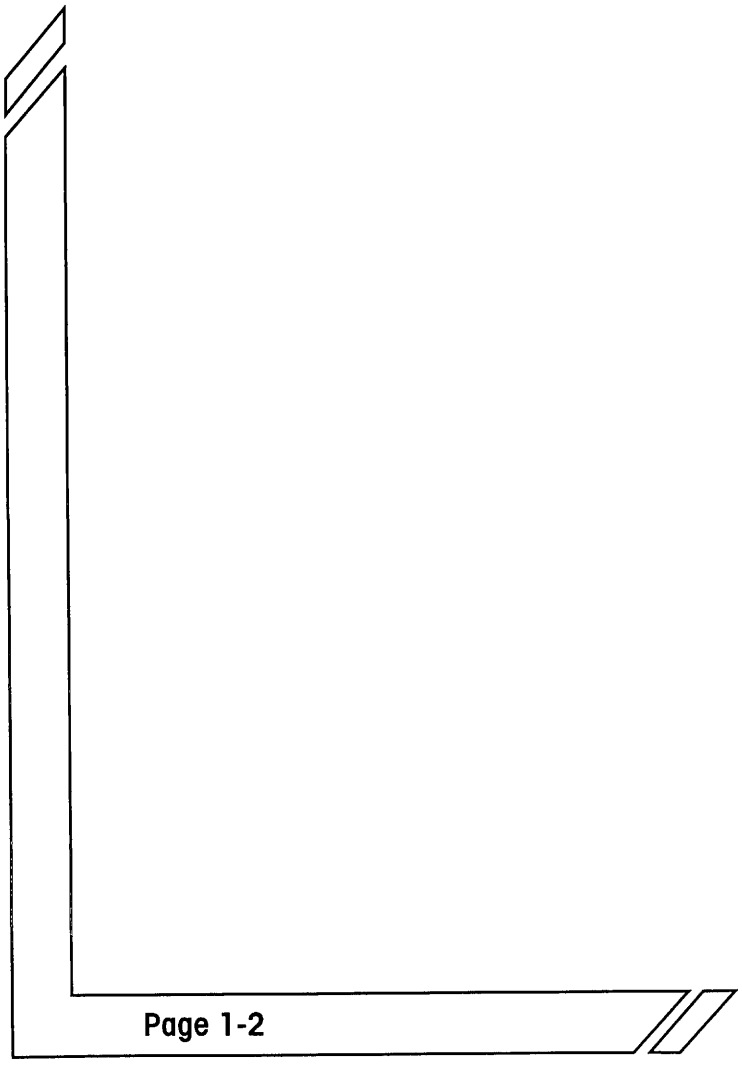
RANGE DIAGRAM



GRADEABILITY CONVERSION CHART



SECTION 1: TRANSPORTATION AND EMERGENCY PROCEDURES



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TRANSPORTING THE UNIT

TRUCK OR TRAILER TRANSPORT

⚠WARNING

ALWAYS ATTACH THE UNIT TO A WINCH WHEN LOADING OR UNLOADING FROM A TRUCK OR TRAILER. UNASSISTED LOADING OR UNLOADING OF ANY MOBILE PLATFORM IS NOT RECOMMENDED.

THE WINCH OPERATOR AND UNIT OPERATOR MUST COORDINATE MOVEMENT WHILE LOADING THE UNIT. AVOID THE POSSIBILITY OF THE WINCH TRYING TO PULL A STATIONARY MACHINE.

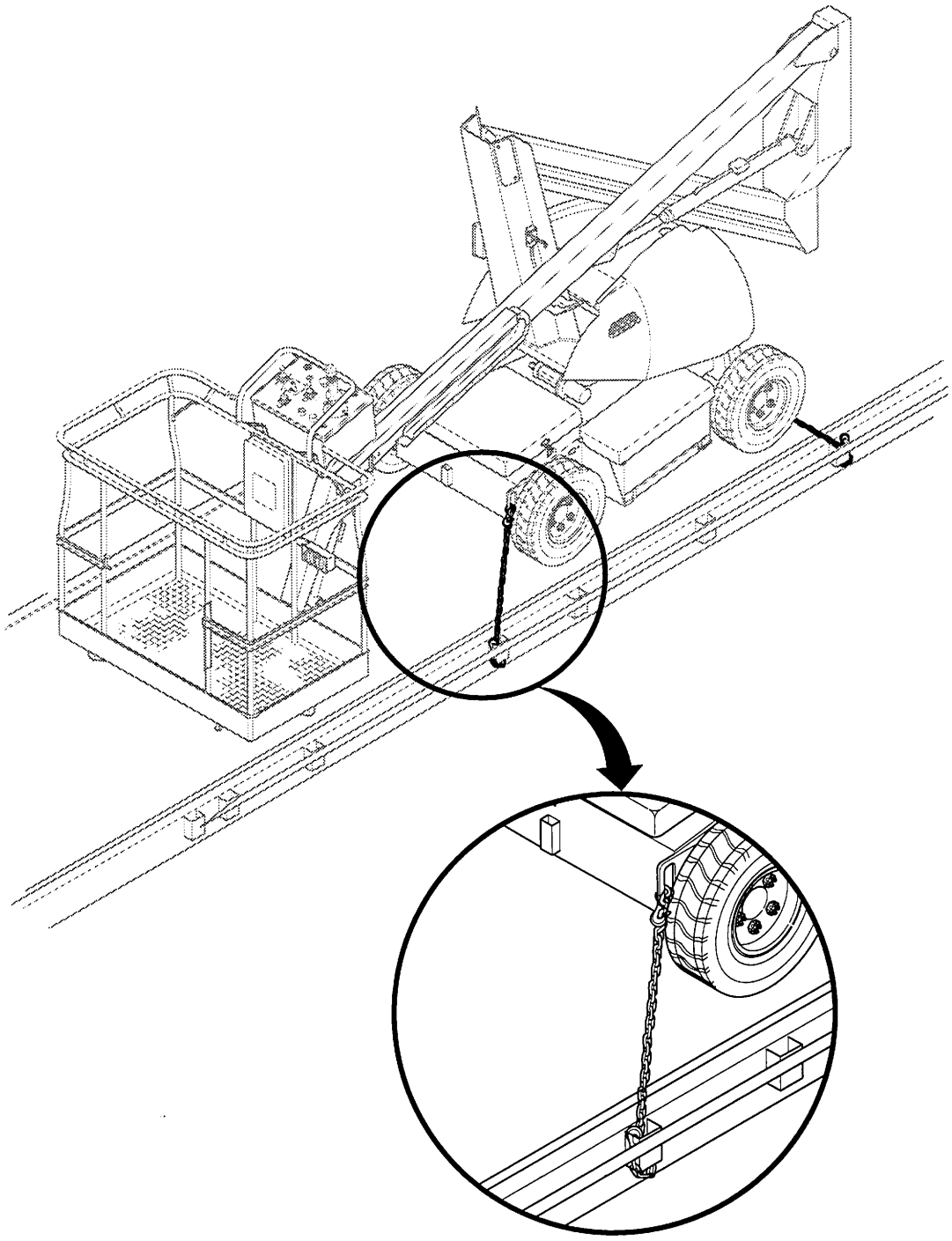
1. Enter the platform.
2. Raise the boom so that the platform will clear any obstacles as the machine is driven up the loading ramp. It may be necessary to raise the boom to allow greater ground clearance.
3. Carefully maneuver the unit onto the truck or trailer with the aid of a winch.
4. Confirm that the boom sections are fully retracted, and that the platform will not contact any other item, including the bed of the truck or trailer.

⚠ CAUTION

The platform or boom must not be tied down to the truck or trailer bed in any way.

5. The negative battery cables should be disconnected for long distance transport.
6. Tie down locations are located on all four corners of the undercarriage. Use four (4) 1/2 inch, "Grade 7" chains from each of the tie down lugs, and run the chains as shown in the diagram. (Refer to illustration on facing page.)

   Ratchet type load binders are recommended. If using lever type load binders, wire or strap them shut, or wrap chains around them to prevent opening.



Tie Down of Unit (Recommended Method).

UNLOADING PROCEDUR

⚠WARNING

TO AVOID SERIOUS PERSONAL INJURY OR DEATH, MACHINE IS IN "CREEP" DRIVE SPEED WHILE UN TRUCK OR TRAILER.

- Inspect the outside of the unit for damage (including the hoses, boom sections and cables for chafing or road da swing bearing bolts are tight (refer to Machine Specificat
- Unlock and open rear compartment. Inspect all electrica for damage and security.
- Connect battery cables to batteries if required. Check ele
- Check fluid level of the hydraulic tank, and add fluid as requ
- Close rear compartment cover.
- Attach the unit to a winch for the unloading procedure.

⚠WARNING

ALWAYS ATTACH THE UNIT TO A WINCH WHEN LOAD FROM A TRUCK OR TRAILER. CONNECT WINCH CABL LUGS ON THE UNDERCARRIAGE. UNASSISTED LOA ING OF ANY MOBILE PLATFORM IS NOT RECOMMEN

READ AND UNDERSTAND ALL SAFETY, CONTROL INFORMATION FOUND ON THE MACHINE AND IN TH OPERATING THE UNIT.

UNLOADING PROCEDURES (CONTINUED)

- Remove all machine tie downs. Remove wheel chocks, if used. Switch the Ground/ Platform keyswitch to "PLATFORM CONTROLS".

- Enter the platform. Test all platform functions.

- Raise the boom so that the platform will clear any obstacles as the machine is driven down the loading ramp.

- Carefully drive the unit off the truck or trailer with the assistance of a winch.

  NOTE: The brakes are automatically released for driving, and will automatically apply when the unit stops.

- Before placing the unit into service, all operators must read and understand the contents of the Operator's Manual.

EMERGENCY SYSTEM AND PROCEDURES

⚠ DANGER

IF THE MACHINE FAILS WHILE THE OPERATOR'S PLATFORM IS RAISED OR EXTENDED, DO NOT ATTEMPT TO CLIMB DOWN THE BOOM ASSEMBLY. SERIOUS INJURY MAY RESULT.

EMERGENCY PUMP

This machine has an emergency pump which can be operated from the ground control station to briefly operate the machine when the unit has lost power.

Ground Operation:

- Screw in (turn clockwise) appropriate knob on manifold to shift valve.
- Pump emergency hand pump to perform the desired function. (Pump handle is stowed on the lower boom post.)

EMERGENCY ROTATION

The emergency rotation system is performed by a mechanical override or the emergency pump.

For the mechanical override procedure, use a 30 mm socket, extension and ratchet handle attached to the hexagon extension shaft of the rotate drive gearbox.

For the emergency pump procedure, activate the emergency pump and engage the valve closest to the platform on the superstructure valve control bank.

⚠ CAUTION

Care should be taken not to override the electrical rotation stop to avoid damaging the hoses which pass through the rotation ring. Always rotate the machine to the normal stowed position by the shortest route. After using emergency rotation, check hoses for damage.

UNPOWERED EMERGENCY VEHICLE MOVEMENT

- Every attempt should be made to restore primary power to the unit before using this procedure.

⚠ DANGER

THIS PROCEDURE REQUIRES RELEASING THE MACHINE BRAKES, WHICH RESULTS IN NO MEANS TO STOP THE UNIT'S TRAVEL. SIMON RECOMMENDS USING THIS PROCEDURE ONLY IN CASES OF EMERGENCY, AND ONLY FOR A SHORT DISTANCE.

BE AWARE OF UNIT RUNAWAY ON SLOPING SURFACES. MOVEMENT SPEED SHALL NOT EXCEED 3 M.P.H. (5 K.P.H.).

1. Secure the unit to the tow vehicle with chains or ropes.

   This machine is equipped with tie down lugs (front and rear) that can be used for towing the unit. The chains or ropes must be of sufficient capacity to move the unit.

⚠WARNING

ALWAYS CHOCK THE WHEELS BEFORE YOU RELEASE THE BRAKES TO PREVENT UNEXPECTED MACHINE MOVEMENT ON SLOPES.

2. Block/chock wheels.

3. Release brakes and disconnect transmission by fully screwing in (turning clockwise) the disengage plug located in the center of both rear wheel hubs. Use a 6 mm hexagon key.

   After unblocking the wheels, the machine will be ready to be moved: however, there is no provision for steering the vehicle.

- After primary power has been restored to the vehicle, fully unscrew (turning counter-clockwise) the disengage plug with a 6 mm hexagon key.

- The machine is now ready for normal operation.

EMERGENCY PROCEDURES

It is not possible for us to foresee every emergency situation that could arise during operation of this machine. Information on the following pages describes three typical emergency situations, and lists appropriate actions that can be taken.

When faced with an emergency, above all please remember:

- Stay calm.
- Think through the situation before operating the machine.
- Get help if necessary.

SITUATION: Platform elevated, operator not incapacitated, but machine will not operate properly using the platform controls.

POSSIBLE CONDITION:

- One or more functions not operating correctly.
- Unit movement from unselected control lever or switch.
- Unit function will not stop unless power is switched off.

CORRECTIVE ACTION

1. Remove foot from foot switch.
2. Press the red emergency stop button.
3. Evaluate the nature of the failure.
4. If unable to return to the ground using the platform controls, contact an experienced operator to lower the machine using the emergency pump and lowering procedure (see "Emergency Pump" earlier in this section).

⚠ DANGER

DO NOT TRY TO CLIMB DOWN THE BOOM.

HAVE AN EXPERIENCED OPERATOR USE THE EMERGENCY PUMP TO SAFELY LOWER THE PLATFORM.

5. **Report the incident to your supervisor immediately.**

SITUATION: Unit elevated, with operator incapacitated at platform controls.

⚠ DANGER

DO NOT TOUCH UNIT !!!

TRY TO DETERMINE THE CAUSE OF THE PROBLEM BEFORE YOU TOUCH THE MACHINE.

CORRECTIVE ACTION

1. Have someone summon first aid or rescue squad.
2. Attempt to talk to operator before taking any rescue measures.
3. **Before attempting emergency lowering procedure, check to see if the operator is:**
   - **in a pinned position, or**
   - **would be endangered if platform is moved.**
4. After establishing that the machine is not in contact with live power lines, lower the platform or move the unit as necessary, using emergency procedures (see "Emergency Pump", earlier in this section).
5. Render first aid to the operator.
6. **Report the incident to your supervisor immediately.**

IMPORTANT: Any incident involving personal injury must be immediately reported to the local Simon Aerials Distributorship as well as to Simon Aerials Inc.

SITUATION: Platform in contact with live power lines and operator incapacitated.

⚠ DANGER

DO NOT TOUCH UNIT !!!!

CORRECTIVE ACTION

1. Have someone summon first aid or rescue squad.
2. Contact authorized personnel to disconnect power supply touching machine.
3. **Before attempting emergency lowering, check to see if the operator is:**
   - **in a pinned position, or**
   - **would be endangered if platform is moved.**
4. AFTER POWER IS CUT, lower the platform or move the unit as necessary, using emergency procedures (see "Emergency Pump", earlier in this section).
5. **Report the incident to your supervisor immediately.**

IMPORTANT: Any incident involving personal injury must be immediately reported to the local Simon Aerials Distributorship as well as to Simon Aerials Inc.

SECTION 2:
MAINTENANCE

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Maintenance

GENERAL MAINTENANCE TIPS

- Never leave hydraulic components or hoses open. They must be protected from contamination (including rain) at all times.
- Never open a hydraulic system when there are contaminants in the air.
- ALWAYS clean the surrounding area before opening hydraulic system.
- Use only recommended lubricants. Improper lubricants or incompatible lubricants may be as harmful as no lubrication.
- Report any makeshift "fixes" which can jeopardize safety as well as lead to more costly repairs.
- Any work platform found not to be in safe operating condition should be removed from service until repaired. All repairs should be made by authorized personnel in conformance with the manufacturer's operator's and technical manuals.

HYDRAULIC FLUID

HANDLING PRECAUTIONS

⚠WARNING

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.

Mineral oils act as solvents on the natural oils in the skin. FREQUENT AND PROLONGED SKIN CONTACT CAN CAUSE DERMATITIS OR SEVERE IRRITATION. Mineral-based hydraulic fluids normally present no health hazard when used properly. Protective clothing and proper washing facilities should be provided or be accessible.

⚠WARNING

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

FLUID LEAKS UNDER PRESSURE MAY NOT ALWAYS BE VISIBLE.

IF MINERAL-BASED HYDRAULIC FLUID HAS PENETRATED THE SKIN, IT MUST BE MEDICALLY TREATED, BY A DOCTOR FAMILIAR WITH THIS TYPE OF INJURY, WITHIN A FEW HOURS.

FLUID RECOMMENDATIONS

We strongly recommend the use of Shell TELLUS 22 HYDRAULIC FLUID. An 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 your supplier.

FLUID CONTAMINATION CHECKS

Use the following as a guidelines to determine when analysis of the hydraulic fluid is necessary.

- Any time the hydraulic pump is replaced.
- If fluid discoloration is noticed in the hydraulic reservoir sight tube.
- If, after the first 50 hours of operation, the hydraulic filter elements are plugged.
- Any time the hydraulic filter elements show signs of metal content.
- Once every six months, under normal operating conditions.
- Every 3 months, in extremely dusty or dirty operating conditions.

The hydraulic fluid analysis must be done by a qualified laboratory. To ensure that you receive accurate recommendations about the fluid being analyzed, always provide the following information with the test sample.

- Type of hydraulic fluid. (See Lubrication Chart)
- Model and serial number of unit from which sample was taken.
- Purpose of analysis: i.e. pump failure, discoloration, etc.
- Type of analysis: i.e. complete to show additive breakdown, acid buildup, viscosity, type and percent of contaminants. Comparison to new fluid and recommendations.

Comply with contamination analysis and recommendations to achieve a clean, contamination free hydraulic system. Following the above guidelines will prevent premature failure of pumps, cylinder seals and drive motors, and unnecessary down time.

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

SYSTEM FLUSHING PROCEDURE

⚠WARNING

BLOCK THE WHEELS TO PREVENT UNEXPECTED MOVEMENT OF THE MACHINE.

1. With BOOMS DOWN AND FULLY RETRACTED (in stowed position), drain hydraulic fluid from hydraulic tank into a clean, empty container. Use an oil filter cart so the fluid may be reused if analysis is good.
2. Switch the machine "OFF".
3. Remove and plug the pressure and return hose lines from the top of the powerpack.
4. Remove powerpack unit from machine completely.
5. Drain hydraulic tank and disconnect tank from the powerpack center plate.
6. Flush out hydraulic tank. Remove the suction filter and replace.
7. Refit hydraulic tank, ensuring the "O"-ring seal is not damaged.
8. Remount the powerpack unit and fill the tank with clean hydraulic fluid (see Lubrication Chart).
9. Connect pressure line to powerpack unit. Temporarily position the system return line into a clean container.
10. Turn main power key switch to the "GROUND" position.
11. Activate powered pump.

⚠ CAUTION

Use care when operating functions as return hydraulic fluid is now being returned to container provided.

Monitor the hydraulic reservoir fluid level when cycling the unit functions. Add fluid as necessary to replace that being discharged to container through system return line. This fluid may be returned to the reservoir through a filter cart, if the fluid analysis shows that it is good.

Three cycles of ALL hydraulic cylinder functions should remove old hydraulic fluid.

SYSTEM FLUSHING PROCEDURE (CONTINUED)

12. Jack the front end of the unit so the front wheels are off the ground.

13. With main power key switch to the "PLATFORM" position, activate the steer switch to flush the steer cylinder of the hydraulic fluid.

14. Disconnect brake line hoses and flush completely. Then, re-connect hoses.

15. Replace return filter and fill hydraulic tank to full mark on dip stick.

16. When the above procedures have been completed, re-connect all return hoses to tank.

17. Operate all functions to their full extreme positions to ensure proper operation.

18. Check for leaks and correct as necessary. Unit is now ready to be placed back in operation.

HYDRAULIC PRESSURE CHECK

- Install an hydraulic pressure gauge (5000 psi rated) into port P1 of the valve manifold located inside the rear compartment.
- Turn the main power key switch to the "PLATFORM" position.
- Enter the platform and press the steer rocker switch with the foot switch depressed.

  When the wheels have turned to the full limit of travel, remain pressing the rocker switch while pressing the foot switch. This is called "deadheading", and will lead to maximum compensator setting of the pump system pressure registering on the gauge at the valve manifold. Have a second person read the hydraulic pressure gauge.
- Check that the hydraulic pressure is as stated in the specifications. Refer to the "Machine Specifications" of this manual for the "Maximum Hydraulic Pressure".

HYDRAULIC OIL FILTER CHECK

- Position booms over side of the undercarriage for convenience.
- Select one of the boom controls. While running the hydraulic pump observe the filter condition indicator.

  If the indicator shows a green band, the filter condition is satisfactory.

  If the indicator shows a red band, the filter should be changed as soon as possible.

CONTROLLER DIAGNOSTICS

This machine is fitted with a Controller. The unit controls the variable output signals to both the traction motors and boom power pack. It contains a green diagnostic LED which illuminates constantly when the machine is powered up and functional (machine switched "ON" and footswitch depressed).

In the event of a fault condition occurring, the controller LED will automatically indicate the type of fault by varying the number of times the LED flashes between pauses.

The most important checks to perform on a machine which does not operate are:

- check battery condition
- check the cable connections and Controller connection plug.

NOTE: When the keyswitch is moved to ground or platform controls, the LED will indicate a "6" Flash condition, which is normal operation. If a boom or drive function is selected, the LED will remain on constantly.

CONTROLLER FAULT CODES

2* Flashes: procedure fault
- Incorrect start-up sequence - Turn machine off for 5 seconds, then back on.
- Acceleration demand excessive - Joystick controller moved too fast - Move joystick slower.
- Moisture interference - Contact Simon Service.

3* Flashes: motor permanently low
- Faulty controller - Replace controller.
- Voltage spikes - Contact Simon Service.
- Check for short circuit on control wiring.

4* Flashes: motor permanently high
- Ensure directional contactor not welded.
- Drive motor fault - Check for short circuit in control wiring.
- Check for dirt on directional contactors.

5 Flashes: motor neither high nor low
- Ensure directional contactor not welded.
- Check for short circuit in control wiring.
- Check motor for open circuits.
- Check control wiring for open circuits.
- Check for dirt on directional contactors.

6 Flashes: traction accelerator fault
- Incorrect start-up sequence - Turn machine off for 5 seconds, then back on.
- Check accelerator control circuit - Contact Simon Service.
- Check control wiring for open circuits.

7 Flashes: battery voltage low
- Measure battery voltage.
- Check operation of charger unit.

8 Flashes: thermal cut-back
- Ensure machine is being operated within specification
- Check input current value to motors
- Allow unit to cool

9 Flashes: speed encoder fault
10 Flashes: speed encoder fault
11 Flashes: speed encoder fault
- Check tachogenerator (on drive motor) operation - Replace interface (tacho) card.

* If machine locks out, turn off all power and wait 5 seconds; then, reapply power.

BATTERY

Eight 6 volt batteries supply the electrical current required to operate the electrical circuits for this lift . They are composed of two parallel sets of four batteries each hooked up in series to supply 24 VDC.

BATTERY MAINTENANCE - IN STORAGE

Follow these procedures for maintenance of batteries not in use:

Keep batteries clean. Electrolyte of "wet" batteries should be checked regularly, and kept at proper levels.

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. Do not stack more than three high, and rotate stock so that the oldest batteries are used first.

"Wet" batteries should be kept fully charged. A "wet" battery, while in storage, should be recharged to full charge at the following intervals:

If stored at:	Recharge:
Below 40° F (4° C)	None required
40° to 60° F (4° to 15° C)	Every 2 months
Above 60° F (15° C)	Every month

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 tight, and that good contact is made to terminals.
- **Broken or frayed cables.** Be sure all cable connections are good, and that no loose or broken wires are exposed. Replace as needed.

BATTERY MAINTENANCE - IN USE (CONTINUED)

Check battery electrolyte level. Replenish the electrolyte, if necessary. Remove vent caps before filling, and USE ONLY DISTILLED WATER. Fill all cells to the proper level. Do not overfill. Fill to level indicator (or 1/2 inch over the top of the 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.

Keep batteries clean. Wash top of each battery, making sure all vent caps are in place. Do not allow cleaning water or other foreign matter to enter the cells. Use a solution of bicarbonate of soda and water to wash the batteries if there is an accumulation of acid.

BATTERY PREVENTIVE MAINTENANCE

Once a month, after batteries have been charged, spot check the specific gravity of two or more cells. A fully charged battery should indicate 1.265 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 variation in specific gravity. A variation of 0.03 points or more between cells is cause for concern. Mark the low cells. Recheck specific gravity of all cells after recharging.

BATTERY REPLACEMENT

To remove the batteries, follow these procedures:

⚠WARNING

BEFORE REMOVING BATTERIES FROM THE UNIT, TURN OFF THE KEYSWITCH. THERE SHOULD BE NO POWER TO THE MACHINE.

Always disconnect the negative battery cables first.

Open battery compartment. Remove battery hold downs. Lift the batteries from the battery compartment. Put the batteries to the side and dispose of properly.

⚠ CAUTION

Always connect the positive battery cable first.

To install batteries lift and position them in battery compartment. Secure batteries in position with wing nuts and battery hold downs. Connect battery cables. Close compartment.

BATTERY CHARGER

The battery charger supplied with this lift is designed to recharge deep-cycle, lead-acid batteries. It is a highly reliable unit with a minimum of moving parts.

To operate, turn key to "OFF" position, and connect the power supply cord to the proper electrical outlet. A green light turns on while charging the batteries. As they approach being fully charged, the green light dims, and the charger outputs a trickle charge. The charger DC output cord should remain connected to the batteries. Required charge time varies with depth of discharge.

⚠WARNING

CONNECT ONLY TO A PROPERLY GROUNDED THREE-PRONG, SINGLE PHASE OUTLET. TO AVOID ELECTRIC SHOCK, DO NOT TOUCH UNINSULATED PARTS OF THE CHARGER DC OUTPUT CONNECTOR, BATTERY CONNECTOR OR TERMINALS. BE SURE CHARGER IS IN GOOD CONDITION, AND THAT BATTERY CONNECTORS MAKE ADEQUATE ELECTRICAL CONTACT AND ARE NOT CRACKED OR CORRODED. OVERHEATING AND PROPERTY DAMAGE MAY RESULT.

LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES. NO SMOKING! KEEP SPARKS AND FLAME AWAY FROM BATTERIES. NEVER DISCONNECT THE DC OUTPUT CONNECTOR FROM THE BATTERIES WHILE THE CHARGER IS OPERATING.

IF THE CHARGE CYCLE MUST BE INTERRUPTED, DISCONNECT THE POWER SUPPLY CORD FROM ITS OUTLET; DO NOT DISCONNECT THE DC OUTPUT CONNECTOR FROM THE BATTERY CONNECTOR.

BATTERY CHARGER TROUBLESHOOTING

⚠WARNING

HIGH VOLTAGE! WITH THE CHARGER ON, THE INTERNAL CHARGER CAPACITOR VOLTAGE IS APPROXIMATELY 650 VOLTS.

Always unplug the electrical cords from the AC outlet and the batteries before attempting any repairs to the charger.

NOTE: Modifying the charger for use other than that for which it was specifically intended, repairs by unqualified persons or use of other than original equipment replacement parts will void the warranty.

BATTERY CHARGER TROUBLESHOOTING (CONTINUED)

Due to the way these chargers are constructed, only basic troubleshooting is practical. Perform the following checks:

1. Make sure battery connections are electrically and mechanically sound.

2. Check AC source for power.

3. For models that have an exterior fuse, check it and replace it, if required, with one having the same rating.

4. Check battery condition. A highly sulfated battery may take some additional time before current begins to flow through it.

TILT ALARM

The tilt alarm gives an audible warning when the machine is five degrees or more out of level. The tilt sensor is mounted under the superstructure cover. The tilt alarm warning horn is located underneath the platform control box.

TILT ALARM TEST

The alarm can be tested by manually tipping the alarm 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). The platform must be raised for tilt sensor to be energized.

For some models, if the alarm does not sound, the flange nuts have been tightened too far. Loosen the nut on the 90° corner and repeat this test procedure.

On some models, there are three LED's. The green LED indicates the unit has power. The red LED indicates the sensor is tilted beyond 4-1/2°. The yellow LED indicates the sensor is tilted beyond 4-1/2° and the 3 second delay has expired (warning horn should sound). On these units there is an in-line 2 amp fuse. Check the fuse first, if the alarm does not sound. Then, check the flange nuts.

TILT ALARM ADJUSTMENT

The tilt alarm can be adjusted. Before attempting to adjust the alarm, park the machine on a flat, level surface.

Level the base of the alarm by tightening each of the three flange nuts until the level bubble is centered.

SHIFT OPERATIONAL CHECKLIST

All checks must be completed before operation of the unit.

These checklists can be copied as needed to aid in performing these inspections.

DATE: _____ **INSPECTED BY:** _____

MODEL NUMBER: _____ **SERIAL NUMBER:** _____

GENERAL INFORMATION

1. Keep inspection records up-to-date.
2. Record and report all discrepancies to your supervisor.
3. A dirty machine cannot be properly inspected.
   Keep your Simon machine clean!!

⚠WARNING

THIS CHECKLIST MUST BE USED AT DAILY INTERVALS OR AFTER EVERY 6 TO 8 HOURS OF USE, WHICHEVER IS SOONER. FAILURE TO DO SO COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE MUCH MORE THAN IT COSTS.

INITIAL	DESCRIPTION
_____	1. Perform a visual inspection of all machine components, i.e. structural damage, missing parts, torn or loose hoses, hydraulic fluid leaks, torn or disconnected wires, or damaged tires, etc. Open rear compartment cover to inspect components inside.
_____	2. Check battery electrolyte level and connections.
_____	3. Check that the lug nuts are tight.
_____	4. Check hydraulic fluid level. The level should be at the second baffle on the cap dipstick, with the unit in stowed position.
_____	5. Check all drive motor nuts for tightness.

Continued on following page . . .

SHIFT OPERATIONAL CHECKLIST (CONTINUED)

INITIAL	DESCRIPTION
_____	6. Check hoses for worn areas.
_____	7. Check hose carrier to verify that it is not bent or sagging.
_____	8. Inspect safety belt connections, and check for worn areas on the belts.
_____	9. Check platform rails and gate latch step for damage.
_____	10. Check pivot pins for security.
_____	11. Check that all warning and instructional labels are legible and secure.
_____	12. Check that the tilt alarm is working properly.
_____	13. When all pre-inspection checks have been completed, the operator is ready to test the ground controls for proper operation.
_____	14. Check platform controls for proper operation.
_____	15. With the platform raised, check for the smooth operation of low speed drive.
_____	16. Check that the electrical control switches are not damaged.

Continued on following page . . .

SHIFT OPERATIONAL CHECKLIST (CONTINUED)

ADDITIONAL MAINTENANCE REQUIREMENTS FOR SEVERE USAGE APPLICATIONS

NOTE: Do not lubricate wear pads in dusty or sandblast environments. There are boots and guards available to extend unit life in these applications. Consult Simon Aerials Service Department.

INITIAL	DESCRIPTION
_____	17. Inspect cylinder boots, valve spool boots, etc., for cuts or other damage after every eight (8) hours of service. Repair or replace if necessary.
_____	18. Check hydraulic system for leakage after every eight (8) hours of operation.

WEEKLY

INITIAL	DESCRIPTION
_____	19. Lubricate swing bearing and swing bearing gear teeth.
_____	20. Check oil in reduction drive unit.
_____	21. Lubricate valve spool linkage.

MONTHLY OPERATIONAL CHECKLIST

All checks must be completed before operation of the unit.

DATE: _____ **INSPECTED BY:** _____

MODEL NUMBER: _____ **SERIAL NUMBER:** _____

These checklists can be copied as needed to aid in performing these inspections.

GENERAL INFORMATION

1. Keep inspection records up-to-date.
2. Record and report all discrepancies to your supervisor.
3. A dirty machine cannot be properly inspected.
   Keep your Simon machine clean!!

⚠WARNING

THIS CHECKLIST MUST BE USED AT MONTHLY INTERVALS OR EVERY 100 HOURS, WHICHEVER OCCURS FIRST. FAILURE TO DO SO COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE MUCH MORE THAN IT COSTS.

INITIAL	DESCRIPTION
_____	1. Perform all checks listed on Shift Operational Checklist.
_____	2. Apply lubricant to swing bearing gear teeth and drive pinion gear teeth (see Lubrication Chart).
_____	3. Inspect condition of hydraulic fluid in the reservoir. Fluid should have a clear amber color.
_____	4. Check hydraulic system for leaks, examine hoses for signs of excessive wear, chafing or twisting. Adjust the hoses and/ or replace them if necessary.
_____	5. Inspect the work platform and boom structure for signs of damage and broken welds. Check all bolts (including platform rotator bolts) for tightness.
_____	6. Check for structural damage, broken welds, loose bolts, improper or makeshift repairs.

Continued on following page . . .

MONTHLY OPERATIONAL CHECKLIST (CONTINUED)

INITIAL	DESCRIPTION
_____	7. Check torque of wheel lug nuts (see Specifications).
_____	8. Check torque of swing bearing bolts (see Specifications).
_____	9. Check adjustment and security of swing drive. Check torque of swing drive mounting bolts (see Specifications). There should be no backlash between the turntable and undercarriage when properly adjusted.
_____	10. Check oil level in reduction drive unit (see Lubrication Chart).
_____	11. Check front wheel motors mounting bolt torque (see Specifications).
_____	12. Check that the boom does not drift with a full load, no hydraulic pressure (motor off) and the control valve in the "BOOM DOWN" position.
_____	13. Check to make sure boom sections are not dented or bent.
_____	14. Check that all adjustable flow valves are locked.
_____	15. Lubricate boom wear pads (see Lubrication Chart).
_____	16. Lubricate hydraulic control handle pivot pins (see Lubrication Chart).
_____	17. Check emergency pump operation (see Emergency Pump).

ADDITIONAL MAINTENANCE REQUIREMENTS FOR SEVERE USAGE APPLICATIONS

EVERY 90 DAYS

INITIAL	DESCRIPTION
_____	18. Replace hydraulic filter element.
_____	19. Analyze hydraulic fluid.
_____	20. Disassemble and pack steering spindles.

SEMI-ANNUAL OPERATIONAL CHECKLIST

All checks must be completed before operation of the unit.

DATE: _____ **INSPECTED BY:** _____

MODEL NUMBER: _____ **SERIAL NUMBER:** _____

These checklists can be copied as needed to aid in performing these inspections.

GENERAL INFORMATION

1. Keep inspection records up-to-date.
2. Record and report all discrepancies to your supervisor.
3. A dirty machine cannot be properly inspected.
   Keep your Simon machine clean!!

⚠WARNING

THIS CHECKLIST MUST BE USED AT SIX MONTH INTERVALS OR EVERY 500 HOURS, WHICHEVER IS SOONER. FAILURE TO DO SO COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE MUCH MORE THAN IT COSTS.

INITIAL	DESCRIPTION
_____	1. Perform all checks listed on Shift and Monthly Operational Checklists.
_____	2. Have hydraulic fluid sample analyzed at a test laboratory. Comply with test results and recommendations to ensure long, trouble free operation.
	NOTE: If hydraulic fluid has been regularly maintained, it should only require changing once every year, depending on maintenance, temperature, application, duty cycle, and atmospheric conditions.
_____	3. Clean and lubricate all electrical switches with an electrical contact cleaner and ensure that the switches operate freely in all positions.
_____	4. Check the electrical mounting and hardware connections for security.
_____	5. Replace hydraulic filter element.

Continued on following page . . .

SEMI-ANNUAL OPERATIONAL CHECKLIST (CONTINUED)

INITIAL	DESCRIPTION
_____	6. Lubricate all valve spool linkages.
_____	7. Clean and lubricate the swing bearing gear teeth with Keystone Moly #29.
_____	8. Check that hydraulic pressure is as stated in the machine specifications. (Refer to Hydraulic Pressure Check, earlier in this section.)
_____	9. Lubricate steering spindles (see Lubrication Chart).

ADDITIONAL MAINTENANCE REQUIREMENTS FOR SEVERE USAGE APPLICATIONS

_____	10. Change hydraulic fluid.

TROUBLESHOOTING

⚠WARNING

SHOULD YOU EXPERIENCE ERRATIC OPERATION OR NOTICE ANY MALFUNCTION WHILE RUNNING YOUR MACHINE, CONTINUE OPERATION ONLY LONG ENOUGH TO RETURN TO THE GROUND POSITION IF POSSIBLE.

IMMEDIATELY REPORT THE INCIDENT TO YOUR SUPERVISOR, AND DISCONTINUE USING THE UNIT UNTIL IT HAS BEEN CHECKED BY A TRAINED, QUALIFIED MECHANIC.

SYMPTOM	CHECK	ACTION
No boom operations from ground controls.	Is the control power selector switch in the ground controls power-on position?	Select correct switch position.
	Are both emergency stop buttons in released (power-on) position?	Select correct switch position.
	Are batteries sufficiently charged?	Select platform operation. Read battery condition monitor. Charge batteries, as required.
No boom operations from platform controls.	Is the ground control power selector switch in the platform controls power-on position?	Select correct switch position.
	Are both emergency stop buttons in released (power-on) position?	Select correct switch position.
	Is foot switch depressed?	Depress foot switch.
	Are batteries sufficiently charged?	Read battery condition monitor. Charge batteries, as required.

TROUBLESHOOTING

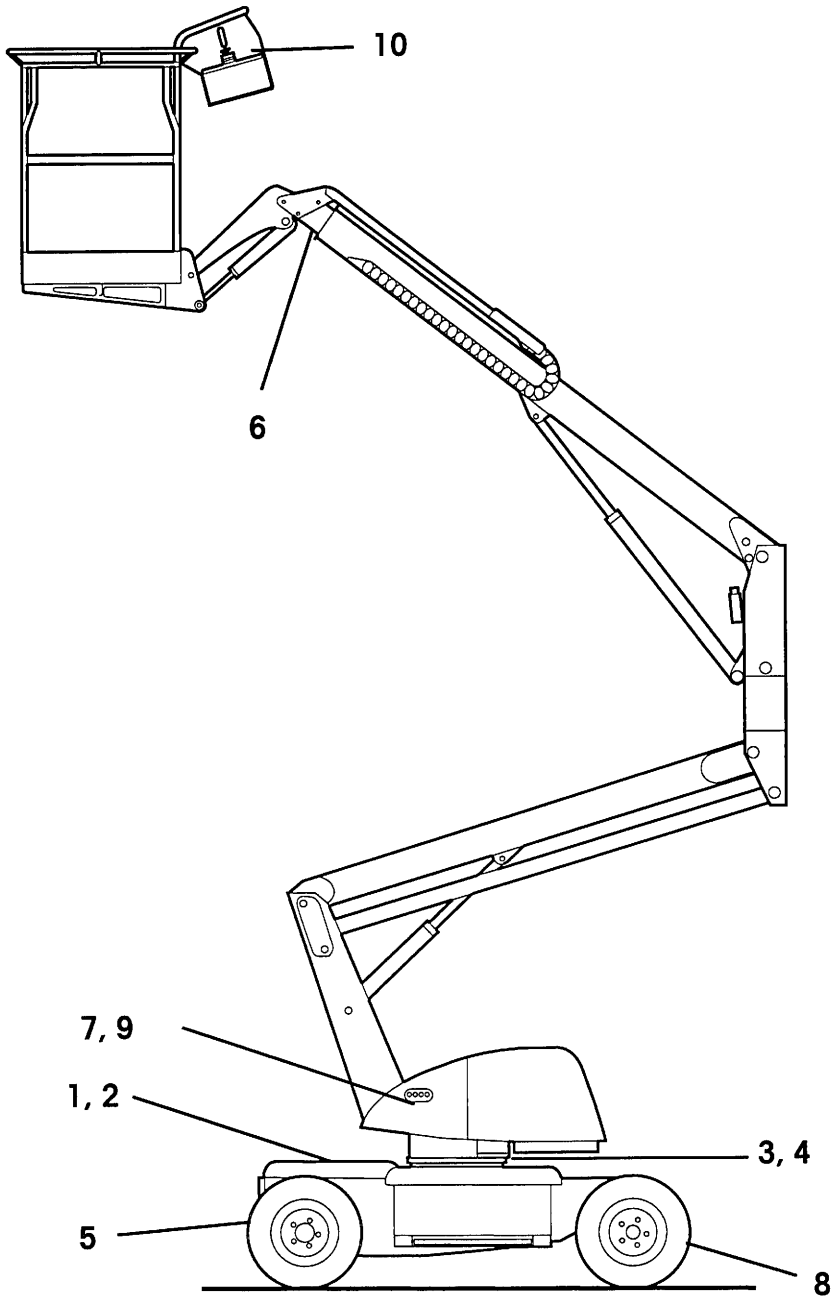
SYMPTOM	CHECK	ACTION
Booms will not lift - other functions operate.	Emergency lower taps have been left open.	Close taps.
No drive function.	Batteries low; brakes will not release; drive control system locks out.	Charge batteries.
	Drive control diagnostic system has registered a fault and lock out.	Switch ground controls off 5 seconds, then on. Try drive again. Check for fault code. (See Controller Fault Codes, earlier in this section.)

LUBRICATION CHART

NO.	ITEM	SPECIFICATION AND QUANTITY	FREQUENCY OF LUBRICATION
1.	Hydraulic reservoir	Shell TELLUS 22 to "Full" mark with all cylinders retracted.	Check each shift. Analyze every six (6) months or 500 hours*†. Change yearly or every 1,000 hours.*†
2.	Hydraulic filter	Filter element.	Change every six (6) months or 500 hours.*†
3.	Swing bearing (grease outside of swing gear at 180°)	Lithium N.L.G.I. #2 EP. Purge old grease.	Monthly or every 100 hours.*†
4.	Swing bearing gear teeth	"Keystone-Moly 29 Open Gear Compound" Coat gear faces.	Monthly or every 100 hours.*† Clean every six (6) months or 500 hours.*
5.	Reduction drive unit	Mobil Glygoyle 22, Glygoyle 30, or SHC 630	Check monthly or every 100 hours.*† Change yearly or 1,000 hours.*
6.	Boom wear pads	Silicone spray.	Monthly or every 100 hours.*†
7.	Hydraulic control handle pivot pins	WD 40 Spray or equivalent penetrating oil.	Monthly or every 100 hours.*
8.	Steering spindles (king pin bearings)	Lithium N.L.G.I. #2 EP. Disassemble and pack.	Monthly or every 100 hours.*†
9.	Valve spool linkage	WD 40 Spray or equivalent penetrating oil.	Monthly or every 100 hours.*
10.	Electrical switches	Electrical Contact Cleaner	Clean and Lubricate every six (6) months or 500 hours*.

* Whichever occurs first.

† Different requirements for severe duty applications. See check lists.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SECTION 3: ILLUSTRATED PARTS PLATES

TABLE OF CONTENTS

TABLE OF CONTENTS

INTRODUCTION

These Illustrated Parts Plates are designed to help you identify and order the correct replacement parts for use on SIMON EAGLE JR. 32/21 AERIAL LIFT PLATFORMS. All parts represented here are manufactured and supplied in accordance with Simon Aerials quality standards. We recommend that you use GENUINE SIMON AERIALS PARTS to insure proper OPERATION and reliable PERFORMANCE.

Prices for all parts listed in these Parts Plates can be found in a separate Spare Parts Price List. Please contact Simon Aerials Parts Department for the latest edition of the Spare Parts Price List.

HOW TO USE THESE PAGES

The Cover Page indicates the specific model or models covered by these Parts Plates.

The "Table of Contents" pages list the specific sections, pages and page titles that are relevant to this model, and contained in these pages. Only those pages that refer specifically to the EAGLE JR. 32/21 are included in this Manual.

The "Primary Machine Component Groups" page illustrates the four major assemblies, along with their "Section" number.

The Parts Plates are divided into "Sections", numbered from 1 through 99. Each section contains the individual parts that make up a major component, assembly or item. The first four sections (1 through 4) contain the major assemblies, or "Primary Machine Component Groups". Sections that follow contain sub-assemblies or components of these "major" assemblies.

If a part number is followed by a plate number in the "SEE SECTION" column, refer to the plate indicated for a further breakdown of components for that part number. Items with indented descriptions are components of the non-indented item directly above.

When selecting parts for a specific machine, be sure to verify the machine model number, and serial number or date code (found on the data plate). When ordering parts, always give:

1. Model and Serial Number
2. Item Part Number and Description
3. Order Quantity

If a part number is not listed for a selected item, please provide this additional information:

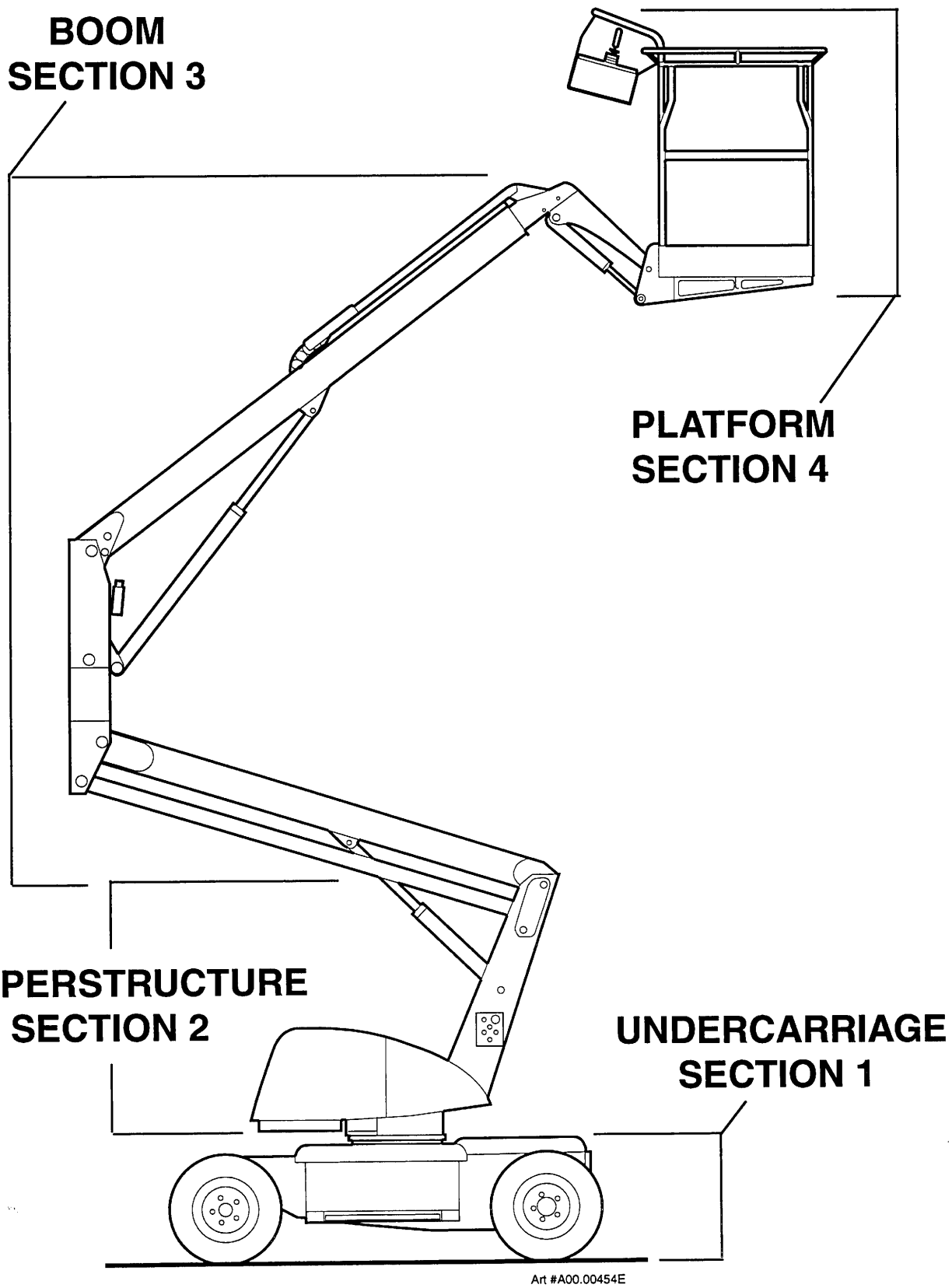
4. Parts Plate number, Item Number and Description of the desired item, OR
5. Part Number of the next assembly (Parent Part), if the desired item is not listed.

Some assembled items, such as hydraulic cylinders, may have been supplied by more than one source. While the assemblies may be able to be used interchangeably, FOR SAFETY'S SAKE, do not mix components or repair kits. Please confirm the make of the assembly on the unit before ordering or installing replacement parts.

Left and right-hand, front and rear should be determined as though you are standing on the Platform, with the steering wheels to the front. All dimensions are in inches unless otherwise specified.

SIMON AERIALS INC. reserves the right to change, improve, modify or expand features of its equipment. Therefore, specifications, models or equipment are subject to change without notice, and without incurring obligation to change, improve, modify or expand features of previously delivered units.

All SIMON AERIALS INC. manuals are periodically updated to reflect changes that occur in the equipment. Please contact the Factory with any questions you may have regarding your particular machine, or the availability of more recent manuals.



Art #A00.00454E

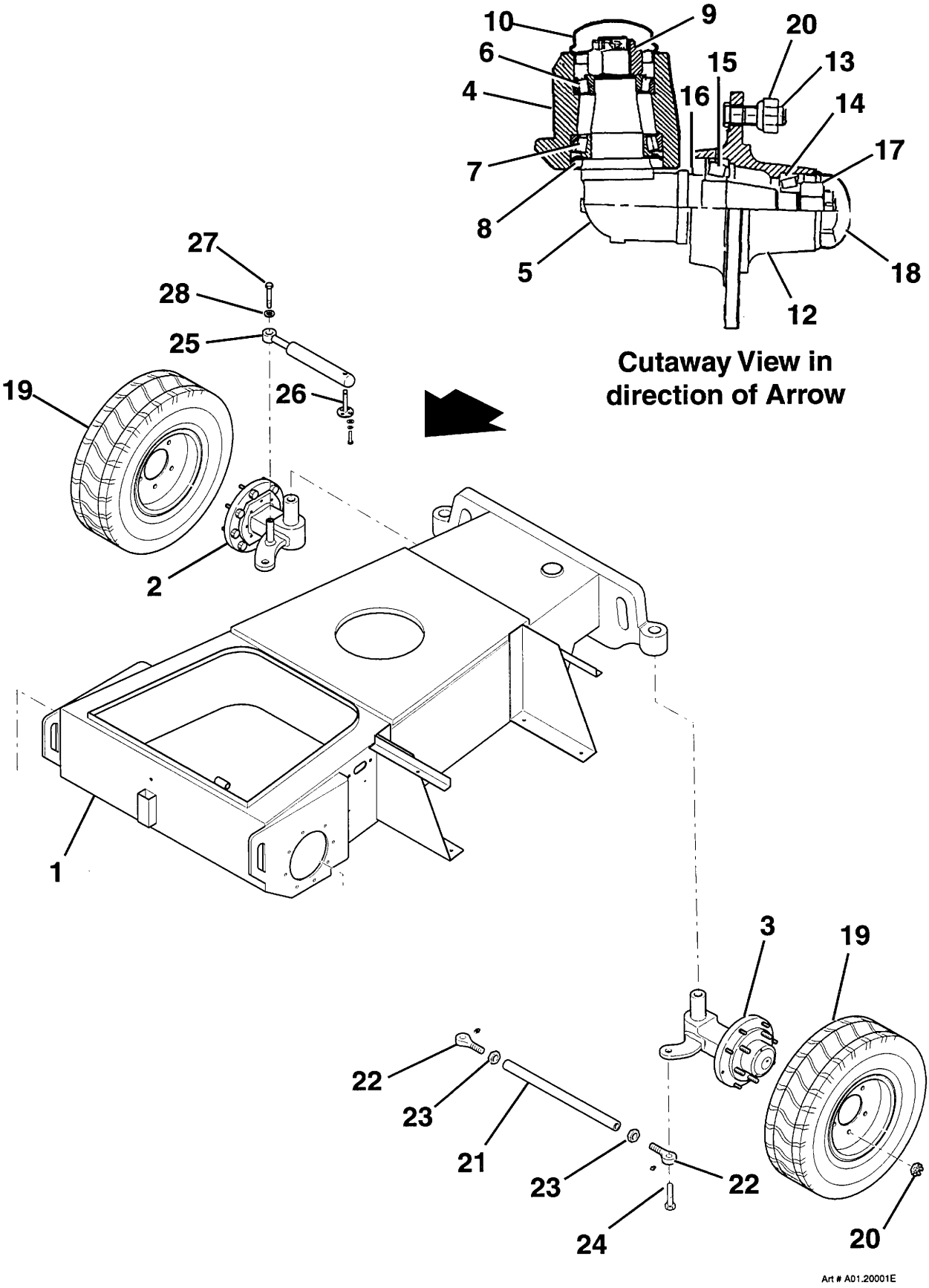
DESCRIPTION	PART NO.
PRIMARY MACHINE COMPONENT GROUPS	

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1	234 4570		UNDERCARRIAGE WELDMENT (Chassis)	1
2	34022-0058		SPINDLE ASSEMBLY, FRONT (Right)	1
3	34022-0058		SPINDLE ASSEMBLY, FRONT (Left)	1
4			KNUCKLE WELDMENT, FRONT (Right)	1
			KNUCKLE WELDMENT, FRONT (Left)	1
5			SPINDLE, FRONT	1
6	44023-0123		BEARING, SPINDLE (Upper)	1
7	44023-0135		BEARING, SPINDLE (Lower)	1
8	44022-0366		OIL SEAL	1
9	44022-0364		NUT	1
10	44022-0362		CAP	1
11			HUB, FRONT	1
12	44022-0368		HUB WELDMENT	1
13	44034-0009		STUD, WHEEL	5
14	44023-0122		BEARING, HUB (Outer)	1
15	44023-0123		BEARING, HUB (Inner)	1
16	44022-0367		OIL SEAL	1
17	44022-0365		NUT	1
18	44022-0363		CAP	1
19			WHEEL AND TIRE ASSEMBLY (Steer)	2
	34022-0068		Tire is marked "Solideal 23 x 10-12" (Standard)	
	34022-0065		With non-marking tire (Option)	
20	34002-0046		NUT, STEER WHEEL (Lug nut) (M16)	10
21	10-257600		TIE ROD (Track rod)	1
22	08-074600		END, TIE ROD	2
23			NUT, TIE ROD END (Right hand thread)	2
24	44003-0020		CAP SCREW, HEX HEAD (M20-2.5 x 45 mm)	2
25	04-038600	11.23	CYLINDER, STEER	1
26	GS 505		PIN, STEER CYLINDER	1
27	44002-0036		CAP SCREW, HEX HEAD (M8-1.25 x 20 mm)	1
28	44013-0007		WASHER, FLAT (M8)	1

TITLE UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 1 OF 4)

PLATE NO. 01.20 | **SIMON AERIALS INC.** NEW 27 JUL., 1995 | PART NO. 354 3240



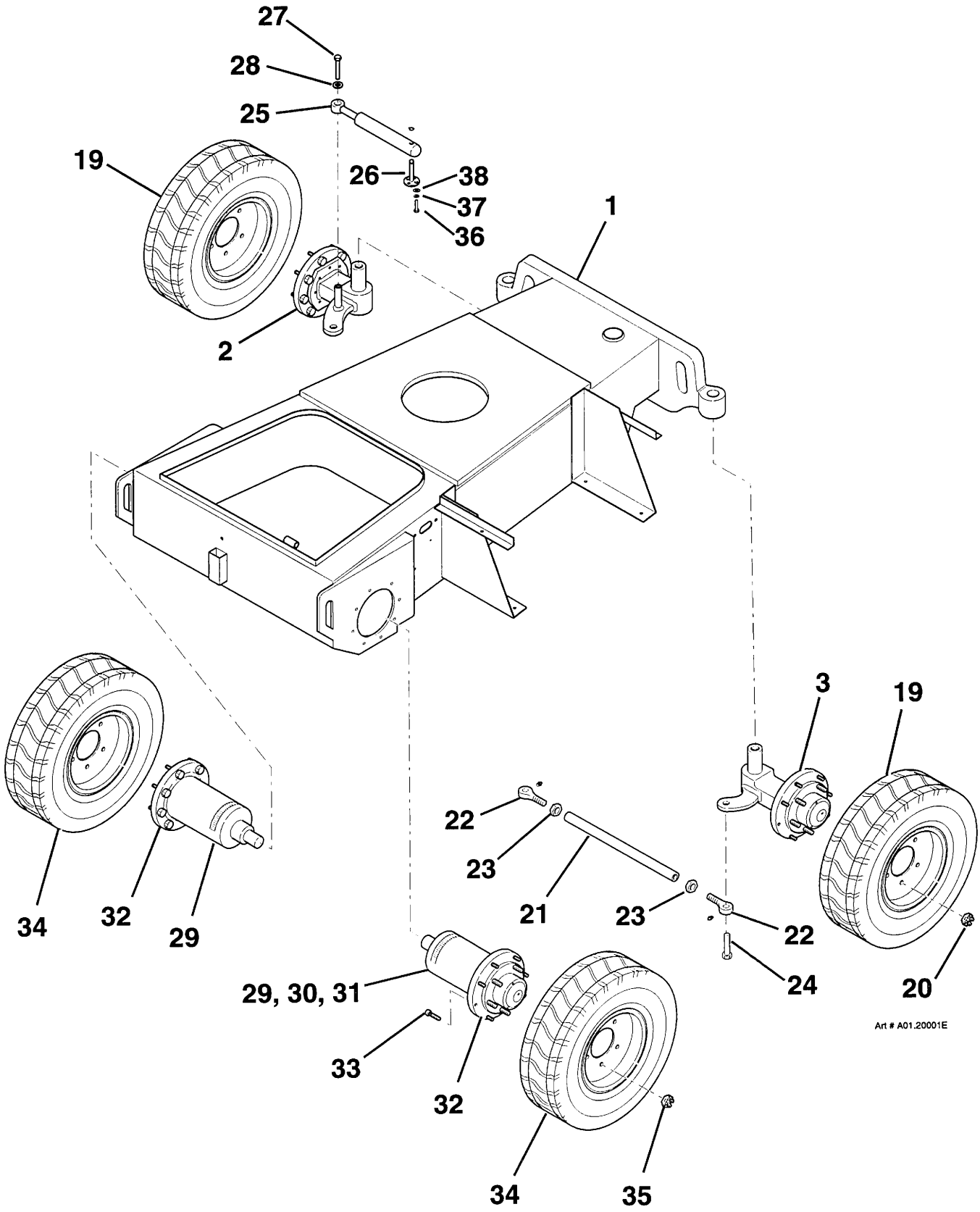
TITLE	UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 1 OF 4)		
SIMON AERIALS INC.	NEW 27 JUL., 1995	PART NO. 354 3240	PLATE NO. 01.20

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
29	03-717400	26.12	MOTOR, DRIVE (Traction motor)	2
30	44004-0125		CAP SCREW, SOCKET HEAD	
			(M10- 1.5 x 40 mm, Grade 12.9)	8
31	44013-0008		WASHER, FLAT (M10)	4
32	02-048000	22.09	TORQUE HUB (Wheel drive unit)	2
33	44004-0124		CAP SCREW, SOCKET HEAD	
			(M12- 1.75 x 30 mm, Grade 12.9)	16
34			WHEEL AND TIRE ASSEMBLY (Drive)	2
	34022-0069		Tire is marked "Solideal 23 x 10-12" (Standard)	
	34022-0064		With non-marking tire (Option)	
36	44002-0035		SCREW, HEX HEAD (M8-1.25 x 16 mm)	1
37	44013-0022		WASHER, HELICAL LOCK (M8)	1
38	44013-0007		WASHER, FLAT (M8)	1

TITLE UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 2 OF 4)

PLATE NO. 01.20 | **SIMON AERIALS INC.** NEW 27 JUL., 1995 | PART NO. 354 3240



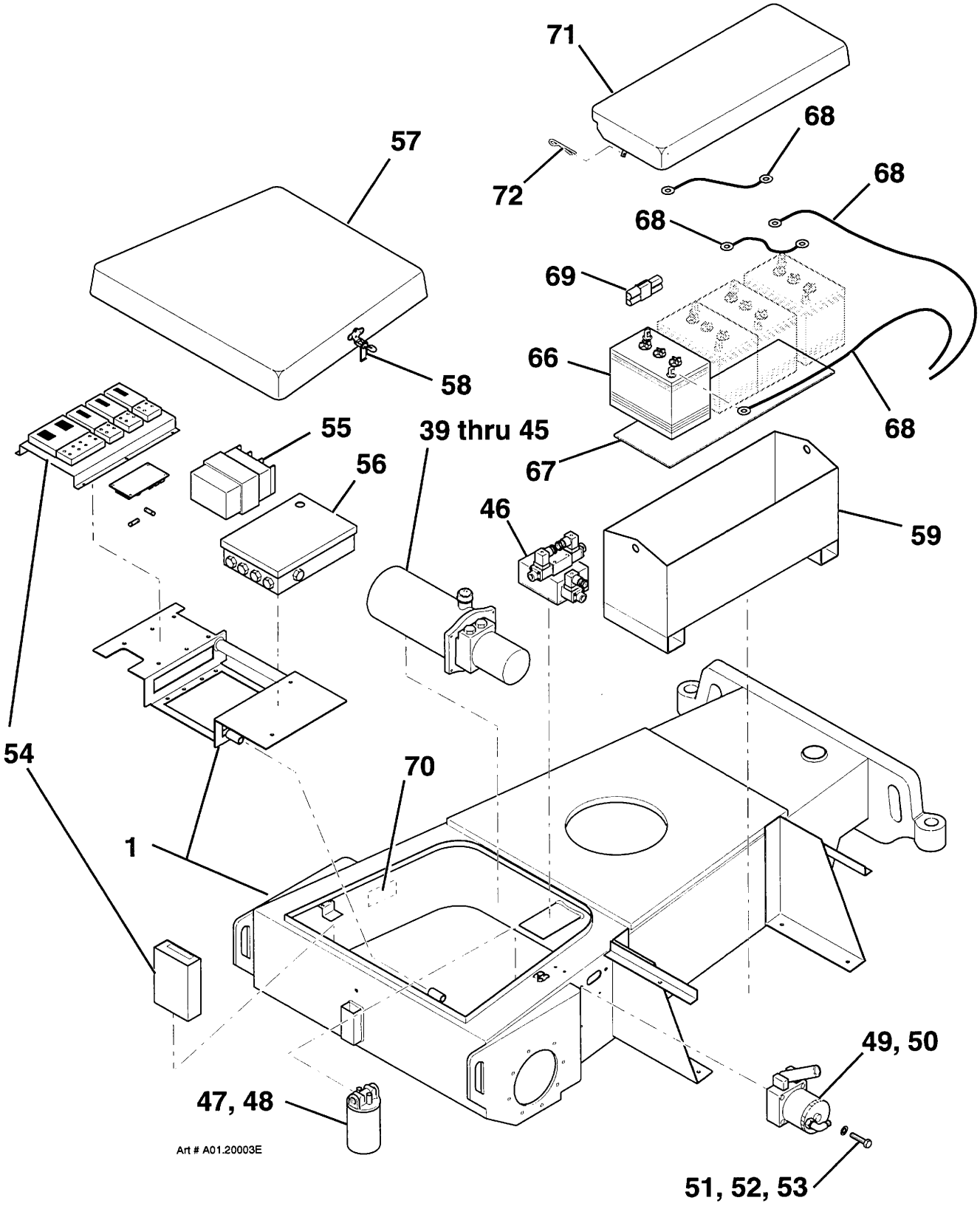
TITLE	UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 2 OF 4)		
SIMON AERIALS INC.	NEW 27 JUL., 1995	PART NO. 354 3240	PLATE NO. 01.20

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
39	01-236100	12.14	POWER UNIT (Hydraulic power pack)	1
40	06-003500		90° ELBOW, MALE 37° TO NPT (4-4 CTX-S)	1
41	06-003800		90° ELBOW, MALE 37° TO NPT (6 CTX-S)	1
42	06-054300		RUN TEE, 37° FEMALE SWIVEL NUT (4 R6X-S) (Pressure line)	1
43	06-054500		RUN TEE, 37° FEMALE SWIVEL NUT (6 R6X-S) (Suction line)	1
44	354 3170		HOSE ASSEMBLY (**#4**, 36" [.9 M] long)	1
45	351 7020		HOSE ASSEMBLY (**#6**, 36" [.9 M] long)	1
46		23.22	BRAKE/ STEER MANIFOLD (Refer to code stamped on manifold block)	1
	11002-0002		Manifold block is stamped "**0002**" (current version)	
	01-236400		Manifold block is stamped "**0001**" (some early versions)	
47	01-237400		FILTER ASSEMBLY, HYDRAULIC	1
48	41030-0032		ELEMENT, FILTER	1
49	219 0730	12.10	PUMP, EMERGENCY (Hand operated)	1
50	06-003500		90° ELBOW, MALE 37° TO NPT (4-4 CTX-S)	2
51	07-003010		HEX HEAD BOLT (1/4"-20 x 2-1/4")	3
52	07-062014		FLAT WASHER (1/4")	3
53	07-050014		LOCK NUT (1/4"-20)	3
54	03-718500	10.04	DRIVE CONTROLLER	1
55	03-478300		CHARGER, BATTERY (40 Amp; 110 Volt, 60 Hz input; 24 Volt DC output)	1
56	F001 924	07.25	BOX ASSEMBLY, JUNCTION	1
57	13030-0061		COVER, CONTROL COMPARTMENT	1
58	44019-0020		LATCH ASSEMBLY, COVER	2

TITLE UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 3 OF 4)

PLATE NO. 01.20 | **SIMON AERIALS INC.** NEW 27 JUL., 1995 | **PART NO.** 354 3240



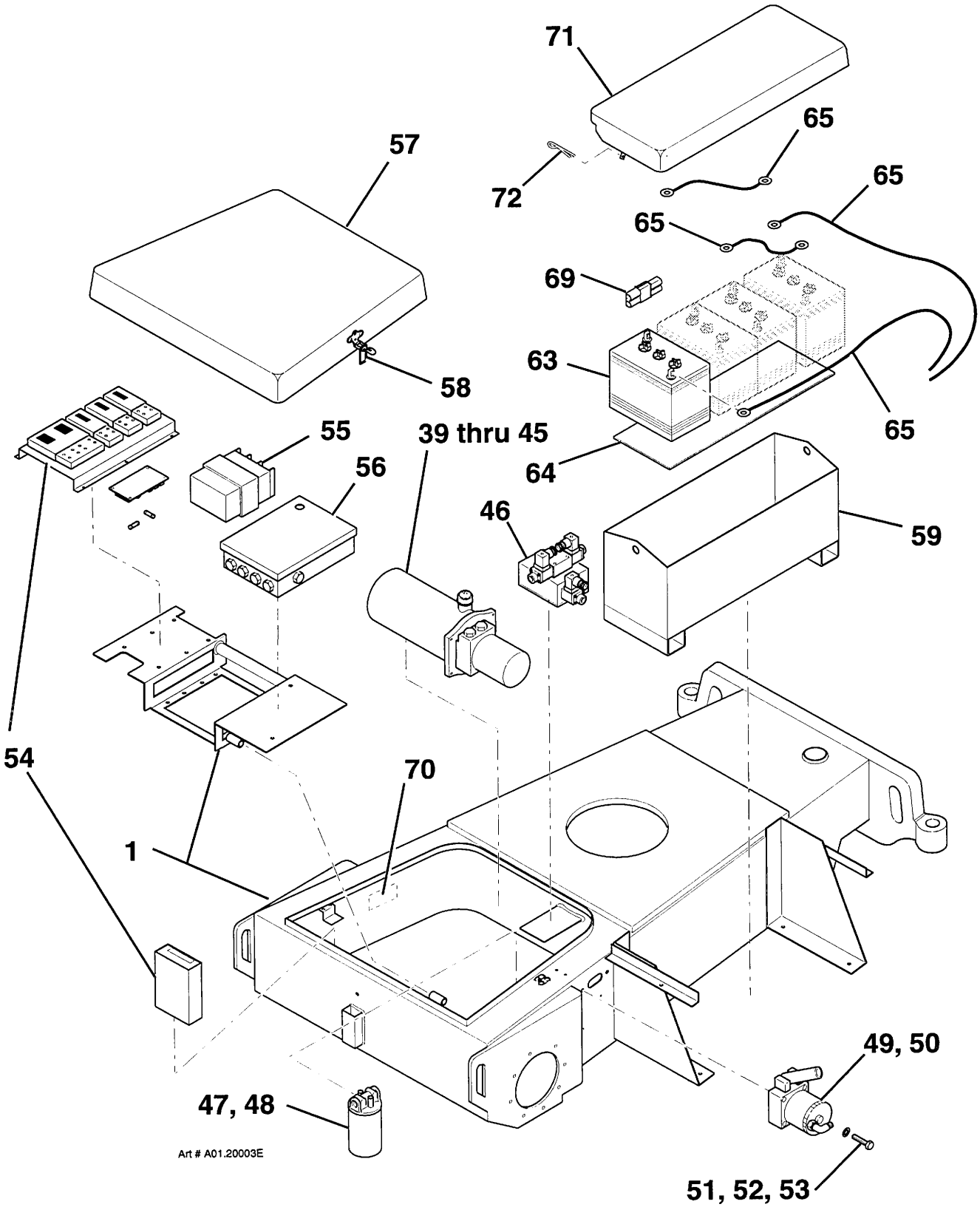
TITLE	UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 3 OF 4)		
SIMON AERIALS INC.	NEW 27 JUL., 1995	PART NO. 354 3240	PLATE NO. 01.20

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
59	234 1500		BOX, BATTERY	2
60	07-003046		CAP SCREW, HEX HEAD (3/8"-16 x 1-1/4, Grade 5)	4
61	07-050016		NUT, LOCK (3/8"-16)	4
62	07-062016		WASHER, FLAT (3/8")	8
63	03-505800		BATTERY (6 Volt DC, Type T 105)	8
64	10-065800		PROTECTOR, BATTERY (Neoprene, 10" x 28-1/2" x 1/8")	2
65			CABLE, BATTERY	
	03-406400		8" (203 mm) long (Negative to Positive)	4
	03-731700		14-1/2" (368 mm) long (Negative to Negative)	2
	03-731700		14-1/2" (368 mm) long (Positive to Positive)	2
	03-731800		18" (457 mm) long (Negative to Connector)	2
	03-731900		22" (559 mm) long (Positive to Connector)	2
66	07-003006		CAP SCREW, HEX HEAD (1/4"-20 x 1-1/4, Grade 5)	4
67	07-062014		WASHER, FLAT (1/4")	4
68	07-050014		NUT, LOCK (1/4"-20)	4
69	03-489200		CONNECTOR, BATTERY	2
70	42002-0021		SWITCH, BATTERY ISOLATOR	1
71	13030-0046		COVER, BATTERY COMPARTMENT	2
72	44019-0073		CLIP, HAIRPIN	4

TITLE UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 4 OF 4)

PLATE NO. 01.20 | **SIMON AERIALS INC.** NEW 27 JUL., 1995 | PART NO. 354 3240

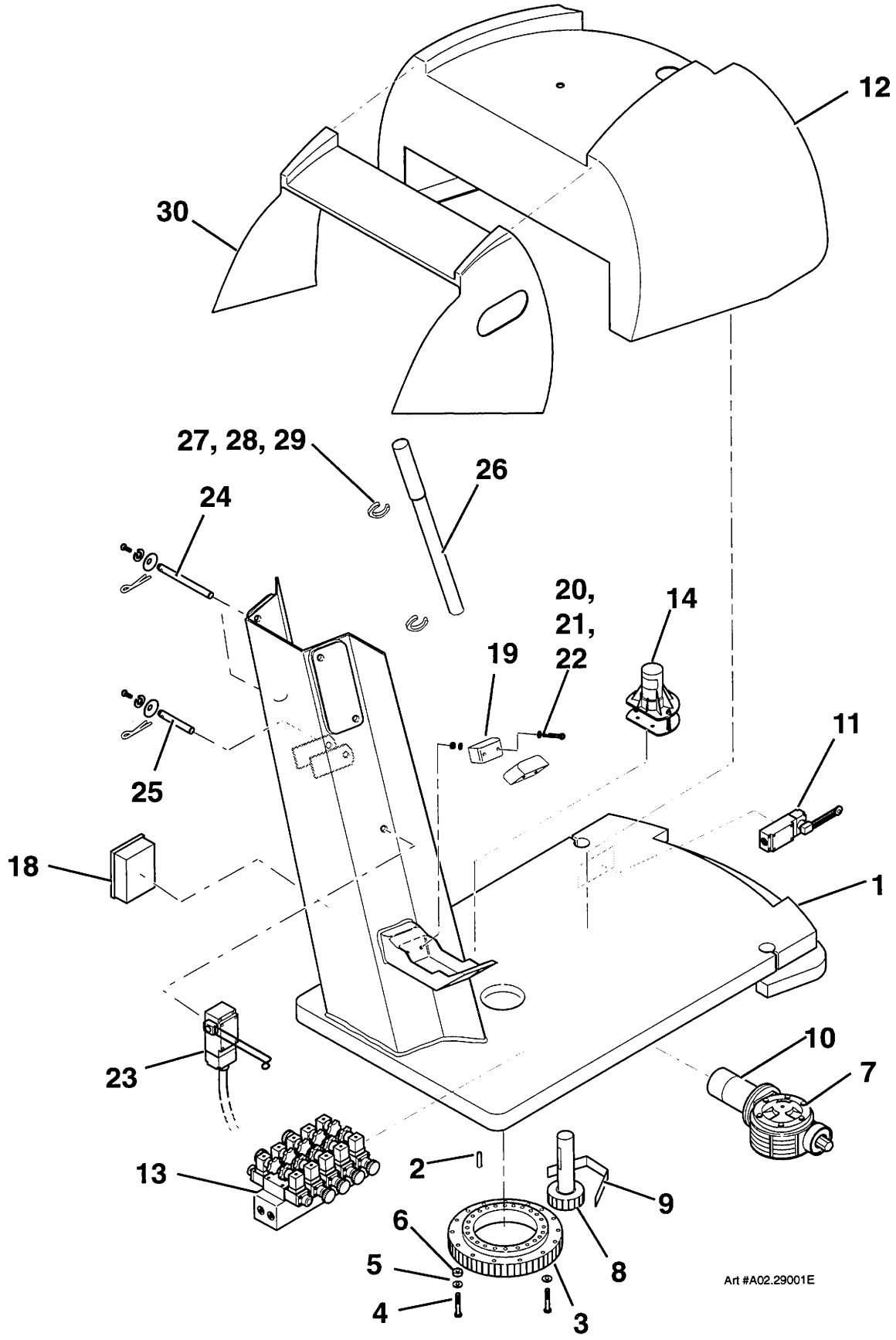


TITLE	UNDERCARRIAGE ASSEMBLY, EAGLE JR. 32/21 (PLATE 4 OF 4)		
SIMON AERIALS INC. NEW 27 JUL., 1995		PART NO. 354 3240	PLATE NO. 01.20

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	13011-0079		SUPERSTRUCTURE WELDMENT (Plinth)	1
2	44021-0606		PIN, DOWEL	3
3	17 205		SWING BEARING (Slew ring)	1
4	44003-0019		SCREW, HEX HEAD (M12-1.75 x 70 mm, Grade 10.9)	39
5	44013-0057		WASHER, FLAT (M12, Hardened)	39
6	MS 614		SPACER	15
7	34023-0009	28.07	SWING REDUCER (Slew gearbox) (includes pinion gear)	1
8	44038-0002		GEAR AND SHAFT, PINION	
9	49348-0036		GUARD, PINION	1
10	10-230700	26.13	MOTOR, HYDRAULIC (Slew motor)	1
11	03-714900		SWITCH, LIMIT (Superstructure rotate)	1
12	14029-0005		BLOCK, BALLAST	1
13	31029-0013	23.23	MANIFOLD, HYDRAULIC (Five station)	1
14	03-487100		SENSOR, LEVEL (4-1/2°)	1
	03-038100		SENSOR, LEVEL (4-1/2°, 2 sec. delay)	1
15	07-003003		CAP SCREW, HEX HEAD (1/4"-20 x 3/4", Grade 5)	2
16	07-050014		NUT, LOCK (1/4"-20)	2
17	07-062014		WASHER, FLAT (1/4")	2
18	F001 919	07.24	GROUND CONTROL BOX ASSEMBLY	1
19	17 152		PAD, BOOM REST	2
20	44002-0039		SCREW, HEX HEAD (M8-1.25 x 35 mm)	2
21	44013-0007		WASHER, FLAT (M8)	2
22	44007-0014		NUT, NYLOCK (M8)	2
23	03-715000		SWITCH, LIMIT (Boom position)	1
24	34021-0031		PIN, BOOM PIVOT	2
25	34021-0033		PIN, LIFT CYLINDER (Base end)	1
26	219 6360		HANDLE, EMERGENCY PUMP	1
27	10-108500		CLIP, SPRING (3/4" to 1-1/8")	1
28	07-013414		MACHINE SCREW, ROUND HEAD (#10-32 x 1/2", Grade 2)	2
29	07-050111		NUT, NYLOCK (#10-32, Grade 2)	2
30	13030-0058		COVER, SUPERSTRUCTURE (Fibreglass)	1

TITLE	SUPERSTRUCTURE ASSEMBLY, EAGLE JR. 32/21		
PLATE NO. 02.29	**SIMON AERIALS INC.** NEW 27 JUL., 1995		PART NO.

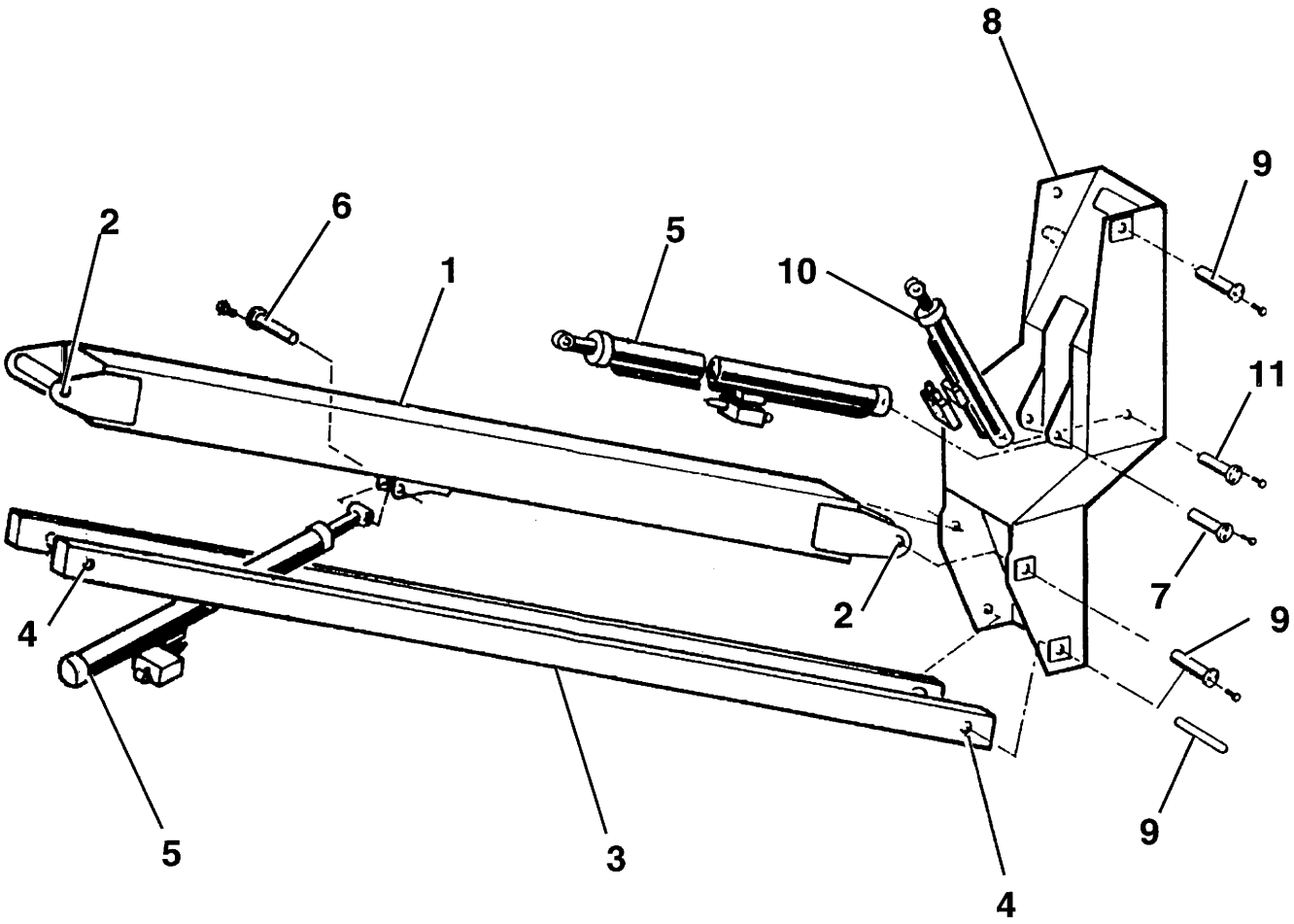


TITLE	SUPERSTRUCTURE ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC.	NEW 27 JUL., 1995	PART NO.	PLATE NO. 02.29

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	GS 677		LOWER BOOM WELDMENT (First stage)	1
2	44031-0032		BUSHING (30 mm O.D. x 30 mm long)	4
3	GS 678		ARM, PARALLEL (Lower levelling link)	1
4	44031-0032		BUSHING (30 mm O.D. x 30 mm long)	4
5	04-054600	11.24	CYLINDER, LIFT	2
6	GS 474		PIN (Lower lift cylinder, rod end)	1
7	GS 475		PIN (Upper lift cylinder, block end)	1
8	GS 679		MID POST WELDMENT (Offset post)	1
9	34021-0031		PIN, BOOM PIVOT	3
10	21002-0076	11.25	CYLINDER, MASTER LEVEL	1
11	24021-0015		PIN, MASTER LEVEL CYLINDER (Base end)	1

TITLE	LOWER BOOM ASSEMBLY, EAGLE JR. 32/21		
PLATE NO. 03.19	**SIMON AERIALS INC.**	NEW 27 JUL., 1995	PART NO.

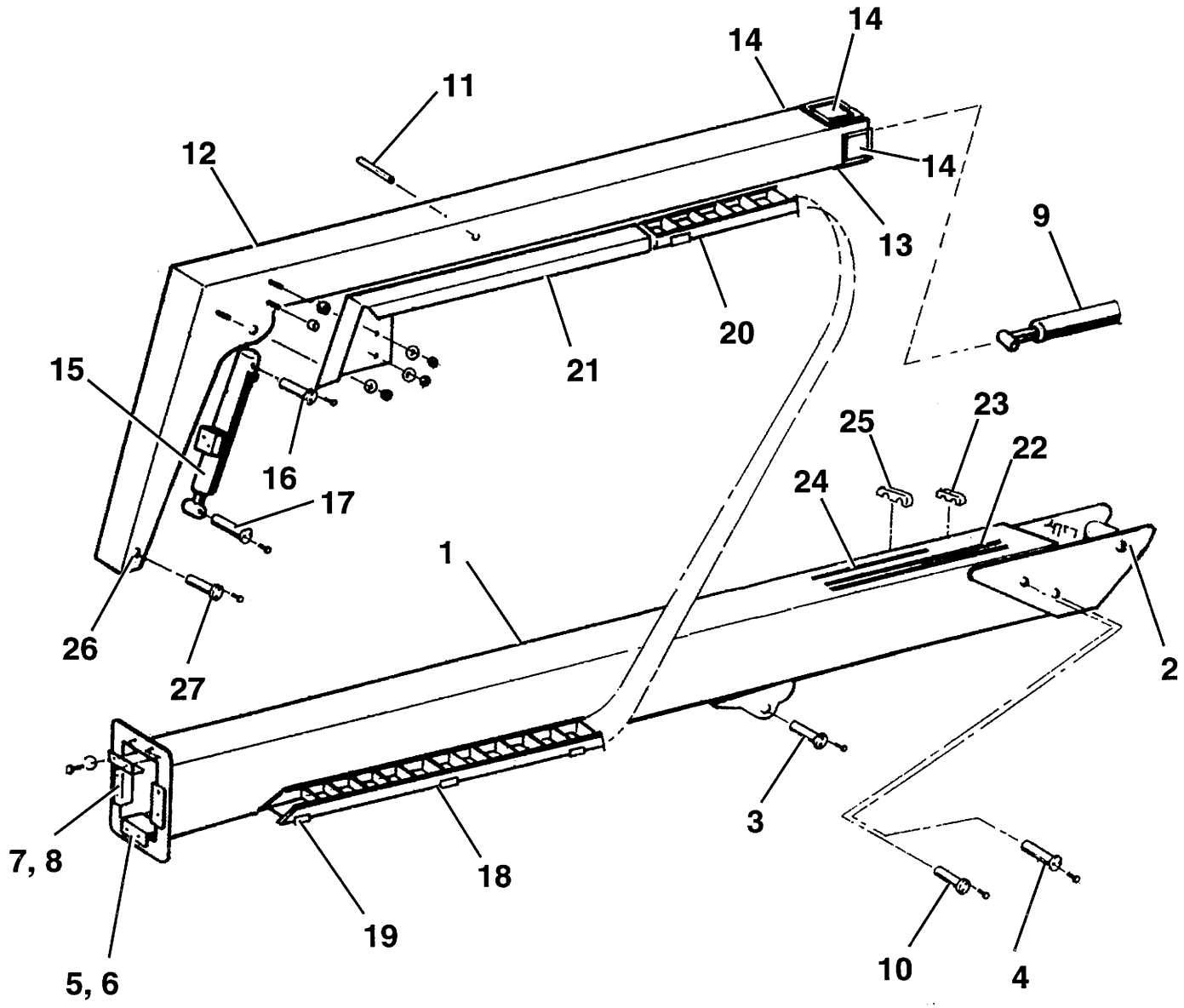


TITLE	LOWER BOOM ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 27 JUL., 1995		PART NO.	PLATE NO. 03.19

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	GS 682		BOOM WELDMENT, UPPER BASE (Outer boom, second stage)	1
2	44031-0032		BUSHING (30 mm O.D. x 30 mm long)	2
3	24021-0015		PIN, UPPER LIFT CYLINDER (Rod end)	1
4	GS 476		PIN, MASTER LEVEL CYLINDER (Rod end)	1
5	39005-0017		CASSETTE, WEAR PAD (Base boom, lower)	1
6	10-260300		PAD, WEAR (Base boom, lower)	1
7	39000-0027		CASSETTE, WEAR PAD (Base boom, side and upper)	3
8	10-260400		PAD, WEAR (Base boom, side and upper)	3
9	04-054700	11.27	TELESCOPE CYLINDER (Extend)	1
10	GS 476		PIN, CYLINDER (TELESCOPE CYLINDER, Base end)	1
11	LS 128		PIN, TELESCOPE CYLINDER (Rod end) (122 mm [4.8"] long)	1
12	10-260600		BOOM WELDMENT, TIP (Telescope boom)	1
13	10-260300		WEAR PAD (Tip boom, lower)	1
14	10-260400		WEAR PAD (Tip boom, side and upper)	3
15	21002-0077	11.26	SLAVE LEVEL CYLINDER	1
16	GS 477		PIN, SLAVE LEVEL CYLINDER (Base end)	1
17	GS 476		PIN, SLAVE LEVEL CYLINDER (Rod end)	1
18	08-079900		CARRIER, HOSE (Flexi-track) Complete assembly (26 links)	1
	44029-0137		Single Link	26
19	44029-0138		END, HOSE CARRIER (End piece at base boom)	1
20	44029-0139		END, HOSE CARRIER (Insert piece at moving anchor)	1
21	39360-0058		ANCHOR, MOVING (Extend bracket)	1
22	10 120		CABLE, ELECTRICAL (34 conductor) (Bulk item, order as needed)	A.R.
23	44019-0079		CLAMP, CABLE	3
24	14 289		HOSE, PLATFORM LEVEL (Bulk item, order as needed)	A.R.
25	44019-0078		CLAMP, HOSE	3
26	44031-0028		BUSHING (25 mm O.D. x 25 mm long)	2
27	34021-0033		PIN, PLATFORM PIVOT	1

TITLE	UPPER BOOM ASSEMBLY, EAGLE JR. 32/21		
PLATE NO. 03.20	**SIMON AERIALS INC.**	NEW 27 JUL., 1995	PART NO.

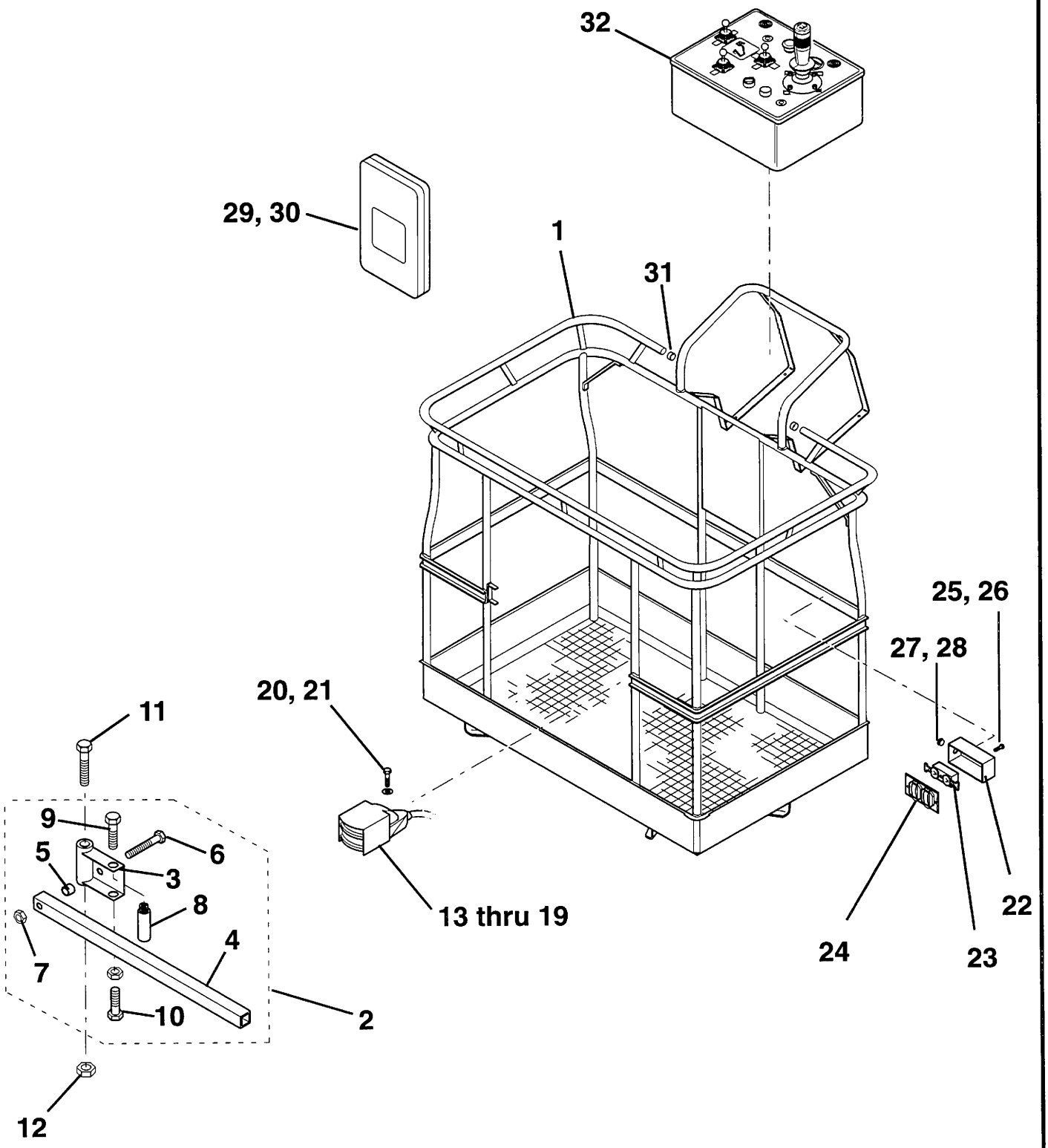


TITLE	UPPER BOOM ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 27 JUL., 1995		PART NO.	PLATE NO. 03.20

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
	354 0350		PLATFORM ASSEMBLY	
1	233 9770		PLATFORM WELDMENT	1
2	351 4160		BAR ASSEMBLY, LATCH	1
3	204 1724		PIVOT, DOOR	1
4	207 6577		BAR, LATCH	1
5	204 1649		SPACER, LATCH BAR PIVOT	1
6	07-003047		CAP SCREW, HEX HEAD (3/8"-16 x 1-1/2", Grade 5)	1
7	07-050016		NUT, HEX LOCK (3/8"-16, Grade 5)	1
8	08-010100		SPRING AND TUBE ASSEMBLY	1
9	210 8380		SPACER	1
10	07-003043		CAP SCREW, HEX HEAD (3/8"-16 x 3/4", Grade 5)	1
11	07-003096		CAP SCREW, HEX HEAD (1/2"-13 x 3-3/4", Grade 5)	1
12	07-058400		NUT, HEX LOCK (1/2"-13, Grade 8)	1
13	03-021300		SWITCH ASSEMBLY, FOOT (Single pole)	1
14	03-021301		SWITCH (Single pole, double throw)	1
15	03-021302		COVER, SWITCH (Guard type, with latch)	1
16	03-045000		BUSHING, REDUCER (3/4" to 1/2")	1
17	03-063300		GRIP, CORD (90°, 1/2", with .31 to .38 seal)	1
18	03-055500		NUT, CONDUIT LOCK (1/2")	1
19	03-085700		CABLE, ELECTRICAL (SJO, 4 conductor, #16 AWG) (Bulk item, 6 Ft [1.8M] required this application)	A.R.
20	07-003004		CAP SCREW, HEX HEAD (1/4"-20 x 7/8", Grade 5)	3
21	07-065014		WASHER, HELICAL LOCK (1/4")	3
22	03-062100		BOX, DUPLEX OUTLET (Weatherproof)	1
23	03-067000		OUTLET, DUPLEX (125 Volt AC, 20 Amp)	1
24	03-062200		COVER, DUPLEX OUTLET (Weatherproof)	1
25	07-090156		CAP SCREW, BUTTON HEAD (1/4"-20 x 5/8", Stn Stl.)	1
26	07-050014		NUT, STOP, (1/4"-20, Grade 5)	2
27	03-041000		GRIP, CORD (1/2", with 3/8" to 7/16" seal)	1
28	03-055500		NUT, CONDUIT LOCK	1
29	11-085200		BOX, TECHNICAL MANUAL STORAGE	1
30	07-029365		SCREW, HEX WASHER HEAD (#12 x 1", Self drilling, with rubber seal)	2
31	11-203300		CAP, TUBE (Plastic 1.25" dia.)	2
			The following item **is not** included as part of the Platform Assembly, Part No. 354 0350:	
32	03-718400	09.25	CONSOLE ASSEMBLY, PLATFORM CONTROL	1

TITLE	PLATFORM ASSEMBLY, EAGLE JR. 32/21				
PLATE NO.	04.23	**SIMON AERIALS INC.**	NEW 27 JUL., 1995	PART NO.	354 0350

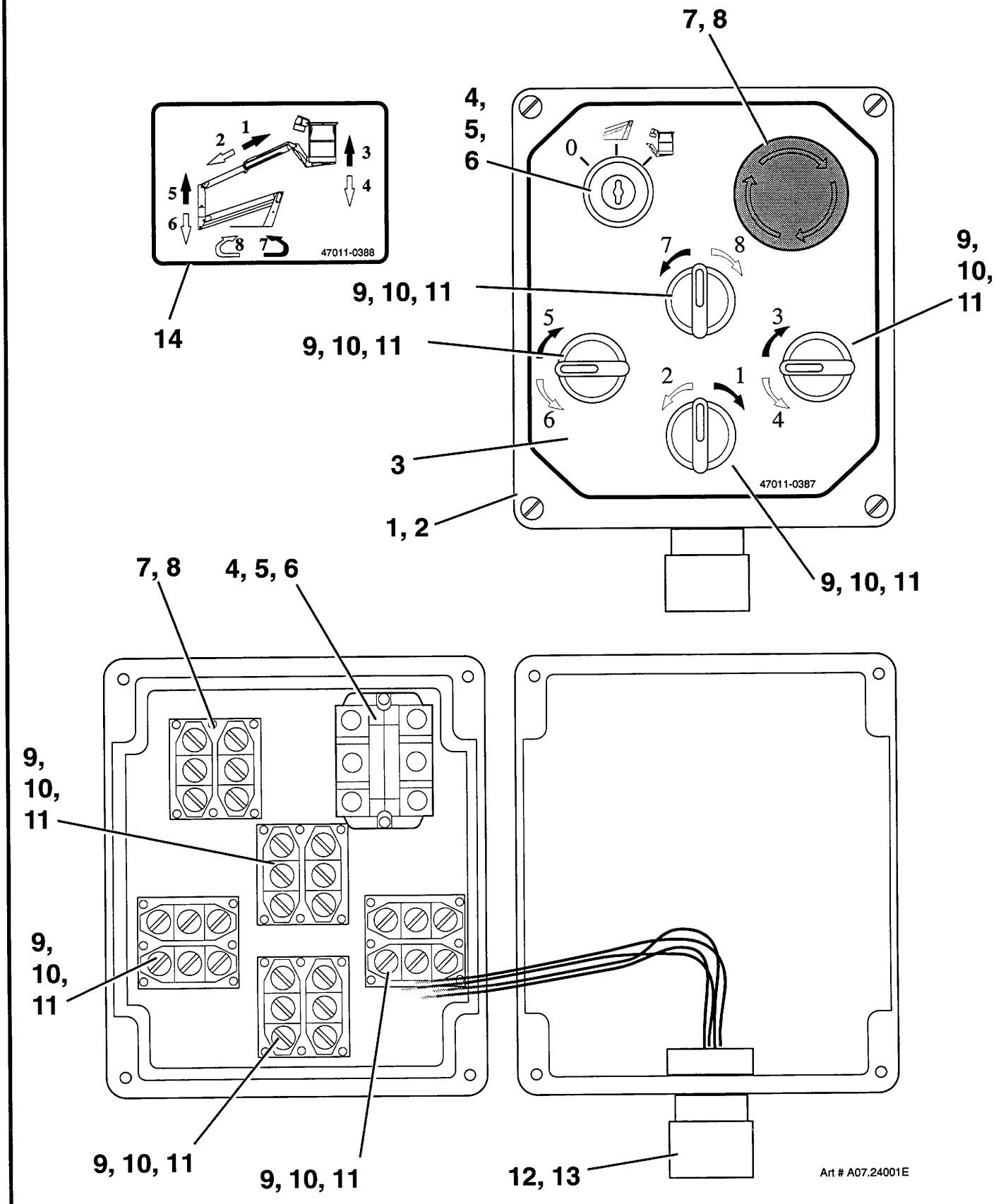


TITLE	PLATFORM ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 27 JUL., 1995	PART NO. 354 0350	PLATE NO. 04.23	

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	F001 919		GROUND CONTROL BOX ASSEMBLY	1
2	42003-0012		ENCLOSURE, GROUND CONTROL BOX	1
3	10-257500		DECAL, GROUND CONTROL (on enclosure)	1
4	42002-0313		SWITCH, KEY OPERATED (Three position)	1
5	03-718200		BLOCK, CONTACT (Main)	1
6	03-718300		BLOCK, CONTACT (Add on)	1
7	03-718100		BUTTON, EMERGENCY STOP (includes 1 contact)	1
8	03-718000		BLOCK, CONTACT (Normally closed, Add on)	2
9	42002-0144		SWITCH, ROTARY (Three position, momentary contact)	4
10	42002-0185		BASE, SWITCH	4
11	42002-0078		BLOCK, CONTACT (Normally open)	16
12	42013-0103		GRIP, CORD	1
13	42013-0104		NUT, CONDUIT LOCK	1
14	47011-0388		DECAL, GROUND CONTROL COMPANION (above enclosure)	1

TITLE	GROUND CONTROL BOX ASSEMBLY, EAGLE JR. 32/21	
PLATE NO. 07.24	**SIMON AERIALS INC.** NEW 27 JUL., 1995	PART NO. F001 919

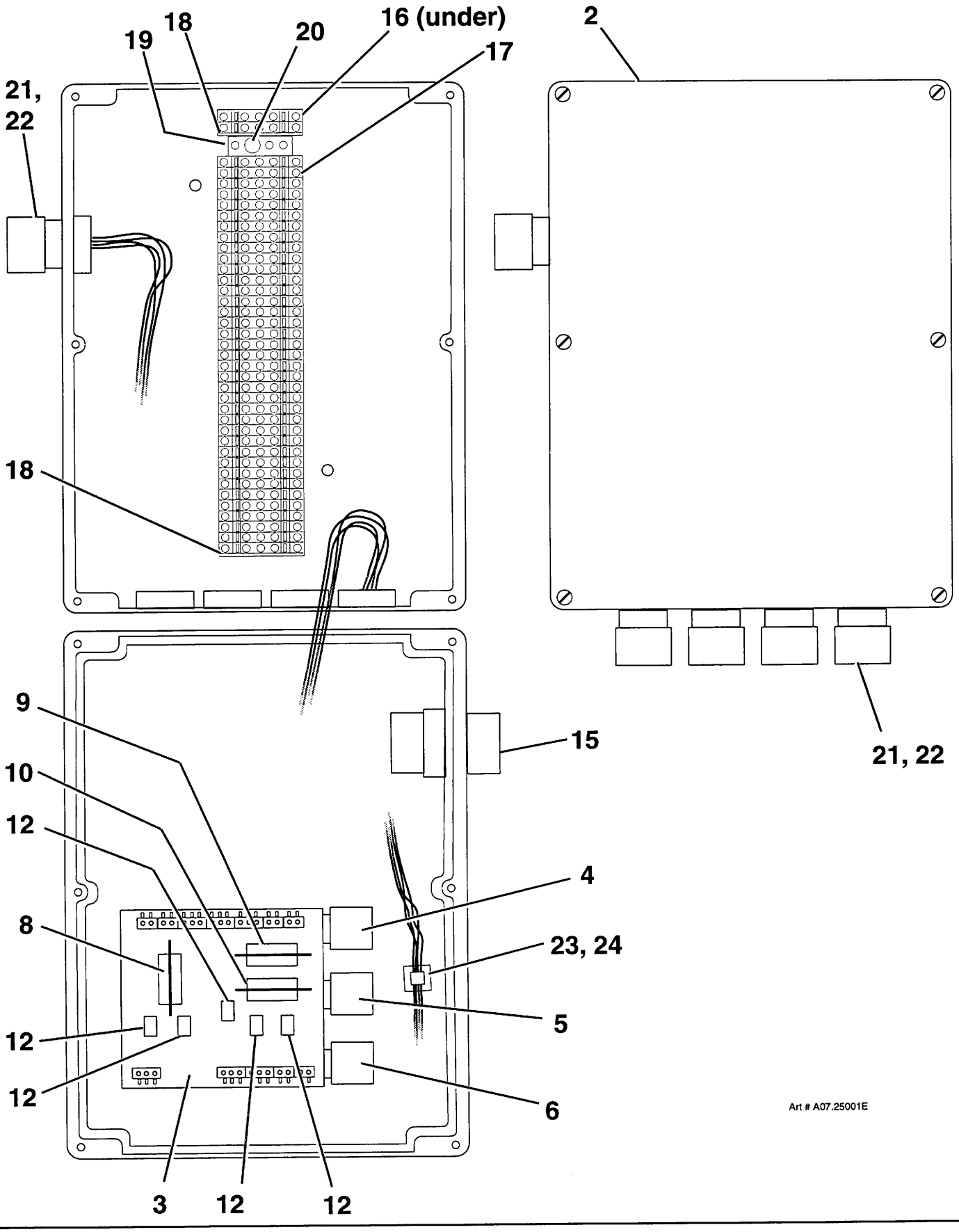


TITLE	GROUND CONTROL BOX ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC.	NEW 27 JUL., 1995	PART NO. F001 919	PLATE NO. 07.24

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1	F001 924		JUNCTION BOX ASSEMBLY	1
2	42003-0210		BOX, JUNCTION	1
3	42014-0116		CARD, PRINTED CIRCUIT BOARD	1
4	03-732900		RELAY, TILT SENSOR (RS)	1
5	03-732900		RELAY (RQ) (Voltage drop protection)	1
6	03-732900		RELAY (RP) (MOS 90 power break)	1
7	42013-0236		BASE, RELAY	3
8	03-717100		RELAY, BRAKE RELEASE (RM)	1
9	03-717100		RELAY, BOOM FUNCTION ENABLE (RB)	1
10	03-717100		RELAY, HORN SELECT (RA)	1
11	03-717000		BASE, RELAY	3
12	42015-0017		DIODE (6 Amp) (D5, D6, D7, D8, D9)	5
13	42015-0080		RESISTOR (5 K Ohm) (R2) (Not shown)	1
14	03-717200		RESISTOR, VARIABLE (5 K Ohm) (R1) (Not shown)	1
15	03-716900		HORN, WARNING (Bleeper)	1
16	42013-0077		RAIL, TERMINAL MOUNTING	2
17	14 355		BLOCK, TERMINAL	
	42013-0165		BLOCK, TERMINAL (Single)	33
	42013-0176		BLOCK, TERMINAL (Double)	2
18	42013-0166		STOP, END	2
19	42013-0167		HOLDER, FUSE	1
20	42011-0001		FUSE (13 Amp, 250 Volt)	1
21	42013-0103		GRIP, CORD (Cable gland) (M25)	5
22	42013-0104		NUT, CONDUIT LOCK (M25)	5
23	03-439000		TIE, CABLE (3.62" [92 mm] long)	A.R.
24	03-064100		MOUNT, CABLE TIE (Adhesive backed)	A.R.

TITLE	JUNCTION BOX ASSEMBLY, EAGLE JR. 32/21			
PLATE NO.	07.25	**SIMON AERIALS INC.**	NEW 04 AUG., 1995	PART NO. F001 924



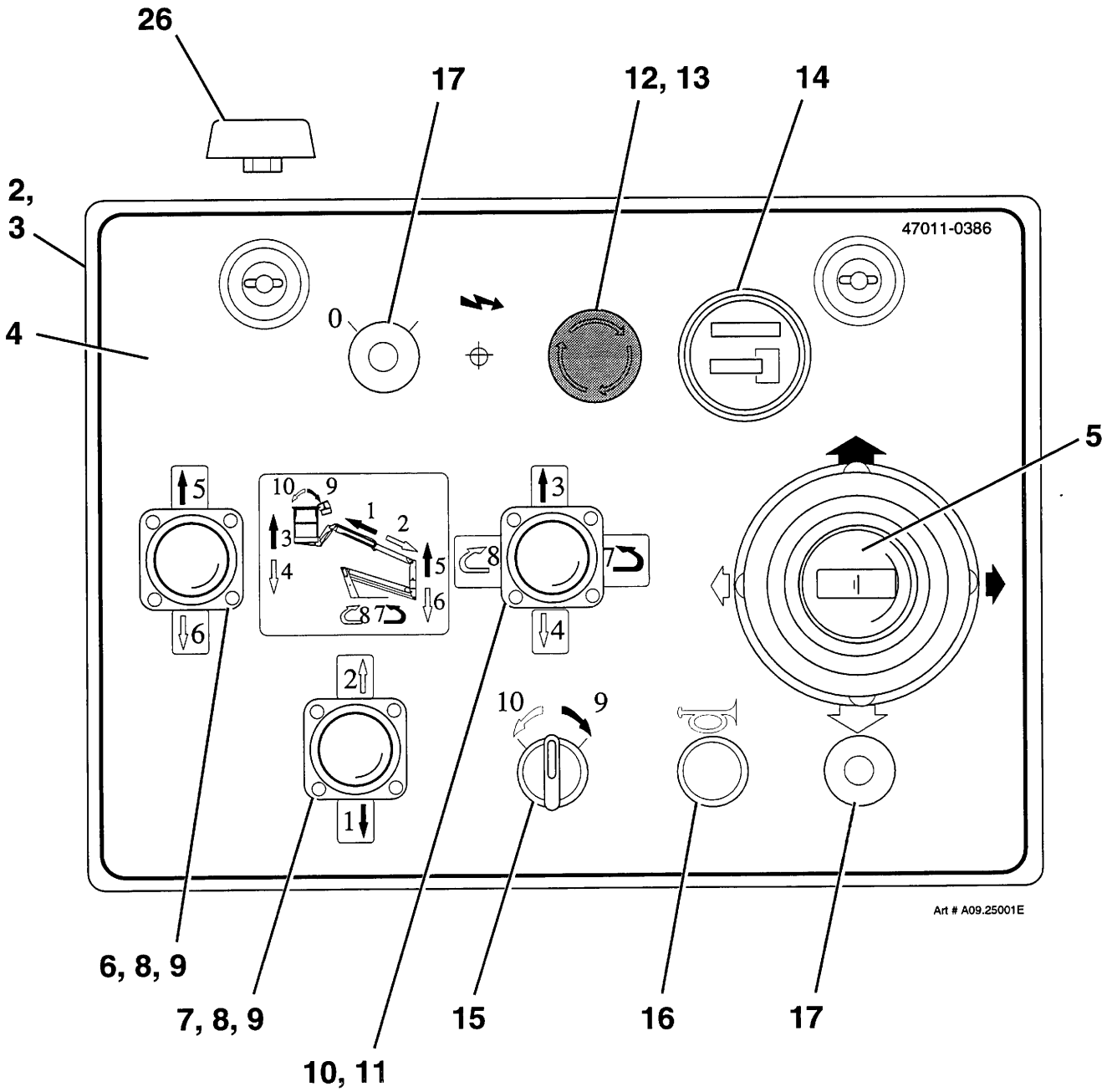
TITLE	JUNCTION BOX ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 04 AUG., 1995		PART NO. F001 924	PLATE NO. 07.25

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	03-718400		PLATFORM CONTROL CONSOLE ASSEMBLY	1
2	42003-0209		ENCLOSURE, PLATFORM CONTROL	1
3	33030-0070		COVER, PLATFORM CONTROL ENCLOSURE	1
4	47011-0386		DECAL, PLATFORM CONTROL	1
5	03-714500		CONTROLLER, DRIVE/ STEER (Drive joystick)	1
6	03-714600		CONTROLLER, SINGLE AXIS (Function joystick) (Lower boom raise/ lower)	1
7	03-714600		CONTROLLER, SINGLE AXIS (Function joystick) (Upper boom telescope)	1
8	44033-0031		KNOB, CONTROLLER	2
9	44023-0119		BOOT, HANDLE (Gaiter)	2
10	03-714700		CONTROLLER, DUAL AXIS (Function joystick) (Upper boom raise/ lower; Superstructure rotate)	1
11	44023-0120		BOOT, HANDLE (Gaiter)	1
12	03-715100		BUTTON, EMERGENCY STOP (Red, "Twist to release" style) (includes one normally open contact)	1
13	03-718000		CONTACT (add on)	1
14	03-717600		INDICATOR, BATTERY	1
15	03-717900		SWITCH, ROTARY (Three position, momentary contact)	
16	03-717700		BUTTON, HORN	1
17	42003-0007		CAP, TUBE	2

TITLE PLATFORM CONTROL CONSOLE, EAGLE JR. 32/21 (PLATE 1 OF 2)

PLATE NO. 09.25 | **SIMON AERIALS INC.** NEW 04 AUG., 1995 | PART NO. F001 906



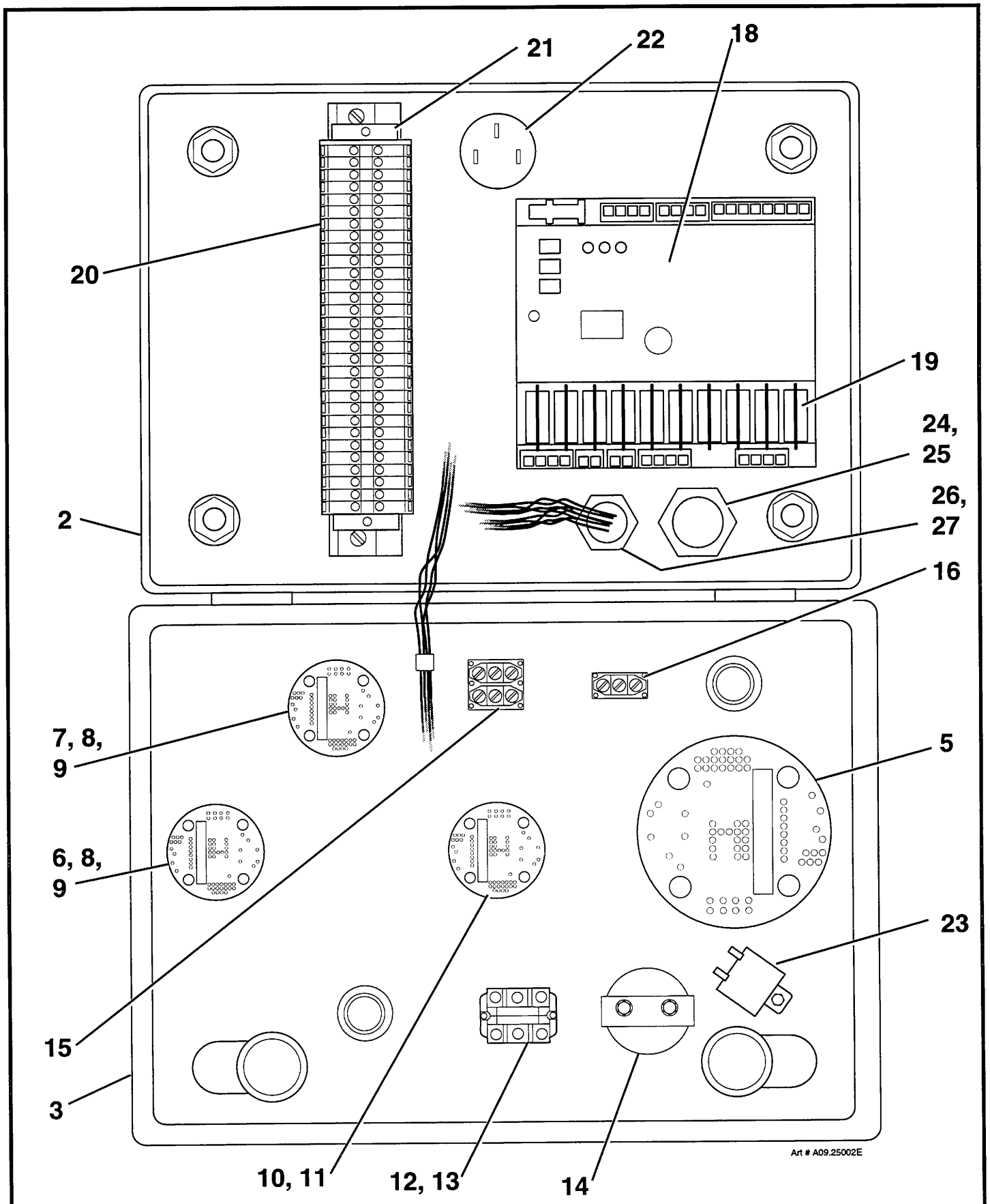
TITLE	PLATFORM CONTROL CONSOLE, EAGLE JR. 32/21 (PLATE 1 OF 2)				
SIMON AERIALS INC.	NEW 04 AUG., 1995	PART NO.	F001 906	PLATE NO.	09.25

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
18	03-714800		ICT CONTROL PACKAGE	1
19	03-717100		RELAY	10
20	42013-0165		RAIL, TERMINAL (Single)	30
21	42013-0166		END STOP	2
22	03-501800		ALARM (Dual tone)	1
23	42015-0058		RELAY (RC)	1
24	42013-0102		GRIP, CORD (M20) (Grommet)	1
25	42013-0105		NUT, CONDUIT LOCK (M20)	1
26	42013-0103		GRIP, CORD (M25) (Grommet)	1
27	42013-0106		NUT, CONDUIT LOCK (M25)	1
28			KEY, ENCLOSURE COVER	1

TITLE PLATFORM CONTROL CONSOLE, EAGLE JR. 32/21 (PLATE 2 OF 2)

PLATE NO. 09.25 | **SIMON AERIALS INC.** NEW 04 AUG., 1995 | PART NO. F001 906

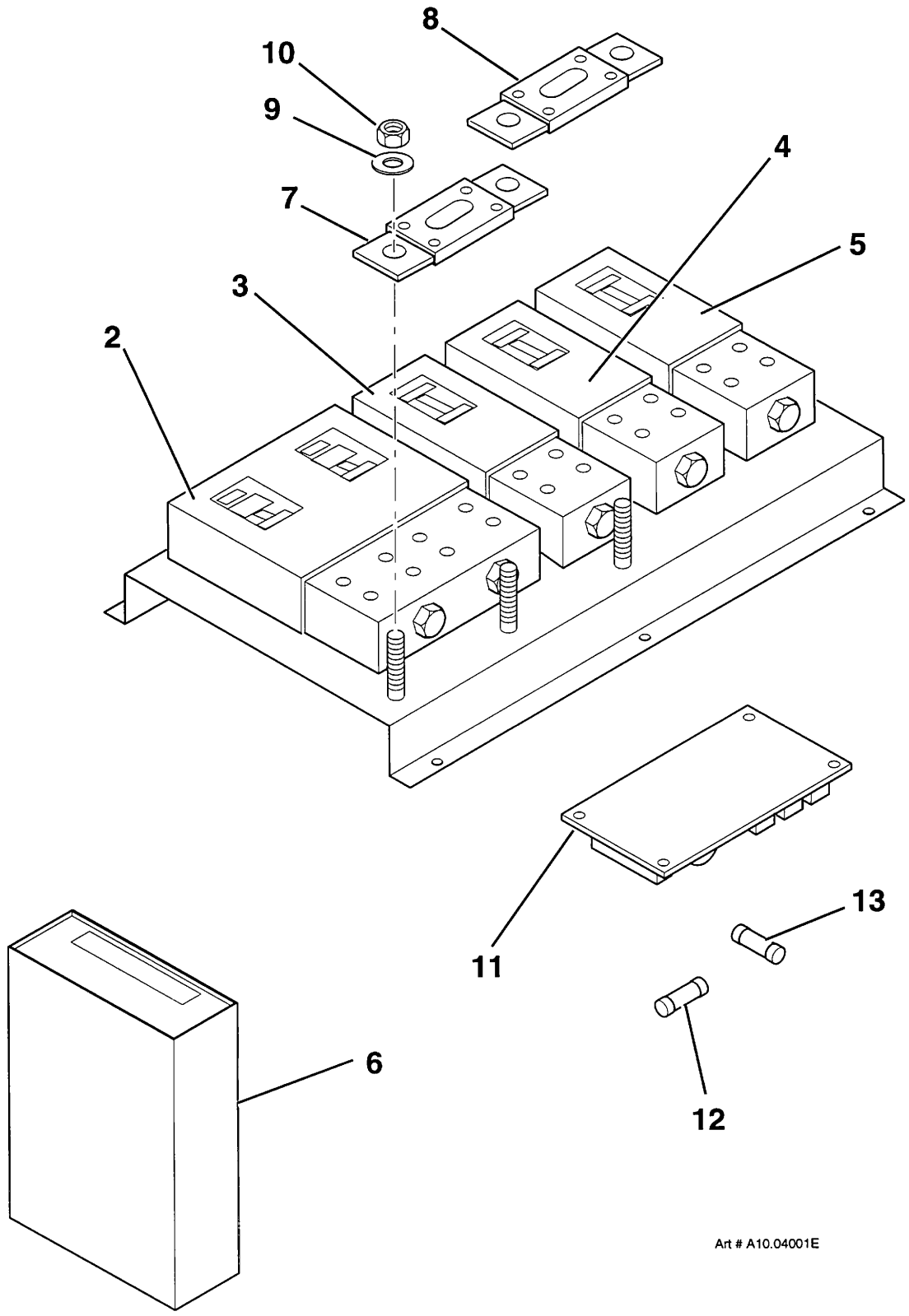


TITLE	PLATFORM CONTROL CONSOLE, EAGLE JR. 32/21 (PLATE 2 OF 2)				
SIMON AERIALS INC.	NEW 04 AUG., 1995	PART NO.	F001 906	PLATE NO.	09.25

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1	03-718500		CONTROLLER, DRIVE	1
2	03-716000		CONTACTOR, FORWARD/ REVERSE (Traction)	1
3	03-716100		CONTACTOR, BRAKE RELEASE OVERRIDE (Pump, drive)	1
4	03-716200		CONTACTOR, PUMP OVERRIDE (Pump, lift)	1
5	03-716200		CONTACTOR, CHARGER CHANGEOVER (Line contactor)	1
6	03-715900		CONTROLLER MODULE (Identified on unit as "**MOS-90**")	1
7	03-716300		FUSE, TRACTION (425 Amp)	1
8	03-716400		FUSE, PUMP (325 Amp)	1
9			WASHER, FLAT	3
10			NUT, HEX	3
11	03-716500		ENCODER, TACHOMETER	1
12	03-716600		FUSE (6.3 Amp, time delay) (F1)	1
13	03-716700		FUSE (20 Amp, time delay) (F2)	1

TITLE	DRIVE CONTROLLER, EAGLE JR. 32/21			
PLATE NO.	10.04	**SIMON AERIALS INC.**	NEW 31 JUL., 1995	**PART NO.**



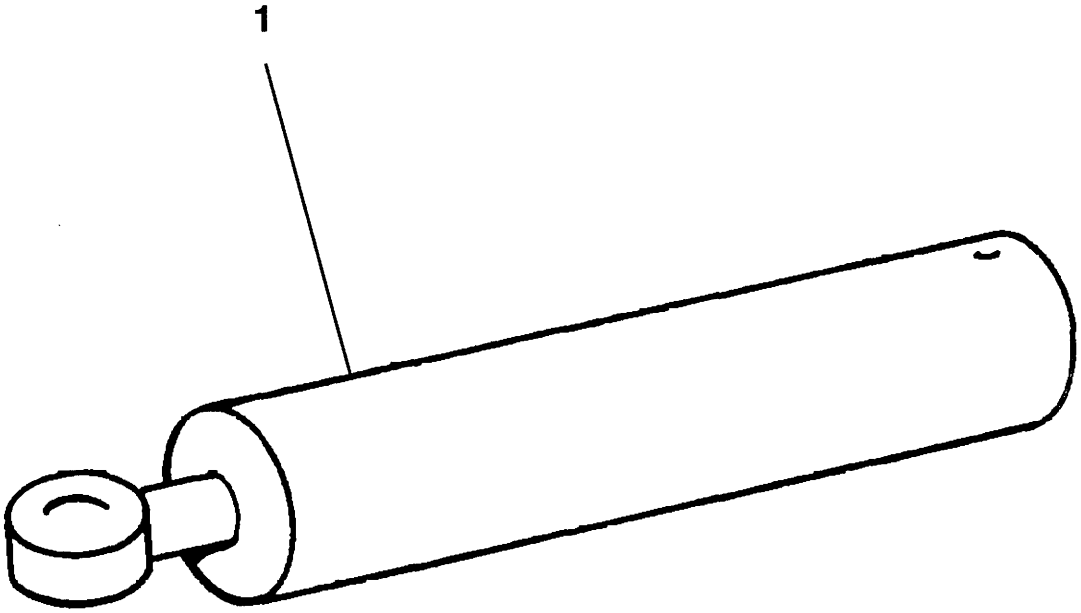
Art # A10.04001E

TITLE	DRIVE CONTROLLER, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 31 JUL., 1995		PART NO.	PLATE NO. 10.04

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1	04-038600		STEER CYLINDER	1
2	14 172		SEAL KIT	1

TITLE	STEER CYLINDER
PLATE NO. 11.23	SIMON AERIALS INC. NEW 31 JUL., 1995
PART NO.	

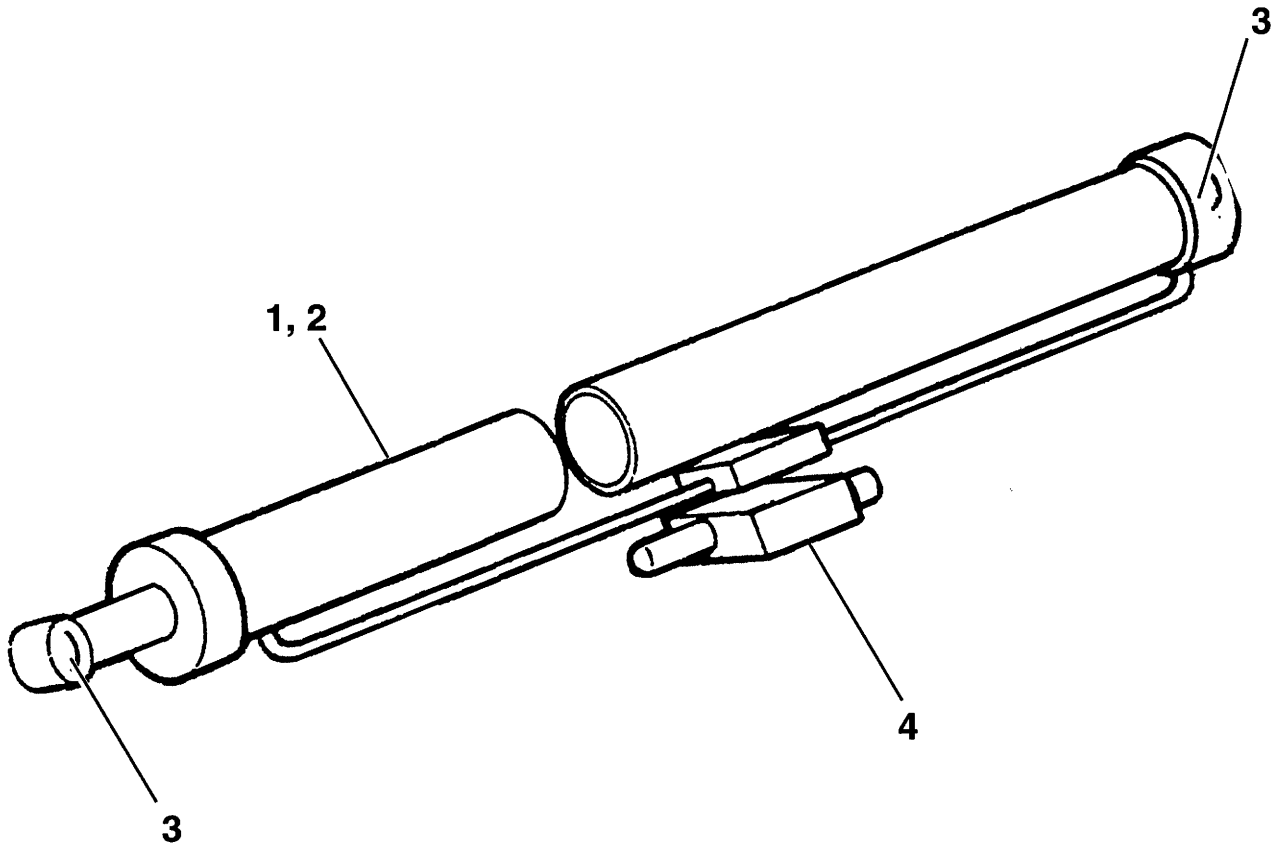


TITLE	STEER CYLINDER		
SIMON AERIALS INC. NEW 31 JUL., 1995		PART NO.	PLATE NO. 11.23

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	04-054600		CYLINDER, BOOM LIFT	1
2	41034-0076		SEAL KIT, BOOM LIFT CYLINDER	1
3	44031-0046		BUSHING (20 mm O.D. x 15 mm long)	4
4			VALVE, COUNTERBALANCE (Holding or Overcenter valve)	1
	31031-0020		Used on **lower** boom cylinder	
	31031-0021		Used on **upper** boom cylinder	

TITLE	LIFT CYLINDER ASSEMBLY		
PLATE NO. 11.24	**SIMON AERIALS INC.**	NEW 31 JUL., 1995	**PART NO.**

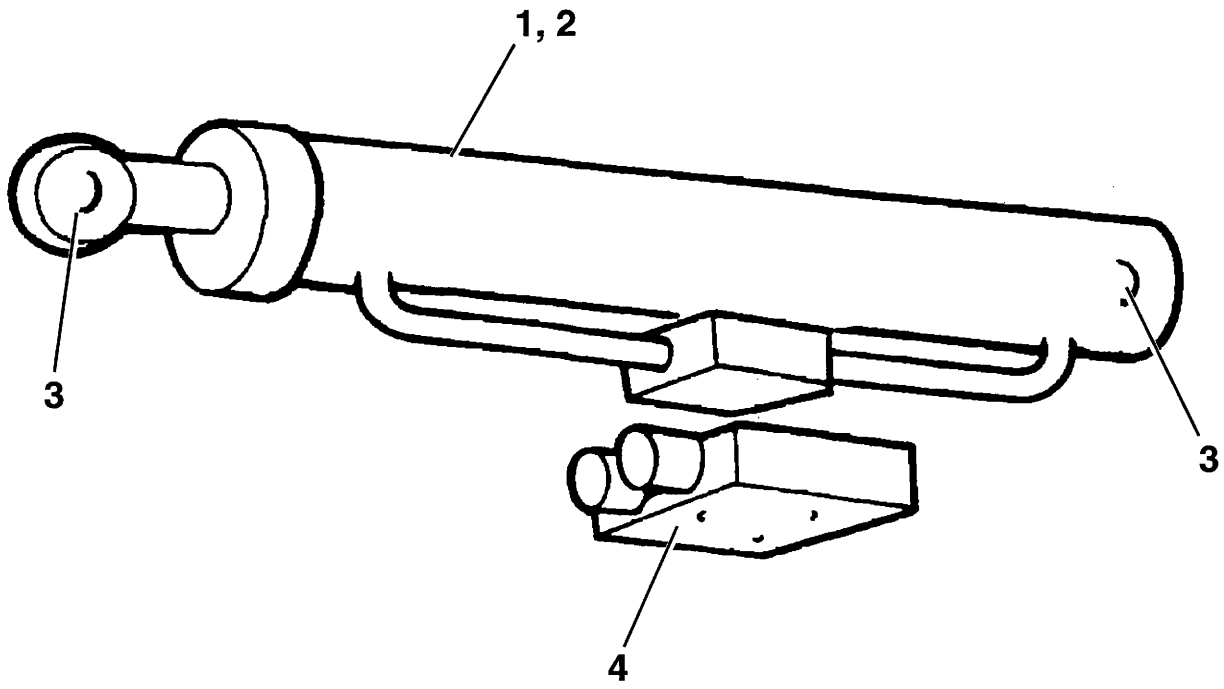


TITLE	LIFT CYLINDER ASSEMBLY		
SIMON AERIALS INC. NEW 31 JUL., 1995		PART NO.	PLATE NO. 11.24

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	21002-0076		CYLINDER, MASTER LEVEL	1
2	04-054801		SEAL KIT, MASTER LEVEL CYLINDER	1
3	44031-0046		BUSHING (20 mm O.D. x 15 mm long)	4
4	18 246		VALVE, DOUBLE RELIEF	1

TITLE	MASTER LEVEL CYLINDER		
PLATE NO. 11.25	**SIMON AERIALS INC.**	NEW 31 JUL., 1995	PART NO.

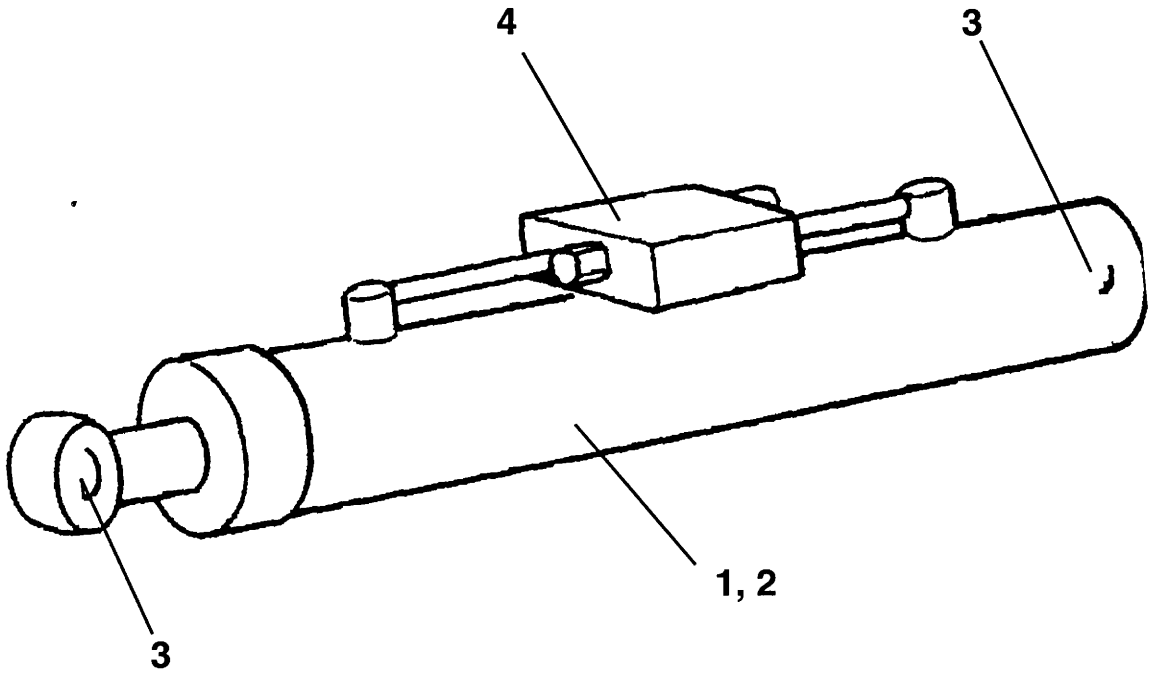


TITLE	MASTER LEVEL CYLINDER		
SIMON AERIALS INC. NEW 31 JUL., 1995		PART NO.	PLATE NO. 11.25

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	04-054700		CYLINDER, SLAVE LEVEL	1
2	04-054801		SEAL KIT, SLAVE LEVEL CYLINDER	1
3	44031-0046		BUSHING (20 mm O.D. x 15 mm long)	4
4	01-236000		VALVE, CHECK (Pilot operated)	1

TITLE	SLAVE LEVEL CYLINDER		
PLATE NO. 11.26	**SIMON AERIALS INC.**	NEW 31 JUL., 1995	PART NO.

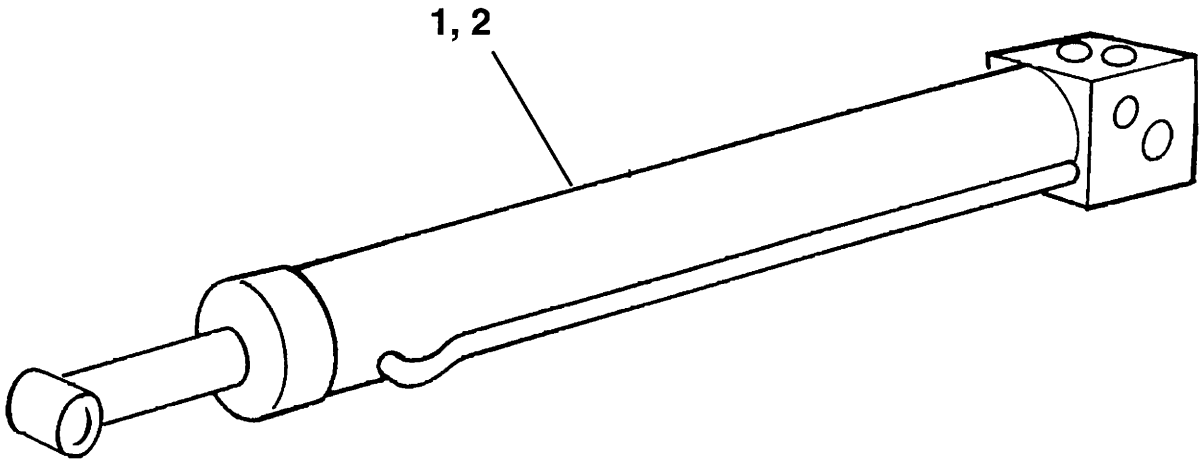


TITLE	SLAVE LEVEL CYLINDER		
SIMON AERIALS INC. NEW 31 JUL., 1995		PART NO.	PLATE NO. 11.26

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	04-054700		TELESCOPE CYLINDER	1
2	41034-0077		SEAL KIT, TELESCOPE CYLINDER	1

TITLE	TELESCOPE CYLINDER	
PLATE NO. 11.27	**SIMON AERIALS INC.** NEW 04 AUG., 1995	PART NO.

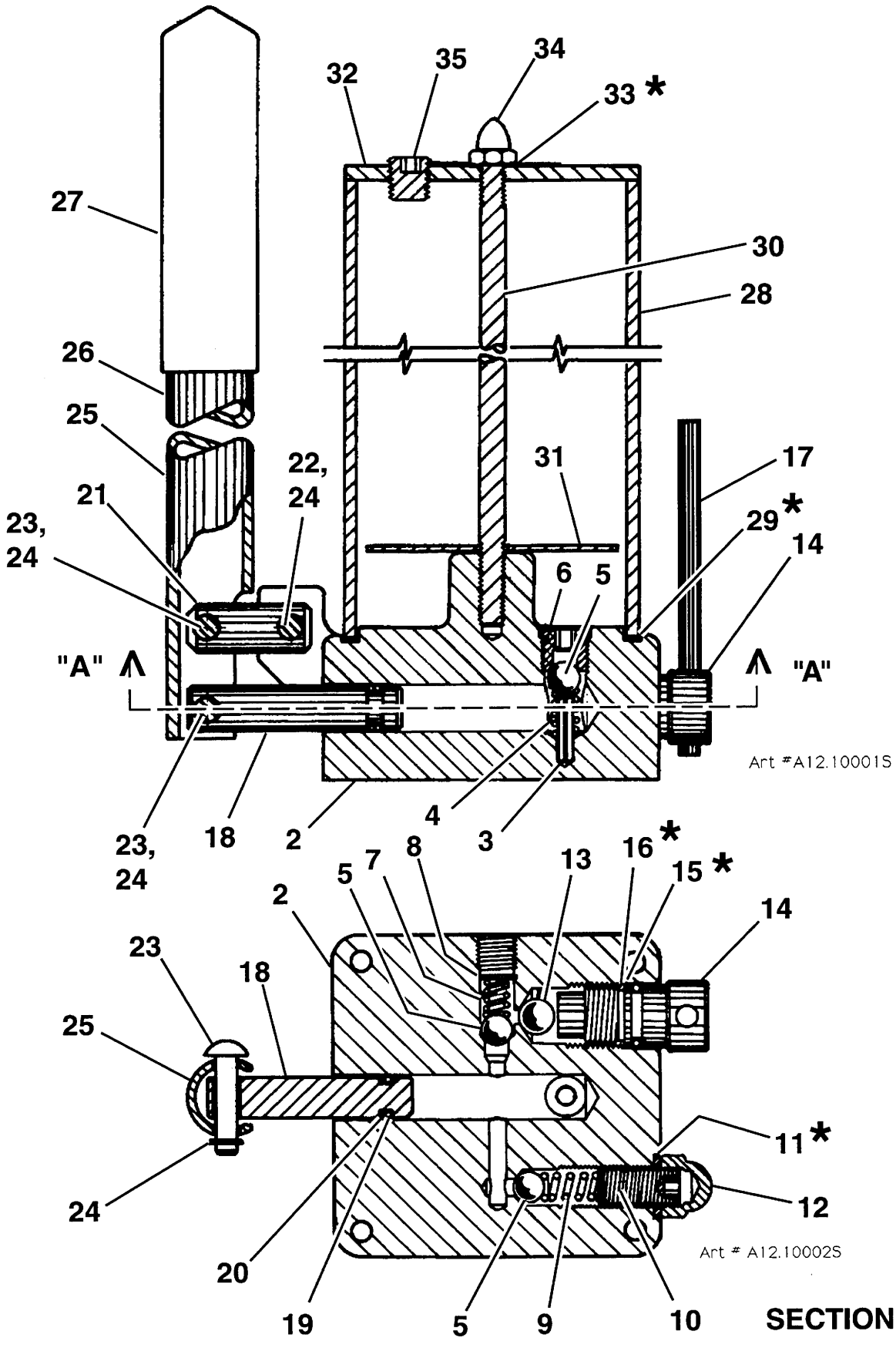


TITLE	TELESCOPE CYLINDER	
SIMON AERIALS INC. NEW 04 AUG., 1995	PART NO.	PLATE NO. 11.27

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
			EMERGENCY HAND PUMP ASSEMBLY	
	01-209500		One piece handle is attached directly to pump	
	219 0730		Has stub handle attached to pump, and handle extension	
			(Item 26) stored elsewhere on machine.	
1	01-209501		SEAL KIT, HAND PUMP	
			[Items in kit marked with asterisk (*)]	1
2			BASE, HAND PUMP	1
3	01-209520		ROLL PIN (3/16" x 11/16")	1
4	01-209519		SPRING, INLET	1
5	01-209504		BALL (3/8")	3
6	01-209503		SEAT, CHECK	1
7	01-209509		SPRING, CHECK	1
8	01-209510		RING, SNAP	1
9	01-209505		SPRING, RELIEF	1
10			SCREW, ADJUSTING (1/2"-20)	1
11		*	WASHER	1
12			NUT, ACORN (1/2"-20)	1
13	01-209506		BALL (1/2")	1
14	01-209507		VALVE, RELEASE	1
15		*	"O"-RING, RELEASE VALVE	1
16		*	RING, BACKUP	1
17	01-209508		ROLL PIN (5/16" x 4")	1
18	01-209518		PISTON	1
19			"O"-RING, PISTON	1
20			RING, BACKUP	1
21	01-209512		LINK, HANDLE	1
22			RIVET	1
23			RIVET	2
24			WASHER, LOCK	3
25	01-209511		HANDLE (must be modified for use on Pump 219 0730)	1
26	219 6360		EXTENSION, PUMP HANDLE (for Pump 219 0730) (Modified handle 01-209511. Includes handle grip)	1
27	01-209513		GRIP, HANDLE	1
28	01-209517		TANK, HAND PUMP	1
29		*	GASKET, TANK	1
30	01-209515		ROD, TIE	1
31			BAFFLE	1
32			LID, HAND PUMP TANK	1
33	01-209502	*	WASHER	1
34	01-209516		NUT, ACORN (5/16"-18)	1
35			PIPE PLUG (1/4" NPT)	1

TITLE	EMERGENCY HAND PUMP ASSEMBLY		
PLATE NO. 12.10	**SIMON AERIALS INC.**	REV. 04 AUG., 1995	PART NO. 01-209500

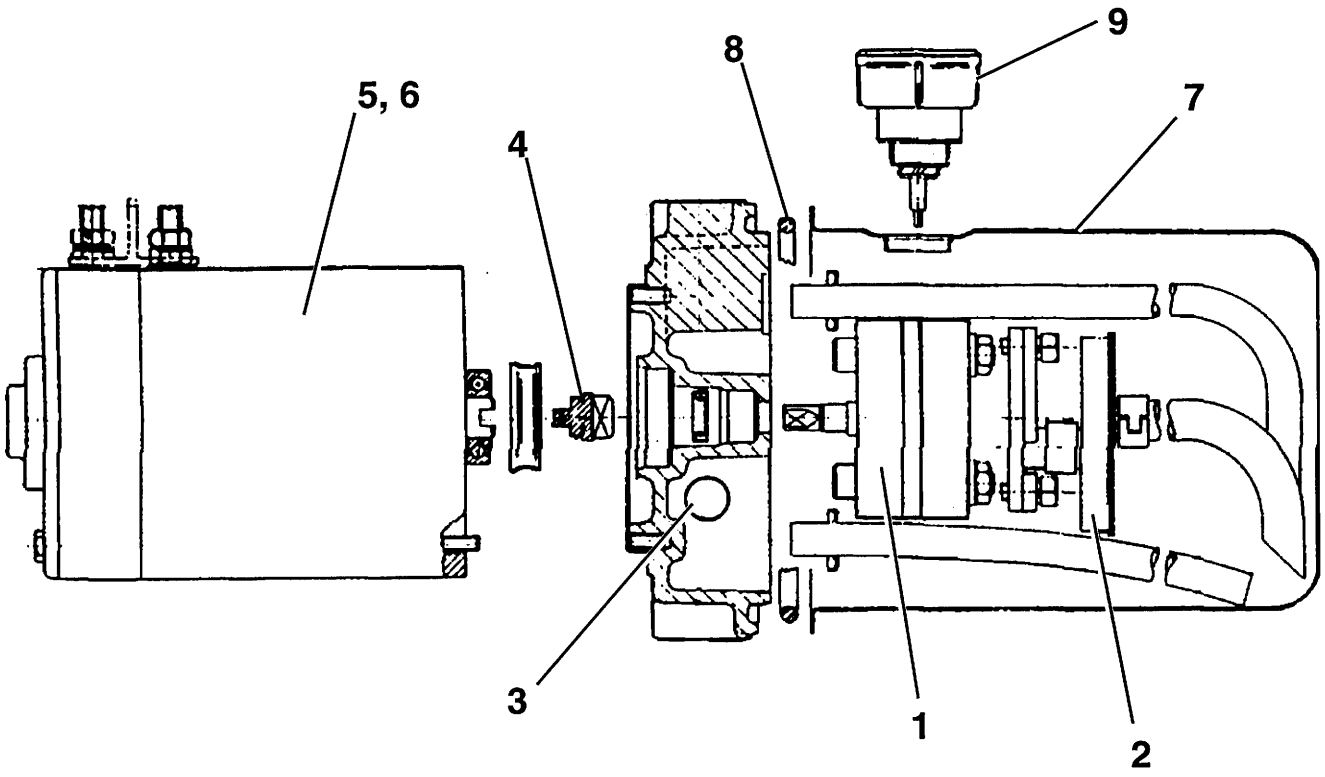


TITLE	EMERGENCY HAND PUMP ASSEMBLY		
SIMON AERIALS INC. REV. 04 AUG., 1995	PART NO. 01-209500	PLATE NO. 12.10	

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1	41021-0132		PUMP, HYDRAULIC (2.3 c.c [.140 c.i.])	1
2	41021-0122		FILTER, SUCTION	1
3	41006-0031		VALVE, RELIEF	1
4	41021-0184		COUPLING, PUMP	1
5	41021-0117		MOTOR, ELECTRIC (3 Kw [4.02 HP])	1
6	41021-0121		BRUSH SET, ELECTRIC MOTOR	1
7	41021-0182		RESERVOIR, HYDRAULIC (11 L [2.9 Gal] capacity)	1
8	41021-0134		SEAL, RESERVOIR	1
9	41021-0124		CAP, FILLER	1

TITLE	POWER UNIT, EAGLE JR. 32/21		
PLATE NO. 12.14	**SIMON AERIALS INC.**	NEW 31 JUL., 1995	PART NO. 01-236100

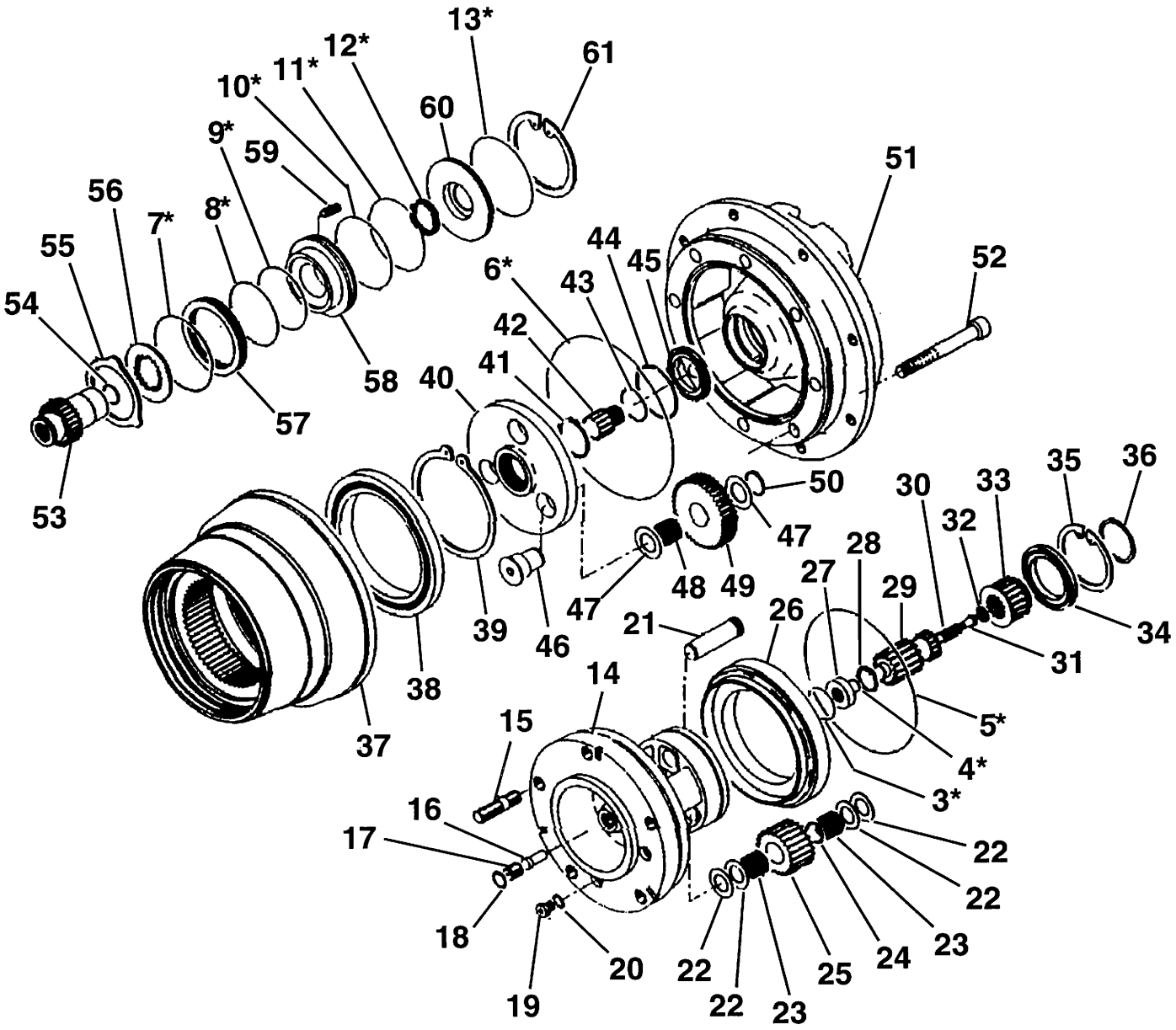


TITLE	POWER UNIT, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 31 JUL., 1995		PART NO. 01-236100	PLATE NO. 12.14

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION
1	02-048000		TORQUE HUB ASSEMBLY (Wheel drive motor)
2	24022-0008		SEAL KIT, TORQUE HUB
			(includes all items indicated by asterisk *)
3	*		"O" RING
4	*		"O" RING
5	*		"O" RING
6	*		"O" RING
7	*		"O" RING
8	*		RING, ANTI-EXTRUSION
9	*		"O" RING
10	*		"O" RING
11	*		RING, ANTI-EXTRUSION
12	*		SEAL, OIL
13	*		"O" RING
14			SPINDLE
15			STUD
16			PIN
17			SCREW (M14 x 14 mm)
18			RING, RETAINING (Circlip) (16 mm)
19			PLUG
20			WASHER
21			SHAFT, PLANET
22			WASHER, THRUST
23			ROLLER (2.5 mm dia. x 15 mm long)
24			SPACER
25			GEAR, PLANET
26			RING (includes bearing)
27			WASHER, THRUST
28			RING, RETAINING (Circlip) (31 mm)
29			PINION (sun gear)
30			SPRING
31			PIN
32			BEARING
33			COUPLING
34			BEARING
35			RING, RETAINING (Circlip) (68 mm)
36			SPACER

TITLE	TORQUE HUB, EAGLE JR. 32/21 (PLATE 1 OF 2)		
PLATE NO. 22.09	**SIMON AERIALS INC.**	NEW 05 AUG., 1995	PART NO.

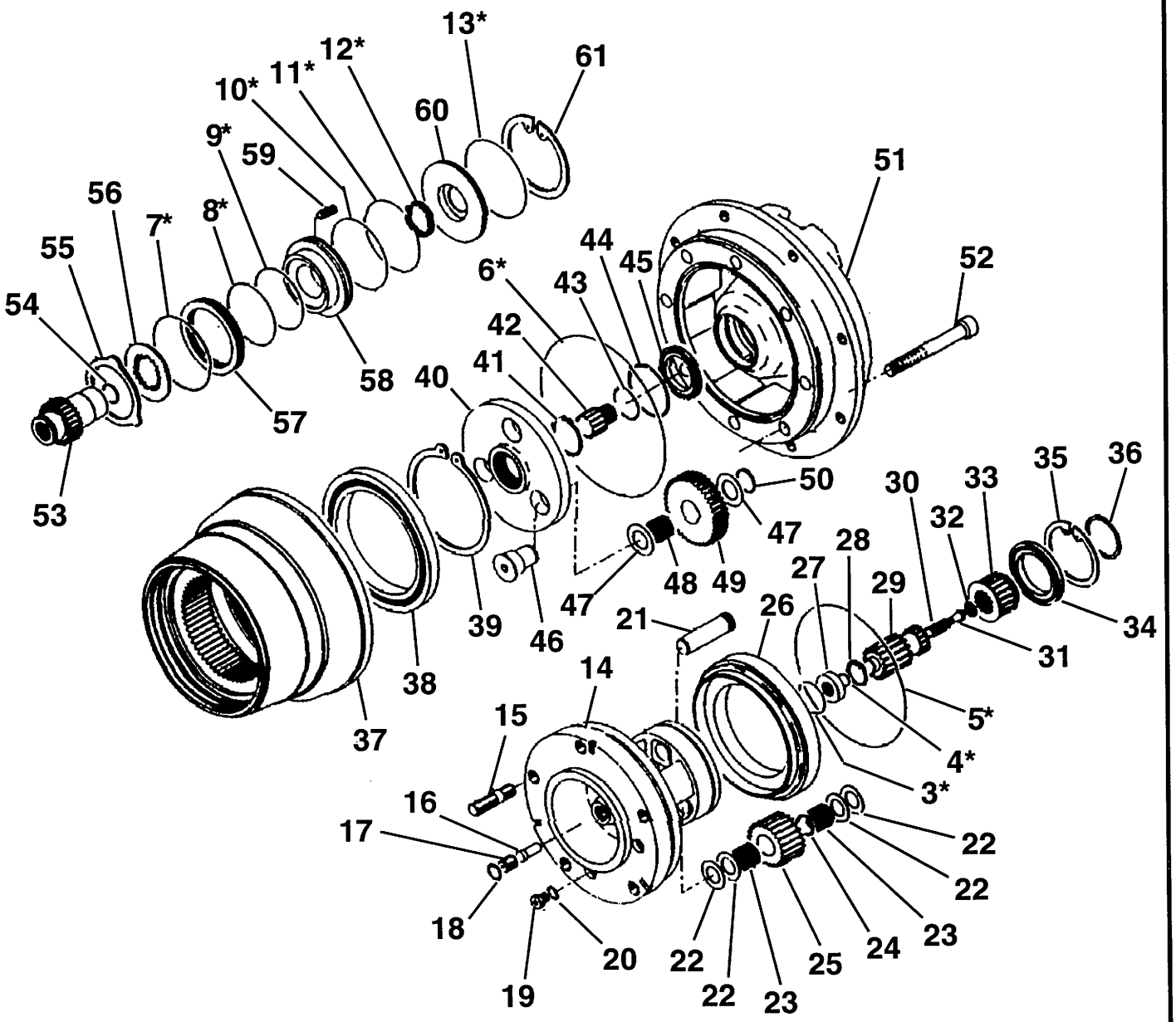


TITLE	TORQUE HUB, EAGLE JR. 32/21 (PLATE 1 OF 2)		
SIMON AERIALS INC.	NEW 05 AUG., 1995	PART NO. 02-048000	PLATE NO. 22.09

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
37			HUB	1
38			BEARING	1
39			RING, RETAINING (Circlip) (100 mm)	1
40			CARRIER, PLANET	1
41			RING, RETAINING (Circlip) (35 mm)	1
42			PINION (Sun gear)	1
43			RING, RETAINING	1
44			RING, RETAINING	1
45			BEARING	1
46			SHAFT, PLANET	3
47			WASHER, THRUST	6
48			ROLLER (2.5 mm dia. x 15 mm long)	84
49			GEAR, PLANET	3
50			RING, RETAINING (Circlip) (20 mm)	3
51			FLANGE, INPUT	1
52			SCREW (M12 x 100 mm)	8
53			COUPLING	1
54			PLUG, EXPANSION	1
55			DISC (Steel)	7
56			DISC (Bronze)	6
57			SPACER	1
58			PISTON	1
59			SPRING	12
60			PLATE, END	1
61			RING, RETAINING (Circlip) (85 mm)	1

TITLE	TORQUE HUB, EAGLE JR. 32/21 (PLATE 2 OF 2)		
PLATE NO. 22.09	**SIMON AERIALS INC.** NEW 05 AUG., 1995	PART NO.	02-048000

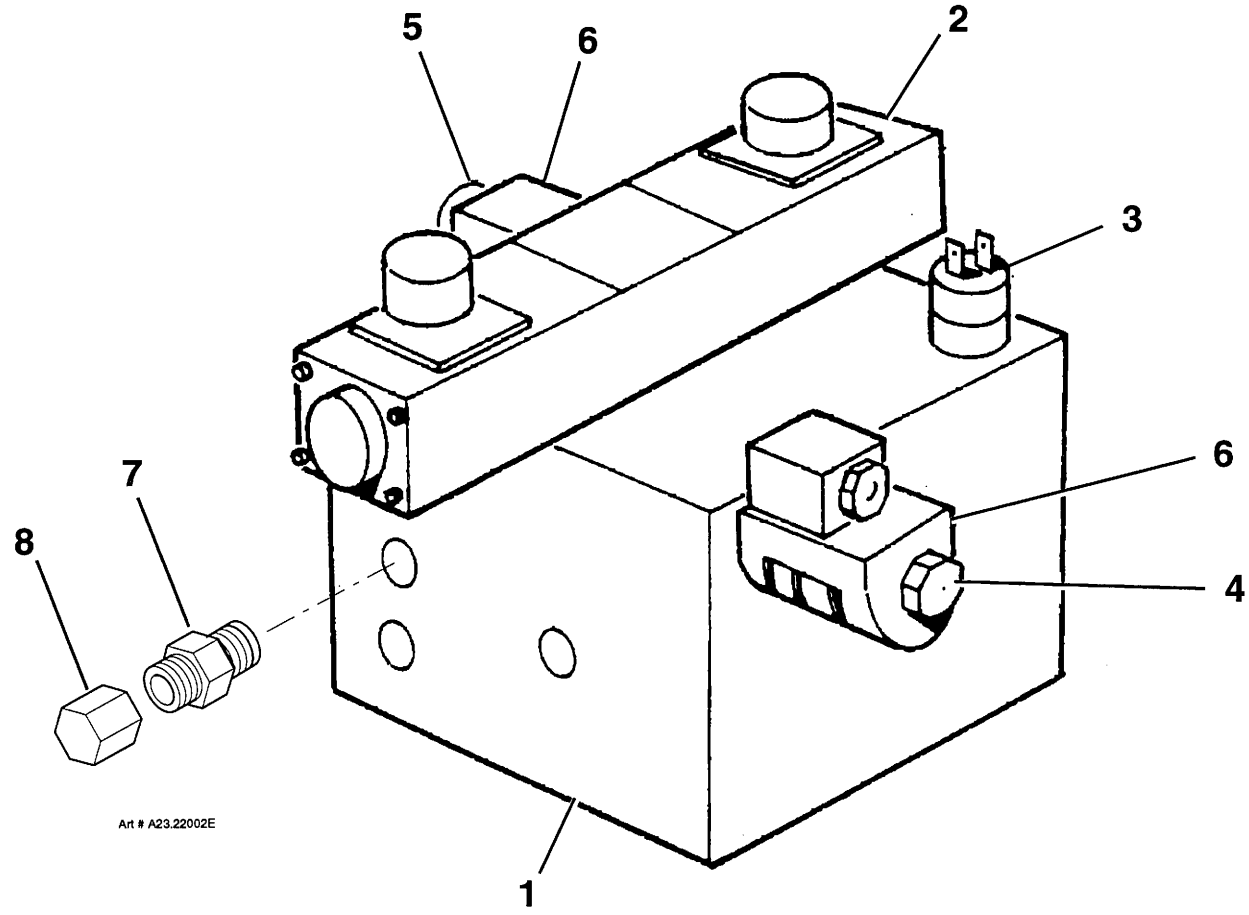


TITLE	TORQUE HUB, EAGLE JR. 32/21 (PLATE 2 OF 2)		
SIMON AERIALS INC.	NEW 05 AUG., 1995	PART NO. 02-048000	PLATE NO. 22.09

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1			MANIFOLD, BRAKE/ STEER	
			(refer to code stamped on manifold block)	1
	11029-0001		Block is stamped **"0001"** (some early versions)	
	11002-0002		Block is stamped **"0002"**	
2	01-237200		VALVE, SOLENOID (Closed center)	1
3	03-717300		SWITCH, PRESSURE (Brake release)	1
4	41020-0312		SPOOL, VALVE (Brake release solenoid)	1
5	41020-0313		SPOOL, VALVE (Brake power-up solenoid)	1
6	41020-0311		COIL, SOLENOID (24 Volt DC)	2
7	06-000028		CONNECTOR, MALE BSPP (4-4 F40X-S)	
			(Pressure test point fitting)	1
8	06-063800		CAP, FEMALE (4 FNTX-S)	1

TITLE	BRAKE/ STEER MANIFOLD, EAGLE JR. 32/21		
PLATE NO. 23.22	**SIMON AERIALS INC.**	NEW 1 AUG., 1995	PART NO.

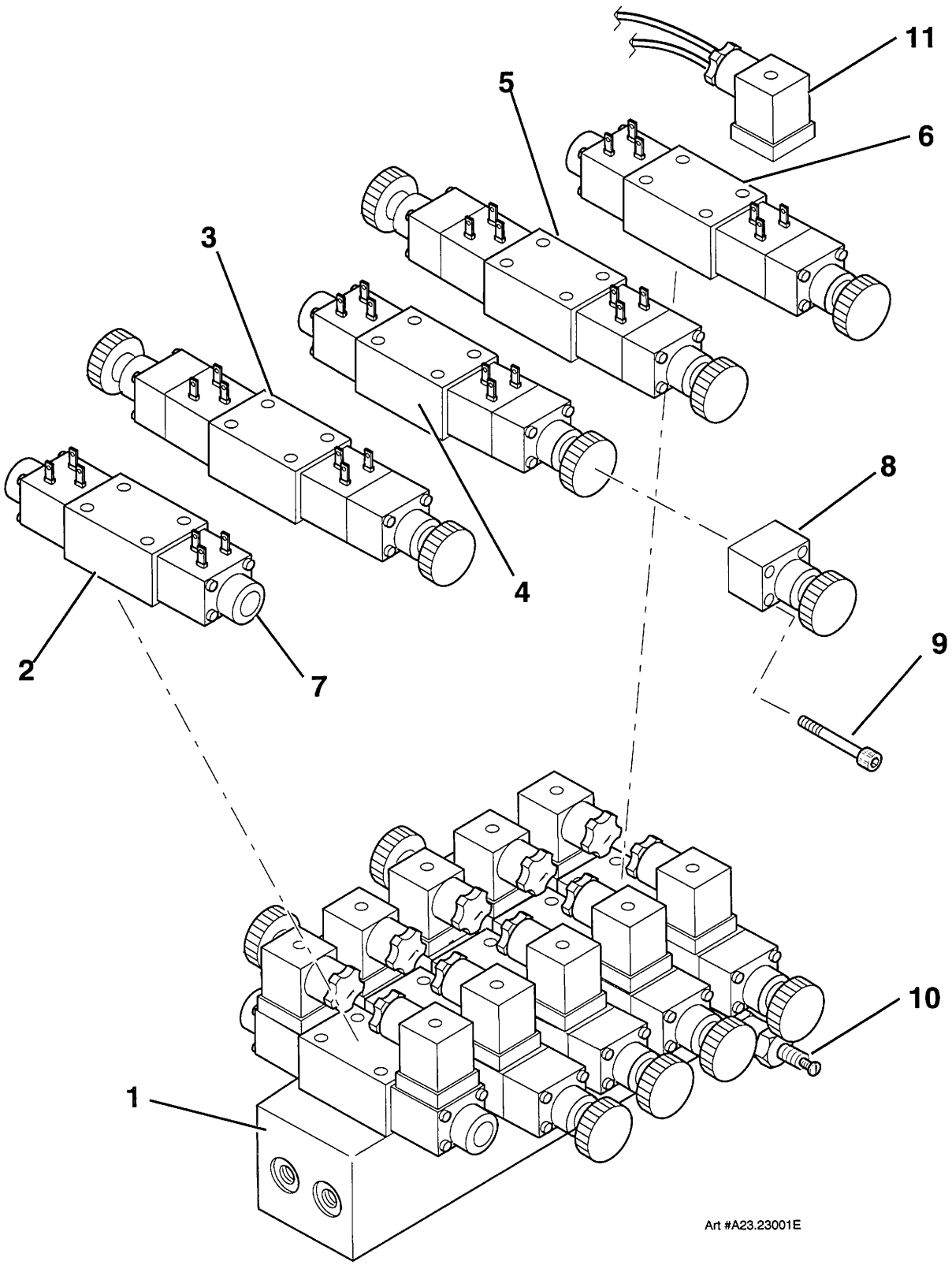


TITLE	BRAKE/ STEER MANIFOLD, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 1 AUG., 1995		PART NO.	PLATE NO. 23.22

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	31029-0013		MANIFOLD BLOCK ASSEMBLY (Five station)	1
2	01-237200		VALVE, SOLENOID (Platform level)	1
3	01-237300		VALVE, SOLENOID (Superstructure rotate)	1
4	01-237200		VALVE, SOLENOID (Lower boom)	1
5	01-237200		VALVE, SOLENOID (Upper boom)	1
6	01-237200		VALVE, SOLENOID (Upper boom telescope)	1
7	41020-0314		COIL, SOLENOID (24 Volt DC)	10
8	41020-0295		KNOB, SOLENOID OVERRIDE	6
9	44002-0359		SCREW	24
10	41006-0032		VALVE, EXTEND RELIEF	1
11	42015-009		CONNECTOR, ELECTRICAL	10

TITLE	HYDRAULIC MANIFOLD ASSEMBLY, EAGLE JR. 32/21			
PLATE NO.	23.23	**SIMON AERIALS INC.**	NEW 01 AUG., 1995	PART NO. 31029-0013

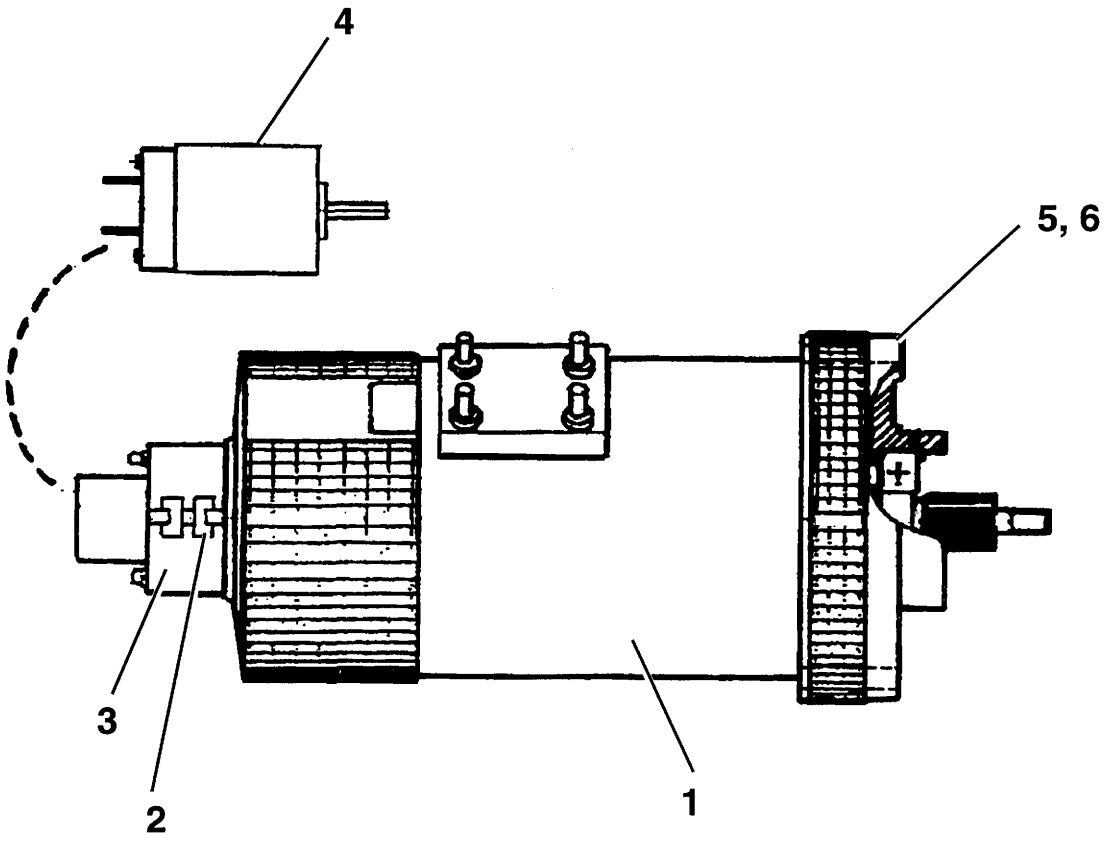


TITLE	HYDRAULIC MANIFOLD ASSEMBLY, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 01 AUG., 1995	PART NO. 31029-0013	PLATE NO. 23.23	

PARTS LIST

ITEM	PART NO	SEE PLATE	DESCRIPTION	QTY.
1	03-717400		DRIVE MOTOR (Traction motor)	1
2	42016-0002		COUPLING	1
3	42016-0001		HOUSING, COUPLING	1
4	10-257700		TACH GENERATOR (mounted on one motor only)	1
5	44004-0125		CAP SCREW, SOCKET HEAD (M10- 1.5 x 40 mm, Grade 12.9)	4
6	44013-0008		WASHER (M10)	4
7	42016-0003		BRUSH SET, MOTOR	1

TITLE	WHEEL DRIVE MOTOR, EAGLE JR. 32/21	
PLATE NO. 26.12	**SIMON AERIALS INC.** NEW 01 AUG., 1995	PART NO.

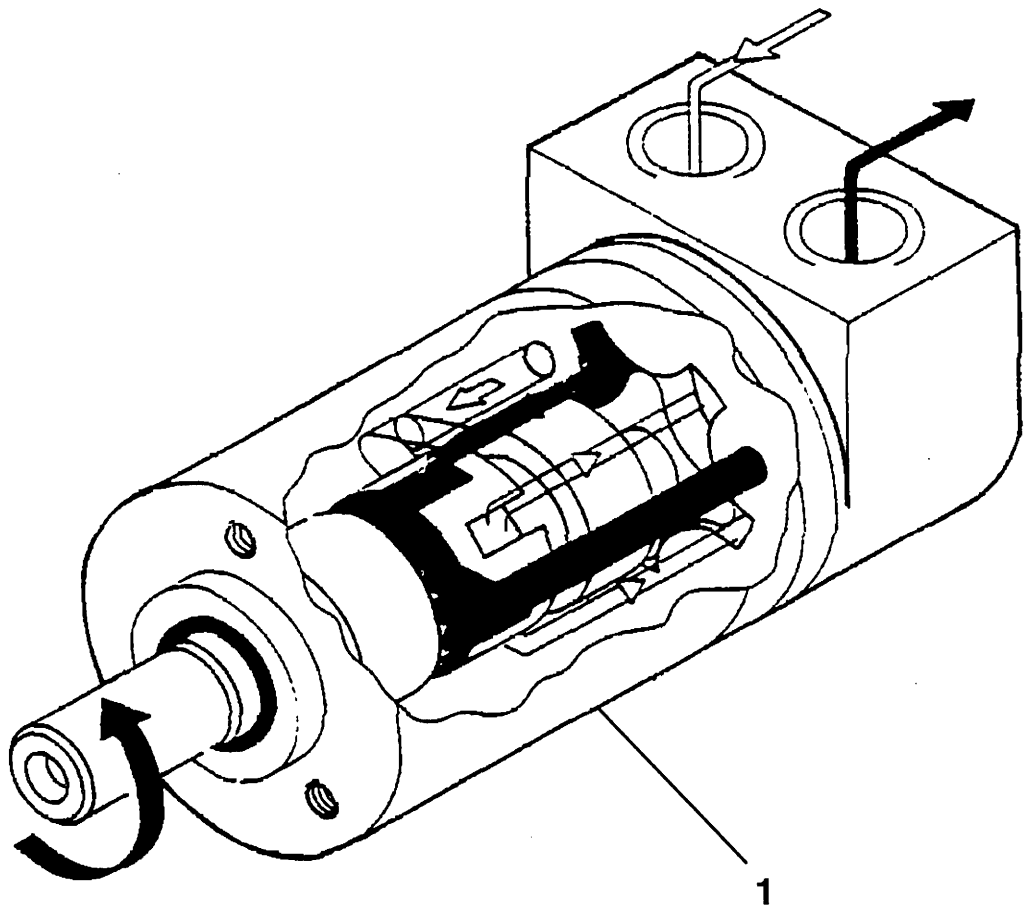


TITLE	WHEEL DRIVE MOTOR, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 01 AUG., 1995		PART NO.	PLATE NO. 26.12

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	10-230700		MOTOR, SWING DRIVE (Slew motor)	1
2	41034-0110		SEAL KIT, SWING DRIVE MOTOR	1
			NOTE: Please specify make of motor	

TITLE	SWING DRIVE MOTOR, EAGLE JR. 32/21	
PLATE NO. 26.13	**SIMON AERIALS INC.** NEW 01 AUG., 1995	PART NO. 10-230700

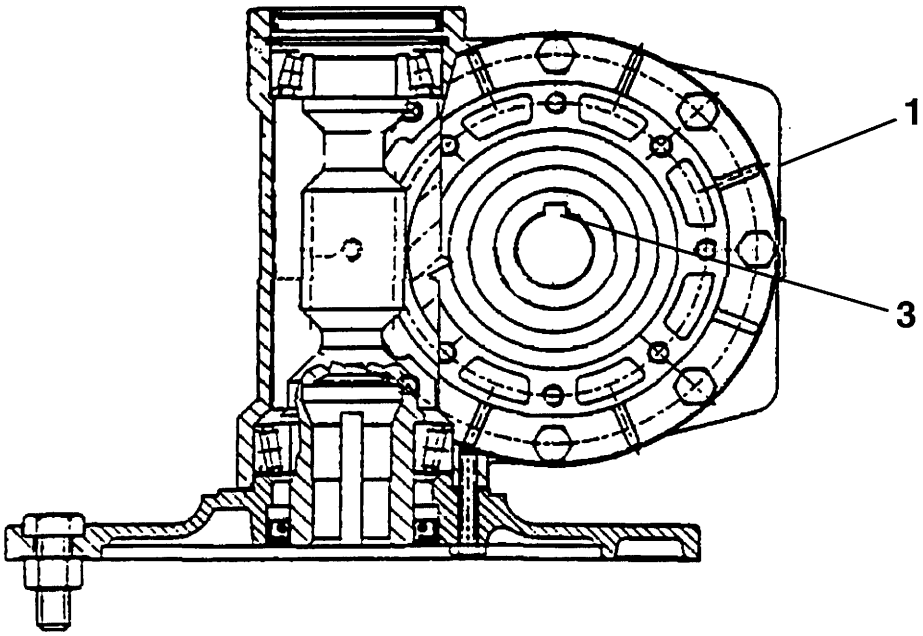


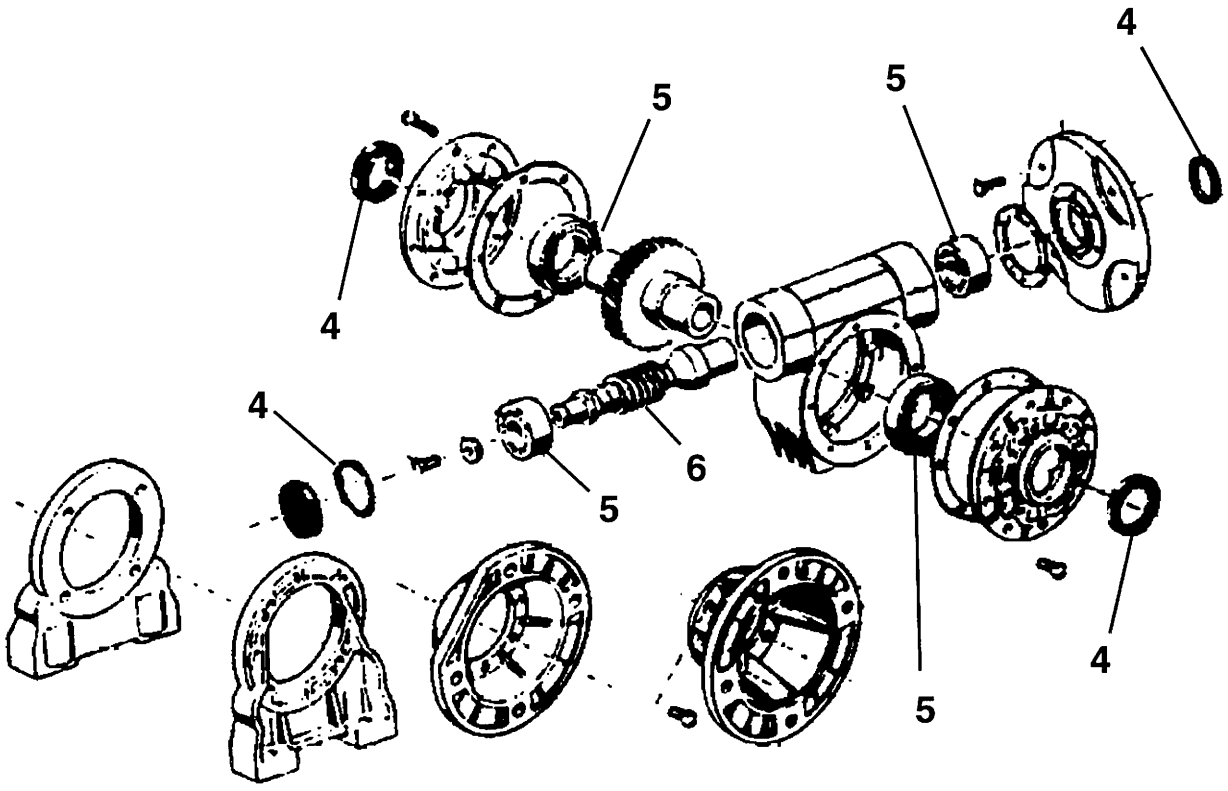
TITLE	SWING DRIVE MOTOR, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 01 AUG., 1995	PART NO. 10-230700	PLATE NO. 26.13	

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1	34023-0009		SWING REDUCER (Slew gearbox)	1
2	44038-0002		GEAR AND SHAFT, PINION (not shown)	1
3	44023-0119		KEY (Pinion gear shaft to reducer)	1
4	41034-0100		SEAL KIT, SWING REDUCER (includes four seals shown)	1
5	44023-0120		BEARING KIT, SWING REDUCER (includes four bearings shown)	1
6	44023-0121		WORM	1
7	33012-0057		HANDLE, SWING REDUCER (Option, not shown. For manually rotating superstructutre.)	1

TITLE	SWING REDUCER, EAGLE JR. 32/21	
PLATE NO. 28.07	**SIMON AERIALS INC.** NEW 01 AUG., 1995	PART NO. 34023-0009





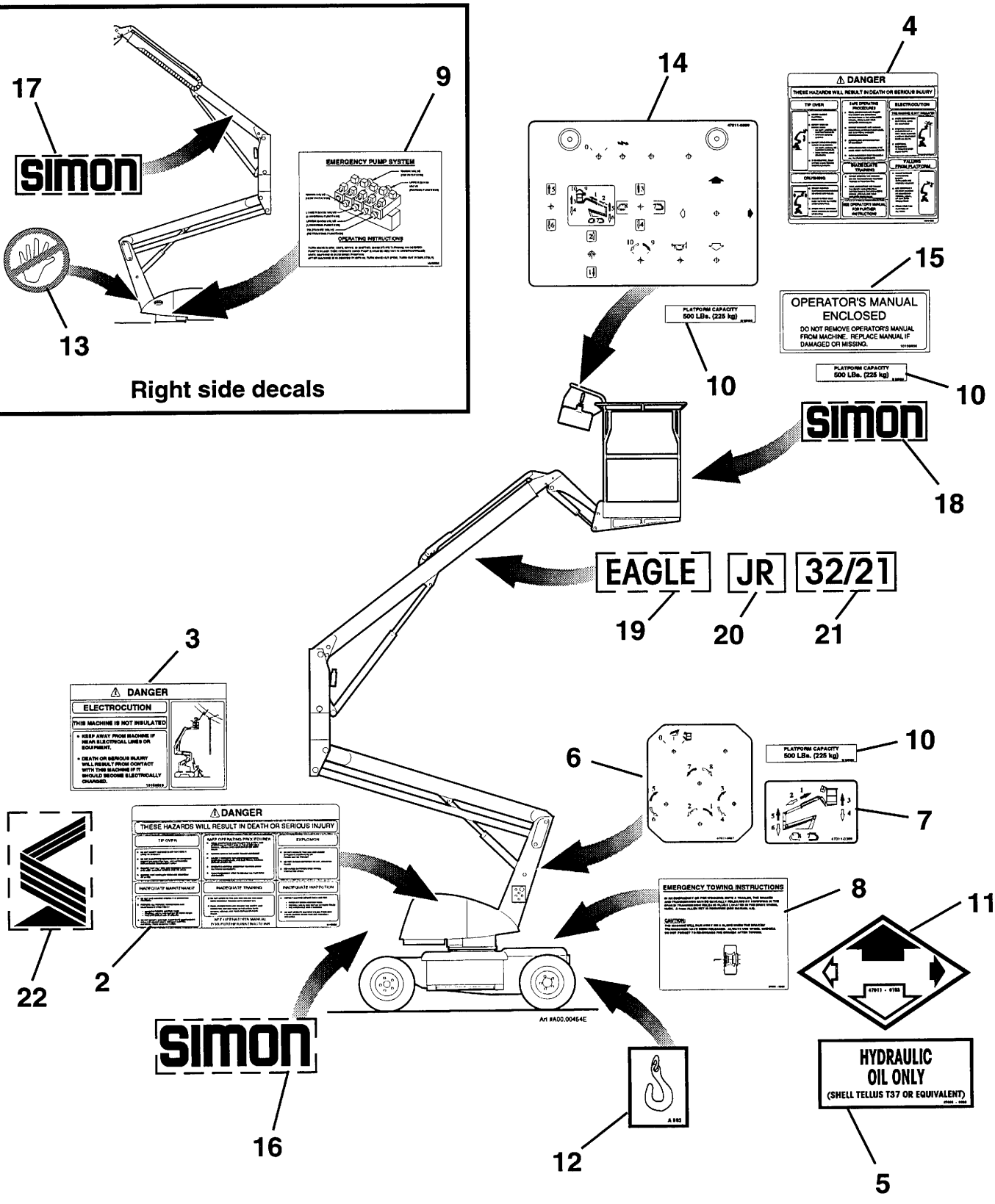
TITLE	SWING REDUCER, EAGLE JR. 32/21		
SIMON AERIALS INC. NEW 01 AUG., 1995	PART NO. 34023-0009	PLATE NO. 28.07	

PARTS LIST

ITEM	PART NO	SEE SECTION	DESCRIPTION	QTY.
1			DECAL KIT, EAGLE JR. 32/21 (Not available. Purchase decals individually)	1
2	10-130600		DECAL, "DANGER" (Hazard listing, at Ground controls)	1
3	10-150500		DECAL, "DANGER" (Electrocution)	2
4	10-151200		DECAL, "DANGER" (Hazard listing, at Platform controls)	1
5	47003-0036		DECAL, "HYDRAULIC OIL ONLY (Shell Tellus . . . ") (Black on yellow)	1
6	10-257500		DECAL, GROUND CONTROL (on enclosure)	1
7	47011-0388		DECAL, GROUND CONTROL COMPANION (Lower control legend) (above enclosure)	1
8	47011-0408		DECAL, "EMERGENCY TOWING INSTRUCTIONS . . ."	1
9	10-259500		DECAL, "EMERGENCY PUMP SYSTEM . . ."	1
10	10-148300		DECAL, "Platform capacity 500 Lbs (225 Kg)" (4-1/2" [114 mm] wide)	4
11	47011-0153		DECAL, DIRECTION ARROW (Diamond shape, [4] Arrows)	2
12	A 582		DECAL, LIFTING EYE	4
13	47011-0154		DECAL, PINCH POINT (Round, with hand crossed through)	1
14	47011-0386		DECAL, PLATFORM CONTROL	1
15	10-139800		DECAL, "OPERATOR'S MANUAL ENCLOSED"	1
16	10-017100		DECAL, "SIMON" NAME (Black, 7" [178 mm] high)	1
17	10-017200		DECAL, "SIMON" NAME (Black, 5" [127 mm] high)	1
18	10-105900		DECAL, "SIMON" NAME (White, 5" [127 mm] high)	2
19	10-131600		DECAL, MODEL "EAGLE"	1
20	10-254000		DECAL, MODEL "JR"	1
21	10-131700		DECAL, "32/21" IDENTIFICATION	1
22	10-131000		DECAL, SIMON "S" LOGO (Orange/ Gray, 5" [127 mm] wide x 7-1/2" [191 mm])	2
23	10-126800		DECAL, STRIPE ([4] Orange stripes, 3-3/4" [95 mm] wide) (Bulk item, order as needed) (12 Ft [3.6 M] used here)	A.R.

TITLE	DECALS, EAGLE JR. 32/21		
PLATE NO. 99.16	**SIMON AERIALS INC.**	NEW 05 AUG., 1995	PART NO.

Right side decals



TITLE	DECALS, EAGLE JR. 32/21		
SIMON AERIALS INC.	NEW 05 AUG., 1995	PART NO.	PLATE NO. 99.16

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APPENDIX

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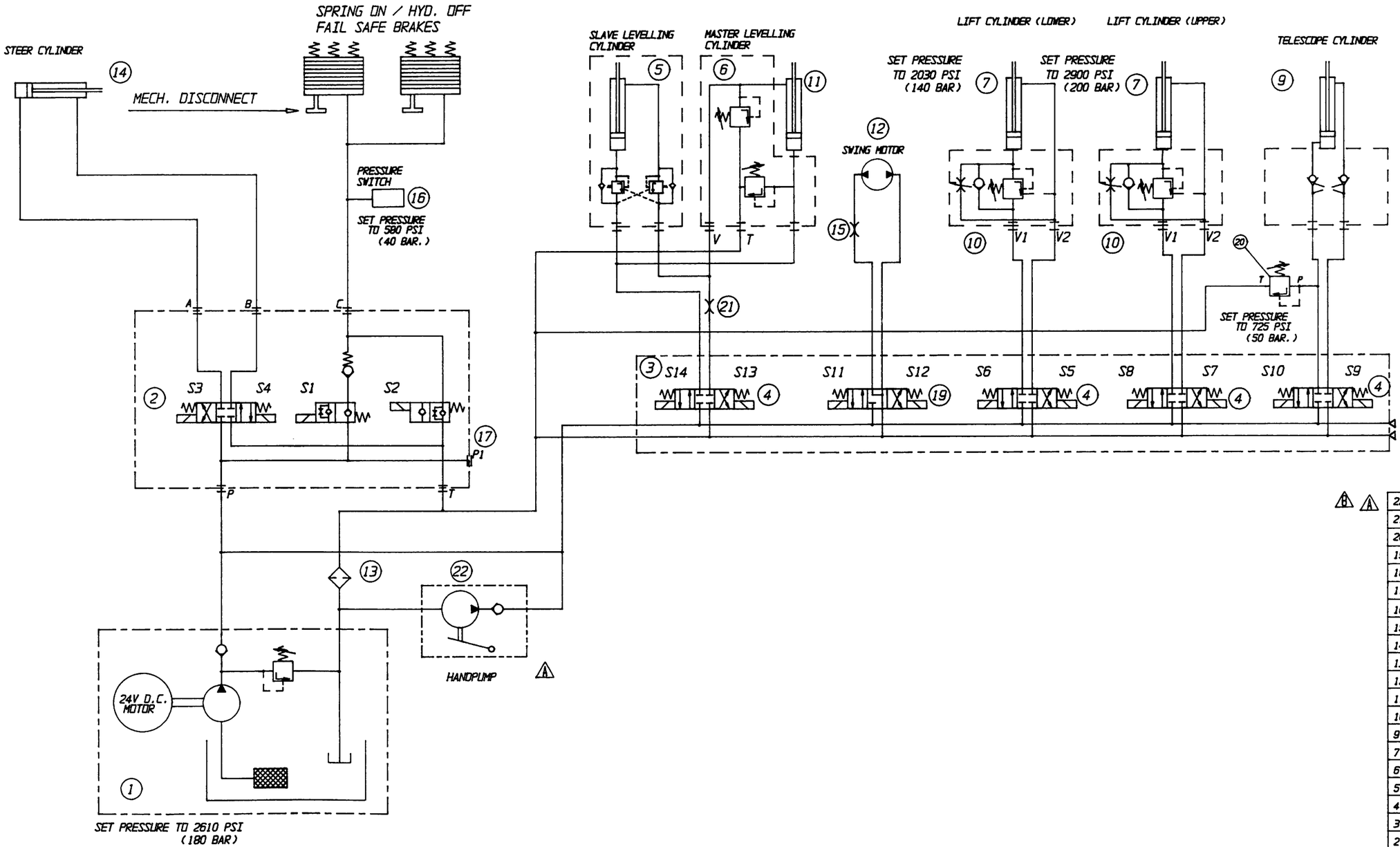


22	HANDPUMP	2190730	1
21	ORIFICE	10201	1
20	P.R.V.	41006-0025	1
19	DIRECTION VALVE	31003-0072	1
18			
17	TEST POINT	41023-0033	1
16	PRESSURE SWITCH	41022-0044	1
15	ORIFICE	31013-0133	1
14	STEER CYLINDER	14368	1
13	FILTER	41030-0031	1
12	SWING MOTOR	10854	1
11	MASTER LEVELLING CYL	18245	1
10	OVERCENTRE VALVE	21031-0001	2
9	TELESCOPE CYLINDER	21002-0067	1
7	LIFT CYLINDER	21002-0066	2
6	DUAL RELIEF VALVE	18246	1
5	SLAVE LEVELLING CYL.	18244	1
4	DIRECTIONAL VALVE	31003-0092	4
3	SSTN MANIFOLD	31029-0011	1
2	B/S MANIFOLD	11029-0001	1
1	POWER PACK	31001-0001	1

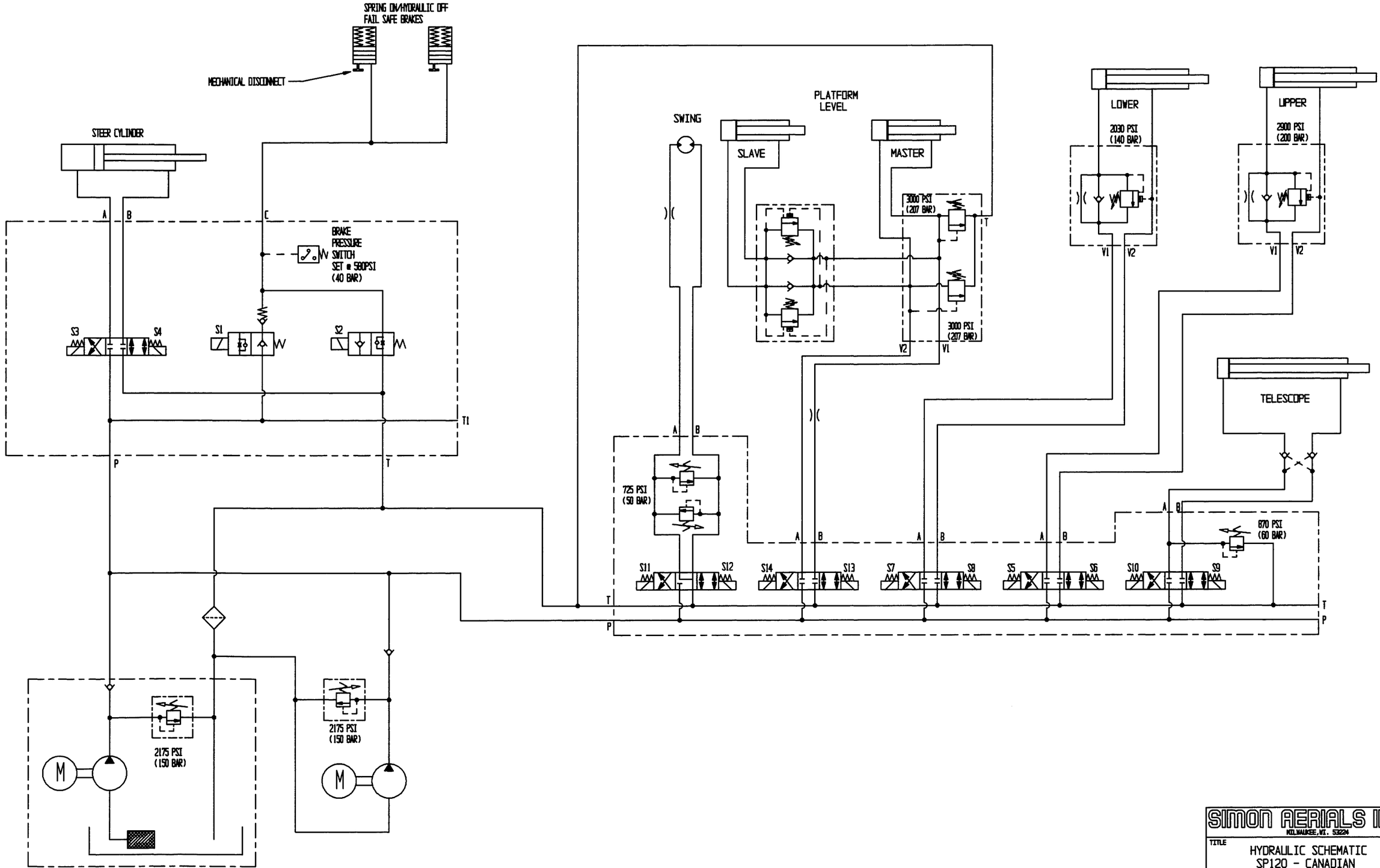
REF: EAGLE JR 32/21

SIMON-AERIALS INC.
MILWAUKEE, WI. 53224

TITLE
HYDRAULIC SCHEMATIC

REVISION B

DRWG. NO. C-2339970



SIMON AERIALS INC.
MILWAUKEE, WI. 53224

TITLE
HYDRAULIC SCHEMATIC
SP120 - CANADIAN

REVISION

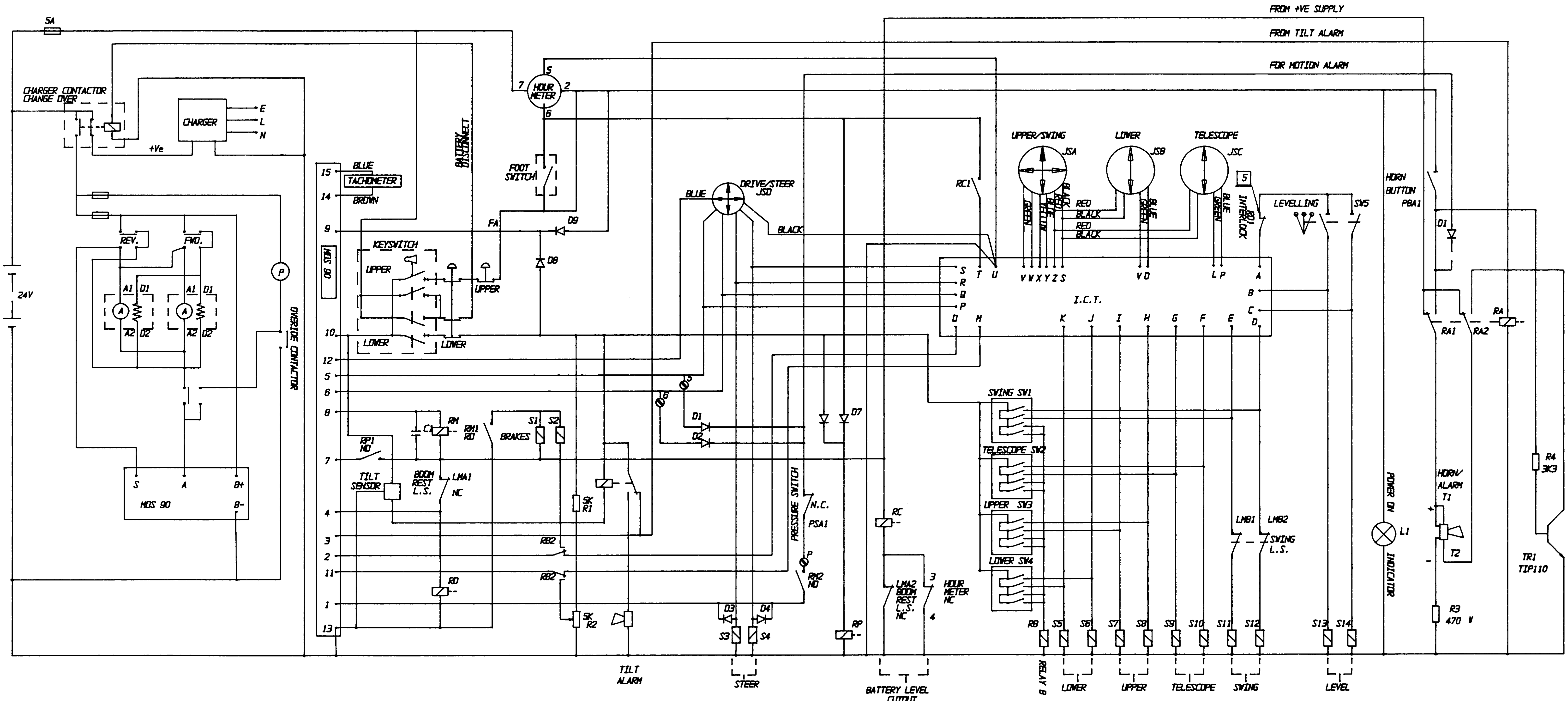
DRWG. NO.
SDS 2368740

CIRCUIT CODING

D* = DIODE
F* = FOOT SWITCH
JS*= JOYSTICK
LM*= LIMIT SWITCH
PS*= PRESSURE SWITCH
PB*= PUSHBUTTON
R(*=No.)=RESISTOR OR POT
R* = RELAY
SW*= SWITCH

I.C.T. UNIT TERMINALS:

A: CwDRV - OUTPUT TO PLATFORM LEVEL SWITCH
B: CwUP - PLATFORM UP SIGNAL
C: CwDWN - PLATFORM DOWN SIGNAL
D: J3A - SIGNAL TO SWING
E: J3B - SIGNAL TO SWING
F: J4A - SIGNAL TO TELESCOPE
G: J4B - SIGNAL TO TELESCOPE
H: J2A - SIGNAL TO U.BOOM
I: J2B - SIGNAL TO U.BOOM
J: J1A - SIGNAL TO L.BOOM
K: J1B - SIGNAL TO L.BOOM
M: SwSW - SEVCON BOOMS ENABLE
O: SwANL - SEVCON ANALOG DRIVE
P: TwFWD - TRANS FORWARD
Q: TwREV - TRANS REVERSE
R: STRwR - STEERING RIGHT
S: STRwL - STEERING LEFT
T: +Ve
U: GROUND
V: J1 NEUTRAL
W: J3 NEUTRAL
X: J2 SIGNAL
Y: J3 NEUTRAL
Z: J++ JOYSTICK POWER SUPPLY
S: J-- JOYSTICK POWER SUPPLY
V: J1 NEUTRAL
O: J1 SIGNAL
L: J4 NEUTRAL
P: J4 SIGNAL



FROM +VE SUPPLY
FROM TILT ALARM
FOR MOTION ALARM
5A
CHARGER CONTACTOR CHANGE OVER
CHARGER
+Ve
E
L
N
REV.
FWD.
24V
P
OVERIDE CONTACTOR
MDS 90
BATTERY DISCONNECT
BLUE
TACHOMETER
BROWN
KEYSWITCH
UPPER
LOWER
HOUR METER
FOOT SWITCH
FA
D9
D8
DRIVE/STEER JSD
BLACK
RC1
UPPER/SWING
LOWER
TELESCOPE
JSA
JSB
JSC
RED
BLACK
GREEN
YELLOW
RDI INTERLOCK
LEVELLING
SW5
HORN BUTTON PBA1
I.C.T.
RA1
RA2
RA
BRAKES
TILT SENSOR
BOOM REST L.S.
LMA1
NC
PRESSURE SWITCH
PSA1
RC
LMA2 BOOM REST L.S. NC
HOUR METER NC
SWING SW1
TELESCOPE SW2
UPPER SW3
LOWER SW4
LMB1
LMB2
SWING L.S.
POWER ON INDICATOR
L1
HORN/ALARM T1
T2
R3 470 W
R4 3K3
TR1 TIP110
TILT ALARM
STEER
BATTERY LEVEL CUTOUT
RELAY B
LOWER
UPPER
TELESCOPE
SWING
LEVEL

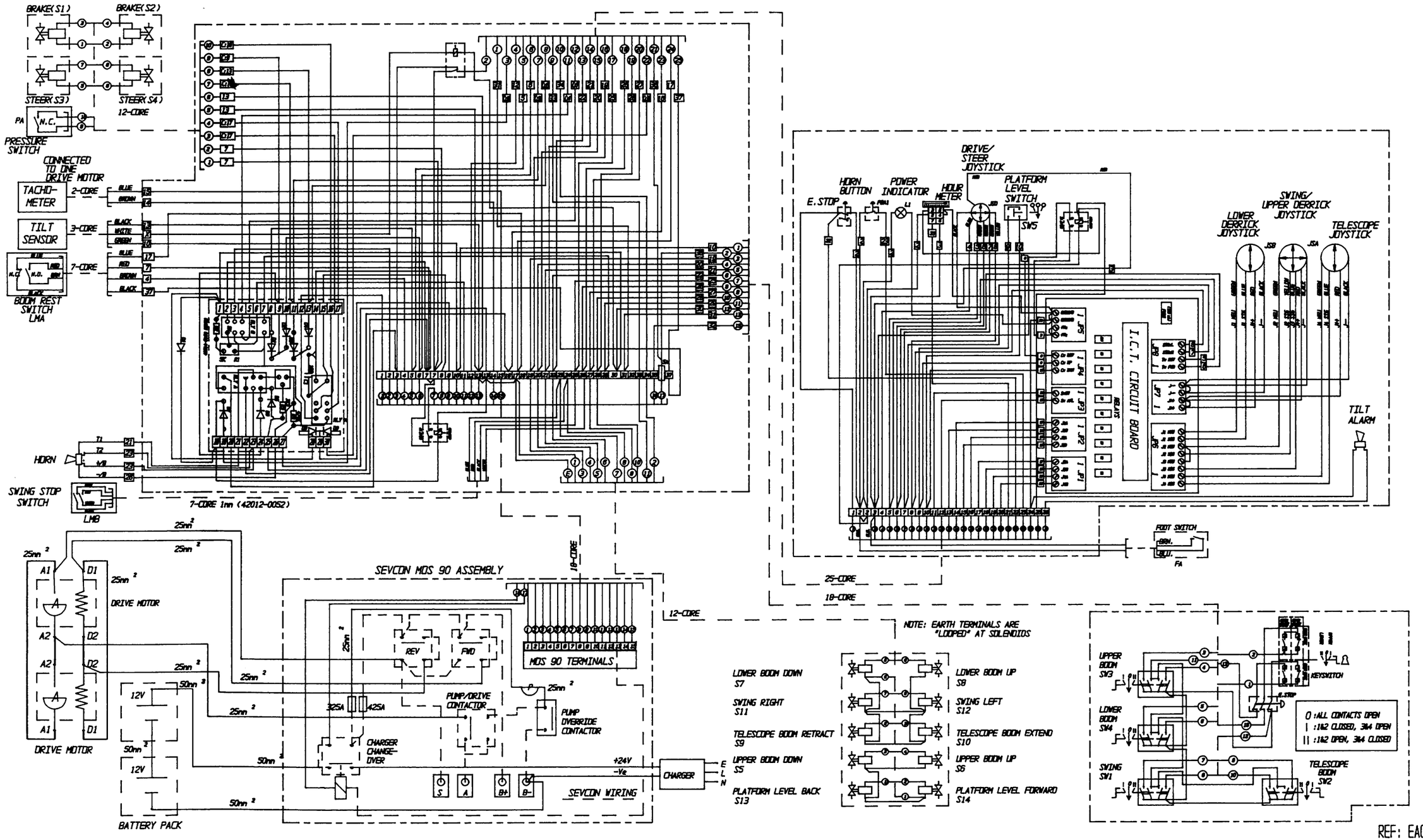
REF: EAGLE JR 32/21

SIMON-AERIALS INC.
MILWAUKEE, WI. 53224

TITLE: ELECTRICAL SCHEMATIC

REVISION: B

DRWG. NO.: D-2339950



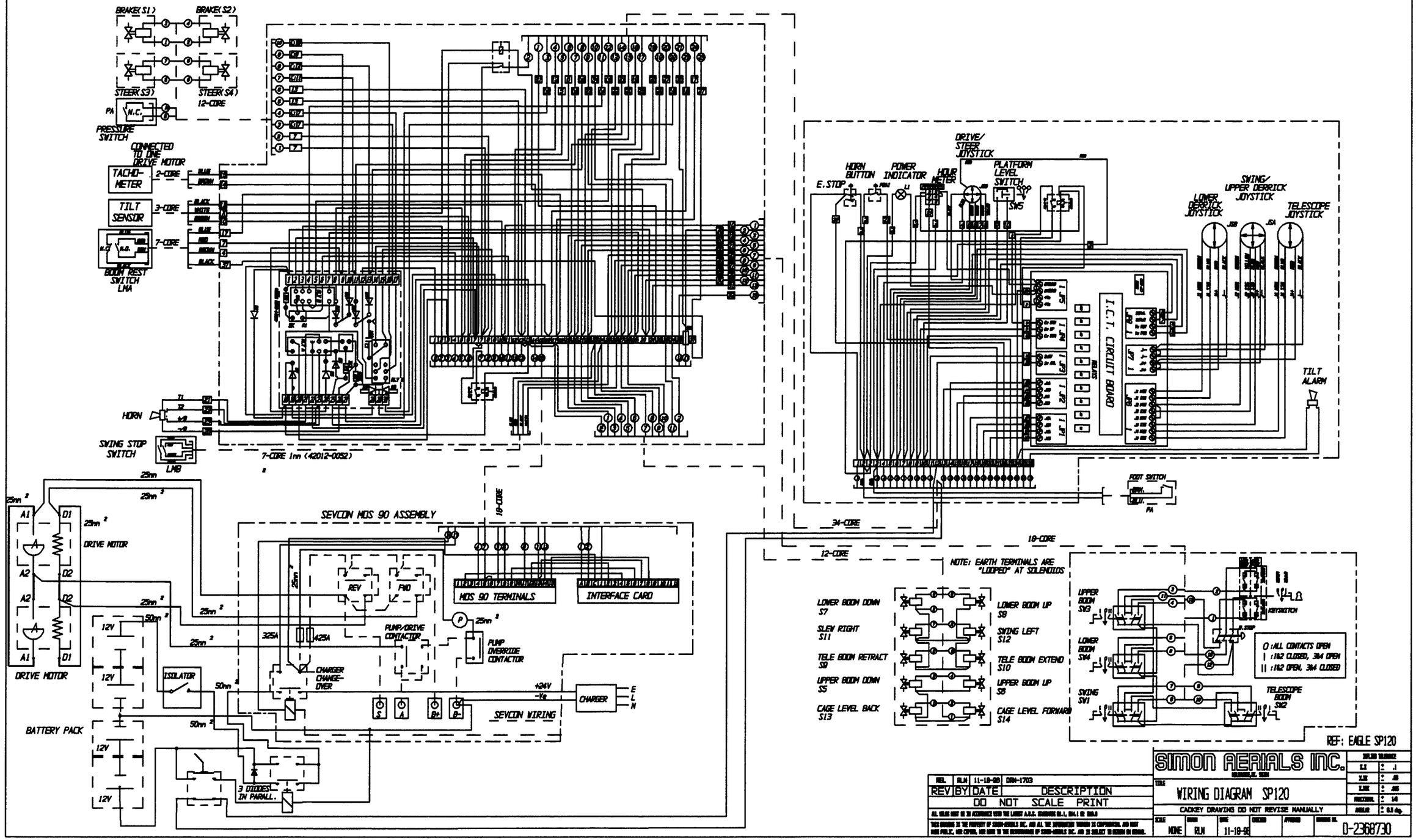
REF: EAGLE JR 32/21

SIMON-AERIALS INC.
MILWAUKEE, WI. 53224

TITLE: WIRING DIAGRAM

REVISION: B

DRWG. NO.: D-2339960



REV	BY	DATE	DESCRIPTION
REL	RLN	11-18-96	DRN-1703

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SIMON AERIALS INC.

TITLE: WIRING DIAGRAM SP120

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X.XX	± .03
X.XXX	± .005
FRACTIONAL	± 1/4
ANGULAR	± 0.5 deg.