

Parts
and
Service Manual
for

Model
1932ES/1532ES
Aerial
Work
Platform



Aerial Work Platforms

Read and Comply

The ownership, use, service, and/or maintenance of this machine is subject to various federal, state, and local laws and regulations. It is the responsibility of the owner/user to be knowledgeable of these laws and regulations and to comply with them. Owner/user/operator must be familiar with Sections 6,7,8,9, and 10 of ANSI A92.6-1990. These sections contain the responsibilities of the owners, users operators, lessors and lessees concerning safety, training, inspection, maintenance, application and operation.

WARNING

ANY MODIFICATION OF THIS MACHINE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER IS PROHIBITED. DO NOT REPLACE ANY COMPONENT OR PART WITH ANYTHING OTHER THAN ORIGINAL MEC REPLACEMENT PARTS WITHOUT THE MANUFACTURER'S CONSENT.

Equipment Literature

The machine is shipped with the following literature, which is inserted in the manual case located at the front rail of the platform.

Material Safety Data Sheet - #6535

1932ES/1532ES Operating Safety and Maintenance Manual - #9139

ANSI/SIA Manual of Responsibilities - #7822

Battery Charger Operating Instructions - #5545C

Dealer Pre-Delivery Inspection Form - #7197

Warranty Registration Card - #5524

EMI Safety Manual - #7004

Replacement literature and parts manuals can be ordered by contacting the factory. To help us serve you, please be prepared to provide the complete publication name and part number.

Note

File warranty claims according to policies and procedures which are listed in publication #5638.

1932ES / 1532ES Service and Parts Manual

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WARNING

DO NOT PERFORM PRELIMINARY INSTALLATIONS, OPERATE, SERVICE, REPLACE, ADJUST OR MAINTAIN EQUIPMENT ON THIS MACHINE UNTIL YOU HAVE THOROUGHLY READ AND UNDERSTOOD THE OPERATION AND SAFETY MANUAL, AND HAVE READ AND UNDERSTOOD ALL THE SECTIONS OF THIS MANUAL THAT APPLY TO THE JOB YOU ARE DOING ON THIS MACHINE.

FAILURE TO COMPLY WITH ALL WARNINGS POSTED ON THIS MACHINE AND WRITTEN IN THESE MANUALS, COULD CAUSE DEATH, SERIOUS INJURY OR PROPERTY DAMAGE.

- FALL PROTECTION NOTICE -

The **Guardrail** System around the perimeter of the platform is the **Fall Protection System** for self-propelled elevating work platforms per the American National Standards Institute ANSI/SIA A92.6 Standard. It is **prohibited** to use an Aerial Work Platform manufactured by Mayville Engineering Company, Inc. with any portion, or all, of the guardrails **removed**.

Lanyard anchorage points on this type of equipment are not required to conform to the applicable ANSI/SIA Standard.

However, if anchorage points for lanyard attachments are required by site authorities, or other regulations, the anchorage points on all equipment manufactured by Mayville Engineering Company, Inc. are recommended to be used for **work positioning restraints** of personnel only. Lanyard lengths are to be determined by operator/owner to restrict the operator to the confines within the **Guardrail** System.



WARNING

USE OF FALL ARREST SYSTEMS ATTACHED TO ANCHORAGE POINTS ON MOBILE EQUIPMENT MAY CAUSE MACHINE TO TIP RESULTING IN SERIOUS INJURY OR DEATH.



WARNING

- Failure to comply with safety precautions could result in death or serious injury.
- Shut off all power, making the machine inoperative before making any adjustments, performing maintenance, or replacing components.
- Platform should be in the fully stowed position if possible, or maintenance locks should be in place.
- Hydraulic pressures should be relieved before loosening or replacing components.
- Do not replace any component or part with anything other than original MEC replacement parts without the manufacturers consent.
- Remove all rings, watches, and jewelry before performing any maintenance.
- Restrain long hair and do not wear loose clothing or neckties which could become caught or entangled in the equipment.
- Observe and obey all warnings and cautions on machines and in manuals.
- Keep oil, grease, water, etc. wiped from all standing surfaces and hand holds.
- Use only approved, nonflammable cleaning solvents.
- Altering or disabling safety devices is strictly prohibited.

Following are definitions of labeling you might encounter on aerial platforms.

CAUTION

CAUTION - Hazards or unsafe practices which **COULD** result in minor personal injury or product damage.

WARNING

WARNING - Hazards or unsafe practices which **COULD** result in severe personal injury or death.

DANGER

DANGER - Immediate hazards which **WILL** result in severe personal injury or death.

GENERAL OPERATING RULES, SAFETY AND LIMITATIONS

MEC designs work platforms to be safe and reliable. They are rugged and maneuverable, but must be used only for purposes and in ways intended. **That is to raise personnel, tools, and necessary equipment to overhead work areas.**

- The owner/user/operator of the machine should not accept operation responsibility until this manual has been read and operation of the machine, under the supervision of an experienced and qualified operator, has been completed. Owner/user/operator must be familiar with sections, 6, 7, 8, 9 and 10 of ANSI A92.6-1990. These sections contain the responsibilities of the owner, users, operators, lessors and lessees concerning safety, training, inspection, maintenance, application and/or operation. If there is a question on application and/or operation, Mayville Engineering Co., Inc. should be consulted.
- Respect your machine; **do not** neglect or misuse it.
- Inspect your machine before using. **Do not** use machine if it is not working properly in any way.
- Check job site for unsafe working conditions. **Do not** operate on uneven or soft terrain. **Do not** raise platform if machine is on an incline.
- Use machine only for purposes for which it was designed.
- Never take chances. **Do not** use machine if your physical or mental capabilities are limited due to illness or tiredness, or if you are taking over the counter or prescription drugs which might impair or limit your mental or physical capabilities.
- **Do not** exceed the load capacity of the platform.
- **Do not** smoke while charging the batteries.
- **Do not** enter or exit platform while machine is in motion.
- An operator of any type of work platform is subject to

certain hazards that cannot be protected by mechanical means. It is therefore essential that operators be competent, careful, physically and mentally fit and thoroughly trained in safe operation of this machine.

- It is imperative that MAYVILLE ENGINEERING be notified immediately of any incident involving a MEC product. Even if no injury or property damage is evident, the factory should be contacted by telephone and provided with all necessary details.
It should be noted that failure to notify the Manufacturer of an incident involving a MEC product within 48 hours of such an occurrence may void any warranty consideration on that particular machine.

DANGER

DO NOT OPERATE MACHINE NEAR POWER LINES. THE PLATFORM AND ENCLOSURES ARE NOT INSULATED.

PERSONNEL SHALL ALWAYS STAND ON THE FLOOR OF THE PLATFORM, NOT ON LADDERS, PLANKS, RAILINGS, BOXES OR OTHER DEVICES FOR A WORK POSITION.

THIS MACHINE IS NOT INTENDED TO BE USED AS A FORKLIFT, CRANE, OR TO PUSH OR PULL ANOTHER OBJECT.

AVOID CONTACT WITH MOVING OR STATIONARY OBJECTS. THOROUGHLY CHECK CLEARANCES. DO NOT USE MACHINE AS A SUPPORT FOR AN OVERHEAD STRUCTURE.

IT IS PROHIBITED TO TAKE ON ANY ADDITION, SUCH AS SIGNBOARDS, THAT WOULD INCREASE WIND LOADING.

FAILURE TO FOLLOW THIS WARNING WILL CAUSE DEATH OR PERSONAL INJURY.

OPERATOR QUALIFICATIONS

All MEC aerial work platforms must be operated and maintained by qualified personnel only!

To qualify for operation and maintenance of this unit, an individual must read and thoroughly understand this manual and undergo training by a competent instructor. If a proposed operator or maintenance person fails to understand any segment of this manual, his or her supervisor can clarify the misunderstanding through written correspondence or a phone call to:

Mayville Engineering Co., Inc.
Aerial Work Platforms
715 South Street
Mayville, WI 53050 USA
Phone: 920-387-4500 or 800-387-4575
FAX: 920-387-5817

NOTES

WARNING

NEVER INSPECT HYDRAULIC HOSES WITH HANDS. ESCAPING FLUIDS UNDER PRESSURE CAN CAUSE SERIOUS INJURY. USE A PIECE OF CARDBOARD OR OTHER MATERIAL TO INSPECT FOR LEAKS. ESCAPING FLUID UNDER PRESSURE CAN BE INVISIBLE AND CAN PENETRATE THE SKIN, CAUSING SERIOUS INJURY.

IF ANY FLUID IS INJECTED INTO SKIN, SEEK MEDICAL ATTENTION IMMEDIATELY!

Hydraulic System Bleeding

The hydraulic system is self-bleeding. After the system has been drained, such as during the replacement of a hydraulic system component, actuate the platform full up and down for six cycles and recheck the reservoir fluid level between each cycle. Fill to full mark on dipstick.

Hydraulic Oil Filter Replacement

The hydraulic oil filter in the hydraulic system should be changed each year. The filter is located inside the compartment directly adjacent to the hydraulic oil reservoir on each model machine. While holding a drain pan beneath the filter, simply unscrew the old filter and install a new one. Check oil level in reservoir and add oil as necessary to bring level to full mark on dipstick. Use 10W, non-detergent hydraulic oil.

HYDRAULIC VALVE ADJUSTMENT

WARNING

NEVER SET THE OPERATING PRESSURE OF ANY COMPONENT HIGHER THAN RECOMMENDED.

SETTING PRESSURES HIGHER THAN RECOMMENDED COULD DAMAGE HOSES AND OTHER HYDRAULIC COMPONENTS AND RESULT IN DEATH, PERSONAL INJURY OR PROPERTY DAMAGE.

Down Flow Control

The down flow control is adjusted by loosening the lock nut and turning the adjustment bolt **in** to increase the descent speed of the platform and **out** to decrease the descent speed. The descent speeds: 1932ES - 24 1/2 sec.
1532ES - 20 sec.

Steering Pressure Relief

Plumb a pressure gauge capable of 3000 PSI into the primary test port and energize the steering to full left. Hold switch long enough until an accurate reading results on the gauge.

If adjustment is needed, set pressure to proper setting provided in the Operation and Safety Manual. Also, refer to the Hydraulic Schematics and Main Manifolds for more information.

Loosen lock nut on steering relief valve and turn the adjustment screw **in** to increase the pressure and **out** to decrease the pressure. When set, tighten the lock nut and retest.

Counter Balance Valve

Install pressure gauge at test port. Remove forward wire #11 from both forward coils. Activate **forward** drive and observe reading.

If adjustment is needed, set pressure to proper setting provided in the Operation and Safety Manual. Also, refer to the Hydraulic Schematics and Main Manifolds for more information.

Loosen the lock nut and turn screw **in** to increase the pressure and **out** to decrease the pressure. When set, tighten the lock nut and retest.

Lift Pressure Relief

Connect pressure gauge (0-3500 PSI) with female quick disconnect to primary test port and elevate platform to full extension. Hold switch to UP position until an accurate reading results on the gauge.

If adjustment is needed, set pressure to proper setting provided in the Operation and Safety Manual. Also, refer to the Hydraulic Schematics and Main Manifolds for more information.

Loosen lock nut on relief valve. Turn the adjustment screw **in** to increase the pressure and **out** to decrease the pressure. When set, tighten the lock nut and retest.

HYDRAULIC PUMP MOTOR SERVICING

Brush replacement is the most common maintenance required on DC motors. Brushes should be checked and replaced, if necessary (1/4" minimum length), along with commutator inspection, approximately every six months. Time spans will vary depending on how the machine is used and the condition of the batteries. It is highly recommended to keep batteries fully charged and in top condition to eliminate service problems in general, and to extend the life of the motor and brushes.

CHECK AND FILL HYDRAULIC RESERVOIR

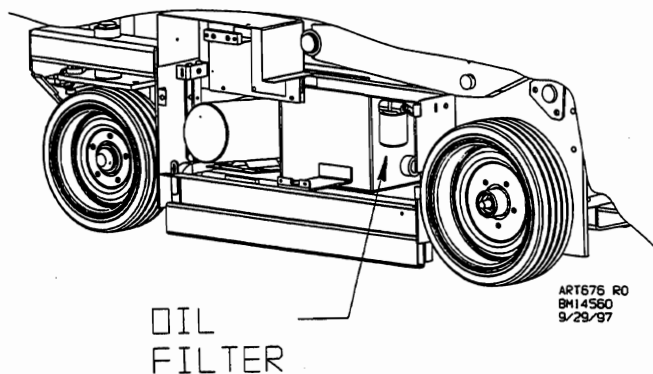
NOTE

An accurate fluid level reading can be taken only if platform is fully down.

1. Lower platform all the way.
2. Remove filler cap by turning counterclockwise.
3. Check hydraulic fluid level by looking at fluid level on dipstick. Add fluid as necessary.
4. Replace filler cap.

SPIN-ON OIL FILTER REPLACEMENT

The spin-on filter in the hydraulic system should be changed yearly. Replace with filter part number 6156 only.



Spin-on Oil Filter

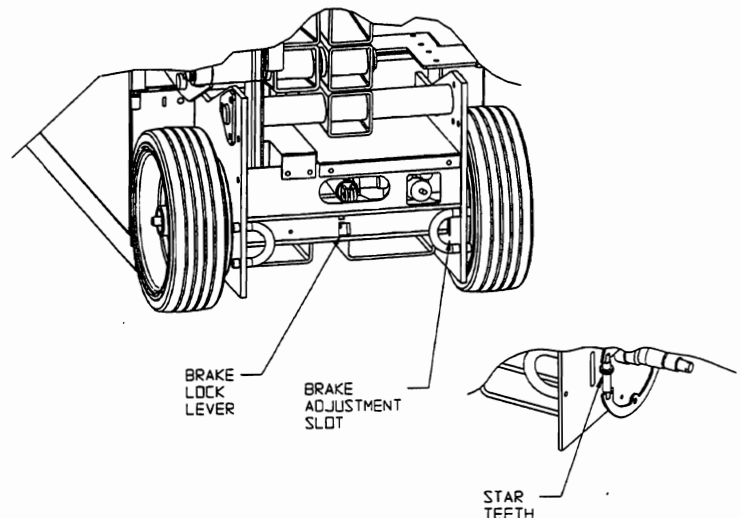
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BRAKE ADJUSTMENT

NOTE

Adjust brakes so that parking brake holds machine on an incline which it is capable of climbing. The machine is designed to have the brake on whenever it is not being driven.

1. Place platform in full down position.
2. Position unit with enough clearance to drive forward at least 12".
3. Locate guard panel at the rear of the unit directly above the fork lift pockets.
4. Actuate control box drive switch to FORWARD, just far enough to manually lift the brake lock lever and engage into the lock notch.
5. Locate the brake adjustment slots within each panel side.
6. Using a brake adjustment tool (brake spoon), insert the flat blade into the hole and engage the sprocket (star wheel) adjusting teeth. (continued)



Brake Adjustment

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7. To tighten brake adjustments, turn left side star teeth to the front and right side teeth to the rear. Adjust for approximately 1 inch of return travel on the hydraulic cylinder. Both left and right side spring pull bar should be equal in travel.
8. To test, drive the unit (forward or reverse) at full speed and then fully release the joystick drive handle.
9. Measure the distance the unit coasts before it comes to a complete stop. It should be approximately 12 inches.
10. If fine tuning is required, adjust in 2 click increments.

NOTE

If brakes require servicing, refer to dealer.

LIMIT SWITCH ADJUSTMENT**Drive/Speed Limit Switch**

1. Raise platform to approximately 7 feet, until beams lose contact with pothole system. (Fig. 6-1, Switch Location)
2. At Drive/Speed Limit Switch, turn cam until switch roller pushes in and clicks. If switch does not click, reposition switch closer to cam and repeat. When switch clicks, it activates slow speed and eliminates drive function when the pothole system has not deployed.

Pothole Limit Switch

1. Raise platform to approximately 7 feet, until beams lose contact with pothole system. (Fig. 6-4, Switch Location)
2. Check that pothole bars have fully developed.
3. Remove cover of Pothole Switch to view contacts. Turn cam so plunger pushes contacts, stop turning just before contacts open.
4. At this point tighten set screw on cam.

TESTING LIMIT SWITCHES

1. With unit in fully stowed position, place a 2x4 under pothole bar, so that bars will not fully deploy.
2. At control box on platform, raise unit until pothole system attempts to deploy. Continue to raise platform until it reaches approximately 8 feet. Unit should not drive, but will continue to lift and lower.
3. If unit continues to drive, readjustment of switches is necessary for the safe operation of this unit.

BATTERIES**WARNING**

NEVER SMOKE OR USE OTHER COMBUSTIBLES NEAR BATTERY OR WHILE SERVICING BATTERY OR OTHER COMPONENTS. PROVIDE PLENTY OF VENTILATION AS PRESENCE OF HYDROGEN FUMES COULD LEAD TO EXPLOSION.

The units are equipped with 4 heavy duty, deep cycle batteries. Battery care and maintenance depends upon the frequency of their use.

Battery wiring and water level should be checked daily. Check and fill batteries after every 15 hours of use or when recharging. Do not overfill batteries. Do not allow batteries to remain discharged. Do not run batteries dead. Put battery on charge when approximately 80% discharged. This is measured as a hydrometer reading of 1.155 at 80° F (26.6° C).

The following paragraphs contain notes and procedures for checking and filling batteries and charging batteries.

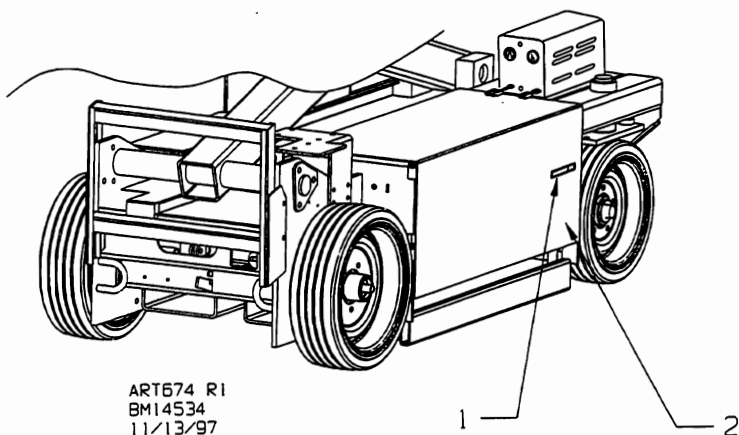
Checking and Filling Batteries**CAUTION**

DO NOT OVERFILL. When battery cells are filled too full, battery fluid will expand as it warms from charging and will seep out of the battery. When water is then added, the solution is weakened and a loss of ampere hour capacity results.

NEVER add acid to battery. The solution is at its proper strength when the battery is manufactured. Use distilled water and maintain proper fluid level. When required, add water to battery AFTER charging, unless water level is below the top of the plates.

Check and fill batteries, after every 15 hours of use or when recharging, as follows:

1. Release latch and pivot battery tray cover open.
2. If there is any dirt or corrosion on battery, wash with a solution of 5 teaspoons baking soda per quart of warm water.



Battery Tray Cover

3. Remove battery caps and check fluid.
4. Fill, as needed, as follows:
 - a. **Before** charging, fluid must be above plates in battery.
 - b. **After** charging, fill to split ring. **Do not over-fill.**
5. Coat terminals with petroleum jelly or equivalent coating.

Charging Batteries

**WARNING**

NEVER SMOKE OR USE OTHER COMBUSTIBLES NEAR BATTERY OR WHILE SERVICING BATTERY OR OTHER COMPONENTS. PROVIDE PLENTY OF VENTILATION AS PRESENCE OF HYDROGEN FUMES COULD LEAD TO EXPLOSION.

1. Release latch and pivot battery tray cover open.
2. Remove battery caps, check fluid level and fill, if needed, to top of plates only.
3. Reinstall battery caps before charging.
4. Turn timer switch to OFF position.
5. Connect extension cord plug to 115V AC receptacle.
6. Insert input AC power plug of charger into receptacle of extension cord.

7. Turn time switch to ON position for a 16 hour charging period or to a lesser amount of time as desired. Pilot light will illuminate and charge rate amperage meter will indicate a charge rate. Charger will turn off automatically when timer runs out.
8. When charging is complete, place timer switch in OFF position and disconnect power cable from input AC power plug.
9. Remove battery caps, check fluid level and fill if needed, to split ring and reinstall caps.

Surrounding temperature has a considerable effect on the power reserve in a battery.

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

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

A battery 46% charged at 80° F (26.6° C):

- drops to 32% at 31° F (-1° C)
- drops to 21% at 0° F (-32° C)

Whenever the battery temperature reaches 125° F (93° C), the charging rate should be reduced or the battery taken off charge and cooled to room temperature.

Monthly equalizing charges of 25% over the regular charge are recommended. The equalizing charge must be delivered at a low rate to eliminate excessive gassing.

Bring batteries to a full charge as soon as possible after a period of continual use. A full charge is measured by a hydrometer reading of 1.265 at 80° F (26.6° C).

Lead plates in discharged batteries will harden and become sulfated, which will shorten battery life as much as overcharging. Sulfated batteries fail to deliver rated capacity or fully charge.

Several long, slow charges (at a low rate to avoid gassing) and fast discharges are then necessary to correct the sulfation and hardened plates.

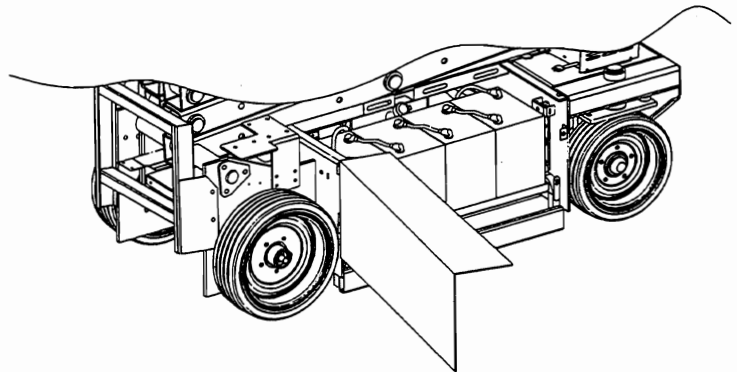
Do not overcharge battery as this causes the battery to boil dry.

BATTERY REPLACEMENT

**WARNING****ELECTRIC SERIES MACHINES SPECIAL MAINTENANCE CONCERNS**

- TO MINIMIZE THE RISK OF FIRE, ELECTRIC SHOCK OR EXPLOSION, THE FOLLOWING MAINTENANCE PROCEDURES AND INSPECTIONS ARE PARTICULARLY IMPORTANT FOR ELECTRICALLY POWERED UNITS:
 1. KEEP MACHINE CLEAR OF LUBRICANTS AND OTHER COMBUSTIBLE MATERIAL.
 2. INSPECT WIRING REGULARLY FOR FRAYED OR DETERIORATED INSULATION. IMMEDIATELY REPLACE OR REPAIR A WIRE HARNESS OR INDIVIDUAL WIRE THAT HAS FRAYED OR DETERIORATED INSULATION.
 3. CHECK BRAKES AT THE RECOMMENDED INTERVALS, AND MAKE ADJUSTMENTS WHEN REQUIRED.
- NEVER SMOKE OR USE OTHER COMBUSTIBLES NEAR BATTERY OR WHILE SERVICING BATTERY OR OTHER COMPONENTS. PROVIDE PLENTY OF VENTILATION AS PRESENCE OF HYDROGEN FUMES COULD LEAD TO AN EXPLOSION.

1. Install maintenance locks.
2. Turn BATTERY DISCONNECT handle upright to remove batteries from all electrical circuits.
4. Note and record battery positions and battery cable connections by drawing a sketch and/or tagging all items to ensure proper installation of new batteries.
5. Disconnect all battery cables.
6. Remove old batteries.



ART675 R0
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9/18/97

Battery Replacement

LUBRICATION

These units are almost lubrication free. Pivot points within the scissors frame feature self-lubricating bearings. All other lubrication maintenance is performed annually or semiannually. Refer to Lubrication Chart for schedule.

Lubrication Chart

		WEEKLY	SEMIANNUALLY	ANNUALLY
RAILS	Sheet Gate Slide Area		LIGHT GREASE	
SCISSORS	Platform Slides (1) Base Slides (2)		LIGHT GREASE LIGHT GREASE	
REAR AXLE	Rear Hubs			BEARING GREASE
BATTERIES	Battery Water	DISTILLED WATER		
HYDRAULICS	Hydraulic Oil			STANDARD 10W NON-DETERGENT HYDRAULIC OIL
	Hydraulic Oil Filter			10 MICRON SPIN-ON (P/N 6156)

**WARNING**

ALL PIVOT AREAS OF SCISSORS AND LIFT CYLINDER MUST BE CHECKED FOR WEAR. A LOUD SCRAPING NOISE MEANS THE D.U. BEARINGS ARE DAMAGED AND NEED REPLACING. FAILURE TO DO SO WILL RESULT IN EXTENSIVE DAMAGE TO STRUCTURAL MEMBERS AND BUSHINGS WHICH WOULD CREATE A HAZARDOUS CONDITION AND COULD RESULT IN INJURY OR DEATH TO PERSONNEL.




INSPECTION**Structural Inspection**

Check machine for bent structural membranes (beams, main frame, platform, pivot pins, etc.). Machines which have been overloaded could have bent members and fatigued pivot pins. Replace all bent members and pins to ensure a safe operating machine.

Check bushings in scissor beams for broken or cracked welds. Replace beams if bushing welds are cracked or if bushings are elongated.

The Quarterly Inspection Schedule Checklist is also used to examine the unit after periods of storage, exposure to extremes of heat, cold, moisture, dust, etc. Use it to inspect units after a change in environmental conditions, i.e., winter, summer or geographical location.

Table 2-7. Bolt Torque

			
Bolts	Grade 2	Grade 5	Grade 8
1/4-20	49 in. lbs.	76 in. lbs.	9 ft. lbs.
5/16-18	8 ft. lbs.	13 ft. lbs.	18 ft. lbs.
3/8-16	15 ft. lbs.	23 ft. lbs.	33 ft. lbs.
7/16-14	24 ft. lbs.	37 ft. lbs.	52 ft. lbs.
1/2-13	37 ft. lbs.	57 ft. lbs.	80 ft. lbs.

Grade markings for bolts grades 2, 5 and 8 are based on SAE J429. Markings may be raised or depressed (manufacturer's option).

NOTE

Any bolt replacement should be of the same grade or greater than original bolt. Any questions, call factory for verification.

NOTES

GENERAL TROUBLESHOOTING

The 1932ES / 1532ES are an electric-over-hydraulic operated unit. Therefore, the first step when troubleshooting or repairing a functional defect is to check the electrical side of the system and make sure it is functioning properly. Check that all wiring is in good condition and all terminations are secure and making a good contact. Check that all switches, especially limit switches, are in place and functioning properly.

The electrical system is numbered for identification. The numbering system is based on the terminal strip. All wires going through terminal (1) will be marked as number one (1).

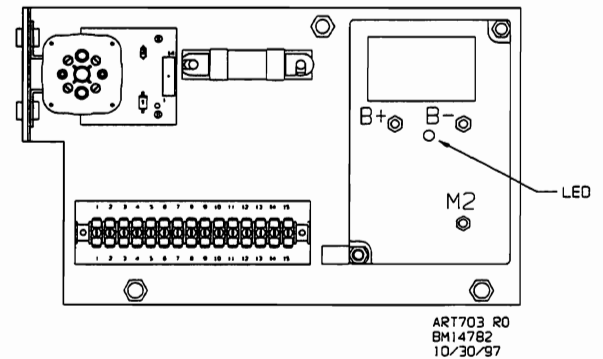
Electrical and Hydraulic diagrams are drawn with the unit in the stowed position, and with no functions actuated.

Illustrations of each of the manifolds are presented to aid in indentifying the individual valves for servicing. The pressures listed in the hydraulic diagram are taken at the test plug point in the hydraulic system.

MOTOR CONTROLLED LED DIAGNOSTIC SYSTEM

The LED diagnostic system located within the electrical compartment located on the left side of the unit. Open door for access to the diagnostic system.

The number of flashes from the green LED light signals potential problems. See table below for specific diagnostic information.



LED Diagnostics

The number of flashes from the green LED light signals potential problems. See table below for specific diagnostic information.

LED Diagnostics Definitions

LED READING	DIAGNOSIS
1. LED on	Controller is operational
2. LED off	Internal fault
3. 2 flashes	<p>Procedure fault:</p> <p>A) DIRECTION, ENABLE BAR, STEER or LIFT selected at power on.</p> <p>B) DIRECTION, LIFT or STEER selected without ENABLE BAR.</p> <p>C) ENABLE BAR NEUTRAL 5 second time out.</p> <p>Recycle through NEUTRAL to clear.</p>
4. 3 flashes	<p>Motor shorted internally/externally:</p> <p>This includes MOSFET short circuit. This fault shuts down all modes.</p> <p>Recycle through NEUTRAL to clear after repairing shorted motor or controller.</p>

LED Diagnostics Definitions - Continued

LED READING	DIAGNOSIS
5. 4 flashes	<p>Motor open circuit:</p> <p>This includes MOTOR line contactor welded. This fault shuts down all modes.</p> <p>Key switch recycle to clear. Replace motor or contactor.</p>
6. 5 flashes	<p>Motor neither shorted or open circuit:</p> <p>This includes MOTOR contactor open circuit, MOSFET open circuit and hardware fail-safe trip. This fault shuts down all modes.</p> <p>Key switch recycle to clear. Replace motor, contactor or controller.</p>
7. 6 flashes	<p>Faulty TRACTION accelerator:</p> <p>This includes TRACTION accelerator greater than 15% at power on, and wire off. If wire off occurs during active function, motor speed will default to accelerator fault creep.</p>
8. 7 flashes	<p>Battery voltage fault:</p> <p>This includes battery voltage below 12 volts or exceeds 45 volts.</p> <p>NEUTRAL recycle to clear.</p>
9. 8 flashes	<p>Thermal cutback:</p> <p>This includes MOSFET temperature above 176° F (80° C).</p>
10. 9 flashes	<p>Battery voltage at or below 18 volt fault:</p> <p>This will open the LIFT UP contactor.</p> <p>NEUTRAL recycle to clear.</p>

SERVICE HELPS

If unit is not functioning, check the following items BEFORE calling a service technician:

1. Battery disconnect is pushed in.
2. Key switch is turned on.
3. Circuit breaker is reset.
4. Emergency stop switch is on (base and platform).
5. 200 Amp motor fuse is operational.
6. Enable bar is being held in.

ALWAYS check the above items before continuing. The following Troubleshooting Table assumes all of these items have been checked and are functioning properly.

The troubleshooting sequence in the table is presented in a logical order beginning with the most likely and ending with the least likely.

Perform tests for all possible defects to determine the proper input and output of each component. If the result is not satisfactory, reference the probable solution category.

Troubleshooting Table

PROBLEM	POSSIBLE DEFECT	PROBABLE SOLUTION
1. Motor does not run on any one or more functions.	A. Defective enable switch. B. Defective motor contactor. C. Defective diode board. D. Defective motor controller. E. Faulty wiring to/from component. F. Defective electric motor.	A. Replace enable switch. B. Replace motor contactor. C. Replace diode board. D. Replace motor controller. E. Repair wiring. F. Replace electric motor.
2. Motor runs, but functions are inoperative.	A. Low oil level. B. Defective hydraulic pump. C. Mis-adjusted main relief valve. D. Defective main relief valve. E. Faulty wiring to operating switches.	A. Add oil. B. Replace hydraulic pump. C. Adjust valve. D. Replace main relief valve. E. Repair wiring.
3. Unit does not steer.	A. Defective steering switch(es). B. Defective steering valve coil(s). C. Defective steering valve(s). D. Defective diode board. E. Defective motor controller. F. Faulty wiring to/from steering circuit.	A. Replace steering switch(es). B. Replace steering valve coil(s). C. Replace steering valve(s). D. Replace diode board. E. Replace motor controller. F. Repair wiring.
4. Unit does not drive (forward, reverse or both directions).	A. Defective drive switch(es). B. Defective mode switch. C. Defective drive valve coil(s). D. Defective drive valve(s). E. Defective brake valve coil. F. Defective brake valve. G. Faulty brake cylinder packings. H. Defective counter balance valve. I. Defective diode board. J. Defective motor controller. K. Faulty wiring to/from drive circuit. L. Defective control potentiometer. M. Defective hydraulic drive motor(s).	A. Replace drive switch(es). B. Replace mode switch. C. Replace drive valve coil(s). D. Replace drive valve(s). E. Replace brake valve coil. F. Replace brake valve. G. Replace brake cylinder packings. H. Replace counter balance valve. I. Replace diode board. J. Replace motor controller. K. Repair wiring. L. Replace control potentiometer. M. Replace hydraulic drive motor(s).
5. Torque function inoperative.	A. Platform elevated above 7 feet. B. Speed limit switch misadjusted. C. Defective torque switch. D. Defective torque valve coil(s). E. Defective torque valve(s). F. Defective flow divider. G. Faulty wiring to/from torque circuit.	A. Lower platform to stowed position. B. Readjust speed limit switch. C. Replace torque switch. D. Replace torque valve coil(s). E. Replace torque valve(s). F. Replace flow divider. G. Repair wiring.

Troubleshooting Table - Continued

PROBLEM	POSSIBLE DEFECT	PROBABLE SOLUTION
6. Platform will not lift.	<p>A. Platform load exceeds capacity rating.</p> <p>B. Defective base lift/lower switch.</p> <p>C. Defective platform lift switch.</p> <p>D. Defective mode select switch.</p> <p>E. Defective pothole limit switch(es).</p> <p>F. Misadjusted pothole limit switch(es).</p> <p>G. Defective lift valve coil.</p> <p>H. Defective lift valve.</p> <p>I. Defective diode board.</p> <p>J. Defective motor controller.</p> <p>K. Misadjusted lift relief valve.</p> <p>L. Defective lift relief valve.</p> <p>M. Defective manifold velocity fuse.</p> <p>N. Defective down valve.</p> <p>O. Defective lift cylinder velocity fuse.</p> <p>P. Defective lift cylinder packings.</p> <p>Q. Faulty wiring to/from lift circuit.</p> <p>R. Defective control potentiometer.</p> <p>S. Structural damage.</p>	<p>A. Reduce load weight.</p> <p>B. Replace base lift/lower switch.</p> <p>C. Replace platform lift switch.</p> <p>D. Replace mode select switch.</p> <p>E. Replace pothole switch(es).</p> <p>F. Readjust pothole limit switch(es).</p> <p>G. Replace lift valve coil.</p> <p>H. Replace lift valve.</p> <p>I. Replace diode board.</p> <p>J. Replace motor controller.</p> <p>K. Adjust valve.</p> <p>L. Replace and readjust lift relief valve.</p> <p>M. Replace manifold velocity fuse.</p> <p>N. Replace down valve.</p> <p>O. Replace lift cylinder velocity fuse.</p> <p>P. Replace lift cylinder packings.</p> <p>Q. Repair wiring.</p> <p>R. Replace control potentiometer.</p> <p>S. Consult factory.</p>
7. Platform will not lower.	<p>A. Lift cylinder velocity fuse locked.</p> <p>B. Defective lowering valve coil.</p> <p>C. Defective lowering valve.</p> <p>D. Defective platform lowering switch.</p> <p>E. Defective base lift/lower switch.</p> <p>F. Defective mode select switch.</p> <p>G. Faulty wiring to/from lowering circuit.</p>	<p>A. Activate unit to lift platform 1". Wait 5 seconds before attempting to lower platform.</p> <p>B. Replace lowering valve coil.</p> <p>C. Replace lowering valve.</p> <p>D. Replace platform lowering switch.</p> <p>E. Replace base lift/lower switch.</p> <p>F. Replace mode select switch.</p> <p>G. Repair wiring.</p>
8. Platform "drifts" down.	<p>A. Defective down valve.</p> <p>B. Defective cylinder packings.</p>	<p>A. Clean or replace down valve.</p> <p>B. Replace cylinder packings.</p>
9. Optional DC/AC converter does not activate power tool(s).	<p>A. Variable speed equipment does not activate.</p>	<p>A. Plug in a trouble light to provide a constant current draw.</p>

NOTES

1932ES \ 1532ES ELECTRICAL SCHEMATIC

19' SERIAL #9100101 THROUGH #PRESENT
15' SERIAL #9000101 THROUGH #PRESENT

WIRE HARNESS
PART NUMBERS:
MAIN: 9036
CONTROL BOX: 8346, 8331
CORD: 7656
BEAMS 19': 9055, 9056, 9057
MOTION ALARM: 8782
HOUR METER: 8783
BATTERY GAGE: 8784
BEAMS 15': 9058, 9059, 9060

o/o N/C

o/o N/C HELD OPEN

o/o N/D

o/o N/D HELD CLOSED

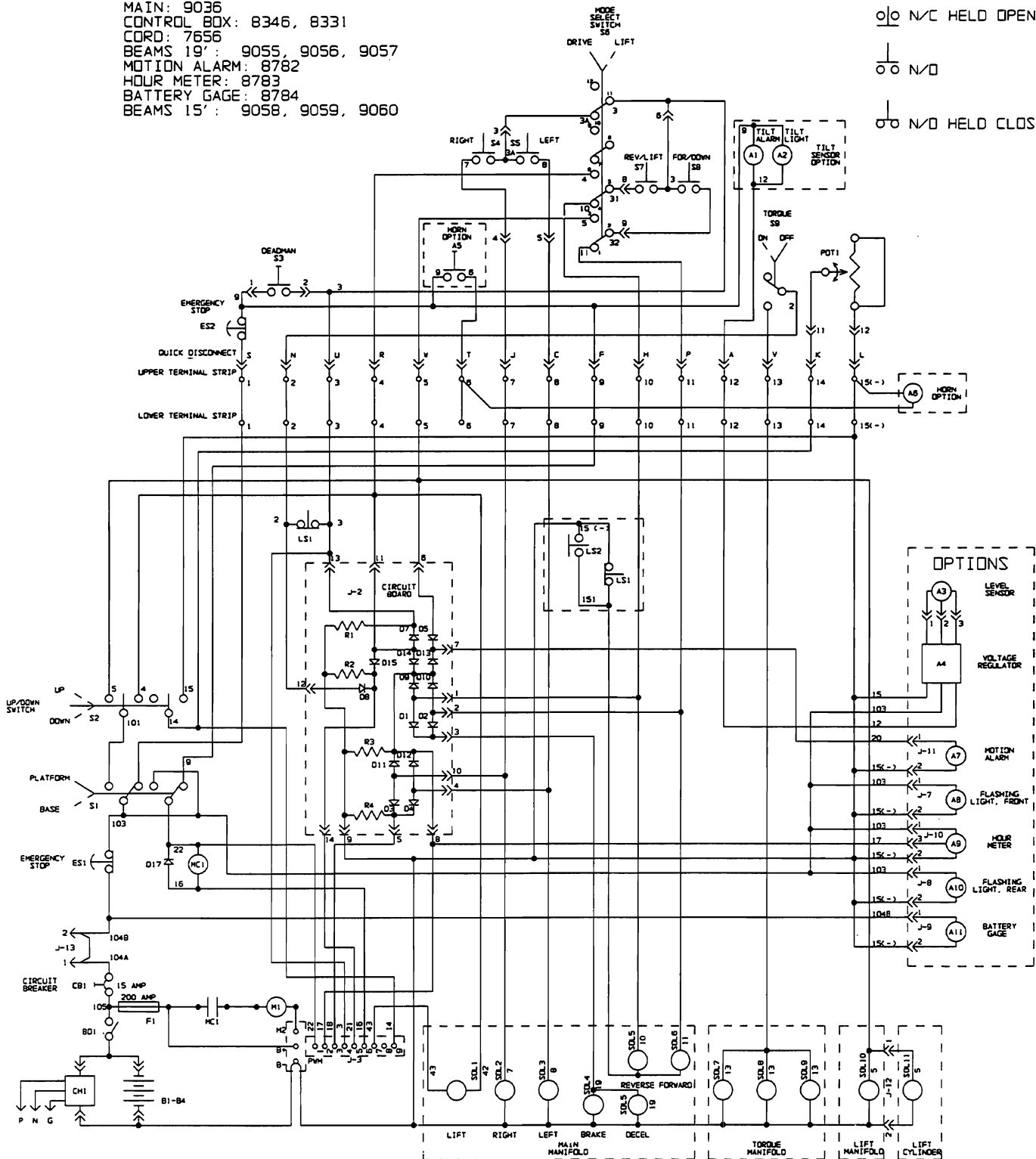


Fig. 2-1 1932ES / 1532ES Electrical Schematic

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1932ES \ 1532ES ELECTRICAL SCHEMATIC

19' SERIAL #9100101 THROUGH #9100400
15' SERIAL #9000101 THROUGH #9000125

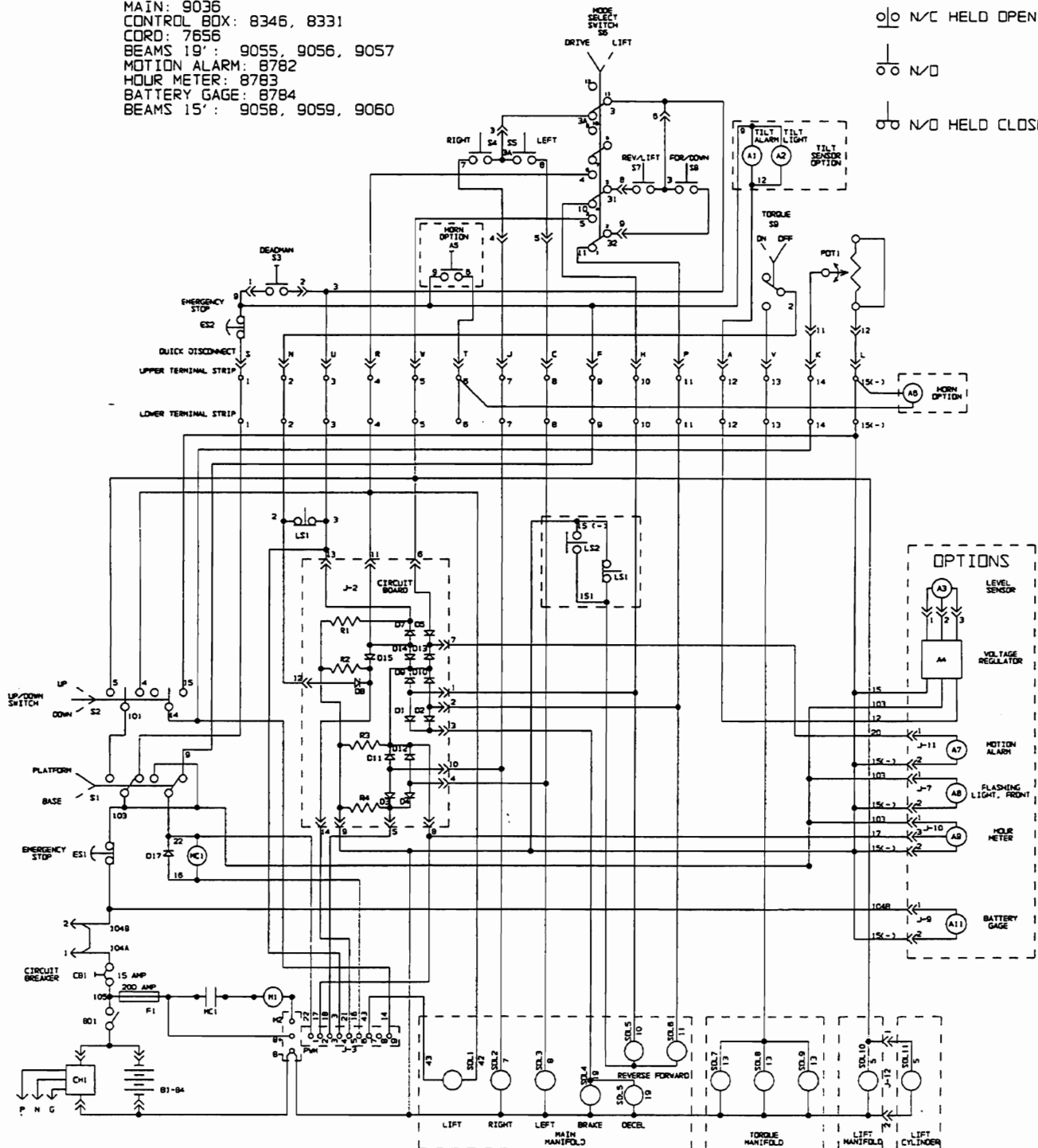
WIRE HARNESS
PART NUMBERS:
MAIN: 9036
CONTROL BOX: 8346, 8331
CORD: 7656
BEAMS 19': 9055, 9056, 9057
MOTION ALARM: 8782
HOUR METER: 8783
BATTERY GAGE: 8784
BEAMS 15': 9058, 9059, 9060

o/o N/C

o/o N/C HELD OPEN

o/o N/D

o/o N/D HELD CLOSED



ART681 R0
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Figure 2-1. 1932ES/1532ES Electrical Schematic

8971R1

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SWITCH S1 "BASE\PLATFORM SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT POSITION WHEN HELD IN THE BASE POSITION AND AUTOMATICALLY RETURNS TO THE PLATFORM POSITION AND MAKES CONTACT TO THE RIGHT POSITION WHEN RELEASED.
2. SWITCH S2 "UP\DOWN SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT WHEN THE SWITCH IS HELD IN THE DOWN POSITION AND AUTOMATICALLY RETURNS TO THE CENTER POSITION WHEN RELEASED.
3. SWITCH LS1 BREAKS THE N/C SET OF CONTACTS WHEN THE PLATFORM REACHES APPROXIMATELY 7 FEET.
4. SWITCH LS2 MAKES THE N/C SET OF CONTACTS WHEN THE POTHOLE BARS ARE DOWN AND LOCKED IN PLACE.
5. UNIT SHOWN IN STOWED POSITION WITH POTHOLE BAR IN UP POSITION.

ITEM	PART NO.	QTY.	DESCRIPTION	FUNCTION	LOCATION
A1-A4	13485	1	TYLT SENSOR OPTION PACKAGE	WARN WHEN MACHINE IS AT 4 DEG.	UNDER CHARGER & IN CONTROL BOX
A5-A6	13511	1	PLATFORM MOUNTED HORN PACKAGE	OPERATOR ACTIVATED HORN	CONTROL BOX AND UNDER PLATFORM
A7	13856	1	MOTION ALARM PACKAGE	WARN OF A MOVEMENT	BEHIND LOWER CONTROL PANEL
A8	25302	1	FLASHING LIGHT PACKAGE	WARN OF A POWERED UP MACHINE	NEXT TO TANK, NEXT TO CHARGER
A9	13855	1	HOUR METER PACKAGE	RECORD TIME THAT IS MACHINE IS BEING USED	LOWER CONTROL PANEL
A11	13854	1	BATTERY INDICATOR PACKAGE	SHOW BATTERY STATUS	LOWER CONTROL PANEL
B1-B4	XXXX	4	6 VOLT DEEP CYCLE BATTERY	POWER FOR THE MOTOR AND CONTROL CIRCUIT	INSIDE BATTERY COMPARTMENT
B01	8841	1	SWITCH BATTERY DISCONNECT	DISCONNECT ALL ELECTRICAL POWER	MOTOR CABINET
C01	7235	1	CIRCUIT BREAKER - 15 AMP MANUAL	CONTROL CIRCUIT PROTECTION	LOWER CONTROL PANEL
MC1	5957	1	24 VOLT CONTACTOR	ALLOW MOTOR TO TURN ON	MOTOR CABINET
D1-D15 R1-R4	8601	1	CIRCUIT BOARD FOR UNITS W/ SEVCON	DIRECT SIGNALS TO THE PROPER LOCATION	MOTOR CABINET NEAR TERM. STRIP
D17	8368	1	DIODE W/ RING TERMINALS	SUPRESION DIODE	ACROSS CONTACTOR COIL
ES1	7800	1	SWITCH, EMERGENCY STOP	SHUTDOWN ALL MOVING FUNCTIONS	LOWER CONTROL PANEL
ES2	7800	1	SWITCH, EMERGENCY STOP	SHUTDOWN ALL PLATFORM MOVING FUNCTIONS	UPPER CONTROL BOX
F1	8344	1	FUSE, 200 AMP	MAIN LINE FUSE	MOTOR CABINET
LS1	8932	1	SWITCH, LIMIT: DOUBLE POLE	ENABLE HIGH SPEED	UNDER CHARGER
LS2	8776	1	SWITCH, LIMIT: SINGLE POLE	ENABLE DRIVE IF POTHOLE SYSTEM IS DEPLOYED	
M1	8544	1	MOTOR, 24 VOLT, 2 HP	DETECT POTHOLE BAR LOCATION	UNDER CHARGER
PWM	8539	1	CONTROLLER, DC 250 AMP	TURN THE HYDRAULIC PUMP	MOTOR CABINET
POT1	13527	1	POTENTIOMETER, 20K OHMS	CHANGES THE MOTOR SPEED	MOTOR CABINET
S1	9050	1	SWITCH, TOGGLE 2 POLE 2 POS.	SENSES THE OPERATOR INPUT	UPPER CONTROL BOX
S2	5694	1	SWITCH, TOGGLE 2 POLE 3 POS.	ALLOWS BASE OR PLATFORM CONTROLS TO BE USED	LOWER CONTROL PANEL
S3	8753	1	SWITCH, PUSH-BUTTON	ALLOWS LIFT/LOWER FUNCTIONS AT BASE CONTROLS	LOWER CONTROL PANEL
S4	8448	1	SWITCH, LIMIT V3	ENABLES OTHER FUNCTION TO BE USED AT PLATFORM	UPPER CONTROL BOX, HANDLE
S5	8448	1	SWITCH, LIMIT V3	RIGHT TURN SWITCH	UPPER CONTROL BOX, HANDLE
S6	8638	1	SWITCH, TOGGLE 4 POLE 2 POS.	LEFT TURN SWITCH	UPPER CONTROL BOX, HANDLE
S7	8696	1	SWITCH, LIMIT V7	ALLOW EITHER LIFT OR DRIVE FUNCTIONS	UPPER CONTROL BOX
S8	8696	1	SWITCH, LIMIT V7	REVERSE OR LIFT SWITCH	UPPER CONTROL BOX
S9	5630	1	SWITCH, TOGGLE 1 POLE 2 POS.	FORWARD OR DOWN SWITCH	UPPER CONTROL BOX
SOL1	8914	1	COIL, 24 VOLT 2 SPADE	TORQUE SWITCH	UPPER CONTROL BOX
SOL2	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES LIFT VALVE	MAIN MANIFOLD
SOL3	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES RIGHT TURN VALVE	MAIN MANIFOLD
SOL4	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES LEFT TURN VALVE	MAIN MANIFOLD
SOL5	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES BRAKE VALVE	MAIN MANIFOLD
SOL6	8914	1	COIL, 24 VOLT 2 SPADE	DECAL VALVE	MAIN MANIFOLD
SOL7	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES REVERSE	MAIN MANIFOLD
SOL8,9,10	8914	3	COIL, 24 VOLT 2 SPADE	ACTIVATES FORWARD	MAIN MANIFOLD
SOL11	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES TORQUE VALVES	TORQUE MANIFOLD
SOL12	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES DOWN VALVE	LIFT MANIFOLD
				ACTIVATES DOWN VALVE	LIFT CYLINDER

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Figure 2-1 (cont'd). 1932ES/1532ES Electrical Schematic

8971R1

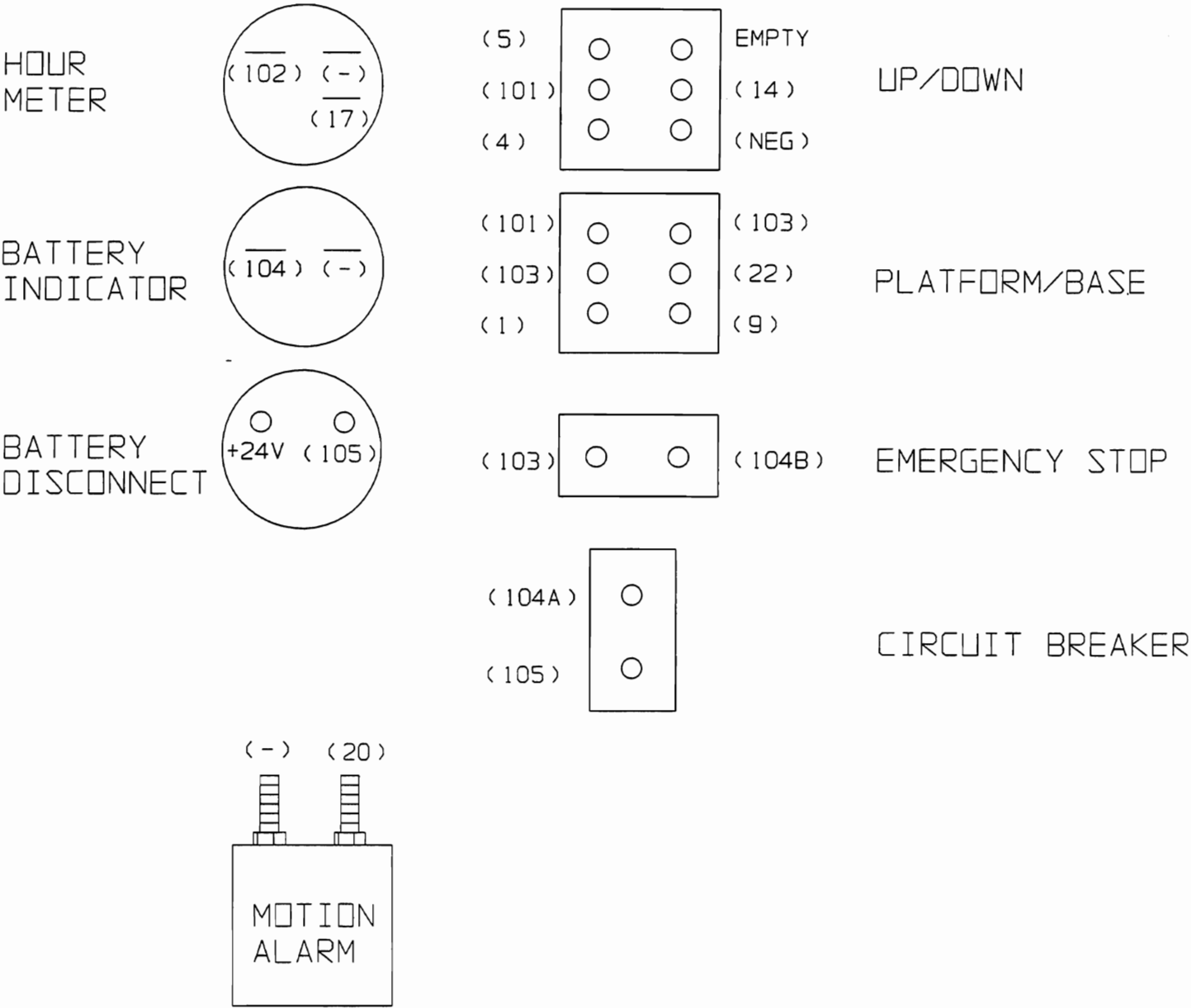
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SWITCH S1 "BASE\PLATFORM SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT POSITION WHEN HELD IN THE BASE POSITION AND AUTOMATICALLY RETURNS TO THE PLATFORM POSITION AND MAKES CONTACT TO THE RIGHT POSITION WHEN RELEASED.
2. SWITCH S2 "UP\DOWN SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT WHEN THE SWITCH IS HELD IN THE DOWN POSITION AND AUTOMATICALLY RETURNS TO THE CENTER POSITION WHEN RELEASED.
3. SWITCH LS1 BREAKS THE N/C SET OF CONTACTS WHEN THE PLATFORM REACHES APPROXIMATELY 7 FEET.
4. SWITCH LS2 MAKES THE N/C SET OF CONTACTS WHEN THE POT HOLE BARS ARE DOWN AND LOCKED IN PLACE.
5. UNIT SHOWN IN STOWED POSITION WITH POT HOLE BAR IN UP POSITION.

ITEM	PART NO.	QTY.	DESCRIPTION	FUNCTION	LOCATION
A1-A4	13485	1	TILT SENSOR OPTION PACKAGE	WARN WHEN MACHINE IS AT 4 DEG.	UNDER CHARGER & IN CONTROL BOX
A5-A6	13511	1	PLATFORM MOUNTED HORN PACKAGE	OPERATOR ACTIVATED HORN	CONTROL BOX AND UNDER PLATFORM
A7	13856	1	MOTION ALARM PACKAGE	WARN OF A MOVEMENT	BEHIND LOWER CONTROL PANEL
A8, A10	25302	2	FLASHING LIGHT PACKAGE	WARN OF A POWERED UP MACHINE	NEXT TO TANK, NEXT TO CHARGER
A9	13855	1	HOUR METER PACKAGE	RECORD TIME THAT IS MACHINE IS BEING USED	LOWER CONTROL PANEL
A11	13854	1	BATTERY INDICATOR PACKAGE	SHOW BATTERY STATUS	LOWER CONTROL PANEL
B1-B4	XXXX	4	6 VOLT DEEP CYCLE BATTERY	POWER FOR THE MOTOR AND CONTROL CIRCUIT	INSIDE BATTERY COMPARTMENT
B01	8841	1	SWITCH BATTERY DISCONNECT	DISCONNECT ALL ELECTRICAL POWER	MOTOR CABINET
C01	7235	1	CIRCUIT BREAKER - 15 AMP MANUAL	CONTROL CIRCUIT PROTECTION	LOWER CONTROL PANEL
MC1	5967	1	24 VOLT CONTACTOR	ALLOW MOTOR TO TURN ON	MOTOR CABINET
D1-D15 R1-R4	8601	1	CIRCUIT BOARD FOR UNITS W/ SEVCON	DIRECT SIGNALS TO THE PROPER LOCATION	MOTOR CABINET NEAR TERM. STRIP
D17	8368	1	DIODE W/ RING TERMINALS	SUPRESION DIODE	ACROSS CONTACTOR COIL
ES1	7800	1	SWITCH, EMERGENCY STOP	SHUTDOWN ALL MOVING FUNCTIONS	LOWER CONTROL PANEL
ES2	7800	1	SWITCH, EMERGENCY STOP	SHUTDOWN ALL PLATFORM MOVING FUNCTIONS	UPPER CONTROL BOX
F1	8344	1	FUSE, 200 AMP	MAIN LINE FUSE	MOTOR CABINET
LS1	8932	1	SWITCH, LIMIT: DOUBLE POLE	ENABLE HIGH SPEED	UNDER CHARGER
				ENABLE DRIVE IF POT HOLE SYSTEM IS DEPLOYED	
LS2	8776	1	SWITCH, LIMIT: SINGLE POLE	DETECT POT HOLE BAR LOCATION	UNDER CHARGER
M1	8544	1	MOTOR, 24 VOLT, 2 HP	TURN THE HYDRAULIC PUMP	MOTOR CABINET
PWM	8539	1	CONTROLLER, DC 250 AMP	CHANGES THE MOTOR SPEED	MOTOR CABINET
POT1	13527	1	POTENTIOMETER, 20K OHMS	SENSES THE OPERATOR INPUT	UPPER CONTROL BOX
S1	9050	1	SWITCH, TOGGLE 2 POLE 2 POS.	ALLOWS BASE OR PLATFORM CONTROLS TO BE USED	LOWER CONTROL PANEL
S2	5694	1	SWITCH, TOGGLE 2 POLE 3 POS.	ALLOWS LIFT/LOWER FUNCTIONS AT BASE CONTROLS	LOWER CONTROL PANEL
S3	8753	1	SWITCH, PUSH-BUTTON	ENABLES OTHER FUNCTION TO BE USED AT PLATFORM	UPPER CONTROL BOX, HANDLE
S4	8448	1	SWITCH, LIMIT V3	RIGHT TURN SWITCH	UPPER CONTROL BOX, HANDLE
S5	8448	1	SWITCH, LIMIT V3	LEFT TURN SWITCH	UPPER CONTROL BOX, HANDLE
S6	8638	1	SWITCH, TOGGLE 4 POLE 2 POS.	ALLOW EITHER LIFT OR DRIVE FUNCTIONS	UPPER CONTROL BOX
S7	8696	1	SWITCH, LIMIT V7	REVERSE OR LIFT SWITCH	UPPER CONTROL BOX
S8	8696	1	SWITCH, LIMIT V7	FORWARD OR DOWN SWITCH	UPPER CONTROL BOX
S9	5630	1	SWITCH, TOGGLE 1 POLE 2 POS.	TORQUE SWITCH	UPPER CONTROL BOX
SOL1	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES LIFT VALVE	MAIN MANIFOLD
SOL2	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES RIGHT TURN VALVE	MAIN MANIFOLD
SOL3	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES LEFT TURN VALVE	MAIN MANIFOLD
SOL4	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES BRAKE VALVE	MAIN MANIFOLD
SOL5	8914	1	COIL, 24 VOLT 2 SPADE	DECAL VALVE	MAIN MANIFOLD
SOL6	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES REVERSE	MAIN MANIFOLD
SOL7	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES FORWARD	MAIN MANIFOLD
SOL8, 9, 10	8914	3	COIL, 24 VOLT 2 SPADE	ACTIVATES TORQUE VALVES	TORQUE MANIFOLD
SOL11	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES DOWN VALVE	LIFT MANIFOLD
SOL12	8914	1	COIL, 24 VOLT 2 SPADE	ACTIVATES DOWN VALVE	LIFT CYLINDER

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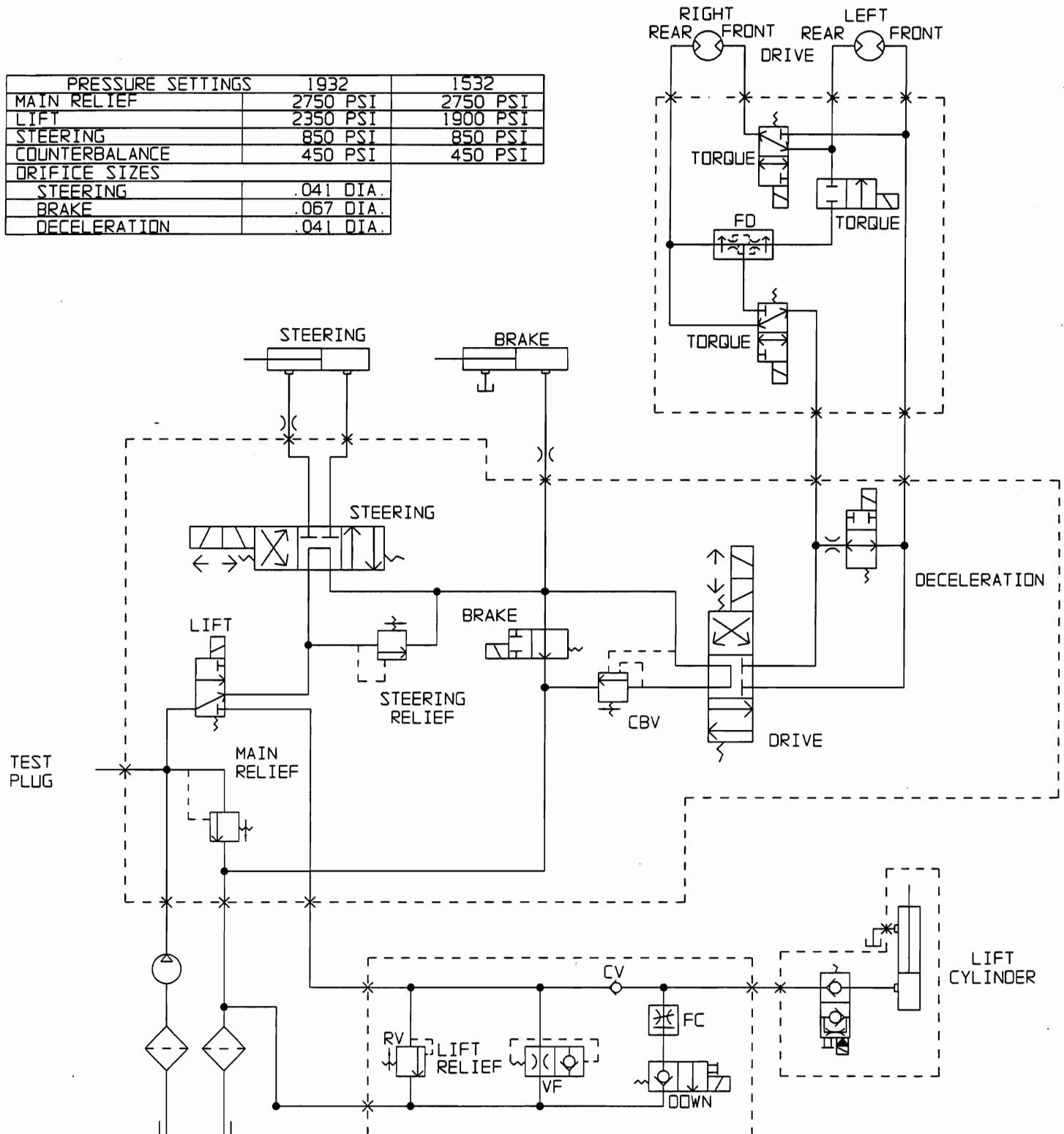
Fig. 2-1 (cont.) 1932ES / 1532ES Electrical Schematic



ART704 R0
BM14783
11/3/97

Fig. 2-1 (cont.) 1932ES / 1532ES Electrical Schematic

PRESSURE SETTINGS		1932	1532
MAIN RELIEF		2750 PSI	2750 PSI
LIFT		2350 PSI	1900 PSI
STEERING		850 PSI	850 PSI
COUNTERBALANCE		450 PSI	450 PSI
ORIFICE SIZES			
STEERING		.041 DIA.	
BRAKE		.067 DIA.	
DECELERATION		.041 DIA.	

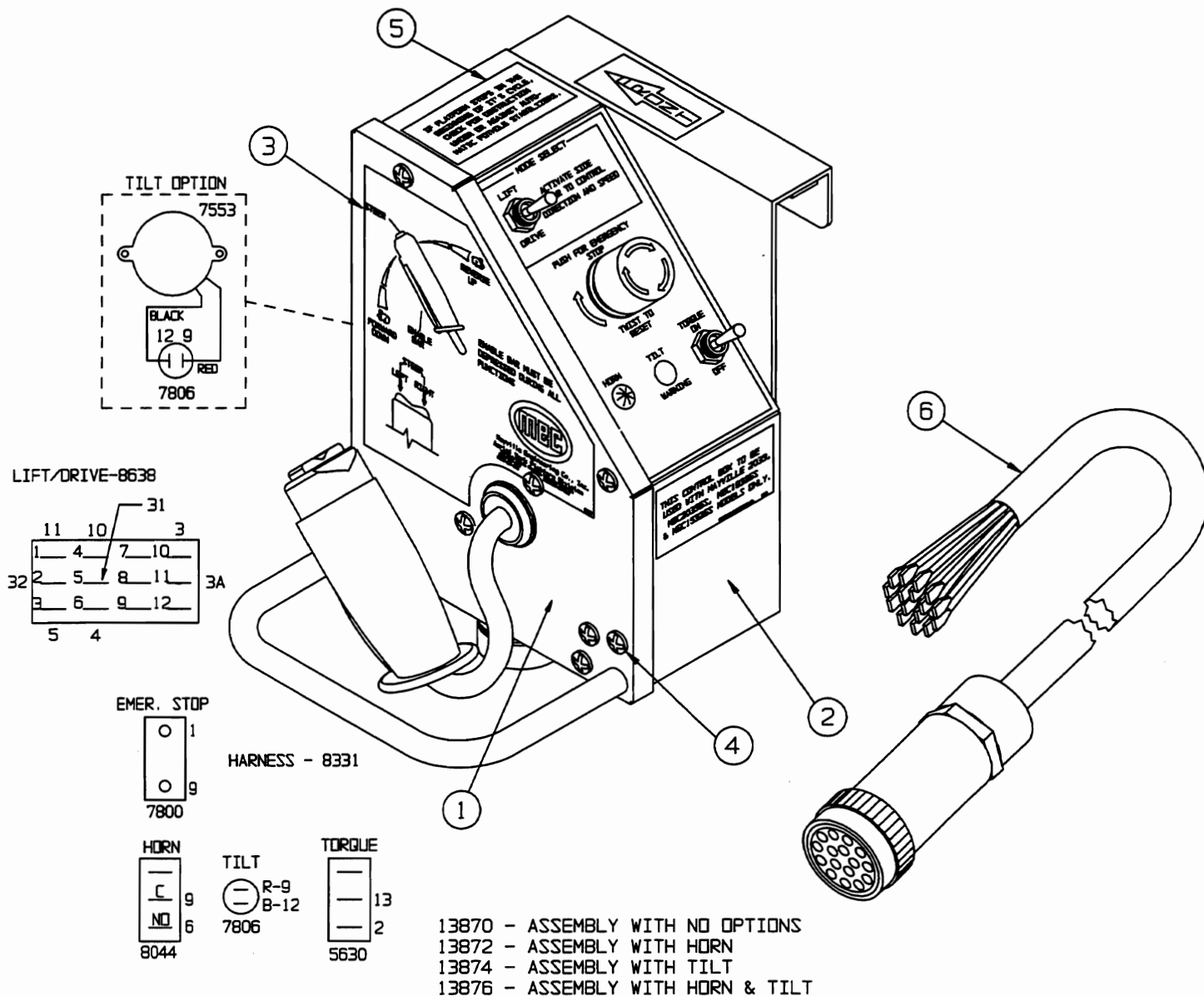


ART699 R0
BM14730
11/04/97

Fig. 2-2 1932ES / 1532ES Hydraulic Schematic

NOTES

Control Boxes



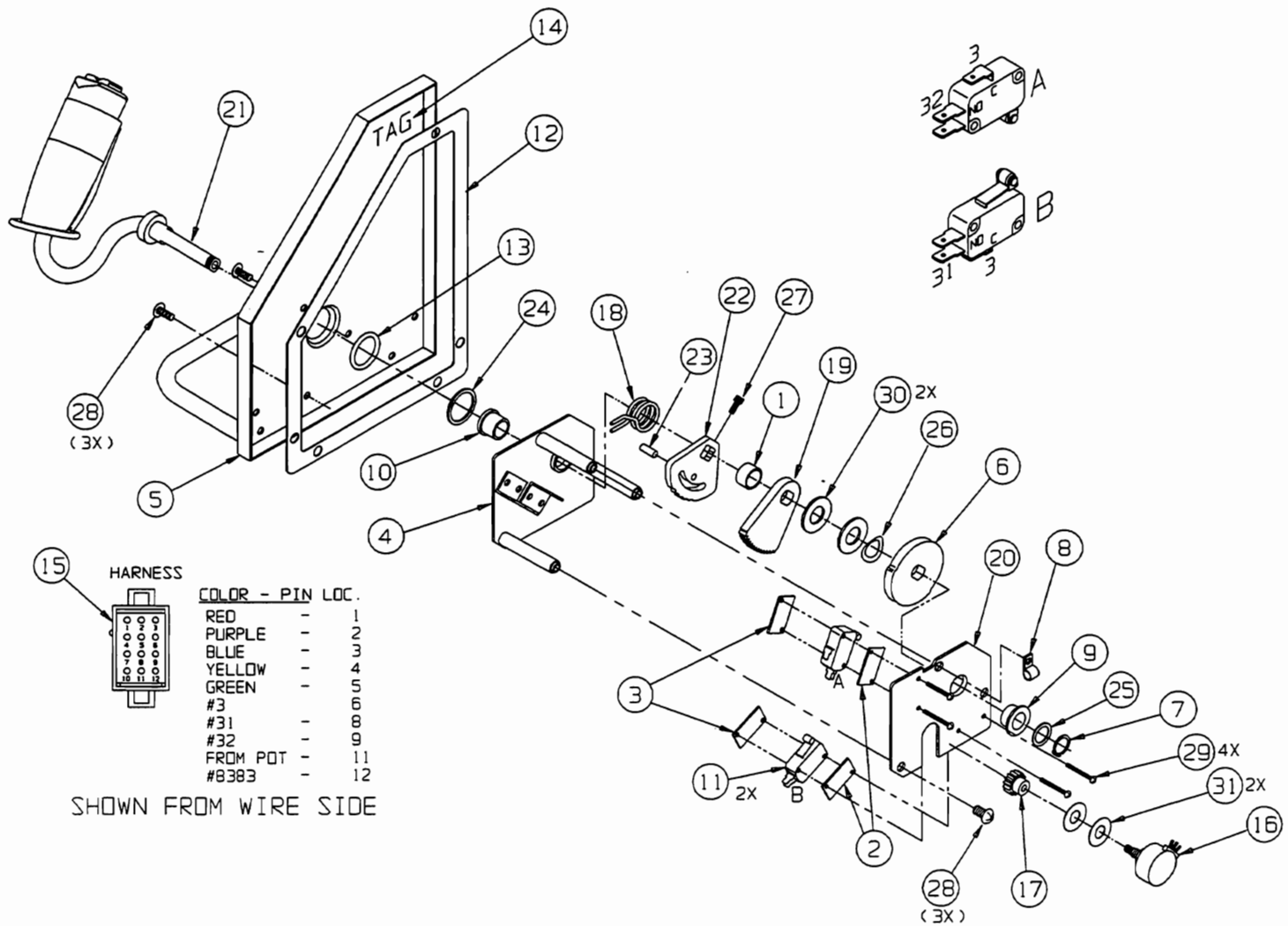
13870 - ASSEMBLY WITH NO OPTIONS

ITEM	PART NO.	QTY.	DESCRIPTION
1	13868	1	COVER ASSEMBLY-STANDARD JOYSTICK
2	13869	1	BOX ASSEMBLY-STANDARD JOYSTICK
	13864	1	CONTROL BOX LOCK BRACKET
	13865	1	CONTROL BOX HOLDER BRACKET
	13867	1	CONTROL BOX WRAPPER WELDMENT
	5630	1	TOGGLE SWITCH-TORQUE
	6350	1	FOAM TAPE
	7156	1	DECAL-FRONT
	7579	1	PLASTIC PLUG
	7800	1	SWITCH, E-STOP ASSEMBLY
	8066	1	INSPECTION TAG
	8331	1	WIRE HARNESS
	8391	1	DECAL - CONTROL BOX
	8770	1	DECAL-CONTROL BOX ID
	8638	1	TOGGLE SWITCH, LIFT/DRIVE
	8826	1	THUMBSCREW, 5/16-18
	HDW5724	1	SCREW, 5/16-18, 3/4" LONG, GRADE 5
	HDW7120	1	NUT, 5/16-18
	HDW8294	1	FLAT WASHER, 1" OD, .328" ID
3	8635	1	DECAL-JOYSTICK DIRECTIONS
4	HDW7888	6	SCREW, #10-32 X 1/2" LONG, GRADE 2
5	8946	1	DECAL-PLATFORM STOPS SHORT
6	7656	1	WIRE HARNESS TO CONTROL BOX CORD

ART556 R6
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Fig. 3-1 1932ES / 1532ES Upper Control Box Assembly

CONTROL BOX COVER ASSEMBLY-13868



ART557-R1
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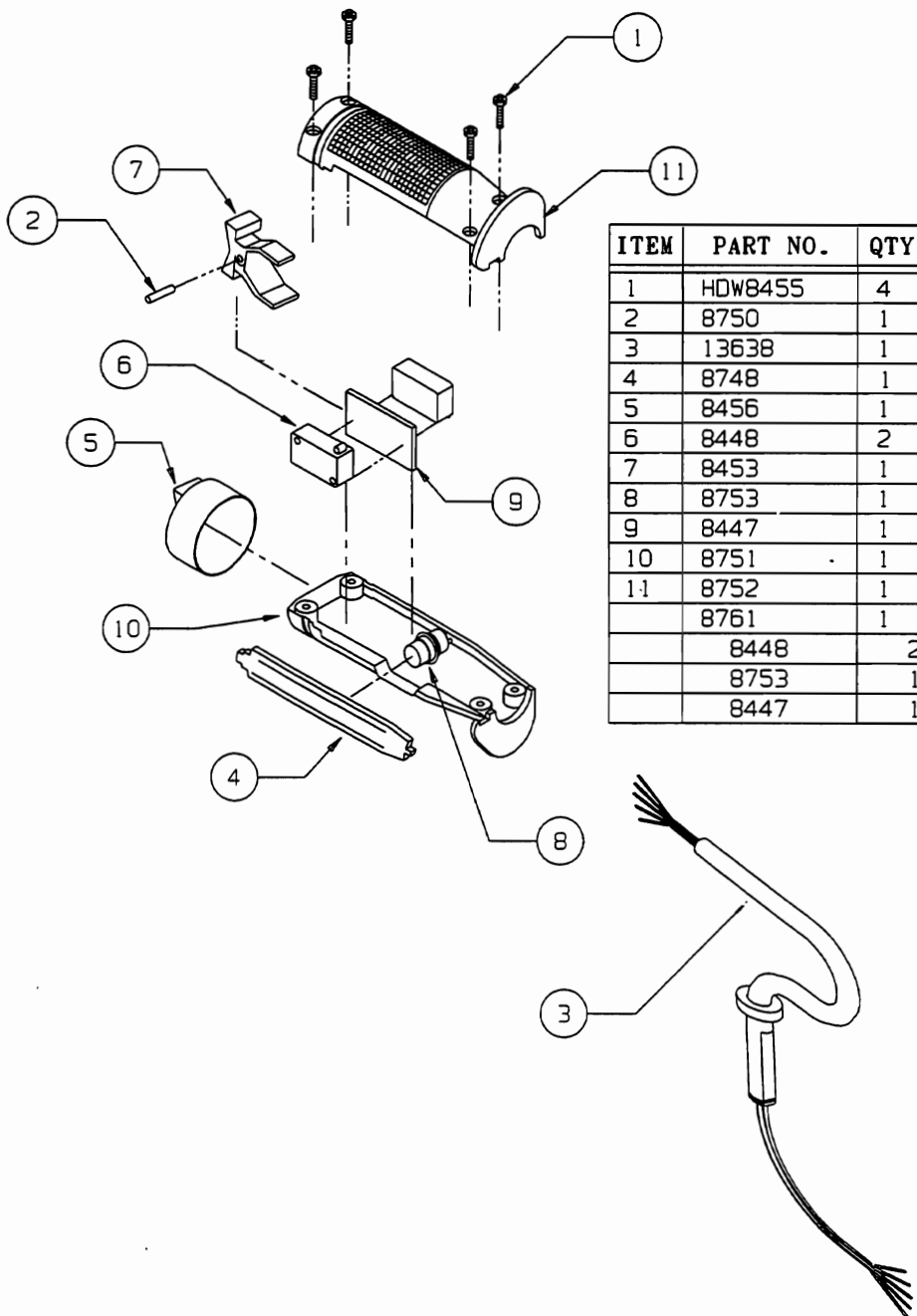
Fig. 3-2 1932ES / 1532ES Control Box Cam Assembly

ITEM	PART NO.	QTY.	DESCRIPTION
1	3763	1	SPACER STEP - JOYSTICK
2	3764	2	SPACER PLATE - JOYSTICK
3	3765	2	STRAP PLATE - JOYSTICK
4	3766	1	TOP PLATE WELDMENT - JOYSTICK
5	3772	1	COVER WELDMENT - JOYSTICK
6	3782	1	DIRECTIONAL CAM - JOYSTICK
7	5736	1	RETAINING RING, EXT. .50"
8	6917	1	CABLE CLAMP .25"
9	7818	1	BEARING, BRONZE FLANGED
10	7819	1	BEARING, BRONZE FLANGED
11	8696	2	SWITCH, LIMIT MICRO - V7
12	7875	1	GASKET - JOYSTICK
13	7882	1	O-RING 7/8 ID X 1.125 OD
14	8066	1	TAG, INSPECTION LINE
15	8346	1	WIRE HARNESS - JOYSTICK
16	8383	1	POTENTIOMETER 20K 13527
17	8389	1	GEAR - SPUR
18	8435	1	SPRING TORSION JOYSTICK 2033
19	13402	1	LARGE GEAR - PROP JOYSTICK
20	13403	1	BOTTOM PLATE CONTROL BOX - JS
21	13647	1	CONTROL ARM ASSEMBLY-JOYSTICK
22	13502	1	CENTERING BRACKET - JOYSTICK
23	100/8348	1	PIN, HOLD DOWN
24	HDW3768	1	FLAT WASH .895 ID X 1.077 OD X .055 THK
25	HDW3771	1	FLAT WASH .50 ID X .688 OD X .033 THK
26	HDW7881	1	BEVEL WASH .531 ID X .795 OD X .011 THK
27	HDW7887	1	CAP SCREW #6-32 .50" GRADE 8
28	HDW7888	6	CAP SCREW #10-32 .50" GRADE 2 TRUSS HD CROSS RECESSED DRIVE
29	HDW8399	4	MACH SCREW #4-40 .62" ROUND HEAD SLOTTED DRIVE
30	HDW8531	2	FLAT WASH B .531 ID X 1.00 OD X .063 THK
31	HDW8567	2	FLAT WASH .380 ID X .844 OD X .048 THK

ART557-R1
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Fig. 3-2 (cont.) 1932ES / 1532ES Control Box Cam Assembly

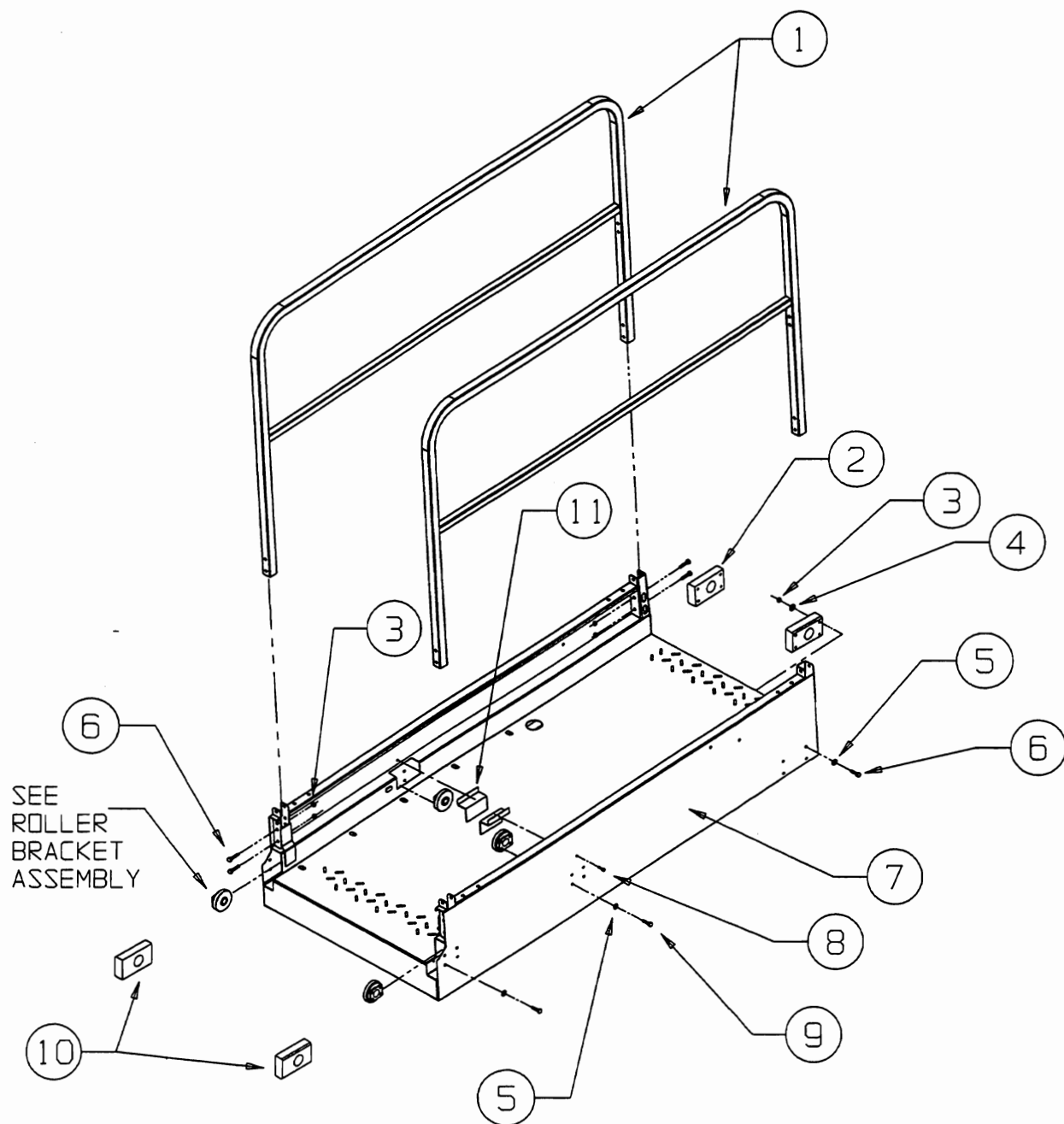
ASSEMBLY 13647



ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8455	4	SCREW, 6 X 1/2 TAPTITE
2	8750	1	PIN
3	13638	1	CONTROL ARM ASSEMBLY JS #2
4	8748	1	TRIGGER
5	8456	1	ROCKER BOOT
6	8448	2	SWITCH - V3 P-Q
7	8453	1	SWITCH ACTUATOR
8	8753	1	MOTION SWITCH, ON-OFF
9	8447	1	SWITCH SEPARATOR
10	8751	1	GRIP - BOTTOM HALF
11	8752	1	GRIP - TOP HALF
	8761	1	SWITCH ASSEMBLY-INCLUDE WIRING
	8448	2	SWITCH-V3 P-Q
	8753	1	MOTION SWITCH, ON-OFF
	8447	1	SWITCH SEPARATOR

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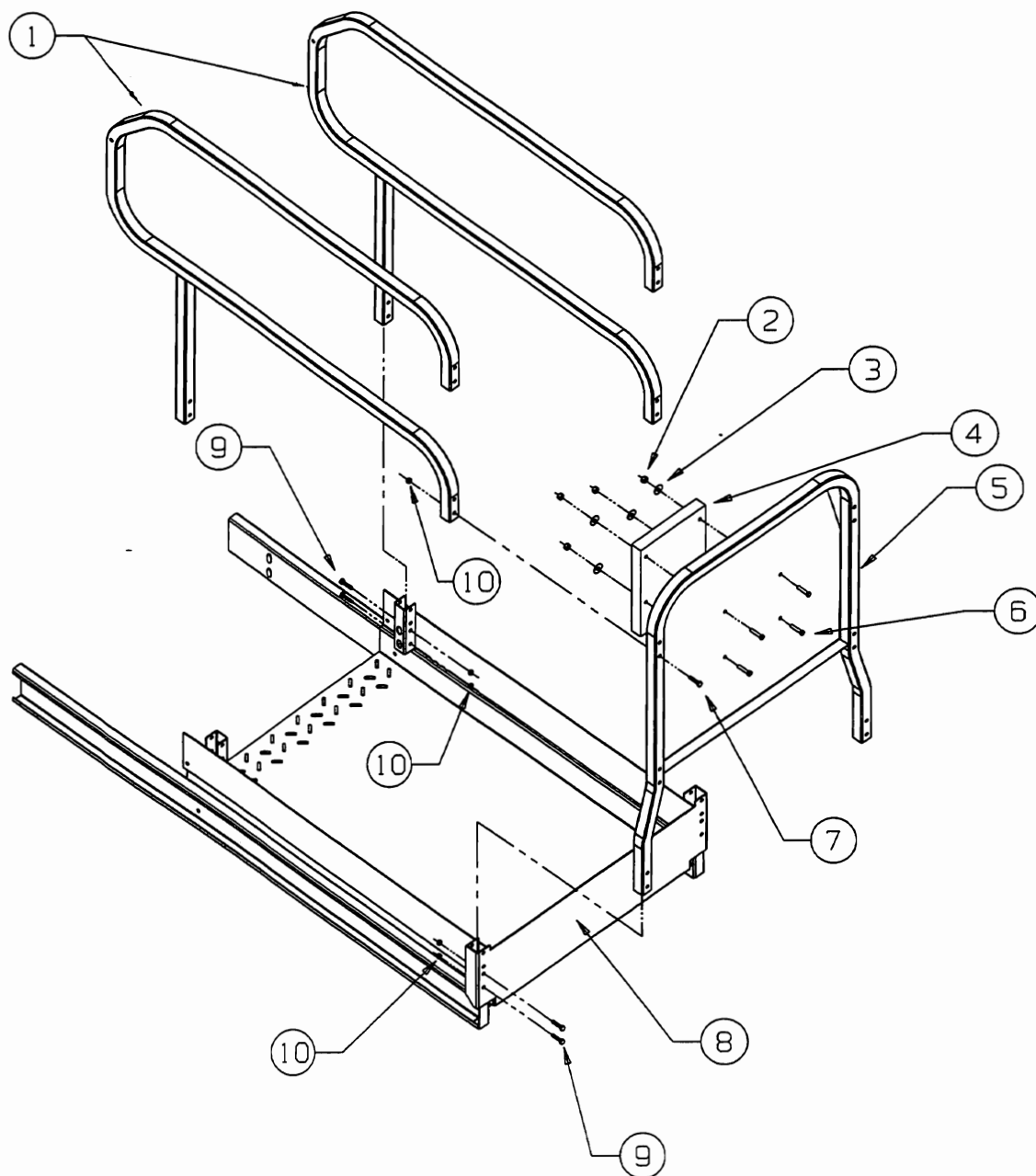
Fig. 3-3 1932ES / 1532ES Control Arm Joystick Assembly



ITEM	PART NO.	QTY.	DESCRIPTION
1	25056	2	RAIL-MAIN PLATFORM
2	13777	2	PLATFORM FIXED END BLOCK
3	HDW8304	16	LOCK NUT 5/16"-18 GRADE 5
4	HDW8294	8	FLAT WASHER, .328 ID X 1.00 OD X .100 THK
5	HDW5217	24	FLAT WASHER, .343 ID X .688 OD X .063 THK
6	HDW8486	16	SCREW, 5/16"-18, 1 7/8" LONG, GRADE 5
7	25031	1	MAIN PLATFORM
8	HDW6455	2	SCREW, 1/4"-20, 1/2" LONG, GRADE 5
9	HDW5724	16	SCREW, 5/16"-18, 3/4" LONG, GRADE 5
10	13778	2	PLATFORM SLIDE BLOCK
11	13637	2	BRACKET, ROLLER COVER

ART684 R0
BM14610
10/2/97

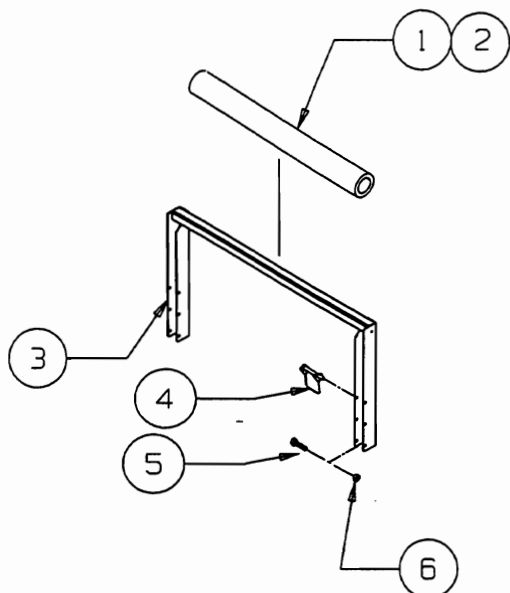
Fig. 4-1 1932ES / 1532ES Platform & Rails



ITEM	PART NO.	QTY.	DESCRIPTION
1	25057	2	EXTENSION PLATFORM RAIL
2	HDW6461	4	NUT, 1/4" - 20
3	HDW8294	4	FLAT WASHER
4	8909	1	MANUAL ENCLOSURE
5	25061	1	FRONT RAIL, EXTENSION PLATFORM
6	HDW6455	4	SCREW, 1/4" - 20, 1/2" LONG
7	HDW7471	8	SCREW, 5/16"-18, 3" LONG
8	25042	1	PLATFORM EXTENSION WELDMENT
9	HDW8486	8	SCREW, 5/16"-18, 1 7/8" LONG
10	HDW8304	16	NUT, 5/16"-18

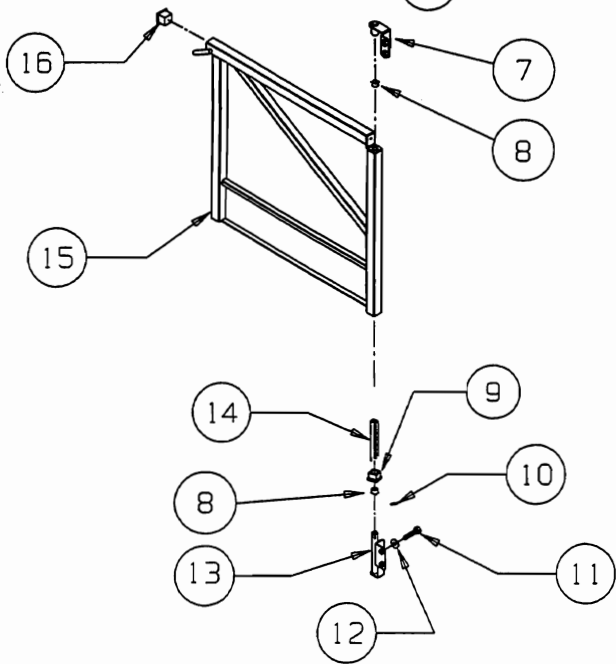
ART683 R0
BM14604
10/2/97

Fig. 4-2 1932ES / 1532ES Extended Platform



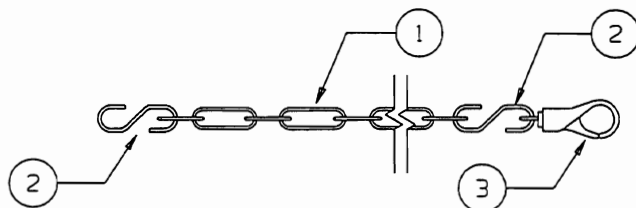
25288 SHEET LOAD GATE OPTION

ITEM	PART NO.	QTY.	DESCRIPTION
1	7048	1	RAIL PAD COVER
2	7805	1	RAIL PAD
3	25051	1	SHEET LOAD GATE
4	HDW7593	1	LOCK PIN
5	HDW7119	4	SCREW, 3/8"-16, 2 1/4" LONG, GRADE 5
6	HDW8304	4	LOCK NUT, 3/8"-16, GRADE 5
7	13281	1	UPPER REAR GATE MOUNTING BRACKET
8	8187	2	BEARING, FLANGED 5/8 ID X 5/8 LONG
9	13272	1	REAR GATE PIVOT BLOCK
10	HDW7455	1	SPRING PIN, 3/16" DIA X 3/4" LONG
11	HDW8303	2	SCREW, 5/16-18, 2" LONG, GRADE 5
12	HDW8294	2	FLAT WASHER 3/8"
13	25286	1	LOWER REAR GATE MOUNTING BRACKET
14	8300	1	SPRING, TORSION
15	25047	1	REAR SWING GATE
16	6823	1	CAP PLUG, 1 1/4" SQUARE TUBE



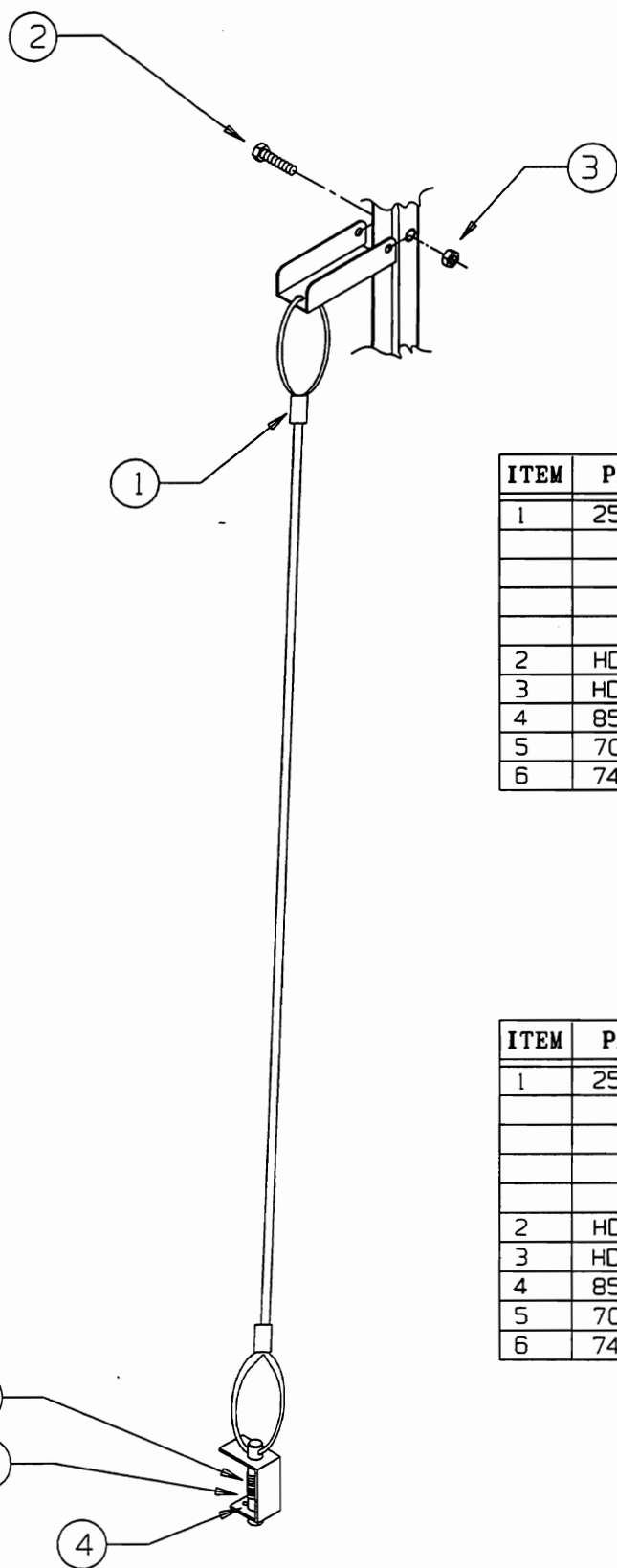
25232 CHAIN CLOSURE-STANDARD

ITEM	PART NO.	QTY.	DESCRIPTION
1	1366	1	GUARD CHAIN
2	5239	2	CONNECTING LINK, S-HOOK
3	8781	1	CHAIN LINK SNAP



ART585 R0
BM14613
10/3/97

Fig. 4-3 1932ES / 1532ES Rear Gate & Chain



FOR DOMESTIC USE:

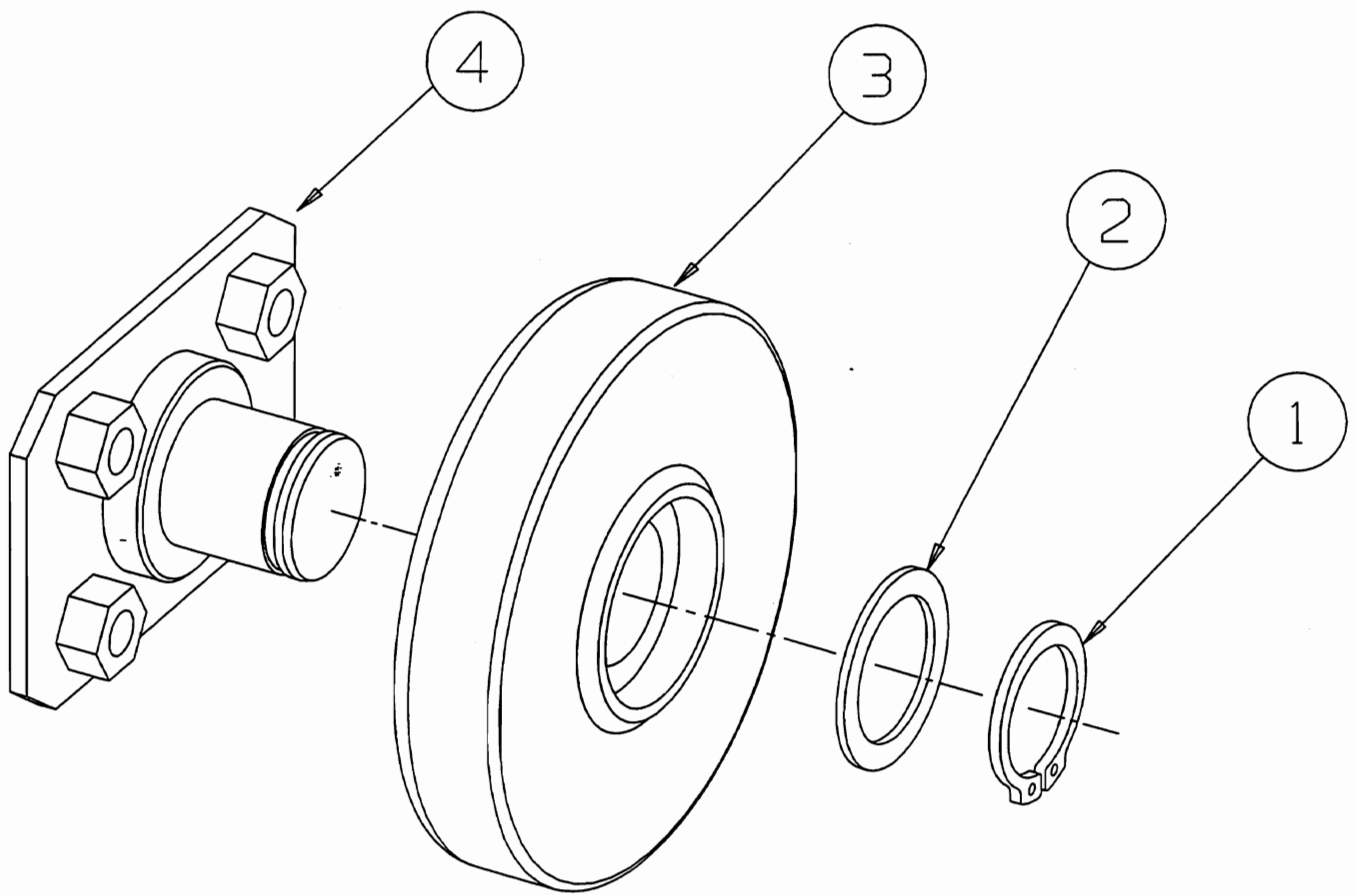
ITEM	PART NO.	QTY.	DESCRIPTION
1	25297	1	PLATFORM LOCK PIN ASSEMBLY
	8814	2	ALUMINUM OVAL SLEEVES
	13814	1	HANDLE - ROLLOUT PLATFORM
	7184	3.62 FT	COATED & ROLLED WIRE CABLE
	13737	1	EXTENSION LOCK PIN
2	HDW8486	1	SCREW, 5/16"-18, 1 7/8" LONG
3	HDW8304	1	LOCKNUT 5/16"-18 GRADE 5
4	8513	1	SPRING PIN, 1/8" DIA 3/4" LONG
5	7031	1	FLAT WASHER, 1/2" ID, 7/8" OD
6	7408	1	DECK LOCK SPRING

FOR EUROPEAN USE:

ITEM	PART NO.	QTY.	DESCRIPTION
1	25298	1	PLATFORM LOCK PIN ASSEMBLY
	8814	2	ALUMINUM OVAL SLEEVES
	13814	1	HANDLE - ROLLOUT PLATFORM
	7184	3.37 FT	COATED & ROLLED WIRE CABLE
	13737	1	EXTENSION LOCK PIN
2	HDW8486	1	SCREW, 5/16"-18, 1 7/8" LONG
3	HDW8304	1	LOCKNUT 5/16"-18 GRADE 5
4	8513	1	SPRING PIN, 1/8" DIA 3/4" LONG
5	7031	1	FLAT WASHER, 1/2" ID, 7/8" OD
6	7408	1	DECK LOCK SPRING

ART686 R0
BM14615
10/3/97

Fig. 4-4 1932ES / 1532ES Platform Lock

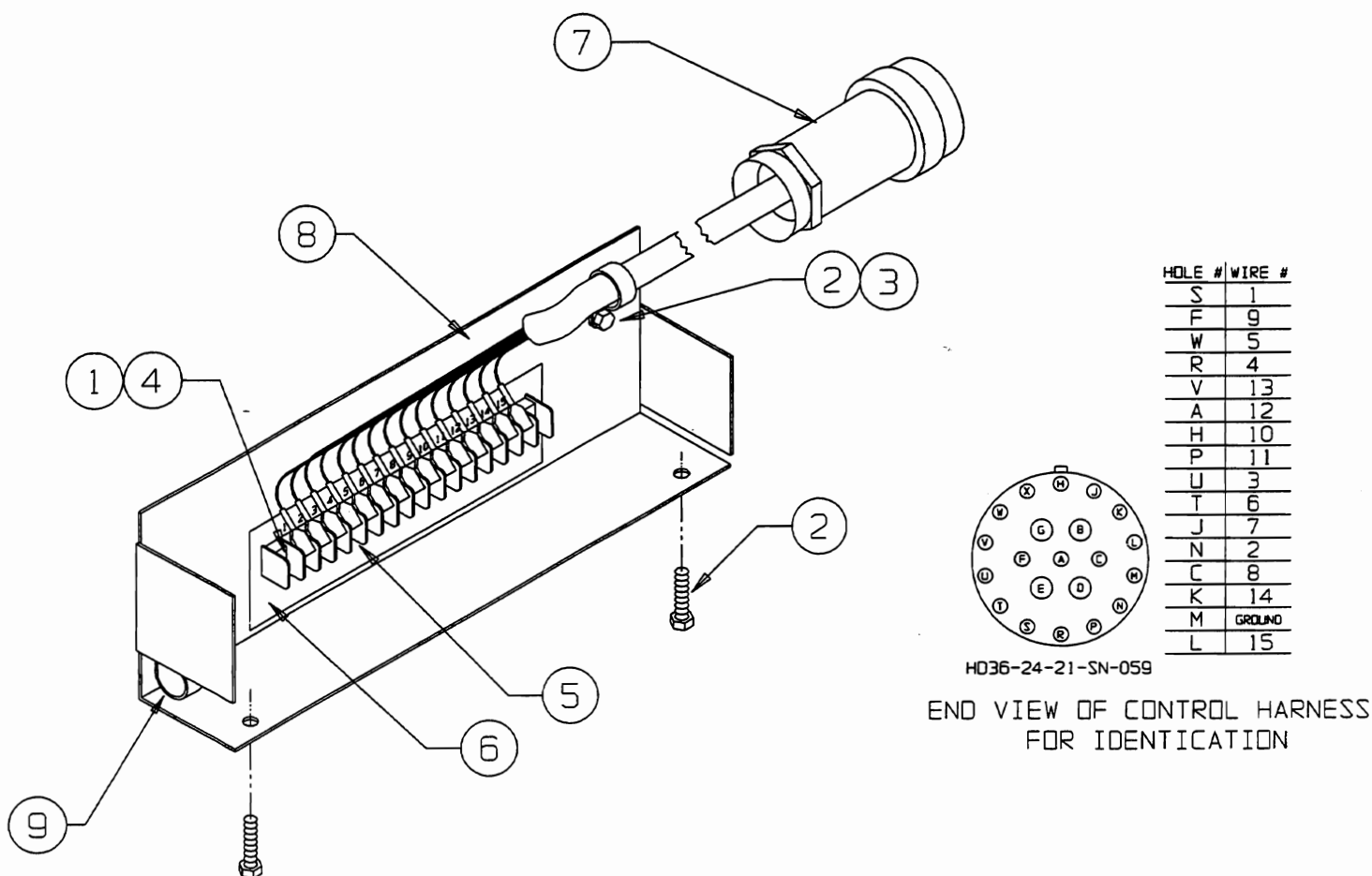


ROLLER BRACKET ASSEMBLY - 4 PER PLATFORM

ITEM	PART NO.	QTY.	DESCRIPTION
1	5918	1	RETAINING RING, HEAVY DUTY-1.000-EXT.
2	HDW8370	1	WASHER 1.015 ID X 1.357 OD X .062 THK
3	13230	1	ROLLER
4	13267	1	ROLLER PLATE WELDMENT

ART687 RO
BM14616
10/3/97

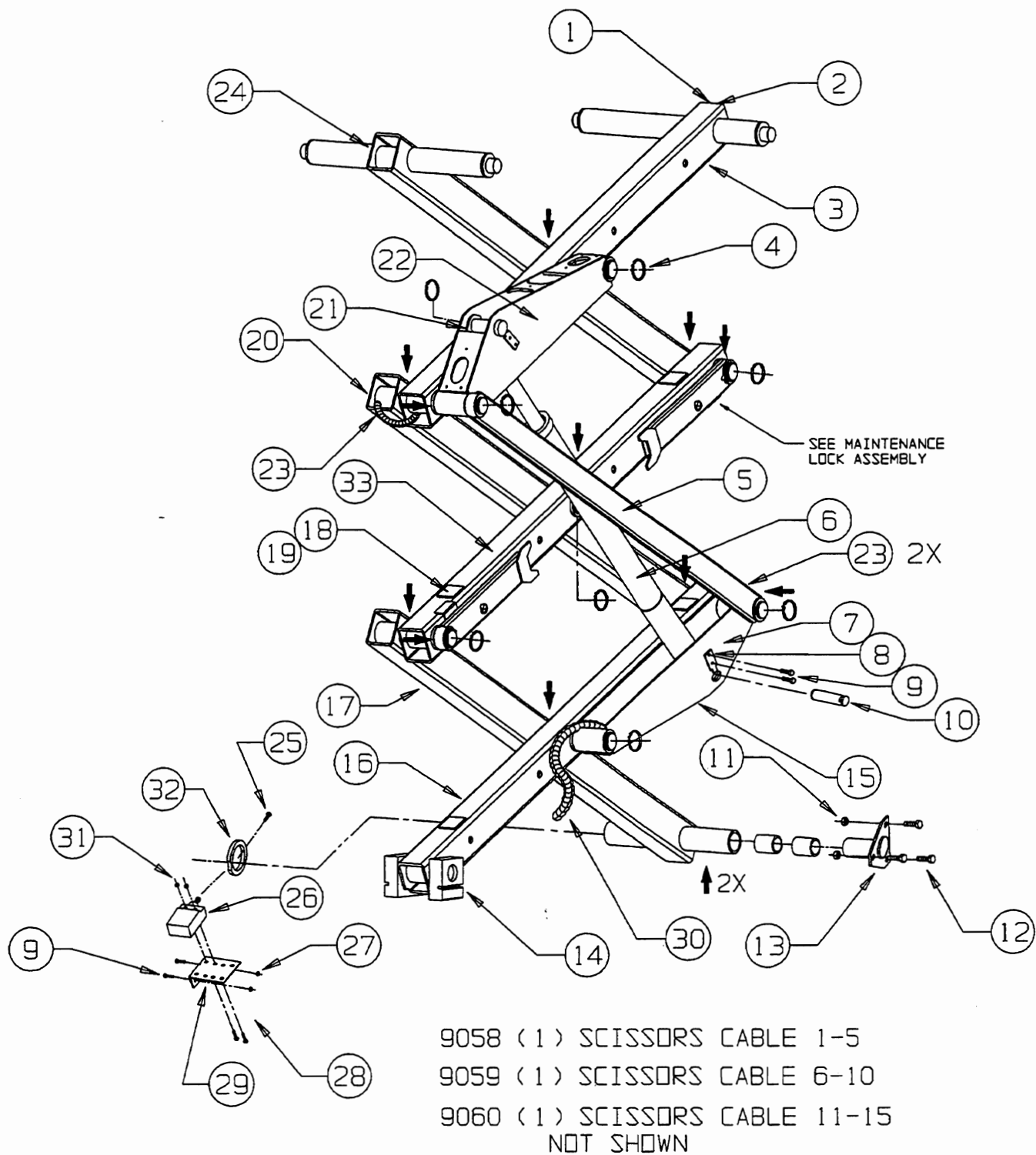
Fig. 4-5 1932ES / 1532ES Roller Bracket



ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW5363	2	SCREW, 6-32, 1" LONG
2	HDW6455	4	SCREW, 1/4"-20, 1/2" LONG
3	5882	1	CABLE CLAMP
4	HDW5364	2	NUT, KEPS, 6-32
5	5991	1	TERMINAL BLOCK (REQUIRES 1-7817)
6	7817	1	STRIP, BACKING, 15 POSITION
7	7656	1	WIRE HARNESS, UPPER CONTROL BOX
8	3214	1	TERMINAL STRIP COVER
9	6964	1	CABLE CLAMP-1"
	8066	1	TAG, INSPECTION LINE

ART682 RO
BM14603
11/04/97

Fig. 4-6 1932ES / 1532ES Platform Terminal Box



ART712 R0
 BM14911
 12/22/97

Figure 5-1a(cont'd). 1532ES Scissors

8971R1

ITEM	PART NO.	QTY.	DESCRIPTION
1	9146	1	HOSE CLAMP, 1 13/16" - 2 3/4"
2	9147	1	SPRING, 1 5/8" X 10" LONG
3	25293	1	BEAM, 3RD X - LEFT
	7160	4	BEARING, 1 3/4" X 2" (28DU32)
4	8919	7	RETAINING RING - 1 3/4" SHAFT
5	25095	1	BEAM SUPPORT WELDMENT
6	25237	1	LIFT CYLINDER, WITH BEARINGS
	6984	4	BEARINGS
	9025	1	CYLINDER
7	25119	1	CYLINDER MOUNT WELDMENT-LOWER
	7160	4	BEARING, 1 3/4" X 2" (28DU32)
8	25219	2	RETAINING PLATE, CYLINDER PIN
9	HDW5723	6	SCREW, 1/4"-20 X 3/4", GRADE 5
10	25142	2	CYLINDER MOUNTING PIN
11	HDW8457	6	LOCNUT, 1/2"-13
12	HDW8283	6	SCREW, 1/2"-13 X 1 1/2", GRADE 5
13	25173	2	PIN, STATIONARY MOUNT
14	25166	2	SLIDE BLOCK, BASE
15	13481	1	TRIM, 1/4" X 4 1/2" LONG
16	25291	1	BEAM, 1ST X - LEFT WITH PIN
	7160	4	BEARING, 1 3/4" X 2" (28DU32)
17	25087	1	BEAM, 1ST X - RIGHT, WITH PINS
	7160	2	BEARING, 1 3/4" X 2" (28DU32)
18	8616	4	WEAR PADS
19	8617	N/A	GLUE
20	25089	1	BEAM, 2ND X - RIGHT, WITH PINS
21	6875	2	RETAINING RING - 1 3/8" SHAFT
22	25121	1	CYLINDER MOUNT WELDMENT-UPPER
	7160	4	BEARING, 1 3/4" X 2" (28DU32)
23	11543	3	SPRING
24	25225	1	BEAM, 3RD X - RIGHT, WITH PINS
25	HDW8870	1	SCREW, 1/4"-20, 1/2" LONG
26	8932	1	LIMIT SWITCH, TWO POLE
27	HDW8267	2	NUT, 1/4"-20
28	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
29	13838	1	BRACKET, SPEED LIMIT SWITCH
30	7510	2	SPRING, WIRE PROTECTOR
31	HDW5251	2	NUT, #8-32
32	25269	1	CAM, SPEED LIMIT SWITCH
33	25099	1	BEAM, 2ND X - LEFT
	7160	6	BEARING, 1 3/4" X 2" (28DU32)
	HDW3802	13	FLAT NYLON WASHER
	7041	1	CABLE CLAMP, DOUBLE TUBE W/VINYL (NOT SHOWN) CABLES/HOSES TO BEAM & CYLINDER MOUNT
	8390	3	CLAMP TUBE, 1 1/4" W/VINYL (NOT SHOWN) CABLES/HOSES TO BEAM & CYLINDER MOUNT
	6964	2	CABLE CLAMP, 1" (NOT SHOWN) CABLES TO CYLINDER MOUNT

ART712 RO
BM14911
12/22/97

Figure 5-1a(cont'd). 1532ES Scissors

8971R1

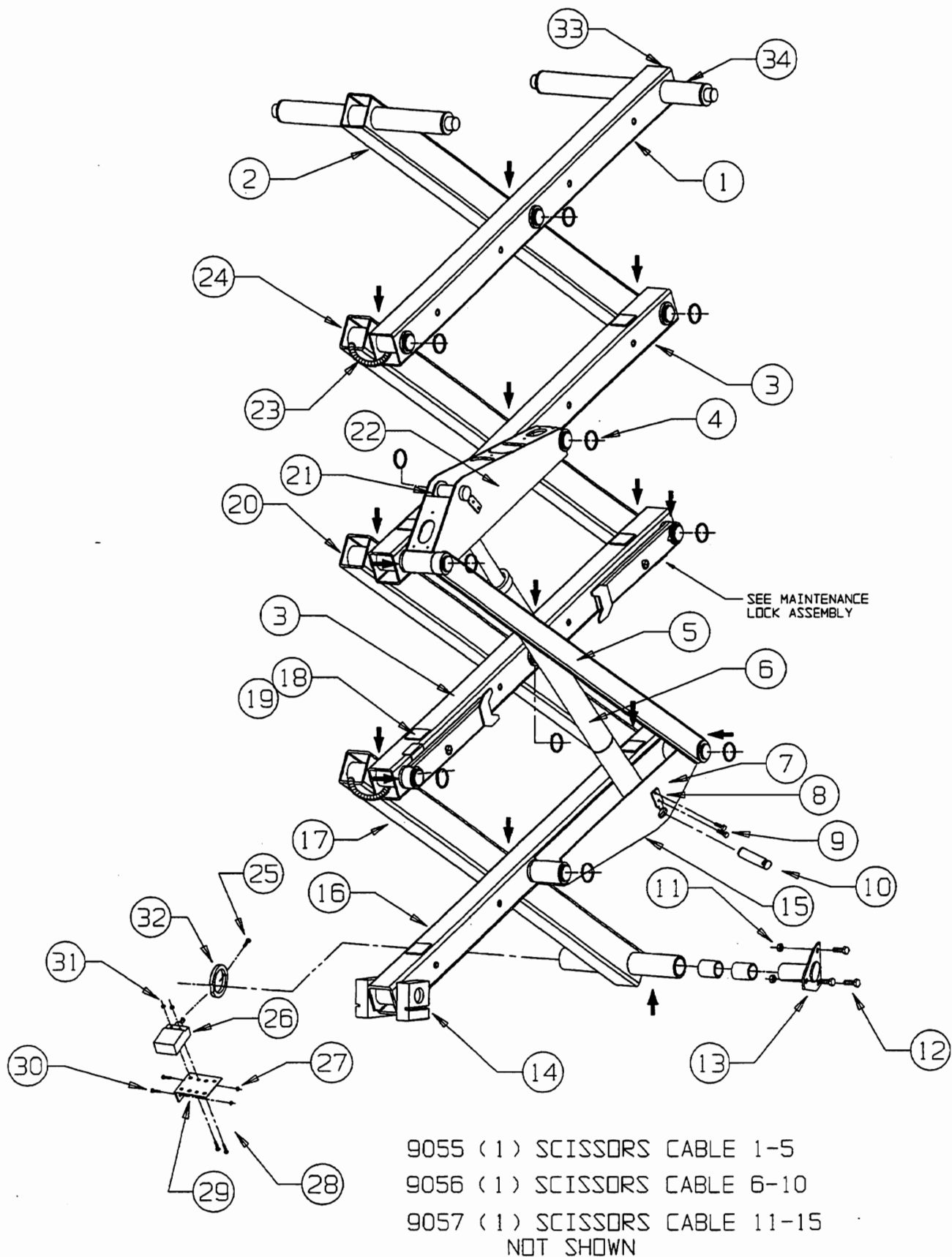


Figure 5-1a. 1932ES Scissors

8971R1

ITEM	PART NO.	QTY.	DESCRIPTION
1	25292 7160	1 4	BEAM, 4X,, LEFT WITH BEARINGS BEARING, 1 3/4" X 2" (28DU32)
2	25101	1	BEAM, 4X, RIGHT WITH PINS
3	25099 7160	2 12	BEAM, 2X & 3X, LEFT BEARING, 1 3/4" X 2" (28DU32)
4	8919	10	RETAINING RING - 1 3/4" SHAFT
5	25095	1	BEAM SUPPORT WELDMENT
6	25237	1	LIFT CYLINDER, WITH BEARINGS
7	25119 7160	1 4	CYLINDER MOUNT WELDMENT-LOWER BEARING, 1 3/4" X 2" (28DU32)
8	25219	2	RETAINING PLATE, CYLINDER PIN
9	HDW5723	4	SCREW, 1/4"-20 X 3/4", GRADE 5
10	25142	2	CYLINDER MOUNTING PIN
11	HDW8457	6	LOCNUT, 1/2"-13
12	HDW8283	6	SCREW, 1/2"-13 X 1 1/2", GRADE 5
13	25173	2	PIN, STATIONARY MOUNT
14	25166	2	SLIDE BLOCK, BASE
15	13481	1	TRIM, 1/4" X 4 1/2" LONG
16	25291 7160	1 4	BEAM, 1X, LEFT WITH BEARINGS BEARING, 1 3/4" X 2" (28DU32)
17	25087 7160	1 4	BEAM, 1X, RIGHT, WITH PINS BEARING, 1 3/4" X 2" (28DU32)
18	8616	6	WEAR PADS
19	8617	N/A	GLUE
20	25089	1	BEAM, 2X, RIGHT, WITH PINS
21	6875	2	RETAINING RING - 1 3/8" SHAFT
22	25121 7160	1 4	CYLINDER MOUNT WELDMENT-UPPER BEARING, 1 3/4" X 2" (28DU32)
23	11543	6	SPRING
24	25090	1	BEAM, 3X, RIGHT, WITH PINS
25	HDW8870	1	SCREW, 1/4"-20, 1/2" LONG
26	8932	1	LIMIT SWITCH, TWO POLE
27	HDW8267	2	NUT, 1/4"-20
28	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
29	13838	1	BRACKET, SPEED LIMIT SWITCH
30	HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
31	HDW5251	2	NUT, #8-32
32	25269	1	CAM, SPEED LIMIT SWITCH
33	9147	1	SPRING, 1 5/8" X 10" LONG
34	9146	1	CLAMP, 1 13/16", 2 3/4" HOSE
	HDW3802	16	FLAT NYLON WASHER, 1.758 ID X 2.503 OD X .030 THK
	7041	5	CABLE CLAMP, DOUBLE TUBE W/VINYL (NOT SHOWN) CABLES/HOSES TO BEAM & CYLINDER MOUNT

ART688 R3
BM14619
1/14/98

Figure 5-1a. 1932ES Scissors

8971R1

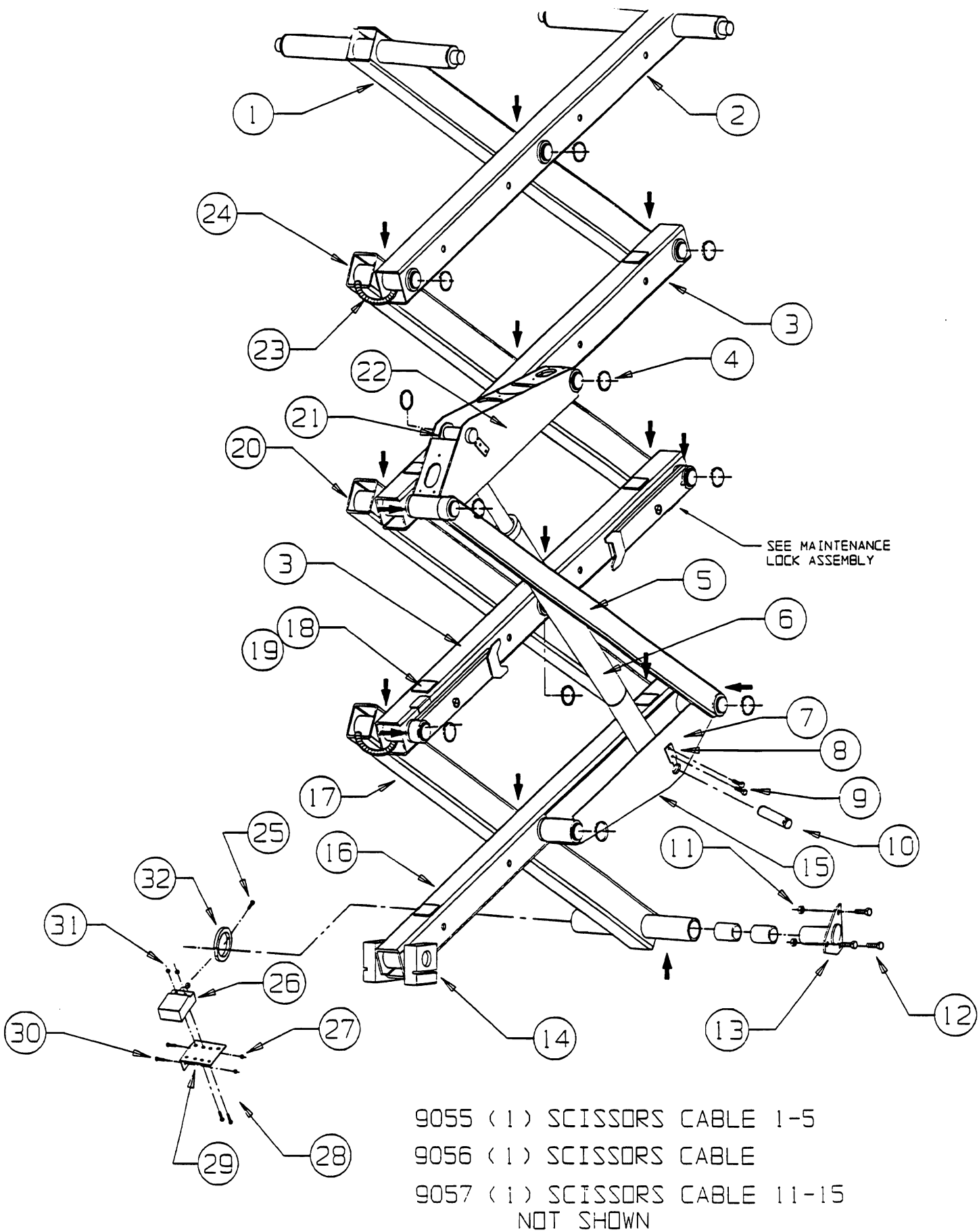
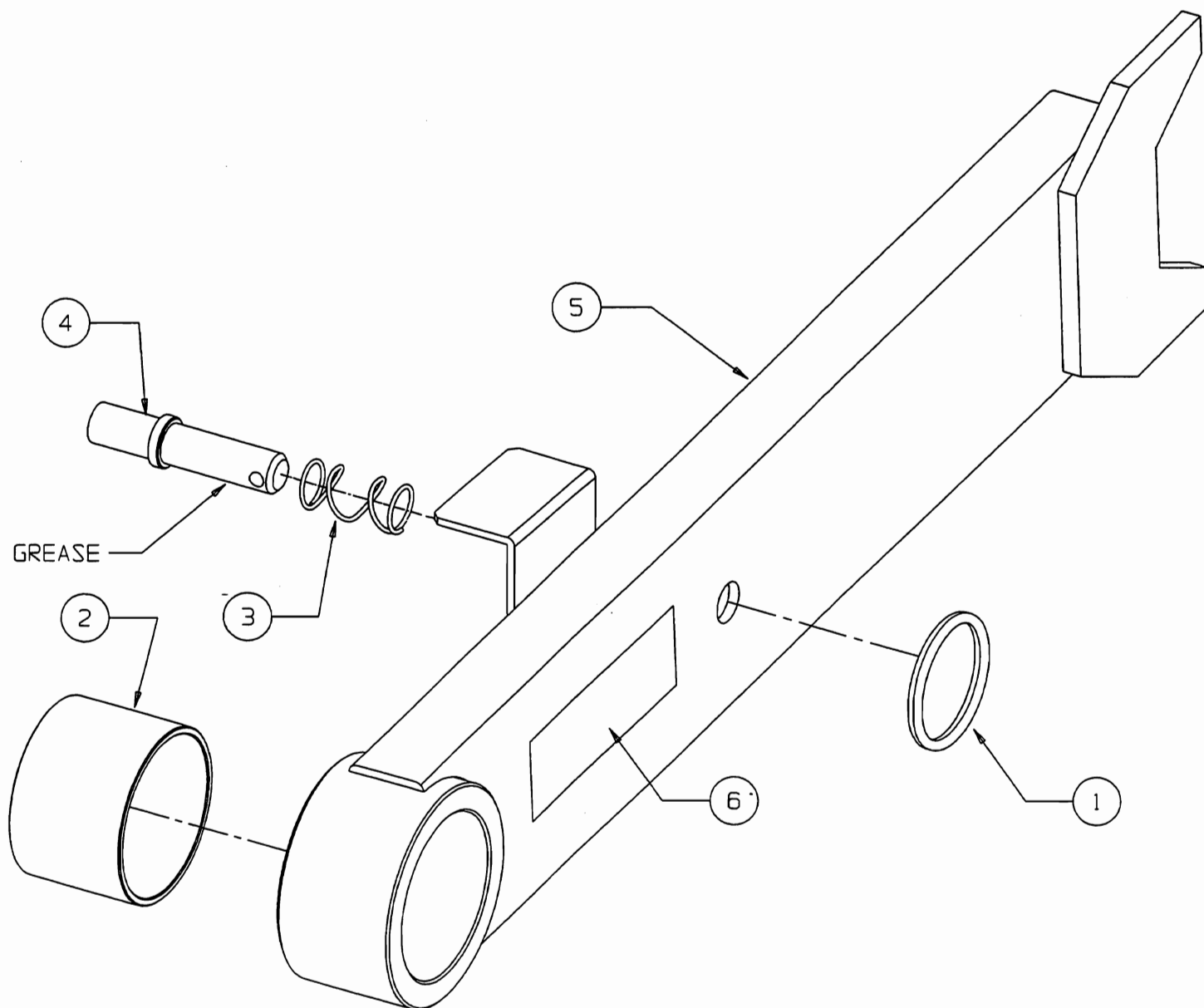


Fig. 5-1 1932ES Scissors

ITEM	PART NO.	QTY.	DESCRIPTION
1	25292 7160	1 4	BEAM, 4X,, LEFT WITH BEARINGS BEARING, 1 3/4" X 2" (28DU32)
2	25101	1	BEAM, 4X, RIGHT WITH PINS
3	25099 7160	2 12	BEAM, 2X & 3X, LEFT BEARING, 1 3/4" X 2" (28DU32)
4	8919	10	RETAINING RING - 1 3/4" SHAFT
5	25095	1	BEAM SUPPORT WELDMENT
6	25237	1	LIFT CYLINDER, WITH BEARINGS
7	25119 7160	1 4	CYLINDER MOUNT WELDMENT-LOWER BEARING, 1 3/4" X 2" (28DU32)
8	25135	2	SUPPORT PLATE, CYLINDER MOUNT
9	HDW5723	4	SCREW, 1/4"-20 X 3/4", GRADE 5
10	25142	2	CYLINDER MOUNTING PIN
11	HDW8457	6	LOCNUT, 1/2"-13
12	HDW8283	6	SCREW, 1/2"-13 X 1 1/2", GRADE 5
13	25173	2	PIN, STATIONARY MOUNT
14	25166	2	SLIDE BLOCK, BASE
15	13481	1	TRIM, 1/4" X 4 1/2" LONG
16	25291 7160	1 4	BEAM, 1X, LEFT WITH BEARINGS BEARING, 1 3/4" X 2" (28DU32)
17	25087 7160	1 4	BEAM, 1X, RIGHT, WITH PINS BEARING, 1 3/4" X 2" (28DU32)
18	8616	6	WEAR PADS
19	8617	N/A	GLUE
20	25089	1	BEAM, 2X, RIGHT, WITH PINS
21	6875	2	RETAINING RING - 1 3/8" SHAFT
22	25121 7160	1 4	CYLINDER MOUNT WELDMENT-UPPER BEARING, 1 3/4" X 2" (28DU32)
23	11543	6	SPRING
24	25090	1	BEAM, 3X, RIGHT, WITH PINS
25	HDW8870	1	SCREW, 1/4"-20, 1/2" LONG
26	8932	1	LIMIT SWITCH, TWO POLE
27	HDW8267	2	NUT, 1/4"-20
28	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
29	13838	1	BRACKET, SPEED LIMIT SWITCH
30	HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
31	HDW5251	2	NUT, #8-32
32	25269	1	CAM, SPEED LIMIT SWITCH
	HDW3802	16	FLAT NYLON WASHER, 1.758 ID X 2.503 OD X .030 THK

Fig. 5-1 (cont.) 1932ES Scissors

ART688 R1
BM14619
11/21/97



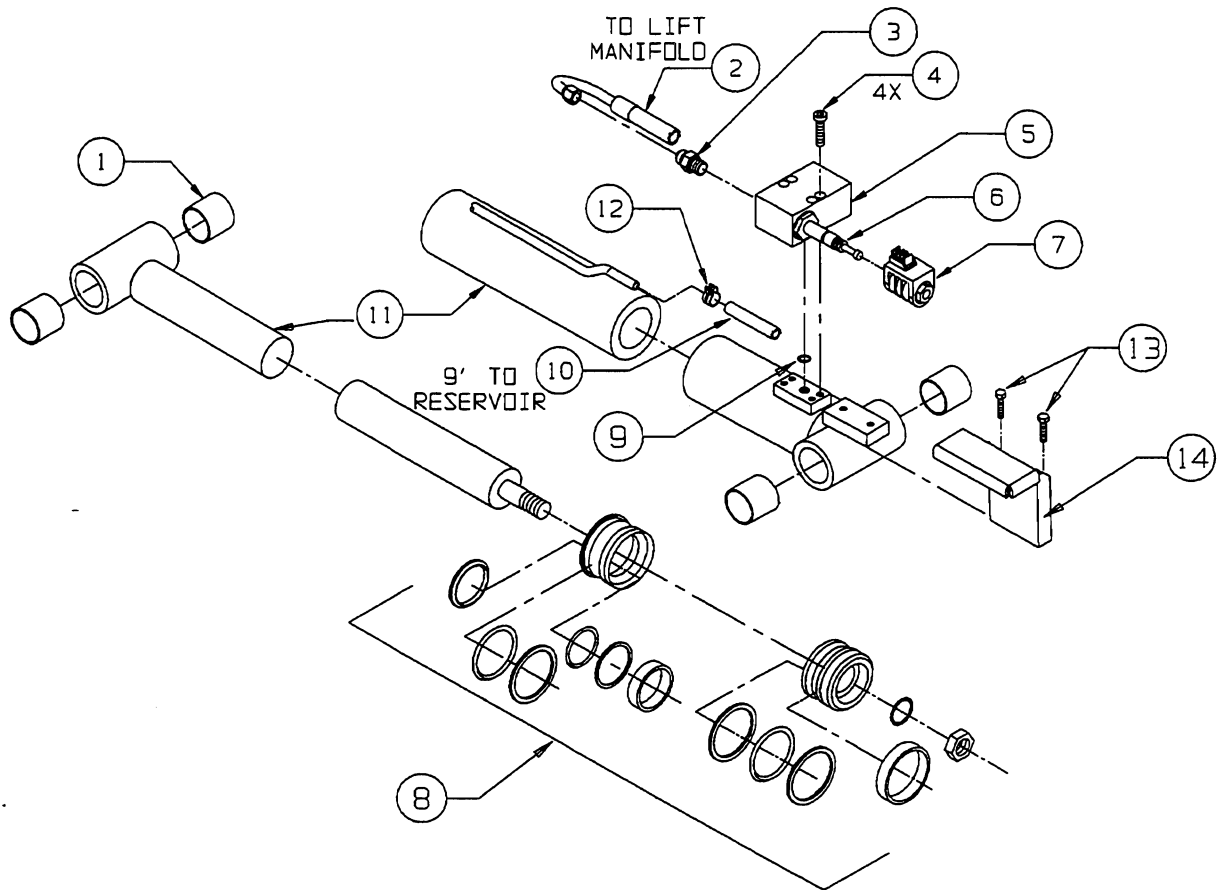
TWO ASSEMBLIES PER MACHINE

ITEM	PART NO.	QTY.	DESCRIPTION
1	7073	1	RING, SPLIT, 1.640 OD, ZINC
2	8907	1	BEARING, 2" OD X 1 3/4" ID, 1 1/2" LONG
3	8360	1	SPRING, COMP, .60 OD, .50 ID, 1.25 LG.
4	8695	1	PIN, MAINTENANCE LOCK
5	25123	1	MAINTENANCE LOCK WELDMENT
6	6794	1	MAINTENANCE LOCK DECAL

ART689 R0
BM14628
10/7/97

Fig. 5-2 1932ES / 1532ES Maintenance Lock

25237 - LIFT CYLINDER W/BEARINGS-US



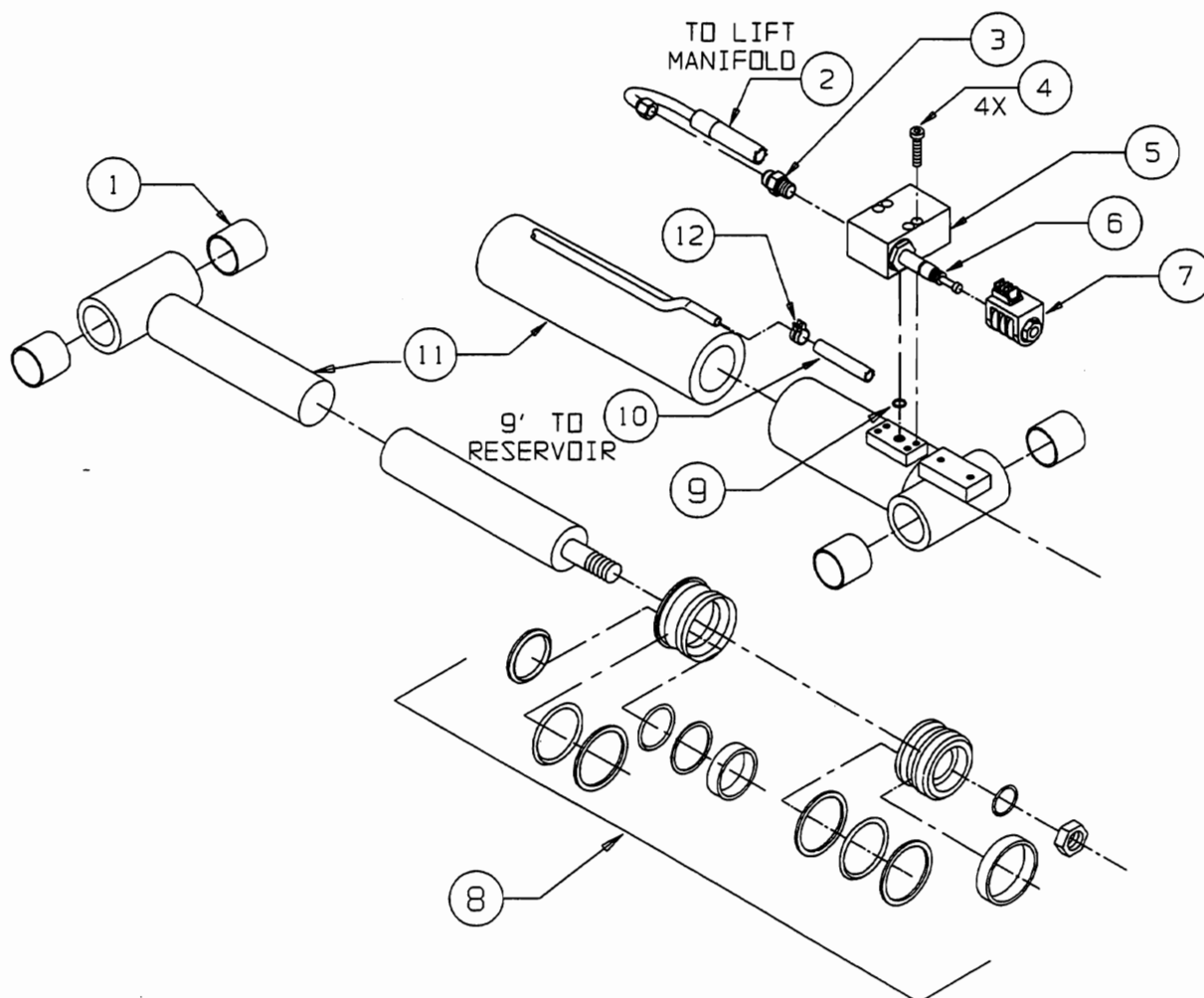
ITEM	PART NO.	QTY.	DESCRIPTION
1	6984	4	BEARING, 22DU26, 1 3/8 ID X 1 5/8" LG.
2	8582	1	HOSE, ASSEMBLY, LIFT CYLINDER
3	HDW7438	1	FITTING, PIPE, ADAPTOR
4	HDW8592	4	SCREW, CAP, SOCKET HD, 1/4-20 X 1.50, GRADE 8
5	13551	1	MANIFOLD, LIFT CYLINDER-STANDARD
6	8595	1	VALVE, 2 WAY, N.C. W/ MANUAL LOCK
7	8914	1	COIL, 24 VOLT, DOUBLE SPADE
8	8639	1	KIT, SEAL-LIFT CYLINDER (SERVICE)
9	6426	1	O-RING, MANIFOLD BLOCK
10	6458	1	HOSE, RETURN LINE-9 FT.
11	9025	1	CYLINDER, LIFT
12	7788	1	CLAMP, HOSE
13	HDW8663	2	SCREW, 5/16" X 1/2" LONG
14	13728	1	BRACKET, CYLINDER VALVE GUARD WELDMENT
N/A	6787	1	HARNESS, WIRE-DOWN, VALVE (NOT SHOWN)
N/A	6840	1	SPRING, (NOT SHOWN)
N/A	13921	1	MANIFOLD ASSEMBLY-LIFT (NOT SHOWN)

ART708 R2
BM14833
3/12/98

Figure 5-3a. 1932ES/1532ES Lift Cylinder

8971R1

25237 - LIFT CYLINDER W/BEARINGS-US



ITEM	PART NO.	QTY.	DESCRIPTION
1	6984	4	BEARING, 22DU26, 1 3/8 ID X 1 5/8" LG.
2	8582	1	HOSE, ASSEMBLY, LIFT CYLINDER
3	HDW7438	1	FITTING, PIPE, ADAPTOR
4	HDW8592	4	SCREW, CAP, SOCKET HD, 1/4-20 X 1.50, GRADE 8
5	13551	1	MANIFOLD, LIFT CYLINDER-STANDARD
6	8595	1	VALVE, 2 WAY, N.C. W/ MANUAL LOCK
7	8914	1	COIL, 24 VOLT, DOUBLE SPADE
8	8639	1	KIT, SEAL-LIFT CYLINDER (SERVICE)
9	6426	1	O-RING, MANIFOLD BLOCK
10	6458	1	HOSE, RETURN LINE-9 FT.
11	9025	1	CYLINDER, LIFT
12	7788	1	CLAMP, HOSE
N/A	6787	1	HARNESS, WIRE-DOWN, VALVE (NOT SHOWN)
N/A	6840	1	SPRING, (NOT SHOWN)
N/A	13347	1	MANIFOLD ASSEMBLY-LIFT (NOT SHOWN)

ART708 R0
BM14833
11/3/97

Fig. 5-3 1932ES / 1532ES Lift Cylinder

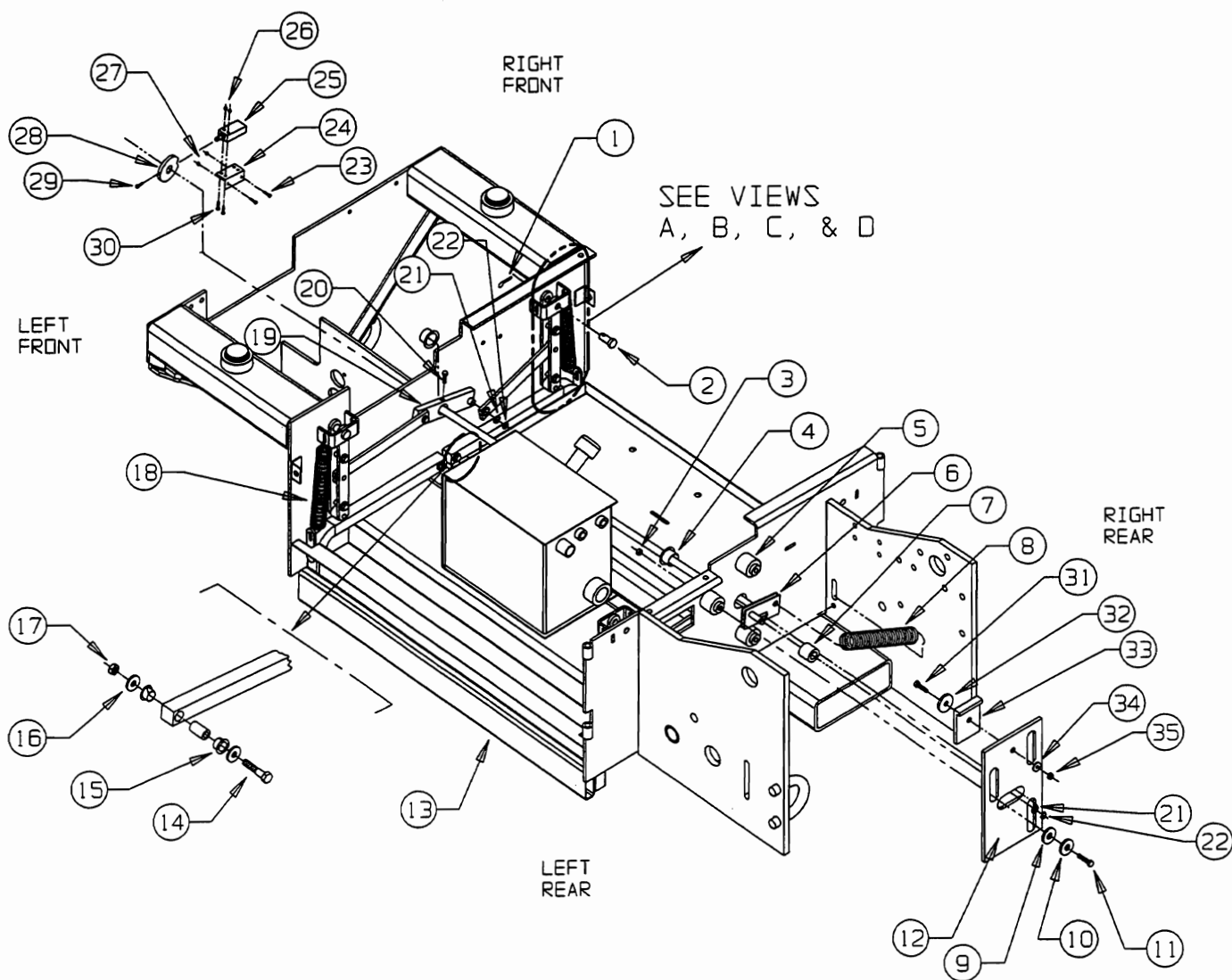


Fig. 5-4 1932ES / 1532ES Pothole Mechanism

ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW5920	4	COTTER PIN, 1/8" X 1"
2	HDW7229	4	CLEVIS PIN, 1/2" X 2"
3	HDW8268	3	NUT, 3/8" - 16
4	7260	2	BEARING, OIL IMPREGNATED, 3/4" X 3/4", FLANGED
5	8602	3	SPACER, STEPPED PVC
6	25152	1	POTHOLE ACTUATOR ROD WELDMENT
7	4541	1	ROLLER
8	25307	1	SPRING, TENSION - DEPLOYMENT
9	HDW13556	3	FLAT WASHER, 3/8" ID, 1 1/2" OD, 1/8" THICK- PLASTIC
10	HDW13338	3	FLAT WASHER, 3/8" ID, 1 1/2" OD, 1/8" THICK- STEEL
11	HDW8279	3	SCREW, 3/8" - 16, 2 1/2" LONG, GRADE 5
12	25246	1	PLATE, POTHOLE ACTUATOR
13	25151	2	POTHOLE BAR WELDMENT
14	HDW8278	4	SCREW, 3/8" - 16, 2 25" LONG, GRADE 8
15	7202	8	BEARING, 5/8" ID X 7/16" LONG, FLANGED
16	HDW11467	12	WASHER, FLAT
17	HDW5039	4	NUT, 3/8" - 16
18	9027	4	SPRING, TENSION, 1" OD X 5" LONG, RETRACTION
19	11128	2	STABILIZER, PIVOT BAR
20	HDW5724	2	SCREW, 5/16" - 18, 3/4" LONG, GRADE 5
21	HDW7031	4	FLAT WASHER, 1/2" ID, 7/8" OD, 1/16" THICK
22	5736	4	RETENTION RING, 1/2" SHAFT
23	HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
24	13840	1	BRACKET, POTHOLE LIMIT SWITCH MOUNT
25	8776	1	LIMIT SWITCH, SINGLE POLE
26	HDW5251	2	NUT, #8-32
27	HDW8267	2	NUT, 1/4"-20
28	25294	1	CAM, POTHOLE LIMIT SWITCH
29	HDW8870	1	SCREW, 1/4"-20, 1/2" LONG
30	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
31	HDW8273	1	SCREW, 1/4"-20, 1" LONG
32	HDW5470	1	FLAT WASHER, 1 1/2" OD, 9/32" ID X 1/8"
33	25306	1	WEAR BLOCK, POTHOLE ACTUATOR
34	HDW5217	1	FLAT WASHER, 11/16" OD, 11/32" ID, X 1/16"
35	HDW5276	1	NUT, 1/4" -20

ART690 R2
BM14629
5/28/98

Figure 5-4a. 1932ES/1532ES Pothole Mechanism

8971R1

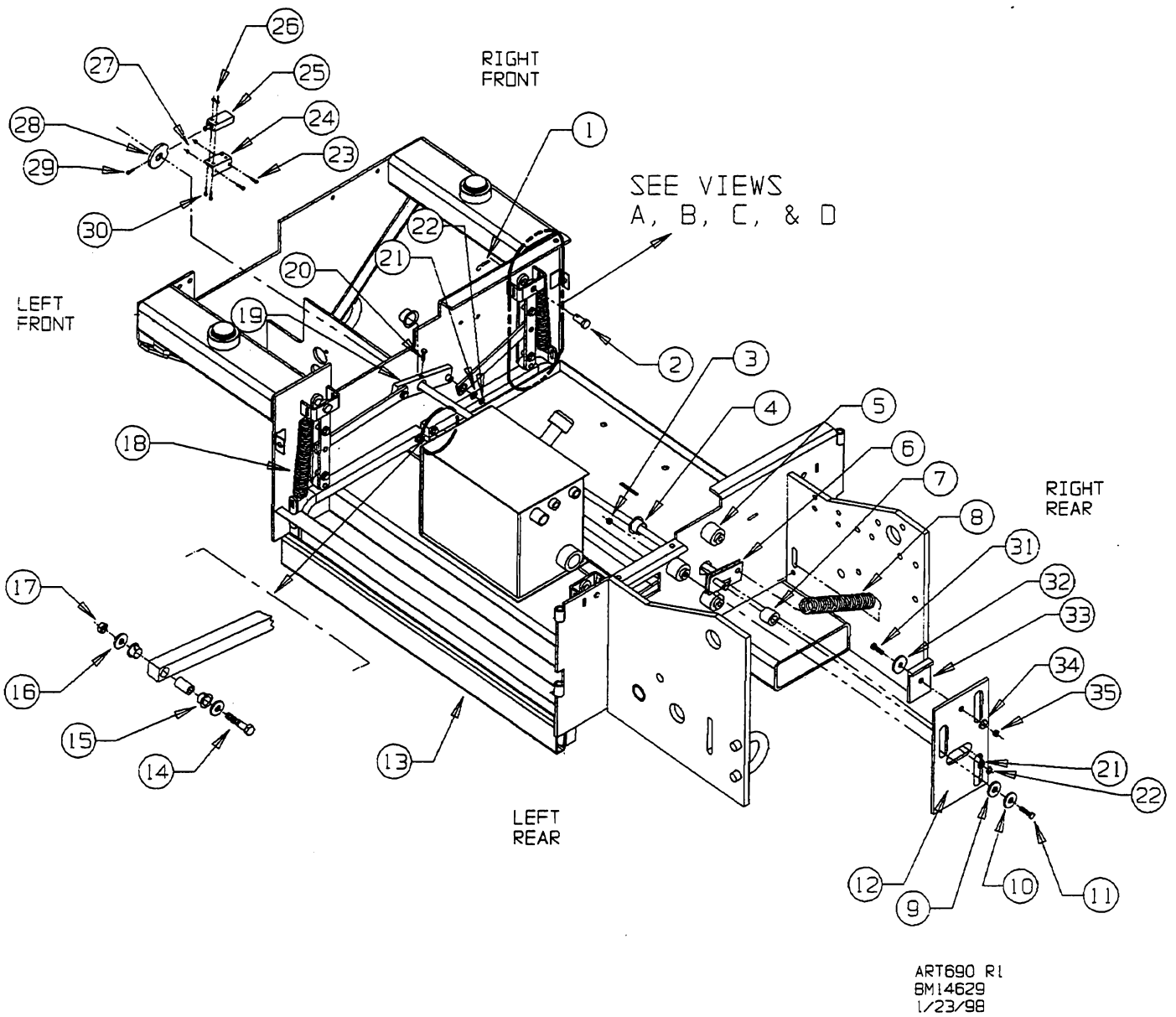


Figure 5-4a. 1932ES/1532ES Pothole Mechanism

8971R1

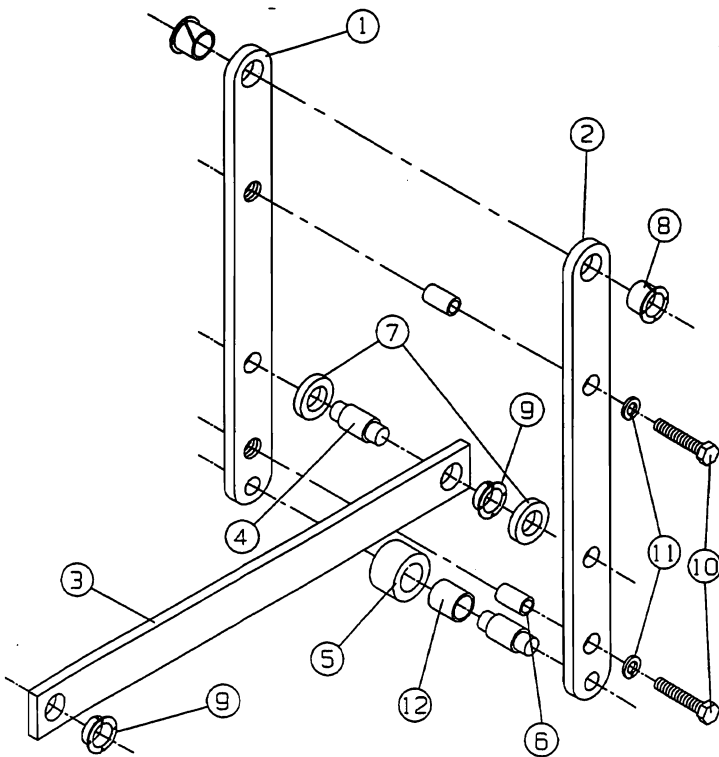
ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW5920	4	COTTER PIN, 1/8" X 1"
2	HDW7229	4	CLEVIS PIN, 1/2" X 2"
3	HDW8268	3	NUT, 3/8" - 16
4	7260	2	BEARING, OIL IMPREGNATED, 3/4" X 3/4", FLANGED
5	8602	3	SPACER, STEPPED PVC
6	25152	1	POTHOLE ACTUATOR ROD WELDMENT
7	4541	1	ROLLER
8	25307	1	SPRING, TENSION - DEPLOYMENT
9	HDW13556	3	FLAT WASHER, 3/8" ID, 1 1/2" OD, 1/8" THICK- PLASTIC
10	HDW13338	3	FLAT WASHER, 3/8" ID, 1 1/2" OD, 1/8" THICK- STEEL
11	HDW8279	3	SCREW, 3/8" - 16, 2 1/2" LONG, GRADE 5
12	25246	1	PLATE, POTHOLE ACTUATOR
13	25151	2	POTHOLE BAR WELDMENT
14	HDW6434	4	SCREW, 3/8" - 16, 2" LONG, GRADE 5
15	7202	8	BEARING, 5/8" ID X 7/16" LONG, FLANGED
16	HDW11467	8	SCREW, 3/8-16 X 2, GRADE 5
17	HDW5039	4	NUT, 3/8" - 16
18	9027	4	SPRING, TENSION, 1" OD X 5" LONG, RETRACTION
19	11128	2	STABILIZER, PIVOT BAR
20	HDW5724	2	SCREW, 5/16" - 18, 3/4" LONG, GRADE 5
21	HDW7031	4	FLAT WASHER, 1/2" ID, 7/8" OD, 1/16" THICK
22	5736	4	RETENTION RING, 1/2" SHAFT
23	HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
24	13840	1	BRACKET, POTHOLE LIMIT SWITCH MOUNT
25	8776	1	LIMIT SWITCH, SINGLE POLE
26	HDW5251	2	NUT, #8-32
27	HDW8267	2	NUT, 1/4"-20
28	25294	1	CAM, POTHOLE LIMIT SWITCH
29	HDW8870	1	SCREW, 1/4"-20, 1/2" LONG
30	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
31	HDW8273	1	SCREW, 1/4"-20, 1" LONG
32	HDW5470	1	FLAT WASHER, 1 1/2" OD, 9/32" ID X 1/8"
33	25306	1	WEAR BLOCK, POTHOLE ACTUATOR
34	HDW5217	1	FLAT WASHER, 11/16" OD, 11/32" ID, X 1/16"
35	HDW5276	1	NUT, 1/4" -20

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10/29/97

Fig. 5-4 (cont.) 1932ES / 1532ES Pothole Mechanism

FIGURE A

ROLLER ARM ASSEMBLY, RIGHT FRONT-25161

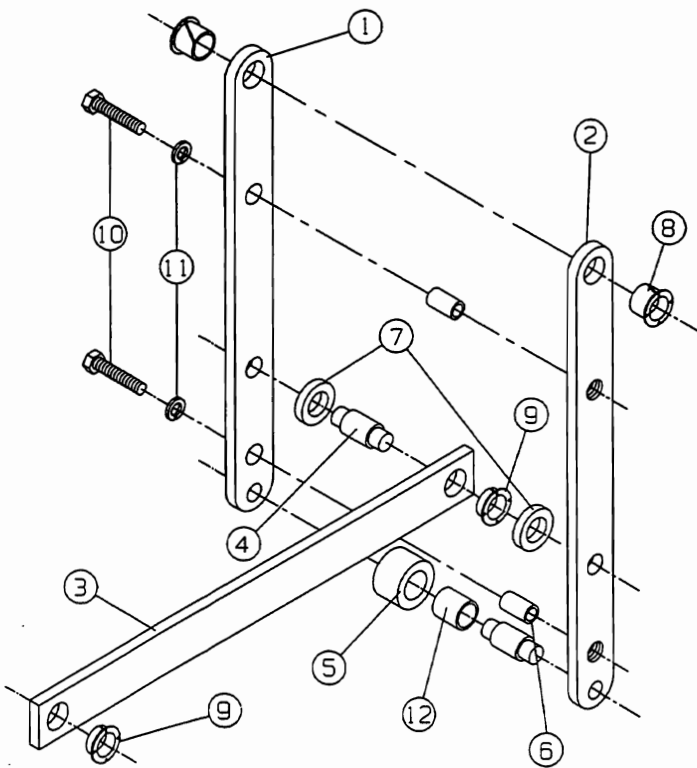


ITEM	PART NO.	QTY.	DESCRIPTION
1	25146	1	BAR, OUTER ROLLER
2	25145	1	BAR, INNER ROLLER
3	25147	1	SWING ARM, SHORT
4	11120	2	PIN, SPACER
5	4542	1	ROLLER
6	11119	2	TUBE, SPACER
7	11176	2	SPACER, STABILIZER BAR
8	7200	2	BEARING, NYLINER, 1/2" ID, 1/2" LONG
9	7220	2	BEARING, NYLINER, 1/2" ID 7/32" LONG
10	HOW5988	2	SCREW, 1/4"-20 X 1 1/4" LONG, GRADE 5
11	HOW5277	2	WASHER, SPLIT LOCK, 1/4"
12	6700	1	BEARING, OBDU10, 1/2" X 5/8"

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10/8/97

FIGURE B

ROLLER ARM ASSEMBLY, RIGHT REAR-25159

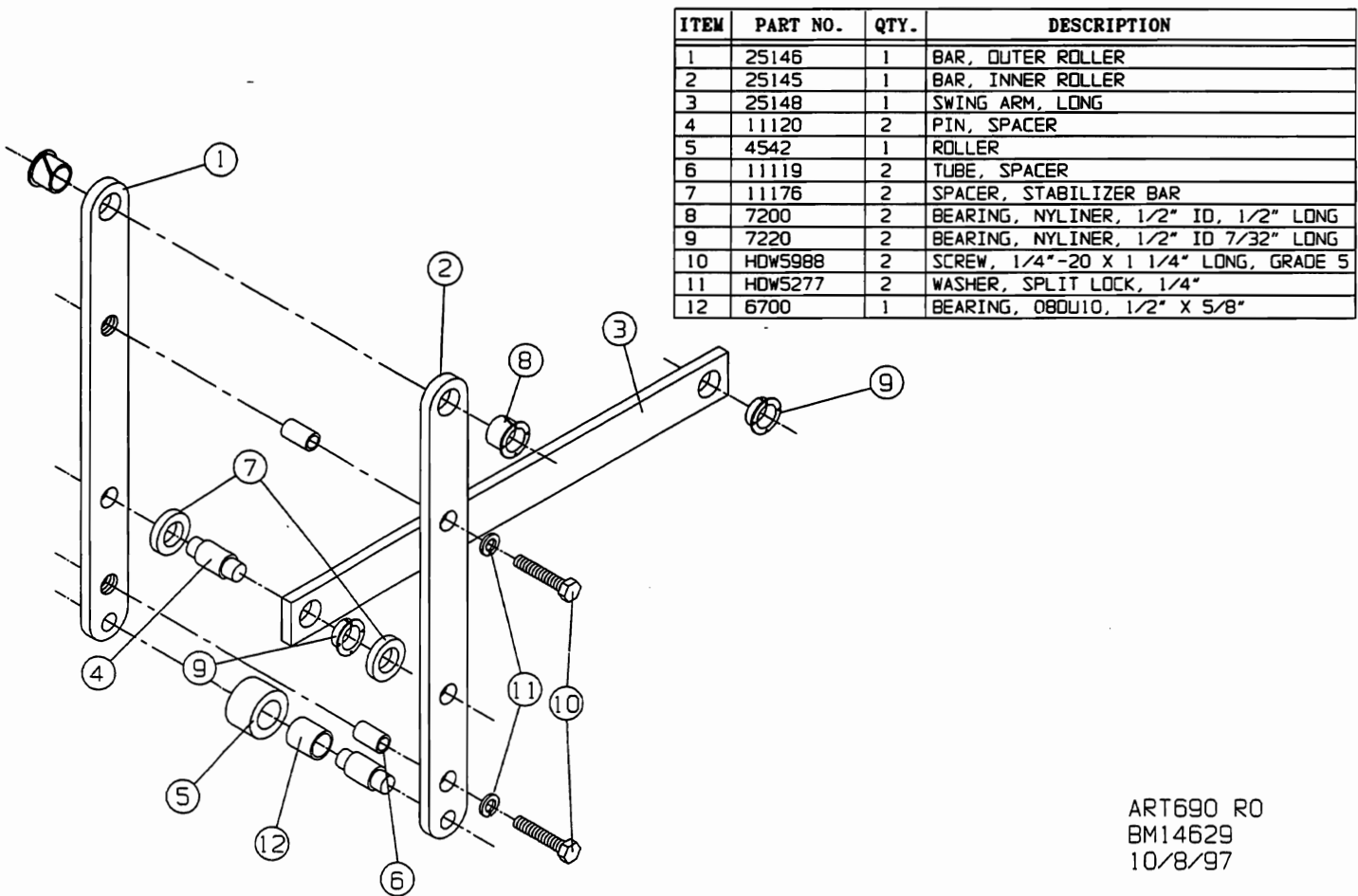


ITEM	PART NO.	QTY.	DESCRIPTION
1	25145	1	BAR, INNER ROLLER
2	25146	1	BAR, OUTER ROLLER
3	25147	1	SWING ARM, SHORT
4	11120	2	PIN, SPACER
5	4542	1	ROLLER
6	11119	2	TUBE, SPACER
7	11176	2	SPACER, STABILIZER BAR
8	7200	2	BEARING, NYLINER, 1/2" ID, 1/2" LONG
9	7220	2	BEARING, NYLINER, 1/2" ID 7/32" LONG
10	HDWS988	2	SCREW, 1/4"-20 X 1 1/4" LONG, GRADE 5
11	HDWS277	2	WASHER, SPLIT LOCK, 1/4"
12	6700	1	BEARING, OBDU10, 1/2" X 5/8"

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FIGURE C

ROLLER ARM ASSEMBLY, LEFT FRONT-25160



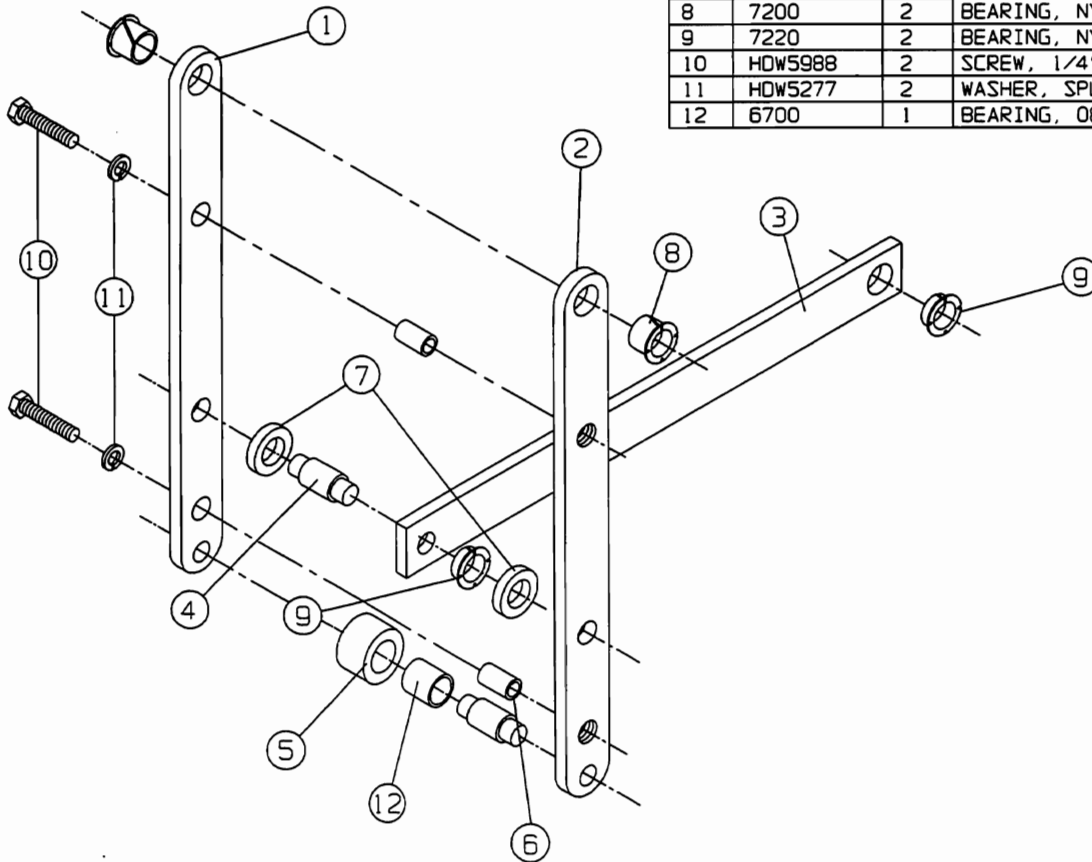
ART690 R0
BM14629
10/8/97

Fig. 5-4 (cont.) 1932ES / 1532ES Pothole Mechanism

FIGURE D

ROLLER ARM ASSEMBLY, LEFT REAR-25158

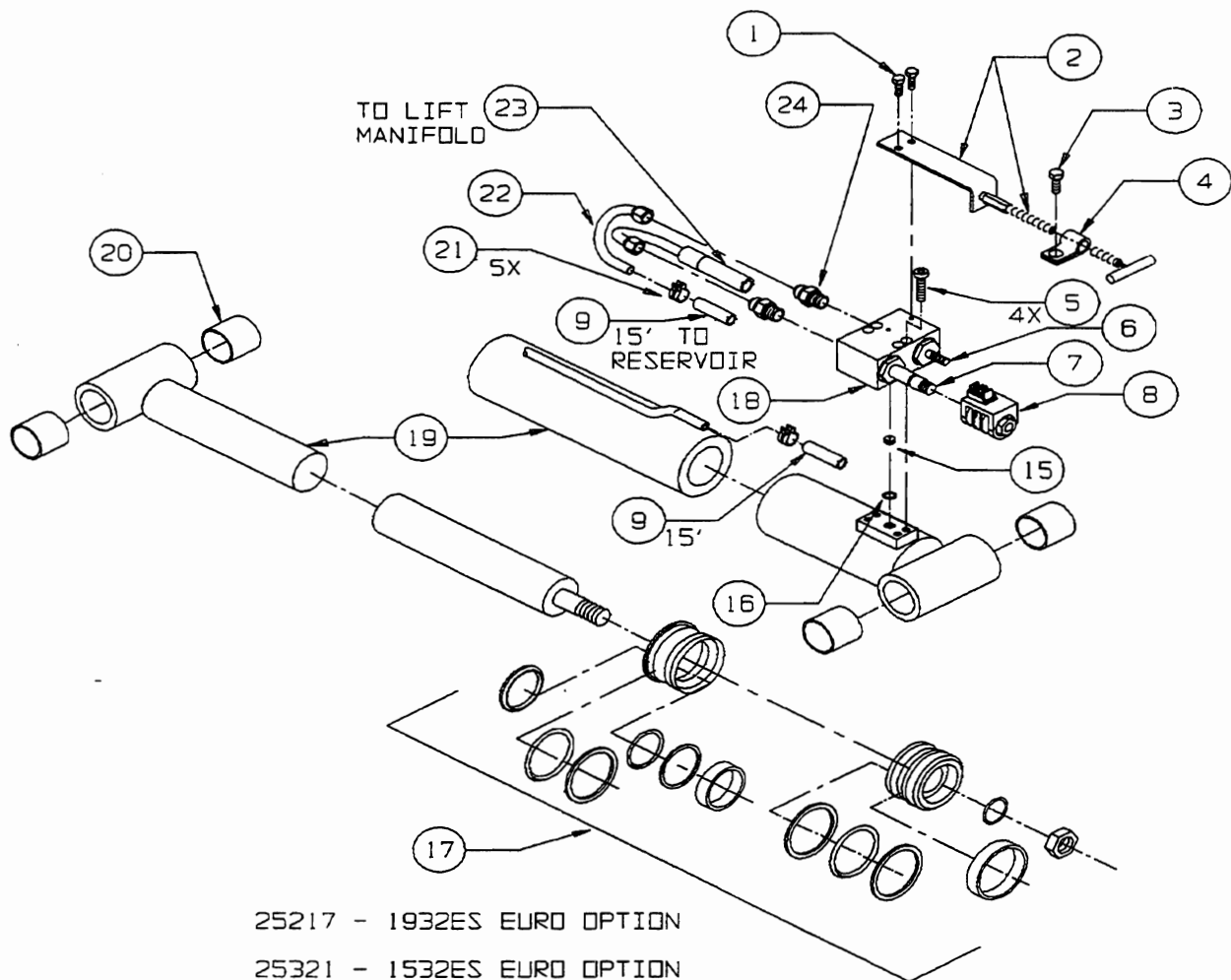
ITEM	PART NO.	QTY.	DESCRIPTION
1	25145	1	BAR, INNER ROLLER
2	25146	1	BAR, OUTER ROLLER
3	25148	1	SWING ARM, LONG
4	11120	2	PIN, SPACER
5	4542	1	ROLLER
6	11119	2	TUBE, SPACER
7	11176	2	SPACER, STABILIZER BAR
8	7200	2	BEARING, NYLINER, 1/2" ID, 1/2" LONG
9	7220	2	BEARING, NYLINER, 1/2" ID 7/32" LONG
10	HDW5988	2	SCREW, 1/4"-20 X 1 1/4" LONG, GRADE 5
11	HDW5277	2	WASHER, SPLIT LOCK, 1/4"
12	6700	1	BEARING, 080U10, 1/2" X 5/8"



ART690 R0
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Fig. 5-4 (cont.) 1932ES / 1532ES Pothole Mechanism

NOTES



25217 - 1932ES EURO OPTION

25321 - 1532ES EURO OPTION

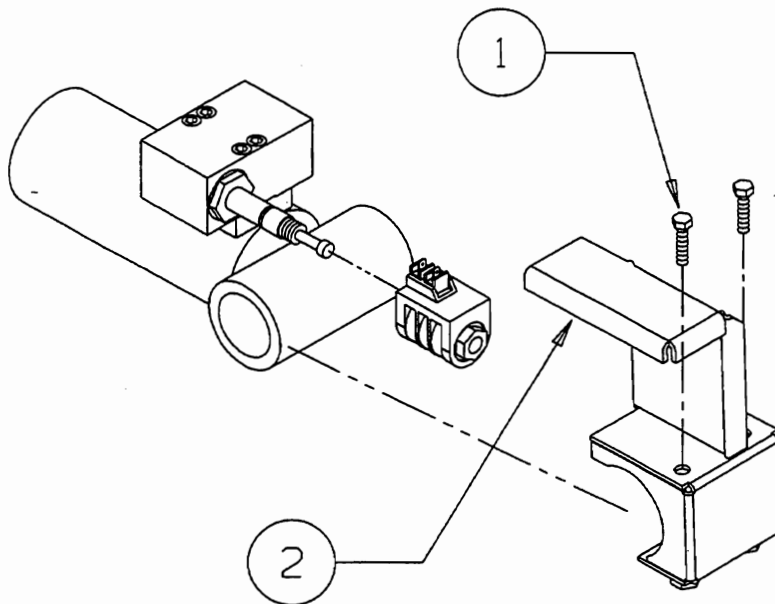
ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8398	2	SCREW,CAP,HEX HD,8-32 X 1/2", GRADE 2
2	3251	1	EMERGENCY DOWN ASSEMBLY
3	HDW5723	1	SCREW,SELFTAP & FORM,HEX HD,1/4"-20 X 3/4"
4	7038	1	CLAMP, EMERGENCY DOWN TUBE
5	HDW8592	4	SCREW,CAP,SOCKET HD,1/4"-20 X 1 1/2", GRADE 8
6	5435	1	VALVE, MANUAL PULL
7	6973	1	VALVE, N.C. POPPET, 2-WAY
8	8914	1	COIL, 24 VOLT, DOUBLE SPADE
9	6458	4	HOSE, RETURN LINE, 15 FT
10	X	1	FITTING, PIPE-TEE
11	X	2	FITTING, PIPE
12	X	2	SCREW,CAP,HEX HEAD,3/8"-18 X 1/2", GRADE 2
13	X	1	FITTING, PIPE, ELBOW, 90 DEG.
14	X	1	BRACKET, CYLINDER VALVE GUARD WELDMENT
15	HDW9172	1	PLUG, PIPE FITTING, MALE 1/8" NPT
16	6426	1	O-RING, MANIFOLD BLOCK
17	8639	1	KIT, SEAL, LIFT CYLINDER (SERVICE)
18	13535	1	MANIFOLD, LIFT CYLINDER
19	9025	1	LIFT CYLINDER
20	6984	4	BEARING, 220U26, 1 3/8" ID X 1 5/8" LONG
21	7788	2	CLAMP, HOSE
22	8583	1	TUBE, ADAPTOR, RETURN DRAIN
23	8582	1	HOSE ASSEMBLY,-LIFT CYLINDER
24	HDW7438	1	FITTING, PIPE ADAPTOR
N/A	6787	1	HARNESS, WIRE DOWN (NOT SHOWN)
N/A	6840	1	SPRING-WIRE PROTECTOR (NOT SHOWN)
N/A	13921	1	LIFT MANIFOLD ASSEMBLY (NOT SHOWN)
N/A	8702	4	TUBE CLAMP, 1 5/8" ID W/VINYL

ART727 RO
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2/5/98

Figure 5-5. 1932ES/1532ES Lift Cylinder-Euro

8971R1

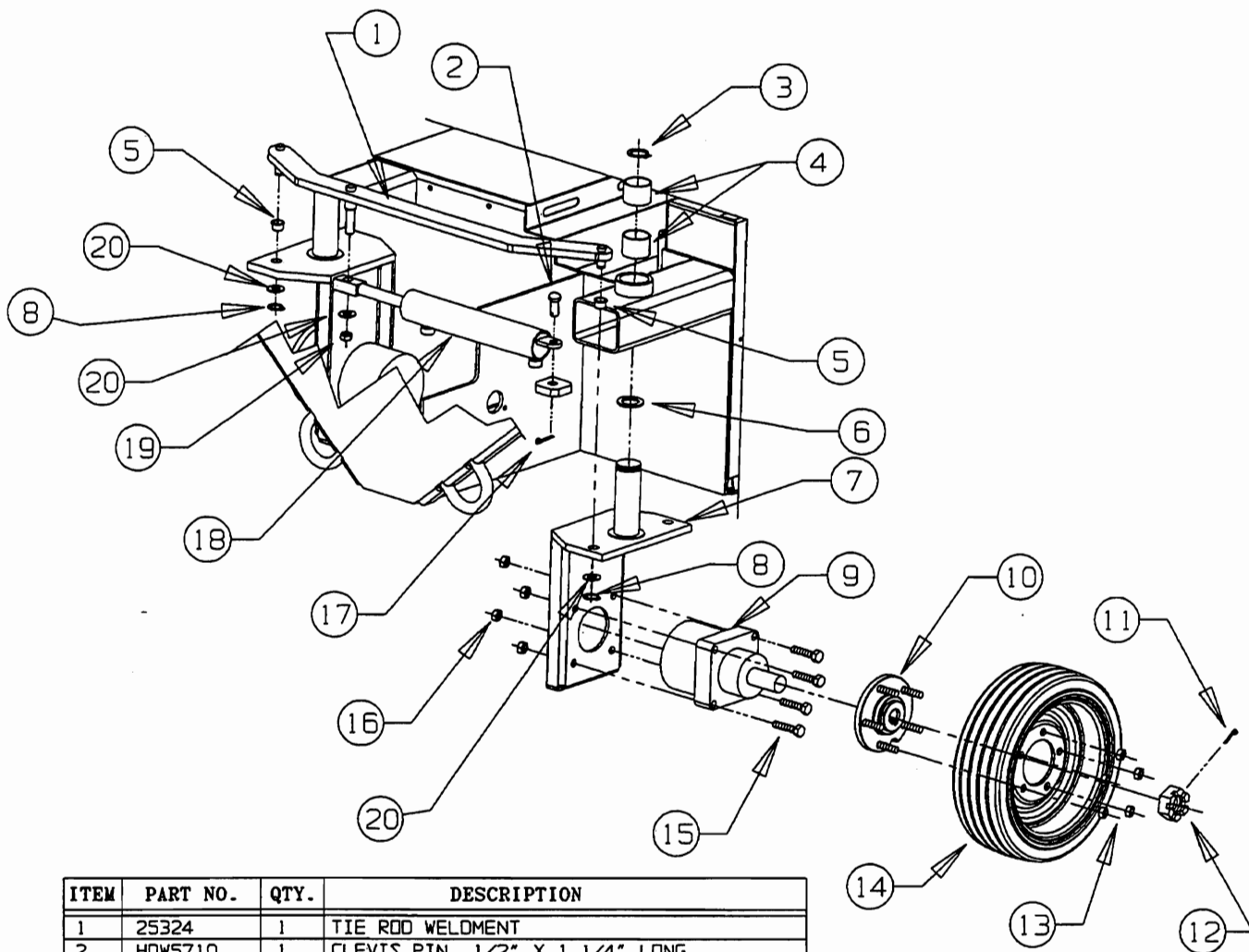
13730 - VALVE GUARD, LIFT CYL. KIT



ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8677	2	SCREW,CAP,HEX HD, 5/16-18 X 3.25, GRADE 5
2	13726	1	VALVE GUARD WELDMENT-LIFT CYLINDER
N/A	8678	2	TERMINAL (NOT SHOWN)
N/A	8682	1	INSTRUCTIONS, LIFT CYLINDER-VALVE GUARD
N/A	5351	4	TIE, WIRE, (NOT SHOWN)

ART708 R2
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3/12/98

Figure 5-6. 1932ES/1532ES Lift Cylinder Guard Kit



ITEM	PART NO.	QTY.	DESCRIPTION
1	25324	1	TIE ROD WELDMENT
2	HDW5710	1	CLEVIS PIN, 1/2" X 1 1/4" LONG
3	8919	2	RETAINING RING, 1 3/4"
4	7160	4	BEARING, 1 3/4" X 2", (280U32)
5	9170	2	.629X.815X.625 DILITE FLANGED BEARING
6	HDW3802	2	FLAT WASHER, 2 1/2" X .030 THICK, NYLON
7	25323	2	WHEEL MOTOR MOUNT WELDMENT
8	9066	2	RETAINING RING, 5/8"
9	9005 9075	2 1	HYDRAULIC WHEEL MOTOR #10 HOSE ASSEMBLY
10	25192	2	TAPERED DRIVE HUB, 5 ON 4 1/2"
11	HDW5787	1	COTTER PIN, 1/8" X 1 1/2" LONG
12	HDW6986	2	SLOTTED HEX NUT, 1" - 20
13	HDW6677	10	HEX LUG NUT, 1/2" - 20
14	8812	2	NON-MARKING WHEEL, 14" X 4 1/2"
15	HDW6435	8	SCREW, 1/2" X 13, 2 1/2" LONG
16	HDW8457	8	NUT, 1/2" - 13
17	HDW5920	1	COTTER PIN, 1/8" X 1" LONG
18	25085	1	STEERING CYLINDER ASSEMBLY
19	HDW6633	1	NUT, 5/8" - 11
20	HDW9219	3	SAE WASHER, 5/8"

ART691 R1
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Figure 6-1a. 1932ES/1532ES Front Axle

8971R1

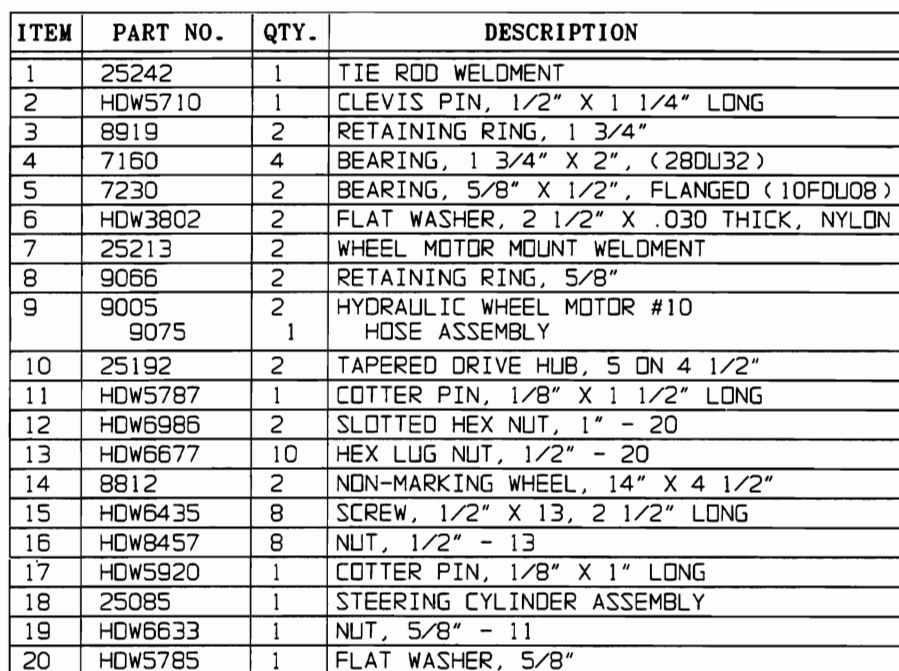
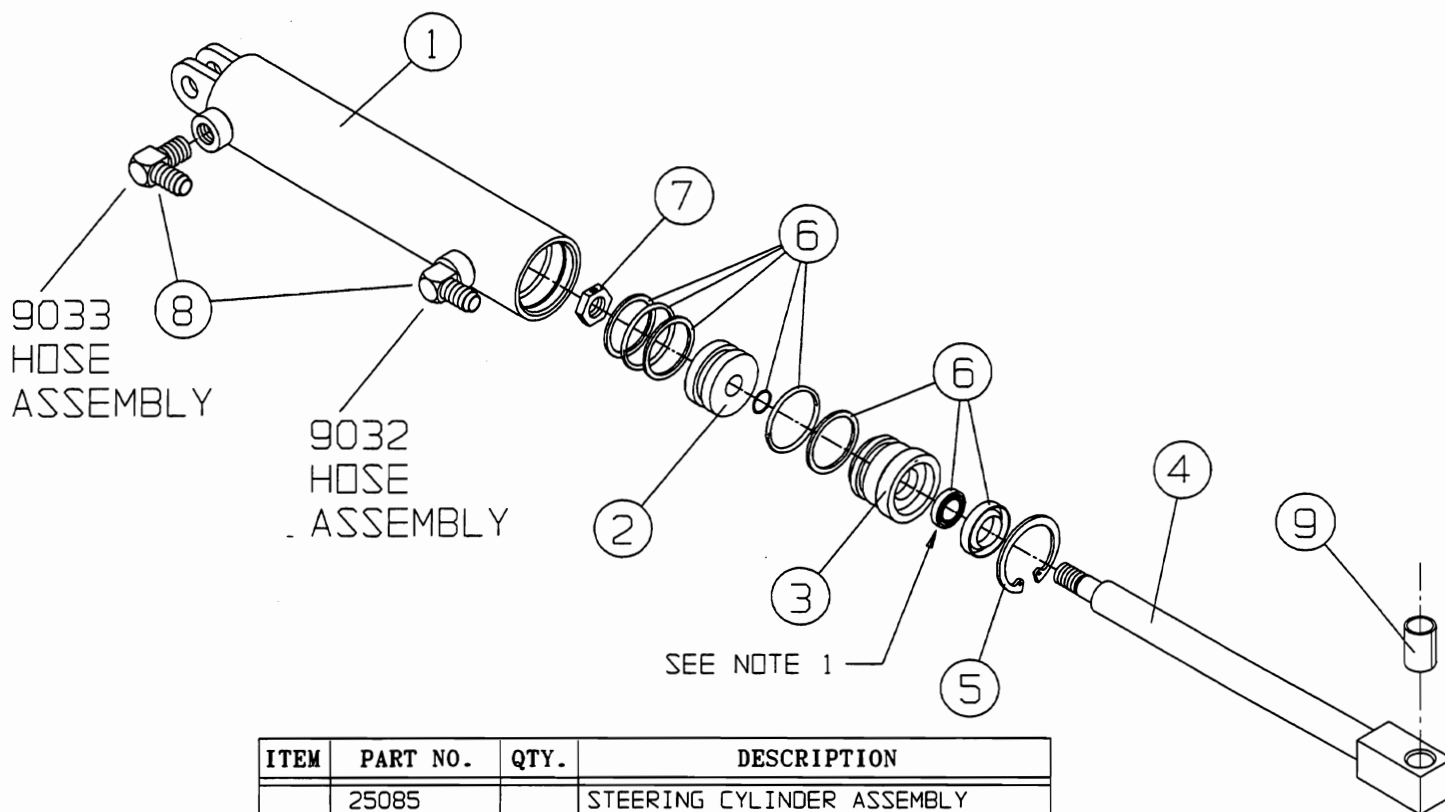


Fig. 6-1 1932ES / 1532ES Front Axle



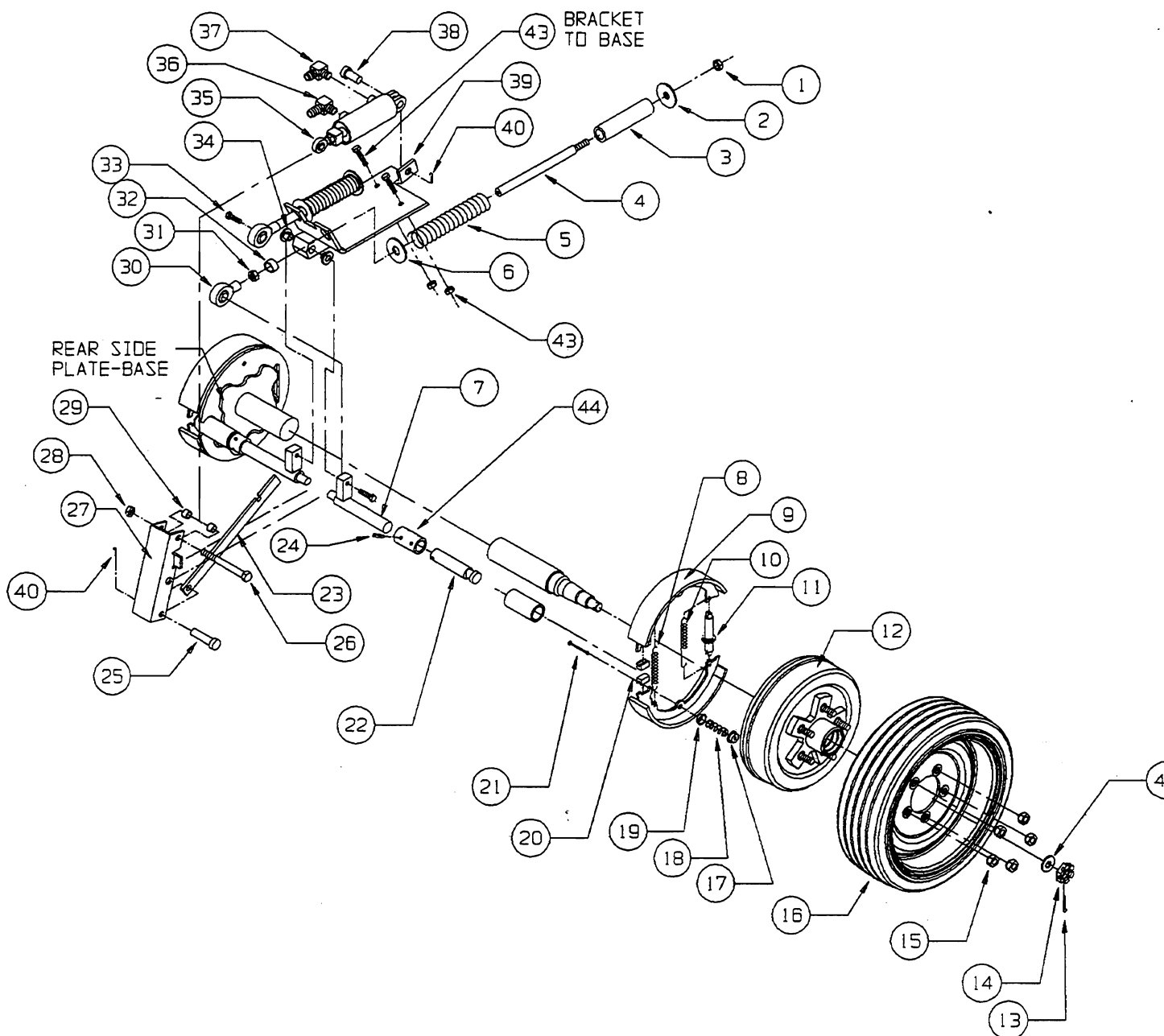
ITEM	PART NO.	QTY.	DESCRIPTION
	25085		STEERING CYLINDER ASSEMBLY
1	25137	1	STEERING CYLINDER WELDMENT
2	2494	1	PISTON
3	2493	1	HEAD
4	25139	1	STEERING CYLINDER ROD W/BEARING
5	6337	1	RETAINING RING, INTERNAL
6	5947	1	SEAL KIT
7	HDW6338	1	NUT, HEX LOCKING, 1/2"-20
8	HDW7500	2	PIPE FITTING, 90 DEGREE ELBOW MALE, 37 DEGREE FLARE MALE, 1/4" PIPE THREAD
9	8433	1	BEARING, 08DU12, 1/2" X 3/4"

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. TO ENSURE PROPER ASSSEMBLY, SEAL IS ORIENTATED WITH ID NUMBER FACING AWAY FROM ROD END.

ART692 R0
BM14660
10/13/97

Fig. 6-2 1932ES / 1532ES Steering Cylinder



ART593 R2
BM1455B
3/6/98

Figure 6-3a. 1932ES/1532ES Rear Axle and Brake Assembly

8971R1

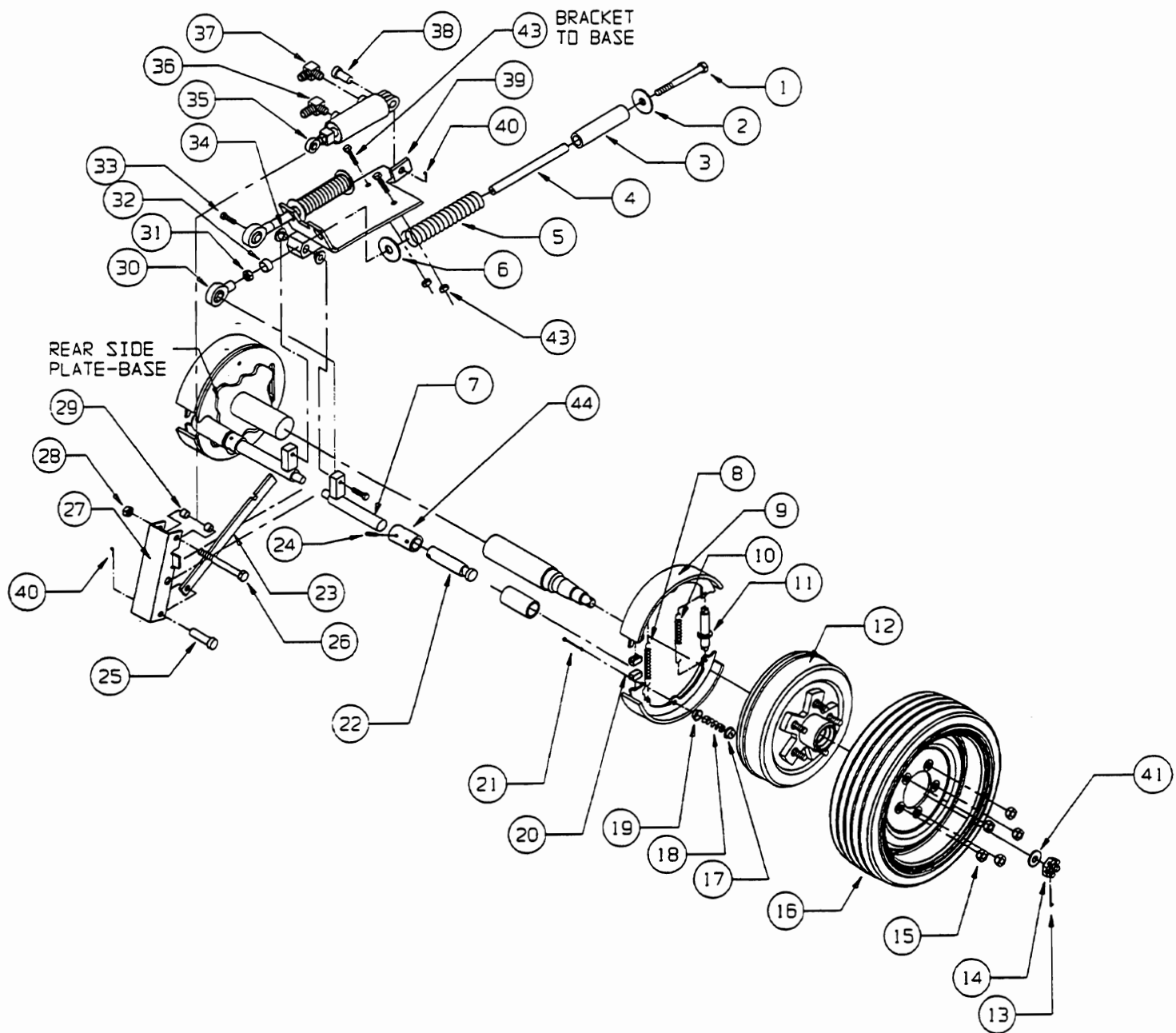
ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8309	2	NUT, 7/16" - 14
2	HDW13929	2	WASHER, ID .472, OD 2.110, .135 THICK
3	13154	2	TUBE, .891 X 1.315 X 5.422
4	13723	2	ROD, BRAKE SPRING
5	8155P	2	SPRING, COMP, 1.933" X 1.367" X 8.5"
6	HDW3801	2	WASHER, ID .765, OD 2.024, .127 THK
7	25196	2	BRAKE ACTUATOR ROD WELDMENT
8	6749	2	EXTENSION SPRING, 4" LONG
9	13090	4	BRAKE PAD WELDMENT
10	7370	2	BRAKE ADJUSTER SPRING
11	7377	2	ADJUSTING SCREW (BRAKE)
12	8972	2	HUB/BRAKE DRUM ASSEMBLY
13	HDW5787	2	COTTER PIN, HAMMERLOC, 1/8" X 1 1/2" LONG
14	HDW9082	2	NUT, SLOTTED, HEX, 1"-14
15	HDW6677	10	NUT, LUG, 1/2" X 20
16	8261	2	WHEEL-TIRE, NONMARKING, 16" X 5" X 11 1/4"
17	7372	4	OUTER HOLD DOWN CUP
18	7374	4	HOLD DOWN SPRING
19	7373	4	INNER HOLD DOWN CUP
20	10090	4	INSERT, BRAKES
21	7371	4	HOLD DOWN PINS
22	13150	2	ROD, BRAKE CAM
23	25201	1	BRAKE LOCKOUT LEVER
24	HDW6729	4	PIN, SLOTTED, SPRING, 1/4" X 1 3/8"
25	HDW9144	1	CLEVIS PIN, 7/16"-1/2" LONG
26	HDW8311	1	SCREW, 7/16"-14 X 2 1/2, GRADE 5
27	13144	1	ACTUATOR BRAKE BRACKET
28	HDW8269	1	NUT, 7/16" X 14
29	13209	2	SPACER, ID .465, OD .562
30	5679	2	ROD END, STEERING
31	HDW8265	2	NUT, 3/8" - 24
32	8190	2	BEARING, BRONZE, 3/4" ID X 1/2"
33	HDW8276	2	SCREW, 3/8"-16 X 1 1/4"
34	8187	2	BEARING, NYLINER, 5/8" ID X 5/8" LF
35	13174	1	HYDRAULIC BRAKE CYLINDER ASSEMBLY, 2" STROKE
	13157	1	ROD CYLINDER, BRAKE
	2485	1	CYLINDER WELDMENT, BRAKE
	2493	1	CYLINDER HEAD
	2494	1	PISTON, CYLINDER
	5947	1	SEAL KIT, FOR 5677 & 5678
	6337	1	INTERNAL RETAINING RING
	8163	1	ROD END, MALE, 7/16"-20
	HDW6338	1	NUT, 1/2" X 20
	HDW8266	1	NUT, 7/16" X 20
36	HDW6727	1	PIPE FITTING, ELBOW, 90 DEG, MALE, SIZE 31, HOSE BARB, .25 PIPE THREAD
	HDW7500	1	PIPE FITTING, ELBOW, 90 DEG, MALE, .37 DEG. FLARE, MALE, .25 PIPE THREAD
37			
38	HDW5710	1	CLEVIS PIN, 1/2" X 1 1/4" LONG
39	25197	1	BRACKET, BRAKE SPRING/CYLINDER
40	HDW5920	2	COTTER PIN, HAMMERLOC, 1/8" X 1"
41	HDW9083	2	WASHER, FLAT, 1/8" X 1.07 ID, 1 3/4" OD
42	HDW8304	2	NUT, 5/16"-18
43	HDW8310	2	SCREW, 5/16"-18 X 1 1/4" LONG
44	25241	2	COUPLING, BRAKE ACTUATOR

ART693 R2
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3/6/98

Figure 6-3a. 1932ES/1532ES Rear Axle and Brake Assembly

8971R1

NOTES



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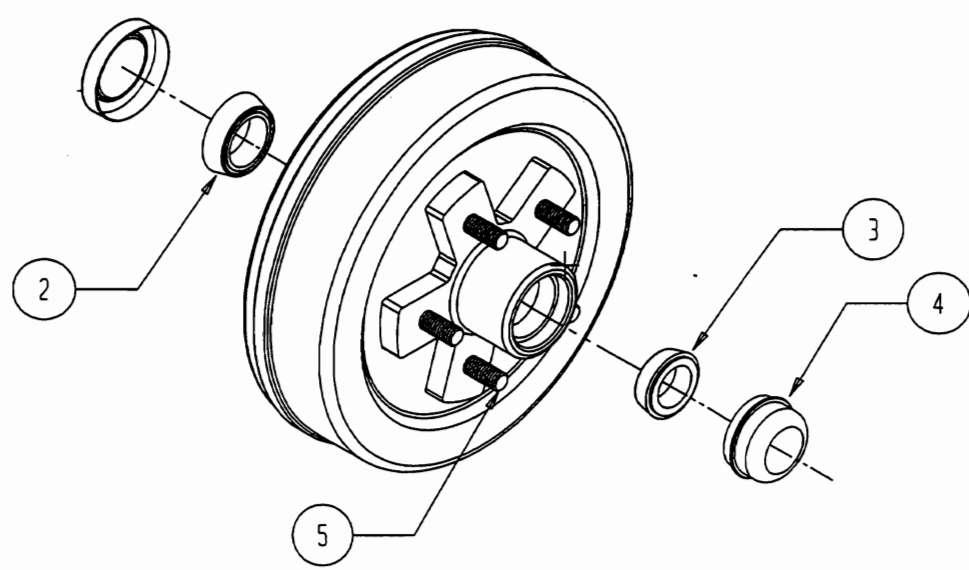
Fig. 6-3 1932ES / 1532ES Rear Axle & Brake

ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8288	2	SCREW, 3/8"-16 X 3", GRADE 5
2	HDW13153	2	WASHER, ID .388, OD 2.112, .127 THK
3	13154	2	TUBE, .891 X 1.315 X 5.422
4	13146	2	ROD, BRAKE SPRING
5	8155P	2	SPRING, COMP, 1.933" X 1.367" X 8.5"
6	HDW3801	2	WASHER, ID .765, OD 2.024, .127 THK
7	25196	2	BRAKE ACTUATOR ROD WELDMENT
8	6749	2	EXTENSION SPRING, 4" LONG
9	13090	4	BRAKE PAD WELDMENT
10	7370	2	BRAKE ADJUSTER SPRING
11	7377	2	ADJUSTING SCREW (BRAKE)
12	8972	2	HUB/BRAKE DRUM ASSEMBLY
13	HDW5787	2	COTTER PIN, HAMMERLOC, 1/8" X 1 1/2" LONG
14	HDW9082	2	NUT, SLOTTED, HEX, 1"-14
15	HDW6677	10	NUT, LUG, 1/2" X 20
16	8261	2	WHEEL-TIRE, NONMARKING, 16" X 5" X 11 1/4"
17	7372	4	OUTER HOLD DOWN CUP
18	7374	4	HOLD DOWN SPRING
19	7373	4	INNER HOLD DOWN CUP
20	10090	4	INSERT, BRAKES
21	7371	4	HOLD DOWN PINS
22	13150	2	ROD, BRAKE CAM
23	25201	1	BRAKE LOCKOUT LEVER
24	HDW6729	4	PIN, SLOTTED, SPRING, 1/4" X 1 3/8"
25	HDW9144	1	CLEVIS PIN, 7/16"-1/2" LONG
26	HDW8311	1	SCREW, 7/16"-14 X 2 1/2, GRADE 5
27	13144	1	ACTUATOR BRAKE BRACKET
28	HDW8269	1	NUT, 7/16" X 14
29	13209	2	SPACER, ID .465, OD .562
30	5679	2	ROD END, STEERING
31	HDW8265	2	NUT, 3/8" - 24
32	8190	2	BEARING, BRONZE, 3/4" ID X 1/2"
33	HDW8276	2	SCREW, 3/8"-16 X 1 1/4"
34	8187	2	BEARING, NYLINER, 5/8" ID X 5/8" LF
35	13174	1	HYDRAULIC BRAKE CYLINDER ASSEMBLY, 2" STROKE
	13157	1	ROD CYLINDER, BRAKE
	2485	1	CYLINDER WELDMENT, BRAKE
	2493	1	CYLINDER HEAD
	2494	1	PISTON, CYLINDER
	5947	1	SEAL KIT, FOR 5677 & 5678
	6337	1	INTERNAL RETAINING RING
	8163	1	ROD END, MALE, 7/16"-20
	HDW6338	1	NUT, 1/2" X 20
	HDW8266	1	NUT, 7/16" X 20
36	HDW6727	1	PIPE FITTING, ELBOW, 90 DEG, MALE, SIZE 31, HOSE BARB, .25 PIPE THREAD
	HDW7500	1	PIPE FITTING, ELBOW, 90 DEG, MALE, .37 DEG. FLARE, MALE, .25 PIPE THREAD
37			
38	HDW5710	1	CLEVIS PIN, 1/2" X 1 1/4" LONG
39	25197	1	BRACKET, BRAKE SPRING/CYLINDER
40	HDW5920	2	COTTER PIN, HAMMERLOC, 1/8" X 1"
41	HDW9083	2	WASHER, FLAT, 1/8" X 1.07 ID, 1 3/4" OD
42	HDW8304	2	NUT, 5/16"-18
43	HDW8310	2	SCREW, 5/16"-18 X 1 1/4" LONG
44	25241	2	COUPLING, BRAKE ACTUATOR

ART693 R1
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11/14/97

Fig. 6-3 (cont.) 1932ES / 1532ES Rear Axle & Brake

8972 DRUM & HUB
W/ PACKED BEARINGS

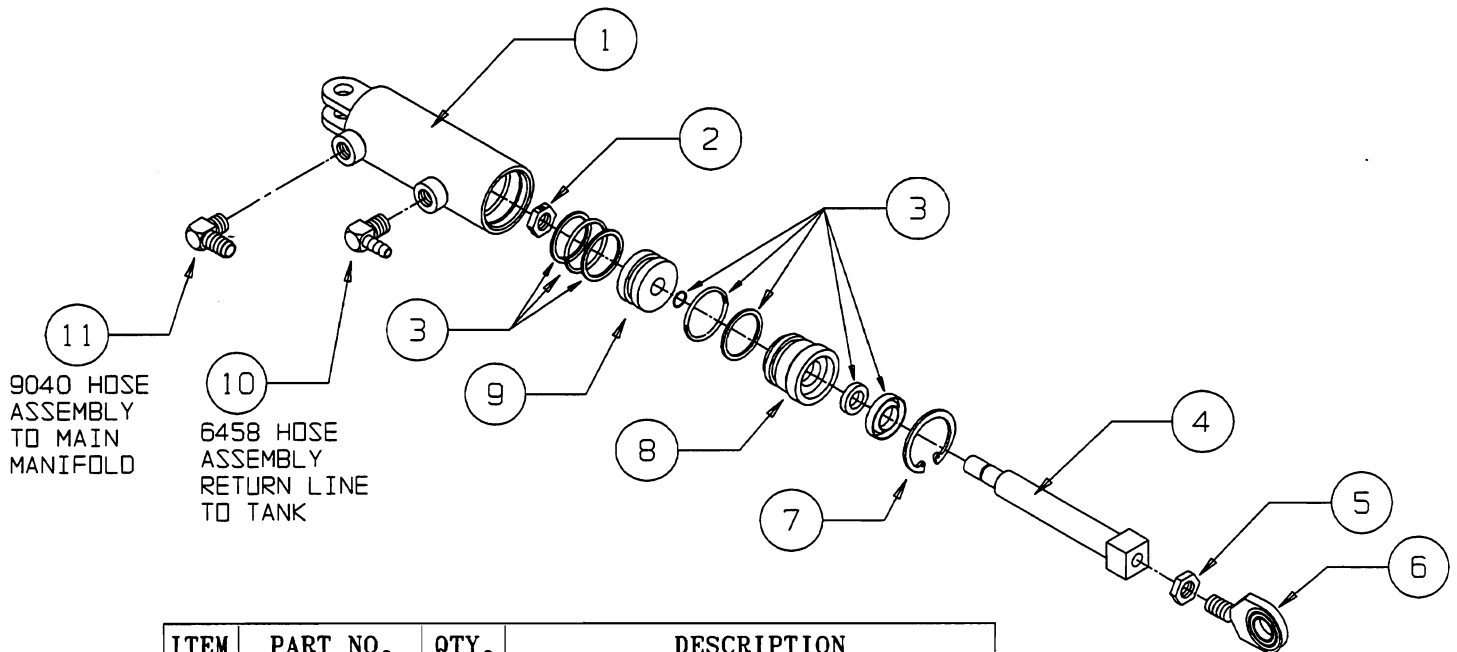


ITEM	PART NO.	QTY.	DESCRIPTION
1	8159	1	SEAL, GREASE, 1-3/4" SHAFT
2	8158	1	BEARING, TAPERED ROLLER, 1-3/8"
3	7932	1	BEARING, TAPERED, R1 1/16" BORE
4	8156	1	CAP, GREASE
5	8705	5	PRESSED STUD, 1/2"-20 X 60 DEG.-UNF

ART695 R0
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10/15/97

Fig. 6-4 1932ES / 1532ES Brake Drum Hub

13174 - BRAKE CYLINDER ASSEMBLY

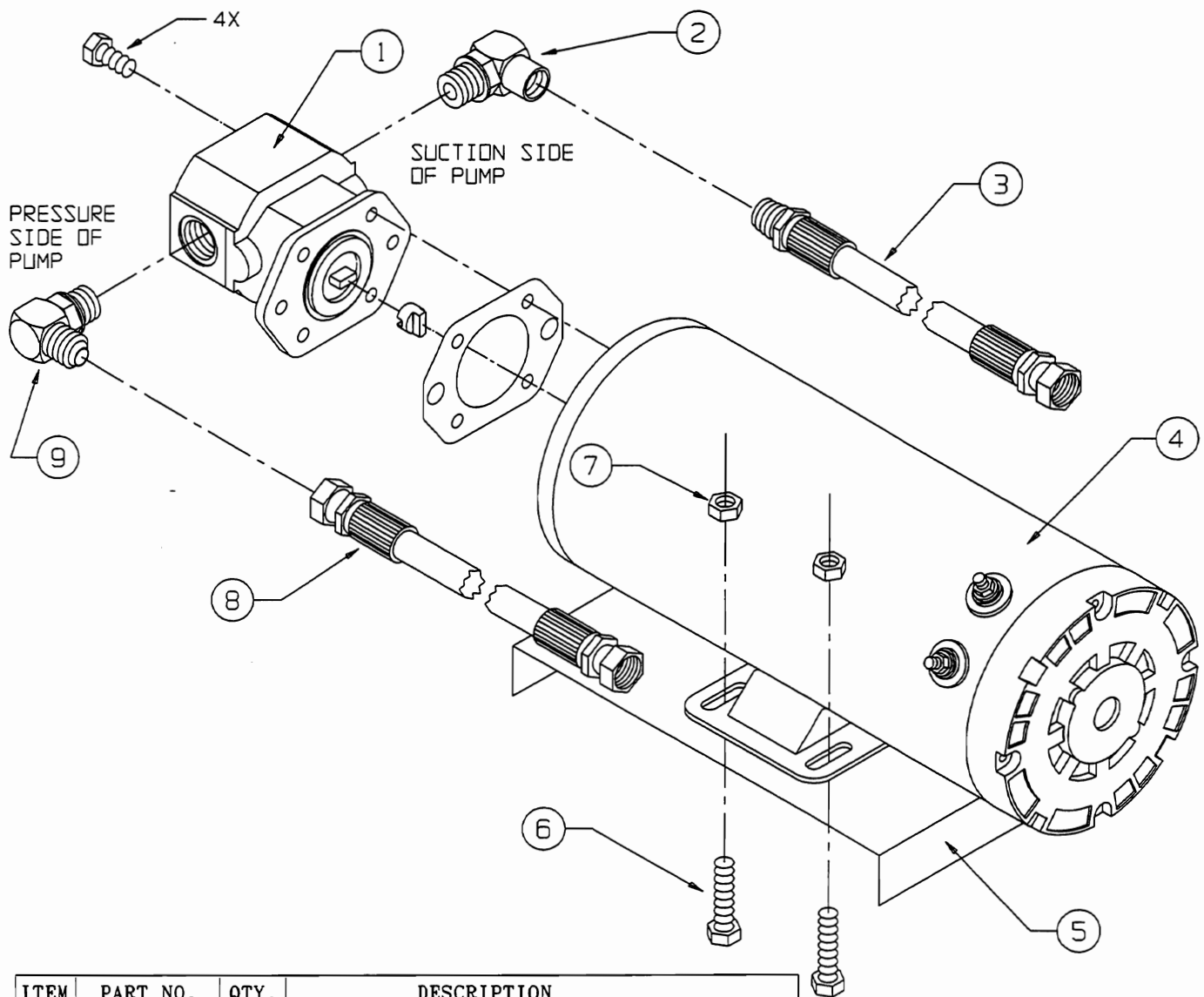


ITEM	PART NO.	QTY.	DESCRIPTION
1	2485	1	CYLINDER-BRAKE WELDMENT
2	HDW6338	1	NUT,LDC,HEX, 1/2"-20, CLASS B
3	5947	1	KIT,SEAL FOR 5677 & 5678
4	13157	1	ROD, CYLINDER-BRAKE
5	HDW8266	1	NUT,HEX, 7/16"-20, GRADE 5
6	8163	1	ROD END, MALE, 7/16"-20
7	6337	1	RETAINING RING, INTERNAL
8	2493	1	CYLINDER HEAD
9	2494	1	PISTON, CYLINDER
10	HDW6727	1	FITTING,PIPE,90 DEG,ELBOW,MALE
11	HDW7500	1	FITTING,PIPE,90 DEG,ELBOW,MALE

ART694 R0
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Fig. 6-5 1932ES / 1532ES Brake Cylinder

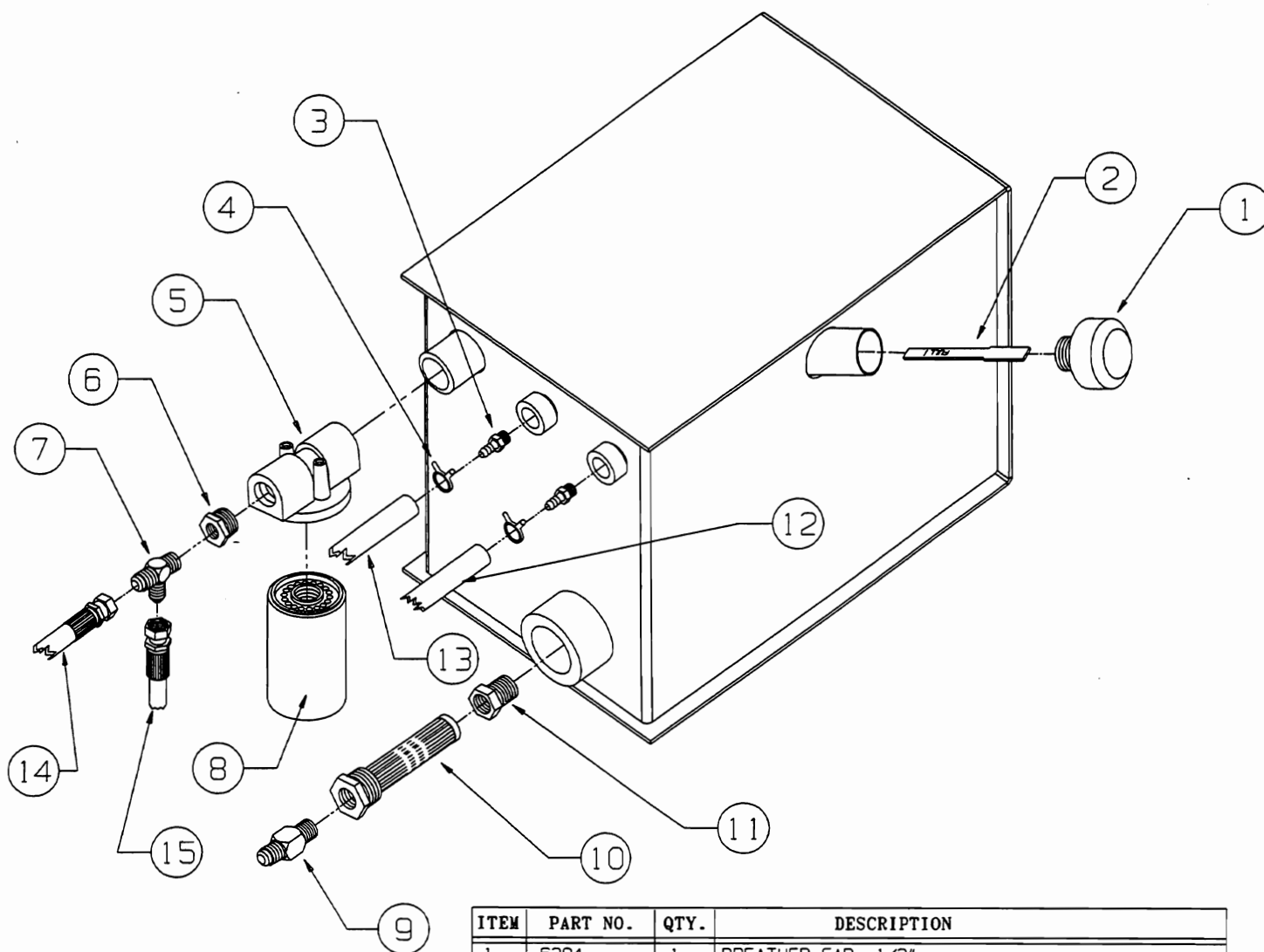
NOTES



ITEM	PART NO.	QTY.	DESCRIPTION
1	8546	1	PUMP, HYDRAULIC, #4.0
2	6724	1	H.P. SAE ADAPTER, 90 DEG. ELBOW
3	9053	1	HOSE ASSEMBLY-SAE 100R1, STRAIGHT FEMALE, SAE STRAIGHT MALE, NPT 1/2" HOSE ID, 44" LONG
4	8544	1	MOTOR, 24VDC, 2HP
5	25250	1	MOTOR MOUNTING PLATE
6	HDW5204	4	SCREW, 5/16"-18, 1" LONG
7	HDW5005	4	NUT, 5/16"-18
8	7598	1	HOSE ASSEMBLY-SAE 100R1 STRAIGHT FEMALE, 37 DEG. FLARE STRAIGHT FEMALE, 37 DEG. FLARE 3/8" HOSE ID, 28" LONG TO MAIN MANIFOLD
9	HDW8081	1	PIPE FITTING, ELBOW, 90 DEG., 3/8" DIA. MALE, 1/2", O-RING

ART696 R0
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Fig. 7-1 1932ES / 1532ES Pump/Motor

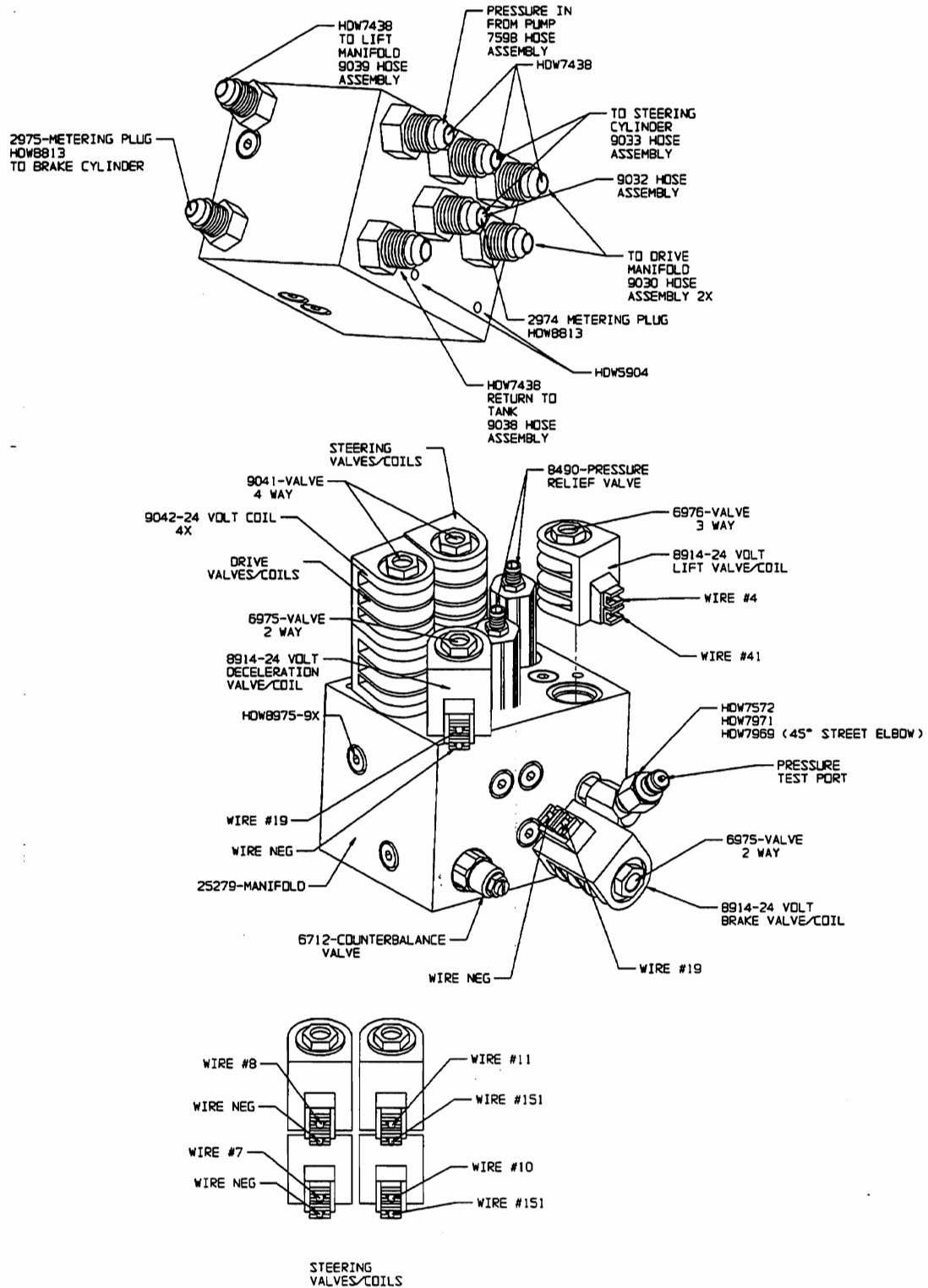


ITEM	PART NO.	QTY.	DESCRIPTION
1	6284	1	BREATHER CAP, 1/2"
2	25284	1	FLUID GAGE-DIPSTICK
3	HDW6459	2	PIPE FITTING, UNION, MALE, 1/4" NPT FEMALE, 5/16" HOSE BARB
4	7164	2	HOSE CLAMP, 5/16" ID HOSE
5	6714	1	FILTER HEAD
6	HDW9073	1	PIPE FITTING ADAPTOR, SWIVEL, MALE, 3/4" NPT FEMALE, 1/4" NPTF
7	HDW8895	1	PIPE FITTING, RUN T, MALE, 1/4" NPT MALE, 3/8", 37 DEG. FLARE
8	6156	1	OIL FILTER CARTRIDGE
9	HDW7699	1	PIPE FITTING, UNION, MALE, 1/2" SAE MALE 1/2", 45 DEG, NPT
10	8412	1	FILTER STRAINER, 1" NPT
11	HDW9090	1	PIPE FITTING, ADAPTOR, MALE, 1 1/4" NPT FEMALE, 1" NPT
12	6458	3 FT	RETURN LINE HOSE, BRAKE CYLINDER
13	6458	9 FT	RETURN LINE HOSE, LIFT CYLINDER
14	9029	1	HOSE ASSEMBLY, STRAIGHT FEMALE, 37 DEG. FLARE, STRAIGHT FEMALE, 37 DEG FLARE, 3/8", 55" LONG, SAE100R1 LIFT MANIFOLD TO TANK
15	9038	1	HOSE ASSEMBLY, STRAIGHT FEMALE, 37 DEG. FLARE, STRAIGHT FEMALE, 37 DEG. FLARE, 3/8", 46" LONG, SAE100R1

Fig. 7-2 1932ES / 1532ES Hydraulic Reservoir

ART697 R0
BM14706
10/16/97

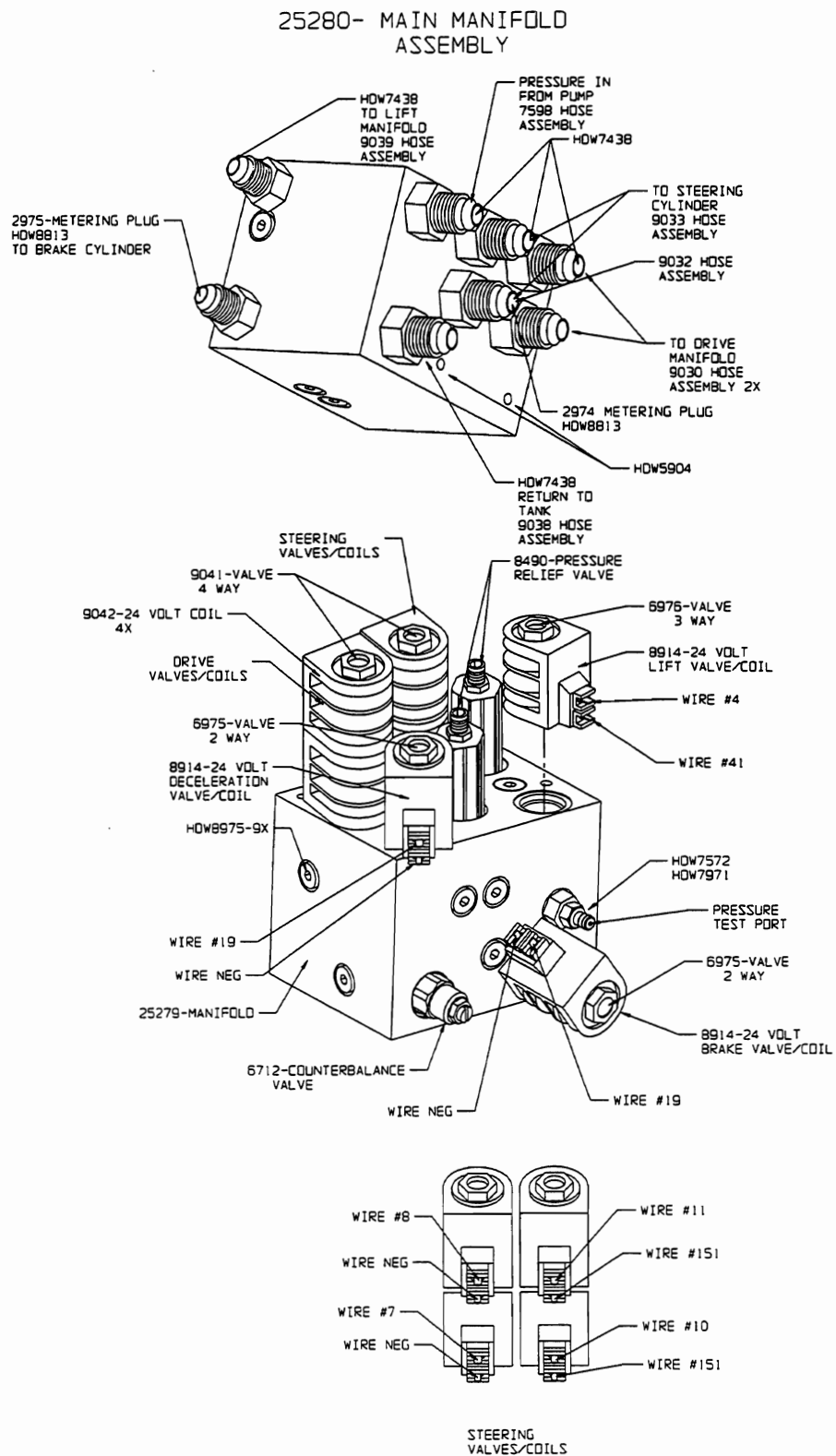
25280- MAIN MANIFOLD ASSEMBLY



ART702 RO
BM14747
10/23/97

Figure 7-3a. 1932ES/1532ES Main Manifold

8971R1



ART702 RO
BM14747
10/23/97

Fig. 7-3 1932ES / 1532ES Main Manifold

25304 - DRIVE MANIFOLD

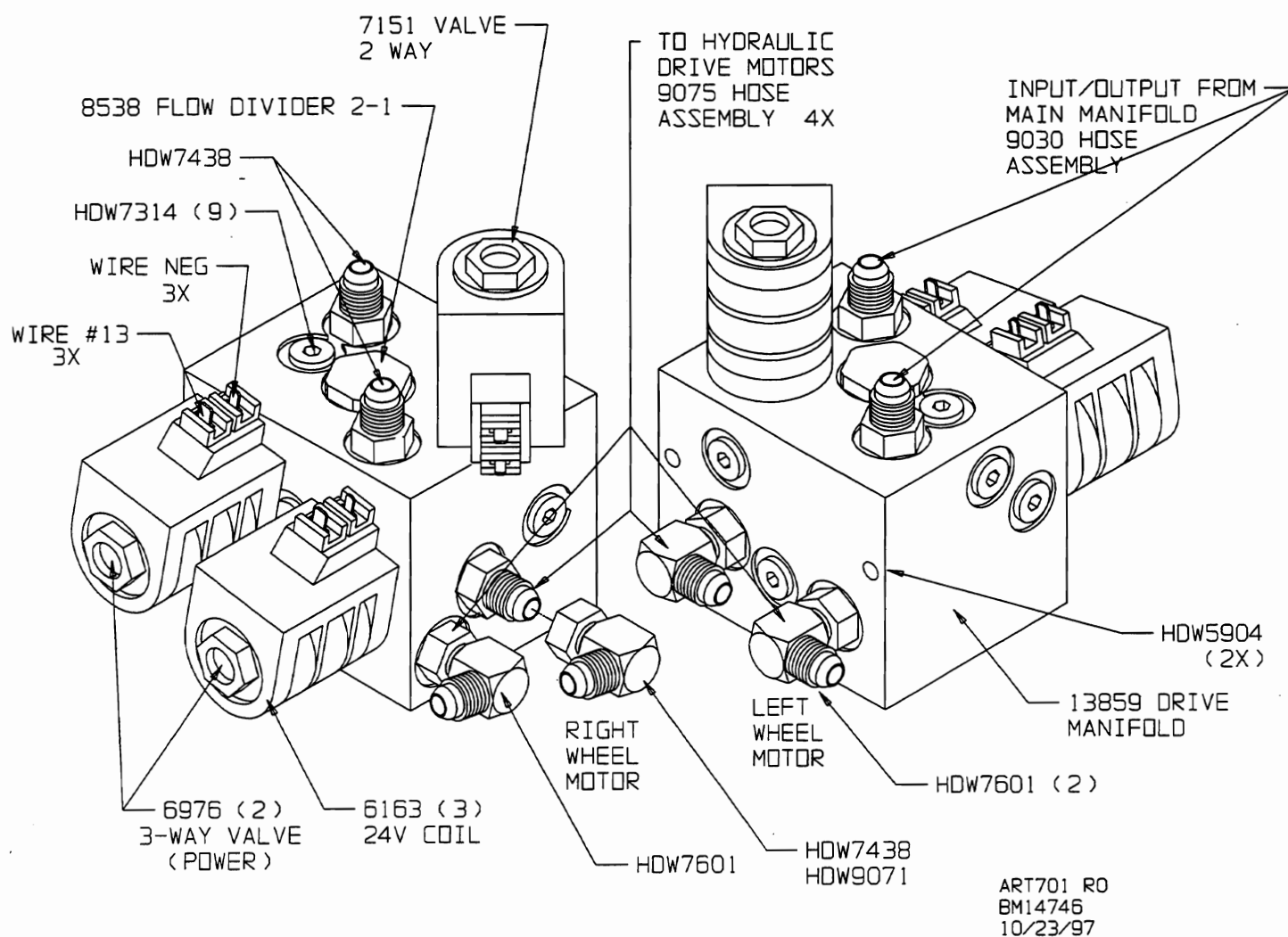


Fig. 7-4 1932ES / 1532ES Drive Manifold

25304 - DRIVE MANIFOLD

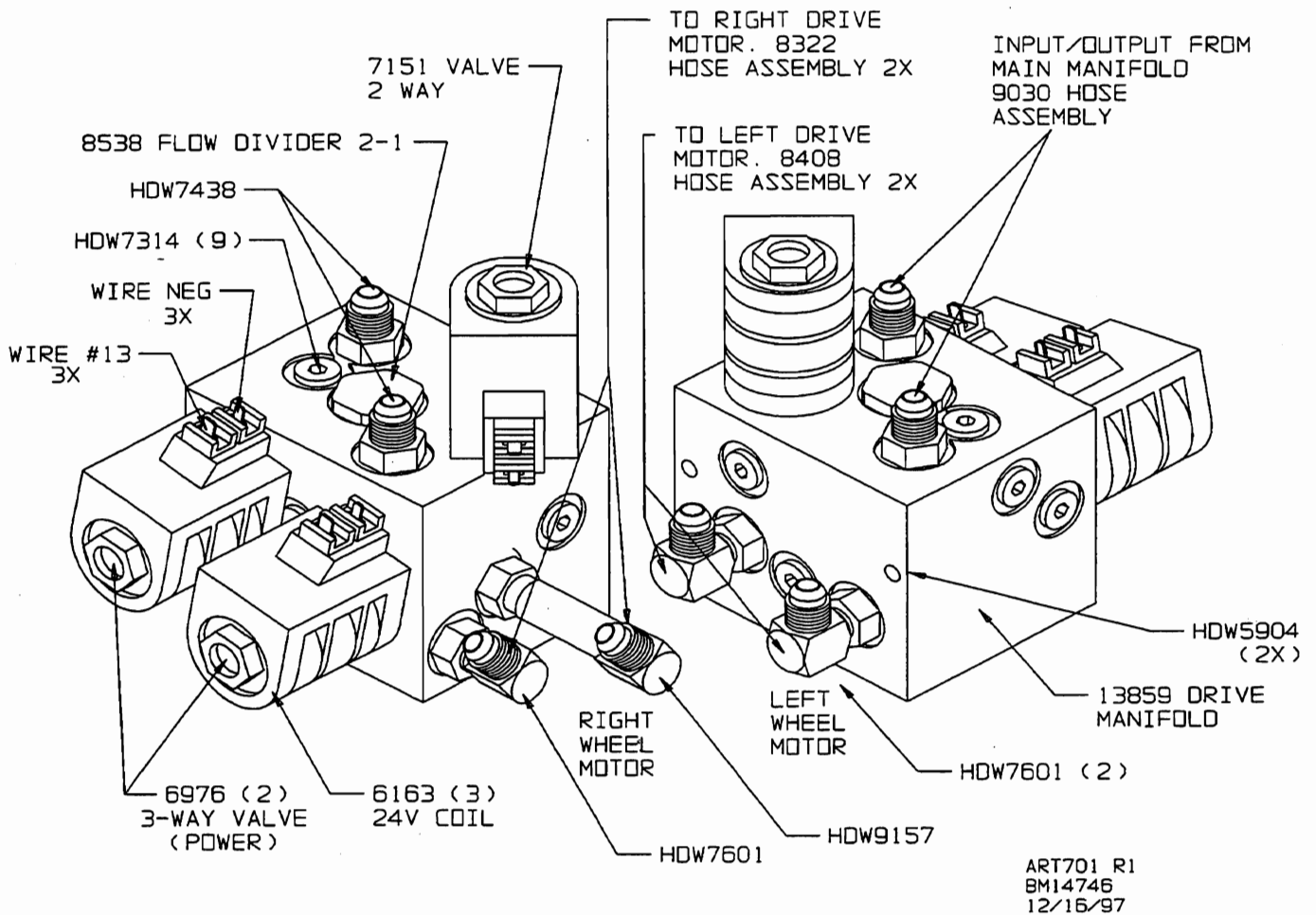
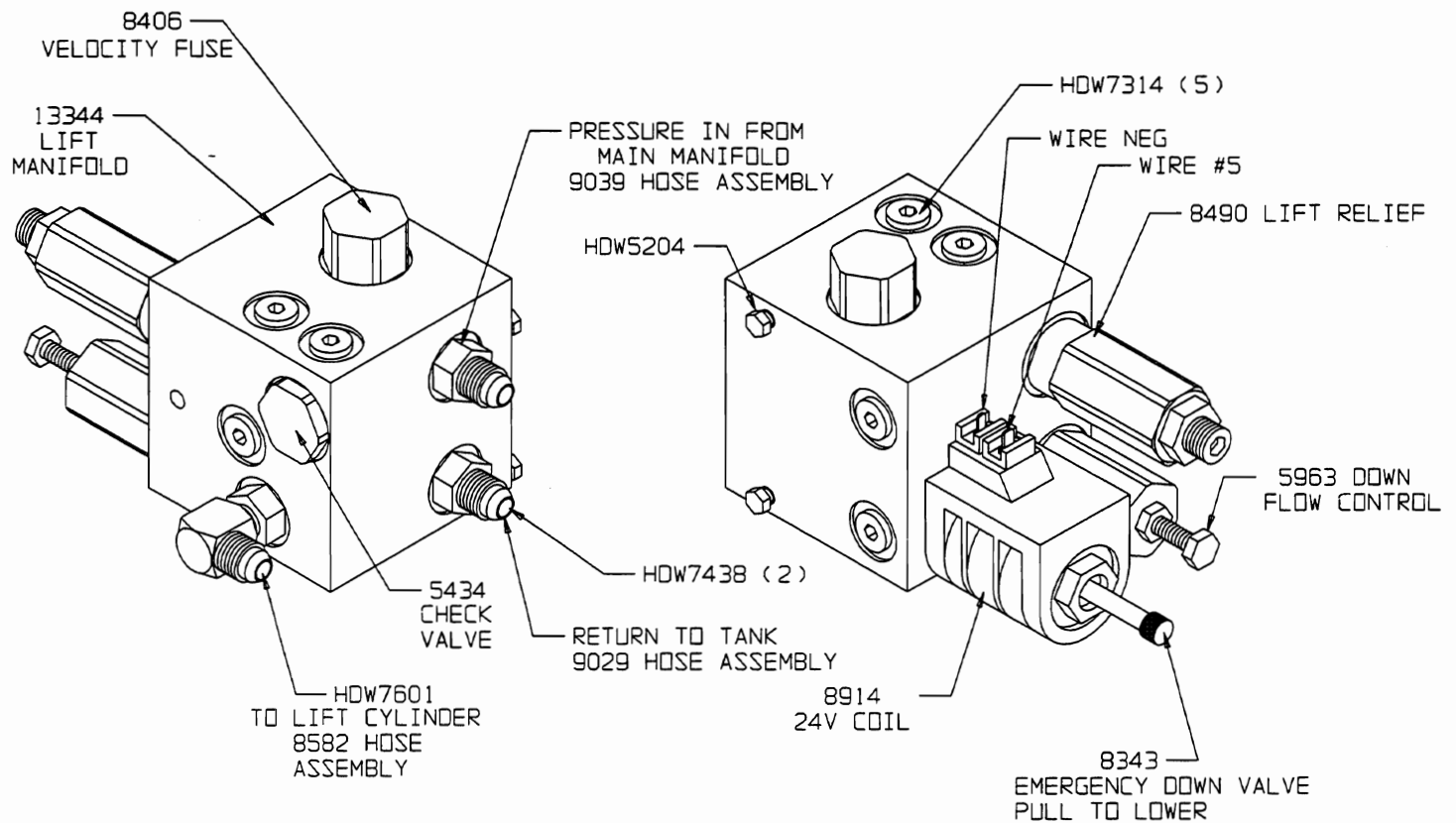


Figure 7-4a. 1932ES/1532ES Drive Manifold

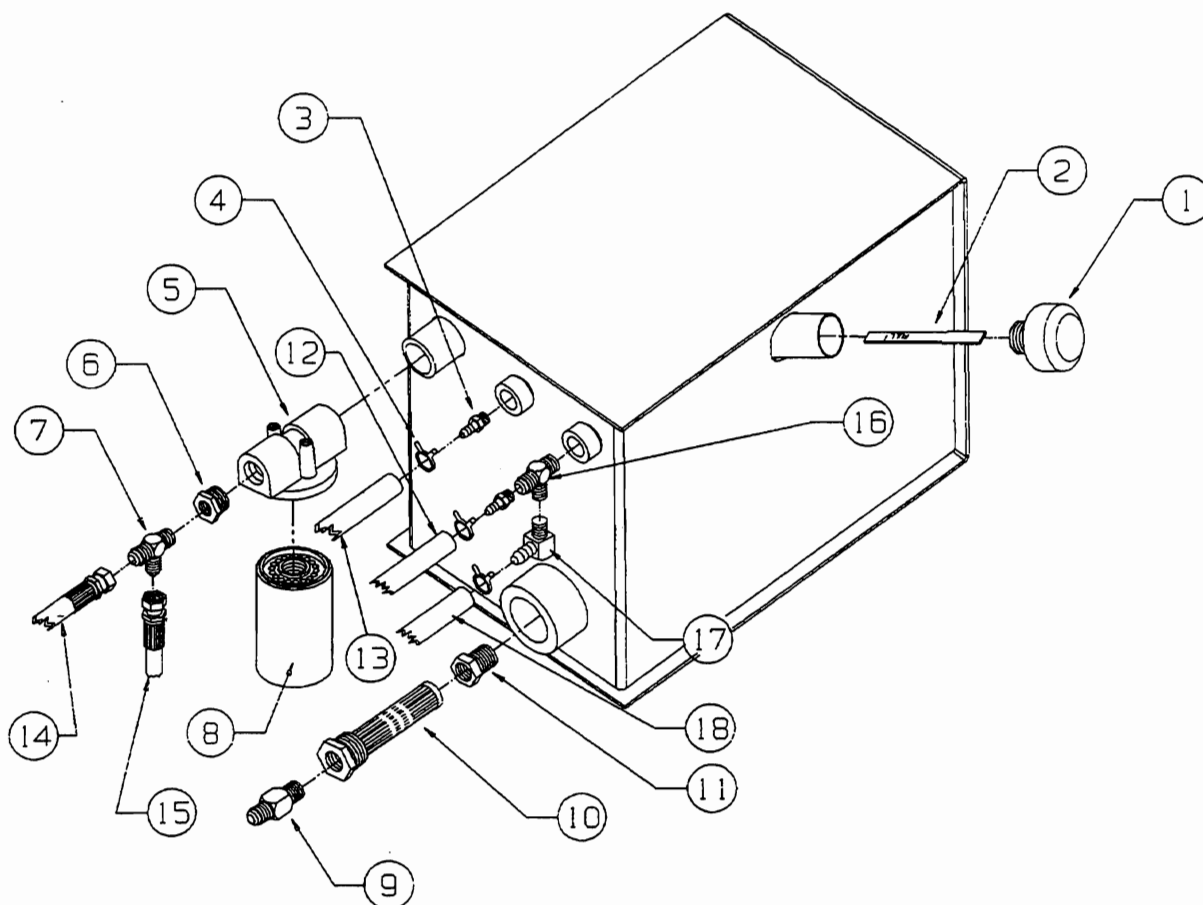
13921 - LIFT MANIFOLD



ART700 R0
8M14745
10/23/97

Fig. 7-5 1932ES / 1532ES Lift Manifold

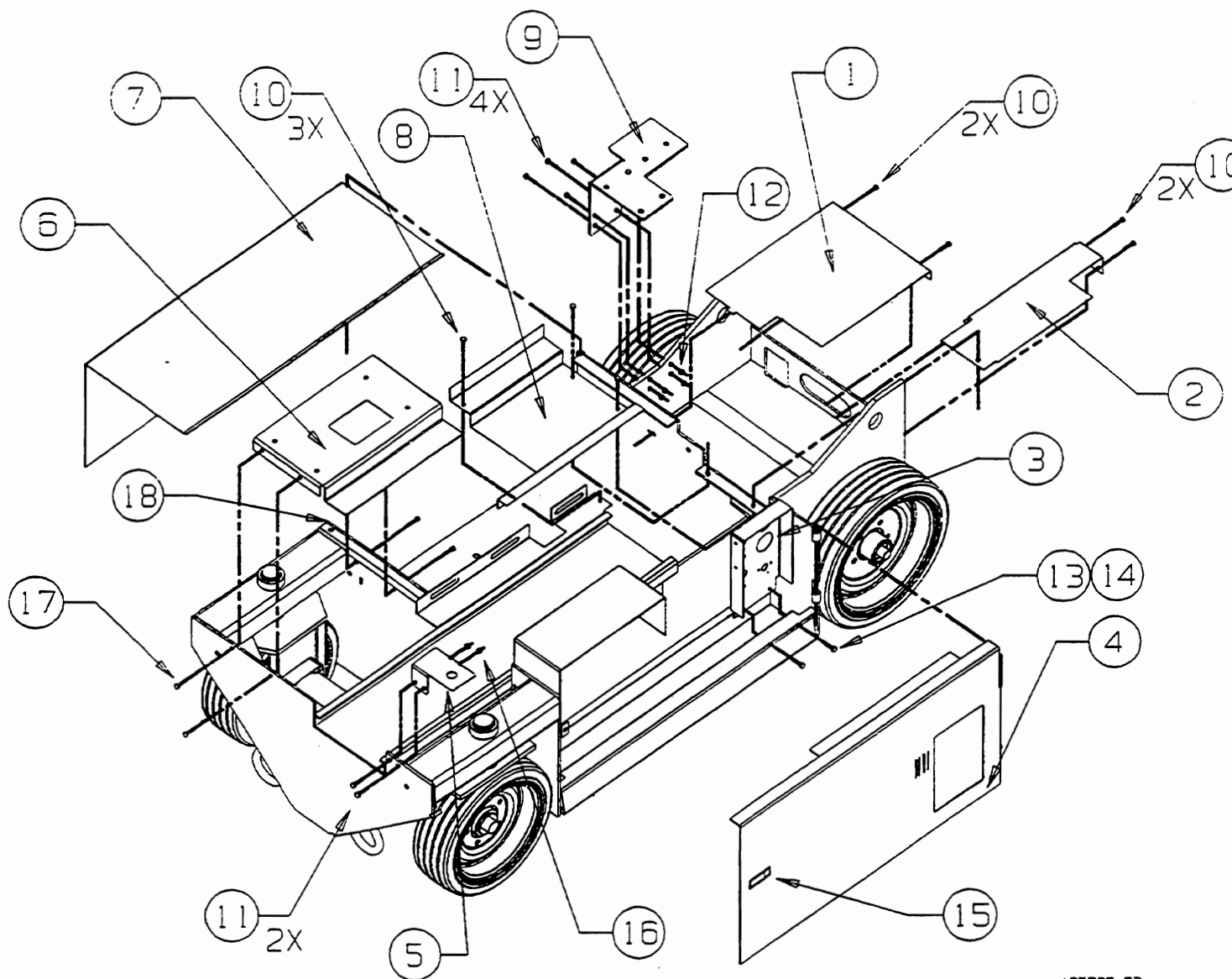
NOTES



ITEM	PART NO.	QTY.	DESCRIPTION
1	6284	1	BREATHER CAP, 1/2"
2	25284	1	FLUID GAGE-DIPSTICK
3	HOW6459	2	PIPE FITTING, UNION, MALE, 1/4" NPT FEMALE, 5/16" HOSE BARB
4	7164	3	HOSE CLAMP, 5/16" ID HOSE
5	6714	1	FILTER HEAD
6	HOW9073	1	PIPE FITTING ADAPTOR, SWIVEL, MALE, 3/4" NPT FEMALE, 1/4" NPTF
7	HOW8895	1	PIPE FITTING, RUN T, MALE, 1/4" NPT MALE, 3/8", 37 DEG. FLARE
8	6156	1	OIL FILTER CARTRIDGE
9	HOW7699	1	PIPE FITTING, UNION, MALE, 1/2" SAE MALE 1/2", 45 DEG. NPT
10	8412	1	FILTER STRAINER, 1" NPT
11	HOW9090	1	PIPE FITTING, ADAPTOR, MALE, 1 1/4" NPT FEMALE, 1" NPT
12	6458	9 FT	RETURN LINE HOSE, LIFT VENT
13	6458	15 FT	RETURN LINE HOSE, EMERGENCY DOWN
14	9029	1	HOSE ASSEMBLY, STRAIGHT FEMALE, 37 DEG. FLARE, STRAIGHT FEMALE, 37 DEG FLARE, 3/8", 55" LONG, SAE100R1 LIFT MANIFOLD TO TANK
15	9038	1	HOSE ASSEMBLY, STRAIGHT FEMALE, 37 DEG. FLARE, STRAIGHT FEMALE, 37 DEG. FLARE, 3/8", 46" LONG, SAE100R1
16	6655	1	1/4" STEEL STREET TEE
17	6458	1	PIPE FITTING, 90 DEG ELBOW, MALE 5/16" HOSE BARB MALE 1/4" NPT
18	HOW6727	3 FT	RETURN LINE HOSE - BRAKE VENT

ART728 RO
BM14706
2/5/98

Figure 7-6. 1932ES/1532ES Hydraulic Reservoir-Euro



ART705 R3
BM14794
2/4/98

Figure 8-1a. 1932ES/1532ES Cabinetry

8971R1

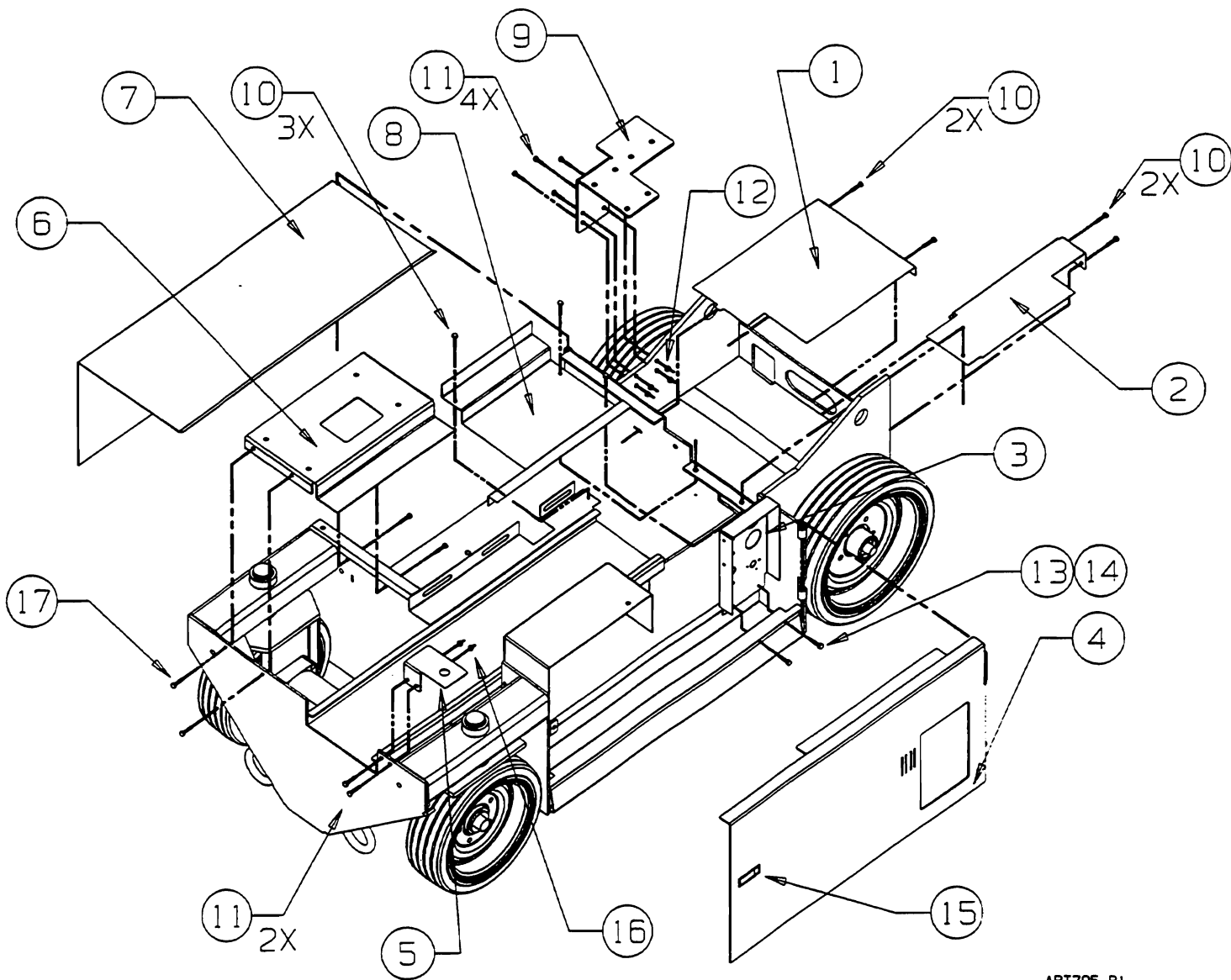
ITEM	PART NO.	QTY.	DESCRIPTION
1	25278	1	COVER, REAR BRAKE, RIGHT
2	25277	1	COVER, REAR BRAKE, LH
3	25252	1	SWITCH TRAY
4	25301	1	DOOR WELDMENT, HYD/ELEC CABINET
5	25274	1	BRACKET, FLASHING LIGHT-OPTIONAL
6	25271	1	FRONT COVER WELDMENT
7	25208	1	DOOR WELDMENT, BATTERY CABINET
8	25162	1	CENTER COVER
9	25281	1	BRACKET, CONVERTER/110 VOLT OUTLET-OPTIONAL
10	HDW5723	7	SCREW, 1/4"-20, 3/4" LONG
11	HDW8310	6	SCREW, 5/16"-18, 1/4" LONG
12	HDW5005	4	NUT, 5/16"-18
13	HDW5633	2	SCREW, 1/4"-20, 1/2" LONG
14	HDW5276	2	NUT, 1/4"-20
15	8386 9192	2 2	LEVER LATCH LATCH-EURO
16	HDW7120	2	NUT, 5/16"-18
17	HDW8273	4	SCREW, 1/4"-20, 1" LONG
18	6121	12"	TRIM

ART705 R3
BM14794
2/4/98

Figure 8-1a. 1932ES/1532ES Cabinetry

8971R1

NOTES



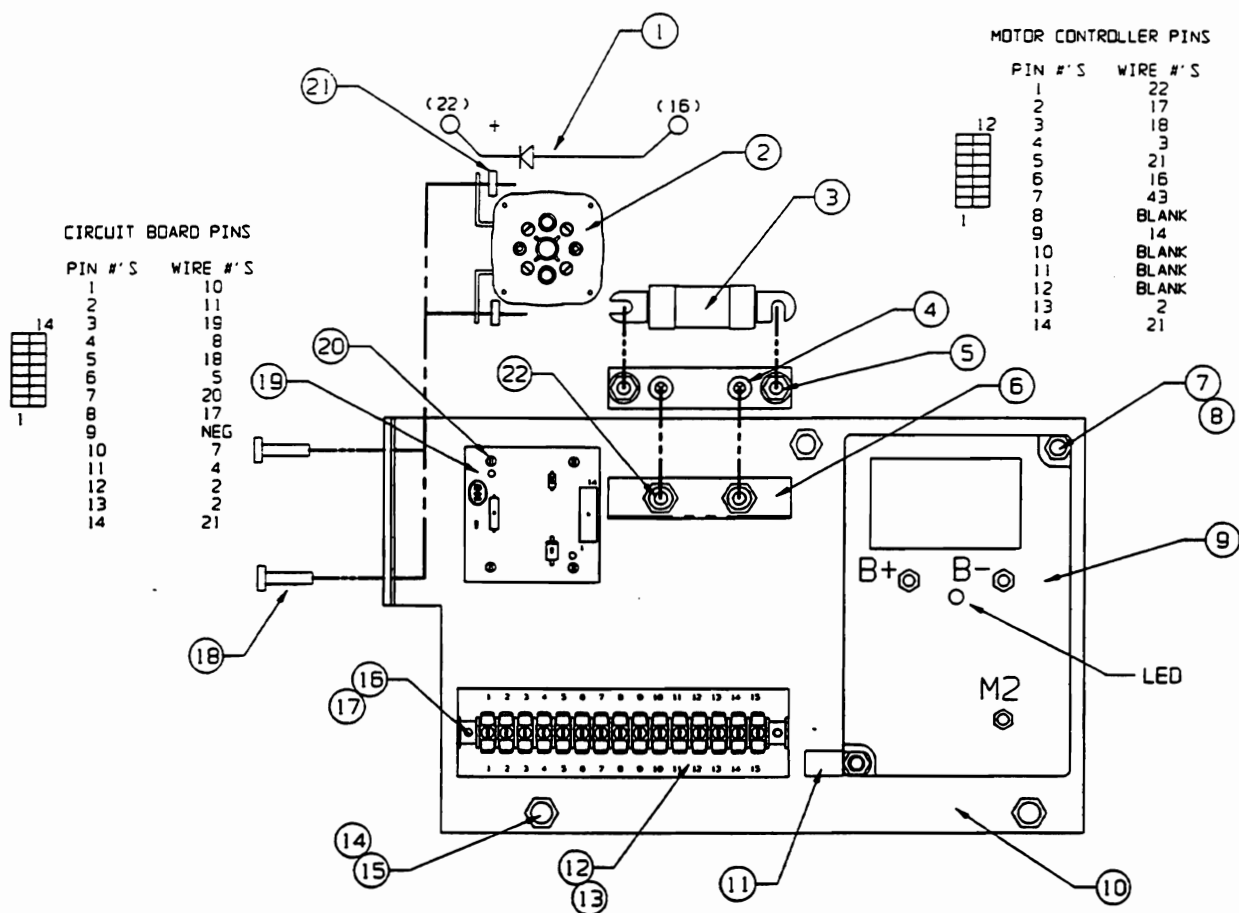
ART705 R1
BM14794
11/13/97

Fig. 8-1 1932ES / 1532ES Cabinetry

ITEM	PART NO.	QTY.	DESCRIPTION
1	25278	1	COVER, REAR BRAKE, RIGHT
2	25277	1	COVER, REAR BRAKE, LH
3	25252	1	SWITCH TRAY
4	25301	1	DOOR WELDMENT, HYD/ELEC CABINET
5	25274	1	BRACKET, FLASHING LIGHT-OPTIONAL
6	25271	1	FRONT COVER WELDMENT
7	25208	1	DOOR WELDMENT, BATTERY CABINET
8	25162	1	CENTER COVER
9	25281	1	BRACKET, CONVERTER/110 VOLT OUTLET-OPTIONAL
10	HDW5723	7	SCREW, 1/4"-20, 3/4" LONG
11	HDW8310	6	SCREW, 5/16"-18, 1/4" LONG
12	HDW5005	4	NUT, 5/16"-18
13	HDW5633	2	SCREW, 1/4"-20, 1/2" LONG
14	HDW5276	2	NUT, 1/4"-20
15	8386	2	LEVER LATCH
16	HDW7120	2	NUT, 5/16"-18
17	HDW8273	4	SCREW, 1/4"-20, 1" LONG

ART705 R1
BM14794
11/13/97

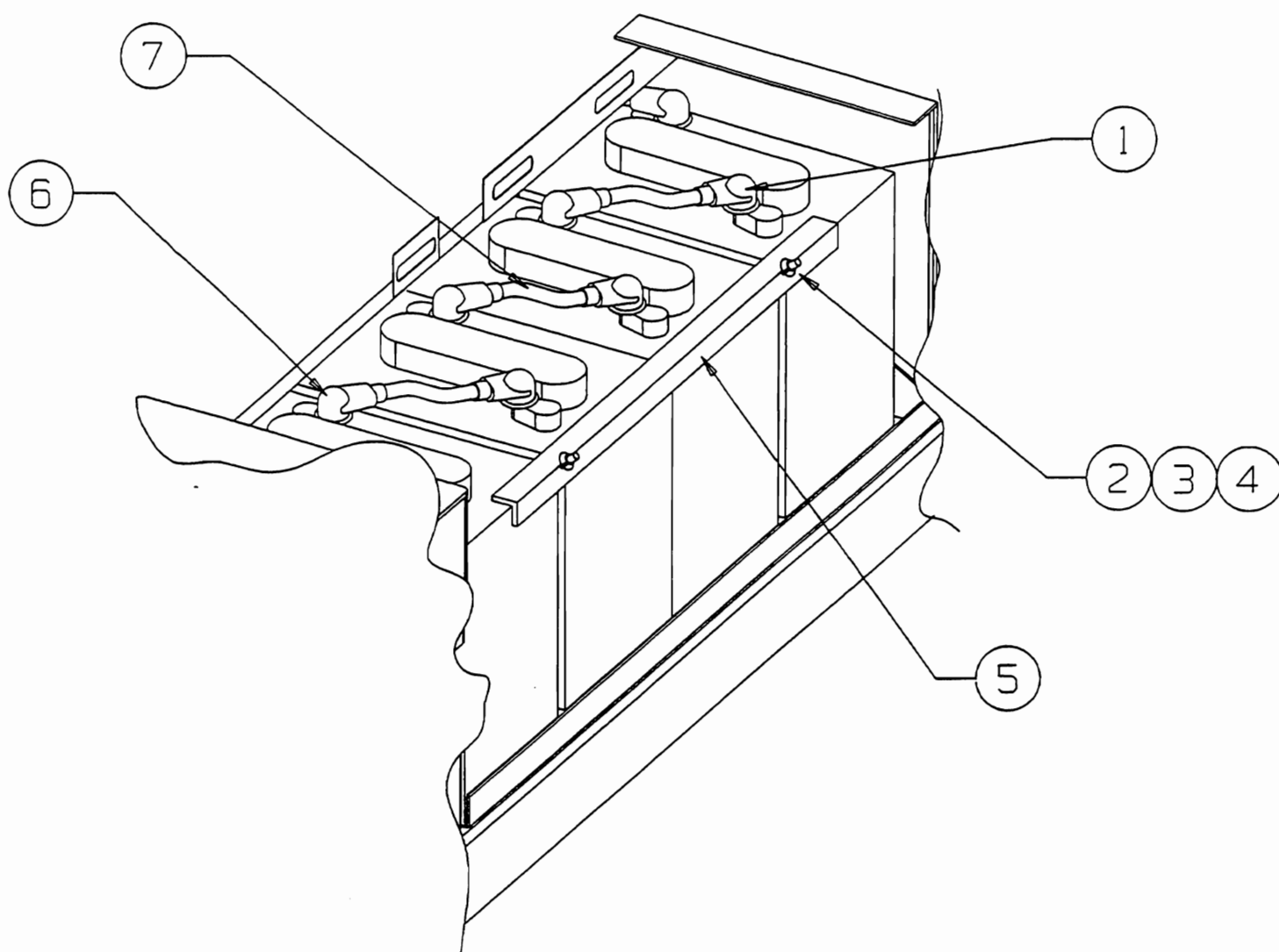
Fig. 8-1 (cont.) 1932ES / 1532ES Cabinetry



ITEM	PART NO.	QTY.	DESCRIPTION
1	8368	1	DIODE ASSEMBLY, FAST ACTING
2	5967	1	CONTACTOR, 24 VOLT
3	8344	1	FUSE, 200 AMP
4	HDW7778	2	SCREW, 1/4"-20, 1 1/4" LONG
5	8345	1	FUSE HOLDER, 140-200 AMP
6	25254	1	MOUNTING BRACKET, FUSE BLOCK
7	HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
8	HDW8267	2	NUT, 1/4"-20
9	9089	1	MOTOR CONTROLLER, DC
10	25253	1	ELECTRICAL CONTROL PANEL
11	5882	1	CABLE CLAMP
12	5991	1	TERMINAL STRIP
13	7817	1	TERMINAL STRIP BACKING, 15 POSITION
14	HDW5204	3	SCREW, 5/16"-18, 1" LONG
15	HDW8304	3	NUT, 5/16"-18
16	HDW5363	2	NUT, #6-32
17	HDW5364	2	SCREW, #6-32, 1" LONG
18	HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
19	8601	1	CIRCUIT BOARD, MOTOR CONTROL
20	HDW5229	4	SCREW, #6-32, 3/8" LONG
21	HDW8267	2	NUT, 1/4"-20
22	HDW6455	2	SCREW, 1/4"-20, 1/2" LONG
	9036	1	MAIN WIRE HARNESS (NOT SHOWN)

ART703 RO
BM14782
10/30/97

Fig. 8-2 1932ES / 1532ES Electrical Panel



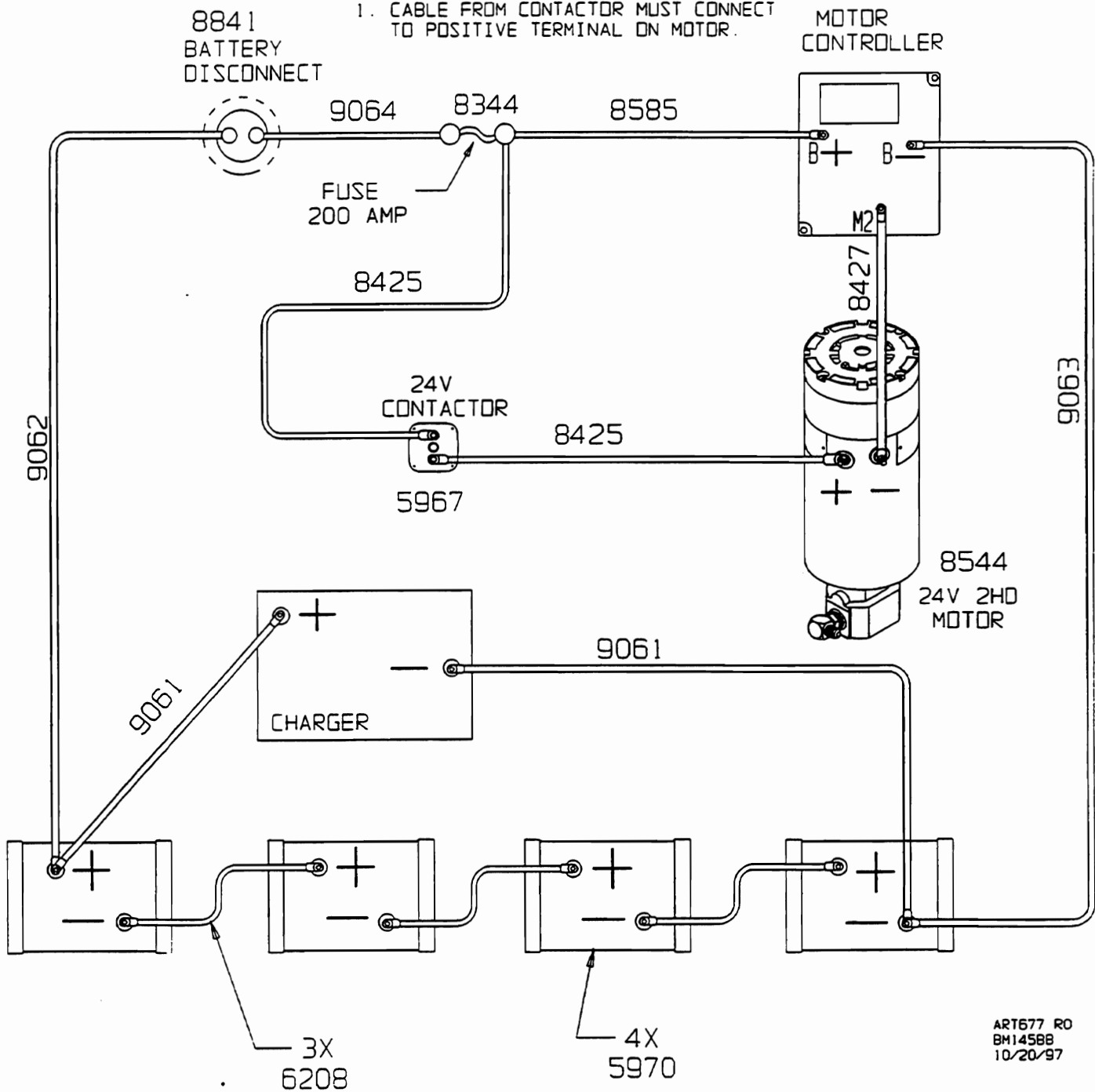
ITEM	PART NO.	QTY.	DESCRIPTION
1	7172	4	BOOT, (BLACK), TERMINAL INSULATOR
2	13263	2	ROD, HOLD DOWN
3	HDW6110	2	NUT, WING, TYPE A, 1/4-20, CLASS 20
4	HDW5217	2	FLAT WASHER
5	8252	1	HOLD DOWN, BATTERY
6	7173	4	BOOT (RED) TERMINAL INSULATOR
7	6208	3	JUMPER, BATTERY

ART706 R0
BM14830
10/30/97

Fig. 8-3 1932ES / 1532ES Battery Cabinet

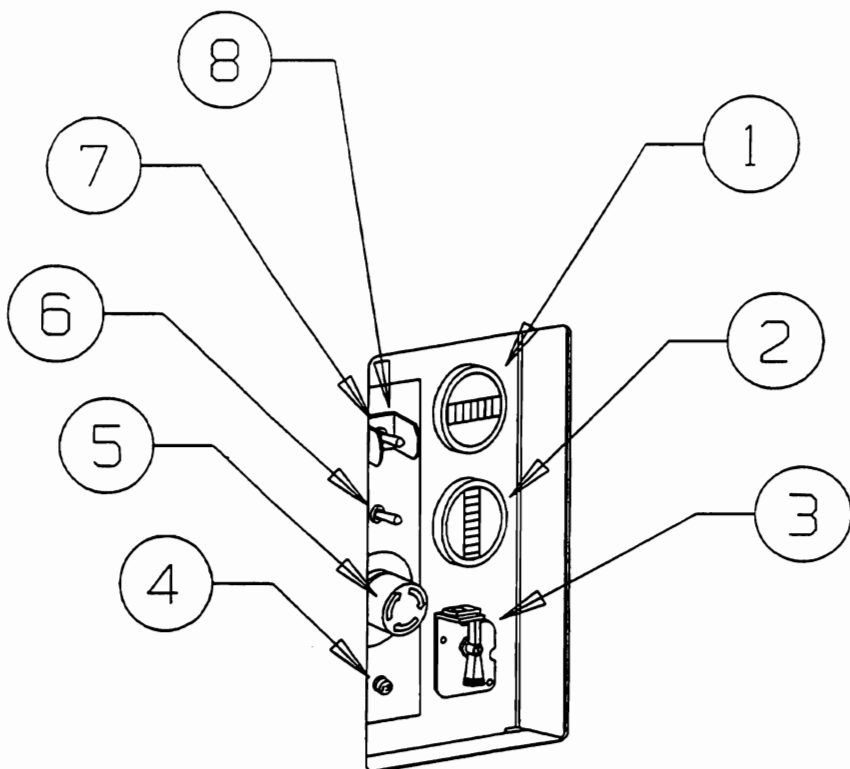
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. CABLE FROM CONTACTOR MUST CONNECT TO POSITIVE TERMINAL ON MOTOR.



ART677 R0
BM14588
10/20/97

Fig. 8-4 1932ES / 1532ES Battery/Motor Cables



ITEM	PART NO.	QTY.	DESCRIPTION
1	7909	1	HOUR METER, 24-48 VOLT-OPTIONAL
2	7099	1	BATTERY, FUEL GAUGE, 24 VOLT-OPTIONAL
3	8841	1	BATTERY DISCONNECT SWITCH
4	7235	1	CIRCUIT BREAKER-15 AMP MANUAL
5	7800	1	EMERGENCY STOP SWITCH
6	9050	1	BASE/PLATFORM TOGGLE SWITCH-2 POLE 2 POS.
7	5694	1	UP/DOWN TOGGLE SWITCH
8	1313	1	SWITCH GUARD
	7115	0-2	PLUG, PRY OUT HOLE WHEN METERS ARE NOT PRESENT

ART704 R0
BM14783
11/3/97

Fig. 8-5 1932ES / 1532ES Lower Control Panel

7527

CAUTION

INSPECT MACHINE AND MAKE SURE THAT IT IS OPERATING PROPERLY, THAT ALL NAME PLATE AND HAZARD SIGNS ARE IN PLACE AND LEGIBLE, AND THAT THE MACHINE IS IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE REQUIREMENTS CONTAINED IN THE OPERATION AND MAINTENANCE MANUAL AND THE DAILY SAFETY CHECKLIST.

OPERATE MACHINE WITH EXTREME CAUTION. WATCH FOR OBSTRUCTIONS WHICH MAY STRIKE PLATFORM, PERSONNEL, CONTROLS, OR MACHINE. OPERATE CONTROLS SLOWLY FOR SMOOTH PLATFORM MOTION.

FOR DRIVING ON ANY GRADE OR SIDE SLOPE

- PLATFORM MUST BE FULLY LOWERED
- DO NOT EXCEED MAXIMUM PLATFORM OR EXTENSION LOAD LIMIT CAPACITY. LOAD TO BE UNIFORMLY DISTRIBUTED. PLACE LOAD NEAR CENTER OF PLATFORM WHEN POSSIBLE.
- DO NOT DRIVE ON SIDE SLOPE IF OVER 5%.
- DO NOT DRIVE UP OR DOWN A GRADE OF OVER 25%. MACHINE MUST BE TOWED UP OR DOWN ANY GRADE EXCEEDING 25%.

FOR DRIVING WITH PLATFORM ELEVATED:

- DRIVE ONLY ON A SMOOTH, FIRM, AND LEVEL SURFACE FREE OF OBSTRUCTIONS.
- DO NOT EXCEED MAXIMUM PLATFORM OR EXTENSION LOAD CAPACITY.
- LOAD MUST BE UNIFORMLY DISTRIBUTED
- USE EXTREME CAUTION

OTHER HAZARDS

1. DO NOT OVERLOAD
2. DO NOT USE WITHOUT RAILINGS AND ENTRY GATE IN PLACE
3. DO NOT USE IF FORK PLATFORM IS NOT MOVING PROPERLY OR IF ANY PART IS DAMAGED OR WORN
4. DO NOT USE NEAR MOVING VEHICLES OR CRANES.
5. DO NOT STAND OR SIT ON GUARDRAILS
6. DO NOT USE WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS
7. DO NOT OVERRIDE SAFETY DEVICES.
8. DO NOT LEAVE MACHINE UNATTENDED WITH KEY IN THE SWITCH.
9. DO NOT RAISE PLATFORM WHILE MACHINE IS ON A TRUCK, FORK LIFT, OR OTHER DEVICE OR VEHICLE.
10. DO NOT USE LADDERS, SCAFFOLDING, OR OTHER DEVICES TO INCREASE SIZE OR WORKING HEIGHT OF PLATFORM.
11. DO NOT ENTER OR EXIT PLATFORM WHILE IN MOTION.

IMPROPER OPERATION OF THIS MACHINE MAY CAUSE DEATH OR SERIOUS INJURY.

7523

DANGER

YOU MUST NOT OPERATE THIS MACHINE

UNLESS YOU HAVE BEEN TRAINED IN THE SAFE AND CORRECT USE OF THIS MACHINE.

WARNING: UNLESS SPECIFICALLY ADVISED BY THE SAFETY AND INSTRUCTION MANUAL, NEVER OPERATE THIS FORK LIFT WITHOUT THE FOLLOWING SAFETY DEVICES:

• AN OPERATOR MUST ALWAYS WEAR AND PROPERLY USE THE SAFETY BELT.

• THIS MACHINE IS NOT DESIGNED FOR USE ON ELECTRICAL LINES OR EQUIPMENT. THE OPERATOR MUST NOT TOUCH OR CLIMB ON ANY ELECTRICAL LINES OR EQUIPMENT.

• THIS MACHINE MUST NOT BE USED TO LIFT OR MOVE ANYTHING THAT IS NOT DESIGNED FOR LIFTING OR MOVING.

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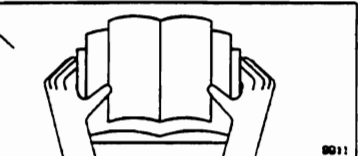
8767

WARNING

- PLATFORM EXTENSION MUST BE LOCKED IN PLACE AT ALL TIMES.
- SHEET LOADING GATE MUST BE IN LOWERED LOCKED POSITION BEFORE OPERATING FROM PLATFORM.
- ENTRANCE GATE/CHAIN MUST BE IN CLOSED POSITION BEFORE OPERATING FROM PLATFORM.

FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

8911



8619



8598 ON TOP OF PIVOT TUBE, WITH SCISSORS CLOSED

EMERGENCY DOWN PROCEDURE

- LOCK OPEN VALVE ON LIFT CYLINDER ABOVE.
- PULL MANUAL ACTIVATOR BELOW TO LOWER PLATFORM.
- TO RETURN TO NORMAL OPERATION RESET LIFT CYLINDER VALVE.

8598

9137

MAXIMUM PLATFORM CAPACITY - EVENLY DISTRIBUTED

EXTENSION RETRACTED

600 LBS
272 KGS



2-PERSONS

EXTENSION EXTENDED

350 LBS
158 KGS

250 LBS
113 KGS



1-PERSON

6556



REAR

Fig. 8-6 1532ES Decals

ART711 R0
BM14892
11/10/97

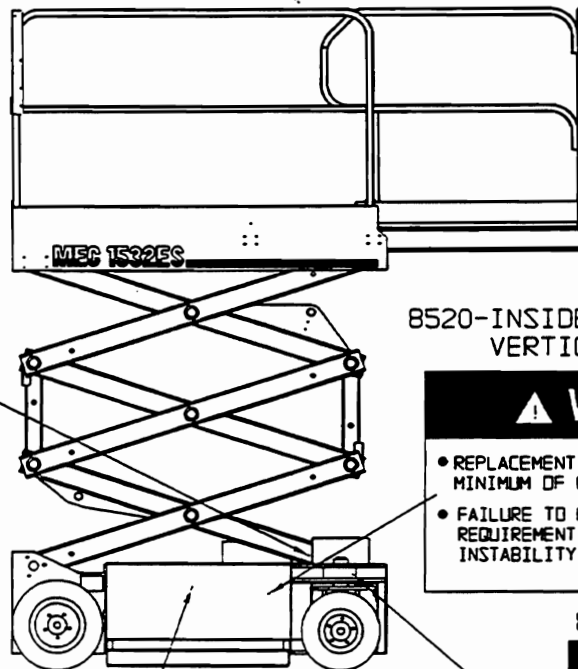
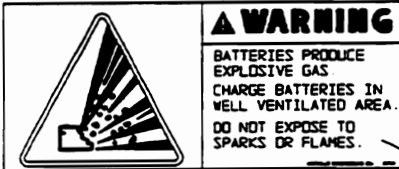
7155-TOP OF RIGHT RAIL

LOCATE CONTROL BOX HERE

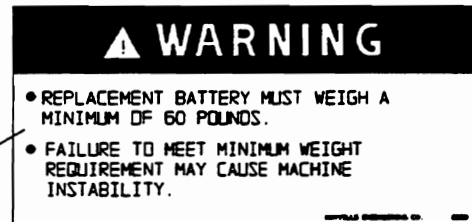
 7155 FOR NORMAL OPERATION OF THIS UNIT

RIGHT

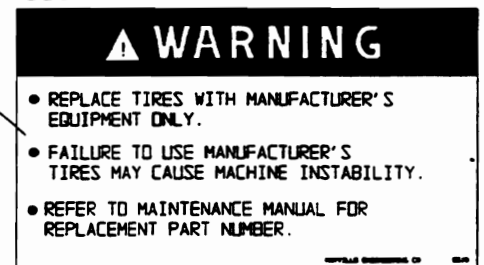
8779-FRONT OF CHARGER
 UNDER METERS




8520-INSIDE CABINET, RIGHT SIDE
 VERTICALLY IN FRONT OF BATTERIES



8519



6873-INSIDE CABINET, BEHIND
 BATTERIES ON FRONT OF TANK

HYDRAULIC OIL 

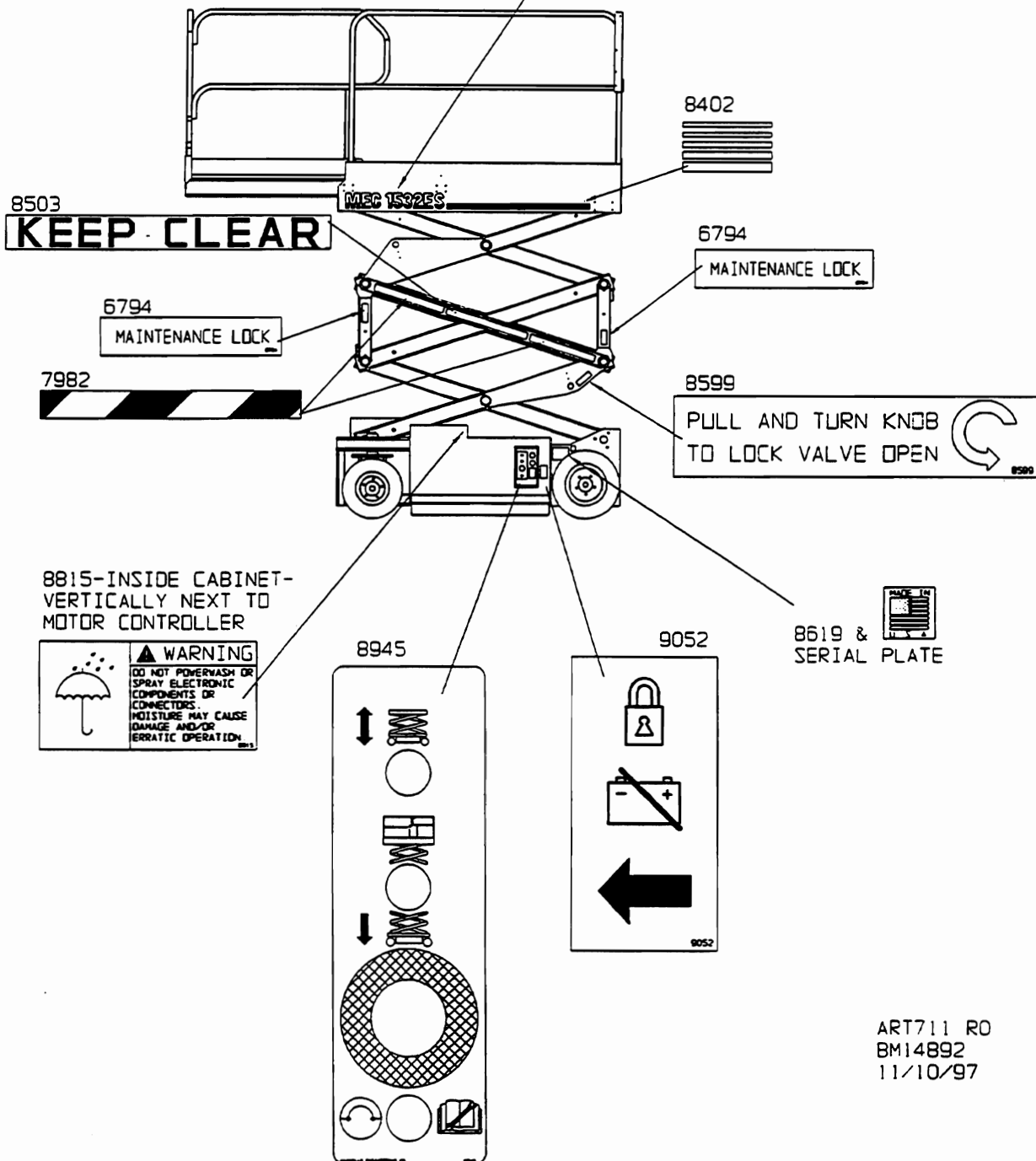
ART711 R0
 BM14892
 11/10/97

Fig. 8-6 (cont.) 1532ES Decals

9138

MEC 1532ES

LEFT

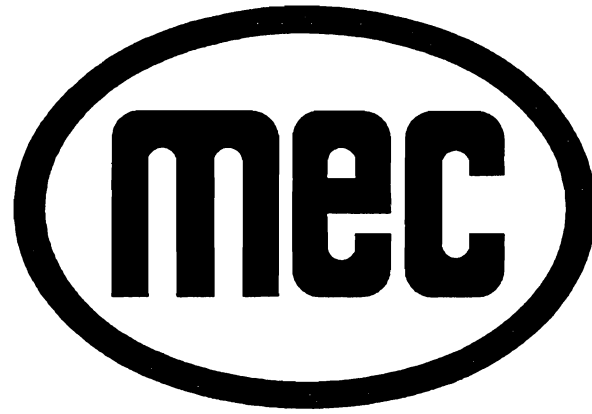
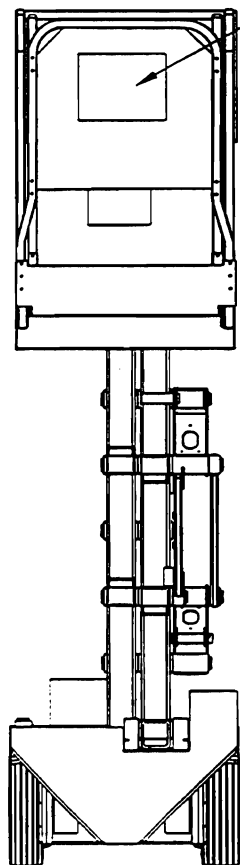


ART711 R0
BM14892
11/10/97

Fig. 8-6 (cont.) 1532ES Decals

8811

FRONT



Aerial Work Platforms

715 South Street Mayville, WI 53050

(920) 387-4500 (800) 387-4575

FAX (920) 387-5817

8811

ART711 R0
BM14892
11/10/97

Figure 8-6. 1532ES Decals

8971R1

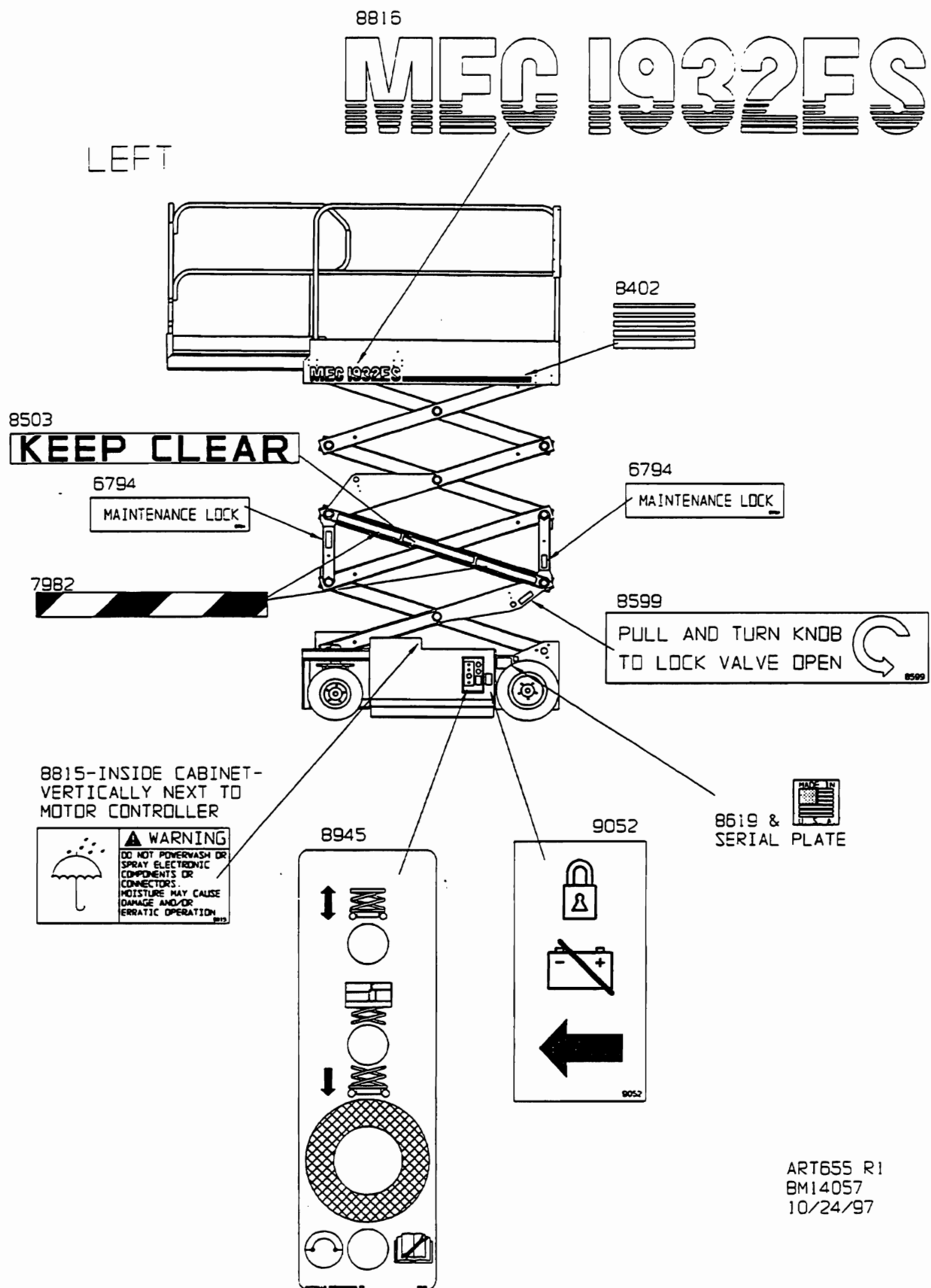


Figure 8-6. 1932ES Decals

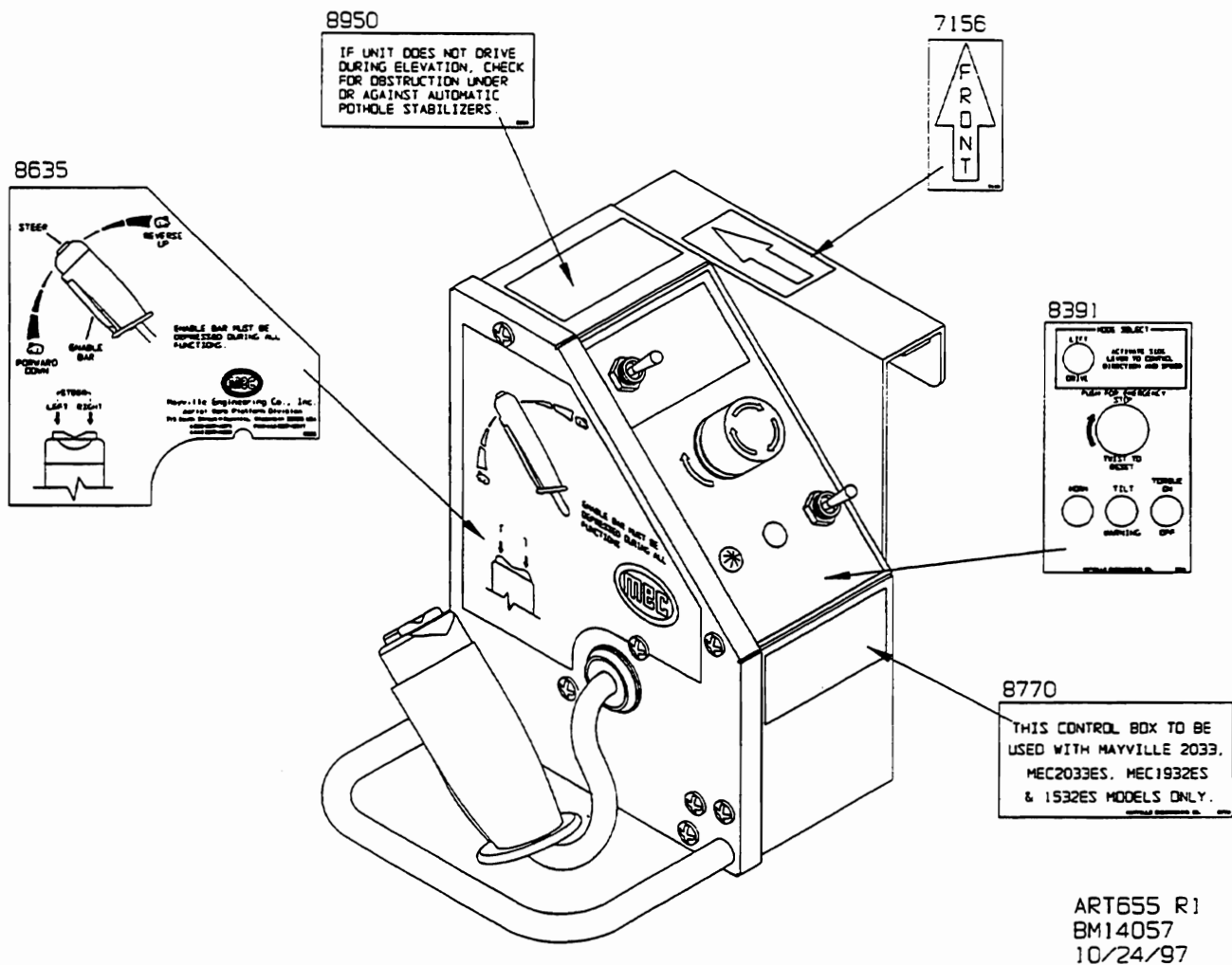
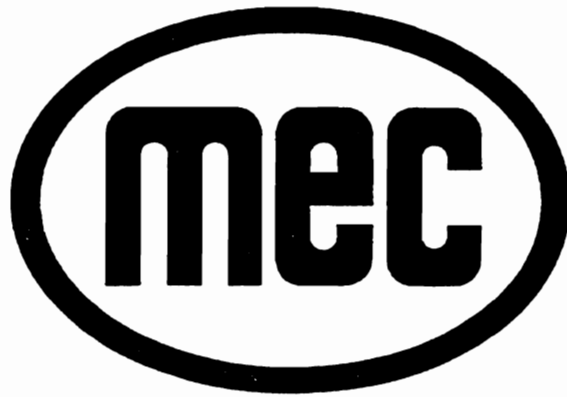


Figure 8-6. 1932ES Decals

8811

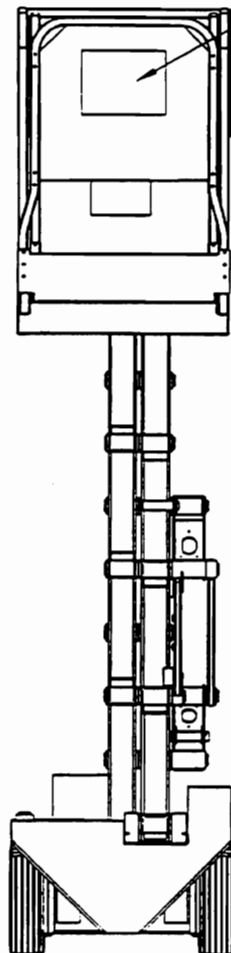


Aerial Work Platforms

715 South Street Mayville, WI 53050
(920) 387-4500 (800) 387-4575
FAX (920) 387-5817

8811

FRONT



ART655 R1
BM14057
10/24/97

Figure 8-6. 1932ES Decals

8971R1

CAUTION




INSPECT MACHINE AND MAKE SURE THAT IT IS OPERATING PROPERLY, THAT ALL NAME PLATE AND HAZARD SIGNS ARE IN PLACE AND LEGIBLE, AND THAT THE MACHINE IS IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE REQUIREMENTS CONTAINED IN THE OPERATION AND MAINTENANCE MANUAL AND THE DAILY SAFETY CHECKLIST.


OPERATE MACHINE WITH EXTREME CAUTION. WATCH FOR OBSTRUCTIONS WHICH MAY STRIKE PLATFORM, PERSONNEL, CONTROLS, OR MACHINE. OPERATE CONTROLS SLOWLY FOR SMOOTH PLATFORM MOTION.

FOR DRIVING ON ANY GRADE OR SLOPE	OTHER HAZARDS
<ul style="list-style-type: none"> a. DO NOT DRIVE UP OR PAST LOADED b. DO NOT EXCEED MAXIMUM PLATFORM OR SUPPORTING LOAD LIMIT CAPACITY. LOADS TO BE UNIFORMLY DISTRIBUTED PLACED NEAR CENTER OF PLATFORM WHEN POSSIBLE. c. DO NOT DRIVE ON SLOPE STEEP OR DOWN d. DO NOT DRIVE UP OR DOWN A GRADE IF OVER THE MAXIMUM RISE OR TREAD UP OR DOWN RATE EXCEEDED, 7%. 	<ul style="list-style-type: none"> 1. DO NOT OVERLOAD 2. DO NOT USE WITHOUT BRACKLES AND SLIPS, OR BRACKS 3. DO NOT USE AS WORK PLATFORM. IT IS NOT DESIGNED PURPOSELY, OR BY ANY PART IS NOT TO BE USED 4. DO NOT USE WHILE MOVING VEHICLES OR CRANES 5. DO NOT STAND OR SIT ON GUARDRAILS 6. DO NOT USE WHILE UNDER THE INFLUENCE OF ALCOHOL, OR DRUGS 7. DO NOT WEAR UNSAFE SHOES 8. DO NOT LEAVE MACHINE UNATTENDED WITH KEY IN START POSITION 9. DO NOT ALLOW PLATFORM TO MOVE WITHOUT AT LEAST TWO PEOPLE LEFT, OR OTHER PERSONS ON VEHICLE 10. DO NOT USE LADDER, SCRAMBLERS, OR OTHER DEVICES TO REACH EXCESS SIZE OR EXCEEDING HEIGHT OF PLATFORM 11. DO NOT DRIVE ON BEST PLATFORM WHILE IN HYDRO-
<p>FOR DRIVING WITH PLATFORM ELEVATED</p> <ul style="list-style-type: none"> a. DRIVE ONLY ON A SMOOTH, FIRM, AND LEVEL SURFACE FREE OF OBSTRUCTIONS. b. DO NOT EXCEED MAXIMUM PLATFORM OR SUPPORTING LOAD CAPACITY c. LOAD MUST BE UNIFORMLY DISTRIBUTED d. USE EXTREME CAUTION 	

**IMPROPER OPERATION OF THIS MACHINE
MAY CAUSE DEATH OR SERIOUS INJURY.**

[illegible]

▲ MAXIMUM PLATFORM CAPACITY - EVENLY DISTRIBUTED	
EXTENSION RETRACTED	EXTENSION EXTENDED
500 LBS 227 KGS  2- PERSONS	<div style="display: flex; justify-content: space-around;"> <div> 250 LBS 113 KGS  1- PERSON </div> <div> 250 LBS 113 KGS  1- PERSON </div> </div>



001

↓ FORK LIFT ↓
POCKETS

REAR

8598 ON TOP OF PIVOT TUBE,
WITH SCISSORS CLOSED

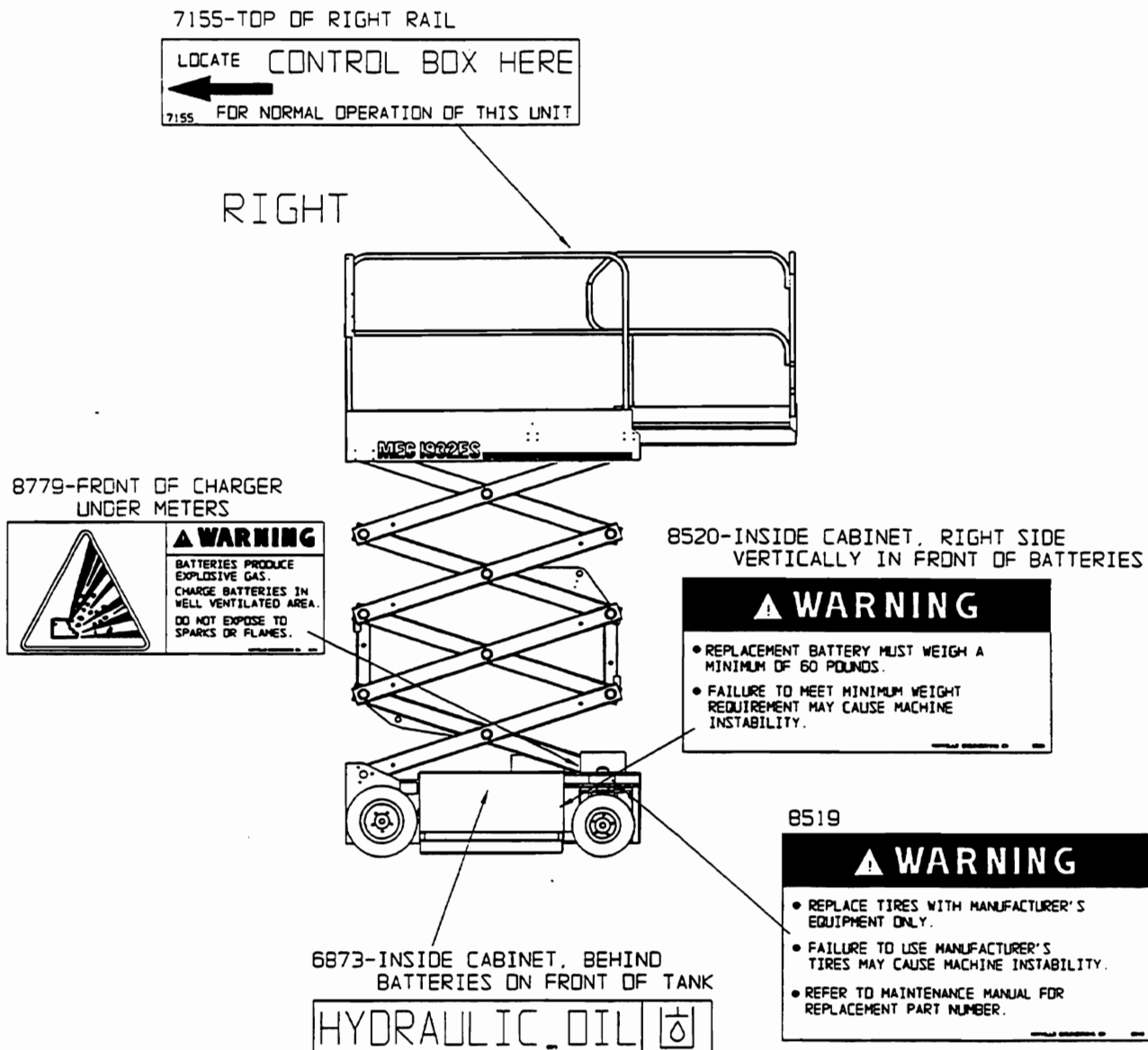
EMERGENCY DOWN PROCEDURE

- LOCK OPEN VALVE ON LIFT CYLINDER ABOVE.
- PULL MANUAL ACTIVATOR BELOW TO LOWER PLATFORM
- TO RETURN TO NORMAL OPERATION RESET LIFT CYLINDER VALVE

ART655 R!
BM14057
10/24/97

Figure 8-6. 1932ES Decals

8971R1



ART655 R1
BM14057
10/24/97

Figure 8-6. 1932ES Decals

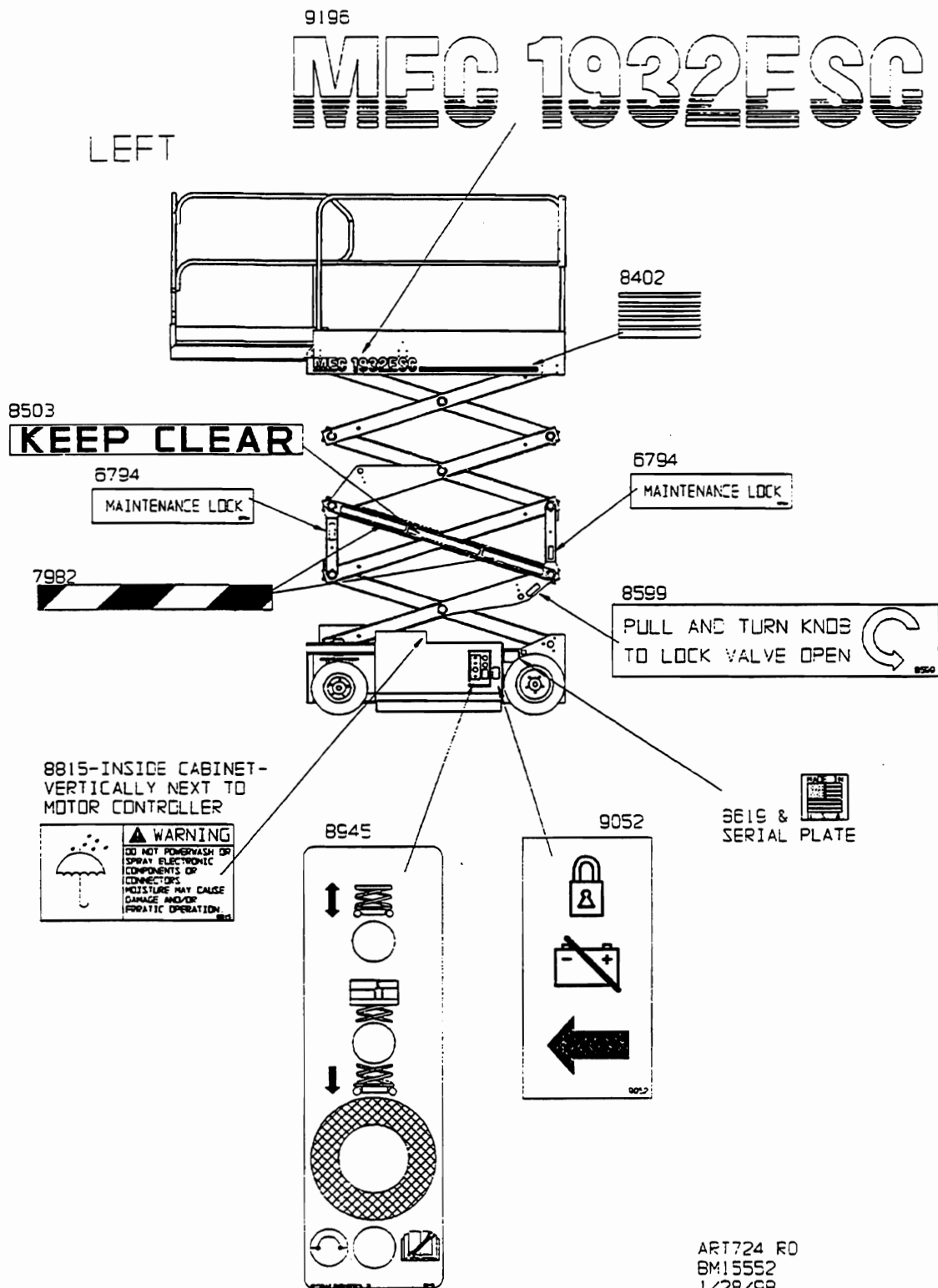
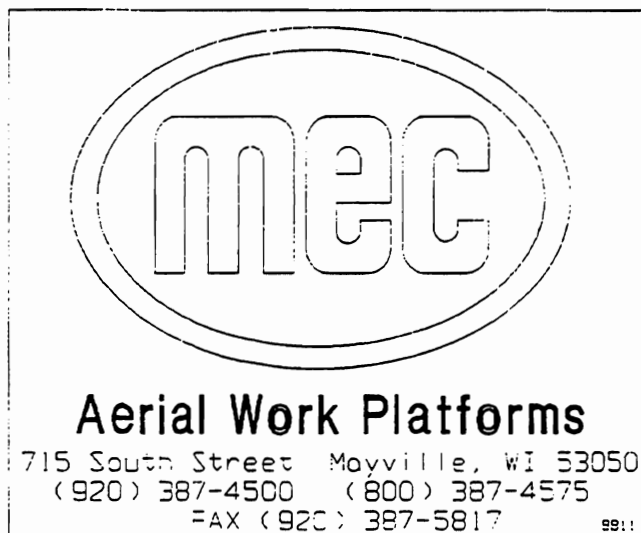
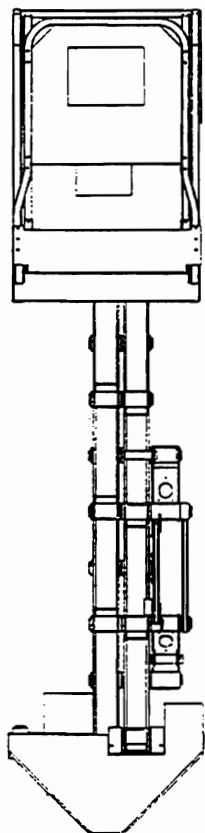


Figure 8-6. 1932ESC Decals



ART724 RC
BM15552
1/28/98

Figure 8-6. 1932ESC Decals

7527

⚠ CAUTION

INSPECT MACHINE AND MAKE SURE THAT IT IS OPERATING PROPERLY. THAT ALL NAME PLATE AND HAZARD SIGNS ARE IN PLACE AND LEGIBLE. AND THAT THE MACHINE IS IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE REQUIREMENTS CONTAINED IN THE OPERATION AND MAINTENANCE MANUAL AND THE DAILY SAFETY CHECKLIST.

OPERATE MACHINE WITH EXTREME CAUTION. WATCH FOR OBSTRUCTIONS WHICH MAY STRIKE PLATFORM, PERSONNEL, CONTROLS OR MACHINE. OPERATE CONTROLS SLOWLY FOR SMOOTH PLATFORM MOTION.

FOR DRIVING ON ANY GRADE OR SIDE SLOPE	OTHER HAZARDS
<ul style="list-style-type: none"> PLATFORM MUST BE FULLY LOWERED DO NOT EXCEED MAXIMUM PLATFORM OR EXTENSION LOAD. LOAD CAPACITY LOAD TO BE EVENLY DISTRIBUTED. PLACE LOAD NEAR CENTER OF PLATFORM WHEN POSSIBLE. DO NOT DRIVE ON SIDE SLOPE OF OVER 5° DO NOT DRIVE UP OR DOWN A GRADE OF OVER 2%. PLATFORM MUST BE TOWED UP OR DOWN ANY GRADE EXCEEDING 2%. 	<ol style="list-style-type: none"> DO NOT OVERLOAD DO NOT USE KICKOUT RAILINGS AND GRIPY GATE IN PLACE DO NOT USE IF WORK PLATFORM IS NOT WORKING PROPERLY OR IF ANY PART IS DAMAGED OR WORN DO NOT USE WHEN MOVING VEHICLES OR CRATES DO NOT STAND ON SET ON CLIMBERS/STAIRS DO NOT USE WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS DO NOT BARRICADE SAFETY DEVICES DO NOT LEAVE PLATFORM UNATTENDED WITH KEY IN THE SWITCH DO NOT RAISE PLATFORM WHILE WORKING ON A TRUCK, FORK LIFT, OR OTHER DEVICE OR VEHICLE DO NOT USE LADDER, SCISSORLIFT, OR OTHER DEVICE TO INCREASE SIZE OF WORKING HEIGHT OF PLATFORM WHILE IN MOTION DO NOT DRIVE UP OR DOWN PLATFORM WHILE IN MOTION

FOR DRIVING WITH PLATFORM ELEVATED:

- DRIVE ONLY ON A SMOOTH, FIRM, AND LEVEL SURFACE FREE OF OBSTRUCTIONS.
- DO NOT EXCEED MAXIMUM PLATFORM OR EXTENSION LOAD CAPACITY.
- LOAD MUST BE EVENLY DISTRIBUTED.
- USE EXTREME CAUTION.

IMPROPER OPERATION OF THIS MACHINE MAY CAUSE DEATH OR SERIOUS INJURY

7523

⚠ DANGER

YOU MUST NOT OPERATE THIS MACHINE

UNLESS YOU ARE SPECIFICALLY TRAINED IN THE USE OF THIS MACHINE AND YOU HAVE READ AND UNDERSTOOD THE OPERATING INSTRUCTIONS AND SAFETY PRECAUTIONS CONTAINED IN THE OPERATION AND MAINTENANCE MANUAL AND THE DAILY SAFETY CHECKLIST.

FAILURE TO FOLLOW THESE INSTRUCTIONS AND SAFETY PRECAUTIONS COULD CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE.

ELECTRICAL HAZARD
THIS MACHINE IS EQUIPPED WITH ELECTRICAL SYSTEMS. DO NOT TOUCH ELECTRICAL SYSTEMS OR WIRING. DO NOT ATTEMPT TO REPAIR OR MAINTAIN ELECTRICAL SYSTEMS OR WIRING. ONLY QUALIFIED PERSONNEL SHOULD ATTEMPT TO REPAIR OR MAINTAIN ELECTRICAL SYSTEMS OR WIRING.

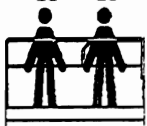
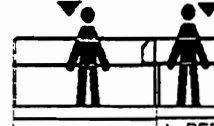
HYDRAULIC HAZARD
THIS MACHINE IS EQUIPPED WITH HYDRAULIC SYSTEMS. DO NOT TOUCH HYDRAULIC SYSTEMS OR WIRING. DO NOT ATTEMPT TO REPAIR OR MAINTAIN HYDRAULIC SYSTEMS OR WIRING. ONLY QUALIFIED PERSONNEL SHOULD ATTEMPT TO REPAIR OR MAINTAIN HYDRAULIC SYSTEMS OR WIRING.

SMALL OR SOFTBODILY SUBJECTS WILL BE KILLED FROM CONTACT WITH THIS MACHINE

SMALL OR SOFTBODILY SUBJECTS WILL BE KILLED FROM CONTACT WITH THIS MACHINE

8969

⚠ MAXIMUM PLATFORM CAPACITY - EVENLY DISTRIBUTED

EXTENSION RETRACTED	EXTENSION EXTENDED
500 LBS 227 KGS	250 LBS 113 KGS 250 LBS 113 KGS
 2-PERSONS	 1-PERSON

8767

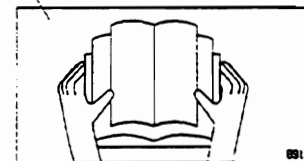
⚠ WARNING

- PLATFORM EXTENSION MUST BE LOCKED IN PLACE AT ALL TIMES.
- SHEET LOADING GATE MUST BE IN LOWERED LOCKED POSITION BEFORE OPERATING FROM PLATFORM.
- ENTRANCE GATE/CHAIN MUST BE IN CLOSED POSITION BEFORE OPERATING FROM PLATFORM.

FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

8619

8911



8598 ON TOP OF PIVOT TUBE, WITH SCISSORS CLOSED

EMERGENCY DOWN PROCEDURE

- LOCK OPEN VALVE ON LIFT CYLINDER ABOVE
- PULL MANUAL ACTIVATOR BELOW TO LOWER PLATFORM
- TO RETURN TO NORMAL OPERATION RESET LIFT CYLINDER VALVE

REAR

ART724 RC
BM15552
1/28/98

Figure 8-6. 1932ESC Decals

8971R1

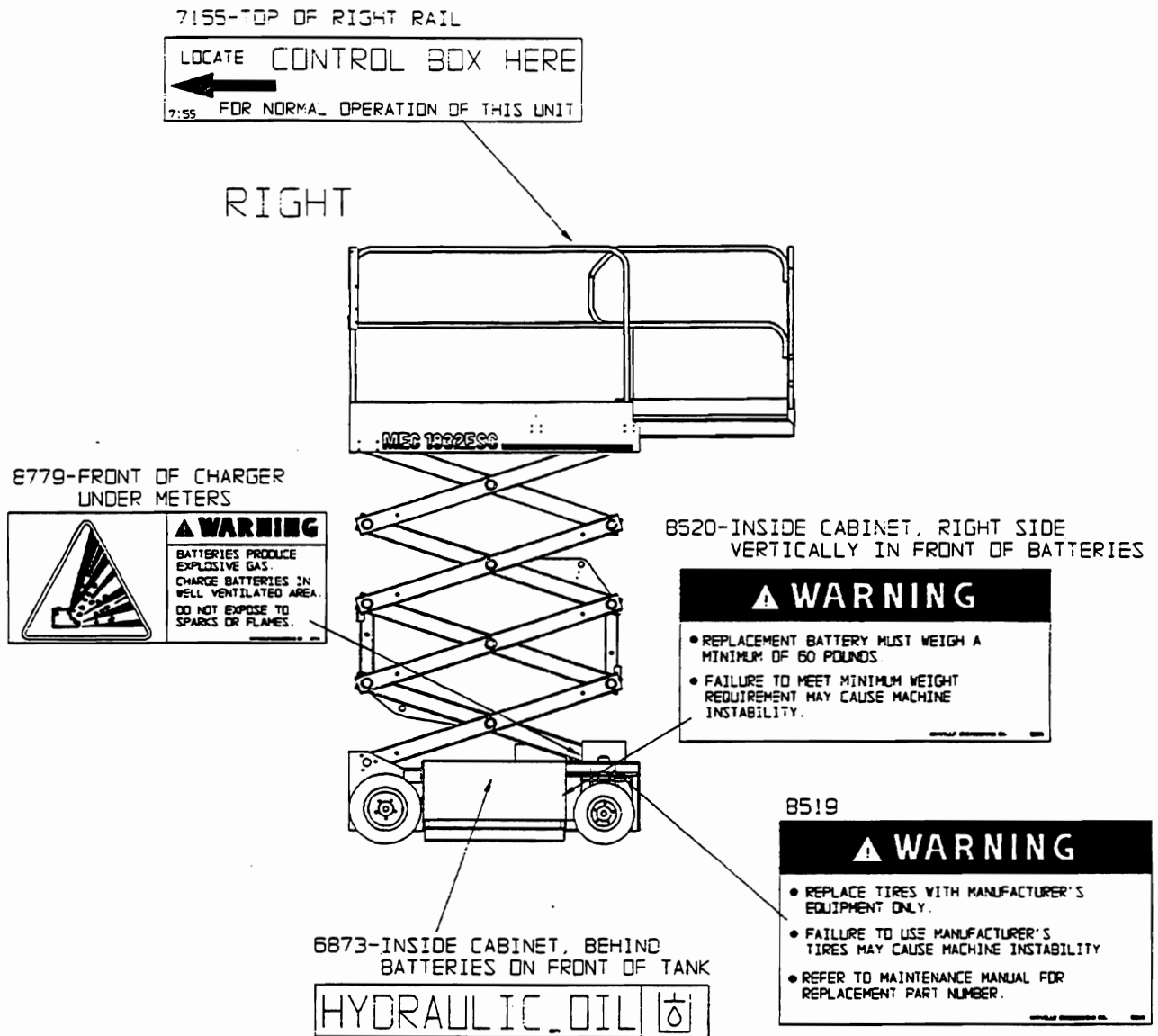


Figure 8-6. 1932ESC Decals

ART724 R0
 BM15552
 1/26/98

8971R1

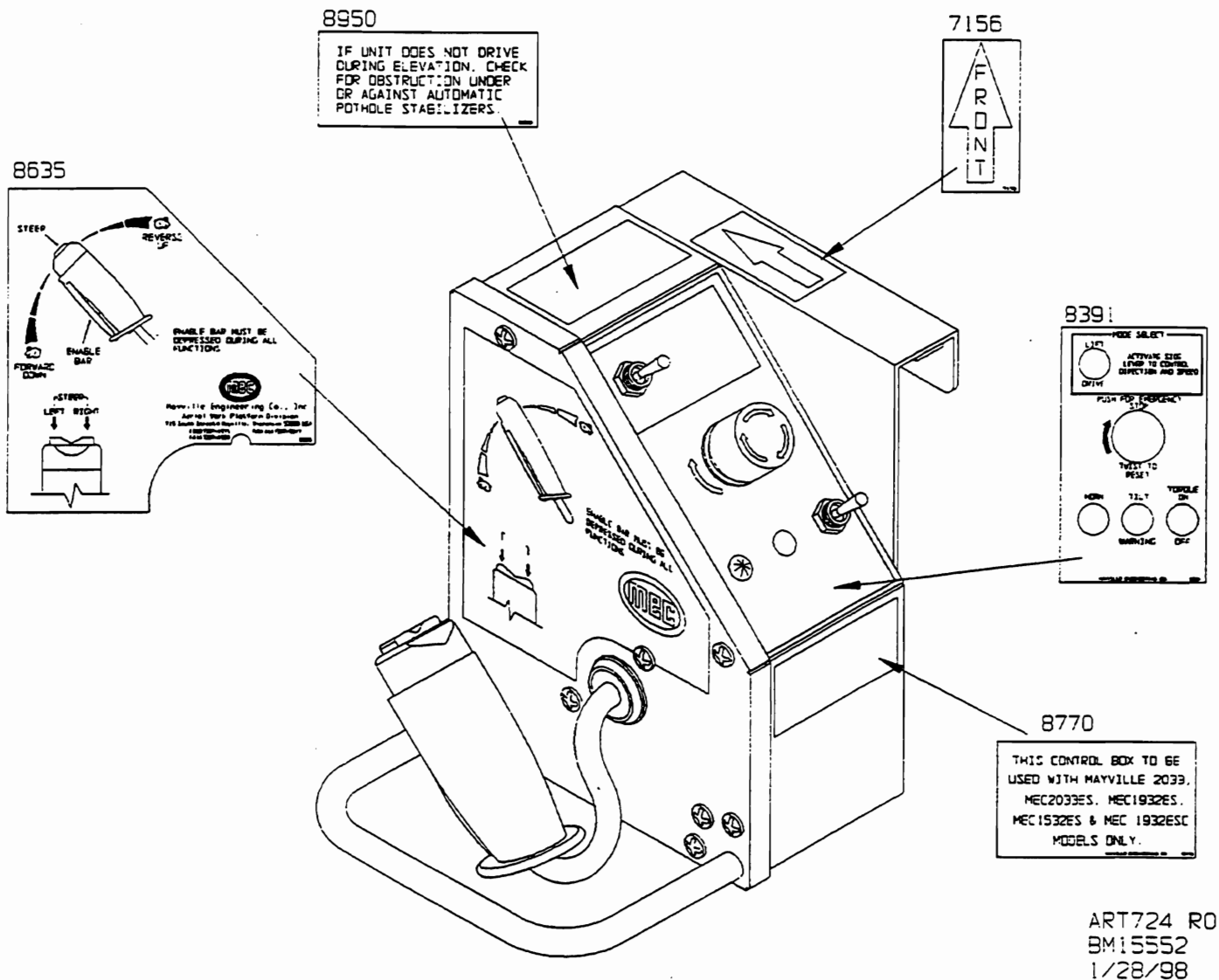
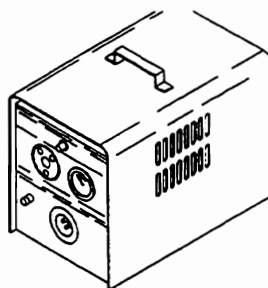


Figure 8-6. 1932ESC Decals

8971R1



13350-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8350	1	CHARGER, 24V, 60HZ-120AC

13793-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8703	1	AUTO CHARGER, 24V/50HZ 230 VAC

13794-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8737	1	AUTO CHARGER, 24V/60HZ 230 VAC

13397-CHARGER OPTION

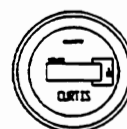
PART NO.	QTY.	DESCRIPTION
8380	1	AUTO CHARGER, 24V/60 HZ 120 V

13399-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8377	1	CHARGER, 24V, 50-60 HZ, 100 VAC

13855-HOUR METER KIT

PART NO.	QTY.	DESCRIPTION
7909	1	HOUR METER, 24-48V, DC
8783	1	HARNESS, HOUR METER



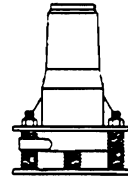
13854-BATTERY INDICATOR KIT

PART NO.	QTY.	DESCRIPTION
7099	1	FUEL GAUGE, BATTERY 24V
8784	1	HARNESS, BATTERY GAUGE



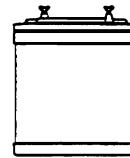
ART709 R1
BM14834
11/03/97

Figure 8-7 (cont'd). 1932ES Options



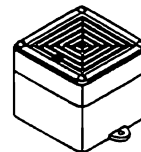
13485-TILT SENSOR ASSEMBLY

PART NO.	QTY.	DESCRIPTION
13863	1	BRACKET, TILT SENSOR
7552	1	LEVEL SENSOR, 4 1/2 DEG, 1 SEC DELAY
7556	1	VOLTAGE REGULATOR ASSEMBLY
8037	.16 FT	SHRINK WRAP, 3/16"
8182	1	TERMINAL, 1/4" X 1/32" PUSH ON
HDW5276	4	NUT, 1/4"-20
HDW5363	1	SCREW, #6-32, 1" LONG
HDW5364	1	NUT, #6-32
HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
HDW8273	2	SCREW, 1/4"-20, 1" LONG



4799-STANDARD BATTERY OPTION-24 VOLT
4800-DRY BATTERY OPTION-24 VOLT

PART NO.	QTY.	DESCRIPTION
5970	4	BATTERY-6 VOLT-REQUIRES P/N 6535
7198	4	BATTERY-6 VOLT, DRY REQUIRES P/N 13592-INSTRUCTION SHEET



13511-HORN

PART NO.	QTY.	DESCRIPTION
7495	1	JUNCTION BOX
8553	1	WIRE HARNESS, HORN
8554	1	ALARM, 24VDC
HDW8267	2	NUT, 1/4"-20
HDW8273	2	SCREW, 1/4"-20, 1" LONG
HDW8530	2	SCREW, #8-32, 1 1/2" LONG
HDW8672	2	SCREW, #10-24, 3/4" LONG

ART7C9 R1
BM14834
11/03/97

Figure 8-7. 1932ES Options

8971R1

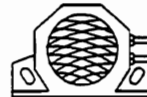


25266-110V OUTLET OPTION

PART NO.	QTY.	DESCRIPTION
25261	1	OUTLET BOX BRACKET
4319	1	OUTLET BOX GFI (BASE)
13888	1	RECEPTACLE BOX, DUPLEX (BASE)
5381	1	RECEPTACLE, DUPLEX (PLATFORM)
5382	1	110V PLUG (BASE)
6456	2	CORD GRIP, STEEL
7263	1	RECEPTACLE GFI, DUPLEX (BASE)
7617	35'	WIRE, 14 GA, 3 CONDUCTOR
8006	2	NUT, CONNECTOR, 1/2" CONDUIT
8208	1	FLEXIBLE CONDUIT, 3/8" X 18"
8209	1	FERRULE, CONDUIT 3/8"
8933	1	CONNECTOR, CONDUIT 3/8" STRAIGHT
HOW5229	4	SCREW, #6-32, 3/8" LONG
HOW6455	2	SCREW, 1/4"-20, 1/2" LONG (OUTLET BOX TO BRACKET AT PLATFORM)
HOW5204	2	SCREW, 5/16"-18, 1" LONG (OUTLET TO BRACKET)
HOW8310	4	SCREW, 5/16"-18, 1 1/4" LONG (BRACKET TO BASE)
HOW8501	2	NUT, #6-32 (OUTLET BOX AT PLATFORM)
HOW5005	4	NUT, 5/16"-18 (AT BASE)
8476	1	WIRE NUT (CONNECTS GROUNDS AT BASE)
5351	2	CABLE TIES

25267-110V WIRE ONLY

PART NO.	QTY.	DESCRIPTION
5351	2	CABLE TIE
6456	1	CORD GRIP - STEEL
7617	37'	WIRE, BULK 14 GA - 3
8006	1	NUT, CONNECTOR, 1/2" CONDUIT



13856-MOTION ALARM KIT

PART NO.	QTY.	DESCRIPTION
8698	1	MOTION ALARM, 12-48 VOLTS (GROUND BRACKET MUST BE REMOVED)
HOW5904	2	SCREW, 1/4"-20, 3/4" LONG (TO LOWER CONTROL PANEL)
HOW5276	2	NUT, 1/4"-20
8782	1	MOTION ALARM HARNESS
8710	1	TERMINAL INSULATOR-BLACK BOOT
8709	1	TERMINAL INSULATOR-RED BOOT

ART709 R1
BM14834
11/03/97

Figure 8-7 (cont'd). 1932ES Options

8971R1

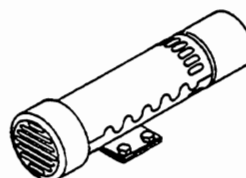


25302-FLASHING LIGHT KIT

PART NO.	QTY.	DESCRIPTION
7595	1	SIGNAL LIGHT
25274	1	BRACKET
7476	1	TERMINAL PIN, AMP CONNECTOR
7640	1	CONNECTOR, AMP, 2 PIN
HDW6455	2	SCREW, 1/4"-20, 1/2" LONG
25274	1	BRACKET
HDW8310	2	SCREW, 5/16"-18, 1/4" LONG (ATTACHES BRACKET TO CABINET)
HDW7120	2	NUT, 5/16"-18 (ATTACHES BRACKET TO CABINET)
8933	1	BULB FOR FLASHING LIGHT- XENON STROBE-#5001

25273-AIRLINE TO PLATFORM

PART NO.	QTY.	DESCRIPTION
5351	1	CABLE TIE
8548	37'	AIR LINE HOSE, 1/4"
8557	2	HOSE CLAMP, 5/16" DIA.
8559	2	HOSE CLAMP, 2 EAR, 9/16"
HDW5052	2	AIR LINE FITTING, BAYONET, 1/4" NPT
HDW6455	2	SCREW, 1/4"-20, 1/2" LONG



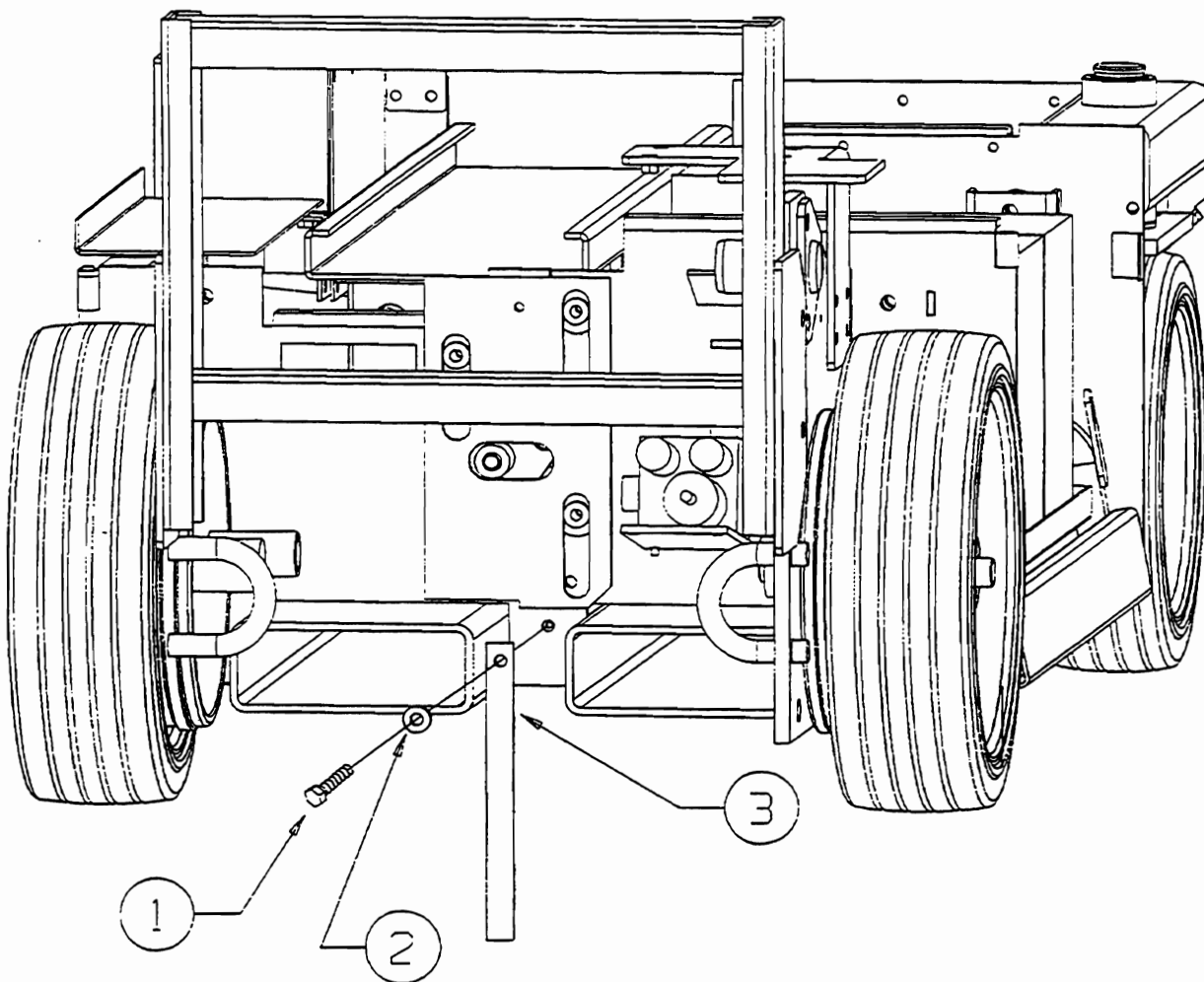
25268-CONVERTER-24 VOLT

PART NO.	QTY.	DESCRIPTION
7103	1	CONVERTER, DC-AC, 24 VOLT
7109	1	INSULATOR BOOT-BLACK
7110	1	INSULATOR BOOT-RED
7111	1	CABLE, CONVERTER POWER SUPPLY
7112	1	CABLE, CONVERTER POWER SUPPLY
7130	1	CAPACITOR-CERAMIC, .1 MICROFARE
25281	1	BRACKET
HDW5204	4	SCREW, CAP, 5/16-18 X 1.00, GRADE 5

ART709 R1
BM14834
11/03/97

Figure 8-7 (cont'd). 1932ES Options

8971R1

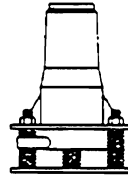


ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8685	1	SCREW, 1/4" - 20, 3/4" LONG
2	HDW8294	1	WASHER, ID - .328, OD- 1.00, THICKNESS- .100
3	7638	1	GROUNDING STRAP

ART730 RD
BM:5944
3/6/98

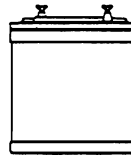
Figure 8-8. 1932ES/1532ES Static Strap

8971R1



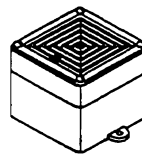
13485-TILT SENSOR ASSEMBLY

PART NO.	QTY.	DESCRIPTION
13863	1	BRACKET, TILT SENSOR
7552	1	LEVEL SENSOR, 4 1/2 DEG, 1 SEC DELAY
7556	1	VOLTAGE REGULATOR ASSEMBLY
8037	.16 FT	SHRINK WRAP, 3/16"
8182	1	TERMINAL, 1/4" X 1/32" PUSH ON
HDW5276	4	NUT, 1/4"-20
HDW5363	1	SCREW, #6-32, 1" LONG
HDW5364	1	NUT, #6-32
HDW5723	2	SCREW, 1/4"-20, 3/4" LONG
HDW8273	2	SCREW, 1/4"-20, 1" LONG



4799-STANDARD BATTERY OPTION-48 VOLT
4800-DRY BATTERY OPTION

PART NO.	QTY.	DESCRIPTION
5970	4	BATTERY-6 VOLT
7198	4	BATTERY-6 VOLT, DRY INCLUDES P/N 13592-INSTRUCTION SHEET



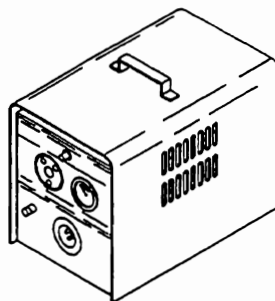
13511-HORN

PART NO.	QTY.	DESCRIPTION
7495	1	JUNCTION BOX
8553	1	WIRE HARNESS, HORN
8554	1	ALARM, 24VDC
HDW8267	2	NUT, 1/4"-20
HDW8273	2	SCREW, 1/4"-20, 1" LONG
HDW8530	2	SCREW, #8-32, 1 1/2" LONG
HDW8672	2	SCREW, #10-24, 3/4" LONG

ART717 R1
BM15001
12/08/97

Figure 8-9. 1532ES Options

8971R1



13350-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8350	1	CHARGER, 24V, 60HZ-120AC

13793-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8703	1	AUTO CHARGER, 24V/50HZ 230 VAC

13794-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8737	1	AUTO CHARGER, 24V/60HZ 230 VAC

13397-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8380	1	AUTO CHARGER, 24V/60 HZ 120 V

13399-CHARGER OPTION

PART NO.	QTY.	DESCRIPTION
8377	1	CHARGER, 24V, 50-60 HZ, 100 VAC

13855-HOUR METER KIT

PART NO.	QTY.	DESCRIPTION
7909	1	HOUR METER, 24-48V, DC
8783	1	HARNESS, HOUR METER



13854-BATTERY INDICATOR KIT

PART NO.	QTY.	DESCRIPTION
7099	1	FUEL GAUGE, BATTERY 24V
8784	1	HARNESS, BATTERY GAUGE



ART717 R1
BM15001
12/08/97

Figure 8-9 (cont'd). 1532ES Options

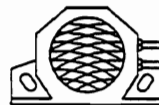


25313-110V OUTLET OPTION

PART NO.	QTY.	DESCRIPTION
25281	1	OUTLET BOX BRACKET
4319	1	OUTLET BOX GFI (BASE)
13888	1	RECEPTACLE BOX, DUPLEX (BASE)
5381	1	RECEPTACLE, DUPLEX (PLATFORM)
5382	1	110V PLUG (BASE)
6456	2	CORD GRIP, STEEL
7263	1	RECEPTACLE GFI, DUPLEX (BASE)
7617	30'	WIRE, 14 GA, 3 CONDUCTOR
8006	2	NUT, CONNECTOR, 1/2" CONDUIT
8208	1	FLEXIBLE CONDUIT, 3/8" X 18" LONG
8209	1	FERRULE, CONDUIT 3/8"
8833	1	CONNECTOR, CONDUIT 3/8" STRAIGHT
HDW5229	4	SCREW, #6-32, 3/8" LONG
HDW6455	2	SCREW, 1/4"-20, 1/2" LONG (OUTLET BOX TO BRACKET AT PLATFORM)
HDW5204	2	SCREW, 5/16"-18, 1" LONG (OUTLET TO BRACKET)
HDW8310	4	SCREW, 5/16"-18, 1 1/4" LONG (BRACKET TO BASE)
HDW8501	2	NUT, #6-32 (OUTLET BOX AT PLATFORM)
HDW5005	4	NUT, 5/16"-18 (AT BASE)
HDW8476	1	WIRE NUT (CONNECTS GROUNDS AT BASE)
5351	2	CABLE TIES

25314-110V WIRE ONLY

PART NO.	QTY.	DESCRIPTION
5351	2	CABLE TIE
6456	1	CORD GRIP - STEEL
7617	32'	WIRE, BULK 14 GA - 3
8006	1	NUT, CONNECTOR, 1/2" CONDUIT



13856-MOTION ALARM KIT

PART NO.	QTY.	DESCRIPTION
8698	1	MOTION ALARM, 12-48 VOLTS (GROUND BRACKET MUST BE REMOVED)
HDW5904	2	SCREW, 1/4-20, 3/4" LONG (TO LOWER CONTROL PANEL)
HDW5276	2	NUT, 1/4"-20
8782	1	MOTION ALARM HARNESS
8710	1	TERMINAL INSULATOR-BLACK BOOT
8709	1	TERMINAL INSULATOR-RED BOOT

ART717 R1
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Figure 8-9 (cont'd). 1532ES Options

8971R1

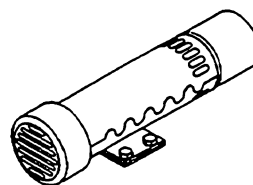


25302-FLASHING LIGHT KIT

PART NO.	QTY.	DESCRIPTION
7595	1	SIGNAL LIGHT
25274	1	BRACKET
7476	1	TERMINAL PIN, AMP CONNECTOR
7640	1	CONNECTOR, AMP, 2 PIN
HDW6455	2	SCREW, 1/4"-20, 1/2" LONG
25274	1	BRACKET
HDW8310	2	SCREW, 5/16"-18, 1/4" LONG (ATTACHES BRACKET TO CABINET)
HDW7120	2	NUT, 5/16"-18 (ATTACHES BRACKET TO CABINET)
8933	1	BULB FOR FLASHING LIGHT- XENON STROBE-#5001

25312-AIRLINE TO PLATFORM

PART NO.	QTY.	DESCRIPTION
5351	1	CABLE TIE
8548	32'	AIR LINE HOSE, 1/4"
8557	2	HOSE CLAMP, 9/16" DIA.
8559	2	HOSE CLAMP, 2 EAR, 9/16"
HDW5052	2	AIR LINE FITTING, BAYONET, 1/4" NPT
HDW6455	2	SCREW, 1/4"-20, 1/2" LONG



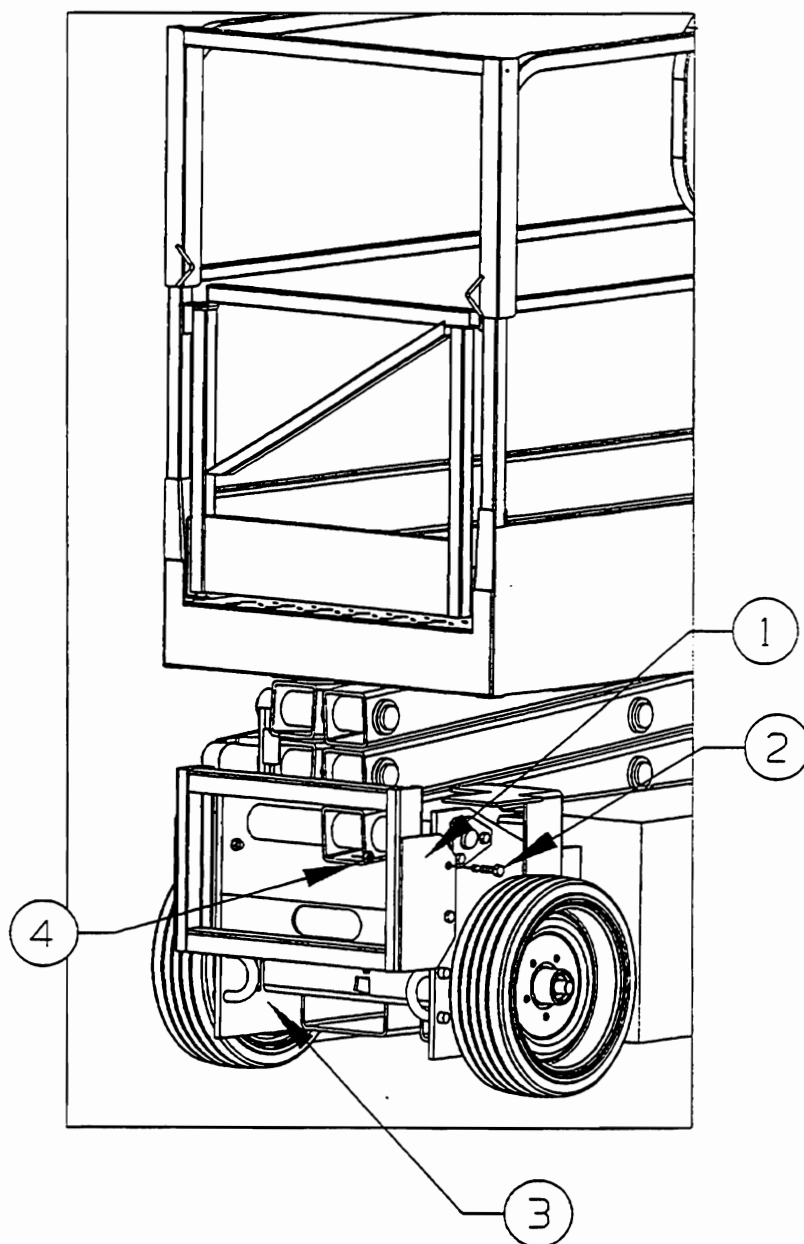
25268-CONVERTER-24 VOLT

PART NO.	QTY.	DESCRIPTION
7103	1	CONVERTER, DC-AC, 24 VOLT
7109	1	INSULATOR BOOT-BLACK
7110	1	INSULATOR BOOT-RED
7111	1	CABLE, CONVERTER POWER SUPPLY
7112	1	CABLE, CONVERTER POWER SUPPLY
7130	1	CAPACITOR-CERAMIC, .1 MICROFARE
25281	1	BRACKET
HDW5204	4	SCREW, CAP, 5/16-18 X 1.00, GRADE 5

ART717 R1
BM15001
12/08/97

Figure 8-9 (cont'd). 1532ES Options

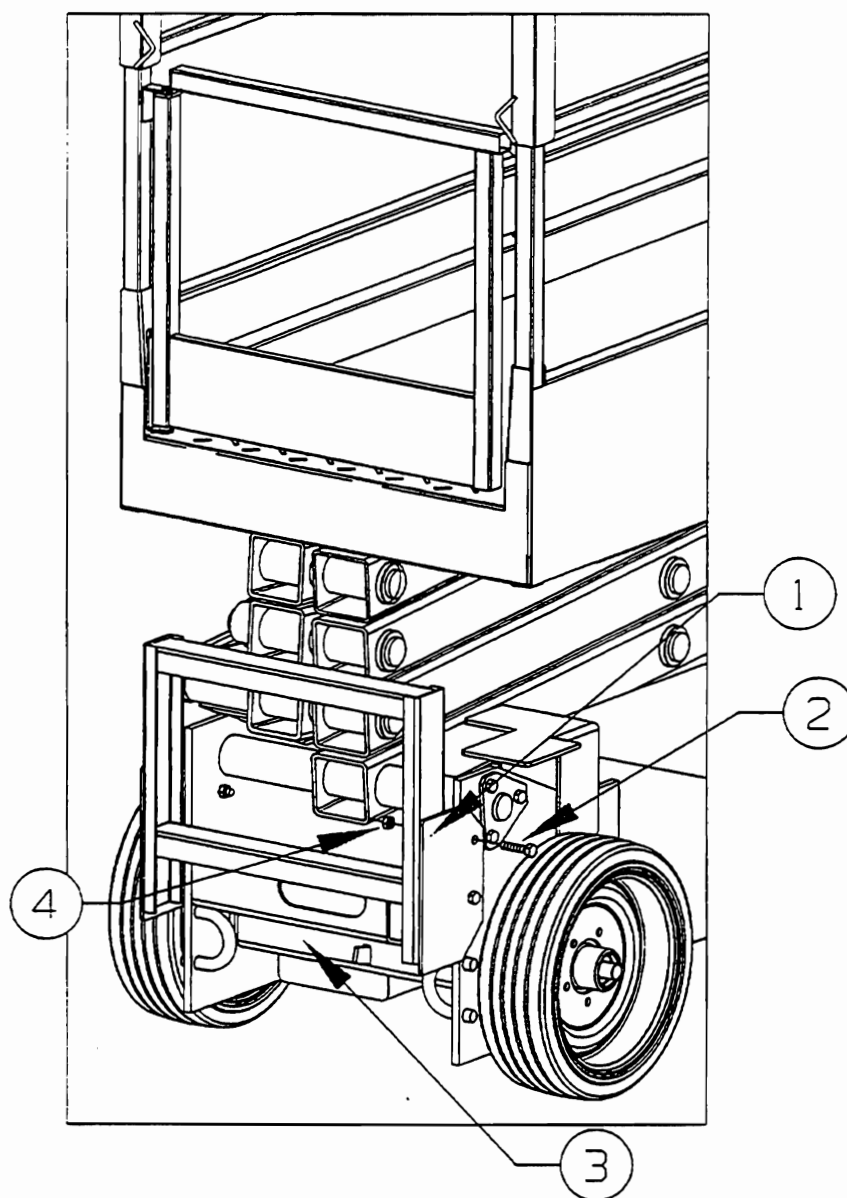
8971R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	25354	1	LADDER WELDMENT-1532
2	HDW8283	4	SCREW, 1/2" - 13
3	25154	1	BASE WELDMENT
4	HDW8457	4	NUT, 1/2" - 13

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2/4/98

Figure 8-10. 1532ES Ladder Assembly



ITEM	PART NO.	QTY.	DESCRIPTION
1	25258	1	LADDER WELDMENT-1932
2	HDW8283	4	SCREW, 1/2" - 13
3	25154	1	BASE WELDMENT
4	HDW8457	4	NUT, 1/2" - 13

ART726 RC
BM15656
2/4/98

Figure 8-11. 1932ES Ladder Assembly

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 scissor arms 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. Excluded from such warranty is the battery(s) which carries a ninety (90) day warranty from described purchase date and prorated thereafter up to one (1) year. 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
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