

Parts  
and  
Service Manual  
for

Model  
3068ES  
Aerial  
Work  
Platform



Aerial Work Platforms



# **Model 3068ES 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 SAFETY SECTION OF THIS MANUAL, AND HAVE READ AND UNDERSTOOD ALL 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 THIS MANUAL 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/SIAA92.6 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 LISTED IN THIS SECTION MAY RESULT IN MACHINE DAMAGE, PERSONAL INJURY OR DEATH AND IS A SAFETY VIOLATION.**

- REMOVE ALL RINGS, WATCHES, AND JEWELRY WHEN PERFORMING ANY MAINTENANCE.
- DO NOT WEAR LONG HAIR UNRESTRAINED, OR LOOSE FITTING CLOTHING AND NECKTIES WHICH ARE APT TO BECOME CAUGHT ON OR ENTANGLED IN EQUIPMENT.
- OBSERVE AND OBEY ALL WARNINGS AND CAUTIONS ON MACHINE AND IN SERVICE MANUAL.
- KEEP OIL, GREASE, WATER, ETC. WIPED FROM STANDING SURFACES AND HAND HOLDS.
- NEVER WORK UNDER AN ELEVATED PLATFORM UNTIL SAFETY PROPS HAVE BEEN ENGAGED OR PLATFORM HAS BEEN SAFELY RESTRAINED FROM ANY MOVEMENT BY BLOCKING OR OVERHEAD SLING.
- BEFORE MAKING ADJUSTMENTS, LUBRICATING OR PERFORMING ANY OTHER MAINTENANCE, SHUT OFF ALL POWER CONTROLS.
- BATTERY SHOULD ALWAYS BE DISCONNECTED DURING REPLACEMENT OF ELECTRICAL COMPONENTS.
- KEEP ALL SUPPORT EQUIPMENT AND ATTACHMENTS STOWED IN THEIR PROPER PLACE.
- USE ONLY APPROVED, NONFLAMMABLE CLEANING SOLVENTS.

**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 the 3068ES 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 Company  
Aerial Work Platforms  
210 Corporate Drive  
P.O. Box 990  
Beaver Dam, WI 53916  
Phone: (920)-887-2518  
1-800-387-4575  
FAX: 920-887-2480





### 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 a point one inch below top of tank.

### 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 a point one inch below the top of tank. 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.**

### 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.

## WARNING

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately.

### 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.

### 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 speed should be 30 seconds from full extension to stowed position.

**⚠ WARNING**

- "HOLDING BRAKE RELEASE" TO BE USED ONLY FOR MANUAL TOWING OR WHEN MAIN SYSTEM IS OUT OF SERVICE.

OPERATING THIS MACHINE WITH BRAKES RELEASED WILL CAUSE LOSS OF CONTROL WHEN DRIVING & PARKING ON INCLINE.

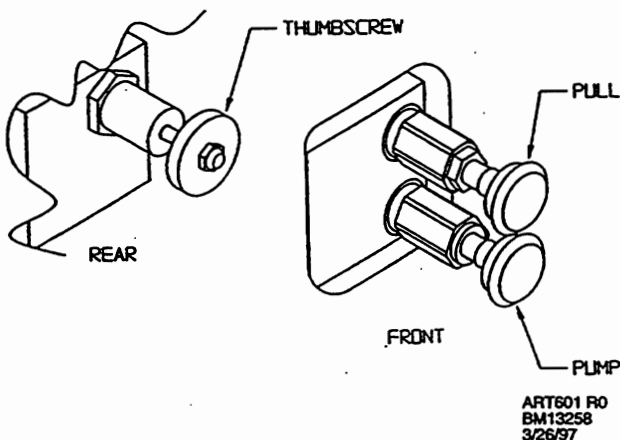
- BEFORE RETURNING MACHINE TO SERVICE INSURE BRAKE SYSTEM IS EMPLOYED.
- CHECK BRAKING FUNCTIONS PER SERVICE MANUAL.

8967

**Automatic Parking Brake:** The Automatic Parking Brake is a spring-actuated, normally-ON system. The brake is released during the drive cycle by hydraulic pressure built up in the drive circuit. A brake valve is used to maintain release during drive. When finished driving, an orifice is employed to control the braking function during deceleration.

**To Manually Lock Out Brakes:** Turn thumbscrew **clockwise** until completely closed. Pump upper plunger until it has built up pressure and stops.

**To Release Locked Out Brakes:** Turn thumbscrew **counter clockwise** until fully open. The machine is in normal Drive/Lift mode with the thumbscrew in this position.

**BRAKING FUNCTION**

Check thumbscrew on rear of manifold to see that it is in fully open position to ensure normal drive/lift operation. Check braking capabilities on a level surface before checking its capabilities on an uphill incline. This incline must be no more than the machine is capable of climbing. This machine is designed with 25% gradeability. This braking system is a parking brake not a friction brake system.

**BLEEDING BRAKES****⚠ WARNING**

**THIS PROCEDURE REQUIRES THAT BRAKES BE INOPERABLE WHILE IN DRIVE MODE. ONLY PERFORM THIS PROCEDURE ON A LEVEL SURFACE WITH ENOUGH CLEARANCE IN FRONT OF MACHINE SO IT WILL ROLL TO A STOP OR WITH A BARRIER TO STOP THE UNIT.**

- Remove plug next to brake line.
- Close thumbscrew on E-Down manifold.
- Pump system by using plunger on manifold.
- Hand pump until system is free of air.
- Replace plug and open thumbscrew returning unit to normal drive/lift mode.

**NOTE**

**If brakes require servicing, refer to dealer.**

**BLEEDING EMERGENCY DOWN SYSTEM**

To bleed Emergency Down Hydraulic System, loosen hose at lift cylinder and pump manifold until system is free of air. Replace hose.

**LIMIT SWITCH ADJUSTMENT**

**Driver/Speed Limit Switch:** Raise platform to approximately 9 1/2 feet, until beams lose contact with pothole system. (Figure 6-1, Switch Location). 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:** Raise platform to approximately 9 1/2 feet, until beams lose contact with pothole system. (Figure 6-4, Switch Location). Check that pothole bars have fully deployed. Remove cover of Pothole Switch to view contacts. Turn cam so plunger pushes contacts, stop turning just before contacts open. At this point tighten set screw on cam.

**TESTING LIMIT SWITCHES**

With unit in fully stowed position, place a 4x4 under pothole bar, so that bars will not fully deploy. At control box platform, raise unit until pothole system deploys. Continue to raise platform until it reaches approximately 10 1/2 feet. Unit should not drive, but will continue to lift and lower. If unit continues to drive readjustment of switches is necessary for safe operation of this unit.







### GENERAL TROUBLESHOOTING

The MEC 3068ES is 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 MEC 3068ES 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).

### SERVICE HELPS

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

1. Battery disconnect is connected.
2. Base/Platform switch is on.
3. Circuit breaker is reset.
4. Emergency stop switch is on (base and platform).
5. 225 amp main line 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.

### ELECTRICAL AND HYDRAULIC DIAGRAMS

Electrical and hydraulic diagrams are provided. The diagrams are drawn with the unit in the stowed position and with no functions actuated. These diagrams are furnished to help a well trained millwright or maintenance person diagnose an undesired condition.

The troubleshooting data presented is directed toward the operator and deals with those items or situations which can be encountered by an operator and the determination of a remedy to the condition is within the capability of the operator. The troubleshooting sequence in the table presented in a logical order beginning with the most likely and ending with the least likely.

**TROUBLESHOOTING TABLE**

Condition	Possible Cause	Remedy
Electric motors will not run.	Batteries not charged.	Charge batteries.
Battery charger not operating.	Power supply cable not connected to 115V receptacle and battery charger receptacle.	Connect power supply cable input end to 115V receptacle and output end to battery charger receptacle.
	Timer switch not on.	Turn timer switch on to desired position but at least to one hour setting.
	Fuse in battery charger blown.	Replace fuse.
	Battery cables loose or not connected at posts.	Clean and check all battery cable connections. Check Battery Disconnect connections behind battery tray boxes.
	Battery charger pilot light burned out.	Replace pilot light.
Battery charger pilot light on; charge rate ampere meter reads zero.	Batteries are fully charged.	Check optional Battery Charge Indicator or check specific gravity of battery.
	Charge rate ampere meter has failed.	Replace ampere meter.

### **SCHEMATICS, LAYOUTS AND DIAGRAMS**

Electrical schematics, harness layouts, cabling layouts and hydraulic schematic diagrams are furnished to help a well-trained millwright or maintenance person diagnose an undesired condition.



ala N/C

O/O N/C HELD OPEN

NO N/O HELD CLOSED



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ITEM	PART NO.	QTY.	DESCRIPTION	FUNCTION	LOCATION
A1-A3	14579	1	TILT SENSOR OPTION PACKAGE	WARN WHEN MACHINE IS AT 4 DEG.	IN HYDRO/ELEC CAB. & IN CONTROL BOX
A5-A6	XXXX	1	PLATFORM MOUNTED HORN PACKAGE	OPERATOR ACTIVATED HORN	CONTROL BOX AND UNDER PLATFORM
A7	14580	1	BATTERY INDICATOR PACKAGE	SHOW BATTERY STATUS	LOWER CONTROL PANEL
A8	14577	1	FLASHING LIGHT PACKAGE	WARN OF A POWERED UP MACHINE	FRONT OF BATTERY CABINET
A9	14581	1	HOUR METER PACKAGE	RECORD TIME THAT IS MACHINE IS BEING USED	LOWER CONTROL PANEL
A4	14582	1	MOTION ALARM PACKAGE	WARNING OF MOVEMENT	LOWER CONTROL PANEL
B1-B8	5970	8	6 VOLT DEEP CYCLE BATTERY	POWER FOR THE MOTOR AND CONTROL CIRCUIT	INSIDE BATTERY COMPARTMENT
B01	8841	1	MASTER DISCONNECT SWITCH	DISCONNECT POWER TO ALL CIRCUITS	FRONT OF HYDRO / ELEC CABINET
CB1	7235	1	CIRCUIT BREAKER - 15 AMP MANUAL	CONTROL CIRCUIT PROTECTION	LOWER CONTROL PANEL
CR1	7835	1	24 VOLT RELAY	CLOSE THE CONTROL CIRCUIT	INSIDE UPPER CONTROL BOX
DB1	8882	1	DIODE BOARD	DIRECT SIGNAL TO PROPER FUNCTION	INSIDE HYDRO / ELEC. CABINET
DB2	8912	1	DIODE BOARD AND VOLTAGE REGULATOR	DIRECT SIGNALS AND REGULATE VOLTAGE FOR RELAY	INSIDE UPPER CONTROL BOX
D1	8368	1	DIODE W/ RING TERMINALS	SUPPRESSION DIODE	ACROSS PRIMARY CONTACTOR
D2	8368	1	DIODE W/ RING TERMINALS	SUPPRESSION DIODE	ACROSS SECONDARY CONTACTOR
ES1	7800	1	EMERGENCY STOP SWITCH	SHUT DOWN ALL MOVING FUNCTIONS	LOWER CONTROL PANEL
ES2	7800	1	EMERGENCY STOP SWITCH	SHUT DOWN ALL MOVING FUNCTIONS AT PLATFORM	UPPER CONTROL BOX
F1	7784	1	225 AMP FUSE	MAIN LINE FUSE	INSIDE HYDRO / ELEC. CABINET
LS1	8932	1	LIMIT SWITCH	HIGH SPEED ENABLE/DRIVE ENABLE SWITCH	REAR BEAM ATTACHMENT
LS3	8776	1	LIMIT SWITCH	DRIVE ENABLE POTHOLE LOCATION SWITCH	REAR OF POTHOLE SYSTEM
M1	8853	1	48 VOLT MOTOR	PRIMARY MOTOR	INSIDE HYDRO / ELEC. CABINET
M2	8853	1	48 VOLT MOTOR	SECONDARY MOTOR	INSIDE HYDRO / ELEC. CABINET
MC1	7688	1	48 VOLT MOTOR CONTACTOR	PRIMARY MOTOR CONTACTOR	INSIDE HYDRO / ELEC. CABINET
MC2	7688	1	48 VOLT MOTOR CONTACTOR	SECONDARY MOTOR CONTACTOR	INSIDE HYDRO / ELEC. CABINET
S1	7423	1	SINGLE POLE TWO POSITION SWITCH	SELECT BASE OR PLATFORM OPERATION	LOWER CONTROL PANEL
S2	5230	1	SINGLE POLE THREE POS. SWITCH	LIFT CONTROL AT BASE CONTROLS	LOWER CONTROL PANEL
S3	8753	1	PUSH BUTTON SWITCH	ENABLES OTHER FUNCTIONS TO BE USED AT PLAT.	INSIDE HANDLE ASSEMBLY
S4	8448	1	V3 LIMIT SWITCH	RIGHT TURN SWITCH	INSIDE HANDLE ASSEMBLY
S5	8448	1	V3 LIMIT SWITCH	LEFT TURN SWITCH	INSIDE HANDLE ASSEMBLY
S6	8638	1	4 POLE 2 POS. TOGGLE SWITCH	MODE SELECT SWITCH	UPPER CONTROL BOX
S7	8696	1	V7 LIMIT SWITCH	REVERSE OR LIFT SWITCH	INSIDE UPPER CONTROL BOX
S8	8696	1	V7 LIMIT SWITCH	FORWARD OR DOWN SWITCH	INSIDE UPPER CONTROL BOX
S9	5630	1	SINGLE POLE 2 POS. TOGGLE SWITCH	TORQUE SWITCH	UPPER CONTROL BOX
S10	8696	1	V7 LIMIT SWITCH	HIGH SPEED OR FAST UP SWITCH	INSIDE UPPER CONTROL BOX
S11	8696	1	V7 LIMIT SWITCH	SLOW SPEED BYPASS SWITCH	INSIDE UPPER CONTROL BOX
S12	8044	1	PUSH BUTTON LIMIT SWITCH	HORN SWITCH	UPPER CONTROL BOX
SOL1	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES DOWN VALVE	PRIMARY MANIFOLD
SOL2,3	8840	2	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES SLOW SPEED VALVES	PRIMARY MANIFOLD
SOL4	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES RIGHT VALVES	SECONDARY MANIFOLD
SOL5	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES LEFT VALVES	SECONDARY MANIFOLD
SOL6	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES BRAKE VALVE	PRIMARY MANIFOLD
SOL7	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES DECEL VALVE	SECONDARY MANIFOLD
SOL8,9	8840	2	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES REVERSE VALVES	SECONDARY MANIFOLD
SOL10,11	8840	2	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES FORWARD VALVES	SECONDARY MANIFOLD
SOL12	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES TIMED BRAKE VALVE	PRIMARY MANIFOLD
SOL13-15	8840	3	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES TORQUE VALVES	SECONDARY MANIFOLD
SOL16	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES LIFT VALVE	PRIMARY MANIFOLD
SOL17	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES LIFT VALVE	SECONDARY MANIFOLD
SOL18	8840	1	48 VOLT COIL 2 SPADE W/ DIODE	ACTIVATES DOWN VALVE	LIFT CYLINDER MANIFOLD
TR1	8842	1	48 VOLT TIME DELAY	ACTIVATES THE BRAKE VALVES	INSIDE HYDRO / ELEC. CABINET
WIRE HARNESS ASSEMBLIES AND CABLES					
	8859		COVER ASSEMBLY WIRE HARNESS		
	8862		CONTROL BOX ASSEMBLY WIRE HARNESS		
	8903		3068 MAIN WIRE HARNESS ASSEMBLY		
	8904		16 GA 16 COND. CABLE ASSEMBLY		
	8915		UPPER CONTROL CORD CABLE ASSEMBLY		
	8921		DOWN CABLE ASSEMBLY		
	8924		CHARGER HARNESS ASSEMBLY		

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Figure 2-1. 3068ES Electrical Schematic

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# 3068ES HYD. PRESSURES

## COUNTER BALANCE VALVE

WITH DRIVE COILS UNPLUGGED

joystick in 2<sup>nd</sup> position, medium speed

450psi

## FRONT END OF UNIT JACKED UP

no load drive joystick in 1<sup>st</sup> position  
joystick in 2<sup>nd</sup> position  
joystick in 3<sup>rd</sup> position

450psi

650psi

1200psi

## DRIVE PRESSURES & SPEEDS

UNIT DRIVING ON FLAT, SMOOTH CONCRETE

joystick in 1<sup>st</sup> position

550psi

17sec/20ft.

joystick in 2<sup>nd</sup> position

1100psi

7sec/20ft.

joystick in 3<sup>rd</sup> position

1750psi

4.5sec/20ft.

## TORQUE ON

joystick in 1<sup>st</sup> position

500psi

10sec/20ft.

joystick in 2<sup>nd</sup> position

1100psi

7sec/20ft.

joystick in 3<sup>rd</sup> position

N/A

## LIFT PRESSURES

UNIT LIFTING WITH NO LOAD ON PLATFORM

from the base switch

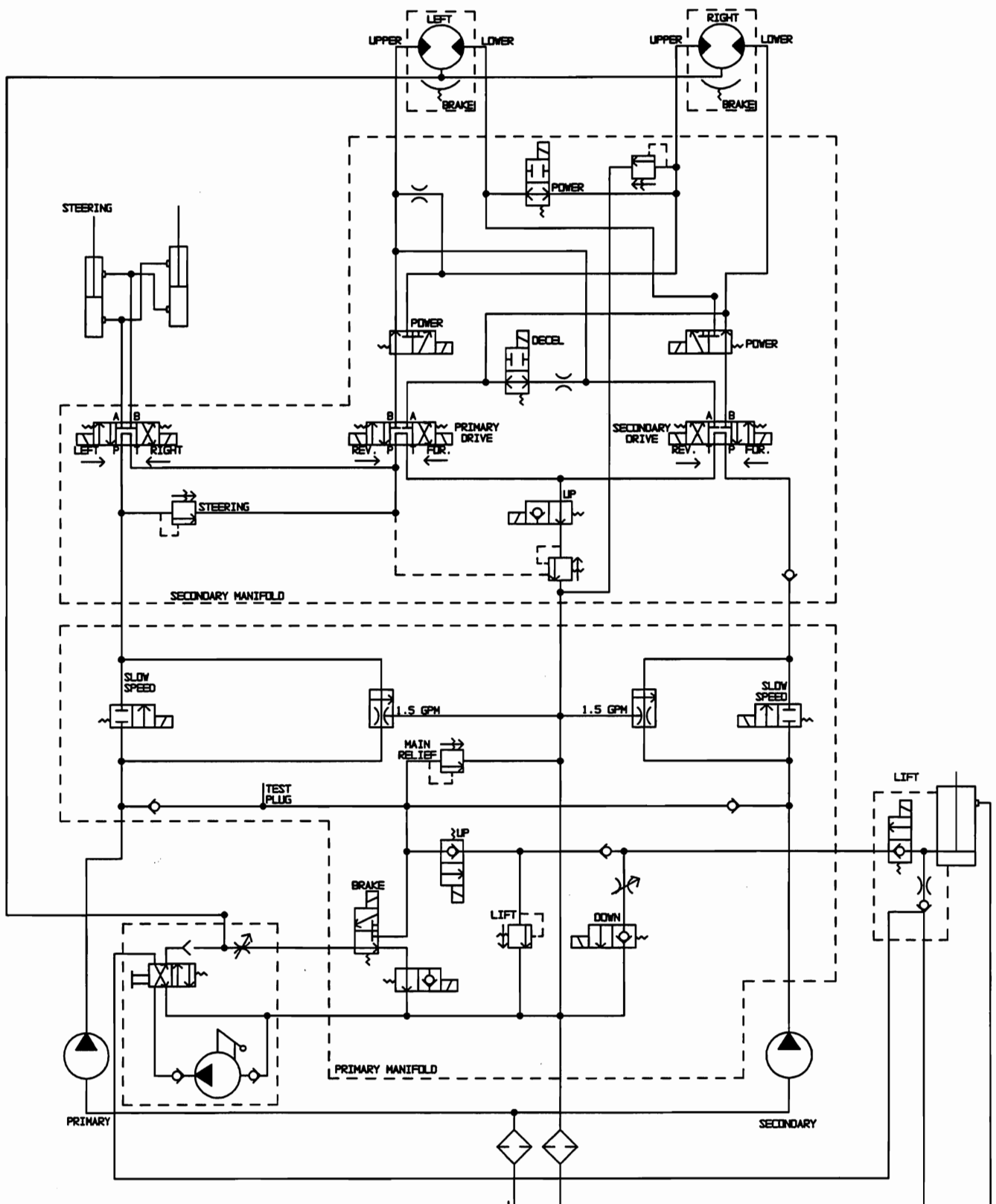
1500psi

## STEERING PRESSURES

UNIT NOT MOVING ON FLAT CONCRETE FLOOR

500-1000psi

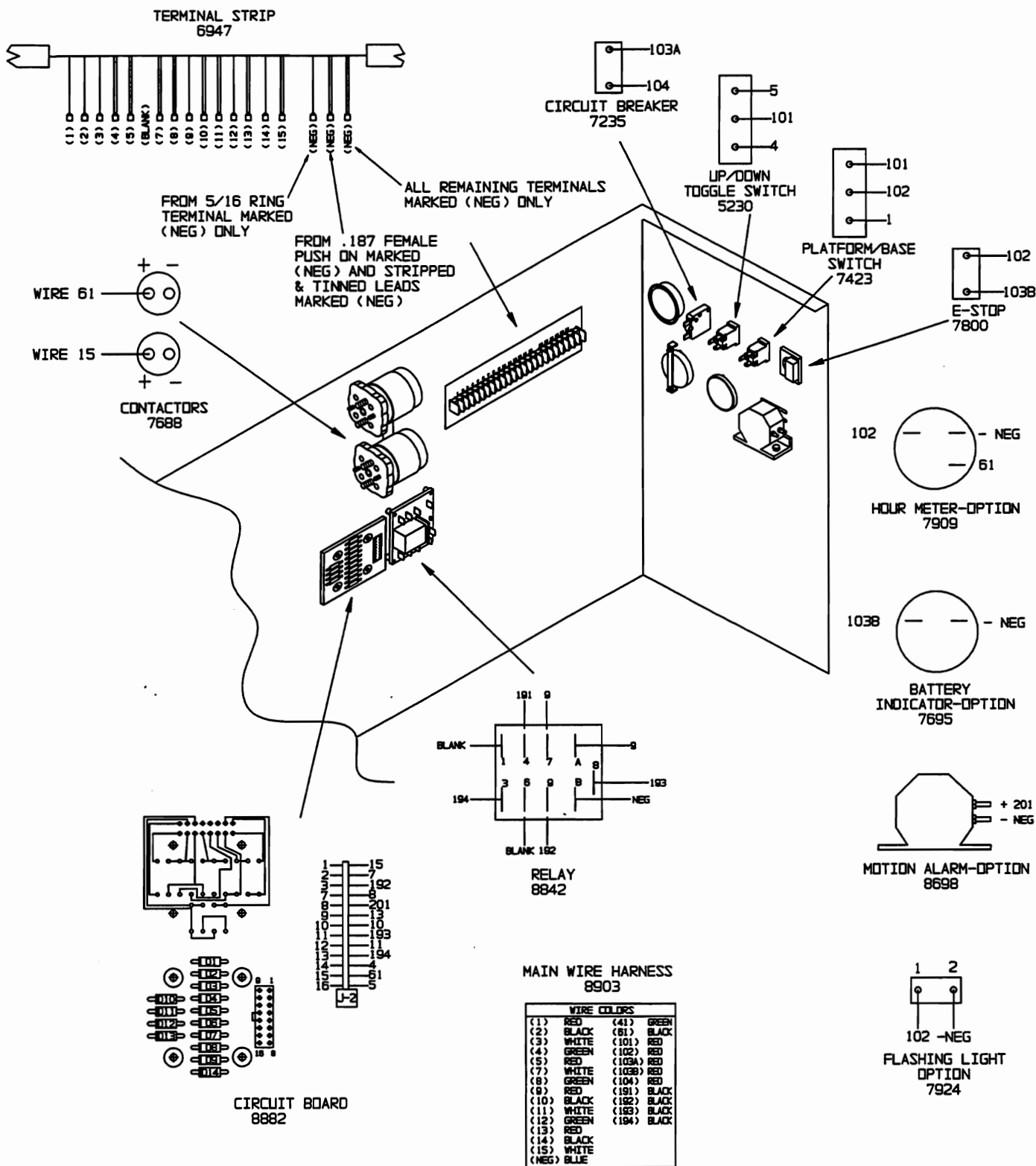




PRESSURE SETTINGS	
MAIN RELIEF	2500 PSI
LIFT	2200 PSI
STEERING	1200 PSI
EMERGENCY DOWN	360 PSI (NON ADJUSTABLE)
BRAKE RELEASE	360 PSI (NON ADJUSTABLE)

ART602 R2  
BH13272  
7/1/97

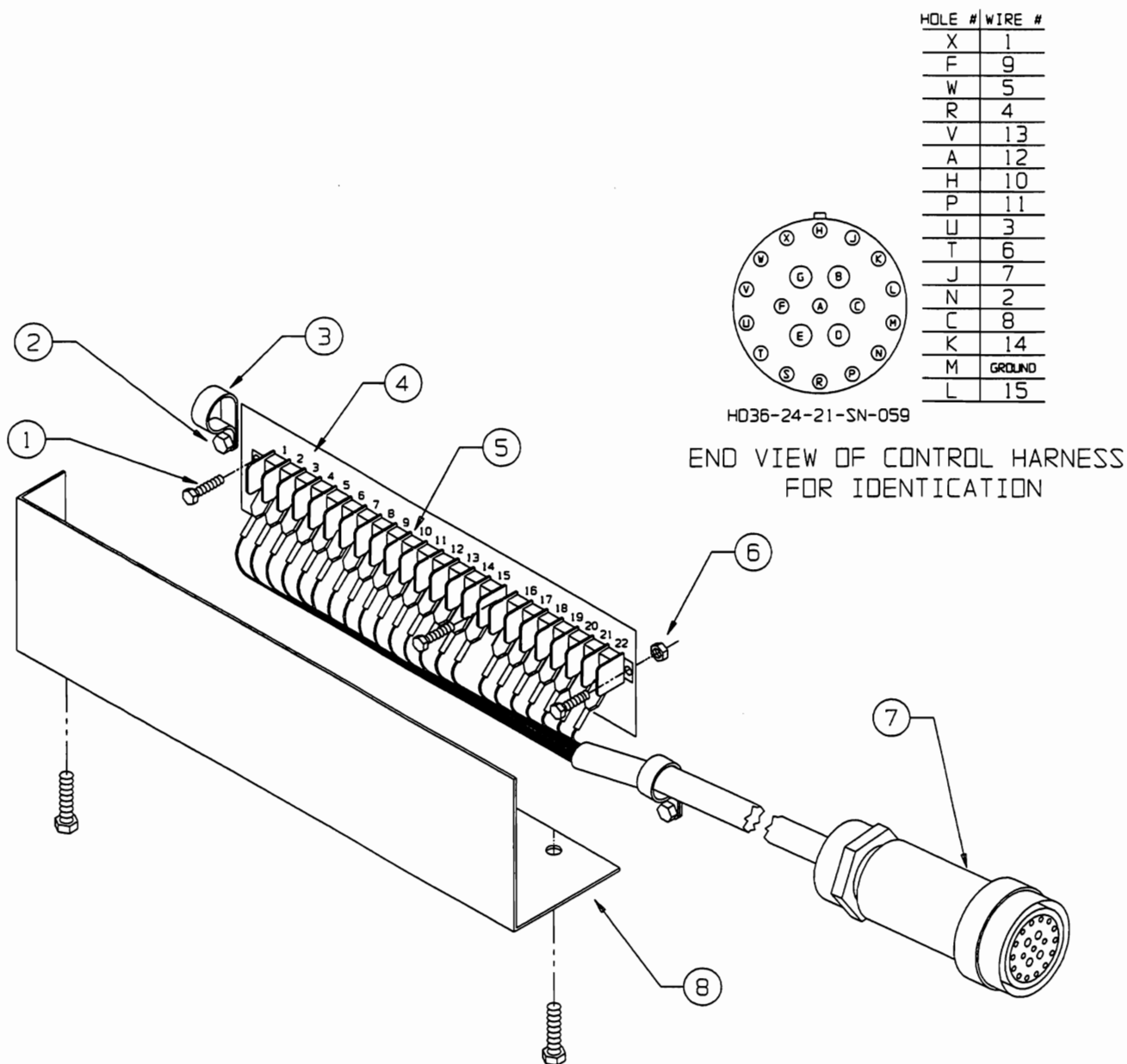
Figure 2-2. 3068ES Hydraulic Schematic



ART615 R1  
BM13711  
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Figure 2-3. 3068ES Base Control - Electrical

8821R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW5363	3	SCREW, 6-32, 1" LONG
2	HDW6455	4	SCREW, 1/4"-20, 1/2" LONG
3	HDW5882	2	CABLE CLAMP
4	7970	1	TERMINAL STRIP MARKER
5	6947	1	TERMINAL STRIP
6	HDW5364	3	NUT, 6-32
7	8915	1	WIRE HARNESS, UPPER CONTROL BOX
8	14604	1	TERMINAL STRIP COVER
	8844	2	GROMMET-CORD PROTECTOR, (PROTECTS CONTROL BOX WIRE HARNESS THROUGH PLATFORM, NOT SHOWN)
	5863	1	GROMMET- CABLE PROTECTOR, (PROTECTS CONDUIT FOR OPTIONAL OUTLET ON PLATFORM, NOT SHOWN)

Figure 2-4. 3068ES Platform Terminal Box

ART618 R1  
BM13811  
7/25/97

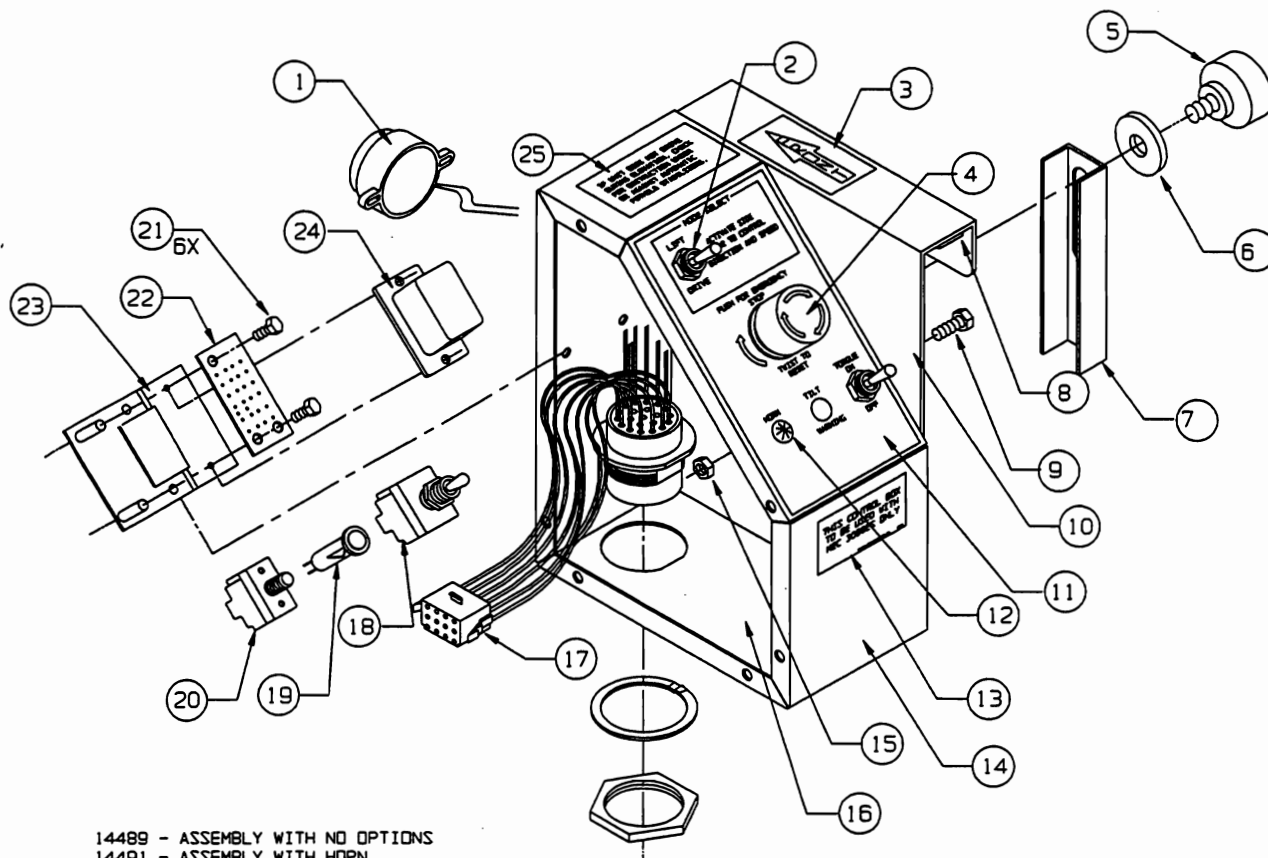
8821R1



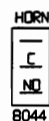
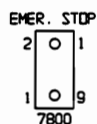
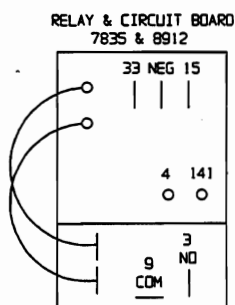
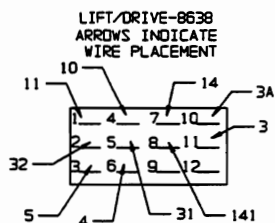
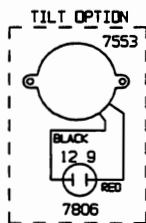


## Control Boxes





14489 - ASSEMBLY WITH NO OPTIONS  
 14491 - ASSEMBLY WITH HORN  
 14493 - ASSEMBLY WITH TILT  
 14495 - ASSEMBLY WITH HORN & TILT

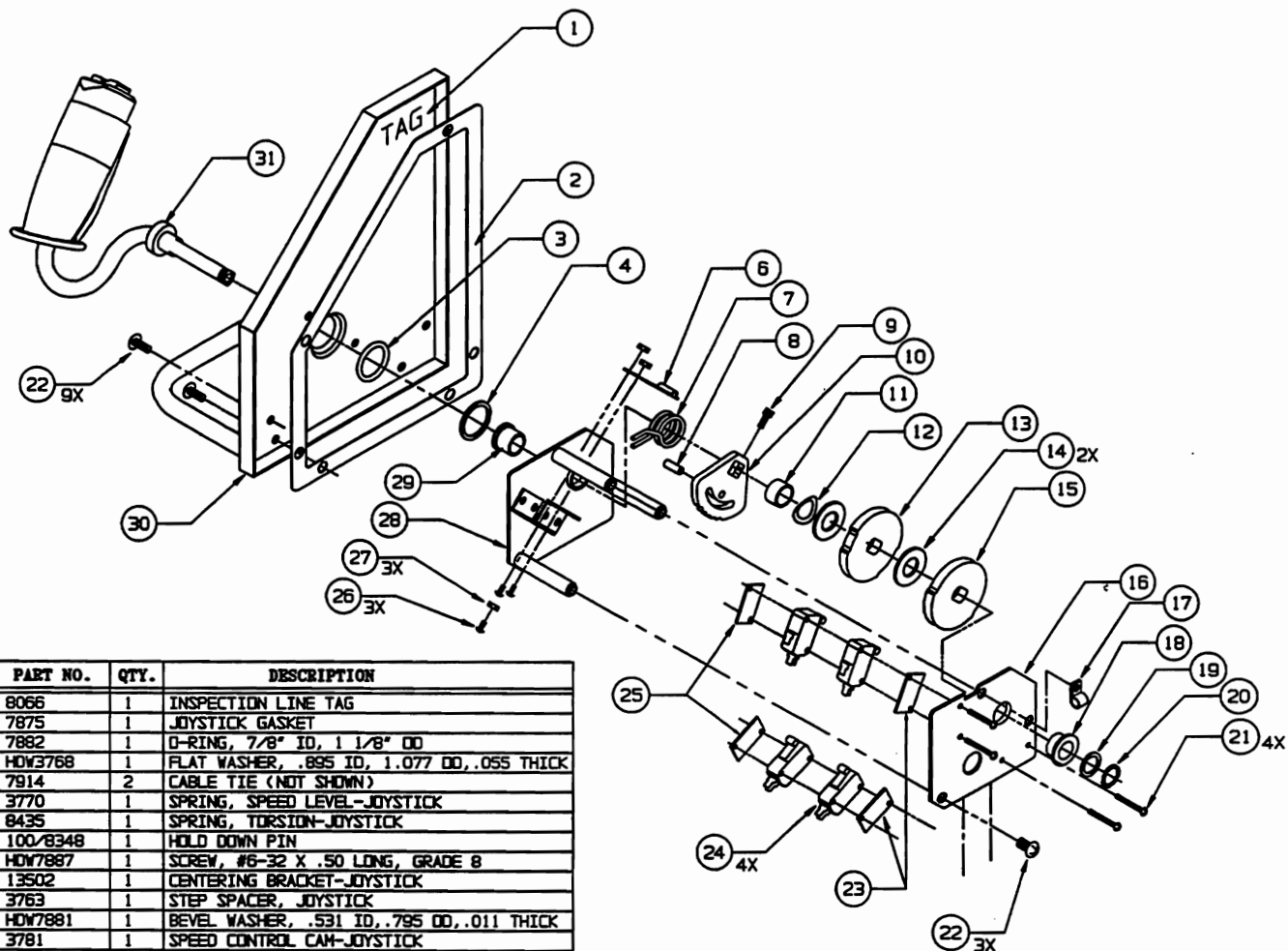


ITEM	PART NO.	QTY.	DESCRIPTION
1	7553	1	TIP OVER ALARM (OPTIONAL)
2	8638	1	TOGGLE SWITCH, 4 POLE 2 POSITION
3	7156	1	FRONT DECAL
4	7800	1	EMERGENCY STOP SWITCH ASSEMBLY
5	8826	1	THUMBSCREW, 5/16"-18
6	HDW8294	1	FLAT WASHER, .328 ID, 1.00" OD, .100 THICK
7	13864	1	CONTROL BOX LOCK BRACKET
8	6350	.5	FOAM TAPE
9	HDW5724	1	SCREW, 5/16"-18, 3/4" LONG
10	13865	1	CONTROL BOX HOLDER BRACKET
11	8391	1	CONTROL BOX DECAL
12	7579	1	PLASTIC PLUG (TOGGLE HOLE)
13	8832	1	CONTROL BOX ID DECAL-3068ES
14	13867	1	CONTROL BOX WRAPPER WELDMENT
15	HDW7120	1	NUT, 5/16"-18
16	8066	1	TAG (INSPECTION LINE)
17	8862	1	CONTROL BOX WIRE HARNESS W/ CONNECTOR
18	5630	1	TOGGLE SWITCH-TORQUE
19	7806	1	INDICATOR LIGHT (OPTIONAL)
20	8044	1	HORN (OPTIONAL)
21	HDW5978	6	SCREW, #6-32, 1/4" LONG
22	8912	1	CIRCUIT BOARD
23	3769	1	RELAY BRACKET
24	7835	1	24 VOLT RELAY
25	8950	1	PLATFORM STOPS SHORT DECAL

ART587 R1  
 BM13040  
 7/14/97

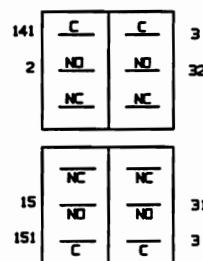
Figure 4-1. 3068ES Upper Control Box Assembly

8821R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	8066	1	INSPECTION LINE TAG
2	7875	1	JOYSTICK GASKET
3	7882	1	O-RING, 7/8" ID, 1 1/8" OD
4	HDV3768	1	FLAT WASHER, .895 ID, 1.077 OD, .055 THICK
5	7914	2	CABLE TIE (NOT SHOWN)
6	3770	1	SPRING, SPEED LEVEL-JOYSTICK
7	8435	1	SPRING, TORSION-JOYSTICK
8	100/8348	1	HOLD DOWN PIN
9	HDV7887	1	SCREW, #6-32 X .50 LONG, GRADE 8
10	13502	1	CENTERING BRACKET-JOYSTICK
11	3763	1	STEP SPACER, JOYSTICK
12	HDV7881	1	BEVEL WASHER, .531 ID, .795 OD, .011 THICK
13	3781	1	SPEED CONTROL CAM-JOYSTICK
14	HDV8531	2	FLAT WASHER, .531 ID, 1.0 OD, .063 THICK
15	3782	1	DIRECTIONAL CAM-JOYSTICK
16	3759	1	PLATE, TOP, CONTROL BOX-JOYSTICK
17	6917	1	CABLE CLAMP, 1/4"
18	7818	1	BEARING, .502 ID, .627 OD, 5/16" HIGH
19	HDV3771	1	FLAT WASHER, .50 ID, .688 OD, .033 THICK
20	5736	1	RETAINING RING, EXT., 1/2" SHAFT
21	HDV8399	4	SCREW, #4-40 X 5/8" LONG
22	HDV7888	12	SCREW, #10-3 X 1/2", GRADE 2
23	3764	2	SPACER PLATE-JOYSTICK
24	8696	4	LIMIT SWITCH, MICRO - V7
25	3765	2	PLATE, STRAP-JOYSTICK
26	HDV7885	3	SCREW, #4-40 X 1/4" LONG
27	HDV7886	3	NUT, #4-40, CLASS 2
28	3766	1	TOP PLATE WELDMENT-JOYSTICK
29	7819	1	BEARING, .502 ID, .627 OD, 5/16" HIGH
30	3772	1	COVER WELDMENT-JOYSTICK
31	13647	1	CONTROL ARM ASSEMBLY-JOYSTICK #2
32	8859	1	JOYSTICK CONTROL BOX HARNESS (NOT SHOWN)

ART587 R1  
BM13040  
7/14/97

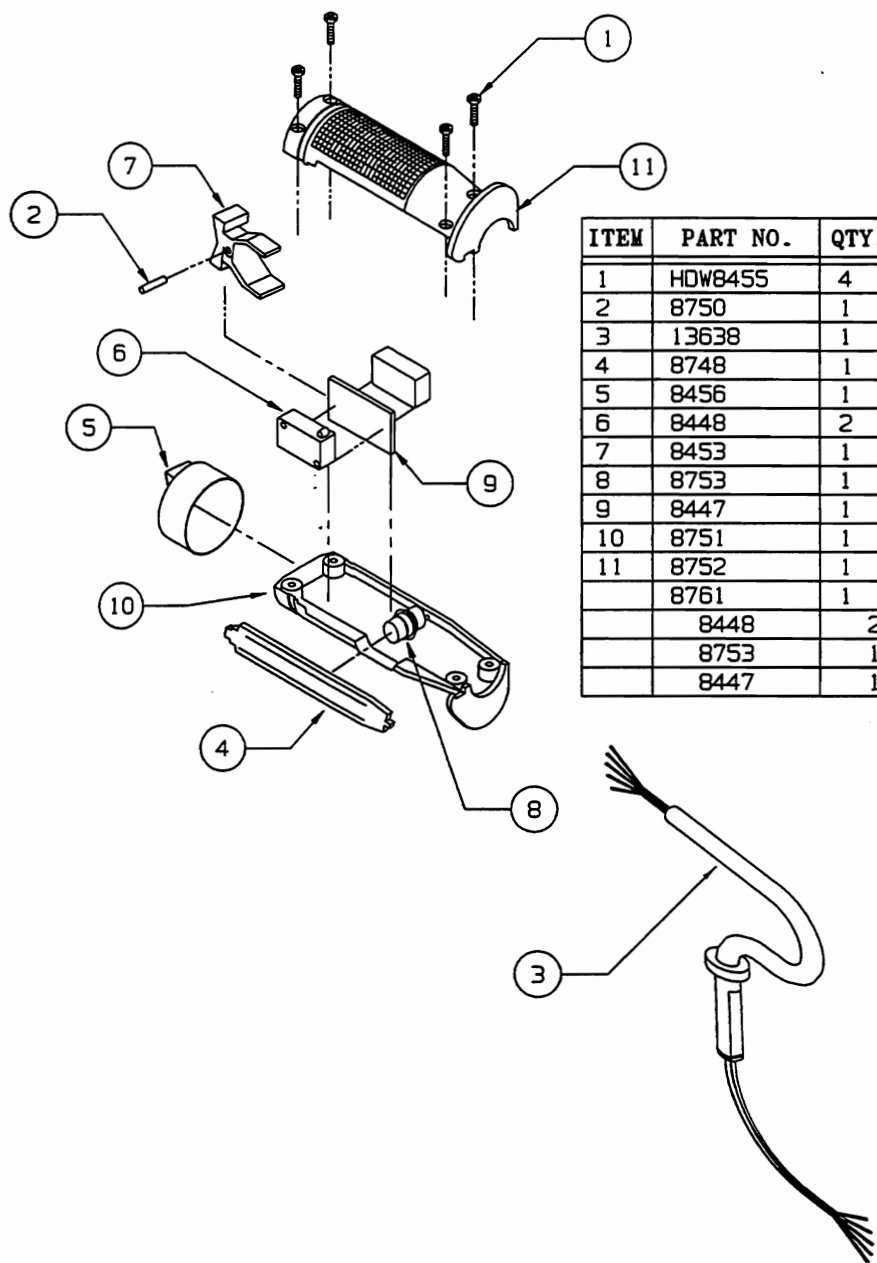


8696 LIMIT SWITCHES

Figure 4-2. 3068ES Upper Control Box Cam Assembly

8821R1

# 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

ART188 R1  
BMSD40  
7/18/96

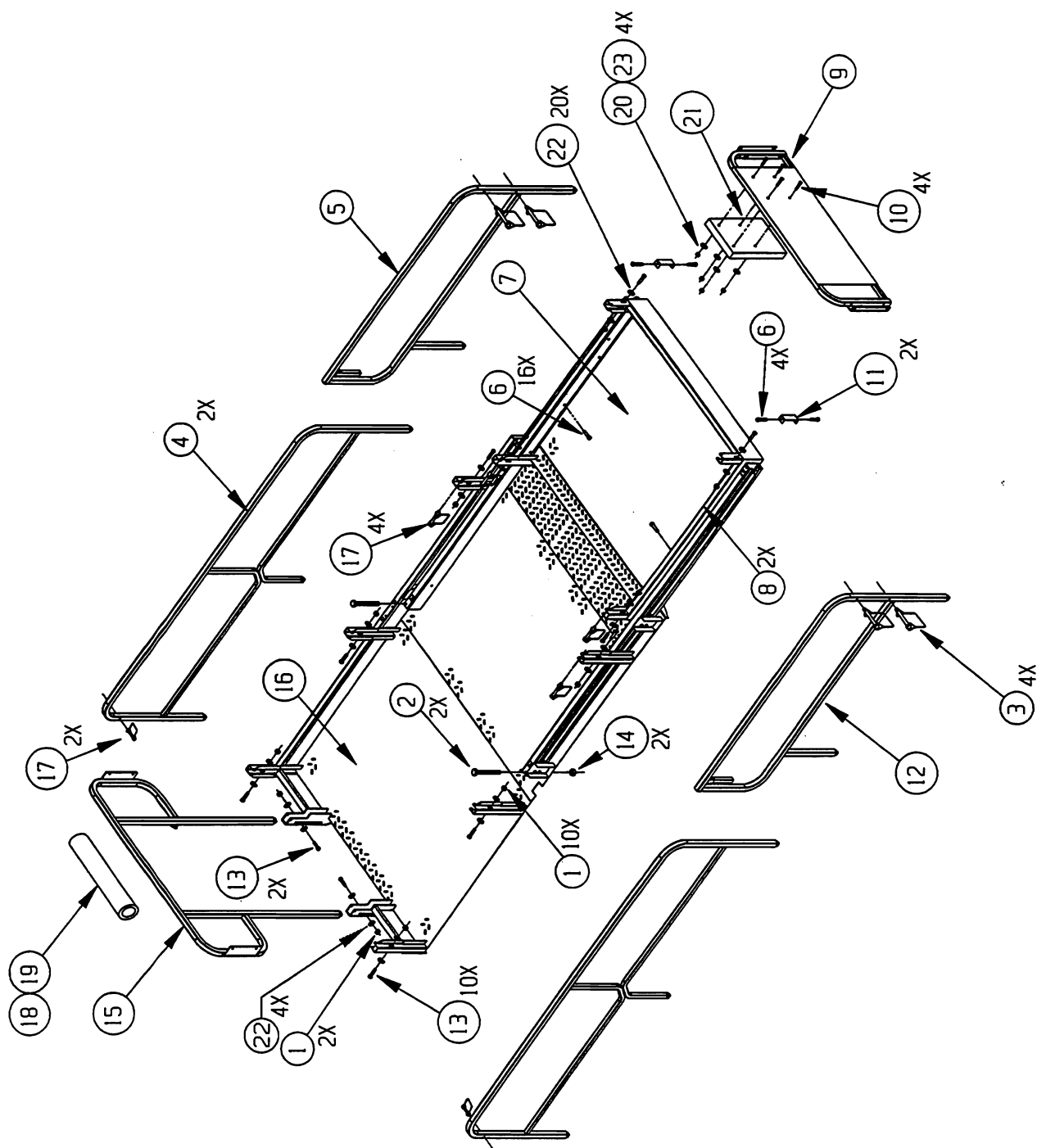
Figure 4-3. 3068ES Control Arm Assembly











ART589 R1  
BM13075  
8/5/97

Figure 5-1. 3068ES Platform and Rails Assembly

8821R1

ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8304	12	NUT, 5/16"-18
2	HDW8856	2	SCREW, 1/2"-13, 5" LONG
3	HDW8974	4	WIRE LOCK PIN, SQUARE, 3/8" X 3" LONG
4	14124	2	SIDE RAIL WELDMENT-MAIN PLATFORM
5	14301	1	SIDE RAIL WELDMENT-EXTENSION PLATFORM
6	HDW5724	20	SCREW, 5/16"-18, 3/4" LONG, GRADE 5
7	<del>40053</del>	1	EXTENSION PLATFORM WELDMENT
8	14152	2	EXTENSION CHANNEL
9	14306	1	FRONT RAIL WELDMENT-EXTENSION
10	HDW6455	4	SCREW, 1/4"-20, 1/2" LONG
11	14415	2	EXTENSION STOP BRACKET
12	14313	1	RIGHT SIDE RAIL WELDMENT-EXTENSION PLATFORM
13	HDW7119	12	SCREW, 5/16"-18, 2 1/4" LONG, GRADE 5
14	HDW8457	2	NUT, 1/2"-13
15	14129	1	REAR RAIL WELDMENT-MAIN PLATFORM
16	<del>40048</del>	1	MAIN PLATFORM WELDMENT
17	HDW7593	6	WIRE LOCK PIN, SQUARE, 3/8" X 2 1/4" LONG
18	7805	1	RAIL PAD
19	7048	1	RAIL PAD COVER
20	HDW6461	4	NUT, 1/4"-20
21	8909	1	MANUAL ENCLOSURE
22	HDW5217	24	FLAT WASHER
23	HDW8294	4	FLAT WASHER

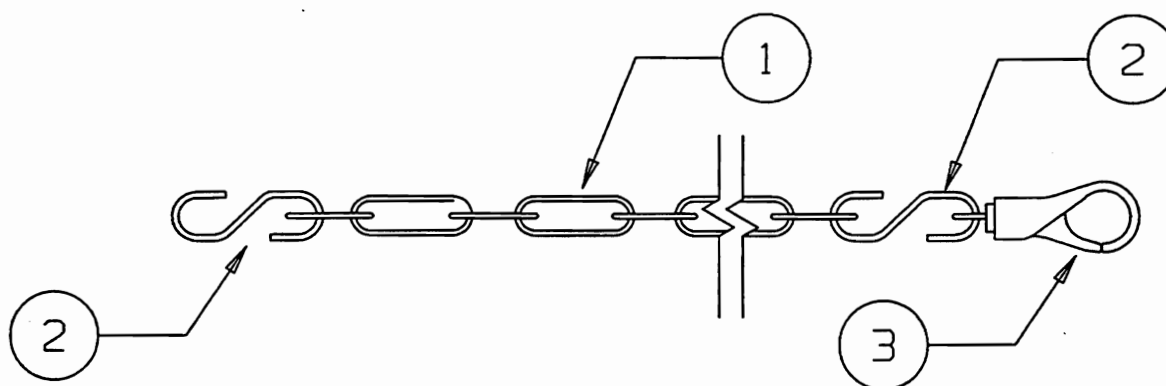
ART589 R1  
BM13075  
8/5/97

Figure 5-1. 3068ES Platform and Rails Assembly

8821R1

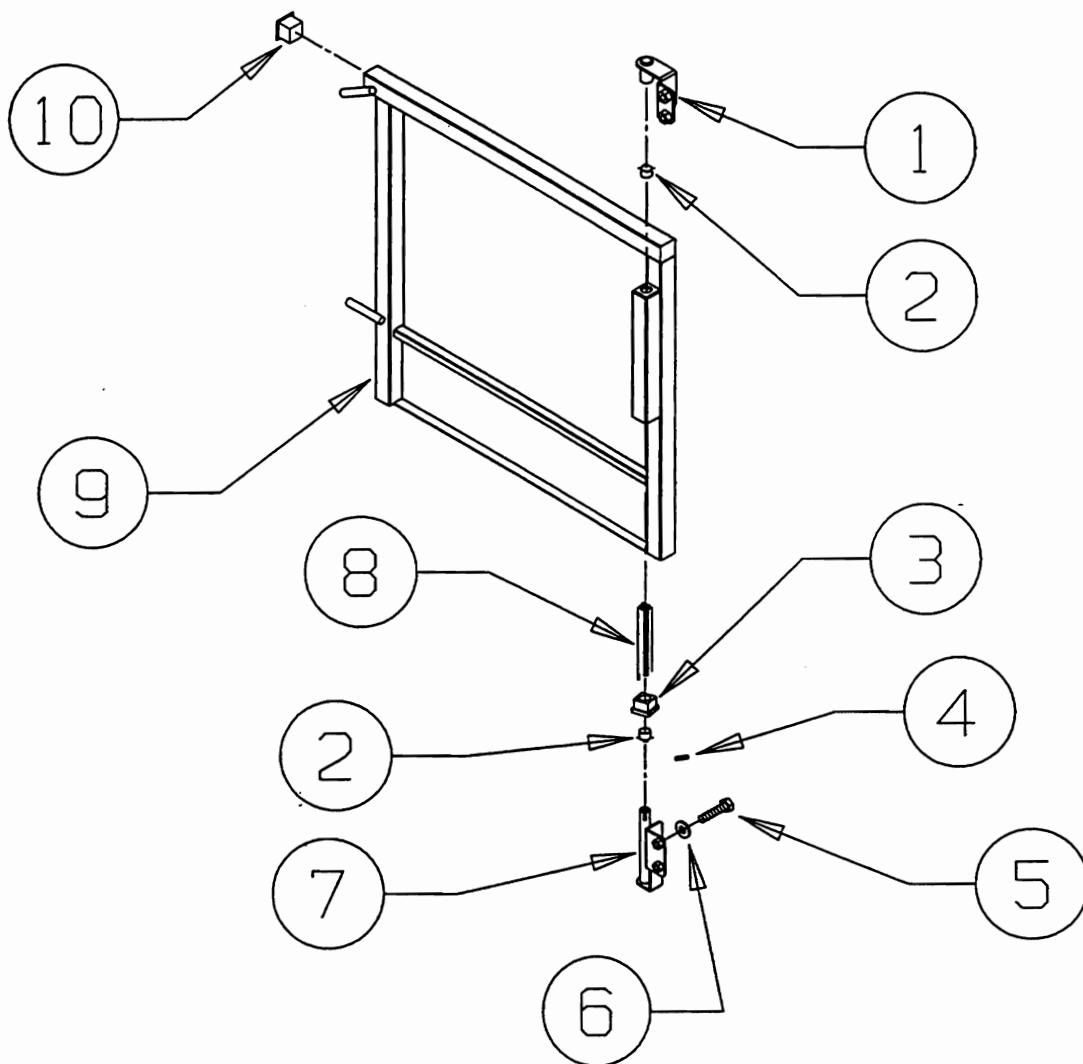
# 13850 CHAIN CLOSURE-STANDARD

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



ART593-R0  
BM13090  
3/6/97

Figure 5-2. 3068ES Chain Gate Assembly

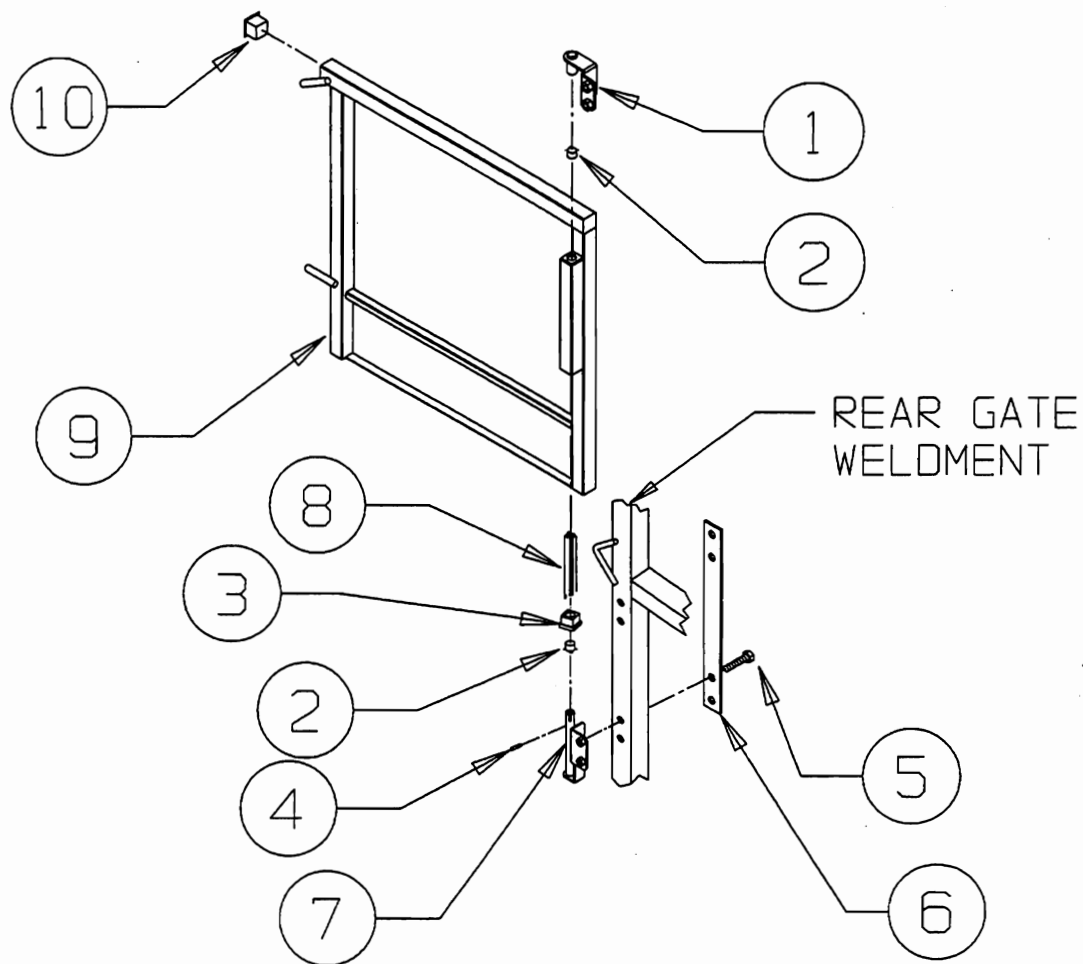


# 14593 SHEET LOAD GATE OPTION

ITEM	PART NO.	QTY.	DESCRIPTION
1	14613	1	UPPER REAR GATE MOUNTING BRACKET
2	8187	2	BEARING, FLANGED 5/8" ID X 5/8" LG
3	13272	1	REAR GATE PIVOT BLOCK
4	HDW7455	1	SPRING PIN 3/16" DIA X 3/4" LG
5	HDW8303	4	SCREW, 5/16"-18, 2" LONG
6	HDW8294	4	FLAT WASHER 3/8"
7	14615	1	LOWER REAR GATE MOUNTING BRACKET
8	8300	1	SPRING, TORSION
9	14605	1	REAR SWING GATE - EUROPEAN
10	6823	2	CAP PLUG 1 1/4" SQ TUBE

ART612 R0  
BM13612  
5/17/97

Figure 5-3. 3068ES Rear Swing Gate Option



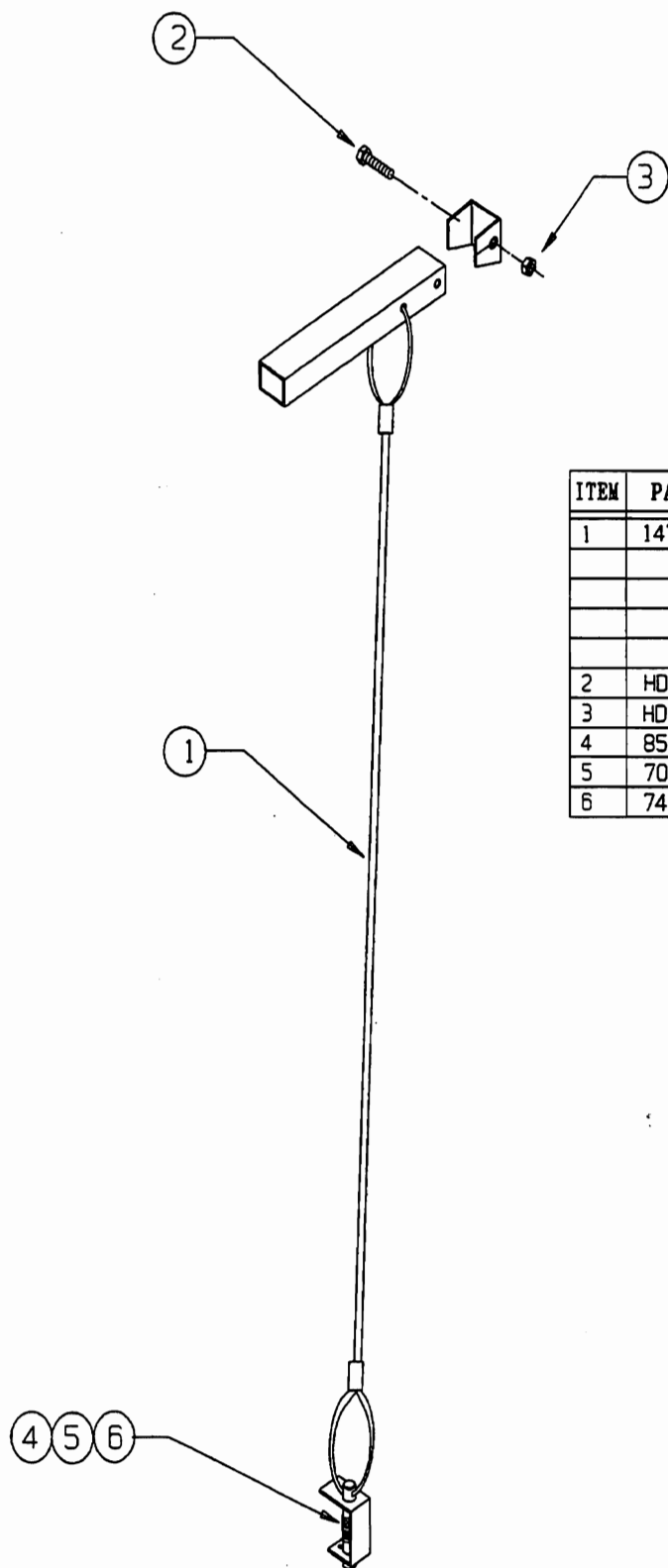
14593 SHEET LOAD GATE OPTION

ITEM	PART NO.	QTY.	DESCRIPTION
1	14613	1	UPPER REAR GATE MOUNTING BRACKET
2	8187	2	BEARING, FLANGED 5/8" ID X 5/8" LG
3	13272	1	REAR GATE PIVOT BLOCK
4	HDW7455	1	SPRING PIN 3/16" DIA X 3/4" LG
5	HDW8303	4	SCREW, 5/16"-18, 2" LONG
6	14731	1	PLATE, EURO SWING GATE MOUNT
7	14615	1	LOWER REAR GATE MOUNTING BRACKET
8	8300	1	SPRING, TORSION
9	14605	1	REAR SWING GATE - EUROPEAN
10	6823	2	CAP PLUG 1 1/4" SQ TUBE

ART612 R1  
BM13612  
11/3/97

Figure 5-3a. 3068ES Rear Swing Gate Option

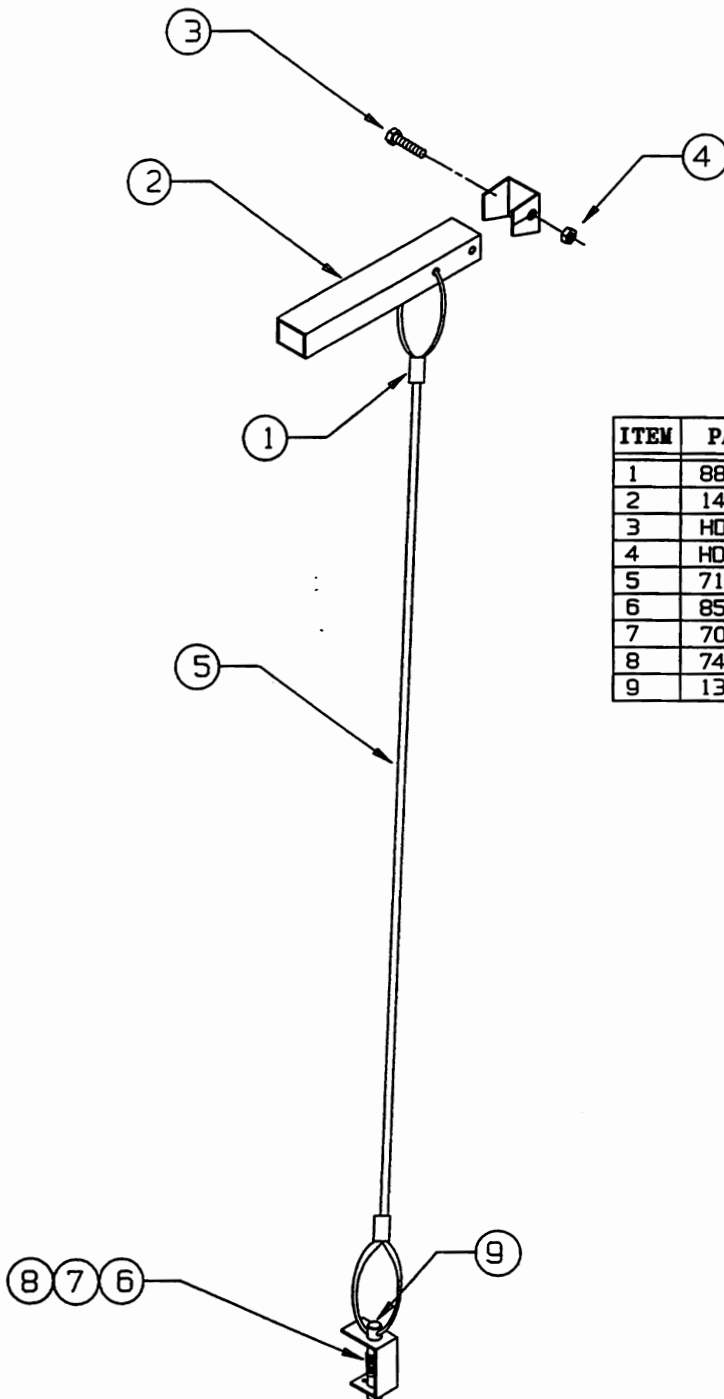
8821R2



ITEM	PART NO.	QTY.	DESCRIPTION
1	14713	1	ROLLOUT LOCK PIN ASSEMBLY
	13737	1	EXTENSION LOCK PIN
	8814	2	ALUMINUM OVAL SLEEVES
	14344	1	HANDLE - ROLLOUT PLATFORM
	7184	3.7 FT	COATED & ROLLED WIRE CABLE
2	HDW8486	1	SCREW, 5/16"-18, 1.87" 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

ART592 R1  
BM13089  
9/29/97

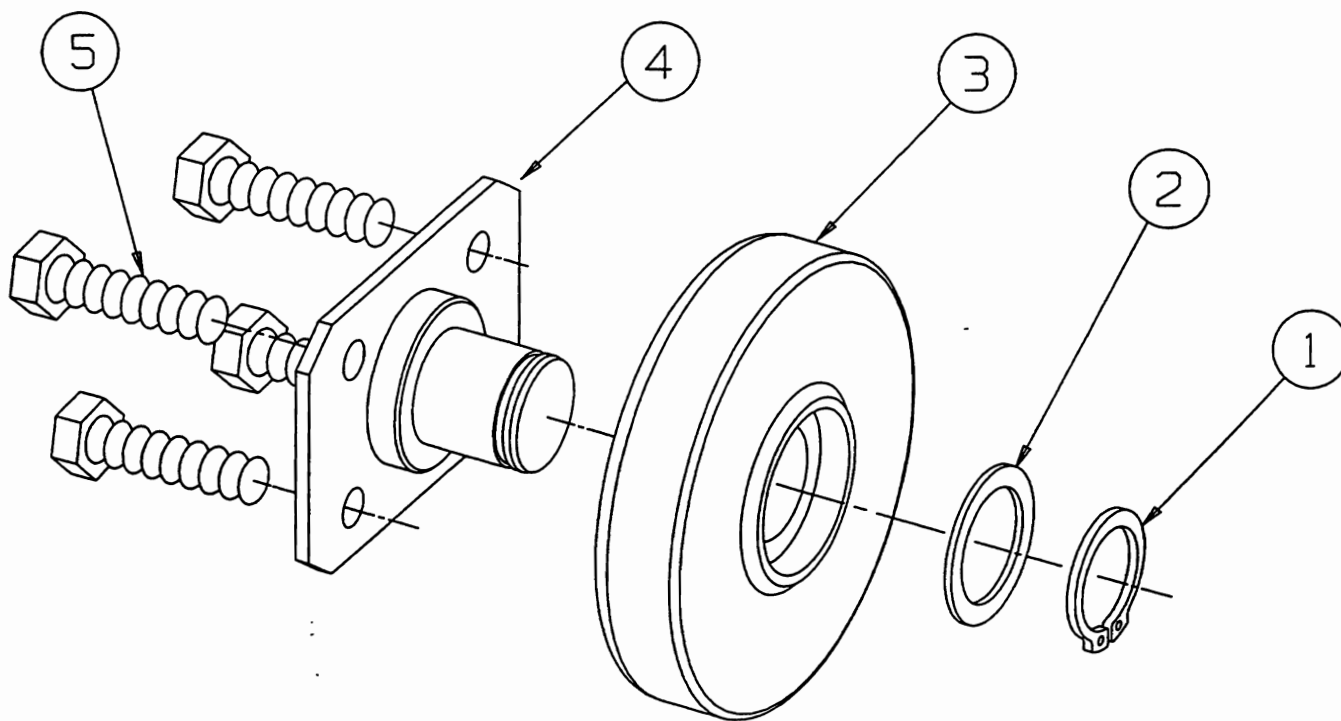
Figure 5-4a. 3068ES Platform Lock Assembly



ITEM	PART NO.	QTY.	DESCRIPTION
1	8814	2	ALUMINUM OVAL SLEEVES
2	14344	1	HANDLE - ROLLOUT PLATFORM
3	HDW8486	1	SCREW, 5/16"-18, 1.87" LONG
4	HDW8304	1	LOCKNUT 5/16"-18 GRADE 5
5	7184	3.7 FT	COATED & ROLLED WIRE CABLE
6	8513	1	SPRING PIN, .1/8" DIA. 3/4" LONG
7	7031	1	FLAT WASHER, 1/2" ID, 7/8" OD
8	7408	1	DECK LOCK SPRING
9	13737	1	EXTENSION LOCK PIN

ART592 R0  
BM13089  
3/6/97

Figure 5-4. 3068ES Platform Lock Assembly

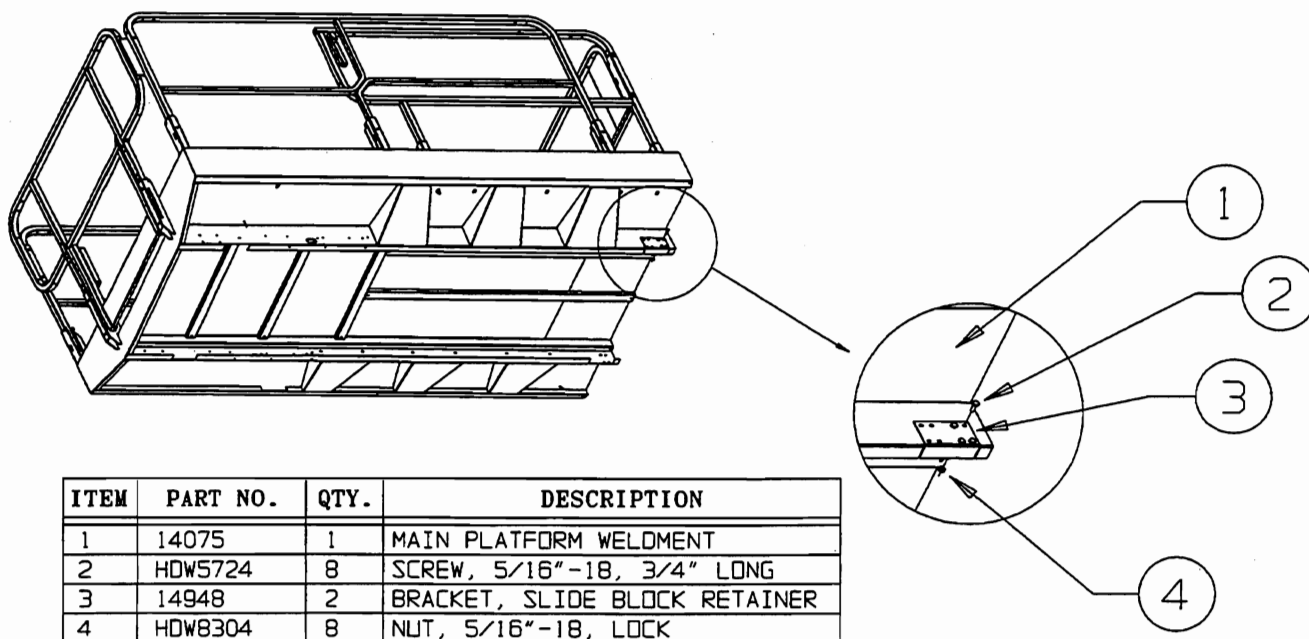


ITEM	PART NO.	QTY.	DESCRIPTION
1	5918	1	RETAINING RING, HEAVY DUTY-1.000-EXT.
2	HDW8370	1	WASHER 1.015 ID X 1.357 OD X .062 THK
3	13230	1	ROLLER
4	14062	1	ROLLER PLATE WELDMENT
5	HDW5724	4	SCREW, 5/16" - 18, 3/4" LONG, GRADE 5

ART 591 R0  
BM13086  
3/6/97

Figure 5-5. 3068ES Roller Bracket Assembly





ART747 R0  
 BH18297  
 4/15/98

Figure 5-6. 3068ES Slide Block Retainer









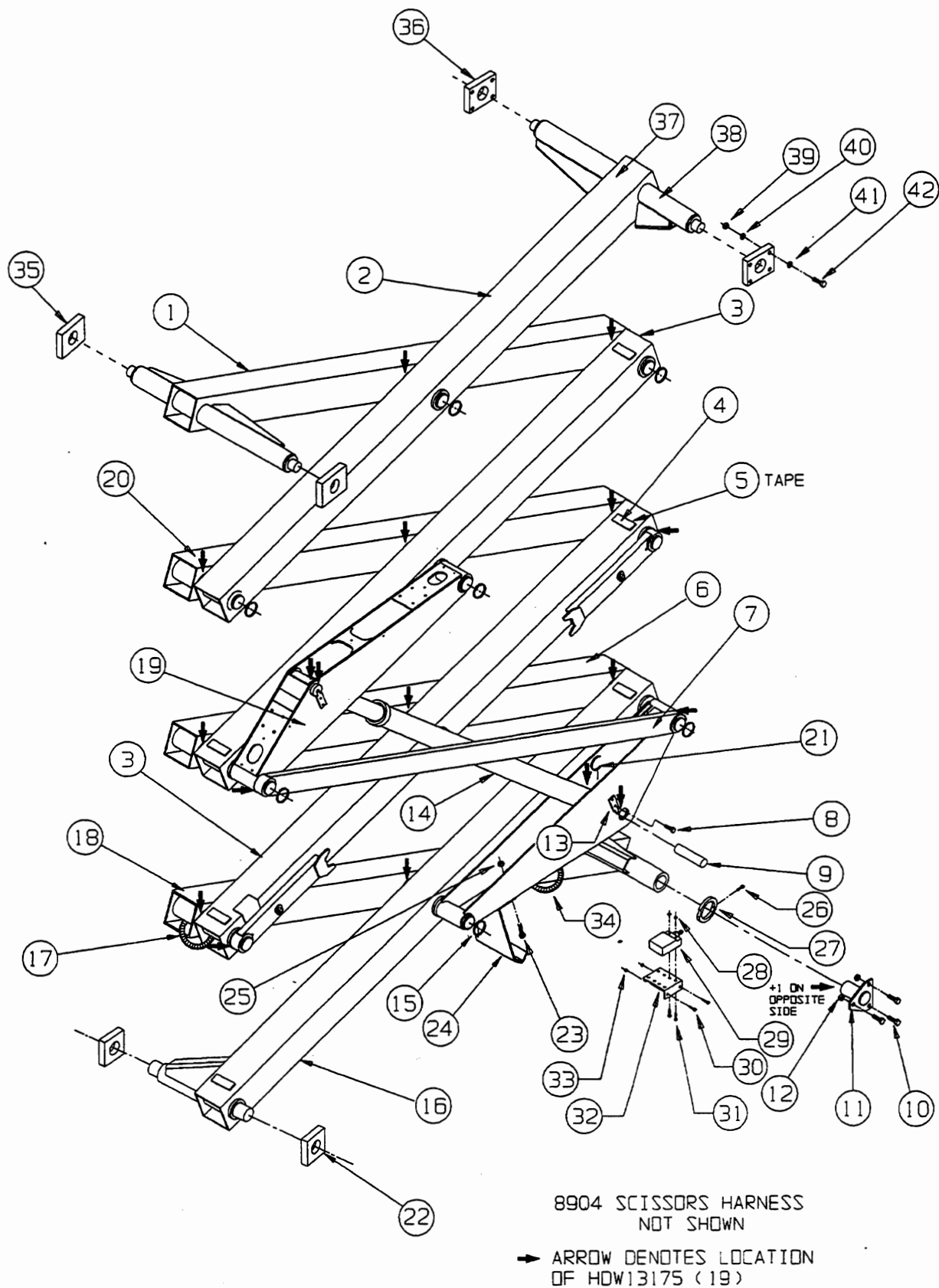


Figure 6-1a. 3068ES Scissors

ITEM	PART NO.	QTY.	DESCRIPTION
1	14270	1	BEAM, .25 WALL WITH PINS
2	14256 6669	1 6	BEAM, .25 WALL WITH BEARINGS BEARING, 32DU32
3	14255 6669	2 9	BEAM, .313 WALL, BORED BEARING, 32DU32
4	8616	6	WEAR PADS
5	8785	A/R	DOUBLE COATED TAPE - VHB
6	14267	1	BEAM, .313 WALL WITH PINS
7	14806	1	BEAM SUPPORT WELDMENT
8	HDW6455	4	SCREW, 1/4"-20 X 1 1/2", GRADE 5
9	14537	2	CYLINDER MOUNTING PIN
10	HDW8283	6	SCREW, 1/2"-13 X 1 1/2", GRADE 5
11	13101	2	PIN WELDMENT STATIONARY MOUNT
12	HDW8457	6	LOCNUT 1/2"-13, GRADE B
13	14538	2	CYLINDER RETAINING BRACKET
14	8809	1	LIFT CYLINDER WITH BEARINGS
15	6701	10	RETAINING RING - 2" SHAFT
16	14276 6669	1 6	BEAM, .25 WALL WITH BEARINGS BEARING, 32DU32
17	11543	4	SPRING
18	14265 6669	1 2	BEAM, .25 WALL WITH PINS BEARING, 32DU32
19	14218 7440 6669	2 2 4	CYLINDER MOUNT WELDMENT BEARING, 32DU24 BEARING, 32DU32
20	14268	1	BEAM, .313 WALL WITH PINS
21	HDW8899	2	RETAINING RING
22	14616	2	BLOCK, SCISSORS SLIDE CHANNEL
23	HDW5881	4	SCREW, 1/2"-13, 1" LONG
24	14641	1	POTHOLE ACTUATOR ARM WELDMENT
25	HDW6349	4	NUT, 1/2"-13
26	HDW8870	1	SET SCREW, 1/4"-20, 1/2" LONG
27	13837	1	CAM
28	HDW5251	2	NUT, 8-32
29	8932	1	LIMIT SWITCH, 2 POLE
30	HDW8273	2	SCREW, 1/4"-20, 1" LONG
31	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
32	13838	1	BRACKET, SPEED LIMIT SWITCH
33	HDW8267	2	NUT, 1/4"-20
34	7510	1	SPRING, WIRE PROTECTOR, HOSES FROM CYLINDER
35	14488	2	BLOCK, SLIDE PLATFORM
36	14487	2	BLOCK, FIXED PLATFORM
37	9147	1	SPRING, 1 5/8" X 10" LONG
38	9146	1	CLAMP, 1 13/16", 2 3/4" HOSE
39	HDW8304	8	NUT, 5/16" - 18
40	HDW8294	8	FLAT WASHER
41	HDW5217	8	FLAT WASHER
42	HDW8486	8	SCREW, 5/16" - 18, 1 7/8" LONG
	HDW13175	19	FLAT NYLON WASHER, 2.062 ID, 2.620 OD, .030 THICK
	5669	5	CABLE TIE, 24" LONG-HOLDS SPRINGS TO BEAM PINS. (NOT SHOWN)

ART595 R5  
BM13110  
1/30/98

Figure 6-1a. 3068ES Scissors

8821R2

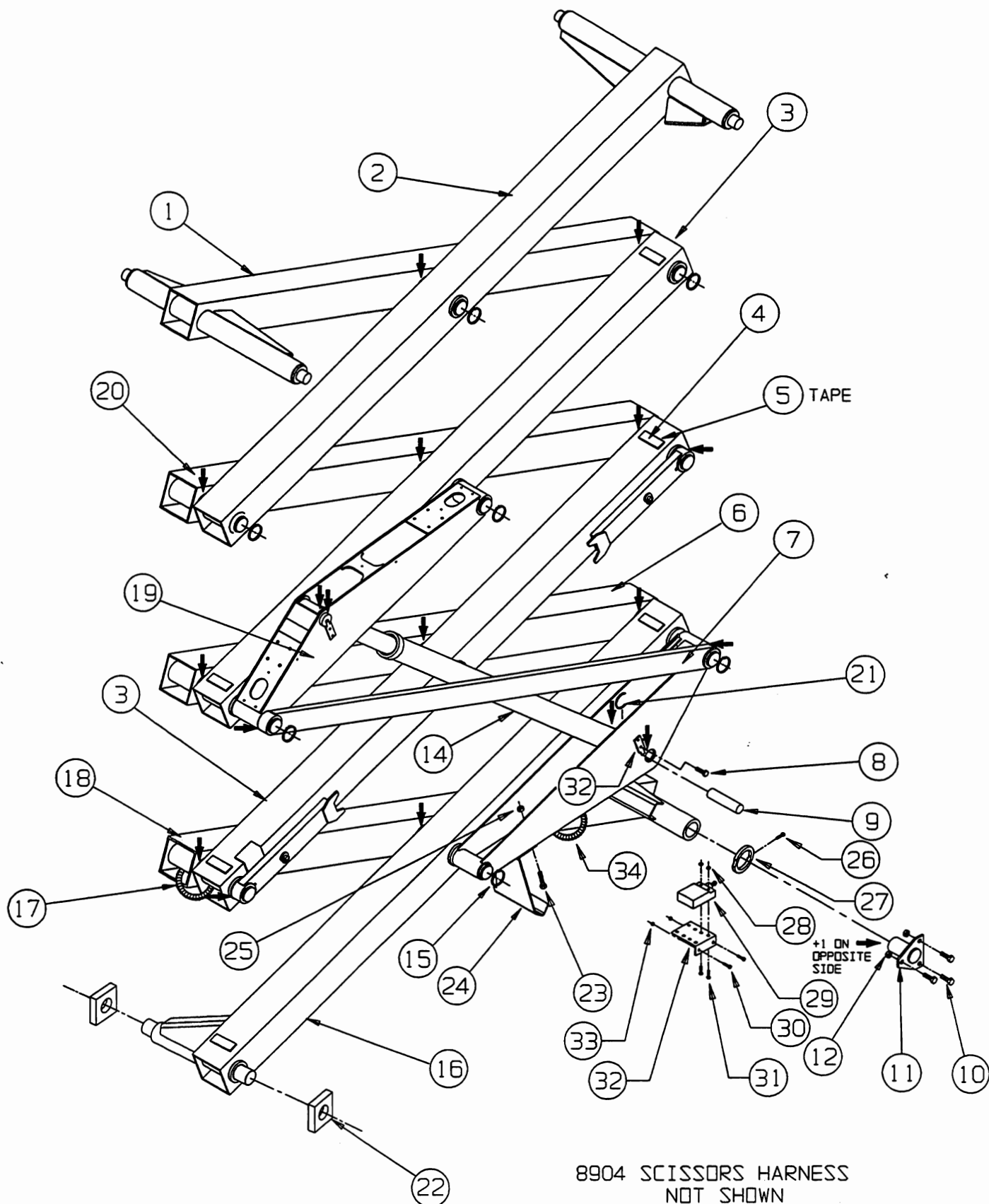


Figure 6-1. 3068ES Scissors and Cylinder Mount

ART595 R1  
BM13110  
7/24/97

8821R1



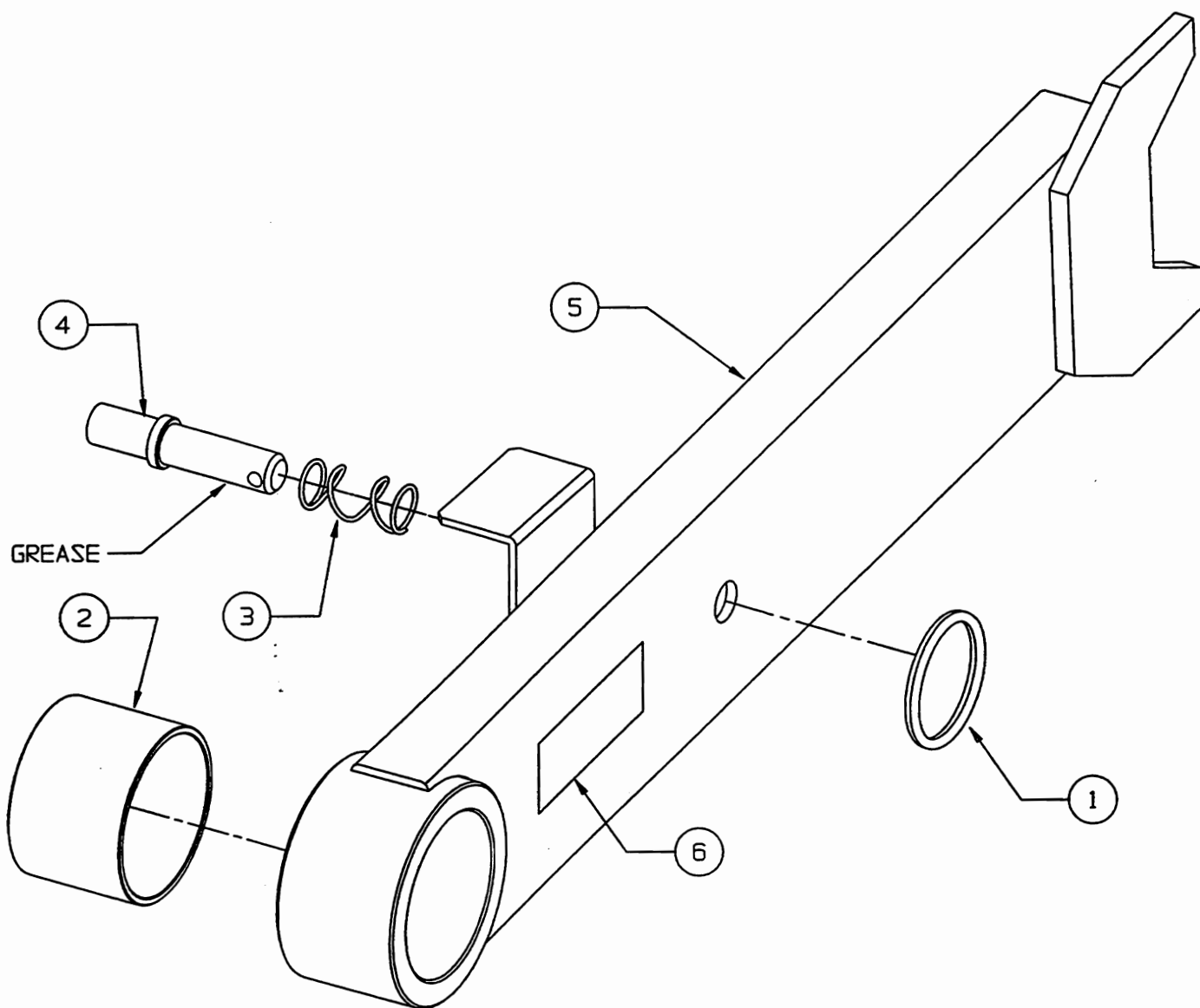
ITEM	PART NO.	QTY.	DESCRIPTION
1	14270	1	BEAM, .25 WALL WITH PINS
2	14256 6669	1 6	BEAM, .25 WALL WITH BEARINGS BEARING, 320U32
3	14255 6669	2 9	BEAM, .313 WALL, BORED BEARING, 320U32
4	8616	6	WEAR PADS
5	8785	A/R	DOUBLE COATED TAPE - VHB
6	14267	1	BEAM, .313 WALL WITH PINS
7	14017	1	BEAM SUPPORT WELDMENT
8	HDW6455	4	SCREW, 1/4"-20 X 1 1/2", GRADE 5
9	14537	2	CYLINDER MOUNTING PIN
10	HDW8283	6	SCREW, 1/2"-13 X 1 1/2", GRADE 5
11	13101	2	PIN WELDMENT STATIONARY MOUNT
12	HDW8457	6	LOCNUT 1/2"-13, GRADE B
13	14538	2	CYLINDER RETAINING BRACKET
14	8809	1	LIFT CYLINDER WITH BEARINGS
15	6701	10	RETAINING RING - 2" SHAFT
16	14276 6669	1 6	BEAM, .25 WALL WITH BEARINGS BEARING, 320U32
17	11543	5	SPRING
18	14265 6669	1 2	BEAM, .25 WALL WITH PINS BEARING, 320U32
19	14218 7440 6669	2 2 4	CYLINDER MOUNT WELDMENT BEARING, 320U24 BEARING, 320U32
20	14268	1	BEAM, .313 WALL WITH PINS
21	HDW8899	2	RETAINING RING
22	14616	2	BLOCK, SCISSORS SLIDE CHANNEL
23	HDW5881	4	SCREW, 1/2"-13, 1" LONG
24	14413	1	POTHOLE ACTUATOR BRACKET
25	HDW6349	4	NUT, 1/2"-13
26	HDW8870	1	SET SCREW, 1/4"-20, 1/2" LONG
27	13837	1	CAM
28	HDW5251	2	NUT, 8-32
29	8932	1	LIMIT SWITCH, 2 POLE
30	HDW8273	2	SCREW, 1/4"-20, 1" LONG
31	HDW8482	2	SCREW, #8-32, 1 1/2" LONG
32	13838	1	BRACKET, SPEED LIMIT SWITCH
33	HDW8267	2	NUT, 1/4"-20
34	7510	1	SPRING, WIRE PROTECTOR, HOSES FROM CYLINDER
	HDW13175	19	FLAT NYLON WASHER, 2.062 ID, 2.620 OD, .030 THICK
	5669	5	CABLE TIE, 24" LONG-HOLDS SPRINGS TO BEAM PINS. (NOT SHOWN)

Figure 6-1. 3068ES Scissors and Cylinder Mount

ART595 R1  
BM13110  
7/24/97

8821R1

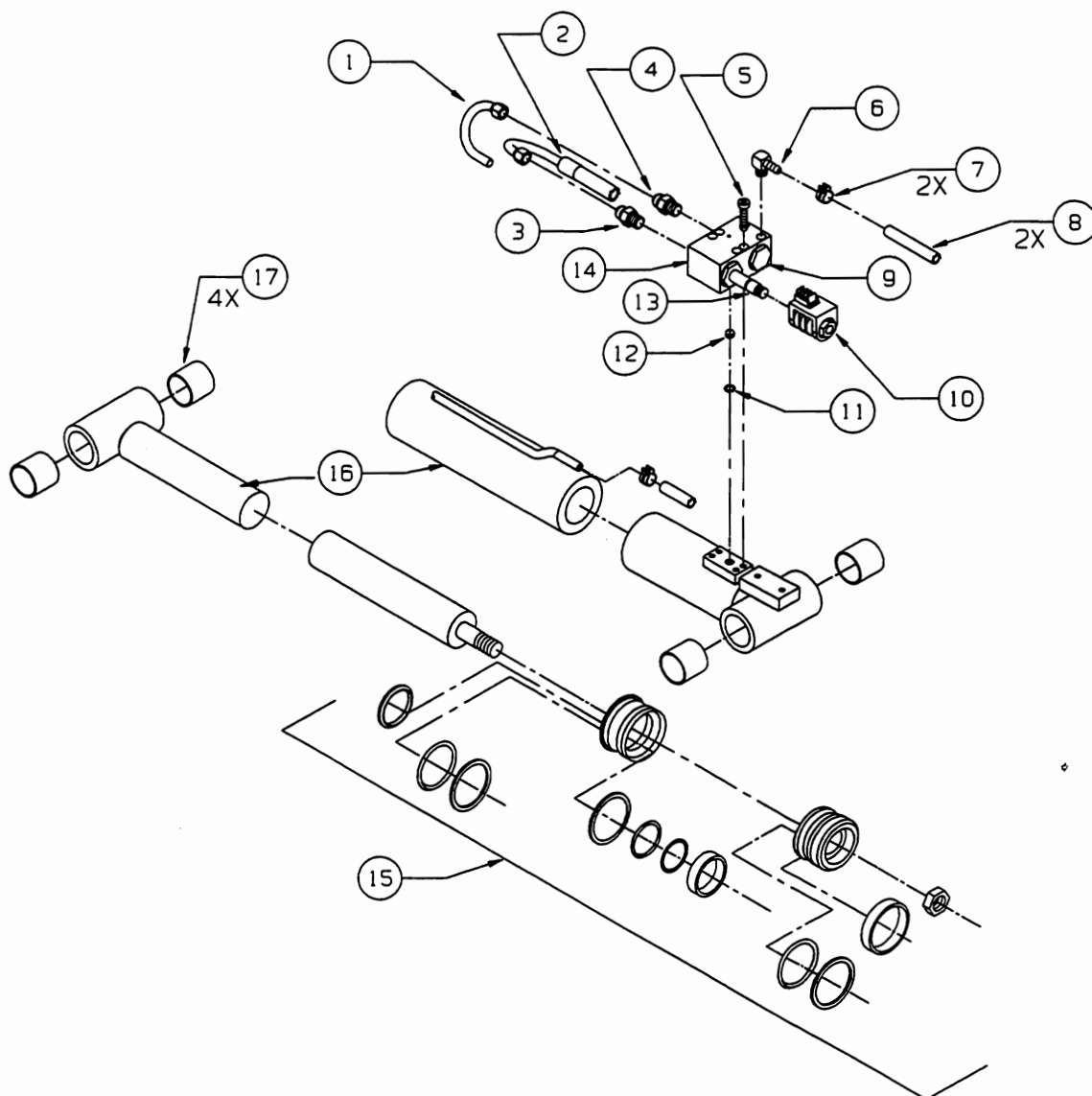




ITEM	PART NO.	QTY.	DESCRIPTION
1	7073	1	RING, SPLIT, 1.640 OD, ZINC
2	8675	1	BEARING, 2.25 OD X 2.00 ID X 1.5 LG
3	8697	1	SPRING, COMP, .60 OD, .045 ID, 1.25 LG.
4	8695	1	PIN, MAINTENANCE LOCK
5	14513	1	MAINTENANCE LOCK WELDMENT
6	6794	1	MAINTENANCE LOCK DECAL

ART594 R0  
BM13094  
3/10/97

Figure 6-2. 3068ES Maintenance Lock Assembly

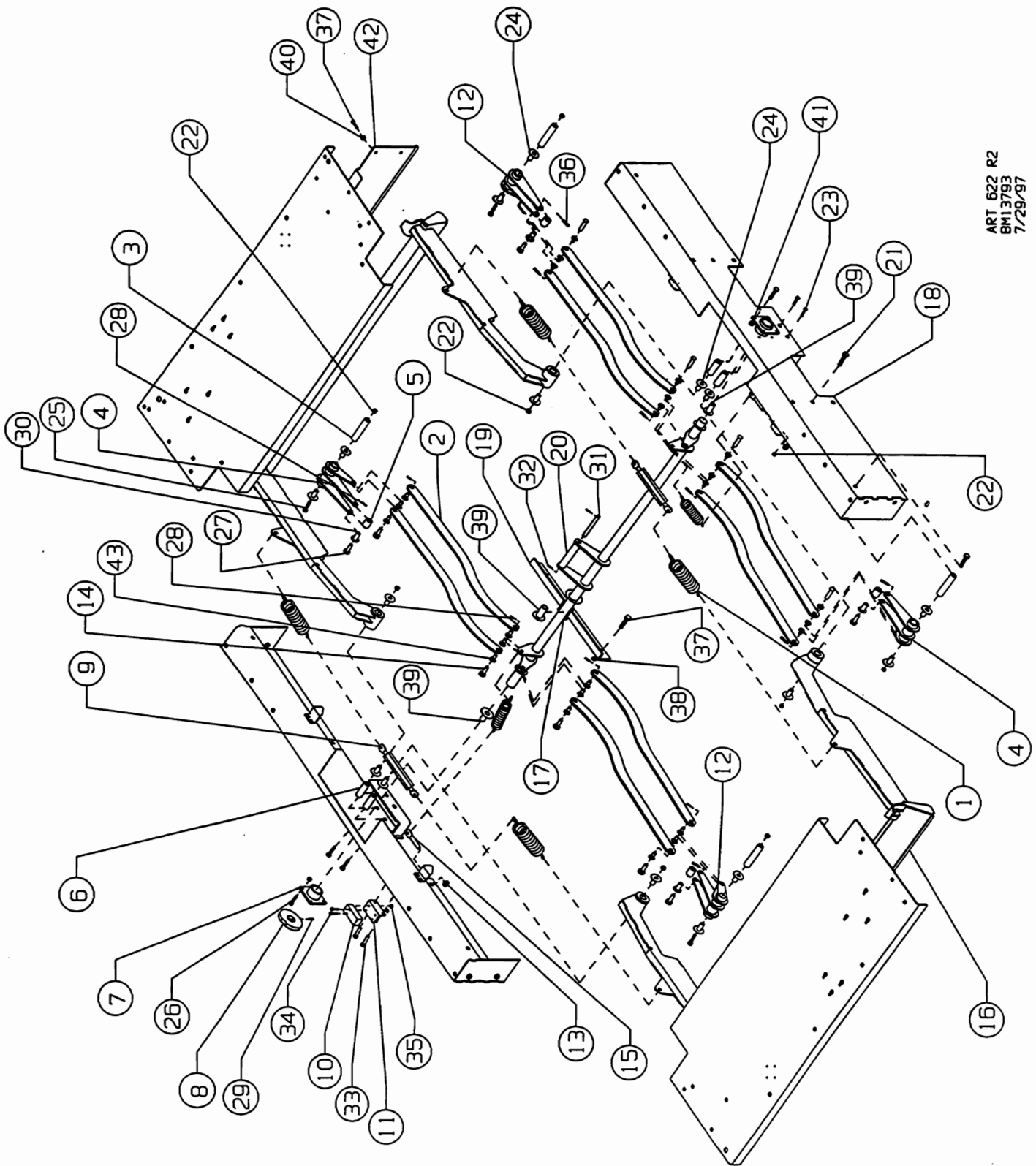


ITEM	PART NO.	QTY.	DESCRIPTION
1	8891	1	HOSE ASSEMBLY-LIFT CYLINDER TO EMERGENCY DOWN MANIFOLD, STRAIGHT FEMALE-37 DEGREE, STRAIGHT FEMALE 37 DEGREE, 4/16" ID X 160" LONG, EXCEEDS SAE100R1
2	8890	1	HOSE ASSEMBLY-LIFT CYLINDER UP TO MANIFOLD, STRAIGHT FEMALE-37 DEGREE, STRAIGHT PIPE FEMALE, 6/16" ID X 150" LONG, EXCEEDS SAE100R1
3	HDW7438	1	ADAPTER FITTING, 3/8" 37 DEGREE X 9/16"-18 UNF
4	8881	1	PIPE FITTING ADAPTER, MALE 1/4", O-RING, MALE 1/4" 37 DEGREE
5	HDW8592	4	SCREW, 1/4"-20 X 1 1/2" LONG, GRADE 8
6	HDW8879	1	PIPE FITTING, 90 DEGREE ELBOW, MALE 1/8", PIPE THREAD 5/16" HOSE BARB
7	7788	2	HOSE CLAMP - 5/8"
8	6458	15'	RETURN LINE HOSE, 5/16" ID
9	7445	1	CHECK VALVE
10	8840	1	COIL-48 VOLT, 2 SPADE WITH DIODE
11	6426	1	O-RING
12	HDW8647	1	PLUG, PIPE FITTING (EUROPE ONLY)
13	6973	1	N.C. VALVE, POPPET, 2 WAY
14	14523	1	LIFT CYLINDER MANIFOLD
15	8894	1	SEAL KIT, LIFT CYLINDER #8809
16	8809	1	3068ES LIFT CYLINDER
17	6669	4	BEARING, 2" DIAMETER X 2" LONG

Figure 6-3. 3068ES Lift Cylinder

ART596 R1  
BM13120  
7/28/97

8821R1



ART 622 R2  
 6M13793  
 7/29/97

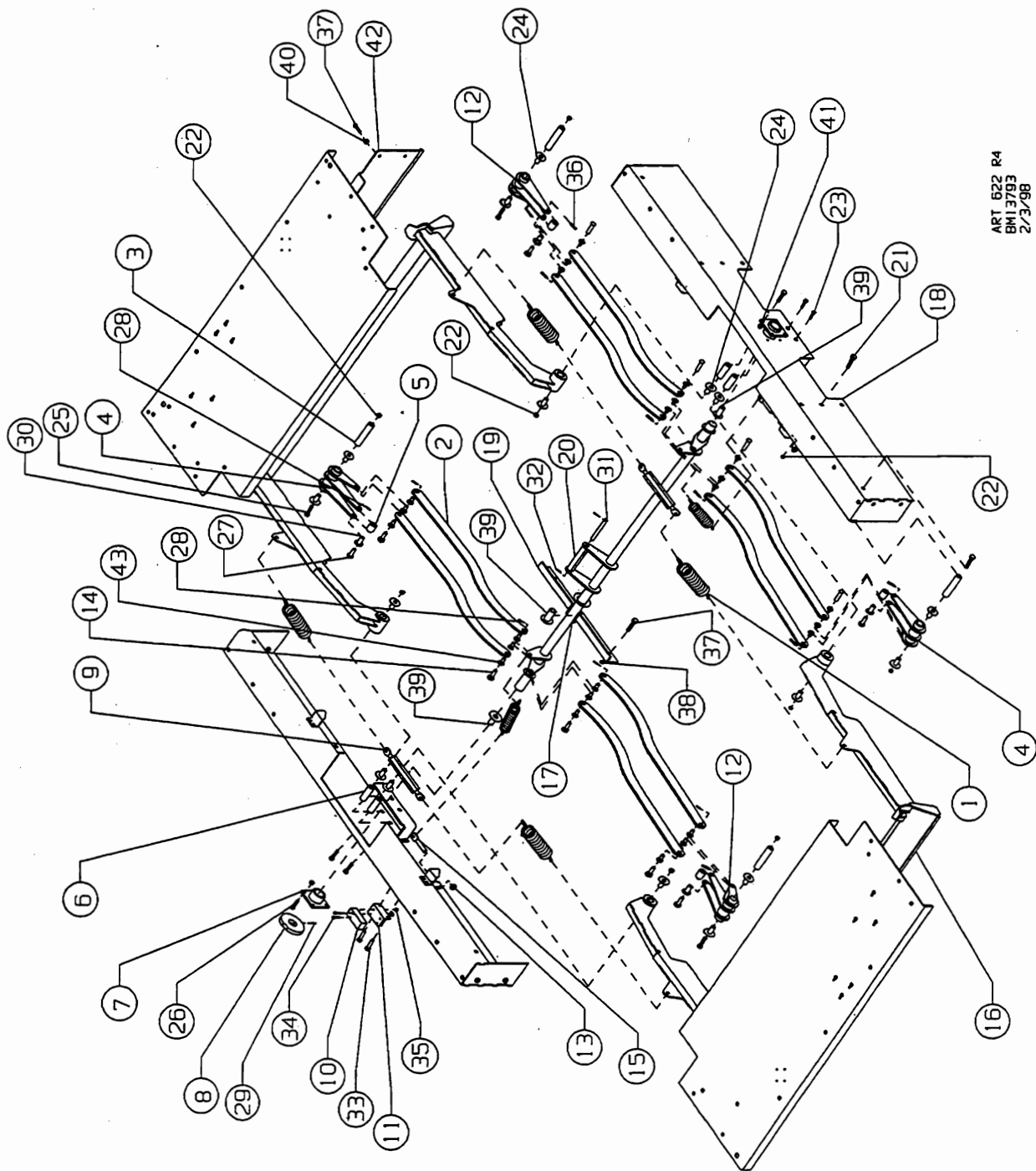
Figure 6-4. Pothole Protection System Assembly

8821R1

ITEM	PART NO.	QTY.	DESCRIPTION
1	14668	2	SPRING, 1 3/4" OD X .283 DIA X 12.5" LONG
2	14625	8	LINK, POTHOLE LOCK ACTUTATOR
3	14428	4	SPACER, 2"OD X 1 3/8"ID X 1 7/10"
4	14623	4	BRACKET, POTHOLE LOCK ACTUTATOR
5	14432	4	ROLLER, POTHOLE BAR LOCK
6	14438	4	SPACER, POTHOLE BAR WELOMENT PIVOT
7	14243	2	END SUPPORT, ACTUTATOR
8	14440	1	CAM, POTHOLE ACTUTATOR SWITCH
9	HDW9003	2	3/8 " TURNBUCKLE W/ EYE BOLT
10	8776	1	SWITCH, LIMIT SINGLE POLE
11	13840	1	BRACKET, LIMIT SWITCH MOUNT
12	14454	2	POTHOLE SYSTEM ACTUATOR WELOMENT
13	HDW6463	2	LOCKNUT, 1/2"-13 , W/NYLON INSERT
14	HDW8834	8	CLEVIS PIN .5" X 1.12" LONG
15	8947	2	BOLT, 1/2"-13 FLAT END HANGER
16	14458	2	POT HOLE BAR WELOMENT
17	14444	1	ACTUTATOR ROD WELOMENT
18	14635	2	POTHOLE BULKHEAD, WELOMENT
19	14630	1	SUPPORT, ACTUATOR ROD
20	14621	1	ROLLER, POTHOLE BAR ACTUATOR
21	HDW5881	12	BOLT, 1/2"-13, 1" LONG, GRADE 5
22	HDW6349	24	LOCKNUT, 1/2" - 13
23	HDW7052	4	BOLT, 1/2" - 13, 3 1/2" LONG, GRADE 5
24	7015	16	BEARING, FLANGED NYLINER-7/8"
25	HDW8856	4	BOLT, 1/2" - 13, 5" GRADE 5
26	HDW8273	8	BOLT, 2 1/2" - 20, 1" LONG
27	HDW7229	4	CLEVIS PIN, 1/2" - 2"
28	HDW5920	12	COTTER PIN, 1/8" X 1" LONG
29	HDW8870	1	SET SCREW, 1/4" - 20, 1/2" LONG
30	7200	8	BEARING, NYLINER, 1/2" X 1/2"
31	8991	1	PIN, POTHOLE ACTUATOR BUSHING
32	5920	2	COTTER PIN 1/8 X 1" LONG
33	HDW5723	2	BOLT 1/4"- 20, 3/4" LONG
34	HDW8482	2	BOLT #8 - 32, 1 1/2" LONG, GRADE 2
35	HDW5251	2	LOCK NUT 5/16" -18
36	14667	4	SPRING 1 3/4 O.D. X .283 X 12.5 LONG
37	HDW5004	16	BOLT 3/8" - 16, 1" LONG, GRADE 5
38	HDW6281	4	LOCKNUT 3/8" - 16
39	5898	3	BUSHING, NYLINER 1 1/4"
40	HDW5355	8	FLAT WASHER 7/16" - 3/4"
41	HDW6461	8	1/4" - 20 LOCKNUT
42	14626	2	SIDE PANEL POTHOLE COVER
43	HDW7220	24	BEARING NYLINER 1/2 I.D. 7/32

Figure 6-4. Pothole Protection System Assembly

ART 622 R2  
BM13793  
7/29/97 8821R1



ART 622 R4  
BM13793  
2/3/98

Figure 6-4a. 3068ES Pothole Protection System Assembly

8821R2

ITEM	PART NO.	QTY.	DESCRIPTION
1	14668	2	SPRING, 1 3/4" OD X .283 DIA X 12.5" LONG
2	14625	8	LINK, POTHOLE LOCK ACTUTATOR
3	14428	4	SPACER, 2"OD X 1 3/8"ID X 1 7/10"
4	14623	4	BRACKET, POTHOLE LOCK ACTUTATOR
5	14432	4	ROLLER, POTHOLE BAR LOCK
6	14438	4	SPACER, POTHOLE BAR WELDMENT PIVOT
7	14243	2	END SUPPORT, ACTUTATOR
8	14440	1	CAM, POTHOLE ACTUTATOR SWITCH
9	HDW9003	2	3/8 " TURNBUCKLE W/ EYE BOLT
10	8776	1	SWITCH, LIMIT SINGLE POLE
11	13840	1	BRACKET, LIMIT SWITCH MOUNT
12	14454	2	POTHOLE SYSTEM ACTUATOR WELDMENT
13	HDW6463	2	LOCKNUT, 1/2"-13 , W/NYLON INSERT
14	HDW8834	8	CLEVIS PIN .5" X 1.12" LONG
15	8947	2	BOLT, 1/2"-13 FLAT END HANGER
16	14458	2	POT HOLE BAR WELDMENT
17	14444	1	ACTUTATOR ROD WELDMENT
18	14635	2	POTHOLE BULKHEAD, WELDMENT
19	14686	1	BEARING, POTHOLE CENTER SUPPORT
20	14704	1	BLOCK, POTHOLE BAR ACTUATOR
21	HDW5881	12	BOLT, 1/2"-13, 1" LONG, GRADE 5
22	HDW6349	24	LOCKNUT, 1/2" - 13
23	HDW7052	4	BOLT, 1/2" - 13, 3 1/2" LONG, GRADE 5
24	7015	16	BEARING, FLANGED NYLINER-7/8"
25	HDW8856	4	BOLT, 1/2" - 13, 5" GRADE 5
26	HDW8273	8	BOLT, 2 1/2" - 20, 1" LONG
27	HDW7229	4	CLEVIS PIN, 1/2" - 2"
28	HDW5920	12	COTTER PIN, 1/8" X 1" LONG
29	HDW8870	1	SET SCREW, 1/4" - 20, 1/2" LONG
30	7200	8	BEARING, NYLINER, 1/2" X 1/2"
31	14705	1	PIN, POTHOLE ACTUATOR BUSHING
32	5920	2	COTTER PIN 1/8 X 1" LONG
33	HDW5723	2	BOLT 1/4"- 20, 3/4" LONG
34	HDW8482	2	BOLT #8 - 32, 1 1/2" LONG, GRADE 2
35	HDW5251	2	LOCK NUT 5/16" -18
36	14667	4	SPRING 1 3/4 O.D. X .283 X 12.5 LONG
37	HDW5004	16	BOLT 3/8" - 16, 1" LONG, GRADE 5
38	HDW6281	4	LOCKNUT 3/8" - 16
39	5898	3	BUSHING, NYLINER 1 1/4"
40	HDW5355	8	FLAT WASHER 7/16" - 3/4"
41	HDW6461	8	1/4" - 20 LOCKNUT
42	14626	2	SIDE PANEL POTHOLE COVER
43	HDW7220	24	BEARING NYLINER 1/2 I.D. 7/32

ART 622 R4  
BM13793  
2/3/98

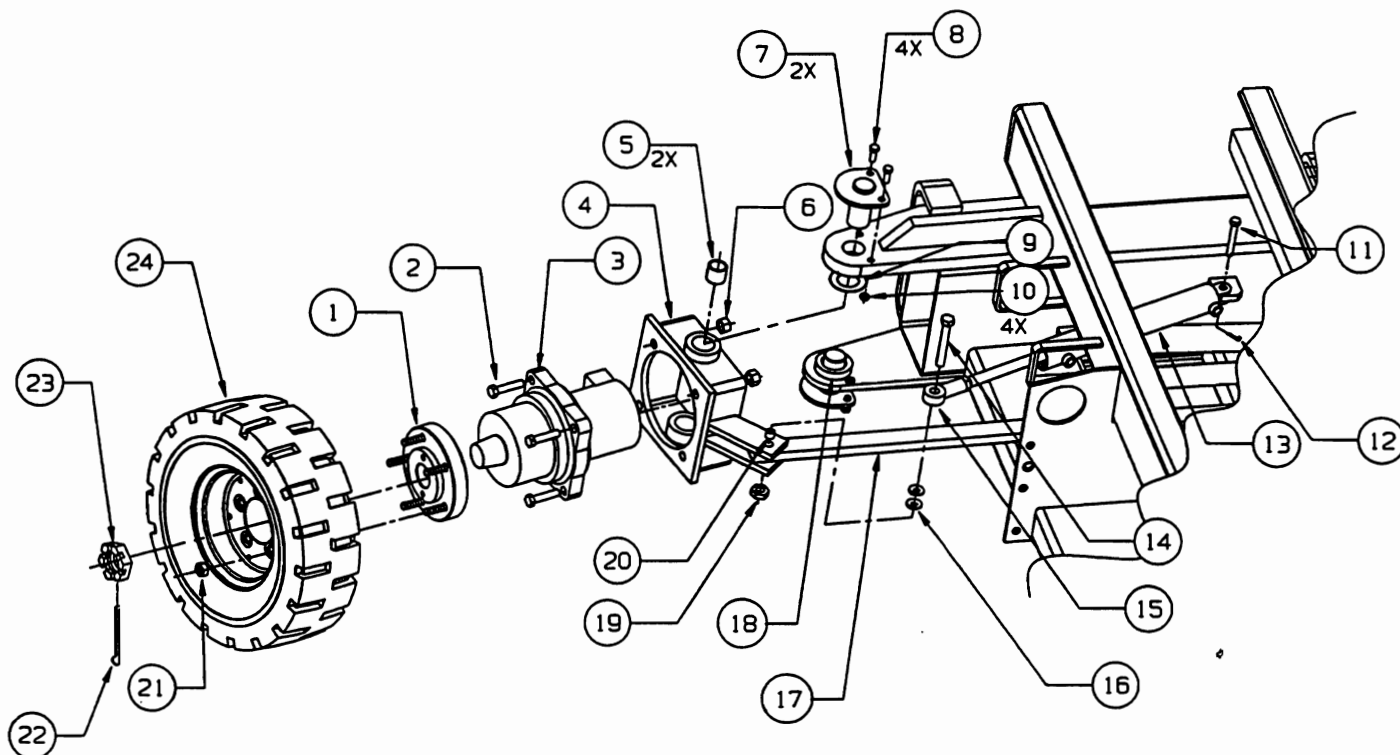
**Figure 6-4a. 3068ES Pothole Protection System Assembly**

**8821R2**









ITEM	PART NO.	QTY.	DESCRIPTION
1	14399	1	HUB ASSEMBLY-5 BOLT
2	HOW5989	4	SCREW, 5/8"-11, 2 1/4" LONG, GRADE 5
3	8843	1	HYDRAULIC WHEEL MOTOR WITH BRAKE
4	14380	1	WHEEL MOTOR MOUNT
5	7217	2	BEARING, 240U24
6	HOW6499	4	NUT, 5/8"-11
7	14407	2	STEERING PIN MOUNT
8	HOW8277	4	BOLT, 3/8"-16, 1 3/4" LONG, GRADE 8
9	8868	1	THRUST WASHER, 2 1/2" OD, 1 1/2" ID
10	HOW8268	4	NUT, 3/8"-16
11	HOW5710	1	CLEVIS PIN, 1/2" DIA, 1 1/4" LONG
12	HOW5920	1	HAMMERLOC COTTER PIN, 1/8" DIA, 1" LONG
13	10329	1	STEERING CYLINDER ASSEMBLY
14	HOW7326	1	BOLT, 5/8"-11, 4" LONG, GRADE 5
15	7293	1	ROD END, BALL JOINT, 5/8"-18 FEMALE THREAD
16	HOW5785	2	5/8" FLAT WASHER
17	14331	1	TIE ROD - STEERING
18	14395	1	SPACER, WHEEL MOTOR MOUNT
19	HOW6633	1	NUT, 5/8"-11
20	7292	1	BEARING, SLEEVE, BRONZE, 5/8" X 7/8" LONG
21	HOW6676	5	LUG NUT, 1/2"-20
22	HOW8925	1	COTTER PIN, 1/4" X 3" LONG
23	HOW9037	1	CASTLE NUT, M42 X 3
24	8857	1	TIRE, SOLID BLACK, 25.5" X 7.9"
	8858	1	TIRE, NON-MARKING, 25.5" X 7.9"-OPTIONAL

QUANTITIES SHOWN ARE FOR ONE SIDE OF AXLE ASSEMBLY ONLY

ART 606 R2  
BM13425  
8/25/97

Figure 7-1. 3068ES Front Axle Assembly

8821R1

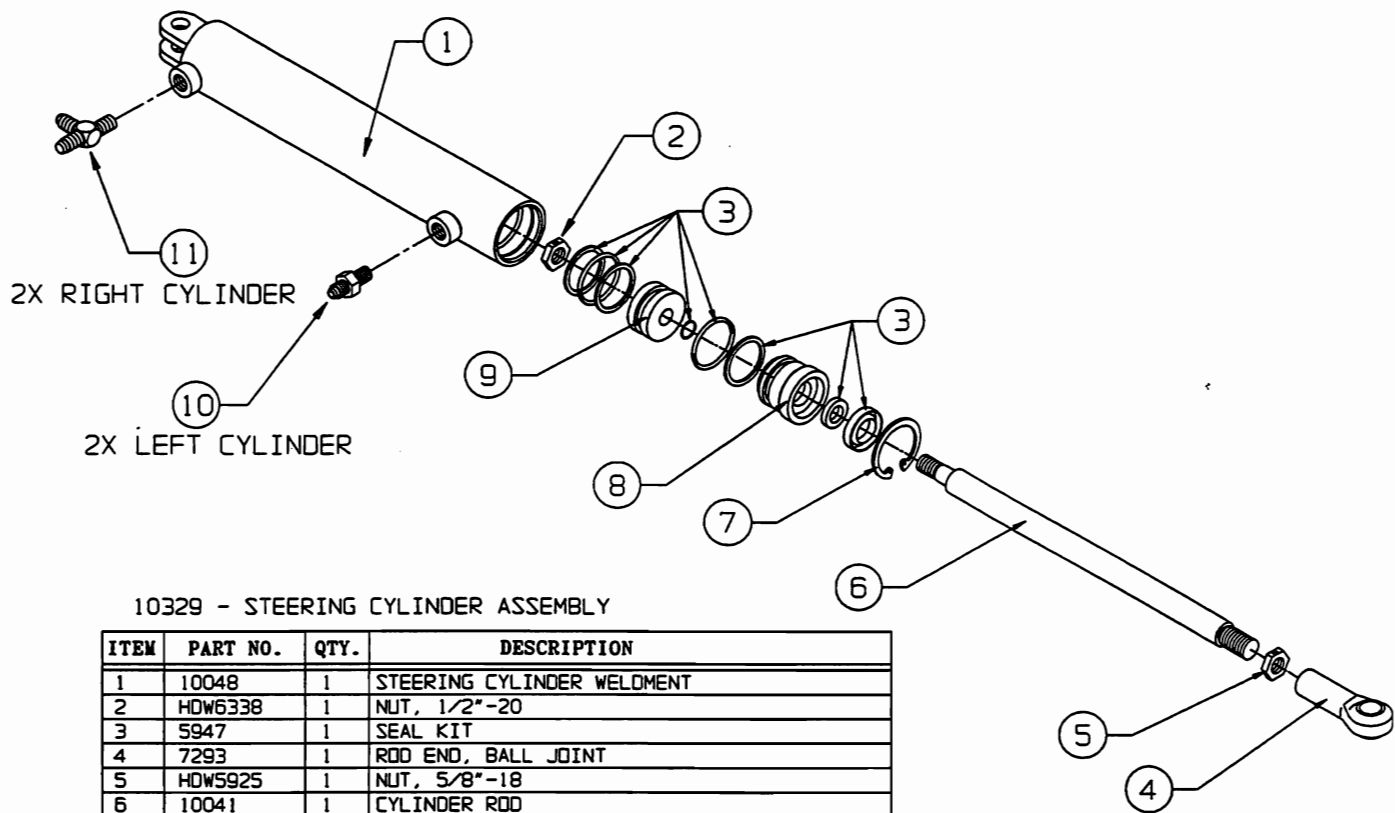
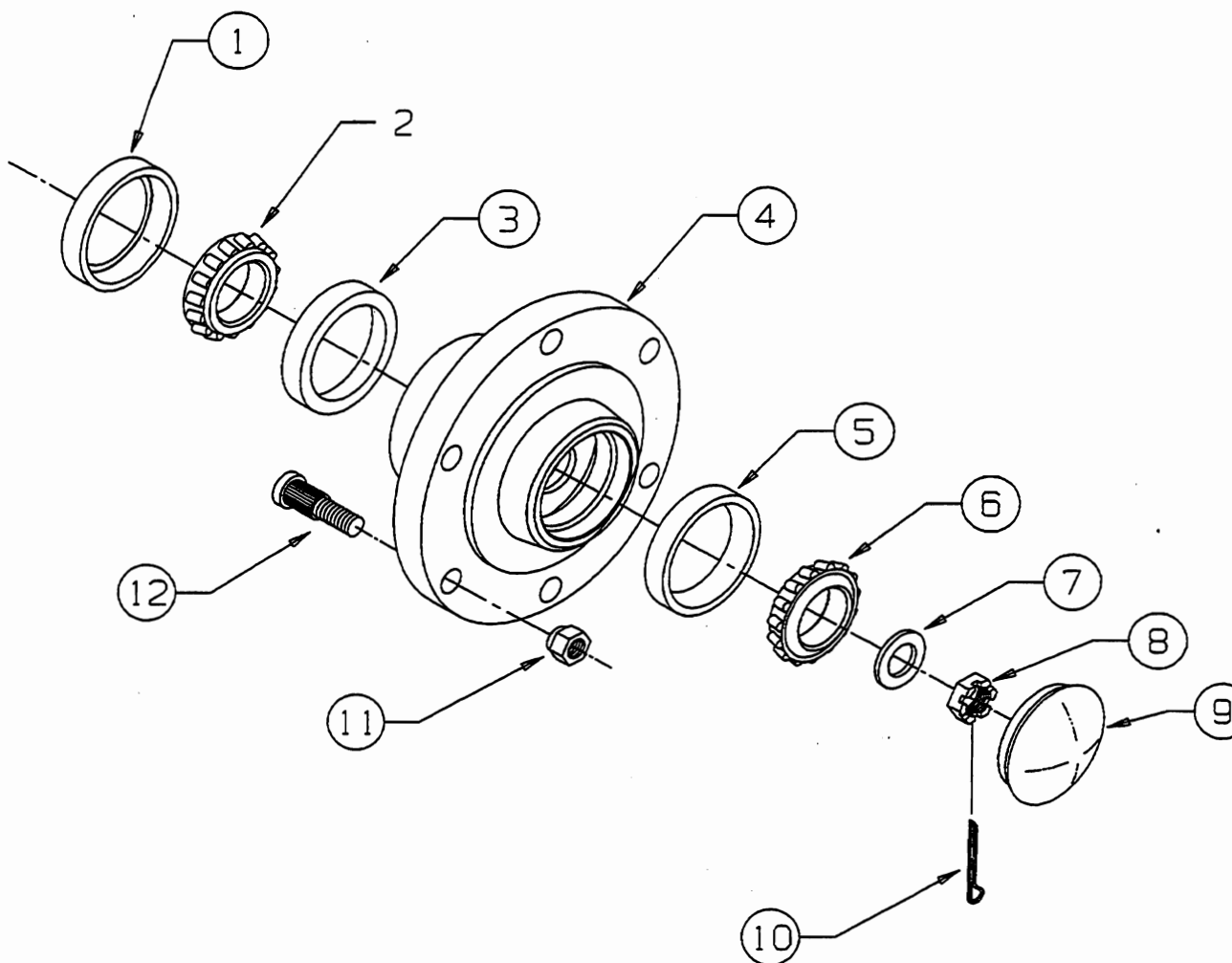


Figure 7-2. 3068ES Steering Cylinder Assembly

8821R1



8865 HUB ASSEMBLY

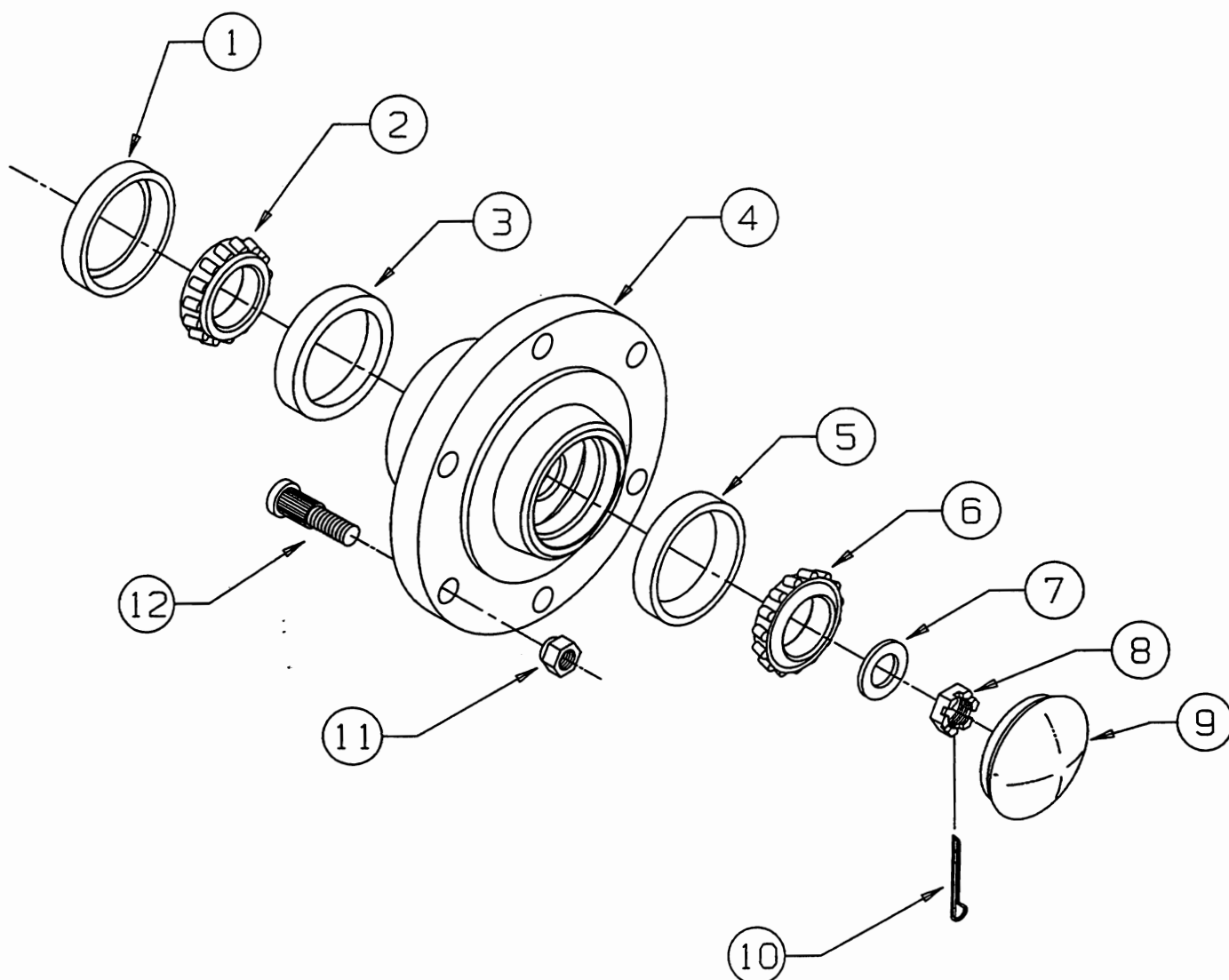
ITEM	PART NO.	QTY.	DESCRIPTION
1	8938	1	SEAL
2	8939	1	TAPERED ROLLER BEARING-INNER
3	8934	1	RACE-INNER
4	8940	1	HUB, 5 1/2"
5	7710	1	RACE-OUTER
6	7715	1	TAPERED ROLLER BEARING-OUTER
7	8936	1	FLAT WASHER
8	5737	1	SLOTTED HEX NUT, 3/4"-16
9	7719	1	GREASE CAP
10	8937	1	COTTER PIN, 5/16" X 1 1/2" LONG
11	HDW6677	5	LUG NUT, 1/2"-20
12	8935	5	STUD

ART607 R2  
BM13434  
1/20/98

Figure 7-3a. 3068ES Rear Hub and Bearing

8821R2

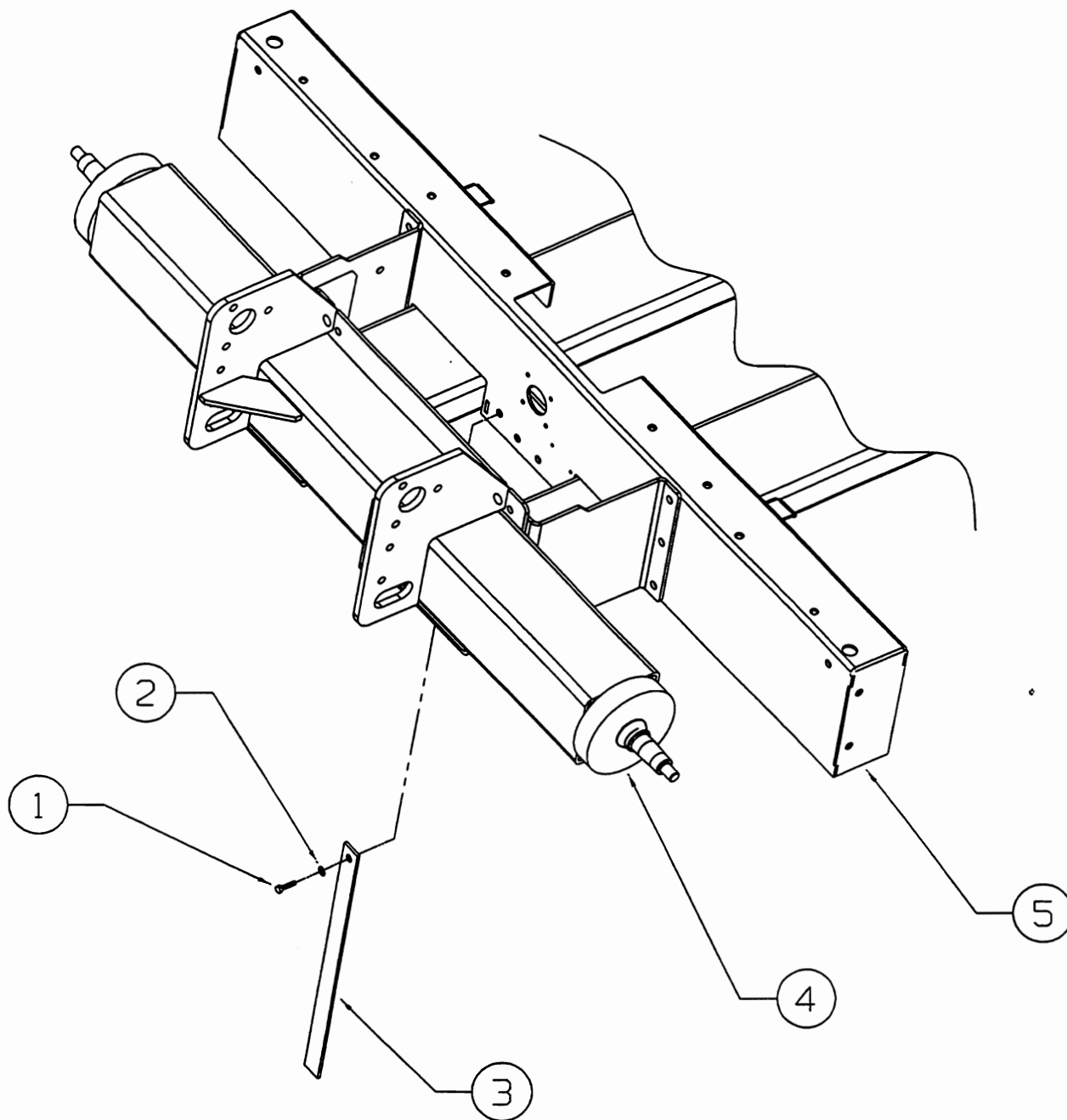




ITEM	PART NO.	QTY.	DESCRIPTION
1	8938	1	SEAL
2	8939	1	TAPERED ROLLER BEARING-INNER
3	8934	1	RACE-INNER
4	8940	1	HUB, 5 1/2"
5	7710	1	RACE-OUTER
6	7715	1	TAPERED ROLLER BEARING-OUTER
7	8936	1	FLAT WASHER
8	5737	1	SLOTTED HEX NUT, 3/4"-16
9	7719	1	GREASE CAP
10	8937	1	COTTER PIN, 5/16" X 1 1/2" LONG
11	HDW7961	5	LUG NUT, 1/2"-20
12	8935	5	STUD

ART607 R0  
BM13434  
5/7/97

Figure 7-3. 3068ES Rear Hub and Bearing



ITEM	PART NO.	QTY.	DESCRIPTION
1	HDW8276	1	SCREW, 3/8"-16 X 1 1/4" LONG
2	HDW5355	1	FLAT WASHER, 7/16" ID, 1" OD
3	7638	1	GROUNDING STRAP, 1" WIDE, 24" LONG
4	14342	1	REAR AXLE
5	14323	1	BASE

Figure 7-4. 3068ES Static Strap Assembly

ART667 R0  
BM14405  
8/25/97 8821R1







PRIMARY MANIFOLD IDENTIFICATION AND PARTS BREAKDOWN  
ASSEMBLY #14402

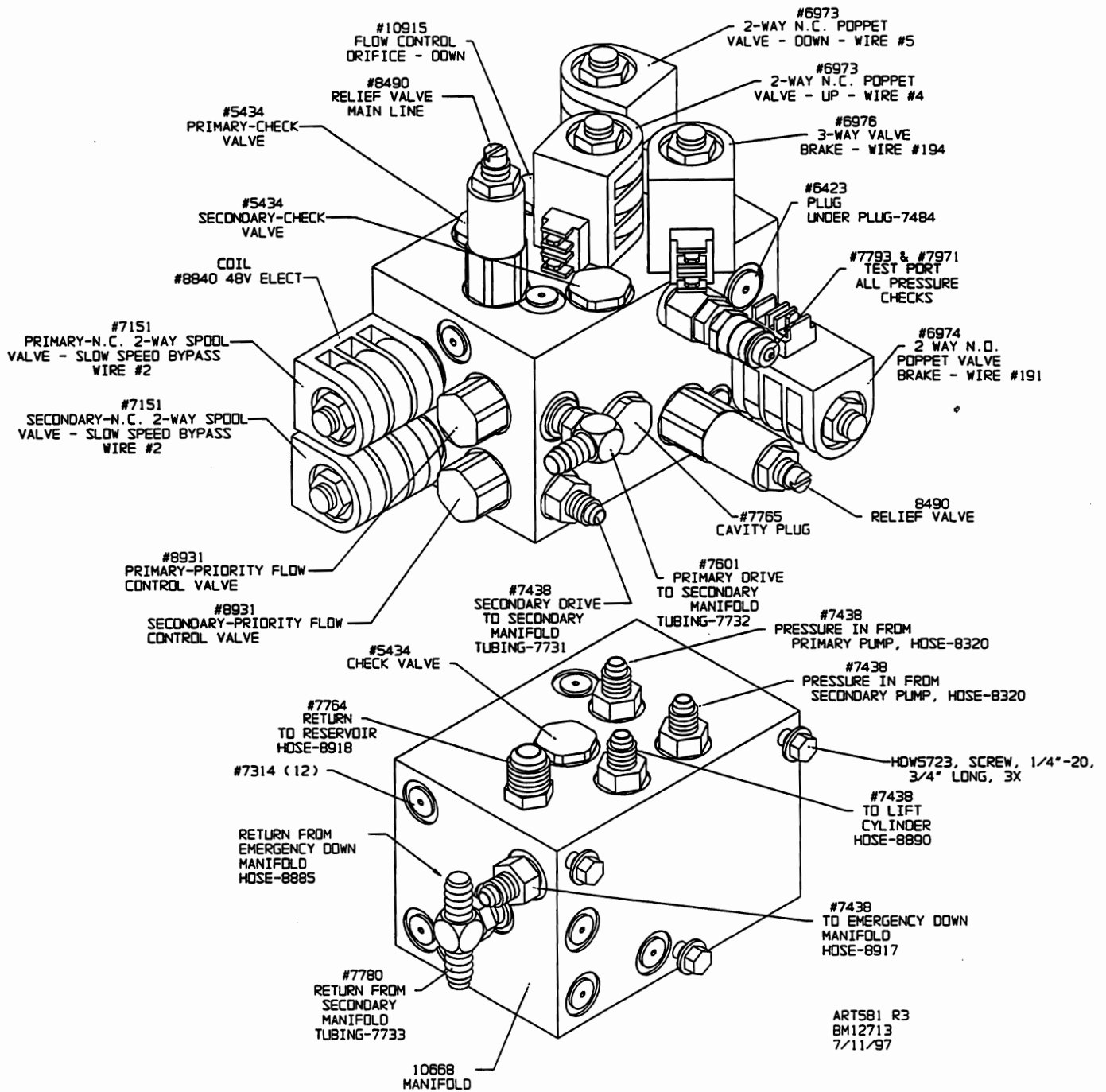
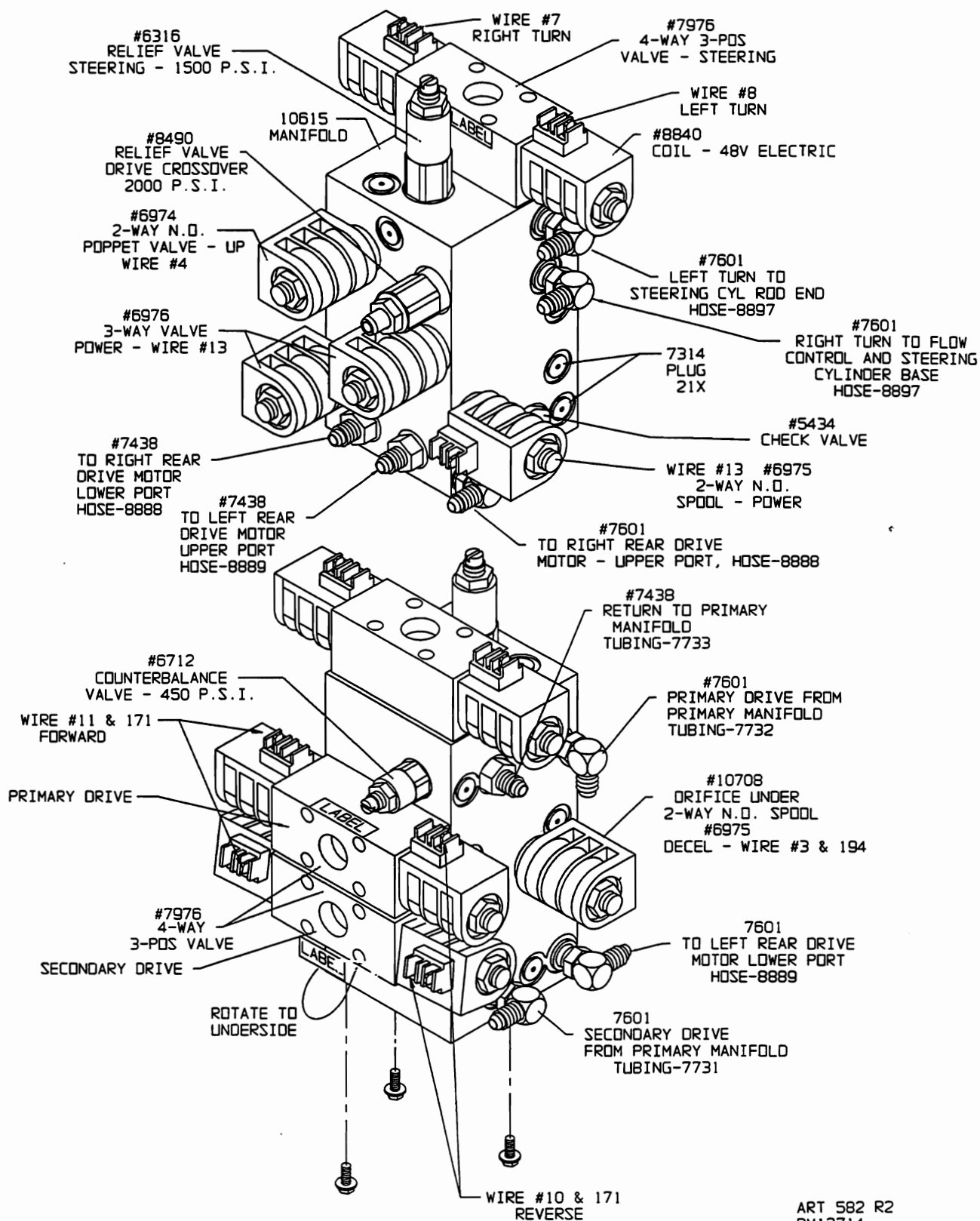


Figure 8-1. 3068ES Primary Manifold Assembly

8821R1

SECONDARY MANIFOLD IDENTIFICATION AND PARTS BREAKDOWN  
ASSEMBLY # 14403

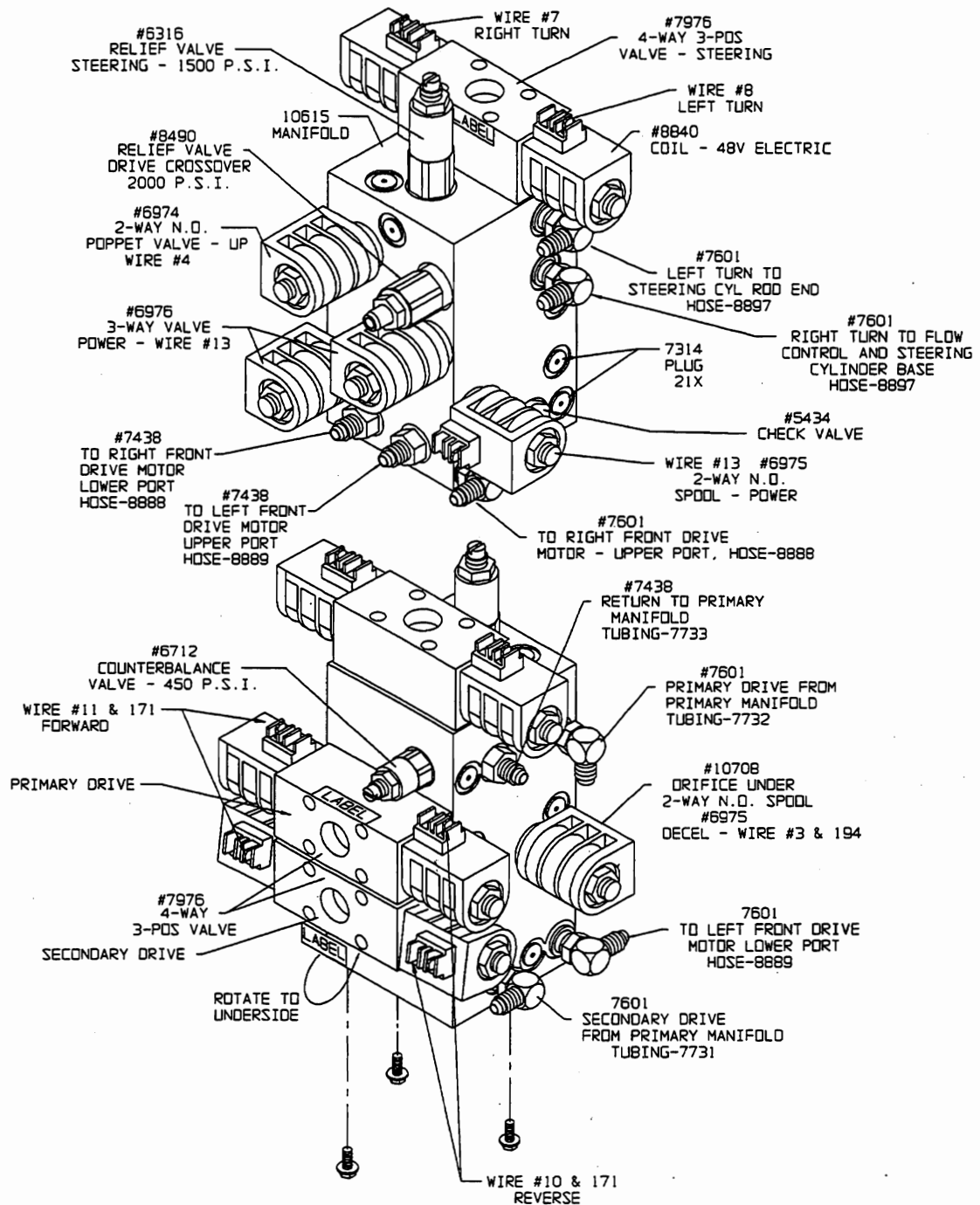


ART 582 R2  
BM12714  
7/11/97

Figure 8-2. 3068ES Secondary Manifold Assembly

8821R1

SECONDARY MANIFOLD IDENTIFICATION AND PARTS BREAKDOWN  
ASSEMBLY # 14403



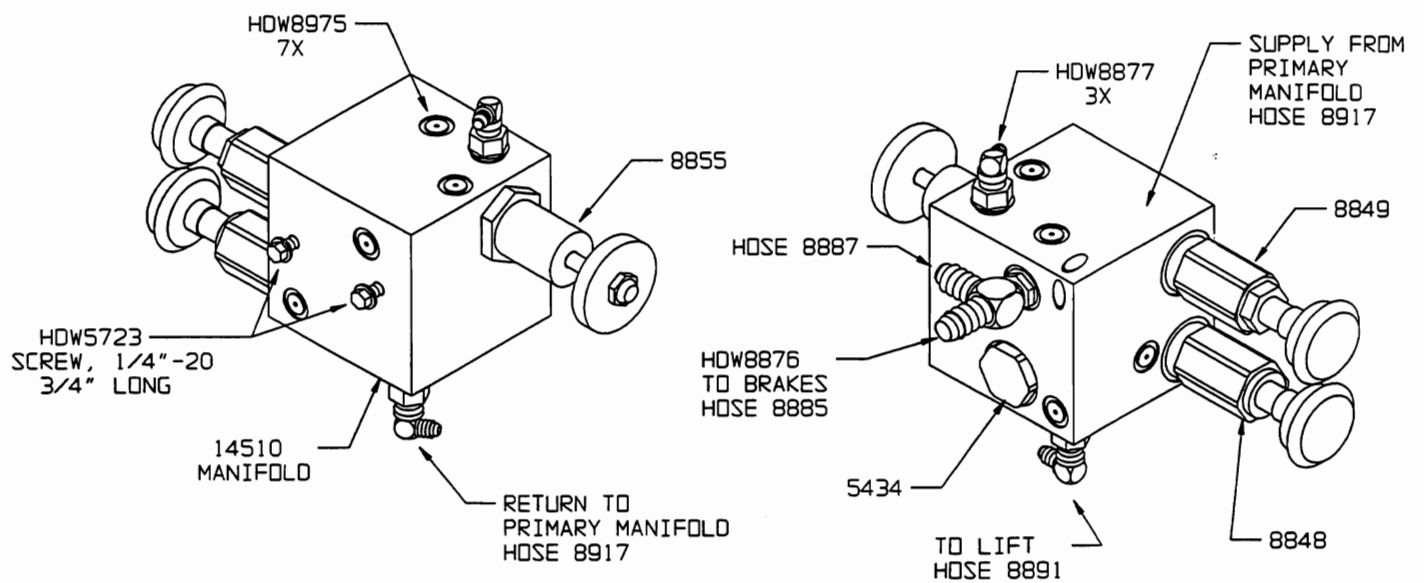
ART 582 R3  
BM12714  
1/6/98

Figure 8-2a. 3068ES Secondary Manifold Assembly

8821R2



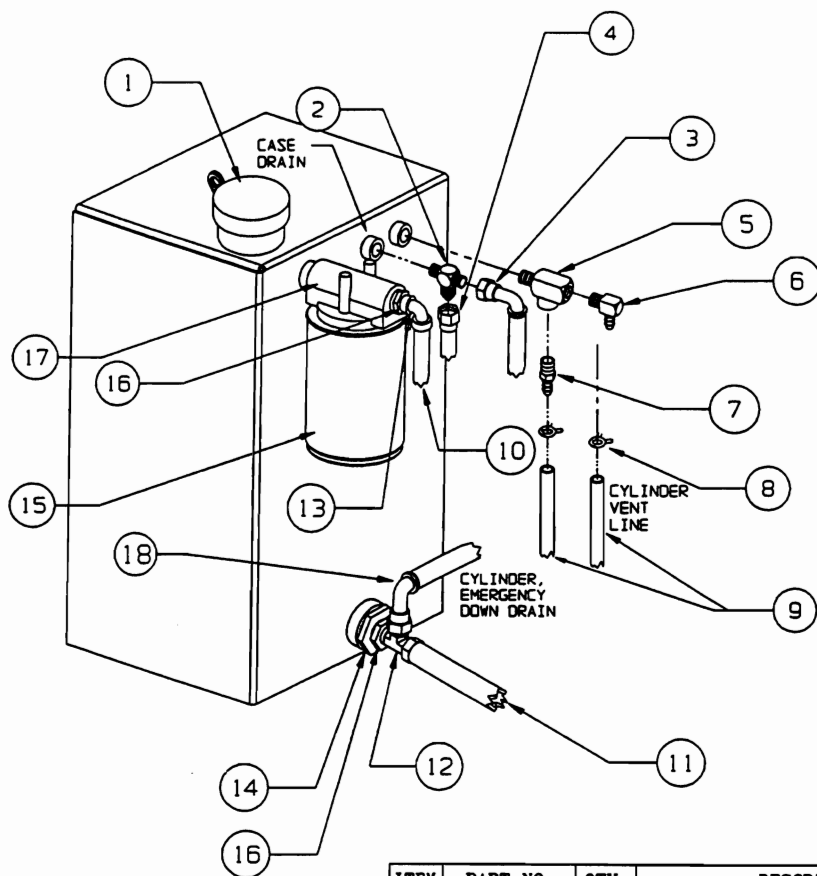
# 14485 - EMERGENCY DOWN/BRAKE MANIFOLD



ART001 R1  
8413250  
7/1/97

Figure 8-3. 3068ES Emergency Down/Brake Manifold

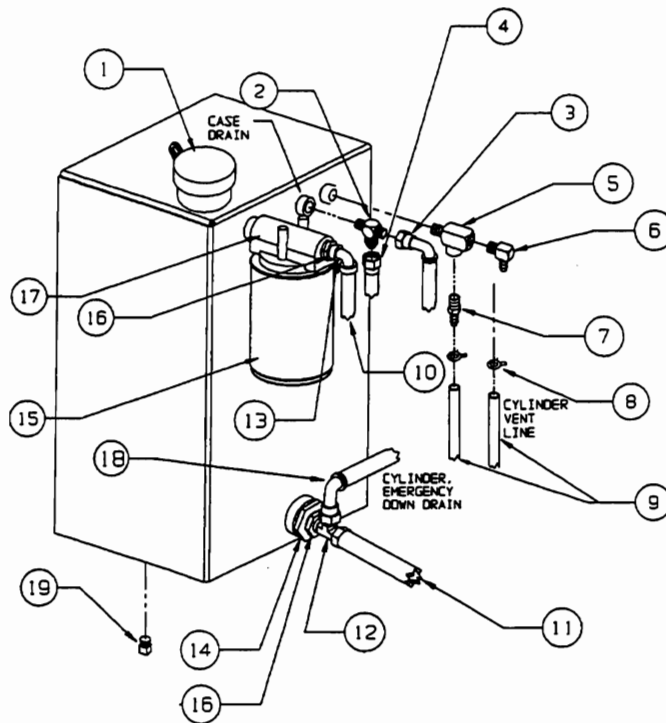
8821R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	8838	1	VENTED GAS CAP
2	HDW8892	1	PIPE FITTING, RUN TEE MALE, 1/4", NPT MALE 1/4", 37 DEGREE FLARE
3	8886	1	HOSE ASSEMBLY-LEFT WHEEL MOTOR CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEGREE FLARE, ELBOW, FEMALE, 37 DEGREE FLARE, 1/4" DIA. 89" LONG, SAE100R1
4	8884	1	HOSE ASSEMBLY-RIGHT WHEEL MOTOR CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEGREE FLARE STRAIGHT, FEMALE, 37 DEGREE FLARE 1/4" DIA. 106" LONG, SAE 100R1
5	6655	1	1/4" STREET TEE, STEEL
6	HDW6727	1	90 DEG. ELBOW PIPE FITTING MALE, 5/16" HOSE BARB MALE, 1/4" NPT
7	HDW6459	1	UNION PIPE FITTING MALE, 1/4", DRY SEAL MALE, 5/16", HOSE BARB
8	7164	2	HOSE CLAMP, 5/16" ID HOSE
9	6458	2	HOSE, 5/16" ID, 15' FEET EACH, SAE 30R6 OR EQUIVALENT
10	8918	1	HOSE ASSEMBLY-RETURN LINE, PRIMARY MANIFOLD TO TANK STRAIGHT FEMALE, 45 DEGREE STRAIGHT FEMALE, 45 DEGREE 1/2" DIA. 62" LONG, SAE 100R4
11	8994	1	HOSE ASSEMBLY-SAE 100R1-RESERVOIR TO PRIMARY PUMP STRAIGHT, FEMALE, 37 DEGREE FLARE STRAIGHT, FEMALE, 37 DEGREE FLARE 5/8" DIA. 27" LONG
12	HDW8995	1	RUN TEE FITTING, MALE, 1/2" NPT, MALE, 5/8" 37 DEG FLARE
13	HDW6510	1	PIPE FITTING, 90 DEGREE ELBOW MALE 1/2", 45 DEGREE MALE 1/2", NPT
14	7712	1	SUCTION FILTER, 1 1/4" NPT
15	6156	1	OIL FILTER CARTRIDGE
16	HDW6752	2	PIPE FITTING ADAPTOR MALE, 3/4" DRY SEAL FEMALE, 1/2" NP
17	6714	1	FILTER HEAD-TO RESERVOIR INLET
18	9002	1	HOSE ASSEMBLY-SAE 100R1-RESERVOIR TO SECONDARY PUMP STRAIGHT FEMALE, 37 DEGREE FLARE 90 DEG ELBOW, FEMALE, 37 DEGREE FLARE 5/8" DIA. 27" LONG

Figure 8-4. 3068ES Hydraulic Reservoir Assembly





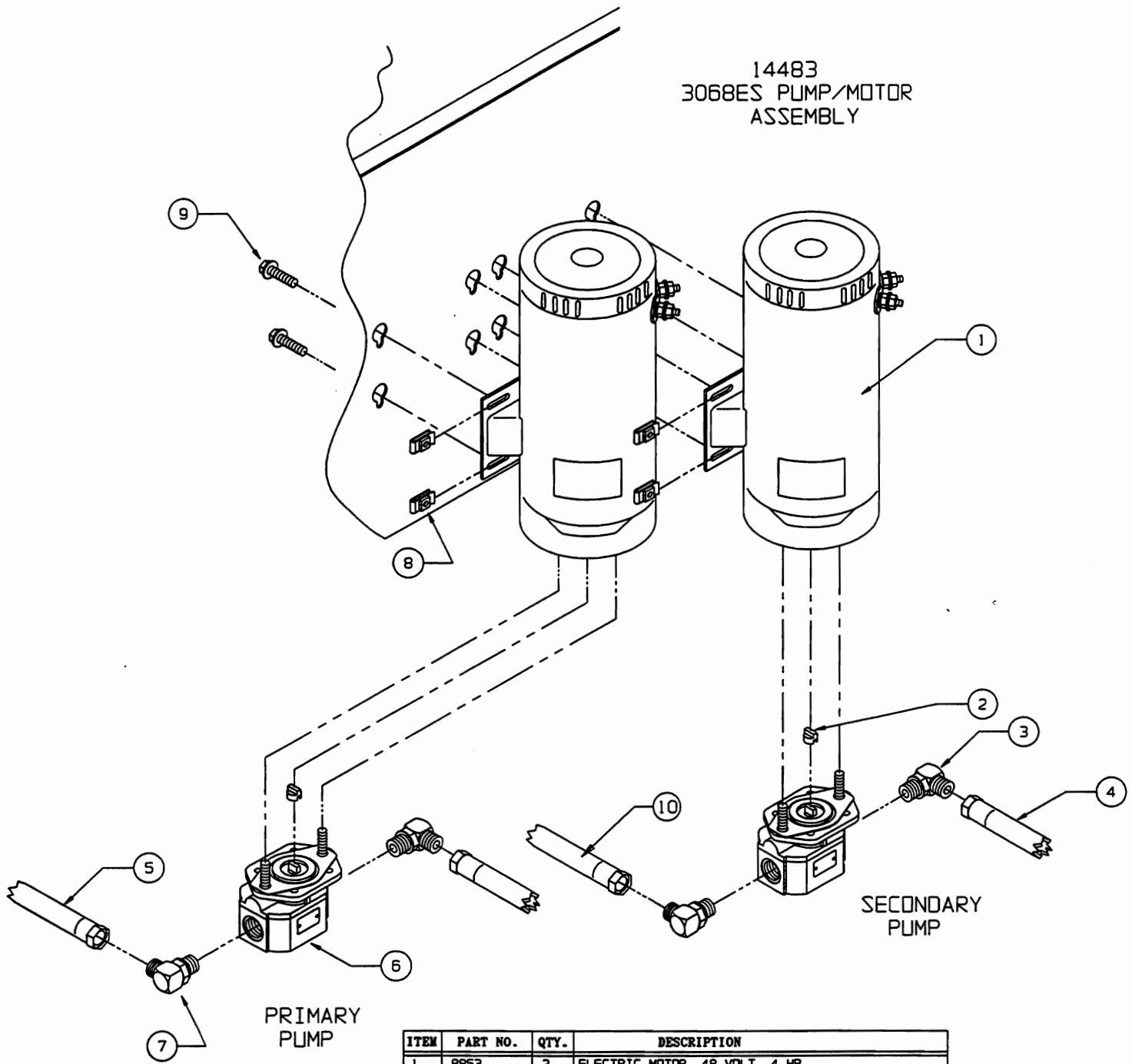
ITEM	PART NO.	QTY.	DESCRIPTION
1	8838	1	VENTED GAS CAP
2	HOW8892	1	PIPE FITTING, RUN TEE MALE, 1/4", NPT MALE 1/4", 37 DEGREE FLARE
3	8886	1	HOSE ASSEMBLY-LEFT WHEEL MOTOR CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEGREE FLARE, ELBOW, FEMALE, 37 DEGREE FLARE, 1/4" DIA. 89" LONG, SAE 100R1
4	8884	1	HOSE ASSEMBLY-RIGHT WHEEL MOTOR CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEGREE FLARE STRAIGHT, FEMALE, 37 DEGREE FLARE 1/4" DIA. 106" LONG, SAE 100R1
5	6655	1	1/4" STREET TEE, STEEL
6	HOW6727	1	90 DEG. ELBOW PIPE FITTING MALE, 5/16" HOSE BARB MALE, 1/4" NPT
7	HOW6459	1	UNION PIPE FITTING MALE, 1/4", DRY SEAL MALE, 5/16", HOSE BARB
8	7164	2	HOSE CLAMP, 5/16" ID HOSE
9	6458	2	HOSE, 5/16" ID, 15' FEET EACH, SAE 30R6 OR EQUIVALENT
10	8918	1	HOSE ASSEMBLY-RETURN LINE, PRIMARY MANIFOLD TO TANK STRAIGHT FEMALE, 45 DEGREE STRAIGHT FEMALE, 45 DEGREE 1/2" DIA. 62" LONG, SAE 100R4
11	8994	1	HOSE ASSEMBLY-SAE 100R1-RESERVOIR TO PRIMARY PUMP STRAIGHT, FEMALE, 37 DEGREE FLARE STRAIGHT, FEMALE, 37 DEGREE FLARE 5/8" DIA. 27" LONG
12	HOW8995	1	RUN TEE FITTING, MALE, 1/2" NPT, MALE, 5/8" 37 DEG FLARE
13	HOW6510	1	PIPE FITTING, 90 DEGREE ELBOW MALE 1/2", 45 DEGREE MALE 1/2", NPT
14	7712	1	SUCTION FILTER, 1 1/4" NPT
15	6156	1	OIL FILTER CARTRIDGE
16	HOW6752	2	PIPE FITTING ADAPTOR MALE, 3/4" DRY SEAL FEMALE, 1/2" NP
17	6714	1	FILTER HEAD-TO RESERVOIR INLET
18	9002	1	HOSE ASSEMBLY-SAE 100R1-RESERVOIR TO SECONDARY PUMP STRAIGHT FEMALE, 37 DEGREE FLARE 90 DEG ELBOW, FEMALE, 37 DEGREE FLARE 5/8" DIA. 27" LONG.
19	HOW9200	1	PIPE FITTING PLUG, MALE, 1/4" NPT

ART604 R2  
BM13335  
2/4/88

Figure 8-4a. 3068ES Hydraulic Reservoir Assembly

8821R2

14483  
3068ES PUMP/MOTOR  
ASSEMBLY

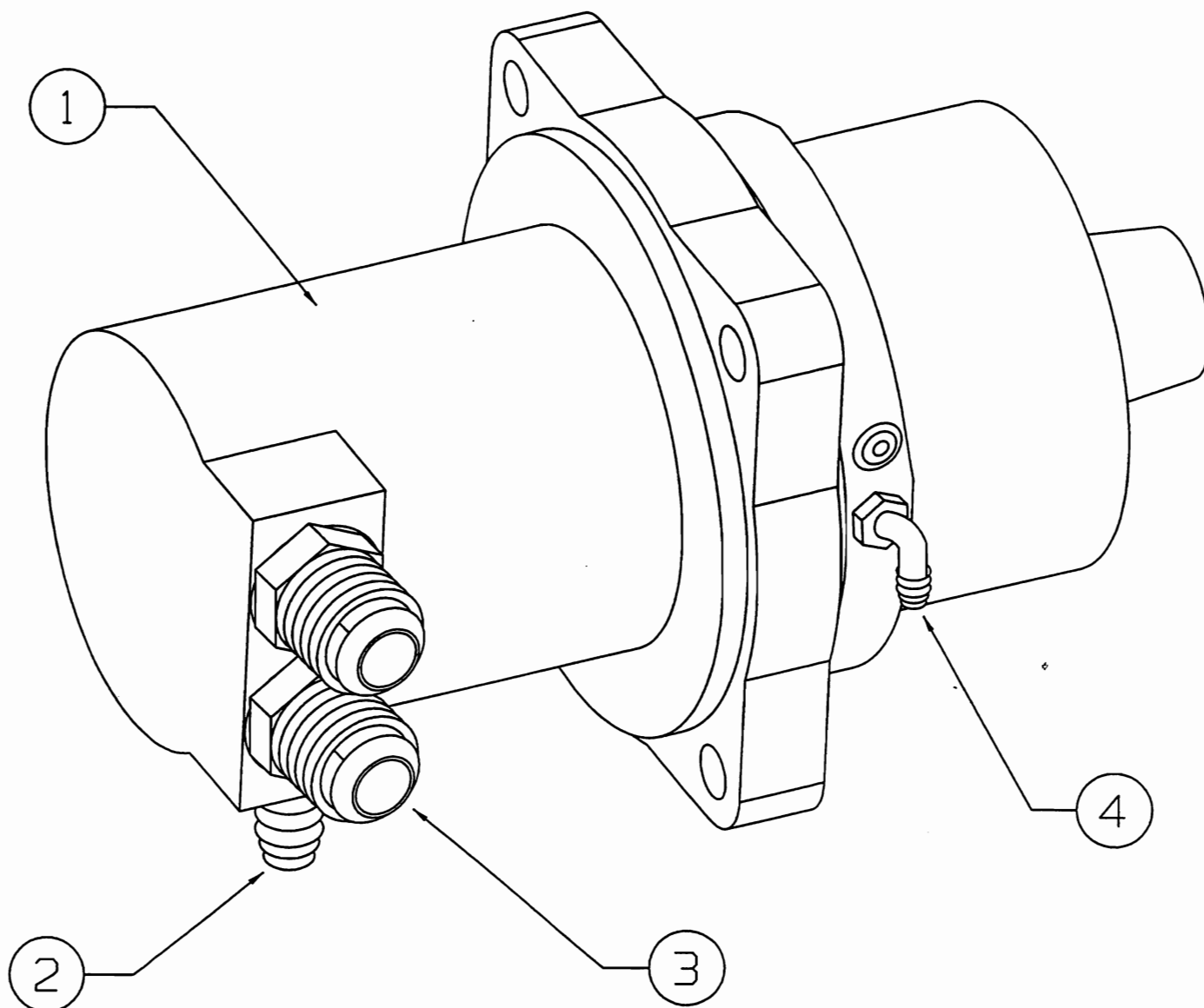


ITEM	PART NO.	QTY.	DESCRIPTION
1	8853	2	ELECTRIC MOTOR, 48 VOLT, 4 HP
2	6314	2	COUPLER (SERVICE ONLY)
3	HOW8081	2	PIPE FITTING, 90 DEGREE ELBOW MALE, 9/16"-18, 37 DEGREE FLARE MALE, 3/4"-16, O-RING
4	8320	2	HOSE ASSEMBLY-PUMP OUTLET TO PRIMARY MANIFOLD STRAIGHT FEMALE, 37 DEGREE FLARE ELBOW FEMALE, 37 DEGREE FLARE 3/8" DIA. 34" LONG SAE100R1
5	8994	1	HOSE ASSEMBLY-PRIMARY PUMP TO RESERVOIR STRAIGHT, FEMALE, 37 DEGREE FLARE STRAIGHT, FEMALE, 37 DEGREE FLARE, 5/8" DIA. 27" LONG. SAE100R1
6	8929	2	HYDRAULIC PUMP
7	HOW8996	2	PIPE FITTING, 90 DEG. ELBOW, MALE, 5/8" O-RING, MALE, 5/8" 37 DEGREE FLARE
8	7032	8	RETAINER NUT, 5/16"-18
9	HOW5204	8	CAP SCREW, 5/16"-1, 1" LONG, GRADE 5
10	9002	1	HOSE ASSEMBLY-SECONDARY PUMP TO RESERVOIR STRAIGHT FEMALE, 37 DEGREE FLARE 90 DEGREE ELBOW, FEMALE, 37 DEGREE FLARE 5/8" DIA. 27" LONG. SAE100R1

ART805 R1  
BNI 8356  
7/28/97

Figure 8-5. 3068ES Pump/Motor Assembly

8821R1



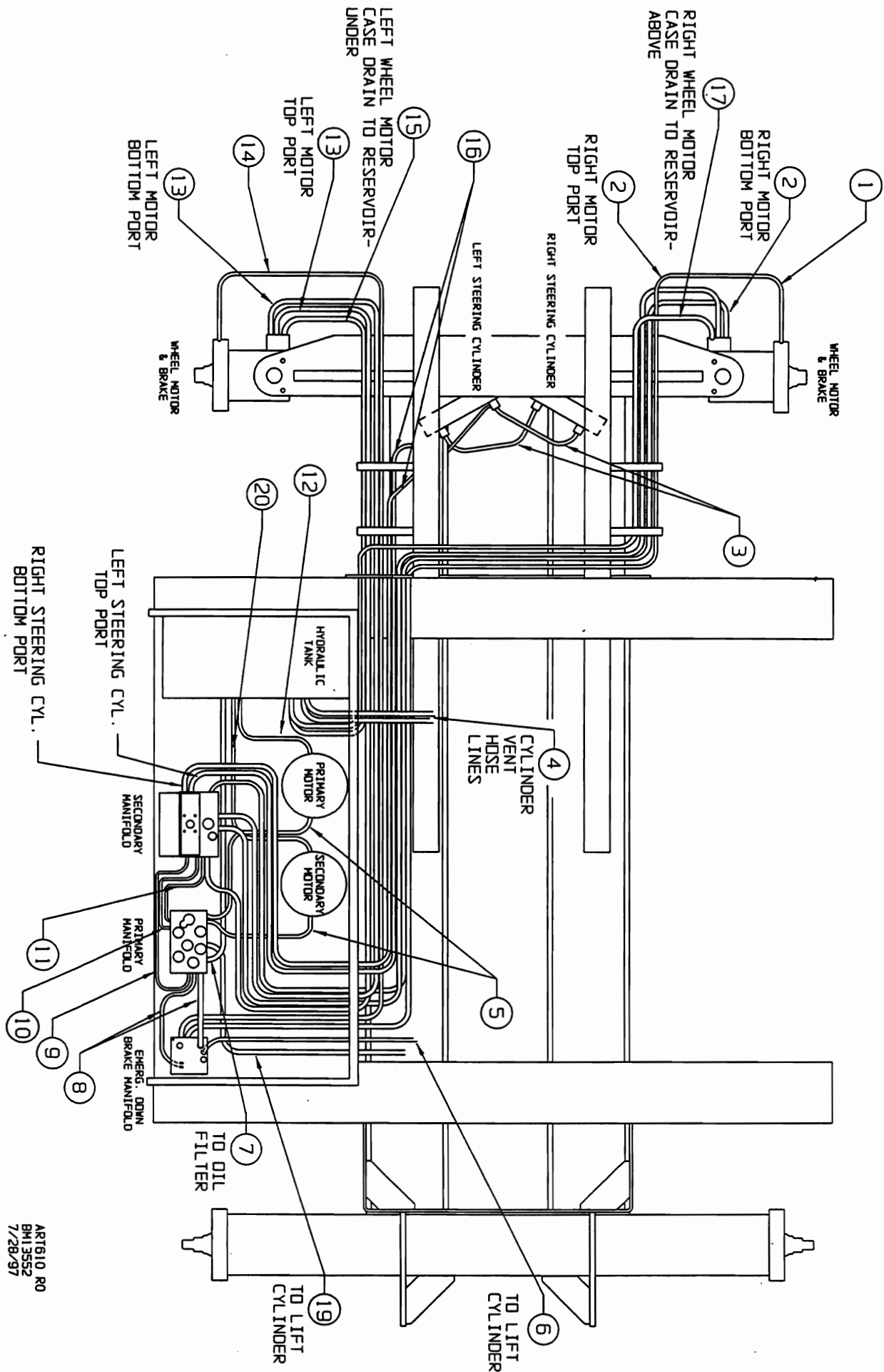
ITEM	PART NO.	QTY.	DESCRIPTION
1	8843	1	HYDRAULIC WHEEL MOTOR W/BRAKE
2	8881	1	FITTING, ADAPTOR, MALE, 1/4", O-RING-MALE, 1/4", 37 DEG FLARE
3	8984	2	FITTING, ADAPTOR, MALE, 3/4", O-RING-MALE, 1/2", 37 DEG FLARE
4	8877	1	FITTING, 90 DEG ELBOW, MALE, 1/4", O-RING-MALE, 1/4", 37 DEG FLARE

WHEEL MOTOR SHOWN FOR LEFT SIDE OF UNIT.  
FOR RIGHT SIDE ROTATE 180 DEGREES.

ART660 RO  
BM14152  
7/10/97

Figure 8-6. 3068ES Hydraulic Wheel Motor

8821R1

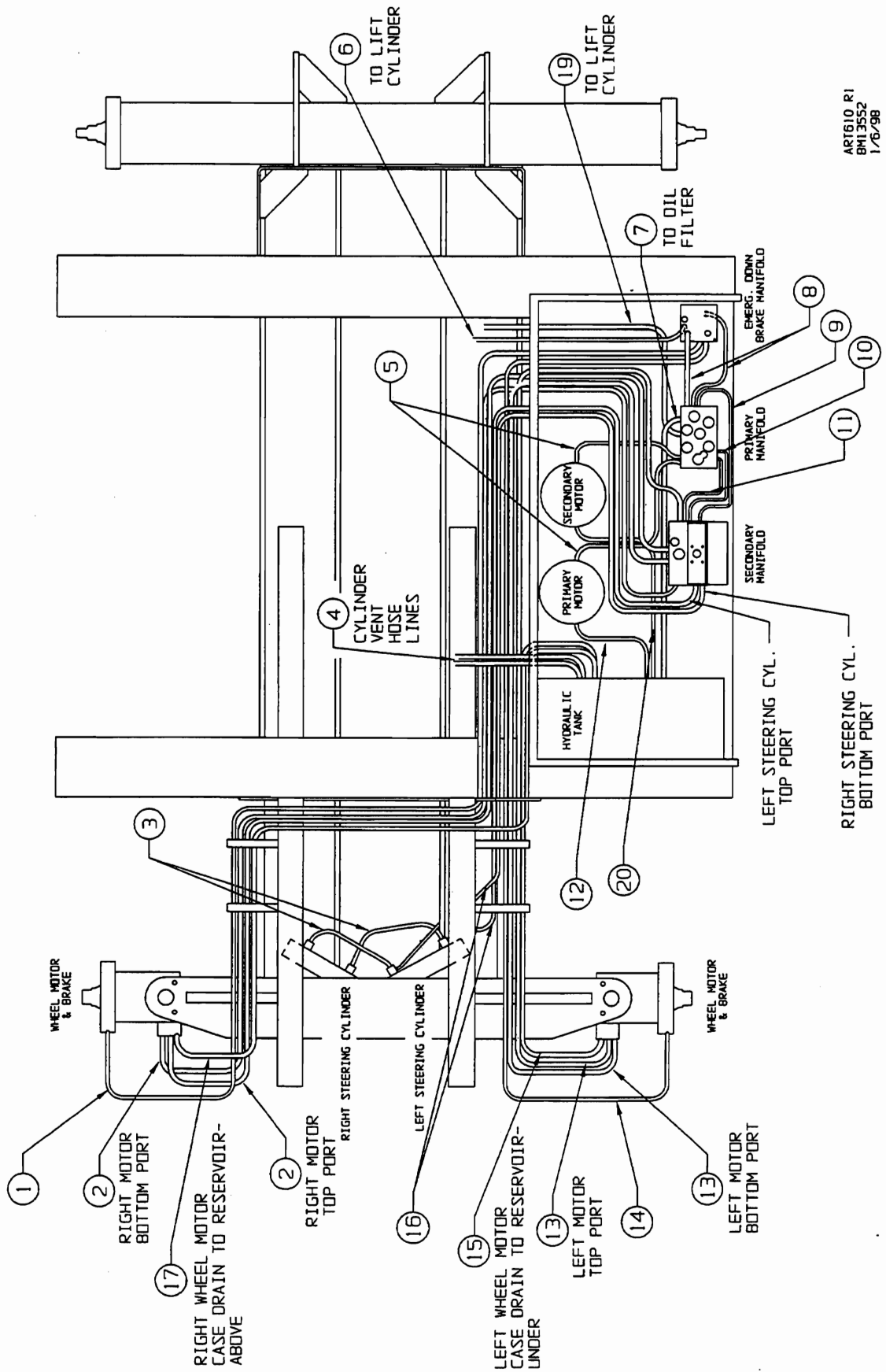


ART610 RO  
BHI3552  
7/28/97

Figure 8-7. 3068ES Hydraulic System Layout

ITEM	PART NO.	QTY.	DESCRIPTION
1	8885	1	HOSE ASSEMBLY-RIGHT WHEEL MOTOR TO EMERG. DOWN/BRAKE MANIFOLD ELBOW, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 1/4" ID, 130" LONG. SAE100R1
2	8888	2	HOSE ASSEMBLY-RIGHT WHEEL MOTOR TO SECONDARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 3/8" ID, 108" LONG. SAE100R1
3	8898	2	HOSE ASSEMBLY-LEFT STEERING CYL. TO RIGHT STEERING CYL. STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 19" LONG. SAE100R1
4	6458	2	RETURN LINE HOSE, 5/16" ID, 15' EACH. SAE30R6 OR EQUIVALENT
5	8320	2	HOSE ASSEMBLY-PUMPS TO PRIMARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 3/8" ID, 34" LONG. SAE100R1
6	8891	1	HOSE ASSEMBLY-EMERG. DOWN/BRAKE MANIFOLD TO LIFT CYLINDER STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 160" LONG. SAE100R1
7	8918	1	HOSE ASSEMBLY-RETURN LINE, PRIMARY MANIFOLD TO TANK STRAIGHT, FEMALE, 45 DEG.-STRAIGHT, FEMALE, 45 DEG. 1/2" ID, 62" LONG. SAE100R1
8	8917	2	HOSE ASSEMBLY-EMERG. DOWN/BRAKE MANIFOLD TO PRIMARY MANIFOLD STRAIGHT, FEMALE, 37 DEG FLARE-ELBOW, FEMALE, 37 DEG FLARE. 1/4" ID, 18" LONG. SAE100R1
9	7733	1	2WD #12 - 3/8" OD STEEL HYDRAULIC TUBING. 37 DEG. DOUBLE FLARE. NUT: 9/16-18, #20JS SLEEVE: #30JS SECONDARY TO PRIMARY MANIFOLD
10	7731	1	2WD #10 - 3/8" OD STEEL HYDRAULIC TUBING. 37 DEG. DOUBLE FLARE. NUT: 9/16-18, #20JS SLEEVE: #30JS SECONDARY TO PRIMARY MANIFOLD
11	7732	1	2WD #11 - 3/8" OD STEEL HYDRAULIC TUBING. 37 DEG. DOUBLE FLARE. NUT: 9/16-18, #20JS SLEEVE: #30JS SECONDARY TO PRIMARY MANIFOLD
12	8994	1	HOSE ASSEMBLY-PRIMARY PUMP TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE, 5/8" DIA. 27" LONG. SAE100R1
13	8889	2	HOSE ASSEMBLY-LEFT WHEEL MOTOR TO SECONDARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 3/8" ID, 85" LONG. SAE100R1
14	8887	1	HOSE ASSEMBLY-LEFT WHEEL MOTOR TO EMERG. DOWN/BRAKE MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 1/4" ID, 103" LONG. SAE100R1
15	8886	1	HOSE ASSEMBLY-LEFT WHEEL MOTOR, CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 1/4" ID, 89" LONG. SAE100R1
16	8897	2	HOSE ASSEMBLY-LEFT STEERING CYL. TO SECONDARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 66" LONG. SAE100R1
17	8884	1	HOSE ASSEMBLY-RIGHT WHEEL MOTOR CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 106" LONG. SAE100R1
18	7510	2	SPRING, WIRE PROTECTOR. 2" OD X 12" LONG. PROTECTS HOSES OUT OF WHEEL MOTORS. (NOT SHOWN)
19	8890	1	HOSE ASSEMBLY-LIFT CYLINDER, UP, TO PRIMARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, PIPE, FEMALE, 3/8" ID, 150" LONG. SAE100R1
20	9002	1	HOSE ASSEMBLY-SECONDARY PUMP TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-90 DEGREE ELBOW, FEMALE, 37 DEG. FLARE. 5/8" ID, 27" LONG. SAE100R1

Figure 8-7. 3068ES Hydraulic System Layout



ART610 R1  
BM13552  
1/6/98

Figure 8-7a. 3068ES Hydraulic System Layout

ITEM	PART NO.	QTY.	DESCRIPTION
1	8885	1	HOSE ASSEMBLY-RIGHT WHEEL MOTOR TO EMERG. DOWN/BRAKE MANIFOLD ELBOW, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 1/4" ID, 130" LONG. SAE100R1
2	8888	2	HOSE ASSEMBLY-RIGHT WHEEL MOTOR TO SECONDARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 3/8" ID, 108" LONG. SAE100R1
3	8898	2	HOSE ASSEMBLY-LEFT STEERING CYL. TO RIGHT STEERING CYL. STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 19" LONG. SAE100R1
4	6458	2	RETURN LINE HOSE, 5/16" ID, 15' EACH. SAE30R6 OR EQUIVALENT
5	8320	2	HOSE ASSEMBLY-PUMPS TO PRIMARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 3/8" ID, 34" LONG. SAE100R1
6	8891	1	HOSE ASSEMBLY-EMERG. DOWN/BRAKE MANIFOLD TO LIFT CYLINDER STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 160" LONG. SAE100R1
7	8918	1	HOSE ASSEMBLY-RETURN LINE, PRIMARY MANIFOLD TO TANK STRAIGHT, FEMALE, 45 DEG.-STRAIGHT, FEMALE, 45 DEG. 1/2" ID, 62" LONG. SAE100R1
8	8917	2	HOSE ASSEMBLY-EMERG. DOWN/BRAKE MANIFOLD TO PRIMARY MANIFOLD STRAIGHT, FEMALE, 37 DEG FLARE-ELBOW, FEMALE, 37 DEG FLARE. 1/4" ID, 18" LONG. SAE100R1
9	7733	1	2WD #12 - 3/8" OD STEEL HYDRAULIC TUBING. 37 DEG. DOUBLE FLARE. NUT: 9/16-18, #20JS SLEEVE: #30JS SECONDARY TO PRIMARY MANIFOLD
10	7731	1	2WD #10 - 3/8" OD STEEL HYDRAULIC TUBING. 37 DEG. DOUBLE FLARE. NUT: 9/16-18, #20JS SLEEVE: #30JS SECONDARY TO PRIMARY MANIFOLD
11	7732	1	2WD #11 - 3/8" OD STEEL HYDRAULIC TUBING. 37 DEG. DOUBLE FLARE. NUT: 9/16-18, #20JS SLEEVE: #30JS SECONDARY TO PRIMARY MANIFOLD
12	8994	1	HOSE ASSEMBLY-PRIMARY PUMP TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE, 5/8" DIA. 27" LONG. SAE100R1
13	8889	2	HOSE ASSEMBLY-LEFT WHEEL MOTOR TO SECONDARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 3/8" ID, 85" LONG. SAE100R1
14	8887	1	HOSE ASSEMBLY-LEFT WHEEL MOTOR TO EMERG. DOWN/BRAKE MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 1/4" ID, 103" LONG. SAE100R1
15	8886	1	HOSE ASSEMBLY-LEFT WHEEL MOTOR, CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-ELBOW, FEMALE, 37 DEG. FLARE. 1/4" ID, 89" LONG. SAE100R1
16	8897	2	HOSE ASSEMBLY-LEFT STEERING CYL. TO SECONDARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 66" LONG. SAE100R1
17	8884	1	HOSE ASSEMBLY-RIGHT WHEEL MOTOR CASE DRAIN TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, FEMALE, 37 DEG. FLARE. 1/4" ID, 106" LONG. SAE100R1
18	7510	2	SPRING, WIRE PROTECTOR. 2" OD X 12" LONG. PROTECTS HOSES OUT OF WHEEL MOTORS. (NOT SHOWN)
19	8890	1	HOSE ASSEMBLY-LIFT CYLINDER, UP, TO PRIMARY MANIFOLD STRAIGHT, FEMALE, 37 DEG. FLARE-STRAIGHT, PIPE, FEMALE, 3/8" ID, 150" LONG. SAE100R1
20	9002	1	HOSE ASSEMBLY-SECONDARY PUMP TO RESERVOIR STRAIGHT, FEMALE, 37 DEG. FLARE-90 DEGREE ELBOW, FEMALE, 37 DEG. FLARE. 5/8" ID, 27" LONG. SAE100R1

ART610 R1  
BM13552  
1/6/98

Figure 8-7a. 3068ES Hydraulic System Layout

8821R2

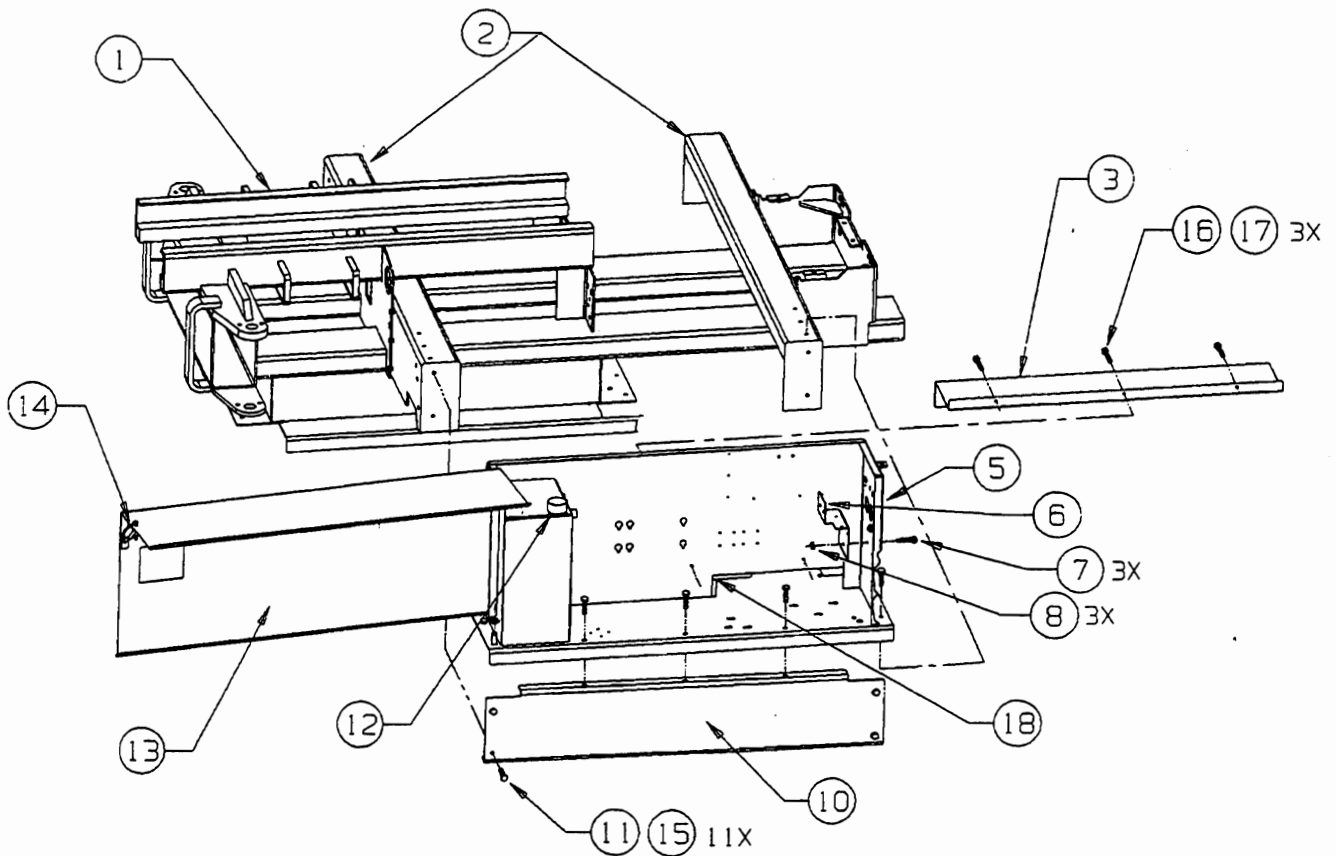








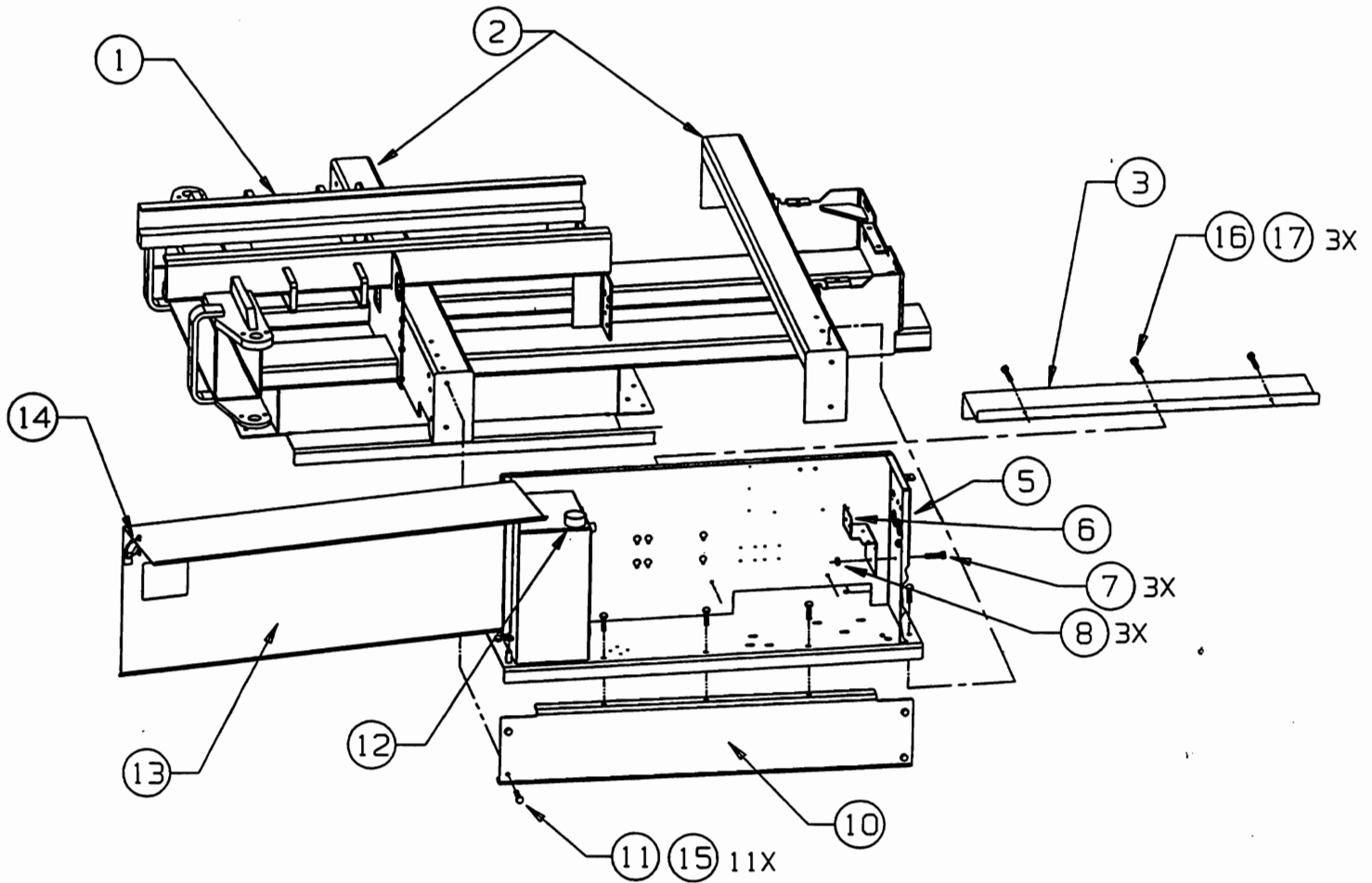




ITEM	PART NO.	QTY.	DESCRIPTION
1	14323	1	3068ES BASE WELDMENT
2	14635	2	POTHOLE BULKHEAD WELDMENT
3	14575	1	HYDRAULIC HOSE COVER
5	14401	1	ELECTRIC/HYDRAULIC CABINET
6	14566	1	MANIFOLD BRACKET
7	HDW5904	3	SCREW, 1/4"-20, 3/4" LONG
8	HDW8267	3	NUT, 1/4"-20
10	14626	1	SIDE PANEL
11	HDW5004	11	SCREW, 3/8"-16, 1" LONG
12	8838	1	CAP ASSEMBLY
13	14374	1	ELECTRIC/HYDRAULIC CABINET DOOR
14	HDW7593	1	WIRE LOCK PIN
15	HDW5355	11	FLAT WASHER
16	HDW5724	3	SCREW, 5/16"-18, 3/4" LONG
17	HDW8304	3	NUT, 5/16"-18
18	6121	2	TRIM, 1/4"

ART608 R4  
BM13436  
3/6/98

Figure 9-1a. 3068ES Hydraulic/Electric Cabinet

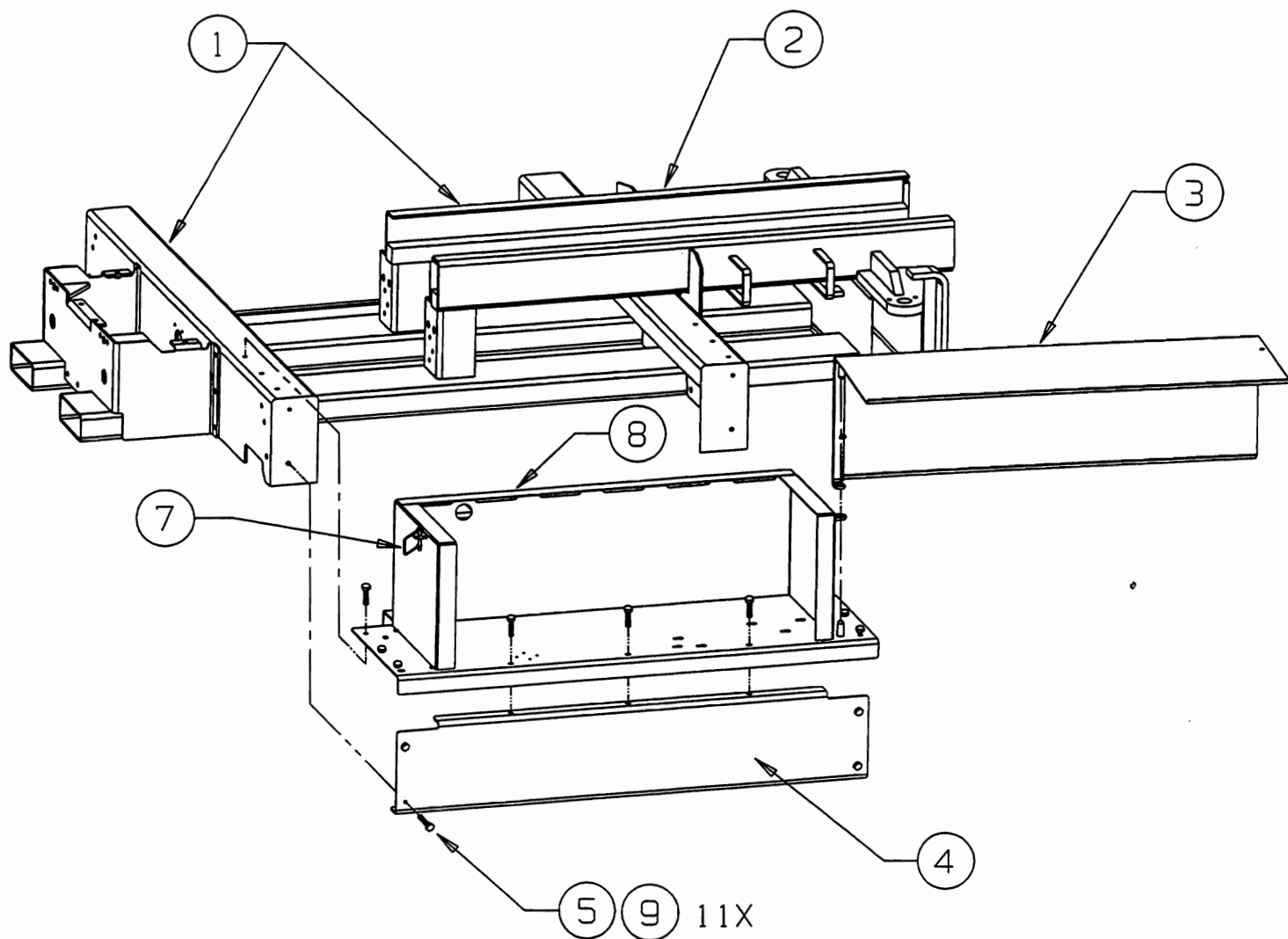


ITEM	PART NO.	QTY.	DESCRIPTION
1	14323	1	3068ES BASE WELDMENT
2	14635	2	POTHOLE BULKHEAD WELDMENT
3	14575	1	HYDRAULIC HOSE COVER
5	14401	1	ELECTRIC/HYDRAULIC CABINET
6	14566	1	MANIFOLD BRACKET
7	HDW5904	3	SCREW, 1/4"-20, 3/4" LONG
8	HDW8267	3	NUT, 1/4"-20
10	14626	1	SIDE PANEL
11	HDW5004	11	SCREW, 3/8"-16, 1" LONG
12	8838	1	CAP ASSEMBLY
13	14374	1	ELECTRIC/HYDRAULIC CABINET DOOR
14	HDW7593	1	WIRE LOCK PIN
15	HDW5355	11	FLAT WASHER
16	HDW5724	3	SCREW, 5/16"-18, 3/4" LONG
17	HDW8304	3	NUT, 5/16"-18

ART608 R2  
BM13436  
7/23/97

Figure 9-1. 3068ES Hydraulic/Electric Cabinet

8821R1

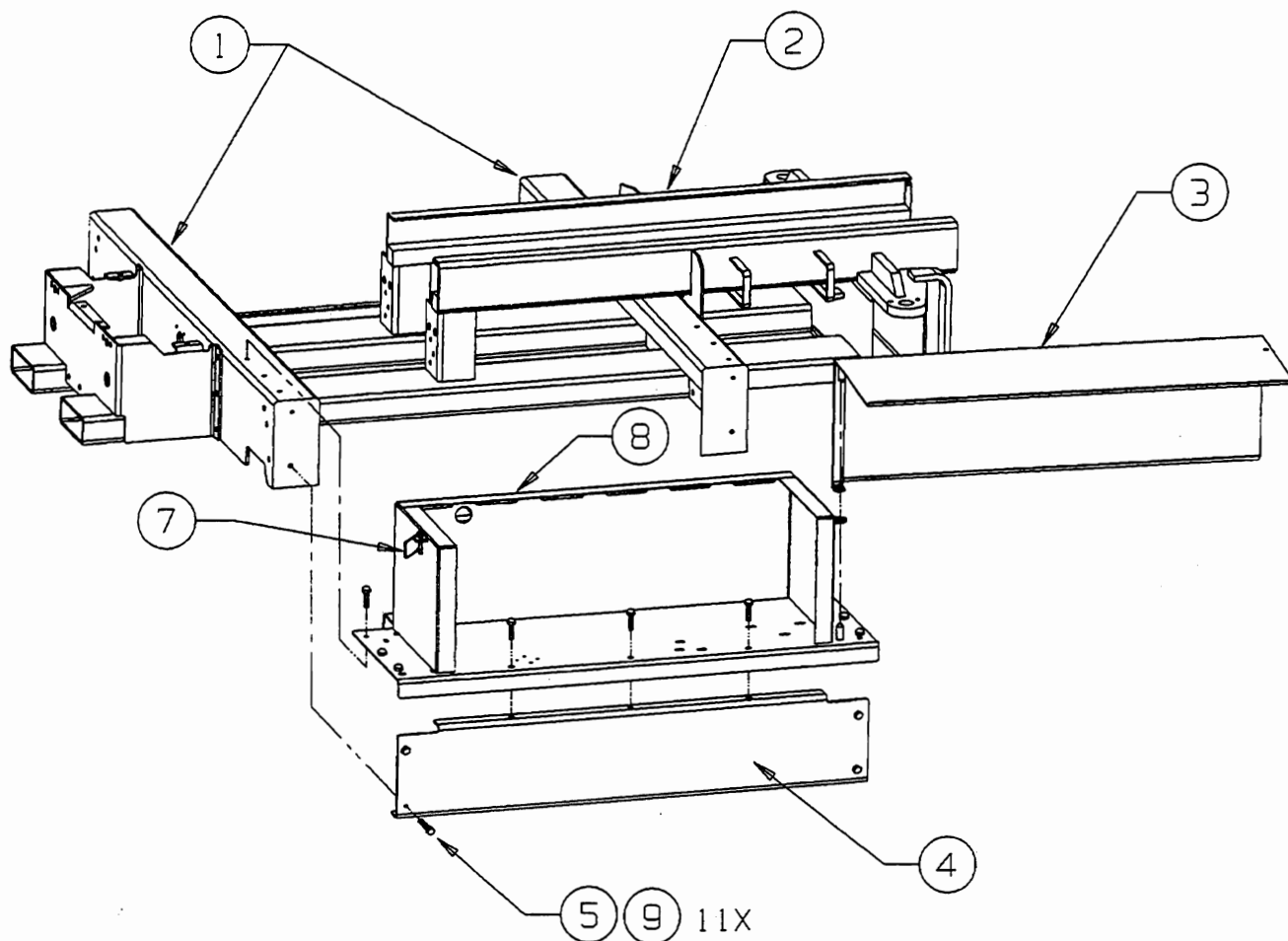


ITEM	PART NO.	QTY.	DESCRIPTION
1	14635	2	POTHOLE BULKHEAD WELDMENT
2	14323	1	3068ES BASE WELDMENT
3	14390	1	BATTERY CABINET DOOR
4	14171	1	SIDE PANEL
5	HDW5004	11	SCREW, 3/8"-16, 1" LONG
7	HDW7593	1	WIRE LOCK PIN
8	14400	1	BATTERY CABINET
9	HDW5355	11	FLAT WASHER

ART608 R2  
BM13436  
7/23/97

Figure 9-2. 3068ES Battery Cabinet

8821R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	14635	2	POTHOLE BULKHEAD WELDMENT
2	14323	1	3068ES BASE WELDMENT
3	14390	1	BATTERY CABINET DOOR
4	14171	1	SIDE PANEL
5	HDW5004	11	SCREW, 3/8"-16, 1" LONG
7	HDW7593	1	WIRE LOCK PIN
8	14400	1	BATTERY CABINET
9	HDW5355	11	FLAT WASHER

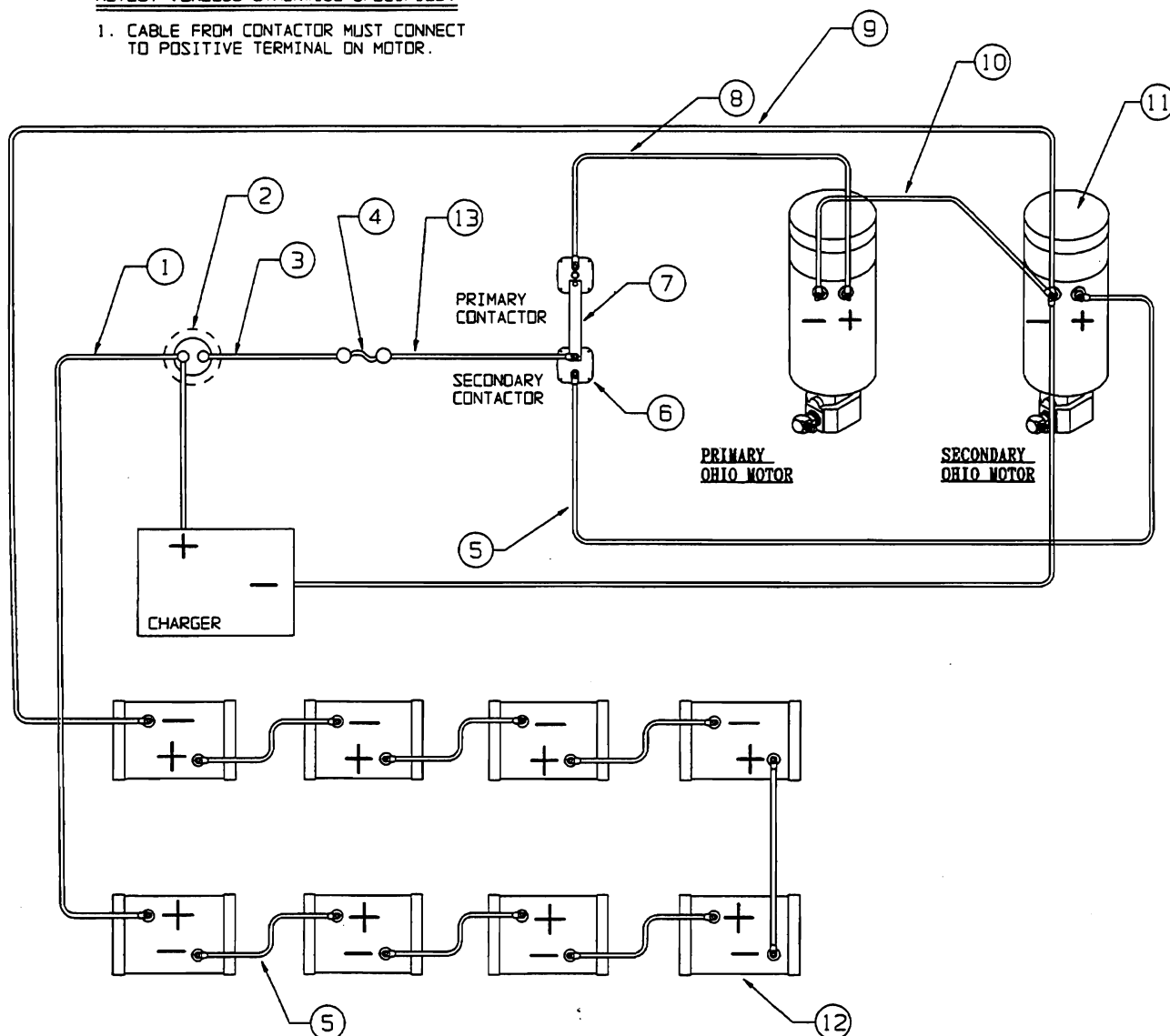
ART608 R4  
BM13436  
3/6/98.

Figure 9-2a. 3068ES Battery Cabinet

8821R2

**NOTES: (UNLESS OTHERWISE SPECIFIED)**

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



ITEM	PART NO.	QTY.	DESCRIPTION
1	8836	1	BATTERY CABLE, UL1283-#2 RED, 85"
2	8841	1	MASTER DISCONNECT SWITCH
3	8837	1	BATTERY CABLE, UL1283-#2 RED, 10"
4	7784	1	FUSE, 225 AMP
5	8426	8	BATTERY CABLE, UL1283-#2 RED, 9"
6	7688	2	CONTACTOR, 48 VOLT DC
7	3199	1	BUSS BAR
8	8851	1	BATTERY CABLE, UL1283-#2 RED, 16 1/2"
9	8835	1	BATTERY CABLE, UL1283-#2 BLACK, 85"
10	8852	1	BATTERY CABLE, UL1283-#2 BLACK, 13 1/2"
11	8853	2	MOTOR, 48 VDC, 4 HP
12	7739	8	BATTERY 6 VOLT - 225S
13	8425	1	BATTERY CABLE, UL1283-#2 RED, 13 1/2"
	7173	9	POSITIVE TERMINAL INSULATOR BOOT, RED (NOT SHOWN)
	7172	2	NEGATIVE TERMINAL INSULATOR BOOT, BLACK (NOT SHOWN)

ART611 R2  
BM13610  
10/24/97

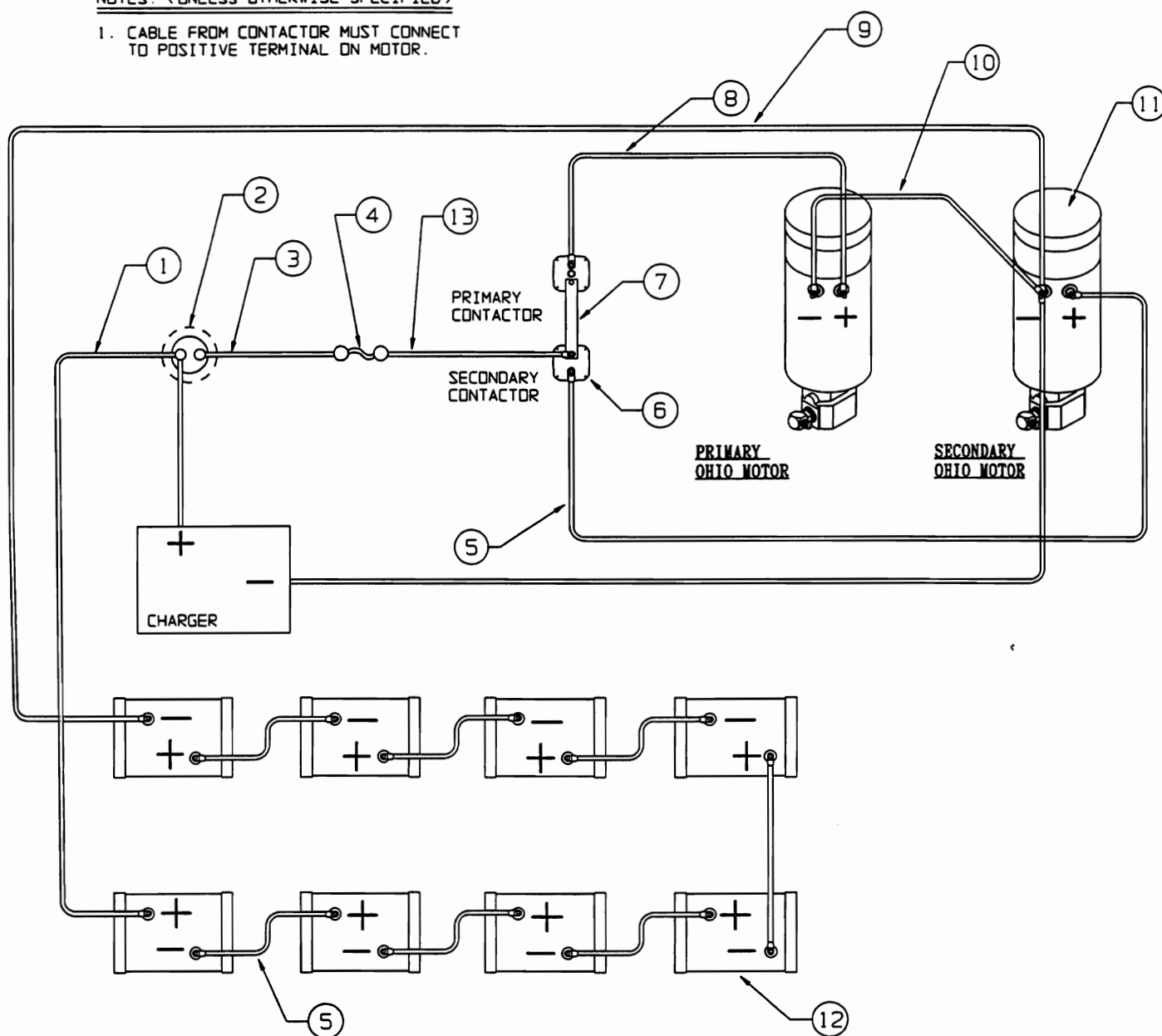
**Figure 9-3a. 3068ES Battery and Motor Cables**

**8821R2**



NOTES: (UNLESS OTHERWISE SPECIFIED)

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

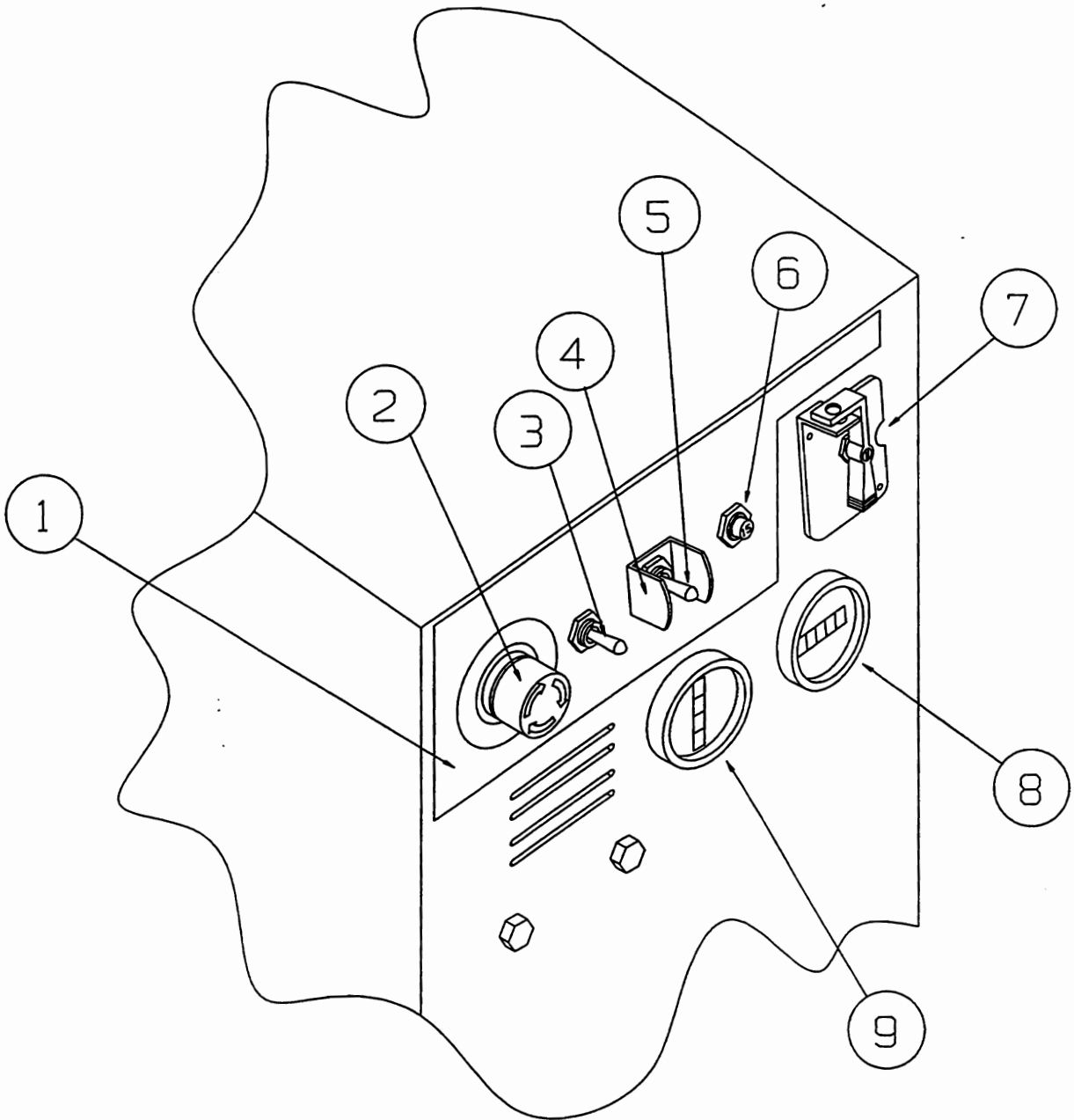


ITEM	PART NO.	QTY.	DESCRIPTION
1	8836	1	BATTERY CABLE, UL1283-#2 RED, 85"
2	8841	1	MASTER DISCONNECT SWITCH
3	8837	1	BATTERY CABLE, UL1283-#2 RED, 10"
4	7784	1	FUSE, 225 AMP
5	8426	8	BATTERY CABLE, UL1283-#2 RED, 9"
6	7688	2	CONTACTOR, 48 VOLT DC
7	3199	1	BUSS BAR
8	8851	1	BATTERY CABLE, UL1283-#2 RED, 16 1/2"
9	8835	1	BATTERY CABLE, UL1283-#2 BLACK, 85"
10	8852	1	BATTERY CABLE, UL1283-#2 BLACK, 13 1/2"
11	8853	2	MOTOR, 48 VDC, 4 HP
12	5970	8	BATTERY, 6V
13	8425	1	BATTERY CABLE, UL1283-#2 RED, 13 1/2"
	7173	9	POSITIVE TERMINAL INSULATOR BOOT, RED (NOT SHOWN)
	7172	2	NEGATIVE TERMINAL INSULATOR BOOT, BLACK (NOT SHOWN)

Figure 9-3. 3068ES Battery and Motor Cables

ART611 R1  
BM13610  
7/17/97

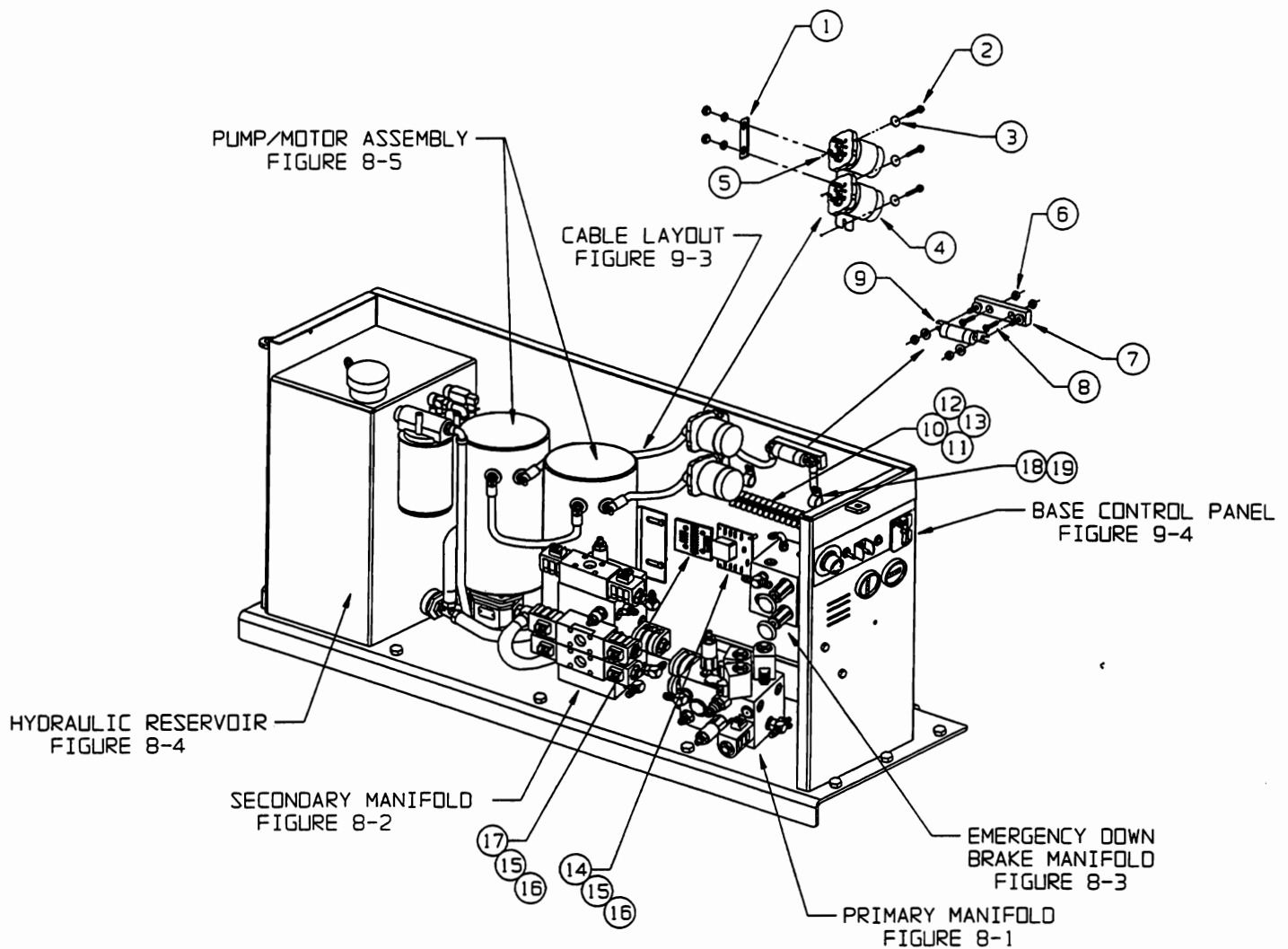
8821R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	8823	1	DECAL, BASE CONTROLS
2	7800	1	STOP SWITCH ASSEMBLY
3	7423	1	TOGGLE SWITCH, 2 POSITION
4	1313	1	SWITCH GUARD
5	5230	1	TOGGLE SWITCH
6	7235	1	15 AMP CIRCUIT BREAKER
7	8841	1	MASTER DISCONNECT SWITCH
8	7909	1	HOUR METER, 24-48 VOLT, DC-OPTION
9	7695	1	BATTERY FUEL GAUGE, 48 VOLT, DC-OPTION
	7155	A/R	PRY OUT HOLE PLUG

ART597 R0  
BM13145  
3/17/97

Figure 9-4. 3068ES Base Control Panel

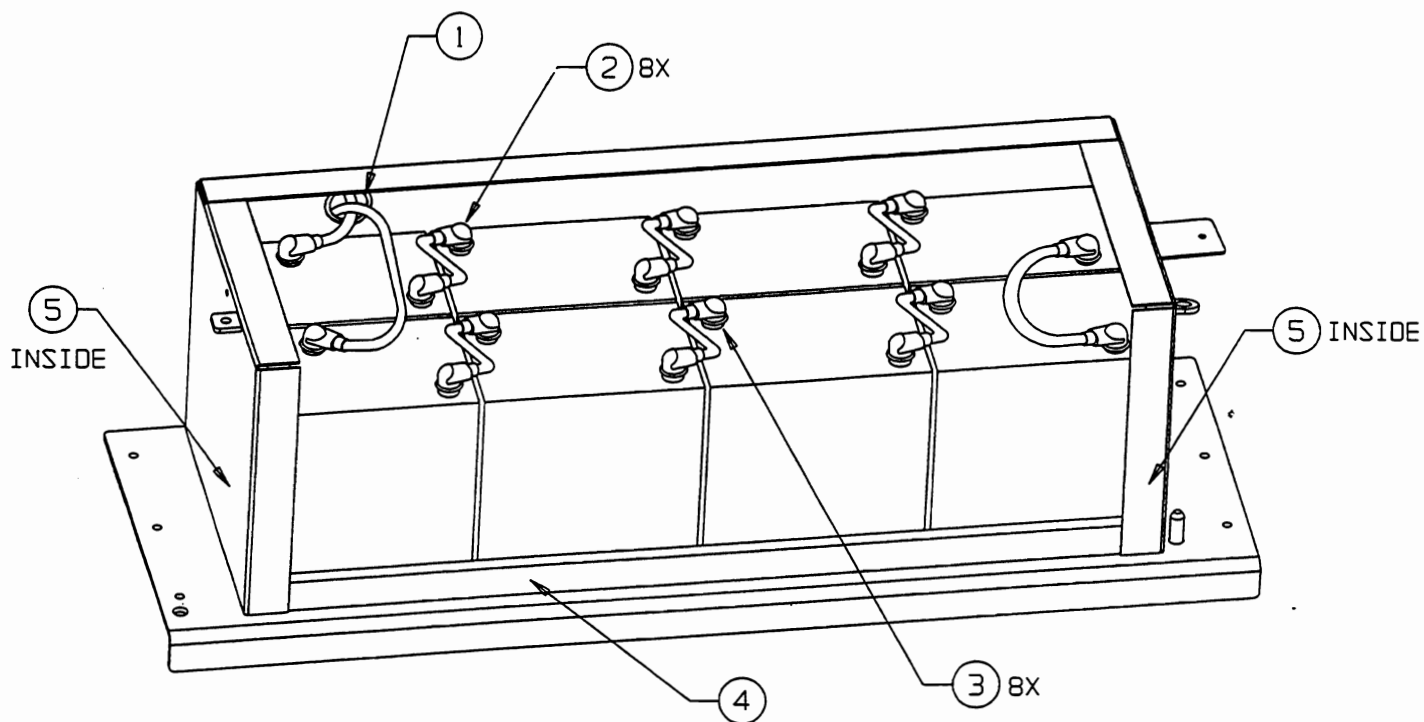


ITEM	PART NO.	QTY.	DESCRIPTION
1	3199	1	BUSS BAR
2	HDW5385	3	SCREW, #8-32, 3/8" LONG
3	HDW4773	3	FLAT WASHER
4	7688	2	CONTACTOR, 48 VOLT DC (INCLUDES NECESSARY HARDWARE)
5	8368	2	DIODE ASSEMBLY (NOT SHOWN)
6	HDW5276	2	NUT, 1/4"-20
7	7785	1	FUSE HOLDER (INCLUDES NECESSARY HARDWARE)
8	HDW7778	2	SCREW, 1/4"-20, 1 1/4" LONG
9	7784	1	FUSE, 225 AMP
10	7970	1	STRIP MARKER, 1-22
11	6947	1	TERMINAL STRIP
12	HDW5364	3	NUT, 6-32
13	HDW5363	3	SCREW, 6-32, 1" LONG
14	8842	1	RELAY, TIME DELAY, 48V
15	HDW8732	8	SCREW, #4, 1" LONG
16	HDW7886	8	NUT, 4-40
17	8882	1	CIRCUIT BOARD
18	HDW5882	2	CABLE CLAMP
19	HDW6455	2	SCREW, 1/4"-20, 1/2" LONG

ART599 R1  
B413182  
7/17/97

Figure 9-5. 3068ES Hydraulic/Electric Cabinet

8821R1



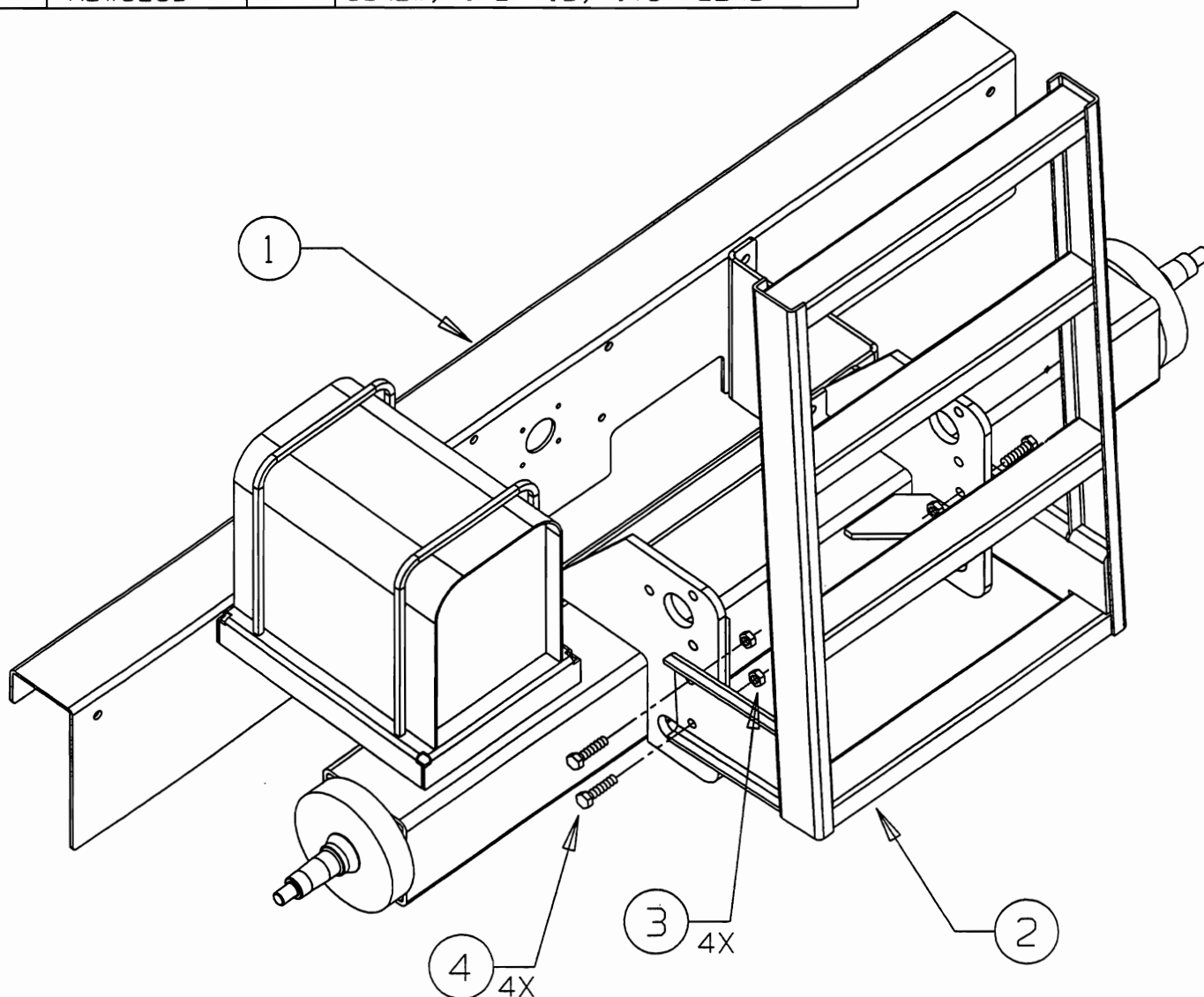
ITEM	PART NO.	QTY.	DESCRIPTION
1	5863	1	GROMMET, 3/16"X 1 1/2"X 1 3/4"
2	7172	8	NEGATIVE TERMINAL INSULATOR BOOT, BLACK
3	7173	8	POSITIVE TERMINAL INSULATOR BOOT, RED
4	14396	1	SPACER, BATTERY HOLDER
5	14661	2	SPACER, SIDE (NOT SHOWN)

ART599 R1  
BM13192  
7/17/97

Figure 9-6. 3068ES Battery Cabinet

8821R1

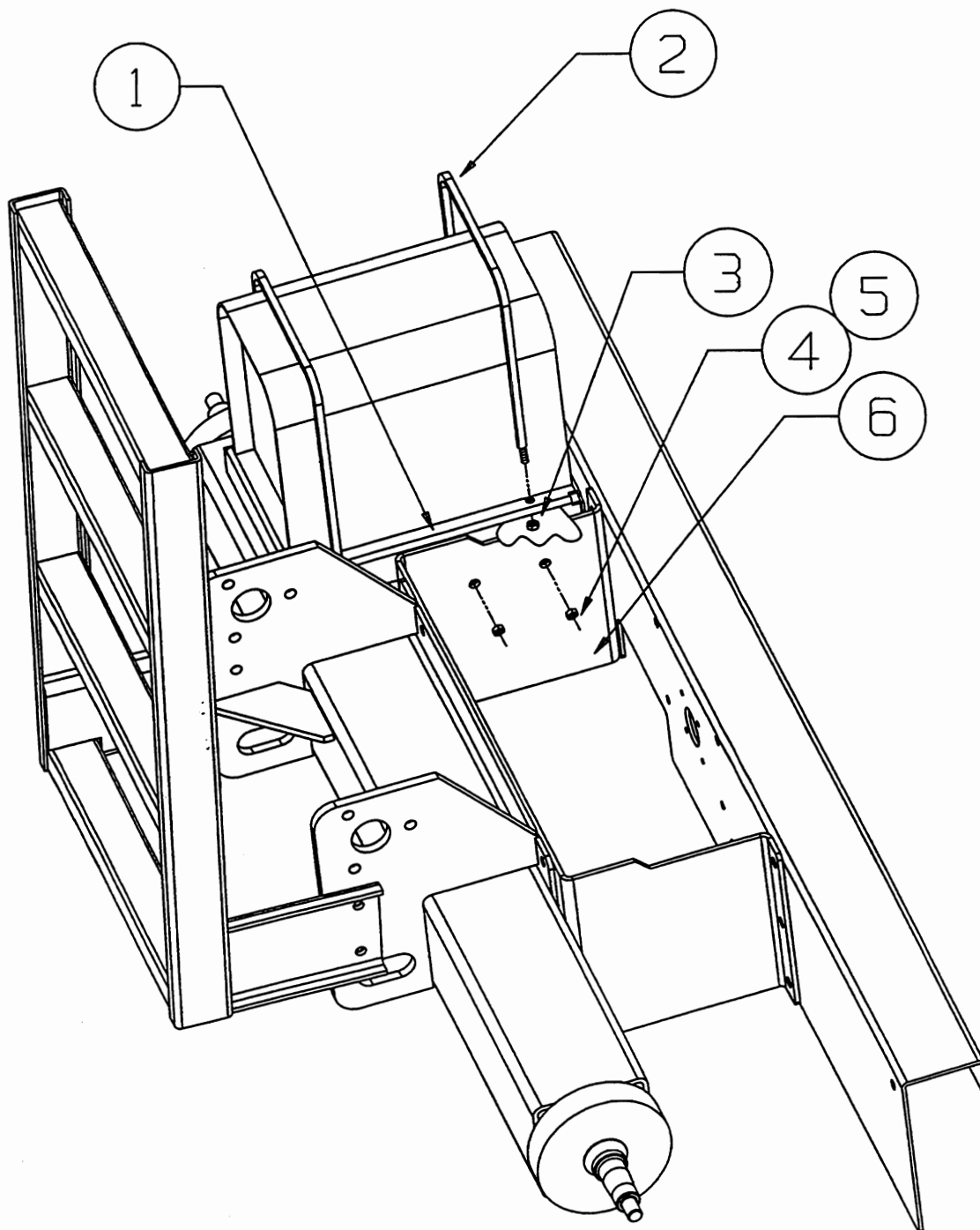
ITEM	PART NO.	QTY.	DESCRIPTION
1	14323	1	BASE
2	14386	1	ACCESS LADDER
3	HDW8457	4	NUT, 1/2"-13
4	HDW8283	4	SCREW, 1/2"-13, 1.5" LONG



ART614 R1  
BM13702  
7/17/97

Figure 9-7. 3068ES Access Ladder

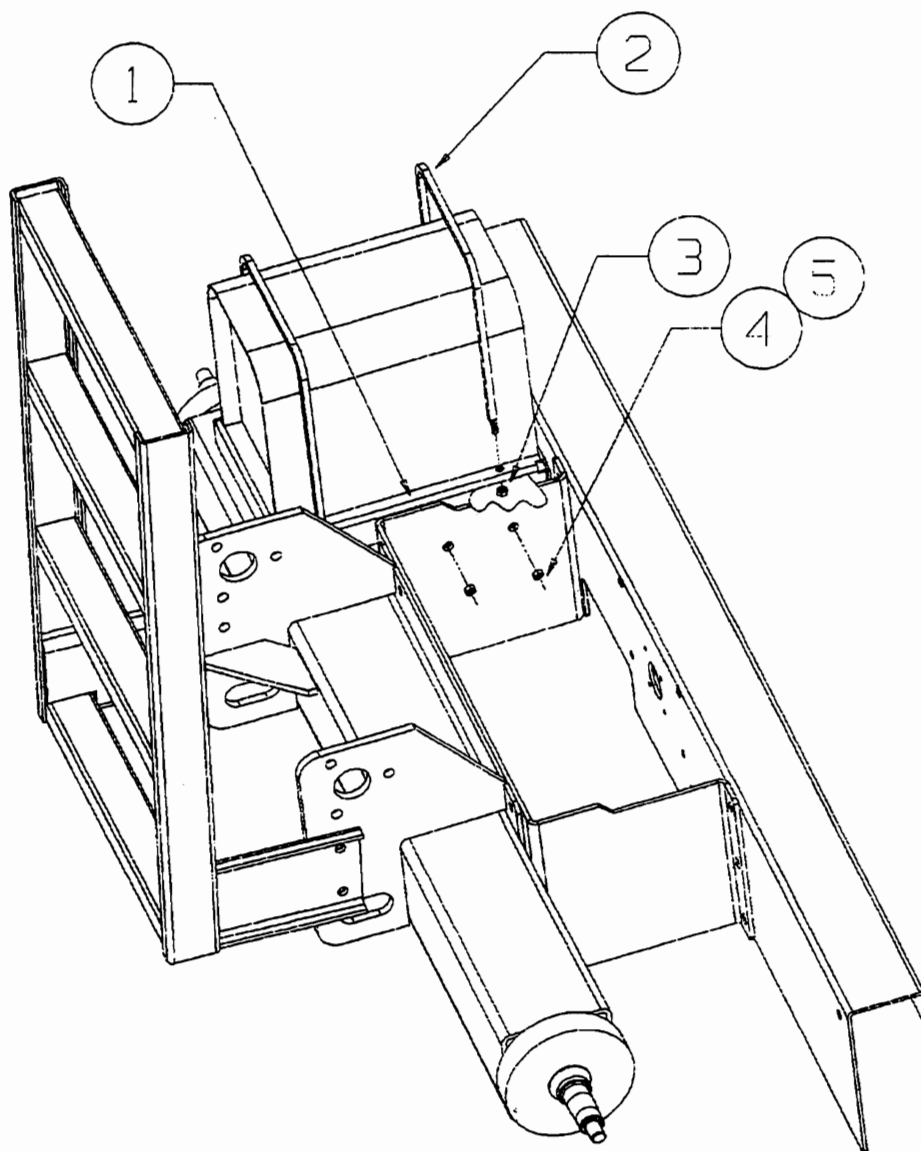
8821R1



ITEM	PART NO.	QTY.	DESCRIPTION
1	14571	1	CHARGER TRAY
2	14603	2	U BRACKET, CHARGER HOLD DOWN
3	HDW5680	4	NUT, 3/8"-24
4	HDW6211	2	SCREW, 1/2"-13, 1 1/4" LONG
5	HDW6248	2	NUT, 1/2"-13
6	14250	1	REAR AXLE/POTHOLE MOUNTING PLATE

ART617 RO  
BM13795  
5/28/97

Figure 9-8. Charger to Base Assembly



ITEM	PART NO.	QTY.	DESCRIPTION
1	14571	1	CHARGER TRAY
2	14603	2	U BRACKET, CHARGER HOLD DOWN
3	HDW6281	4	LOCK NUT, 3/8"-16
4	HDW6211	2	SCREW, 1/2"-13, 1 1/4" LONG
5	HDW6248	2	NUT, 1/2"-13

ART617 R2  
BM13795  
5/23/98

**Figure 9-8a. 3068ES Charger to Base Assembly**

**8821R2**

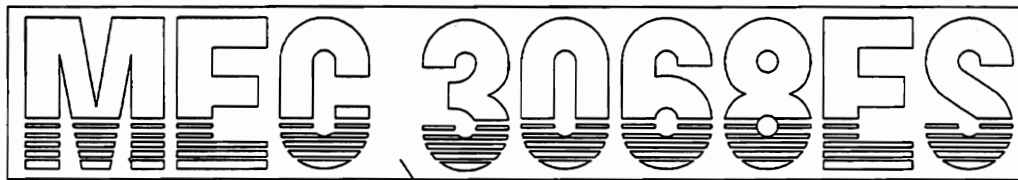




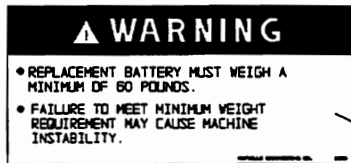




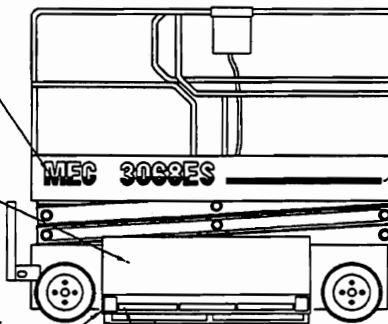
8817



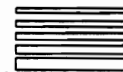
8520-INSIDE CABINET, BACK WALL



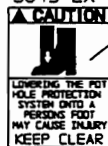
RIGHT



8402



9043-2X



7982 - 4X

ART1613 84  
BN13605  
10/24/97

Figure 9-9a. 3068ES Decals

8821R2



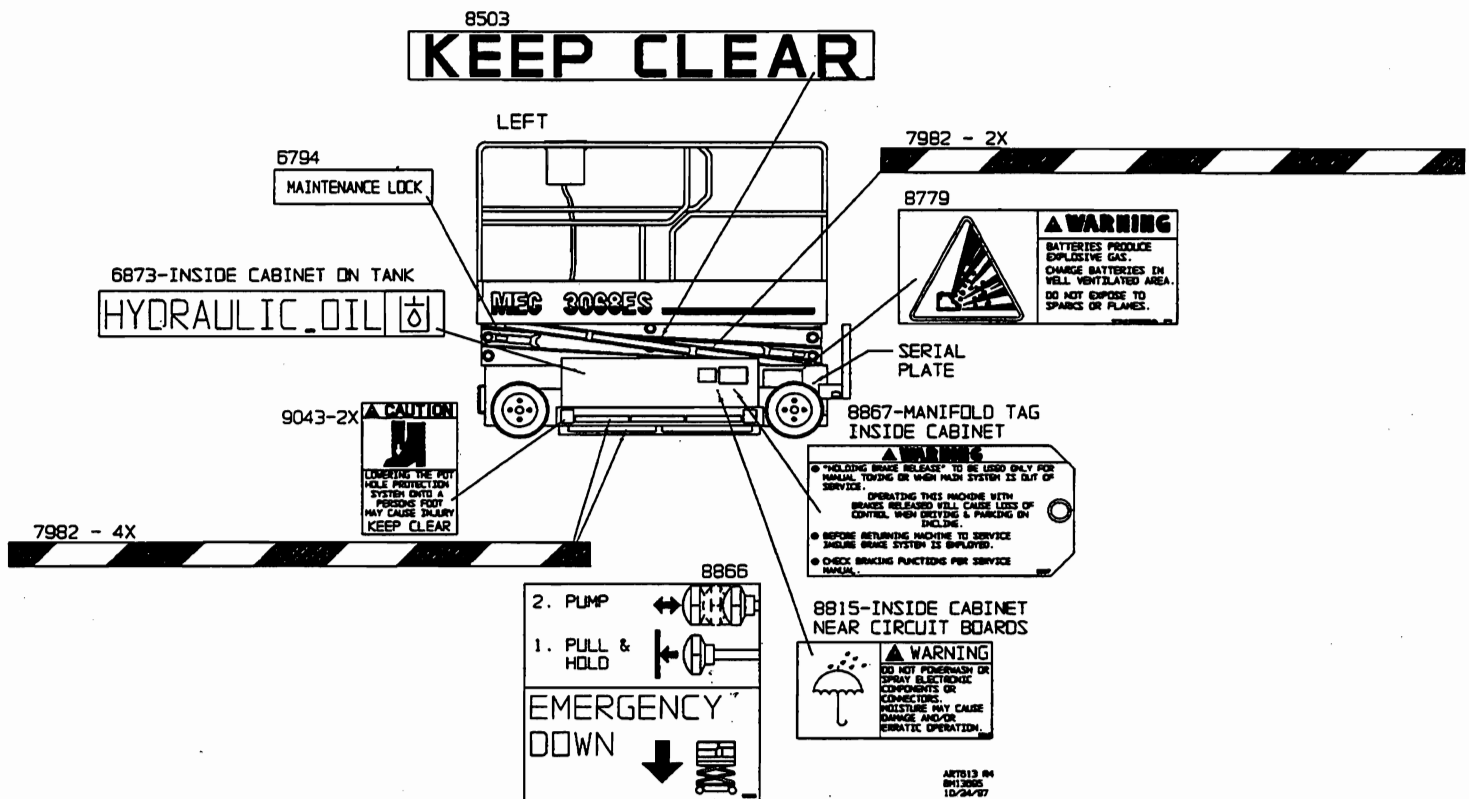
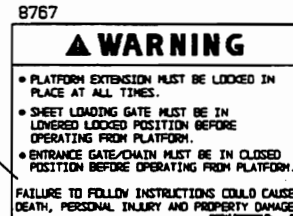


Figure 9-9a. 3068ES Decals





**8519**

**▲ WARNING**

- REPLACE TIRES WITH MANUFACTURER'S EQUIPMENT ONLY.
- FAILURE TO USE MANUFACTURER'S TIRES MAY CAUSE MACHINE INSTABILITY.
- REFER TO MAINTENANCE MANUAL FOR REPLACEMENT PART NUMBER.

ART813 R  
BM12005  
10/26/97

8821R2

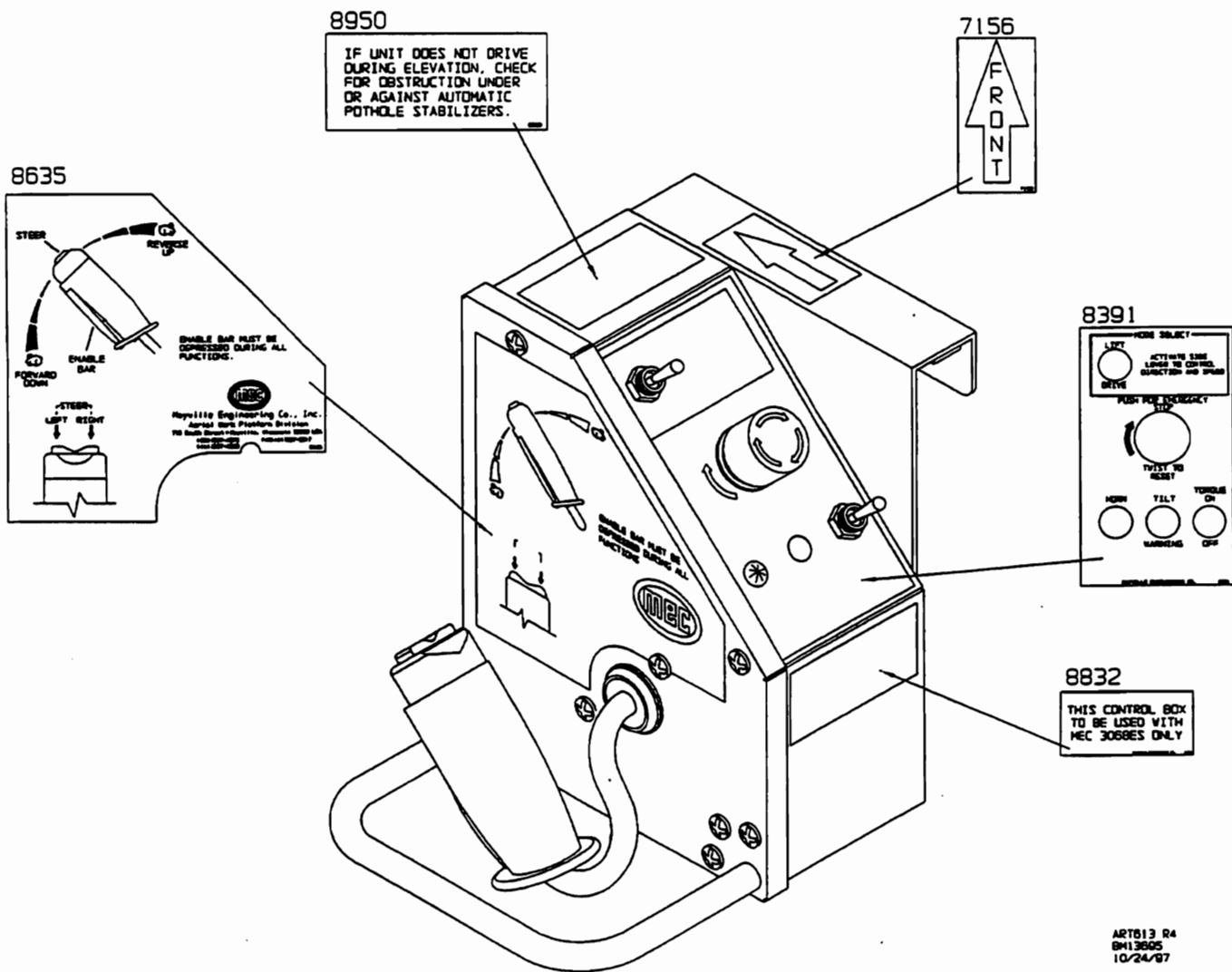


Figure 9-9a. 3068ES Decals

8821R2



8817



Figure 9-9. 3068ES Decals

8821R1

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 2%.
- DO NOT DRIVE UP OR DOWN A GRADE OF OVER 20%. MACHINE MUST BE TOWED UP OR DOWN ANY GRADE EXCEEDING 20%.

### 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 HOIST PLATFORM IS NOT WORKING 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 OVERIDE SAFETY DEVICES.
8. DO NOT LEAVE MACHINE UNATTENDED WITH KEY IN THE IGNITION.
9. DO NOT RAISE PLATFORM WHILE MACHINE IS ON A TRUCK, POND, LAKE, OR OTHER DEVICE OR VEHICLE.
10. DO NOT USE LADDERS, SCRAPPOLES, 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!

NEVER EXCEED MAXIMUM CAPACITY OF THE MACHINE. NEVER EXCEED MAXIMUM CAPACITY OF THE MACHINE. NEVER EXCEED MAXIMUM CAPACITY OF THE MACHINE.

ELECTROSHOCK HAZARD. THIS MACHINE IS NOT INSULATED.

NEVER OPERATE THIS MACHINE WITH ANY PART OF YOUR BODY OR ANY OBJECT IN CONTACT WITH THE PLATFORM OR EXTENSION.

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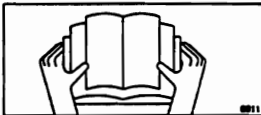
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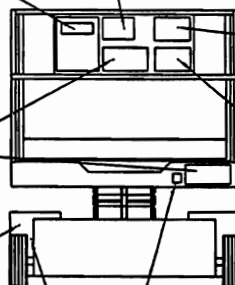
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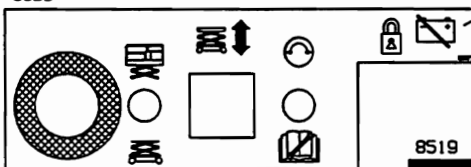
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MAXIMUM PLATFORM CAPACITY - EVENLY DISTRIBUTED			
EXTENSION RETRACTED		EXTENSION EXTENDED	
1000 LBS 454 KGS		600 LBS 272 KGS	400 LBS 181 KGS
3-PERSONS		2-PERSONS	
		1-PERSON	

REAR



8823



8619

8519

## WARNING

- REPLACE TIRES WITH MANUFACTURER'S EQUIPMENT ONLY.
- FAILURE TO USE MANUFACTURER'S TIRES MAY CAUSE MACHINE INSTABILITY.
- REFER TO MAINTENANCE MANUAL FOR REPLACEMENT PART NUMBER.

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.

8519

## WARNING

- REPLACE TIRES WITH MANUFACTURER'S EQUIPMENT ONLY.
- FAILURE TO USE MANUFACTURER'S TIRES MAY CAUSE MACHINE INSTABILITY.
- REFER TO MAINTENANCE MANUAL FOR REPLACEMENT PART NUMBER.

ART1913 R2  
01/2005  
6/18/97

Figure 9-9. 3068ES Decals

8821R1

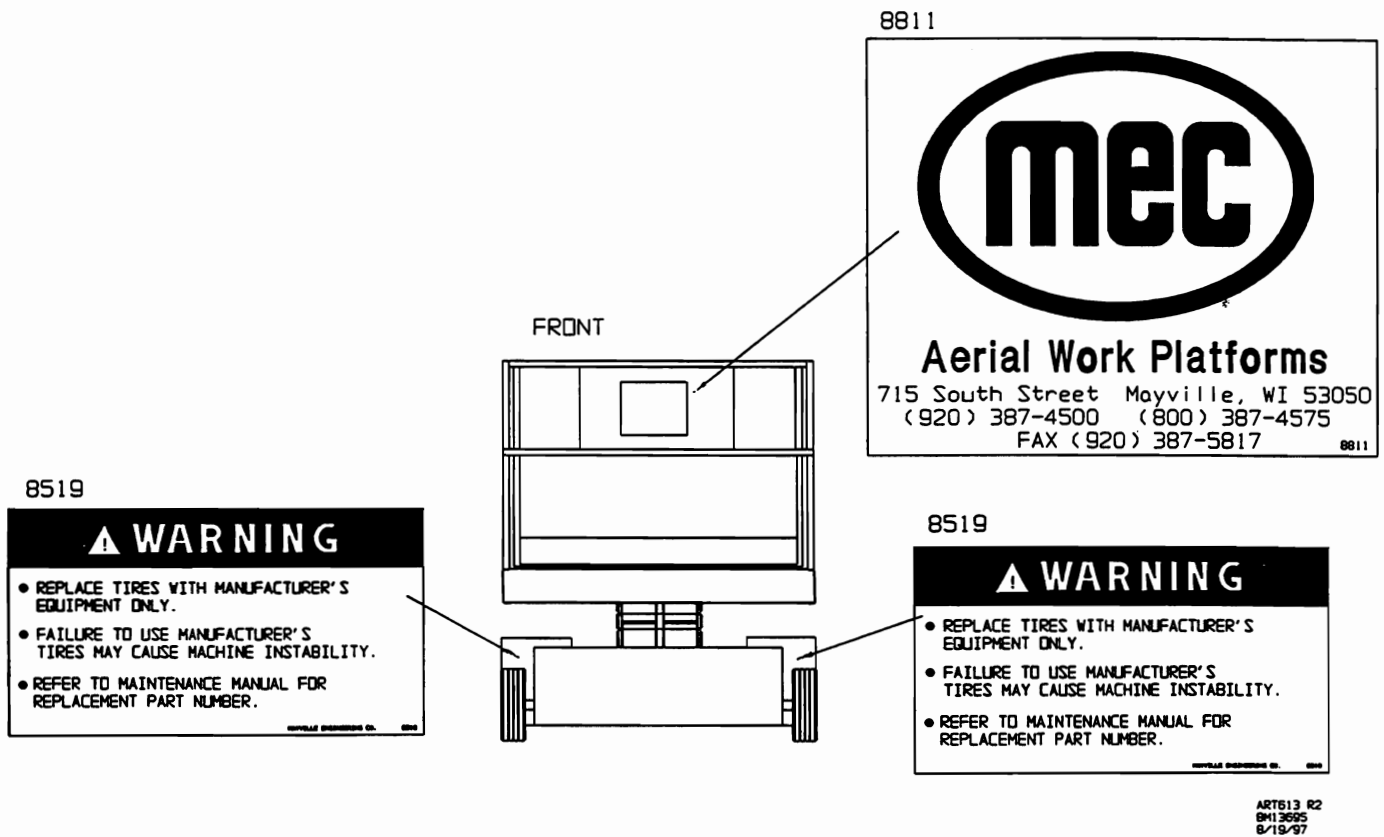


Figure 9-9. 3068ES Decals

8821R1

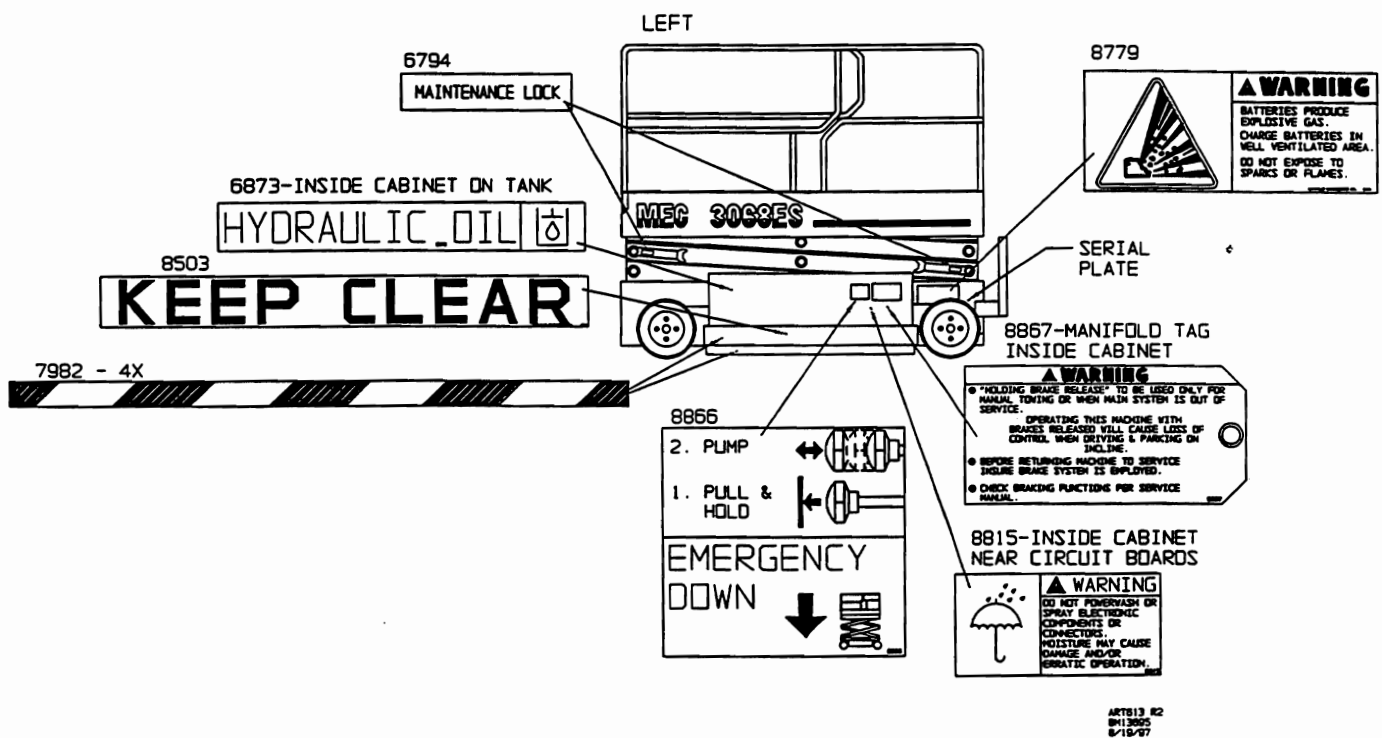


Figure 9-9. 3068ES Decals

8821R1

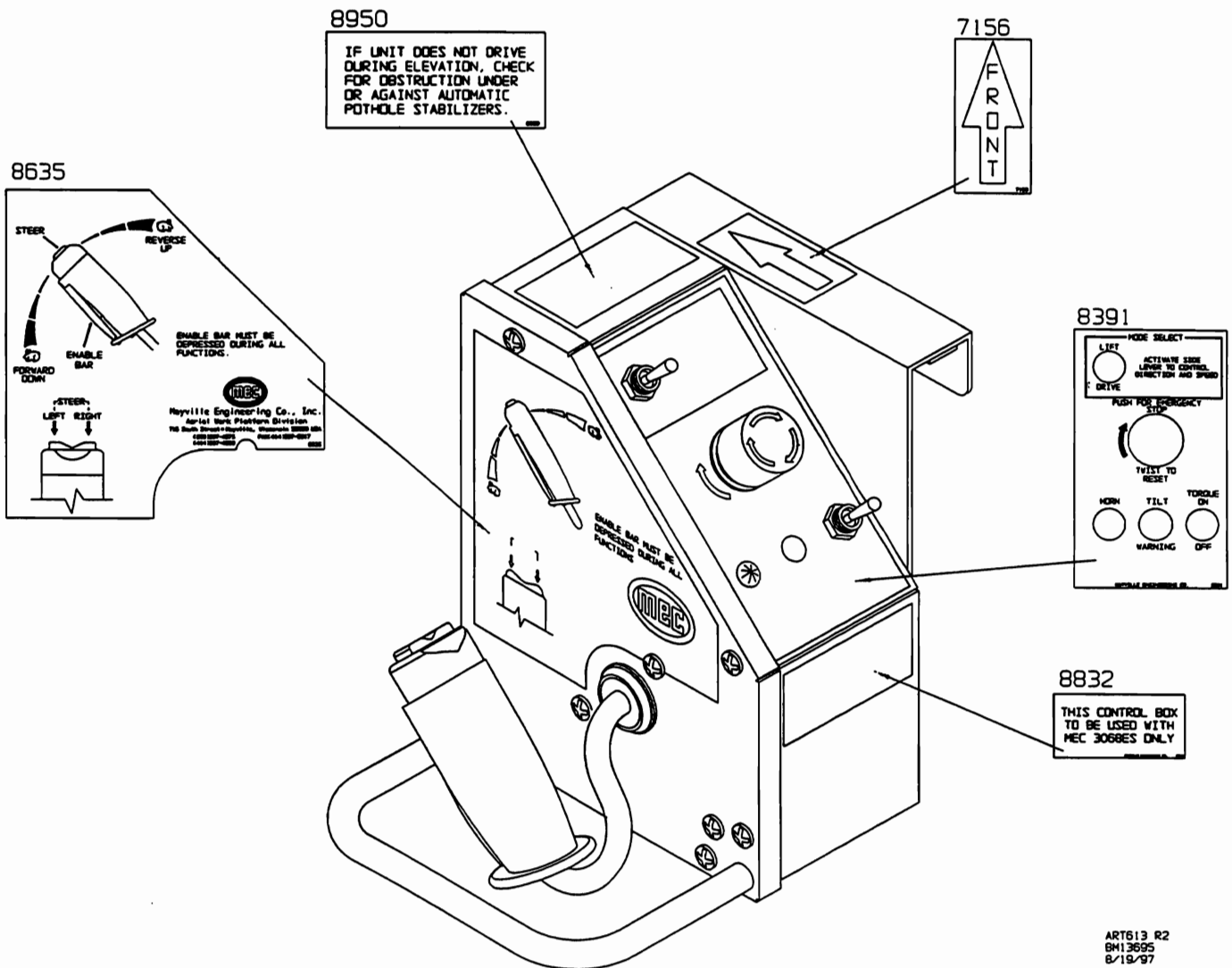


Figure 9-9. 3068ES Decals

8821R1

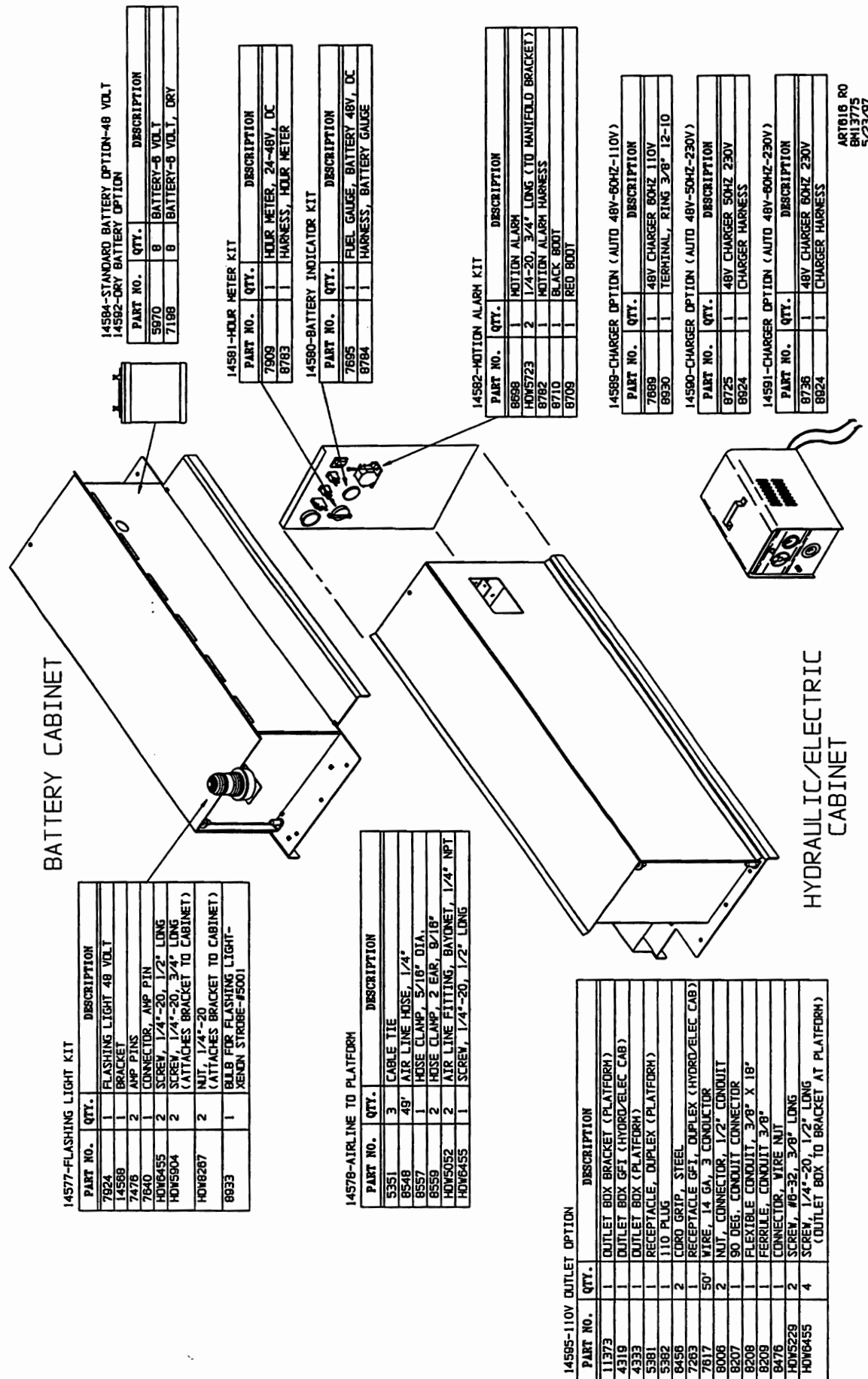


Figure 9-10. 3068ES Options

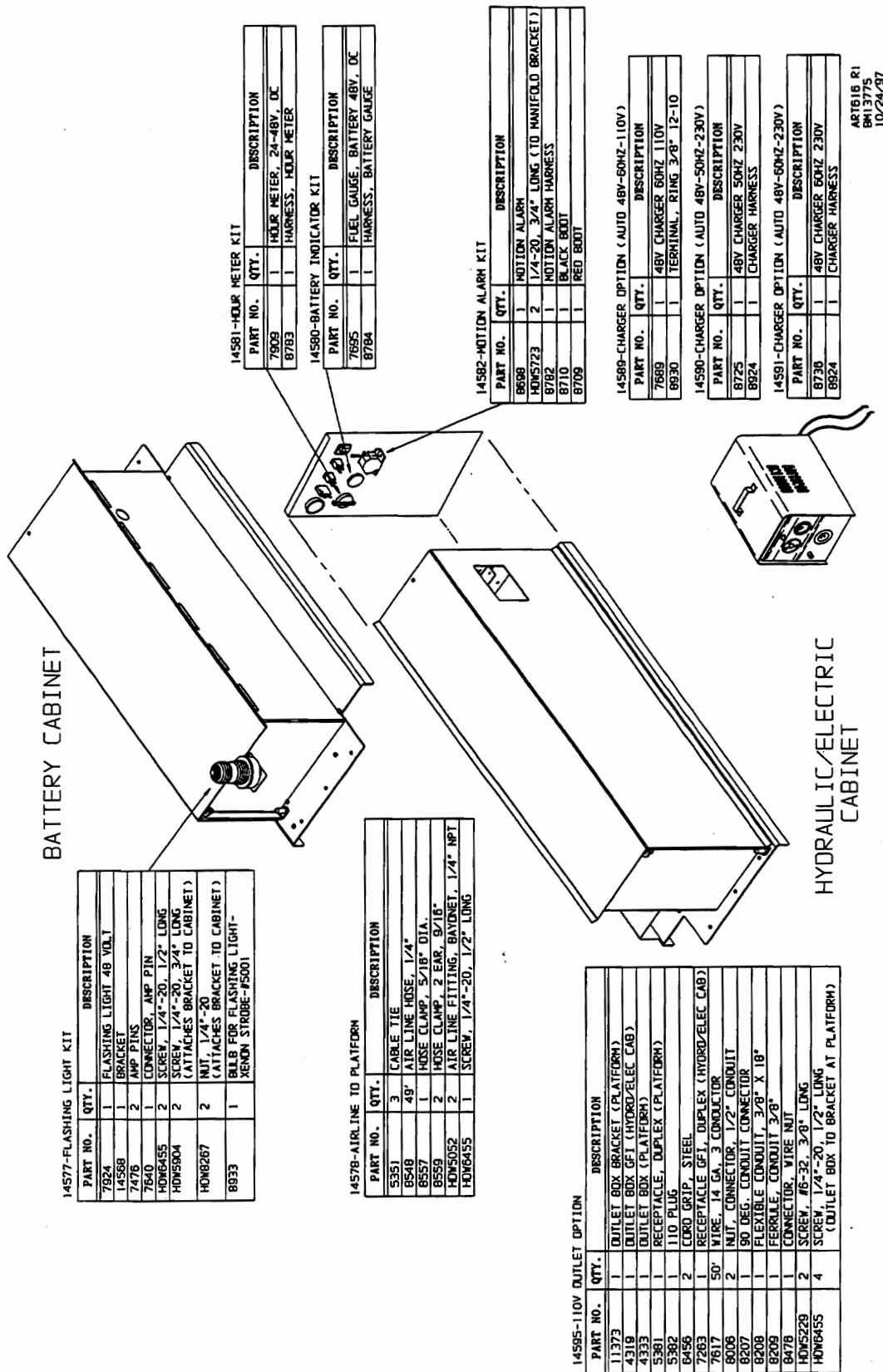


Figure 9-10a. 3068ES Options





**Please fill out completely**

Ordered By: \_\_\_\_\_

Your Fax No. \_\_\_\_\_

Ship To: \_\_\_\_\_

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**Ship VIA**

**\*\*Fed Ex shipments require Fed Ex account number**

**All backordered parts will be shipped when available via the same ship method as original order unless noted below:**

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