

SKYJACK™

OPERATING MAINTENANCE & PARTS MANUAL

SJM SERIES



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 **WARNING**

You are required by ANSI/SIA A92.6-1990 to read and understand **YOUR RESPONSIBILITIES** in the Manual Of Responsibilities before you use or operate this work platform.

FAILURE TO COMPLY with your REQUIRED RESPONSIBILITIES in the use and operation of the work platform could result in death or serious injury.

OPERATOR SAFETY REMINDERS

The National Safety Council reminds us that most accidents are caused by the failure of some individuals to follow simple and fundamental safety rules and precautions. Common sense dictates the use of protective clothing when working on or near machinery. Use appropriate safety devices to protect your eyes, ears, hands, feet and body.

You, as a careful operator, are the best insurance against an accident. Therefore, proper usage of this work platform is mandatory. The following pages of this manual should be read and understood completely before operating the work platform. Any modifications from the original design are strictly forbidden without written permission from SKYJACK, Inc.

SERVICE POLICY AND WARRANTY

SKYJACK, Inc. warrants each new work platform to be free of defective parts and workmanship during the first 12 months. Any defective part will be replaced or repaired by your local SKYJACK dealer at no charge for parts or labor. Refer to Warranty Statement for extensions or exclusions.

NOTE


SKYJACK, Inc. is continuously improving and expanding product features on it's equipment; therefore, specifications and dimensions are subject to change without notice.



This Safety Alert Symbol Means Attention!

Become Alert! Your Safety Is Involved.

The Safety Alert Symbol identifies important safety messages on machines, safety signs, in manuals, or elsewhere. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

 DANGER	VOLTAGE RANGE	MINIMUM SAFE APPROACH DISTANCE	
	(PHASE TO PHASE)	(FEET)	(METERS)
THIS MACHINE IS NOT INSULATED. MAINTAIN SAFE CLEARANCES FROM ELECTRICAL POWER LINES AND APPARATUS. YOU MUST ALLOW FOR PLATFORM SWAY, ROCK OR SAG. THIS WORK PLATFORM DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.	(0 300)	AVOID CONTACT	
	(300 50)	10	3.05
	(50 200)	15	4.60
	(200 350)	20	6.10
	(350 500)	25	7.62
	(500 750)	35	10.67
	(750 1000)	45	13.72

FAILURE TO AVOID THIS HAZARD WILL RESULT IN DEATH OR SERIOUS INJURY!

SERVICE POLICY AND WARRANTY

SKYJACK, Inc. warrants each new work platform to be free of defective parts and workmanship during the first 12 months. [Refer to Warranty Statement on Page iv for details.](#)

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SCOPE OF THIS MANUAL

This manual applies to the ANSI/SIA, CSA and CE versions of the SJIII Series work platform models listed on Section 1, Page 3. Equipment identified with "ANSI/CSA" meets the ANSI/SIA-A92.6-1990 standards. Equipment identified with "CSA" meets the CAN3-B354.2&.3-M82 standards. Equipment identified with "CE" meets the requirements for the European countries, i.e. Machinery Directive 89/392/EEC and EMC Directive 89/336/EEC and the corresponding EN standards.

WARRANTY STATEMENT

SKYJACK, Inc. warrants each new work platform to be free of defective parts and workmanship. During the first full year, labor and defective parts will be provided by the local authorized Skyjack dealer without charge. For the following 48 months, structural components found to be defective will be replaced or repaired at no charge.

A warranty registration card is supplied with each work platform. The warranty is only effective when the warranty card has been completed and returned to Skyjack within 15 days from the time of billing. When work platforms are put into stock, the warranty period does not start until the work platform has been shipped to the dealer's customer. If a unit is put into service and no warranty card has been mailed to Skyjack, Inc., the warranty period will commence 15 days from the date the dealer was invoiced for the work platform.

All warranty claims are subject to approval by Skyjack's Service Department. Skyjack, Inc. reserves the right to limit or adjust claims with regard to defective parts, labor or travel time based on usual and customary guidelines. Parts purchased from sources other than Skyjack will not be covered under this warranty. Misuse or improper operation, lack of normal maintenance and inspections as outlined in this Operating/Maintenance and Parts Manual, alterations to original design and/or components or accidents will void all warranty. **Batteries are not covered by this warranty.**

The above mentioned warranty statement is exclusive and no other warranty whether written, oral or implied shall apply. Skyjack excludes any implied warranty of merchantability and fitness and accepted no liability for consequential damages or for other negligence.

WARRANTY PROCEDURES

The selling distributor or authorized dealer shall be responsible for the complete handling of customer claims under this warranty. Here's what to do:

1. When a customer files a claim under this warranty, contact Skyjack's Service Department to verify warranty coverage. **NOTE:** The complete serial number of the work platform is required to verify the claim.
2. When Skyjack's Service Department verifies warranty coverage, they will also issue an RA (Return Authorization) number for the return of any defective component(s). All items over \$25.00 in value must be returned to Skyjack, Inc.

3. Fill out a Warranty Claim Form from dealer's supply of claim forms. Then notify Skyjack's Service Department of the warranty claim number on the form used.

4. The distributor/dealer should then file a warranty claim with Skyjack, Inc. describing the nature of the defect, probable cause, work performed, travel hours, and labor hours listed separately. Warranty labor will be paid at a rate of \$42.00 per hour. The travel allowance will be paid at the same hourly rate within the dealer's specified territory, limited to a maximum of four (4) hours. If a part has serviceable components, PLEASE replace the bad component. For instance, if you have a bad switch on a controller, please replace the switch. Hydraulic cylinders should be repacked, unless they are damaged beyond repair. Engine failures should be directed to your local engine distributor and covered by the manufacturer's warranty. Skyjack will accommodate you and your labor. Labor rates and travel allowances are subject to change without notice.

5. Warranty claims must be received by Skyjack within 15 working days from the date of the repair. Warranty claims received with insufficient information will be returned for correction or completion.

6. Materials returned for warranty inspection must have the following procedures:

- A. Carefully packaged to prevent additional damage during shipping.

- B. Drained of all contents and all open ports capped or plugged.

- C. Shipped in a container tagged or marked with the RA number.

- D. Shipped **PREPAID**. Any item(s) returned for warranty by any other means may be refused and returned unless prior approval from Skyjack is obtained.

- E. Items shipped to the dealer will be sent freight prepaid and added to the invoice.

Failure to comply with the above procedures may delay approval and processing of the warranty claim and could result in the denial of a warranty claim. Skyjack's dealer's accounts must be kept current in order to approve and issue warranty credits. Skyjack reserves the right to withhold issuance of warranty credits to a dealer if their account is not in good standing. This is subject to change without prior notice.

SECTION 1

INTRODUCTION

PURPOSE OF EQUIPMENT

The SKYJACK SJM Series Work Platform is designed to transport and raise personnel, tools and materials to overhead work areas.

USE OF THE EQUIPMENT

The work platform (Fig. 1-2) is a highly maneuverable, mobile work station. Lifting and driving **MUST** be on a flat, level, compacted surface.

WARNINGS

The operator **MUST** read and completely understand the safety panel labels (Fig. 1-1) and **ALL** other warnings in this manual and on the work platform before operating the work platform. Compare the labels on the work platform with the labels found throughout Section 2 of this manual. If any labels are damaged or missing, replace them immediately.

DESCRIPTION

The work platform consists of three major assemblies, the platform, lifting mechanism and the base. An operator's control box is mounted on the platform railing. Auxiliary and emergency controls are located at the base.

PLATFORM - The platform is constructed of a tubular support frame, a skid-resistant deck surface, and 43-1/2" high railings (Model 3015) or 41" high railings (Model 3219) with 6" toe boards and mid-rails. The platform can be entered from the rear thru an entry chain or optional spring-retained gate with latch. The platform is also equipped with a 3 ft. extension platform.

LIFTING MECHANISM - The lifting mechanism is constructed from steel tubing making up a scissor-type assembly. The scissor-type assembly is raised and lowered by a single-acting hydraulic lift cylinder. A pump, driven by a DC motor, provides hydraulic power to the lift cylinder. A safety bar located at the front of the lifting mechanism prevents (when properly positioned) the scissor-type assembly from being lowered while maintenance or repairs are being performed within the lifting mechanism.






BASE - The base is a rigid one piece weldment which supports two swing-out trays. One tray contains the hydraulic components, up/down controls and electrical components. The other tray contains the battery charger and four (4) 6 volt 220AH batteries. The front axle has two drivable wheels, steerable by a hydraulic cylinder. The rear axle is fixed and has one or two spring-applied hydraulically-released parking brakes.

OPERATOR'S CONTROL BOX - A removable control box, mounted at the right front of the platform, contains controls for work platform motion and emergency stopping.

SERIAL NUMBER NAMEPLATE - The serial number nameplate, located at the rear of the machine, lists the model number, serial number, capacity, platform height and hydraulic pressures for this work platform. Use this information for proper operation and maintenance and when ordering service parts.

OPTIONAL ACCESSORIES - The SKYJACK SJM Series Work Platform is designed to accept a variety of optional accessories. These are listed in Table 1-1. Specifications and Features. Operating instructions for these options (if required) are located in Section 2 of this manual.

DANGER

TIP-OVER HAZARDS	ELECTROCUTION HAZARD
 <p>DO NOT DRIVE NEAR DROP-OFFS, HOLES, OPEN ELEVATOR SHAFTS, AND LOADING DOCKS.</p>	 <p>THIS MACHINE IS NOT INSULATED MAINTAIN SAFE CLEARANCES FROM ELECTRICAL POWER LINES AND APPARATUS YOU MUST ALLOW FOR PLATFORM SWAY, ROCK OR SAG THIS WORK PLATFORM DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR</p>
 <p>DO NOT RAISE PLATFORM ON UNEVEN OR SOFT SURFACES. DO NOT DRIVE ONTO UNEVEN OR SOFT SURFACES WHEN ELEVATED.</p>	<h3>OTHER HAZARDS</h3>
 <p>DO NOT RAISE PLATFORM ON SLOPE OR DRIVE ONTO SLOPE WHEN ELEVATED.</p>	<ol style="list-style-type: none"> 1. DO NOT OVERLOAD. 2. DO NOT USE WITHOUT RAILINGS AND ENTRY GATE/CHAIN/BAR IN PLACE. 3. DO NOT USE IF WORK 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 UNDER THE INFLUENCE OF ALCOHOL OR DRUGS. 7. DO NOT OVERRIDE SAFETY DEVICES. 8. DO NOT LEAVE MACHINE UNATTENDED WITH KEY IN KEY SWITCH. 9. DO NOT RAISE PLATFORM WHILE MACHINE IS ON A TRUCK, FORK LIFT, OR OTHER DEVICE OR VEHICLE. 10. DO NOT USE LADDER, SCAFFOLDING, OR OTHER DEVICES TO INCREASE SIZE OR WORKING HEIGHT OF PLATFORM. 11. DO NOT USE WITH IMPROPERLY INFLATED TIRES. 12. DO NOT USE WITH DAMAGED WHEELS OR TIRES. 13. DO NOT USE WITH TIRES OR TIRE FILLS THAT ARE NOT PER MANUFACTURER'S SPECIFICATIONS. REFER TO MAINTENANCE MANUAL.
 <p>DO NOT RAISE PLATFORM IN WINDY OR GUSTY CONDITIONS.</p>	

DEATH OR SERIOUS INJURY WILL RESULT FROM IMPROPER USE OF THIS EQUIPMENT! **SKYJACK[™]**
 SKYJACK, INC.

⚠ CAUTION

THIS WORK PLATFORM TO BE USED BY TRAINED AND AUTHORIZED OPERATORS ONLY. IT IS THE OPERATOR'S RESPONSIBILITY TO:

1. READ AND UNDERSTAND ALL CAUTION AND DANGER WARNINGS AND OPERATING MANUAL.
2. PERFORM DAILY MAINTENANCE INSPECTIONS.
3. HAVE ALL WORN OR DAMAGED PARTS REPLACED.
4. FASTEN ENTRY GATE/CHAIN/BAR.
5. USE WORK PLATFORM ONLY ON HARD LEVEL SURFACES.

OWNERS AND/OR USERS ARE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THIS MACHINE AS REQUIRED BY ANSI A92.6 AND THE OPERATING/MAINTENANCE AND PARTS MANUAL.

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*Figure 1-1. Safety Panel Labels
 (Located at the front center of platform on the railing)*

Table 1-1. Specifications and Features

MODEL	WEIGHT*	WIDTH	LENGTH	HEIGHT			PLATFORM		SPEED		GRAD-ABILITY		
				Working	Platform	Lowered	Drive	Size	Capacity	TIRES		Drive	Raise
3015	2200 (998kg)	30.0" (.76m)	64.0" (1.63)	21.0' (6.4m)	15.0' (4.6m)	78.0" (1.98m)	FULL	28" x 64" (.71x1.63m)	500 lbs. (227kg)	@	2 mph (3.2 kph)	19 sec.	20%+
3219	2430 (1102kg)	32.0" (.81m)	64.0" (1.63)	25.0' (7.6m)	19.0' (5.8m)	79.0" (2.01m)	FULL	28" x 64" (.71x1.63m)	500 lbs. (227kg)	@	2 mph (3.2 kph)	30 sec.	20%+

* Overall capacity and materials not to exceed rated load. Extension platform 250 lbs./1 occupant @ 12 x 4.00 x 8 Solid Rubber

STANDARD FEATURES

- Descent Alarm
- Front Wheel Drive With Tight Turning Radius
- 2-Speed Joystick Forward and Reverse Control
- Swing-out Side Trays
- Spring-Applied Hydraulically-Released Parking Brake
- Puncture-Proof, Solid Rubber Tires
- Manual Lowering Valve
- Driveable at Full Height
- 3 Ft. Extension Platform
- Gradability at 20% +

OPTIONAL EQUIPMENT

- Spring-Loaded Half-Height Gate
- Spring-Loaded Full-Height Gate
- 110V GFI AC Outlet on Platform
- Movement Alarm
- Solid Rubber, Non-Marking Tires
- Flashing Amber Light
- Additional Parking Brake
- 800W AC Generator
- Operator Horn
- EE- Rating
- Tilt Alarm With Lift Cutout
- "Shop Air" Line To Platform
- Safety Belt/Lanyard Attachment Rings
- 3 Ft. Powered Extension Platform

WORK PLATFORM MAJOR COMPONENT IDENTIFICATION

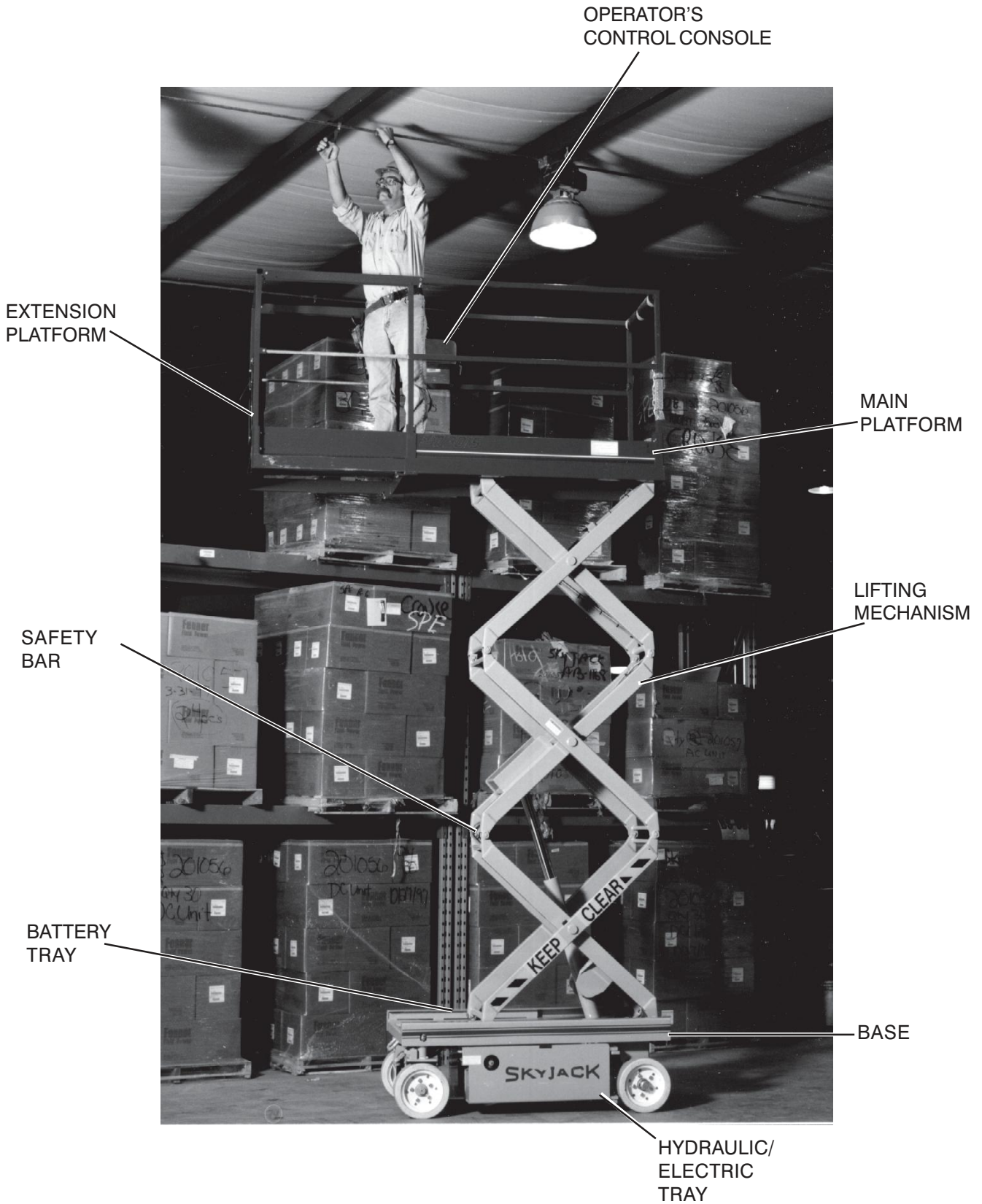


Figure 1-2. SKYJACK SJM Series Work Platform (Model 3015 shown)

SECTION 2 OPERATION

OPERATOR QUALIFICATIONS

Only trained and authorized persons should use this work platform. Safe use of this work platform requires the operator to understand the limitations and warnings, operating procedures and operator's responsibility for maintenance. Accordingly, the operator **MUST** understand and be familiar with this operating manual, its warnings and instructions and **ALL** warnings and instructions on the work platform. Operator also **MUST** be familiar with employer's work rules and related government regulations and be able to demonstrate his/her ability to understand and operate **THIS** make and model work platform in the presence of a qualified person.

OPERATING CONTROLS IDENTIFICATION

The following descriptions are for identification, explanation and locating purposes only. A qualified operator **MUST** read and completely understand these descriptions before operating this work platform. Procedures for operating this work platform are detailed in the "**OPERATING PROCEDURES**" section on Pages 23 through 25. Both standard and optional controls are identified in this section. Therefore, some controls may be included that are not furnished on your work platform.

Base Controls - Electrical Electrical Panel

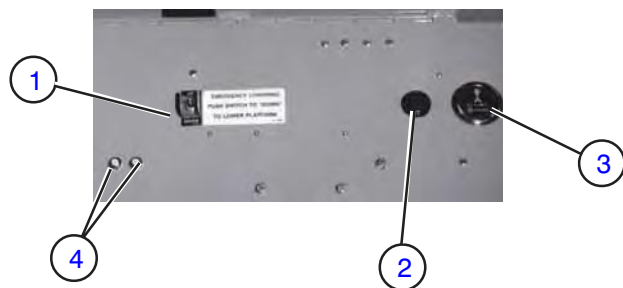


Figure 2-1. Electrical Panel and Labels

1. UP/DOWN TOGGLE SWITCH
2. BUZZER ALARM
3. HOURMETER
4. 15 AMP CIRCUIT BREAKERS

ELECTRICAL PANEL - This control station is located in the Hydraulic/Electric Tray. It contains the following controls:

- 1. UP/DOWN TOGGLE SWITCH** - Selecting and holding this toggle type switch to "UP" position will raise platform to desired height. Release switch to stop. Selecting and holding switch to "DOWN" position will lower platform to desired height. Release switch to stop.
- 2. BUZZER ALARM** - This audible pulse alarm sounds when platform is being electrically lowered. On machines with certain options, this alarm will sound when any control function is selected.
- 3. HOURMETER** - Activated when the pump/motor runs, this gauge records work platform operating time.
- 4. 15 AMP CIRCUIT BREAKER RESETS** - In the event of a power overload or positive circuit grounding, circuit breaker will pop out. Make the necessary corrections, then depress the push-button to reset.

Emergency Battery Disconnect Switch

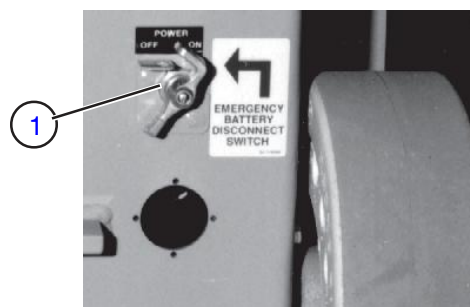


Figure 2-2. Emergency Battery Disconnect Switch

1. EMERGENCY BATTERY DISCONNECT SWITCH

1. EMERGENCY BATTERY DISCONNECT SWITCH - Located on the rear axle, this switch, when in "OFF" position, disconnects power to all control circuits. Switch **MUST** be in "ON" position to operate any control circuit.

**Base Controls - Hydraulic
Emergency Lowering Valve
(Machines with Velocity Fuses)**

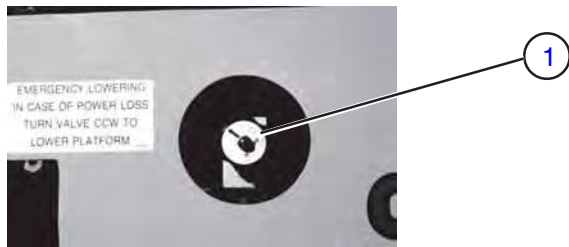


Figure 2-3A. Emergency Lowering Valve

1. EMERGENCY LOWERING VALVE (Rotary-type)

1. EMERGENCY LOWERING VALVE (Rotary-type) - Located in the hydraulic/electric tray, this valve allows platform lowering in the event of an electrical system failure. Turning the valve knob counterclockwise allows the platform to gradually lower. Valve **MUST** be fully closed (clockwise) to restore normal operation.

**Emergency Lowering System
(Machines with Holding Valves)**

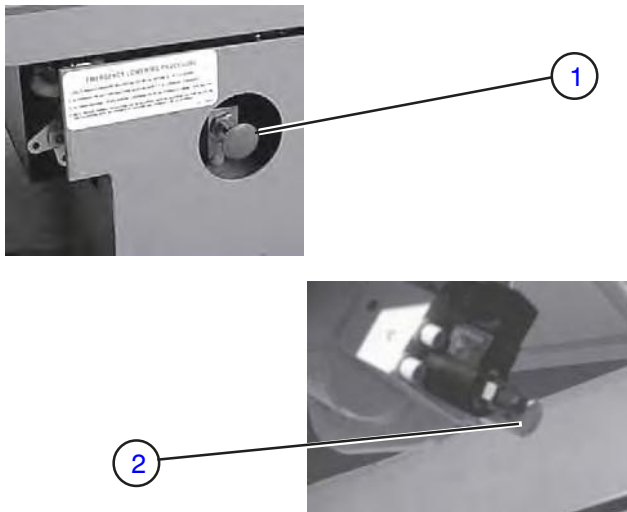


Figure 2-3B. Emergency Lowering System

1. EMERGENCY LOWERING VALVE (Pull-type)
2. HOLDING VALVE MANUAL OVERRIDE KNOB

1 & 2. EMERGENCY LOWERING VALVE (Pull-type) and HOLDING VALVE MANUAL OVERRIDE KNOB - Used on machines with holding valves, this system allows platform lowering in the event of an electrical system failure. Use the following procedure to lower the platform:

1. Depress and turn each red manual override knob (located at the base of each lift cylinder) counterclockwise.
2. Pull the Emergency Lowering Valve knob out to lower the platform.
3. Turn each red manual override knob clockwise to restore normal operation.

Free-Wheeling Valve

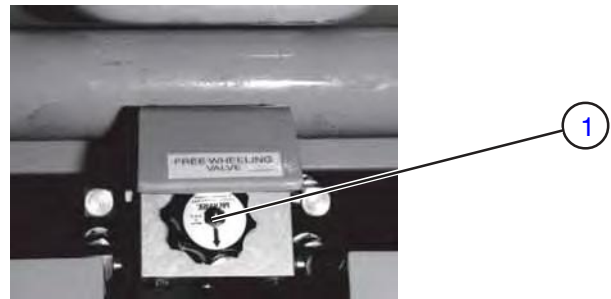


Figure 2-4. Free-Wheeling Valve

1. FREE-WHEELING VALVE

1. FREE-WHEELING VALVE - The free-wheeling valve is located at the front of the machine. Turning the valve knob counterclockwise to a fully opened position allows fluid to flow through the wheel motors, thus providing “free-wheeling” so that the work platform can be pushed or towed without damaging the wheel motors. **When towing, DO NOT exceed 2 mph.** Valve **MUST** be closed tightly (clockwise) for normal operation.

Base Controls - Hydraulic/Manual Parking Brake

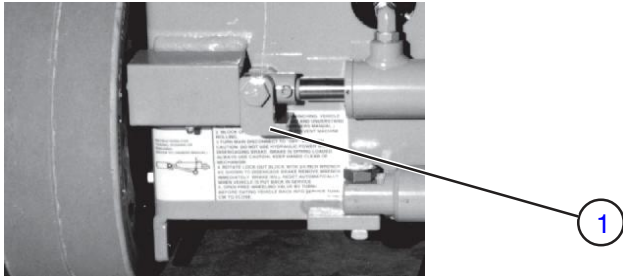


Figure 2-5. Parking Brake

1. PARKING BRAKE

1. PARKING BRAKE - The parking brake is essentially automatic. A pin retracted by single-acting hydraulic cylinder disengages the brake disc when driving. A spring inside the cylinder returns the pin to engage the brake disc for parking, lifting, lowering and stationary steering. The brake pin **MUST** be manually disengaged for towing, pushing or winching. This requires the special procedure as follows:



DO NOT manually disengage the parking brake if the work platform is on a slope.

Make sure that the work platform is on level ground.

- **For Left-Hand Brake:** Using a 3/4" wrench, rotate the lock-out block on the brake pin 90° clockwise. The brake pin should be clear of the brake disc.
- **For Right-Hand Brake:** Using a 3/4" wrench, rotate the lock-out block on the brake pin 90° counterclockwise. The brake pin should be clear of the brake disc.

NOTE

The parking brake(s) will reset automatically when the work platform is driven.

Safety Bar

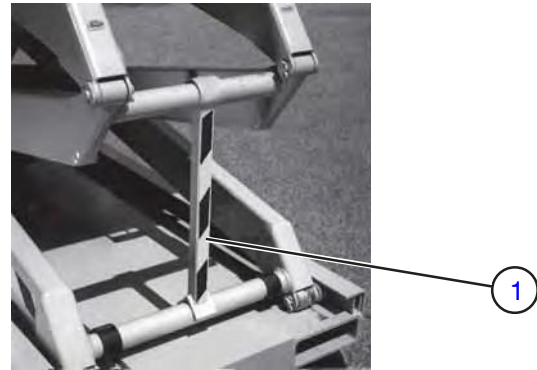


Figure 2-6. Safety Bar

1. SAFETY BAR

1. SAFETY BAR - Designed to support the scissors assembly (when properly positioned), the safety bar **MUST** be used when inspecting or when performing maintenance or repairs within the scissor assembly with the platform raised. To use the safety bar, follow the procedure on the safety bar label on the base.



DO NOT reach through the scissor assembly when the platform is raised without the safety bar properly positioned. **Failure to avoid this hazard will result in death or serious injury!**

Optional Base Controls
Base Control Box



Figure 2-7. Base Control Box

1. PLATFORM/BASE SELECT KEY SWITCH
2. PLATFORM UP/DOWN SWITCH
3. EMERGENCY STOP BUTTON

BASE CONTROL BOX - This metal control station is mounted on the rear of the base. It contains the following controls:

1. PLATFORM/BASE SELECT KEY SWITCH - Key to “PLATFORM” position directs power to the operator’s control box on the platform. Key to “BASE” position directs power to the base control box.

2. PLATFORM UP/DOWN SWITCH - To raise the platform, key to “BASE” position, then move switch to “↑” (up) position. Release switch to stop. To lower the platform, key to “BASE” position, then move switch to “↓” (down) position. Release switch to stop.

3. EMERGENCY STOP BUTTON - When struck, this red push-button switch disconnects power to both the base and platform control boxes. In the event of an emergency or at work platform shut down, push the button in. To restore power, simply pull the button out.

Platform Controls
Operator’s Control Box (2 Speed Drive)

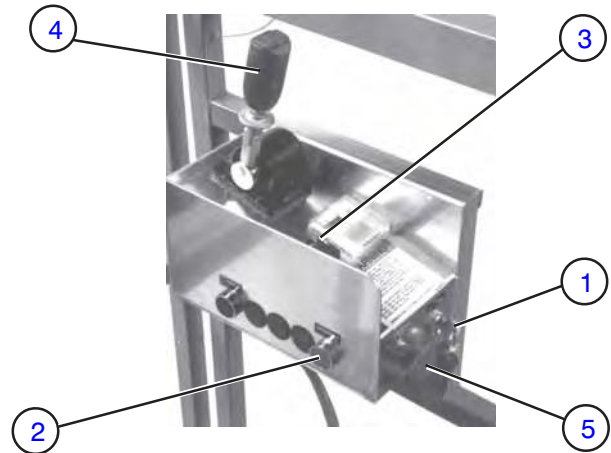


Figure 2-8. Operator’s Control Box

1. LIFT/OFF/DRIVE SELECT KEY SWITCH
2. LIFT ENABLE PUSH-BUTTON
3. UP/DOWN SELECTOR SWITCH
4. DRIVE/STEER CONTROLLER
5. EMERGENCY STOP BUTTON

OPERATOR’S CONTROL BOX - This metal control station is mounted at the right front of the platform. It contains the following:

1. LIFT/OFF/DRIVE SELECT KEY SWITCH - Key to “LIFT” position energizes the lift circuit. Key to “OFF” position disconnects power to control circuit in the control box. Key to “DRIVE” position energizes the drive/steer circuit.

2. LIFT ENABLE PUSH-BUTTON - When depressed and held, this push-button switch energizes the lift circuit. It MUST be depressed and held while raising or lowering the platform from this control station. Release button to stop.

3. UP/DOWN SELECTOR SWITCH - To raise the platform, select “LIFT” with the Lift/Off/Drive Select Key Switch, depress and hold the Lift Enable Push-button, then rotate selector switch to “↑” (up) position. Release switch to stop. To lower the platform, select “LIFT” with the Lift/Off/Drive Select Key Switch, depress and hold the Lift Enable Push-button, then rotate selector switch to “↓” (down) position. Release switch to stop.

4. DRIVE/STEER CONTROLLER - This one-handed toggle-type lever controls two-speed drive and left/right steer motion. This is a “dead-man” control which returns to neutral and locks when released. To drive forward, turn key to “DRIVE” position with Lift/Off/Drive Select Key Switch, then lift lock ring and push handle forward to desired speed. Release to stop. To drive in reverse, turn key to “DRIVE” position with Lift/Off/Drive Select Key Switch, lift lock ring and pull handle backwards to desired speed. Release to stop. To steer, depress the side of the rocker on top of the controller handle in the direction you wish to steer.

5. EMERGENCY STOP BUTTON - When struck, this red push-button switch disconnects power to the platform control circuit. In the event of an emergency or at work platform shut down, push button in. To restore power, simply pull button out.

**Optional Platform Controls
Operator’s Control Box (Proportional Drive and Lift)**

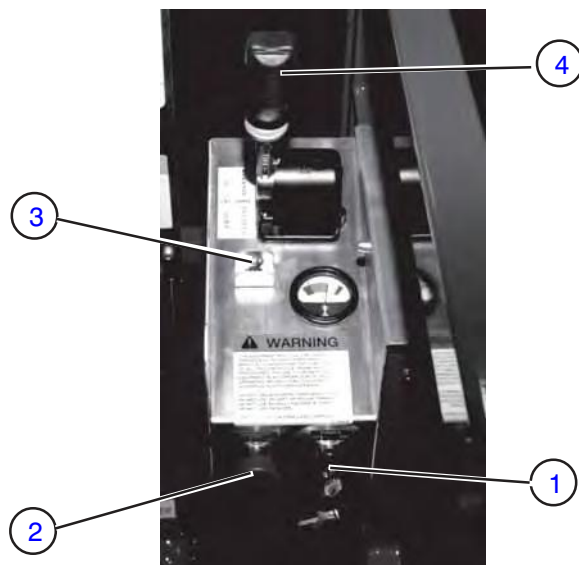


Figure 2-9. Operator’s Control Box

- 1. OFF/ON KEY SWITCH
- 2. EMERGENCY STOP BUTTON
- 3. LIFT/OFF/DRIVE SELECT TOGGLE SWITCH
- 4. PROPORTIONAL CONTROLLER

OPERATOR’S CONTROL BOX - This metal control station is mounted on the railing at the right front of the platform. It contains the following controls:

1. OFF/ON KEY SWITCH - Key to “OFF” position disconnects power to control circuit in control box. Key to “ON” position energizes the control circuit.

2. EMERGENCY STOP BUTTON - This red “mushroom-head” shaped button switch is designed to disengage power to the platform controls when struck in the event of an emergency or at work platform shut down. To restore power to the platform controls, simply pull button out.

3. LIFT/OFF/DRIVE SELECT TOGGLE SWITCH - If “Lift” is selected, the lift circuit is energized. “OFF” disconnects power from both the lift and drive circuits. If “DRIVE” is selected, the drive circuit is energized. NOTE: The toggle switch handle MUST be pulled upward to select position.

4. PROPORTIONAL CONTROLLER - A one-hand toggle-type lever to control proportional drive/lift motion and steer motion. It is a “dead-man” control which returns to neutral when released. To drive forward, select “DRIVE” position with the Lift/Off/Drive Toggle Switch, then lift the controller lock ring and push handle forward to desired speed. Release to stop. To drive in reverse, select “DRIVE” position, then lift the controller lock ring and pull the handle backwards to desired speed. Release to stop. To steer, select “DRIVE” position with, then depress the side of the rocker switch on top of the controller handle in the direction you wish to steer. To raise the platform, select “LIFT” position with the Lift/Off/Drive Toggle Switch, then lift the controller lock ring and push handle forward until desired height is reached. To lower the platform, select “LIFT” position, then lift the controller lock ring and pull handle backward until desired height is reach. Release to stop. **NOTE: Platform lowering is not proportional.**

Operator Horn



Figure 2-10. Operator Horn Push-button

- 1. OPERATOR HORN PUSH-BUTTON

1. OPERATOR HORN PUSH-BUTTON - Located on the side of the Operator’s Control Box, this push-button switch, when depressed, sounds an automotive-type horn.

Powered Extension Platform Control Box

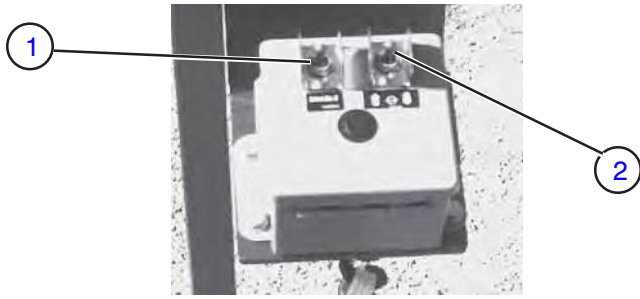


Figure 2-11. Powered Extension Platform Control Box

1. ENABLE SWITCH
2. PLATFORM EXTEND/RETRACT SWITCH

POWERED PLATFORM CONTROL BOX - This metal control station is mounted at the right front of the extension platform. It contains the following controls:

1. ENABLE SWITCH - This switch, when activated, brings power to the Platform Extend/Retract Switch. It must be used while extending or retracting the extension platform.

2. PLATFORM EXTEND/RETRACT SELECTOR SWITCH - To extend the platform, select "LIFT" position, then move the switch to the "▲" (extend) position until desired extension is reached. Release switch to stop. To retract the platform, select "LIFT" position, then move the switch to the "▼" (retract) position until desired retraction is reached. Release switch to stop.

NOTE

On machines equipped with scissor guards, the extension platform **MUST** be fully retracted to fully lower the platform.

Fold-Down Guardrail System



Figure 2-12. Fold-Down Guardrail System

1. GUARDRAIL LOCKING PIN W/LANYARD

FOLD-DOWN GUARDRAIL SYSTEM - This system when folded down, reduces the shut height of the work platform for travelling through standard doorways.

1. GUARDRAIL LOCKING PIN W/LANYARD - To fold the guardrail system down, remove the locking pin at each pivot point and lower each guardrail. To raise the guardrail system, swing up each guardrail and lock in place with the locking pins ensuring that the detent ball of each pin is clear of the side of the pivot brackets. (Figure 2-13.)



The guardrail system **MUST** be upright and locked in place before resuming normal operation. **Check the guardrail system for loose or missing locking pins before operating this equipment!**

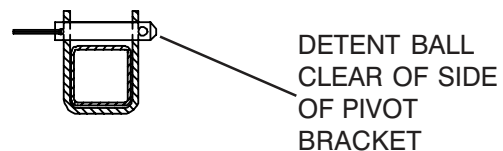


Figure 2-13. Correct Position of Locking Pin

SET-UP PROCEDURE

The following steps are normally required for equipment being put into service for the first time. After the equipment has been unloaded:

1. Remove all packing materials and inspect for damage incurred during transport.

NOTE

Report any damage to delivery carrier immediately.

2. Inspect work platform thoroughly and remove any foreign objects.
3. If equipped with a fold-down guardrail system, swing up and lock all guardrails in place with locking pins ensuring that the detent ball of each pin is clear of the side of the pivot brackets. (Figure 2-13).
4. Unlock and swing out the battery tray and hydraulic/electric tray.
5. In the battery tray, check the water level in all four batteries. If plates are not covered, carefully add distilled or demineralized water. If needed, check the specific gravity in each battery, it should be 1.260 to 1.275.



Keep flames and sparks away. **DO NOT** smoke near batteries.

FIRST AID

Immediately flush eyes with cold water if electrolytic acid is splattered into them.

6. Connect the battery charger cord to the proper voltage source and charge the batteries. (Refer to "Battery Charging Procedures", Page 26.)
7. When charger cycle is complete, disconnect the battery charger cord and swing the battery tray to locked closed position.

8. In the hydraulic/electric tray, check the hydraulic oil level (scissors **MUST** be fully lowered) in the tank. Level should be at or slightly above the top mark on the gauge. If required, add a quality grade hydraulic oil. Refer to "RECOMMENDED HYDRAULIC OILS" for recommendations.
9. Swing the hydraulic/electric tray to locked closed position.
10. Rotate the Free-Wheeling Valve to a fully opened position (counter-clockwise).
11. Disengage the Parking Brake (following the procedure discussed earlier in this section on Page 3).

IMPORTANT NOTE

Before pushing or towing the work platform, ensure that the brake pins have been disengaged. **When towing, DO NOT exceed 2 mph.**

12. Push or tow the work platform to a level, firm test area where the work platform can be vertically extended to its maximum working height.
13. Close the Free-Wheeling Valve by rotating the knob clockwise.

On machines without Base Control Box:

- 14A. Raise the platform with the Up/Down Toggle Switch until there is adequate clearance to lower the safety bar.

On machines with Base Control Box:

- 14B. Raise the platform with the Up/Down Switch until there is adequate clearance to swing down and position the safety bar.
15. Lift the Safety Bar from the storage channel and swing down into position. (Refer to label on base for proper procedure.)
16. Slowly lower the platform with the Up/Down Switch until the scissor assembly is firmly supported by the safety bar.

17. Inspect all hoses, fittings, wires, cables, valves, etc. for leaks, hidden damage and foreign material.
18. Raise the platform until there is adequate clearance to swing up safety bar. Return Safety Bar to storage channel.
19. Again, raise the platform until the platform has reached its maximum working height.

NOTE

Refer to Table 3-3. General Specifications for raise and lowering times.

20. Use the Up/Down Switch or Emergency Lowering Valve to fully lower the platform.
21. The SJM Series Work Platform is now ready for use by an authorized, qualified operator who has read and completely understands ALL of Section 2, OPERATION in this manual.

OPERATING PROCEDURES

Prestart Checks

1. Carefully read and completely understand ALL of SECTION 2, OPERATION in this manual and ALL warnings and instruction labels on the work platform.
2. Check for obstacles around the work platform and in the path of travel such as holes, drop offs, debris, ditches and soft fill.
3. Check overhead clearances.
4. Make sure the batteries are fully charged.
5. Make sure that the Free-Wheeling Valve and Emergency Lowering Valve are fully closed.
6. Make sure all guardrails are in place and locked in position. (Refer to Figure 2-13.)

OPERATOR'S CHECKLIST

INSPECT AND/OR TEST THE FOLLOWING DAILY OR AT BEGINNING OF EACH SHIFT

1. OPERATING AND EMERGENCY CONTROLS.
2. SAFETY DEVICES.
3. PERSONAL PROTECTIVE DEVICES.
4. TIRES AND WHEELS.
5. OUTRIGGERS (IF EQUIPPED) AND OTHER STRUCTURES.
6. AIR, HYDRAULIC AND FUEL SYSTEM(S) FOR LEAKS.
7. LOOSE OR MISSING PARTS.
8. CABLES AND WIRING HARNESSSES.
9. PLACARDS, WARNINGS, CONTROL MARKINGS AND OPERATING MANUALS.
10. GUARDRAIL SYSTEM.
11. ENGINE OIL LEVEL (IF SO EQUIPPED).
12. BATTERY FLUID LEVEL.
13. HYDRAULIC RESERVOIR LEVEL.
14. COOLANT LEVEL (IF SO EQUIPPED).



WARNING

DO NOT OPERATE THIS EQUIPMENT WITHOUT PROPER AUTHORIZATION AND TRAINING. DEATH OR SERIOUS INJURY COULD RESULT FROM IMPROPER USE OF THIS EQUIPMENT!

Start and Operation

Using the Base Controls:

1. Turn Emergency Battery Disconnect Switch to "ON" position.
2. Use the ladder at the rear of the platform to access the work platform deck.
3. Latch the entry chain or gate.

Using the Platform Controls:

4. Pull out the Emergency Stop Buttons.
- 5A. **TO RAISE THE PLATFORM (2 speed control):** Select "LIFT" position with Lift/Off/Drive Select Key Switch. Depress and hold the Lift Enable Push-button, then select "▲" (up) position with Up/Down Selector Switch.
- 5B. **TO RAISE THE PLATFORM (proportional control):** Select "LIFT" position with the Lift/Off/Drive Toggle Switch, then lift the controller lock ring and push the controller handle forward until desired height is reached. Release handle to stop.
- 6A. **TO LOWER THE PLATFORM (2 speed control):** Select "LIFT" position with Lift/Off/Drive Select Key Switch. Depress and hold the Lift Enable Push-button, then select "▼" (down) position with Up/Down Selector Switch.
- 5B. **TO LOWER THE PLATFORM (proportional control):** Select "LIFT" position with the Lift/Off/Drive Toggle Switch, then lift the controller lock ring and pull the controller handle backward until desired height is reached. Release handle to stop. **NOTE: Platform lowering is not proportional.**
7. **TO STEER:** Press rocker on top of the controller handle in the direction you wish to steer.
- 8A. **TO DRIVE FORWARD (2 speed control):** Select "DRIVE" position with Lift/Off/Drive Select Key Switch. Lift the controller lock ring and push the controller handle forward to desired speed. Release to stop.
- 8B. **TO DRIVE FORWARD (proportional control):** Select "DRIVE" position with the Lift/Off/Drive Toggle Switch, then lift the controller lock ring and push the controller handle forward to desired speed. Release handle to stop.
- 9A. **TO DRIVE IN REVERSE (2 speed control):** Select "DRIVE" position with Lift/Off/Drive Select Key Switch. Lift the controller lock ring and pull the controller handle backwards to desired speed. Release to stop.
- 9B. **TO DRIVE IN REVERSE (proportional control):** Select "DRIVE" position with the Lift/Off/Drive Toggle Switch, then lift the controller lock ring and pull the controller handle backward to desired speed. Release handle to stop.

Shutdown Procedure

1. Completely lower the platform.
2. Turn the key to "OFF" position and remove key.
3. Push Emergency Stop Button(s) in.
4. Turn Emergency Battery Disconnect Switch to "OFF" position.

BATTERY SERVICE AND CHARGING PROCEDURES

Battery Service



Keep flames and sparks away. **DO NOT** smoke near batteries.



Contact with electrolytic acid can cause skin irritation and damage clothing. Wear a protective apron, gloves and goggles when working with batteries.

FIRST AID

Immediately flush eyes with cold water if electrolytic acid is splattered into them. Seek medical attention if discomfort continues.

1. Turn Emergency Battery Disconnect Switch to "OFF" position.
2. Check battery fluid level in each battery. If plates are not covered, add distilled or demineralized water.
3. Check battery case for damage.
4. Clean battery terminals and cable ends thoroughly with a terminal cleaning tool or wire brush.
5. Make sure all battery connections are tight.
6. Replace any battery that is damaged or incapable of holding a lasting charge.

Battery Charging Procedures (Standard Machines)



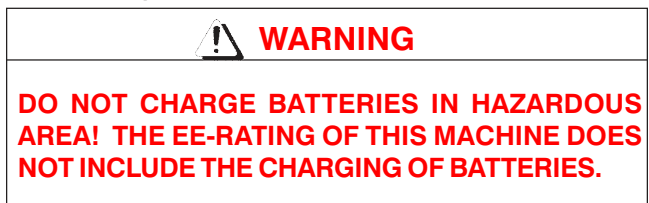
Chargers can ignite flammable materials and vapors. **DO NOT** use near fuels, grain dust, solvents or other flammables



To reduce the risk of electrical shock, connect charger only to a properly grounded single phase outlet. **DO NOT** use an extension cord longer than 25 feet.

1. Connect charger AC plug to proper voltage source. Refer to charger nameplate for voltage requirements.
2. Charge batteries. **DO NOT** leave charger unattended for more than two consecutive days. Severe overcharging and battery damage will result if charger fails to turn off.
3. Disconnect charger from external power source.

Battery Charging Procedures (EE-Rated Machines)



1. Move the work platform to an area designated for battery charging. (Refer to NFPA 505* for charging set-up.) *NFPA 505 is a publication of: **National Fire Protection Association, Inc.** Batterymarch Park, Quincy, MA 02269 (USA)
2. Connect battery charger DC plug into the battery plug at the rear of the base.
3. Charge batteries. (Refer to battery charger operation manual for procedures.)
4. When charge cycle is completed, disconnect charger plug from battery plug in the battery tray.
5. Recheck the battery fluid level in each battery. If plates are not covered, add distilled or demineralized water.

BATTERY CHARGER OPERATION (Motor Appliance Charger)

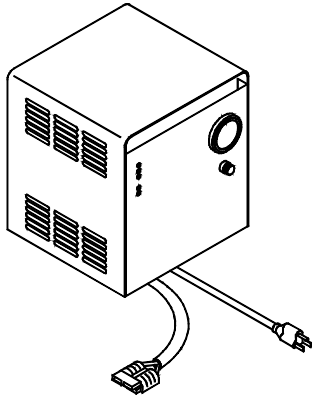


Figure 2-14. Automatic Battery Charger

BATTERY STATUS

1. GREEN L.E.D.....CHARGE COMPLETE
2. YELLOW L.E.D.....80% CHARGE
3. RED L.E.D.....INCOMPLETE CHARGER STATUS
4. YELLOW L.E.D.CHARGER ON
5. RED L.E.D.ABNORMAL CYCLE

NOTE

On earlier chargers, the charger front panel read as follows:

BATTERY CONDITION

1. GREEN L.E.DFULL
2. YELLOW L.E.D.80%
3. RED L.E.D.DISCHARGED

CHARGER STATUS

4. YELLOW L.E.D.CHARGER ON
5. RED L.E.D.ABNORMAL CYCLE

OPERATION OF THE COMPLETELY AUTOMATIC BATTERY CHARGER

This charger is equipped with an electronic circuit that will completely recharge the batteries and automatically turn off after the charge cycle is complete.

The function of the L.E.D. indicators is as follows:

When the AC power is connected to the charger, the L.E.D.'s will flash several times then flash independently to check the light circuits. After the flashing sequence is complete the "INCOMPLETE" light will come on. Five seconds later, the "CHARGER ON" light will come on and at the same time, the ammeter will indicate how much current is going to the batteries.

As the charge cycle continues, which can last between 1-1/2 hours and 9 hours for a complete cycle, depending on the state of charge of the batteries, the "80%" light will come on and the "INCOMPLETE" light will go off. When voltage of the batteries reaches approximately 30 volts, the "80%" light will go off and the "CHARGE COMPLETE" light will come on. This light will remain on even after the charger is turned off by the electronic control. After the charger turns off, the "CHARGE COMPLETE" light will indicate to the operator that the batteries are healthy and are fully charged.

If the "80% CHARGE" light continues to stay on after the charge cycle is complete, this indicates to the operator that the batteries are not capable of attaining a full charge.

If the "INCOMPLETE" light remains on after the charge cycle is complete, this indicates to the operator that the batteries are not capable of attaining even an 80% charge.

If either the "80% CHARGE" or "INCOMPLETE" light remain on after the charge cycle is complete, the batteries should be inspected for problems.

Your standard good watering procedures should be used at all times.

BATTERY CHARGER OPERATION (Bycan Charger)



Figure 2-15. Bycan Automatic Battery Charger

BATTERY STATUS

1. GREEN L.E.DCOMPLETE
2. YELLOW L.E.D.CHECK BATTERY
3. RED L.E.D.IN PROGRESS

The charger will start immediately. (Transformer will hum and fan will come on). The red "IN PROGRESS" L.E.D. will show charging current.

The current will be high for approximately 30 minutes then it will taper off. If the current does not taper off, disconnect the charger and check the batteries for a shorted cell.

The charging cycle is automatically controlled and the normal charging time will be 6 to 8 hours.

When the batteries are fully charged, the charger will shut off and the green "COMPLETE" L.E.D. will come on. Shut-off voltage is 31

SECTION 3

SYSTEM COMPONENT IDENTIFICATION AND SCHEMATICS

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HYDRAULIC SYSTEM

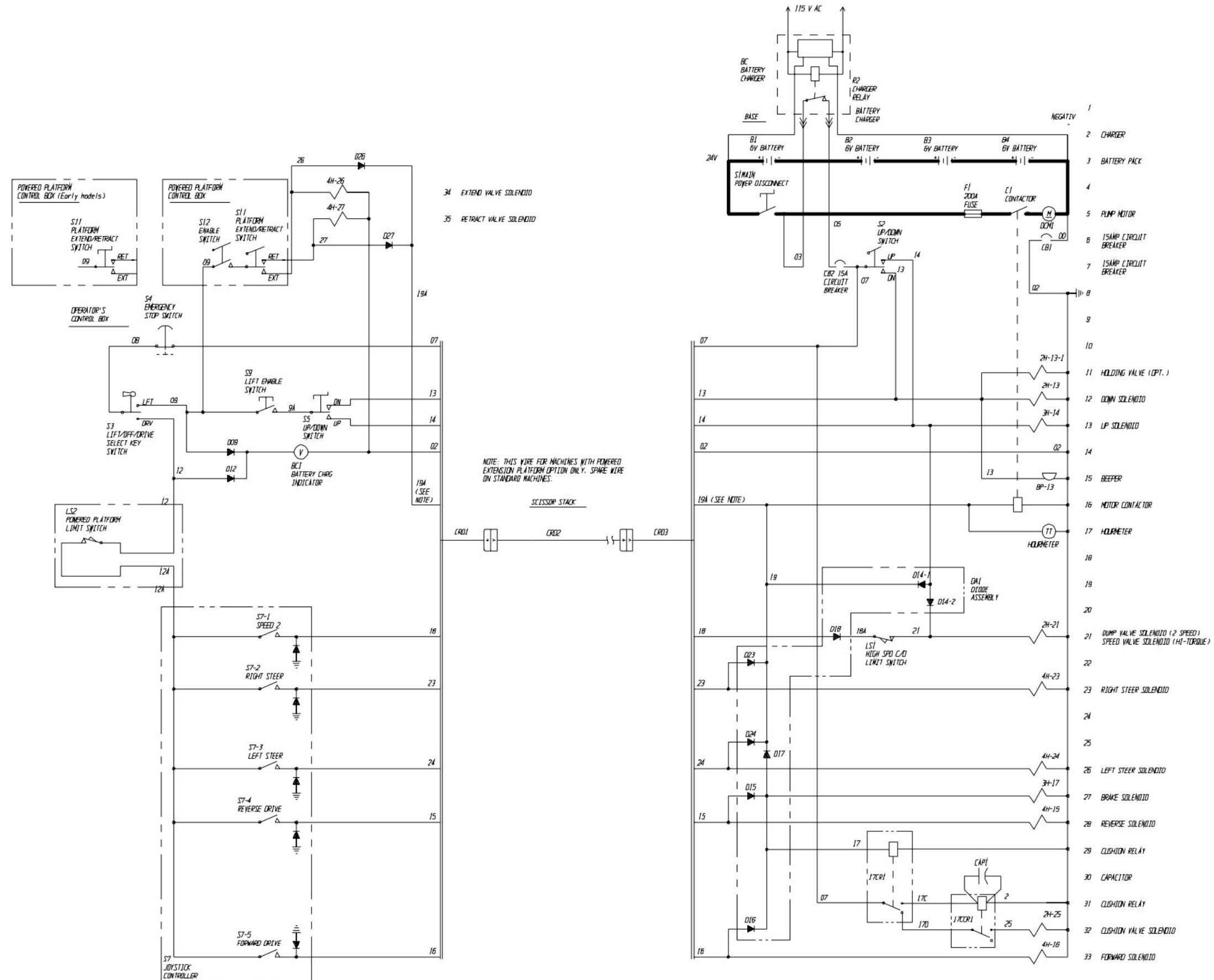
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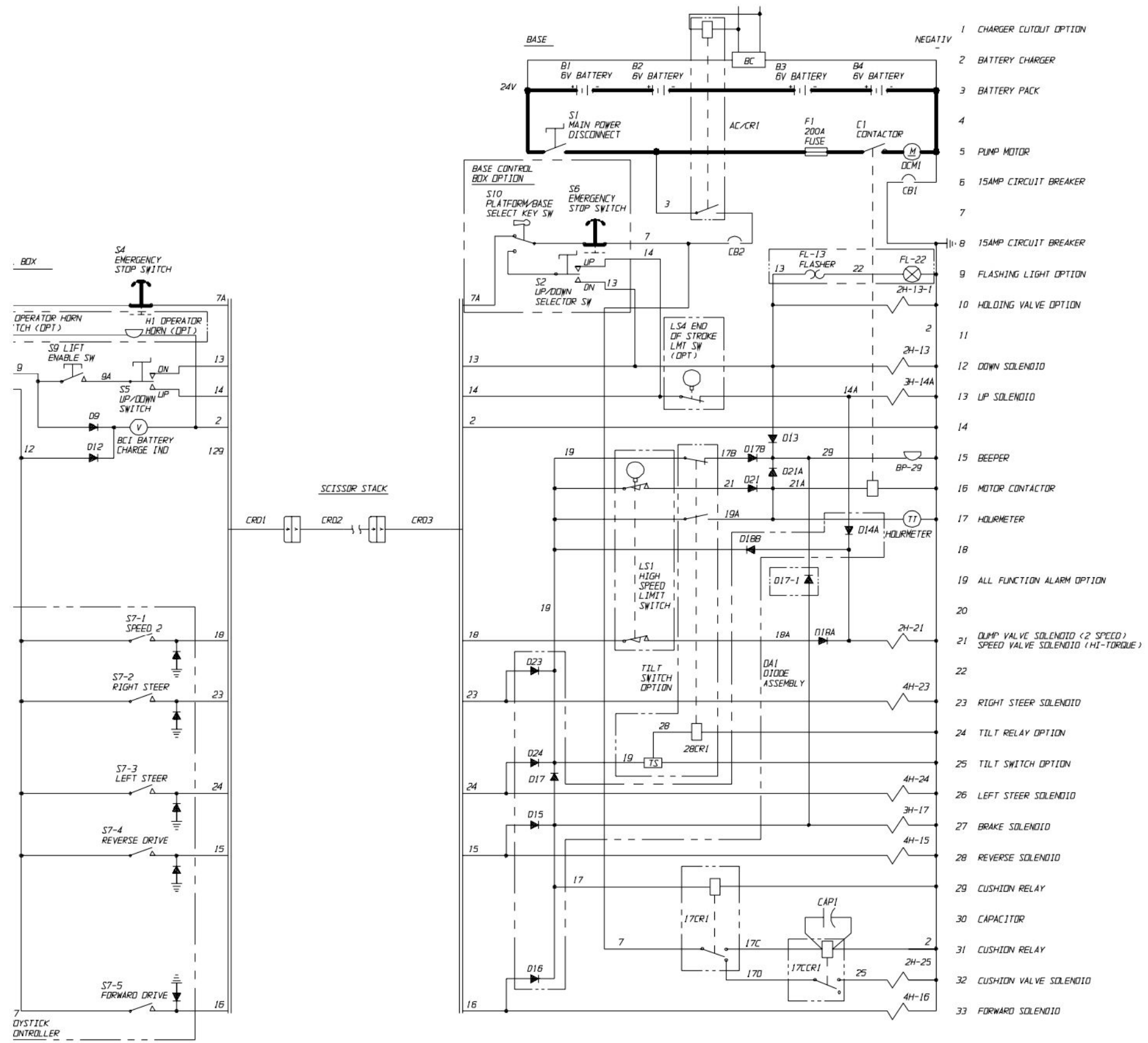
**FIGURE 3-1. ELECTRICAL SCHEMATIC - Standard for North America
(Shown with Powered Extension Platform Option)**

Ref. No.	Skyjack Part No.	OEM Part No.	Description							Units per Assy.
			1	2	3	4	5	6	7	
B1 to B4	103480		BATTERY, 6 Volt, 220AH (wet)							4
BC	108163		BATTERY CHARGER, 24V25A, 120VAC, 60Hz							1
BCI	103240		BATTERY CHARGE INDICATOR							1
BP-13	103057		BEEPER, 24 Volt							1
C1	103101		CONTACTOR, 24 Volt motor							1
CAP1	103319		CAPACITOR, 35 Volt							1
CB1	117325		CIRCUIT BREAKER, 15 Amp (Replaces 102331)							1
CB2	117325		CIRCUIT BREAKER, 15 Amp (Replaces 102331)							1
17CR1	108589		RELAY, 24 Volt (brake) (Replaces 103425)							1
17CCR1	108589		RELAY, 24 Volt (cushion) (Replaces 103425)							1
CRD1	104172		CORD ASSEMBLY, Control box							1
CRD2	106337		CORD ASSEMBLY, Scissor arm (Model 3015)							1
	104170		CORD ASSEMBLY, Scissor arm (Model 3219)							1
CRD3	104173		CORD ASSEMBLY, Electrical panel							1
DCM1	107486		MOTOR, 24 Volt DC							1
D9 to D27	102921		DIODE, 6 Amp							AR
DA1	108000		DIODE ASSEMBLY							1
F1	102756		FUSE, 200 Amp							1
2H-13	103605		COIL, 24 Volt (lowering valve)							1
2H-21	103605		COIL, 24 Volt (dump valve)							1
			(Machines without Hi-Torque Option)							
2H-21	103605		COIL, 24 Volt (speed valve)							1
			(Machines with Hi-Torque Option)							
2H-25	103605		COIL, 24 Volt (cushion valve)							1
3H-14	105610		COIL, 24 Volt (lift valve)							1
3H-17	103605		COIL, 24 Volt (brake valve)							1
4H-15	107439		COIL, 24 Volt (reverse drive valve)							1
4H-16	107439		COIL, 24 Volt (forward drive spool valve)							1
4H-23	107439		COIL, 24 Volt (right steer valve)							1
4H-24	107439		COIL, 24 Volt (left steer spool valve)							1
4H-26	107439		COIL, 24 Volt (powered platform extend valve) (option)							1
4H-27	107439		COIL, 24 Volt (powered platform retract valve) (option)							1
LS1	102668		LIMIT SWITCH, High speed cut-out							1
LS2	102668		LIMIT SWITCH, Powered platform cut-out							1
S1	102600		SWITCH, Main power disconnect							1
S2	102853		SWITCH, Up/down toggle							1
S3	102752		SWITCH, Lift/off/drive key select							1
S4	103225		N.C. CONTACT, Emergency stop							1
S5	103141		N.O. CONTACT, Up/down selector							2
S7	103334		CONTROLLER ASSEMBLY, Drive/steer							1
S7-1	102768		SWITCH W/ACTUATOR, Speed							1
S7-2	105733		SWITCH, Right steer							1
S7-3	105733		SWITCH, Left steer							1
S7-4	102768		SWITCH W/ACTUATOR, Reverse drive							1
S7-5	102768		SWITCH W/ACTUATOR, Forward drive							1
S9	103141		N.O. CONTACT, Lift enable (later machines)							1
S11	103141		N.O. CONTACT, Powered platform extend/retract selector							2
S15	102853		SWITCH, Enable toggle (powered platform option)							1
TT	103336		HOURMETER							1

**FIGURE 3-1. ELECTRICAL SCHEMATIC - Standard for North America
(Shown with Powered Extension Platform Option)**



**FIGURE 3-2. ELECTRICAL SCHEMATIC - Other than North America and EE-Rated
(Shown with all options except Powered Extension Platform Option)**



**FIGURE 3-2. ELECTRICAL SCHEMATIC - Other Than North America and EE-Rated
(Shown with all options except Powered Extension Platform Options)**

Index No.	Skyjack Part No.	OEM Part No.	Description	1 2 3 4 5 6 7							Units per Assy.
				1	2	3	4	5	6	7	
B1 to B4	103480		BATTERY, 6 Volt, 220AH (wet)								4
BC	111327		BATTERY CHARGER, 24V20A, 220 VAC, 50HZ (Other than North America)								1
	110550		BATTERY CHARGER, 24V20A, 120VAC, 60Hz (Remote) (EE-Rated Machines)								1
BCI	103240		BATTERY CHARGE INDICATOR								1
BP-29	103057		BEEPER, 24 Volt								1
C1	103101		CONTACTOR, 24 Volt motor								1
CAP1	103319		CAPACITOR, 35 Volt								1
CB1	102331		CIRCUIT BREAKER, 15 Amp								1
CB2	102331		CIRCUIT BREAKER, 15 Amp								1
17CR1	108589		RELAY, 24 Volt (brake) (Replaces 103425)								1
17CCR1	108589		RELAY, 24 Volt (cushion) (Replaces 103425)								1
28CR1	108589		RELAY, 24 Volt (tilt) (Replaces 103425) (Machines with Tilt Switch Option)								1
AC/CR1	106654		RELAY, 110V (charger cutout option) (North America)								1
	110734		RELAY, 240V (charger cutout option) (Other than North America)								1
CRD1	(Ref.)		CORD ASSEMBLY, Control box								1
CRD2	(Ref.)		CORD ASSEMBLY, Scissor arm (Model 3015)								1
	(Ref.)		CORD ASSEMBLY, Scissor arm (Model 3219)								1
CRD3	(Ref.)		CORD ASSEMBLY, Electrical panel								1
DCM1	107486		MOTOR, 24 Volt DC (Other than North America)								1
	107081		MOTOR, 24 Volt DC (EE-Rated Machines)								1
D9-D24	102921		DIODE, 6 Amp								AR
DA1	108100		DIODE ASSEMBLY								1
F1	102756		FUSE, 200 Amp								1
FL-13	103267		FLASHER, 24 Volt								1
FL-22	104535		FLASHING LIGHT								1
2H-13	103605		COIL, 24 Volt (lowering valve)								1
2H-13-1	103605		COIL, 24 Volt (holding valve) (Machines w/Holding Valve Option)								1
2H-21	103605		COIL, 24 Volt (dump valve) (Machines without Hi-Torque Option)								1
2H-21	103605		COIL, 24 Volt (speed valve) (Machines with Hi-Torque Option)								1
2H-25	103605		COIL, 24 Volt (cushion valve)								1
3H-14A	105610		COIL, 24 Volt (up valve)								1
3H-17	103605		COIL, 24 Volt (brake valve)								1
4H-15	107439		COIL, 24 Volt (reverse drive spool valve)								1
4H-16	107439		COIL, 24 Volt (forward drive spool valve)								1
4H-23	107439		COIL, 24 Volt (right steer spool valve)								1
4H-24	107439		COIL, 24 Volt (left steer spool valve)								1

**FIGURE 3-2. ELECTRICAL SCHEMATIC - Other Than North America and EE-Rated
(Shown with all options except Powered Extension Platform Options)**

Index No.	Skyjack Part No.	OEM Part No.	Description	1 2 3 4 5 6 7							Units per Assy.
				1	2	3	4	5	6	7	
4H-26	107439		COIL, 24 Volt (powered platform extend spool valve (option))								1
4H-27	107439		COIL, 24 Volt (powered platform retract spool valve (option))								1
LS1	102847		LIMIT SWITCH, High speed cut-out								1
LS2	102668		LIMIT SWITCH, Powered platform cut-out								1
LS4	102668		LIMIT SWITCH, End of Stroke (Machines with End Of Stroke Limit Option)								1
S1	102600		SWITCH, Main power disconnect								1
S2	102853		SWITCH, Up/down toggle								1
S3	102752		SWITCH, Lift/off/drive key select								1
S4	103225		N.C. CONTACT, Emergency stop								1
S5	103141		N.O. CONTACT, Up/down selector								2
S7	103334		CONTROLLER ASSEMBLY								1
S7-1	102768		SWITCH W/ACTUATOR, Speed								1
S7-2	105733		SWITCH, Right steer								1
S7-3	105733		SWITCH, Left steer								1
S7-4	102768		SWITCH W/ACTUATOR, Reverse drive								1
S7-5	102768		SWITCH W/ACTUATOR, Forward drive								1
S8	103141		N.O. CONTACT, Operator horn (Machines with Operator Horn Option)								1
S9	103141		N.O. CONTACT, Lift enable (later models)								1
TS	106471		TILT SWITCH (Machines with Tilt Switch Option)								1
TT	103336		HOURLMETER								1

**FIGURE 3-3. ELECTRICAL PANEL DIAGRAM - Standard for North America
(Shown with Powered Extension Platform Option)**

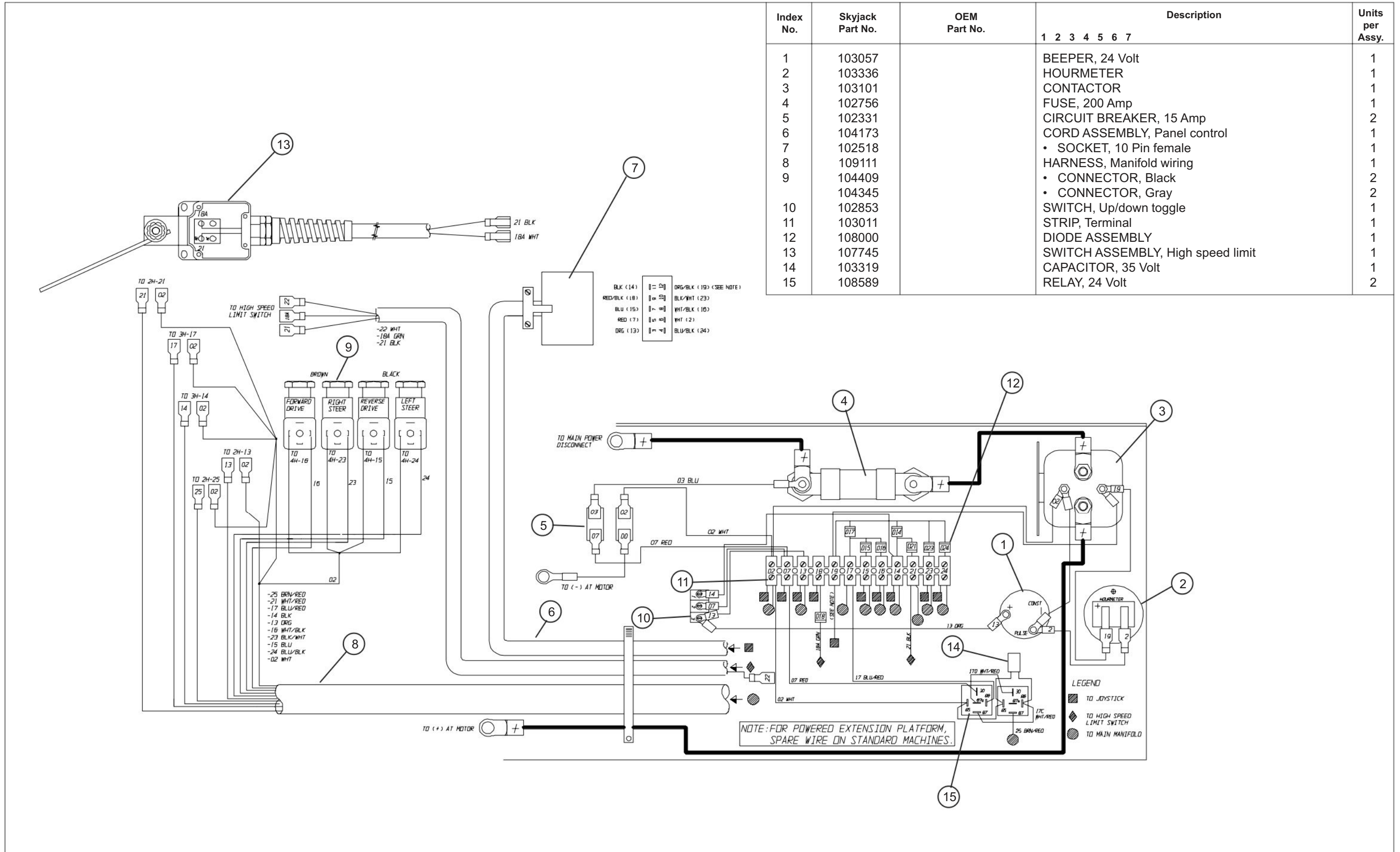


FIGURE 3-4. ELECTRICAL PANEL DIAGRAM - Other than North America
 (Shown with all options except Powered Extension Platform Option)

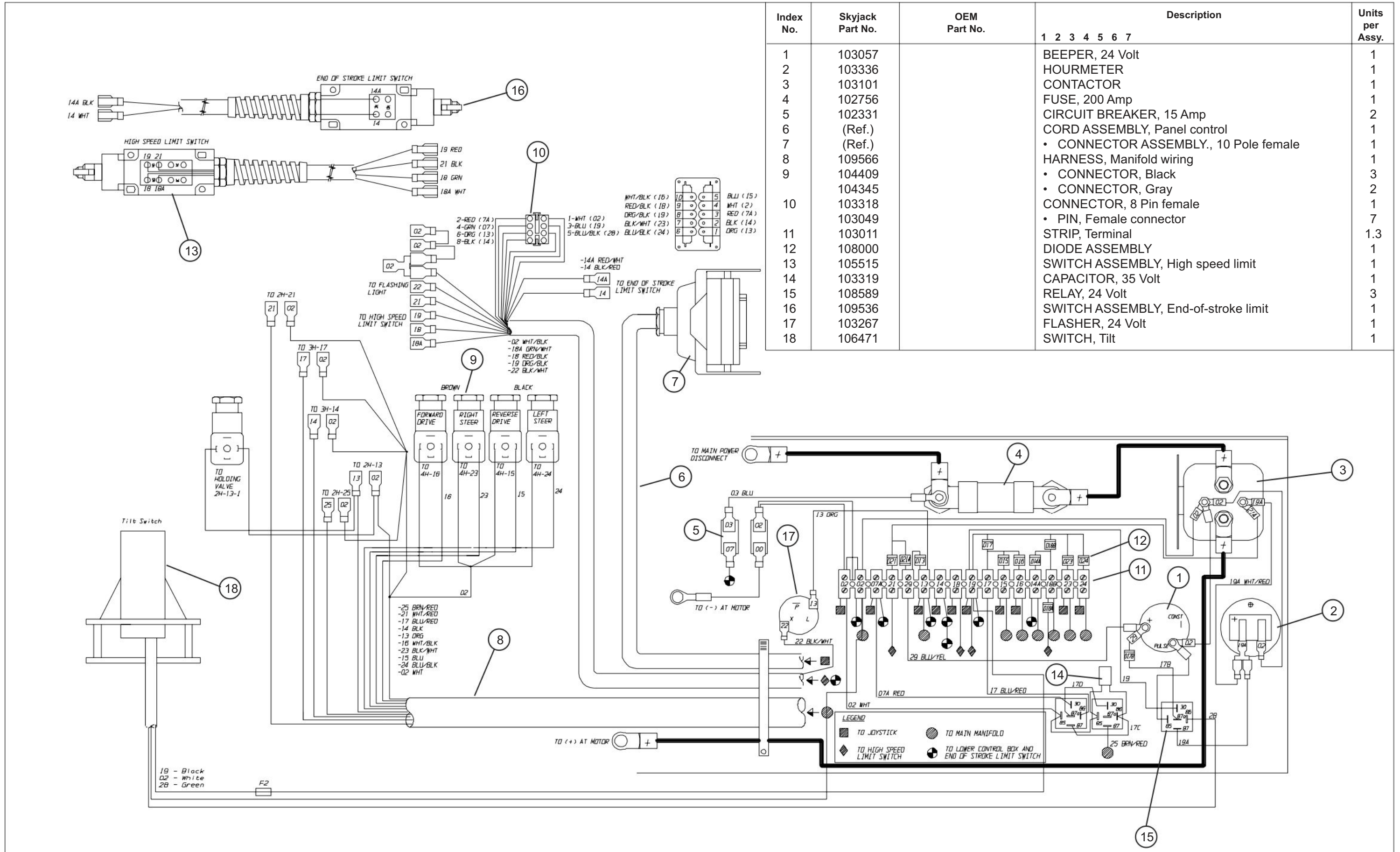


FIGURE 3-5. ELECTRICAL PANEL DIAGRAM - EE Rated

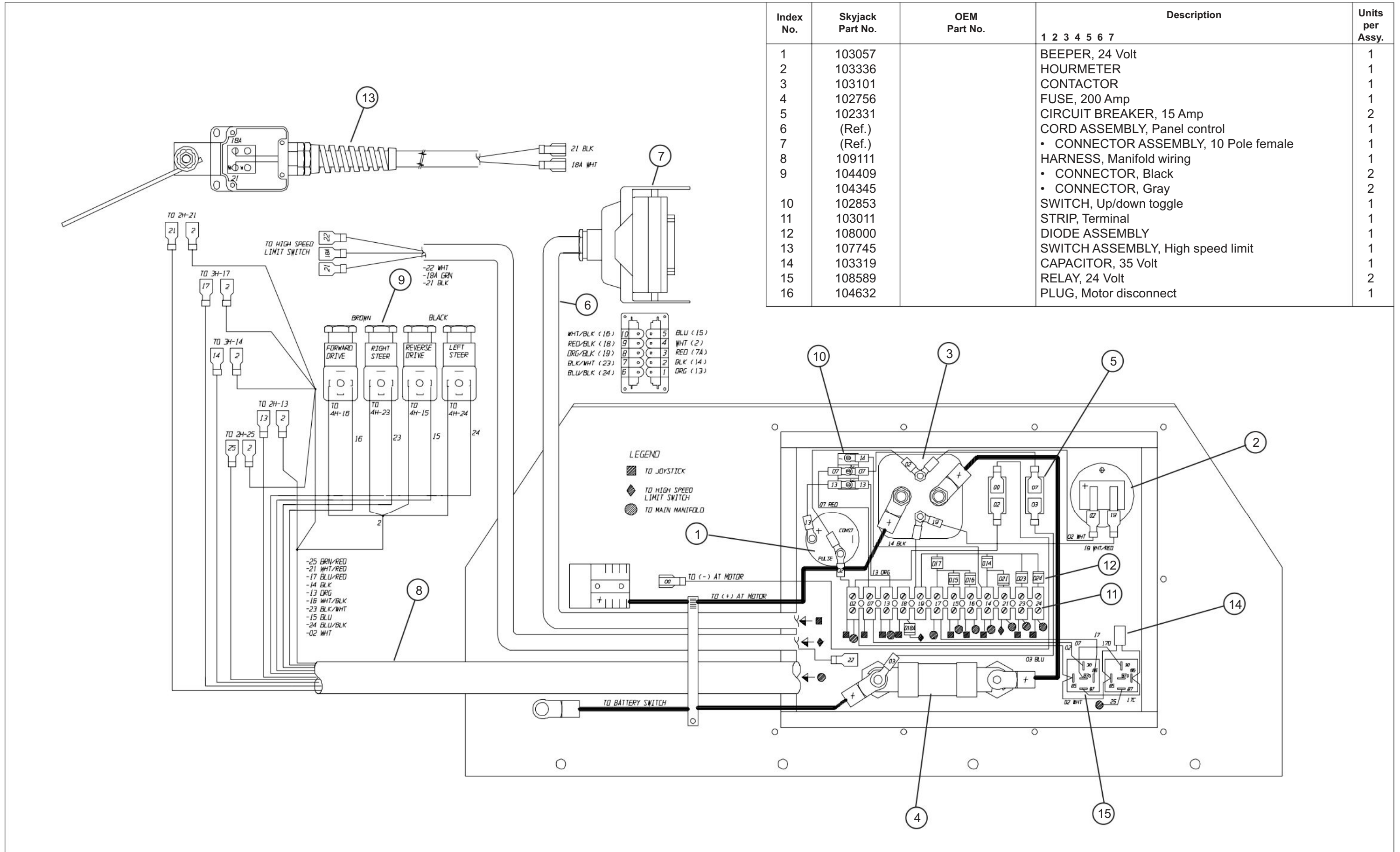
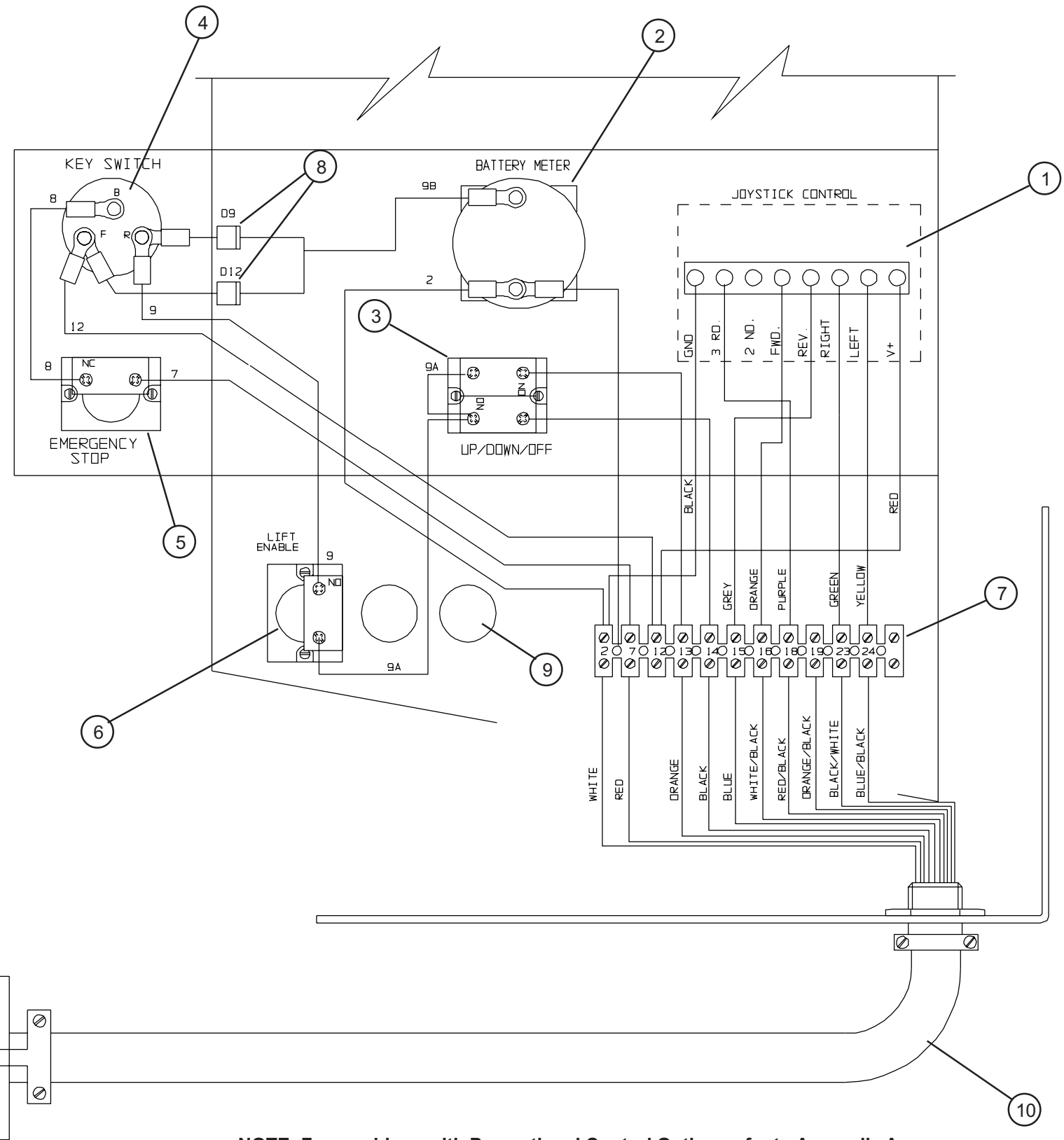


FIGURE 3-6. CONTROL BOX DIAGRAM AND PARTS LIST - Standard for North America (shown)

Index No.	Skyjack Part No.	OEM Part No.	Description	Units per Assy.						
					1	2	3	4	5	6
1	103334		CONTROLLER ASSEMBLY, Drive/steer	1						
2	103240		INDICATOR, Battery charge	1						
3	(Ref.)		SWITCH ASSEMBLY, Up/off/down (Refer to Figure 6-9.)	1						
4	102752		SWITCH, Key	1						
5	(Ref.)		SWITCH ASSEMBLY, Emergency stop (Refer to Figure 6-9.)	1						
6	(Ref.)		SWITCH ASSEMBLY, Lift enable (Refer to Figure 6-9.)	1						
7	103012		BLOCK, Terminal	1						
8	102921		DIODE, 6 Amp	2						
9	102956		PLUG, Snap	7						
10	(Ref.)		CORD ASSEMBLY, Control box (Refer to Figure 6-9.)	1						



- 3 - 13 ORG
- 4 - 24 BLU/BLK
- 5 - 7 RED
- 6 - 2 WHT
- 7 - 15 BLU
- 8 - 16 WHT/BLK
- 9 - 18 RED/BLK
- 10 - 23 BLK/WHT
- 11 - 14 BLK
- 12 - 19 ORG/BLK

NOTE: For machines with Proportional Control Option, refer to Appendix A.

FIGURE 3-7. HYDRAULIC SCHEMATIC (Machines With Hi-Torque Option)

Index No.	Skyjack Part No.	OEM Part No.	Description	Units per Assy.
C2	106581		CYLINDER ASSEMBLY, Lift (Model 3015)	1
	113873		• KIT, Seal repair	AR
	110681		CYLINDER ASSEMBLY, Lift (Model 3219)	1
	105888		• KIT, Seal repair	AR
C3	107932		CYLINDER ASSEMBLY, Steer (Model 3015)	1
	See fig.6-22		CYLINDER ASSEMBLY, Steer (Model 3219)	1
C4	108099		• KIT, Seal repair	AR
	103817		CYLINDER ASSEMBLY, Brake	AR
C5	105816		• KIT, Seal repair	AR
	108727		CYLINDER ASSEMBLY, Powered extension platform (option)	1
CB1	107396		• KIT, Seal repair	AR
	104133		VALVE, Counterbalance	1
F1	109568		FILTER ASSEMBLY, Return (Model 3015 with S/N 15556 and above and Model 3219)	1
	102877		FILTER ASSEMBLY, Return (Model 3015 with S/N 15555 and below)	1
	104254		• ELEMENT, Return filter	1
	400087		FLOW CONTROL, Fixed 0.8 gpm	1
FD1	103354		VALVE, Flow divider/combiner	1
2H-13	103655		VALVE, Lowering	1
2H-13-1	107269		VALVE, Holding (Machines w/Holding Valve Option)	1
2H-21	104132		VALVE, Speed	1
2H-25	104132		VALVE, Cushion	1
3H-14	106273		VALVE, Lift	1
3H-17	103623		VALVE, Brake	1
4H-15	103614		VALVE, Reverse drive (includes 4H-16)	1
4H-16	103614		VALVE, Forward drive (includes 4H-15)	1
4H-23	103614		VALVE, Right steer (includes 4H-24)	1
4H-24	103614		VALVE, Left steer (includes 4H-23)	1
4H-26	103614		VALVE, Powered platform extend (includes 4H-27) (Machines w/Powered Extension Platform Option)	1
4H-27	103614		VALVE, Powered platform retract (includes 4H-26) (Machines w/Powered Extension Platform Option)	1
M1	110701		MOTOR, Hydraulic drive LH (#HB04075370X) (Replaces 107515, #HB0407030X)	1
M2	110701		MOTOR, Hydraulic drive RH (#HB04075370X) (Replaces 107515, #HB0407030X)	1
	110702		• KIT, Seal repair (For motor, 110701)	AR
	110703		• KIT, Seal repair (For motor, 107515)	AR

FIGURE 3-7. HYDRAULIC SCHEMATIC (Machines With Hi-Torque Option)

Index No.	Skyjack Part No.	OEM Part No.	Description	Units per Assy.
MB1	107354		MANIFOLD BLOCK, Main	1
MB2	107369		MANIFOLD BLOCK, Front axle	1
MB3	103615		MANIFOLD BLOCK, Cushion valve	1
MB4	103494		MANIFOLD BLOCK, Velocity fuse (Standard)	1
	106689		MANIFOLD BLOCK, Holding valve (Machines w/Holding Valve Option)	1
MB5	103137		MANIFOLD BLOCK, Manual lowering valve (Machines w/rotary-type lowering valve)	1
	107493		MANIFOLD BLOCK, Manual lowering valve (Machines w/pull-type lowering valve)	1
MB6	107382		MANIFOLD BLOCK, Powered extension platform (Machines w/Powered Extension Platform Option)	1
MB7	400085		MANIFOLD BLOCK, Torque/speed control	1
O2	108053		ORIFICE, Lowering .055 diameter	1
O3	108002		ORIFICE, Cushion .040 diameter	1
O4	105811		ORIFICE, Brake .040 diameter	1
P1	107485		PUMP, Hydraulic (Standard)	1
	109216		PUMP, Hydraulic (EE-Rated Machines)	1
R1	104534		VALVE, System relief	1
R2	104534		VALVE, Lift relief	1
V1	103136		VALVE, Manual lowering	1
V2	103136		VALVE, Free-wheeling	1
VF1	103138		VELOCITY FUSE, Lift cylinder	1

FIGURE 3-7. HYDRAULIC SCHEMATIC (Machines With Hi-Torque Option)

NOTE: For machines with Proportional Control Option, refer to Appendix A.

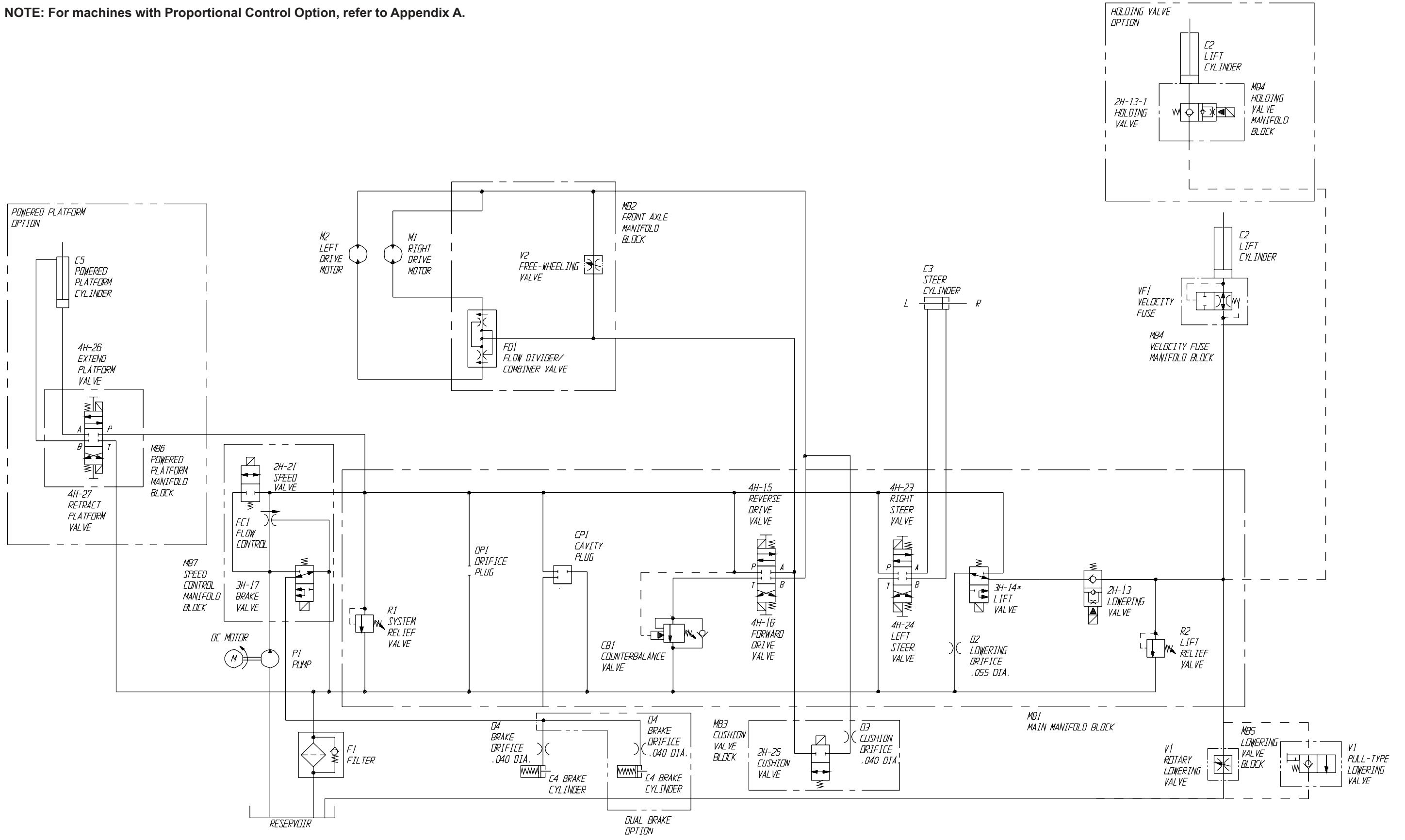


FIGURE 3-8. HYDRAULIC SCHEMATIC (Machines Without Hi-Torque Option)

NOTE: For machines with Proportional Control Option, refer to Appendix A.

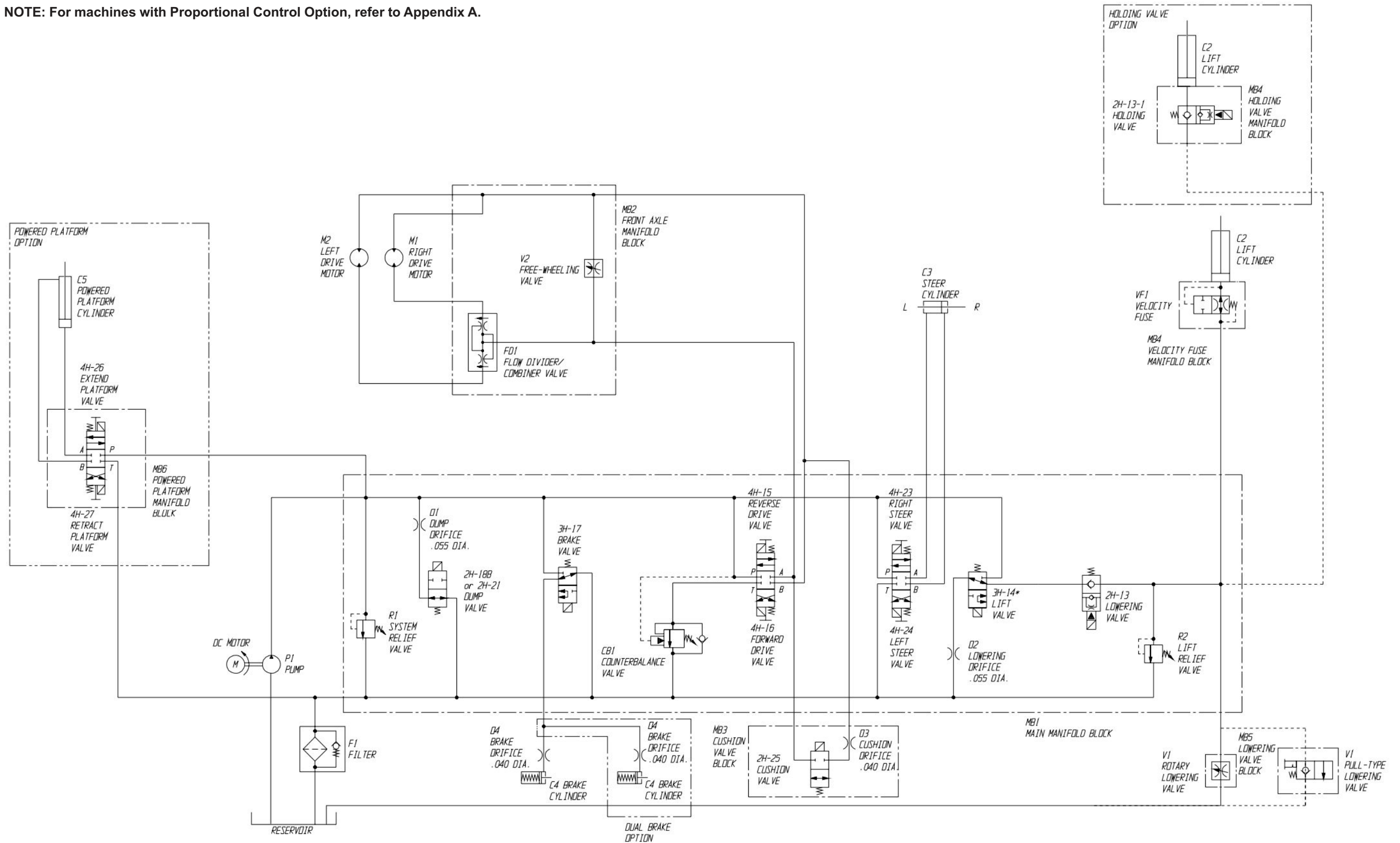


FIGURE 3-8. HYDRAULIC SCHEMATIC (Machines Without Hi-Torque Option)

Index No.	Skyjack Part No.	OEM Part No.	Description	Units per Assy.
C2	106581		CYLINDER ASSEMBLY, Lift (Model 3015)	1
	113873		• KIT, Seal repair	AR
C3	110681		CYLINDER ASSEMBLY, Lift (Model 3219)	1
	105888		• KIT, Seal repair	AR
C4	107932		CYLINDER ASSEMBLY, Steer (Model 3015)	1
	108099		CYLINDER ASSEMBLY, Steer (Model 3219) (Refer to Figure 6-22.)	1
C5	103817		• KIT, Seal repair	AR
	105816		CYLINDER ASSEMBLY, Brake	AR
CB1	108727		• KIT, Seal repair	AR
	107396		CYLINDER ASSEMBLY, Powered extension platform (option)	1
F1	104133		• KIT, Seal repair	AR
	109568		VALVE, Counterbalance	1
FD1	102877		FILTER ASSEMBLY, Return (Model 3015 with S/N 15556 and above and all Model 3219)	1
	104254		FILTER ASSEMBLY, Return (Model 3015 with S/N 15555 and below)	1
2H-13	103354		• ELEMENT, Return filter	1
	103655		VALVE, Flow divider/combiner	1
2H-13-1	107269		VALVE, Lowering	1
	102626		VALVE, Holding (Machines w/Holding Valve Option)	1
2H-21	104132		VALVE, Dump	1
	106273		VALVE, Cushion	1
2H-25	103623		VALVE, Lift	1
	103614		VALVE, Brake	1
3H-14	103614		VALVE, Reverse drive (includes 4H-16)	1
	103614		VALVE, Forward drive (includes 4H-15)	1
3H-17	103614		VALVE, Right steer (includes 4H-24)	1
	103614		VALVE, Left steer (includes 4H-23)	1
4H-15	103614		VALVE, Powered platform extend (includes 4H-27) (Machines w/Powered Extension Platform Option)	1
	103614		VALVE, Powered platform retract (includes 4H-26) (Machines w/Powered Extension Platform Option)	1
4H-16	110701		MOTOR, Hydraulic drive LH (#HB04075370X) (Replaces 107515, #HB0407030X)	1
	110701		MOTOR, Hydraulic drive RH (#HB04075370X) (Replaces 107515, #HB0407030X)	1
4H-23	110702		• KIT, Seal repair (For motor, 110701)	AR
	110703		• KIT, Seal repair (For motor, 107515)	AR

FIGURE 3-8. HYDRAULIC SCHEMATIC (Machines Without Hi-Torque Option)

Index No.	Skyjack Part No.	OEM Part No.	Description	Units per Assy.
MB1	107354		MANIFOLD BLOCK, Main	1
MB2	107369		MANIFOLD BLOCK, Front axle	1
MB3	103615		MANIFOLD BLOCK, Cushion valve	1
MB4	103494		MANIFOLD BLOCK, Velocity fuse (Standard)	1
	106689		MANIFOLD BLOCK, Holding valve (Machines w/Holding Valve Option)	1
MB5	103137		MANIFOLD BLOCK, Manual lowering valve (Machines w/rotary-type lowering valve)	1
	107493		MANIFOLD BLOCK, Manual lowering valve (Machines w/pull-type lowering valve)	1
MB6	107382		MANIFOLD BLOCK, Powered extension platform (Machines w/Powered Extension Platform Option)	1
	108053		ORIFICE, Dump .055 diameter (Model 3219)	1
O2	108053		ORIFICE, Lowering .055 diameter	1
O3	108002		ORIFICE, Cushion .040 diameter	1
O4	105811		ORIFICE, Brake .040 diameter	1
	107485		PUMP, Hydraulic (Standard)	1
P1	109216		PUMP, Hydraulic (EE-Rated Machines)	1
	104534		VALVE, System relief	1
R1	104534		VALVE, Lift relief	1
R2	103136		VALVE, Manual lowering	1
V1	103136		VALVE, Free-wheeling	1
V2	103136		VELOCITY FUSE, Lift cylinder	1
VF1	103138			

FIGURE 3-9. HYDRAULIC MANIFOLD COMPONENT AND PORT IDENTIFICATION (Machines With Hi-Torque Option)

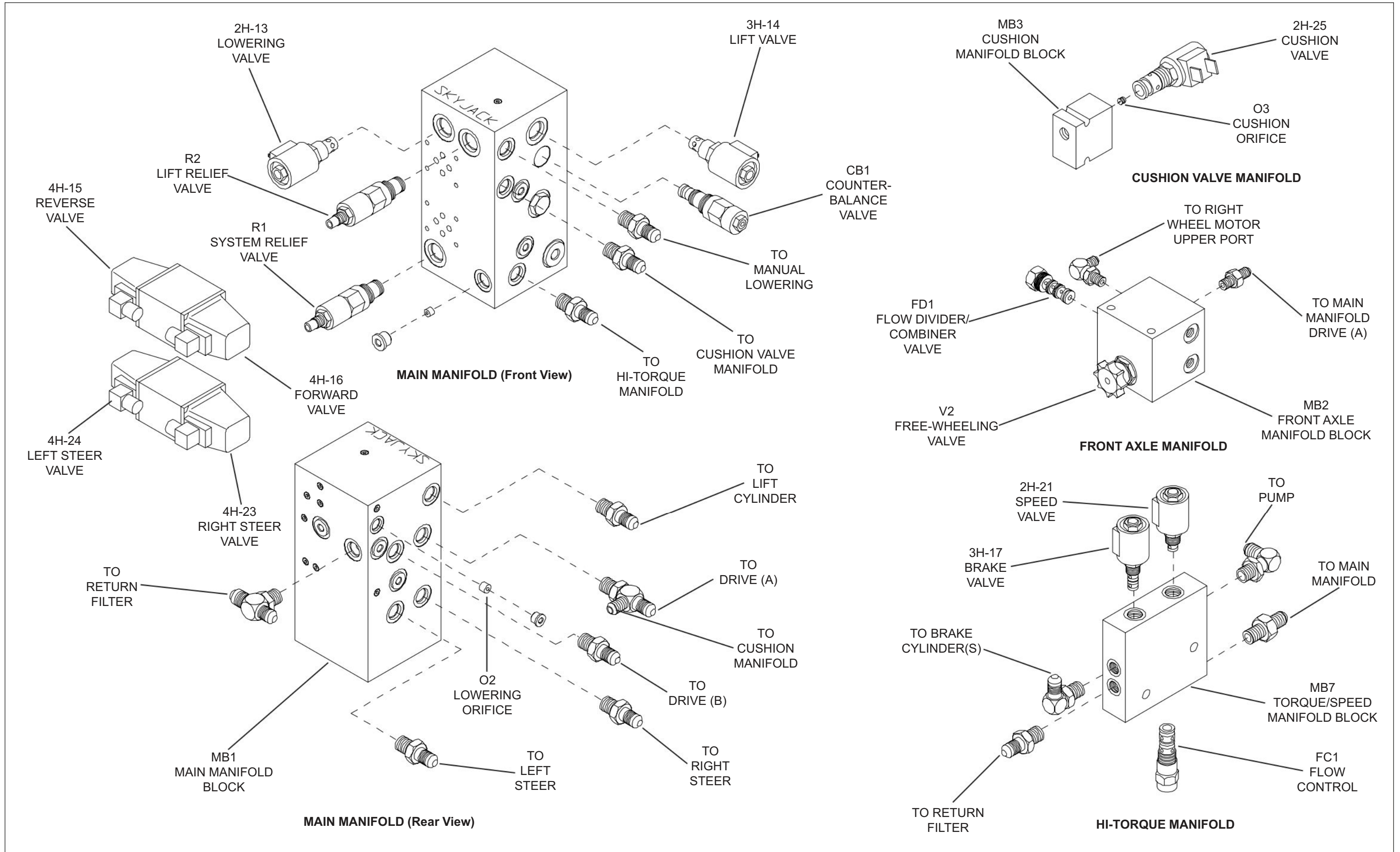
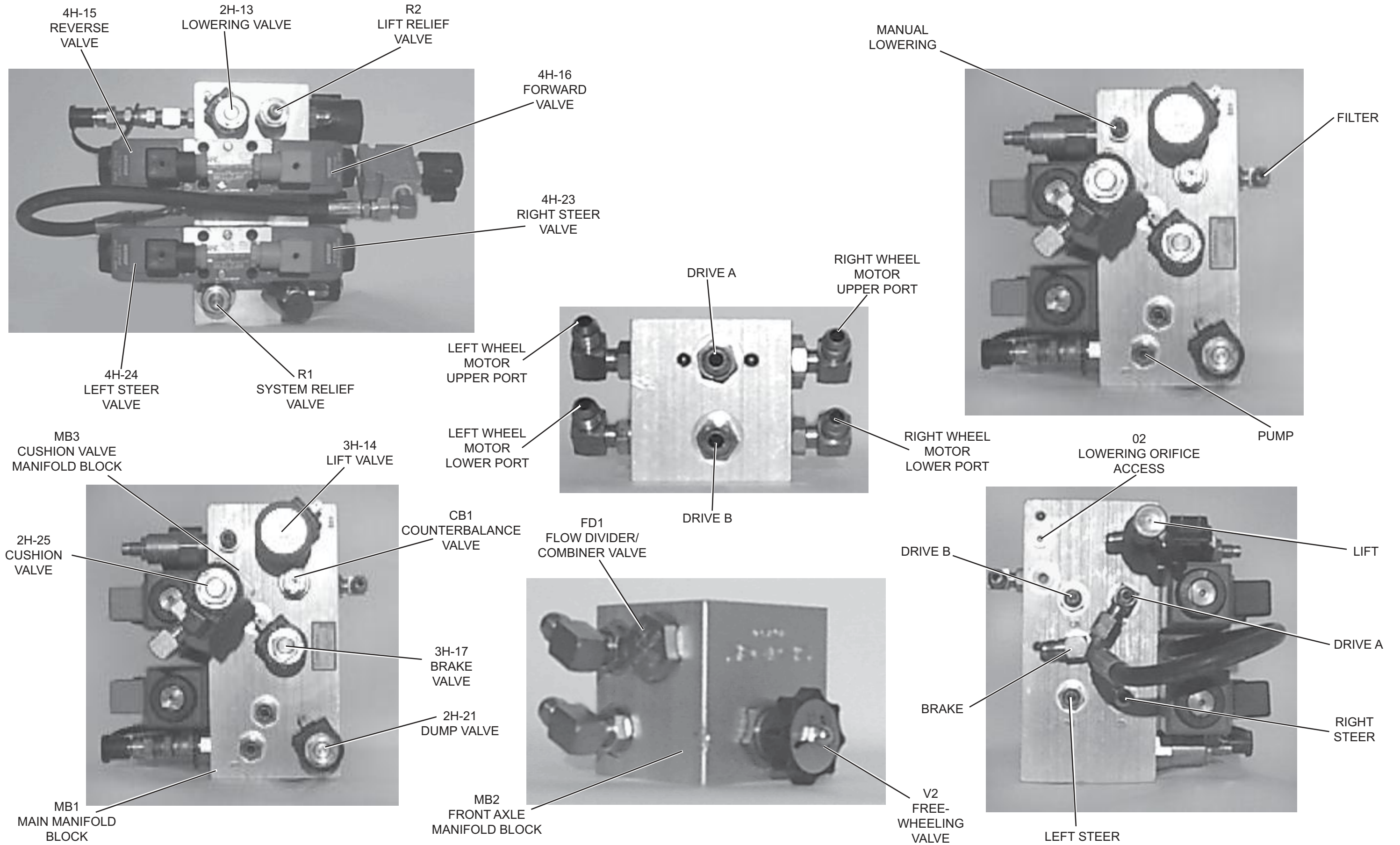


FIGURE 3-10. HYDRAULIC MANIFOLD COMPONENT AND PORT IDENTIFICATION (Machines Without Hi-Torque Option)



SECTION 4

TROUBLESHOOTING INFORMATION

The following pages contain a Table of Troubleshooting information for locating and correcting most service trouble which can develop. Careful inspection and accurate analysis of the systems listed in the Table of Troubleshooting Information will localize the trouble more quickly than any other method. This manual cannot cover all possible troubles and deficiencies that may occur. If a specific trouble is not listed, isolate the major component in which the trouble occurs, isolate whether the problem is electrical or hydraulic, and then isolate and correct the specific problem.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM		
ALL CONTROLS INOPERATIVE	1. Battery Charger plugged into external power source.	1. Disconnect charger cord.
	2. Batteries disconnected.	2. Connect batteries.
	3. Dirty or loose battery terminals.	3. Clean and tighten connections.
	4. Battery charge low.	4. Check each cell with hydrometer. Reading should be 1.275 (fully charged). Recharge if low reading. Replace if reading difference between cells is 0.050.
	5. Main battery cables open or defective.	5. Check continuity. Replace if defective.
	6. Fuse (F1) defective.	6. Replace fuse.
	7. Main Battery Disconnect Switch (S1) open or defective.	7. Close switch. Check continuity. Replace if defective.
	8. Loose or broken wire #3 from Motor Contactor (C1) to Circuit Breaker (CB2).	8. Check continuity. Replace if defective
	9. Defective Battery Charger Relay (L1CR).	9. Check relay. Replace if defective.
	10. Loose or broken wire #03A from Battery Charger Relay (L1CR) to Circuit Breaker (CB2).	10. Check continuity. Replace if defective.
	11. Defective or tripped Circuit Breaker (CB2).	11. Reset circuit breaker. Replace if defective.
	12. Loose or broken wire #7 from Charger Relay (L1CR) to Base Terminal Block (TB-1).	12. Check continuity. Replace if defective.
	13. Loose or broken wire #00 from Pump Motor (DCM1) to Circuit Breaker (CB1).	13. Check continuity. Replace if defective.
	14. Defective or tripped Circuit Breaker (CB1).	14. Reset circuit breaker. Replace if defective.
	15. Loose or broken wire #2 from Circuit Breaker (CB1) to Base Terminal Block (TB-1).	15. Check continuity. Replace if defective.
	16. Loose or broken wire #19 from Base Terminal Block (TB-1) to Contactor (C1).	16. Check continuity. Replace if defective.



TROUBLESHOOTING INFORMATION(Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (Continued)		
ALL CONTROLS INOPERATIVE (Cont.)	17. Loose or broken wire #2 from Contactor (C1) to Base Terminal Block (TB-1).	17. Check continuity. Replace if defective.
	18. Contactor (C1) defective.	18. Check contactor. Replace if defective.
	19. Defective Pump Motor (DCM1).	19. Check motor. Replace if defective.
	20. Loose or broken wire #59B from Relay (21CR) to Proportional Valve Coil (2H-59B).	20. Check continuity. Replace if defective.
	21. Loose or broken wire #02 from Proportional Valve Coil (2H-59B) to Base Terminal Block (TB-1).	21. Check continuity. Replace if defective.
	22. Defective Proportional Valve Coil (2H-59B).	22. Check continuity through coil. Reading should be 19ohms. Replace if defective.
ALL CONTROLS INOPERATIVE FROM PLATFORM (Machines without Power Deck)	1. Loose or broken wire #07 from Base Terminal Block (TB-1) to Platform Emergency Stop Switch (S4).	1. Check continuity. Replace if defective.
	2. Open or defective Platform Emergency stop switch (S4).	2. Close switch. Replace if defective.
	3. Loose or broken wire #7A from Platform Emergency Stop Switch (S4) to Key Switch (S3).	3. Check continuity. Replace if defective.
	4. Open or defective Key Switch (S3).	4. Close switch. Replace if defective.
	5. Loose or broken wire #7B from Keyswitch (S3) to Battery charge Indicator (BCI).	5. Check continuity. Replace if defective.
	6. Loose or broken wire #7B from Battery Charge Indicator BCI to Joystick (S7).	6. Check continuity. Replace if defective.
ALL CONTROLS INOPERATIVE FROM PLATFORM (Machines with Power Deck)	1. Loose or broken wire #07 from Base Terminal Block (TB-1) to Platform Emergency Stop Switch (S4).	1. Check continuity. Replace if defective.
	2. Open or defective Emergency Stop Switch (S4).	2. Close switch. Replace if defective.
	3. Loose or broken wire #7A from Platform Emergency Stop Switch (S4) to Key Switch (S3).	3. Check continuity. Replace if defective.
	4. Open or Defective Key Switch (S3).	4. Close switch. Replace if defective.
	5. Loose or broken wire #7B from Key Switch (S3) to Lift/Drive Select Switch (S5).	5. Check continuity. Replace if defective.
	6. Defective Lift/Drive Select Switch (S5).	6. Check switch. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
LIFT AND DRIVE INOPERATIVE FROM PLATFORM CONTROLS	<ol style="list-style-type: none"> 1. Defective Neutral Switch (S7-1) in Joystick Controller (S7). 2. Defective A/B switch (S74) in Joystick Controller (S7). 3. Circuit Board (S7-1) defective. 4. Loose or broken wire #59 from Joystick Controller (S7) to Platform Terminal Block (TB-2). 5. Loose or broken wire #59 from Platform Terminal Block (TB-2) to Base Terminal Block (TB-1). 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check switch. Replace if defective. 3. Refer to Section 5, Page 7 P.Q. Controller Test Procedure. 4. Check continuity. Replace if defective. 5. Check continuity. Replace if defective.
NO DOWN OR REVERSE ONLY FUNCTION FROM PLATFORM CONTROLS	<ol style="list-style-type: none"> 1. Loose or broken wire "A" from Proportional Controller (S7) to Lift/Drive Switch (S5). 2. Lift/Drive Switch (S5) defective. 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check Switch. Replace if defective.
NO UP OR FORWARD ONLY FUNCTION FROM PLATFORM CONTROLS	<ol style="list-style-type: none"> 1. A/B Switch (S74) in Proportional Controller open or defective. 2. Loose or broken wire "B" from Proportional Controller (S7) to Lift/Drive Select Switch (S5). 3. Lift Drive Select Switch (S5) defective. 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check switch. Replace if defective.
NO UP FUNCTION FROM PLATFORM OR BASE CONTROLS (for units not equipped w/ Tilt Cut-out option)	<ol style="list-style-type: none"> 1. Loose or broken wire #14 from Base Terminal Block (TB-1) to Up Valve Coil (3H-14). 2. Defective Up Valve Coil (3H-14). 3. Open Diode (D14A). 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check continuity through coil. Replace if defective. 3. Check diode. Replace if defective.
NO UP FUNCTION FROM PLATFORM OR BASE CONTROLS (for machines equipped with Tilt Cut-out options)	<ol style="list-style-type: none"> 1. Machines not level. 2. Loose or broken wire 19 from Base Terminal Block (TB-1) to Tilt Switch Fuse (F2). 3. Blown or defective Tilt Switch Fuse (F2). 4. Defective Tilt Switch (TS1). 5. Loose or broken wire #28 from Tilt Switch (TS1) to Tilt Relay (28CR). 6. Loose or broken wire #02 from Tilt Switch (TS1) to Terminal Strip (TB-1). 7. Defective Tilt Relay (28CR). 8. Loose or broken wire #19A from Tilt Relay (28CR) to Pump Motor Contactor. 	<ol style="list-style-type: none"> 1. Use on level surface. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Test Tilt switch. Replace if defective. 5. Check continuity. Replace if defective. 6. Check continuity. Replace if defective. 7. Check relay. Replace if defective. 8. Check continuity. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
<p>NO DOWN FUNCTION FROM PLATFORM CONTROLS</p> <p>NOTE: Down function is NOT Proportionally Controlled.</p>	<ol style="list-style-type: none"> 1. Loose or broken wire #13 from Lift/ Drive Select Switch (S5) to base terminal Block (TB-1). 2. Loose or broken wire #13 from Base Terminal Block (TB-1) to Down Valve (2H-13). 3. Down valve coil (2H-13) defective. 4. Loose or broken wire #2 from Down Valve Coil (2H-13) to Base Terminal Block (TB-1). 5. Loose or broken wire #13 from Down Valve Coil (2H-13) to Lift Cylinder Holding Valve(s) (2H-13-1). 6. Defective Lift Cylinder Holding Valve Coil(s) (2H-13-1). 7. Loose or broken wire #02 from Lift Cylinder Holding Valve Coil(s) (2H-13-1). 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity through coil. Replace if defective. 4. Check continuity. Replace if defective. 5. Check continuity. Replace if defective. 6. Check continuity through coil. Replace if defective. 7. Check continuity. Replace if defective.
<p>NO DOWN FUNCTION FROM PLATFORM CONTROLS (CE Machines Only)</p>	<ol style="list-style-type: none"> 1. Loose or broken wire #13 from Base Terminal Block (TB-1) to Lowering Warning System Module (LWS1). 2. Defective LWS Time Delay Relay (41CR). 3. Loose or broken wire #13A from Lowering Warning System Module (LWS1) to Base Terminal Block (TB-1). 4. Loose or broken wire #13A from base Terminal Block (TB-1) to Down Valve Coil (2H-13A). 5. Defective Down Valve Coil (2H-13A). 6. Loose or broken wire #13A from Down Valve Coil (2H-13A) to Base Terminal Block (TB-1). 7. Loose or broken wire # 13A from Down Valve Coil (2H-13A) to Lift Cylinder Holding Valve (2H-13A-1). 8. Defective Lift Cylinder Holding Valve (2H-13A-1). 9. Loose or broken wire #02 from Lift Cylinder Holding Valve to Down Valve Coil (2H-13A). 10. Loose or broken wire #07 from Base Terminal Block (TB-1) to High Speed Limit Switch (LS1). 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check relay. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Replace if defective. 5. Check continuity through coil. Replace if defective. 6. Check continuity. Replace if defective. 7. Check continuity. Replace if defective. 8. Check continuity through coil. Replace if defective. 9. Check continuity. Replace if defective. 10. Check Continuity. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
NO DOWN FUNCTION FROM PLATFORM CONTROLS (CE Machines Only) (Continued)	11. Defective High Speed Limit Switch (LS1).	11. Check switch. Replace if defective.
	12. Loose or broken wire #39 from High Speed Limit Switch (LS1). to Base Terminal Block (TB-1).	12. Check switch. Replace if defective.
	13. Loose or broken wire #39 from Base Terminal Block (TB-1) to Lowering Warning System Module (LWS1).	13. Check switch. Replace if defective.
	14. Defective LWS Limit Switch Relay (39CR).	14. Check relay. Replace if defective.
LOWERING WARNING SYSTEM INOPERATIVE (CE Machines Only)	1. Loose or broken wire #10A from Base Terminal Block (TB-1) to Lowering Warning System Module (LWS1).	1. Check continuity. Replace if defective.
	2. Loose or broken wire #02 from Base Terminal Block (TB-1) to Lowering Warning System Module (LWS1)	2. Check continuity. Replace if defective.
	3. Defective LWS Limit Switch Relay (39CR).	3. Check relay. Replace if defective.
	4. Defective Time Delay Cut-out Relay (13BCR).	4. Check relay. Replace if defective.
	5. Defective Time Delay Relay (41CR).	5. Check relay. Replace if defective.
	6. Defective Latching Relay (42CR).	6. Check relay. Replace if defective.
	7. Defective High Speed Limit Switch (LS1).	7. Check switch. Replace if defective.
PLATFORM LIFTS SLOW FROM PLATFORM CONTROLS AND BASE CONTROLS	1. Open Diode D14A-1.	1. Check diode. Replace if defective.
STEER ONLY INOPERATIVE	1. Defective Relay (17CR2) 2. Loose or broken wire #59 from Relay (CR2) to Relay (21ACR).	1. Check relay. Replace if defective. 2. Check continuity. Replace if defective.
DRIVE ONLY INOPERATIVE	1. Open Diode (D17).	1. Check diode. Replace e if defective.
NO DRIVE OR STEER WHEN PLATFORM FULLY LOWERED (All machines)	1. Loose or broken wire #71 from Base Terminal Block (TB-1) to Drive Override Limit Switch (LS6).	1. Check continuity. Replace if defective.
	2. Defective Drive Override Switch (LS6).	2. Check switch. Replace if defective.
	3. Loose or broken wire #19 from Drive Override Limit Switch (LS6) to Base Terminal Block (TB-1).	3. Check continuity. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
NO DRIVE OR STEER WHEN PLATFORM ELEVATED (All machines)	<ol style="list-style-type: none"> 1. Pot Hole Protection Bars not fully lowered. 2. Loose or broken wire #71 from Base Terminal Block (TB-1) to Pot Hole Protection Limit Switch (LS4). 3. Defective Pot Hole Protection Limit Switch (LS4). 4. Loose or broken wire #72 from Pothole Protection Limit Switch (LS4) to Pothole Protection Limit Switch (LS5). 5. Defective Pothole Protection Limit Switch (LS5). 6. Loose or broken wire #19 from Pothole Protection Limit Switch to Base Terminal Block (TB-1). 	<ol style="list-style-type: none"> 1. Clear obstructions. Repair as needed. 2. Check continuity. Replace if defective. 3. Check switch. Replace if defective. 4. Check continuity. Replace if defective. 5. Check switch. Replace if defective. 6. Check continuity. Replace if defective.
NO DRIVE OR STEER FROM PLATFORM (Machines with Powered Platform Only)	<ol style="list-style-type: none"> 1. Defective Lift/Drive Select Switch (S5). 2. Loose or broken wire #12 from Lift/Drive Select Switch (S5) to Platform Terminal Block (TB-2). 3. Loose or broken wire #12 from Platform Terminal Block (TB-2) to Powered Platform Limit Switch (LS2). 4. Open or defective Powered Platform Limit Switch (LS2). 5. Loose or broken wire #12A from Powered Platform Limit Switch (LS2). 6. Loose or broken wire #12A from Powered Platform Limit Switch (LS2) to Platform Terminal Block (TB-2). 7. Open Diode (D12A). 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check switch. Replace if defective. 5. Check continuity. Replace if defective. 6. Check continuity. Replace if defective. 7. Check diode. Replace if defective.
RIGHT STEER INOPERATIVE (Machines without Powered Platform)	<ol style="list-style-type: none"> 1. Defective Steer Right Switch (S72). 2. Loose or broken wire #23 from Steer Right Switch (S72) to Lift/Drive Select Switch (S5). 3. Defective Lift/Drive Select Switch (S5). 4. Loose or broken wire #23A from Lift/Drive Select Switch (S5) to Platform Terminal Block (TB-2). 5. Loose or broken wire #23A from Platform Terminal Block (TB-2) to Base Terminal Block (TB-1). 6. Loose or broken wire #23A from Base Terminal Block (TB-1) to Steer Right Valve Coil (4H-23A). 7. Defective Steer Right Valve Coil (4H-23A). 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check switch. Replace if defective. 4. Check continuity. Replace if defective. 5. Check continuity. Replace if defective. 6. Check continuity. Replace if defective. 7. Check continuity through coil. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
RIGHT STEER INOPERATIVE (Machines without Powered Platform) (Cont.)	8. Loose or broken wire #02 from Steer Right Valve Coil (4H-23A) to Base Terminal Block (TB-1).	8. Check continuity. Replace if defective.
	9. Open Diode (D23A).	9. Check diode. Replace if defective.
	10. Open Diode (D23A-1)	10. Check diode. Replace if defective.
LEFT STEER INOPERATIVE (Machines without Powered Platform)	1. Defective Steer Left Switch (S73).	1. Check switch. Replace if defective.
	2. Loose or broken wire #24 from Steer Left Switch (S73) to Lift/Drive Select Switch (S5).	2. Check continuity. Replace if defective.
	3. Defective Lift/Drive Select Switch (S5).	3. Check switch. Replace if defective.
	4. Loose or broken wire #24A from Lift/Drive Select Switch (S5) to Platform Terminal Block (TB-2).	4. Check continuity. Replace if defective.
	5. Loose or broken wire #24A from Platform Terminal Block (TB-2) to Base Terminal Block (TB-1).	5. Check continuity. Replace if defective.
	6. Loose or broken wire #24A from Base Terminal Block (TB-1) to Steer Left Valve Coil (4H-24A).	6. Check continuity. Replace if defective.
	7. Defective Steer Left Valve Coil (4H-24A)	7. Check continuity. Replace if defective.
	8. Loose or broken wire #02 from Steer Left Valve (4H-24A) to Base Terminal Block (TB-1)	8. Check continuity. Replace if defective.
	9. Open Diode (D24A).	9. Check diode. Replace if defective.
	10. Open Diode (D23A-1)	10. Check diode. Replace if defective.
RIGHT STEER INOPERATIVE (Machines with a Powered Platform)	1. Defective Right Steer Switch (S72).	1. Check switch. Replace if defective.
	2. Loose or broken wire #23 from Right Steer Switch (S72) to Platform Terminal Block (TB-2).	2. Check continuity. Replace if defective.
	3. Loose or broken wire #23 from Platform Terminal Block (TB-2) to Base Terminal Block (TB-1).	3. Check continuity. Replace if defective.
	4. Loose or broken wire #23 from Base Terminal Block (TB-2) to Steer Right Valve Coil (4H-23).	4. Check continuity. Replace if defective.
	5. Defective Steer Right Valve Coil (4H-23).	5. Check continuity through coil. Replace if defective.
	6. Loose or broken wire #02 from Steer Right Valve Coil (4H-23) to Base Terminal Block (TB-1).	6. Check continuity. Replace if defective.
	7. Open Diode (D23).	7. Check diode. Replace if defective.
	8. Open Diode (D23-1).	8. Check diode. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
LEFT STEER INOPERATIVE (Machines with a Powered Platform)	<ol style="list-style-type: none"> 1. Defective Left Steer Switch (S73). 2. Loose or broken wire #24 from Left Steer Switch (S73) to Platform Terminal Block (TB-2). 3. Loose or broken wire #24 from Platform Terminal Block (TB-2) to Base Terminal Block (TB-1). 4. Loose or broken wire #24 from Base Terminal Block (TB-1) to Steer Left Valve Coil (4H-24). 5. Defective Steer Left Valve Coil (4H-24). 6. Loose or broken wire #02 from Steer Left Valve Coil (4H-24) to Base Terminal Block (TB-1). 7. Open Diode (D24). 8. Open Diode (D24-1). 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Replace if defective. 5. Check continuity through coil. Replace if defective. 6. Check continuity. Replace if defective. 7. Check diode. Replace if defective. 8. Check diode. Replace if defective.
NO ELEVATED DRIVE FUNCTION	<ol style="list-style-type: none"> 1. Loose or broken wire #59 from Proportional Relay (21CR) to Resistor (RST2). 2. Resistor (RST2) open. 3. Loose or broken wire #59 from Resistor (RST2) to Proportional Relay (21CR). 4. Proportional Relay (21CR) defective. 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. OHM Check Resistor, it should be 30 ohms. Replace if defective. 3. Check continuity. Replace if defective. 4. Check relay, replace if defective.
WORK PLATFORM DRIVES IN SLOW SPEED ONLY	<ol style="list-style-type: none"> 1. Open Diode (D17-1). 2. Loose or broken wire #17A from Base Terminal Block (TB-1) to High Speed Limit Switch (LS1). 3. Open or defective High Speed Limit Switch (LS1). 4. Loose or broken wire #21 from High Speed Limit Switch to Base Terminal Block (TB-1). 5. Defective Cushion Relay (17CR). 	<ol style="list-style-type: none"> 1. Check Diode. Replace if defective. 2. Check continuity. Replace if defective. 3. Check Switch. Replace if defective. 4. Check continuity. Replace if defective. 5. Check Relay. Replace if defective.
FORWARD DRIVE FUNCTION INOPERATIVE	<ol style="list-style-type: none"> 1. Loose or broken wire #16 from Lift/ Drive Select Switch (S5) to Base Terminal Block (TB-1). 2. Loose or broken wire #16 from Base Terminal Block (TB-1) to Forward Drive Valve Coil (4H-16). 3. Forward Drive Valve Coil (4H-16) defective. 4. Loose or broken wire #02 from Forward Drive Valve Coil (4H-16) to Base Terminal Block (TB-1). 5. Open Diode (D16). 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity through coil. Replace if defective. 4. Check continuity. Replace if defective. 5. Check diode. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
REVERSE DRIVE FUNCTION INOPERATIVE	<ol style="list-style-type: none"> 1. Loose or broken wire #15 from Lift/ Drive Select Switch (S5) to Base Terminal Block (TB-1). 2. Loose or broken wire #15 from Base Terminal Block (TB-1) to Reverse Drive Valve Coil (4H-15). 3. Reverse Drive Valve Coil (4H-15) defective. 4. Loose or broken wire #02 from Reverse Drive Valve Coil (4H-15) to Base Terminal Block (TB-1). 5. Open Diode (D15). 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity through coil. Replace if defective. 4. Check continuity. Replace if defective. 5. Check diode. Replace if defective.
BRAKE WILL NOT RELEASE	<ol style="list-style-type: none"> 1. Loose or broken wire #17 from Base Terminal Block (TB-1) to Brake Valve Coil (3H-17). 2. Brake Valve Coil (3H-17A) defective. 3. Loose or broken wire #02 from Brake Valve Coil (3H-17A) to Base Terminal Block (TB-1). 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Check continuity through coil. Replace if defective. 3. Check continuity through coil. Replace if defective.
LIFT INOPERATIVE FROM BASE CONTROLS (CE Machines Only)	<ol style="list-style-type: none"> 1. Defective Base/Off/Platform Select Switch (S3). 2. Loose or broken wire #10E from Base/Off/Platform Select Switch (S3) to Platform Terminal Block (TB-2). 3. Loose or broken wire #10E from Base Terminal Block (TB-1). 4. Loose or broken wire #10E from Base Terminal Block (TB-1) to Lift Up /Down Switch (S2) in Base Control Box. 5. Open Diode (D10E) 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Replace if defective. 5. Check Diode. Replace if defective.
LIFT UP INOPERATIVE FROM BASE CONTROLS	<ol style="list-style-type: none"> 1. Defective Up/Down Switch (S2). 2. Loose or broken wire #14E from Up/Down Switch (S2) to Base Terminal Block (TB-1). 3. Open Diode (D14E). 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check Diode. Replace if defective.
LIFT DOWN INOPERATIVE FROM BASE CONTROLS	<ol style="list-style-type: none"> 1. Defective Up/Down Switch (S2). 2. Loose or broken wire #13 from Up/Down Switch (S2) to Base Terminal Block (TB-1). 	<ol style="list-style-type: none"> 1. Check switch. Replace if defective. 2. Check continuity. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (Continued)		
TWO OR MORE FUNCTIONS AT ONE TIME	1. Shorted Diode.	1. Check continuity of all Diodes. Replace if defective.
POWERED PLATFORM EXTENSION WILL NOT EXTEND OR RETRACT	1. Lift/Drive Select Switch (S5) not in lift position. 2. Loose or broken wire #09 from Platform Terminal Block TB-2 to Powered Platform Enable Switch (S12). 3. Powered Platform Enable Switch (S12) defective. 4. Loose or broken wire #09A from Powered Platform Enable Switch (S12) to Platform Extend/Retract Switch (S11).	1. Move switch to lift position. 2. Check continuity. Replace if defective. 3. Check switch. Replace if defective. 4. Check continuity. Replace if defective.
POWERED PLATFORM EXTENSION WILL NOT EXTEND OR RETRACT (Cont.)	5. Loose or broken wire #19 from Platform Terminal Block (TB-2) to Base Terminal Block (TB-1). 6. Loose or broken wire #02 from Extend/Valve Coil (4H-26) to Retract Valve Coil (4H-27) to Platform Terminal Block (TB-2).	5. Check continuity. Replace if defective. 6. Check continuity. Replace if defective.
POWERED EXTENSION PLATFORM WILL NOT EXTEND	1. Powered Platform Extend/Retract Switch (S11) defective. 2. Loose or broken wire #26 from Powered Platform Extend/Retract Switch (S11) to extend Valve Coil (4H-26). 3. Extend Valve Coil (4H-26) defective. 4. Open Diode (D26). 5. Loose or broken wire #02 from Extend Valve Coil (4H-26).	1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity through coil, replace if defective. 4. Check diode. Replace if defective. 5. Check continuity through coil. Replace if defective.
POWERED EXTENSION PLATFORM WILL NOT RETRACT	1. Powered Platform Extend/Retract Switch (S11) defective. 2. Loose or broken wire #27 from Powered Platform Extend/Retract Switch (S11) to Retract Valve Coil (4H-27). 3. Retract Valve Coil (4H-27) defective. 4. Open Diode (D27). 5. Loose or broken wire #02 from Retract Valve Coil (4H-27).	1. Check switch. Replace if defective. 2. Check continuity. Replace if defective. 3. Check continuity through coil, replace if defective. 4. Check diode. Replace if defective. 5. Check continuity, replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEM (continued)		
ALL FUNCTIONS INOPERATIVE	<ol style="list-style-type: none"> Proportional Valve (2H-59B) defective or is sticking. Compensator Valve (CMP1) defective or is sticking. Pump (P1) defective. 	<ol style="list-style-type: none"> Check valve. Replace if defective. Check valve. Replace if defective. Check pump. Replace if defective.
PLATFORM DRIFTS DOWN	<ol style="list-style-type: none"> Defective Lift Cylinder Seals. Combination of: Defective Holding Valves (2H-13-1) and either defective Lowering Valve (2H-13) or Relief Valve (R2) or Manual Lowering Valve (V1). 	<ol style="list-style-type: none"> Rebuild cylinder. Replace if damaged. Check valves. Replace if defective.
PLATFORM LIFTS SLOWLY	<ol style="list-style-type: none"> Open or leaking Manual Lowering Valve (V1). Lift Relief Valve (R2) defective. 	<ol style="list-style-type: none"> Close valve. Replace if defective. Check valve. Replace if defective.
PLATFORM DOES NOT LIFT	<ol style="list-style-type: none"> Open Manual Lowering Valve (V1). Hydraulic oil level too low. Platform weight excessive. Up Valve (3H-14) defective or is sticking. 	<ol style="list-style-type: none"> Close valve. Replace if defective. Fully lower the platform. Fill hydraulic tank until fluid is at or slightly above the top mark on the sight glass. Reduce platform load to maximum capacity. Check valve. Replace if defective.
PLATFORM WILL NOT LOWER NOTE: Down function is NOT Proportionally controlled	<ol style="list-style-type: none"> Lowering Valve (2H-13) defective or is sticking. Defective Holding Valve (2H-13-1) through (2H-13-4). 	<ol style="list-style-type: none"> Clean valve. Replace if defective. Check valve. Replace if defective.
PLATFORM DRIVES SLOW	<ol style="list-style-type: none"> Free-Wheeling Valve (V2) open or defective. Flow Divider/Combiner (FD1) defective or is plugged. Drive Motor (M1) or (M2) defective. Cushion Valve (2H-25) stuck or defective. 	<ol style="list-style-type: none"> Close valve. Replace if defective. Check valve. Replace if defective. Check motors. Replace if defective. Check valve. Replace if defective.
PLATFORM WILL NOT DRIVE IN FORWARD OR REVERSE	<ol style="list-style-type: none"> Open Free-Wheeling Valve (V2). Forward Drive Valve (4H-16) or Reverse Drive Valve (4H-15) defective or is sticking. Flow/Divider/Combiner Valve (FD1) defective or is plugged. Counterbalance Valve (CB1) defective or is plugged. 	<ol style="list-style-type: none"> Close Valve. Replace if defective. Clean Valve. Replace if defective. Clean Valve. Replace if defective. Clean Valve. Replace if defective.

TROUBLESHOOTING INFORMATION (Proportional Drive and Lift)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEM (continued)		
BRAKE(S) WILL NOT RELEASE	<ol style="list-style-type: none"> 1. Brake Valve (3H-17) defective or is sticking. 2. Brake Orifice(s) (O4) plugged. 3. Brake Cylinder(s) (C4) defective. 	<ol style="list-style-type: none"> 1. Clean valve. Replace if defective. 2. Remove orifice(s). Clean and reinstall. 3. Rebuild cylinder(s). Replace if damaged.
PLATFORM DOES NOT STEER	<ol style="list-style-type: none"> 1. Right Steer Valve (4H-23A) or Left Steer Valve (4H-24A) defective or sticking. 2. Steer Cylinder (C3) seals leaking. 3. Mechanical binding in King Pins. 	<ol style="list-style-type: none"> 1. Clean valve. Replace if defective. 2. Rebuild cylinder(s). Replace if damaged. 3. Check for binding. Repair as needed.
ALL SYSTEMS SLUGGISH	<ol style="list-style-type: none"> 1. System Relief Valve defective or not adjusted properly. 2. Hydraulic pump (P1) worn. 3. Compensator Valve (CMP1) defective. 4. Proportional Valve (2H-59B) contaminated or defective. 	<ol style="list-style-type: none"> 1. Adjust valve. Replace if defective. 2. Check pump. Replace if defective. 3. Clean. Replace if defective. 4. Clean, replace if defective.
POWER EXTENSION PLATFORM WILL NOT EXTEND OR RETRACT	<ol style="list-style-type: none"> 1. Platform Extend Valve (4H-26) or Platform Retract Valve (4H-27) defective or is sticking. 2. Powered Platform Cylinder (C5) seals defective. 3. Mechanical binding in powered platform mechanism. 	<ol style="list-style-type: none"> 1. Clean valve. Replace if defective. 2. Rebuild cylinder. Replace if damaged. 3. Check for binding. Repair as needed.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM		
All Controls Inoperative	<ol style="list-style-type: none"> 1. Battery Charger plugged into external power source. 2. Batteries disconnected. 3. Battery charge low. 4. Dirty or loose battery terminals. 5. Main battery cables open or defective. 6. Main Battery Disconnect Switch (S1) open or defective. 7. Loose or broken wire #3 from Fuse (F1) to Battery Charger Relay (L1CR). 8. Defective Battery Charger Relay (L1CR). 9. Loose or broken wire #5 from Battery Charger Relay (L1CR) to Circuit Breaker (CB2). 10. Defective or tripped Circuit Breaker (CB2). 11. Loose or broken wire #7 from Circuit Breaker (CB2) to base terminal strip. 12. Loose or broken wire #0 from Pump Motor (DCM1) to Circuit Breaker (CB1). 13. Defective or tripped Circuit Breaker (CB1). 14. Loose or broken wire #2 from Circuit Breaker (CB1) to base terminal strip. 15. Loose or broken wire #19 from base terminal strip to Contactor (C1). 16. Defective Contactor (C1). 17. Defective Fuse (F1). 18. Loose or broken wire #2 from Contactor (C1) to base terminal strip. 19. Defective Pump Motor (DCM1). 	<ol style="list-style-type: none"> 1. Disconnect charger cord. 2. Connect batteries. 3. Check each cell with hydrometer. Reading should be 1.275 (fully charged.). Recharge if low reading. Replace if reading difference between cells is 0.050. 4. Clean and tighten connections. 5. Check continuity, replace if defective. 6. Close switch. Check continuity, replace if defective. 7. Check continuity, replace if defective. 8. Check relay, replace if defective. 9. Check continuity, replace if defective. 10. Reset circuit breaker. Replace if defective. 11. Check continuity, replace if defective. 12. Check continuity, replace if defective. 13. Reset circuit breaker. Replace if defective. 14. Check continuity, replace if defective. 15. Check continuity, replace if defective. 16. Check contactor, replace if defective. 17. Replace fuse. 18. Check continuity, replace if defective. 19. Check motor, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
Controls Inoperative From Platform	<ol style="list-style-type: none"> 1. Loose or broken wire #7 from base terminal strip to Platform Emergency Stop Switch (S4). 2. Platform Emergency Stop Switch (S4) open or defective. 3. Loose or broken wire #8 from Platform Emergency Stop Switch (S4) to Lift/Off/Drive Key Switch (S3). 4. Lift/Off/Drive Key Switch (S3) open or defective 	<ol style="list-style-type: none"> 1. Check continuity, replace if defective. 2. Check switch, replace if defective. 3. Check continuity, replace if defective. 4. Check switch, replace if defective.
Up/Down Circuit Inoperative From Platform	<ol style="list-style-type: none"> 1. Defective Lift/Off/Drive Key Switch (S3) open or defective. 2. Loose or broken wire #9 from Lift/Off/Drive Key Switch (S3) to Lift Enable Switch (S9). 3. Defective Lift Enable Switch (S9). 4. Loose or broken wire #9A from Lift Enable Switch (S9) to Up/Down Switch (S5). 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check switch, replace if defective. 4. Check continuity, replace if defective.
Up Circuit Inoperative From Platform	<ol style="list-style-type: none"> 1. Up/Down Switch (S5) open or defective. 2. Loose or broken wire #14 from Up/Down Switch (S5) to base terminal strip. 3. Loose or broken wire #14 from base terminal strip to Up Valve (3H-14). 4. Up valve coil (3H-14) open or shorted. 5. Loose or broken wire #2 from Up Valve (3H-14) to base terminal strip. 6. Diode (D14) or (D21) open at base terminal strip. 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check continuity, replace if defective. 4. Check continuity through coil, replace if defective. 5. Check continuity, replace if defective. 6. Check diode(s), replace if defective.
Platform Lifts Slowly	<ol style="list-style-type: none"> 1. Loose or broken wire #21 from base terminal strip to Speed Valve (2H-21). 2. Speed valve coil (2H-21) defective. 3. Loose or broken wire #2 from Speed Valve (2H-21) to base terminal strip. 	<ol style="list-style-type: none"> 1. Check continuity, replace if defective. 2. Check continuity through coil, replace if defective. 3. Check continuity, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
Down Circuit Inoperative From Platform	<ol style="list-style-type: none"> 1. Up/Down Switch (S5) open or defective. 2. Loose or broken wire #13 from Up/Down Switch (S5) to base terminal strip. 3. Loose or broken wire #13 from base terminal strip to Down Valve (2H-13). 4. Down Valve (2H-13) defective. 5. Loose or broken wire #2 from Down Valve (2H-13) to base terminal strip. 6. Loose or broken wire #13 from base terminal strip to Holding Valve (2H-13-1). (if so equipped) 7. Holding Valve (2H-13-1) defective. (if so equipped) 8. Loose or broken wire #2 from Holding Valve (2H-13-1) to base terminal strip. (if so equipped) 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check continuity, replace if defective. 4. Check continuity through coil, replace if defective. 5. Check continuity, replace if defective. 6. Check continuity, replace if defective. 7. Check continuity through coil, replace if defective. 8. Check continuity, replace if defective.
No Drive or Steer From Platform	<ol style="list-style-type: none"> 1. Lift/Off/Drive Key Switch (S3) open or defective. 2. Loose or broken wire #12 to Drive/Steer Controller (S7) or Powered Platform Limit Switch (LS2). (if so equipped) 3. Powered Platform Limit Switch (LS2) defective. (If so equipped) 4. Loose or broken wire #12A from Powered Platform Limit Switch (LS2) to Drive/Steer Controller (S7). 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check switch, replace if defective. 4. Check continuity, replace if defective.
Steer Inoperative	<ol style="list-style-type: none"> 1. Loose or broken wire #12 to Drive/Steer Controller Circuit Board (S7) to Steer Switches (S7-2)(S7-3). 	<ol style="list-style-type: none"> 1. Check continuity, replace if defective.
Right Steer Inoperative	<ol style="list-style-type: none"> 1. Right Steer Switch (S7-2) in Drive/Steer Controller (S7) defective. 2. Loose or broken wire #23 from Drive/Steer Controller (S7) to base terminal strip. 3. Diode (D23) at base terminal strip open or shorted. 4. Loose or broken wire #23 from base terminal strip to Right Steer Valve (4H-23). 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check diode, replace if defective. 4. Check continuity, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
Right Steer Inoperative (continued)	<ol style="list-style-type: none"> 5. Right steer valve coil (4H-23) defective. 6. Loose or broken wire #2 from Right Steer Valve (4H-23) to base terminal strip. 	<ol style="list-style-type: none"> 5. Check continuity through coil, replace if defective. 6. Check continuity, replace if defective.
Left Steer Inoperative	<ol style="list-style-type: none"> 1. Left Steer Switch (S7-2) in Drive/Steer Controller (S7) defective. 2. Loose or broken wire #24 from Drive/Steer Controller (S7) to base terminal strip. 3. Diode (D24) at base terminal strip open or shorted. 4. Loose or broken wire #24 from base terminal strip to Left Steer Valve (4H-24). 5. Left steer valve coil (4H-24) defective. 6. Loose or broken wire #2 from Left Steer Valve (4H-24) to base terminal strip. 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check diode, replace if defective. 4. Check continuity, replace if defective. 5. Check continuity through coil, replace if defective. 6. Check continuity, replace if defective.
Forward Direction Inoperative	<ol style="list-style-type: none"> 1. Forward Drive Switch (S7-5) in Drive/Steer Controller (S7) defective. 2. Loose or broken wire #16 from Drive/Steer Controller (S7) to base terminal strip. 3. Diode (D16) at base terminal strip open or shorted. 4. Loose or broken wire #16 from base terminal strip to Forward Drive Valve (4H-16). 5. Forward drive valve coil (4H-16) defective. 6. Loose or broken wire #2 from Forward Drive Valve (4H-16) to base terminal strip. 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check diode, replace if defective. 4. Check continuity, replace if defective. 5. Check continuity through coil, replace if defective. 6. Check continuity, replace if defective.
Reverse Direction Inoperative	<ol style="list-style-type: none"> 1. Reverse Drive Switch (S7-4) in Drive/Steer Controller (S7) defective. 2. Loose or broken wire #15 from Drive/Steer Controller (S7) to base terminal strip. 3. Diode (D15) at base terminal strip open or shorted. 4. Loose or broken wire #15 from base terminal strip to Reverse Drive Valve (4H-15). 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check diode, replace if defective. 4. Check continuity, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
Reverse Direction Inoperative (continued)	<ol style="list-style-type: none"> 5. Reverse drive valve coil (4H-15) defective. 6. Loose or broken wire #2 from Reverse Drive Valve (4H-15) to base terminal strip. 	<ol style="list-style-type: none"> 5. Check continuity through coil, replace if defective. 6. Check continuity, replace if defective.
Brake Will Not Release	<ol style="list-style-type: none"> 1. Loose or broken wire #17 from base terminal strip to Brake Valve (3H-17). 2. Brake valve coil (3H-17) defective. 3. Loose or broken wire #2 from Brake Valve (3H-17) to base terminal strip. 	<ol style="list-style-type: none"> 1. Check continuity, replace if defective. 2. Check continuity through coil, replace if defective. 3. Check continuity, replace if defective.
Machine Brakes To An Abrupt Stop	<ol style="list-style-type: none"> 1. Loose or broken wire #7 from base terminal strip to Cushion Relay (17CR1) 2. Loose or broken wire #17 from base terminal strip to Cushion Relay (17CR1) 3. Cushion Relay (17CR1) defective. 4. Loose or broken wire #17C from Cushion Relay (17CR1) to Cushion Relay (17CCR1). 5. Loose or broken wire #17D from Cushion Relay (17CR1) to Cushion Relay (17CCR1). 6. Cushion Relay (17CCR1) defective. 7. Capacitor (CAP1) on Cushion Relay (17CCR1) defective. 8. Loose or broken wire #2 from base terminal strip to Cushion Relay (17CR1) and (17CCR1). 9. Loose or broken wire #25 from Cushion Relay (17CCR1) to Cushion Valve (2H-25). 10. Cushion valve coil (2H-25) defective. 11. Loose or broken wire #2 from Cushion Valve (2H-25) to base terminal strip. 	<ol style="list-style-type: none"> 1. Check continuity, replace if defective. 2. Check continuity, replace if defective. 3. Check relay, replace if defective. 4. Check continuity, replace if defective. 5. Check continuity, replace if defective. 6. Check relay, replace if defective. 7. Check capacitor, replace if defective. 8. Check continuity, replace if defective. 9. Check continuity, replace if defective. 10. Check continuity through coil, replace if defective. 11. Check continuity, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (continued)		
Work Platform Drives In Slow Speed Only	<ol style="list-style-type: none"> 1. Speed 2 Switch (S7-1) in Drive/Steer Controller defective. 2. Loose or broken wire #18 from Drive/Steer Controller (S7) to base terminal strip. 3. Diode (D18) at terminal strip open or shorted. 4. Loose or broken wire #18A from Diode (D18) to High Speed Limit Switch (LS1). 5. High Speed Limit Switch (LS1) defective. 6. Loose or broken wire 321 from High Speed Limit Switch to base terminal strip. 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check diode, replace if defective. 4. Check continuity, replace if defective. 5. Check switch, replace if defective. 6. Check continuity, replace if defective.
Two Or More Functions At One Time	<ol style="list-style-type: none"> 1. Diodes shorted. 	<ol style="list-style-type: none"> 1. Check continuity of all diodes, replace if defective.
Powered Extension Platform Will Not Extend Or Retract	<ol style="list-style-type: none"> 1. Lift/Off/Drive Key Switch (S3) not in "LIFT" position. 2. Loose or broken wire #9 from Operators Control Box to Powered Platform Enable Switch (S12). 3. Powered Platform Enable Switch defective. 4. Loose or broken wire #19A from Powered Platform Control Box to base terminal strip. 5. Loose or broken wire #2 from Platform Extend/Retract Valves (4H-26) and (4H-27) to Operators Control Box terminal strip. 6. Loose or broken wire #9A from Powered Platform Enable Switch (S12) to Platform Extend/retract Switch (S11). 	<ol style="list-style-type: none"> 1. Turn key to "LIFT" position. 2. Check continuity, replace if defective. 3. Check switch, replace if defective. 4. Check continuity, replace if defective. 5. Check continuity, replace if defective. 6. Check continuity, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
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ELECTRICAL SYSTEM (continued)

Powered Extension Platform Will Not Extend	<ol style="list-style-type: none"> 1. Powered Platform Extend/Retract Switch (S11) defective. 2. Loose or broken wire #26 from Powered Platform Extend/Retract Switch (S11) to Extend Valve (4H-26). 3. Extend valve coil (4H-26) defective. 4. Diode (D26) in Operators Control Box open or shorted. 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check continuity through coil, replace if defective. 4. Check diode, replace if defective.
Powered Extension Platform Will Not Retract	<ol style="list-style-type: none"> 1. Powered Platform Extend/Retract Switch (S11) defective. 2. Loose or broken wire #27 from Powered Platform Extend/Retract Switch (S11) to Retract Valve (4H-27). 3. Retract valve coil (4H-27) defective. 4. Diode (D27) in Operators Control Box open or shorted. 	<ol style="list-style-type: none"> 1. Check switch, replace if defective. 2. Check continuity, replace if defective. 3. Check continuity through coil, replace if defective. 4. Check diode, replace if defective.

HYDRAULIC SYSTEM

Platform Drifts Down	<ol style="list-style-type: none"> 1. Manual Lowering Valve (V1) open or defective. 2. Lift cylinder seal defective. 3. Lift Relief Valve (R2) defective. 4. Lowering Valve (2H-13) defective. 	<ol style="list-style-type: none"> 1. Close valve, replace if defective. 2. Rebuild cylinder, replace if damaged. 3. Check valve, replace if defective. 4. Check valve, replace if defective.
Platform Lifts Slowly	<ol style="list-style-type: none"> 1. Speed Valve (2H-21) defective. 2. Manual Lowering Valve (V1) open or leaking. 3. Lift Relief Valve (R2) defective. 	<ol style="list-style-type: none"> 1. Clean valve, replace if defective. 2. Close valve, replace if defective. 3. Check valve, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEM (continued)		
Platform Does Not Lift	<ol style="list-style-type: none"> 1. Manual Lowering Valve (V1) open. 2. Hydraulic oil level too low. 3. Platform weight excessive. 4. Up Valve (3H-14) defective or is sticking. 5. Lift Relief Valve (R2) set too low or valve is defective. 6. Pump (P1) defective. 7. Main Manifold Block (MB1) obstruction. 8. Obstruction in lift hose. 	<ol style="list-style-type: none"> 1. Close valve, replace if defective. 2. Fully lower the platform. Fill hydraulic tank until fluid is at or slightly above the top mark on the sight glass. 3. Reduce platform load to maximum capacity. 4. Check valve, replace if defective. 5. Adjust relief valve to proper setting, replace if defective. 6. Check pump, replace if defective. 7. Clean manifold block. 8. Clean hose, replace if defective.
Platform Will Not Lower	<ol style="list-style-type: none"> 1. Lowering Valve (2H-13) defective or is sticking. 2. Base guide system obstruction. 3. Lift Cylinder damaged. 4. Hydraulic hose obstruction. 5. Velocity Fuse (VF1) locked. 6. Lowering Orifice (O2) plugged. 7. Holding valve (2H-13-1) defective. (if so equipped) 	<ol style="list-style-type: none"> 1. Clean valve, replace if defective. 2. Remove obstruction. 3. Rebuild or replace lift cylinder. 4. Clean hose, replace if defective. 5. Check for broken line to lift cylinder. If line is not broken, raise the platform slightly then slowly lower the platform with the manual lowering valve. 6. Remove and clean the orifice. 7. Clean valve, replace if defective.
Work Platform Drives in Slow Speed Only	<ol style="list-style-type: none"> 1. Speed Valve (2H21) defective or is sticking. 2. Flow Divider/Combiner Valve plugged or is defective. 3. Free-Wheeling Valve (V2) open or defective. 4. Cushion Valve (2H-25) defective or is sticking. 5. Drive Motor (M1) or (M2) defective. 6. Counterbalance Valve (CB1) plugged or is defective. 	<ol style="list-style-type: none"> 1. Clean valve, replace if defective. 2. Clean valve, replace if defective. 3. Close valve, replace if defective. 4. Clean valve, replace if defective. 5. Check motors, replace if defective. 6. Clean valve, replace if defective.

TROUBLESHOOTING INFORMATION (Hi-Torque Option)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEM (continued)		
Work Platform Will Not Drive in Forward or Reverse	<ol style="list-style-type: none"> 1. Free-Wheeling Valve (V2) open. 2. Forward Drive Valve (4H-16) or Reverse Drive Valve (4H-15) defective or is sticking. 3. Cushion Valve (2H-25) defective or is sticking. 4. Flow Divider/Combiner Valve (FD1) defective or is plugged. 5. Counterbalance Valve (CB1) defective or is plugged. 	<ol style="list-style-type: none"> 1. Close valve, replace if defective. 2. Clean valve, replace if defective. 3. Close valve, replace if defective. 4. Clean valve, replace if defective. 5. Clean valve, replace if defective.
Brake(s) Will Not Release	<ol style="list-style-type: none"> 1. Brake Valve (3H-17) defective or is sticking. 2. Brake Orifice(s) (O4) plugged. 3. Brake Cylinder(s) (C4) defective. 	<ol style="list-style-type: none"> 1. Clean valve, replace if defective. 2. Remove orifice(s). Clean and reinstall. 3. Rebuild cylinder(s). Replace if damaged.
Work Platform Does Not Steer	<ol style="list-style-type: none"> 1. Right Steer Valve (4H-23) or Left Steer Valve (4H-24) defective or is sticking. 2. Steer Cylinder (C3) seals leaking. 3. Mechanical binding in steering knuckle or king pins. 	<ol style="list-style-type: none"> 1. Clean valve, replace if defective. 2. Rebuild cylinder. Replace if damaged. 3. Check for binding. Repair as needed.
All Systems Sluggish	<ol style="list-style-type: none"> 1. System Relief Valve defective or not adjusted properly. 2. Hydraulic Pump (P1) worn. 3. Flow Control Valve (FC1) defective or is contaminated. 	<ol style="list-style-type: none"> 1. Adjust valve, replace if defective. 2. Check pump, replace if defective. 3. Clean, replace if defective.
Powered Extension Platform Will Not Extend or Retract	<ol style="list-style-type: none"> 1. Platform Extend Valve (4H-26) or Platform Retract Valve (4H-27) defective or is sticking. 2. Powered Platform Cylinder (C5) seals defective. 3. Mechanical binding in powered platform mechanism 	<ol style="list-style-type: none"> 1. Clean valve, replace if defective. 2. Rebuild cylinder, replace if damaged. 3. Check for binding. Repair as needed.

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM		
All Controls Inoperative	<ol style="list-style-type: none"> 1. Main Power Disconnect Switch (S1) open or defective. 2. Main battery cables open or defective. 3. Lift/Off/Drive Key Switch open or defective. 4. Battery charge low. 5. Battery terminals or connector pins dirty or loose. 6. Circuit breaker (CB1) or (CB2) tripped. 7. Wire #7 in plug disconnect broken or loose. 8. Pin #7 on terminal strip loose. 9. Wire #3 from 200 Amp Fuse to 15 Amp Circuit Breaker. 10. Wire #7 from 15 Amp Circuit Breaker to Emergency Stop Button in control box. 11. 200 Amp Fuse (F1) open. 12. Emergency Stop Button (S4) or (S6) open or defective. 	<ol style="list-style-type: none"> 1. Close switch or replace if no continuity reading. 2. Check cable if no continuity reading, replace. 3. Close switch or replace if no continuity reading. 4. Check each cell with hydrometer reading should be 1.275 (fully charged). Recharge if low reading. Replace if reading difference between cells is 0.050. 5. Clean and tighten connections. 6. Reset circuit breaker(s). Check for defective wiring. 7. Repair wire or plug if defective. 8. Tighten pin #7. 9. Check wire continuity, replace if open. 10. Check wire continuity, replace arm cord if open. 11. Check continuity in fuse, replace if open. 12. Close switch or replace if no continuity reading.
Up Circuit Inoperative	<ol style="list-style-type: none"> 1. Lift Enable Switch (S9) defective. (later models) 2. Up/Down Platform Switch (S2) or (S5) defective. 3. Defective wire #14 in arm cord assembly or loose connection at pin #14 of terminal strip. 4. Up valve coil (3H-14*) open or shorted. 5. Diode (D14) or (D21) open or shorted. 	<ol style="list-style-type: none"> 1. Check switch, if no continuity replace switch. 2. Replace switch. 3. Check wire continuity and replace if open. Tighten connection. 4. Check coil continuity. Replace if defective. 5. Check diode continuity. Replace if defective.

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (Continued)		
Up Circuit Inoperative (cont.)	<ol style="list-style-type: none"> 6. Motor brushes defective. (Solenoid clicks, but motor does not operate.) 7. Circuit breaker (CB1) or (CB2) tripped. 8. Up valve coil (3H-14*) or dump valve coil (2H-21) or (2H-18B) not properly grounded. 9. Dump valve coil (2H-21) or (2H-18B) open or shorted. 10. Defective wire #21 or #18B. 	<ol style="list-style-type: none"> 6. Replace motor brushes. 7. Reset circuit breaker. Check for defective wiring. 8. Check ground. Repair if necessary. 9. Check coil continuity. Replace if defective. 10. Check wire continuity and replace if open. Tighten connection.
Platform Lifts Slowly	<ol style="list-style-type: none"> 1. Dump valve coil (2H-21) or (2H-18B) open or shorted. 2. Diode (D14) or (D14A) open or shorted. 3. Batteries not fully charged 	<ol style="list-style-type: none"> 1. Check coil continuity. Replace if defective. 2. Replace diode. 3. Charge batteries.
Down Circuit Inoperative	<ol style="list-style-type: none"> 1. Lift Enable Switch (S9) defective. (later models) 2. Up/Down Platform Switch (S2) or (S5) defective. 3. Defective wire #13 in arm cord assembly or loose connection at pin #13 or terminal strip. 4. Down valve coil (2H-13) open or shorted. 5. Circuit Breaker (CB1) or (CB2) tripped. 6. Down valve coil (2H-13) not properly grounded. 	<ol style="list-style-type: none"> 1. Check switch, if no continuity replace switch. 2. Replace switch 3. Check continuity. Replace if defective. Tighten connection. 4. Check coil continuity. Replace if defective. 5. Reset circuit breaker. Check for defective wiring. 6. Check ground. Repair if necessary.
Right Steering Inoperative	<ol style="list-style-type: none"> 1. Right steer switch (S7-2) defective. 2. Right steer valve coil (4H-23) open or shorted. 3. Diode (D23) open or shorted. 4. Defective wire #23 in arm cord assembly or loose connection at pin 23 on terminal strip. 5. Circuit Breaker (CB1) or (CB2) tripped. 6. Right steer valve coil (4H-23) not properly grounded. 	<ol style="list-style-type: none"> 1. Replace switch. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Replace if defective. Tighten connection. 5. Reset circuit breaker. Check for defective wiring. 6. Check ground. Repair if necessary.

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (Continued)		
<p>Left Steering Inoperative</p>	<ol style="list-style-type: none"> 1. Left steer switch (S7-3) defective. 2. Left steer valve coil (4H-24) open or shorted. 3. Diode (D24) open or shorted. 4. Defective wire #24 in arm cord assembly or loose connection at pin 24 on terminal strip. 5. Circuit breaker (CB1) or (CB2) tripped. 6. Left steer valve coil (4H-24) not properly grounded. 	<ol style="list-style-type: none"> 1. Replace switch. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Replace if defective. Tighten connection. 5. Reset circuit breaker. Check for defective wiring. 6. Check ground. Repair if necessary
<p>Forward Direction Inoperative</p> <p>NOTE: On machines equipped with powered platform option, platform MUST be fully retracted to drive or steer.</p>	<ol style="list-style-type: none"> 1. Forward switch (S7-5) defective. 2. Forward steer valve coil (4H-16) open or shorted. 3. Diode (D16) open or shorted. 4. Defective wire #16 in arm cord assembly or loose connection at pin 16 on terminal strip. 5. Circuit Breaker (CB1) or (CB2) tripped. 6. Forward valve coil (4H-16) not properly grounded. 7. Diode (D17) open or shorted. 8. Brake valve coil (3H-17) open or shorted. 	<ol style="list-style-type: none"> 1. Replace switch. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Replace if defective. 5. Reset circuit breaker. Check for defective wiring. 6. Check ground. Repair if necessary. 7. Check continuity. Replace if defective. 8. Check continuity. Replace if defective.
<p>Reverse Direction Inoperative</p> <p>NOTE: On machines equipped with powered platform option, platform MUST be fully retracted to drive or steer.</p>	<ol style="list-style-type: none"> 1. Reverse switch (S7-4) defective. 2. Reverse valve coil (4H-15) open or shorted. 3. Diode (D15) open or shorted. 4. Defective wire #15 in arm cord assembly or loose connection at pin 15 of terminal strip. 5. Circuit Breaker (CB1) or (CB2) tripped. 6. Reverse valve coil (4H-15) not properly grounded. 7. Diode (D17) open or shorted. 8. Brake valve coil (3H-17) open or shorted. 	<ol style="list-style-type: none"> 1. Replace switch. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Check continuity. Tighten connection. Replace if defective. 5. Reset circuit breaker. Check for defective wiring. 6. Check ground. Repair if necessary. 7. Check continuity. Replace if defective. 8. Check continuity. Replace if defective.

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM (Continued)		
Powered Extension Platform Will Not Extend or Retract (Machines so equipped)	<ol style="list-style-type: none"> 1. Lift/Off/Drive Key Select Switch not in "LIFT" position. 2. Wire #9 from key switch to platform extend-retract switch open or defective. 3. Platform Extend/Retract Switch (S11) defective 4. Wire #2 in powered extension platform valve control cable open or defective. 5. Wire #19 from main control box open or defective. 	<ol style="list-style-type: none"> 1. Turn key to "LIFT" position. 2. Check continuity, replace if defective. 3. Replace if defective. 4. Check continuity, replace if defective. 5. Check continuity replace if defective.
Powered Extension Platform Will Not Extend (Machines so equipped)	<ol style="list-style-type: none"> 1. See items 1 thru 5 in "Powered Extension Platform Will Not Extend or Retract". 2. Wire #26 from extend switch to platform extend coil (4H-26) open or defective. 3. Diode (D26) open or shorted. 4. Platform extend coil (4H-26) open or shorted. 	<ol style="list-style-type: none"> 1. Check each step. 2. Check continuity, replace if defective. 3. Check diode continuity, replace if defective. 4. Check coil continuity, replace if defective.
Powered Extension Platform Will Not Retract (Machines so equipped)	<ol style="list-style-type: none"> 1. See items 1 thru 5 in "Powered Extension Platform Will Not Extend or Retract". 2. Wire #27 from extend switch to platform retract coil (4H-27) open or defective. 3. Diode (D27) open or shorted. 4. Platform retract coil (4H-27) open or shorted. 	<ol style="list-style-type: none"> 1. Check each step. 2. Check continuity, replace if defective. 3. Check diode continuity, replace if defective. 4. Check coil continuity, replace if defective.
Work Platform Drives In Slow Speed Only	<ol style="list-style-type: none"> 1. Speed switch (S7-1) defective. 2. Dump valve coil (2H-21) or (2H-18B) open or shorted. 3. Defective wire #18 in arm cord assembly or loose connection at pin 18 of terminal strip. 4. High Speed Limit Switch (LS1) open or shorted. 5. Defective wire #21 or 18A from High Speed Limit Switch. 6. Cushion relay (17CCR1) defective 	<ol style="list-style-type: none"> 1. Replace switch. 2. Check continuity. Replace if defective. 3. Check continuity. Replace if defective. 4. Replace switch. 5. Check continuity. Replace if defective. 6. Replace relay.

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
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ELECTRICAL SYSTEM (Continued)

Work Platform Will Not Climb Grade	<ol style="list-style-type: none"> 1. Dump valve coil (2H-21) or (2H-18B) open or shorted. 2. High Speed Limit Switch (LS1) open or shorted. 3. Defective wire #18 in arm cord assembly or loose connection at pin 18 on terminal strip. 4. Defective wire #21 or 18A from High Speed Limit Switch. 5. Speed Switch (S7-1) defective. 6. Cushion relay (17CCR1) defective. 	<ol style="list-style-type: none"> 1. Check continuity. Replace if defective. 2. Replace switch. 3. Check continuity. Replace if defective. Tighten connection. 4. Check continuity. Replace if defective. 5. Check continuity. Replace if defective. 6. Replace relay.
2 Or More Functions At One Time	<ol style="list-style-type: none"> 1. Diode(s) shorted. 2. Valve coils (2H-13, 3H-14*, 4H-15, 4H-16, 4H-23, or 4H-24 stuck in open position. 	<ol style="list-style-type: none"> 1. Check continuity of all diodes. Replace if defective. 2. Depress manual override several times to free valve. Clean spool or replace if defective.

HYDRAULIC SYSTEM

Platform Drifts Down	<ol style="list-style-type: none"> 1. Lowering Valve (2H-13) leaking. 2. Lowering Valve (2H-13) stuck open. 3. Lift cylinder seal defective. 4. Manual Lowering Valve (V1) not closed. 5. Lift Relief Valve (R2) defective. 	<ol style="list-style-type: none"> 1. Clean valve and reinstall. Replace if defective. 2. Clean valve and reinstall. Replace if defective. 3. Replace seals or replace if damaged. 4. Close valve. 5. Clean valve and reinstall. Replace if defective. (See Section 3, Hydraulic Schematic for lift relief valve pressure setting.)
Platform Lifts Slowly	<ol style="list-style-type: none"> 1. Dump Valve (2H-21) or (2H-18B) stuck open. 2. Manual Lowering Valve (V1) not closed or leaking. 3. Lift Relief Valve (R2) defective. 	<ol style="list-style-type: none"> 1. Clean valve and reinstall. Replace if defective. 2. Clean valve. Replace if leaking. 3. Clean valve and reinstall. Replace if defective. (See Section 3, Hydraulic Schematic for lift relief valve pressure setting.)

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEMS (Continued)		
Platform Does Not Lift: Motor and Pump Operate	<ol style="list-style-type: none"> 1. Manual Lowering Valve (V1) not closed. Hydraulic tank level low. 2. Platform weight excessive. 3. Hydraulic Pump (P1) defective. 4. Hydraulic obstruction. 5. Up Valve (3H-14*) not shifting or is sticking. 6. Electrical system malfunction. 7. Lift Relief Valve (R2) setting too low or valve is defective. 8. Main Manifold Block (MB1) output ports blocked. 	<ol style="list-style-type: none"> 1. Close valve. Fill hydraulic tank until fluid is at or slightly above the top mark on the sight glass. (NOTE: Platform MUST be fully lowered. 2. Reduce platform load to maximum capacity. 3. Consult factory. 4. Remove obstruction. 5. Clean valve to allow free spool movement. Replace if defective. 6. Refer to Electrical Troubleshooting portion of this table; "Up Circuit Inoperative". 7. Adjust to proper setting. Refer to Section 3, Hydraulic Schematic. Replace if defective. 8. Disassemble and clean.
Platform Will Not Lower	<ol style="list-style-type: none"> 1. Lowering valve (2H-13) defective 2. Base guide system obstruction. 3. Lift Cylinder damaged. 4. Hydraulic hose obstruction. 5. Electrical system malfunction. 6. Velocity Fuse (VF1) locked. 7. Lowering Orifice (O2) plugged. 8. Holding valve (2H-13-1) defective 	<ol style="list-style-type: none"> 1. Remove and clean. Replace if defective. 2. Remove obstruction. 3. Rebuild or replace cylinder. 4. Remove and clean. Replace if defective. 5. Refer to Electrical Troubleshooting portion of this table; "Down circuit Inoperative." 6. Check for broken hydraulic line. If no line is broken, raise platform slightly then lower by slowly opening "Emergency Lowering Valve." 7. Remove, clean then reinstall. 8. Remove and clean. Replace if defective.
Work Platform Drives in Slow Speed Only	<ol style="list-style-type: none"> 1. Dump Valve (2H21) or (2H-18B) not shifting. 2. Electrical system malfunction. 3. Drive motor(s) clogged. 4. Flow divider obstruction. 5. Free-Wheeling Valve (V2) not fully closed or leaking. 6. Cushion Valve (2H-25) o-rings defective. 	<ol style="list-style-type: none"> 1. Clean valves and replace if defective. 2. Refer to Electrical Troubleshooting portion of this table; "Work platform drives in slow speed only. 3. Remove and clean. Replace if defective. 4. Remove and clean. Replace if defective. 5. Close valve. 6. Remove valve and inspect o-rings. Replace if defective.

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEM (Continued)		
Work Platform Will Not Drive in Forward or Reverse	<ol style="list-style-type: none"> 1. Forward drive spool (4H-16) or reverse drive (4H-15) sticking. 2. Free-wheeling Valve (V2) not fully closed. 3. Counterbalance Valve (CB1) clogged. 4. Cushion Valve (2H-25) stuck open. 5. Brake Valve (3H-17) not shifting. 6. Brake Cylinder (C4) not releasing. 7. Flow Divider/Combiner Valve (FD1) stuck closed. 8. Electrical malfunction. 	<ol style="list-style-type: none"> 1. Depress manual override on each valve. If unit drives, clean valve spool to allow free movement. Replace valve if defective. 2. Close valve. Replace if defective. 3. Remove and clean valve. Replace if defective. 4. Remove and clean valve. Replace if defective. 5. Remove and clean valve. Replace if defective. 6. Remove and check brake cylinder. Replace if defective. 7. Remove and clean valve. Replace if defective. 8. Refer to Electrical Troubleshooting portion of this table: "Forward Direction Inoperative" or "Reverse Direction Inoperative".
Work Platform Does Not Steer	<ol style="list-style-type: none"> 1. Steer valve spool (4H-23)/ (4H-24)sticking. 2. Main Manifold Block (MB1) ports clogged. 3. Steer Cylinder seal(s) defective. 4. Hydraulic hose obstruction. 5. Electrical system malfunction. 	<ol style="list-style-type: none"> 1. Depress manual override on each valve. If wheels turn, clean valve spool to allow free movement. Replace valve if defective. 2. Remove and clean. 3. Replace seals or replace cylinder if damaged. 4. Remove and clean hoses. Replace if defective. 5. Refer to Electrical Troubleshooting portion of this table; "Right Steering Inoperative" or "Left Steering Inoperative".

TROUBLESHOOTING INFORMATION (2-Speed Drive)

TROUBLE	PROBABLE CAUSE	REMEDY
HYDRAULIC SYSTEMS (Continued)		
Work Platform Won't Climb Grade	<ol style="list-style-type: none"> 1. Dump Valve (2H-21) or (2H-18B) stuck open or not shifting. 2. System Relief Valve (R1) pressure setting too low. 3. Electrical system malfunction. 4. Cushion Valve (2H-25) o-rings defective. 5. Free-wheeling Valve (V2) not fully closed or leaking. 	<ol style="list-style-type: none"> 1. Remove and clean spool. Replace if defective. 2. Adjust to proper setting. Refer to Section 3, Hydraulic Schematic. 3. Refer to Electrical Troubleshooting portion of this table. 4. Remove valve and inspect o-rings. Replace if defective. 5. Close valve.
All Systems Sluggish	<ol style="list-style-type: none"> 1. Battery charge low. 2. Hydraulic system contaminated. 3. System Relief Valve (R1) defective. 4. System Relief Valve (R1) setting too low. 5. Hydraulic pump worn. 	<ol style="list-style-type: none"> 1. Check and charge batteries. 2. Drain fluid and flush system. Refill with new fluid. 3. Replace valve. 4. Adjust to proper setting. Refer to Hydraulic Schematic. 5. Replace pump.
Powered Platform Will Not Extend or Retract	<ol style="list-style-type: none"> 1. Electrical system malfunction. 2. Extend retract spool valve (4H-26) or (4H-27) sticking. 3. Powered platform cylinder (C5) seals defective. 4. Hydraulic hose obstruction. 	<ol style="list-style-type: none"> 1. Refer to Electrical Troubleshooting portion of this table. 2. Depress manual override on each valve, if platform extends or retracts, clean valve spool to free movement. Replace valve if defective. 3. Replace seals or replace cylinder if damaged. 4. Remove and clean hoses. Replace if defective.

SECTION 5

MAINTENANCE AND SERVICE

OPERATOR'S RESPONSIBILITY FOR MAINTENANCE

Death or injury can result if the work platform is not kept in good working order. Inspection and maintenance should be performed by competent personnel who are familiar with mechanical procedures.

The operator should be assured that the work platform has been properly maintained and inspected before using it.

Even if the operator is not directly responsible for the maintenance of this work platform, the operator should perform ALL the daily inspections found in [Table 5-1. Maintenance and Inspection Schedule](#).

NOTE

Replace all worn, damaged or missing parts or labels discovered during this inspection.



DO NOT reach through scissors assembly without the safety bar properly positioned. **Failure to avoid this hazard will result in death or serious injury!**

MAINTENANCE AND INSPECTION SCHEDULE

The actual operating environment of the work platform governs the use of the maintenance schedule. The inspection points covered in [Table 5-1. Maintenance and Inspection Schedule](#) indicates the areas of the work platform to be maintained or inspected and at what intervals the maintenance and inspections are to be performed.

OWNER'S ANNUAL INSPECTION RECORD

It is the responsibility of the owner to arrange daily, weekly, monthly and annual inspections of the work platform. [Table 5-2. Owner's Annual Inspection Record](#) is to be used for recording the date of inspection, owner's name and the person responsible for the inspection of this work platform.

GENERAL MAINTENANCE HINTS

- Properly position safety bar if the scissors assembly is raised.
- Before attempting any repair work, disconnect the battery ground (-) lead.
- Preventive maintenance is the easiest and least expensive type of maintenance.

HYDRAULIC SYSTEM AND COMPONENT MAINTENANCE AND REPAIR

The following points should be kept in mind when working on the hydraulic system or any component:

1. Any structure has limits of strength and durability. To prevent failure of structural parts of hydraulic components, relief valves which limit pressure to safe operating values are included in the hydraulic circuits.
2. Tolerance of working parts in the hydraulic system are very close. Even small amounts of dirt or foreign material in the system can cause wear or damage to components, as well as general faulty operation of the hydraulic system. Every precaution must be taken to assure absolute cleanliness of the hydraulic oil.
3. Samples of hydraulic oil should be drawn from the reservoir every six months. These samples should be about two quarts and should be taken while the oil is warmed through normal operation of the system. If possible, the sample should be analyzed by a qualified lubrication specialist to determine whether it is suitable for further use. The intervals between oil changes depend on operating conditions and on the care used in keeping the oil clean.
4. Whenever there is a hydraulic system failure which gives reason to believe that there are metal particles or foreign materials in the system, drain and flush the entire system and replace the filter cartridges. A complete change of oil must be made under these circumstances.
5. Whenever the hydraulic system is drained, check the magnets in the hydraulic reservoir for metal particles. If metal particles are present, flush the entire system and add a new change of oil. The presence of metal particles also may indicate the possibility of imminent component failure. A very small amount of fine particles is normal.
6. **DO NOT** use synthetic or fire resistant oils in this work platform. Use ATF Dexron III (ESSO) or equivalent hydraulic oil. For conditions causing oil temperatures below -31°F (-35°C) and above 122°F (50°C) consult Skyjack, Inc.
7. All containers and funnels used in handling hydraulic oil must be absolutely clean. Use a funnel when necessary for filling the hydraulic oil reservoir, and fill the reservoir only through the filler opening. The use of cloth to strain the oil should be avoided to prevent lint from getting into the system.
8. When removing any hydraulic component, be sure to cap and tag all hydraulic lines involved. Also, plug the ports of the removed components.
9. All hydraulic components must be disassembled in spotlessly clean surroundings. During disassembly, pay particular attention to the identification of parts to assure proper reassembly. Clean all metal parts in a clean mineral oil solvent. Be sure to thoroughly clean all internal passages. After the parts have been dried thoroughly, lay them on a clean, lint-free surface for inspection.
10. Replace all o-rings and seals when overhauling any component. Lubricate all parts with clean hydraulic oil before reassembly. Use small amounts of petroleum jelly to hold o-rings in place during assembly.
11. Be sure to replace any lost hydraulic oil when completing the installation of the repaired component, and bleed any air from the system when required.
12. All hydraulic connections must be kept tight. A loose connection in a pressure line will permit the oil to leak out or air to be drawn into the system. Air in the system can cause damage to the components and noisy or erratic system operation.

MAINTENANCE. Three simple maintenance procedures have the greatest effect on hydraulic system performance, efficiency and life. Yet, the very simplicity of them may be reasons they are so often overlooked. What are they? Simply these:

1. Change filters regularly.
2. Maintain a sufficient quantity of clean hydraulic oil of the proper type and viscosity in the hydraulic reservoir.
3. Keep all connections tight.

Table 5-1. Maintenance and Inspection Schedule

	Daily	Weekly	Monthly	3-months	6-months	* 12-months
Mechanical						
Structural damage/welds (1)						✓
Parking brake (2)	✓					✓
Tires and wheels (1) (2)		✓				✓
Guides, rollers and slides (1)	✓					✓
Entry chain or gate (2)	✓					✓
Bolts and fasteners (3)		✓				✓
Safety bar (2)		✓				✓
Rust (1)			✓			✓
Wheel brgs (2) King pins (1)					✓	✓
Steer cyl ends (8)				✓		✓
Electrical						
Battery fluid level (1)	✓					✓
Control switches (1)(2)	✓					✓
Cords and wiring (1)	✓					✓
Battery terminals (1)(3)			✓			✓
Generator and receptacle (2)			✓			✓
Terminals and plugs (3)			✓			✓
Hydraulic						
Hydraulic oil level (1)	✓					✓
Hydraulic leaks (1)	✓					✓
Lift and lowering times (10)		✓				✓
Cylinders (1)(2) Steers (3)		✓				✓
Emergency lowering (2)		✓				✓
Lift capacity (7)			✓			
Hyd. oil & oil filter element (9)					✓	✓
Notes: (1) Visually inspect (2) Check operation (3) Check tightness (7) Check relief valve setting. Refer to serial number nameplate	(8) Lubricate (9) Replace (10) Refer to Table 5-5. General specifications * Record inspection date in Table 5-2. (8) Lubricate (9) Replace (10) Refer to Table 5-5. General Specifications					

Table 5-2. Owner's Annual Inspection Record

MODEL NUMBER _____					SERIAL NUMBER _____			
RECORDING DATE								
RECORDING YEAR #	1	2	3	4	5	6	7	8
OWNERS NAME								
INSPECTED BY								

**Table 5-3. Maximum Platform Capacities
(Evenly Distributed)**

Model	Main Platform	Extension Platform
3015	250 lbs. (113.5kg)/1 Occupant	250 lbs. (113.5kg)/1 Occupant
3219	250 lbs. (113.5kg)/1 Occupant	250 lbs. (113.5kg)/1 Occupant

NOTE: Overall capacity - 2 occupants and materials not to exceed rated load.

Table 5-4. Torque Specifications

DIRECTIONAL VALVE MOUNTING SCREWS							28-32 in. lbs.	
WHEEL MOTOR MOUNTING BOLTS							70 ft. lbs.	
WHEEL MOTOR CASTLE NUT							200 ft. lbs.	
WHEEL/TIRE MOUNTING BOLTS							70 ft. lbs.	
PARKING BRAKE CYLINDER ROD NUT							35 ft. lbs.	
CARTRIDGE								
Size	08	38	58	10	12	16		
ft. lbs. (max)	20	20	20	25	35	50		
in. lbs. (max)	240	240	240	300	420	600		
COILS								
Size				All Coils				
ft. lbs. (max)				4 to 5				
in. lbs. (max)				48 to 60				
SAE PLUGS								
Size	2	4	5	6	8	10	12	16
ft. lbs. (max)	3	10	15	15	25	25	30	35
in. lbs. (max)	36	120	180	180	300	300	360	420

Table 5-5. General Specifications

ELECTRICAL SYSTEM	24VDC/6 Volt, 220AH
BATTERIES (4) (Standard)	6 Volt, 220AH (Std) 6 Volt, 250AH (Opt)
TIRES (4)	12 x 4.00 x 8 Solid Rubber
INSIDE TURNING RADIUS - Model - 3015 INSIDE TURNING RADIUS - Model - 3219	6" (.15m) 6" (.15m)
OUTSIDE TURNING RADIUS - Model - 3015 OUTSIDE TURNING RADIUS - Model - 3219	52" (1.32m) 66" (1.68m)
GROUND UNDERCLEARANCE	3" (.08m)
FLOOR LOAD RATING - Model 3015 FLOOR LOAD RATING - Model 3219	112 psi (7.87kg/cm) 123 psi (8.65kg/cm)
TRAVEL SPEED - LOW	.75mph/1.20kph
TRAVEL SPEED - HIGH	2.00mph/3.20kph
LIFT TIME (Model 3015) LIFT TIME (Model 3219)	19 seconds (no load) 30 seconds (no load)
LOWERING TIME (Model 3015) LOWERING TIME (Model 3219)	24 seconds (no load) 40 seconds (no load)
LIFT RELIEF PRESSURE (R2) - Model 3015 LIFT RELIEF PRESSURE (R2) - Model 3219	1700 psi 2150 psi
SYSTEM RELIEF PRESSURE (R1) - Model 3015 SYSTEM RELIEF PRESSURE (R1) - Model 3219	2900 psi 2900 psi
PUMP	.161 ci/rev
RETURN FILTER	20 micron
HYDRAULIC SYSTEM CAPACITY	4.00 gal. (15.16 ltr.)
HYDRAULIC TANK CAPACITY	3.00 gal.(11.31 ltr.)
WHEEL MOTORS	4 ci/rev

PROPORTIONAL CONTROLLER TROUBLESHOOTING PROCEDURE

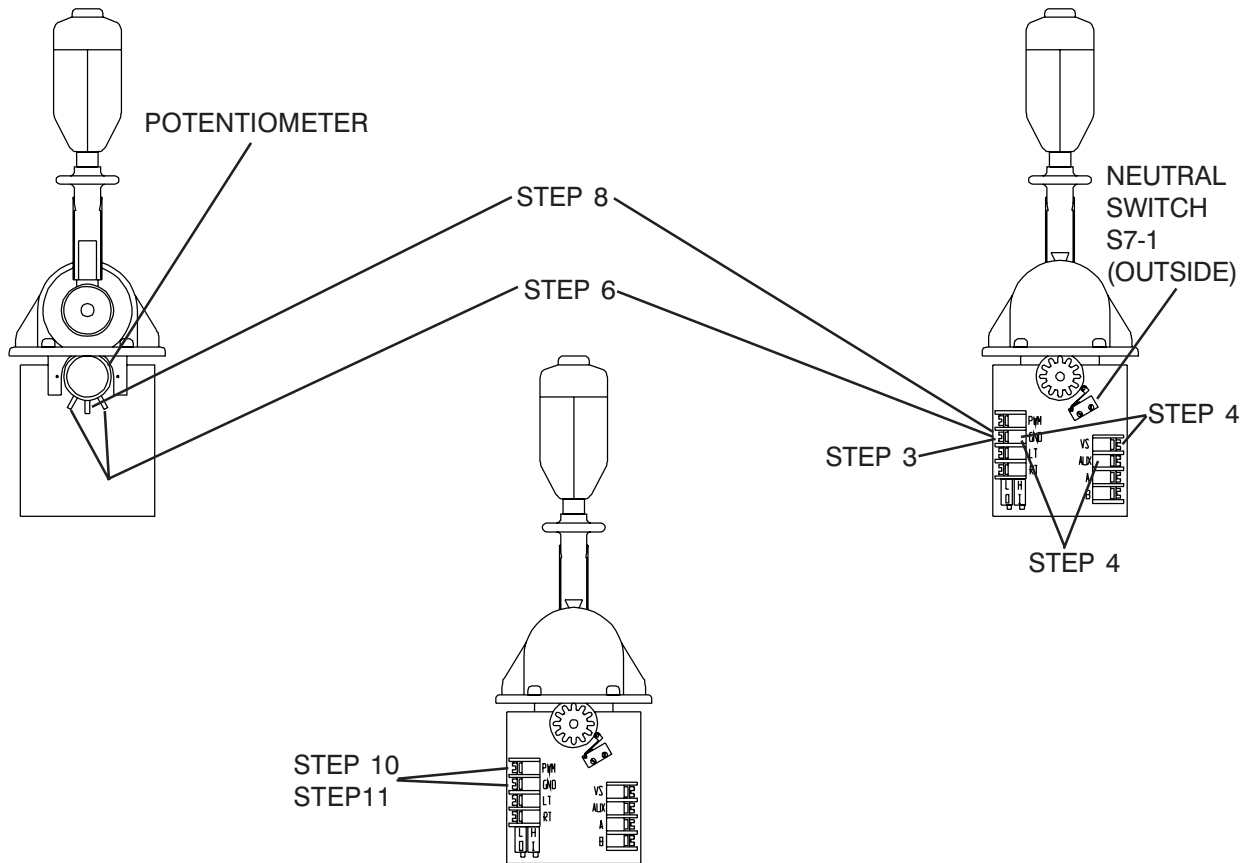
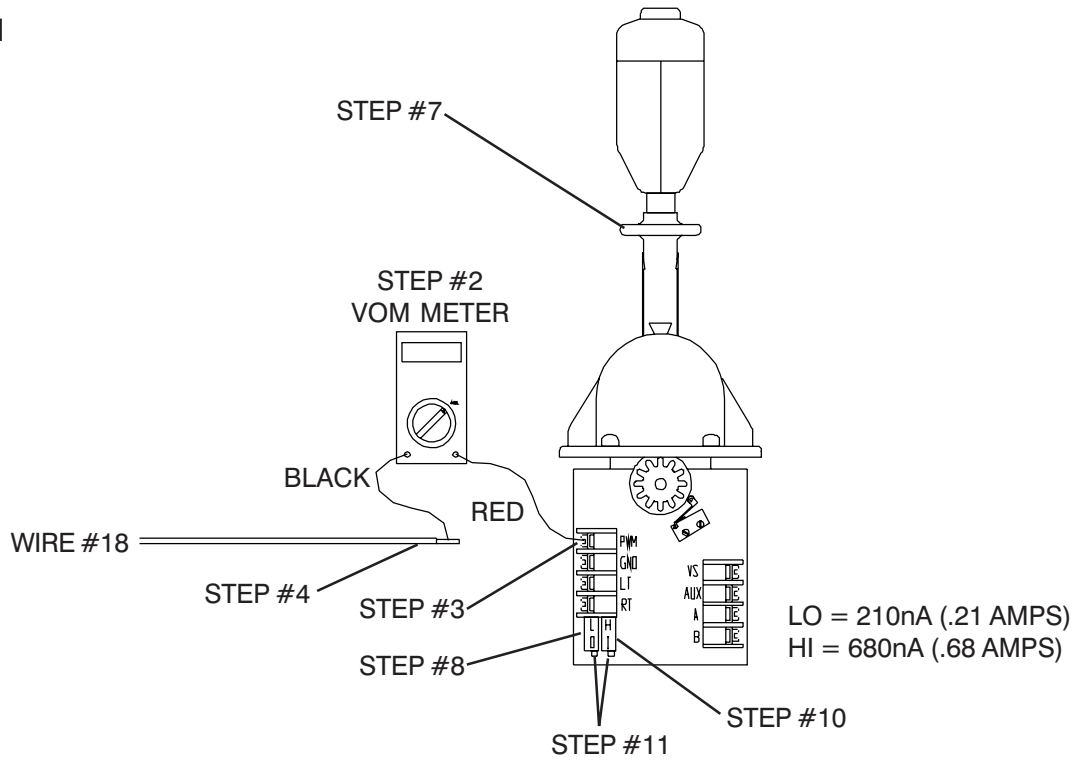


Figure 5-1. Proportional Controller

1. Remove the bottom cover from the platform control box.
2. Select "DRIVE" with Lift\Drive Select Switch (S5).
3. Locate the "GND" terminal on Controller Circuit Board and attach Negative meter lead. Refer to Figure 5-1. for location.
4. Locate the "VS" terminal on Controller Circuit Board and measure voltage. Refer to Figure 5-1 For location. Reading should be 24 volts + or - 3 volts. If no voltage is present, refer to "No Drive or Steer From Platform" in Electrical Troubleshooting. If voltage present, go to Step 5.
5. Locate "AUX" terminal on Controller Circuit Board. Refer to Figure 5-1. for location. Lift lock ring on controller handle and move in either direction. Measure voltage at "AUX" terminal. Reading should be 24 volts + or - 3 volts. If no reading present, replace Neutral Switch S7-1. If voltage present, go to Step 6.
6. Locate the potentiometer on Controller Circuit Board. Refer to Figure 5-1. for location. While holding controller handle as in Step 5, measure voltage at outside terminals of potentiometer. Reading should be 20 - 21 volts. If no voltage present on one or both terminals, replace board. If voltage present, go to Step 7.
7. Release controller handle. Locate and attach meter lead to "AUX" terminal. Lift handle locking ring and slowly move handle, in either direction, until voltage on "AUX" terminal just turns on. Hold handle in this position.
8. Measure voltage on the center terminal of the potentiometer. Reading should be 20 - 21 volts. If no voltage present, replace board. If voltage is present, move controller handle **SLOWLY** to full stroke, while observing meter. Reading should drop smoothly to 18 volts. If voltage does not drop or drops erratically, replace board. If voltage drops smoothly, go to Step 9.
9. Hold controller handle in the "just on" position as in Step 7.
10. Locate "PWM" terminal on the controller board. Refer to Figure 5-1. for location. While holding handle as in Step 9, measure voltage on "PWM" terminal. Reading should be 4 - 5 volts at the just on position (threshold). If no voltage present, replace board. If reading too high or too low, refer to "Joystick Adjustment Procedure". Refer to Page 30. If correct voltage present, go to Step 10.
11. Move controller handle to the full stroke position. Reading should increase smoothly to 17 - 18 volts. If no voltage present or increases erratically, replace board. If correct voltage present and increases smoothly, refer to "All Controls Inoperative" in Electrical Troubleshooting".

PROPORTIONAL CONTROLLER ADJUSTMENT PROCEDURE

METHOD #1



METHOD #2

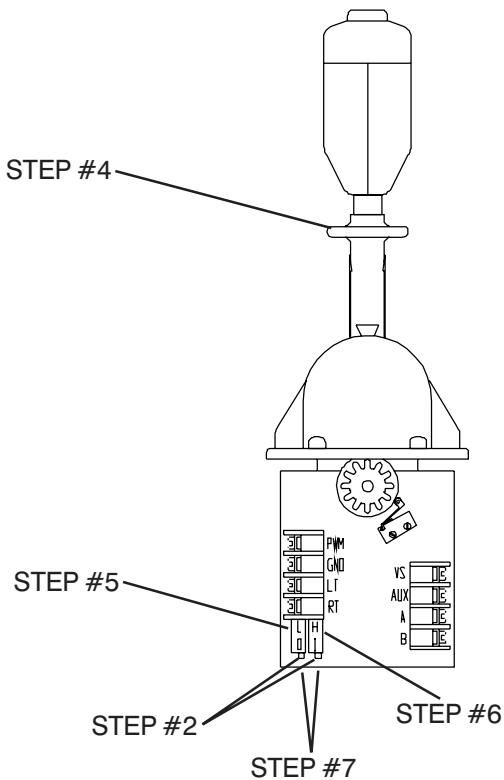


Figure 5-2. Proportional Controller Adjustment

PROPORTIONAL CONTROLLER ADJUSTMENT PROCEDURE

NOTE: Described are two accepted methods to adjust the proportional controller. Method #1 requires a Volt/Ohmmeter capable of reading milliamps. If a meter is not available, use Method #2.

METHOD #1

NOTE

Jack up drive axle until drive tires clear the ground. Chock other tires to prevent machine from moving.

1. Remove the bottom cover from the platform control box.
2. Locate and remove wire #18 from the "PWM" terminal of the controller board. [Refer to Figure 5-2. for location.](#)
3. Attach positive meter lead to the "PWM" terminal where wire #18 was removed.
4. Attach negative meter lead to wire #18.
5. Select "Amps" position on meter.
6. Select "DRIVE" with the Lift/Drive Select Switch (S5).
7. Lift the controller handle locking and move handle in either direction until the pump motor just comes on. Hold handle in this position.
8. Locate the "LO" potentiometer on the controller board. Adjust the "LO" potentiometer until the meter reads 210 mA (.21 amps). [Refer to Figure 5-2. for location.](#)
9. Move controller handle to full stroke position and hold.
10. Locate "HI" potentiometer on controller board. Adjust the "HI" potentiometer until the meter reads 680 mA (.68 amps).

NOTE

Adjusting "LO" potentiometer will affect the "HI" potentiometer and vice versa. Repeat steps 7 through 10 until meter readings stabilize.

11. **Paint potentiometer screws with nail polish or RTV silicone, to prevent vibration from changing settings.**

METHOD #2

NOTE

Adequate area to Drive **MUST** be provided to use this Method.

1. Remove the bottom cover from the platform control box.
2. Locate the "LO" and "HI" potentiometers on the controller board and turn both potentiometers 6 turns counter-clockwise (CCW) each. [Refer to Figure 5-2. for location.](#)
3. Select "DRIVE" with the Lift/Drive Select Switch.
4. Lift the controller handle lock ring and move handle in either direction until pump motor just comes on. Hold this position.
5. Locate the "LO" potentiometer on the controller board. Turn the "LO" potentiometer clockwise (CW) until machines just starts to move.
6. Move controller handle to full stroke position. Turn the "HI" potentiometer clockwise (CW) until no increase in travel speed can be felt.

NOTE

Adjusting "LO" potentiometer will affect the "HI" potentiometer and vice versa. Repeat steps 4 through 6 until drive speeds stabilize.

7. **Paint potentiometer screws with nail polish or RTV silicone to prevent vibration from changing settings.**

SECTION 6 PARTS LIST

GENERAL

The information contained in this section is designed to aid the user in locating and identifying replacement parts. Component parts of various assemblies and sub-assemblies comprising the work platform are illustrated and accompanied by a descriptive parts list. Exploded drawings are used to show relative location of component parts in disassembly order. If a part cannot be found in this section, order by work platform model number and serial number, giving a complete description of the part.

PARTS ORDERING INFORMATION

When ordering replacement parts, the complete part number and description should be used to ensure proper identification and delivery of the desired item. This complete identification should also be used when requesting equipment information.

METHOD OF LISTING

Parts are listed in order according to the reference number shown in the illustration, followed by a full description based upon the "NOUN FIRST" method. That is, the noun name of the part is listed first, then the modifying description information which serves to specifically identify the item. For example: PIN, Clevis. Assemblies or groups are shown at the beginning of a parts list and are identified with the letter references A, B, C, etc. Individual parts in these lists have corresponding letters after their description to identify which assembly or group it is used in. Individual parts without identifying

letters are used in all the assemblies or group shown at the beginning of the parts list. Descriptions preceded with an (•) indicates a serviceable component or attaching hardware for the higher level assembly.

QUANTITIES (Units per Assy.)

The quantities of each part that are required to complete the assembly. If quantity is (AR), it is understood that the quantity may vary when machine is equipped with certain options. Order quantity as needed.

HARDWARE

Standard screws, washers, nuts, etc. are not identified by a reference number. These parts are known as COMMON HARDWARE items and appear indented under the major items with which they are used. They should be ordered separately as listed, since they are not component parts of the pieces they attach to.

HOW TO ORDER REPAIR PARTS

1. Address all orders to your local SKYJACK dealer.
2. Specify model and serial number of the work platform (found on the serial number plate).
3. List the quantity needed.
4. List the length needed (if bulk item).
5. List the part number and description as shown in this manual for each item.
6. Show billing and shipping address and name of individual if possible.
7. Suggest best routing.

CUSTOMER _____

DEALER _____

MODEL NUMBER _____

SERIAL NUMBER _____

DATE PURCHASED _____

Use Only Skyjack Authorized Replacement Parts!

LIST OF ILLUSTRATIONS

Description

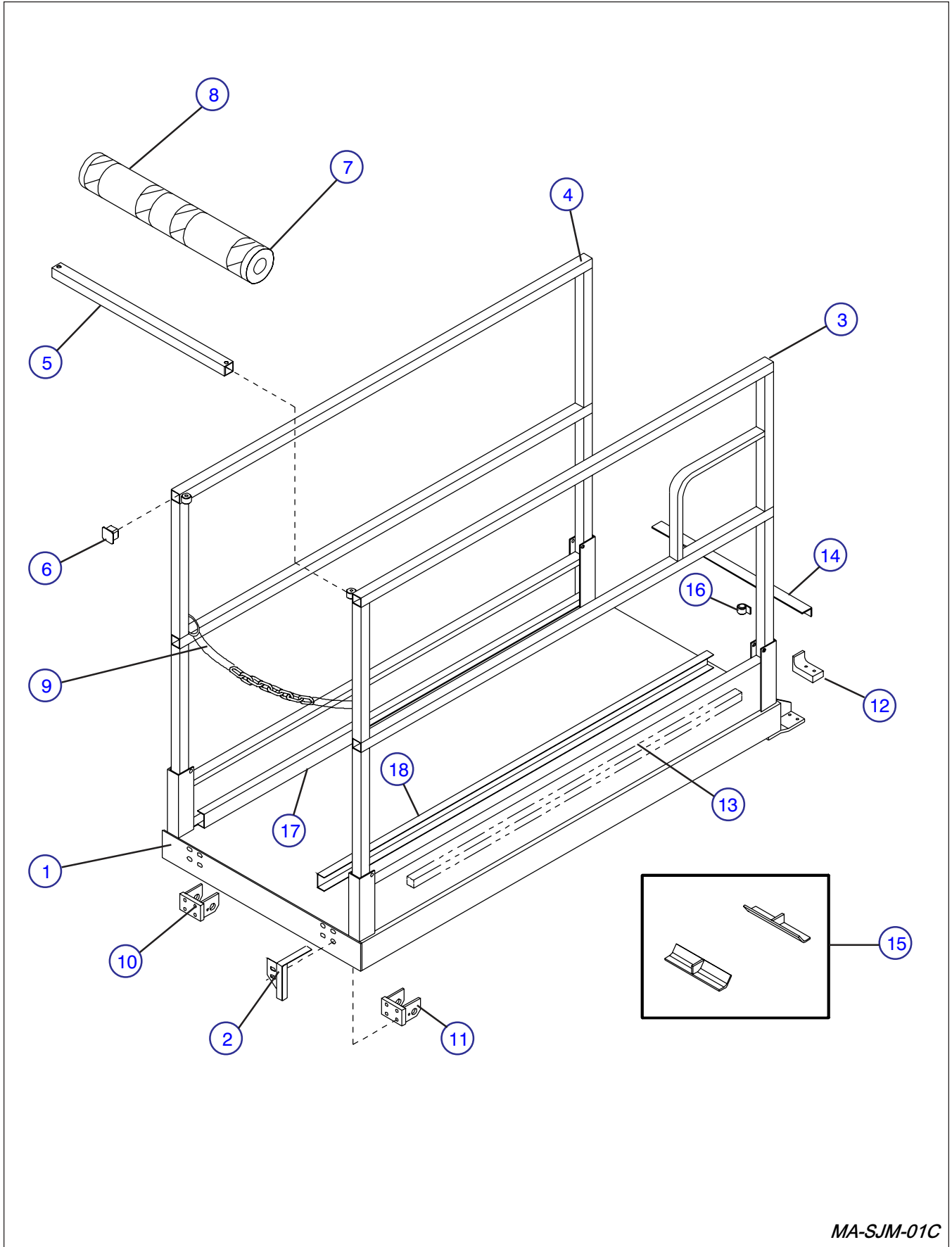
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FIGURE 6-1. MAIN PLATFORM AND RIGID RAILINGS

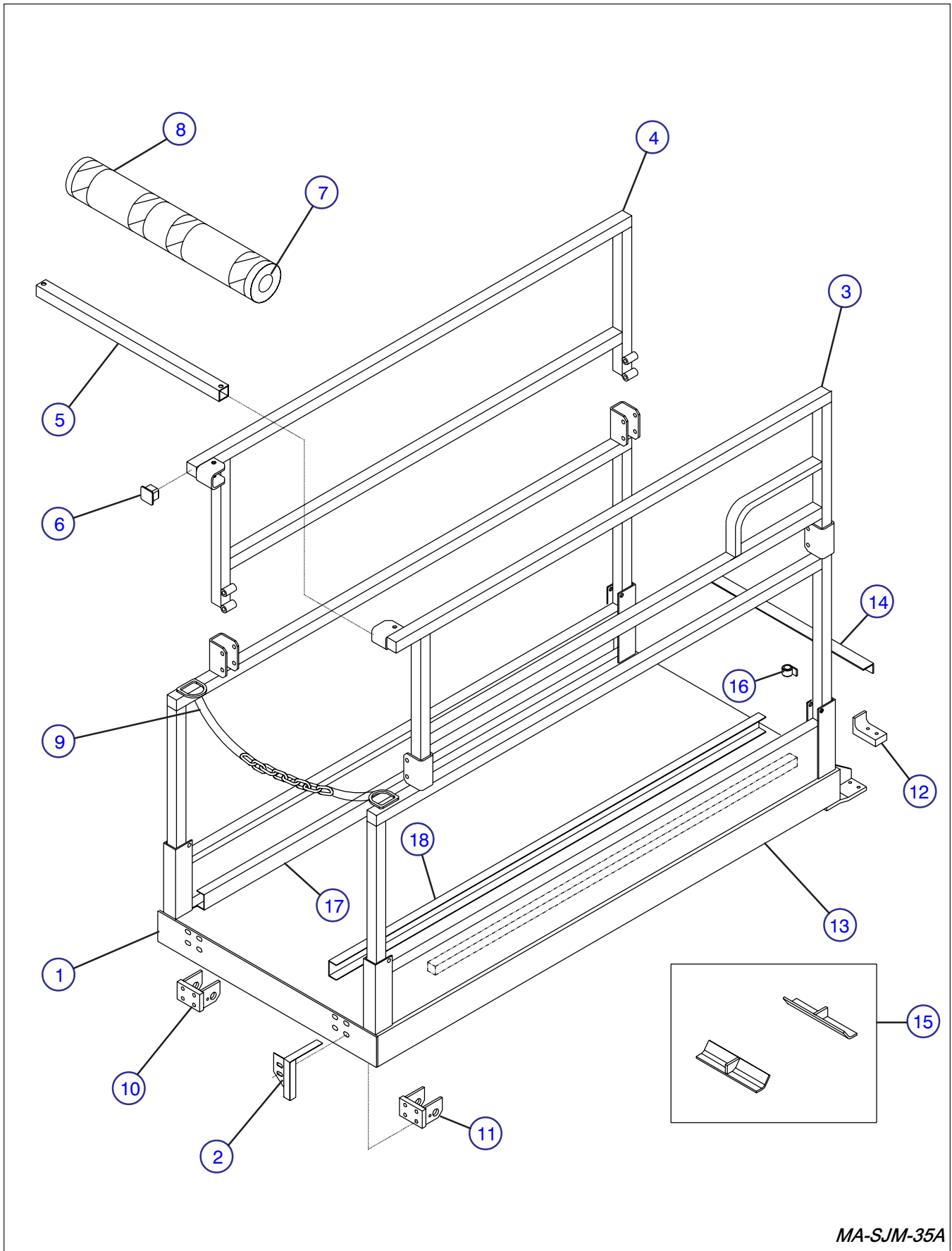


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FIGURE 6-1. MAIN PLATFORM AND RIGID RAILINGS

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	MAIN PLATFORM AND RIGID RAILINGS - Model 3015	-
B	(Ref.)	MAIN PLATFORM AND RIGID RAILINGS - Model 3219	-
1	107861	• WELDMENT, Main platform, A (Machines with manual extension platform)	1
	109687	• WELDMENT, Main platform, A (Machines with powered extension platform)	1
	112878	• WELDMENT, Main platform, A (Machines with scissor guard option)	1
	109530	• WELDMENT, Main platform, B (Machines with manual extension platform)	1
	111888	• WELDMENT, Main platform, B (Machines with powered extension platform)	1
	112879	• WELDMENT, Main platform, B (Machines with scissor guard option)	1
2	108735	• COVER, Cable protection (Replaces 104634)	
	300437	• • BOLT, Hex-hd 3/8-16 x 7/8" lg.	4
	103999	• • WASHER, Lock 3/8"	4
	103472	• • WASHER, Flat 3/8"	4
	103978	• • NUT, 3/8-16	4
3	107865	• RAILING, Side RH, A	1
	110740	• RAILING, Side RH, B	1
4	107864	• RAILING, Side LH, A	1
	110741	• RAILING, Side LH, B	1
5	106520	• RAILING, Entry top	1
	103845	• • BOLT, Hex-hd 5/16-18 x 1/2" lg.	2
	103404	• • WASHER, Lock 5/16"	2
	103996	• • WASHER, Flat 5/16"	2
6	100702	• CAP, Tube end	2
7	104183	• PAD, Foam 25-1/4"	1
8	102975	• STRIPE, Warning	AR
9	106893	• CHAIN ASSEMBLY, Entry	1
	100297	• • LINK, Attaching	1
	106896	• • CHAIN, 25-1/2" lg.	1
	100493	• • LATCH, Chain snap	1
11	310014	• BRACKET, Scissor mount (Replaces 107971,109478 and 109477)	1
	300437	• • BOLT, Hex-hd 3/8-16 x 7/8" lg.	6
	103999	• • WASHER, Lock 3/8"	6
	103472	• • WASHER, Flat 3/8"	6
12	103543	• PAD, Platform slide	2
	103856	• • BOLT, Hex-hd 1/4-20 x 3/4" lg.	4
	104000	• • WASHER, Lock 1/4"	4
13	104127	• COVER, Cable protection (Model 3015 with Serial Number 18538 and Below) (Model 3219 with Serial Number 220623 and Below)	1
14	108773	• ANGLE, Platform slider 22" lg.	1
15	112882	• LOCATOR, Scissor guard (Machines with scissor guard option)	2
16	103024	• CLIP, Control cable #G8	1
17	310032	• GUARD, Cable LH (option)	1
18	310031	• GUARD, Cable RH (3015 with serial number 18539 and above) (3219 with serial number 220624 and above)	1

FIGURE 6-2. MAIN PLATFORM AND HINGED RAILINGS

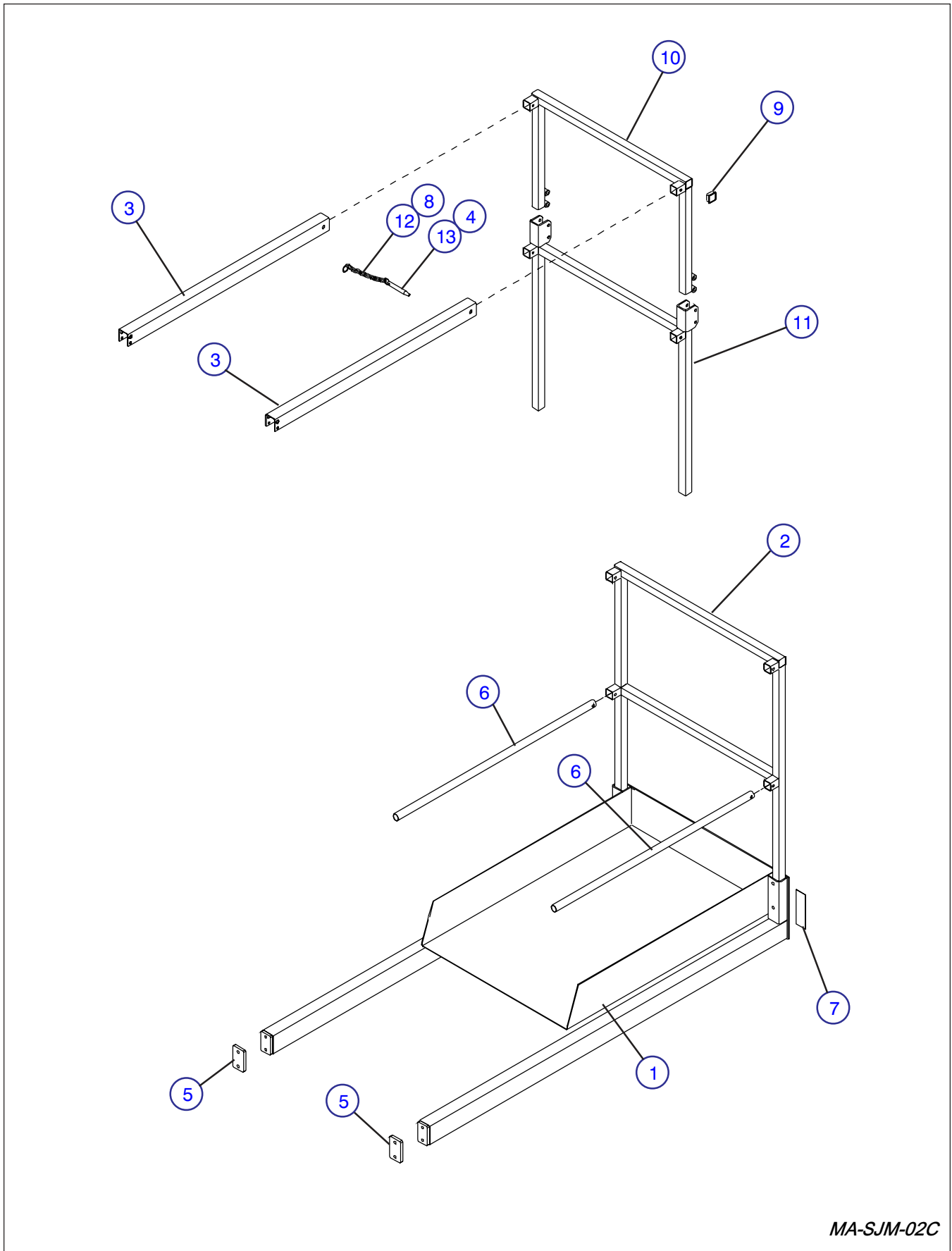


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FIGURE 6-2. MAIN PLATFORM AND HINGED RAILINGS

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	MAIN PLATFORM & HINGED RAILINGS - Model 3015	-
B	(Ref.)	MAIN PLATFORM & HINGED RAILINGS - Model 3219	-
1	107861	• WELDMENT, Main platform, A (Machines with manual extension platform)	1
	109687	• WELDMENT, Main platform, A (Machines with powered extension platform)	1
	112878	• WELDMENT, Main platform, A (Machines with scissor guard option)	1
	109530	• WELDMENT, Main platform, B (Machines with manual extension platform)	1
	111888	• WELDMENT, Main platform, B (machines with powered extension platform)	1
	112879	• WELDMENT, Main platform, B (Machines with scissor guard option)	1
2	108735	• COVER, Cable protection (Replaces 104634)	1
	300437	• • BOLT, Hex-hd 3/8-16 x 7/8" lg.	2
	103999	• • WASHER, Lock 3/8"	2
	103472	• • WASHER, Flat 3/8"	2
	103978	• • NUT, 3/8-16	2
3	111812	• RAILING, Hinged side top RH	1
	111817	• RAILING, Hinged side bottom RH	1
4	111815	• RAILING, Hinged side top LH	1
	111818	• RAILING, Hinged side bottom LH	1
5	111821	• RAILING, Entry top	1
	103845	• • BOLT, Hex-hd 5/16-18 x 1/2" lg.	2
	103404	• • WASHER, Lock 5/16"	2
	103996	• • WASHER, Flat 5/16"	2
6	100702	• CAP, Tube end	2
7	104183	• PAD, Foam 25-1/4"	1
8	102975	• STRIPE, Warning	AR
9	106893	• CHAIN ASSEMBLY, Entry	1
	100297	• • LINK, Attaching	1
	103896	• • CHAIN, 25-1/2" lg.	1
	100493	• • LATCH, Chain snap	1
10	310014	• BRACKET, Scissor mount (Replaces 107971,109478 and 109477)	1
	300437	• • BOLT, Hex-hd 3/8-16 x 7/8" lg.	6
	103999	• • WASHER, Lock 3/8"	6
	103472	• • WASHER, Flat 3/8"	6
12	103543	• PAD, Platform slide	2
	103856	• • BOLT, Hex-hd 1/4-20 x 3/4" lg.	4
	104000	• • WASHER, Lock 1/4"	4
13	104127	• COVER, Cable protection (Model 3015 with Serial Number 18538 and Below) (Model 3219 with Serial Number 220623 and Below)	1
14	108773	• ANGLE, Platform slider 22" lg.	1
15	112882	• LOCATOR, Scissor guard	2
16	103024	• CLIP, Control cable #G8	1
17	310032	• GUARD, Cable LH (option)	1
18	310031	• GUARD, Cable RH (3015 with serial number 18539 and above) (3219 with serial number 220624 and above)	1

FIGURE 6-3. 3 FT. MANUAL EXTENSION PLATFORM

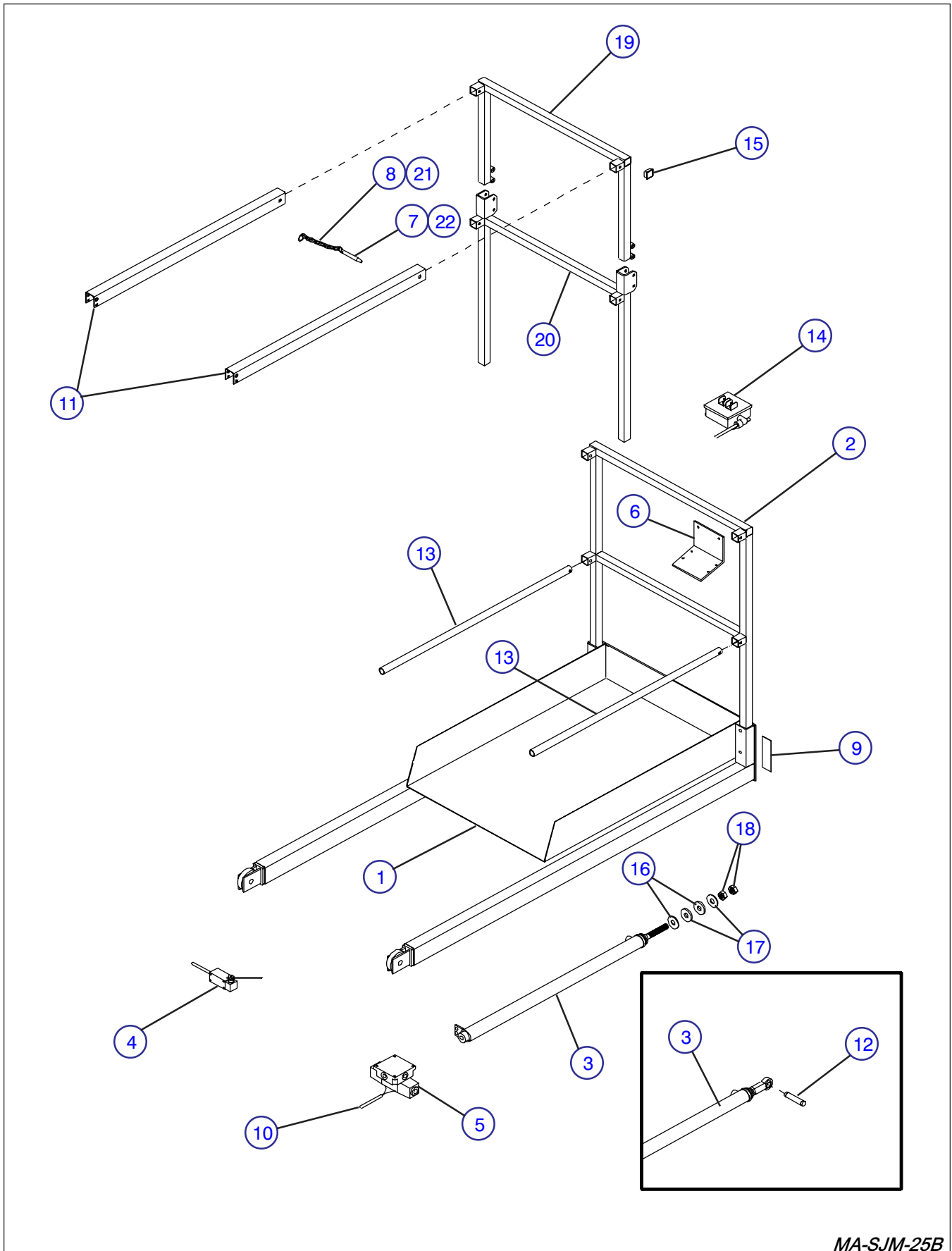


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FIGURE 6-3. 3 FT. MANUAL EXTENSION PLATFORM

Index No.	Skyjack Part No.	Description	Units per Assy.
A	107749	3 FT. EXTENSION PLATFORM - Model 3015 (Standard machines)	-
B	111318	3 FT. EXTENSION PLATFORM - Model 3219 (Standard machines)	-
C	113158	3 FT. EXTENSION PLATFORM - Model 3015 (Machines with scissor guard option)	-
D	113159	3 FT. EXTENSION PLATFORM - Model 3219 (Machines with scissor guard option)	-
1	107866	• WELDMENT, Extension platform, A, B	1
	112564	• WELDMENT, Extension platform, C, D	1
2	106521	• RAILING, Extension platform front, A, C	1
	110744	• RAILING, Extension platform front, B, D	1
	104625	• • SCREW, Set 3/8-16 x 5/8" lg.	4
	103978	• • NUT, Hex 3/8-16	4
3	107450	• CHANNEL ASSEMBLY, Side handrail, A, B	2
	113209	• CHANNEL ASSEMBLY, Side handrail, C, D	2
	107451	• • CHANNEL, Side handrail, A, B	2
	112610	• • CHANNEL, Side handrail, C, D	2
	103550	• • PAD, Wear	6
	103865	• • BOLT, Hex-hd 5/16-18 x 2" lg.	4
	103984	• • NUT, Lock 5/16-18	4
4	100509	• PIN, Locking	2
5	103554	• PAD, Rear slide	2
	103952	• • BOLT, Flat-hd 3/8-16 x 1" lg.	4
6	103796	• PIPE, Midrail	2
	103885	• • BOLT, Hex-hd 5/16-18 x 1-3/4" lg.	2
	103984	• • NUT, Lock 5/16-18	2
7	106950	• PLATE, Railing retainer	2
8	105807	• CABLE, Lanyard 6" lg.	2
	104607	• • SCREW, Self-tap #6-1/4" lg.	1
9	100702	• CAP, Tube end	2
		Items 10 thru 13 are for machines with optional hinged railings.	
10	111826	RAILING, Extension platform hinged upper	1
11	111825	RAILING, Extension platform hinged lower	1
12	105807	CABLE, Lanyard 6" lg.	2
13	100509	PIN, Locking	2

FIGURE 6-4. 3 FT. POWERED EXTENSION PLATFORM

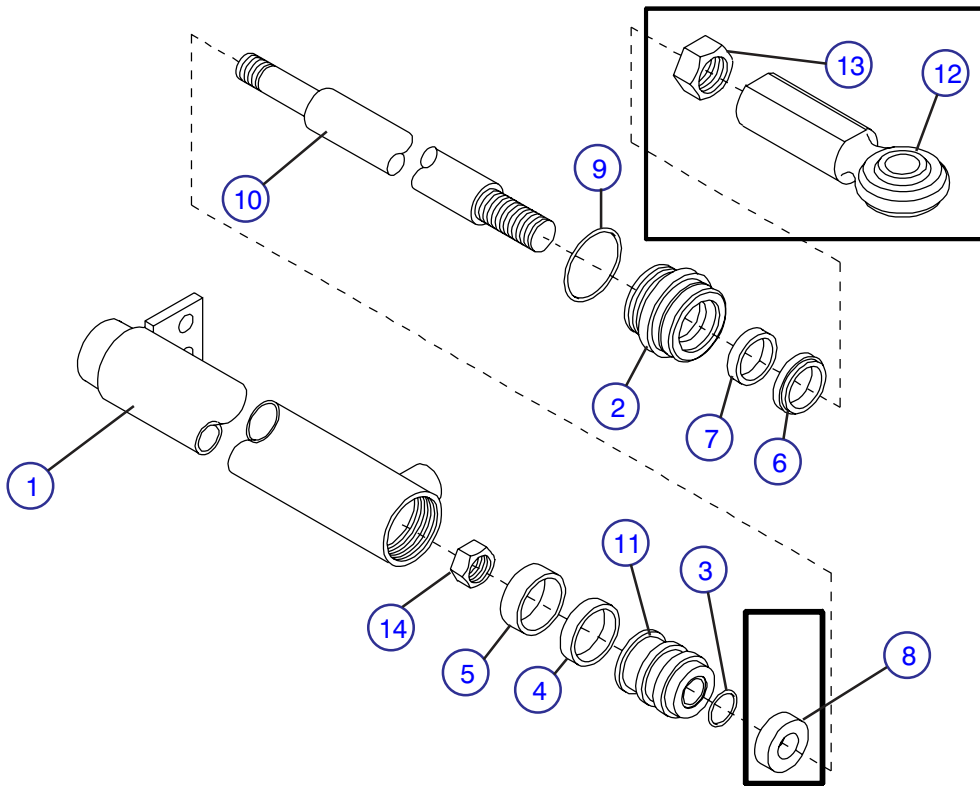


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FIGURE 6-4. 3 FT. POWERED EXTENSION PLATFORM

Index No.	Skyjack Part No.	Description	Units per Assy.
1	113315	WELDMENT, Extension platform (Replaces 109689)	1
2	106521	RAILING, Extension platform front (Model 3015)	1
	110744	RAILING, Extension platform front (Model 3219)	1
	104625	• SCREW, Set 3/8-16 x 5/8" lg.	4
	103978	• NUT, Hex 3/8-16	4
3	113425	CYLINDER ASSEMBLY, Powered extension platform (For components, refer to Figure 6-5.)(Replaces 108727 by ordering (1), 106450 and (1), End, 103420)	1
	101297	• BOLT, Hex-hd 3/8-16 x 1-1/4" lg.	2
	104606	• NUT, Lock 3/8-16	2
4	114825	SWITCH ASSEMBLY, Powered platform limit (Replaces 109706 by also ordering (1) Connector 107711)	1
	102668	• SWITCH, Limit	1
	102882	• HEAD, Limit switch	1
	103142	• ARM, Limit switch	1
	103256	• CORD, 18/2	220"
	107712	• PLUG ASSEMBLY, 5 Pin male (Replaces 4 pole round connector by also ordering (1) Connector, 107711)	1
5	(Ref.)	VALVE & MANIFOLD ASSEMBLY (Refer to Figure 6-6.)	1
6	310009	PLATE, Control box mounting (Replaces 105538)	1
7	100509	PIN, Locking	2
8	105807	CABLE, Lanyard 6" lg.	2
9	106950	PLATE, Railing retainer	2
10	114826	CORD ASSEMBLY, Valve manifold (Replaces 109715 by also ordering (1) Connector 107711)	1
	103257	• CORD, 18/3 x 100" lg.	1
	107712	• PLUG ASSEMBLY, 5 Pin male (Replaces 4 pole round connector by also ordering (1) Connector, 107711)	1
11	107450	CHANNEL ASSEMBLY, Side handrail	2
	103550	• PLUG, Handrail slide	6
	103865	• BOLT, Hex-hd 5/16-18 x 2" lg.	4
	103984	• NUT, Lock 5/16-18	4
12	103424	PIN, Cylinder mounting (Early models)	1
	100759	• RING, Retaining	2
13	103796	PIPE, Midrail	2
	103885	• BOLT, Hex-hd 5/16-18 x 1-3/4" lg.	2
	103984	• NUT, Lock 5/16-18	2
14	(Ref.)	CONTROL BOX ASSEMBLY, Powered ext. platform (For components, refer to Figure 6-7.)	1
15	100702	CAP, Tube end	2
16	113304	WASHER, Flat 3/4" x 2"	2
17	113305	ISOLATOR, Cylinder rod	2
18	106450	NUT, Jam 3/4-16	2
		Items 18 thru 21 are for machines with optional hinged railings.	
19	111826	RAILING, Extension platform hinged upper	1
20	111825	RAILING, Extension platform hinged lower	1
21	105807	CABLE, Lanyard 6" lg.	2
22	100509	PIN, Locking	2

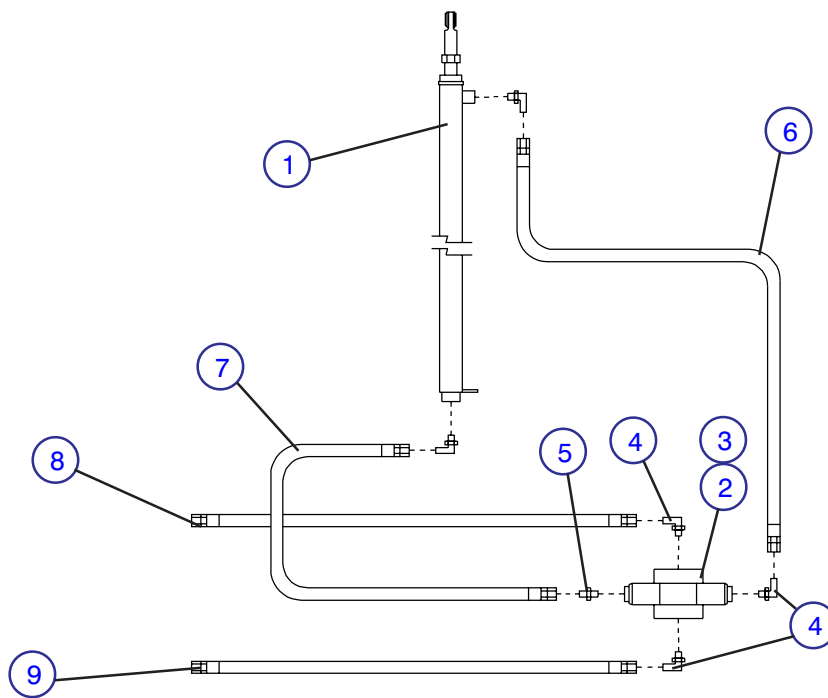
FIGURE 6-5. POWERED EXTENSION PLATFORM CYLINDER ASSEMBLY



MA-SJII-29A

Index No.	Skyjack Part No.	Description	Units per Assy.
A	113425	CYLINDER ASSEMBLY, Powered extension platform	-
B	\$	CYLINDER ASSEMBLY, Powered extension platform (108727)	-
1	106470	• WELDMENT, Cylinder barrel	1
2	108723	• GLAND, Cylinder end	1
*3	103829	• O-RING, Piston	1
*4	103825	• SEAL, Piston	1
*5	106452	• RING, Piston wear	1
*6	106449	• WIPER, Rod	1
*7	108798	• SEAL, Rod	1
8	103822	• SPACER, Stroke limit (w/piston, 106457)	1
*9	103828	• O-RING, Gland	1
10	106469	• ROD, Piston	1
11	114344	• PISTON (Replaces 106457, 103822)	1
12	103420	• END, Cylinder rod	1
13	106450	• NUT, Jam 3/4-16, B	1
14	103830	• NUT, Lock 5/8-11, B	1
	107396	KIT, Seal repair	AR
		* Part of Seal Repair Kit, 107396.	
		\$ Order replacement cylinder plus (1) SPHERICAL BEARING END, 103420 and (1) NUT, 106450	

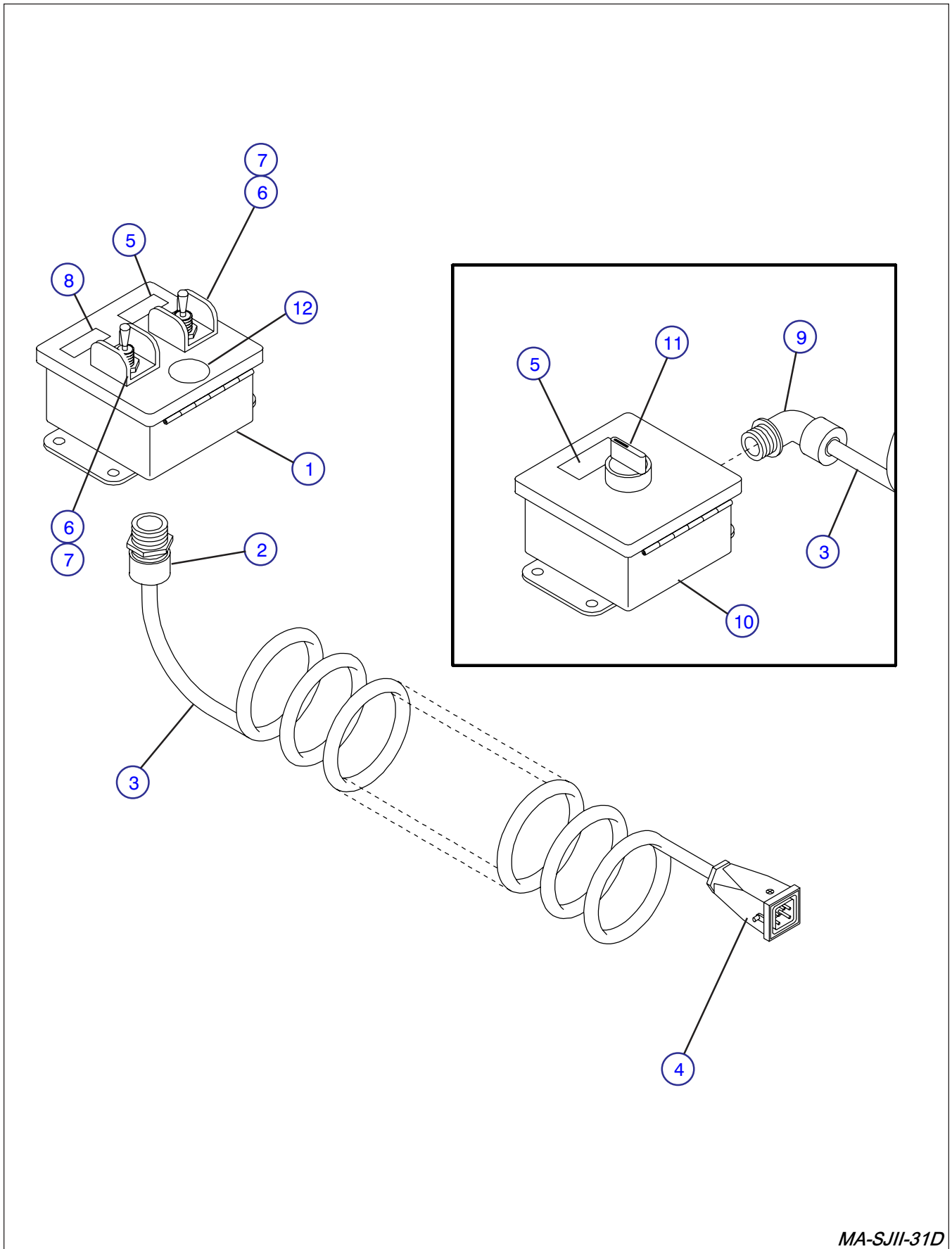
FIGURE 6-6. HYDRAULIC HOSE CONNECTIONS - Powered Extension Platform



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Index No.	Skyjack Part No.	Description	Units per Assy.
1	113425	CYLINDER ASSEMBLY, Powered extension platform (For components, refer to Figure 6-5.)	1
2	107382	BLOCK, Valve manifold	1
3	103614	VALVE ASSEMBLY, 24 Volt spool	1
	107439	• COIL, 24 Volt spool valve	2
	104409	• CONNECTOR, Black	1
	104345	• CONNECTOR, Gray	1
4	103073	FITTING, Elbow 90° #6orb-#6	5
5	103069	FITTING, Connector #6orb-#6	1
6	110062	HOSE ASSEMBLY, Cylinder retract 49" lg.	1
7	110061	HOSE ASSEMBLY, Cylinder extend 10-1/2" lg.	1
8	110063	HOSE ASSEMBLY, Valve return 235" lg. (Model 3015)	1
	310174	HOSE ASSEMBLY, Valve return 293" lg. (Model 3219)	1
9	110064	HOSE ASSEMBLY, Valve supply 255" lg. (Model 3015)	1
	310173	HOSE ASSEMBLY, Valve supply 301" lg. (Model 3219)	1

FIGURE 6-7. POWERED EXTENSION PLATFORM CONTROL BOX ASSEMBLY

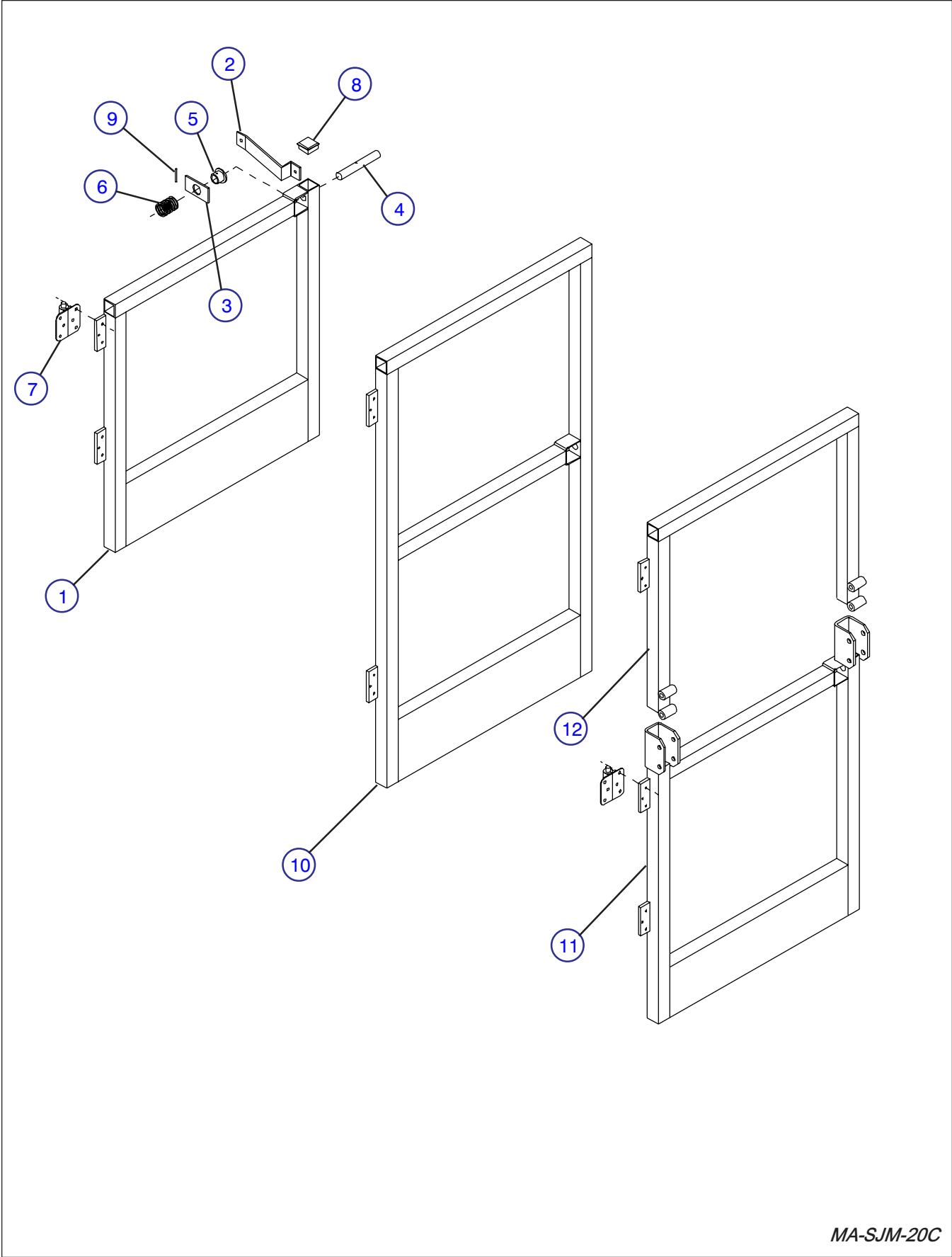


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FIGURE 6-7. POWERED EXTENSION PLATFORM CONTROL BOX ASSEMBLY

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	BOX ASSEMBLY, Powered ext. platform control (Later models with toggle switch controls)	
B	(Ref.)	BOX ASSEMBLY, Powered ext. platform control (Early models with rotary switch controls)	
1	115539	• BOX, Control, A	1
2	103041	• STRAIN RELIEF, Straight 1/2" , A	1
3	106401	• CORD, Coiled 18/3	1
4	107712	• CONNECTOR ASSEMBLY, 5 Pole male (Replaces round connector by also ordering (1) Connector, 107711)	1
5	108328	• LABEL, Platform extend/retract	1
6	102853	• SWITCH, Toggle, A	2
7	111181	• GUARD, Toggle switch, A	2
8	115594	• LABEL, Enable, A	1
9	103035	• STRAIN RELIEF, Elbow 90° 1/2", B	1
10	106399	• BOX, Control, B	
11	(Ref.)	• SWITCH ASSEMBLY, Platform extend/retract, B	1
	102837	• • HEAD, Selector switch	1
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
12	114377	• PLUG, Hole 1/2", A	1

FIGURE 6-8. GATE OPTIONS

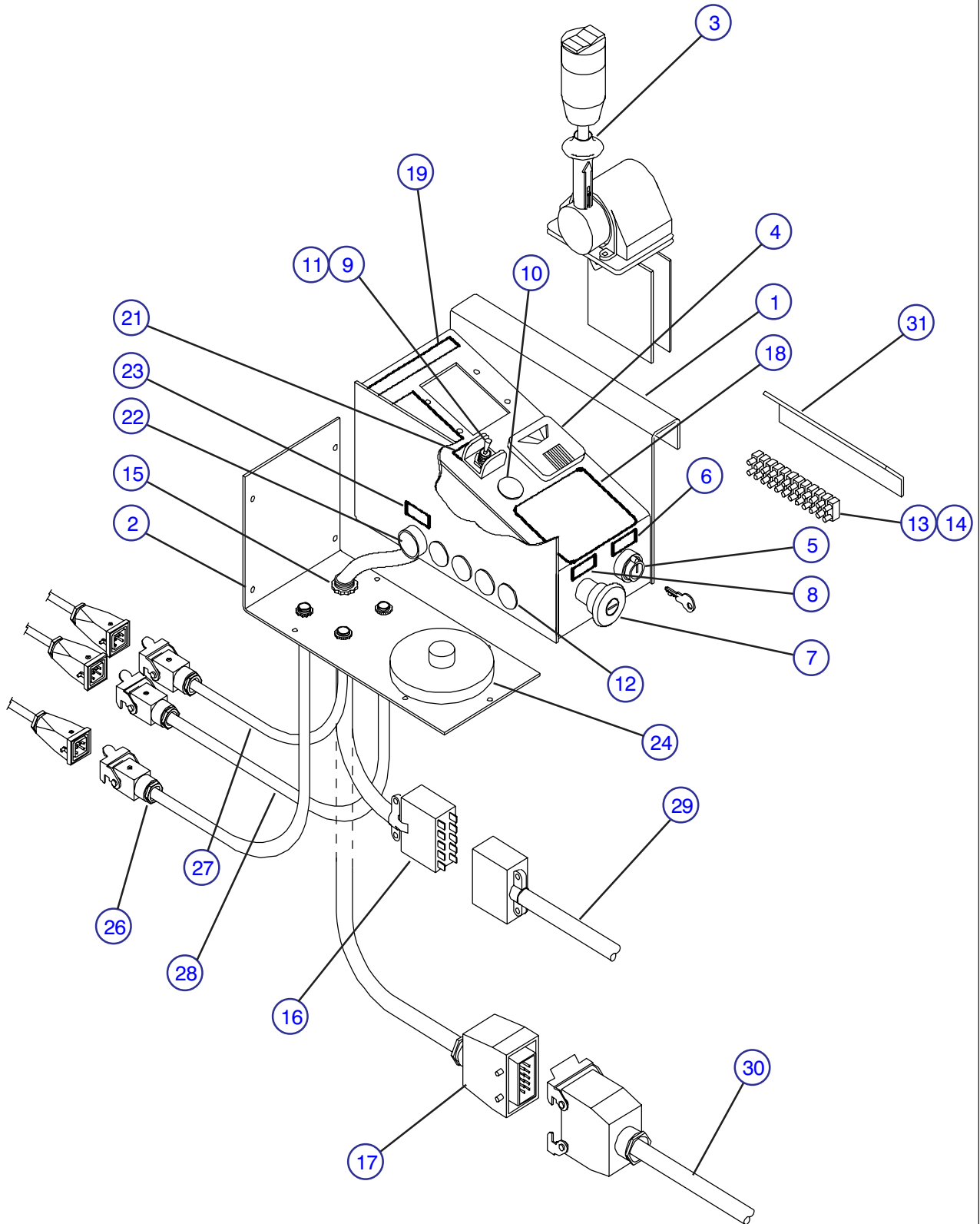


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FIGURE 6-8. GATE OPTIONS

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	GATE ASSEMBLY - Half (Model 3015) (Consists of items 1 thru 9)	-
B	(Ref.)	GATE ASSEMBLY - Half (Model 3219) (Consists of items 1 thru 9)	-
C	(Ref.)	GATE ASSEMBLY - Rigid full (Model 3015) (Consists of items 2 thru 10)	-
D	(Ref.)	GATE ASSEMBLY - Rigid full (Model 3219) (Consists of items 2 thru 10)	-
E	(Ref.)	GATE ASSEMBLY - Hinged full (All models) (Consists of items 2 thru 9, 11 and 12)	-
1	117278	• WELDMENT, Half gate, A (Serial number 18713 and above)	1
	109401	• WELDMENT, Half gate, A (Serial number 18712 and below)(Replaces 107868 by also ordering (2) hinges, 109388)	1
	117280	• WELDMENT, half gate, B (Serial number 220805 and above)	1
	111239	• WELDMENT, Half gate, B (Serial number 220804 and below)	1
2	105306	• STOP, Latch	1
	103632	• • BOLT, Self-tap 1/4-14 x 7	1
3	105307	• PLATE, Latch release	1
4	105309	• PIN, 5/8" x 4-3/16" lg.	1
5	105312	• GUIDE, Spring	1
6	103107	• SPRING, Compression	1
7	117277	• HINGE, Spring return (Stanley 3-1/2" #2060R) (Model 3015 serial number 18713 and above) (Model 3219 serial number 220805 and above)	2
	109388	• HINGE, Spring (Stanley Hardware) (Model 3015 serial number 18712 and below) (Model 3219 serial number 220804 and below) (Used with gates 109401, 111239, 109404 and 110746)	2
	100596	• HINGE, Spring (Mallory) (Used with gates 107868 and 108136)	2
8	100702	• CAP, Tube end	3
9	300792	• PIN, Cotter 1/8" X 3/32" lg.(Replaces 105310)	1
10	117279	• WELDMENT, Full gate, C (Serial number 18713 and above)	1
	109404	• WELDMENT, Full gate, C (Serial number 18712 and below) (Replaces 108136 by also ordering (2) hinges, 109388)	1
	117286	• WELDMENT, Full gate, D (Serial number 220805 and above)	1
	110746	• WELDMENT, Full gate, D (Serial number 220804 and below)	1
11	113661	WELDMENT, Hinged lower gate, E	1
12	113662	WELDMENT, Hinged upper gate, E	1

FIGURE 6-9. CONTROL BOX ASSEMBLY - Proportional Drive and Lift



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FIGURE 6-9. CONTROL BOX ASSEMBLY - Proportional Drive and Lift

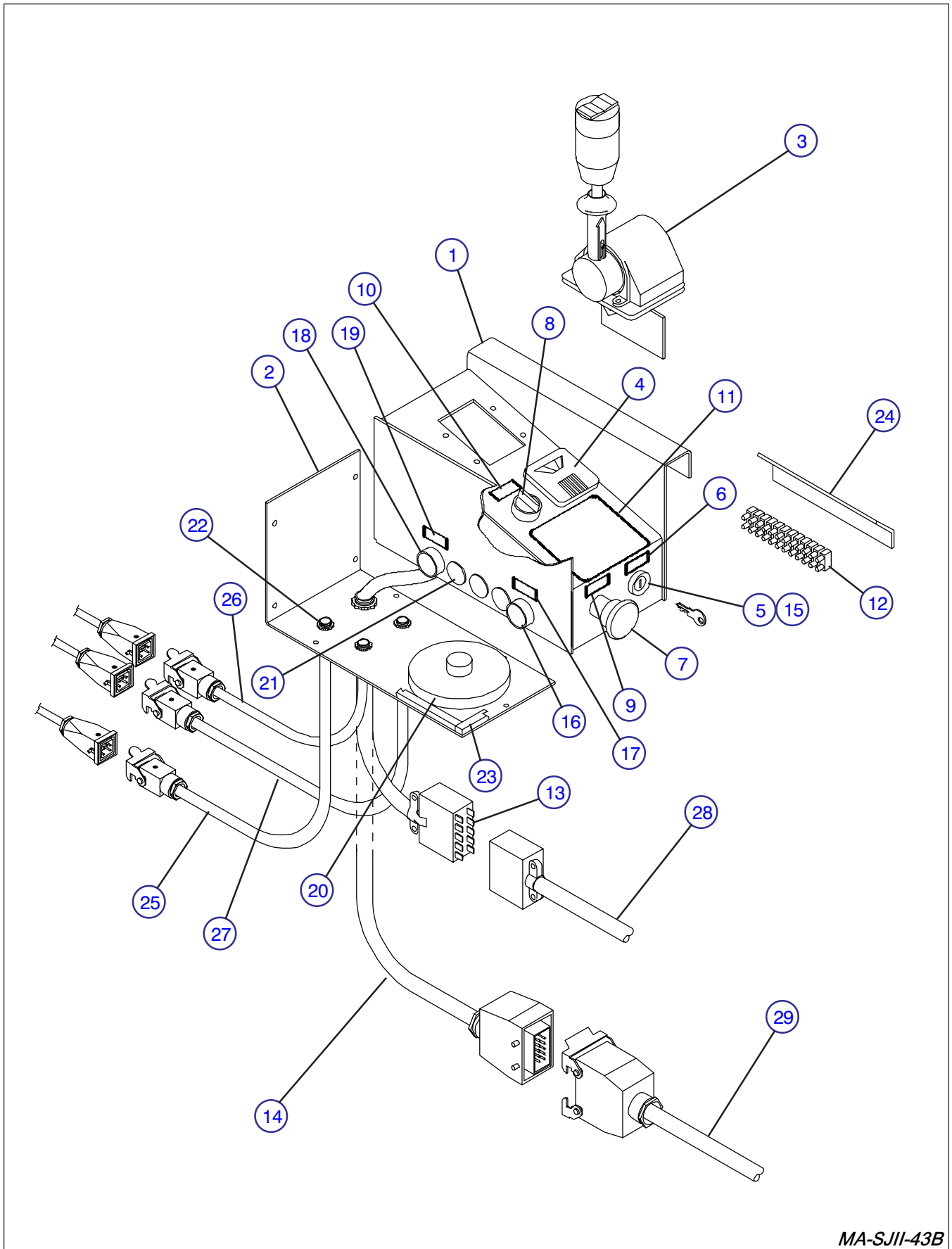
Index No.	Skyjack Part No.	Description	Units per Assy.
A	400072	CONTROL BOX ASSEMBLY, Proportional (ANSI/SIA AND CSA)	-
B	310003	CONTROL BOX ASSEMBLY, Proportional (ANSI/SIA AND CSA with horn)	-
C	310004	CONTROL BOX ASSEMBLY, Proportional (CE with horn)	-
D	310011	CONTROL BOX ASSEMBLY, Proportional (EE-Rated)	-
1	108692	• WELDMENT, Control box	1
2	108703	• COVER, Bottom, A, D	1
	108704	• COVER, Bottom, B, C	1
	104607	• • SCREW, Set #6-32 x 1/2" lg.	9
3	115311	• CONTROLLER ASSEMBLY, Proportional drive/lift (For components, refer to Figure 6-11.)	1
	103957	• • SCREW, #8-32 x 1/2" lg.	4
	104185	• • WASHER, Lock #10	4
4	103240	• INDICATOR, Battery charge	1
5	(Ref.)	• SWITCH ASSEMBLY, Key off/on	1
	102754	• • HEAD, 2-Position key switch	1
	104460	• • • KEY, #455	AR
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
6	105983	• LABEL, Power off/on, A, B, D	1
	108331	• LABEL, Power off/on, C	1
7	(Ref.)	• SWITCH ASSEMBLY, Emergency stop	1
	100149	• • WASHER, Switch	1
	102769	• • HEAD, Stop switch	1
	103100	• • BASE, Contact	1
	103225	• • BLOCK, N.C. Contact	1
8	102627	• LABEL, Emergency stop, A, B, D	1
	111814	• LABEL, Emergency stop, C	1
9	116382	• SWITCH, Lift/off/drive toggle	1
10	114377	• PLUG, Hole 7/8"	1
11	111181	• GUARD, Toggle switch	1
12	300460	• PLUG, Hole 7/8" (Replaces 102956)	AR
13	103012	• BLOCK, Terminal	AR
	103955	• • SCREW, #6-32 x 3/4" lg.	1
	114678	• • SCREW, #6-32 x 1/2" lg.	1
	106099	• • WASHER, Lock #6	2
	103985	• • NUT, #6-32	2
14	102921	• DIODE, 6 Amp 1000PIV	2
15	300251	• STRAIN RELIEF, Cable, A, B, C	1
	103041	• STRAIN RELIEF, Cable, D	1
16	119642	• CABLE ASSEMBLY, Control box, A	1
	102888	• • CABLE, 16/10	27"
	102766	• • PLUG, 10 Pole male	1
17	104172	• CABLE ASSEMBLY, Control box, A, B	1
	102888	• • CABLE, 16/10	1
	102766	• • PLUG, 10 Pin cable	1
	103365	• • CONNECTOR, Control box 1/2"	1
	114547	• CABLE ASSEMBLY, Control box, C, D	1
	102888	• • CABLE, 16/10	27"
	107778	• • CONNECTOR ASSEMBLY, 10 Pole male	1

NOTE: Parts list continued on Page 21.

FIGURE 6-9. CONTROL BOX ASSEMBLY - Proportional Drive and Lift (continued)

Index No.	Skyjack Part No.	Description	Units per Assy.
		NOTE: Parts list continued from Page 19.	
18	106704	• LABEL, Operator warning	1
19	115326	• LABEL, Operating instructions	1
20	115327	• LABEL, Controller lift/drive	1
21	102599	• LABEL, Lift/off/drive, A, B, D	1
	108333	• LABEL, Lift/off/drive, C	1
22	(Ref.)	• SWITCH ASSEMBLY, Horn push-button, B, C	1
	102851	• • HEAD, Push-button switch	1
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
23	102467	• LABEL, Horn, B	1
	105352	• LABEL, Horn, C	1
24	102860	• HORN, 24 Volt operator, B, C	1
	103962	• • BOLT, #10-32 x 1/2" lg.	2
	104185	• • WASHER, Lock #10	2
	104003	• • NUT, Machine #10-32	2
25	103628	• SEAL, Rubber 44" lg., D	1
		Items 25 thru 27 are machines with Powered Extension Platform Option.	
26	(Ref.)	CORD ASSEMBLY, Powered platform control box	1
	103257	• CORD, 18/3 x 27" lg.	1
	107711	• CONNECTOR ASSEMBLY, 5 Pole female	1
27	(Ref.)	CORD ASSEMBLY, Valve manifold	1
	103257	• CORD, 18/3 x 27" lg.	1
	107711	• CONNECTOR ASSEMBLY, 5 Pole female	1
28	(Ref.)	CORD ASSEMBLY, Limit switch	1
	103256	• CORD, 18/2 x 27" lg.	1
	107711	• CONNECTOR ASSEMBLY, 5 Pole female	1
28	106337	• CABLE ASSEMBLY, Scissors, A, B (Model 3015)	1
	104170	• CABLE ASSEMBLY, Scissors, A, B (Model 3219)	1
	102888	• • CABLE, 16/10 x 288" lg. (Model 3015)	1
	102888	• • CABLE, 16/10 x 372" lg. (Model 3219)	1
	102518	• • SOCKET, 10 pin female	1
	102766	• • PLUG, 10 pin male	1
29	114553	• CABLE ASSEMBLY, Scissors, C, D (Model 3015)	1
	114552	• CABLE ASSEMBLY, Scissors, C, D (Model 3219)	1
	102888	• • CABLE, 16/10 x 288" lg. (Model 3015)	1
	102888	• • CABLE, 16/10 x 372" lg. (Model 3219)	1
	107778	• • CONNECTOR, 10 pole male	1
	107777	• • CONNECTOR, 10 pole female	1
30	113451	• STRIP, Terminal mount	1

FIGURE 6-10. CONTROL BOX ASSEMBLY - 2 Speed Drive



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FIGURE 6-10. CONTROL BOX ASSEMBLY - 2 Speed Drive

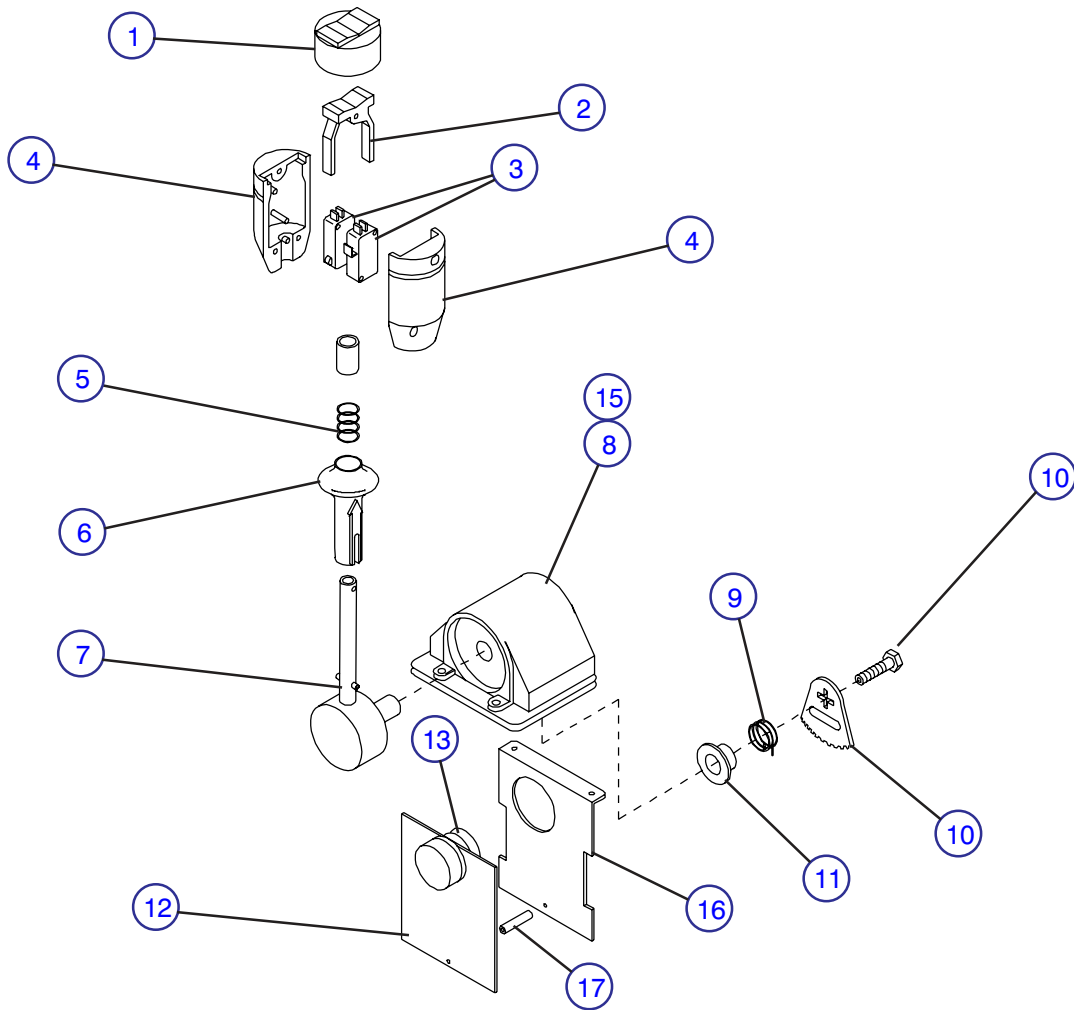
Index No.	Skyjack Part No.	Description	Units per Assy.
A	104491	CONTROL BOX ASSEMBLY - ANSI/SIA AND CSA	-
B	106109	CONTROL BOX ASSEMBLY - ANSI/SIA AND CSA With Horn	-
C	114557	CONTROL BOX ASSEMBLY - CE With Horn	-
D	114558	CONTROL BOX ASSEMBLY - EE-Rated	-
1	108692	• WELDMENT, Control box (Replaces 100886)	1
2	108703	• COVER, Bottom, A, D (Replaces 100148)	1
	108704	• COVER, Bottom, B, C (Replaces 100621)	1
	104607	• • SCREW, Self-tapping #8-32 x 1/2" lg.	11
3	103334	• CONTROLLER ASSEMBLY, 2 Speed drive (For components, refer to Figure 6-12.)	1
	103957	• • SCREW, Machine #8-32 x 1/2" lg.	4
4	103240	• INDICATOR, Battery charge	1
5	102752	• SWITCH, Key select	1
	104325	• • KEY, Select switch	1
6	102599	• LABEL, Lift/off/drive, A, B, D	1
	108333	• LABEL, Lift/off/drive, C	1
7	(Ref.)	• SWITCH ASSEMBLY, Emergency stop	1
	100149	• • WASHER, Flat	1
	102769	• • HEAD, Stop switch	1
	103100	• • BASE, Contact	1
	103225	• • BLOCK, N.C. Contact	1
8	(Ref.)	• SWITCH ASSEMBLY, Up/down selector	1
	102837	• • HEAD, Selector switch	1
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	2
9	102627	• LABEL, Emergency stop, A, B, D	1
	105351	• LABEL, Emergency stop, C	1
10	102657	• LABEL, Up/off/down, A, B, D	1
	108328	• LABEL, Up/off/down, C	1
11	106704	• LABEL, Operator warning	1
12	103012	• BLOCK, Terminal	1
	103955	• • SCREW, Machine #6-32 x 3/4" lg.	2
	103985	• • NUT, Machine #6-32	2
13	104172	• CABLE ASSEMBLY, Control box, A, B	1
	102888	• • CABLE, 16/10 x 27" lg.	1
	102766	• • PLUG, 10 Pin cable	1
	103365	• • CONNECTOR, Control box 1/2"	1
14	114547	• CABLE ASSEMBLY, Control box, C, D (Replaces 108071 by ordering (1) Connector, 107777)	1
	102888	• • CABLE, 16/10 x 27" lg.	1
	107778	• • CONNECTOR ASSEMBLY, 10 Pole male (Replaces 32 pole round connector by also ordering (1) Connector, 107777)	1
15	102921	• DIODE, 6 Amp	AR
16	(Ref.)	• SWITCH ASSEMBLY, Lift enable push-button	1
	108854	• • HEAD, Push-button head (green)	1
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
17	108855	• LABEL, Lift enable	1

NOTE: Parts list continued on Page 25.

FIGURE 6-10. CONTROL BOX ASSEMBLY - 2 Speed Drive (continued)

Index No.	Skyjack Part No.	Description	Units per Assy.
		NOTE: Parts list continued from Page 23.	
18	(Ref.)	• SWITCH ASSEMBLY, Horn push-button, B, C	1
	102851	• • HEAD, Push-button switch (black)	1
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
19	102467	• LABEL, Horn, B	1
	105352	• LABEL, Horn, C	1
20	102860	• HORN, 24 Volt operator	1
21	105867	• PLUG, Snap-in, (Replaces 102956)	AR
22	103036	• STRAIN RELIEF, Connector 1/2" , A, B, C	3
	103041	• STRAIN RELIEF, Connector, 12" lg. D	1
23	103628	• SEAL, Rubber 44" lg., D	1
24	113451	• STRIP, Terminal mount	1
25	(Ref.)	CABLE ASSEMBLY, Powered platform control box	1
	103257	• CORD, 18/3 x 27" lg.	1
	107711	• CONNECTOR ASSY., 5 Pole female (Replaces 108193 by ordering (1) Connector, 107712)	1
26	(Ref.)	CORD ASSEMBLY, Valve manifold	1
	103257	• CORD, 18/3 x 27" lg.	1
	107711	• CONNECTOR ASSY., 5 Pole female (Replaces 108193 by ordering (1) Connector, 107712)	1
27	(Ref.)	CORD ASSEMBLY, Limit switch	1
	103257	• CORD, 18/3 x 27" lg.	1
	107711	• CONNECTOR ASSY., 5 Pole female (Replaces 108193 by ordering (1) Connector, 107712)	1
28	106337	CABLE ASSEMBLY, Scissor arm, A, B (Model 3015)	1
	102888	• CABLE, 16/10 x 288" lg.	1
	102518	• SOCKET, 10 Pin	1
	102766	• PLUG, 10 Pin	1
	104170	CABLE ASSEMBLY, Scissor arm, A, B (Model 3219)	1
	102888	• CABLE, 16/10 x 372" lg.	1
	102518	• SOCKET, 10 Pin	1
	102766	• PLUG, 10 Pin	1
29	114553	CABLE ASSEMBLY, Scissor arm, C, D (Model 3015) (Replaces 109498 by ordering (1) Connector, 107777)	1
	102888	• CABLE, 16/10 x 288" lg.	1
	114552	CABLE ASSEMBLY, Scissor arm, C, D (Model 3219) (Replaces 108075 by ordering (1) Connector, 107777)	
	102888	• CABLE, 16/10 x 372" lg.	1

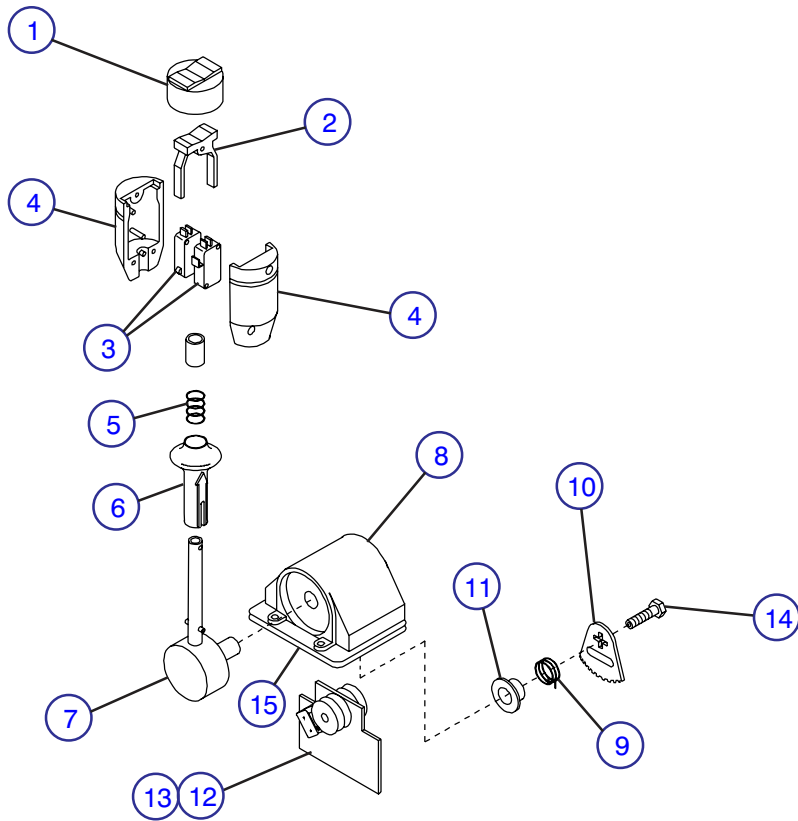
FIGURE 6-11. PROPORTIONAL DRIVE/LIFT CONTROLLER ASSEMBLY



MA-SJM-43

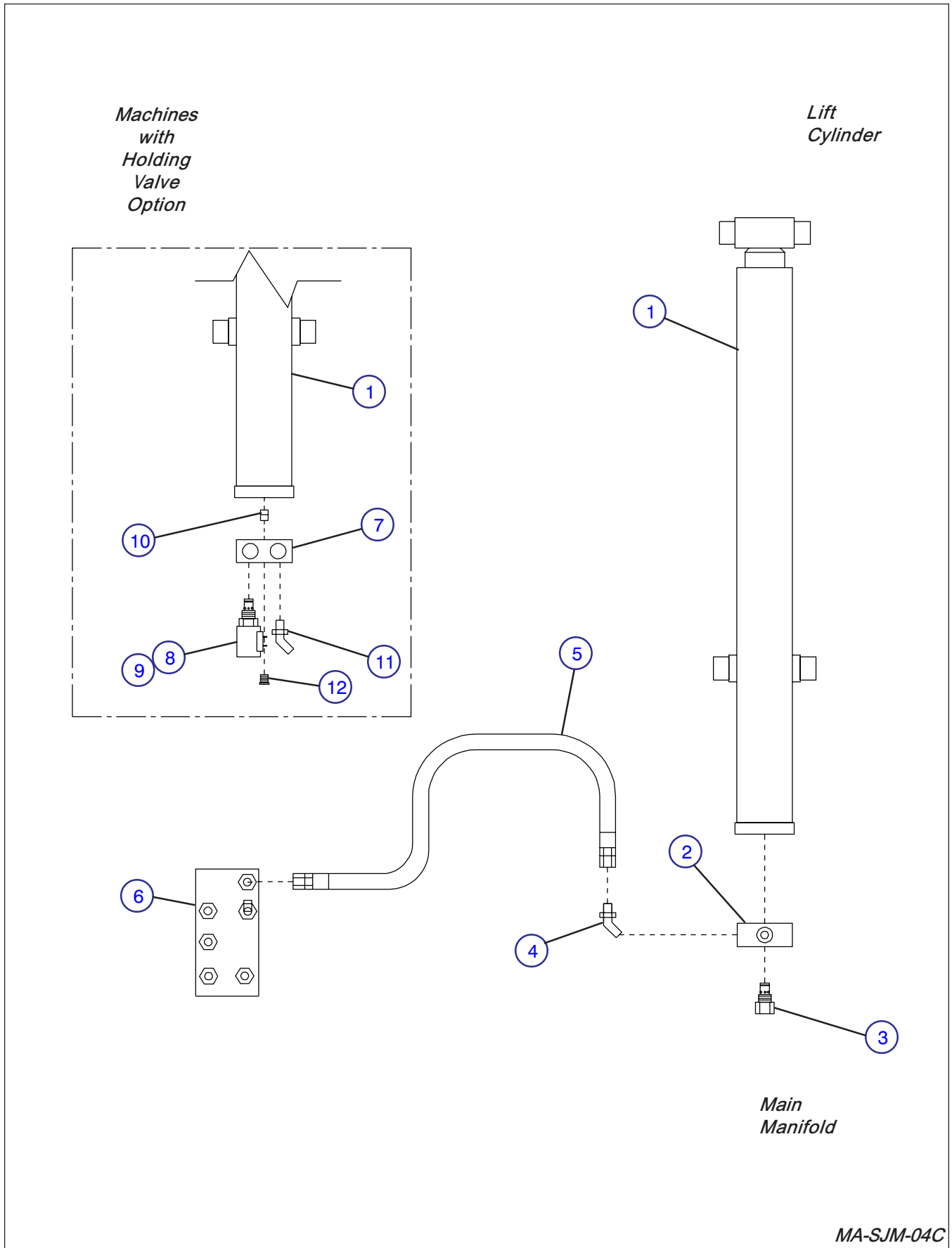
Index No.	Skyjack Part No.	Description	Units per Assy.
	115311	CONTROLLER ASSEMBLY, Proportional drive/lift	-
1	105735	• CAP, Elastic	1
2	105734	• ACTUATOR, Rocker	1
3	105733	• SWITCH, Directional	2
4	105738	• KNOB HALF	2
5	105737	• SPRING, Compression	1
6	105736	• SLIDE LOCK	1
7	105378	• HANDLE EXTENSION	1
8	106729	• HOUSING	1
9	106730	• SPRING, Handle return	1
10	106725	• RATCHET	1
11	106726	• BUSHING, Spring	1
12	117150	• CIRCUIT BOARD ASSEMBLY	1
13	102768	• • SWITCH W/ACTUATOR	2
14	106731	• SCREW, Hollow	1
15	110982	• GASKET, Housing	1
16	117151	• BRACKET, Circuit board support	1
17	117152	• SPACER, Circuit board	1

FIGURE 6-12. 2 SPEED DRIVE CONTROLLER ASSEMBLY



Index No.	Skyjack Part No.	Description	Units per Assy.
	103334	CONTROLLER ASSEMBLY, 2 Speed drive	-
1	105735	• CAP, Elastic	1
2	105734	• ACTUATOR, Rocker	1
3	105733	• SWITCH, Directional	1
4	105738	• KNOB HALF	2
5	105737	• SPRING, Compression	2
6	105736	• SLIDE LOCK	1
7	105378	• HANDLE EXTENSION	1
8	106729	• HOUSING	1
9	106730	• SPRING, Handle return	1
10	106725	• RATCHET	1
11	106726	• BUSHING, Spring	1
12	106092	• CIRCUIT BOARD ASSEMBLY	1
13	102768	• • SWITCH W/ACTUATOR	1
14	106731	• SCREW, Hollow	4
15	110982	• GASKET, Housing	1

FIGURE 6-13. HYDRAULIC HOSE CONNECTIONS - Scissors

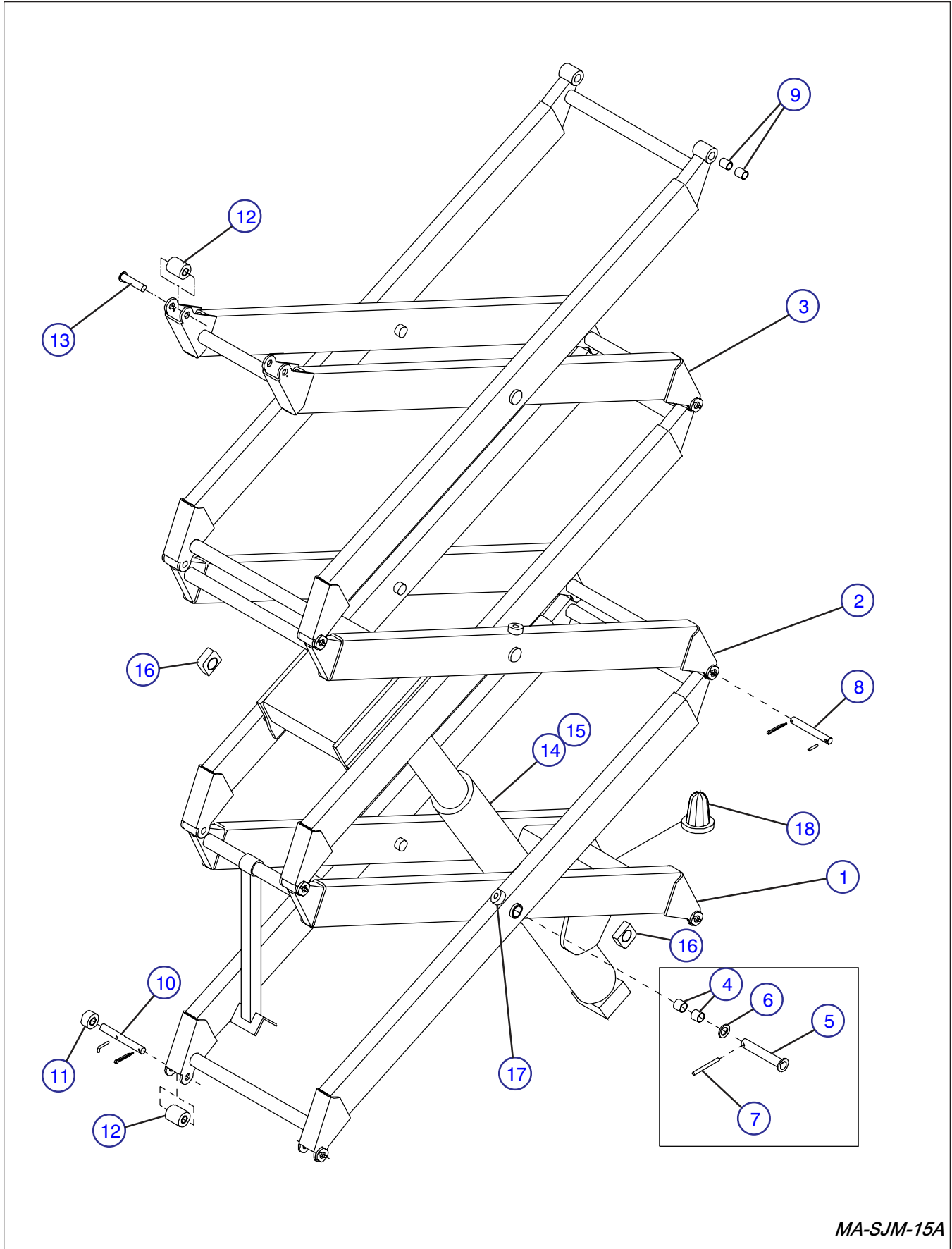


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FIGURE 6-13. HYDRAULIC HOSE CONNECTIONS - Scissors

Index No.	Skyjack Part No.	Description	Units per Assy.
1	106581	CYLINDER ASSEMBLY, Lift (Model 3015) (For components, refer to Figure 6-16.)	1
	110683	CYLINDER ASSEMBLY, Lift (Model 3219) (For components, refer to Figure 6-17.)	1
2	103494	BLOCK, Velocity fuse	1
	103403	• O-RING, Manifold seal	1
	103933	• BOLT, Soc-hd 5/16-18 x 1-3/4" lg.	4
	103996	• WASHER, Flat 5/16"	4
3	103138	VALVE, Velocity fuse	1
4	114580	FITTING, Elbow 45° #6orb-#6	1
5	102541	HOSE ASSEMBLY, Lift cylinder (Model 3015)	1
	111315	HOSE ASSEMBLY, Lift cylinder (Model 3219)	1
6	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-33.)	1
<p>NOTE: Items 7 thru 12 are for machines with Holding Valve Option.</p>			
7	106689	BLOCK, Holding valve	1
	103405	• BOLT, Soc-hd 5/16-18 x 2" lg. grade 8	4
	103404	• WASHER, Lock 5/16"	4
	103403	• O-RING, Manifold seal	1
8	107269	VALVE, N.C. (holding)	1
9	104493	COIL, 24 Volt	1
10	105281	ORIFICE, One-way .067 diameter	1
11	114580	FITTING, Elbow 45° #6orb-#6	1
12	104437	PLUG, Manifold o-ring #6	1

FIGURE 6-14. SCISSOR ARM ASSEMBLY - Model 3015



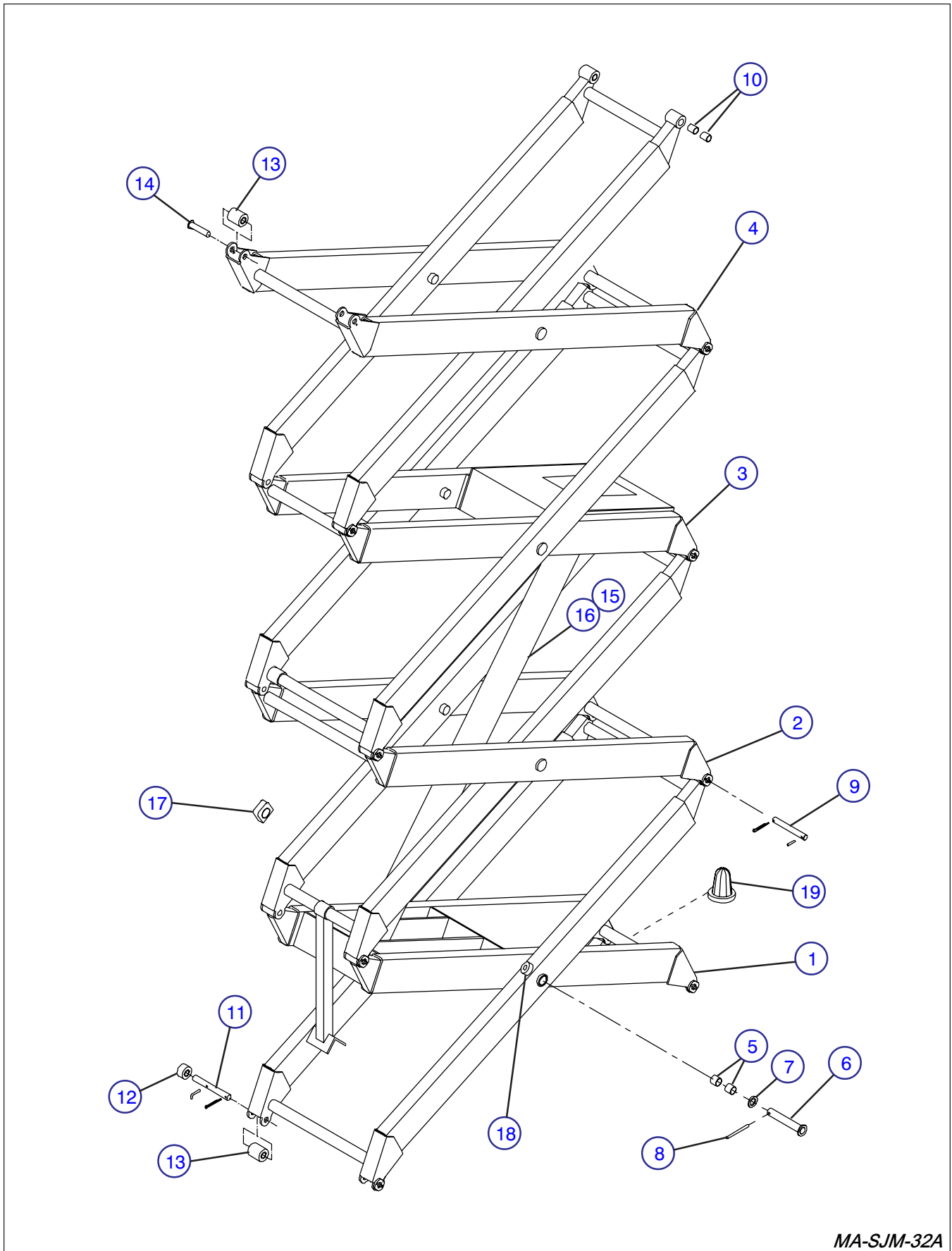
MA-SJM-15A

FIGURE 6-14. SCISSOR ARM ASSEMBLY - Model 3015

Index No.	Skyjack Part No.	Description	Units per Assy.
	106602	SCISSOR STACK, Complete (less cylinder)	-
1	119093	• ARM ASSEMBLY, First level	1
2	119094	• ARM ASSEMBLY, Second level	1
	114614	• • WELDMENT, Safety bar	1
3	119095 (Ref.)	• ARM ASSEMBLY, Third level • KIT, Center pin service	1 AR
4	100071	• • BUSHING, Center pin	24
5	100900	• • PIN, Center	6
6	101520	• • WASHER, Nylon	6
7	100903	• • PIN, Retainer	6
8	310018	• PIN, End (Replaces 100046)	8
	100825	• • PIN, Roll 1/4" x 1-1/4" lg.	8
	104346	• • PIN, Cotter 1/4" x 1" lg.	8
9	100050	• BUSHING, End pin	20
10	310019	PIN, Lower roller (Replaces 100047)	2
	100825	• PIN, Retainer 1/4" x 1-3/16" lg.	2
	104346	• PIN, Cotter 1/4" x 1" lg.	2
11	100139	ROLLER ASSEMBLY, Retainer	2
	100050	• BUSHING	2
	100140	• ROLLER	2
12	100048	ROLLER ASSEMBLY, Scissors	4
	100050	• BUSHING	8
	100049	• ROLLER	4
13	102237	PIN, Top roller	2
	103855	• BOLT, Hex-hd 1/4-20 x 1/2" lg.	2
	104000	• WASHER, Lock 1/4"	2
14	106581	CYLINDER ASSEMBLY, Lift (For components, refer to Figure 6-16.)	1
15	105985	BLOCK, Cylinder rod end pivot	1
	105686	• BOLT, Hex-hd 3/4-16 x 3" lg.	1
16	101077	BLOCK, Cylinder mounting	4
	100904	• BUSHING	4
	103869	• BOLT, Hex-hd 5/16-18 x 4-1/2" lg.	4
	100397	• NUT, Hex 5/16-18	4
17	109051	BUMPER, Scissor	4
	300511	• SCREW, Machine #10-32 x 3/4" lg.	4
18	106756	LIGHT ASSEMBLY, Flashing (Option)	1
	104535	• BEACON, Amber	1
	103111	• BULB, 24 Volt	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	2
	104003	• NUT, Hex #10-32	2

NOTE: For hydraulic hose connections, refer to Figure 6-13.

FIGURE 6-15. SCISSOR ARM ASSEMBLY - Model 3219



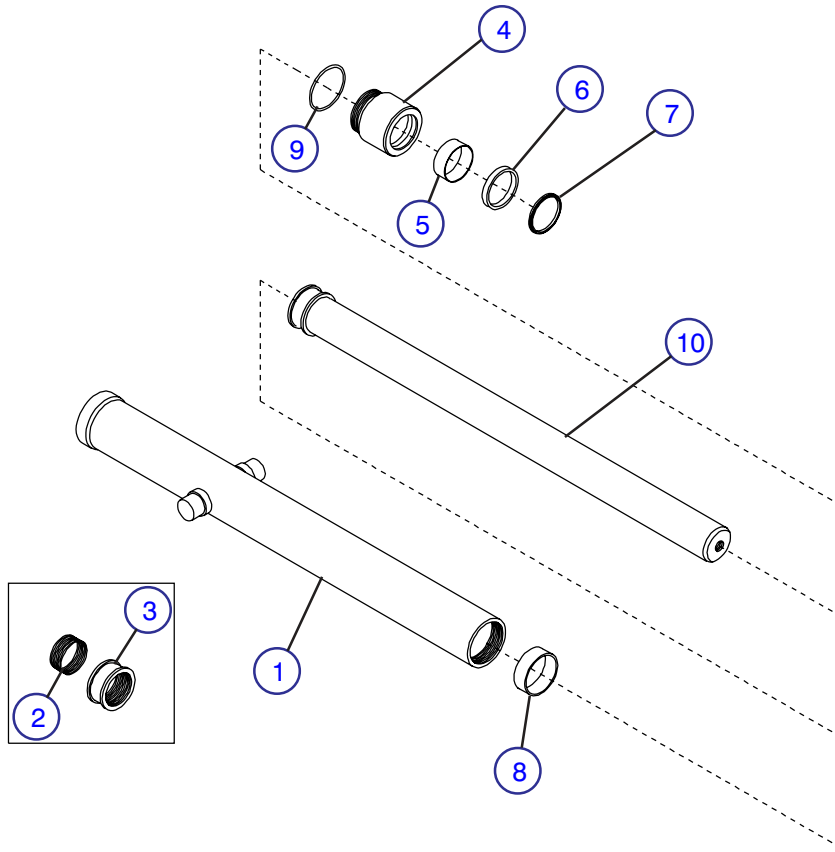
MA-SJM-32A

FIGURE 6-15. SCISSOR ARM ASSEMBLY - Model 3219

Index No.	Skyjack Part No.	Description	Units per Assy.
	109928	SCISSOR STACK, Complete (less cylinder)	-
1	119089	• ARM ASSEMBLY, First level	1
2	119090	• ARM ASSEMBLY, Second level	1
	114614	• • WELDMENT, Safety bar	1
3	119091	• ARM ASSEMBLY, Third level	1
4	119092	• ARM ASSEMBLY, Fourth level	1
	(Ref.)	• KIT, Center pin service	AR
5	100071	• • BUSHING, Center pin	32
6	100900	• • PIN, Center	8
7	101520	• • WASHER, Nylon	8
8	100903	• • PIN, Retainer	8
9	310018	• PIN, End (Replaces 100046)	12
	100825	• • PIN, Roll 1/4" x 1-1/4" lg.	12
	104346	• • PIN, Cotter 1/4" x 1" lg.	12
10	100050	• BUSHING, End pin	28
11	310019	PIN, Lower roller (Replaces 100047)	2
	100825	• PIN, Retainer 1/4" x 1-3/16" lg.	2
	104346	• PIN, Cotter 1/4" x 1" lg.	2
12	100139	ROLLER ASSEMBLY, Retainer	2
	100050	• BUSHING	2
	100140	• ROLLER	2
13	100048	ROLLER ASSEMBLY, Scissors	4
	100050	• BUSHING	8
	100049	• ROLLER	4
14	102237	PIN, Top roller	2
	103855	• BOLT, Hex-hd 1/4-20 x 1/2" lg.	2
	104000	• WASHER, Lock 1/4"	2
15	110683	CYLINDER ASSEMBLY, Lift (For components, refer to Figure 6-17.)	1
16	105985	BLOCK, Cylinder rod end pivot	1
	105686	• BOLT, Hex-hd 3/4-16 x 3" lg.	1
17	101077	BLOCK, Cylinder mounting	4
	100904	• BUSHING	4
	103869	• BOLT, Hex-hd 5/16-18 x 4-1/2" lg.	4
	100397	• NUT, Hex 5/16-18	4
18	109051	BUMPER, Scissor	4
	300511	• SCREW, Machine #10-32 x 3/4" lg.	4
19	106756	LIGHT ASSEMBLY, Flashing (Option)	1
	104535	• BEACON, Amber	1
	103111	• BULB, 24 Volt	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	2
	104003	• NUT, Hex #10-32	2

NOTE: For hydraulic hose connections, refer to Figure 6-13.

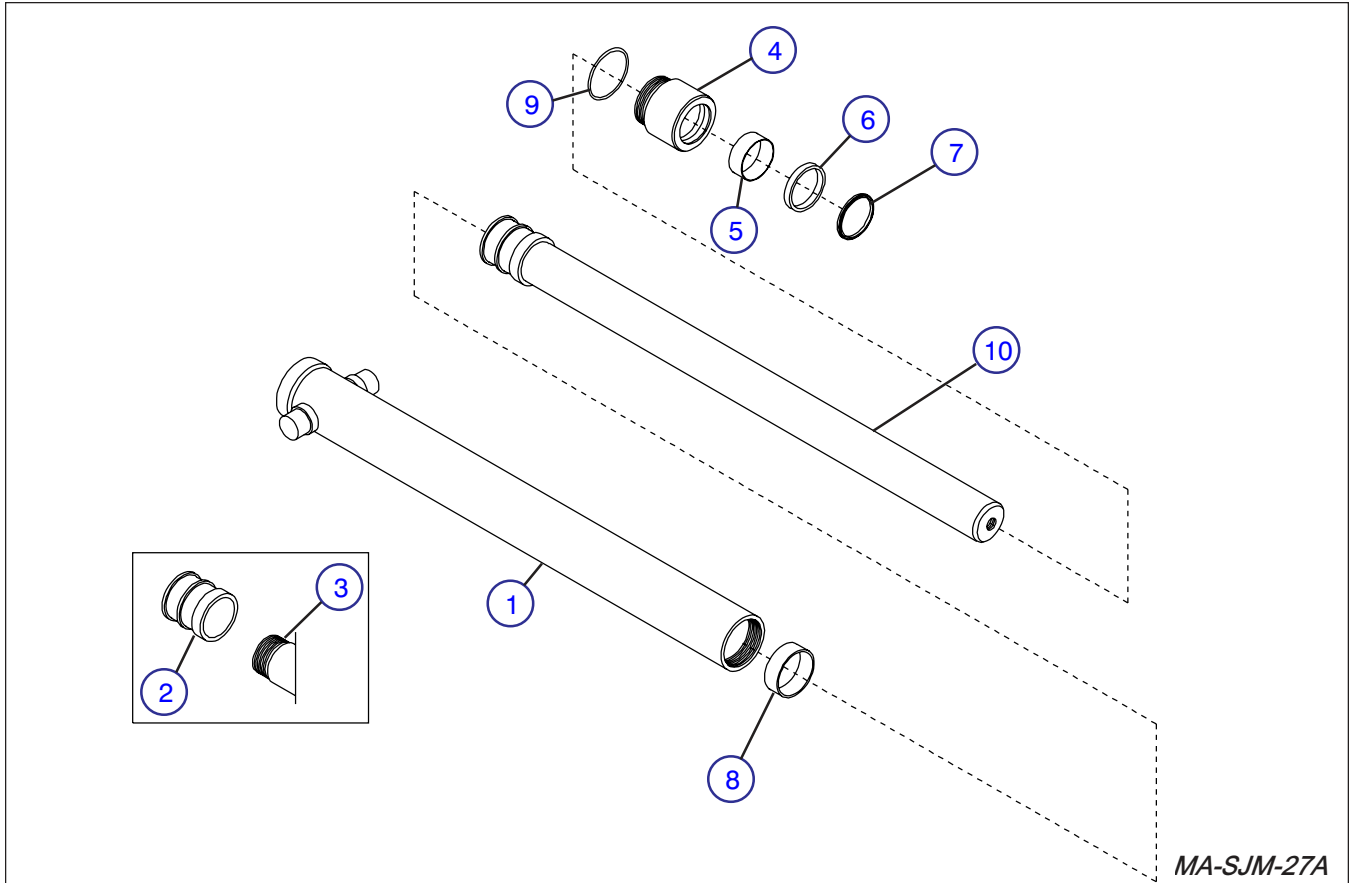
FIGURE 6-16. LIFT CYLINDER ASSEMBLY - Model 3015



MA-SJM-38A

Index No.	Skyjack Part No.	Description	Units per Assy.
	106581	CYLINDER ASSEMBLY, Lift	-
1	106558	• WELDMENT, Cylinder barrel	1
2	\$	• PISTON (Order 114644)	1
3	\$	• ROD, Piston (Order 114644)	1
4	106563	• GLAND, Front end	1
*5	106227	• RING, Rod wear	1
*6	106228	• SEAL, Rod	1
*7	106229	• WIPER, Rod	1
*8	106582	• RING, Piston	1
*9	106583	• O-RING, Gland	1
10	114644	• ROD ASSEMBLY, Piston	1
	108098	KIT, Seal repair	AR
		* Part of Seal Repair Kit, 108098.	

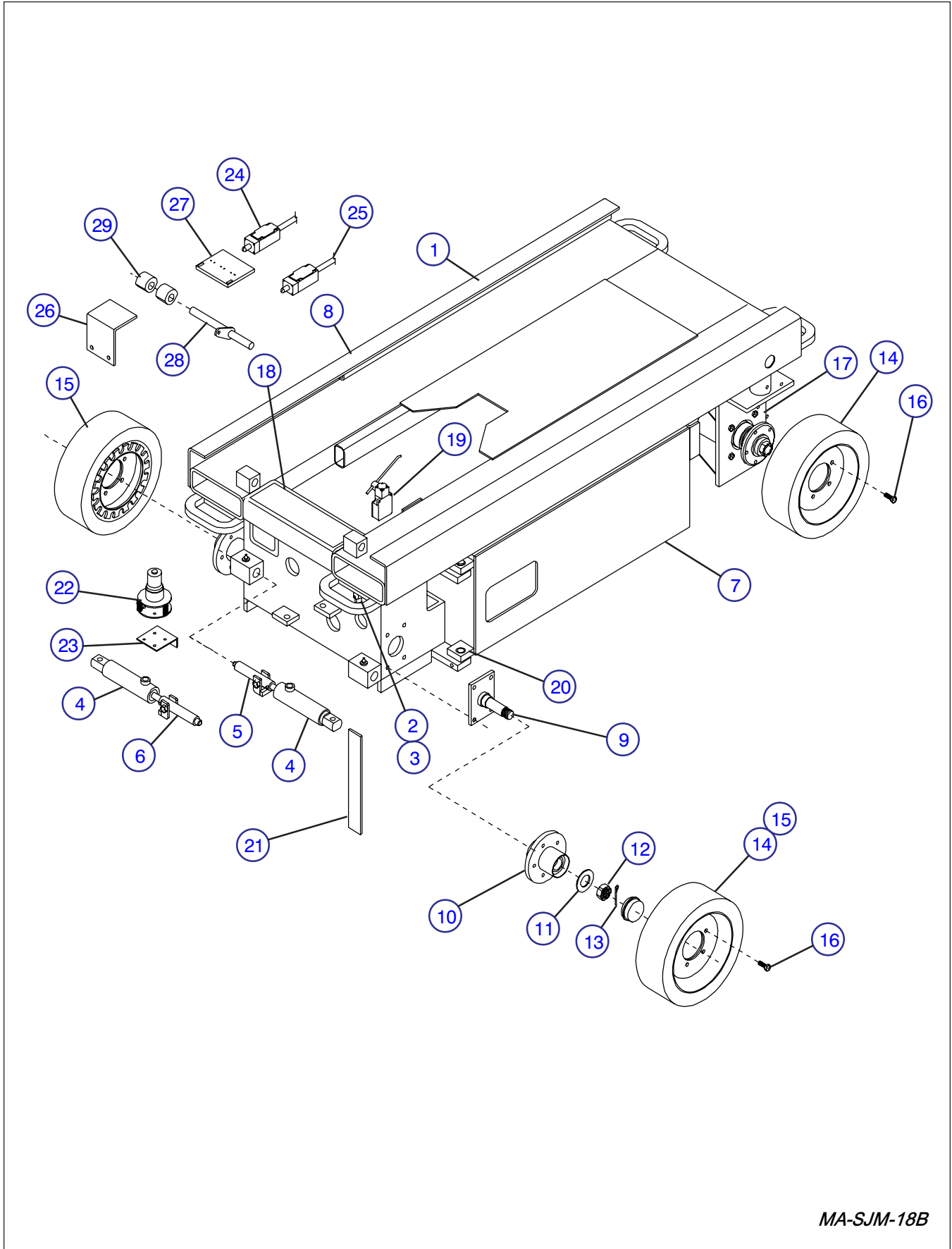
FIGURE 6-17. LIFT CYLINDER ASSEMBLY - Model 3219



MA-SJM-27A

Index No.	Skyjack Part No.	Description	Units per Assy.
	110683	CYLINDER ASSEMBLY, Lift	-
1	110681	• WELDMENT, Cylinder barrel	1
2	\$	• PISTON (Order 114646)	1
3	\$	• ROD, Piston (Order 114646)	1
4	106209	• GLAND, Front end	1
*5	106219	• RING, Rod wear	1
*6	106222	• SEAL, Rod	1
*7	106221	• WIPER, Rod	1
*8	106220	• RING, Piston wear	2
*9	106223	• O-RING, Gland	1
10	114646	• ROD ASSEMBLY, Piston	1
	105888	KIT, Seal repair	AR
		* Part of Seal Repair Kit, 105888.	

FIGURE 6-18. BASE, AXLES AND WHEELS - Model 3015



MA-SJM-18B

FIGURE 6-18. BASE, AXLES AND WHEELS - Model 3015

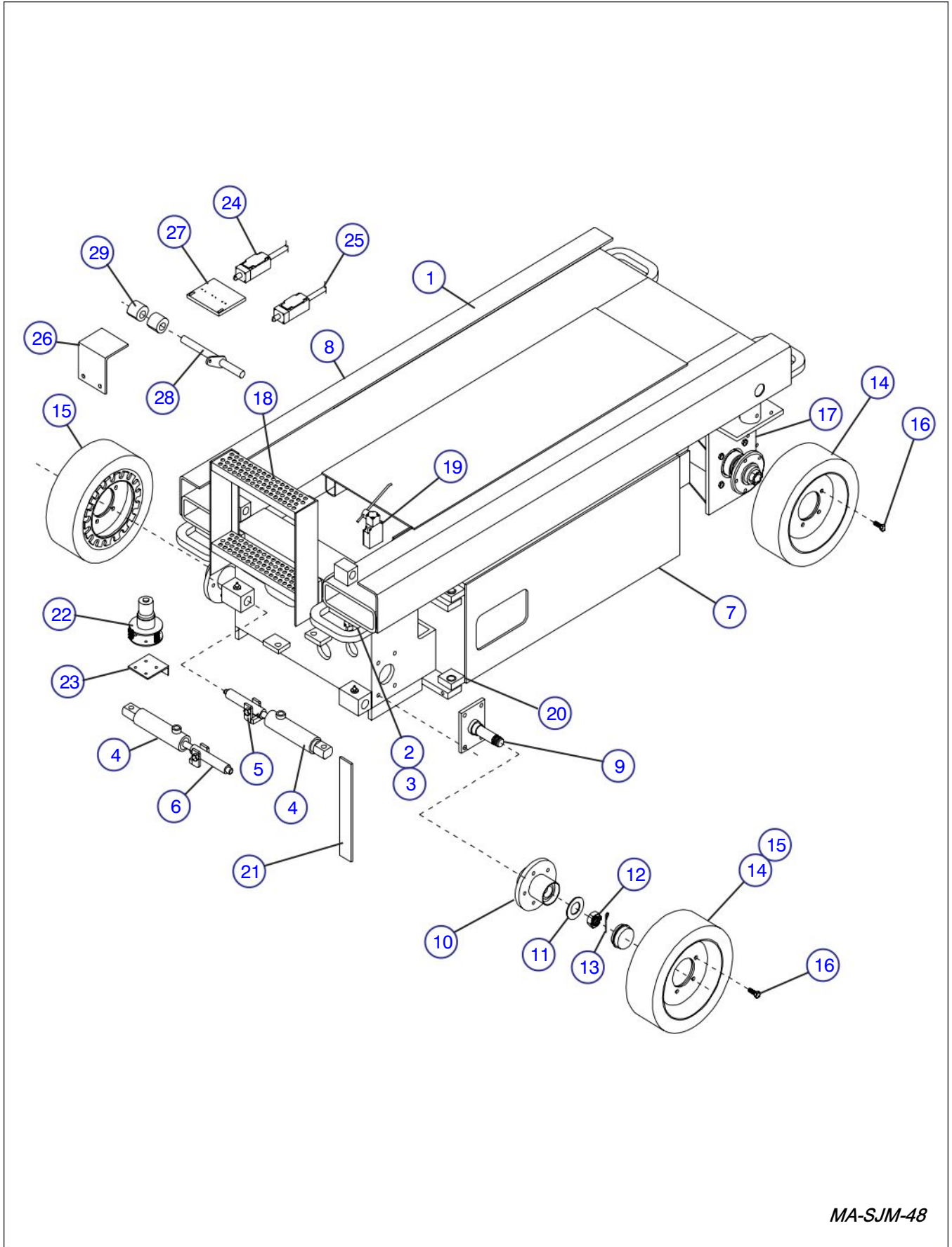
Index No.	Skyjack Part No.	Description	Units per Assy.	
1	111686	WELDMENT, Base with single brake (Serial number 15607 and above)	1	
	111685	WELDMENT, Base with dual brakes (Serial number 15607 and above)	1	
	109590	WELDMENT, Base with single brake (Serial number 15606 and below)	1	
	109591	WELDMENT, Base with dual brakes (Serial number 15606 and below)	1	
	112552	WELDMENT, Base with dual brakes (Machines with Scissor Guard Option)	1	
2	102600	SWITCH, Main power disconnect	1	
	108714	• KIT, Switch lockout	1	
3	105983	LABEL, Power off/on		
4	103817	CYLINDER ASSEMBLY, Brake (For components, refer to Figure 6-21.)		
	103897	• BOLT, Hex-hd 5/8-11 x 2" lg.	1	
	103981	• NUT, Hex 5/8-11	1	
	5	104488	WELDMENT, Brake pin LH	1
	6	105890	WELDMENT, Brake pin RH (Machines with dual brakes)	1
103940		• BOLT, Soc-hd 1/4-20 x 1-1/4" lg.	AR	
104000		• WASHER, Lock 1/4"	AR	
103980		• NUT, Hex 1/4-20	AR	
7		(Ref.) TRAY ASSEMBLY, Battery (Refer to Figure 6-40.)	1	
8	(Ref.) TRAY ASSEMBLY, Hydraulic/electric (Refer to Figure 6-27, 6-28, or 6-29)	1		
9	107503	WELDMENT, Rear axle spindle	2	
	101297	• BOLT, Hex-hd 3/8-16 x 1-1/4" lg.	8	
	103999	• WASHER, Lock 3/8"	8	
	103978	• NUT, Hex 3/8-16	8	
	10	108101	HUB ASSEMBLY, Rear axle	2
107502		• HUB, Rear axle	2	
103003		• BEARING, Cone	2	
103143		• SEAL, Grease	2	
102865		• CAP, Dust	2	
11		102829	WASHER, Flat	2
12	102749	NUT, Castle 1"-14	2	
13	103085	PIN, Cotter 3/16" x 1-1/2" lg.	2	
14	107914	WHEEL/TIRE ASSEMBLY (12 x 4.00 x 8 Black)	AR	
	108020	WHEEL/TIRE ASSEMBLY (12 x 4.00 x 8 Non-Marking)	AR	
15	107913	WHEEL/TIRE ASSEMBLY W/BRAKE (12 x 4.00 x 8 Black)	AR	
	108022	WHEEL/TIRE ASSEMBLY W/BRAKE (12 x 4.00 x 8 Non-Marking)	AR	

NOTE: Parts list continued on Page 39.

FIGURE 6-18. BASE, AXLES AND WHEELS - Model 3015 (continued)

Index No.	Skyjack Part No.	Description Description	Units per Assy.
		NOTE: Parts list continued from Page 37.	
16	103199	BOLT, Wheel 1/2-20	20
17	(Ref.)	STEER MECHANISM (Refer to Figure 6-23.)	1
18	108542	TREAD, Safety step	2
19	107745	SWITCH ASSEMBLY, High speed limit cut-out (ANSI/SIA and CSA)	1
	102848	• SWITCH, Limit	1
	102881	• HEAD, Limit switch	1
	103142	• ARM, Limit switch	1
	103256	• CABLE, 18/2 x 16" lg.	1
	103036	• STRAIN RELIEF	1
20	310034	PIN, Eccentric tray leveler (Replaces 100446)	2
	103887	• BOLT, Hex-hd 5/16-18 x 3/4" lg.	2
21	115420	STRAP, Ground (Replaces 104575) (EE-Rated machines and machines with non-marking tires)	1
22	117880	TILT SWITCH, 8-28 Volt (replaces 106471)	1
	114866	• FUSE, 1 Amp	1
	119130	• KIT, 4 pole recepticle connector (Machines with Tilt Switch Option)	1
23	109505	PLATE, Tilt switch mounting (Machines with Tilt Switch Option)	1
24	109536	SWITCH ASSEMBLY, End-of-stroke limit (Machines with End-Of-Stroke Limit Option)	1
	102668	• SWITCH, Limit	1
	103017	• HEAD, Limit switch	1
	103256	• CORD, 18/2	30" lg.
25	108119	SWITCH ASSEMBLY, High speed limit cut-out (CE)	1
	102847	• SWITCH, Limit	1
	103017	• HEAD, Limit switch	1
	103260	• CORD, 18/5	38" lg.
	103036	• STRAIN RELIEF. 1/2"	1
26	310021	COVER, Limit switch cam	1
27	101229	PLATE, Switch adjustment	1
28	310020	PIN, Limit switch cam (Replaces 107973)	1
29	100967	CAM, Limit switch	2

FIGURE 6-19. BASE, AXLES AND WHEELS - Model 3219



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FIGURE 6-19. BASE, AXLES AND WHEELS - Model 3219

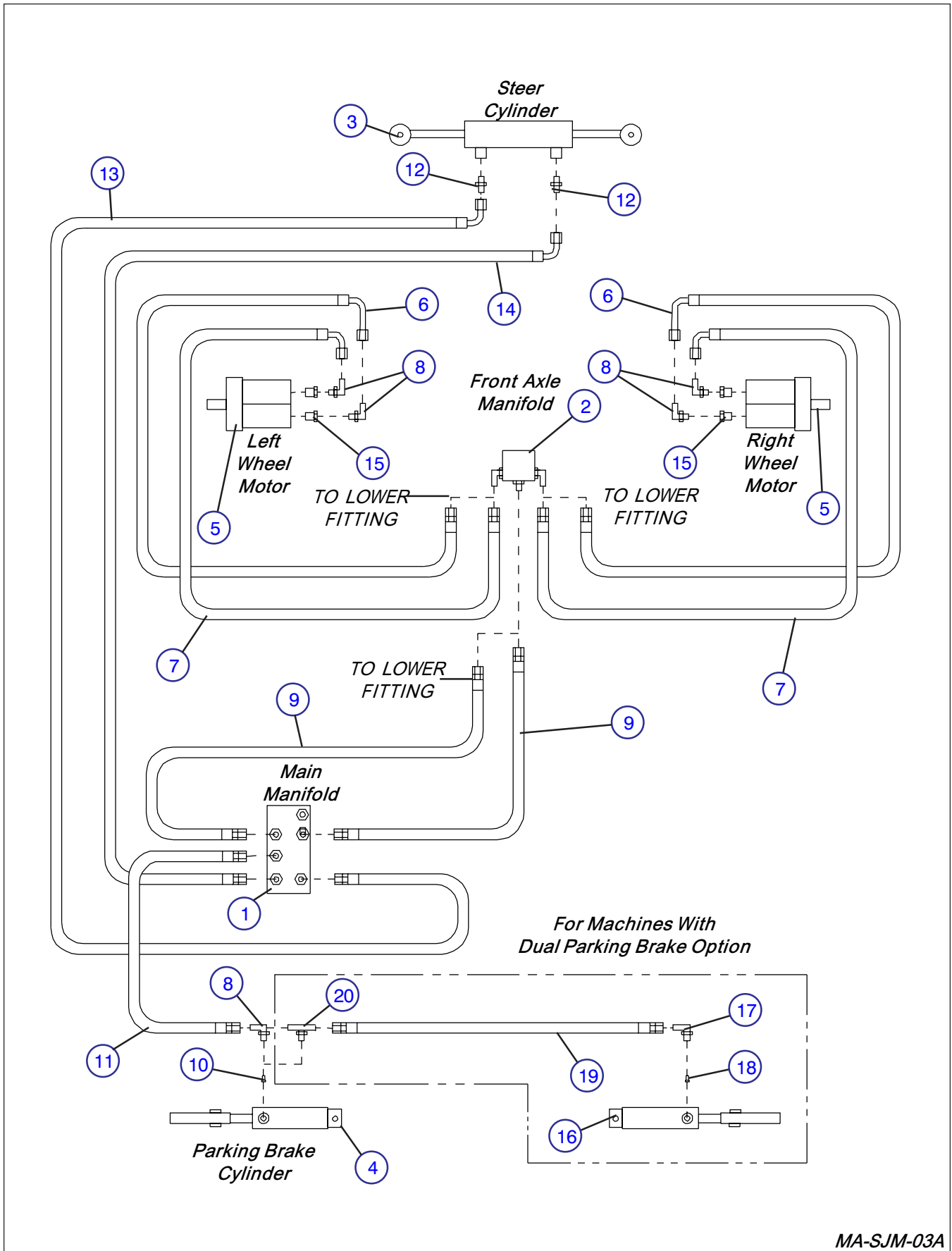
Index No.	Skyjack Part No.	Description	Units per Assy.
1	111691	WELDMENT, Base with single brake	1
	111690	WELDMENT, Base with dual brakes	1
	112613	WELDMENT, Base with dual brakes (Machines with Scissor Guard Option)	1
2	102600	SWITCH, Main power disconnect	1
	108714	• KIT, Switch lockout	1
3	105983	LABEL, Power off/on	
4	103817	CYLINDER ASSEMBLY, Brake (For components, refer to Figure 6-21.)	
	103897	• BOLT, Hex-hd 5/8-11 x 2" lg.	1
	103981	• NUT, Hex 5/8-11	1
	104488	WELDMENT, Brake pin LH	1
6	105890	WELDMENT, Brake pin RH (Machines with dual brakes)	1
	103940	• BOLT, Soc-hd 1/4-20 x 1-1/4" lg.	AR
	104000	• WASHER, Lock 1/4"	AR
	103980	• NUT, Hex 1/4-20	AR
7	(Ref.)	TRAY ASSEMBLY, Battery (Refer to Figure 6-40.)	1
8	(Ref.)	TRAY ASSEMBLY, Hydraulic/electric (Refer to Figure 6-27, 6-28 or 6-29)	1
9	107503	WELDMENT, Rear axle spindle	2
	101297	• BOLT, Hex-hd 3/8-16 x 1-1/4" lg.	8
	103999	• WASHER, Lock 3/8"	8
	103978	• NUT, Hex 3/8-16	8
10	108101	HUB ASSEMBLY, Rear axle	2
	107502	• HUB, Rear axle	2
	103003	• BEARING, Cone	2
	103143	• SEAL, Grease	2
	102865	• CAP, Dust	2
11	102829	WASHER, Flat	2
12	102749	NUT, Castle 1"-14	2
13	103085	PIN, Cotter 3/16" x 1-1/2" lg.	2
14	107914	WHEEL/TIRE ASSEMBLY (12 x 4.00 x 8 Black)	AR
	108020	WHEEL/TIRE ASSEMBLY (12 x 4.00 x 8 Non-Marking)	AR
15	107913	WHEEL/TIRE ASSEMBLY W/BRAKE (12 x 4.00 x 8 Black)	AR
	108022	WHEEL/TIRE ASSEMBLY W/BRAKE (12 x 4.00 x 8 Non-Marking)	AR
16	103199	BOLT, Wheel 1/2-20	20
17	(Ref.)	STEER MECHANISM (Refer to Figure 6-24.)	1
18	109029	LADDER	2

NOTE: Parts list continued on Page 43.

FIGURE 6-19. BASE, AXLES AND WHEELS - Model 3219 (continued)

Index No.	Skyjack Part No.	Description	Units per Assy.
		NOTE: Parts list continued from Page 41.	
19	107745	SWITCH ASSEMBLY, High speed limit cut-out (ANSI/SIA and CSA)	1
	102848	• SWITCH, Limit	1
	102881	• HEAD, Limit switch	1
	103142	• ARM, Limit switch	1
	103256	• CABLE, 18/2 x 16" lg.	1
	103036	• STRAIN RELIEF	1
20	310034	PIN, Eccentric tray leveler (Replaces 100446)	2
	103887	• BOLT, Hex-hd 5/16-18 x 3/4" lg.	2
21	115420	STRAP, Ground (Replaces 104575) (EE-Rated machines and machines with non-marking tires)	1
22	106471	TILT SWITCH, 8-28 Volt (Machines with Tilt Switch Option)	1
23	109505	PLATE, Tilt switch mounting (Machines with Tilt Switch Option)	1
24	109536	SWITCH ASSEMBLY, End-of-stroke limit (Machines with End-Of-Stroke Limit Option)	1
	102668	• SWITCH, Limit	1
	103017	• HEAD, Limit switch	1
	103256	• CABLE, 18/2 x 30" lg.	1
25	108119	SWITCH ASSEMBLY, High speed limit cut-out (CE)	1
	102847	• SWITCH, Limit	1
	103017	• HEAD, Limit switch	1
	103260	• CORD, 18/5	38" lg.
	103036	• STRAIN RELIEF. 1/2"	1
26	310022	COVER, Limit switch cam	1
27	101229	PLATE, Switch adjustment	1
28	310020	PIN, Limit switch cam (Replaces 107973)	1
29	100967	CAM, Limit switch	AR
30	108791	CLIP, Cable air hose to platform	2

FIGURE 6-20. HYDRAULIC HOSE CONNECTIONS - Base (Steer, Drive and Brake Circuits)

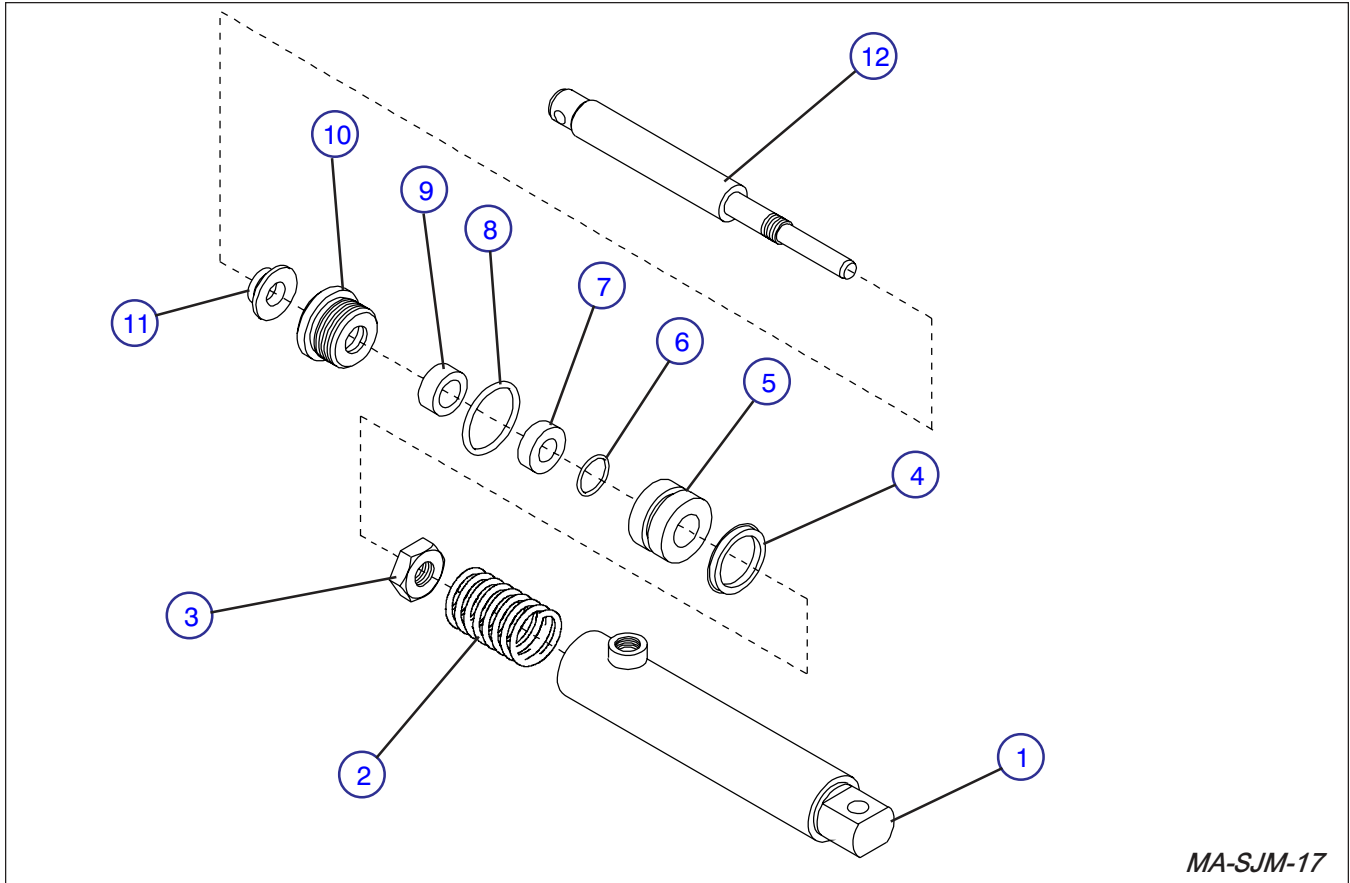


MA-SJM-03A

FIGURE 6-20. HYDRAULIC HOSE CONNECTIONS - Base (Steer, Drive and Brake Circuits)

Index No.	Skyjack Part No.	Description	Units per Assy.
1	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figures 6-33, 6-34 or 6-35.)	1
2	(Ref.)	MANIFOLD ASSEMBLY, Front axle (Refer to Figure 6-25.)	1
3	(Ref.)	CYLINDER ASSEMBLY, Steer (Refer to Figure 6-22.)	1
4	(Ref.)	CYLINDER ASSEMBLY, Brake (Refer to Figure 6-21.)	1
5	(Ref.)	MOTOR, Hydraulic drive (Refer to Figure 6-23 or Figure 6-24.)	2
6	107731	HOSE ASSEMBLY, Drive 25" lg. w/long 90° tube)	2
7	107732	HOSE ASSEMBLY, Drive 25" lg. w/short 90° tube)	2
8	114578	FITTING, Elbow 90° #6-#6 (replaces 103073)	5
9	107733	HOSE ASSEMBLY, Main manifold to front axle manifold	2
10	105811	ORIFICE, Brake .040 dia.	1
11	107735	HOSE ASSEMBLY, Brake	1
12	103069	FITTING, Connector #6orb-#6	2
13	107736	HOSE ASSEMBLY, Steer LH	1
14	107737	HOSE ASSEMBLY, Steer RH	1
15	103074	FITTING, Adapter #10orb-#6orb	4
<i>The following parts are for machines equipped with Dual Brake Option:</i>			
16	(Ref.)	CYLINDER ASSEMBLY, Brake (Refer to Figure 6-21.)	1
17	114578	FITTING, Elbow 90° #6-#6 (replaces 103073)	1
18	105811	ORIFICE, Brake .040 dia.	1
19	107739	HOSE ASSEMBLY, Brake to brake	1
20	103309	FITTING, Tee #6orb-#6	1

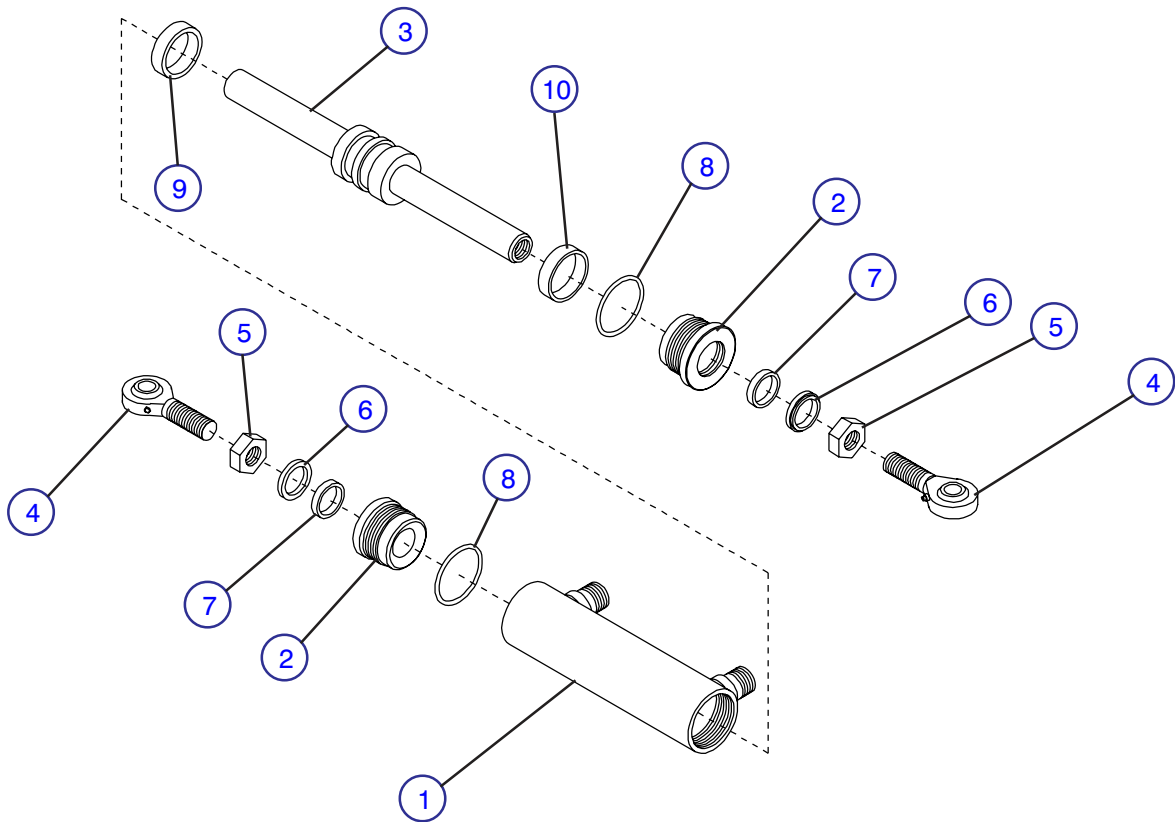
FIGURE 6-21. BRAKE CYLINDER ASSEMBLY



MA-SJM-17

Index No.	Skyjack Part No.	Description	Units per Assy.
	103817	CYLINDER ASSEMBLY, Brake	-
1	105410	• HOUSING, Brake cylinder	1
2	102844	• SPRING, Brake return	1
3	103830	• NUT, Lock 5/8-11 grade C	1
*4	103825	• SEAL, Piston	1
5	112259	• PISTON (Replaces 103820)	1
*6	103829	• O-RING, Piston	1
7	103822	• SPACER	1
*8	103828	• O-RING, Gland	1
*9	103826	• SEAL, Rod	1
10	103819	• GLAND, Cylinder end	1
*11	103827	• WIPER, Rod	1
12	103821	• ROD, Brake	1
	105816	KIT, Seal repair	AR
		* Part of Seal Repair Kit, 105816.	

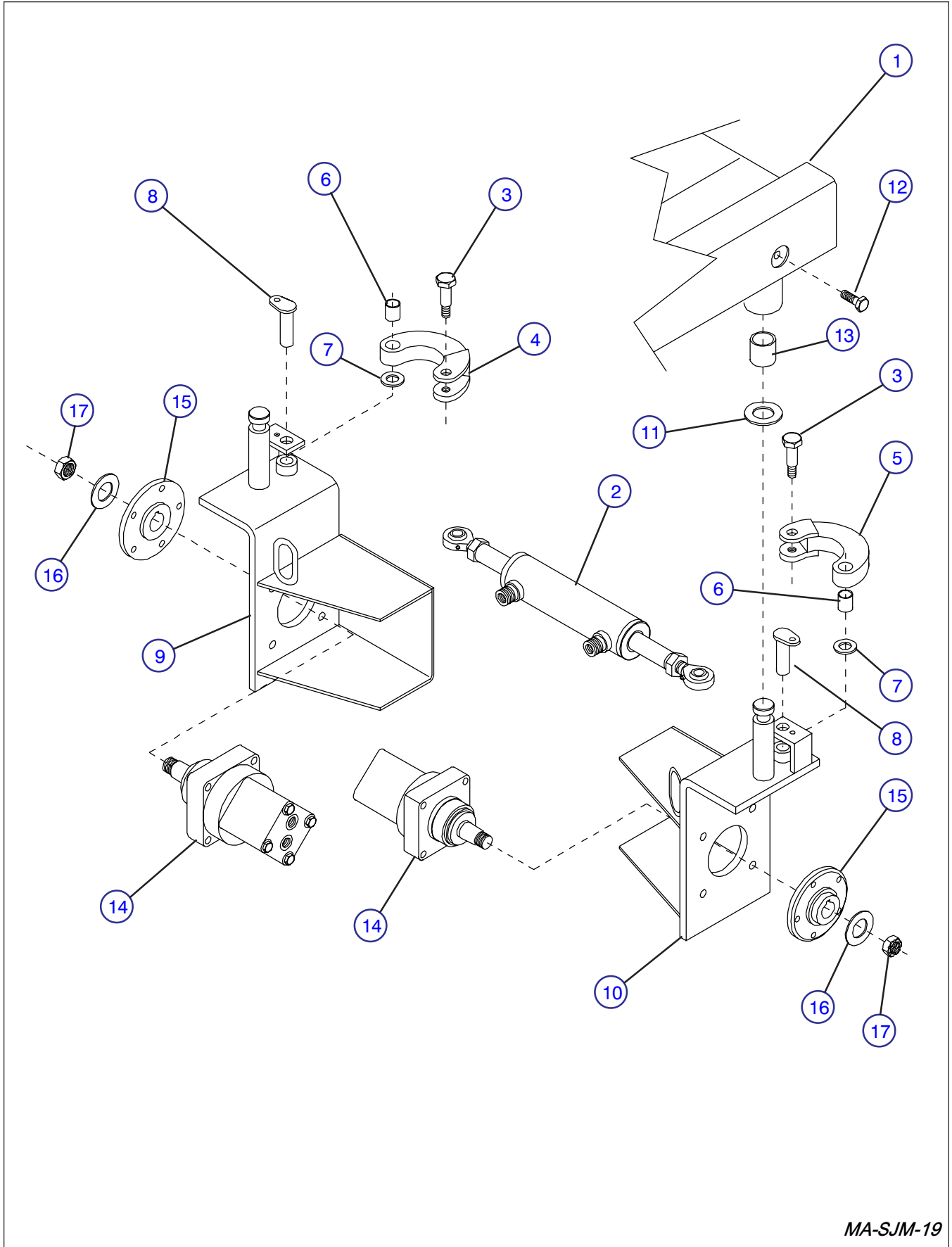
FIGURE 6-22. STEER CYLINDER ASSEMBLY



MA-SJM-08

Index No.	Skyjack Part No.	Description	Units per Assy.
A	107932	CYLINDER ASSEMBLY, Steer (Model 3015 & Later Model 3219)	-
B	\$	CYLINDER ASSEMBLY, Steer (Early Model 3219)	-
1	107943	• HOUSING, Steer cylinder	1
2	107942	• CAP, Cylinder end	2
3	107939	• WELDMENT, Rod/piston, A	1
	109550	• WELDMENT, Rod/piston, B	1
4	107143	• END, Male spherical rod	2
	119127	• • FITTING, Grease (press in)	2
5	106450	• NUT, Jam 3/4-16	2
*6	107144	• WIPER, Rod	2
*7	107146	• SEAL, Rod	2
*8	107934	• O-RING, End cap	2
*9	107935	• SEAL, Piston	1
*10	107936	• RING, Piston wear	1
	108099	KIT, Seal repair	AR
		* Part of Seal Repair Kit, 108099.	
		\$ Not available for service, order (1) Cylinder, 107932 (1) Steer Arm, 111300 and (1) Steer Arm, 111306.	

FIGURE 6-23. STEER MECHANISM - Model 3015



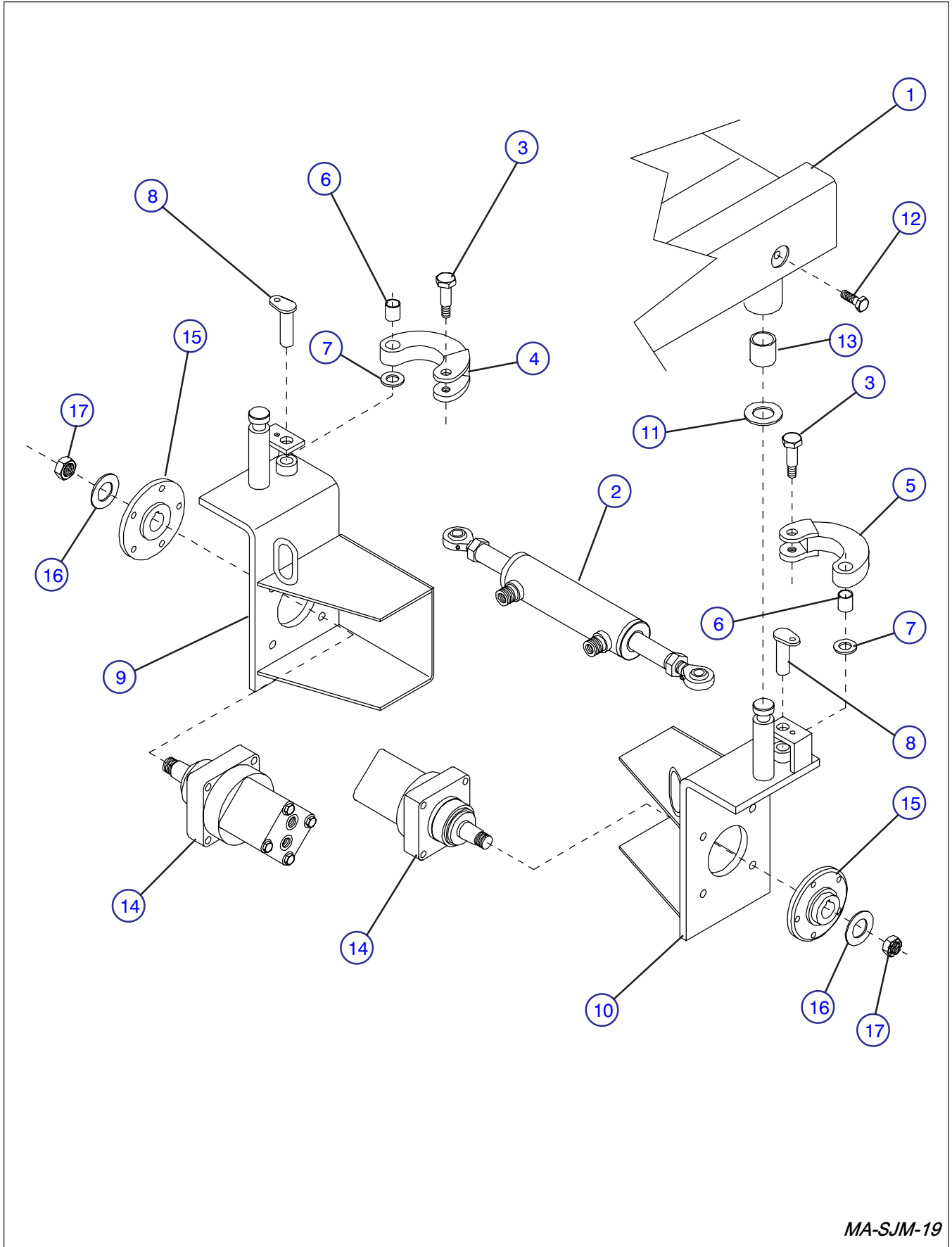
MA-SJM-19

FIGURE 6-23. STEER MECHANISM - Model 3015

Index No.	Skyjack Part No.	Description	Units per Assy.
1	(Ref.)	WELDMENT, Base (Refer to Figure 6-18.)	1
2	(Ref.)	CYLINDER ASSEMBLY, Steer (For components, refer to Figure 6-22.)	1
	107948	• WASHER, Tooth lock 1"	2
	107947	• NUT, Jam 1"-14	2
3	107951	BOLT, Shoulder 1/2-13	2
	104129	• WASHER, Brass 5/8" x 1" x 7/64" thk.	2
	107949	• NUT, Jam 1/2-13	2
4	107955	ARM, Steer LH with 3/4" bushings (Note A)	1
	107176	ARM, Steer LH with 5/8" bushings (Note B)	1
5	107953	ARM, Steer RH with 3/4" bushings (Note A)	1
	107094	ARM, Steer RH with 5/8" bushings (Note B)	1
6	100050	BUSHING, Pivot 3/4"	2
	109109	BUSHING, Pivot 5/8"	2
7	104129	WASHER, Bronze 3/4" x 1-3/8" x 1/8" thk.	2
	101200	WASHER, Bronze 5/8" x 1" x 1/8" thk.	2
8	107956	PIN, Steer arm 3/4" x 2-11/16" lg.	2
	107099	PIN, Steer arm 5/8" x 2-11/16" lg.	2
	103845	• BOLT, Hex-hd 5/16-18 x 1/2" lg.	2
	103404	• WASHER, Lock 5/16"	2
9	111689	HOUSING, Wheel motor LH (Note C)	1
	107926	HOUSING, Wheel motor LH (Note D)	1
	\$	HOUSING, Wheel motor LH (Note X)	1
10	111688	HOUSING, Wheel motor RH (Note C)	1
	107925	HOUSING, Wheel motor RH (Note D)	1
	\$	HOUSING, Wheel motor RH (Note Y)	1
11	107952	WASHER, Bronze 1-1/4" x 2-1/4" x 1/8" thk.	2
12	107963	BOLT, Brass retainer	2
	107964	• WASHER, Tooth lock 1/2"	2
13	100071	BUSHING, Steer spindle 1-1/4"	6
14	110701	MOTOR, Hydraulic drive (#HB04075370X) (Replaces 107515, #HB0407030X)	2
	110702	• KIT, Motor seal (For motor, 110701)	AR
	110703	• KIT, Motor seal (For motor, 107515)	AR
	103901	• BOLT, Hex-hd 1/2-13 x 2-1/2" lg.	8
	103470	• WASHER, Lock 1/2"	8
	103471	• NUT, Hex 1/2-13	8
15	108100	HUB, Drive wheel	2
16	103789	WASHER, Tooth lock 1"	2
17	106451	NUT, Wheel motor	2

Note A - Machines with serial number 15200 & above.
Note B - Machines with serial number 15199 & below.
Note C - Machines with serial number 15607 & above.
Note D - Machines with serial number 15200 to 15606.
Note X - Machines with 5/8" bushings, order -1- Housing, 107926; -1- Arm, 107955; and -1- Washer, 104129.
Note Y - Machines with 5/8" bushings, order -1- Housing, 107925; -1- Arm, 107953; and -1- Washer, 104129.

FIGURE 6-24. STEER MECHANISM - Model 3219

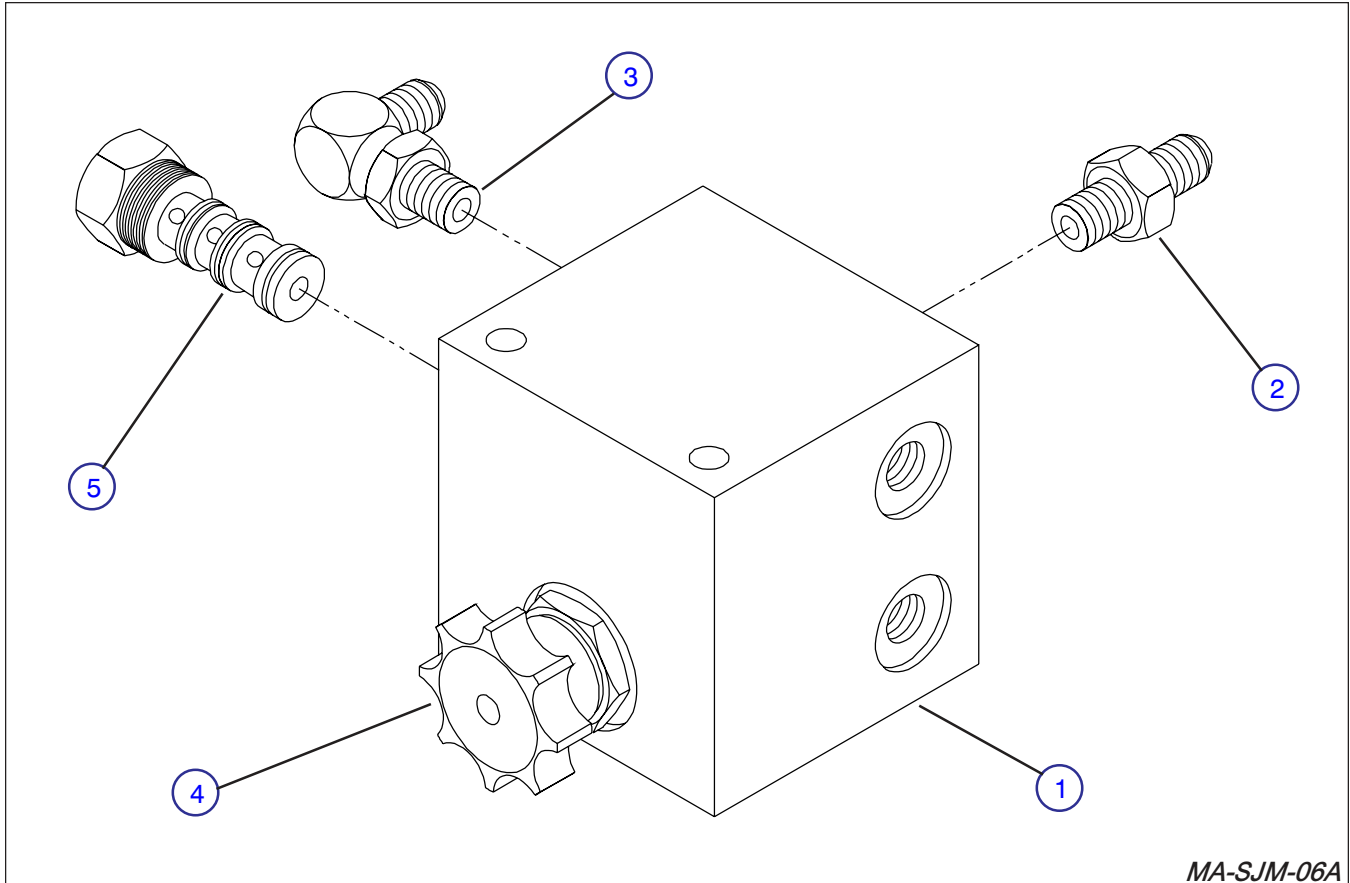


MA-SJM-19

FIGURE 6-24. STEER MECHANISM - Model 3219

Index No.	Skyjack Part No.	Description	Units per Assy.
1	(Ref.)	WELDMENT, Base (Refer to Figure 6-19.)	1
2	(Ref.)	CYLINDER ASSEMBLY, Steer (For components, refer to Figure 6-22.)	1
	107948	• WASHER, Tooth lock 1"	2
	107947	• NUT, Jam 1"-14	2
3	107951	BOLT, Shoulder 1/2-13	2
	104129	• WASHER, Brass 5/8" x 1" x 7/64" thk.	2
	107949	• NUT, Jam 1/2-13	2
4	111300	ARM, Steer LH with 3/4" bushings (Note J)	1
	107955	ARM, Steer LH with 3/4" bushings (Note K)	1
5	111306	ARM, Steer RH with 3/4" bushings (Note J)	1
	107953	ARM, Steer RH with 3/4" bushings (Note K)	1
6	100050	BUSHING, Pivot 3/4"	2
7	104129	WASHER, Bronze 3/4" x 1-3/8" x 1/8" thk.	2
8	107956	PIN, Steer arm 3/4" x 2-11/16" lg.	2
	103845	• BOLT, Hex-hd 5/16-18 x 1/2" lg.	2
	103404	• WASHER, Lock 5/16"	2
9	111689	HOUSING, Wheel motor LH	1
10	111688	HOUSING, Wheel motor RH	1
11	107952	WASHER, Bronze 1-1/4" x 2-1/4" x 1/8" thk.	2
12	107963	BOLT, Brass retainer	2
	107964	• WASHER, Tooth lock 1/2"	2
13	100071	BUSHING, Steer spindle 1-1/4"	6
14	110701	MOTOR, Hydraulic drive (#HB04075370X) (Replaces 107515, #HB0407030X)	2
	110702	• KIT, Motor seal (For motor, 110701)	AR
	110703	• KIT, Motor seal (For motor, 107515)	AR
	103901	• BOLT, Hex-hd 1/2-13 x 2-1/2" lg.	8
	103470	• WASHER, Lock 1/2"	8
	103471	• NUT, Hex 1/2-13	8
15	108100	HUB, Drive wheel	2
16	103789	WASHER, Tooth lock 1"	2
17	106451	NUT, Wheel motor	2
		Note J - Machines with 6-1/8" arm hole centers Note K - Machines with 4-1/8" arm hole centers.	

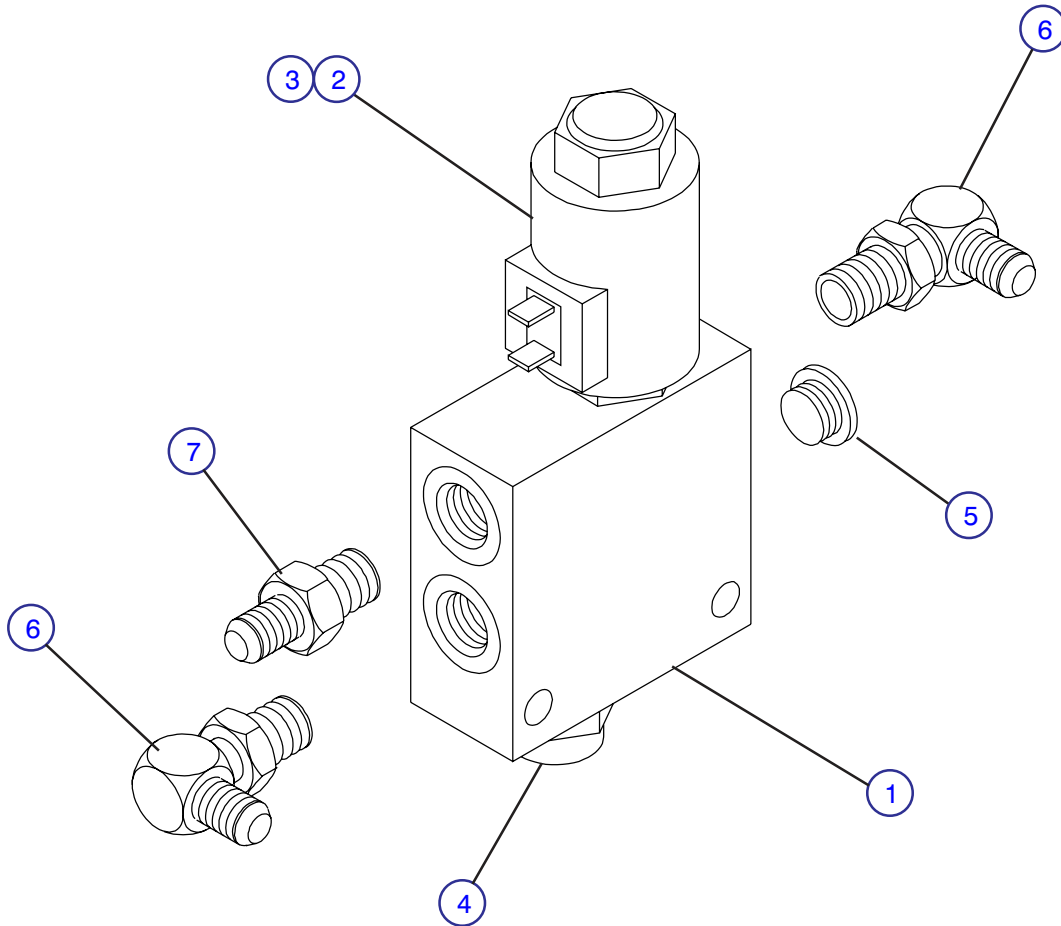
FIGURE 6-25. FRONT AXLE MANIFOLD ASSEMBLY



MA-SJM-06A

Index No.	Skyjack Part No.	Description	Units per Assy.
	108440	MANIFOLD ASSEMBLY, Front axle (Replaces 107747)	-
1	107369	• BLOCK, Manifold	1
	108506	• • PLUG, Expander	3
2	103069	• FITTING, Connector #6orb-#6	2
3	103073	• FITTING, Elbow 90° #6orb-#6	4
4	103136	• VALVE, Free-wheeling	1
5	103354	• VALVE, Flow divider/combiner	1

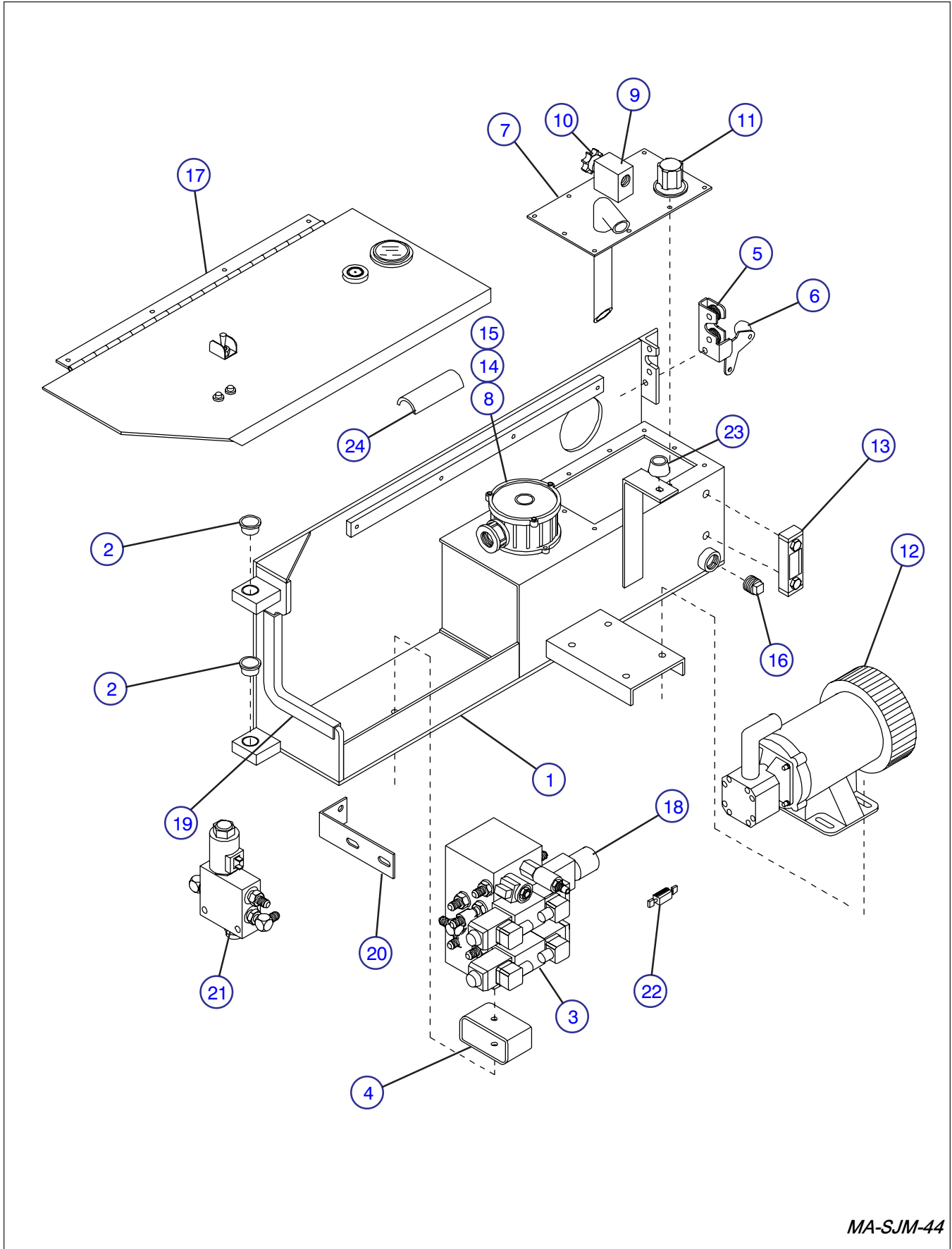
FIGURE 6-26. PROPORTIONAL VALVE MANIFOLD ASSEMBLY



MA-SJM-41

Index No.	Skyjack Part No.	Description	Units per Assy.
	115308	MANIFOLD ASSEMBLY, Proportional valve (Consists of items 1 thru 5)	1
1	115349	• BLOCK, Proportional manifold	1
2	115350	• VALVE, Proportional	1
3	115370	• COIL, 24 Volt (proportional valve)	1
4	115381	• VALVE, Pressure compensator	1
5	115320	• PLUG, Soc-hd #8orb	1
6	102665	FITTING, Elbow 90° #8orb-#6	2
7	103070	FITTING, Connector #8orb-#8	1

FIGURE 6-27. HYDRAULIC/ELECTRIC TRAY ASSEMBLY
Proportional Drive and Lift



MA-SJM-44

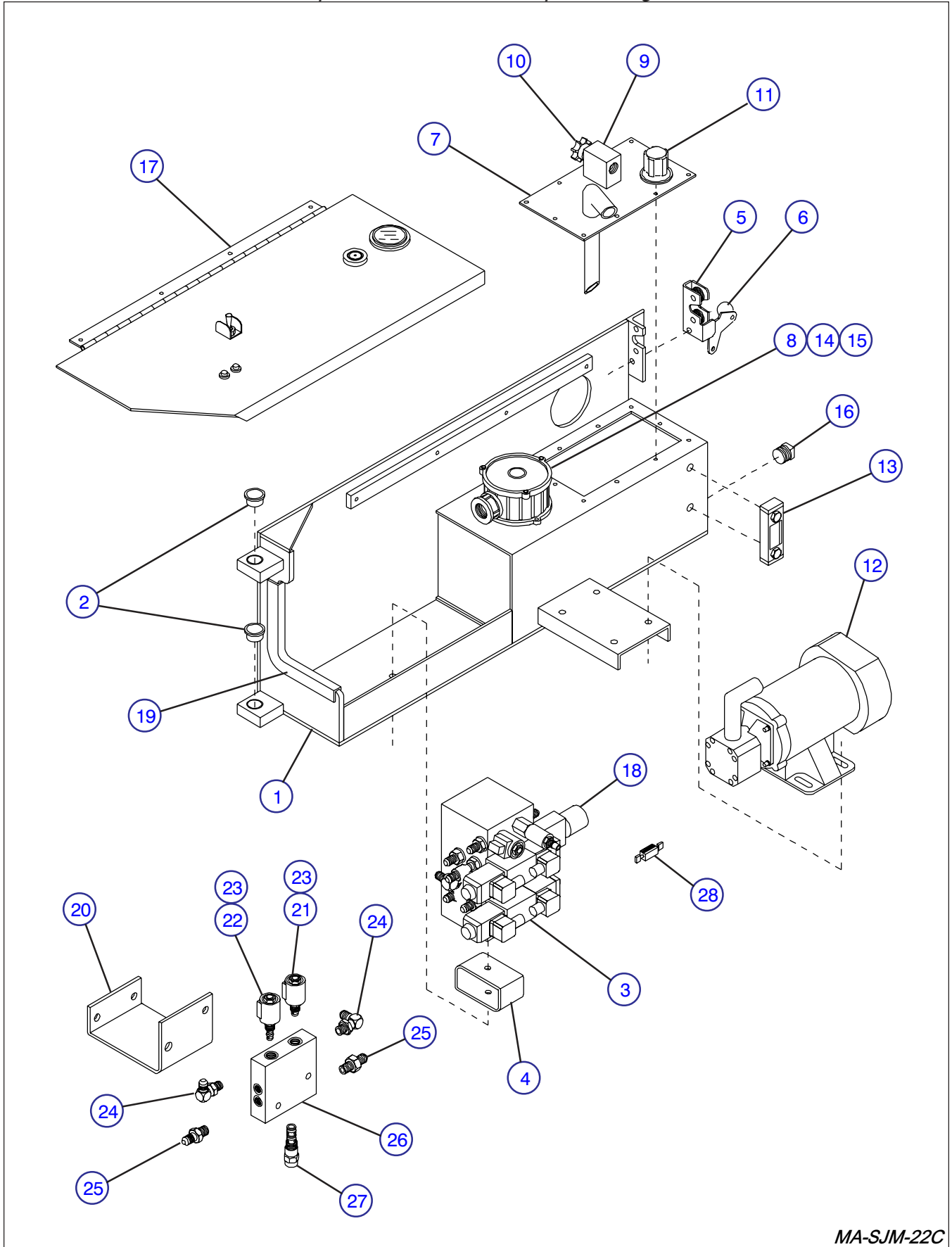
**FIGURE 6-27. HYDRAULIC/ELECTRIC TRAY ASSEMBLY
Proportional Drive and Lift**

Index No.	Skyjack Part No.	Description	Units per Assy.
1	106613	WELDMENT, Hydraulic/electric tray	1
2	100335	BUSHING, Bronze	2
3	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-33)	1
	103873	• BOLT, Hex-hd 3/8-16 x 2-1/2" lg.	1
	103999	• WASHER, Lock 3/8"	1
4	109393	SPACER, Manifold	
5	102781	LATCH, Hydraulic/electric tray	1
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	3
6	111534	KNOB, Rotary latch	1
	103857	BOLT, Hex-hd 1/4-20	1
	104000	WASHER, Flat 1/4	1
	103980	NUT, 1/4-20	1
7	109270	WELDMENT, Tank cover	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	10
8	109568	FILTER ASSEMBLY, Return (#12orb thread)	1
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	2
	103404	• WASHER, Lock 5/16"	2
	100397	• NUT, Hex 5/16-18	2
	104254	• ELEMENT, Filter	1
9	103137	MANIFOLD, Lowering valve (Machines with rotary-type lowering valve)	1
	107493	MANIFOLD, Lowering valve (Machines with pull-type lowering valve)	1
10	103136	VALVE, Lowering (rotary-type)(velocity fuse)	1
	107271	VALVE, Lowering (pull-type)(holding valve)	1
11	102693	CAP W/GASKET, Filler/breather	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	3
12	310010	PUMP & 4 Hp MOTOR ASSEMBLY (Standard machines) (Model 3015 with Serial Number 18539 and above) (Model 3219 with Serial Number 220599 and above)	1
	117140	• PUMP, Hydraulic	1
	106576	• MOTOR, 4 Hp, 24VDC	1
	\$	PUMP & 1 Hp MOTOR ASSEMBLY (order 310010)	1
	107485	• PUMP, Hydraulic	1
	107486	• MOTOR, 1 Hp, 24VDC	1
	108948	PUMP & MOTOR ASSEMBLY (EE-Rated machines)	1
	109216	• PUMP, Hydraulic	1
	107081	• MOTOR, 24VDC	1
	109174	• BRUSHES (Set of 8)	1
	109175	• SPRING	8
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	4
	103996	• WASHER, Flat 5/16"	4
	104637	• WASHER, Lock 5/16"	4
	100397	• NUT, Hex 5/16-18	4
NOTE: Parts list continued on Page 57.			

**FIGURE 6-27. HYDRAULIC/ELECTRIC TRAY ASSEMBLY
Proportional Drive and Lift (continued)**

Index No.	Skyjack Part No.	Description	Units per Assy.
		NOTE: Parts list continued from Page 55.	
13	103236	GAUGE, Oil level/temp	1
14	102918	HOSE, Tank 1"	1
15	103320	CLAMP, Worm #16	1
16	103339	FITTING, Drain plug (magnetic)	1
17	(Ref.)	PANEL ASSEMBLY, Electrical (For components, refer to Figure 6-35.)	1
	103855	• BOLT, Hex-hd 1/4-20 x 1/2" lg.	4
	104000	• WASHER, Lock 1/4"	4
18	(Ref.)	MANIFOLD ASSEMBLY, Cushion valve (For components, refer to Figure 6-33.)	1
19	103090	COVER, Edge 15" lg.	1
20	310024	BRACKET, Proportional valve manifold	1
	103073	• BOLT, hex-hd 3/8-16 x 1" lg.	2
	103999	• WASHER, Lock 3/8"	2
	103978	• NUT, Hex 3/8-16	2
21	115308	MANIFOLD ASSEMBLY, Proportional valve (For components, refer to Figure 6-23.)	1
	103872	• BOLT, Hex-hd 3/8-16 x 2-1/4" lg.	2
	103999	• WASHER, Lock 3/8"	2
	103978	• NUT, Hex 3/8-16	2
22	110998	RESISTOR ASSEMBLY, Battery protection (option)	1
23	112447	• BUMPER	1
	103940	• • BOLT, Soc-hd 1/4-20 x 1-1/4" lg.	1
	103995	• • WASHER, Flat 1/4	1
	104000	• • WASHER, Lock 1/4	1
	103980	• • NUT, 1/4-20	1
24	110007	PROTECTOR, Edge	AR
		NOTE: For hydraulic hose connections, refer to Figure 6-30.	

FIGURE 6-28. HYDRAULIC/ELECTRIC TRAY ASSEMBLY
2-Speed Drive With Hi-Torque Package



MA-SJM-22C

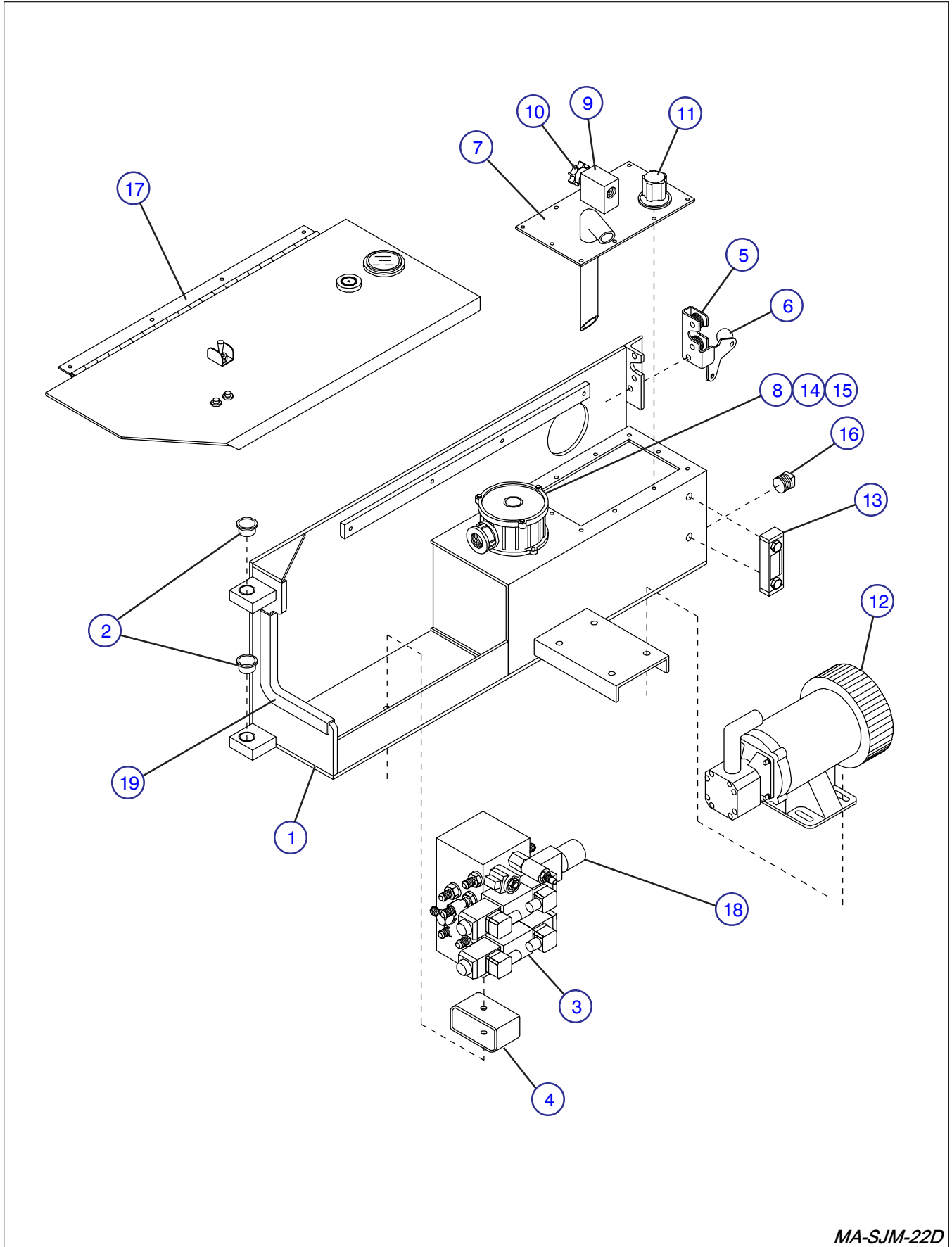
**FIGURE 6-28. HYDRAULIC/ELECTRIC TRAY ASSEMBLY
2-Speed Drive With Hi-Torque Package**

Index No.	Skyjack Part No.	Description	Units per Assy.
1	106613	WELDMENT, Hydraulic/electric tray	1
2	100335	BUSHING, Bronze	2
3	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-34.)	1
	103873	• BOLT, Hex-hd 3/8-16 x 2-1/2" lg.	1
	103999	• WASHER, Lock 3/8"	1
4	109393	SPACER, Manifold	
5	102781	LATCH, Hydraulic/electric tray	1
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	3
6	111534	KNOB, Rotary latch	1
7	109270	WELDMENT, Tank cover	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	10
8	109568	FILTER ASSEMBLY, Return (#12orb thread)	1
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	2
	103404	• WASHER, Lock 5/16"	2
	100397	• NUT, Hex 5/16-18	2
	104254	• ELEMENT, Filter	1
9	103137	MANIFOLD, Lowering valve (Machines with rotary-type lowering valve)	1
	107493	MANIFOLD, Lowering valve (Machines with pull-type lowering valve)	1
10	103136	VALVE, Lowering (rotary-type)(velocity fuse)	1
	107271	VALVE, Lowering (pull-type)(holding valve)	1
11	102693	CAP W/GASKET, Filler/breather	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	3
12	310010	PUMP & 4 Hp MOTOR ASSEMBLY (Std. machines) (Model 3015 with Serial Number 18539 and above) (Model 3219 with Serial Number 220599 and above)	1
	117140	• PUMP, Hydraulic	1
	106576	• MOTOR, 4 Hp, 24VDC	1
	\$	PUMP & 1 Hp MOTOR ASSEMBLY (order 310010)	1
	107485	• PUMP, Hydraulic	1
	107486	• MOTOR, 1 Hp, 24VDC	1
	108948	PUMP & MOTOR ASSEMBLY (EE-Rated machines)	1
	109216	• PUMP, Hydraulic	1
	107081	• MOTOR, 24VDC	1
	109174	• BRUSHES (Set of 8)	1
	109175	• SPRING	8
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	4
	103996	• WASHER, Flat 5/16"	4
	103404	• WASHER, Lock 5/16"	4
	100397	• NUT, Hex 5/16-18	4
 NOTE: Parts list continued on Page 61.			

**FIGURE 6-28. HYDRAULIC/ELECTRIC TRAY ASSEMBLY
2-Speed Drive With Hi-Torque Package (cont.)**

Index No.	Skyjack Part No.	Description	Units per Assy.
		NOTE: Parts list continued from Page 59.	
13	103236	GAUGE, Oil level/temp	1
14	102918	HOSE, Tank 1"	1
15	103320	CLAMP, Worm #16	1
16	103339	FITTING, Drain plug (magnetic)	1
17	(Ref.)	PANEL ASSEMBLY, Electrical (For components, refer to Figure 6-36, 6-37, 6-38, 6-39 or 6-40.)	1
	103855	• BOLT, Hex-hd 1/4-20 x 1/2" lg.	4
	104000	• WASHER, Lock 1/4"	4
18	(Ref.)	MANIFOLD ASSEMBLY, Cushion valve (For components, refer to Figure 6-34.)	1
19	103090	COVER, Edge 15" lg.	1
20	400088	BRACKET, High torque manifold	1
	103473	• BOLT, Hex-hd 3/8-16 x 1" lg.	2
	103999	• WASHER, Lock 3/8"	2
	103978	• NUT, Hex 3/8-16	2
21	104132	VALVE, N.C. (speed control)	1
22	103623	VALVE, 3-Way (brake)	1
23	103605	COIL, 24 Volt	2
24	103073	FITTING, Elbow 90° #6orb-#6	2
25	103069	FITTING, Connector #6orb-#6	2
26	400085	MANIFOLD, Torque/speed control	1
	103872	• BOLT, Hex-hd 3/8-16 x 2-1/4" lg.	2
	103999	• WASHER, Lock 3/8"	2
	103978	• NUT, Hex 3/8-16	2
27	400087	FLOW CONTROL, Fixed 0.8 gpm	1
28	110998	RESISTOR ASSEMBLY, Battery protection (option)	1
		NOTE: For hydraulic hose connections, refer to Figure 6-31.	

FIGURE 6-29. HYDRAULIC/ELECTRIC TRAY ASSEMBLY - 2-Speed Drive



MA-SJM-22D

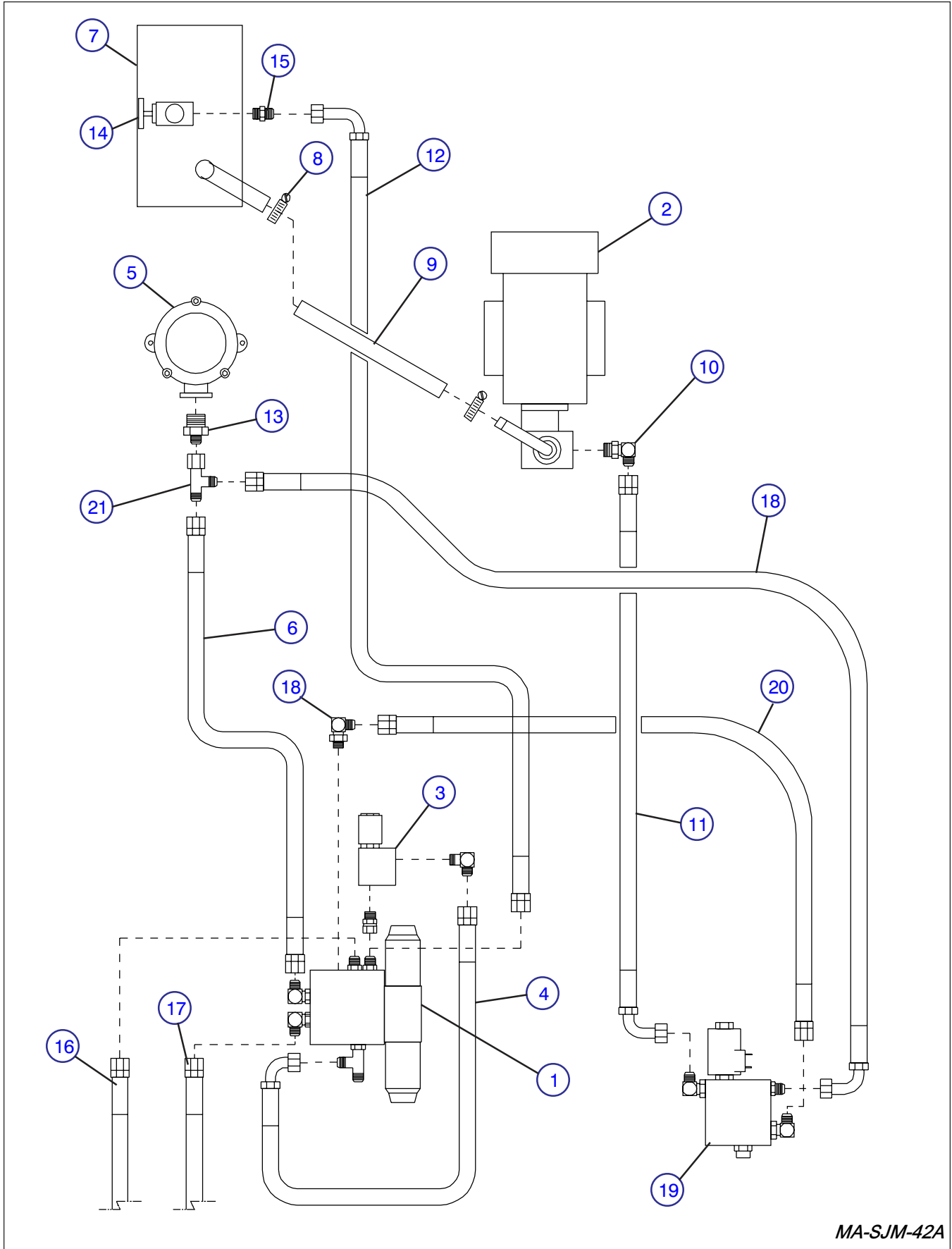
FIGURE 6-29. HYDRAULIC/ELECTRIC TRAY ASSEMBLY - 2-Speed Drive

Index No.	Skyjack Part No.	Description	Units per Assy.
1	106613	WELDMENT, Hydraulic/electric tray	1
2	100335	BUSHING, Bronze	2
3	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-35.)	1
	103873	• BOLT, Hex-hd 3/8-16 x 2-1/2" lg.	1
	103999	• WASHER, Lock 3/8"	1
4	109393	SPACER, Manifold	
5	102781	LATCH, Hydraulic/electric tray	1
	103886	• BOLT, Hex-hd 5/16-18 x 1-1/2" lg.	3
	103984	• NUT, Lock 5/16-18	3
6	111534	KNOB, Rotary latch	1
7	109270	WELDMENT, Tank cover	1
		(Replaces cover, 106629; 3/4" tube, 106639)	
	103962	• SCREW, Machine #10-32 x 1/2" lg.	10
8	109568	FILTER ASSEMBLY, Return (#12orb thread)	1
		(Model 3015 with S/N 15556 and above and Model 3219)	
	102877	FILTER ASSEMBLY, Return (1/2P thread)	1
		(Model 3015 with S/N 15555 and below)	
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	2
	103404	• WASHER, Lock 5/16"	2
	100397	• NUT, Hex 5/16-18	2
	104254	• ELEMENT, Filter	1
9	103137	MANIFOLD, Lowering valve	1
		(Machines with rotary-type lowering valve)	
	107493	MANIFOLD, Lowering valve	1
		(Machines with pull-type lowering valve)	
10	103136	VALVE, Lowering (rotary-type)(velocity fuse)	1
	107271	VALVE, Lowering (pull-type)(holding valve)	1
11	102693	CAP W/GASKET, Filler/breather	1
	103962	• SCREW, Machine #10-32 x 1/2" lg.	3
12	310010	PUMP & 4 Hp MOTOR ASSEMBLY (Std. machines)	1
		(Model 3015 with Serial Number 18539 and above)	
		(Model 3219 with Serial Number 220599 and above)	
	117140	• PUMP, Hydraulic	1
	106576	• MOTOR, 4 Hp, 24VDC	1
	\$	PUMP & 1 Hp MOTOR ASSEMBLY (order 310010)	1
	107485	• PUMP, Hydraulic	1
	107486	• MOTOR, 1 Hp, 24VDC	1
	108948	PUMP & MOTOR ASSEMBLY (EE-Rated machines)	1
	109216	• PUMP, Hydraulic	1
	107081	• MOTOR, 24VDC	1
	109174	• BRUSHES (Set of 8)	1
	109175	• SPRING	8
	103864	• BOLT, Hex-hd 5/16-18 x 1" lg.	4
	103996	• WASHER, Flat 5/16"	4
	103404	• WASHER, Lock 5/16"	4
	100397	• NUT, Hex 5/16-18	4
		NOTE: Parts list continued on Page 65.	

FIGURE 6-29. HYDRAULIC/ELECTRIC TRAY ASSEMBLY - 2-Speed Drive

Index No.	Skyjack Part No.	Description	Units per Assy.
		NOTE: Parts list continued from Page 63.	
13	103236	GAUGE, Oil level/temp	1
14	102918	HOSE, Tank 1"	1
15	103320	CLAMP, Worm #16	1
16	103339	FITTING, Drain plug (magnetic)	1
17	(Ref.)	PANEL ASSEMBLY, Electrical (For components, refer to Figure 6-36, 6-37, 6-38, 6-39 or 6-40)	1
	103855	• BOLT, Hex-hd 1/4-20 x 1/2" lg.	4
	104000	• WASHER, Lock 1/4"	4
18	(Ref.)	MANIFOLD ASSEMBLY, Cushion valve (For components, refer to Figure 6-35.)	1
19	103090	COVER, Edge 15" lg.	1
		NOTE: For hydraulic hose connections, refer to Figure 6-32.	

**FIGURE 6-30. HYDRAULIC HOSE CONNECTIONS - Hydraulic/Electric Tray
(Proportional Drive and Lift)**

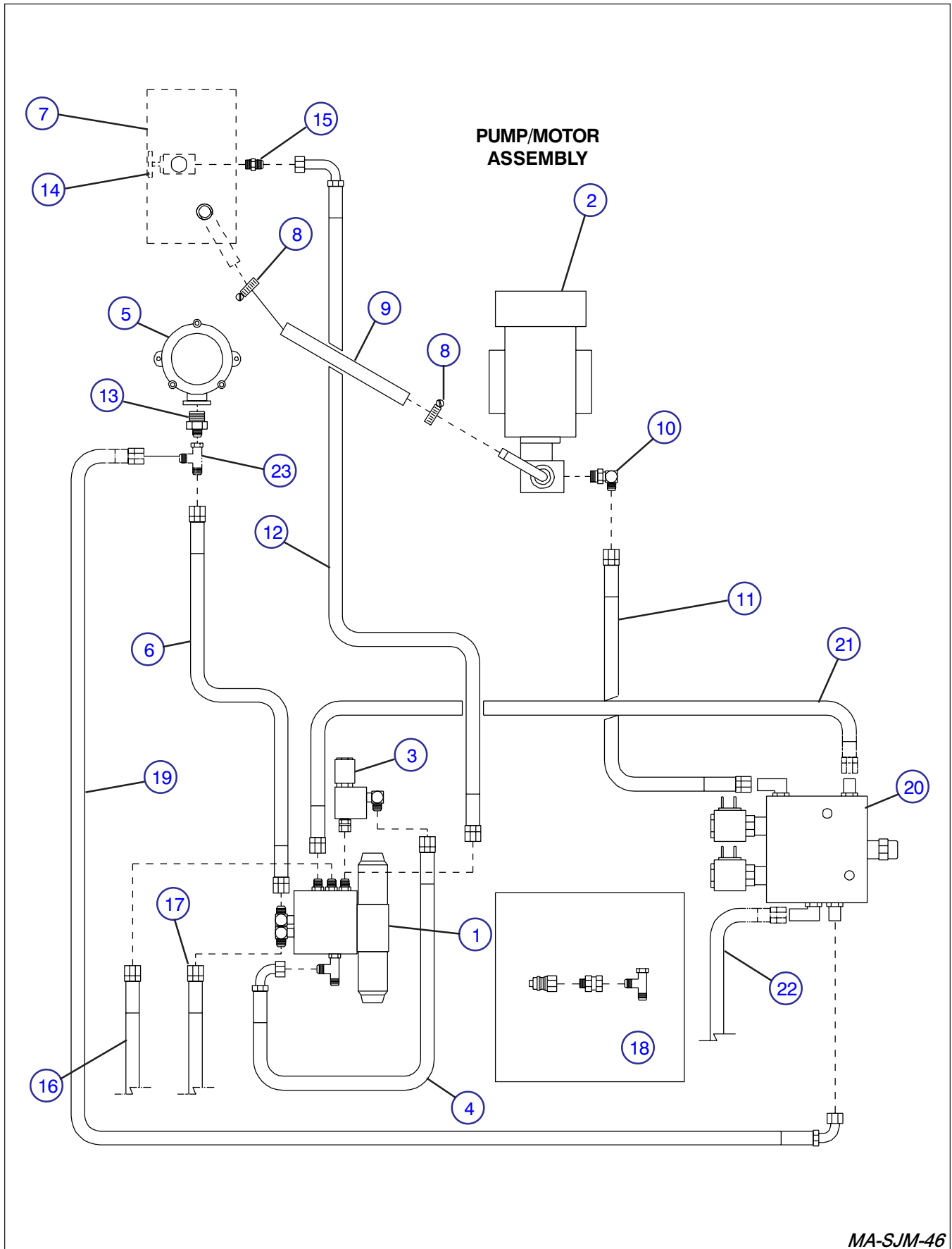


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**FIGURE 6-30. HYDRAULIC HOSE CONNECTIONS - Hydraulic/Electric Tray
(Proportional Drive and Lift)**

Index No.	Skyjack Part No.	Description	Units per Assy.
1	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-33.)	1
2	(Ref.)	PUMP AND MOTOR ASSEMBLY (Refer to Figure 6-27.)	1
3	(Ref.)	MANIFOLD ASSEMBLY, Cushion (Refer to Figure 6-33.)	1
4	108003	HOSE ASSEMBLY, Cushion valve to main manifold	1
5	(Ref.)	FILTER ASSEMBLY, Return (Refer to Figure 6-27.)	1
6	107738	HOSE ASSEMBLY, Filter to main manifold	1
7	(Ref.)	WELDMENT, Tank cover (Refer to Figure 6-27.)	1
8	102854	CLAMP, Worm #12	1
9	103032	HOSE, Suction 3/4"	11"
10	102665	FITTING, Elbow 90° #8orb-#6	3
11	114742	HOSE ASSEMBLY, Manifold supply	1
12	108003	HOSE ASSEMBLY, Manual lowering valve to main manifold	1
13	109052	FITTING, Connector #12orb-#6	1
14	(Ref.)	LOWERING VALVE AND MANIFOLD (Refer to Figure 6-27.)	1
15	103323	FITTING, Adapter #6-3/8P	1
16	(Ref.)	HOSE ASSEMBLY, Valve supply (Machines with powered extension platform) (Refer to Figure 6-6.)	1
17	(Ref.)	HOSE ASSEMBLY, Valve return (Machines with powered extension platform) (Refer to Figure 6-6.)	1
18	114741	HOSE ASSEMBLY, Proportional valve manifold return	1
19	(Ref.)	MANIFOLD ASSEMBLY, Proportional valve (Refer to Figure 6-33.)	1
20	102562	HOSE ASSEMBLY, Proportional manifold to main manifold	1
21	103309	FITTING, Tee #6swl-#6-#6	1

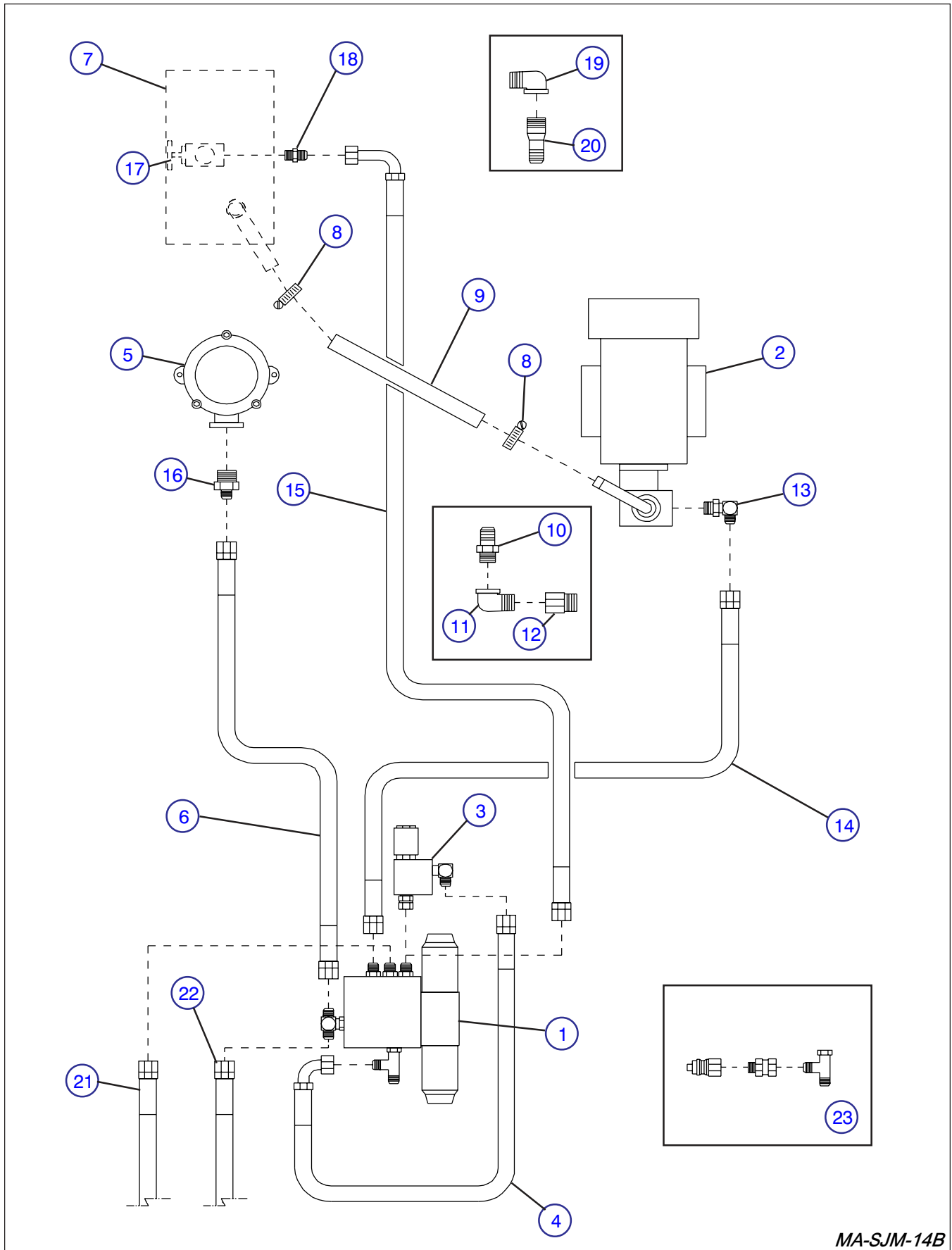
**FIGURE 6-31. HYDRAULIC HOSE CONNECTIONS - Hydraulic/Electric Tray
(2 Speed Drive With Hi-Torque Package)**



**FIGURE 6-31. HYDRAULIC HOSE CONNECTIONS - Hydraulic/Electric Tray
(2 Speed Drive With Hi-Torque Package)**

Index No.	Skyjack Part No.	Description	Units per Assy.
1	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-34.)	1
2	(Ref.)	PUMP AND MOTOR ASSEMBLY (Refer to Figure 6-28.)	1
3	(Ref.)	MANIFOLD ASSEMBLY, Cushion (Refer to Figure 6-34.)	1
4	108003	HOSE ASSEMBLY, Cushion valve to main manifold	1
5	(Ref.)	FILTER ASSEMBLY, Return (Refer to Figure 6-28.)	1
6	107738	HOSE ASSEMBLY, Filter to main manifold	1
7	(Ref.)	WELDMENT, Tank cover (Refer to Figure 6-28.)	2
8	102854	CLAMP, Worm #12	1
9	103032	HOSE, Suction 3/4"	11"
10	102665	FITTING, Elbow 90° #8orb-#6	1
11	102562	HOSE ASSEMBLY, Manifold supply	1
12	108949	HOSE ASSEMBLY, Manual lowering valve to main manifold	1
13	109052	FITTING, Connector #12orb-#6	1
14	(Ref.)	LOWERING VALVE AND MANIFOLD (Refer to Figure 6-28.)	1
15	103323	FITTING, Adapter #6-3/8P	1
16	(Ref.)	HOSE ASSEMBLY, Valve supply (Machines with powered extension platform) (Refer to Figure 6-6.)	1
17	(Ref.)	HOSE ASSEMBLY, Valve return (Machines with powered extension platform) (Refer to Figure 6-6.)	1
18	109640	QUICK DISCONNECT, Hydraulic	1
	103246	• DISCONNECT, Quick	1
	103309	• FITTING, Tee #6orb-#6	1
	103304	• FITTING, Pipe #4-#6	1
19	107732	HOSE ASSEMBLY, High torque manifold return	1
20	(Ref.)	MANIFOLD ASSEMBLY, High torque (Refer to Figure 6-34.)	1
21	400096	HOSE ASSEMBLY, Pump to high torque manifold	1
22	400097	HOSE ASSEMBLY, Brake	1
23	103309	FITTING, Tee #6swl-#6-#6	1

FIGURE 6-32. HYDRAULIC HOSE CONNECTIONS - Hydraulic/Electric Tray
(2 Speed Drive)

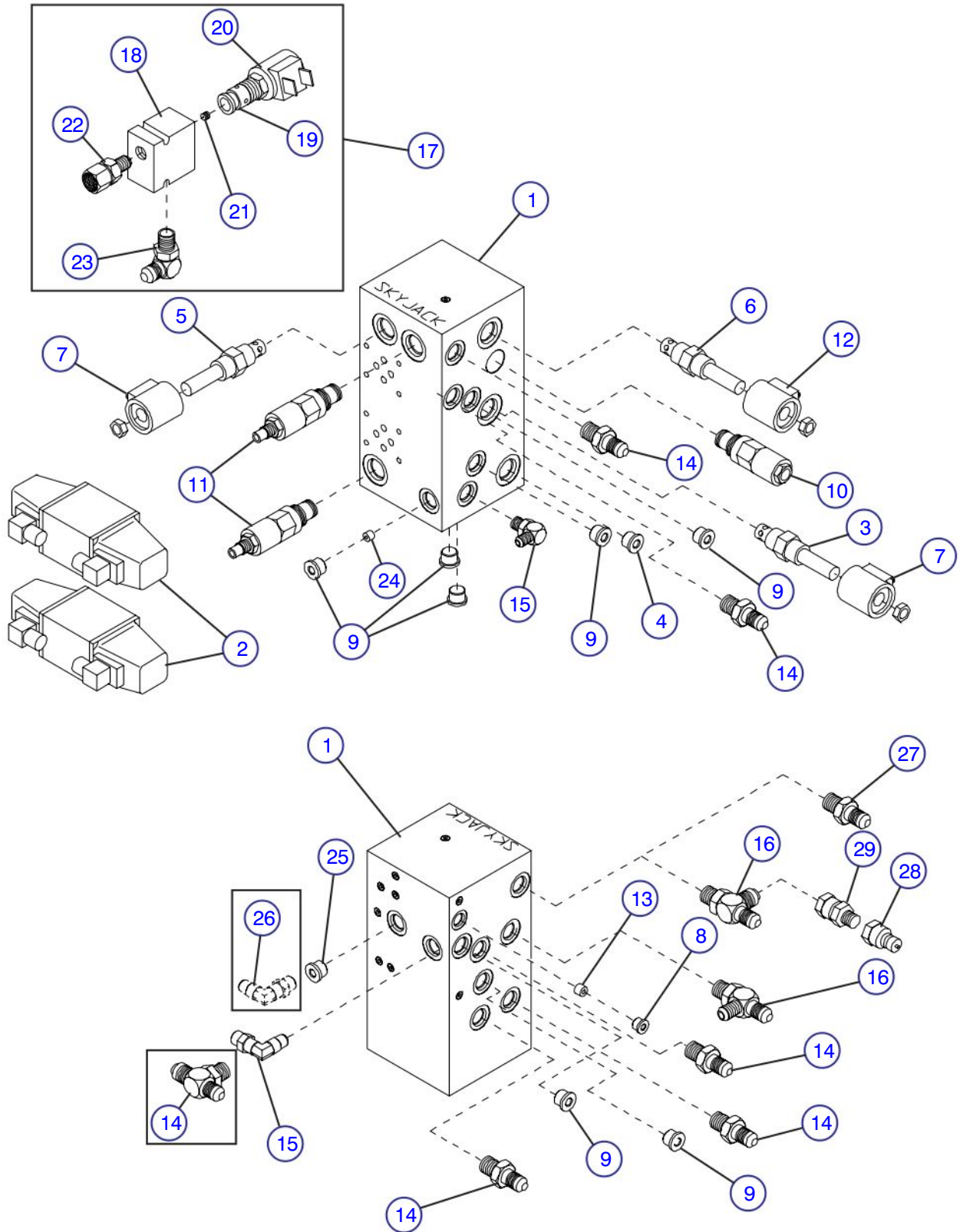


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**FIGURE 6-32. HYDRAULIC HOSE CONNECTIONS - Hydraulic/Electric Tray
(2 Speed Drive)**

Index No.	Skyjack Part No.	Description	Units per Assy.
1	(Ref.)	MANIFOLD ASSEMBLY, Main (Refer to Figure 6-35.)	1
2	(Ref.)	PUMP AND MOTOR ASSEMBLY (Refer to Figure 6-29.)	1
3	(Ref.)	MANIFOLD ASSEMBLY, Cushion (Refer to Figure 6-35.)	1
4	108003	HOSE ASSEMBLY, Cushion valve to main manifold	1
5	(Ref.)	FILTER ASSEMBLY, Return (Refer to Figure 6-29.)	1
6	107738	HOSE ASSEMBLY, Filter to main manifold	1
7	(Ref.)	WELDMENT, Tank cover (Refer to Figure 6-29.)	2
8	102854	CLAMP, Worm #12	1
9	103032	HOSE, Suction 3/4" x 9" lg.	1
10	103294	FITTING, Hose barb 3/4B-1/2P (Early models)	1
11	107741	FITTING, Reducer 1/2P-3/8P (Early models)	1
12	103329	FITTING, Adapter 3/8P-#8orb (Early models)	1
13	102665	FITTING, Elbow 90° #8orb-#6	1
14	102562	HOSE ASSEMBLY, Manifold supply	1
15	108949	HOSE ASSEMBLY, Manual lowering valve to main manifold	1
16	109052	FITTING, Connector #12orb-#6 (Model 3015 with S/N 15556 and above) (Model 3219)	1
	106669	FITTING, Connector 1/2P-#6 (Model 3015 with S/N 15555 and below)	1
17	(Ref.)	LOWERING VALVE AND MANIFOLD (Refer to Figure 6-29.)	1
18	103323	FITTING, Adapter #6-3/8P	1
19	103124	FITTING, Elbow 90° 3/4P	1
20	103215	FITTING, Hose 3/4B-3/4P	1
21	(Ref.)	HOSE ASSEMBLY, Valve supply (Machines with powered extension platform) (Refer to Figure 6-6.)	1
22	(Ref.)	HOSE ASSEMBLY, Valve return (Machines with powered extension platform) (Refer to Figure 6-6.)	1
23	109640	QUICK DISCONNECT, Hydraulic	1
	103246	• DISCONNECT, Quick	1
	103309	• FITTING, Tee #6orb-#6	1
	103304	• FITTING, Pipe #4-#6	1

**FIGURE 6-33. MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY
(Proportional Drive and Lift)**

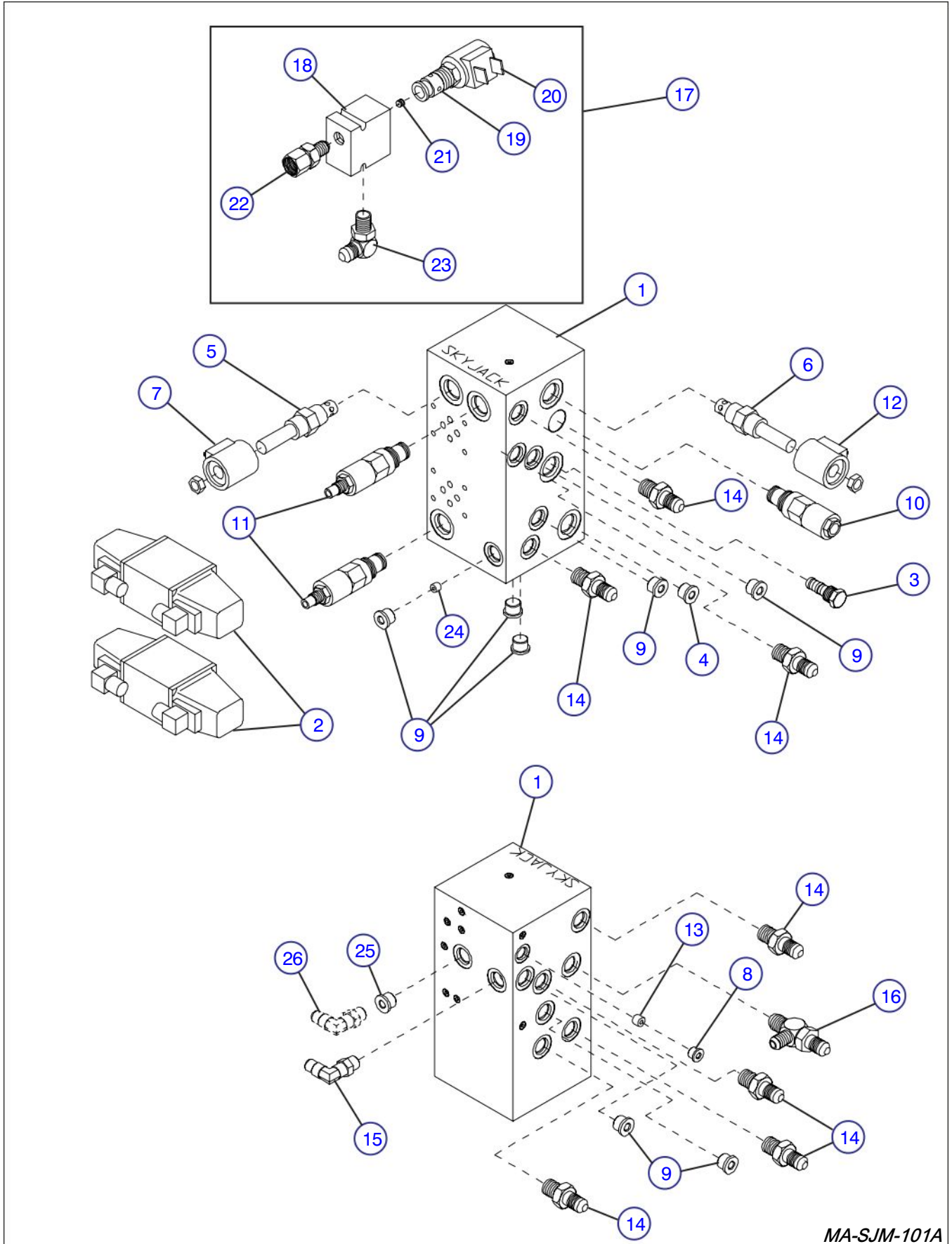


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**FIGURE 6-33. MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY
(Proportional Drive and Lift)**

Index No.	Skyjack Part No.	Description	Units per Assy.
	(Ref.)	MAIN MANIFOLD AND CUSHION VALVE MANIFOLD	
	(Ref.)	• MANIFOLD ASSEMBLY (Order components)	
1	107354	• • BLOCK, Main manifold	1
	108506	• • PLUG, Expander	9
2	103614	• • VALVE ASSEMBLY, 24 Volt spool (drive/steer)	2
	107439	• • • COIL, 24 Volt	4
	104409	• • • CONNECTOR, Black	4
	104345	• • • CONNECTOR, Gray	4
	103943	• • • BOLT, Soc-hd 1/4-20 x 2" lg.	4
3	103623	• • VALVE, 3-Way (brake)	1
4	115320	• • PLUG, Soc.-hd #8 orb	1
5	103655	• • VALVE, N.C. (lowering)	1
6	106273	• • VALVE, 3-Way (lift)	1
7	103605	• • COIL, 24 Volt	2
8	102856	• • PLUG, Soc-hd #3orb	1
9	104437	• • PLUG, Soc-hd #6orb	7
10	104133	• • VALVE, Counterbalance	1
11	104534	• • VALVE, Relief	2
12	105610	• • COIL, 24 Volt	1
13	114669	• ORIFICE, .055 dia. (lowering)	1
14	103069	• FITTING, Connector #6orb-#6	6
15	114578	• FITTING, Elbow 90° #6orb-#6	2
16	103072	• FITTING, Tee #6orb-#6	2
17	114667	• CUSHION VALVE MANIFOLD ASSEMBLY	1
18	103615	• • BLOCK, Cushion valve manifold	1
19	104132	• • VALVE, N.C. (cushion)	1
20	103605	• • COIL, 24 Volt	1
21	108002	• • ORIFICE, .040 dia. (cushion)	1
22	114666	• • FITTING, Swivel 1/4P-#6	1
23	103324	• • FITTING, Elbow 90° 1/4P-#6	1
24	104419	• PLUG, Brass 1/16	1
25	104437	PLUG, Soc-hd #6orb (Machines with powered extension platform)	1
26	114578	FITTING, Elbow 90° #6orb-#6 (Machines with powered extension platform)	1
27	103069	• FITTING, Connector #6orb-#6 (Machines without quick disconnect)	1
28	114520	• QUICK DISCONNECT, 1/4P	1
29	103304	~ FITTING ADAPTER, #4-#6	1

**FIGURE 6-34. MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY
(2 Speed Drive With Hi-Torque Package)**

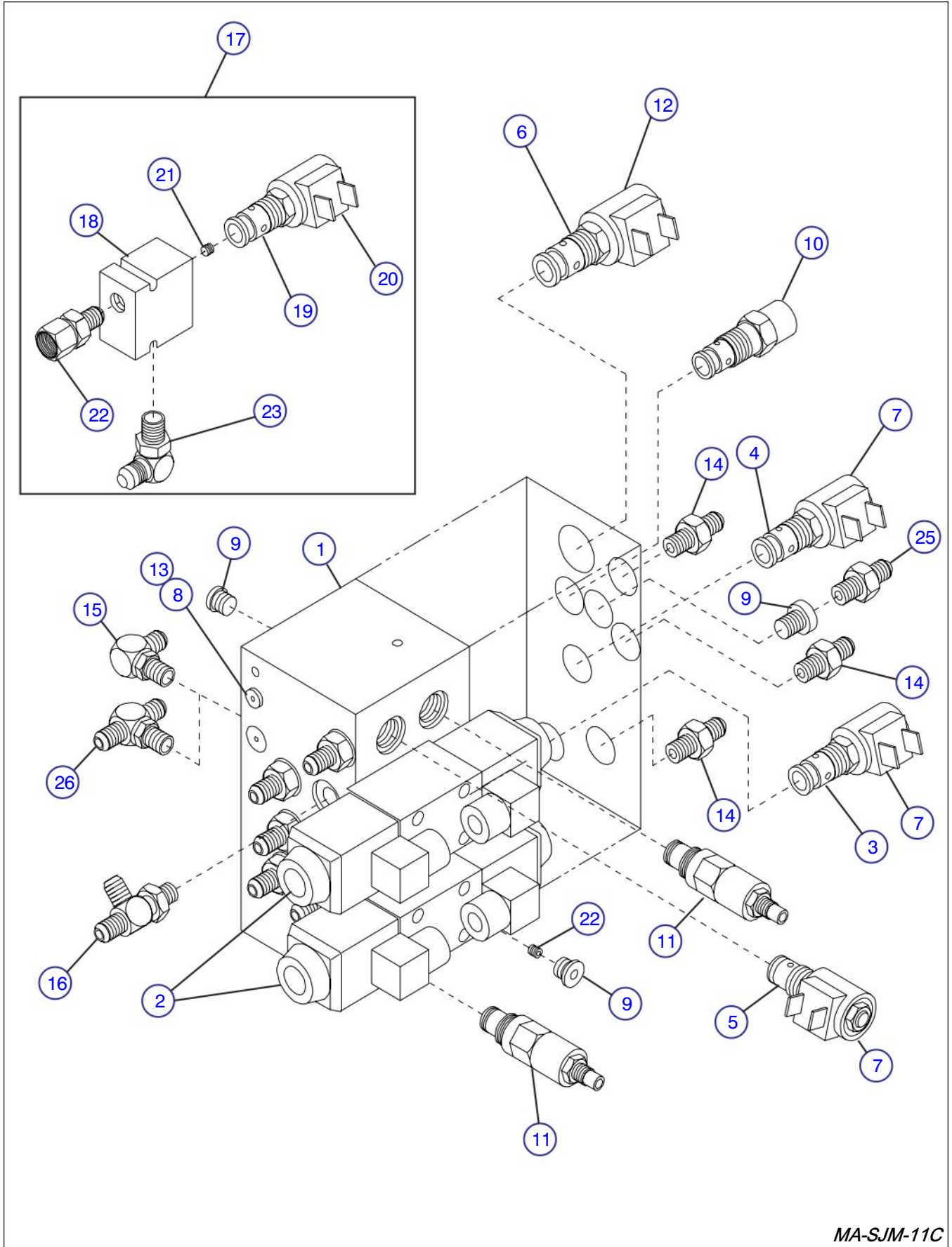


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**FIGURE 6-34. MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY
(2 Speed Drive With Hi-Torque Package)**

Index No.	Skyjack Part No.	Description	Units per Assy.
	(Ref.)	MAIN MANIFOLD AND CUSHION VALVE MANIFOLD	
	(Ref.)	• MANIFOLD ASSEMBLY (Order components)	
1	107354	• • BLOCK, Main manifold	1
	108506	• • PLUG, Expander	9
2	103614	• • VALVE ASSEMBLY, 24 Volt spool (drive/steer)	2
	107439	• • • COIL, 24 Volt	4
	104409	• • • CONNECTOR, Black	4
	104345	• • • CONNECTOR, Gray	4
	103943	• • • BOLT, Soc-hd 1/4-20 x 2" lg.	4
3	400086	• • PLUG, Cavity	1
4	115320	• • PLUG, Soc.-hd #8 orb	1
5	103655	• • VALVE, N.C. (lowering)	1
6	106273	• • VALVE, 3-Way (lift)	1
7	103605	• • COIL, 24 Volt	1
8	102856	• • PLUG, Soc-hd #3orb	1
9	104437	• • PLUG, Soc-hd #6orb	7
10	104133	• • VALVE, Counterbalance	1
11	104534	• • VALVE, Relief	2
12	105610	• • COIL, 24 Volt	1
13	114669	• ORIFICE, .055 dia. (lowering)	1
14	103069	• FITTING, Connector #6orb-#6	7
15	114578	• FITTING, Elbow 90° #6orb-#6	1
16	103072	• FITTING, Tee #6orb-#6	1
17	114667	• CUSHION VALVE MANIFOLD ASSEMBLY	1
18	103615	• • BLOCK, Cushion valve manifold	1
19	104132	• • VALVE, N.C. (cushion)	1
20	103605	• • COIL, 24 Volt	1
21	108002	• • ORIFICE, .040 dia. (cushion)	1
22	114666	• • FITTING, Swivel 1/4P-#6	1
23	103324	• • FITTING, Elbow 90° 1/4P-#6	1
24	104419	• PLUG, Brass 1/16	1
25	104437	PLUG, Soc-hd #6orb (Machines with powered extension platform)	1
26	114578	FITTING, Elbow 90° #6orb-#6 (Machines with powered extension platform)	1

**FIGURE 6-35. MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY
(2 Speed Drive)**



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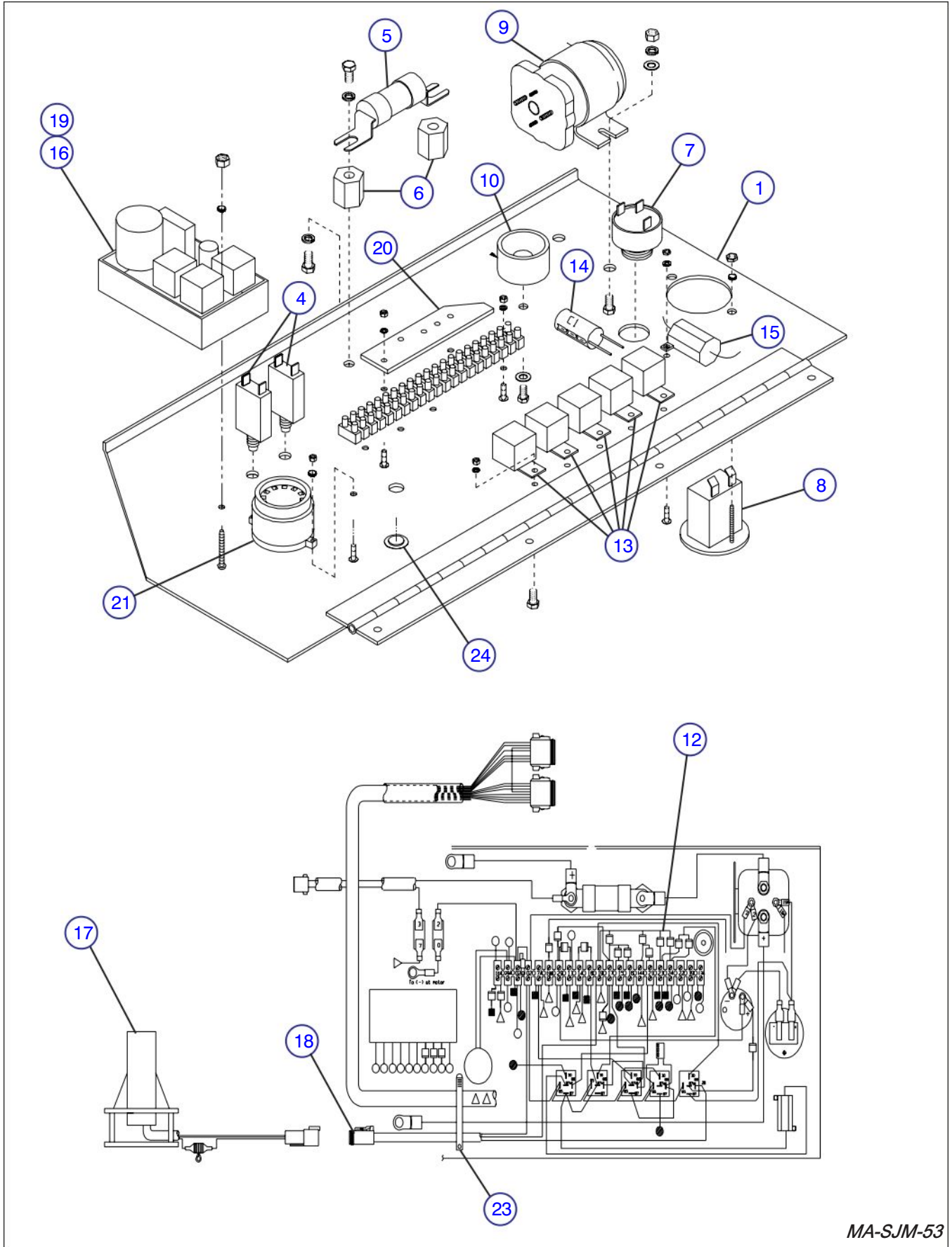
**FIGURE 6-35. MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY
(2 Speed Drive)**

Index No.	Skyjack Part No.	Description	Units per Assy.
	(Ref.)	MAIN MANIFOLD AND CUSHION VALVE MANIFOLD ASSEMBLY (Order components)	
1	108300	• MANIFOLD ASSEMBLY, Main	1
	107354	• • BLOCK, Main manifold	1
	108506	• • PLUG, Expander	9
2	103614	• • VALVE ASSEMBLY, 24 Volt spool (drive/steer)	2
	107439	• • • COIL, 24 Volt	4
	104409	• • • CONNECTOR, Black	4
	104345	• • • CONNECTOR, Gray	4
	103943	• • • BOLT, Soc-hd 1/4-20 x 2" lg.	4
3	102626	• • VALVE, N.O. (dump)	1
4	103623	• • VALVE, 3-Way (brake)	1
5	103655	• • VALVE, N.C. (lowering)	1
6	106273	• • VALVE, 3-Way (lift)	1
7	103605	• • COIL, 24 Volt	3
8	102856	• • PLUG, Soc-hd #3orb	1
9	104437	• • PLUG, Soc-hd #6orb	7
10	104133	• • VALVE, Counterbalance	1
11	104534	• • VALVE, Relief	2
12	105610	• • COIL, 24 Volt	1
13	108053	• ORIFICE, .055 dia. (lowering)	1
14	103069	• FITTING, Connector #6orb-#6	8
15	103073	• FITTING, Elbow 90 #6orb-#6	1
16	103072	• FITTING, Tee #6orb-#6	1
17	114667	• CUSHION VALVE ASSEMBLY	1
18	103615	• • BLOCK, Cushion valve manifold	1
19	104132	• • VALVE, N.C. (cushion)	1
20	103605	• • COIL, 24 Volt	1
21	108002	• • ORIFICE, .040 dia. (cushion)	1
22	114666	• • FITTING, Swivel 1/4P-#6	1
23	103324	• • FITTING, Elbow 90° 1/4P-#6	1
24	108053	• ORIFICE, .055 diameter (dump)	1
25	103069	FITTING, Connector #6orb-#6 (Machines with powered extension platform)	1
26	104660	FITTING, Tee #6orb-#6 (Machines with powered extension platform)	1

**FIGURE 6-36. ELECTRICAL PANEL ASSEMBLY - Proportional Drive and Lift
(ANSI/SIA and CSA)**

Index No.	Skyjack Part No.	Description	Units per Assy.
	(Ref.)	PANEL ASSEMBLY, Electrical	-
1	107211	• WELDMENT, Electrical panel	1
2	109111	• HARNESS, Manifold wiring	1
3	104173	• CORD ASSEMBLY, Panel control	1
	102888	• • CABLE, 16/10	67" lg.
	102518	• • SOCKET, 10 Pin	1
4	117325	• BREAKER, 15 Amp circuit	2
5	102756	• FUSE, 200 Amp	1
6	103068	• INSULATOR, Fuse	2
	103855	• • BOLT, Hex-hd 1/4-20 x 1/2" lg.	4
	104000	• • WASHER, Lock 1/4"	4
7	103057	• BEEPER, 24 Volt	1
8	103336	• HOURMETER	1
9	103101	• CONTACTOR	1
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104185	• • WASHER, Lock #10	2
	103995	• • WASHER, Flat #10	2
	104003	• • NUT, Hex #10-32	2
10	102853	• SWITCH, Up/down toggle	1
11	103805	• LABEL, Up/down	1
12	111181	• GUARD, Toggle switch	1
13	112447	• BUMPER, Rubber	1
	110463	• • SCREW, Hex-hd 6mm x 14mm	1
14	103011	• STRIP, Terminal block	1
	103956	• • SCREW, Machine #6-32 x 1" lg.	2
	106099	• • WASHER, Lock #6	2
	103985	• • NUT, Hex #6-32	2
15	108000	• DIODE ASSEMBLY	1
	102921	• • DIODE, 6 Amp	7
16	108589	• RELAY, 24 Volt (brake, cushion, proportional)	4
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104185	• • WASHER, Lock #10	2
	104003	• • NUT, Hex #10-32	2
17	103319	• CAPACITOR, 35 Volt	1
18	115312	• RESISTOR, 40 Ohm/25W	1
19	103267	FLASHER, 24 Volt (Machines with Flashing Light Option)	1
20	114378	LABEL, Hydraulic oil	1
21	108442	LABEL, Push switch to down	1

FIGURE 6-37. ELECTRICAL PANEL ASSEMBLY - Proportional Drive and Lift (CE)



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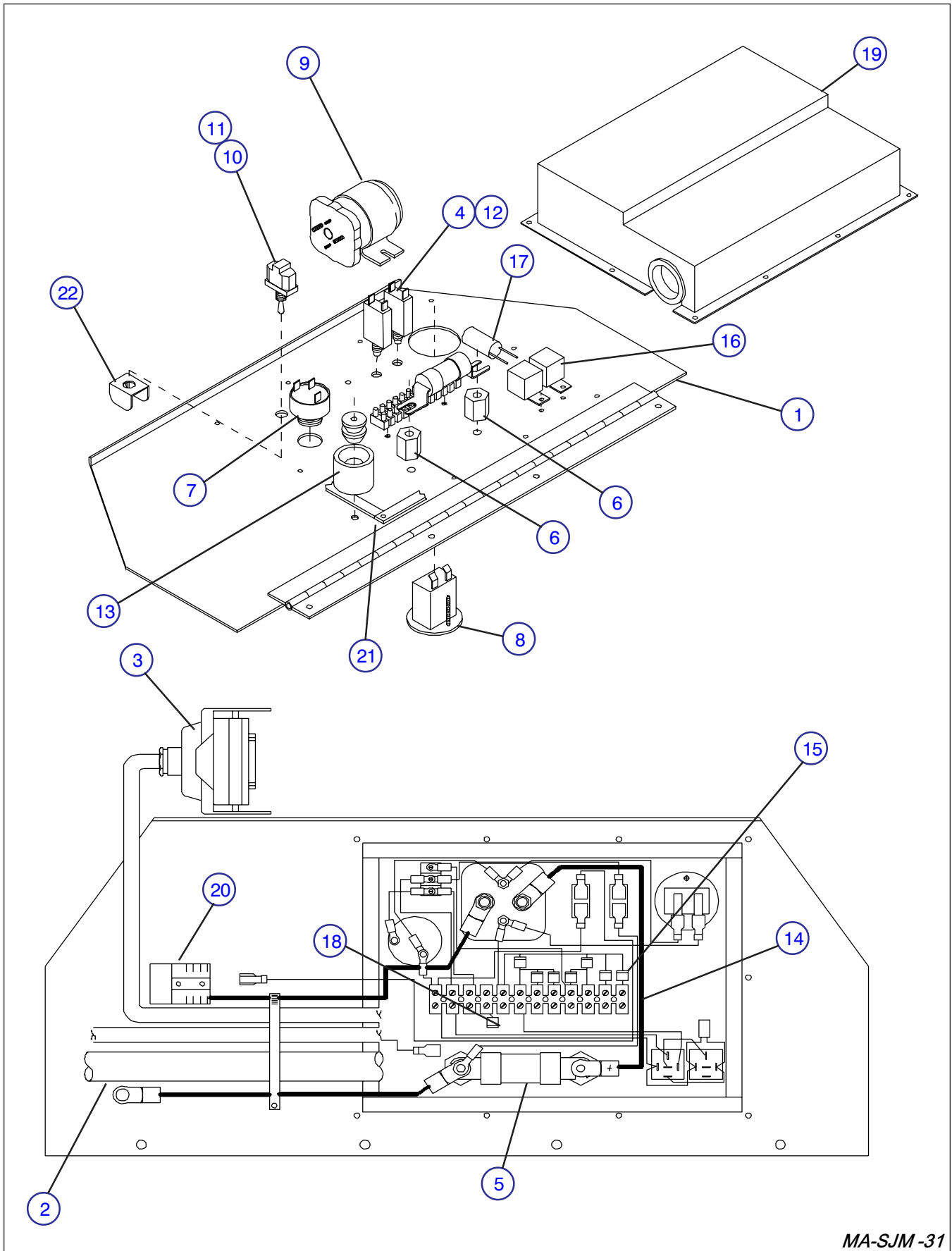
**FIGURE 6-37. ELECTRICAL PANEL ASSEMBLY - Proportional Drive and Lift
(CE)**

Index No.	Skyjack Part No.	Description	Units per Assy.
A	310013	PANEL ASSEMBLY, Electrical (Without Lowering Warning System Option)	-
B	310046	PANEL ASSEMBLY, Electrical (With Lowering Warning System Option)	-
1	107211	• WELDMENT, Electrical panel	1
2	109111	• HARNESS, Manifold/holding valve wiring	1
3	114548	• CABLE ASSEMBLY, Panel control	1
	102888	• • CABLE, 16/10	67" lg.
	107778	• • CONNECTOR ASSEMBLY, 10 Pole female	1
4	117325	• BREAKER, 15 Amp circuit	2
5	102756	• FUSE, 200 Amp	1
6	103068	• INSULATOR, Fuse	2
	103855	• • BOLT, Hex-hd 1/4-20 x 1/2" lg.	4
	104000	• • WASHER, Lock 1/4"	4
7	103057	• BEEPER, 24 Volt	1
8	103336	• HOURMETER	1
9	103101	• CONTACTOR	1
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104185	• • WASHER, Lock #10	2
	103995	• • WASHER, Flat #10	2
	104003	• • NUT, Hex #10-32	2
10	112447	• BUMPER, Rubber	1
	110463	• • SCREW, Hex-hd 6mm x 14mm	1
11	103011	• STRIP, Terminal block, A	1.3
	103011	• STRIP, Terminal block, B	1.75
	103956	• • SCREW, Machine #6-32 x 1" lg.	3
	106099	• • WASHER, Lock #6	3
	103985	• • NUT, Hex #6-32	3
12	108000	• DIODE ASSEMBLY	1
	102921	• • DIODE, 6 Amp	7
13	108589	• RELAY, 24 Volt (brake, cushion, proportional, tilt)	5
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	5
	104185	• • WASHER, Lock #10	5
	104003	• • NUT, Hex #10-32	5
14	103319	• CAPACITOR, 35 Volt	1
15	115312	• RESISTOR, 40 Ohm/25W	1
	310008	• • SCREW, #4	1
	310007	• • WASHER, #4	1
	310006	• • NUT, Hex #4	1
16	106456	• FLASHER, 24 Volt	1
17	117880	• SWITCH ASSEMBLY, Tilt	1
18	310061	• CABLE ASSEMBLY, Tilt switch	1
19	300667	• MODULE, Lowering warning system, B	1
	105621	• • SCREW, Machine #10-32 x 1" lg.	2
	104003	• • NUT, Hex #10-32	2
20	310025	• PLATE, Diode	1
21	117967	• BEEPER, Lowering warning, B	1
22	102921	• DIODE, 6 amp	AR
23	102509	• CLAMP, Plastic	1
24	300649	• PLUG, Plastic	1

FIGURE 6-38. ELECTRICAL PANEL ASSEMBLY - 2-Speed Drive

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	PANEL ASSEMBLY, Electrical (ANSI/SIA and CSA)	-
B	(Ref.)	PANEL ASSEMBLY, Electrical (CE)	-
1	107211	• WELDMENT, Electrical panel	1
2	109111	• HARNESS, Manifold wiring, A	1
	109566	• HARNESS, Manifold/holding valve wiring, B	1
3	104173	• CORD ASSEMBLY, Panel control, A	1
	102888	• • CABLE, 16/10 x 67" lg.	1
	102518	• • SOCKET, 10 Pin	1
	114548	• CORD ASSEMBLY, Panel control, B	1
	102888	• • CABLE, 16/10 x 67" lg.	1
	107777	• • SOCKET ASSEMBLY, 10 Pin female (Replaces 108181)	1
4	102331	• BREAKER, 15 Amp circuit	2
5	310179	• FUSE, 200 Amp (replaces 102756)	1
6	103068	• INSULATOR, Fuse	2
	103855	• • BOLT, Hex-hd 1/4-20 x 1/2" lg.	2
	104000	• • WASHER, Lock 1/4"	2
7	103057	• BEEPER, 24 Volt	1
8	103336	• HOURMETER	1
9	103101	• CONTACTOR	1
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104003	• • NUT, Hex #10-32	2
10	102853	• SWITCH, Up/down toggle	1
11	103805	• LABEL, Up/down	1
12	105280	• LABEL PLATE, Push to reset	2
13	112447	• BUMPER, Rubber (Replaces 104697)	1
	103956	• • SCREW, Machine #6-32 x 1" lg.	1
	103985	• • NUT, Hex #6-32	1
14	103011	• STRIP, Terminal block	1
	103956	• • SCREW, Machine #6-32 x 1" lg.	2
	103985	• • NUT, Hex #6-32	2
15	108000	• DIODE ASSEMBLY	1
	102921	• • DIODE, 6 Amp	7
16	108589	• RELAY, 24 Volt (brake, cushion)(Replaces 103425)	2
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104003	• • NUT, Hex #10-32	2
17	103319	• CAPACITOR, 35 Volt	1
18	103267	FLASHER, 24 Volt (Machines with Flashing Light Option)	1
19	108589	RELAY, 24 Volt (tilt) (Replaces 103425) (Machines with Tilt Switch Option)	1
20	111181	• GUARD, Toggle switch	1
21	110699	• CAPACITOR, .47 (CE), B	1

FIGURE 6-39. ELECTRICAL PANEL ASSEMBLY - EE-Rated

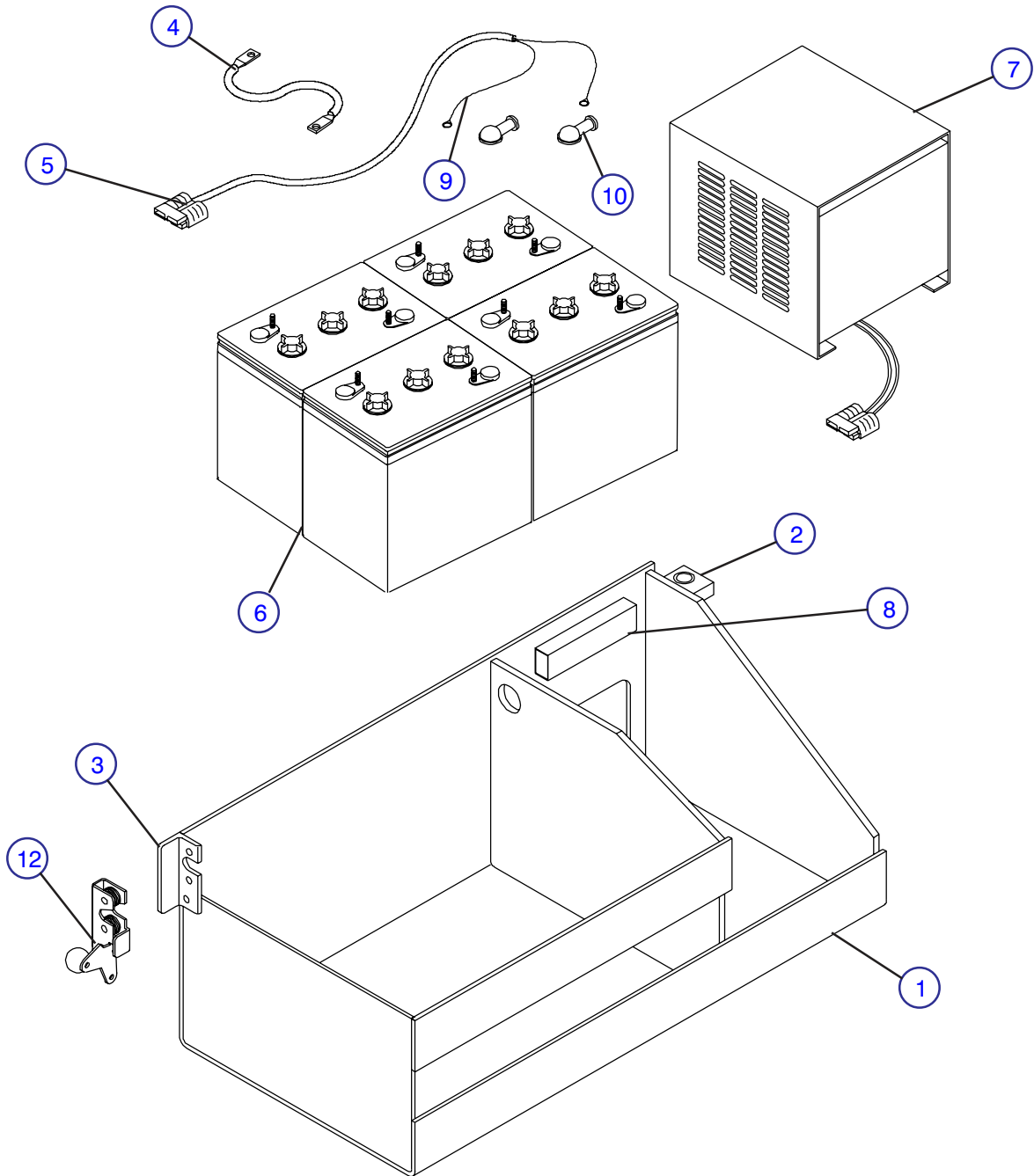


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FIGURE 6-39. ELECTRICAL PANEL ASSEMBLY - EE-Rated

Index No.	Skyjack Part No.	Description	Units per Assy.
	114564	PANEL ASSEMBLY, Electrical (EE-Rated)(replaces 109491)	-
1	108993	• WELDMENT, Electrical panel	1
2	109111	• HARNESS, Manifold wiring	1
3	114548	• CABLE ASSEMBLY, Panel control (Replaces 108076 by ordering (1) Connector 107778)	1
	102888	• • CABLE, 16/10 x 67" lg.	1
	107778	• • CONNECTOR ASSEMBLY, 10 Pole female (Replaces 108181)	1
4	117325	• BREAKER, 15 Amp circuit (replaces 102331)	2
5	102756	• FUSE, 200 Amp	1
6	103068	• INSULATOR, Fuse	2
	103855	• • BOLT, Hex-hd 1/4-20 x 1/2" lg.	2
	104000	• • WASHER, Lock 1/4"	2
7	103057	• BEEPER, 24 Volt	1
8	103336	• HOURMETER	1
9	103101	• CONTACTOR	1
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104003	• • NUT, Hex #10-32	2
10	102853	• SWITCH, Up/down toggle	1
11	103805	• LABEL, Up/down	1
12	105280	• LABEL PLATE, Push to reset	2
13	112447	• BUMPER, Rubber	1
	103956	• • SCREW, Machine #6-32 x 1" lg.	1
	103985	• • NUT, Hex #6-32	1
14	103011	• STRIP, Terminal block	1
	103956	• • SCREW, Machine #6-32 x 1" lg.	2
	103985	• • NUT, Hex #6-32	2
15	108000	• DIODE ASSEMBLY	1
	102921	• • DIODE, 6 Amp	7
16	108589	• RELAY, 24 Volt (brake, cushion) (Replaces 103425)	2
	103962	• • SCREW, Machine #10-32 x 1/2" lg.	2
	104003	• • NUT, Hex #10-32	2
17	103319	• CAPACITOR, 35 Volt	1
18	102921	• DIODE, 6 Amp	1
19	108994	• COVER, Electrical component	1
	108995	• • GROMMET, Rubber	1
20	104632	• PLUG, Motor disconnect	1
21	104064	• GASKET, Foam 42-1/2" lg.	1
22	111181	• GUARD, Toggle switch	1

FIGURE 6-40. BATTERY TRAY ASSEMBLY

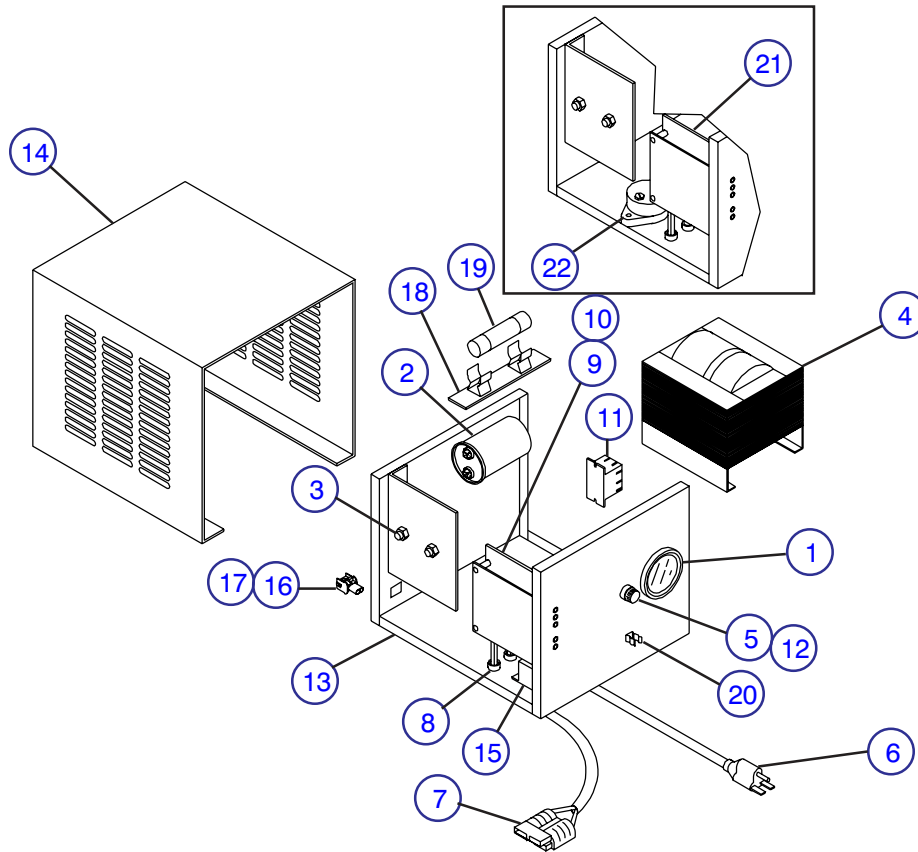


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FIGURE 6-40. BATTERY TRAY ASSEMBLY

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	BATTERY TRAY ASSEMBLY - Standard	-
B	(Ref.)	BATTERY TRAY ASSEMBLY - Europe	-
C	(Ref.)	BATTERY TRAY ASSEMBLY - EE-Rated	-
1	107879	• WELDMENT, Battery tray, A, B	1
	109191	• WELDMENT, Battery tray, C	1
	105517	• • PLYWOOD, 1/4" x 9.5" x 10.5"	5
	105518	• • PLYWOOD, 1/4" x 9.5" x 29"	3
	111423	• • SPACER, Wooden battery 2" x 3" x 11"	1
	104049	• • BRACKET, Battery tray lock	1
2	100335	• BUSHING, Bronze	2
3	102780	• LATCH, Battery tray	1
	103864	• • BOLT, Hex-hd 5/16-18 x 1" lg.	1
	103886	• • BOLT, Hex-hd 5/16-18 x 1-1/2" lg.	2
	103984	• • NUT, Lock 5/16-18	2
4	103237	• CABLE ASSEMBLY, Battery jumper	3
5	106008	• CABLE ASSEMBLY, Battery charger	1
	103364	• • PLUG, 50 Amp	1
	105600	• • BOOT, Cable (red)	2
6	103480	• BATTERY, 6V 220AH (#T2200) (Standard)	4
	106552	• BATTERY, 6V 250AH (#J250) (Optional)	4
7	108163	• CHARGER ASSEMBLY, Battery, 24V25A 115V, 60Hz (#BA285NM), A	1
	113415	• CHARGER ASSEMBLY, Battery, 24V25A 220V, 50Hz (#2440E), B (Replaces 108164 and 111327)	1
	110550	• CHARGER ASSEMBLY, Battery, 24V20A 115V, 60Hz (#B9338) (remote), C	1
	103887	• • BOLT, Hex-hd 5/16-18 x 3/4" lg.	2
	103404	• • WASHER, Lock 5/16"	2
8	104127	• COVER, Cable 6" lg., A, B	1
9	105600	• BOOT, Cable (red), C	6
10	105601	• BOOT, Cable (black), C	4
11	110334	• LABEL, Battery charger (located on front of weldment) (not shown)	1
12	111534	• KNOB, Rotary latch	1

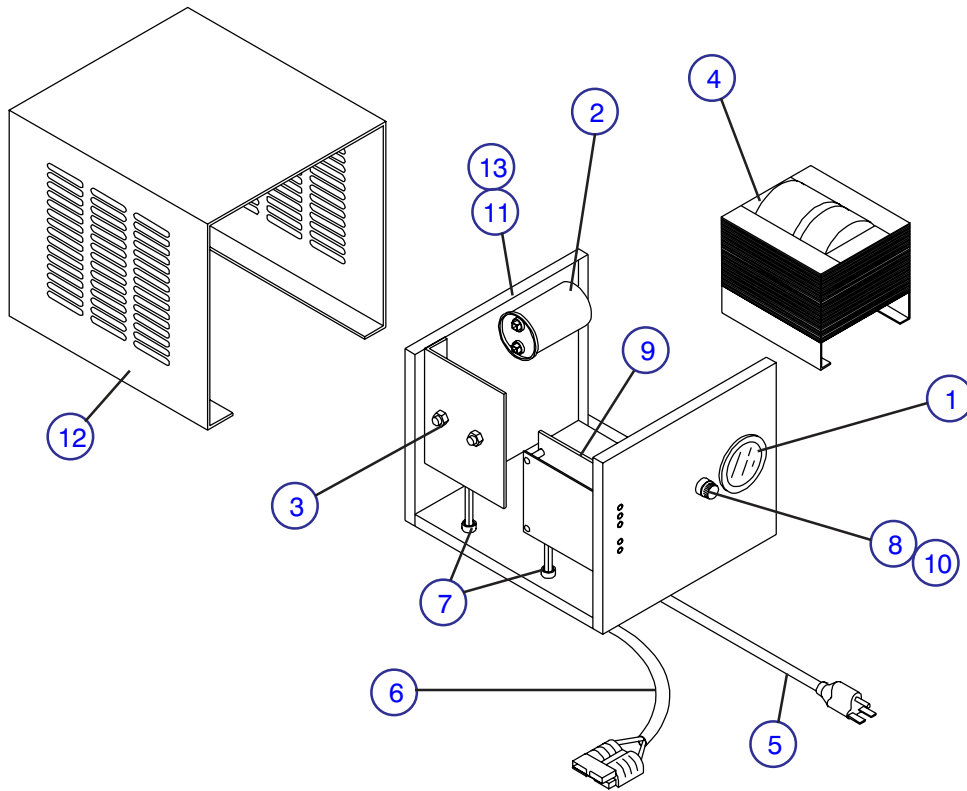
FIGURE 6-41. BATTERY CHARGER ASSEMBLY - 110 Volt
(Motor Appliance BA611 and BA285)



MA-COMP-33A

Index No.	Skyjack Part No.	Description	Units per Assy.
	112258	CHARGER ASSEMBLY, Battery, 24V25A, 115VAC 60Hz (#BA611)	-
	108163	CHARGER ASSEMBLY, Battery, 24V25A, 115VAC 60Hz (#BA285)	-
1	108554	• AMMETER, 0-30	1
2	108555	• CAPACITOR	1
3	108556	• DIODE	2
4	108557	• TRANSFORMER	1
5	108558	• HOLDER, Fuse	1
6	108559	• CORD, AC	1
7	108560	• CORD, DC	1
8	103364	• PLUG, 50 Amp	1
8	108561	• RELIEF, Strain	2
9	108565	• CIRCUIT BOARD ASSEMBLY, Timer control	1
10	108564	• TRANSFORMER, Timer control	1
11	115315	• RELAY, Timer control	1
12	102773	• FUSE, AGC15	1
13	\$	• BASE, Charger	1
14	\$	• COVER, Charger	1
15	115315	• RELAY, Charger cutout 120V, A	1
16	115391	• PLUG, Charger cutout, A	1
17	115392	• WIRE ASSEMBLY, Charger cutout, A	1
18	111905	• FUSE, 45 Amp NON, A	1
19	700687	• HOLDER ASSEMBLY, 45 Amp fuse, A	1
20	119137	• CLIP, AC Cord	1
21	108562	• TRIAC, B	1
22	108563	• BREAKER, Circuit, B	1
		\$ Consult Factory.	

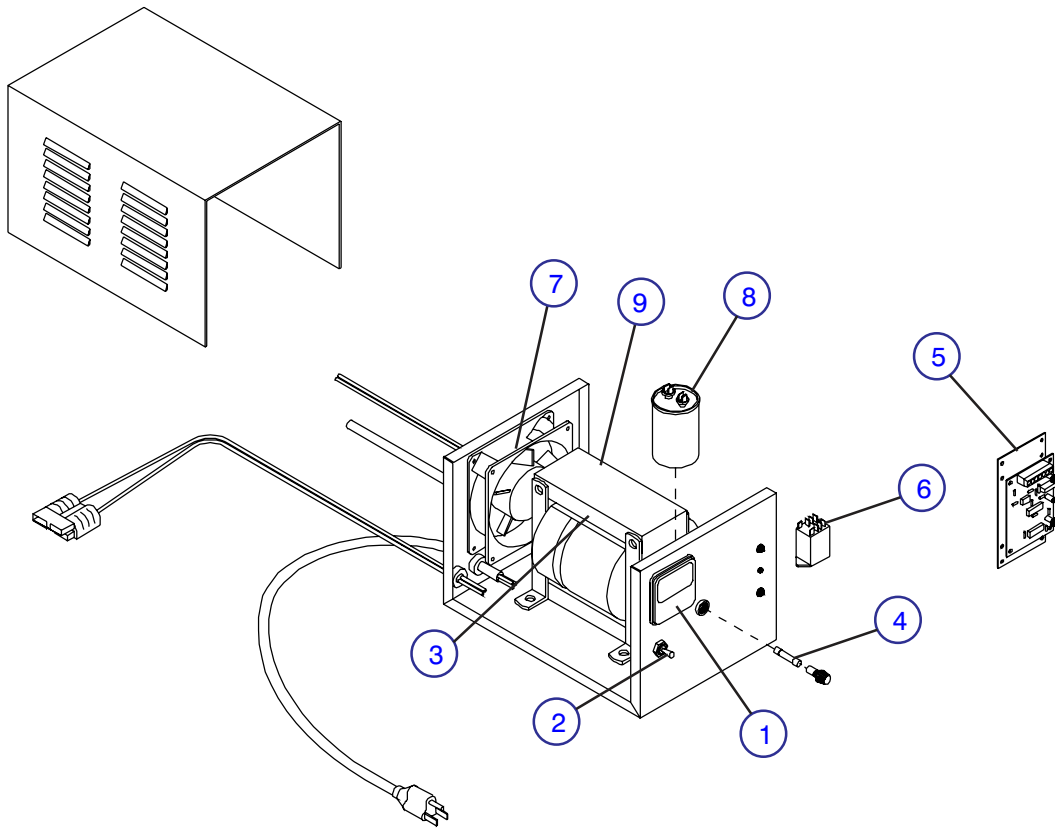
FIGURE 6-42. BATTERY CHARGER ASSEMBLY - 220 Volt
(Motor Appliance BA538)



MA-SJM-33

Index No.	Skyjack Part No.	Description	Units per Assy.
	111327	CHARGER ASSEMBLY, Battery (MAC#BA538) 24V20A, 220VAC 50Hz	-
1	110892	• AMMETER, 0-20 (M9818)	1
2	109102	• CAPACITOR (M3448)	1
3	111895	• DIODE (M7278)	2
4	111896	• TRANSFORMER, Main (TX12319A)	1
5	111898	• CORD, AC (M3321)	1
6	111899	• CORD, DC (CDC4009)	1
	103364	• • PLUG, 50 Amp	1
7	108561	• RELIEF, Strain (M0366)	2
8	108558	• FUSE HOLDER (M1374)	1
9	111897	• CONTROL CIRCUIT (CB024101613)	1
10	110855	• FUSE, AGC10 (M11641)	1
11	\$	• BASE, Charger	1
12	\$	• COVER, Charger	1
13	110895	• CIRCUIT BREAKER (M11723)	1
		+\$ CONSULT FACTORY.	

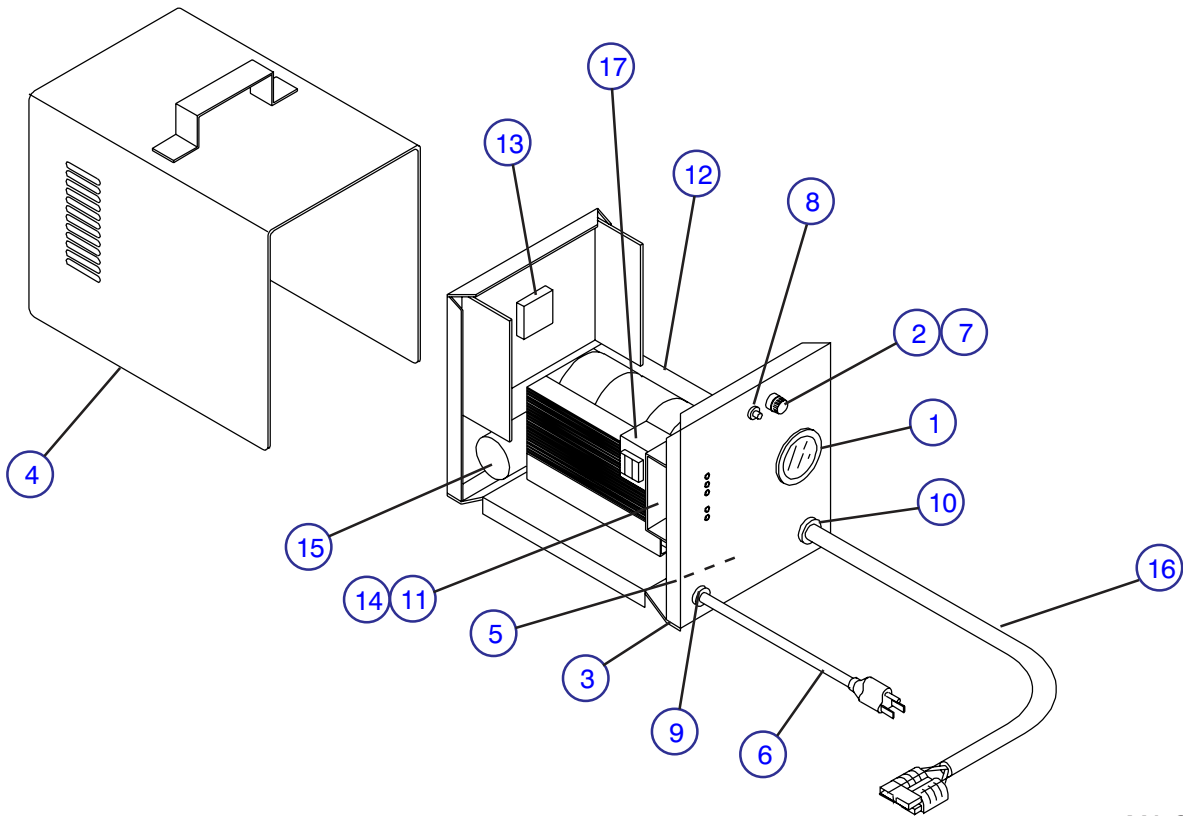
FIGURE 6-43. BATTERY CHARGER ASSEMBLY - 220 Volt (Bycan)



MA-SJ3-38

Index No.	Skyjack Part No.	Description	Units per Assy.
A	113415	CHARGER ASSEMBLY, Battery (2440E, 50-60 Hz)	-
B	112255	CHARGER ASSEMBLY, Battery (2440A, 50-60 Hz)	-
1	117162	• AMMETER, 50 Amp	1
2	117163	• SWITCH, Toggle 4PDT	1
3	117164	• RECTIFIER, 70 Amp	2
4	117165	• FUSE AND HOLDER, AC	1
5	117166	• CONTROLLER	1
6	117167	• RELAY, Vehicle disable	1
7	117168	• FAN, Cooling	1
8	117170	• TRANSFORMER, A	1
	117169	• TRANSFORMER, B	1
9	117172	• CAPACITOR, A	1
	117171	• CAPACITOR, B	1

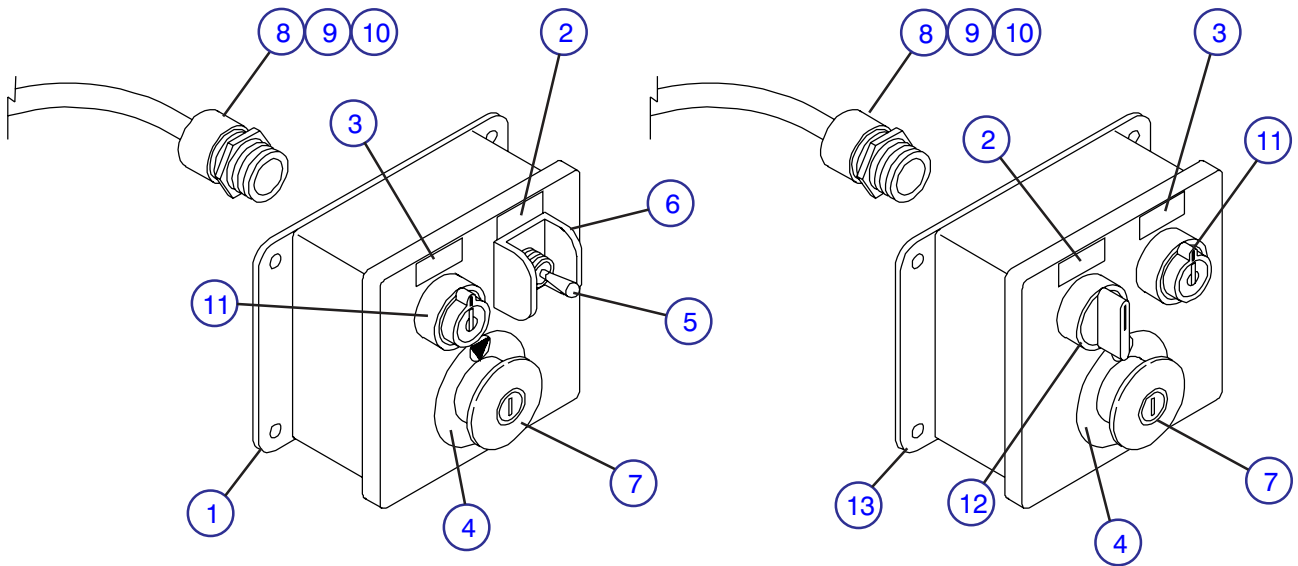
FIGURE 6-44. BATTERY CHARGER ASSEMBLY - EE-Rated



MA-SJM-28

Index No.	Skyjack Part No.	Description	Units per Assy.
	110550	CHARGER ASSEMBLY, Battery (MAC#B9338) 24V20A, 115VAC 60Hz	-
1	110854	• AMMETER, 0-20 (M9818)	1
2	110855	• FUSE, AC AGC10 (M11641)	1
3	\$	• BASE, Charger	1
4	\$	• COVER W/HANDLE, Charger	1
5	110856	• CIRCUIT BREAKER (M7692)	1
6	108559	• CORD, AC (M0296)	1
7	108558	• HOLDER, Fuse (M1374)	1
8	110857	• BUTTON, Charger stop (M8258)	1
9	108561	• RELIEF, Strain, AC cord (M0366)	1
10	109105	• RELIEF, Strain, DC cord (M6680)	1
11	108562	• TRIAC (M8118)	1
12	110858	• POWER TRANSFORMER (TX09394A)	1
13	110859	• RECTIFIER (M7488)	1
14	108565	• CONTROL CIRCUIT, VFC2200 (CBA202413)	1
15	109102	• CAPACITOR (M3448)	1
16	110861	• CORD, DC (M9186)	1
	103364	• PLUG, 50 Amp	1
17	110862	• TRANSFORMER, Control circuit (M10602)	1
		\$ Consult factory.	

FIGURE 6-45. BASE CONTROL BOX ASSEMBLY OPTION

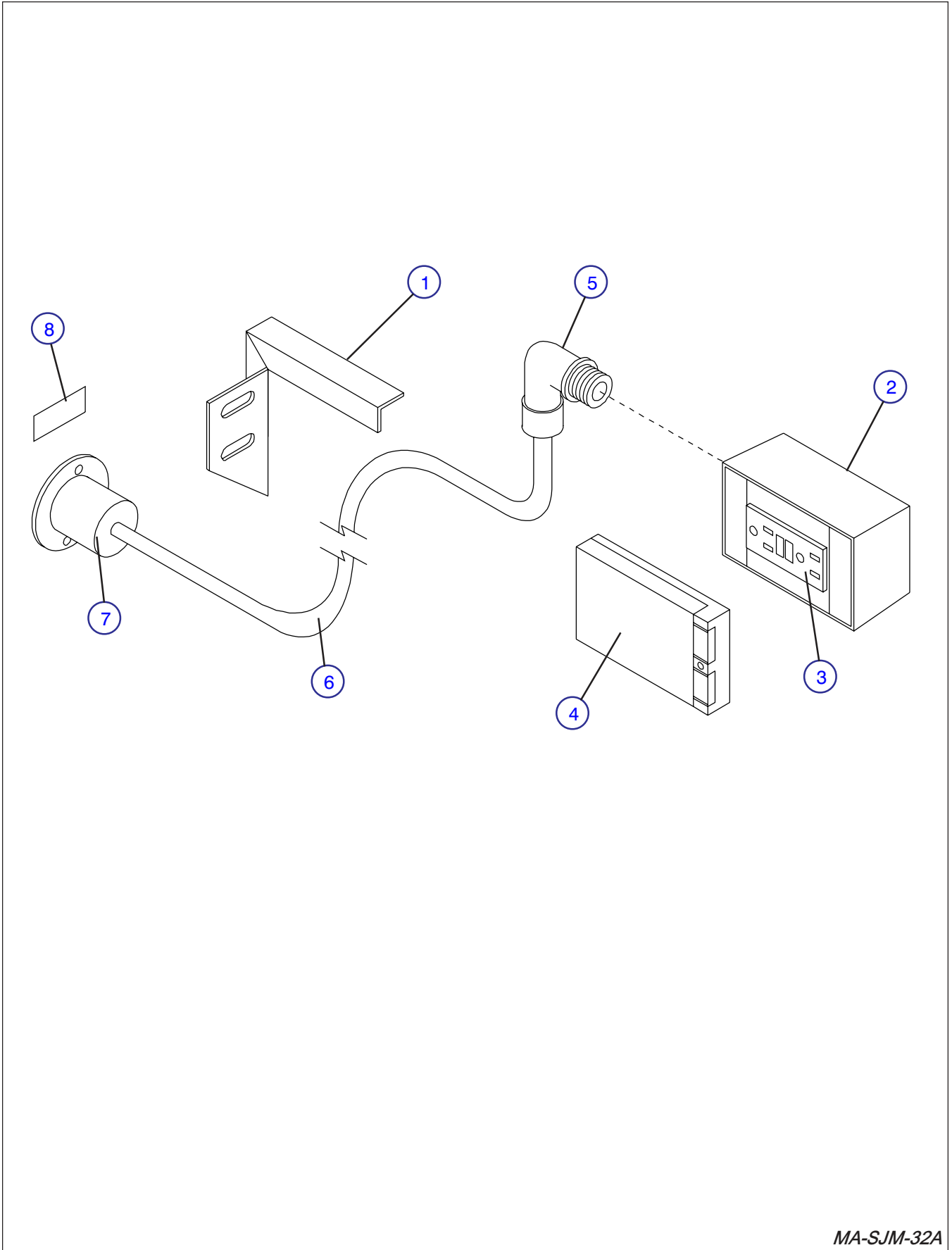


MA-SJII-32A

FIGURE 6-45. BASE CONTROL BOX ASSEMBLY OPTION

Index No.	Skyjack Part No.	Description	Units per Assy.
A	(Ref.)	BOX ASSEMBLY, Base control (Later models with toggle up/down switch)	-
B	(Ref.)	BOX ASSEMBLY, Base control (Early models with rotary up/down switch)	-
1	115538	• BOX, Base control, A	1
2	108328	• LABEL, Platform up/down	1
3	102451	• LABEL, Platform/base select	1
4	111814	• LABEL, Emergency stop (Replaces 105351)	1
5	102853	• SWITCH, Toggle, A	1
6	111181	• GUARD, Toggle switch, A	1
7	(Ref.)	• SWITCH ASSEMBLY, Emergency stop	1
	102769	• • HEAD, Stop switch	1
	103100	• • BASE, Contact	1
	103225	• • BLOCK, N.C. Contact	1
8	103041	• STRAIN RELIEF, Cord 1/2"	1
9	103255	• CORD, 18/4 x 24" lg.	1
10	107712	• CONNECTOR ASSEMBLY, 5 Pole male (Replaces 4 pole round connector by also ordering Connector, 107711)	1
11	(Ref.)	• SWITCH ASSEMBLY, Platform/base key select	1
	102754	• • HEAD, Key switch	1
	104466	• • KEY, #455	AR
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
	103225	• • BLOCK, N.C. Contact	1
12	(Ref.)	• SWITCH ASSEMBLY, Platform up/down	1
	102837	• • HEAD, Selector switch	1
	103100	• • BASE, Contact	1
	103141	• • BLOCK, N.O. Contact	1
13	102976	• BOX, Base control, B	1

FIGURE 6-46. AC OUTLET ON PLATFORM OPTION

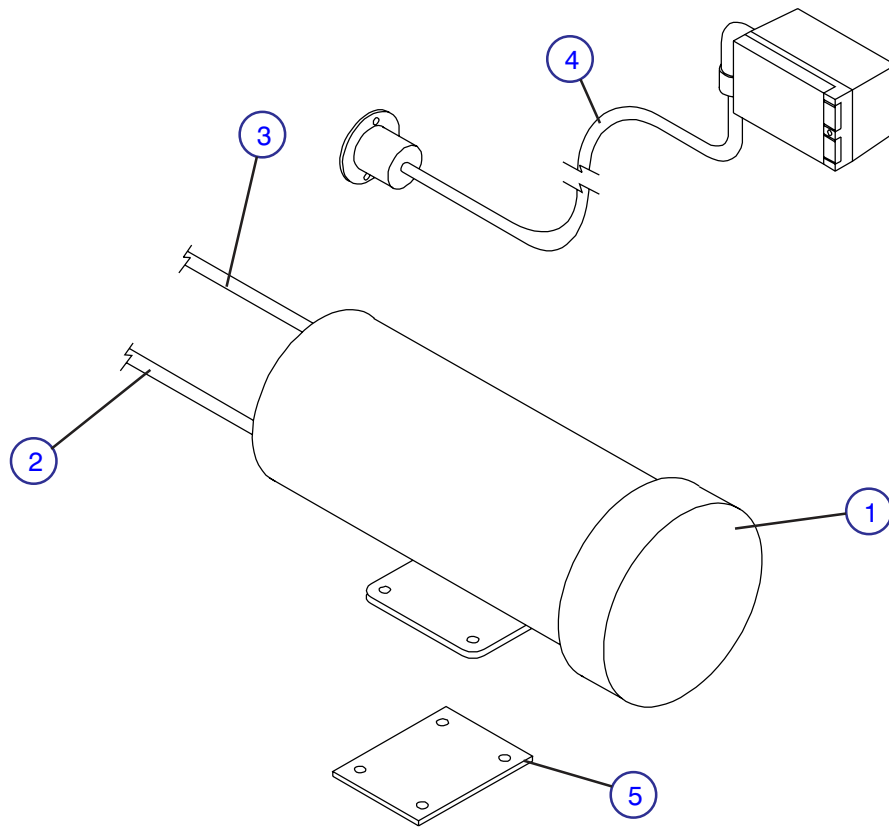


MA-SJM-32A

FIGURE 6-46. AC OUTLET ON PLATFORM OPTION

Index No.	Skyjack Part No.	Description	Units per Assy.
A	105933	AC OUTLET ON PLATFORM - Model 3015 (110V)	-
B	109923	AC OUTLET ON PLATFORM - Model 3219 (110V)	-
C	310101	AC OUTLET ON PLATFORM - Model 3015 (220V) (ANSI/SIA and CSA)	-
D	310099	AC OUTLET ON PLATFORM - Model 3015 (220V) (CE)	-
E	310102	AC OUTLET ON PLATFORM - Model 3219 (220V) (ANSI/SIA and CSA)	-
F	310100	AC OUTLET ON PLATFORM - Model 3015 (220V) (CE) (Consists of items 1 thru 9)	
1	108736	• COVER, Cable protection LH (Replaces 105413), A, B	1
	109552	• ELECTRICAL ASSEMBLY, AC Outlet, A	1
	109553	• ELECTRICAL ASSEMBLY, AC Outlet, B (Consists of items 2 thru 7)	1
2	109700	• BOX, GFI Receptacle	1
3	109698	• RECEPTACLE, 125V GFI, A, B	1
4	109699	• PLATE, Weatherproof GFI cover	1
5	103035	• CONNECTOR, 90° Strain relief	1
6	105269	• CORD, 14/3 x 312" lg., A	1
	105269	• CORD, 14/3 x 432" lg., B, E	1
	105269	• CORD, 14/3 x 288" lg., C	1
	300331	• CORD, 14/3 x 432" lg., D	1
	300331	• CORD, 14/3 x 432" lg., F	1
7	105271	• PLUG, 3-Prong male recessed, A, B	1
8	110333	• LABEL, Connect supply here, A, B	1
		NOTE: The following parts were used on earlier machines:	
	104343	BOX, Duplex receptacle	1
	104408	RECEPTACLE, 125V Duplex	1
	104342	PLATE, Weatherproof duplex cover	1
	103035	CONNECTOR, 90 Strain relief	1

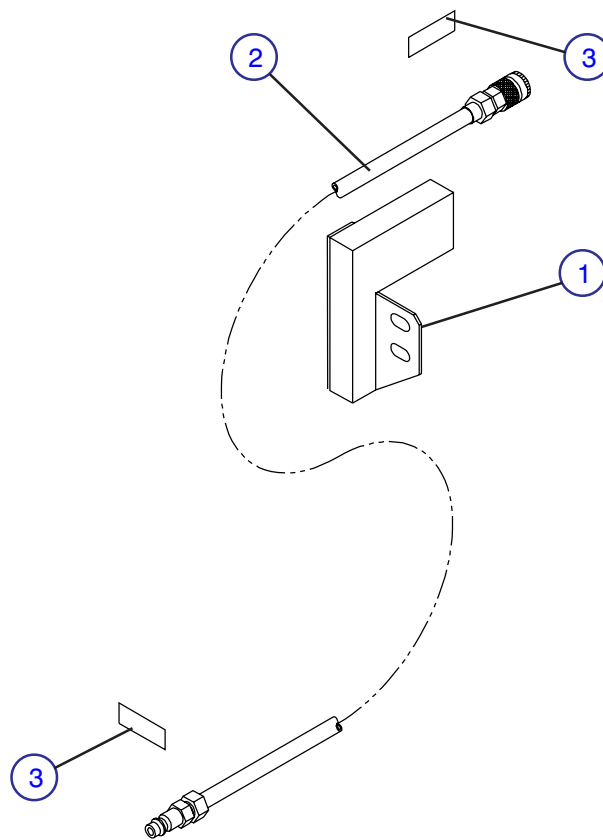
FIGURE 6-47. 800W GENERATOR OPTION



MA-SJM-24A

Index No.	Skyjack Part No.	Description	Units per Assy.
	(Ref.)	800W GENERATOR OPTION (Order components)	-
1	105882	• GENERATOR, 800 Watt	1
	106049	• • BOLT, Carriage 5/16-18 x 1-1/4 " lg.	4
	103404	• • WASHER, Lock 5/16"	4
	103996	• • WASHER, Flat 5/16"	4
	100397	• • NUT, Hex 5/16-18	4
2	108398	• CABLE, Battery positive	1
3	108399	• CABLE, Battery negative	1
4	(Ref.)	• AC OUTLET TO PLATFORM (Refer to Figure 6-46.)	1
5	107996	PLATE, Generator mounting (welded to 1st inner scissors)	1

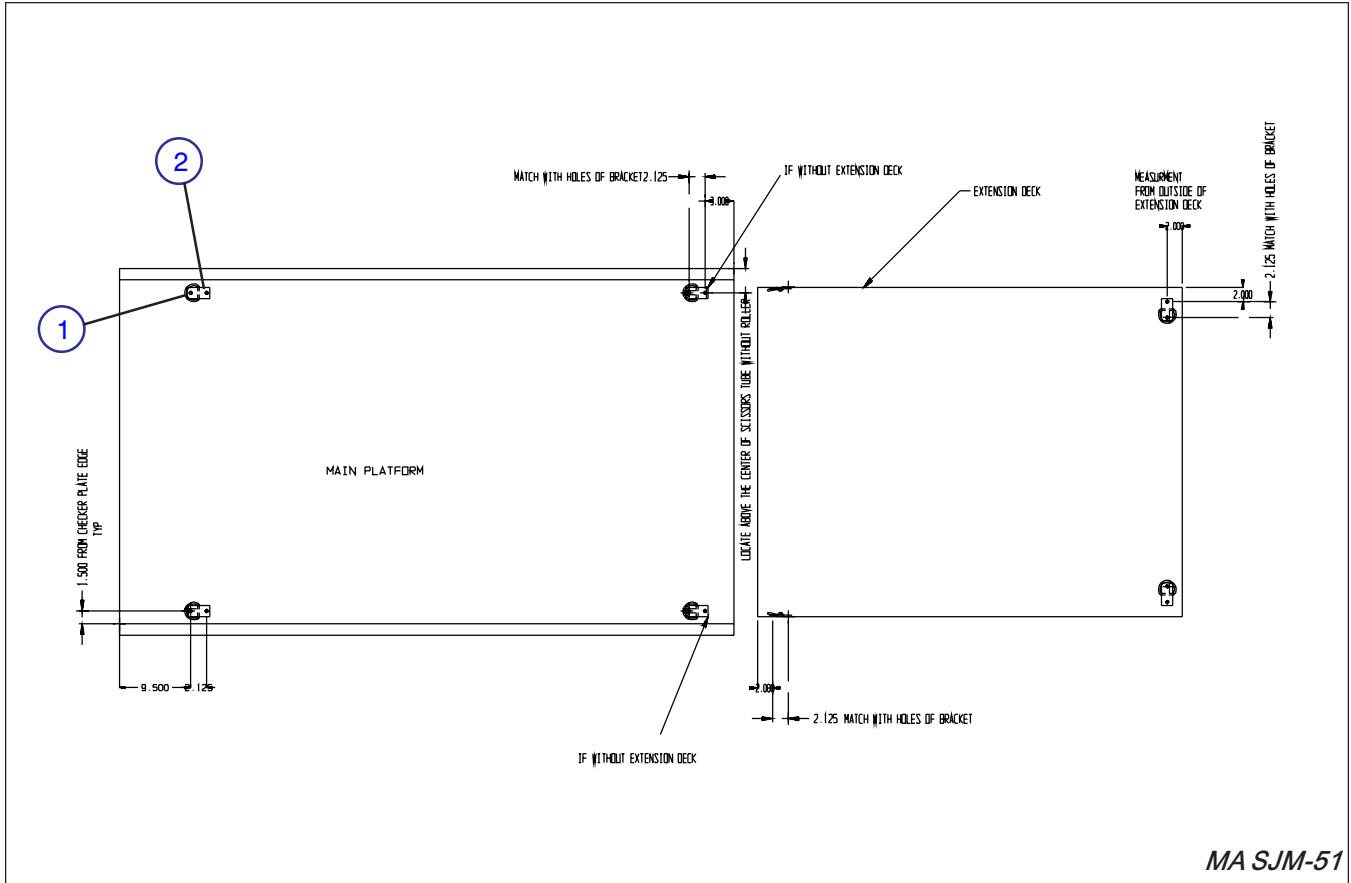
FIGURE 6-48. AIR HOSE TO PLATFORM OPTION



MA-SJII-41

Index No.	Skyjack Part No.	Description	Units per Assy.
A	310052	AIR HOSE TO PLATFORM - Model 3015 (Replaces 109556)	-
B	310053	AIR HOSE TO PLATFORM - Model 3219 (Replaces 107888)	-
1	109372	• COVER, Hose protection LH	1
2	(Ref.)	• HOSE ASSEMBLY, Air to platform	1
	107882	• • FITTING, Female disconnect	1
	107883	• • FITTING, Male disconnect	1
	107884	• • HOSE, Air line 1/2" x 330" lg., A	1
	107884	• • HOSE, Air line 1/2" x 450" lg., B	1
	109050	• • FITTING, Hose barb	2
	107886	• • CLAMP, Hose	2
3	107887	• LABEL, Connect air here	2
	102891	• STRAP, Tie 7" lg.	AR
	102893	• STRAP, Tie 13-1/2" lg.	AR

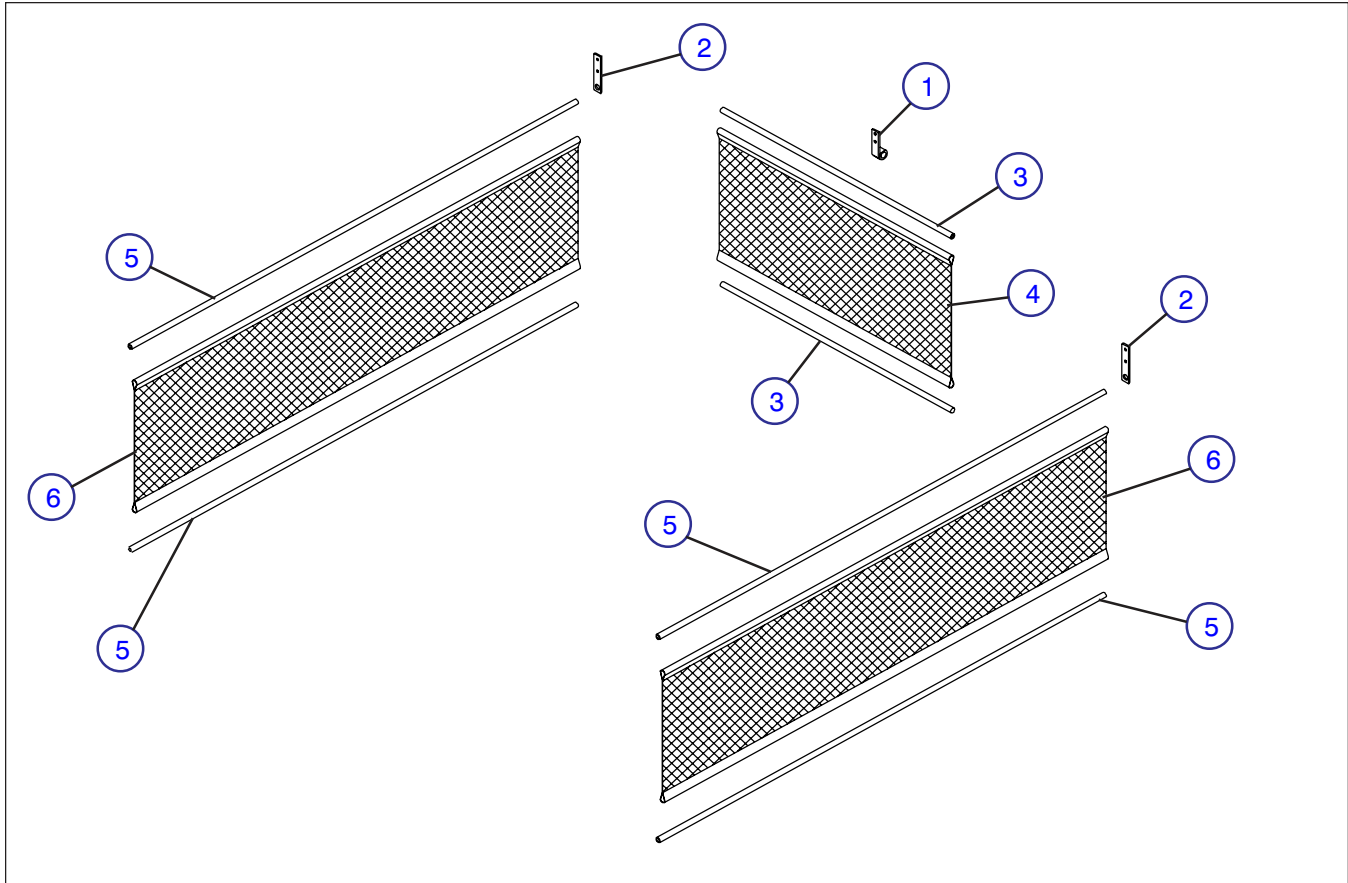
FIGURE 6-49. D-RING LANYARD ATTACHMENTS OPTION



MA SJM-51

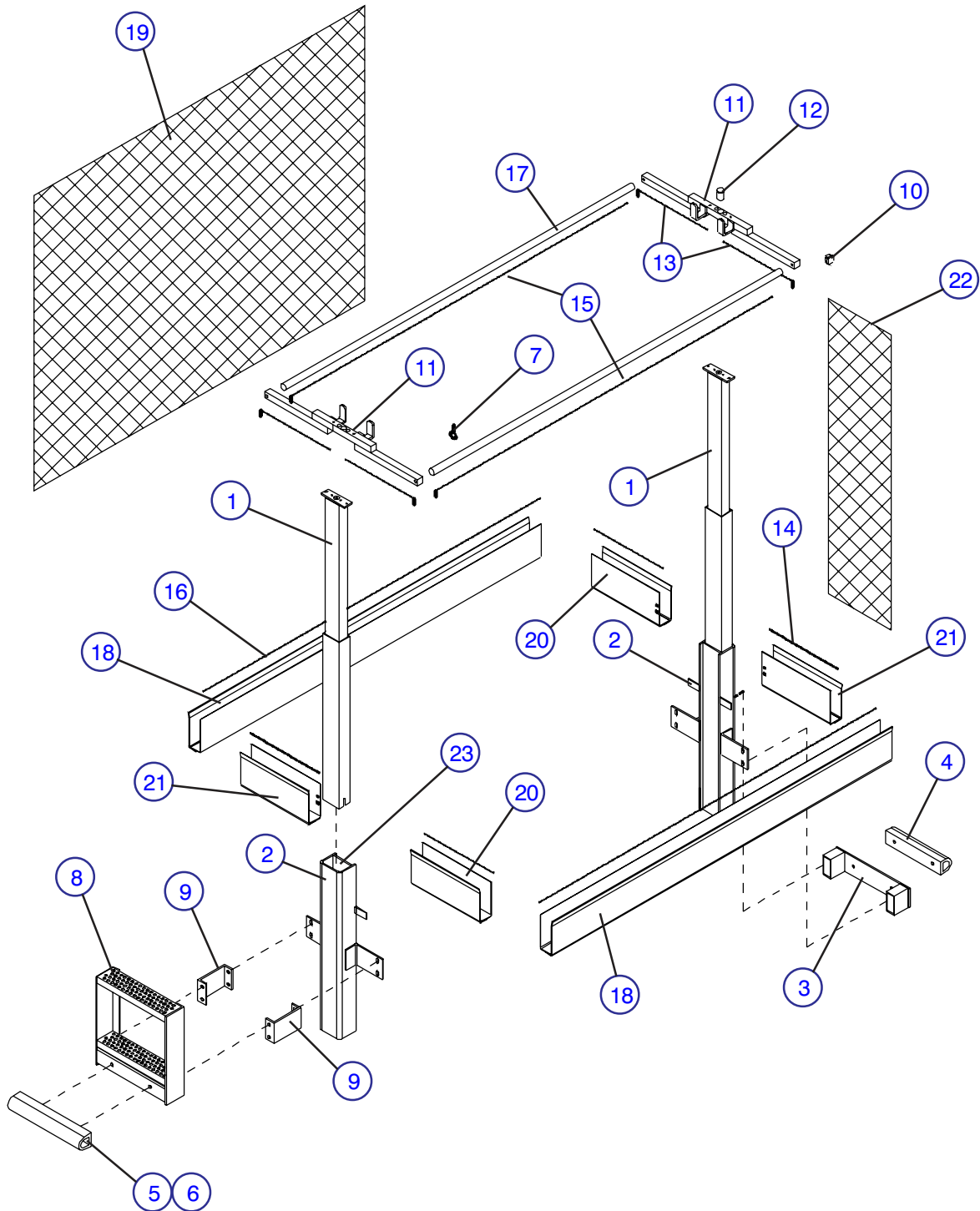
Index No.	Skyjack Part No.	Description	Units per Assy.
1	113122	D-RING, Lanyard attachment BRACKET, D-ring	AR
2	114989		AR

FIGURE 6-50. SCISSOR GUARD OPTION - France



Index No.	Skyjack Part No.	Description	Units per Assy.
	114281	SCISSOR GUARD ASSEMBLY, (France) (3219) (For machines with Serial Number 23412 and Above)	-
1	113665	BRACKET, Scissor guard front	2
	103473	• BOLT, Hex-hd 3/8-16 x 1" lg.	4
	103999	• WASHER, Lock 3/8"	4
	103978	• NUT, Hex-hd 3/8-16	4
2	113656	BRACKET, Scissor guard rear	2
	103473	• BOLT, Hex-hd 3/8-16 x 1" lg.	4
	103999	• WASHER, Lock 3/8"	4
	103978	• NUT, Hex-hd 3/8-16 x 1" lg.	4
3	114275	TUBE, Front and rear	2
	103871	• BOLT, Hex-hd 3/8-16 x 1" lg.	4
	103999	• WASHER, Lock 3/8"	4
4	114279	MESH, Front and rear	2
5	112464	TUBE, Side	4
	101632	• BOLT, Hex-hd 3/8-16 x 3/4" lg.	4
	103999	• WASHER, Lock 3/8"	4
	103472	• WASHER, Flat 3/8"	4
6	114280	MESH, Side	2

FIGURE 6-51. SCISSOR GUARD OPTION - Other Than France



MA-SJM-36

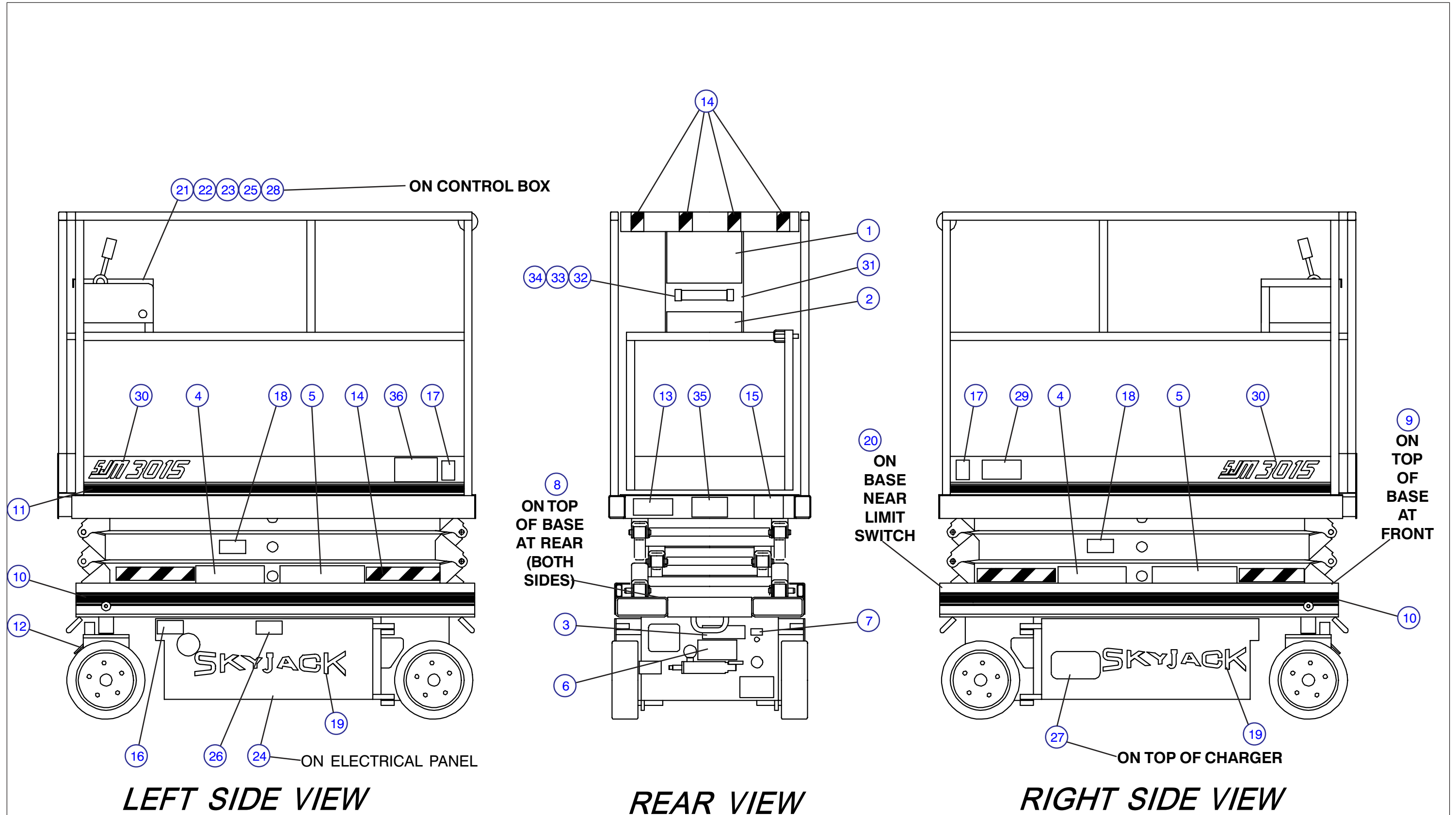
FIGURE 6-51. SCISSOR GUARD OPTION - Other Than France

Index No.	Skyjack Part No.	Description	Units per Assy.
A	112925	SCISSOR GUARD ASSEMBLY (Model 3015)	
B	112955	SCISSOR GUARD ASSEMBLY (Model 3219)	
1	110709	• MAST ASSY., Scissor guard	2
	110479	• • MAST, Scissor guard top	2
	110465	• • MAST, Scissor guard bottom	2
	110499	• • ABSORBER, Gas spring	2
	110345	• • CABLE, Galv. 55-3/4" lg.	4
	110483	• • PAD, Nylon 4" x 6" lg.	4
	110484	• • PAD, Nylon 2-1/2" x 6" lg.	4
	110481	• • SPACER	8
	110482	• • PIN, 1/4" x 2" lg.	4
	110480	• • PULLEY, Bronze	4
	112380	• • BEARING	4
2	110520	• HOUSING, Main mast	2
3	110490	• RETAINER, Front bumper	1
	110509	• • SPACER, Scissor guard	2
	110489	• • PLATE, Bumper	1
4	110599	• BUMPER, Front	1
	103915	• • BOLT, Hex hd 3/8"-16 x 3-1/2" lg.	4
	103999	• • WASHER, Lock 3/8"	4
5	112883	• BUMPER, Rear	1
6	110600	• RETAINER, Rear bumper	2
7	110525	• RING, Split	18
8	110488	• LADDER, Euro	1
9	112354	• SPACER, Ladder	2
	103978	• • NUT, Hex hd. 3/8"	4
	103472	• • WASHER, Flat 3/8"	4
10	105946	• CAP, Tube end 1"	8
11	112557	• SUPPORT, Curtain (A)	2
	112861	• SUPPORT, Curtain (B)	2
	103860	• • BOLT, Hex hd. 1/4"-20 x 1-3/4" lg.	4
	103995	• • WASHER, Flat 1/4"	4
	104000	• • WASHER, Lock 1/4"	4
	103980	• • NUT, Hex hd. 1/4"-20	4
12	110502	• FASTENER, Curtain cylinder	2
13	110531	• ROD, Curtain hanger upper	4
14	110613	• ROD, Curtain hanger lower	4
15	110536	• ROD, Curtain hanger upper side	2
16	110610	• ROD, Curtain hanger lower side	2
17	112464	• TUBE, Curtain upper side	2
	103978	• • BOLT, Hex hd. 3/8"-16 x 1-3/4" lg.	4
	103998	• • WASHER, Lock 3/8"	4
18	112555	• CHANNEL, Curtain storage side	2
19	111183	• CURTAIN, Mesh 60-1/2" x 47"	2
20	110570	• CHANNEL, Curtain storage LH	2
21	110569	• CHANNEL, Curtain storage RH	2
22	111182	• CURTAIN, Mesh 11-1/2" x 47"	2
23	112299	• PAD, Nylon 4-9/16" x 6"	8

FIGURE 6-52. LABELS AND NAMEPLATES

Index No.	Skyjack Part No.	Description	Units per Assy.
	108441	KIT, Service label	-
1	105672	• LABEL, Danger	1
2	106695	• LABEL, Caution	1
3	105959	• LABEL, Battery switch	1
4	106760	• LABEL, Keep	2
5	106761	• LABEL, Clear	2
6	106515	• LABEL, Towing instructions (Replaces 102484)	1
7	105983	• LABEL, Power off/on	1
8	102896	• LABEL, Forklift boot	2
9	103077	• LABEL, Safety bar	1
10	103110	• STRIPE, Red/blue/red (164" total) Not included in kit.	AR
11	103125	• STRIPE, White/blue (158" total) Not included in kit.	AR
12	103297	• LABEL, Free-wheeling valve	1
13	108665	• LABEL, Compliance to standards	1
14	102975	• STRIPE, Warning (648" roll) Not included in kit.	AR
15	106691	• LABEL, Operator's checklist	1
16	102505	• LABEL, Emergency lowering (velocity fuse)	1
	111605	• LABEL, Emergency lowering (holding valve)	1
17	103706	• LABEL, Skyjack vertical logo	2
18	102894	• LABEL, Do not lift from sides	2
19	108946	• LABEL, Skyjack logo	2
20	106705	• LABEL, Do not alter (near limit switch)	AR
21	102657	• LABEL, Up/down (on control box)	1
22	106704	• LABEL, Operator warning (on control box)	1
23	102627	• LABEL, Emergency stop (on control box)	1
24	103805	• LABEL, Up/down (on electrical panel)	1
25	102599	• LABEL, Lift/off/drive (on control box)	1
26	108442	• LABEL, Push to down (on electrical panel)	1
27	102912	• LABEL, Daily maintenance (on battery charger)	1
28	108855	• LABEL, Lift enable (on control box)	1
29	108666	• LABEL, Replacement parts	1
30	(Ref.)	<i>The following parts are not included in Label Kit:</i>	
	107426	LABEL, Model designation	
	111218	• SJM 3015	2
	111218	• SJM 3219	2
31	105745	PLATE, Safety label	1
	117355	PLATE, Manual box	1
	103632	• BOLT, Self-tapping 1/4-14 x 3/4" lg.	4
32	105744	TUBE, Manual 9" lg.	1
	117293	ENCLOSURE, Manual	1
	117294	LABEL, Manual enclosed	1
33	105802	CAP, Manual tube end	2
34	105934	CLAMP, Manual tube	2
35	108674	LABEL, Platform capacity	2
36	109985	LABEL, Annual inspection	1
	107903	<i>For machines with Air Hose To Platform Option:</i> LABEL, Connect air here	2
	110667	<i>For EE-Rated Machines:</i> LABEL, Warning, battery charging	1
	104589	LABEL, EE-Rating (diamond symbol)	1
	104588	LABEL, FM Approved	1
		Supply Model Number and Serial Number when ordering complete machine labels.	

FIGURE 6-52. LABELS AND NAMEPLATES





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