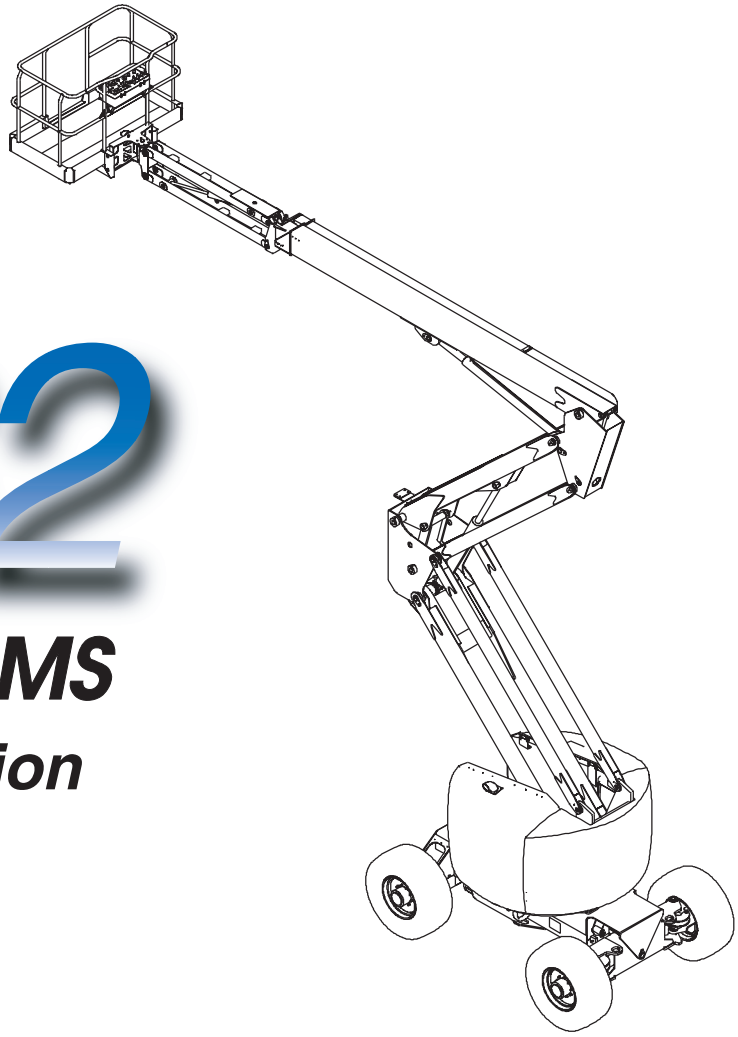
UpRight



AB62

WORK PLATFORMS

European Specification

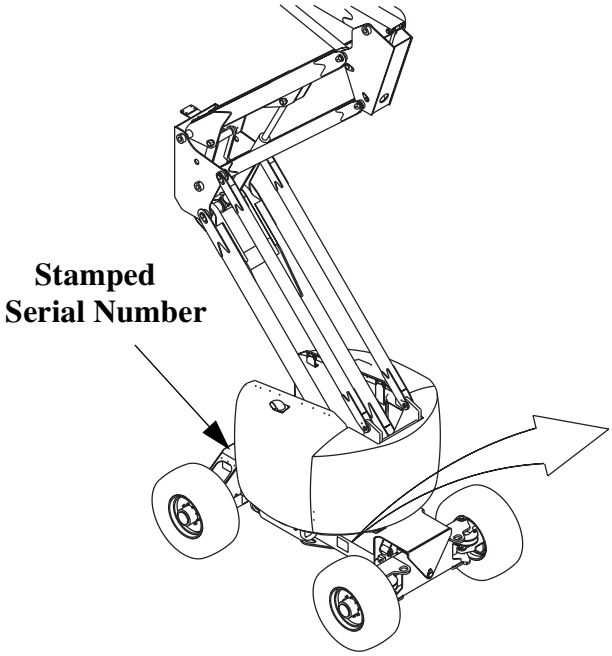
Service & Parts Manual

SERVICE & PARTS MANUAL

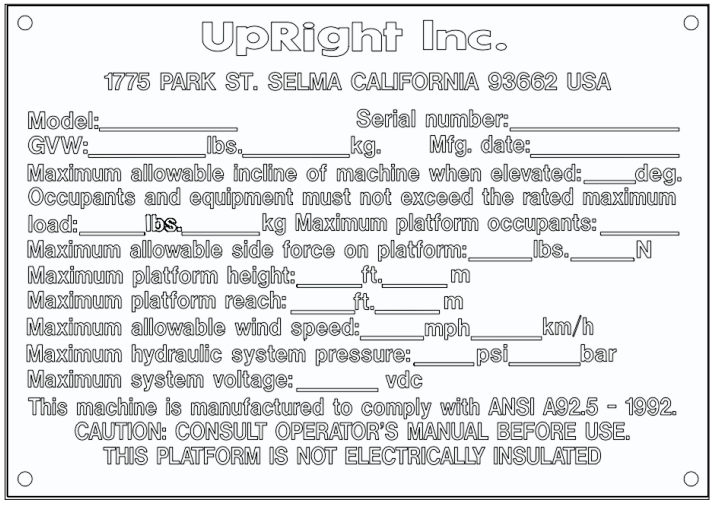
AB62 European Specification

Diesel Models

Serial Numbers 1100 - current



When contacting UpRight for service or parts information, be sure to include the MODEL and SERIAL NUMBERS from the equipment nameplate. Should the nameplate be missing, the SERIAL NUMBER is also stamped on top of the chassis at the rear of the machine.


UpRight Inc.

1775 PARK ST. SELMA CALIFORNIA 93662 USA

Model:_____ Serial number:_____

GVW:_____lbs._____kg. Mfg. date:_____

Maximum allowable incline of machine when elevated:____deg.

Occupants and equipment must not exceed the rated maximum load:_____lbs._____kg Maximum platform occupants:_____

Maximum allowable side force on platform:_____lbs._____N

Maximum platform height:_____ft._____m

Maximum platform reach:_____ft._____m

Maximum allowable wind speed:_____mph_____km/h

Maximum hydraulic system pressure:_____psi_____bar

Maximum system voltage:_____ vdc

This machine is manufactured to comply with ANSI A92.5 - 1992.

CAUTION: CONSULT OPERATOR'S MANUAL BEFORE USE.

THIS PLATFORM IS NOT ELECTRICALLY INSULATED

UpRight

Upright, Inc.
1775 Park Street
Selma, California 93662
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PARTS: 1-888-UR-PARTS
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P/N 104045-020
05/00 K

FOREWORD

HOW TO USE THIS MANUAL

This manual is divided into six sections. The section number printed at the top corner of each page can be used as a quick reference guide.

Special Information

⚠ DANGER ⚠

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING ⚠

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION ⚠

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTES: Give helpful information.

WORKSHOP PROCEDURES

CAUTION: Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause personal injury or could damage a machine or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by UpRight, Inc., might be done, or of the possible hazardous consequences of each conceivable way, nor could UpRight, Inc., investigate all such ways. Anyone using service procedures or tools, whether or not recommended by UpRight, Inc., must satisfy themselves thoroughly that neither personal safety nor machine safety will be jeopardized.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

FOREWORD

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Section 1

INTRODUCTION & SPECIFICATIONS

1.1 INTRODUCTION

Purpose

The purpose of this service and parts manual is to provide instructions and illustrations for the operation and maintenance of the AB62 Work Platform manufactured by UpRight, Inc., of Selma, California.

Scope

The manual includes procedures for proper operation, maintenance, adjustment, and repair of this product as well as recommended maintenance schedules and troubleshooting.

1.2 GENERAL DESCRIPTION

The AB62 Work Platform consists of the platform, controller, elevating assembly, power module, control module, and chassis.

Platform

The platform has a non-slip aluminum floor, 45 inch (1.4 m) high guardrails with midrail, 6 inch (152 mm) toeboards, and an entrance gate at the rear of the platform.

⚠ WARNING ⚠

DO NOT use the work platform without guardrails properly assembled and in place.

Platform Controller

The controller contains the controls to operate the machine. It is located at the front of the platform cage. The foot switch must be depressed to operate any function from the platform. A complete explanation of control functions can be found in Section 2.

Elevating Assembly

The platform is raised and lowered by the elevating assembly, an articulated boom powered by two single-stage lift cylinders. The hydraulic pump, driven by the engine, powers the cylinders. Solenoid operated valves control raising and lowering.

Chassis

The chassis is a structural frame that supports all the components of the AB62 Work Platform.

1.3 PURPOSE OF EQUIPMENT

The objective of the work platform is to provide a quickly deployable, self-propelled, variable height work platform to elevate personnel and materials to overhead work areas and be driven over normal terrains.

1.4 SPECIAL LIMITATIONS

Travel with the platform raised is limited to a creep speed range.

Elevating of the work platform is limited to firm, level surfaces only. Any degree of slope greater than 5° will sound a warning alarm.

⚠ DANGER ⚠

The elevating function shall ONLY be used when the work platform is level and on a firm surface. The work platform is NOT intended to be driven over uneven, rough or soft terrain when elevated

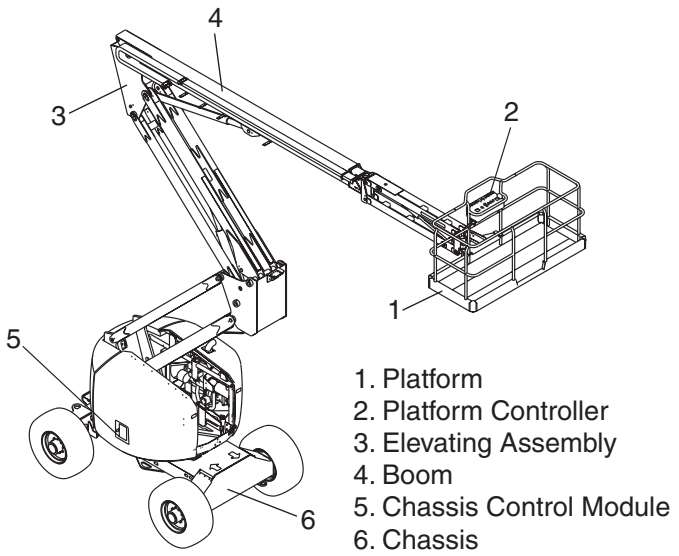


Figure 1-1: Work Platform

1.5 SPECIFICATIONS

Table 1-1: Work Platform Specifications

ITEM	AB62 4WD Diesel
Height	
Working Height	20,7 m [68 ft.]
Max. Platform Height	18,9 m [62 ft.]
Platform step in Height	343 mm [13.5 in.]
Up and Over Height	9,1m [30 ft.]
Drivable Height	18,9 m [62 ft.]
Horizontal Outreach	10,7 m [35 ft.]
Turret Rotation	360° Continuous
Platform Rotation	180°
Tail Swing	0 ft.
Jib Length	1,9 m [6ft. 4 in.]
Jib Arc	140°
Inside Turning Radius	2,5 m [8 ft.]
Outside Turning Radius	5.5 m [18 ft.]
Drive Speed (boom stowed and lowered)	6,8 km/h [4.25 mph] (high) - 2,6 km/h [1.6 mph] (low)
Drive Speed (Elevated)	,96 km/h [.6 mph]
Maximum Gradeability	22° [40%]
Dimensions (boom stowed)	
Platform Size Optional 8 ft. (2,4 m) Platform	1m x 1,8 m [39 in. x 72 in.] 1 m x 2,4 m [39 in. x 96 in.]
Guardrails	1,4 m [45 in.]
Toeboard	152 mm [6 in.]
Platform Capacity (Maximum)	227 kg [500 lbs.]
Occupants (Maximum)	2
Weight	10,614 kg [23,400 lbs.]
Overall Height	2,5 m [8 ft. 2 in.]
Overall Length	8,2 m or 7,2 m Minimum - [27 ft. or 23 ft. 6 in. Minimum]
Overall Width	2,3 m [7 ft. 7.5 in.]
Wheel Base	2,5 m [8 ft. 6 in.]
Ground Clearance	0,46 m (center) 0,32 m (axle) - [18 in. (center) 12.5 in. (axle)]
Power Source	Perkins 704-30
System Voltage	12 VDC
Maximum Hydraulic Pressure	345 bar [5000 PSI]
Controls	Electric Proportional
Tires	19 x 15 NHS - 14 PLY 5.5 bar (80 PSI)

NOTE: Specifications subject to change without notice. Hot weather or heavy use may affect performance.

Section 2

Machine Preparation & Operation

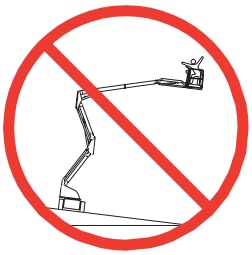
Warning

All personnel shall carefully read, understand and follow all safety rules and operating instructions before operating or performing maintenance on any UpRight aerial work platform.

Safety Rules

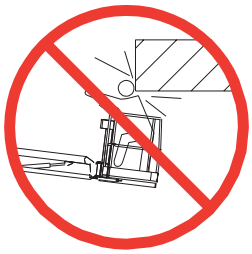
Electrocution Hazard

Tip Over Hazard



NEVER operate the boom or drive with the platform elevated unless on firm, level surface.

Collision Hazard



NEVER position the platform without first checking for overhead obstructions or other hazards .

Fall Hazard

NEVER climb, stand or sit on the platform guardrails or midrail.

Use of the aerial work platform: This aerial work platform is intended to lift persons and his tools as well as the material used for the job. It is designed for repair and assembly jobs and assignments at overhead workplaces (ceilings, cranes, roof structures, buildings etc.). All other uses of the aerial work platform **are prohibited!**

This aerial work platform is not insulated! For this reason it is imperative to keep a safe distance from live parts of electrical equipment**!**

All occupants must wear an approved fall restraint properly attached to designated platform anchorage point. Attach only one fall restraint to each anchorage point.

Exceeding the specified permissible maximum load of 225 kg (500 lbs) or two persons on the platform **is prohibited!**

The use and operation of the aerial work platform as a lifting tool or a crane (lifting of loads from below upwards or from up high on down) **is prohibited!**

Never exceed 200 N (45 lbs) of side force per occupant.

Distribute all platform loads evenly on the platform.

Never operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps, curbs, or debris; and avoiding them.

Operate the machine only on surfaces capable of supporting wheel loads.

Never operate the machine when wind speeds exceed 45 km/h (28 mph) (12,5 m/sec.= Beaufort scale 6).

In case of emergency push emergency stop button to cut power to all machine functions.

Climbing up the railing of the platform, standing on or stepping from the platform onto buildings, steel or prefab concrete structures, etc., **is prohibited.**

Dismantling the swing gate or the liftable bar or other railing components **is prohibited!** Always make certain that the swing gate or the liftable bar is closed and securely locked! **It is prohibited** to keep the swing gate or the liftable bar in an open position (e.g. held open with tie-straps) when the platform is raised!

To extend the height or the range by placing of ladders, scaffolds or similar devices on the platform **is prohibited!**

Inspect the machine thoroughly for cracked welds, loose or missing hardware, hydraulics, loose wire connections, and damaged cables or hoses before using.

Verify that all labels are in place and legible before using.

Never use a machine that is damaged, not functioning properly, or has damaged or missing labels.

If Alarm Sounds while boom is elevated, STOP, carefully retract boom and lower the platform without rotating. Move the machine to a firm, level service.

To bypass any safety equipment **is prohibited** and presents a danger for the persons on the aerial work platform and in its working range.

Never charge battery near sparks or open flame. Charging batteries emit explosive hydrogen gas.

Modifications to the aerial work platform are prohibited or permissible only at the approval by UpRight.

Never tow the machine. Transport by truck or trailer only.

After use, secure the work platform from unauthorized use by turning both keyswitches off and removing all keys.

Section 2.1

MACHINE PREPARATION & OPERATION

2.1 INTRODUCTION

This manual covers the operation of internal combustion powered models of the AB62RT Articulated Boom. This manual must be stored on the machine at all times.

2.2 PRE-OPERATION AND SAFETY INSPECTION

Carefully read, understand and follow all safety rules, labels, and operating instructions; then perform the following steps each day before use.

Perform a complete visual inspection of the entire unit prior to operating. Check the following areas for discrepancies:

1. Open covers and check hydraulic components/ hoses for damage or leaks. Check electrical components / wiring for damage or loose connections.
2. Inspect chassis, axles, hubs, and steering linkage for damage, deformation, buckled paint, loose or missing hardware, and cracked welds.
3. Check tires for damage, punctures, and inflation; tire pressure must be 5.5 bar (80 psi).
4. Check all hoses/cables for wear.
5. Inspect elevating assembly for damage, deformation, buckled paint, loose or missing hardware, and cracked welds.
6. Inspect platform and guardrails for damage, deformation, buckled paint, loose or missing hardware, and cracked welds. Ensure that gate operates freely and latches securely.
7. Check hydraulic fluid level with platform fully lowered.
8. Check battery fluid level (see Battery Maintenance, page 2-8).
9. Check fuel level; add fuel if necessary (see Fueling, page 2-8).
10. Ensure that radiator is cold; check coolant level. Add if necessary.

⚠ WARNING ⚠

NEVER remove the cap from a hot radiator. Hot coolant can cause severe burns.

System Function Inspection

NOTE: Refer to figures 2-1 and 2-2 for chassis and platform control locations.

1. Before performing the following tests, check area around machine and overhead for obstructions, holes, drop-offs, and debris.
2. Turn chassis key switch to chassis, and pull out the emergency stop switches to the ON position at the chassis control panel and at the platform control panel.
3. Turn key switch on, and wait for glow plug light to go off. When glow plug light goes off, start engine.
4. Push in the chassis emergency stop button; engine should stop. Repeat for platform emergency stop button. Return both emergency stop buttons to the ON position, and start engine.
5. Operate each function switch to raise/lower, extend/retract, rotate left/right, each section of the elevating assembly, and observe the operation of the machine. All functions should operate through full cycle smoothly.(Make sure that the Boom Speed Control is not at zero).
6. Turn chassis key switch to PLATFORM.
7. Mount the platform, lower the bar, and attach approved fall restraint to designated platform anchorage point. Attach only one fall restraint to each point.
8. Start the engine.
9. Without depressing the foot switch, move the drive control handle; machine should not function.
10. Depress the foot switch and move the drive control handle forward and reverse. Observe that proportional functions operate smoothly, and that brakes apply quickly after control is released.
11. While depressing foot switch, operate steer switch to left and right. Observe that steering wheels turn properly.
12. While depressing foot switch, turn function speed control knob to desired setting, and operate boom controls. Observe that boom operates smoothly, and that upper boom, jib, turret rotation, platform level, riser, and boom extend operate proportionally in conjunction with function speed control knob. Observe that platform maintains level when boom is elevated.

13. With the upper boom elevated one foot, operate drive control handle. Observe that drive speed is limited to creep (0,3m [1 foot] per second). Lower upper boom to stowed position.
14. Press the service horn button. Observe that horn is audible.

⚠ WARNING ⚠

DO NOT use a machine that is damaged or malfunctioning. Tag and remove the unit from service until it is repaired.

2.3 CONTROLS AND INDICATORS

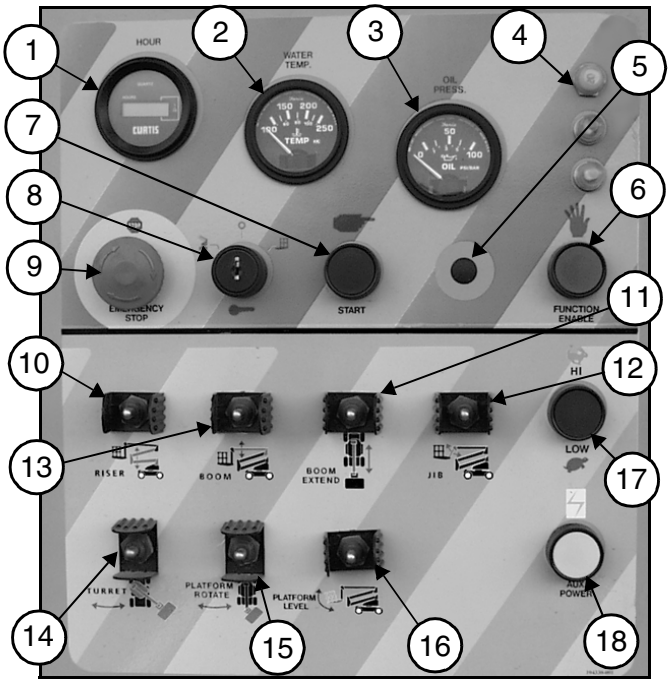


Figure 2-1: Chassis Controls

1. Hour Meter
2. Water Temp.
3. Oil Pressure
4. Breaker
5. Glow Plug Light
6. Function Enable
7. Engine Start
8. Key Switch
9. Emergency Stop
10. Riser
11. Boom Extend
12. Jib Raise
13. Boom Raise/Lower
14. Turret Rotate
15. Platform Rotate
16. Platform Level
17. Boom Speed HI/LOW
18. Auxiliary Power

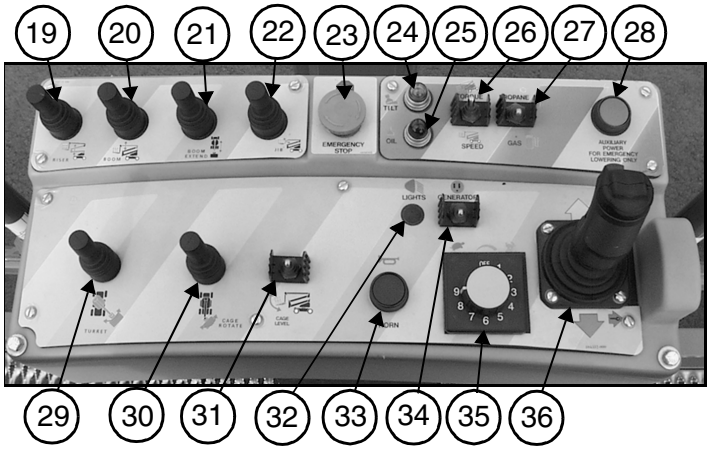


Figure 2-2: Platform Controls

19. Riser
20. Boom Raise
21. Boom Extend
22. Jib Raise
23. Emergency Stop
24. YELLOW-Tilt
25. RED-Oil Pressure Warning
26. Hi/Low Speed
27. Gas/Propane Select/ Glow Plug Light
28. Auxiliary Power
29. Turret Rotate
30. Cage Rotate
31. Cage Level
32. Auxiliary Light
33. Horn
34. Generator
35. Boom Speed
36. Drive Control Handle
37. Key Switch
38. Foot Switch

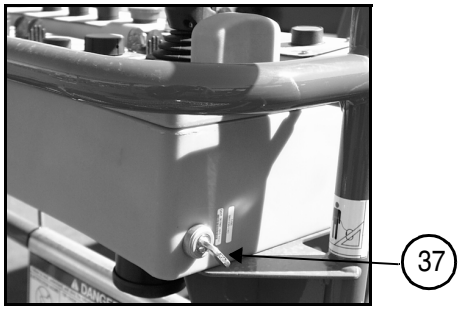


Figure 2-3: Key Switch

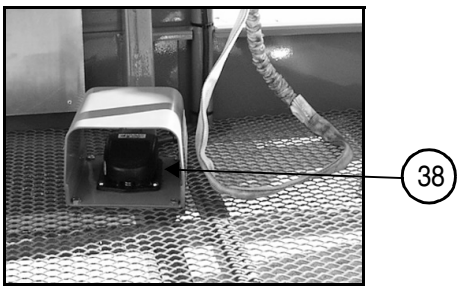


Figure 2-4: Foot Switch

2.4 OPERATION

Before operating the work platform ensure that:

Pre-operation and safety inspection has been completed, and any discrepancies have been corrected.

The operator has been thoroughly trained on the operation of the machine.

The work area is clear of all obstructions, holes, drop-offs, or persons in the route of travel.

The surface is capable of supporting wheel loads.

Refer to figures 2-1 and 2-2 for control locations.

Emergency Stop

At any time during operation, press the emergency stop button to stop all functions in an emergency.

Service Horn

At any time during operation, press the service horn button to sound an audible warning if necessary.

⚠ WARNING ⚠

Always wear an approved fall restraint properly attached to designated platform anchorage point when driving or elevating the machine (see figure 2-5). Attach only one fall restraint to each anchorage point.

Figure 2-5: Typical Fall Restraint Anchorage Point

Starting the Engine

From the Lower Controls

1. From the platform controls, turn the key switch on.
2. Turn the chassis key switch to CHASSIS position.
3. Press the start button to crank the engine. Release when the engine starts.
4. For diesel machines: Turn key to ON position and wait for glow plug light to go off. Start engine.

From the Platform Controls

1. Turn the chassis key switch to platform controls.
2. Turn the platform switch fully clockwise to crank the engine. Release when engine starts.
3. For diesel machines: Turn key to ON position and wait for glow plug light to go off. When glow plug light goes off, start engine.

Driving

With Boom Lowered

1. Turn chassis key switch to PLATFORM, and turn on (turn clockwise) the chassis emergency stop switch.
2. Mount the platform, close and latch the gate.
3. Attach approved fall restraint to designated platform anchorage point. Attach only one fall restraint to each point.
4. Start engine.
5. Check that the area around and above the work platform is clear of obstructions, holes, drop-offs, persons in the route of travel, and the surface is capable of supporting wheel loads.
6. Depress the foot switch and move the drive control handle forward to travel forward and reverse to travel in the reverse direction.

NOTE: When the boom is rotated to the front of the chassis (steering wheels aft), directions of travel and steering will be reversed. Observe the color-coded arrows on the control panel near the drive control handle and on the chassis. They will indicate the direction of travel when the drive control handle is moved

With Boom Elevated

Travel with boom elevated is restricted to firm, level surfaces only.

When driving elevated, the machine will travel at creep speed (0,3m [1 foot] per second.

Steering

1. While depressing the foot switch, push the steering switch (located on top of the control handle) to the left to turn left, and right to turn right.

Note: Steering is not self-centering. Wheels must be returned to the straight ahead position by operating the steering switch.

Positioning the Platform

Positioning the platform as close as possible to the work area requires some planning. First, you must survey the work site to find a suitable place to park the machine. This must be a firm, level area as close as possible to the work area. Take into consideration all obstructions on the ground and overhead, and avoid them.

Once you have moved the machine to a firm, level surface as near as possible to the work area, follow instructions on pages 2-5 and 2-6 to position the platform as close to the work area as possible.

Always, before operating any function, check the area around and overhead for any obstructions or electrical conductors.

⚠ WARNING ⚠

NEVER exit the platform while the boom is elevated. Keep both feet firmly planted on the platform floor at all times.

Multifunction Controls

The UpRight AB62 employs the use of multifunction controls. This means that riser or boom extension will function at full speed while simultaneously operating upper boom, jib, turret, or rotating the platform.

The turret may be rotated while driving when the boom is lowered, if necessary to make turns in tight areas.

Lower Control Operation

All boom functions will operate at the speed selected by upper speed control functions.

1. Turn chassis keyswitch to chassis controls.
2. With the engine running, operate the boom control switches to position the platform.
3. The High/Low switch will select between maximum speed, depending on the position of the platform Boom Speed control, and a lower fixed boom speed.

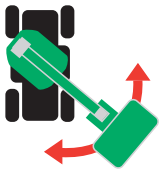
Leveling the Platform

⚠ WARNING ⚠

DO NOT operate the machine if the platform does not maintain level when elevated.

NOTE: Platform leveling should be done only to calibrate the automatic leveling system.

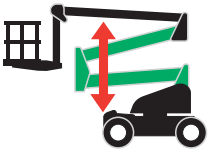
1. Set the function speed control dial to the desired setting. Rotate the dial clockwise to increase speed, counterclockwise to decrease. If you are not sure what speed to use, start out slow; the speed can be varied while operating the function.
2. While depressing the foot switch, push the platform level control switch forward to swing the platform upward, rearward to swing the platform downward. Release the switch to stop leveling.



Rotating the Turret

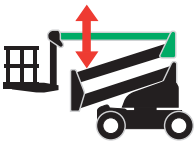
1. Set the function speed control dial to the desired setting. Rotate the dial clockwise to increase speed, counterclockwise to decrease. If you are not sure what speed to use, start out slow; the speed can be varied while operating the function.
2. While depressing the footswitch, push the turret rotation control lever right to rotate counterclockwise, left to rotate clockwise. Release the switch to stop rotation. Observe the area around the boom when rotating the turret to avoid any obstructions.

Warning: If tilt alarm sounds, retract boom and drive machine to a level surface.



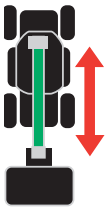
Elevating the Riser

1. Set the function speed control dial to the desired setting. Rotate the dial clockwise to increase speed, counterclockwise to decrease.
2. While depressing the foot switch, push the riser control lever forward to elevate the riser, rearward to lower the riser. Release the control lever to stop elevating/lowering.



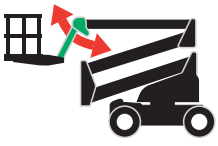
Elevating the Upper Boom

1. Set the function speed control dial to the desired setting. Rotate the dial clockwise to increase speed, counterclockwise to decrease. If you are not sure what speed to use, start out slow; the speed can be varied while operating the function.
2. While depressing the foot switch, push the upper boom control lever forward to elevate the upper boom, rearward to lower the upper boom. Release the control lever to stop elevating/ lowering.



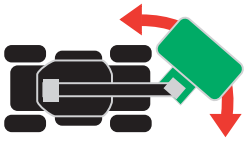
Extending the Upper Boom

1. Set the function speed control dial to the desired setting. Rotate the dial clockwise to increase speed, counterclockwise to decrease. If you are not sure what speed to use, start out slow; the speed can be varied while operating the function.
2. While depressing the foot switch, push the boom extension control lever rearward to extend the boom, forward to retract the boom. Release the control lever to stop extending/retracting.



Elevating the Jib

1. Set the function speed control dial to the desired setting. Rotate the dial clockwise to increase speed, counterclockwise to decrease. If you are not sure what speed to use, start out slow; the speed can be varied while operating the function.
2. While depressing the foot switch, push the jib control lever forward to elevate the jib, rearward to lower the jib. Release the control lever to stop elevating/lowering.



Rotating the Platform

1. While depressing the foot switch, push the platform rotation control lever right to go counterclockwise and left to go clockwise. Release the lever to stop rotation.

Emergency Operation

In the event of powered function failure, the elevating assembly may be operated by using the Emergency Power Unit. Hold in the Emergency Power button and operate the Lowering Controls as normal.

⚠ WARNING ⚠

NEVER climb down the elevating assembly. If controls do not respond, ask someone on the ground to lower the boom manually.

Emergency Towing

Perform the following only when the machine will not operate under its own power and it is necessary to move the machine or when winching onto a trailer for transportation

1. Insure that the platform is fully lowered, and that the turret is rotated so that the platform is to the rear of the machine.
2. Attach chain/cable of sufficient strength for towing the machine to front or rear tie down lugs.

⚠ WARNING ⚠

Chock wheels before disengaging hubs. Machine may roll.

3. Refer to Figure 2-6 and disengage all four drive hubs. Remove two screws and center cap. Re-install center cap in the opposite direction.

NOTE: When hubs are disengaged, the brakes are ineffective. The machine will roll freely.

4. When ready to move the machine, remove the chocks. Tow or winch into position and replace chocks.
5. Engage all four drive hubs by returning the center caps to their original orientation.

⚠ CAUTION ⚠

DO NOT move the machine faster than 5 km/h (3 mph). Faster speeds will damage drive components and void warranty.

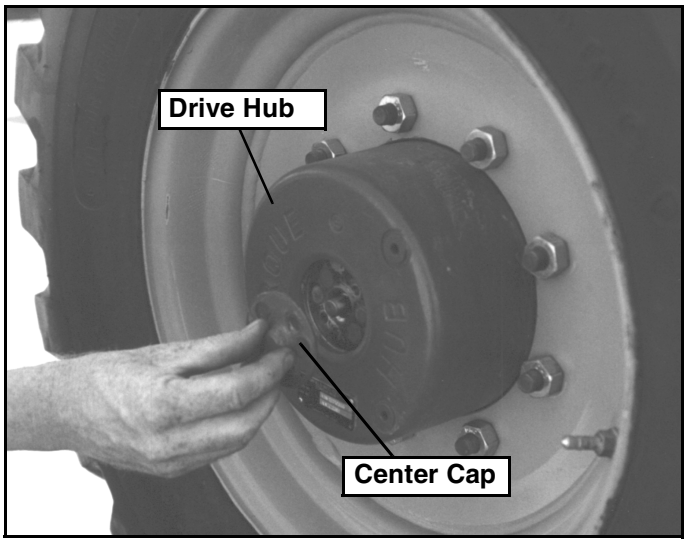


Figure 2-6: Disengaging Drive Hub

2.5 TRANSPORTATION

By Truck or Trailer

1. Insure that boom is fully lowered and retracted.
2. Raise the jib before the machine starts up or down ramp to avoid platform contacting ground.
3. Maneuver the machine onto the bed of truck/ trailer.
4. When winching, follow instructions for emergency towing on page 2-6. Attach winch cable to front tie down lugs.

⚠ CAUTION ⚠

Do not winch machine faster than 5 km/h (3 mph).

5. After winching, ensure that wheels are chocked.

NOTE: When hubs are disengaged, the brakes are ineffective. The machine will roll freely.

6. Secure the machine to the transport vehicle using chains/straps of adequate load capacity (refer to specifications on page 1-2) attached to chassis tie down lugs (See Figure 2-7).
7. Place a wooden block (20cm x 10cm x 75cm) 7.5" x 4" x 28" under platform support braces as shown (See Figure 2-7).
8. Attach ratchet strap under platform floor grating, over support braces (See Figure 2-7). Tighten securely; do not overtighten.

⚠ WARNING ⚠

NEVER elevate the machine while on a truck or trailer.

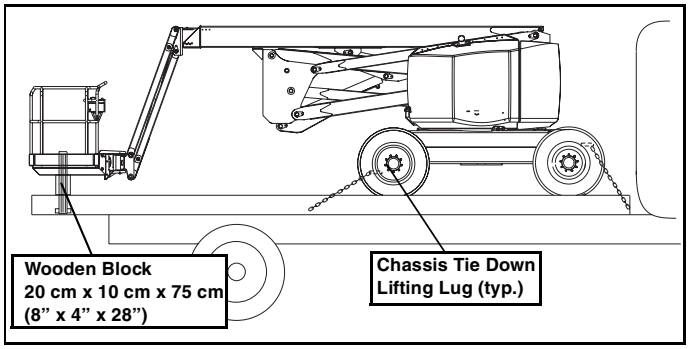


Figure 2-7: Securing the Machine for Transportation

After Use Each Day

1. Ensure that the platform is fully lowered.
2. Park the machine on level ground, preferably under cover, secure against vandals, children or unauthorized operation.
3. Turn the upper key switch to OFF, the lower key switch to PLATFORM, and remove all keys to prevent unauthorized operation.

2.6 MAINTENANCE

Fueling

Gasoline

1. Open left turret cover, then open fill cap. See Figure 2-8.
2. Fill to capacity with unleaded motor fuel only.
3. Fuel tank full capacity is 159 L 42 US gallons.

Diesel

1. Open left turret cover, then open fill cap. See Figure 2-8.
2. Fill to capacity with diesel motor fuel only, grade #1-D or #2-D. Use distillate fuel only; do not use residual or blend.
3. Fuel tank full capacity is 159 L (42 US gallons).

Hydraulic Oil

1. Open turret cover and check oil level at sight gauge with the boom stowed and retracted; engine running or stopped. See Figure 2-9.
2. If necessary, fill to capacity with clean ISO 46 compatible hydraulic oil.
3. Clean area around cap before opening.
4. Open filler/breather cap to add hydraulic oil.
5. Replace cap.

Lubrication

Refer to Maintenance Section for lubrication chart and guidelines.

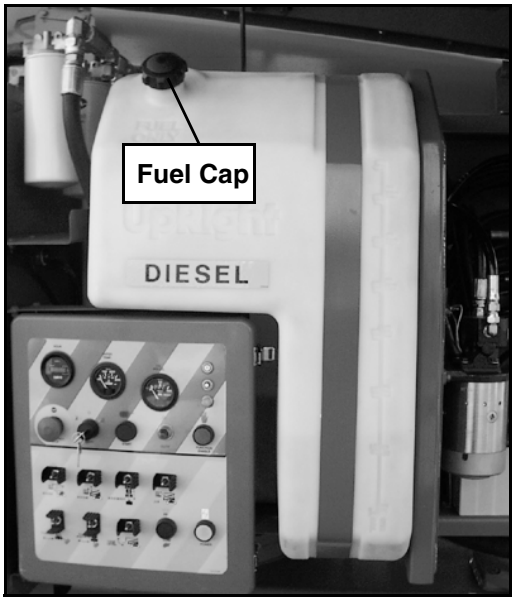


Figure 2-8: Fuel Tank

Battery Maintenance

⚠ WARNING ⚠

Hazard of explosive gas mixture. Keep sparks, flame and smoking materials away from batteries.

Always wear safety glasses when working with batteries.

Battery fluid is highly corrosive. Rinse away any spilled fluid thoroughly with clean water.

Check battery fluid level daily, especially if the work platform is being used in a warm, dry climate.

If electrolyte level is lower than 10mm (3/8 in.) above the plates, add distilled water only. DO NOT use tap water; it will shorten battery life.

Tires

Tire selection can affect the stability of the machine. Use only tires supplied by UpRight unless approved by the manufacturer in writing. Check air filled tire pressure daily 5.5 bar (80 psi).

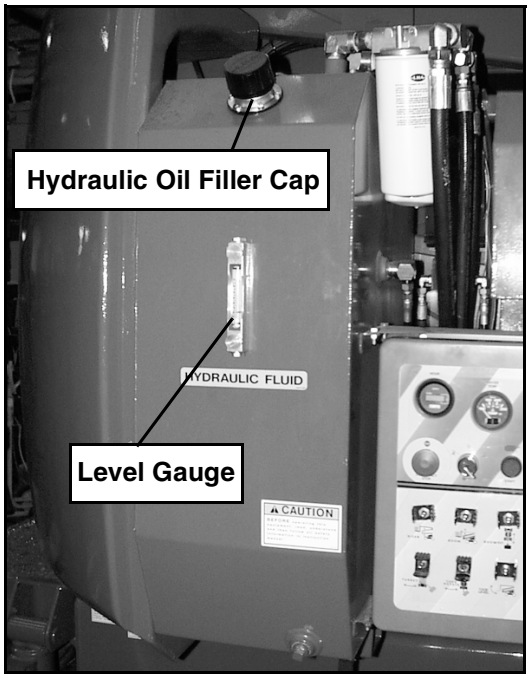


Figure 2-9: Hydraulic Oil Tank

Section 3

MAINTENANCE

3.1 INTRODUCTION

⚠ WARNING ⚠

Be sure to read, understand and follow all information in the Operation Section of this manual before attempting to operate or perform service on any work platform.

NOTE: For Information on the engine, refer to your local engine dealer.

This section contains instructions for the maintenance of the AB62 Work Platform. Procedures for the operation inspection, adjustment, scheduled maintenance, and repair/removal are included.

Referring to Section 2 will aid in understanding the operation, and function of the various components and systems of the work platform, and help in diagnosing and repair of the machine.

Refer to "Preventative Maintenance Check List" on page 4 for recommended maintenance intervals.

NOTE:Unless otherwise specified, torque all fittings according to Torque Specifications Chart (pages 3-22 & 3-23).

3.2 SPECIAL TOOLS

The following is a list of special tools which may be required to perform certain maintenance procedures on the work platform.

- 0-69 bar (0-1000 psi) Hydraulic Pressure Gauge with Adapter Fittings
- 0-207 bar (0-3000) psi Hydraulic Pressure Gauge with Adapter Fittings
- Small UpRight Connector Field Kit (UpRight P/N 030899-000)
- Large UpRight Connector Field Kit (UpRight P/N 030898-000)
- Inclinometer (UpRight P/N 010119-000)
- Optimizer (UpRight P/N 100329-000)
- Optimizer Adapter Cable (100329-005)
- Quick Disconnect Hydraulic Adapter (063965-002)

Figure 3-1: UpRight Connector Kit, Small

Figure 3-2: UpRight Connector Kit, Large

UpRight Connectors

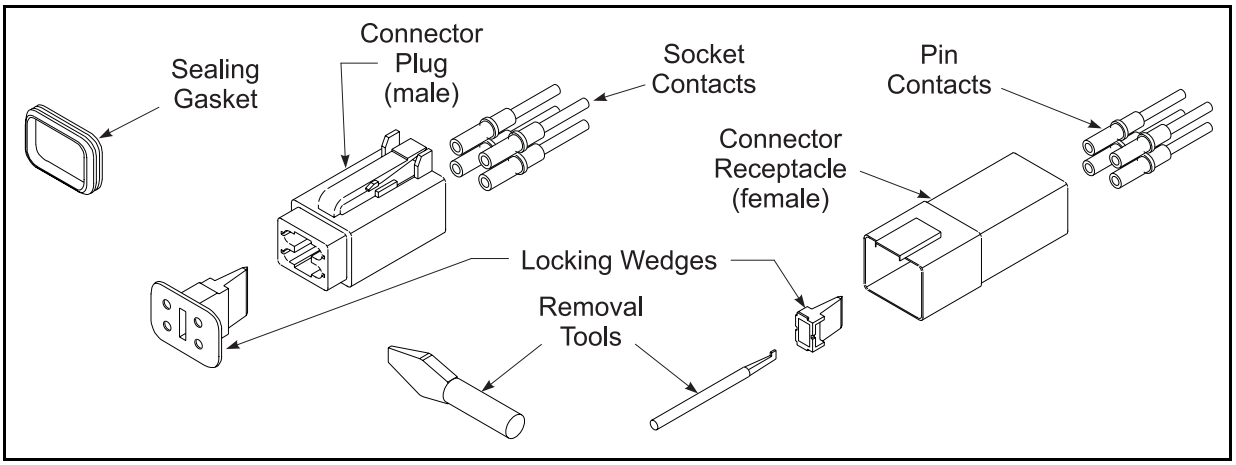


Figure 3-3: Plugs and Receptacles, UpRight Connectors

Deutsch connectors are designed so that connector parts, contacts or electrical cables may be replaced without replacing the entire connector.

Male Connector (Plug)

1. Disconnect the male connector (plug) from the female connector (receptacle).
2. Using the flat end of the Removal Tool (or flat blade screwdriver), pry the Locking Wedge from the Male Connector. Care should be taken that the Silicon Gasket is not damaged during this procedure.
3. Check all parts for damage. Replace all parts which are damaged or worn.
4. Replace or recrimp the wires and contacts. Refer to “Crimping” procedure.

Female Connector (Receptacle)

1. Disconnect the male connector (plug) from the female connector (receptacle).
2. Using the notched end of the Removal Tool (or a wire hook), pull the Locking Wedge from the Female Connector.
3. Check all parts for damage. Replace all parts which are damaged or worn.
4. Replace or recrimp the wires and contacts. Refer to “Crimping” procedure.

Releasing Locking Fingers

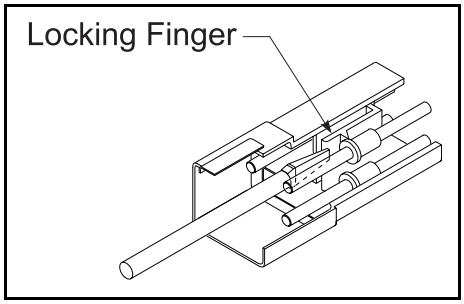


Figure 3-4: Locking Finger, UpRight Connector

1. The Locking Fingers can be released following the removal of the Locking Wedge of either the male or female connector.
2. Use the removal tool (or flat blade screwdriver) to push the Locking Fingers aside. This will release the grip on the contact.
3. Pull the wire and contact out of the connector.

Crimping

Note: Complete crimping instructions are included in each Field Kit.

1. Strip 1/4” (6 mm) from the wire.
2. Insert the contact into the crimping tool.
3. Insert the stripped wire into the contact. Copper strands should be visible in the bleed hole of the contact, and no copper strands should be loose (outside) of the contact barrel.
4. Completely close the handles of the crimping tool. Release the handles of the crimping tool and remove the crimped contact.

5. Inspect the crimped contact to ensure that all strands are secure in the crimp barrel.

Removing Contact From Heavy Duty Plug

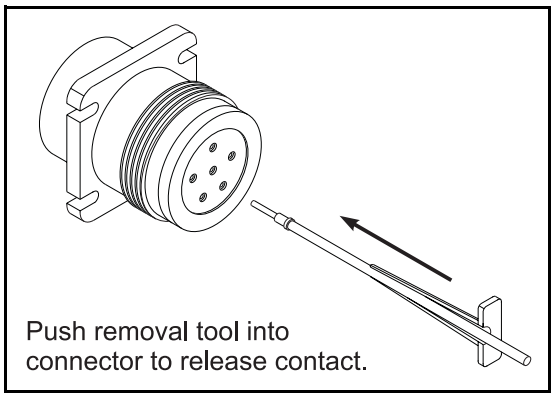


Figure 3-5: Heavy Duty UpRight Connector

1. Slip the removal tool along the wire to be replaced.
2. Push the removal tool into the connector until the contact is released.
3. Pull the wire and contact out of the plug.

3.3 PREVENTATIVE MAINTENANCE

The complete inspection consists of periodic visual and operational checks, together with all necessary minor adjustments to assure proper performance. Daily inspection will prevent abnormal wear and prolong the life of all systems. The inspection and maintenance schedule is to be performed at regular intervals. Inspection and maintenance shall be performed by personnel who are trained and familiar with mechanical and electrical procedures.

⚠ WARNING ⚠

Before performing preventative maintenance, familiarize yourself with the operation of the machine.

Always block the elevating assembly whenever it is necessary to perform maintenance while the platform is elevated.

The preventative maintenance table has been designed to be used primarily for machine service and maintenance repair. Please photocopy the following page and use this table as a checklist when inspecting the machine for service.

MAINTENANCE

Preventative Maintenance Table Key

Interval

Daily=each shift or every day
50h/30d=every 50 hours or 30 days
250h/6m=every 250 hours or 6 months
1000h/2y=every 1000 hours or 2 years

Y=Yes/Acceptable
N=No/Not Acceptable
R=Repaired/Acceptable

Preventative Maintenance Report

Date:_____
Owner: _____
Model No:_____
Serial No: _____
Serviced By:_____
Service Interval: _____

Table 3-1: Preventative Maintenance Check List

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Battery	Check electrolyte level	Daily			
	Clean exterior	3m			
	Clean terminals	3m			
Engine Oil and Filter	Check level and condition	Daily			
	Check for leaks	Daily			
	Change oil & filter (Diesel)	500h			
	Change oil & filter (Gas)	200h			
Engine Fuel System	Check fuel level	Daily			
	Check for leaks	Daily			
	Replace fuel filter	6m			
	Check air cleaner	Daily			
Engine Coolant	Check coolant level (with engine cold)	Daily			
	Replace coolant	3m			
Hydraulic Oil ***See Note**	Check oil level	Daily			
	Change filter	6m			
	Drain and replace with ISO 46 compatible	2y			
Hydraulic System	Check for leaks	Daily			
	Check hose connections	30d			
	Check hoses for exterior wear	30d			
Emergency Hydraulic System	Operate the emergency lowering valve and check for serviceability	Daily			
Controller	Check operation of all controls	Daily			
Control Cable	Check the exterior of the cable for pinching, binding or wear	Daily			
Platform Floor and Rails	Check fasteners for proper torque	Daily			
	Check welds for cracks	Daily			
	Check condition of platform	Daily			
	Check condition of anchorage points	Daily			
	Check condition of operator manual	Daily			
Tires	Check for damage	Daily			
	Check lug nuts (torque to 190 ft. lbs.[257Nm])	30d			
	Check air pressure (80 psi [5.5 bar])	Daily			
Hydraulic Pump	Wipe clean	30d			
	Check for leaks at mating surfaces	30d			
	Check for hose fitting leaks	Daily			
	Check mounting bolts for proper torque	30d			
Hydraulic Drive System	Check hydraulic drive motor operation	Daily			
	Check hoses,fittings, and valve block for leaks	Daily			

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Torque Hubs	Check for leaks	Daily			
	Check oil level	250h/6m			
	Change Oil after break-in period	50h/30d			
	Change Oil (SAE 90 wt. gear oil)	2000h/2y			
Steering System	Check hardware & fittings for proper torque	6m			
	Check linkage for wear areas	30d			
	Oil all pivot points	30d			
	Check steering cylinder for leaks	30d			
	Check for missing/loose retainers	Daily			
Elevating Assembly	Inspect for structural cracks	Daily			
	Check pivot points for wear	30d			
	Check pivot pin retaining bolts for proper torque	30d			
	Check members for deformation	Daily			
Chassis	Check hoses for pinch or rubbing points	Daily			
	Check component mounting for proper torque	6m			
	Check welds for cracks	Daily			
Lift Cylinder	Check the cylinder rod for wear	30d			
	Check pivot pin retaining bolts for proper torque	30d			
	Check seals for leaks	30d			
	Inspect pivot points for wear	30d			
	Check fittings for proper torque	30d			
Turret	Check ring gear for proper lubrication and wear	Daily			
	Lubricate ring gear (MoS_2 grease)	150h/3m			
Entire Unit	Check for and repair collision damage	Daily			
	Check fasteners for proper torque	3m			
	Check for corrosion-remove and repaint	6m			
	Lubricate	30d			
Labels	Check for peeling, missing, or unreadable labels & replace	Daily			

*ISO grade 46, for temperatures above 32° F (0° C).
*For colder climates: ISO grade 32, for temperature range of 0° F (-17° C) up to 32° F (0° C).
*ISO grade 15, for temperatures below 0° F (-17° C).

3.4 SUPPORTING ELEVATING ASSEMBLY (FIGURE 3-6)

⚠ WARNING ⚠

Never perform service on the work platform in the elevating assembly area while the platform is elevated without first blocking the elevating assembly.

DO NOT stand in the elevating assembly area while deploying or storing brace.

Installation

1. Park the work platform on a firm, level surface.
2. Fully retract upper boom.
3. Verify that the platform emergency stop switch is ON.
4. Turn platform/chassis switch to CHASSIS.
5. Using the Boom Raise/Lower Switch, elevate the boom.
6. Use a brace (figure 3-6) with a minimum capacity of two tons, to support the elevating assembly.
7. Using the Boom Raise/Lower Switch gradually lower the elevating assembly until the brace is supporting the elevating assembly as shown in figure 3-7.

Removal

1. Using the Boom Raise/Lower Switch, gradually raise the platform until boom is free of support.
2. Remove support.
3. Using the Boom Raise/Lower Switch, completely lower the platform.

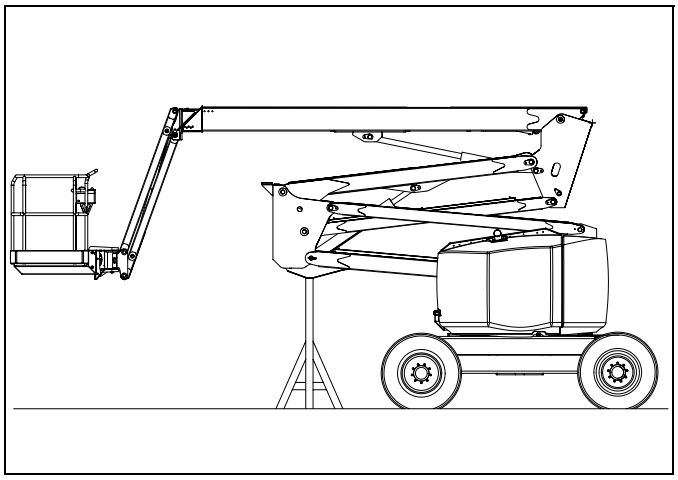


Figure 3-6: Supporting Elevating Assembly

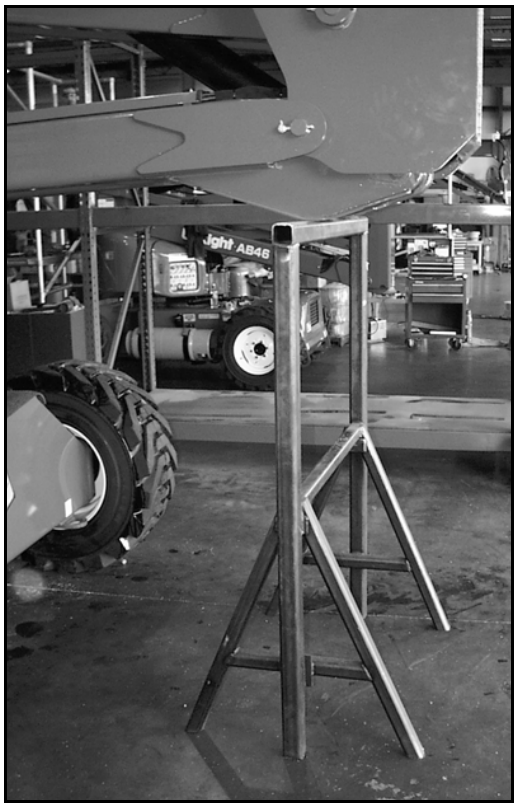


Figure 3-7: Elevating Assembly Brace

3.5 BATTERY MAINTENANCE

⚠ WARNING ⚠

Hazard of explosive gas mixture. Keep sparks, flame and smoking material away from battery.

Always wear safety glasses when working with batteries.

Battery fluid is highly corrosive. Thoroughly rinse away any spilled fluid with clean water.

Battery Inspection and Cleaning

Check battery fluid level daily, especially if the work platform is being used in a warm, dry climate. If required, add distilled water ONLY. Use of tap water will shorten battery life.

The battery should be inspected regularly for signs of cracks in the case, electrolyte leakage and corrosion of the terminals. Inspect cables for worn spots or breaks in the insulation and for broken cable terminals.

Clean the battery when it shows signs of corrosion at the terminals or when electrolyte has overflowed during charging. Use a baking soda solution to clean the batteries, taking care not to get the solution inside the cells. Rinse thoroughly with clean water. Clean battery and cable contact surfaces to a bright metal finish whenever a cable is removed.

Battery Charging

⚠ WARNING ⚠

Charge the battery only in a well-ventilated area.

Do not charge the battery when the work platform is in an area containing sparks or flames.

Permanent damage will result if the battery is not immediately recharged after discharging.

Never leave the charger unattended for more than two days.

Never disconnect the cables from the battery when the charger is operating.

Keep the charger dry.

Charge battery as follows:

1. Check the fluid level. If the electrolyte level is lower than 10mm (3/8 in) above the plates, add clean, distilled water only.
2. Connect the charger plug to a properly grounded outlet of the proper voltage and frequency.
3. Use a charger which turns off automatically when the batteries are fully charged.

3.6 LUBRICATION

Refer to Table 3-1 for the lubrication intervals and Figures 3-8 and 3-9 for location of items that require lubrication service. Refer to the appropriate sections for lubrication information on the Steering Linkage, Torque Hubs, Hydraulic Oil, Filter, and Engine Oil and Filter.

Grease Fittings

Wipe each fitting before and after greasing. Using multipurpose grease in a grease gun, pump the grease into the fitting until grease just begins to appear at the edges of the pivot. Wipe off any excess grease.

Lubricating Turret Gears

Using a brush, apply open gear grease to the turret gears (Figure 3-8).

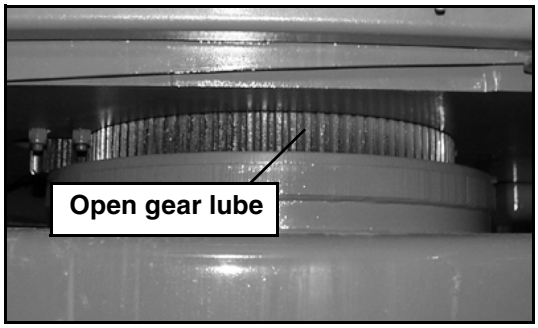


Figure 3-8: Turret Gear

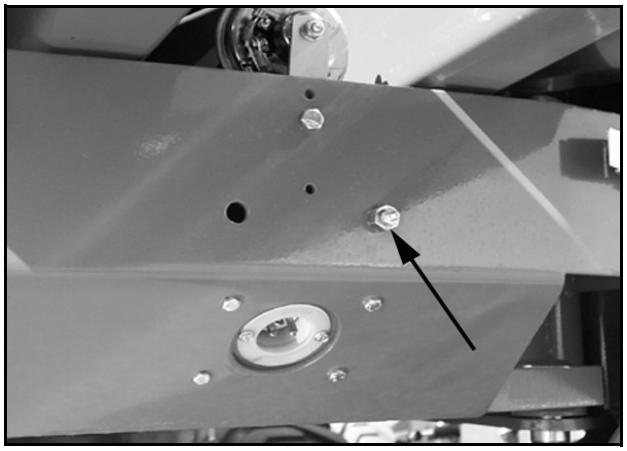


Figure 3-9: Turret Bearing Grease Zerk

Hydraulic Oil and Filter

Fluid Level

With the platform fully lowered, check oil level on sight gauge. If the oil is NOT in operating range, add hydraulic fluid until oil is visible in operating range on dipstick or visible in sight gauge. DO NOT fill above operating range or when the platform is elevated.

Oil and Filter Replacement

1. Operate the platform for 10-15 minutes to bring the hydraulic oil up to normal operating temperature.

⚠ CAUTION ⚠

The hydraulic oil may be hot enough to cause burns. Wear safety gloves and safety glasses when handling hot oil.

2. Provide a suitable container to catch the drained oil.
3. Remove the drain plug and allow all oil to drain into the container. Be sure to dispose of oil properly.
4. Reinstall the drain plug.
5. Remove filter element from filter head.
6. Apply a thin film of clean hydraulic oil (ISO No.46) to the gasket of the replacement filter.
7. Thread replacement filter onto the filter head until the gasket makes contact then rotate 3/4 of a turn further.
8. Fill the hydraulic oil tank to operating level on sight gauge with ISO No.46 hydraulic oil.

3.7 TILT SENSOR (FIGURE 3-11)

The Tilt Sensor has three wires: red, power (12v in); black, ground; and white, output (12v out). To verify that the sensor is working properly, there is one red LED under the sensor that indicates the sensor is off level.

1. Check tires for proper pressure.
2. Place the machine on a firm, level surface.
3. Use Inclinometer to ensure that the front and rear of the chassis are level.
4. Adjust the three leveling locknuts until the bubble is centered in the circle on the attached bubble level.
5. Elevate the platform until down limit switch opens, and push the tilt sensor base to test the alarm circuit. The red LED should turn on, and the tilt alarm should sound.

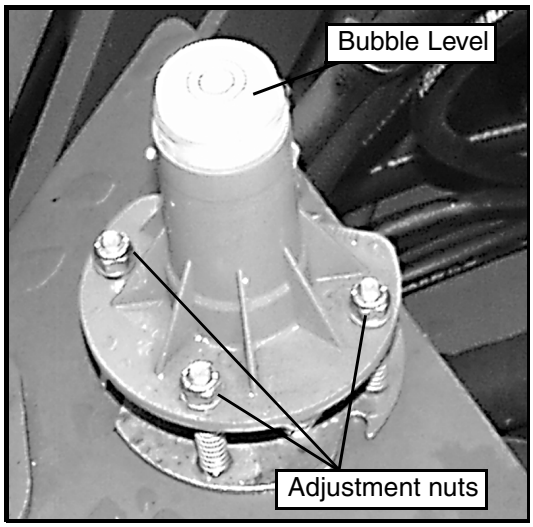


Figure 3-10: Tilt Sensor

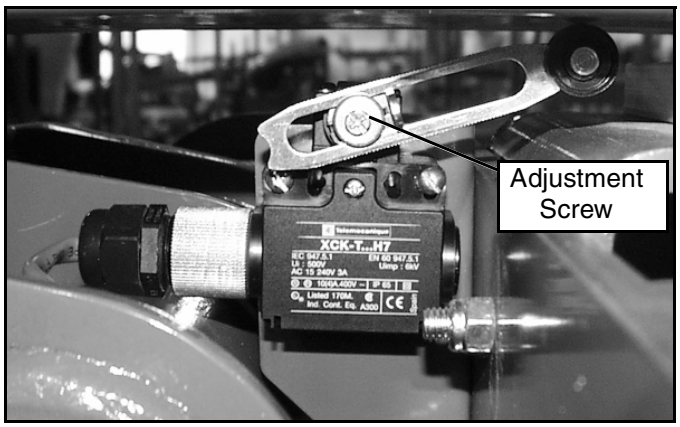


Figure 3-11: Linkage Limit Switch

Figure 3-12: Proximity Switch

3.8 HYDRAULIC MANIFOLD (FIGURE 3-14)

It is not necessary to remove the manifold to perform all maintenance procedures. Prior to performing maintenance, determine if the manifold needs to be removed.

Removal

1. Disconnect the battery.
2. Tag and disconnect the solenoid valve leads from the terminal strip.
3. Tag, disconnect, and plug hydraulic hoses.
4. Remove the bolts that hold the manifold to the mounting bracket.
5. Remove the manifold block.

Disassembly

NOTE: Mark all components as they are removed so as not to confuse their location during assembly. Refer to Figure 3-14 often to aid in disassembly and assembly.

1. Remove coils from solenoid valves.
2. Remove spool valve cover and spool valve.
3. Remove solenoid valves, lift relief valve, counterbalance valves and divider combiner valve.
4. Remove fittings, plugs, springs, balls, and orifices.

Cleaning and Inspection

1. Wash the manifold in cleaning solvent to remove built-up contaminants, then blow out all passages with clean compressed air.
2. Inspect the manifold for cracks, thread damage and scoring where O-rings seal against internal and external surfaces.
3. Wash and dry each component and check for thread damage, torn or cracked O-rings, and proper operation.
4. Replace parts and O-rings found unserviceable.

Assembly

NOTE: Lubricate all O-rings before installation to prevent damage to O-rings. Seat all balls in manifold block by lightly tapping on the ball with a brass drift punch.

1. Install fittings, plugs, springs, balls, and orifices. Use one drop of Locktite #242 on each screw-in orifice.
2. Install solenoid valves, lift relief valve, counterbalance valves, divider combiner valve, and spool valve.

Installation

1. Attach manifold assembly to mounting plate with bolts.
2. Connect solenoid leads to terminal strip (as previously tagged).
3. Connect hydraulic hoses. Be certain to tighten hoses to manifold.
4. Reconnect the battery.
5. Operate each hydraulic function and check for proper operation and leaks.
6. Adjust lift relief and counterbalance valve pressures according to instructions in Section 3-10.

3.9 SETTING HYDRAULIC PRESSURES

Figure 3-14 shows complete hydraulic manifold assembly.

NOTE: Check hydraulic pressures whenever the pump, manifold, or any relief valve has been serviced or replaced.

High Flow Relief Valve (#5)

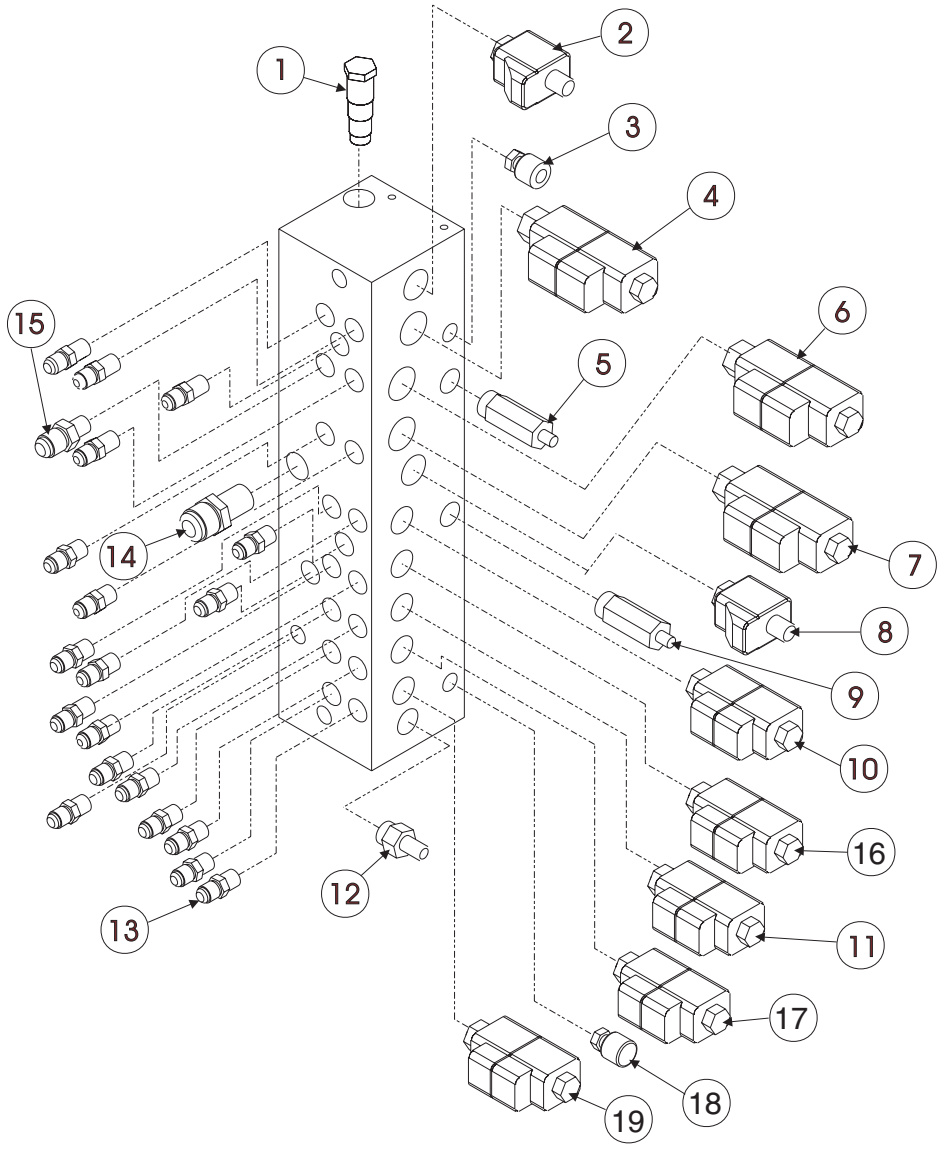
1. Operate the hydraulic system 10-15 minutes to warm the oil.
2. Install a 0-3000 PSI pressure gauge to the pressure test port #3-using Part # 063965-002, Quick Disconnect Adapter.
3. Retract boom completely.
4. While activating the boom retract function, set the pressure to 186 bar (2700 PSI) maximum by slowly turning the adjusting screw. Turning the adjusting screw clockwise increases pressure; counterclockwise decreases pressure.
5. Remove the pressure gauge, and reinstall all plugs.

Low Flow Relief Valve (#9)

1. Operate the hydraulic system 10-15 minutes to warm the oil.
2. Install a 0-207 bar (0-3000 psi) pressure gauge to the pressure test port.
3. Completely extend jib function.
4. Continue activating function and set the pressure to 97 bar (1400 psi) by slowly turning the adjustment screw. Turning the adjusting screw clockwise increases pressure; counterclockwise decreases pressure.
5. Remove the pressure gauge, and reinstall all plugs.

Counterbalance Relief Valves

1. If any counterbalance relief valve is faulty, completely lower the jib, and retract the boom.
2. Replace or recalibrate the counterbalance valve.
3. Slowly cycle function related to replaced counterbalance valve several times to remove air from the system.



1. Diverter Valve
2. High Flow Proportional Valve
3. Gage Port Plug - High Pressure
4. 4-Way Valve - Steering
5. High Pressure Relief Valve
6. 4-Way Motor Spool Valve - Riser
7. 4-Way Valve - Boom Extend/Retract
8. Low Flow Proportional Valve
9. Low Pressure Relief Valve
10. 4-Way Center Valve 3/4 - Boom Raise
11. 4-Way Motor Spool Valve 3/4 - Platform Level
12. Platform Rotate Flow Control Valve
13. Fitting, Straight
14. Fitting, Straight
15. Fitting, Straight
16. 4-Way Center Valve 3/4 - Jib
17. 4-Way Motor Spool Valve 3/4 - Turret Rotate
18. Gage Port Plug - Low Pressure
19. 4-Way Motor Spool Valve 3/4 - Platform Rotate

Figure 3-13: Hydraulic Manifold

3.10 TORQUE HUBS

NOTE: Change fluid in torque hubs after the first 50 hours of operation. Change every 1000 hours thereafter.

Changing Fluid

NOTE: It is not necessary to remove torque hub to change fluid.

1. Raise the axle using an eight-ton hydraulic jack. Place eight ton-jack stands under each end of the axle.
2. Remove wheel and rotate torque hub so drain plug on side is at bottom of hub.
3. Remove drain plugs at bottom of hub and front cover, and drain oil from unit.
4. Rotate hub so plug opening in front cover is slightly above half full position and side plug opening is at the top.
5. Fill unit with 90 wt. gear oil until oil comes out front plug opening (torque hub must be 1/2 full).
6. Replace plugs.
7. Install wheel and lower machine to the ground.

Torque Hub Removal

1. Park the work platform on firm level, ground and block the wheels to prevent the work platform from rolling.
2. Disconnect battery negative terminal.
3. Loosen the wheel lug nuts on the torque hub to be removed.
4. Raise the axle of the work platform using an eight- ton jack.
5. Position two eight-ton jack stands under the axle to prevent the work platform from falling if the jack fails.
6. Remove the wheel nuts and wheel.
7. Disconnect hydraulic brake line from brake.

⚠ CAUTION ⚠

Clean all fittings before disconnecting the hose assemblies.

Plug all port holes and hose assemblies IMMEDIATELY to prevent contamination from dust and debris.

8. Mark and remove hoses from drive motor.
9. Remove mounting bolts from drive motor.
10. Separate drive motor from brake. Discard gasket.
11. Separate brake from torque hub. Discard gasket.
12. Remove 1/2-20 nuts and washers from torque hub.
13. Remove torque hub.

Installation

NOTE: Torque all hardware to torques listed on pages 3-22 and 3-23 unless otherwise specified.

1. Install the torque hub using hardware previously removed.
2. Using SAE 90W weight gear lube, fill the torque hub. Torque hub must be half full.
3. Install new gasket and brake.
4. Install new gasket and drive motor.
5. Secure assembly using washers and bolts.
6. Connect hydraulic brake lines.
7. Connect hoses to drive motor.
8. Install wheels.Torque lug nuts to 257Nm (190 ft/lbs).
9. Bleed brake lines if necessary.
10. Remove jack stands and lower rear end.
11. Connect battery terminal.
12. Operate machine and check for proper operation of torque hub. Check function of brake.

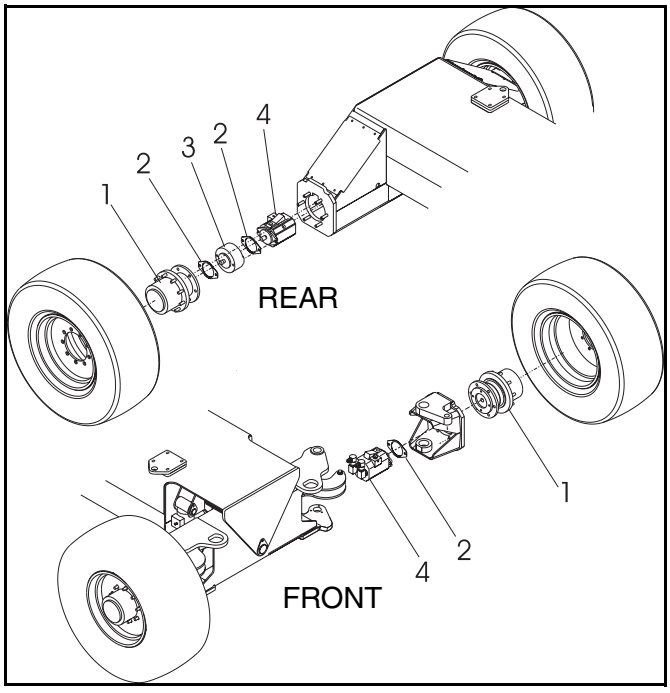


Figure 3-14: Torque Hub Assembly

Disassembly of Torque Hub (Figure 3-16)

1. Slide the coupling (1) from splines on input shaft (2).
2. Position the assembly upright on face of spindle.
3. Remove the disengage cover (31) if necessary.
4. Remove eight bolts (29) and the large cover (28) from the unit. The thrust washer (25) and the disengage plunger (26) usually remain attached to the large cover (28) when it is removed. Remove thrust washer (25), disengage plunger (26) and O-ring (27) from the large cover (28).
5. Remove primary sun gear (24) from end of input shaft (2).
6. Remove the primary carrier assembly (22).
7. Remove the secondary carrier assembly (21).
8. Remove the input shaft (2) from spindle (3). Remove the retaining rings (17), washers (18), and disengage spring (19) from input shaft (2) only if replacement is required.
9. One tab of lock washer (15) will be engaged in slot of bearing nut (16); bend back to release. Remove the bearing nut (16), lock washer (15), and thrust washer (14).

NOTE: A special locknut wrench is required for the removal of the bearing locknut. The Bearing Locknut Tool, Bearing Cone Driver and Spindle/Shaft Drive Tool are included in the Service Kit, part number 100254-020.

10. Bolt Spindle Drive Tool (Service Kit #100254-020) to ring gear (20). Grade 8 bolts should be used. Drive spindle (3) from hub by turning the center bolt of Spindle Drive Tool. Care should be taken to avoid damaging splines and threads on spindle.

NOTE: Bearing cone (13) has been designed with a press fit with respect to spindle (3). Considerable force will be required to remove cone from spindle.

11. Remove Spindle Drive Tool from ring gear (20).
12. Remove the eighteen bolts (9) and washers (10) from hub (11) and remove ring gear (20). It may be necessary to strike ring gear (20) with a rubber mallet to loosen from hub (11).
13. Remove the boot seal (4) and oil seal (5) and bearing cones (6 & 13) from hub (11). Inspect bearing cups (7 & 12) in position and remove only if replacement is required.

Assembly of Torque Hub

1. Press new bearing cups (7 & 12) in each side of the hub (11). It is recommended that bearing cups (7 & 12) and cones (6 & 13) be replaced in sets.
2. Assemble bearing cone (6) into cup (7) at seal end of hub (11) and press a new seal (5) into hub (11). Install boot seal (4) on hub (11) if unit is so equipped.
3. Position spindle (3) upright on bench. Lubricate lips of seal (5) and lower hub (11) on to spindle (3). Hub (11) should be centered as it is lowered over spindle (3) to prevent seal damage.
4. Assemble bearing cone (13) over spindle (3). Press bearing cone (13) over spindle bearing journal using press and cylindrical Bearing Cone Driver (Service Kit 100254-020). Press bearing cone (13) down until rollers just touch cup (12). Take care to avoid pressing cone (13) too far.

NOTE: If a press is not available, place Bearing Cone Driver Tool over spined end of spindle (3) on the edge of bearing cone(13), and drive into place with hammer or mallet. If this method is used, care must be taken to avoid damage to bearing cone and spindle.

5. Install thrust washer (14) with tab in keyway of spindle and bearing nut (16). **DO NOT install lock washer (15) at this time.**
6. Clean mating surfaces and apply a bead of silicone sealant to face of hub (11) that mates with ring gear (20). See instructions on sealant package. Hub (11) is attached to ring gear (20) with 18 3/8-24 grade 8 hex head cap screws (9) and flat washers (10). Torque cap screws to 50-52 lb-ft. (70-81 Nm).
7. Place Spindle Drive Tool (Service Kit #100254-020), over spindle (3) and bolt or pin to ring gear (20). Make sure center bolt of Drive Tool is not touching spindle and is prevented from rotating by jam nuts provided on tool.
8. Check initial rolling torque by installing a lb.-in. torque wrench (arm or dial type) on center nut of Spindle Drive Tool and turning hub (11) slowly and steadily with the torque wrench. Note mean torque. An initial bearing torque of greater than 52 lb.-in. with boot seal installed or 46 lb.-in. without boot seal means that the cone (13) was pressed on to tightly in step 4. In this case, back off bearing cone (13) by pressing spindle (3) out of cone (13) until initial preload is relieved. See step 10 of disassembly procedure.

9. Torque bearing nut (16) with Bearing Locknut Tool (Service Kit #100254-020) until a bearing rolling torque of 42-50 lb.-in., with a boot seal installed, or 38-46 lb.-in., without a boot seal, is reached. This may require several trials of pressing the cone (13) by torquing the nut (16) and then checking the rolling torque. Rotate hub (11) by hand as nut is being tightened in order to seat bearings.

NOTE: Up to 250 lb.-ft. of torque may have to be applied to bearing nut (16) in order to press cone (13) into position.

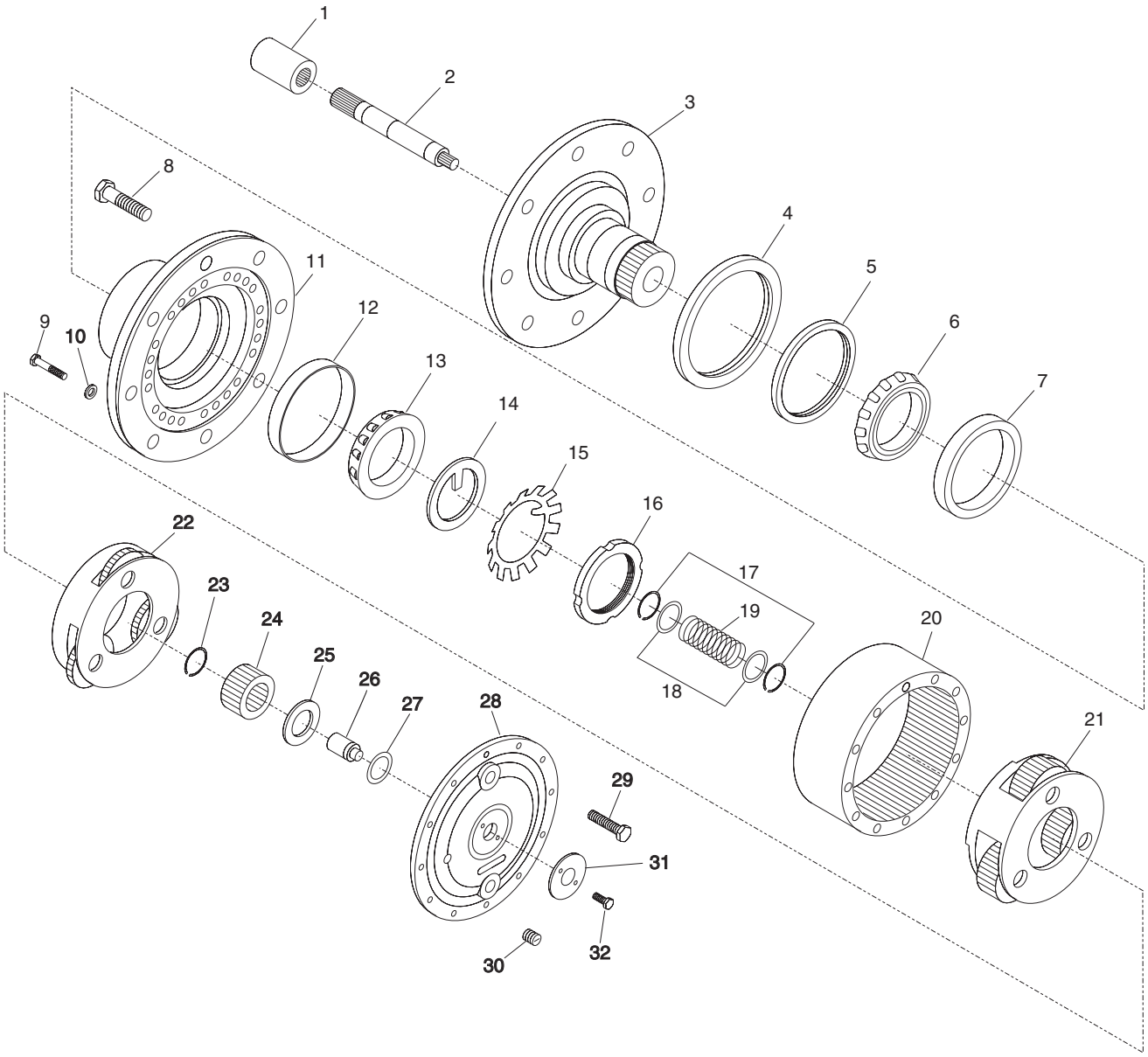
10. Remove bearing nut (16) and install lock washer (15). Replace bearing nut (16).
11. Re-torque bearing nut (16) to 80-90 Nm-ft (60-70 lb.)
12. Secure bearing nut (16) by bending a lock washer (15) tab into one of four bearing nut slots. If no tab aligns with a slot, the nut may be tightened until one of the slots aligns with a lock washer tab.
13. Assemble a washer (18), spring (19), a second washer (18), and a retaining ring (17) in the middle grooves of input shaft (2). Install a second retaining ring (17) in groove near small end of input shaft (2).
14. Assemble the splined end of the input shaft (2) down into spindle (3).
15. Assemble the secondary carrier assembly (21) to spindle (3) at splines.
16. Assemble the primary carrier assembly (22) into the ring gear (20). It will be necessary to rotate carrier to align secondary sun gear (part of primary carrier assembly (22)) with planet gear teeth in secondary carrier assembly (21). Assemble primary sun gear (24) over input shaft (2). Rotate primary sun gear (24) to align input shaft (2) to gear splines and gear teeth in primary carrier assembly (22).
17. Lubricate O-ring (27) and assemble in groove inside cover hole; push disengage plunger (26) into cover (28) with pointed end facing inside of unit.
18. Assemble the thrust washer (25) with tangs engaged with cover (28). NOTE: A small amount of grease applied to the back side of thrust washer (25) will hold washer in place. Apply a bead of silicone sealant to end of face of ring gear (20). Assemble cover (28) aligning holes of cover and ring gear. Assemble the eight 5/16-18 x 1 inch hex head bolts (29). Torque bolts to 27-34 Nm (20-25 lb.-ft.).
19. Assemble the disengage cover (31) with dimpled center protruding out if wheel is to be used to drive the vehicle. Assemble and torque the two 5/16-18 x 1/2 inch bolts (32). Torque bolts to 13-27 Nm (10-20 lb.-ft.).
20. Invert the torque hub assembly and assemble the coupling (1), with counterbore out, to the input shaft (2).
21. After motor is assembled to drive or drive is sealed at spindle, fill with lubricant to proper level and replace all plugs.

Carrier Assemblies

Do not attempt to service primary or secondary carrier assemblies.

Sealing Compound

Silastic RTV732 sealer and General Electric Silimate RTV No. 1473 or RTV No. 1503 are currently recommended for sealing gasket surfaces. Sealant should be applied in a continuous bead, which should be centered on the surface to be sealed but should move to the inside of the hole at each bolt hole location.



1. Coupling
2. Input Shaft
3. Spindle
9. Hex Head Bolt (Grade 8)
10 Flat Washer
11. Hub
16. Bearing Nut
17. Retaining Ring
18. Washer
19. Disengage Spring
20. Ring Gear
21. Secondary Carrier Assembly
22. Primary Carrier Assembly
23. Retaining Ring
24. Primary Sun Gear
26. Disengage Plunger
28. Large Cover
29. Hex Head Bolt
30. Magnetic Plug
31. Disengage Cover
32. Hex Head Bolt
33. Quick Disconnect Gasket
34. Quick Disconnect Assembly
35. Hex Head Bolt

Service Kit (100254-020) contains:
4. Boot Seal
5. Oil Seal
6. Bearing, Cone
7. Bearing, Cup
8. Wheel Bolt
12. Bearing, Cup
13. Bearing, Cone
14. Thrust Washer
15. Lock Washer
25. Thrust Washer
27. O-Ring

Figure 3-15: Torque Hub

3.11 CYLINDER REPAIR

Removal

1. Remove cylinder from machine.

NOTE: Refer to "Illustrated Parts Section" for location of cylinder and list of parts which secure cylinder.

NOTE: If necessary, refer to "Supporting Elevating Assembly" in Section 3.4.

2. Mark and disconnect hoses and IMMEDIATELY cap the openings to prevent contamination.

⚠ WARNING ⚠

Cylinders may be very heavy. Support heavy cylinders before removing pins which secure a cylinder to the machine.

Disassembly

1. Remove head from cylinder body.
2. Carefully slide rod assembly out of cylinder.
3. Remove seal kit components (wipers, rod seals, O-rings, and backup rings) from head and piston.
4. Inspect parts for scratches, pits or polishing. Check seal grooves and sealing surfaces. Scratches or pits deep enough to catch the fingernail are unacceptable; replace the cylinder. Polishing is a sign of uneven loading. When this occurs, the surface should be checked for roundness. Cylinders not round within .007" should be replaced.

Assembly

NOTE: Torque all hardware to torques listed on pages 3-22 and 3-23 unless otherwise specified.

1. Lubricate all components with clean hydraulic fluid.

NOTE: To avoid cutting the seals, do not use sharp-edged tools during seal replacement. After installing seals, allow at least one hour for the seals to elastically restore to their original shape before assembling cylinder.

2. Install new seal kit components.
3. Lubricate rod wiper and seal with hydraulic fluid, and slide head onto rod.
4. Lubricate seals on piston and head.
5. Carefully slide rod assembly into cylinder.
6. Secure head into cylinder.

Installation

1. Installation is the reverse of removal.
2. Carefully remove elevating assembly support.
3. Slowly cycle cylinder several times to remove air from the hydraulic system.
4. Check for proper cylinder operation. Check cylinder and hydraulic connections for leaks.

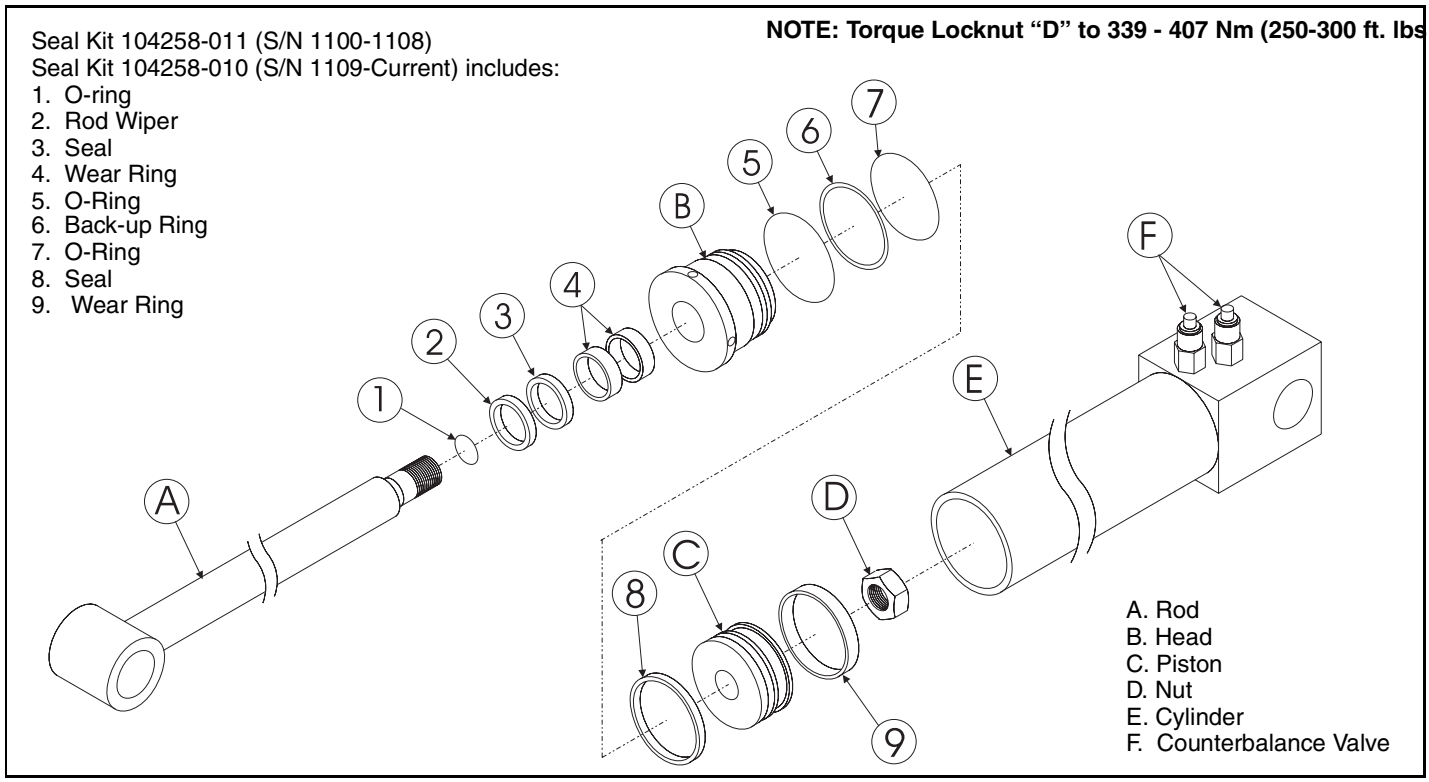


Figure 3-16: Master Cylinder (S/N 1109 - Current)

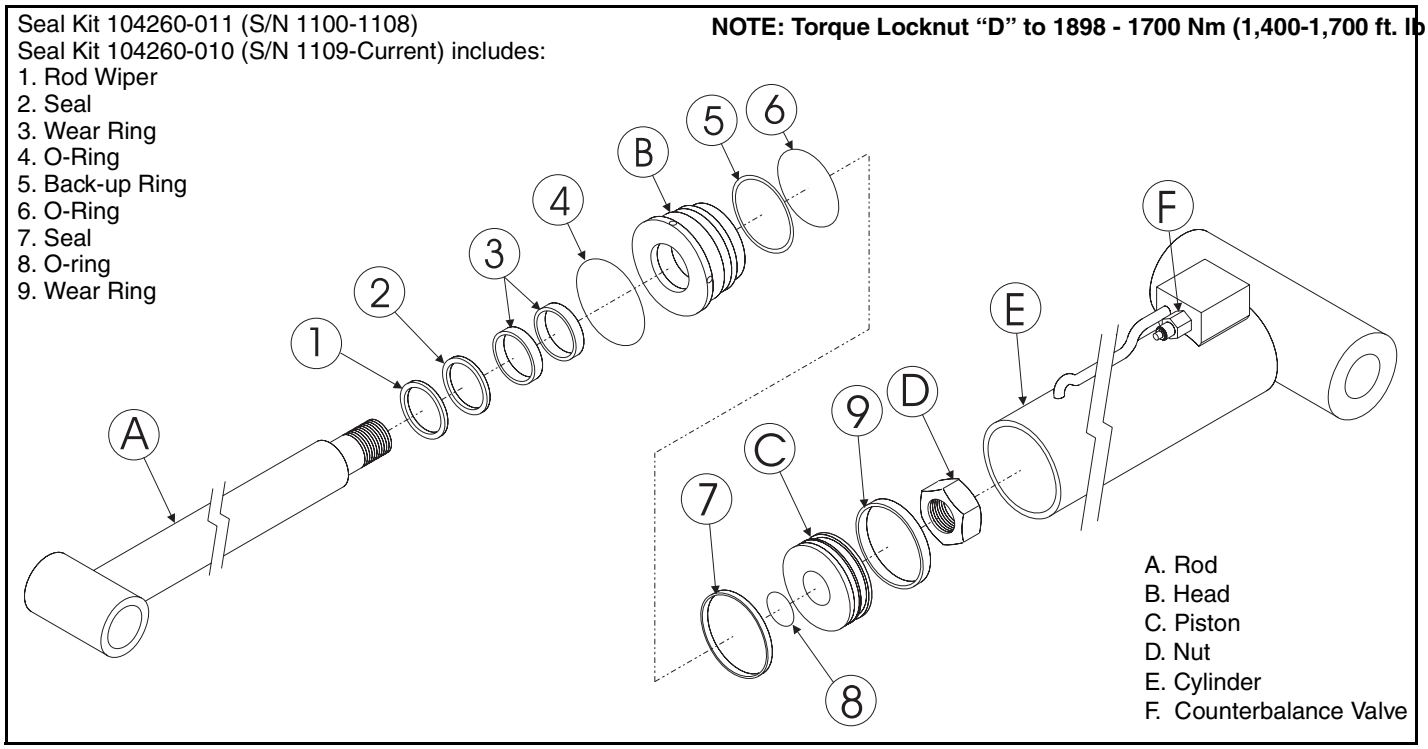


Figure 3-17: Riser Cylinder (S/N 1109 - Current)

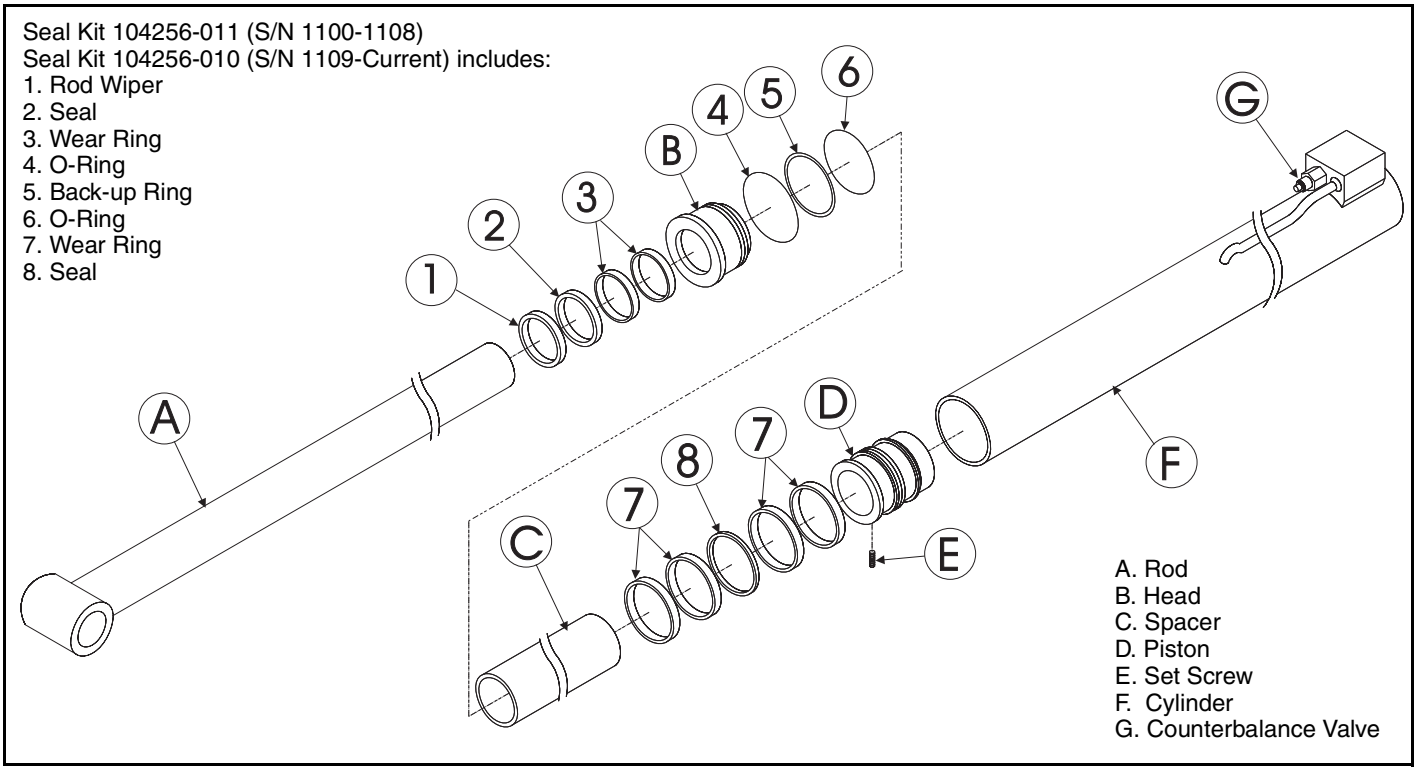


Figure 3-18: Boom Cylinder (S/N 1109 - Current)

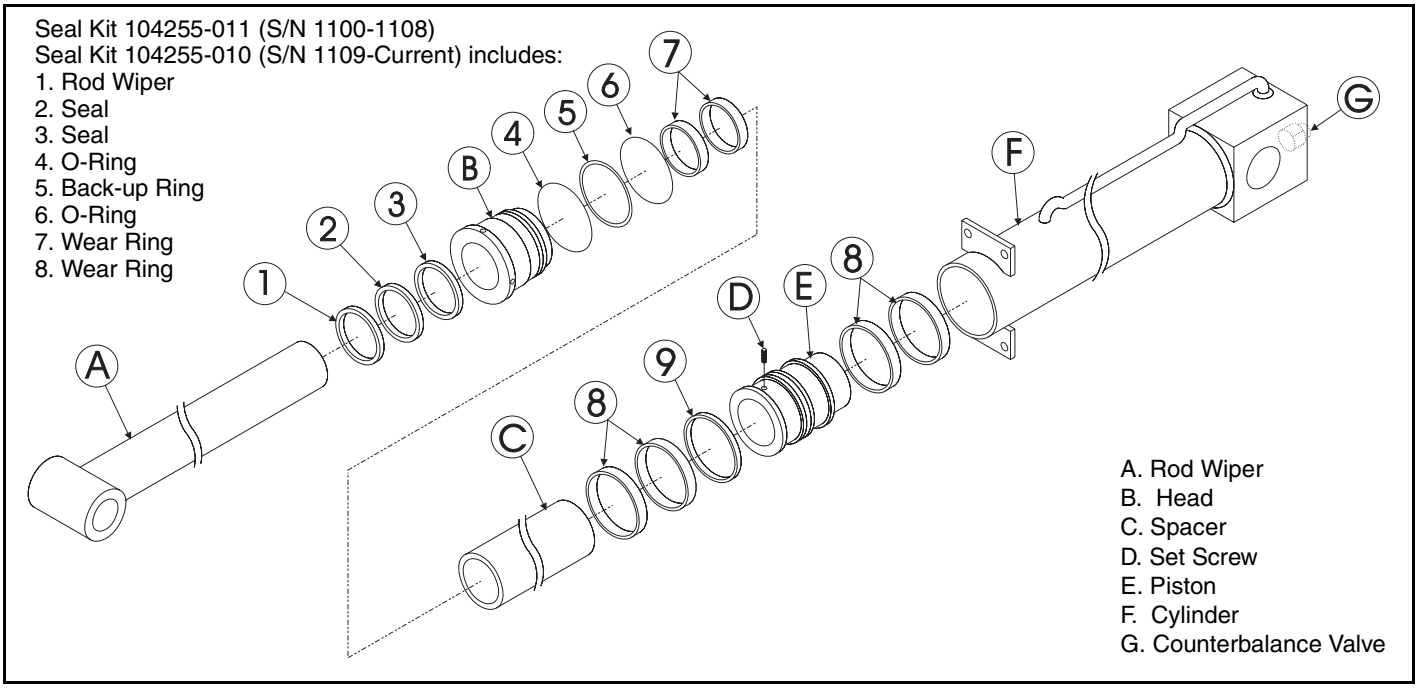
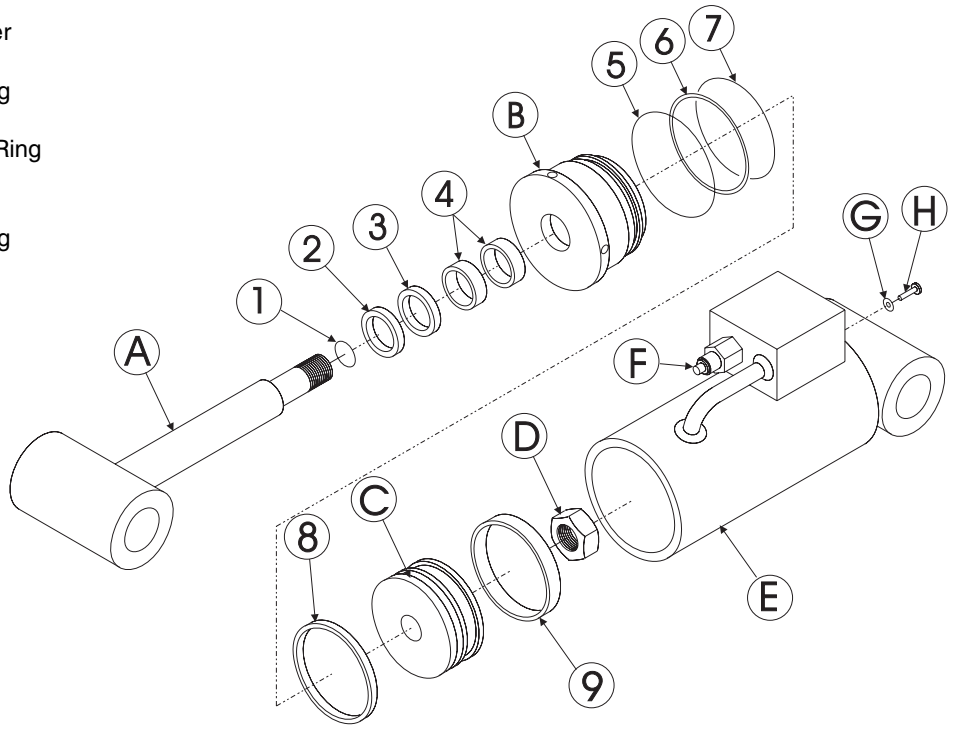


Figure 3-19: Extend Cylinder (S/N 1109 - Current)

Seal Kit (104556-010) includes:
1. O-Ring
2. Rod Wiper
3. Seal
4. Wear Ring
5. O-Ring
6. Back-up Ring
7. O-Ring
8. Seal
9. Wear Ring

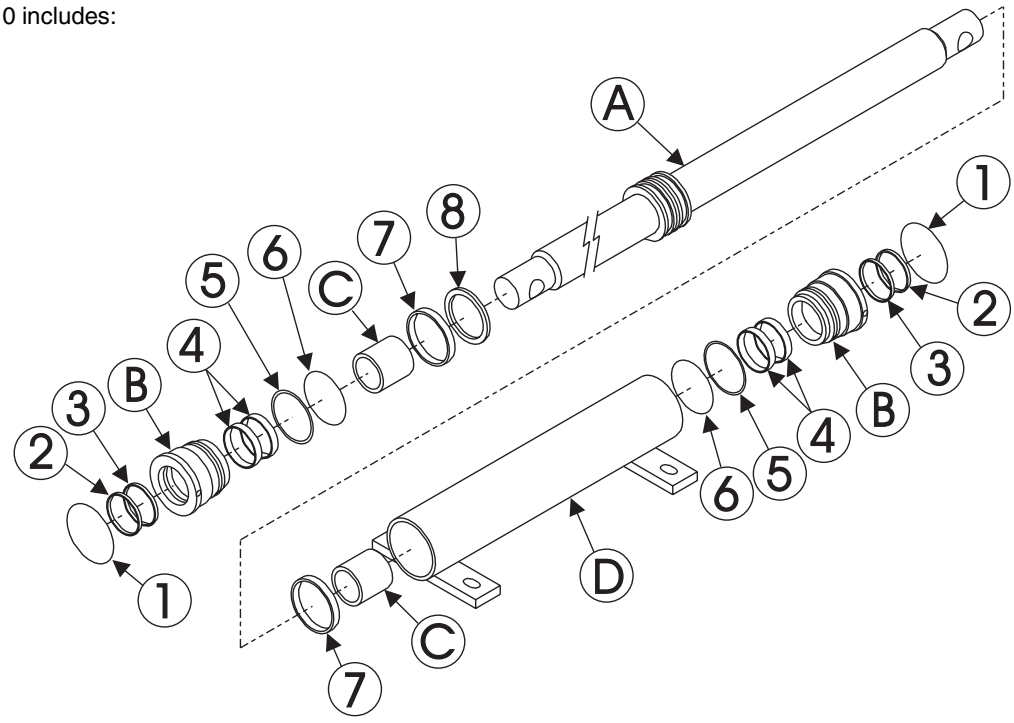
NOTE: Torque Locknut "D" to 237 - 271 Nm (175-200 ft.lbs.



A. Rod
B. Head
C. Piston
D. Nut
E. Cylinder
F. Counterbalance Valve
G. Washer Seal
H. Bleeder Plug

Figure 3-20: Axle Lock Cylinder

Seal Kit 100557-010 includes:
1. O-Ring
2. Rod Wiper
3. Seal
4. Wear Ring
5. Back-up Ring
6. O-Ring
7. Wear Ring
8. Seal



A. Rod
B. Head
C. Spacer
D. Cylinder

Figure 3-21: Steering Cylinder

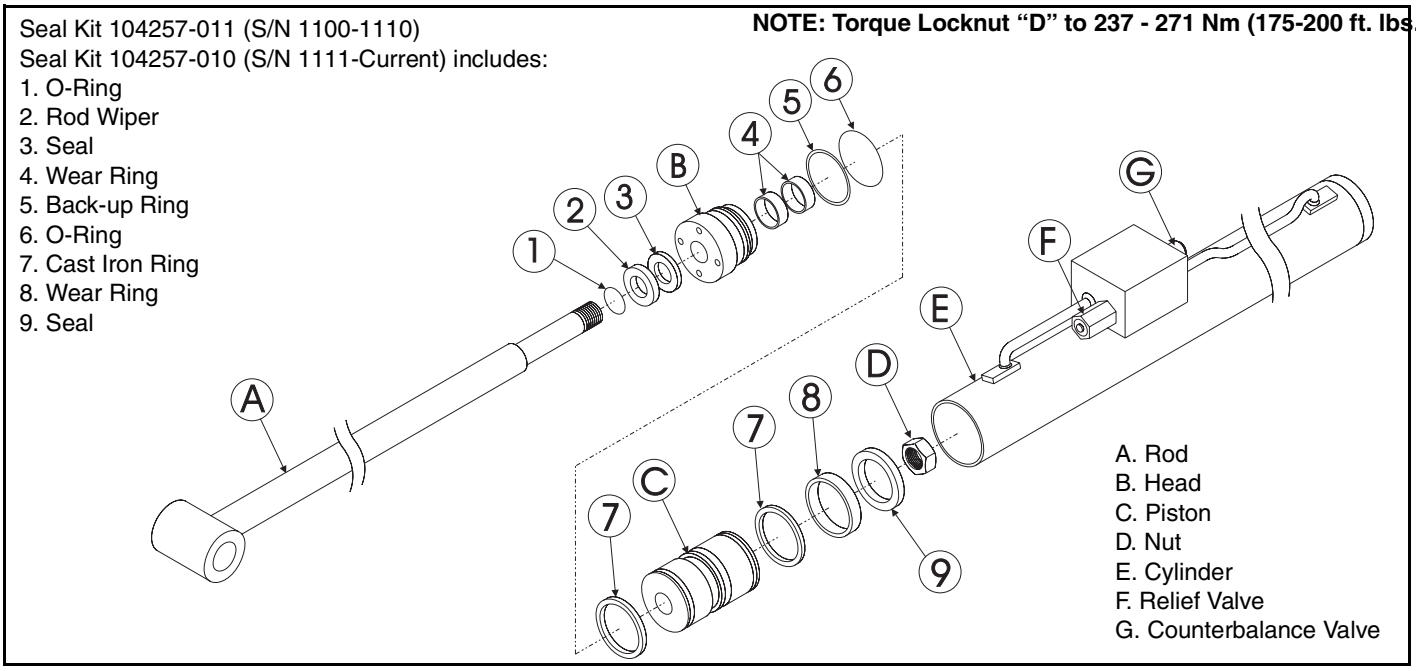


Figure 3-22: Jib Cylinder (S/N 1111 - Current)

3.12 SETTING BACKLASH ON ROTATIONAL GEAR

Backlash is the shortest distance between tooth surfaces of adjacent teeth in mating gears.

1. Position boom directly over center of rear axle (standard forward driving position).
2. Loosen the grearbox mounting bolts just enough to allow the gearbox to be adjusted in and out.
3. Turn adjusting screws in until gearbox teeth make contact with bearing teeth and adjusting screws become snug.
4. Unscrew adjusting screws five turns. Do not move the gearbox.
5. Place the magnetic indicator base on the bottom of the turret assembly. Set the dial indicator probe on the gearbox pinion straight across from the bearing (Figure 3-24) and adjust the dial to ZERO.
6. Move the gearbox away from the bearing until the indicator shows the correct amount of backlash (.007"-.009").
7. Carefully torque the gearbox mounting bolts while watching the indicator to make sure the correct backlash is maintained.
8. Snug the adjusting bolts against the gearbox and tighten the jamb nuts.

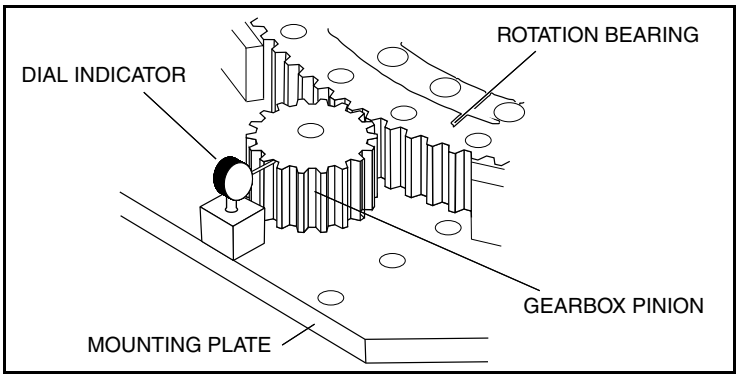


Figure 3-23: Setting Rotational Gear Backlash (Viewed from bottom of turret)

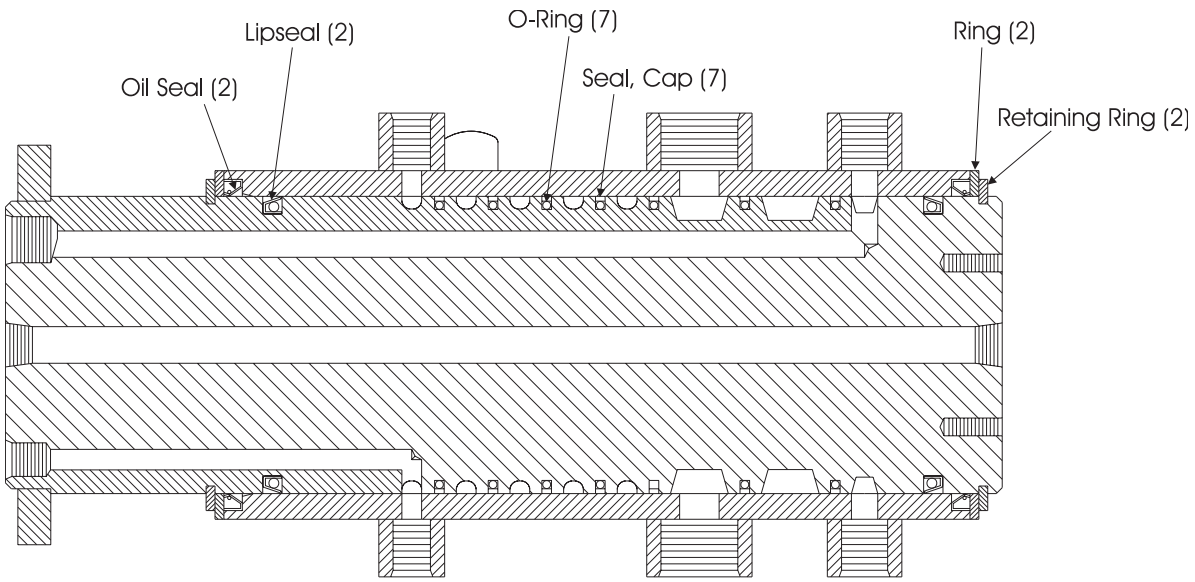


Figure 3-24: Rotary Manifold

3.13 ROTARY MANIFOLD REMOVAL

1. Mark and tag all hoses.
2. Remove all hoses from Rotary Manifold.
3. Remove Rotary Manifold from the machine.

NOTE: Provide a clean work area for this operation, and observe clean assembly practices. Seals and O-rings are highly sensitive to contamination that may not be visible to the naked eye.

Disassembly

1. Remove Retaining Rings from each end of Rotary Manifold.
2. Carefully slide body out of housing.
3. Remove seal kit components (O-rings, seals, and retaining rings).
4. Thoroughly clean all parts with solvent. Rinse the inside of the tube and allow to drain. A high pressure rinse and wipe with a lint free rag is preferable.
5. Inspect the body and housing for scratches, pits, or polishing. Check seal grooves and sealing surfaces. Scratches or pits deep enough to catch the fingernail are unacceptable, replace the manifold.

Assembly

NOTE: Torque all hardware and fittings to torques listed on pages 3-22 and 3-23 unless otherwise specified.

1. Lubricate all seals with clean hydraulic oil prior to assembly.
2. Install new seals on body and housing.
3. Carefully slide body into housing.
4. Reinstall O-rings and retaining rings.

Installation

1. Installation is reverse of removal.
2. Replenish hydraulic fluid in tank.
3. Run hydraulic system for several minutes to remove air from hydraulic lines. Cycle cylinders for each boom function.
4. Rotate turret completely.
5. Check Rotary Manifold for leaks. Check that all boom functions are operating properly.

3.14 TORQUE SPECIFICATIONS

Hydraulic Components

NOTE: Always lubricate threads with clean hydraulic oil prior to installation

Use the following values to torque hydraulic components used on UpRight Work Platforms.

Table 3-2: Torque Specifications for Hydraulic Components

Type: SAE Part Series	Cartridge Poppet		Fittings		Hoses	
	Ft/Lbs	Nm	Ft/Lbs	Nm	Ft/Lbs	Nm
#4	N/A	N/A	N/A	N/A	135-145	15-16
#6	N/A	N/A	10-20	14-27	215-245	24-28
#8	25-30	34-41	25-30	34-41	430-470	49-53
#10	35-40	47-54	35-40	47-54	680-750	77-85
#12	85-90	115-122	85-90	115-122	950-1050	107-119
#16	130-140	176-190	130-140	176-190	1300-1368	147-155

Fasteners

This standard applies to the preloading of fasteners measured by installation torque.

NOTE: For other preloading methods or fasteners consult UpRight Engineering Department.

This general standard applies to all SAE and Metric fasteners unless otherwise specified.

Thread Condition

- For lubed or zinc plated fasteners, use K = .15
- For dry unplated fasteners, use K = .20

Torque Tables

Table 3-3: Torque Specifications for SAE Fasteners

	Nominal Thread Size	SAE J429 Grade 5 Clamp Load	SAE J429 Grade 5 Tightening Torque K=.15	SAE J429 Grade 5 Tightening Torque K=.20	SAE J429 Grade 8 Clamp Load	SAE J429 Grade 8 Tightening Torque K=.15	SAE J429 Grade 8 Tightening Torque K=.20
		lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.
Unified Coarse Thread Series	1/4 -20	2,000	75	100	2850	107	143
	5/16 - 18	3,350	157	210	4700	220	305
		lbs.	ft-lbs.	ft-lbs.	lbs.	ft-lbs.	ft-lbs.
	3/8-16	4,950	23	31	6950	32.5	44
	7/16-14	6,800	37	50	9600	53	70
	1/2-13	9,050	57	75	12800	80	107
	9/16-12	11,600	82	109	16400	115	154
	5/8-11	14,500	113	151	20300	159	211
	3/4-10	21,300	200	266	30100	282	376
	7/8-9	29,435	321	430	41550	454	606
	1-8	38,600	483	640	54540	680	900

	Nominal Thread Size	SAE J429 Grade 5 Clamp Load	SAE J429 Grade 5 Tightening Torque K=.15	SAE J429 Grade 5 Tightening Torque K=.20	SAE J429 Grade 8 Clamp Load	SAE J429 Grade 8 Tightening Torque K=.15	SAE J429 Grade 8 Tightening Torque K=.20
		lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.
Unified Fine Thread Series	1/4 -28	2,300	85	115	3250	120	163
	5/16-24	3,700	173	230	5200	245	325
		lbs.	ft-lbs.	ft-lbs.	lbs.	ft-lbs.	ft-lbs.
	3/8-24	5,600	26	35	7900	37	50
	7/16-20	7,550	42	55	10700	59	78
	1/2-20	10,200	64	85	14400	90	120
	9/16-18	13,000	92	122	18300	129	172
	5/8-18	16,300	128	170	23000	180	240
	3/4-16	23,800	223	298	33600	315	420
	7/8-14	32,480	355	473	45855	500	668
	1-12	42,270	528	704	59670	745	995

Table 3-4: Torque Specifications for Metric Fasteners, U.S. Customary Units

	8.8 Grade 8.8			10.9 Grade 10.9			12.9 Grade 12.9		
Nominal Thread Size	Clamp Load	Tightening Torque K = .15	Tightening Torque K = .20	Clamp Load	Tightening Torque K = .15	Tightening Torque K = .20	Clamp Load	Tightening Torque K = .15	Tightening Torque K = .20
mm	lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.
3	-	-	-	-	-	-	823	14.6	19.5
3.5	-	-	-	-	-	-	1,109	22.9	30.5
4	-	-	-	-	-	-	1,436	33.9	45.2
5	1,389	41.0	19.5	1,987	58.7	19.5	2,322	68.6	91.2
6	1,966	69.7	28.3	2,813	100.0	28.3	3,287	116.8	155.8
7	2,826	116.8	37.2	4,044	167.3	37.2	4,727	195.6	260.2
		ft-lbs.	ft-lbs.		ft-lbs.	ft-lbs.		ft-lbs.	ft-lbs.
8	3,579	14.1	18.8	5,122	20.1	26.9	5,986	23.6	31.4
10	11,742	27.9	37.2	8,117	39.9	53.3	9,486	46.7	62.3
12	8,244	48.7	64.9	11,797	69.7	92.2	13,787	81.1	108.4
14	11,246	77.4	103.3	16,093	110.6	147.5	18,808	129.1	172.6
16	15,883	125.4	166.7	21,971	173.3	230.9	25,677	202.1	269.2
18	19,424	171.9	229.4	26,869	238.2	317.2	31,401	278.1	371.0
20	2,304	243.4	325.3	34,286	337.8	449.9	40,070	394.6	525.9
22	30,653	331.9	442.5	42,403	458.8	612.2	49,556	536.2	715.4
24	35,711	420.4	562.0	49,400	583.4	778.1	57,733	682.2	909.4
27	46,435	617.3	84.8	64,235	853.4	1138.1	75,069	997.2	1329.8
30	56,753	837.9	1117.4	78,509	1159.4	1545.2	91,751	1354.9	1807.0
33	70,208	1140.3	1520.1	97,121	1576.9	2102.8	113,503	1843.9	2457.5
36	82,651	1464.1	1952.3	114,334	2025.3	2700.9	133,620	2367.6	3156.0

Table 3-5: Torque Specifications for Metric Fasteners, SI Units

	8.8 Grade 8.8			10.9 Grade 10.9			12.9 Grade 12.9		
Nominal Thread Size	Clamp Load	Tightening Torque K = .15	Tightening Torque K = .20	Clamp Load	Tightening Torque K = .15	Tightening Torque K = .20	Clamp Load	Tightening Torque K = .15	Tightening Torque K = .20
mm	N	N-m	N-m	N	N-m	N-m	N	N-m	N-m
3	-	-	-	-	-	-	3,660	1.65	2.2
3.5	-	-	-	-	-	-	4,932	2.59	3.45
4	-	-	-	-	-	-	6,387	3.83	5.11
5	6,177	4.63	2.2	8,840	6.63	2.2	10,330	7.75	10.3
6	8,743	7.87	3.2	12,512	11.3	3.2	14,623	13.2	17.6
7	12,570	13.2	4.2	17,990	18.9	4.2	21,025	22.1	29.4
8	15,921	19.1	25.5	22,784	27.3	36.5	26,626	32	42.6
10	52,230	37.8	50.5	36,105	54.1	72.2	42,195	63.3	84.4
12	36,670	66	88	52,475	94.5	125	61,328	110	147
14	50,025	105	140	71,587	150	200	83,663	175	234
16	70,650	170	226	97,732	235	313	114,218	274	365
18	86,400	233	311	119,520	323	430	139,680	377	503
20	10,250	330	441	152,513	458	610	178,238	535	713
22	136,350	450	600	188,618	622	830	220,433	727	970
24	158,850	570	762	219,743	791	1055	256,808	925	1233
27	206,550	837	115	285,728	1157	1543	333,923	1352	1803
30	252,450	1136	1515	349,223	1572	2095	408,128	1837	2450
33	312,300	1546	2061	432,015	2138	2851	504,885	2500	3332
36	367,650	1985	2647	508,582	2746	3662	594,368	3210	4279

NOTES:

Section 4

TROUBLESHOOTING

Introduction

This section contains troubleshooting Truth Tables for the AB62 Work Platform.

⚠ WARNING ⚠

When troubleshooting, ensure that the work platform is resting on a firm, level surface.

When performing any service which requires the platform to be raised, the Elevating Assembly must be blocked.

Disconnect the battery when replacing or testing the continuity of any electrical component.

This manual cannot cover all possible problems that may occur. If a specific problem is not covered in this manual, call our toll free number for service assistance.

Referring to Sections 2.0 and 5.0 will aid in understanding the operation and function of the various components and systems of the AB62, and help in diagnosing and repair of the machine.

Troubleshooting Procedure

Determine whether the problem is mechanical (interference), electrical or hydraulic. Some functions require power at more than one solenoid.

Thoroughly study hydraulic and electrical schematics in Section 5. Check for loose connections and short circuits. Check/repair/replace each component in the Truth Table which is listed under each machine function which does not operate properly.

Use the charts on the following pages to help determine the cause of a fault in your UpRight AB62.

1. Verify your problem. Do a full function test from both platform controlsand chassis controls, and note all functions thatare not operating correctly.
2. Narrow the possible causes of the malfunction. Use the troubleshooting guide to determine which components are common to all circuits that are not functioning correctly.
3. Identify the problem component. Test components that are common to all circuits that are not functioning correctly. Remember to check wires and terminals between suspect components. Be sure to check connections to battery negative.
4. Repair or replace faulty component.
5. Verify that repair is complete. Do a full function test from both platform and chassis controls to verify that all functions are operating correctly and machine is performing to specified values.

UPRIGHT USA **TEL: 1-559-891-5200**
FAX: 1-559-891-8931

UPRIGHT INTERNATIONAL **TEL: +31-10-238-0000**
FAX: +31-10-238-0001

Adjustment Procedures

Hydraulic settings must be checked whenever a component is repaired or replaced.

Remove counterbalance valves and “bench test” them if they are suspect.

Connect a pressure meter of appropriate range to the test port located on the right side of the hydraulic manifold.

Correct pressure settings are listed in Section 5.

Refer to DMR 30 (See page 4-3) settings listed in this section.

Checking Pump Pressure

Drive Pump

Check charge pressure at tee added to charge filter line.

To check drive pressure, connect pressure tester to port “G” on the 2-speed/axle lock valve block.

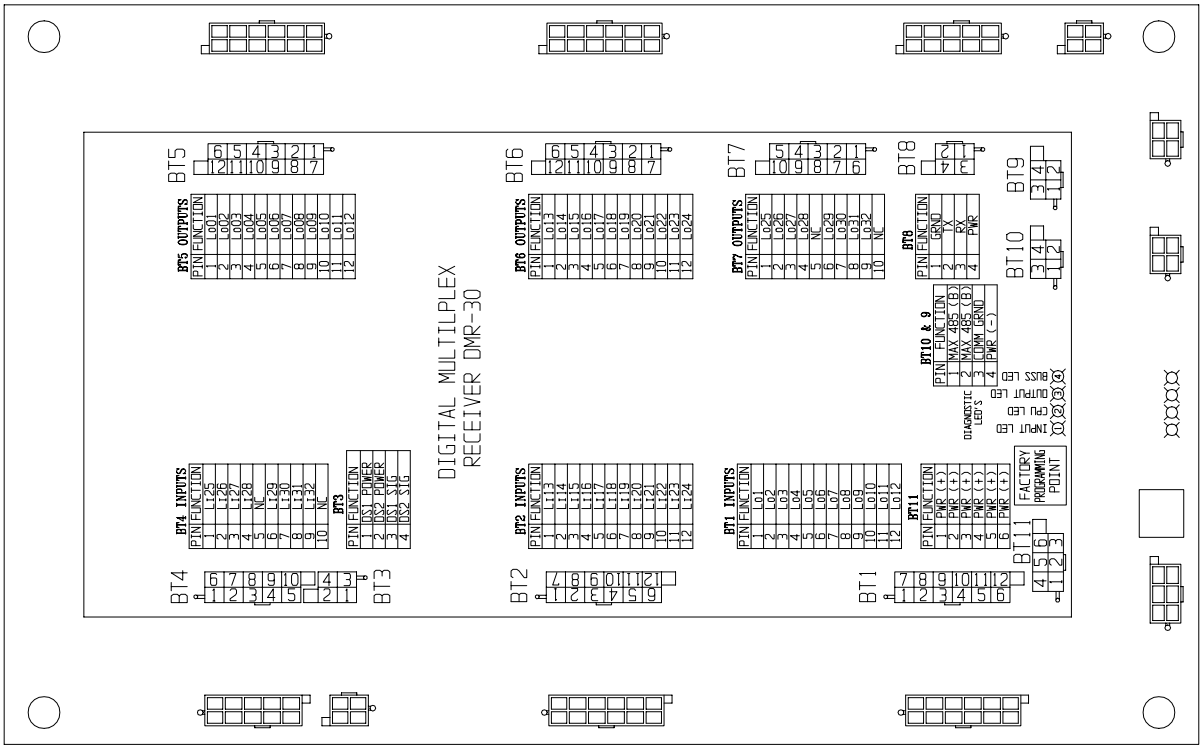


Figure 4-1: DMR-30 Receiver

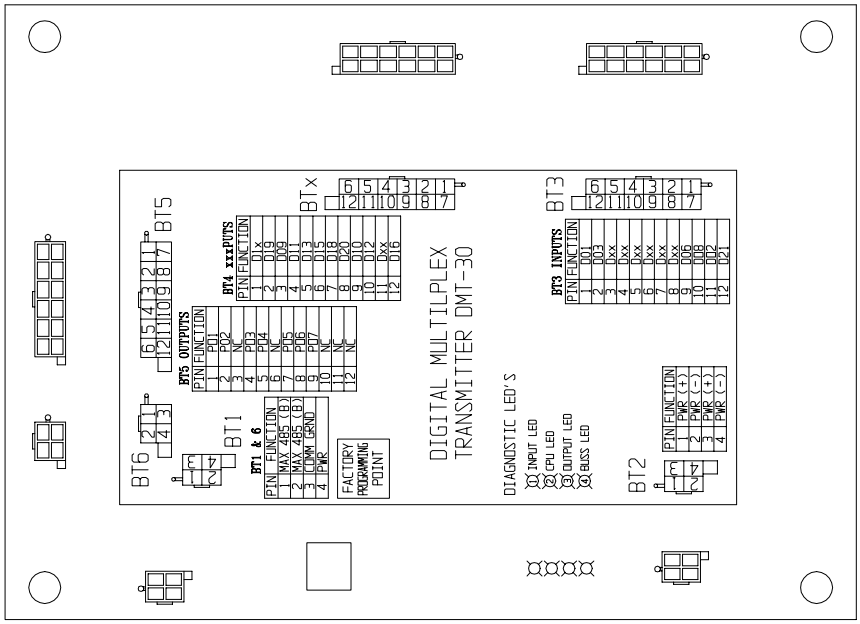


Figure 4-2: DMT-30 Transmitter

4.1 TROUBLESHOOTING DMR-30 CONTROLLER

There are two components to the DMR-30 system. A DMT-30 transmitter in the upper control box transmits inputs from the operator controls to the DMR-30 receiver in the lower control box. The DMR-30 receives the digital signal and commands the appropriate functions. A corresponding LED for each input and output is added to the DMR30 -DMT-30 for easier diagnosis.

These LEDs correspond to wire position in the plugs and acknowledge a signal on the wire. Using the charts in figures 4-1 and 4-2, a signal or series of signals can be followed from switch to actuator to help in determining the cause of a problem.

Four "blinking" diagnostic LEDs, located at the bottom-center of the DMR-30, are labeled as to their function and are also used for diagnostic purposes.

A. CPU LED: DMR-30 is powered up operating properly. Solid light indicates internal failure. Not lit when no power input.

B. INPUT LED: Indicates an input from lower control panel switches, including ignition switch. This LED should flash with CPU LED.

C. OUTPUT LED: Indicates an output to boom or drive functions. This LED flashes only when operating boom or drive functions from either controller.

D. BUSS LED: Indicates an input from the DMT-30 (upper controller). This LED should flash with CPU LED and INPUT LED as the upper ignition must be on to operate.

4.2 MACHINE OPERATION

Lower Control Box

Electrical Power Up

Both Emergency Stop Switches are pulled out.

Lower control box key switch in CHASSIS position. Upper key ON.

BT1-03 chassis selected will be illuminated.

Other LEDs on DMR-30 that may be illuminated: BT1-05 (tilt), BT2-01 (telescope interlock), BT1-11 (lift interlock #1), BT1-12 (lift interlock #2).

The CPU LED on the DMR-30 should be flashing on/off. The BUSS LED on the DMR-30 should be flashing on/off. The INPUT LED should be flashing ON/OFF.

Engine Start

BT1-02 on DMR-30 (start) illuminated when operating start switch.

The hour meter should flash; BT4-08 (oil pressure input) will illuminate while engine is running.

NOTE: If no oil pressure is detected, ignition signal is deactivated. Engine will not continue to run.

Glow Plug

BT1-08 on DMR-30 illuminated. Glow plugs are automatic.

Boom

Speed control knob in UPPER control box must be turned past 5 to operate.

Boom Up

Function enable pushed.

LEDs on DMR-30 illuminated:

BT1-03 (chassis selected), BT2-04 (lift input), BT5-09 (lift output to valve), BT6-12 (low flow output), BT5-06 (throttle output).

Boom Down

Function enable pushed.

LEDs on DMR-30 illuminated:

BT1-03 (chassis selected), BT2-05 (boom down input), BT6-04 (boom down output to valve), BT6-12 (low flow output), BT5-06 (mid throttle output).

Boom Riser Up

Function enable pushed.

LEDs on DMR-30 illuminated:

BT1-03 (chassis selected), BT2-02 (riser up input), BT5-12 (riser up to valve output), BT6-10 (high flow output to valve), BT5-06 (throttle output).

Riser Lower

Function enable pushed.

LEDs on DMR-30 illuminated:

BT2-03 (riser lower input), BT6-01 (riser lower output), BT6-10 (high flow output to valve), BT5-06 (throttle output).

Boom Extend

Function enabled.

LEDs on DMR-30 illuminated:

BT2-06 (boom extend input), BT6-07 (boom extend output to valve), BT6-10 (high flow output). BT5-06 (throttle output)

Boom Retract

Function enabled.

LEDs on DMR-30 illuminated:

BT2-07 (boom retract input), BT6-08 (boom retract output to valve), BT6-10 (high flow output). BT5-06 (throttle output)

Turret Rotate

Swing Right

Function enabled.

LEDs on DMR-30 illuminated:

BT2-09 (swing right input), BT7-09 (turret valve output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Swing Left

Function enabled.

LEDs on DMR-30 illuminated:

BT2-08 (swing left input), BT7-08 (turret valve output), BT5-06 (throttle output), BT6-12 (low flow output).

Jib

Jib Up

Function enabled.

LEDs on DMR-30 illuminated:

BT2-10 (jib up input), BT7-06 (jib up output to valve), BT6-12 (low flow valve output), BT5-06 (throttle output).

Jib Down

Function enabled.

LEDs on DMR-30 illuminated:

BT2-11 (jib down input), BT7-07 (jib down output to valve), BT6-12 (low flow valve output), BT5-06 (throttle output).

Cage Rotate

Cage Right

Function enabled.

LEDs on DMR-30 illuminated:

BT4-03 (cage right input), BT7-03 (cage right output to valve), BT6-12 (low flow valve output), BT5-06 (throttle output).

Cage Left

Function enabled.

LEDs on DMR-30 illuminated:

BT4-02 (cage left input), BT7-04 (cage left output to valve), BT6-12 (low flow valve output), BT5-06 (throttle output).

Cage Trim Up

Function enabled.

LEDs on DMR-30 illuminated:

BT2-12 (cage trim up input), BT6-05 (cage trim up output to valve), BT6-12 (low flow valve output), BT5-07 (throttle output).

Cage Trim Down

Function enabled.

LEDs on DMR-30 illuminated:

BT4-01 (cage trim down input), BT6-06 (cage trim down output to valve), BT6-12 (low flow valve output), BT5-07 (throttle output).

Auxiliary Power (Emergency Functions)

Both Emergency Stops are pulled out (upper and lower).

Auxiliary Switch enabled.

Relay #9 activated (12 volts at relay #9, terminals #30 & #87).

NOTE: If the auxiliary switch is depressed when the engine is running, the engine will stop immediately.

Upper Control Box

Power-Up

Both Emergency Stops are pulled out (upper and lower).

Lower Control Box key switch in PLATFORM position. Platform key switch on.

LEDs on DMR-30 illuminated:

BT1-01 (platform selected)

LEDs on DMT-30 illuminated:

BT1-11 & BT1-12 (limit switch)

BT1-05 (tilt)

Engine Start

Operate start switch.

LEDs on DMT-30 illuminated:

BT5-11 (starter output), BT5-08 (glow plug output-diesel only), BT4-04 (oil pressure), LED's on DMR-30 illuminated: BT3-03 (start input).

Boom Lift Function

Riser Up

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot switch), BT 3-09 (riser up).

LEDs on DMR-30 Illuminated: BT5-12 (riser up output), BT5-06 (throttle output), BT6-10 (high flow valve output).

Riser Down

Function enabled - foot switch depressed.

LED's on DMT-30 illuminated: BT4-03 (foot switch)

BT 4-08 (riser down) LED's on DMR 30 Illuminated: BT6-01 (riser down output) BT5-06 (throttle output) BT6-10 (high flow valve output)

Boom Up

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-09 (boom up)

LEDs on DMR-30 illuminated:

BT5-09 (boom up output) BT5-06 (throttle output), BT6-12 (low flow valve output).

Boom Down

Function enabled - foot switch depressed.

LEDs illuminated:

BT4-03 (foot pedal), BT4-04 (boom down).

LED's on DMR-30 illuminated:

BT5-04 (boom down output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Boom Extend

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT3-11 (boom extended).

LEDs on DMR-30 illuminated:

BT6-07 (boom extend output), BT5-06 (throttle output), BT6-10 (high flow valve output).

Boom Retract

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT3-06 (boom retract).

LEDs on DMR-30 illuminated:

BT6-08 (boom retract output), BT5-06 (throttle output), BT6-10 (high flow valve output).

Turret Rotate Functions

Swing Right

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT3-07 (turret rotate right).

LEDs on DMR-30 illuminated:

BT7-09 (turret rotate right output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Swing Left

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT3-01 (turret rotate left).

LEDs on DMR-30 illuminated:

BT7-08 (turret rotate left output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Jib

Jib Up

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-07 (jib up).

LEDs on DMR-30 illuminated:

BT7-06 (jib up output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Jib Down

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-02 (jib down).

LEDs on DMR-30 illuminated:

BT7-07 (jib down output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Cage Rotate

Cage Right

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-01 (cage rotate right)

LEDs on DMR-30 illuminated:

BT7-03 (cage rotate right output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Cage Left

Function enabled - foot pedal depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-12 (cage rotate left)

LEDs on DMR-30 illuminated:

BT7-04 (cage rotate left output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Cage Trim Up

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-11 (cage trim up).

LEDs on DMR-30 illuminated:

BT6-05 (cage trim up output), BT5-06 (throttle output), BT6-12 (low flow valve output).

Cage Trim Down

Function enabled - foot switch depressed.

LEDs on DMT-30 illuminated:

BT4-03 (foot pedal), BT4-06 (cage trim down).

LEDs on DMR-30 illuminated:

BT6-06 (cage trim down valve), BT5-06 (throttle output), BT6-12 (low flow valve output).

Auxiliary Power (Emergency Functions)

DMT-30 BT3-08 (auxiliary power)

DMR-30 BT5-10 (auxiliary output)

NOTE: If the auxiliary switch is depressed when the engine is running, the engine will stop immediately.

Drive Functions

Drive functions are relayed to the drive pump from the joystick control. All adjustments are made at the joystick controller. Brake release and throttle commands are relayed from the joystick controller to the DMT-30 on BT3-08 (JSA) Joystick actuator.

Drive Forward

Function enabled - footswitch depressed.

BT3-02 on DMT-30 (jsa) joystick actuator, BT5-06 on DMR-30 (throttle output), BT5-04 (brake release).

Drive Reverse

Function enabled - footswitch depressed.

BT3-02 on DMT-30 (jsa) joystick actuator, BT5-06 on DMR-30 (throttle output), BT5-04 (brake release).

Steer Right

Function enabled - foot switch depressed.

BT4-05 on DMT-30 (steer right), BT5-06 on DMR-30 (throttle output), BT6-10 on DMR-30 (high flow valve), BT7-02 on DMR-30 (steer right output).

Steer Left

Function enabled - foot switch depressed.

BT4-10 on DMT-30 (steer left) BT5-06 on DMR-30 (throttle output) BT6-10(high flow valve) BT7-01 on DMR-30 (steer left output)

High Torque Position

No signal on DMT-30 or DMR-30.

High Speed Position

BT3-10 on DMT-30 (high speed) is illuminated, BT5-07 on DMR-30 (shift) is illuminated.

Braking

Brakes are normally locked when the machine is not in use. Brakes are unlocked by a charge pressure (380 PSI) from the drive pump. A 12 volt signal is sent to the brake solenoid by BT5-04 on DMR-30.

Tilt

A 12 volt signal is at BT1-05 (tilt signal input) when the machine is level. If the machine is out of level or the level sensor fails, the machine will stop. Red wire on level sensor is power in, and white wire is signal out.

Interlocks

There are two interlocks on the machine.

1. Lift Interlock: A12 Volt signal is sent to BT2-01 on DMR-30; allows high speed travel.
2. Telescope interlock (at tail end of boom): A 12 volt signal is sent to BT1-11 & BT1-12 on DMR-30 when boom is fully retracted; allows high speed travel.

4.3 OPTIMIZER SETTINGS AND SEQUENCE

The AB62 uses a Digital Multiplex Receiver (DMR-30) system manufactured by OEM to control the proportionality of boom functions. There is a transmitter (DMT-30) in the upper control box that takes the operator's control inputs and relays them to the receiver, via data link (two wires). The Optimizer can be plugged into the upper control box, with the use of an adapter (part #100329-005), or directly to the DMR-30 in the lower control box on port P-8. Remove existing plug on P-8 to access port.

The AB62 uses two groups of settings: **"High flow,"** which pertains to the BOOM RISER, BOOM EXTEND and STEER functions and the **"Low flow,"** pertaining to the BOOM RAISE, JIB, TURRET ROTATE, and CAGE LEVEL functions. CAGE ROTATE is also altered by adjusting the flow control valve, located on the bottom of the valve block below the cage rotate valve. All settings correspond with how all the functions in that particular group will react to the rheostat control on the upper control box. Each adjustment will affect that whole group. For example: setting high flow, will change the threshold on boom riser, extend and steer. It is important not to deviate very far from the listed settings. Before making any changes, record the current settings. This will help to diagnose an existing or potential problem with a function on the machine.

Make all settings only in the order in which they are displayed.

Max Out or MX pertains to the extension of the cylinders in the group.

Low Range or LR pertains to the retraction of the cylinders in the group.

Sequence

Emergency stop switches must be pulled and ignition switches on. It is not necessary to have the engine running when retrieving the initial settings or resetting the DMR-30.

Plug the Optimizer in at either location and it should read "Run mode normal functions off."

If not, ensure that all switches are on and the Optimizer is plugged into P-8. If plugged into the upper control box, ensure that there is a four-wire plug in P-8 port in the lower control box.

Low Flow: Select THRESHOLD by pushing the threshold button. The preset value will appear.

If it needs to be changed, use the + or - to raise or lower the value. Continue to MAXOUT and so on until all low flow ranges are set, then push ENTER to save changes.

High flow: Push ENTER, then + (readout will say ERROR): push + again, high flow will appear. Push ENTER. The TH, MX, RU, RD, LR icons will appear and TH will be flashing.

Push ENTER and the display will read: CHANGE; YES = + NO = ENTER.

Push + and the preset value will be displayed. To adjust, push + to raise value or - to lower value.

If preset value is right or after resetting the value, push ENTER. You will be back to Run mode, normal functions off. To reset the other functions, repeat the procedure until TH is flashing, as it did above, then use the + or - to scroll to other functions; then continue.

IMPORTANT: After making changes, thoroughly test all functions for smoothness and proper operation.

Settings (Serial Numbers 1100 to 1115)

Low Flow System	High Flow System
Threshold ----- 58-62%	Threshold----- 67%
High Range----80-87%	High Range--- 95%
Ramp Up------ .5 Sec.	Ramp Up------ .5 Sec.
Ramp Down-- .0 Sec.	Ramp Down-- .0 Sec.
Low Range--- 25-50%	Low Range---- 95%

Settings (Serial Numbers 1116 - Current)

Low Flow System	High Flow System
Threshold ----- 28-30%	Threshold----- 27-29%
High Range----56-58%	High Range--- 95%
Ramp Up------ .2 Sec.	Ramp Up------ .2 Sec.
Ramp Down-- .0 Sec.	Ramp Down-- .0 Sec.
Low Range--- 46-48%	Low Range---- 95%

4.4 HYDRAULIC TROUBLESHOOTING

The AB62 has three independent hydraulic systems: one for drive; one for high flow lift functions; and one for low flow lift functions. The drive system uses an electrically controlled, variable displacement piston pump that powers four piston type wheel motors. The high flow system uses a gear type pump to power riser up/down, boom extend/retract, and steer functions. The low flow system, also using a gear type pump, operates Boom up/down, Jib up/down, Swing right/left, Cage rotate and Cage level.

High flow and low flow system pressures can be verified by connecting a 3000 PSI gauge to the upper port on the valve block. Operate Riser down to test high flow system or Jib up to test the low flow system. Operate function until it stops and system bypasses. The high flow relief valve is located just below the gauge port.

The low flow relief valve is located below the high flow relief valve.

High flow pressure, 2700 PSI.

Low flow pressure, 1400 PSI.

⚠ WARNING ⚠

Counterbalance valves must never be removed if the platform is raised and hydraulic system is under pressure. Be sure the platform is completely stowed before removing counterbalance valves.

Table 4-1: Electrical Truth Table - AB62 Diesel

Component	Function	Engine Start/Run Upper controls	Engine Start/Run Lower controls	Upper Control Functions	Lower Control Functions	Riser Raise/Lower	Boom Up/Down	Boom Extend/Retract	Drive Forward/Reverse	Speed High/Creep	Steer Left/Right	Jib Up/Down	Battery Charge	Platform Level Up/Down	Platform Rotate CW/CCW	Front Axle Lock	Tilt Light	Turret Rotate	Parking Brake Release	Tilt Alarm	Torque High/Low	Emergency Lowering	Horn	Driving Lights - Optional	Generator - Optional	Throttle Controller
ACT1	Throttle Actuator	X	X																						X	
ALM1	Alarm, Tilt																			X						
ALT	Alternator	X	X										X													
BAT1	Battery, Engine Start	X	X																							
BAT2	Battery, Auxiliary Power																					X				
CB1	Circuit Breaker (20 AMP)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	
CB2	Circuit Breaker (10 AMP)	X		X					X	X	X								X		X	X	X			
CB3	Circuit Breaker (10 AMP)								X	X	X								X				X	X	X	
CONT1	Controller, DMR-30	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X			X	
CONT2	Controller, Glow Plug	X	X																							
D1	Diode, Auxiliary Power																					X				
D3	Diode, Power to Platform	X		X					X	X	X								X			X				
D4	Diode																					X				
D5	Diode, Auxiliary Pump Relay																					X				
D6	Diode																					X				
D7	Diode, Alternator												X													
D8	Diode, Spike Protection																									
D9	Diode, Spike Protection																									X
FUSE1	Fuse (175 AMP)																					X				
HORN	Horn																						X			
ISO	Charge Isolator												X													
Lamp1	Distress Lamp	X	X																							
Lamp2	Tilt lamp																X			X						
Lamp 3,4	Glow Plug Lamp	X	X																							
LS1	Linkage Limit Switch									X						X	X			X						
LS2	Proximity Switch									X						X	X			X						
MOT1	Auxiliary Pump Motor																					X				
MOT2	Engine Start Motor	X	X																							
MTR1	Engine Temperature Meter	X	X																							
MTR2	Oil Pressure Meter	X	X																							
MTR3	Hour Meter																									
PMP	Drive Pump								X	X																
R1	Engine Start Relay	X	X																							
R5	Drive Motion Alarm								X																	
R8	Axle Release, Left															X										

Component	Function	Engine Start/Run Upper controls	Engine Start/Run Lower controls	Upper Control Functions	Lower Control Functions	Riser Raise/Lower	Boom Up/Down	Boom Extend/Retract	Drive Forward/Reverse	Speed High/Creep	Steer Left/Right	Jib Up/Down	Battery Charge	Platform Level Up/Down	Platform Rotate CW/CCW	Front Axle Lock	Tilt Light	Turret Rotate	Parking Brake Release	Tilt Alarm	Torque High/Low	Emergency Lowering	Horn	Driving Lights - Optional	Generator - Optional	Throttle Controller
R9	Axle Release, Right															X										
R10	Axle Release Signal															X										
R11	Power to DMR-30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	
R12	Auxiliary Pump																					X				
R13	Relay	X	X																							
R14	Drive Enable Relay								X										X							
R15	Auxiliary Pump Motor Relay																					X				
SW1	Emergency Stop Switch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW2	Ignition Switch	X		X					X	X	X						X		X		X		X		X	
SW4	Auxiliary Power Switch (Upper)			X																		X				
SW5	Generator Switch (Upper)			X																					X	
SW6	Drive Hi/Lo Switch (Upper)			X																	X					
SW7	Cage Level Switch (Upper)			X										X												
SW8	Boom Up/Down Switch (Upper)			X			X																			
SW9	Turret Rotate (Upper)			X														X								
SW10	Cage Rotate (Upper)			X											X											
SW11	Jib Up/Down (Upper)			X								X														
SW12	Riser Up/Down (Upper)			X		X																				
SW13	Boom Retract/Extend (Upper)			X				X																		
SW14	Driving Lights (Upper)			X																				X		
SW17	Oil Pressure Switch	X	X										X													
SW18	Horn (Upper)			X																			X			
SW19	Foot Interlock (Upper)			X					X		X															
SW21	Emergency Stop (Lower)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW22	Selector Switch (Lower)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW23	Auxiliary Power Switch (Lower)																					X				
SW24	Enable Switch (Lower)				X																					
SW26	Boom Hi/Lo Speed (Lower)				X	X	X	X				X		X	X			X								
SW28	Engine start Switch (Lower)		X																							
SW29	Turret Rotate Switch (Lower)				X													X								
SW30	Boom Up/Down Switch (Lower)				X		X																			
SW31	Cage Level Switch (Lower)				X									X												

Component	Function	Engine Start/Run Upper controls	Engine Start/Run Lower controls	Upper Control Functions	Lower Control Functions	Riser Raise/Lower	Boom Up/Down	Boom Extend/Retract	Drive Forward/Reverse	Speed High/Creep	Steer Left/Right	Jib Up/Down	Battery Charge	Platform Level Up/Down	Platform Rotate CW/CCW	Front Axle Lock	Tilt Light	Turret Rotate	Parking Brake Release	Tilt Alarm	Torque High/Low	Emergency Lowering	Horn	Driving Lights - Optional	Generator - Optional	Throttle Controller
SW32	Cage Rotate Switch (Lower)				X										X											
SW33	Jib Up/Down Switch (Lower)				X							X														
SW34	Rise Up/Down Switch (Lower)				X	X																				
SW35	Boom Extend/Retract (Lower)				X			X																		
SNSR1	Tilt Sensor																X			X						
SNSR2	Engine Temperature Sensor	X	X																							
SNSR3	Engine Oil Pressure Sensor	X	X																							
SOL1	Cage Level Solenoid													x												
SOL2	Cage Level Solenoid													x												
SOL3	Jib Up Solenoid											X														
SOL4	Jib Down Solenoid											X														
SOL5	Boom Up Solenoid						X																			
SOL6	Boom Down Solenoid						X																			
SOL7	Boom Extend Solenoid							X																		
SOL8	Boom Retract Solenoid							X																		
SOL9	Riser Up					X																				
SOL10	Riser Down					X																				
SOL11	Cage Rotate CW														X											
SOL12	Cage Rotate CCW														X											
SOL13	Turret Rotate CW																	X								
SOL14	Turret Rotate CCW																	X								
SOL15	Steer Right										X															
SOL16	Steer Left										X															
SOL17	Low Flow						X					X		X	X			X								
SOL18	High Flow					X		X			X															
SOL19	Generator Valve																								X	
SOL20	Brake								X																	
SOL21	Torque																				X					
SOL22	Axle Lock															X										
SOL23	Fuel	X	X																							
TRANS	Transmitter, DMT-30	X		X							X										X					

Table 4-2: Hydraulic Truth Table - AB62

Component	Function	Steer	Riser Elevate/Descend	Boom Extend/Retract	Boom Raise/Lower	Jib Up/Down	Cage Level Up/Down	Cage Rotate CW/CCW	Turret Rotate CW/CCW	Drive Forward/Reverse	Front Axle Lock	Brake Release	Emergency Lower
CB1	Counterbalance Valve, Riser		X										
CB2	Counterbalance Valve, Boom Extend			X									
CB3	Counterbalance Valve, Boom Raise				X								
CB4	Counterbalance Valve, Jib Cylinder					X							
CB5	Counterbalance Valve, Master Cylinder						X						
CB6	Counterbalance Valve, Slave Cylinder						X						
CB7	Counterbalance Valve, Cage Rotate							X					
CB8	Counterbalance Valve, Turret Rotate								X				
CB9	Counterbalance Valve, Left Axle Cylinder										X		
CB10	Counterbalance Valve, Right Axle Cylinder										X		
CV1-2	High Pressure Test Port Check Valve												
CV3-7	Low Pressure Test Port Check Valve				X	X	X	X	X				
CV8	Boom Extend Cylinder Check Valve			X									
CV9	Turret Rotate Check Valve								X				
CV10	High Pressure Check Valve												
CV11	Low Pressure Check Valve												
CV12	Return Filter Check Valve												
CYL1	Steer Cylinder	X											
CYL2	Riser Cylinder		X										
CYL 3	Boom Extend Cylinder			X									
CYL4	Boom Raise Cylinder				X								
CYL5	Jib Cylinder					X							
CYL6	Master Cylinder						X						
CYL7	Slave Cylinder						X						
CYL8	Turret Rotate Brake Cylinder								X				
CYL9-10	Wheel Brake Cylinders											X	
CYL11	Left Axle Lock Cylinder										X		
CYL12	Right Axle Lock Cylinder										X		
FD1-2	Flow Divider									X			
FL1	Suction Filter									X	X	X	
FL2	Return Filter												
FL3	Suction Filter	X	X	X	X	X	X	X	X				x
FL4	Return Filter												
FL5	Suction Filter												X
MOT1	Left Rear Drive Motor									X			
MOT2	Right Front Drive Motor									X			
MOT3	Right Rear Drive Motor									X			
MOT4	Left Front Drive Motor									X			
MOT5	Swing Motor								X				

COMPONENT		FUNCTION	STEER	RISER ELEVATE/DESCEND	BOOM EXTEND/RETRACT	BOOM RAISE/LOWER	JIB UP/DOWN	CAGE LEVEL UP/DOWN	CAGE ROTATE CW/CCW	TURRET ROTATE CW/CCW	DRIVE FORWARD/REVERSE	FRONT AXLE LOCK	BRAKE RELEASE	EMERGENCY LOWER
ORF1	Turret Orifice									X				
ORF2	Riser Orifice			X										
ORF3	Drive Orifice										X			
PMP1	Boom Pump Low Flow					X	X	X	X	X				
PMP2	Boom Pump High Flow		X	X	X									
PMP3	Variable Drive Pump										X	X	X	
PMP4	Auxiliary Pump													X
ROT	Cage Rotator								X					
RV1	Low Pressure Relief Valve					X	X	X	X	X				
RV2	High Pressure Relief		X	X	X									
RV3	Jib Cylinder Relief						X							
V1	Steering Valve		X											
V2	Riser Valve			X										
V3	Boom Extend Valve				X									
V4	Boom Raise Valve					X								
V5	Jib Valve						X							
V6	Cage Level Valve							X						
V7	Turret Rotate Valve									X				
V8	Cage Rotate								X					
V9	Low Flow Valve					X	X	X	X	X				
V10	High Flow Valve		X	X	X									
V11	Diverter Valve													
V12	Brake Valve												X	
V13	Axle Float Valve											X		
V14	High Speed Valve										X			
V15	Rear Drive Torque/Speed Valve										X			
V16	Front Drive Torque/Speed Valve										X			

Notes:

Section 5

SCHEMATICS

Introduction

This section contains electrical and hydraulic power schematics and associated information for maintenance purposes.

The diagrams are to be used in conjunction with the ***Troubleshooting Truth Tables*** in ***Section 4.*** They allow understanding of the makeup and functions of the systems for checking, tracing, and faultfinding during troubleshooting analysis.

The components that comprise the electrical and hydraulic systems are given a reference designation and are explained as to function and location in the following tables.

Schematic **Page**

5.1 ELECTRICAL SCHEMATIC - AB62 DIESEL

Table 5-1: Electrical Schematic - Diesel - 104049-000

REFERENCE	NAME	FUNCTION	LOCATION
ACT1	Actuator	Throttle	Engine Module
ALM1	Alarm, Tilt	Provide warning sound when machine is off-level	Lower Control Box
ALT	Alternator	Charge Battery	Engine
BAT1	Battery	Start Engine	Under Hydraulic Block
BAT2	Battery	Auxiliary Power	Under Hydraulic Block
CB1	Circuit Breaker	Overload protection for DMR-30	Lower Control Box
CB2	Circuit Breaker	Overload protection Platform Control	Lower Control Box
CB3	Circuit Breaker	Overload protection Platform Accessories	Lower Control Box
CONT1	Controller, DMR-30	Controls machine functions	Lower Control Box
CONT2	Controller	Glow Plug Controller	Engine Module
D1	Diode	Auxiliary Power from Platform	Lower Control Box
D2	Diode	Not Used	
D3	Diode	Power to Platform Controls	Engine Module
D4	Diode	Prevents Auxiliary Pump operation when ignition is on	Lower Control Box
D5	Diode	Auxiliary Pump Relay Signal	Lower Control Box
D6	Diode	Auxiliary Power to Lower Controls	Lower Control Box
D7	Diode	Alternator exciter signal	Engine, near Alternator
D8	Diode	Spike Protection Diode	Engine Module
D9	Diode	Spike Protection Diode	Engine Module
FUSE 1	Fuse	Auxiliary Power Motor	Control Module
HORN	Horn	Sound Alarm	Upper Control Box
ISO	Isolator	Charge Isolator	Engine
Lamp1	Lamp	Distress, Engine	Upper Control Box
Lamp2	Lamp	Tilt	Upper Control Box
Lamp3&4	Lamp	Glow Plug	Upper & Lower Box
LS1	Limit Switch	Linkage Limit Switch	Lower Linkage Assy.
LS2	Limit Switch	Proximity Switch	Right side, rear of main Boom
MOT1	Motor	Auxiliary Pump	Control Module
MOT2	Motor	Start Engine	Engine
MTR1	Meter	Engine Temperature	Lower Control Box
MTR2	Meter	Oil Pressure	Lower Control Box
MTR3	Meter, Hour	Hours machine has operated.	Lower Control Box
PMP	Pump	Drive	Engine Module
R1	Relay	Engine Start Relay	Engine Module
R5	Relay	Drive Motion Alarm	Lower Cntrol Box Strip
R6	Relay	Not Used	Lower Cntrol Box Strip
R7	Relay	Not Used	Lower Cntrol Box Strip
R8	Relay	Left Axle Release	Lower Cntrol Box Strip
R9	Relay	Right Axle Release	Lower Cntrol Box Strip
R10	Relay	Axle Release Signal	Lower Cntrol Box Strip
R11	Relay	Power to DMR-30	Lower Control Box
R12	Relay	Auxiliary Pump Relay	Lower Control Box
R13	Relay	Ignition cutout during Auxiliary Power	Lower Control Box
R14	Relay	Drive Enable	Platform Control Box
R15	Relay	Auxiliary Pump Motor	Control Module
SW1	Switch	Emergency Stop	Platform Control Box
SW2	Switch, Ignition	Start Engine	Platform Control Box
SW3	Not Used		
SW4	Switch	Auxiliary Power	Platform Control Box
SW5	Switch	Generator	Platform Control Box
SW6	Switch	Drive Hi/Low Speed	Platform Control Box
SW7	Switch	Level the Platform	Platform Control Box
SW8	Switch	Boom, Up/Down	Platform Control Box
SW9	Switch	Turret Rotate	Platform Control Box
SW10	Switch	Cage Rotate	Platform Control Box
SW11	Switch	Jib, Up/Down	Platform Control Box
SW12	Switch	Riser, Up/Down	Platform Control Box
SW13	Switch	Boom, Retract/Extend	Platform Control Box
SW14	Switch	Driving Lights	Platform Control Box
SW17	Switch	Oil Pressure Switch	Engine Module
SW18	Switch	Horn	Lower Control Box
SW19	Switch	Interlock, Foot	Platform Control Box
SW21	Switch	Emergency Stop	Lower Control Box
SW22	Switch	Selector	Lower Control Box
SW23	Switch	Auxiliary Power	Lower Control Box
SW24	Switch	Enable	Lower Control Box
SW26	Switch	Boom, Speed	Lower Control Box
SW28	Switch, Ignition	Engine Start	Lower Control Box
SW29	Switch	Turret Rotate	Lower Control Box
SW30	Switch	Boom, Up/Down	Lower Control Box
SW31	Switch	Level the Platform	Lower Control Box
SW32	Switch	Cage Rotate	Lower Control Box
SW33	Switch	Jib, Up/Down	Lower Control Box
SW34	Switch	Riser, Up/Down	Lower Control Box
SW35	Switch	Boom, Extend/Retract	Lower Control Box
SNSR1	Sensor, Tilt	Activate tilt alarm. Disable all machine functions except Platform Lower when machine is more than 3° off level.	Control module
SNSR2	Sensor	Engine Temperature	Engine
SNSR3	Sensor	Engine Oil Pressure	Engine
SOL1	Solenoid	Trim, Up	Boom Valve Block
SOL2	Solenoid	Trim, Down	Boom Valve Block
SOL3	Solenoid	Jib, Up	Boom Valve Block
SOL4	Solenoid	Jib, Down	Boom Valve Block
SOL5	Solenoid	Boom, Up	Boom Valve Block
SOL6	Solenoid	Boom, Down	Boom Valve Block
SOL7	Solenoid	Boom, Extend	Boom Valve Block
SOL8	Solenoid	Boom, Retract	Boom Valve Block
SOL9	Solenoid	Riser, Up	Boom Valve Block
SOL10	Solenoid	Riser, Down	Boom Valve Block
SOL11	Solenoid	Cage Rotate, CW	Boom Valve Block
SOL12	Solenoid	Cage Rotate, CCW	Boom Valve Block
SOL13	Solenoid	Turret Rotate, CW	Boom Valve Block
SOL14	Solenoid	Turret Rotate, CCW	Boom Valve Block
SOL15	Solenoid	Steer, Right	Boom Valve Block
SOL16	Solenoid	Steer, Left	Boom Valve Block
SOL17	Solenoid	Low Flow Proportional	Boom Valve Block
SOL18	Solenoid	High Flow Proportional	Boom Valve Block
SOL19	Solenoid	Generator Valve	Gen Valve Block
SOL20	Solenoid	Brake	Engine Module
SOL21	Solenoid	Torque	Engine Module
SOL22	Solenoid	Axle Lock	Engine Module
SOL23	Solenoid	Fuel	Engine Module
TMR	Timing Module	Fuel Solenoid Pull Circuit	Engine
TRANS	Transmitter DMT-30	Transmit signal to controller	Platform Control Box

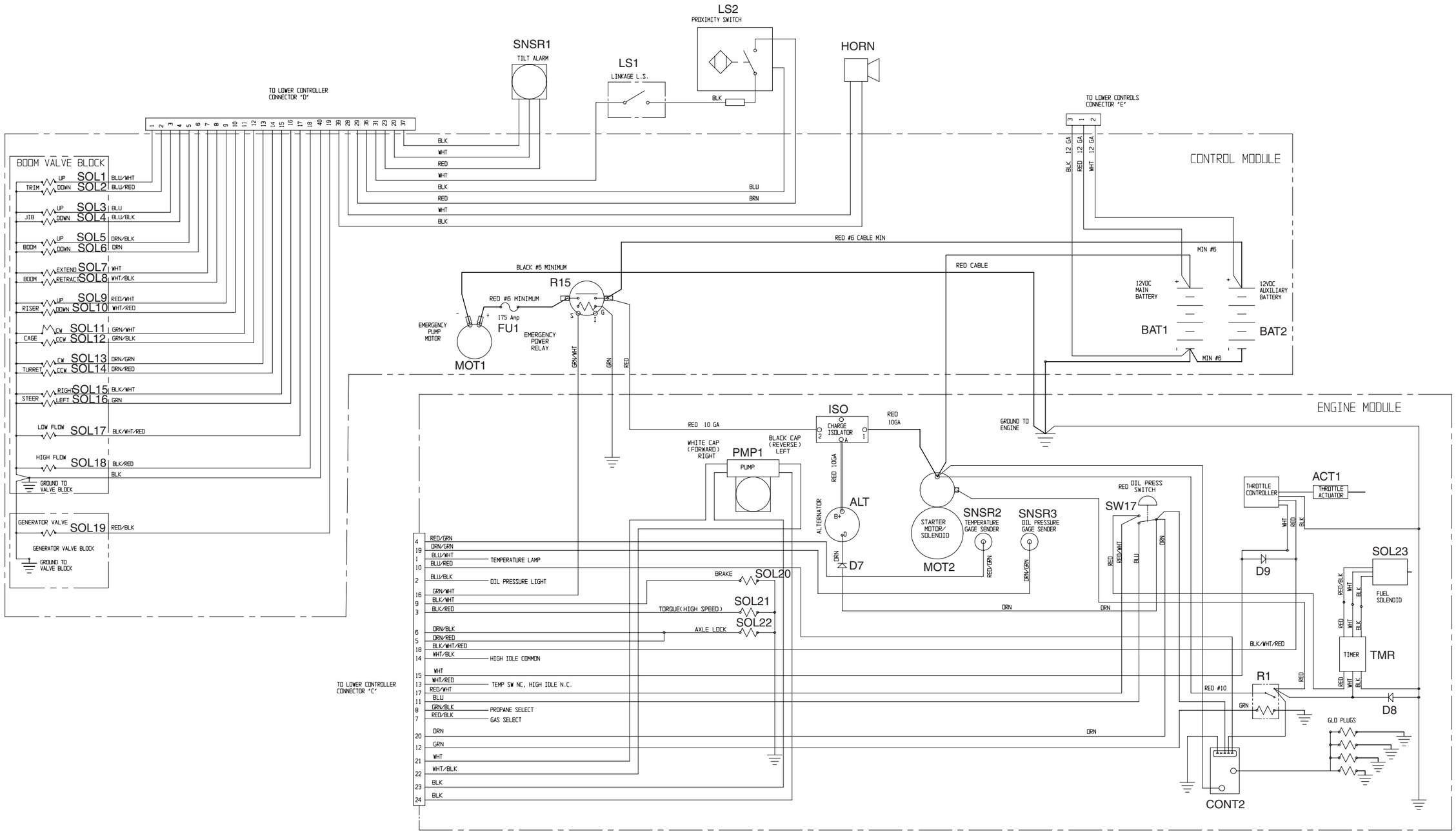


Figure 5-1: AB62 Electrical Schematic - Diesel - 104049-000 (1 of 2)

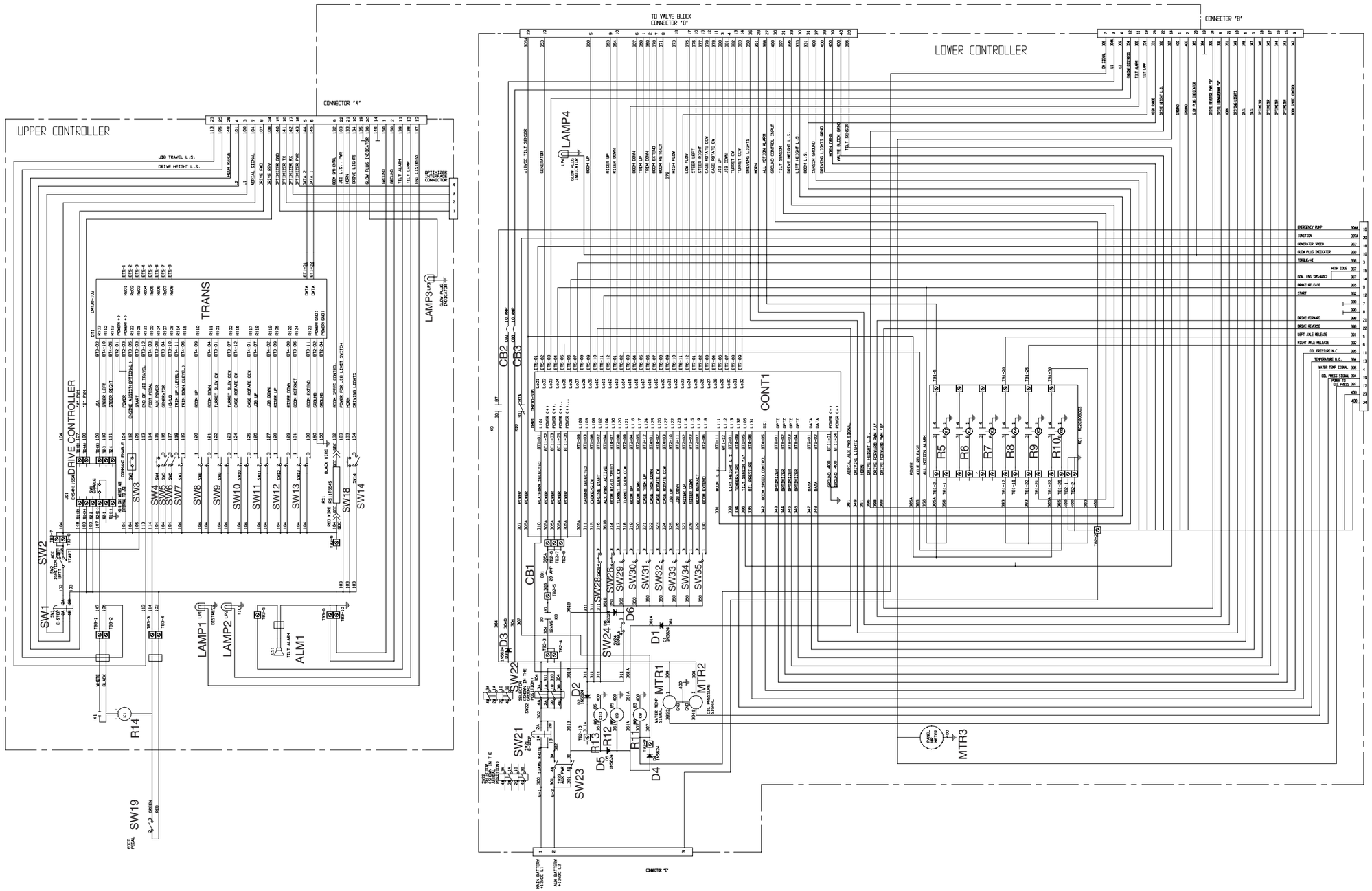


Figure 5-2: AB62 Electrical Schematic - Diesel - 104049-000 (2 of 2)

Notes:

5.2 HYDRAULIC SCHEMATIC, AB62

Table 5-2: Hydraulic Schematic Legend - 104048-000

REFERENCE	NAME	FUNCTION	LOCATION
CB1	Counterbalance Valve	Riser Counterbalance	Riser Cylinder
CB2	Counterbalance Valve	Boom Extend Counterbalance	Boom Extend Cylinder
CB3	Counterbalance Valve	Boom Raise Counterbalance	Boom Raise Cylinder
CB4	Counterbalance Valve	Jib Counterbalance	Jib Cylinder
CB5	Counterbalance Valve	Master Counterbalance	Master Cylinder
CB6	Counterbalance Valve	Slave Counterbalance	Slave Cylinder
CB7(2)	Counterbalance Valve	Cage Rotate Counterbalance	Cage Rotate Valve Block
CB8	Counterbalance Valve	Turret Rotate Counterbalance	Turret Rotate Motor
CB9	Counterbalance Valve	Left Axle Counterbalance	Left AXle Lock Cylinder
CB10	Counterbalance Valve	Right Axle Counterbalance	Right Axle Lock Cylinder
CV1&2	Check Valve	High Pressure Test Port Check Valve	Main Valve Block
CV3-7	Check Valve	Low Pressure Test Port Check Valves	Main Valve Block
CV8	Check Valve	Boom Extend Cylinder Check Valve	Boom Extend Cylinder
CV9	Check Valve	Turret Rotate Check Valve	Turret Rotate Valve Block
CV10	Check Valve	Boom Pump High Pressure Check Valve	Boom Pump
CV11	Check Valve	Boom Pump Low Pressure Check Valve	Boom Pump
CV12	Check Valve	Return Filter Check Valve	Return Filter
CYL1	Cylinder	Steering Cylinder	Chassis
CLY2	Cylinder	Riser Cylinder	Riser
CYL3	Cylinder	Boom Extend Cylinder	Inside Boom
CYL4	Cylinder	Boom Raise Cylinder	Front of Boom
CYL5	Cylinder	Jib Cylinder	Jib
CYL6	Cylinder	Master Cylinder	Rear of Boom
CYL7	Cylinder	Slave Cylinder	Front of Boom
CYL8	Cylinder	Turret Rotate Brake Cylinder	Turret Rotate Motor
CYL9-10	Cylinder	Brake Cylinders	Brakes
CYL11	Cylinder	Left Axle Lock Cylinder	Front Axle
CYL12	Cylinder	Right Axle Lock Cylinder	Front Axle
FD1-2	Flow Divider	Flow Divider	Drive Valve Block
FL1	Filter	Suction Filter	Tank
FL2	Filter	Return Filter	Tank
FL3	Filter	Suction Filter	Tank
FL4	Filter	Return Filter	Tank
FL5	Filter	Suction Filter	Tank
MAN1	Manifold	Rotary Manifold	Turret Assembly
MOT1	Drive Motor	Left Rear Drive Motor	Left Rear Axle
MOT2	Drive Motor	Right Front Drive Motor	Right Front Axle
MOT3	Drive Motor	Right Rear Drive Motor	Right Rear Axle
MOT4	Drive Motor	Left Front Drive Motor	Left Front Axle
ORF1	Orifice	Limit Turret Rotate Speed	Main Valve Block
ORF2	Orifice	Limit Riser down speed	Riser Cylinder
ORF3	Orifice	Limit Flow Between Front and Rear Drive Motors	Drive Valve Block
PMP1	Pump	Boom Pump Low Flow	Engine Module
PMP2	Pump	Boom Pump High Flow	Engine Module
PMP3	Pump	Variable Drive Pump	Engine Module
PMP4	Pump	Auxiliary Pump	Engine Module
ROT	Rotator	Cage Rotator	Platform
RV1	Relief Valve	Low Pressure Relief	Main Valve Block
RV2	Relief Valve	High Pressure Relief	Boom Valve Block
RV3	Relief Valve	Jib Cylinder Relief	Jib Cylinder
V1	Valve	Steer Valve	Main Valve Block
V2	Valve	Riser Valve	Main Valve Block
V3	Valve	Boom Extend Valve	Main Valve Block
V4	Valve	Boom Raise Valve	Main Valve Block
V5	Valve	Jib Valve	Main Valve Block
V6	Valve	Cage Level	Main Valve Block
V7	Valve	Turret Rotate	Main Valve Block
V8	Valve	Cage Rotate	Main Valve Block
V9	Valve	Low Flow Valve	Main Valve Block
V10	Valve	High Flow Valve	Main Valve Block
V11	Valve	Diverter Valve	Main Valve Block
V12	Valve	Brake Valve	Brake, Axle Lock, 2-Speed Valve Block
V13	Valve	Axle Float Valve	Brake, Axle Lock, 2-Speed Valve Block
V14	Valve	High Speed Valve	Brake, Axle Lock, 2-Speed Valve Block
V15	Valve	Rear Drive Valve	Drive Valve Block
V16	Valve	Front Drive Valve	Drive Valve Block

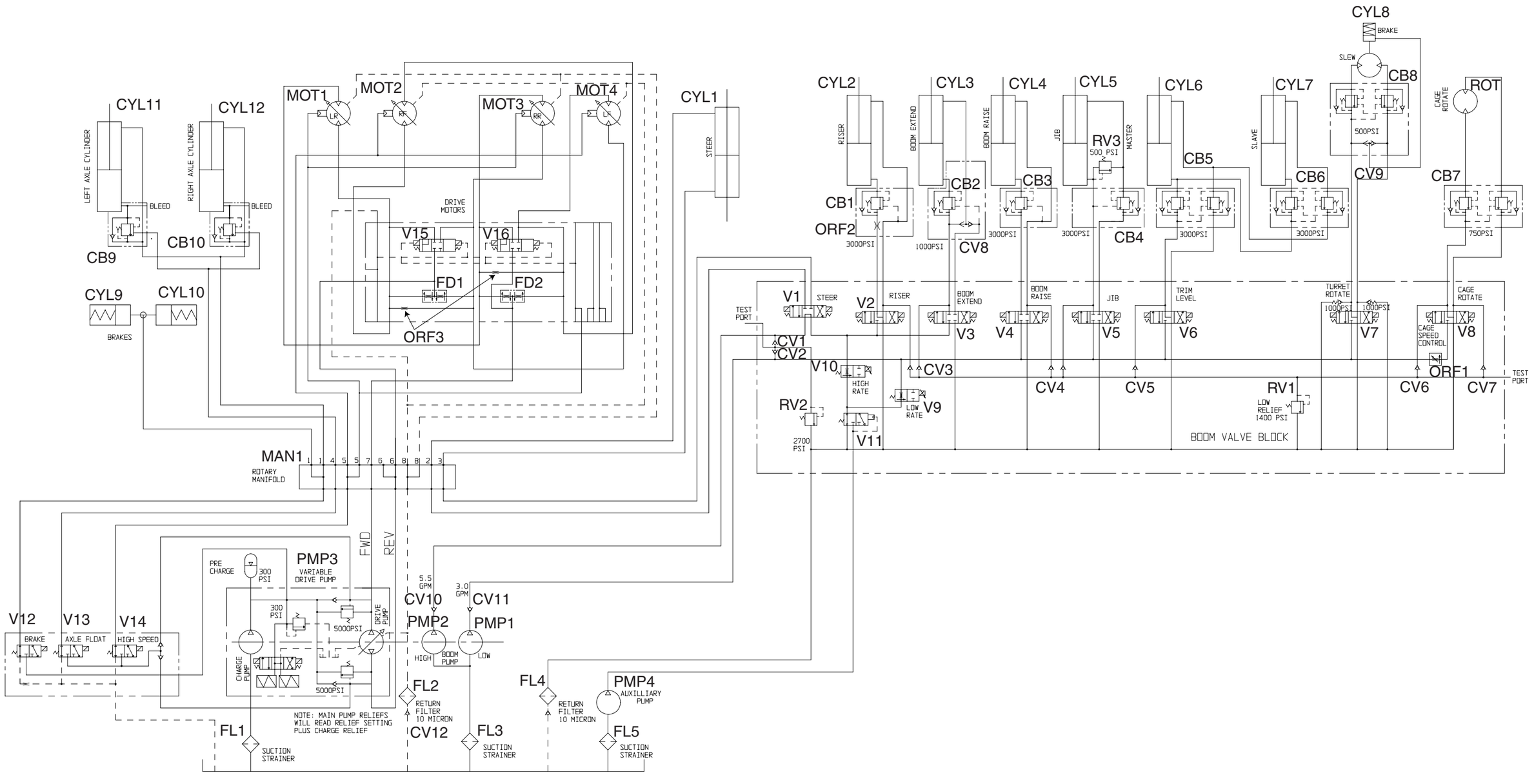


Figure 5-3: Hydraulic Schematic - 104048-000

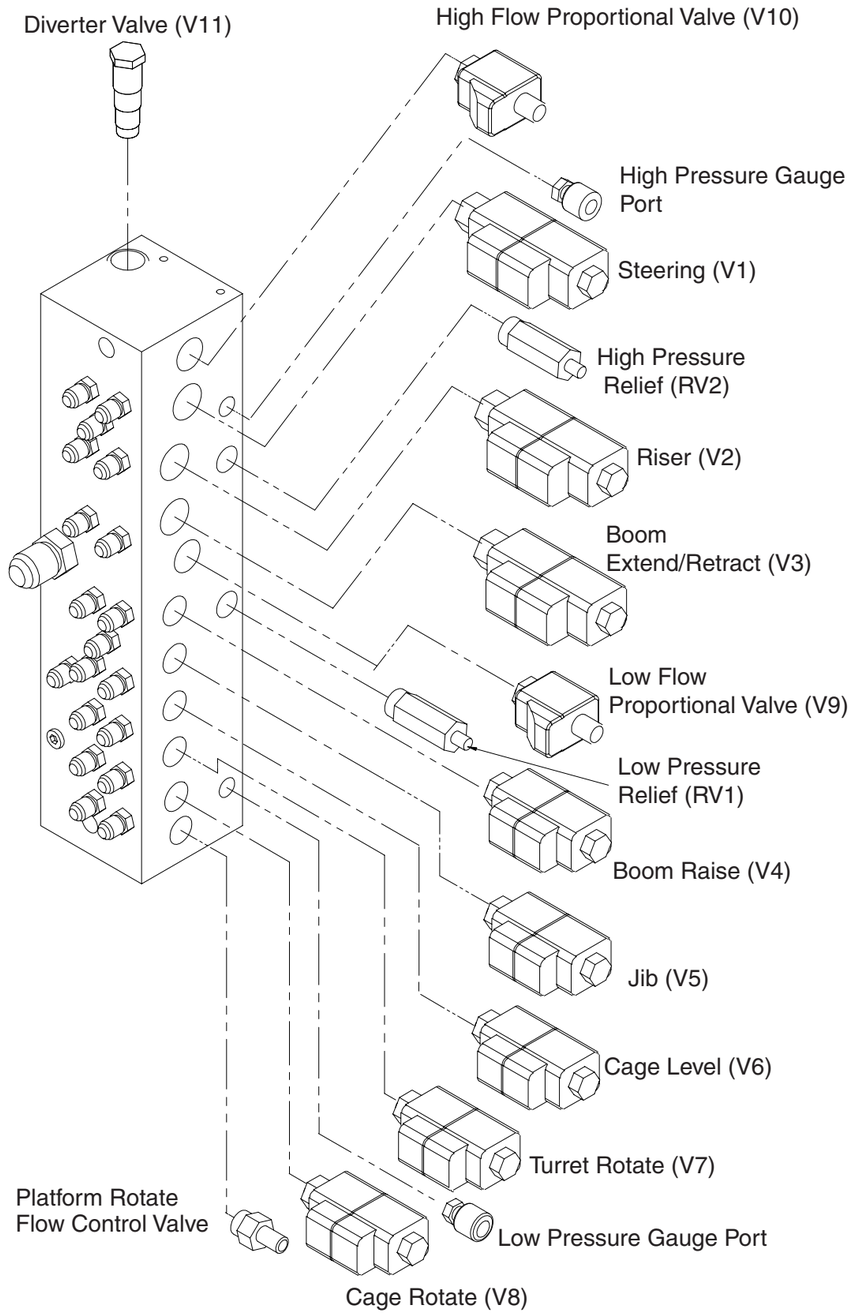


Figure 5-4: Valve Manifold Assembly

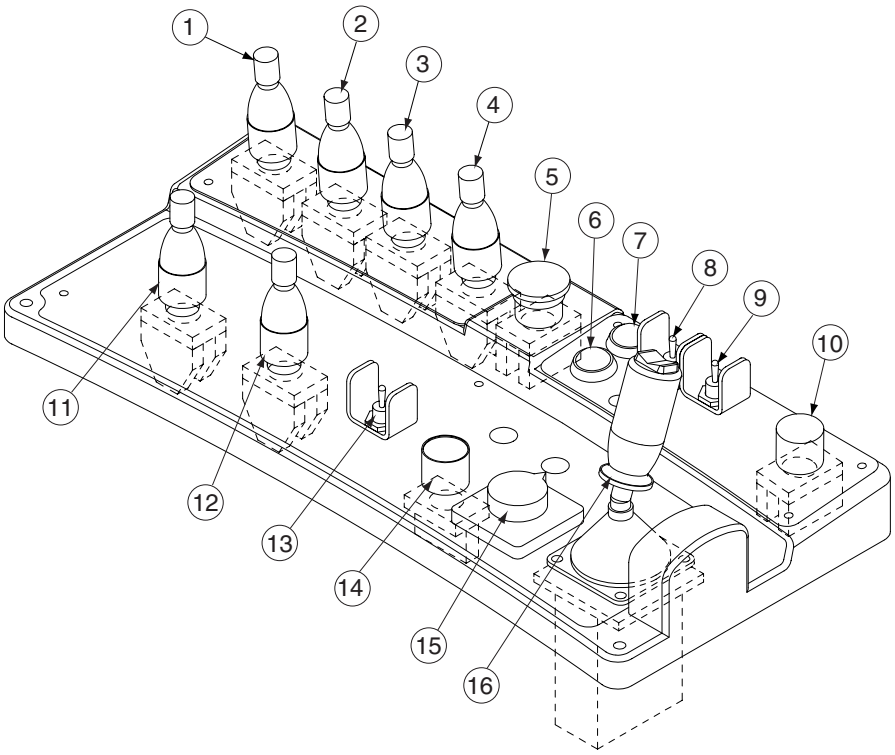


Figure 5-5: Upper Controller, Top Half

1. Riser
2. Boom Raise
3. Boom Extend
4. Jib Raise
5. Emergency Stop
6. Engine Temperature
7. Tilt Indicator
8. Hi/Lo Speed
9. Fuel Selector/Glow Plug
10. Auxiliary Power
11. Turret Rotate
12. Cage Rotate
13. Cage Level
14. Horn
15. Boom Speed
16. Drive
17. Alarm
18. Key Switch
19. Optimizer Connection

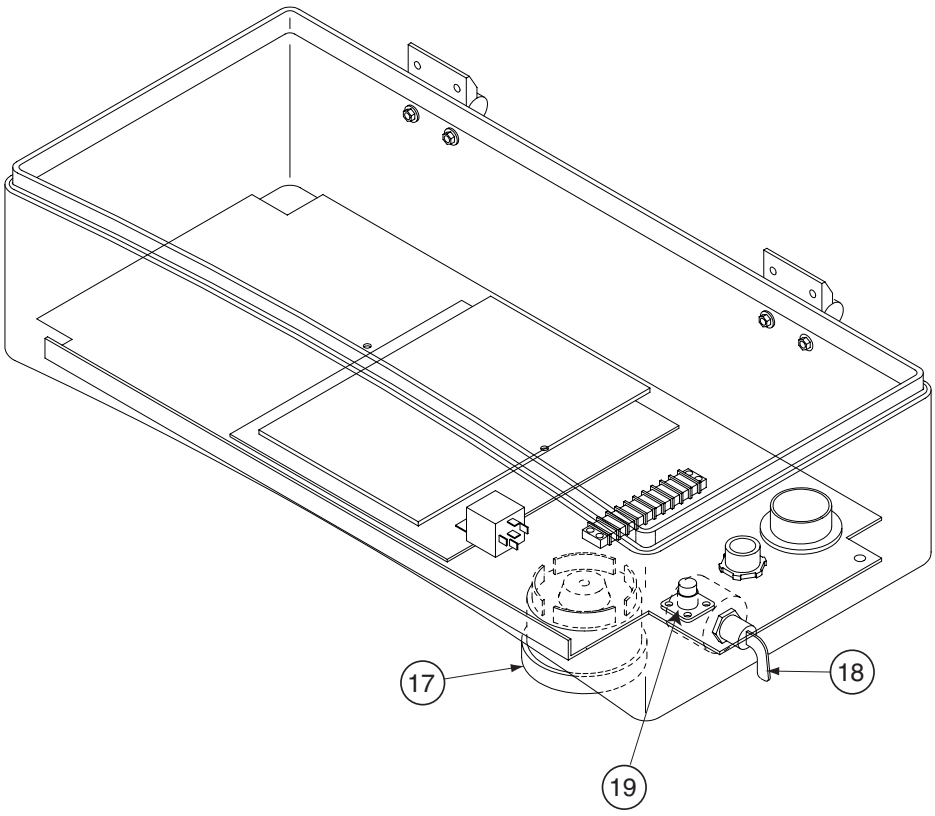


Figure 5-6: Upper Controller, Bottom Half

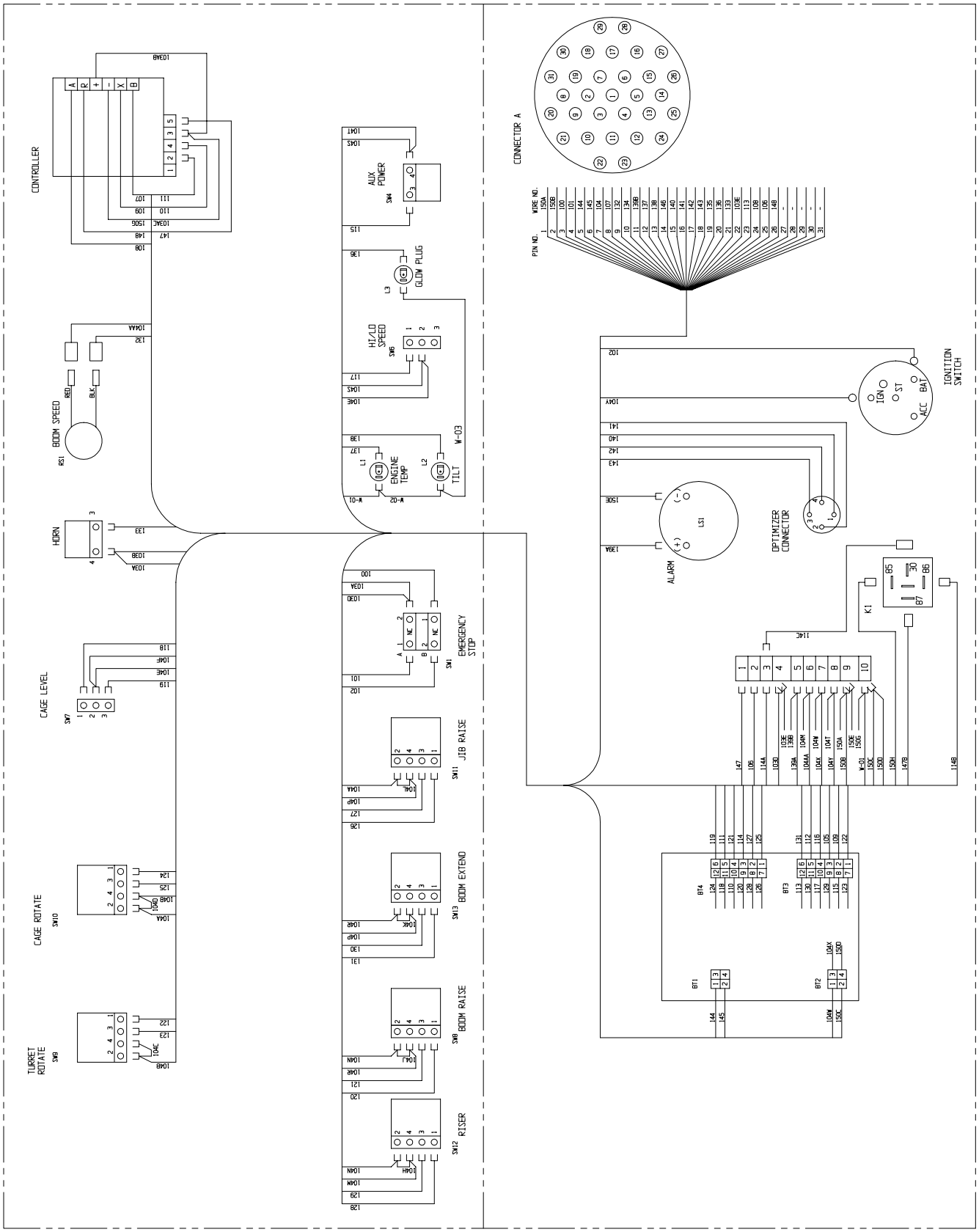
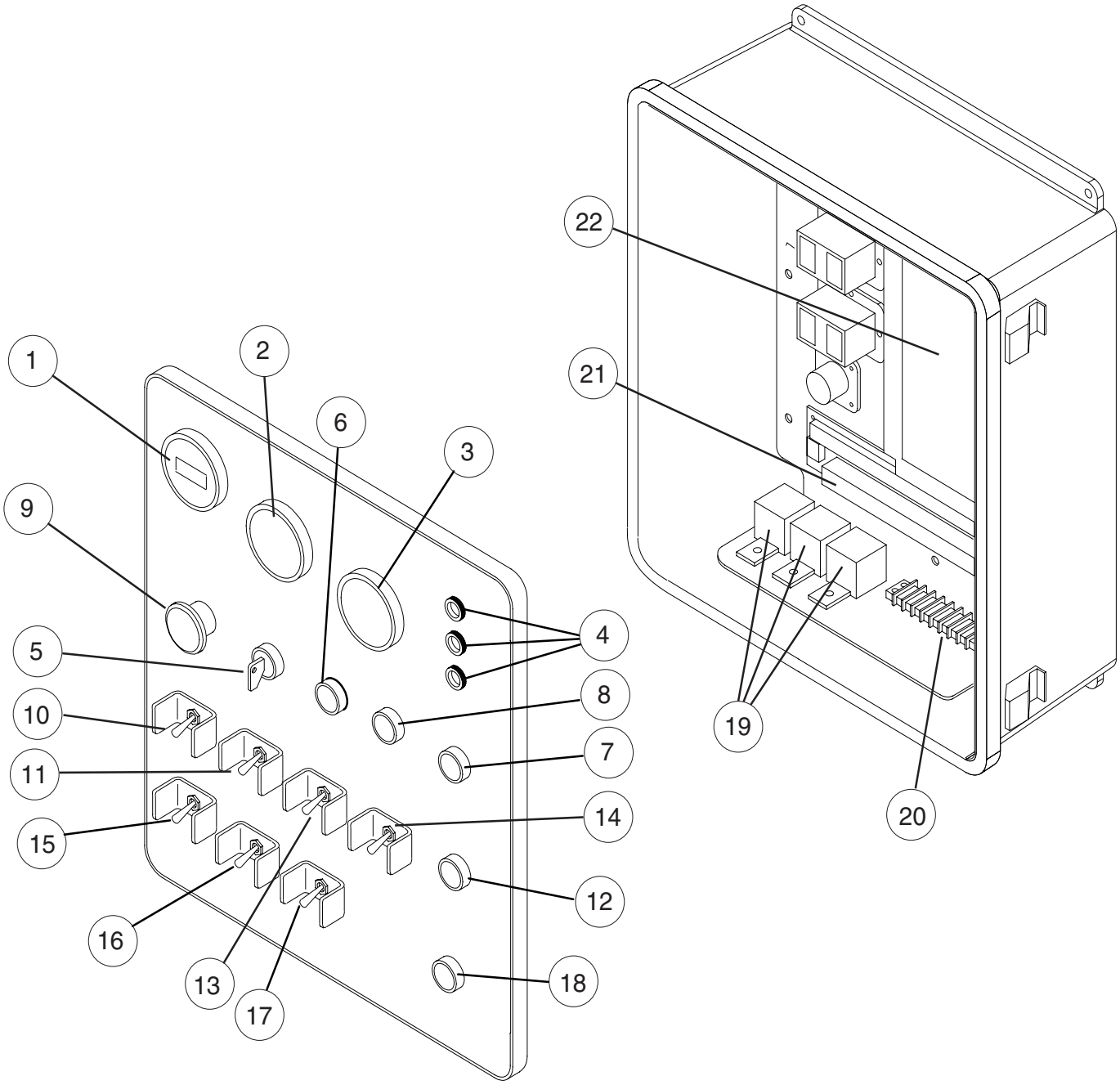


Figure 5-7: Upper Controller Wiring Diagram - Diesel (1 of 2)

WIRE NO.	SIZE	FROM	TO
100	18 AWG	SW1B-1	A-3
101	18 AWG	SW1A-1	A-4
102	18 AWG	SW13-2	IGN (BAT)
103A	16 AWG	HORN 4	SW1A-2
103B	16 AWG	-	HORN 4
103D	18 AWG	TB3-4	SW1A-2
103E	16 AWG	A-22	TB3-4
103AB	18 AWG	CONT TB-2	CONTR-(+)
103AC	18 AWG	CONT TB-2	K1-87
104	18 AWG	A-7	-
104A	18 AWG	SW10-2	SW11-2
104B	18 AWG	SW9-2	SW10-4
104C	18 AWG	SW9-4	SW9-2
104D	18 AWG	SW10-2	SW10-4
104E	18 AWG	SW6-2	SW7-2
104F	18 AWG	SW7-2	-
104H	18 AWG	SW12-2	SW12-4
104J	18 AWG	SW8-2	SW8-4
104K	18 AWG	SW13-2	SW13-4
104L	18 AWG	SW11-2	SW11-4
104M	18 AWG	SW12-4	TB3-6
104N	18 AWG	SW12-2	SW8-2
104P	18 AWG	SW13-4	SW11-2
104R	18 AWG	SW8-4	SW13-2
104S	18 AWG	SW4-4	SW6-2
104T	18 AWG	SW4-4	TB3-8
104W	18 AWG	TB3-7	BT2-01
104X	18 AWG	TB3-7	BT2-03
104Y	18 AWG	IGN (IGN)	TB3-8
104AA	18 AWG	RS1-RED	TB3-6
106	18 AWG	A-25	TB3-2
107	18 AWG	A-8	CONTR-B
108	18 AWG	BT3-2	CONTR-A
109	18 AWG	BT3-2	CONTR-(X)
110	18 AWG	BT4-10	CONTR TB-3
111	18 AWG	BT4-5	CONTR TB-4
113	18 AWG	A-23	BT3-12
114A	18 AWG	BT3-3	TB3-3
114B	18 AWG	TB3-3	K1-86
114C	18 AWG	K1-30	TB3-3
115	18 AWG	SW4-3	BT3-08
117	18 AWG	SW6-3	BT3-10
118	18 AWG	SW7-1	BT4-11
119	18 AWG	SW7-3	BT4-6
120	18 AWG	SW8-1	BT4-9
121	18 AWG	SW8-3	BT4-4
122	18 AWG	SW9-1	BT3-1
123	18 AWG	SW9-3	BT3-7
124	18 AWG	SW10-1	BT4-12
125	18 AWG	SW10-3	BT4-1
126	18 AWG	SW11-1	BT4-2
127	18 AWG	SW11-3	BT4-2
128	18 AWG	SW11-3	BT4-2
129	18 AWG	SW12-3	BT3-9
130	18 AWG	SW13-3	BT3-11
131	18 AWG	SW13-1	BT3-6
132	18 AWG	RS1-BLK	A-9
133	18 AWG	HORN-3	A-21
135	18 AWG	SW15-3	A-19

WIRE NO.	SIZE	FROM	TO
136	18 AWG	SW15-1	A-20
137	18 AWG	L1	A-12
138	18 AWG	L2	A-13
139A	18 AWG	LS1(+)	TB3-5
139B	18 AWG	A-11	TB3-5
140	18 AWG	A-15	OPT-1
141	18 AWG	A-16	OPT-2
142	18 AWG	A-17	OPT-4
143	18 AWG	A-18	OPT-3
144	18 AWG	A-5	BT1-1
145	18 AWG	A-6	BT1-2
146	18 AWG	SW15-2	A-14
147A	18 AWG	TB3-1	CONTR TB-1
147B	18 AWG	TB3-1	K1-87
148	18 AWG	A-26	CONTR-(R)
150A	18 AWG	A-1	TB3-9
150B	18 AWG	A-2	TB3-9
150C	18 AWG	TB3-9	BT2-02
150D	18 AWG	TB3-9	BT2-04
150E	18 AWG	TB3-10	LS1 (-)
150G	18 AWG	TB3-10	CONTR-(-)
150H	18 AWG	K1-85	TB3-10
W-01	18 AWG	L1 GND	TB3-10
W-02	18 AWG	L1 GND	L2 GND
W-03	18 AWG	L2 GND	TB3-10

Figure 5-8: Upper Controller Wiring Diagram - Diesel (2 of 2)



1. Hour Meter
2. Water Temp
3. Oil Pressure
4. Circuit Breaker
5. Key Switch
6. Engine Start
7. Enable
8. Choke/Glow Plug Light
9. Emergency Stop
10. Riser
11. Boom Raise
12. Boom Speed HI/LOW
13. Boom Extend
14. Jib
15. Turret
16. Platform Rotate
17. Platform Level
18. Auxiliary Power
19. Relay 12 Volt
20. Terminal Strip
21. Relay Card Assembly
22. Multiflex Receiver

Figure 5-9: Lower Control Box

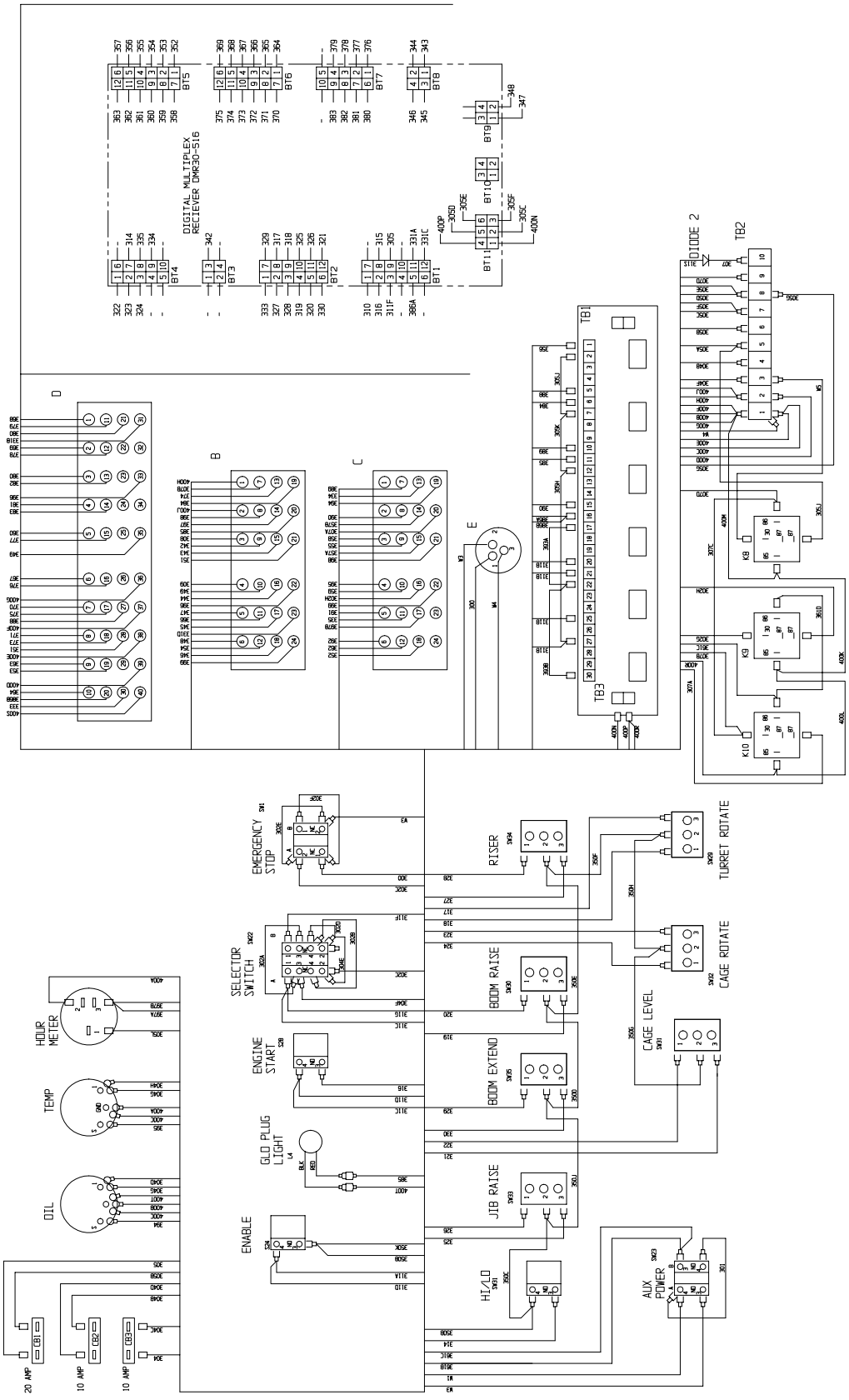


Figure 5-10: Lower Control Box Wiring Diagram - Diesel (1 of 2)

WIRE NO.	SIZE	FROM	TO
300	12 AWG	SW1A-1	E1
307	18 AWG	DIODE 2	TB2-10
308	18 AWG	CB2	B3
309	18 AWG	CB3	B4
310	18 AWG	SW22A-1	BT1-01
314	18 AWG	SW6-3	BT4-01
315	18 AWG	SW27-3	BT1-08
316	18 AWG	SW28-3	BT1-02
317	18 AWG	SW29-1	BT2-09
318	18 AWG	SW29-3	SW32-2
319	18 AWG	SW30-3	BT2-04
320	18 AWG	SW30-1	BT2-05
321	18 AWG	SW31-3	BT4-02
322	18 AWG	SW31-1	BT2-12
323	18 AWG	SW32-3	BT4-03
324	18 AWG	SW32-1	BT2-08
325	18 AWG	SW33-3	BT2-10
326	18 AWG	SW33-1	BT2-11
327	18 AWG	SW34-3	BT2-02
328	18 AWG	SW34-1	BT2-03
329	18 AWG	SW35-1	BT2-07
330	18 AWG	SW35-3	BT2-06
333	18 AWG	BT2-01	D30
334	18 AWG	BT4-09	C13
335	18 AWG	BT4-08	C11
342	18 AWG	BT3-03	B9
343	18 AWG	BT8-01	B15
344	18 AWG	BT8-02	B16
345	18 AWG	BT8-03	B17
346	18 AWG	BT8-04	B18
347	18 AWG	BT9-01	B5
348	18 AWG	BT9-02	B6
349	18 AWG	B10	D35
351	18 AWG	B21	D28
352	18 AWG	BT5-01	C18
353	18 AWG	BT5-02	D19
354	18 AWG	BT5-03	B12
355	18 AWG	BT5-04	C9
356	18 AWG	BT5-05	TB1-1
358	18 AWG	BT5-07	C3
359	18 AWG	BT5-08	C10
360	18 AWG	BT5-09	D5
362	18 AWG	BT5-11	C12
363	18 AWG	BT5-12	D9
364	18 AWG	BT6-01	D10
365	18 AWG	BT6-02	TB1-26
366	18 AWG	BT6-03	B11
367	18 AWG	BT6-04	D6
368	18 AWG	BT6-05	D1
369	18 AWG	BT6-06	D2
370	18 AWG	BT6-07	D7
371	18 AWG	BT6-08	D8
372	18 AWG	BT6-09	RESERVED
373	18 AWG	BT6-10	D18
374	18 AWG	BT6-11	B13
375	18 AWG	BT6-12	D17
376	18 AWG	BT7-01	D16

WIRE NO.	SIZE	FROM	TO
377	18 AWG	BT7-02	D15
378	18 AWG	BT7-03	D12
379	18 AWG	BT7-04	D11
380	18 AWG	BT7-06	D3
381	18 AWG	BT7-07	D4
382	18 AWG	BT7-08	D13
383	18 AWG	BT7-09	D14
384	18 AWG	TB1-6	B19
385	18 AWG	TB1-11	B20
388	18 AWG	TB1-5	D27
389	18 AWG	TB1-10	C7
390	18 AWG	TB1-15	C8
391	18 AWG	TB1-20	C5
392	18 AWG	TB1-25	C6
394	18 AWG	OIL-S	C19
395	18 AWG	TEMP-S	C4
396	18 AWG	D33	B22
398	18 AWG	B8	C21
399	18 AWG	B24	C22
302A	12 AWG	SW22A-4	SW22B-4
302B	18 AWG	SW22A-4	SW22B-4
302C	18 AWG	SW22A-2	SW22B-4
302D	18 AWG	SW22A-2	SW22B-2
302E	12 AWG	SW22A-2	SW1A-2
302F	12 AWG	SW22B-2	SW1B-2
302G	18 AWG	SW22B-2	K9-30
302H	18 AWG	K9-87	C16
304A	18 AWG	CB-3	CB-2
304B	18 AWG	CB-2	TB2-4
304C	18 AWG	CB-3	TEMP-1
304D	18 AWG	TEMP-1	OIL-1
304E	12 AWG	SW22A-3	SW22B-3
304F	12 AWG	SW22B-3	TB2-3
305A	12 AWG	CB-1	TB2-5
305B	12 AWG	CB-1	TB2-6
305C	18 AWG	BT11-02	TB2-7
305D	18 AWG	BT11-05	TB2-8
305E	18 AWG	BT11-06	TB2-8
305F	18 AWG	BT11-03	TB2-7
305G	18 AWG	TB1-27	TB2-8
305H	18 AWG	TB1-12	TB1-27
305J	18 AWG	TB1-2	TB1-7
305K	18 AWG	TB1-7	TB1-12
307A	18 AWG	K10-87	C20
307B	18 AWG	K10-30	B7
307C	18 AWG	K8-86	K10-30
307D	18 AWG	K8-86	TB2-9
311A	18 AWG	SW24-3	SW22B-1
311B	18 AWG	SW24-3	DIODE 2
311C	18 AWG	SW24-3	SW27-4
311D	18 AWG	SW24-3	SW28-4
311E	18 AWG	SW27-4	SW28-4
311F	18 AWG	SW22B-1	BT1-03
331A	18 AWG	BT1-11	BUTT CONN
331B	18 AWG	BUTT CONN	D31
331C	18 AWG	BT1-12	BUTT CONN
331D	18 AWG	BUTT CONN	B23

WIRE NO.	SIZE	FROM	TO
350A	18 AWG	SW24-4	SW33-2
350B	18 AWG	SW33-2	SW6-4
350C	18 AWG	SW35-2	SW6-4
350D	18 AWG	SW35-2	SW30-2
350E	18 AWG	SW30-2	SW31-2
350F	18 AWG	SW34-2	SW31-2
350G	18 AWG	SW34-2	SW32-2
350H	18 AWG	SW29-2	TB2-1
357A	18 AWG	BT5-06	C15
357B	18 AWG	-	C14
361A	18 AWG	SW23B-4	BT5-10
361B	18 AWG	DIODE 1	K10-86
361C	18 AWG	SW23B-4	BT4-07
361D	18 AWG	K9-86	K10-86
386A	18 AWG	BT1-05	TB1-16
386B	18 AWG	TB1-16	D20
393A	18 AWG	TB1-17	TB1-22
393B	18 AWG	TB1-22	TB1-30
397A	18 AWG	HOURMETER-1	B14
397B	18 AWG	HOURMETER-1	C17
400A	16 AWG	HOURMETER-2	TEMP-GRND
400B	16 AWG	TEMP-GRND	TB2-1
400C	16 AWG	TEMP-GRND	OIL GRND
400D	16 AWG	TB2-2	D39
400E	16 AWG	TB2-1	D38
400F	16 AWG	TB2-1	D37
400G	16 AWG	TB2-1	D36
400H	16 AWG	TB2-2	B1
400J	16 AWG	TB2-2	B2
400K	16 AWG	K9-85	K8-85
400L	16 AWG	K9-85	K10-85
400M	16 AWG	K8-85	TB2-10
400N	16 AWG	BT11-01	TB3-1
400P	16 AWG	BT11-04	TB3-2
400R	16 AWG	TB3-2	K10-85
400S	16 AWG	TB2-1	D40
W1	12 AWG	SW1B-1	SW23A-4
W2	18 AWG	SW23A-3	DIODE1
W3	12 AWG	SW23A-3	E2
W4	12 AWG	E3	TB2-9
W5	12 AWG	K8-30	TB2-3
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
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Figure 5-11: Lower Control Box Wiring Diagram - Diesel (2 of 2)

Section 6

ILLUSTRATED PARTS BREAKDOWN

6.1 INTRODUCTION

This section lists and illustrates the replaceable assemblies and parts of this product, as manufactured by UpRight, Inc.
Each parts list contains the component parts for that assembly.

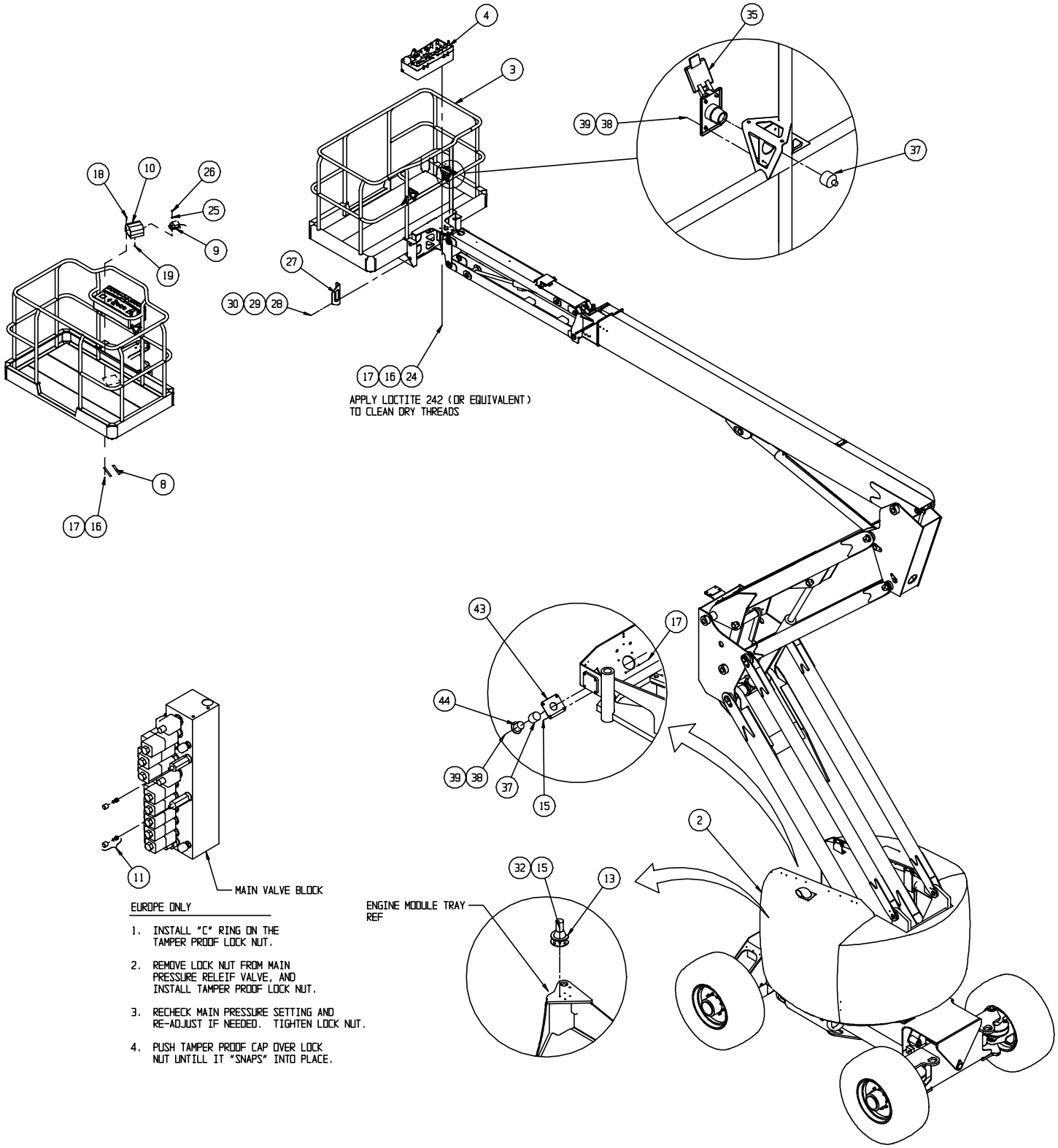
CONTENTS

Final Assembly, AB62 Diesel

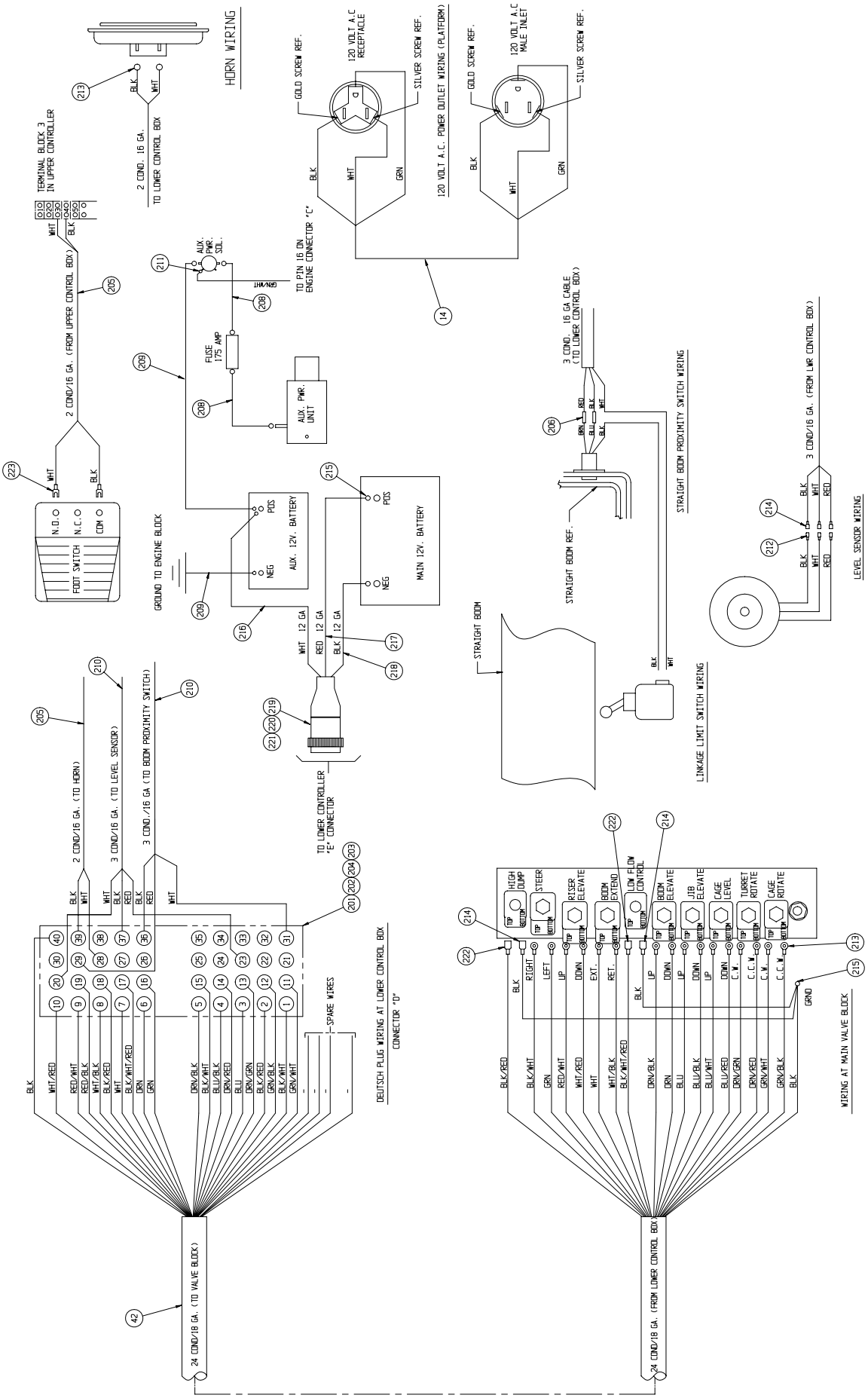
104000-001

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104043-000	SPECIFICATION SHEET	REF
2	104006-000	BASIC ASSEMBLY AB62 DSL	1
3	102037-100	PLATFORM (6 FT.) EURO	1
4	104017-000	UPPER CONTROL BOX ASSY- DSL	1
5	104046-000	HOSE KIT	1
6	104049-000	ELECTRICAL SCHEMATIC	REF
7	104048-000	HYDRAULIC SCHEMATIC	REF
8	068820-000	RETAINING STRAP-FOOTSWITCH	2
9	063906-000	FOOT SWITCH	1
10	064479-000	SWITCH GUARD, FOOT	1
11	100387-000	CAP, TAMPER PROOF	2
12	104047-100	LABEL KIT-DIESEL EURO.	1
13	029945-013	LEVEL SENSOR	1
14	029435-099	CONTROL CABLE, 3-12GA	85 ft
15	011252-006	SCREW, 1/4-20 UNC HEX HD CAP X 3/4	10
16	014996-004	WASHER, 1/4 DIA SAE FLAT	8
17	011248-004	LOCKNUT, 1/4-20 UNC HEX	12
18	011252-010	SCREW, 1/4-20 UNC HEX HD CAP X 1 1/4	2
19	066695-006	SCREW, #10-24 UNC FLAT HD X 3/4	2
20	020032-001	FITTING AERO 2033-4-4S	1
21	100436-001	FITTING AERO FF1898T-0404S	3
22	020032-003	FITTING AERO 2033-6-6S	1
24	011252-008	SCREW, 1/4-20 UNC HEX HD CAP X 1	4
25	013949-003	LOCKWASHER, #10 STAR EXT. TOOTH	2
26	011250-003	NUT, #10-24 UNC HEX	2
27	102373-000	BRACKET, CHAIN TIE-DOWN	2
28	011723-036	SCREW, 3/4-10 UNC HEX HD CAP X 4 1/2	4
29	011240-012	WASHER, 3/4 DIA ST FLAT	4
30	011248-012	LOCKNUT, 3/4-10 UNC HEX	4
32	011238-004	LOCKWASHER, 1/4 DIA SPLIT	4
35	100783-000	RECEPTACLE, FEMALE	1
37	029961-001	SEAL	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
38	011715-006	SCREW, #6-32 RD HD MACH X 3/4	8
39	011248-047	LOCKNUT, #6-32 HEX	8
40	104032-000	CONTROL CABLE ASSEMBLY	1
42	029433-099	CONTROL CABLE, 18 GA X 24 COND	6ft
43	068865-000	OUTLET PLATE	1
44	029961-000	PLUG, INLET	1
45	100385-099	HOSE GUARD	A/R
46	100386-099	HOSE GUARD	A/R
47	061692-099	TRIM LOK	A/R
201	15790-005	CONNECTOR, DEUTSCH PLUG	1
202	15790-003	SOCKET, CONTACT 16-18	39
203	15790-008	SOCKET, CONTACT 14-16	1
204	15790-009	BOOT, DEUTSCH PLUG	1
205	29496-099	CABLE, 2 COND/16 GA.	12 FT
206	029620-002	CONN. BUTT, 14-16	2
208	068334-010	BATTERY CABLE ASSY X 10	2
209	068334-095	BATTERY CABLE ASSY X 95	2
210	029447-099	CABLE, 3 COND/16 GA	28 FT
211	29601-008	CONN. RING 22-18 5/16 DIA	1
212	014914-001	CONN MALE PUSH 16-14	3
213	29601-005	CONN RING 18-22 GA #10	18
214	029931-003	CONN. FEM. PUSH 16-14	5
215	029601-039	CONN. RING 12-10 GA 5/16 DIA	4
216	029473-099	WIRE, 12 GA WHITE	6 FT
217	029470-099	WIRE, 12 GA RED	6 FT
218	029472-099	WIRE, 12 GA BLACK	6 FT
219	104387-001	CONNECTOR, 3 COND	1
220	104387-002	BACKSHELL, CONNECTOR 3 COND	1
221	104387-003	CONTACT, CONNECTOR	3
222	029931-001	CONN. FEM. PUCH 18-22 GA	2
223	029610-002	CONN. FORK 16-4 GA #8	2



Drawing # 1 of 2



Drawing # 2 of 2

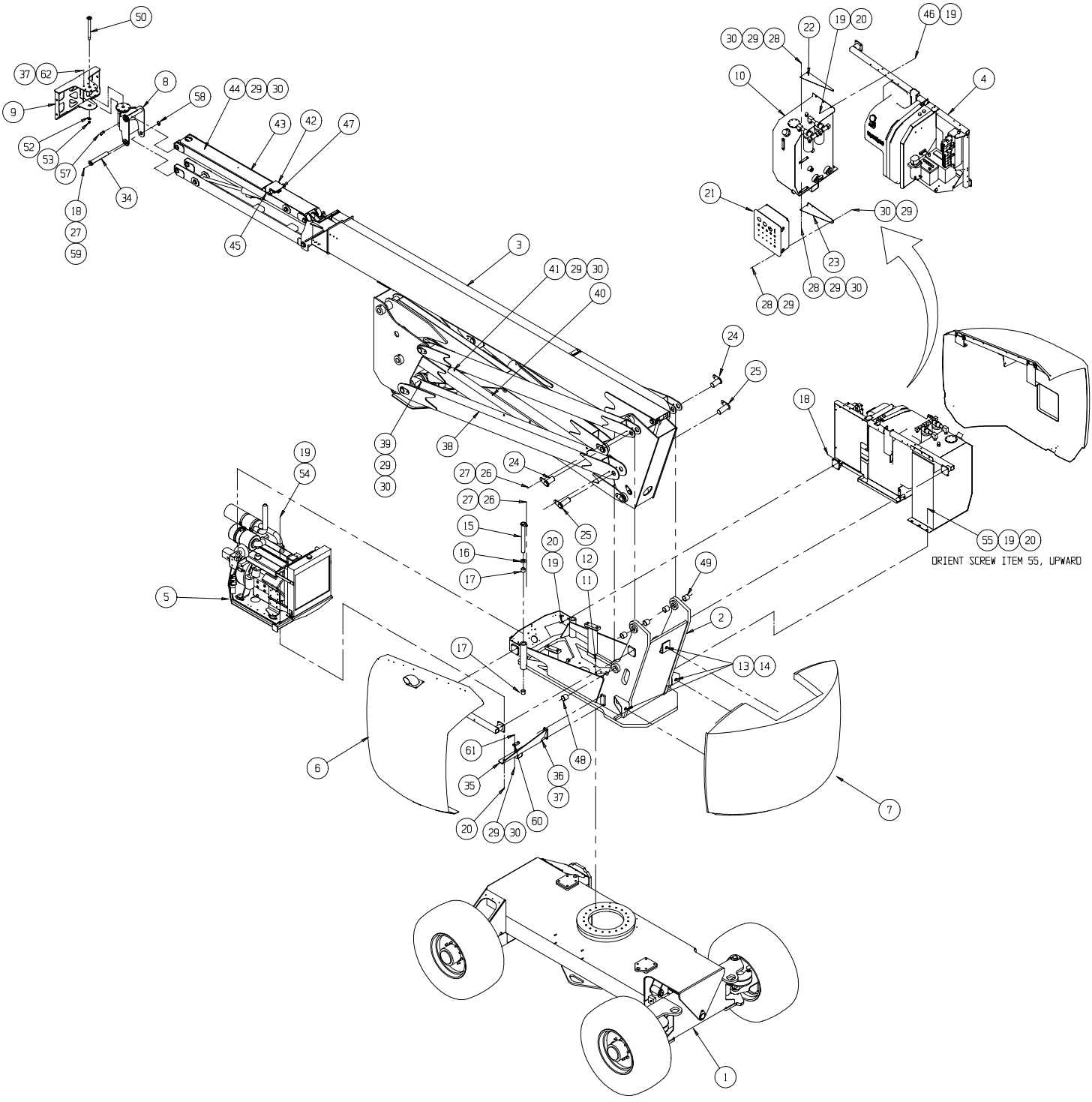
NOTES:

Basic Assembly, AB62 Diesel

104006-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104007-000	CHASSIS ASSY	1
2	104008-000	TURRET ASSY	1
3	104009-000	ELEVATING ASSY	1
4	104021-000	CONTROL MODULE ASSY	1
5	104013-000	ENGINE MODULE ASSY (DIESEL)	1
6	104015-000	COVER ASSY	1
7	104100-000	COUNTER WEIGHT	1
8	100550-002	CAGE ROTATE MOUNT	1
9	104306-000	CAGE MOUNT	1
10	104025-000	HYDRAULIC RESERVOIR ASSEMBLY	1
11	011291-028	SCREW, 5/8-11 UNC HHC GR 8 X 3 1/2	20
12	011239-010	WASHER, 5/8 DIA FLAT ASTM A325	20
13	014918-016	SCREW, 1-8 UNC HHC GR 5 X 2 LG	3
14	011239-016	WASHER FLAT ASTM A325 1 DIA	3
15	104226-000	TRAY PIN WELDMENT	1
16	104144-004	WASHER, THRUST	2
17	101016-002	BEARING, 1.50 I.D. X 1.25 LG	2
18	011254-006	SCREW 3/8-16 UNC HHC GR 5 X 3/4	18
19	011240-006	WASHER, 3/8 DIA STD FLAT	28
20	011248-006	LOCKNUT, 3/8-16 HEX	25
21	104019-000	LOWER CONTROLLER ASSEMBLY (DIESEL)	1
22	104285-000	TOP CONTROL BRACKET	1
23	104284-000	BOTTOM CONTROL BRACKET	1
24	104211-000	PIN WELDMENT	2
25	104326-000	PIN WELDMENT	2
26	011254-008	SCREW, 3/8-16 UNC HEX HD CAP X 1	6
27	011238-006	LOCKWASHER, 3/8 SPLIT	7
28	011252-006	SCREW, 1/4-20 UNC HEX HD CAP X 3/4	8
29	011240-004	WASHER, 1/4 STD FLAT	30

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
30	011248-004	LOCKNUT, 1/4-20 UNC HEX	22
34	0104469-00	PIN WELDMENT	2
35	104088-000	ENGINE SUPPORT WELDMENT	1
36	011256-008	SCREW, 1/2-13 UNC HEX HD CAP X 1	2
37	011238-008	LOCKWASHER, 1/2 DIA SPLIT	8
38	104328-000	COVER, HOSE WIDE	2
39	104329-000	RETAINER, HOSE WIDE	6
40	104333-000	COVER, HOSE NARROW	2
41	104334-000	RETAINER, HOSE NARROW	6
42	104342-000	COVER, VALVE BLOCK	1
43	104346-000	COVER JIB	1
45	013923-006	SCREW, #10 TYPE AB HEX WASHER HD X 3/4	2
46	011254-024	SCREW, 3/8-16 UNC HEX HD CAP X 3	3
47	061796-099	TRIM	1.67 FT.
48	104375-005	BEARING, 2.0 I.D. X 2.0 LG	4
49	104375-004	BEARING, 2.0 I.D. X 1.5 LG	4
50	104504-000	ROTATOR PIN WELDMENT	1
52	011239-012	WASHER, 3/4 STD FLAT	1
53	011248-012	LOCK NUT, 3/4-10 UNC HEX	1
54	011254-028	SCREW, 3/8-16 UNC HEX HD CAP X 3 1/2	1
55	011254-020	SCREW, 3/8-16 UNC HEX HD CAP X 2 1/2	4
57	015736-001	FITTING, ELBOW 4MB-4MJ 90° LONG	2
58	011765-024	RETAINING RING, 1-1/2" EXTERNAL	2
59	104470-001	SLEEVE, PIN HEAD	2
60	104074-000	ENGINE SLIDE MOUNT	1
61	011828-010	SCREW, 1/4-20 UNC FLAT HD X 1 1/4	2
62	011256-010	SCREW, 1/2-13 UNC HEX HD CAP X 1 1/4	6

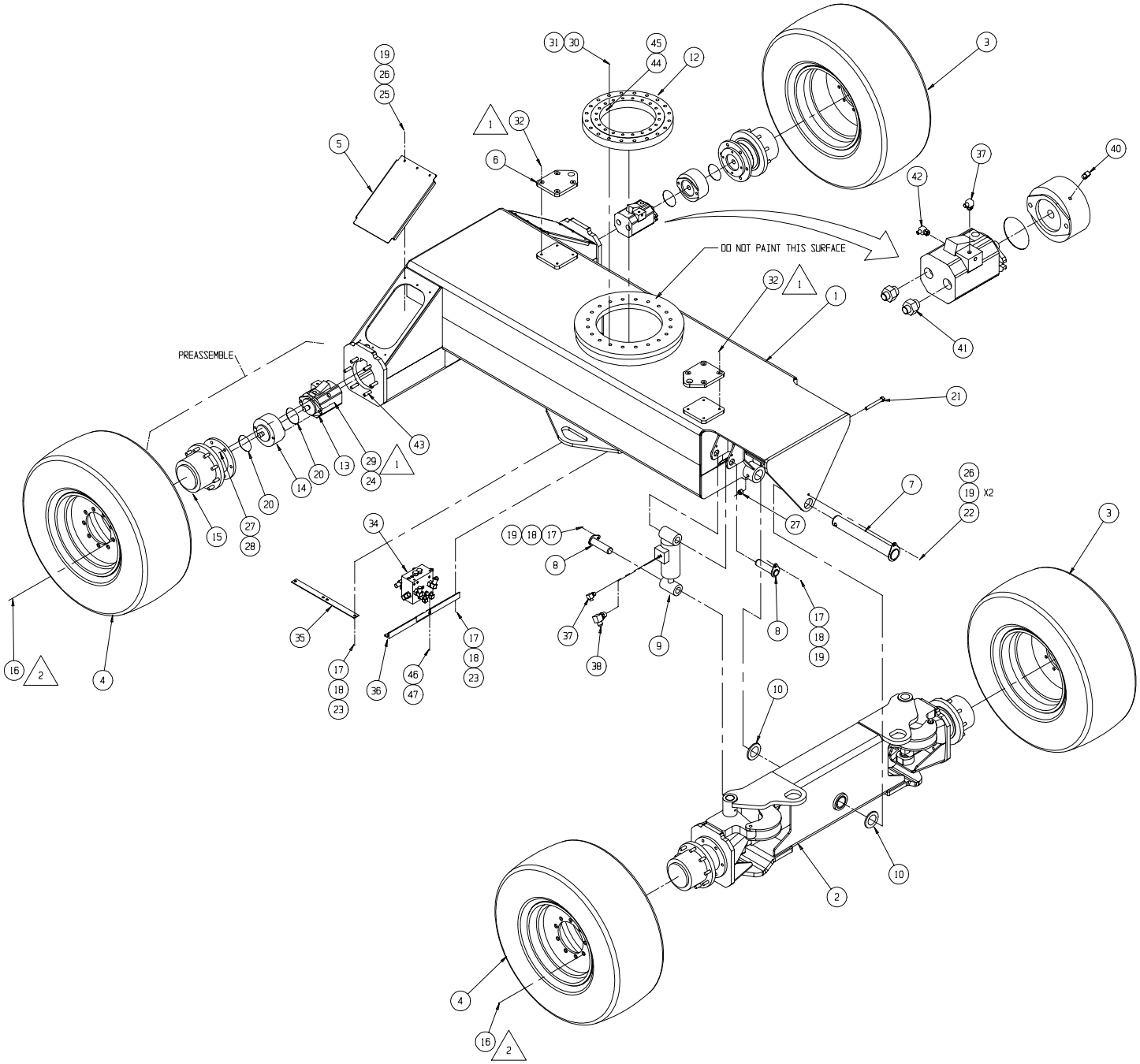

ORIENT SCREW ITEM 55, UPWARD

Chassis Assembly

104007-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104125-000	CHASSIS WELDMENT	1
2	104016-000	FRONT AXLE ASSEMBLY	1
3	100090-001	WHEEL & TIRE ASSEMBLY R.H.	2
4	100090-000	WHEEL & TIRE ASSEMBLY L.H.	2
5	104507-000	MOTOR COVER WELDMENT	2
6	104147-000	TURRET STOP	2
7	104228-000	AXLE PIN WELDMENT	1
8	104482-000	CYLINDER PIN WELDMENT	4
9	100556-000	AXLE CYLINDER	2
*	100556-010	SEAL KIT, AXLE CYLINDER	1
10	104144-003	WASHER, NYLATRON	2
12	100244-001	SLEW BEARING	1
13	104362-000	DRIVE MOTOR 45CC MAX x 17CC MIN	2
14	102279-000	BRAKE-AUSCO	2
15	100254-000	PLANETARY	2
16	011469-006	LUGNUT, 5/8	36
17	011254-010	SCREW, 3/8-16 UNC HEX HD CAP X 1 1/4	8
18	011248-006	LOCKNUT, 3/8-16 UNC HEX	8
19	011239-006	WASHER, 3/8 DIA ASTM A325	17
20	100782-000	O-RING, WHEEL MOTOR	4
21	011257-040	SCREW, 5/8-11 UNC HEX HD CAP X 5	1
22	011254-008	SCREW, 3/8-16 UNC HEX HD CAP X 1	1
23	011240-006	WASHER, 3/8 DIA STD FLAT	4

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
24	011239-008	WASHER, 1/2 DIA ASTM A325	12
25	011254-006	SCREW, 3/8-16 UNC HEX HD CAP X 3/4	6
26	011238-006	LOCKWASHER, 3/8 SPLIT	11
27	011248-010	LOCKNUT, 5/8-11 UNC HEX	13
28	011239-010	WASHER, 5/8 DIA ASTM A325	12
29	014033-036	SCREW, 1/2-13 UNC HEX HD CAP GR 8 X 4 1/2	4
30	011291-026	SCREW, 5/8-11 UNC HEX HD CAP GR 8 X 3 1/4	20
31	011239-010	WASHER, 5/8 ASTM A325	20
32	014033-008	SCREW, 1/2-13 UNC HEX HD CAP GR 8 X 1	8
34	104462-000	DRIVE BLOCK ASSEMBLY	1
35	104142-000	ROTARY BRACE	1
36	104461-000	BRACKET, DRIVE VALVE	1
37	100434-002	FITTING, ELBOW 4FFORB-4MB 90°	4
38	011934-026	FITTING, ELBOW 4MB-6MJ 90°	2
40	011934-001	FITTING, ELBOW 4MB-4MJ 90°	2
41	011941-019	FITTING, STR 12MB-10MJ	4
42	011934-024	FITTING, ELBOW 10MB-6MJ 90°	2
43	011257-024	SCREW, 5/8-11 UNC HEX HD CAP X 3	12
44	068680-007	FITTING, 90°	1
45	003556-001	FITTING	1
46	011253-008	SCREW, 5/16-18 UNC HEX HD CAP X 1	2
47	011238-005	LOCKWASHER, 5/16 DIA SPLIT	2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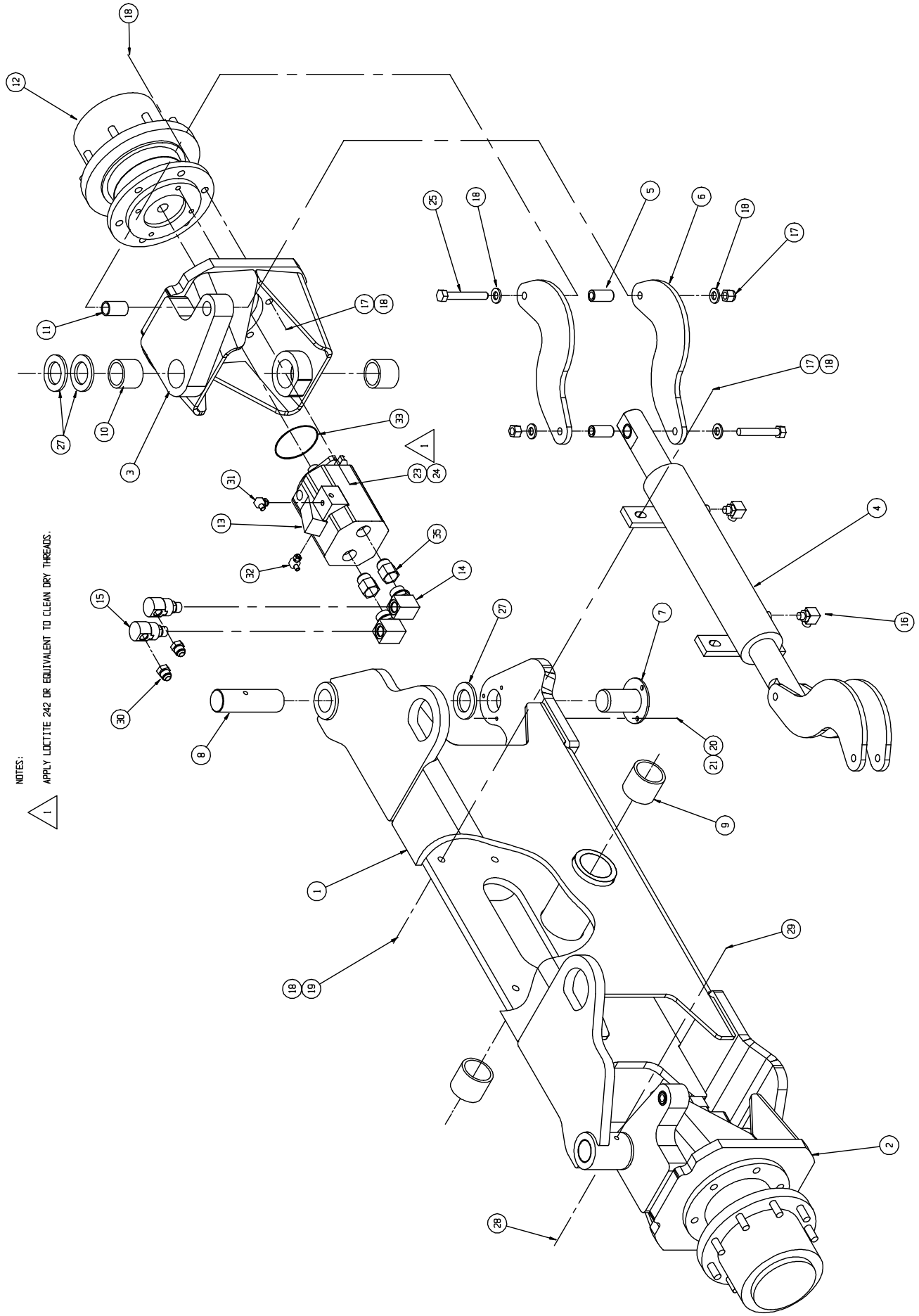
PREASSEMBLE
X2

Front Axle Assembly

104016-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104114-000	FRONT AXLE WELDMENT	1
2	104120-000	RIGHT FRONT MOUNT WELDMENT	1
3	104123-000	LEFT FRONT MOUNT WELDMENT	1
4	100557-000	STEERING CYLINDER	1
*	100557-010	SEAL KIT, STEERING CYLINDER	1
5	104143-000	STEERING LINK SLEEVE	4
6	104148-001	STEERING LINK	4
7	104232-000	BOTTOM KING PIN WELDMENT	2
8	104245-000	TOP WHEEL PIN	2
9	101016-005	BEARING, 2.5 I.D. X 2.5 LG	2
10	101016-004	BEARING, 2.0 I.D. X 2.0 LG	4
11	101016-003	BEARING, 1.0 I.D. X 2.0 LG	2
12	100254-000	PLANETARY	2
*	100254-010	SEAL KIT W/BEARINGS - DRIVE HUB	1
*	100254-011	STUD, 5/8" DRIVE HUB	1
13	104363-000	WHEEL MOTOR - 40 CC MAX x 15 CC MIN	2
14	104386-004	FITTING, ELBOW 90° MB10-FB10	4
15	068885-000	FITTING, SWIVEL 90°	4
16	011934-004	FITTING, ELBOW 6MB-6MJ	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
17	011248-010	LOCKNUT, 5/8-11 UNC HEX	20
18	011239-010	WASHER, 5/8 DIA FLAT ASTM A325	40
19	011291-022	SCREW, 5/8-11 UNC HEX HD CAP GR 8 X 2 3/4	4
20	011254-010	SCREW, 3/8-16 UNC HEX HD CAP X 1 1/4	6
21	011238-006	LOCKWASHER, 3/8 SPLIT	6
22	011291-024	SCREW, 5/8-11 UNC HEX HD GR 8 CAP X 3	12
23	014033-010	SCREW, 1/2-13 UNC HEX HD CAP GR 8 X 1 1/4	4
24	011239-008	WASHER, 1/2 DIA FLAT ASTM A325	4
25	011257-034	SCREW, 5/8-11 UNC HEX HD CAP X 4 1/4	4
27	104144-002	THRUST WASHER, 2 I.D.	6
28	011254-032	SCREW, 3/8-16 UNC HEX HD CAP X 4	2
29	011248-006	LOCKNUT, 3/8-16 UNC HEX	2
30	011941-011	FITTING, 8MB-10MJ	4
31	100434-002	FITTING, ELBOW 4FFORB-4MB 90°	2
32	011934-024	FITTING, ELBOW 10MB-6MJ 90°	2
33	100782-000	O-RING, WHEEL MOTOR	2
35	015717-007	FITTING, ADAPTER MB12-FB10	4

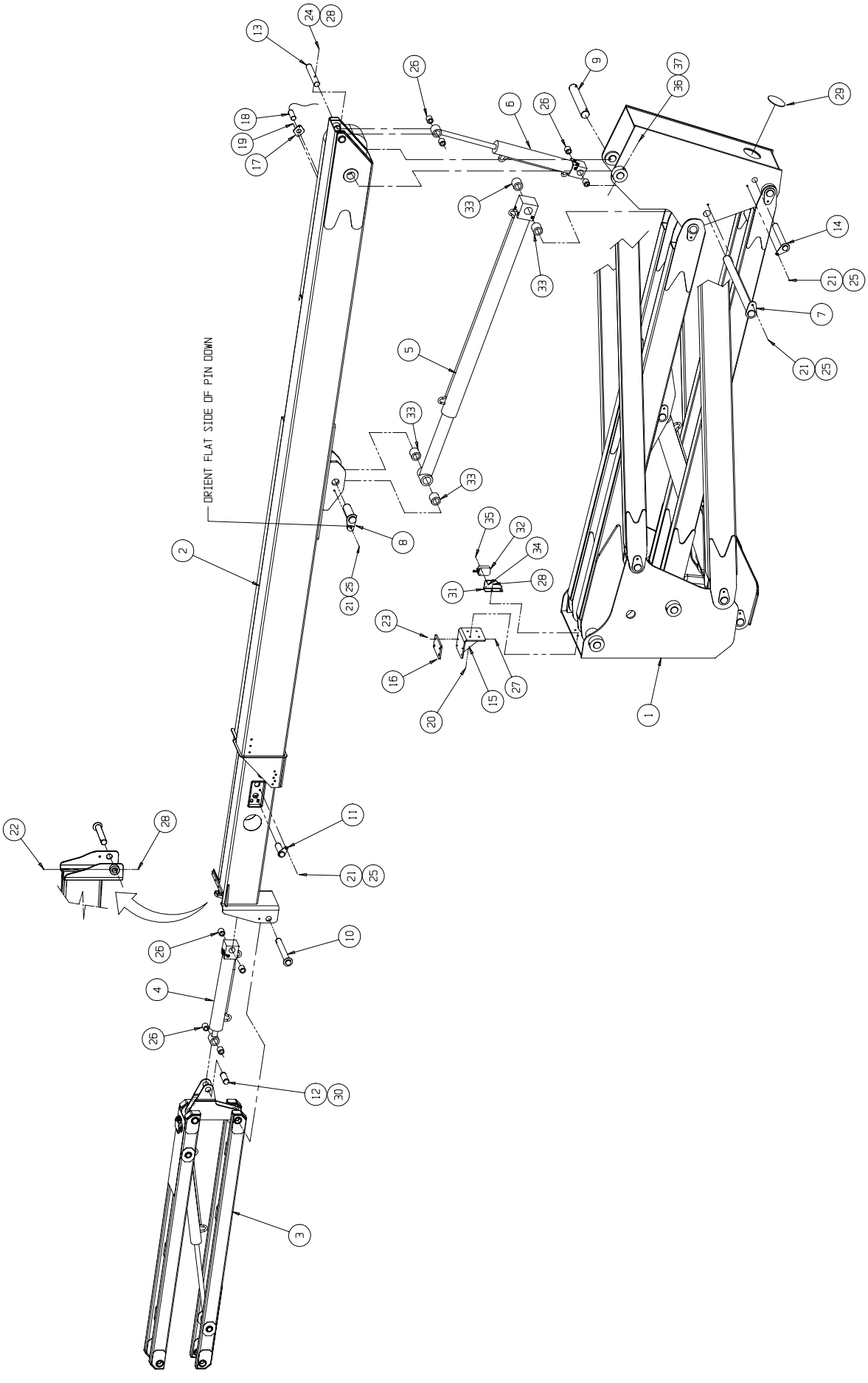

NOTES:
1 APPLY LOCTITE 242 OR EQUIVALENT TO CLEAN DRY THREADS.

Elevating Assembly

104009-000

ITEM	PART NO	PART/MATERIAL DESCRIPTION	QTY.
1	104010-000	LOWER LINKAGE ASSEMBLY	1
2	104011-000	STRAIGHT BOOM ASSY	1
3	104012-000	JIB ASSEMBLY	1
4	104041-001	LEVEL CYLINDER SUB ASSEMBLY	1
*	104258-001	LEVEL CYLINDER - Serial # 1109 - Current	
*	104258-010	SEAL KIT, LEVEL CYLINDER - Serial # 1109 - Current	
5	104039-001	BOOM CYLINDER SUB ASSEMBLY	1
*	104256-001	BOOM CYLINDER - Serial # 1109 - Current	
*	104256-010	SEAL KIT, BOOM CYLINDER - Serial # 1109 - Current	
6	104042-001	MASTER CYLINDER SUB ASSEMBLY	1
7	104202-000	PIN WELDMENT (8)	1
8	104203-000	PIN WELDMENT (9)	1
9	104201-000	PIN STRAIGHT BOOM (PIN 10)	1
10	104206-000	PIN WELDMENT (10)	1
11	104207-000	PIN WELDMENT, EXTEND	1
12	104160-000	PIN ROTATOR	1
13	104213-000	PIN MASTER CYLINDER	1
14	104224-000	PIN WELDMENT CYLINDER	1
15	104244-000	SUPPORT BRACKET WELDMENT	1
16	104242-000	SUPPORT PLATE	1
17	104321-100	SWITCH MOUNT PLATE	1

ITEM	PART NO	PART/MATERIAL DESCRIPTION	QTY.
18	100380-000	SWITCH, SENSOR	1
19	013923-006	SCREW, #10 SELF TAPPING HWH TYPE AB X 3/4	2
20	011254-010	SCREW HHC 3/8-16 UNC X 1 1/4	4
21	011254-006	SCREW HHC 3/8-16 UNC X 3/4	4
22	011254-026	SCREW, HHC 3/8-16 UNC X 3 1/4	1
23	011828-006	SCREW FH 1/4-20 UNC X 3/4	4
24	011254-020	SCREW, 3/8-16 UNC HEX HD CAP X 2 1/2	1
25	011238-006	WASHER LOCK 3/8	4
26	104375-002	BEARING, 1 1/2 I.D. X 1 1/4 LG	8
27	011248-004	NUT HEX ESNA 1/4-20 UNC	4
28	011248-006	NUT HEX ESNA 3/8-16 UNC	6
29	066516-004	PLUG, 4.00 DIA	1
30	011765-024	RETAINING RING	2
31	104343-000	BRACKET, LIMIT SWITCH	1
32	068556-002	SWITCH, LIMIT	1
33	104375-005	BEARING, 2.0 I.D. X 2 LG	4
34	011708-012	SCREW, #8-32 UNC RD HD MACH X 1 1/2	2
35	011248-002	LOCKNUT, #8-32 UNC HEX	2
36	014033-040	SCREW, 1/2-13 UNC HEX HD CAP GR 8 X 5	2
37	011248-008	LOCKNUT, 1/2-13 UNC HEX	2

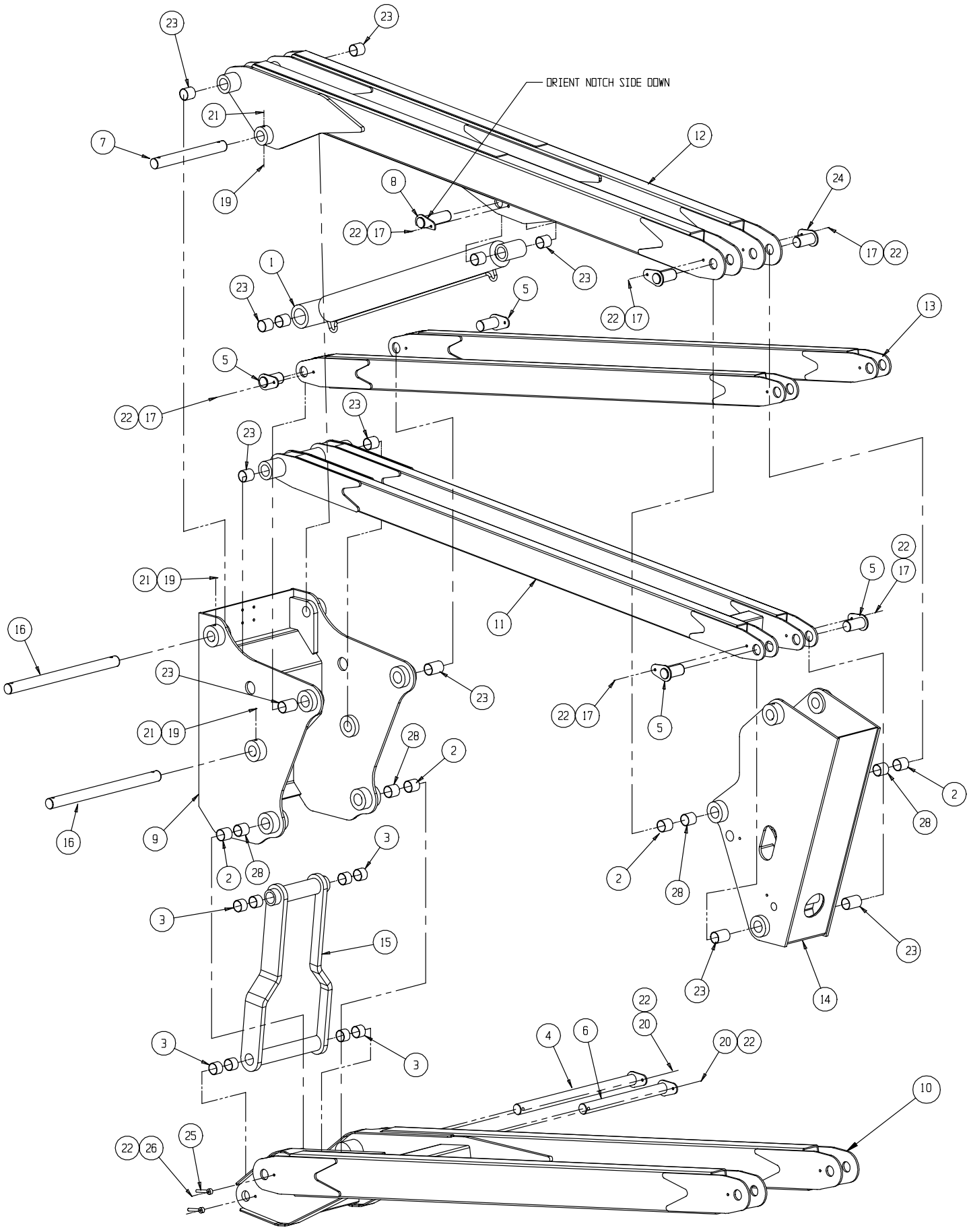

ORIENT FLAT SIDE OF PIN DOWN

Linkage Assembly

104010-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104037-001	RISER CYLINDER SUB ASSEMBLY	1
*	104260-001	RISER CYLINDER - Serial # 1109 - Current	
*	104260-010	SEAL KIT, RISER CYLINDER - Serial # 1109 - Current	
2	104375-005	BUSHING 2 ID x 2.00 LG	4
3	104375-004	BUSHING 2 ID x 1.50 LG	8
4	104210-000	PIN WELDMENT	1
5	104211-000	PIN WELDMENT	4
6	104212-000	PIN WELDMENT	1
7	104274-000	PIN, UPPER BOOM	1
8	104216-000	PIN WELDMENT	1
9	104178-000	LOWER RISER WELDMENT	1
10	104191-000	LOWER BOOM WELDMENT	1
11	104185-000	UPPER TENSION LINK WELDMENT	1
12	104195-000	UPPER BOOM WELDMENT	1
13	104183-000	LOWER TENSION LINK WELDMENT	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
14	104188-000	UPPER RISER WELDMENT	1
15	104187-000	TENSION LINK WELDMENT	1
16	104221-000	RISER PIN	2
17	011254-006	SCREW, 3/8-16 UNC HEX HD CAP X 3/4	7
19	014033-040	SCREW, 1/2-13 UNC HEX HD CAP GR 8 X 5 LG	6
20	011254-008	SCREW, 3/8-16 UNC HEX HD CAP X 1	2
21	011248-008	LOCKNUT, 1/2-13 UNC HEX	6
22	011238-006	LOCKWASHER, 3/8 DIA SPLIT	11
23	104375-006	BUSHING, 2.00 ID X 2 1/2 LG	12
24	104241-000	PIN WELDMENT	2
25	065214-001	ROD END RETAINER	2
26	011254-010	SCREW, 3/8-16 UNC HEX HD CAP X 1 1/4	2
28	104375-007	BUSHING 2 ID x 1.75 LG	4

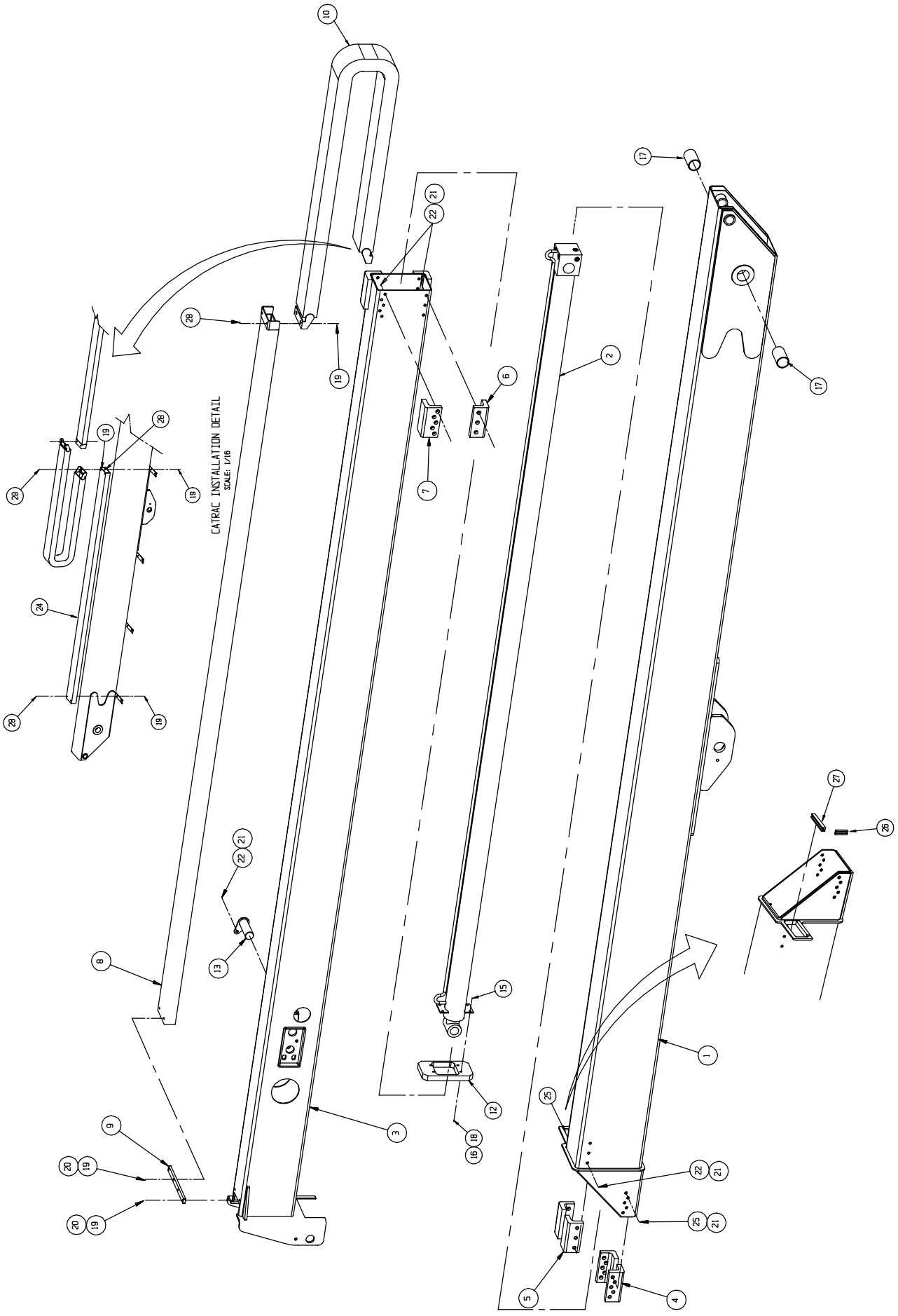

ORIENT NOTCH SIDE DOWN

Straight Boom Assembly

104011-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104163-000	BASE BOOM WELDMENT	1
2	104038-001	EXTEND CYLINDER ASSEMBLY	1
*	104255-001	EXTEND CYLINDER - Serial # 1109 - Current	
*	104255-010	SEAL KIT, EXTEND CYLINDER - Serial # 1109 - Current	
3	104175-000	TIP BOOM WELDMENT	1
4	104176-000	WEAR PAD	2
5	104177-000	WEAR PAD	2
6	104222-000	WEAR PAD	2
7	104223-000	WEAR PAD	2
8	104182-000	EXTENSION TUBE WELDMENT	1
9	104181-000	EXTENSION TUBE MOUNTING BRACKET	1
10	068691-030	CATRAC	1
12	104315-000	EXTEND CYLINDER SUPPORT	1
13	104207-000	PIN WELDMENT, CYLINDER	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
15	011254-016	SCREW, 3/8-16 UNC HEX HD CAP X 2.0	4
16	011240-006	WASHER, 3/8 DIA STD FLAT	4
17	104375-006	BEARING, 2 I.D. X 2 1/2 LG	2
18	011248-006	LOCKNUT, 3/8-16 UNC HEX	4
19	011248-005	LOCKNUT, 5/16-18 UNC HEX	12
20	011253-008	SCREW, 5/16-18 UNC HEX HD CAP X 1	4
21	011238-006	LOCKWASHER, 3/8 SPLIT	33
22	011254-006	SCREW, 3/8-16 UNC HEX HD CAP X 3/4	23
24	104335-000	TUBE, HOSE	1
25	011254-008	SCREW, 3/8-16 UNC HEX HD CAP X 1	10
26	104411-000	SHORT TUBE GUIDE	2
27	104412-000	LONG TUBE GUIDE	2
28	011253-006	SCREW, 5/16-18 UNC HEX HD CAP X 3/4	8

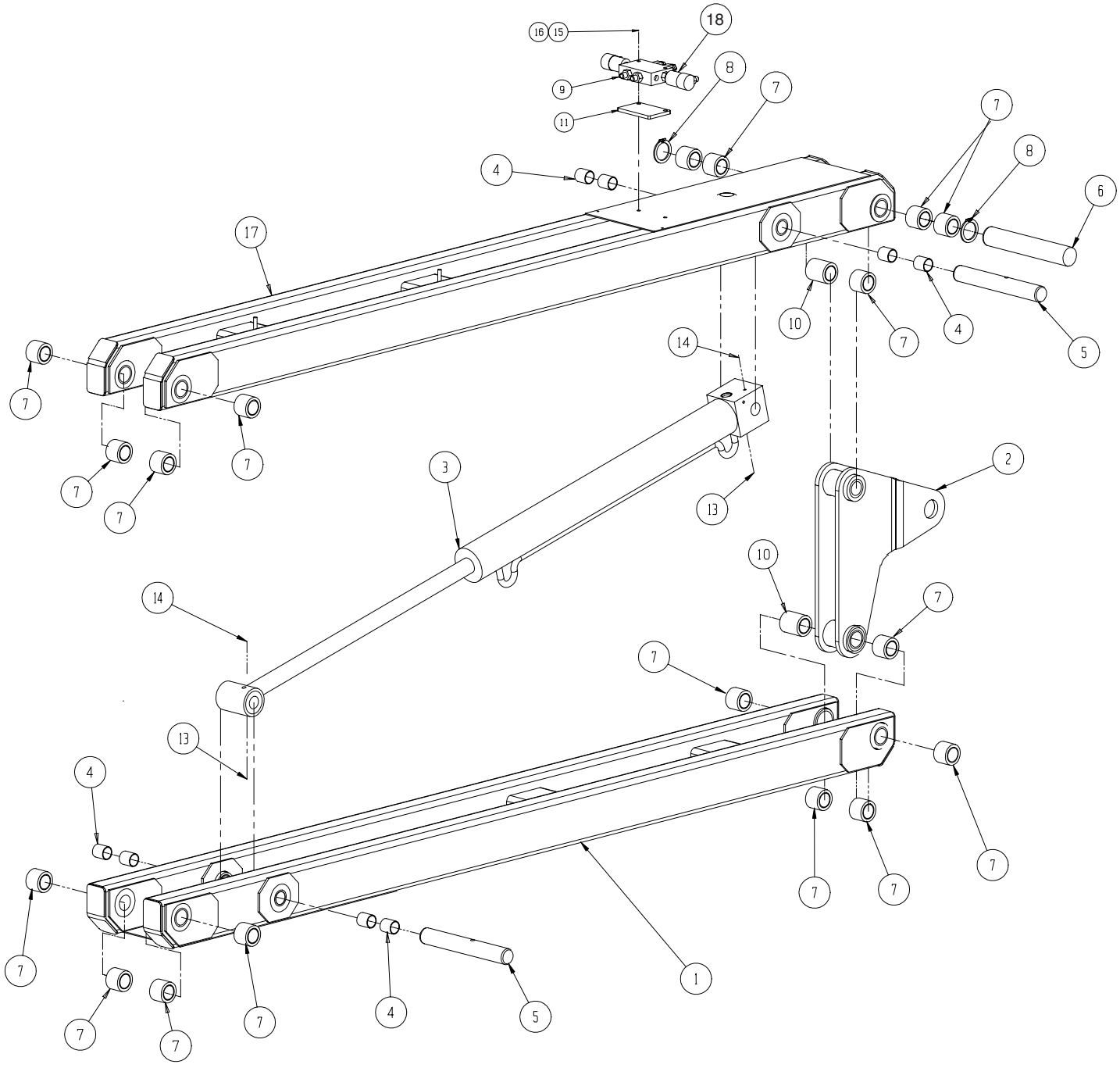

CATRAC INSTALLATION DETAIL
SCALE: 1/16

Jib Assembly

104012-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104151-000	BOTTOM JIB FRAME WELDMENT	1
2	104156-000	ROTATOR FRAME WELDMENT	1
3	104040-001	CYLINDER JIB ASSEMBLY	1
*	104257-001	JIB CYLINDER - Serial # 1111 - Current	
*	104257-010	SEAL KIT, JIB CYLINDER - Serial # 1111 - Current	
4	104375-001	BEARING 1 1/4 I.D. X 1 1/4 LG	8
5	104161-000	PIN, CYLINDER	2
6	104159-000	PIN	1
7	104375-002	BEARING, 1 1/2 I.D. X 1 1/4 LG	18
8	011765-024	RETAING RING, 1 1/2 DIA	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
9	104034-000	CAGE ROTATE VALVE ASSEMBLY	1
10	104375-003	BEARING, 1 1/2 I.D. X 2 LG	2
11	104467-000	ROTATE VALVE SPACER	1
13	011248-005	LOCKNUT, 5/16-18 UNC HEX	2
14	011253-022	SCREW, 5/16-18 UNC HHC GR 5 X 2 3/4 LG	2
15	011252-014	SCREW, 1/4-20 UNC HHC GR 5 X 1 3/4 LG	2
16	011248-004	LOCKNUT, 1/4-20 UNC HEX	2
17	104151-001	TOP JIB FRAME WELDMENT	1
18	104389-001	FITTING, SWIVEL MB4-MJ4 90°	2



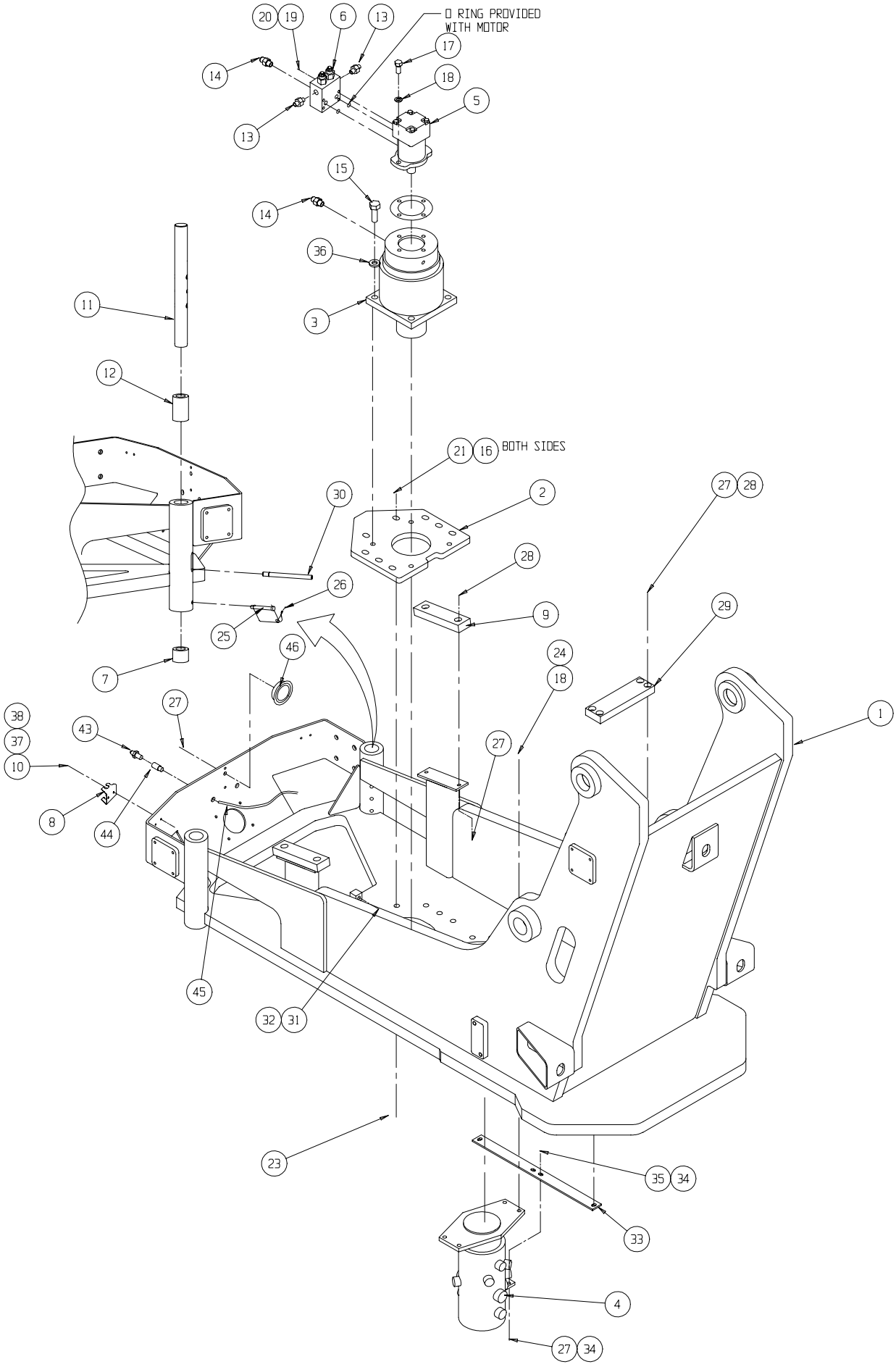
NOTES:

Turret Assembly

104008-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104101-000	TURRET WELDMENT	1
2	104113-000	SLEW DRIVE MOUNT	1
3	100242-000	SWING GEAR BOX	1
*	100242-011	GASKET, GEAR BOX	1
4	104026-000	ROTARY MANIFOLD ASSEMBLY	1
5	100241-001	MOTOR	1
*	100241-010	SEAL KIT, SWING MOTOR	1
6	100261-001	MOTOR VALVE BLOCK	1
7	101016-002	BEARING, 1.50 I.D. X 1.25 LG	1
8	068904-000	LATCH ANCHOR	REF
9	104052-000	LINK PAD	2
10	011715-006	SCREW, #6-32 RD HD MACH X 3/4	4
11	104237-000	STOP PIN	1
12	101016-006	BEARING, 1.50 I.D. X 2.50 LG	1
13	011934-026	FITTING, ELBOW 90° 4MB-6MJ	2
14	011941-002	FITTING, STR 4MB-6MJ	2
15	011424-012	SCREW, 5/8-11 UNC SOC HD CAP GR 8 X 1 1/2	4
16	011239-010	WASHER, 5/8 DIA ASTM A325	16
17	011256-010	SCREW, 1/2-13 UNC HEX HD CAP X 1 1/4	2
18	011239-008	WASHER, 1/2 DIA ASTM A325	6
19	011253-016	SCREW, 5/16-18 UNC HEX HD CAP X 2	2
20	011239-005	WASHER, 5/16 DIA ASTM A325	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
21	011424-028	SCREW, 5/8-UNC SOC HD CAP GR 8 X 3 1/2	8
23	011248-010	LOCKNUT, 5/8-11 UNC HEX	8
24	011256-020	SCREW, 1/2-13 UNC HEX HD CAP X 2 1/2	4
25	104378-001	SNAP PIN 3/8 DIA X 3 GRIP	1
26	063783-003	LANDYARD ASSEMBLY	1
27	011248-006	LOCK NUT, 3/8-16 UNC HEX	13
28	011741-010	SCREW, 3/8-16 UNC FLT HD SOC X 1 1/4	8
29	104053-000	RISER PAD	1
30	104322-000	ROD, STOP PIN	1
31	011707-016	SCREW, 1/2-13 UNC SET HEX SOC X 2	1
32	011273-008	NUT, JAM 1/2-13 UNC	1
33	104142-000	ROTARY BRACE	REF
34	011240-006	WASHER, 3/8 DIA STD FLAT	4
35	011254-008	SCREW, 3/8-16 UNC HEX HD CAP X 1	2
36	100394-000	WASHER	4
37	011240-001	WASHER, #6 STD FLAT	8
38	011248-047	LOCKNUT, #6-32 HEX	4
43	013336-001	FITTING, GREASE	1
44	068679-003	FITTING, BULKHEAD	1
45	068678-024	TUBING, POLYURETHANE	1
46	029958-001	HORN, 12 VOLT	1


O RING PROVIDED WITH MOTOR
BOTH SIDES

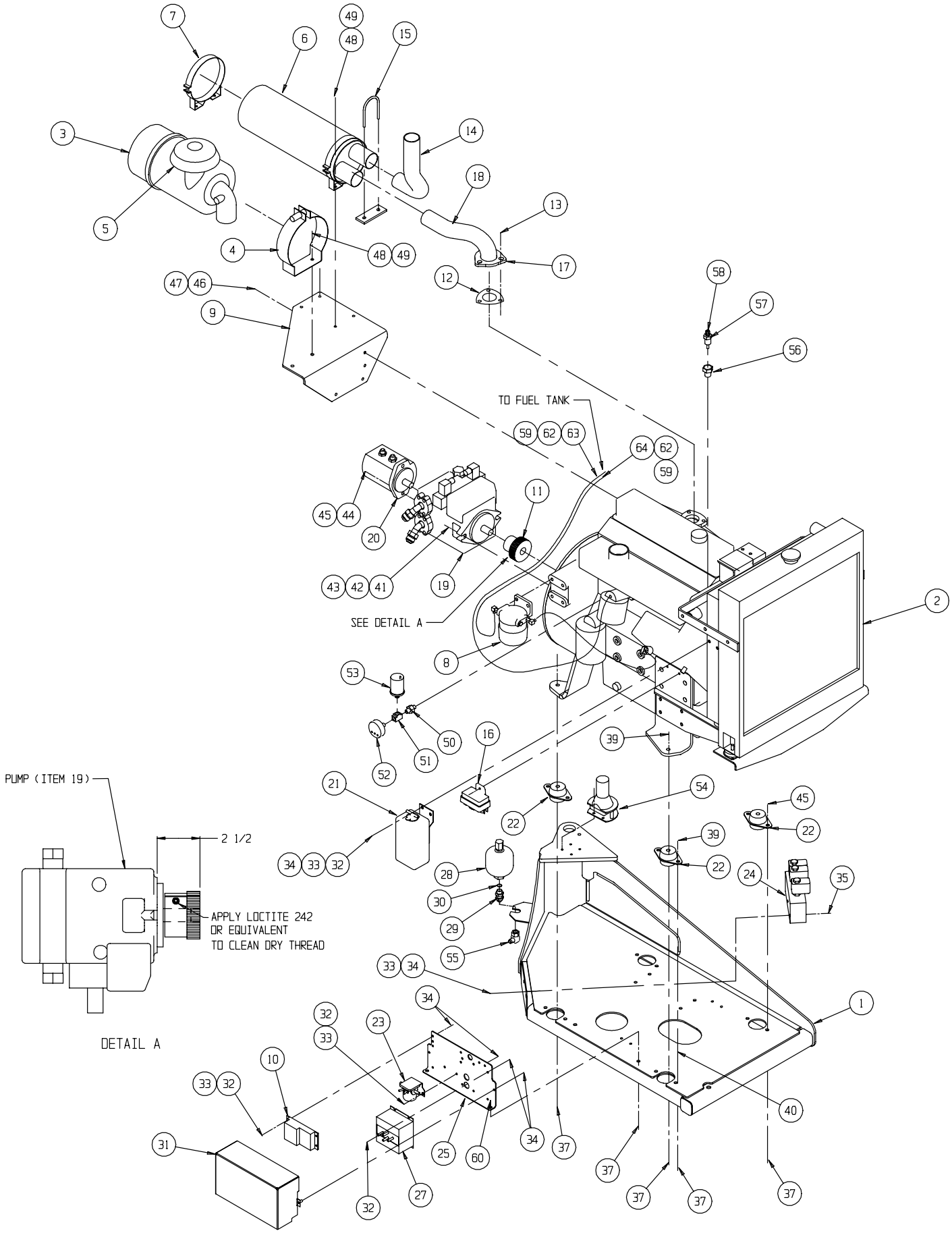
Engine Module Assembly, AB62 Diesel

1004013-000

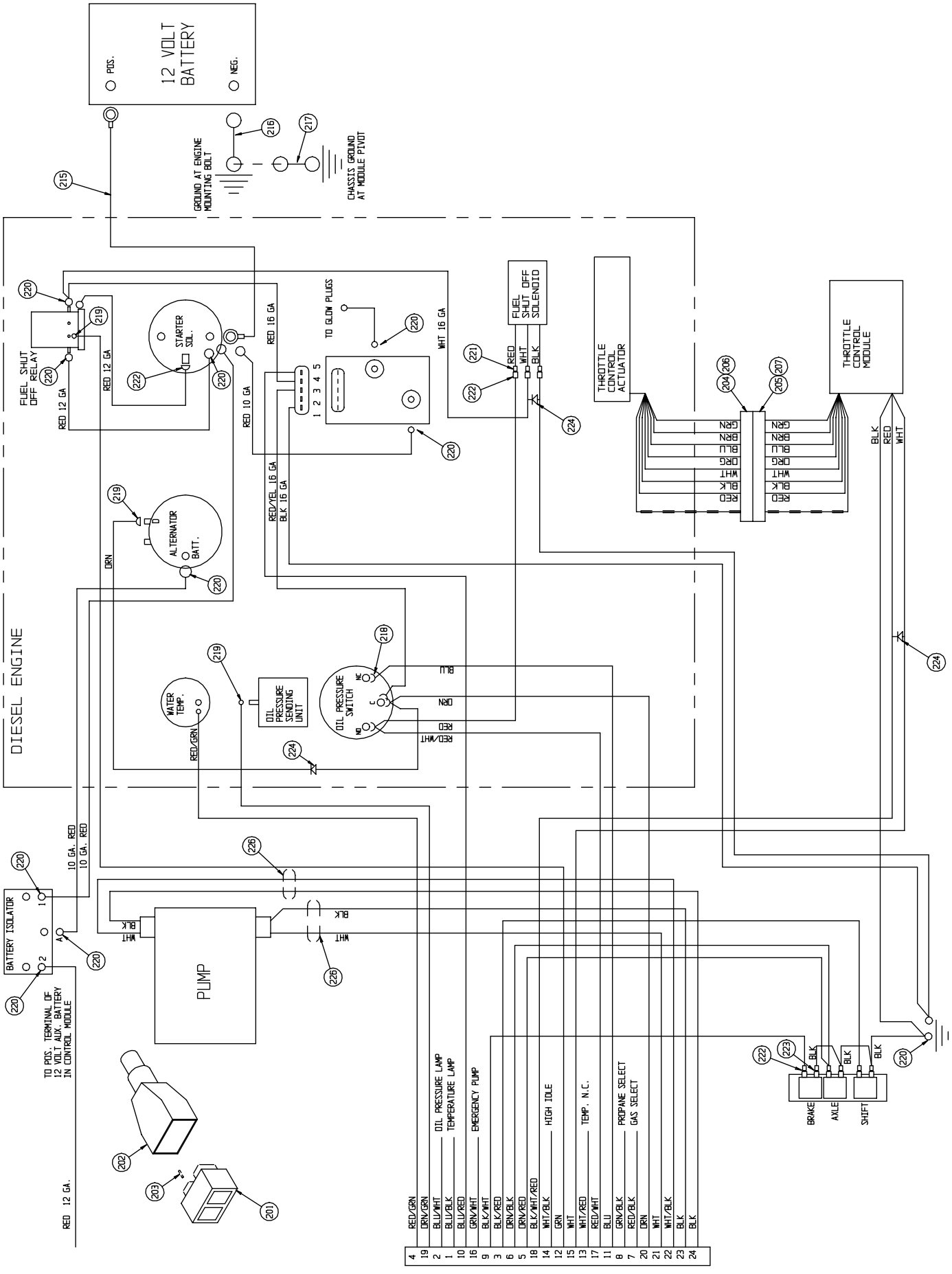
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104060-000	ENGINE TRAY WELDMENT	1
2	104352-000	ENGINE, PERKINS DIESEL	1
3	100180-030	AIR CLEANER	1
4	100180-038	CLAMP, AIR CLEANER	1
5	104352-010	RAIN CAP	1
6	104368-000	MUFFLER	1
7	100180-041	CLAMP. MUFFLER	1
8	100180-051	SEPARATOR, FUEL	1
9	104297-000	MUFFLER MOUNT WELDMENT	1
10	100180-042	THROTTLE CONTROL	1
11	100180-043	SPLINED COUPLER	1
12	100180-044	GASKET, EXHAUST FLANGE	1
13	100180-045	NUT, EXHAUST FLANGE	3
14	104296-000	EXHAUST PIPE	1
15	100180-046	EXHAUST CLAMP	1
16	100180-050	GLOW PLUG CONTROLLER	1
17	100180-048	FLANGE	1
18	104295-000	EXHAUST PIPE	1
19	104029-000	PUMP, DRIVE ASSEMBLY	1
20	104027-000	PUMP, LIFT ASSEMBLY	1
21	068823-000	OVER-FLOW BOTTLE	1
22	100209-000	ENGINE MOUNT, ISOLATOR	4
23	027972-000	SOLENOID START 12 VOLT	1
24	104036-000	VALVE BLOCK ASSY, BRAKE	1
25	104323-000	ISOLATOR BRACKET	1
27	100324-000	POWER CONVERTER	1
28	068565-001	ACCUMULATOR	1
29	010150-005	FITTING, BULKHEAD	1
30	011979-008	O-RING	1
31	104409-000	ISOLATOR COVER WELDMENT	1
32	011252-006	SCREW, 1/4-20 UNC HEX HD CAP X 3/4	12
33	011239-004	WASHER, 1/4 DIA FLAT ASTM	14
34	011248-004	LOCKNUT, 1/4-20 UNC HEX A325	16
35	011252-020	SCREW, 1/4-20 UNC HEX HD CAP X 2 1/2	2
37	011248-006	LOCKNUT, 3/8-16 UNC HEX	14
39	011254-028	SCREW, 3/8-16 UNC HEX HD CAP X 3 1/2	8
40	100192-000	WASHER, SNUBBER	8
41	014996-008	WASHER, 1/2 DIA FLAT	2
42	011238-008	LOCKWASHER, 1/2 DIA SPLIT	2
43	011252-012	SCREW, 1/2-13 UNC HEX HD CAP X 1 1/2	2
44	011238-006	LOCKWASHER, 3/8 DIA SPLIT	2
45	011254-008	SCREW, 3/8-16 UNC HEX HD CAP X 1	6
46	067672-020	SCREW, M8 X 1.25 HEX HD CAP X 20MM	4
47	011238-005	LOCKWASHER, 5/16 DIA SPLIT	4

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
48	011253-006	SCREW, 5/16 -18 UNC HEX HD CAP X 3/4	6
49	011248-005	LOCKNUT, 5/16-18UNC HEX	6
50	012702-002	FITTING, STR 2MP-2MP	1
51	011915-001	FITTING, TEE ADAPTER 2FP-2FP-2FP	1
52	068954-001	OIL PRESSURE SWITCH	1
53	100333-000	OIL PRESSURE SENDING UNIT	1
54	029945-018	LEVEL SENSOR	REF
55	011937-004	FITTING, ELBOW 90° 8FJ-8MJ	1
56	011922-006	FITTING, ADAPTER 6MP-8FP	1
57	100332-000	SENDING UNIT, TEMP	1
58	063947-005	NUT, JAM 5MM	1
59	012865-099	WIRE LOOM, 3/4”	30 FT
60	011254-024	SCREW 3/8-16 UNC HHC X 3” LG	2
62	020541-001	HOSE CLAMP	4
63	012739-099	HOSE, 1/4 FUEL LINE	18 FT
64	012733-099	HOSE, 5/16 FUEL LINE	18 FT
201	015790-015	CONNECTOR, (24 PIN)	1
202	015790-013	BOOT	1
203	015790-003	SOCKET 16-18 GA	24
204	067990-030	CONNECTOR (8 PIN)	1
205	067990-031	CONNECTOR (8 PIN)	1
206	100338-013	CONTACT, 16 GA PIN	8
207	100338-014	CONTACT, 16 GA SOCKET	8
208	029480-099	WIRE, 10 GA RED	6 FT.
209	029470-099	WIRE, 12 GA. RED	6 FT.
210	029454-099	WIRE, 16 GA. RED	6 FT.
211	029452-099	WIRE, 16 GA. BLACK	6 FT.
212	029451-099	WIRE, 16 GA. WHITE	6 FT.
213	029368-099	WIRE, 16 GA. RED/YEL	6 FT.
214	029453-099	WIRE, 16 GA. ORANGE	6 FT.
215	068334-080	BATTERY CABLE ASSY X 80 LG	1
216	068334-050	BATTERY CABLE ASSY X 50 LG	1
217	068334-032	BATTERY CABLE ASSY X 32 LG	1
218	029610-006	CONN. FORK TERM, #8 Ø 14-16 GA.	4
219	029601-012	CONN. RING TERM. #8 Ø 16-14 GA.	3
220	029601-039	CONN. RING TERM. Ø 5/16 12-10 GA.	15
221	029617-002	CONN. MALE PUSH (.25) 16-14 GA.	3
222	029931-003	CONN. FEM. PUSH (.25) 16-14 GA.	7
223	029931-005	CONN. FEM. PUSH (.25) 10-12 GA.	3
224	029825-002	DIODE, 5 AMP	3
225	029433-099	CABLE, 18 GA 24 COND	6 FT.
226	029496-099	CABLE, 16 GA 2 COND	6 FT.

NOTE: Items 3 through 18 included with Item 2.



Drawing # 1 of 2



Drawing # 2 of 2

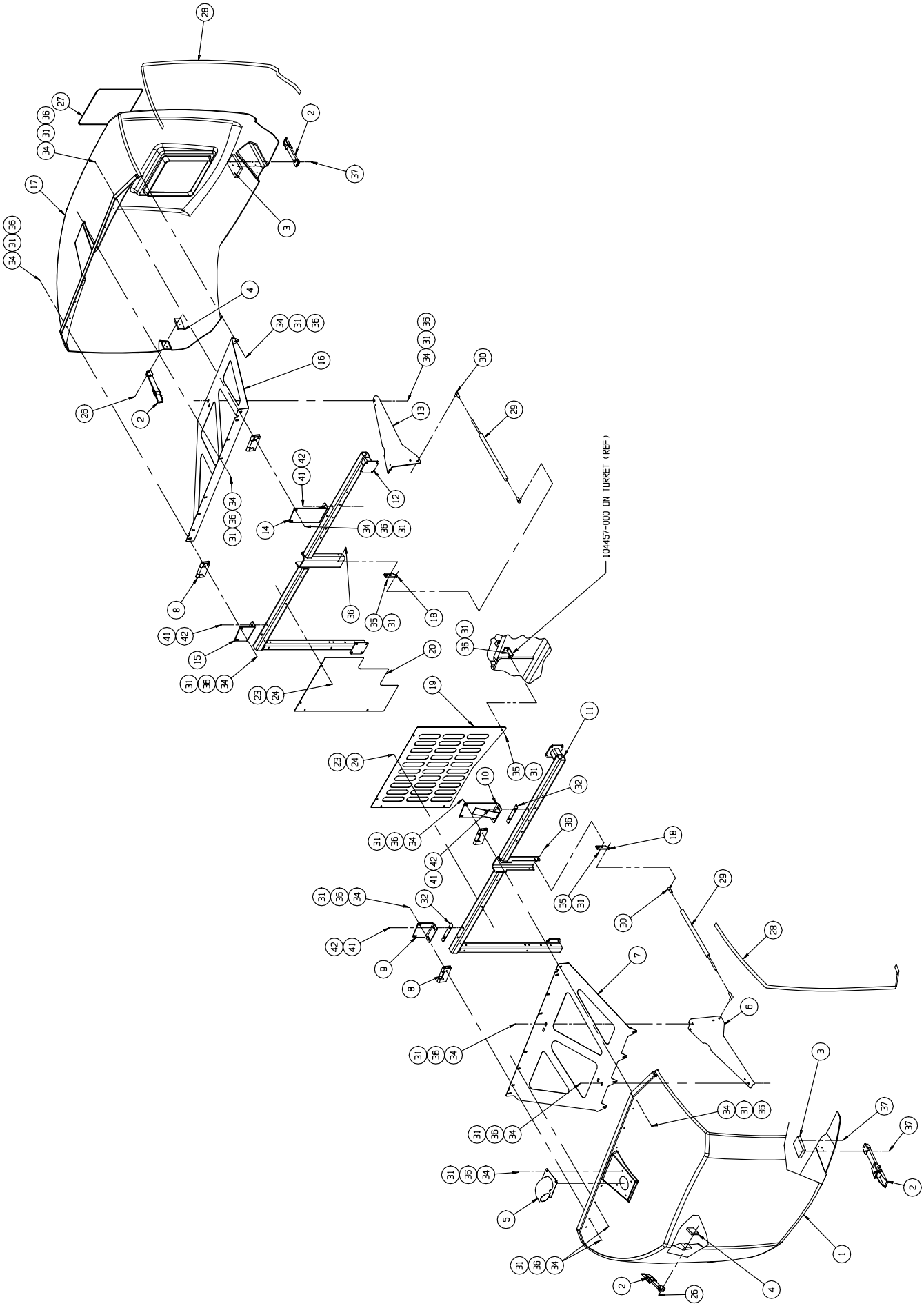
NOTES:

Cover Assembly

104015-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104075-000	TURRET COVER RIGHT	1
2	068904-000	LATCH	4
3	104099-000	LATCH BLOCK	2
4	104098-000	LATCH BLOCK	2
5	104292-000	EXHAUST PIPE	1
6	104450-000	STRUT BRACKET RIGHT	1
7	104056-000	RIGHT COVER BRACE	1
8	104084-000	HINGE	4
9	104089-000	HINGE MOUNT RIGHT FRONT	1
10	104090-000	HINGE MOUNT RIGHT REAR	1
11	104078-000	RIGHT DOOR MOUNT	1
12	104077-000	LEFT DOOR MOUNT	REF
13	104451-000	STRUT BRACKET LEFT	1
14	104093-000	HINGE MOUNT LEFT REAR	1
15	104092-000	HINGE MOUNT LEFT FRONT	1
16	104057-000	LEFT COVER BRACE	1
17	104076-000	TURRET COVER LEFT	1
18	104455-000	SPRING MOUNT	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
19	104416-000	COVER PANEL, RIGHT	1
20	104415-000	COVER PANEL, LEFT	1
23	011248-004	LOCKNUT, 1/4-20 UNC HEX	9
24	011252-022	SCREW, 1/4-20 UNC HEX HD CAP X 2 3/4	9
26	013923-008	SCREW, #10 TYPE AB SLFTP HWH X 1	4
27	061692-099	GROMMET MATERIAL	A/R
28	100370-099	DOOR SEAL, “C”	A/R
29	104374-000	SPRING, GAS	2
30	104374-001	BALL JOINT ASSEMBLY	4
31	011240-005	WASHER, 5/16 DIA STD FLAT	88
32	104479-000	SPACER, DOOR MOUNT	2
34	011253-008	SCREW, 5/16-18 UNC HEX HD CAP X 1	44
35	011253-006	SCREW, 5/16-18 UNC HEX HD CAP x 3/4	5
36	011248-005	LOCKNUT, 5/16-18 UNC HEX	48
37	011826-004	SCREW, #10-32 UNF RD HD MACH X 1/2	8
41	011240-006	WASHER, 3/8 DIA STD FLAT	8
42	011248-006	LOCKNUT, 3/8-16 UNC HEX	8


104457-000 DN TURRET (REF)

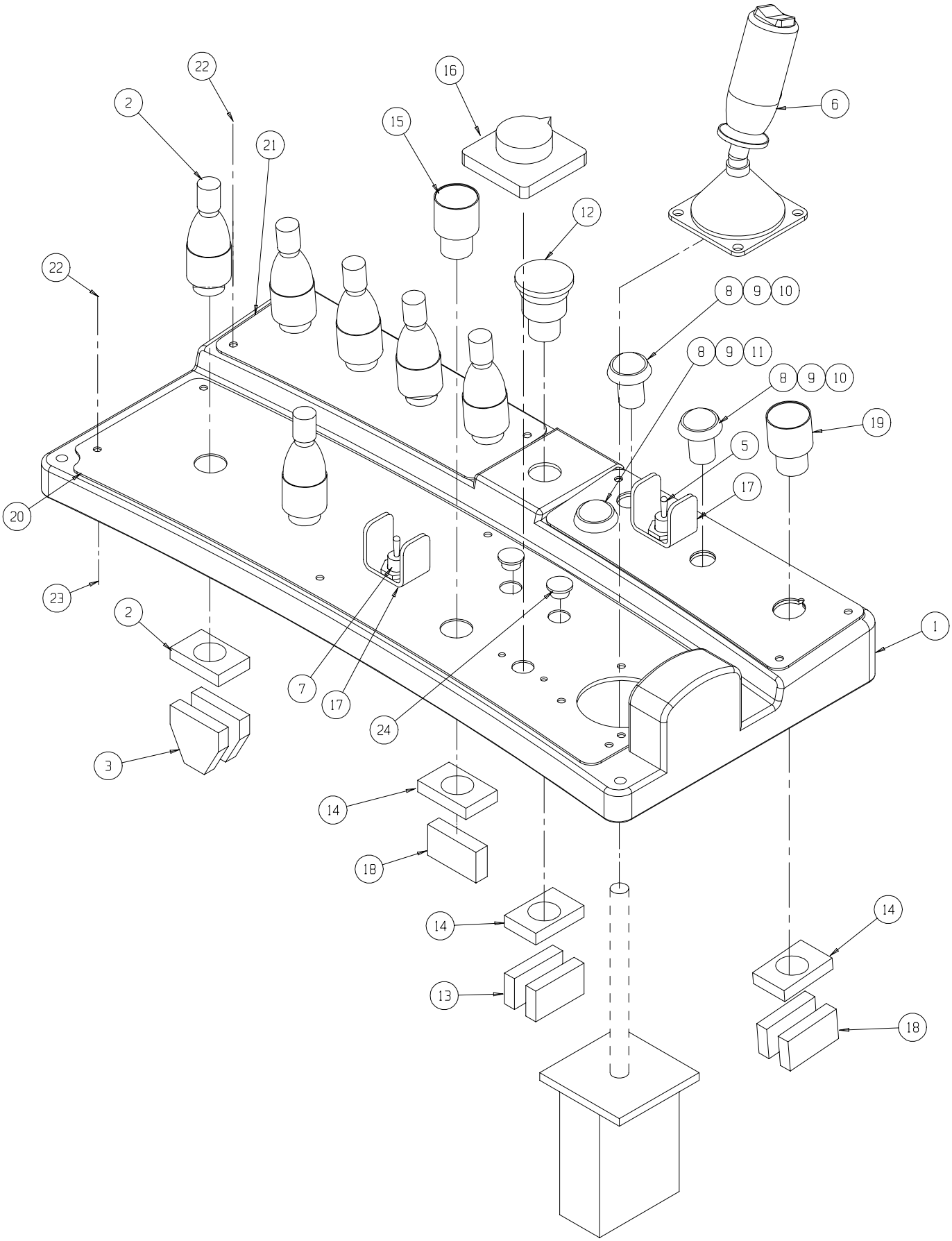
Upper Controller Assembly, AB62 Diesel

104017-000

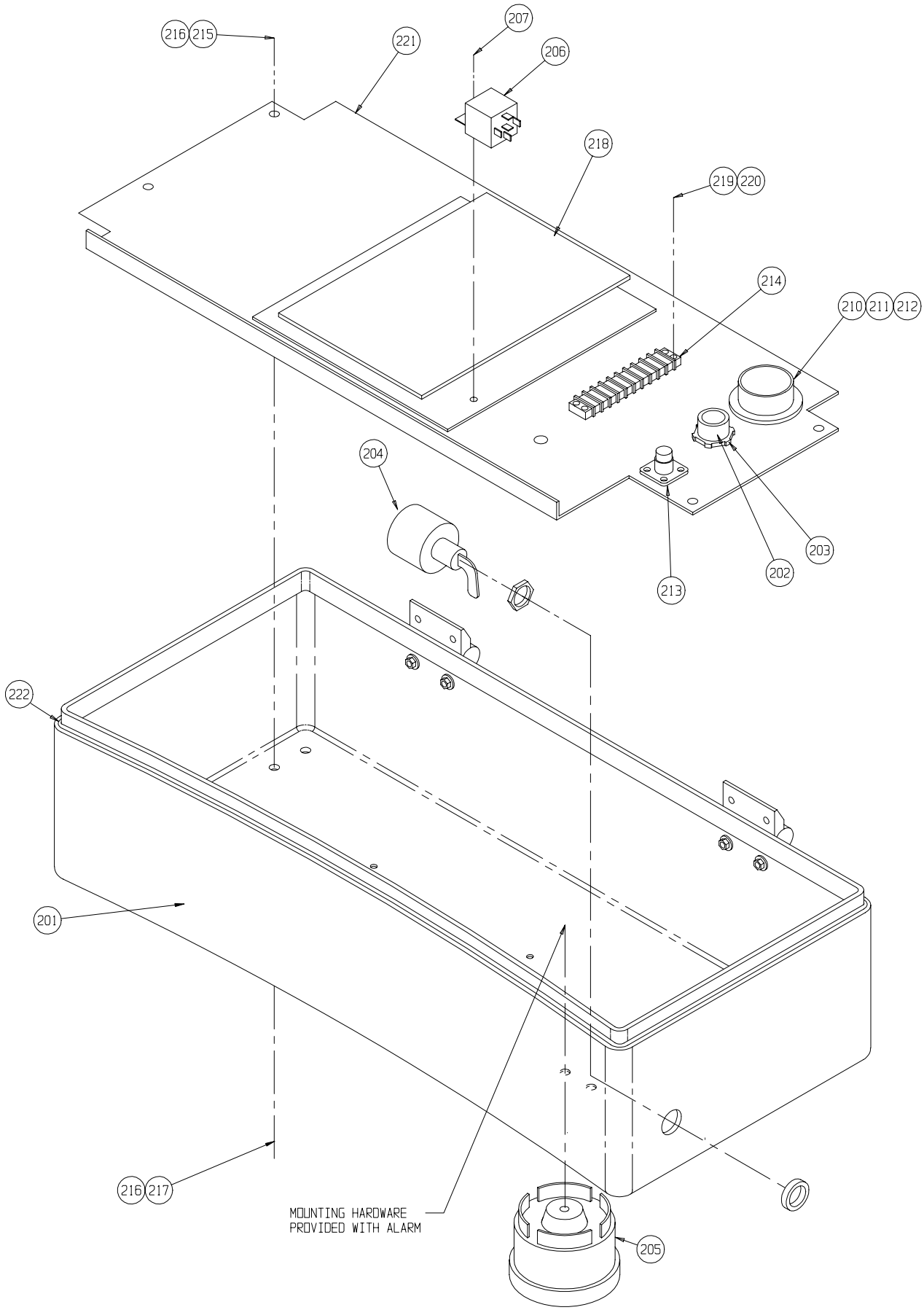
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104270-000	ENCLOSURE, UPPER CONTROLS	1
2	068594-000	JOYSTICK - OPERATOR	6
3	066805-012	CONTACT BLOCK N.O./N.C.	12
5	012797-000	TOGGLE SWITCH, SPDT	1
6	104497-000	CONTROLLER ASSEMBLY	1
*	104497-002	PC BOARD W/POT	1
*	066544-013	BOOT HANDLE	1
*	066786-011	HANDLE HALVE FRONT	1
*	066786-012	HANDLE HALVE REAR	1
*	066786-013	GASKET HANDLE	1
*	066786-016	BOOT ROCKER	1
*	066786-021	SWITCH PUSH BUTTON	1
*	066786-024	SWITCH STEERING MICRO	1
*	06892-008	SWITCH DRIVE MICRO	1
7	012798-004	SWITCH TOGGLE, DPDT MOMMENTARY	1
8	068590-000	BASE, INDICATOR LAMP	3
9	068591-001	LAMP T-2 1/2	3
10	068595-002	LENS AMBER	2
11	068595-001	LENS RED	1
12	064446-003	EMERGENCY STOP BUTTON	1
13	064443-002	CONTACT BLOCK, N.C.	2
14	064417-001	FLANGE MOUNT	2
15	067654-000	SWITCH, PUSH BUTTON	1
16	068593-004	SWITCH	1
17	008271-001	SWITCH GUARD	2
18	064443-001	CONTACT BLOCK, N.O.	3
19	067652-000	SWITCH, PUSH BUTTON	1
20	104307-000	MAIN COVER	1
21	104308-000	TOP COVER	1
22	011709-004	SCREW, #10-24 UNC RD HD MACH X 1/2	8
23	011248-003	LOCKNUT, #10-24 UNC HEX	8
24	015964-000	PLUG, HOLE	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
201	104270-000	UPPER CONTROL BOX	REF
202	029925-002	CONNECTOR CABLE 1/2 NPT	1
203	029939-002	LOCKNUT 1/2 NPT	1
204	100334-000	SWITCH, LEVER	1
205	066807-001	ALARM 107DB	1
206	068132-001	RELAY, 12 VDC	1
207	026553-003	RIVET, POP 3/16 .126-.250 GRIP	1
210	065926-012	CONNECTOR, PLUG 31 SOCKET	1
211	015790-003	SOCKET, 16-18 GA	26
212	028800-015	PLUG, SEALING	5
213	104387-000	CONNECTOR,	1
214	029928-010	TERMINAL. STRIP	1
215	011252-006	SCREW 1/4-20 UNC HHC X 3/4 LG	4
216	011240-004	WASHER 1/4 FLAT	4
217	011248-004	LOCKNUT 1/4-20 UNC	4
218	104383-000	MULTIPLEX TRANSMITTER	1
219	011248-002	LOCKNUT, #8-32 UNC HEX	2
220	011708-006	SCREW, #8-32 UNC RD HD MACH X 3/4	2
221	104480-000	MOUNTING PLATE, UPPER CONTROLLER	1
222	100337-099	O-RING CORD 3/16	FT 3.5
301	029610-002	CONN, FORK 16-14 #8	28
302	029610-007	CONN, FORK 22-16 #8	35
303	029616-004	CONN, FEMALE PUSH 22-16	7
304	029617-004	CONN, MALE PUSH 22-16	2
305	029428-099	WIRE, 18 GA. WHITE	A/R
306	029371-099	WIRE, 16 GA. YELLOW/GREEN	A/R
307	029601-005	CONN, RING 22-16 #10 DIA	3
308	029601-016	CONN, RING 22-16 #2 DIA	8

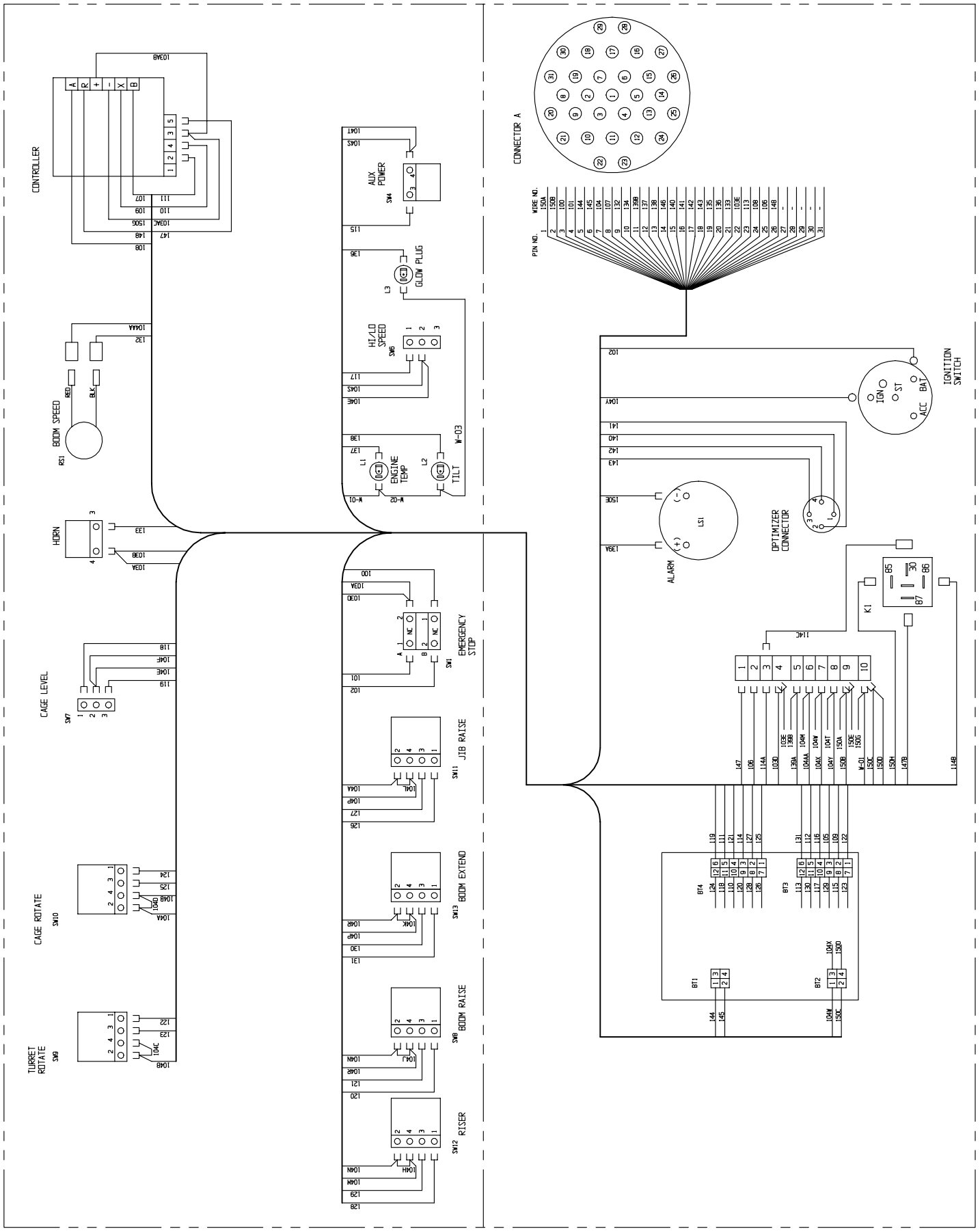
*** Not shown**



Drawing # 1 of 4



Drawing # 2 of 4



Drawing # 3 of 4

WIRE NO.	SIZE	FROM	TO
100	18 AWG	SW1B-1	A-3
101	18 AWG	SW1A-1	A-4
102	18 AWG	SW13-2	IGN (BAT)
103A	16 AWG	HORN 4	SW1A-2
103B	16 AWG	-	HORN 4
103D	18 AWG	TB3-4	SW1A-2
103E	16 AWG	A-22	TB3-4
103AB	18 AWG	CONT TB-2	CONTR-(+)
103AC	18 AWG	CONT TB-2	K1-87
104	18 AWG	A-7	-
104A	18 AWG	SW10-2	SW11-2
104B	18 AWG	SW9-2	SW10-4
104C	18 AWG	SW9-4	SW9-2
104D	18 AWG	SW10-2	SW10-4
104E	18 AWG	SW6-2	SW7-2
104F	18 AWG	SW7-2	-
104H	18 AWG	SW12-2	SW12-4
104J	18 AWG	SW8-2	SW8-4
104K	18 AWG	SW13-2	SW13-4
104L	18 AWG	SW11-2	SW11-4
104M	18 AWG	SW12-4	TB3-6
104N	18 AWG	SW12-2	SW8-2
104P	18 AWG	SW13-4	SW11-2
104R	18 AWG	SW8-4	SW13-2
104S	18 AWG	SW4-4	SW6-2
104T	18 AWG	SW4-4	TB3-8
104W	18 AWG	TB3-7	BT2-01
104X	18 AWG	TB3-7	BT2-03
104Y	18 AWG	IGN (IGN)	TB3-8
104AA	18 AWG	RS1-RED	TB3-6
106	18 AWG	A-25	TB3-2
107	18 AWG	A-8	CONTR-B
108	18 AWG	BT3-2	CONTR-A
109	18 AWG	BT3-2	CONTR-(X)
110	18 AWG	BT4-10	CONTR TB-3
111	18 AWG	BT4-5	CONTR TB-4
113	18 AWG	A-23	BT3-12
114A	18 AWG	BT3-3	TB3-3
114B	18 AWG	TB3-3	K1-86
114C	18 AWG	K1-30	TB3-3
115	18 AWG	SW4-3	BT3-08
117	18 AWG	SW6-3	BT3-10
118	18 AWG	SW7-1	BT4-11
119	18 AWG	SW7-3	BT4-6
120	18 AWG	SW8-1	BT4-9
121	18 AWG	SW8-3	BT4-4
122	18 AWG	SW9-1	BT3-1
123	18 AWG	SW9-3	BT3-7
124	18 AWG	SW10-1	BT4-12
125	18 AWG	SW10-3	BT4-1
126	18 AWG	SW11-1	BT4-2
127	18 AWG	SW11-3	BT4-2
128	18 AWG	SW11-3	BT4-2
129	18 AWG	SW12-3	BT3-9
130	18 AWG	SW13-3	BT3-11
131	18 AWG	SW13-1	BT3-6
132	18 AWG	RS1-BLK	A-9
133	18 AWG	HORN-3	A-21

WIRE NO.	SIZE	FROM	TO
136	18 AWG	L3	A-20
137	18 AWG	L1	A-12
138	18 AWG	L2	A-13
139A	18 AWG	LS1(+)	TB3-5
139B	18 AWG	A-11	TB3-5
140	18 AWG	A-15	OPT-1
141	18 AWG	A-16	OPT-2
142	18 AWG	A-17	OPT-4
143	18 AWG	A-18	OPT-3
144	18 AWG	A-5	BT1-1
145	18 AWG	A-6	BT1-2
147A	18 AWG	TB3-1	CONTR TB-1
147B	18 AWG	TB3-1	K1-87
148	18 AWG	A-26	CONTR-(R)
150A	18 AWG	A-1	TB3-9
150B	18 AWG	A-2	TB3-9
150C	18 AWG	TB3-9	BT2-02
150D	18 AWG	TB3-9	BT2-04
150E	18 AWG	TB3-10	LS1 (-)
150G	18 AWG	TB3-10	CONTR-(-)
150H	18 AWG	K1-85	TB3-10
W-01	18 AWG	L1 GND	TB3-10
W-02	18 AWG	L1 GND	L2 GND
W-03	18 AWG	L2 GND	TB3-10
-	-	-	-
-	-	-	-
-	-	-	-

Drawing # 4 of 4

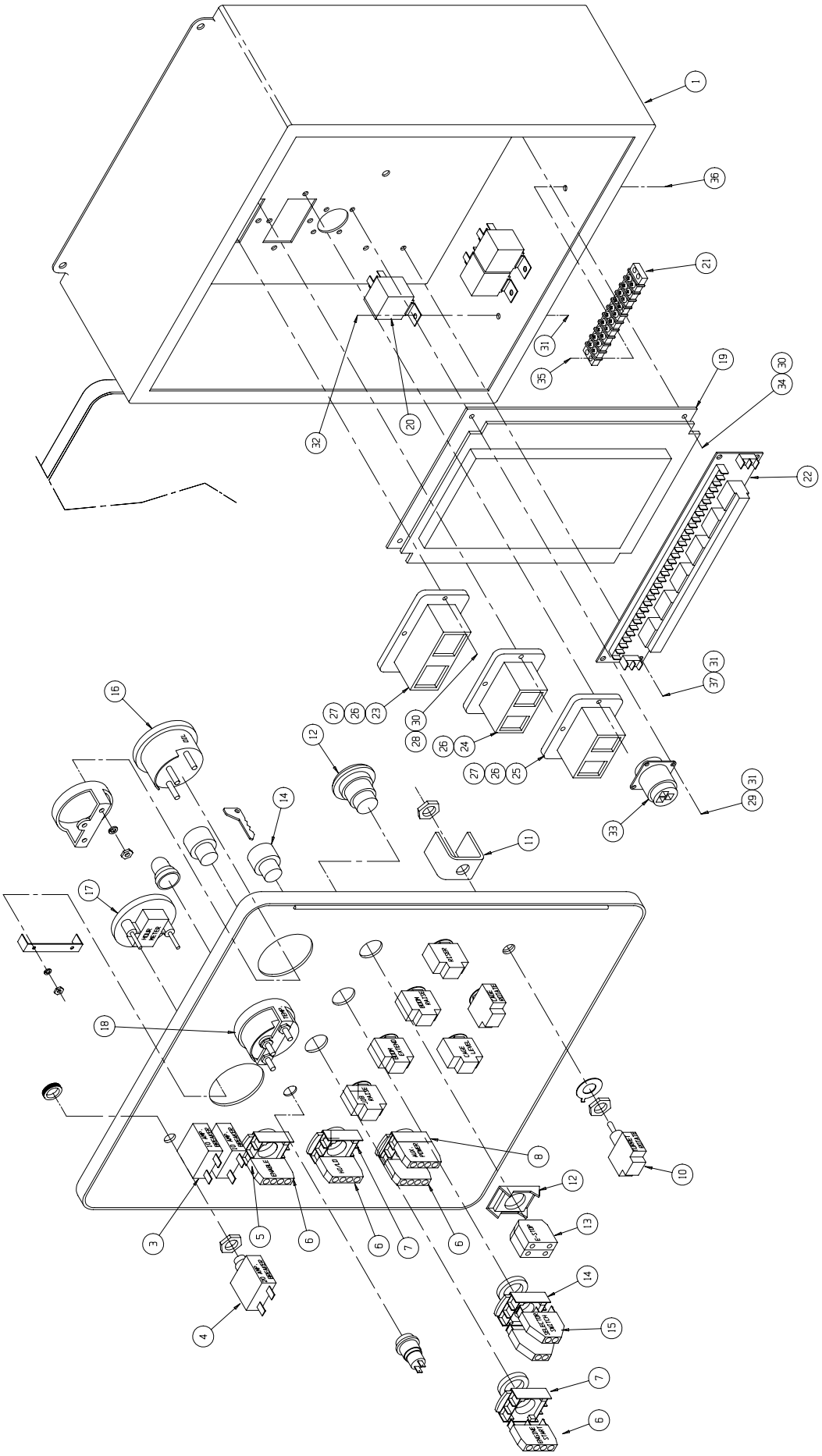
NOTES:

Lower Controller Assembly, AB62 Diesel

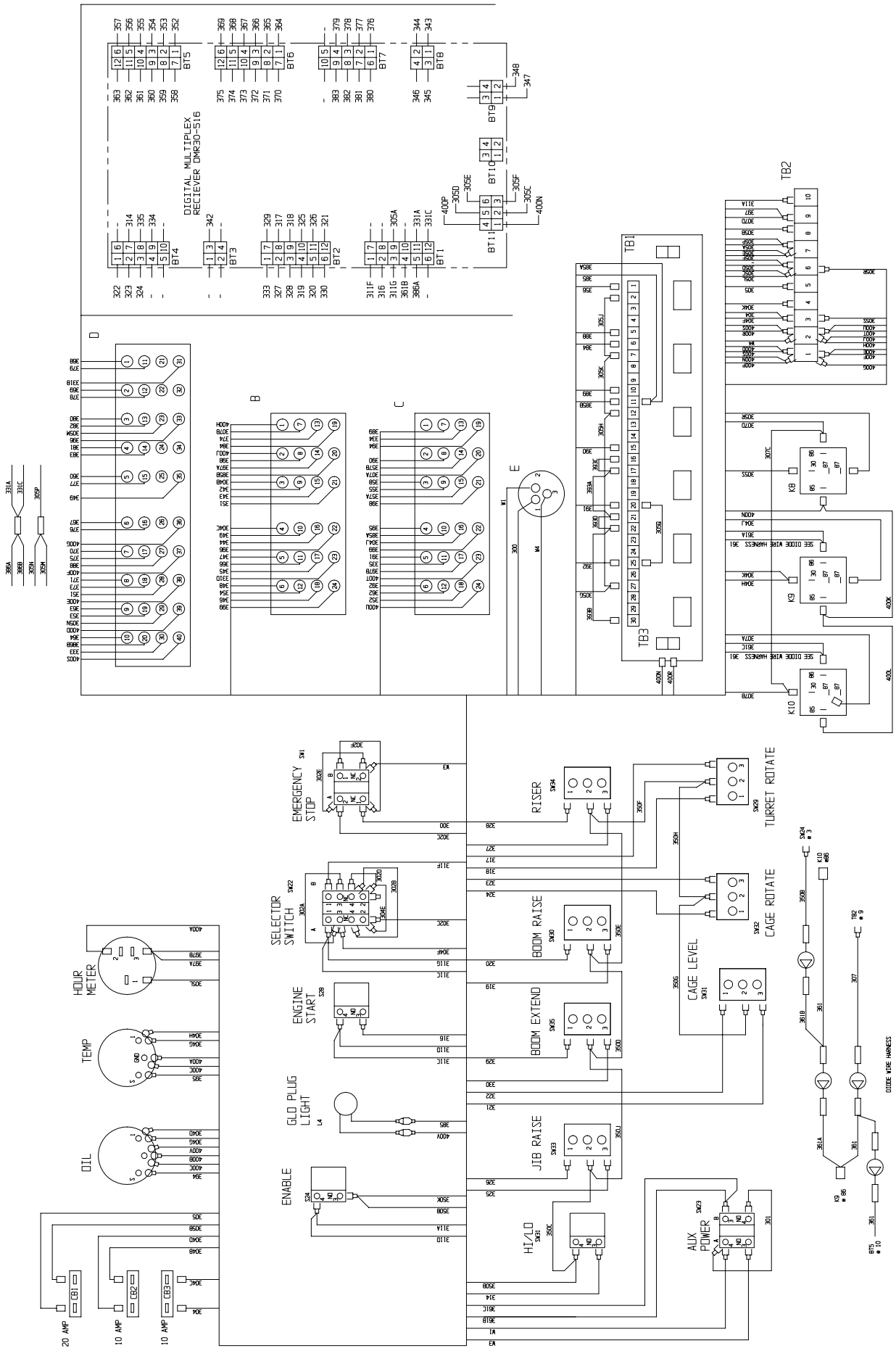
104019-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104271-000	LOWER CONTROLS ENCLOSURE	1
2	104312-000	CIRCUIT MOUNT	1
3	068582-010	CIRCUIT BREAKER, 10 AMP	2
4	068582-020	CIRCUIT BREAKER, 20 AMP	1
5	067652-000	BUTTON PUSH, GREEN	1
6	064443-001	CONTACT BLOCK, N.O.	5
7	067654-000	BUTTON PUSH, BLK	2
8	104499-000	BUTTON PUSH, YELLOW	1
10	012798-000	SWITCH, TOGGLE SPDT	7
11	008271-000	GUARD, SWITCH	7
12	064446-003	SWITCH, E-STOP	1
13	064443-002	CONTACT BLOCK, N.C.	2
14	100335-000	KEY SWITCH, KEYED	1
*	068807-010	KEY	1
15	068860-000	CONTACT BLOCK, N.O.	2
16	100331-000	OIL PRESSURE GUAGE	1
17	100330-000	TEMPERATURE GUAGE	1
18	015752-000	HOUR METER	1
19	104397-000	MULTIFLEX RECEIVER ASSEMBLY	1
20	068132-001	RELAY, 12 VDC	3
21	029928-010	TERMINAL STRIP	1
22	104398-000	RELAY CARD ASSEMBLY	1
23	015790-006	CONNECTOR, RECEPTICAL 40 PIN	1
24	015790-011	CONNECTOR, RECEPTICAL 24 PIN TYPE A	1
25	015790-014	CONNECTOR, RECEPTICAL 24 PIN TYPE B	1
26	015790-004	PIN, 16-18 GA	77

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
27	028800-015	PLUG, SEALING	11
28	011709-004	SCREW, #10-24 UNC RD HD MACH X 1/2	12
29	011708-004	SCREW, #8-32 UNC RD HD MACH X 1/2	4
30	011248-003	LOCKNUT, #10-24 UNC HEX	16
31	011248-002	LOCKNUT, #8-32 UNC HEX	11
32	011708-003	SCREW, #8-32 UNC RD HD MACH X 3/8	3
33	104387-004	CONNECTOR,	1
34	011709-010	SCREW, #10-24 UNC RD HD MACH X 1 1/4	4
35	011715-005	SCREW, #6-32 UNC RD HD MACH X 5/8	2
36	011248-032	LOCKNUT, #6-32 HEX	2
37	011708-006	SCREW, #8-32 RD HD MACH X 3/4	4
201	029610-007	CONN, FORK 22-16 #8	28
202	029610-002	CONN, FORK 16-14 #8	48
203	029615-001	CONN, FEMALE PUSH 22-18 UNINSLATED	20
204	029615-002	CONN, FEMALE PUSH 16-14 UNINSULATED	8
205	029616-003	CONN, FEMALE PUSH 10-12 INSULATED	2
206	029616-002	CONN, FEMALE PUSH 16-14 INSULATED	6
207	029616-004	CONN, FEMALE PUSH 22-16 INSULATED	7
208	029610-002	CONN, BUTT 14-16	3
209	029610-001	CONN, BUTT 22-18	7
210	029617-004	CONN, MALE PUSH 22-16 INSULATED	2
211	029428-099	WIRE, 18 AWG WHITE	A/R
212	029371-099	WIRE, 16 AWG YELLOW /GREEN	A/R
213	029473-099	WIRE, 12 AWG WHITE	A/R
214	029472-099	WIRE, 12 AWG BLACK	A/R
215	029507-099	WIRE, 12 AWG GREEN	A/R



Drawing # 1 of 3



Drawing # 2 of 3

Drawing # 3 of 3

WIRE NO.	SIZE	FROM	TO
300	12 AWG	SW1A-1	E1
301	18 AWG	SW23A-4	SW23B-4
302A	12 AWG	SW22A-3	SW22B-3
302B	18 AWG	SW22A-4	SW22B-4
302C	18 AWG	SW22A-2	SW1A-2
302D	12 AWG	SW22B-2	SW22B-4
302E	12 AWG	SW22B-2	SW1A-2
302F	12 AWG	SW1A-1	SW1B-1
304	18 AWG	CB-3	TB2-3
304A	18 AWG	CB-3	CB-2
304B	18 AWG	CB-2	B3
304C	18 AWG	CB-3	B4
304D	18 AWG	CB-2	DIODE1
304D	18 AWG	DIODE1	OIL-1
304E	12 AWG	SW22A-2	SW22B-2
304F	12 AWG	SW22B-3	TB2-3
304G	18 AWG	OIL-1	TEMP-1
304H	18 AWG	TEMP-1	K9-30
304J	18 AWG	K9-87	C16
304K	18 AWG	TB2-4	K9-30
305A	18 AWG	BT1-3	TB2-7
305B	12 AWG	CB-1	TB2-7
305C	18 AWG	BT11-02	TB2-6
305D	18 AWG	BT11-05	TB2-6
305E	18 AWG	BT11-06	TB2-7
305F	18 AWG	BT11-03	TB2-7
305G	18 AWG	TB1-27	TB2-6
305H	18 AWG	TB1-12	TB1-27
305J	18 AWG	TB1-2	TB1-7
305K	18 AWG	TB1-7	TB1-12
305L	12 AWG	HOUR-1	TB2-6
305M	18 AWG	D23	BUTT CONN
305N	18 AWG	D29	BUTT CONN
305P	18 AWG	BUTT CONN	TB2-7
305Q	18 AWG	TB1-20	TB1-25
305R	12 AWG	K8-87	TB2-6
305S	18 AWG	K8-30	TB2-3
307	18 AWG	DIODE 2	TB2-10
307A	18 AWG	K10-87	C20
307B	18 AWG	K10-30	B7
307C	18 AWG	K8-86	K10-30
307D	18 AWG	K8-86	TB2-9
311A	18 AWG	SW24-4	SW22B-2
311A	18 AWG	DIODE 2	TB2-10
-	18 AWG	-	-
311C	18 AWG	SW28-4	SW22A-1
311D	18 AWG	SW24-4	SW28-4
-	18 AWG	-	-
311F	18 AWG	SW22B-1	BT1-01
314	18 AWG	SW31-3	BT4-07
315	18 AWG	SW27-3	BT1-08
316	18 AWG	SW28-3	BT1-02
317	18 AWG	SW29-1	BT2-08
318	18 AWG	SW29-3	BT2-09
319	18 AWG	SW30-3	BT2-04

WIRE NO.	SIZE	FROM	TO
320	18 AWG	SW30-1	BT2-05
321	18 AWG	SW31-3	BT2-12
322	18 AWG	SW31-1	BT4-1
323	18 AWG	SW32-3	BT4-02
324	18 AWG	SW32-1	BT4-3
325	18 AWG	SW33-3	BT2-10
326	18 AWG	SW33-1	BT2-11
327	18 AWG	SW34-3	BT2-02
328	18 AWG	SW34-1	BT2-03
329	18 AWG	SW35-1	BT2-07
330	18 AWG	SW35-3	BT2-06
331A	18 AWG	BT1-11	BUTT CONN
331B	18 AWG	BUTT CONN	D31
331C	18 AWG	BT1-12	BUTT CONN
331D	18 AWG	BUTT CONN	B23
333	18 AWG	BT2-01	D30
334	18 AWG	BT4-09	C13
335	18 AWG	BT4-08	C11
342	18 AWG	BT3-03	B9
343	18 AWG	BT8-01	B15
344	18 AWG	BT8-02	B16
345	18 AWG	BT8-03	B17
346	18 AWG	BT8-04	B18
347	18 AWG	BT9-01	B5
348	18 AWG	BT9-02	B6
349	18 AWG	B10	D35
350A	18 AWG	SW24-4	SW33-2
350B	18 AWG	SW33-2	SW6-4
350C	18 AWG	SW35-2	SW6-4
350D	18 AWG	SW35-2	SW30-2
350E	18 AWG	SW30-2	SW31-2
350F	18 AWG	SW34-2	SW31-2
350G	18 AWG	SW34-2	SW32-2
350H	18 AWG	SW29-2	TB2-1
350K	18 AWG	DIODE	S24-3
351	18 AWG	B21	D28
352	18 AWG	BT5-01	C18
353	18 AWG	BT5-02	D19
354	18 AWG	BT5-03	B12
355	18 AWG	BT5-04	C9
356	18 AWG	BT5-05	TB1-1
357A	18 AWG	BT5-06	C15
357B	18 AWG	BT5-06	C14
358	18 AWG	BT5-07	C3
359	18 AWG	BT5-08	C10
360	18 AWG	BT5-09	D5
361	18 AWG	K9-86	DIODE
361	18 AWG	BT5-10	DIODE
361A	18 AWG	K9-86	DIODE
361B	18 AWG	DIODE	DIODE
361B	18 AWG	DIODE	DIODE
361C	18 AWG	SW23B-3	K10-86
-	-	-	-
362	18 AWG	BT5-11	C12
363	18 AWG	BT5-12	D9

WIRE NO.	SIZE	FROM	TO
364	18 AWG	BT6-01	D10
365	18 AWG	BT6-02	TB1-26
366	18 AWG	BT6-03	B11
367	18 AWG	BT6-04	D6
368	18 AWG	BT6-05	D1
369	18 AWG	BT6-06	D2
370	18 AWG	BT6-07	D7
371	18 AWG	BT6-08	D8
372	18 AWG	BT6-09	RESERVED
373	18 AWG	BT6-10	D18
374	18 AWG	BT6-11	B13
375	18 AWG	BT6-12	D17
376	18 AWG	BT7-01	D16
377	18 AWG	BT7-02	D15
378	18 AWG	BT7-03	D12
379	18 AWG	BT7-04	D11
380	18 AWG	BT7-06	D3
381	18 AWG	BT7-07	D4
382	18 AWG	BT7-08	D13
383	18 AWG	BT7-09	D14
384	18 AWG	TB1-6	B19
385	18 AWG	L4	TB1-11
385A	18 AWG	BT1-11	B20
385B	18 AWG	BT1-11	C10
386A	18 AWG	BT1-05	BUTT CONN
386B	18 AWG	BUTT CONN	D20
388	18 AWG	TB1-5	D27
389	18 AWG	TB1-10	C7
390	18 AWG	TB1-15	C8
391	18 AWG	TB1-20	C5
392	18 AWG	TB1-25	C6
393A	18 AWG	TB1-17	TB1-21
393B	18 AWG	TB1-22	TB1-30
393C	18 AWG	TB1-16	TB1-17
393D	18 AWG	TB1-21	TB1-22
394	18 AWG	OIL-S	C19
395	18 AWG	TEMP-S	C4
396	18 AWG	D33	B22
397A	18 AWG	HOURMETER-3	B14
397B	18 AWG	HOURMETER-3	C17
398	18 AWG	B8	C21
399	18 AWG	B24	C22
400A	16 AWG	HOURMETER-2	TEMP-GRND
400B	16 AWG	OIL-GRND	TB2-1
400C	16 AWG	TEMP-GRND	OIL GRND
400D	16 AWG	TB2-1	D39
400E	16 AWG	TB2-1	D38
400F	16 AWG	TB2-1	D37
400G	16 AWG	TB2-1	D36
400H	16 AWG	TB2-2	B1
400J	16 AWG	TB2-2	B2
400K	16 AWG	K9-85	K8-85
400L	16 AWG	K9-85	K10-85
400M	16 AWG	K8-85	TB2-10
400N	16 AWG	K8-85	TB3-1

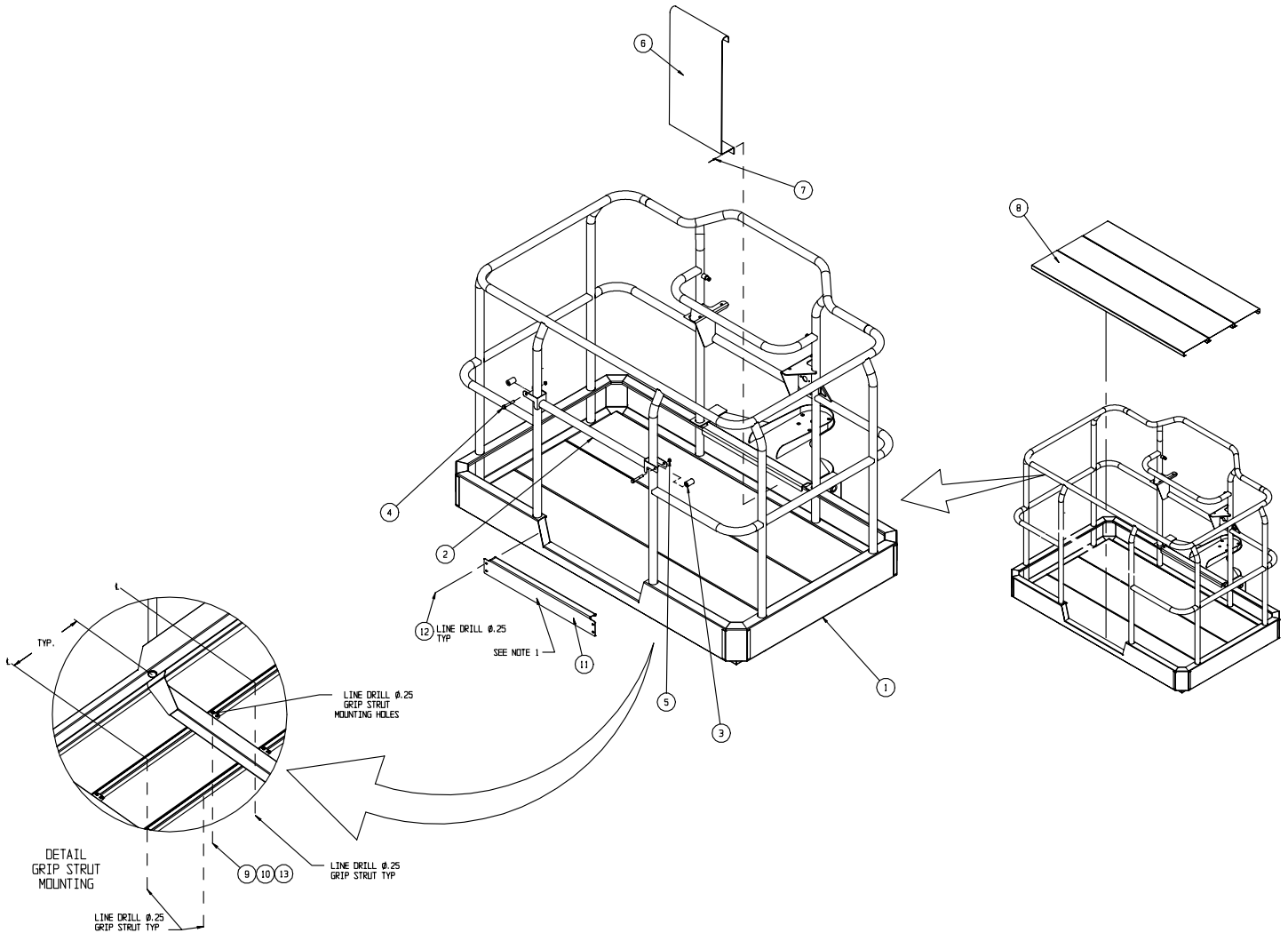
WIRE NO.	SIZE	FROM	TO
400P	16 AWG	BT11-04	TB2-1
400R	16 AWG	TB3-2	TB2-2
400S	16 AWG	TB2-1	D40
400T	16 AWG	C23	TB2-2
400U	16 AWG	C24	TB2-2
400V	16 AWG	L4	OIL-GRND
W1	12 AWG	E2	SW23A-4
-	-	-	-
W3	12 AWG	SW23A-3	SW1B-2
W4	12 AWG	E3	TB2-9
W5	12 AWG	K8-30	TB2-3

Six Foot Cage Assembly

102037-100

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	102193-001	CAGE WELDMENT (6 FT.)	1
2	100478-000	LIFT-GATE WELDMENT	1
3	100481-000	ROLLER TUBE	2
4	011253-022	SCREW, HHC. 5/16-18 UNC X 2 3/4	2
5	011248-005	LOCKNUT, HEX. 5/16-18 UNC ESNA	2
6	100468-001	PANEL, DECAL MOUNT	1
7	026551-005	POP RIVET, 1/8" DIA. (3/16-1/4 GRIP)	3

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
8	102271-061	GRIP STRUT	3
9	011252-008	SCREW, HHC 1/4-20 UNC X 1	39
10	014996-004	WASHER 1/4 FLAT	39
11	102244-000	SILL GATE EURO	1
12	026554-001	RIVET, POP 1/4 .125-.250 GRIP	4
13	011248-004	LOCKNUT, HEX 1/4-20 UNC ESNA	39

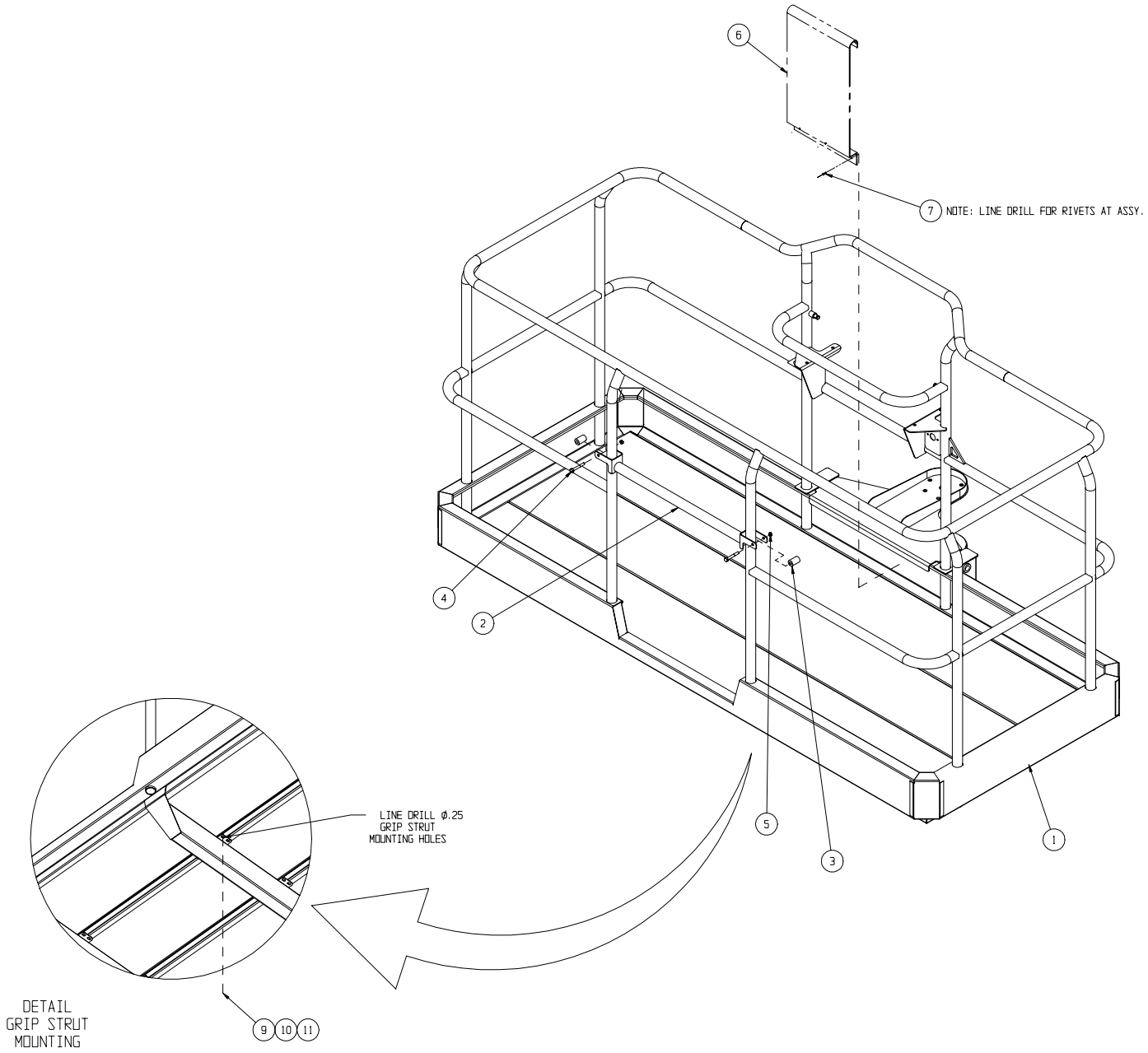


Eight Foot Cage Assembly, Option

102037-001

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	102193-000	CAGE WELDMENT (8 FT.)	1
2	100478-000	LIFT-GATE WELDMENT	1
3	100481-000	ROLLER TUBE	2
4	011253-022	SCREW, HHC. 5/16-18 UNC X 2 3/4	2
5	011248-005	LOCKNUT, HEX. 5/16-18 UNC ESNA	2
6	100468-001	PANEL, DECAL MOUNT	REF

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
7	026551-005	POP RIVET, 1/8" DIA. (3/16-1/4 GRIP)	REF
8	102271-082	GRIP STRUT	3
9	014996-004	WASHER, 1/4" FLAT	44
10	011248-004	LOCKNUT, HEX 1/4-20 UNC ESNA	44
11	011252-008	SCREW, HHC 1/4-20 UNC X 1	44

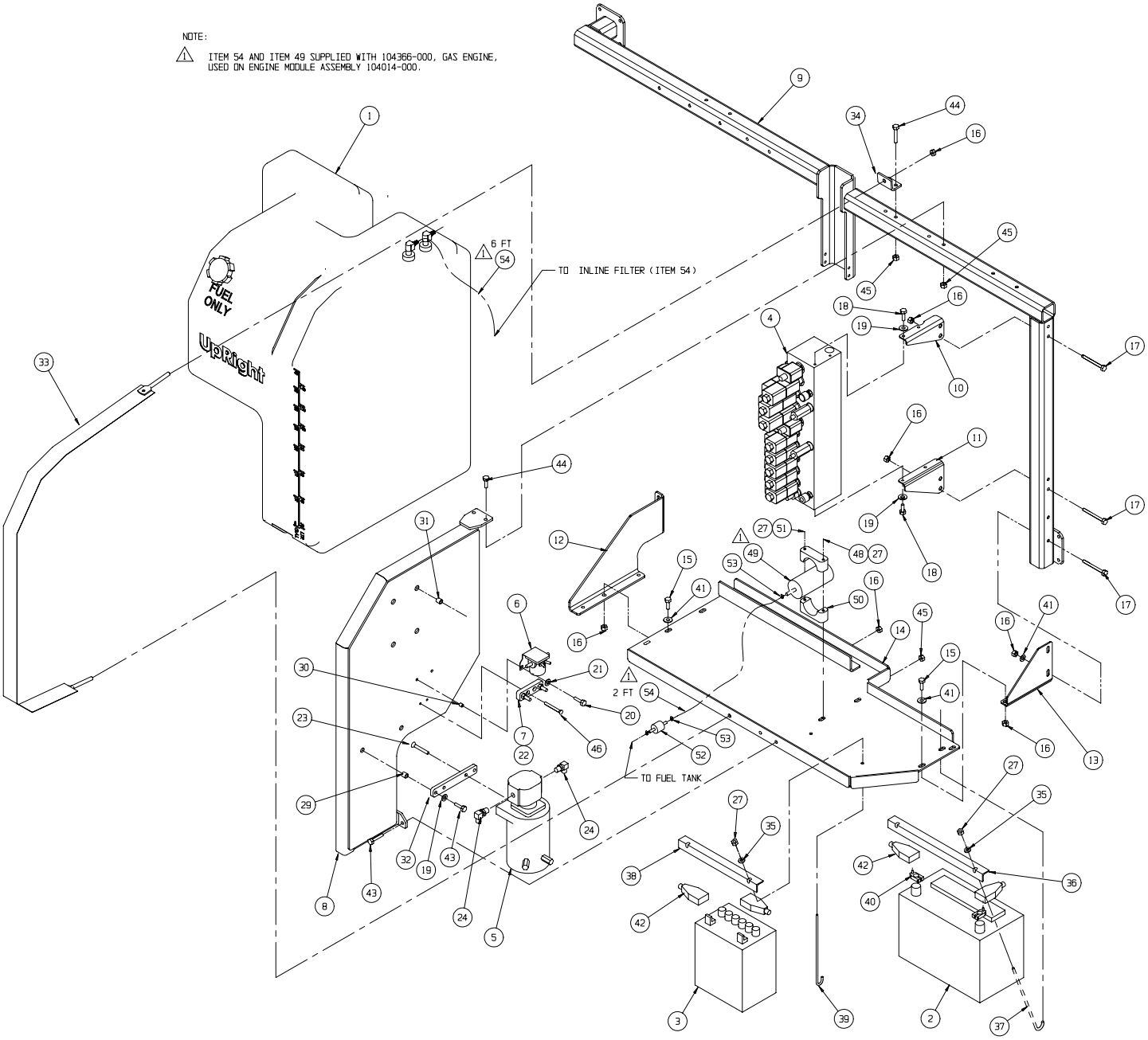


Control Module Assembly

104021-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104023-000	FUEL TANK ASS'Y	1
2	062299-002	BATTERY, 12 V M/C	1
*	062299-004	BATTERY,12V DRY	1
3	104391-000	BATTERY, 12 V	1
4	104033-000	VALVE BLOCK ASS'Y	1
5	104359-000	AUX POWER UNIT, 12 VDC 1 GPM	1
6	027972-000	RELAY, MOTOR START	1
7	010148-001	FUSE 175 AMP	1
8	104421-000	GENERATOR FRAME WELDMENT	1
9	104077-000	LEFT DOOR MOUNT	1
10	104309-000	TOP BLOCK MOUNT	1
11	104310-000	BOTTOM BLOCK MOUNT	1
12	104291-000	REAR PAN SUPPORT	1
13	104287-000	FRONT PAN SUPPORT	1
14	104288-000	LEFT PAN WELDMENT	1
15	011254-008	SCREW HHC GR5 3/8-16 UNC X 1	5
16	011254-006	LOCK NUT, 3/8-16 UNC ESNA	13
17	011254-024	SCREW HHC GR 5 3/8-16 UNC X 3	6
18	011253-006	SCREW HHC GR 5 5/16-18 UNC X 3/4	4
19	011238-005	LOCKWASHER, 5/16 SPLIT	6
20	011252-006	SCREW HHC GR5, 1/4-20 UNC X 3/4	2
21	011238-004	LOCKWASHER, 1/4 DIA SPLIT	2
22	010149-000	FUSE BLOCK	1
23	011828-010	SCREW, 1/4-20 UNC FLT HD SOC X 1 1/4	2
24	011934-004	FITTING, ELBOW 6MB-6MJ	2
27	011248-004	LOCKNUT, 1/4-20 UNC HEX	4

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
29	014252-005	INSERT, 5/16-18 UNC	2
30	014252-004	INSERT, 1/4-20 UNC	2
31	014252-006	INSERT, 3/8-16 UNC	4
32	104418-000	ADAPTER, AUX. POWERUNIT	1
33	104402-000	STRAP, FUEL TANK	1
34	104404-000	ANCHOR, FUEL TANK STRAP	1
35	011240-004	WASHER, 1/4 STD FLAT	4
36	064040-001	BATTERY HOLD DOWN BAR	1
37	063082-000	J-BOLT, BATTERY HOLD DOWN	2
38	104472-000	BATTERY HOLD DOWN	1
39	100295-000	J-BOLT, BATTERY HOLD DOWN	2
40	014435-001	TERMINAL, BATTERY	2
41	011240-006	WASHER, 3/8 STD FLAT	7
42	010154-000	COVER, BATTERY TERMINAL	4
43	011253-008	SCREW, 5/18 -18 UNC HEX HD CAP X 1	4
45	011253-022	SCREW, 5/16-18 UNC HEX HD CAP X 2 3/4	4
46	011248-005	LOCKNUT, 5/16-18 UNC HEX	6
47	011709-006	SCREW, #10-24 UNC RD HD MACH X 3/4	2
48	011252-028	SCREW, 1/4-20 UNC HEX HD CAP X 3 1/2	1
49	-	PUMP, FUEL	REF
50	104396-016	CLAMP BLOCK	2
51	011252-020	SCREW, 1/4-20 UNC HEX HD CAP X 2 1/2	1
52	020331-000	FILTER, FUEL INLINE	1
53	020541-001	CLAMP, HOSE	3
54	-	FUEL LINE	REF

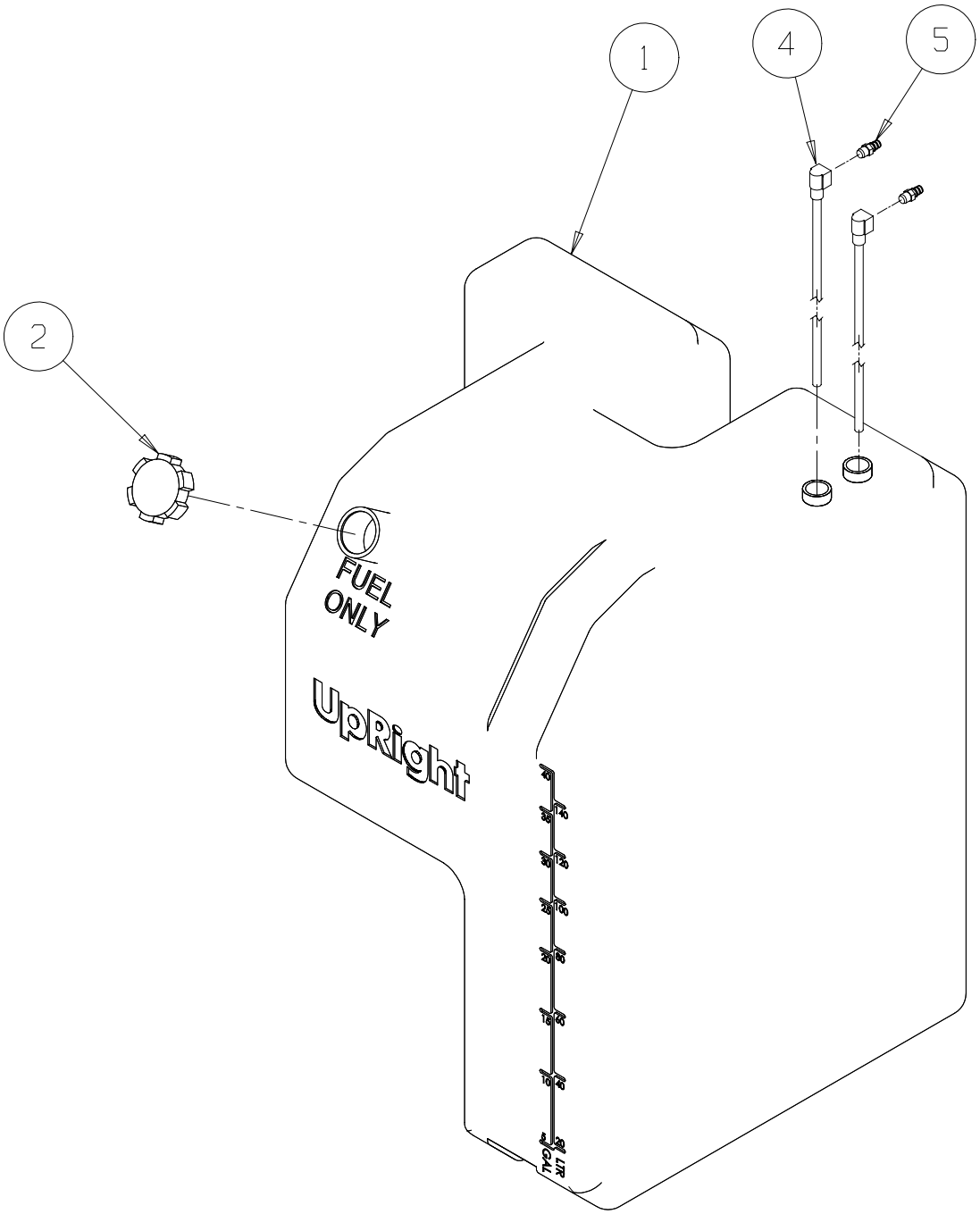

NOTE:
1 ITEM 54 AND ITEM 49 SUPPLIED WITH 104366-000, GAS ENGINE, USED ON ENGINE MODULE ASSEMBLY 104014-000.
6 FT
TO INLINE FILTER (ITEM 54)
FUEL ONLY
Upright
2 FT
TO FUEL TANK

Fuel Tank Assembly

104024-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104337-000	FUEL TANK	1
2	068982-002	FILLER CAP	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
4	104456-000	WITHDRAWL TUBE WELDMENT	2
5	010178-005	FITTING, BARBED 1/4	2

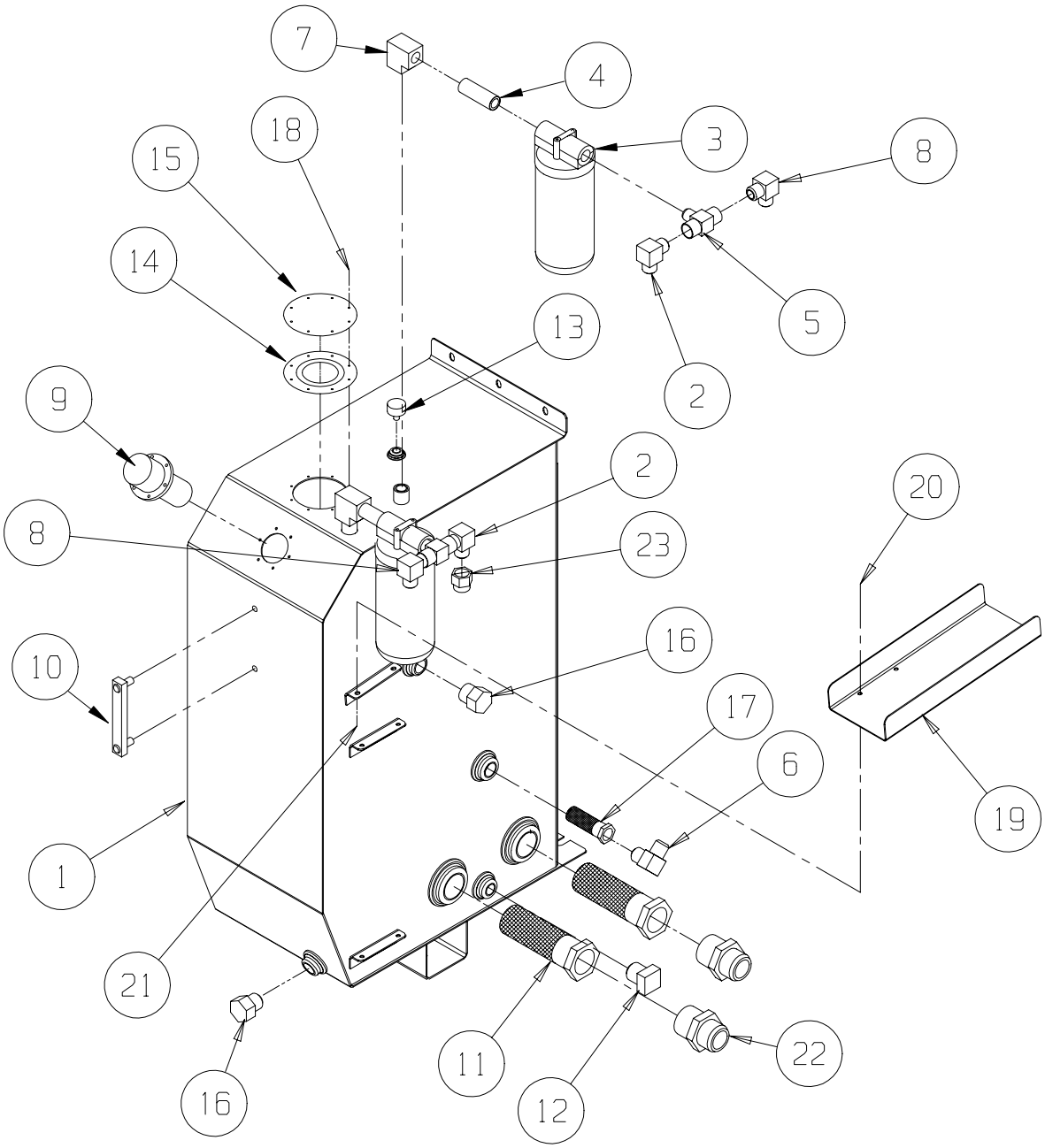


Hydraulic Tank Assembly

104025-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104265-000	HYDRAULIC TANK	1
2	011940-018	FITTING, ELBOW 12 MP-8MJ 90°	3
3	100285-000	FILTER	2
*	100285-010	FILTER ELEMENT	1
4	012467-006	PIPE NIPPLE 3/4 NPT X 3 LG	2
5	014902-005	FITTING, TEE 12MP-12FP	2
6	011940-034	FITTING, ELBOW 12MP-6MJ 90°	1
7	011916-008	FITTING, ELBOW 12FP-12FP	2
8	011940-020	FITTING, ELBOW 12MP-12MJ 90°	2
9	068840-000	BREATHER, FILLER	1
10	100287-000	GAUGE, FLUID LEVEL	1
11	100286-001	SUCTION STRAINER	2
12	100288-000	PLUG, MAGNETIC	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
13	068711-000	BREATHER, TANK	1
14	104318-000	ACCESS COVER GASKET	1
15	104317-000	ACCESS COVER	1
16	011919-006	PLUG, 12MP	1
17	061818-000	STRAINER	1
18	026526-004	SCREW, #10 TYPE AB SELF TAP SLOTTED X 1/2	8
19	104414-000	SHIELD, OIL DRIP	1
20	011253-008	SCREW, 5/16-18 UNC HEX HD CAP X 1	2
21	011248-005	LOCKNUT, 5/16-18 UNC HEX	2
22	011939-029	FITTING, STR 20MP-16MJ	2
23	020343-008	FITTING, PLUG 8FJ	1

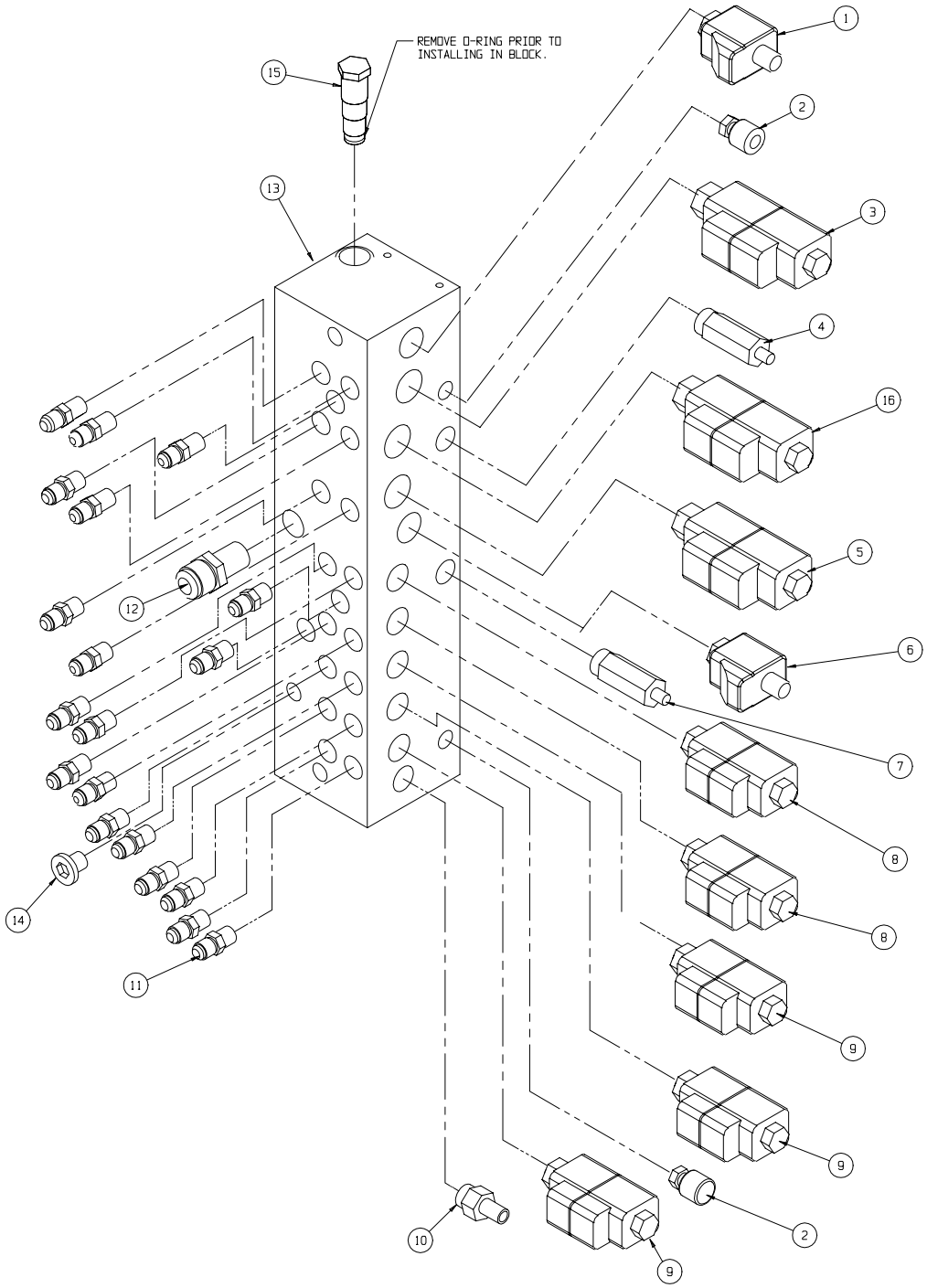


Valve Block Assembly

104033-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104354-000	SOLENOID SPOOL VALVE	1
2	063965-001	PLUG, GAGE PORT	2
3	068683-000	3 POS 4-WAY VALVE	1
4	060390-018	RELEIF VALVE	1
5	104355-000	3 POS 4-WAY VALVE	1
6	104353-000	SOLENOID SPOOL VALVE	1
7	104357-000	RELIEF VALVE	1
8	104356-000	3 POS 4 WAY CLOSED CENTER VALVE 3/4	2
9	068684-000	3 POS 4-WAY CLOSED MOTOR SPOOL VALVE 3/4	3

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
10	104370-000	VALVE, FLOW CONTROL	1
11	011941-005	FITTING, STRAIGHT 6MB- 6MJ	19
12	011939-021	FITTING, STRAIGHT 12MP-12MJ	1
13	104251-000	VALVE BLOCK SUB ASSEMBLY	1
14	012004-004	PLUG, #4 SAE	1
15	068558-000	VALVE, DIVERTER	1
16	104377-000	3 POS 4-WAY MOTOR SPOOL VALVE	1

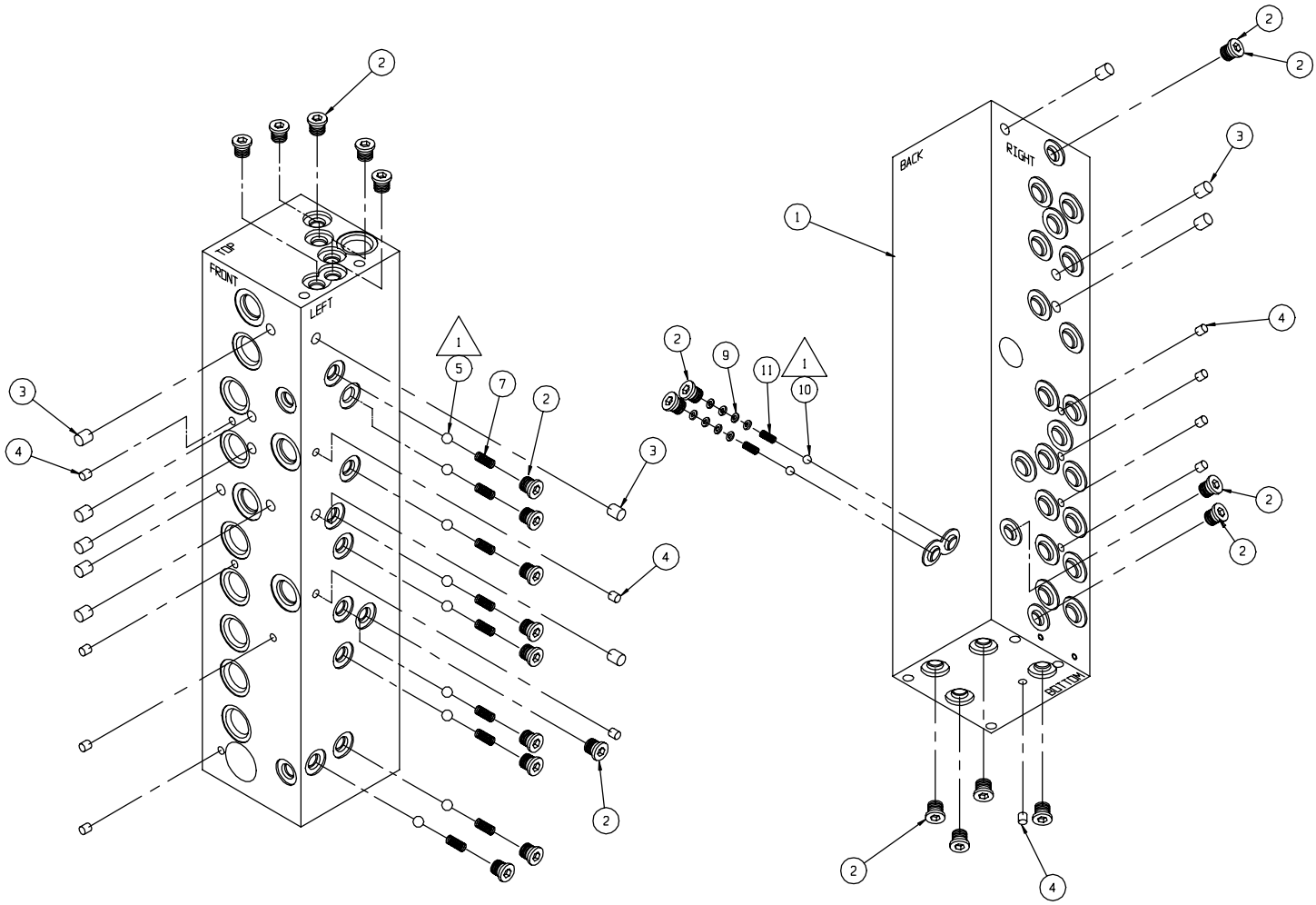


Valve Block Sub-Assembly

104251-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104250-000	VALVE BLOCK	1
2	012004-004	PLUG, #4 S.A.E.	24
3	063977-001	PLUG, KOENIG 9MM (MB-800-090)	10
4	063977-010	PLUG, KOENIG 1/4"	11
5	05135-000	STEEL BALL 5/16" DIA.	9

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
7	013987-009	SPRING, Ø 1/4 X 19/32 LG.	9
9	011240-001	WASHER FLAT #6 STD	12
10	061827-006	STEEL BALL 3/16" DIA	2
11	104496-000	SPRING, COMP.	2

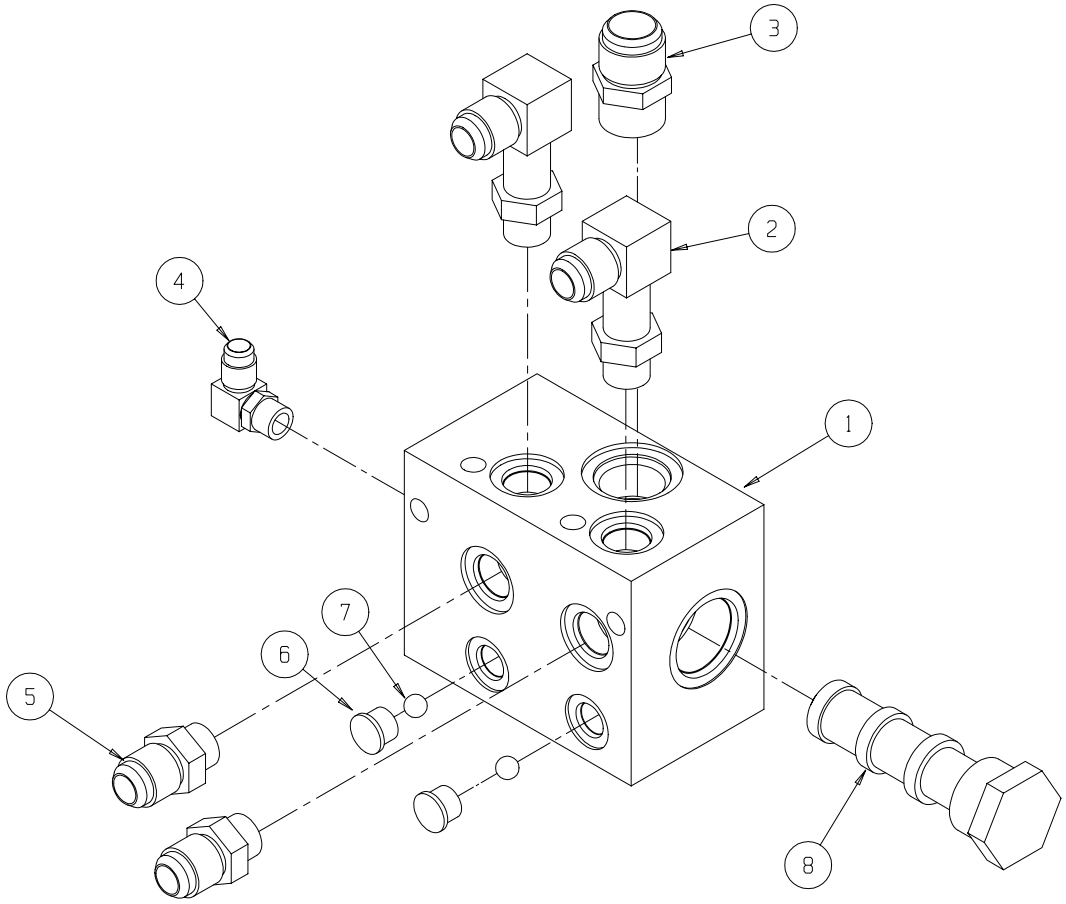


Drive Block Assembly

104035-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104253-000	VALVE BLOCK, DRIVE	1
2	015736-004	FITTING, ELBOW 8MB-10MJ EXTENDED 90°	2
3	011941-020	FITTING, STR 12MB-12MJ	1
4	011934-004	FITTING, ELBOW 6MB-6MJ 90°	1
5	011941-011	FITTING, STR 8MB-10MJ	2

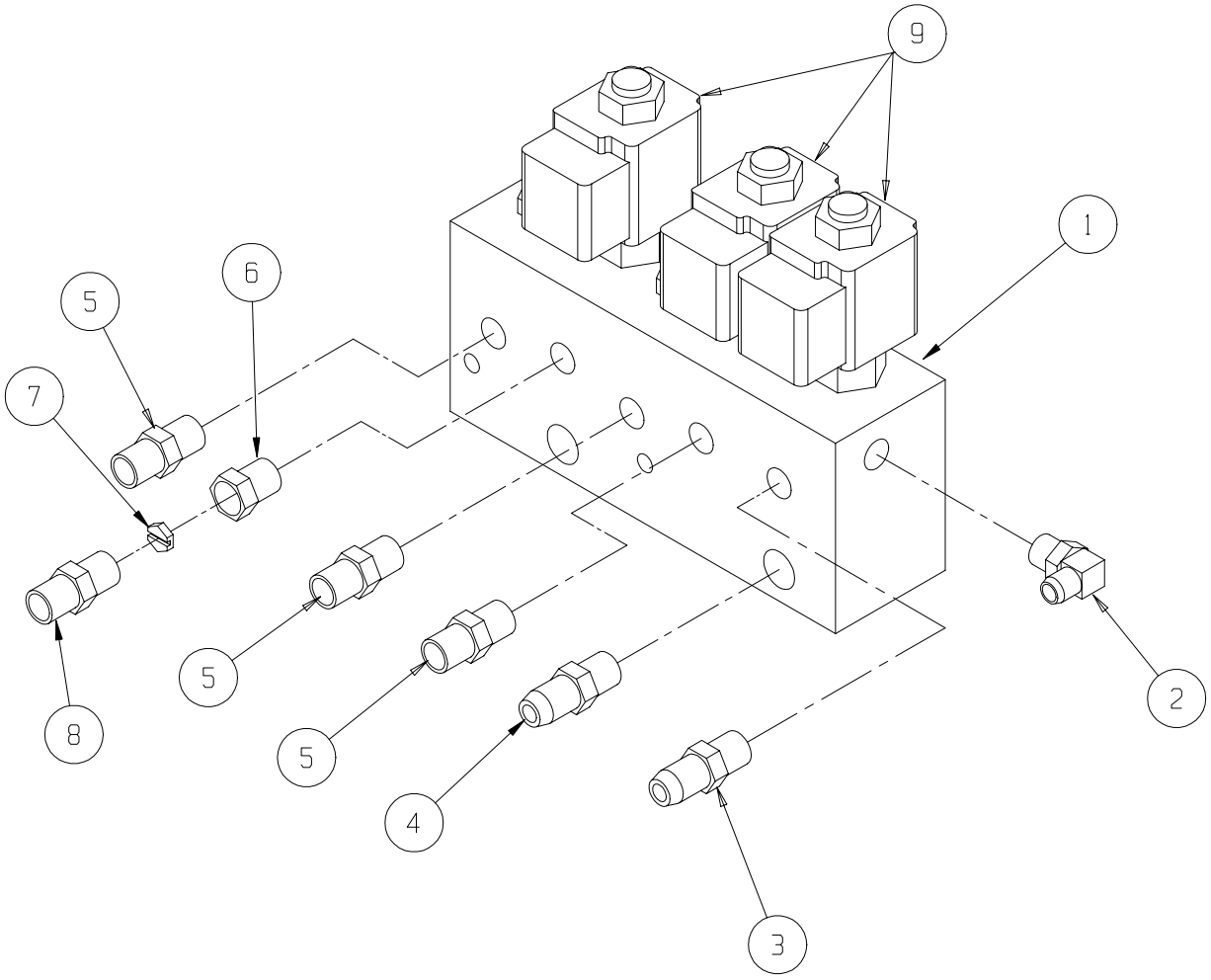
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
6	020021-006	PLUG, 6MB	2
7	061827-003	BALL, 3/8	2
8	102292-002	VALVE, FLOW DIVIDER	1



Valve Block Assembly, Two Speed/Brake/Axle Lock

104036-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	100258-001	VALVE BLOCK, BRAKE, AXLE LOCK, 2-SPEED	1
2	011934-026	FITTING, ELBOW 90° 4MB-6MJ	1
3	011941-001	FITTING, STR., ADAPTER, 4MB-4MJ	1
4	011941-004	FITTING, STR., ADAPTER, 6MB-4MJ	1
5	100432-002	FITTING, STR., ADAPTER, 4MFFOR-4MB	3
6	015717-015	FITTING, STR., ADAPTER, 6FB-4MB	1
7	015919-002	ORIFICE, #815	1
8	100432-004	FITTING, STR, ADAPTER, 4MFFOR-6MB	1
9	100258-005	SOLENOID	3

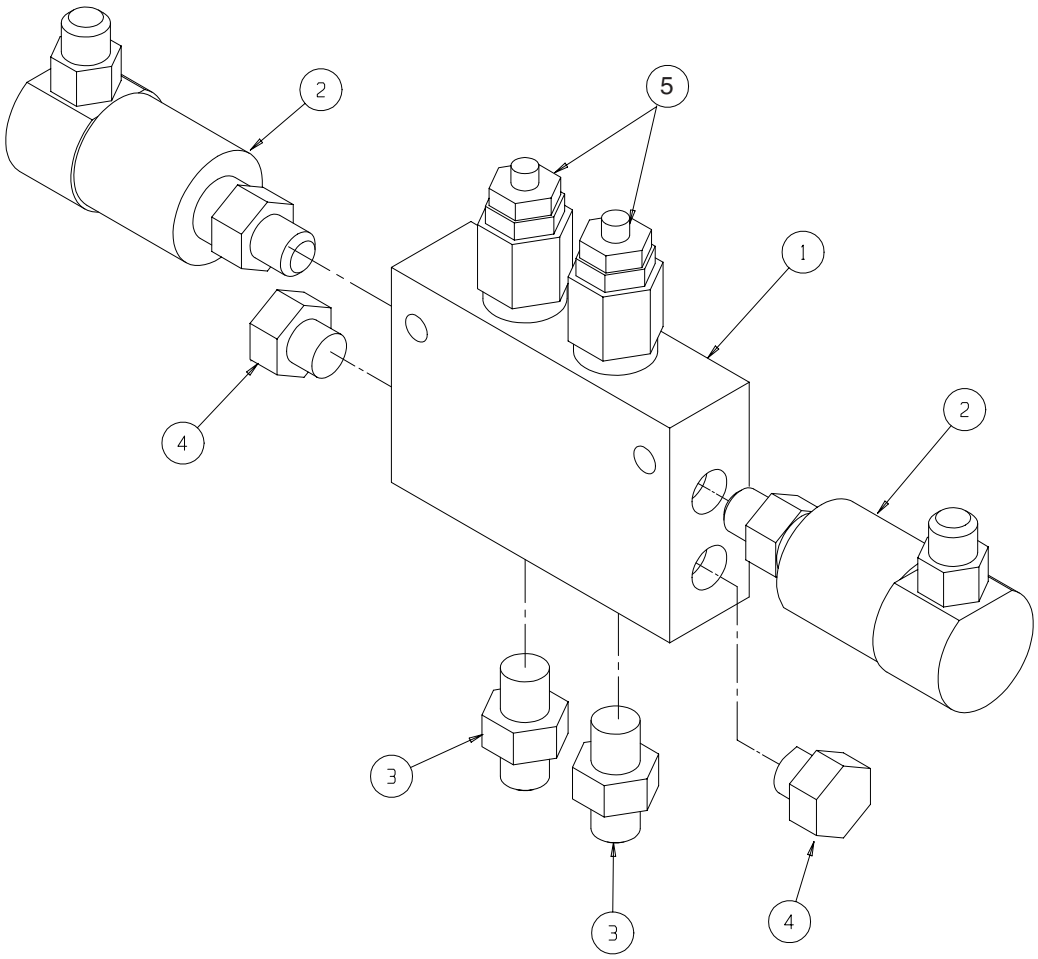


NOTE: ORIENT ITEM 7, 015919-002 ORIFICE WITH SLOT AWAY FROM VALVE BLOCK AND TOWARD ITEM 8, 100432-004.

Cage Rotate Valve Block Assembly

104034-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	100269-000	VALVE BLOCK - STERLING	1
2	104389-001	FITTING, ELBOW MB4-MJ4 90° SWIVEL	2
3	011941-001	FITTING, STRAIGHT MB4-MJ4	2
4	012004-004	FITTING, PLUG SAE #4	2
5	068778-015	COUNTERBALANCE VALVE	2

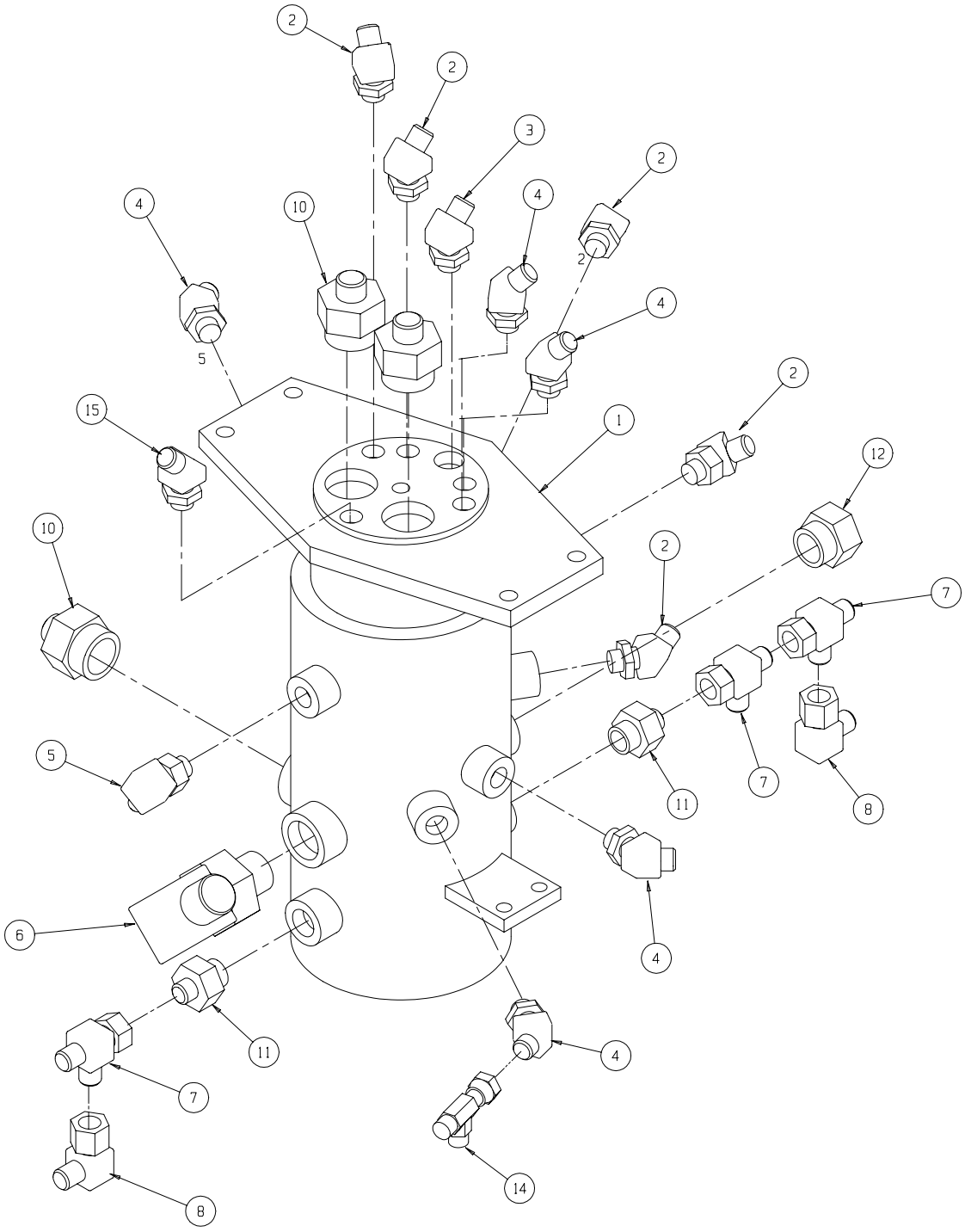


Rotary Manifold Assembly

104026-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	100558-000	ROTARY MANIFOLD	1
*	100558-010	SEAL KIT, ROTARY MANIFOLD	1
2	011935-003	FITTING, ELBOW 45° 6MB-6MJ	5
3	011935-004	FITTING, ELBOW 45° 8MB-8MJ	1
4	100433-002	FITTING, ELBOW 45° 4MFFOR-6MB	5
5	011934-003	FITTING, ELBOW 90° 6MB-4MJ	1
6	011934-015	FITTING, ELBOW 12MB-12MJ	1
7	020733-002	FITTING, TEE 6FJ-6MJ	3

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
8	011937-003	FITTING, ELBOW 6FJ-6MJ	2
10	011941-027	FITTING, STRAIGHT 16MB-12MJ	3
11	011941-009	FITTING, STRAIGHT 8MB-6MJ	2
12	020021-012	FITTING, PLUG MB12	1
14	100448-001	FITTING, TEE 4FFOR-4MFOR	1
15	011935-013	FITTING, ELBOW 45° 6MB-4MJ	1

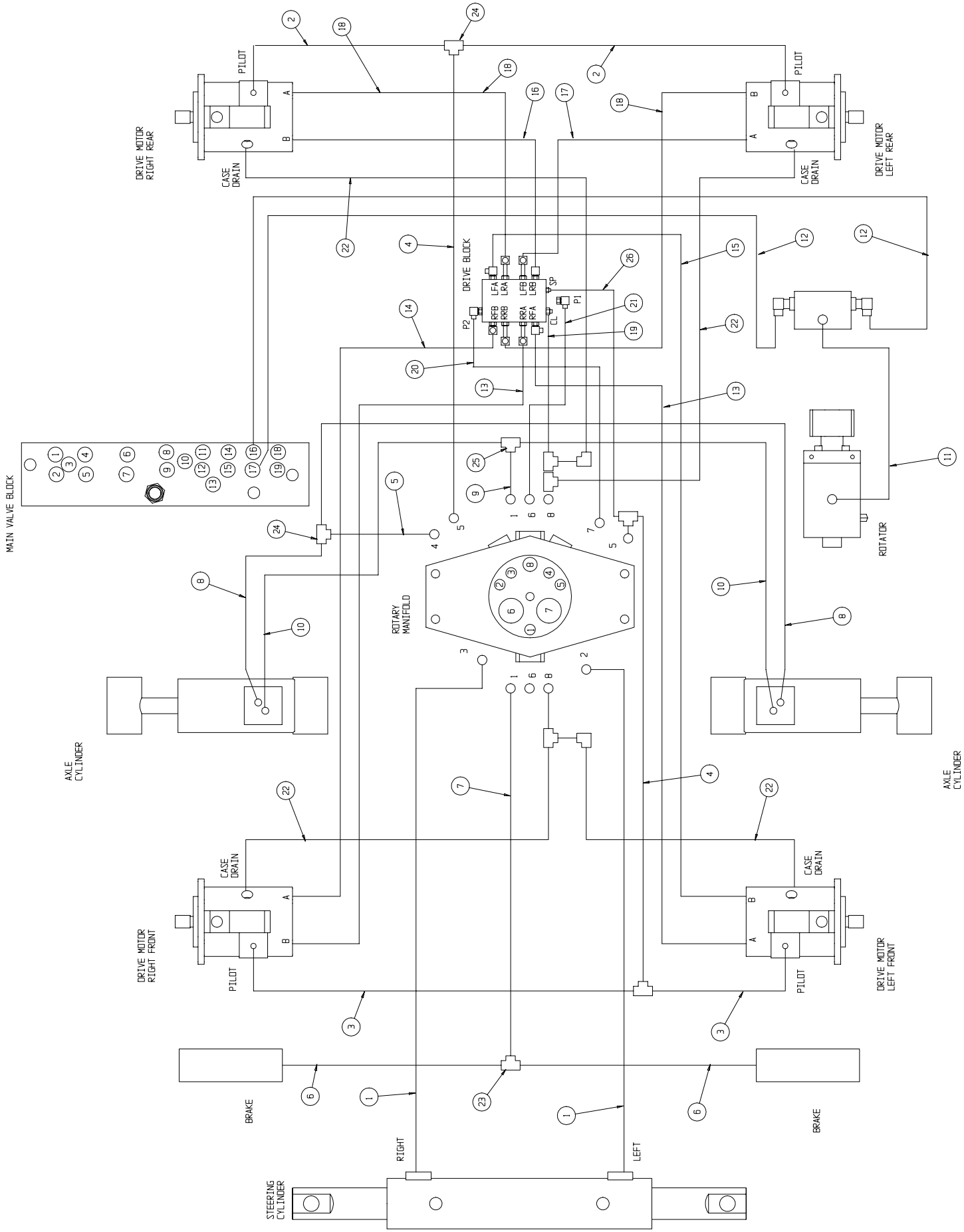


Hose Kit Installation - Chassis/Turret/Linkage

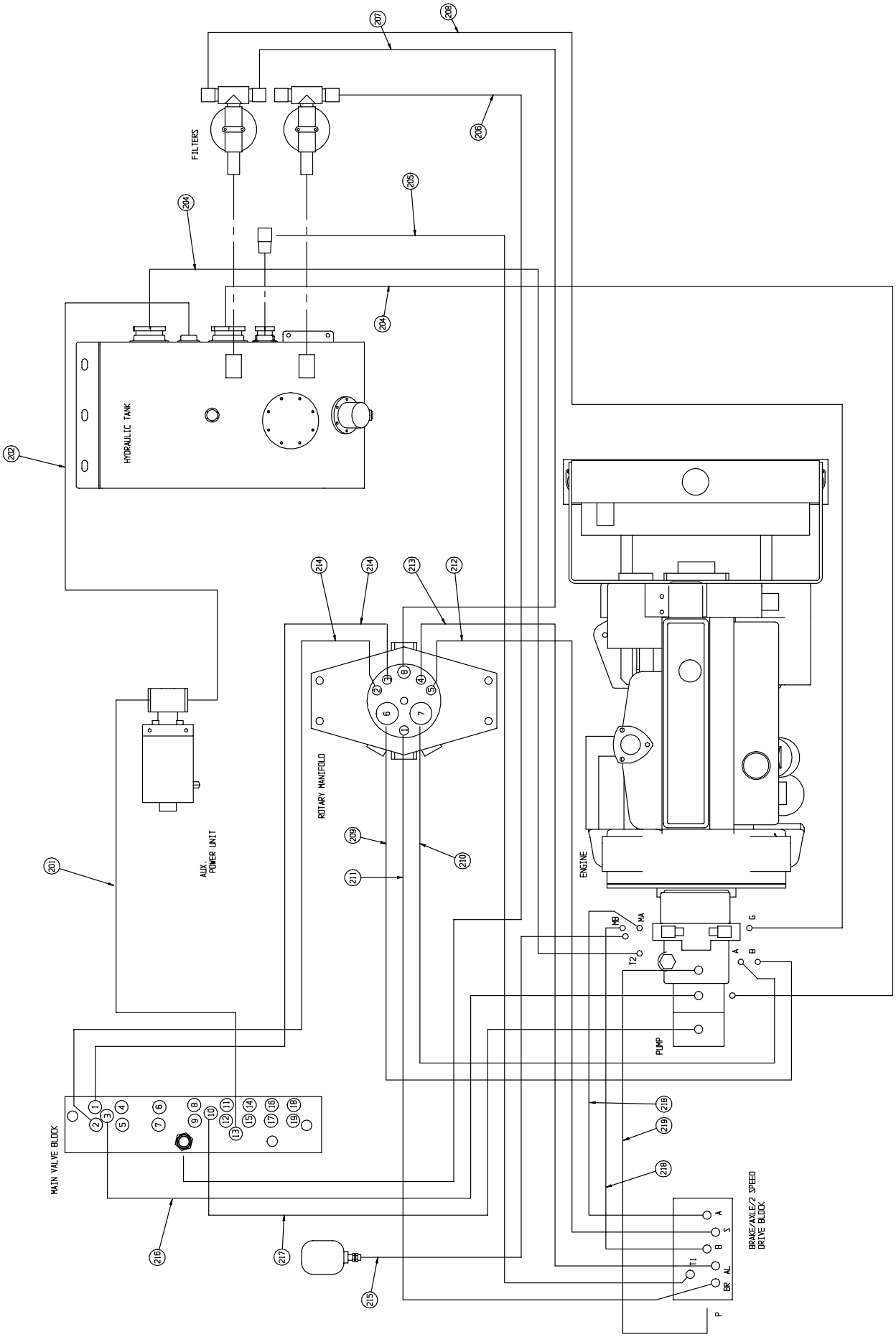
104046-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	062192-083	1/4 HOSE ASSY X 83 4C7S 6FJX-6FJX	2
2	102403-040	1/4 HOSE ASSY X 40 4M3K 4FFORX-4FFORX	2
3	102403-034	1/4 HOSE ASSY X 34 4M3K 4FFORX-4FFORX	2
4	102403-057	1/4 HOSE ASSY X 57 4M3K 4FFORX-4FFORX	2
5	100424-059	1/4 HOSE ASSY X 59 4M2T 4FFORX-4FFORX	1
6	068737-038	1/4 HOSE ASSY X 38 4C7S 4FJX-4FJX	2
7	068737-073	1/4 HOSE ASSY X 73 4C7S 4FJX-4FJX	1
8	100424-040	1/4 HOSE ASSY X 40 4M2T 4FFORX-4FFORX	2
9	063469-055	3/8 HOSE ASSY X 55 6C7S 6FJX-6FJX	1
10	063469-042	3/8 HOSE ASSY X 42 6C7S 6FJX-6FJX	2
11	063469-017	3/8 HOSE ASSY X 17 6C7S 6FJX-6FJX	1
12	062192-094	1/4 HOSE ASSY X 94 4C7S 6FJX-6FJX	2
13	068963-084	5/8 HOSE ASSY X 84 10C13 10FJX-10FJX	2
14	068963-082	5/8 HOSE ASSY X 82 10C13 10FJX-10FJX	1
15	068963-090	5/8 HOSE ASSY X 90 10C13 10FJX-10FJX	1
16	068963-099	5/8 HOSE ASSY X 99 10C13 10FJX-10FJX	1
17	068963-095	5/8 HOSE ASSY X 95 10C13 10FJX-10FJX	1
18	068963-109	5/8 HOSE ASSY X 109 10C13 10FJX-10FJX	2
19	063469-017	3/8 HOSE ASSY X 17 6C7S 6FJX-6FJX	1
20	102421-029	3/4 HOSE ASSY X 29 12C13 12FJX-12FJX90°	1
21	102421-038	3/4 HOSE ASSY X 38 12C13 12FJX-12FJX90°	1
22	063469-092	3/8 HOSE ASSY X 92 6C7S 6FJX-6FJX	4
23	020032-001	FITTING, TEE 4FJX-4FJX	REF
24	100436-001	FITTING, TEE 4FFORX-4FFORX	REF
25	020032-003	FITTING, TEE 6FJX-6FJX	REF
26	100424-032	1/4 HOSE ASSY X 32 4M2T 4FFORX-4FFORX	1

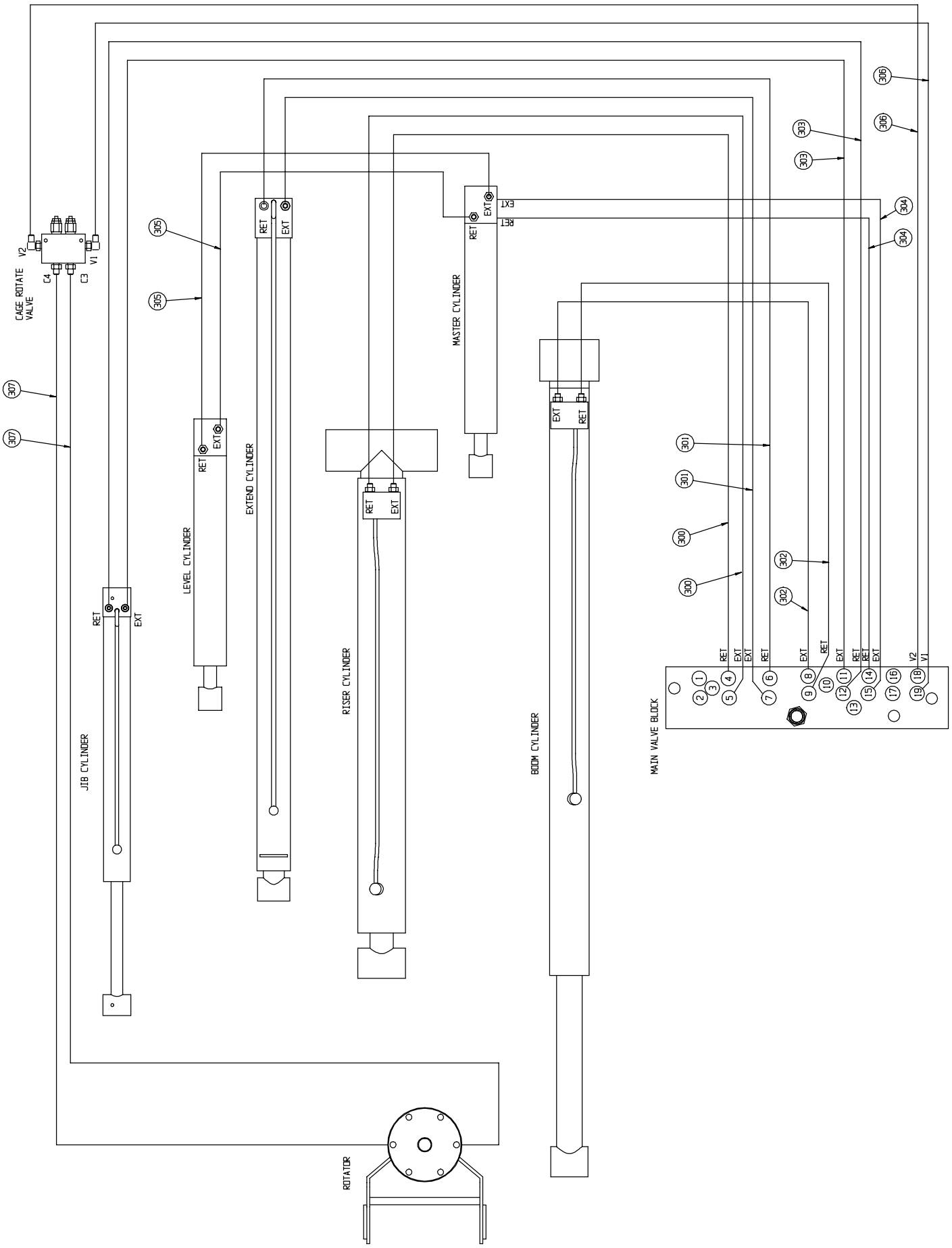
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
201	063469-032	3/8 HOSE ASSY X 32 6C7S 6FJX-6FJX	1
202	104437-087	1/2 HOSE ASSY X 87 8M3K 6FJX-8FJX	1
204	068739-098	1 HOSE ASSY X 98 16C4 16FJX-16FJX	2
205	068763-121	1/4 HOSE ASSY X 121 4C7S 4FJX-6FJX	1
206	104458-099	3/4 HOSE ASSY X 99 12C1T 12FJX-12FJX	1
207	064156-151	1/2 HOSE ASSY X 151 8C7S 8FJX-8FJX	1
208	104458-137	3/4 HOSE ASSY X 137 12C1T 12FJX-12FJX90°	1
209	104436-059	3/4 HOSE ASSY X 59 12C13 12FJX90°-12FJX90°	1
210	104436-061	3/4 HOSE ASSY X 61 12C13 12FJX90°-12FJX90°	1
211	068737-056	1/4 HOSE ASSY X 56 4C7S 4FJX-4FJX	1
212	102404-066	1/4 HOSE ASSY X 66 4M2T 4FFORX-4FFORX90°S	1
213	100424-065	1/4 HOSE ASSY X 65 4M2T 4FFORX-4FFORX	1
214	062192-133	1/4 HOSE ASSY X 133 4C7S 6FJX-6FJX	2
215	064156-028	1/2 HOSE ASSY X 28 8C7S 8FJX-8FJX	1
216	068965-093	3/8 HOSE ASSY X 93 6M3K 6FJX-6FJX90°	1
217	068965-097	3/8 HOSE ASSY X 97 6M3K 6FJX-6FJX90°	1
218	100424-023	1/4 HOSE ASSY X 23 4M2T 4FFORX-4FFORX	2
219	062192-027	1/4 HOSE ASSY X 27 4C7S 6FJX-6FJX	1
300	104440-305	3/8 HOSE ASSY X 305 6M3K 6FJX-6FJX	2
301	068965-475	3/8 HOSE ASSY X 475 6M3K 6FJX-6FJX 90°	2
302	104440-449	3/8 HOSE ASSY X 449 6M3K 6FJX-6FJX	2
303	104508-848	1/4 HOSE ASSY X 848 4C7S 6FJX-6FJX 45°	2
304	062192-427	1/4 HOSE ASSY X 427 4C7S 6FJX-6FJX	2
305	102400-467	1/4 HOSE ASSY X 467 4M3K 4FF0RX4FF0RX 90°	2
306	068763-827	1/4 HOSE ASSY X 827 4C7S 4FJX-6FJX	2
307	062192-067	1/4 HOSE ASSY X 67 4C7S 4FJX-4FJX	2



Drawing # 1 of 3 Chassis



Drawing # 2 of 3 Turret



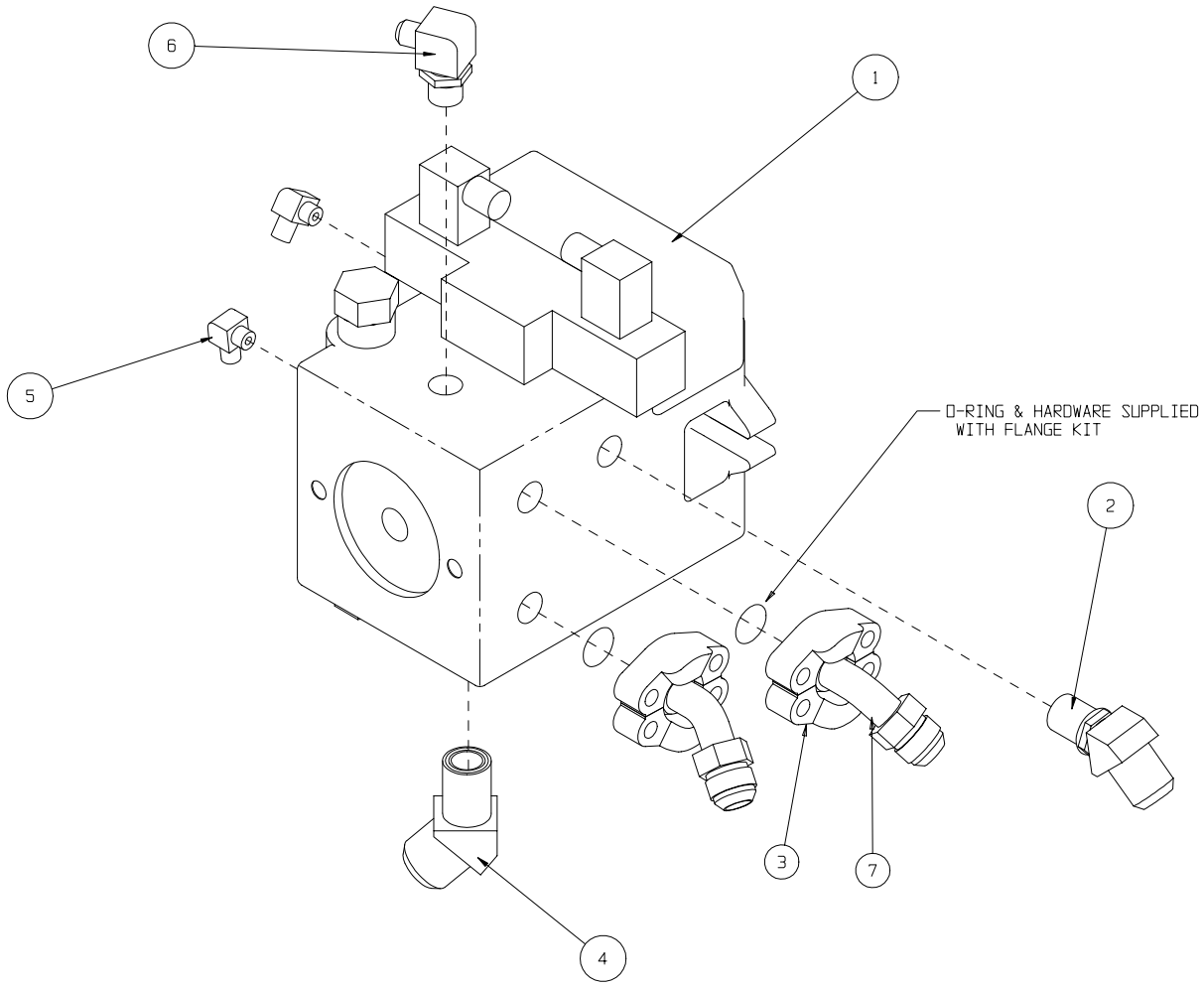
Drawing # 3 of 3 Linkage

Drive Pump Assembly

104029-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104361-000	PUMP, REXROTH	1
2	011935-016	FITTING, 45° 10MB-12MJ	1
3	068812-000	MANIFOLD FITTING KIT	2
4	100433-016	FITTING, 45° 12MFOR-16MJ	1

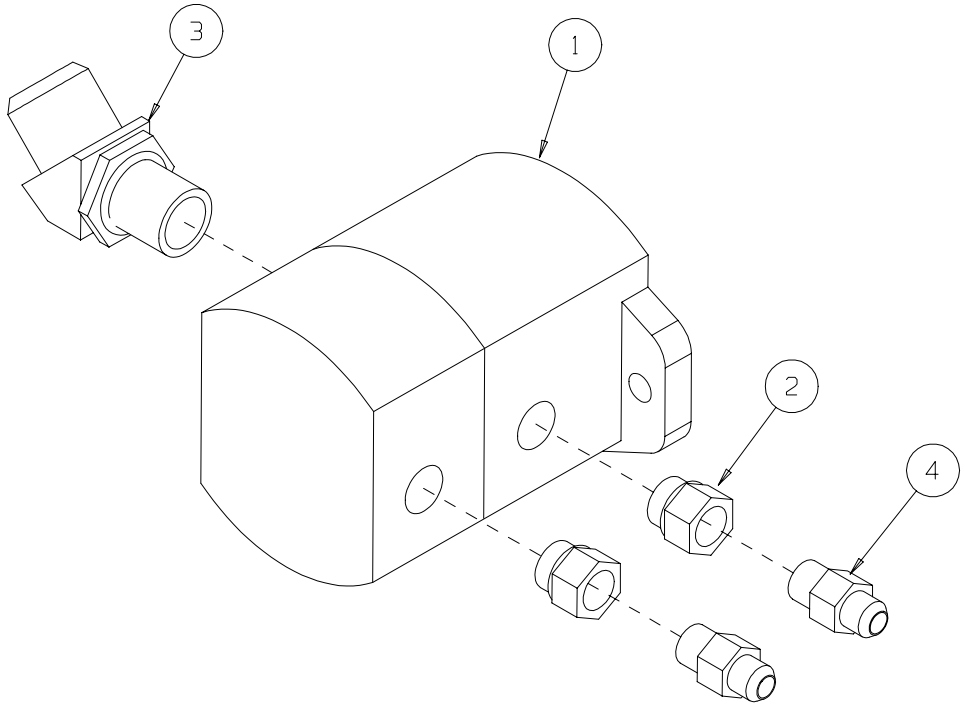
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
5	100434-002	FITTING, 90° 4MFOR-4MB	2
6	011934-007	FITTING, 90° 8MB-6MJ	1
7	104376-001	FITTING, 45° 12 FLANGE-12MJ CODE 62	2



Lift Pump Assembly

104027-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104360-000	PUMP	1
2	015717-002	FITTING, REDUCER. 8MB-6FB	2
3	011935-015	FITTING, 45° ADAPTER 12MB-16MJ	1
4	068779-000	VALVE, CHECK	2

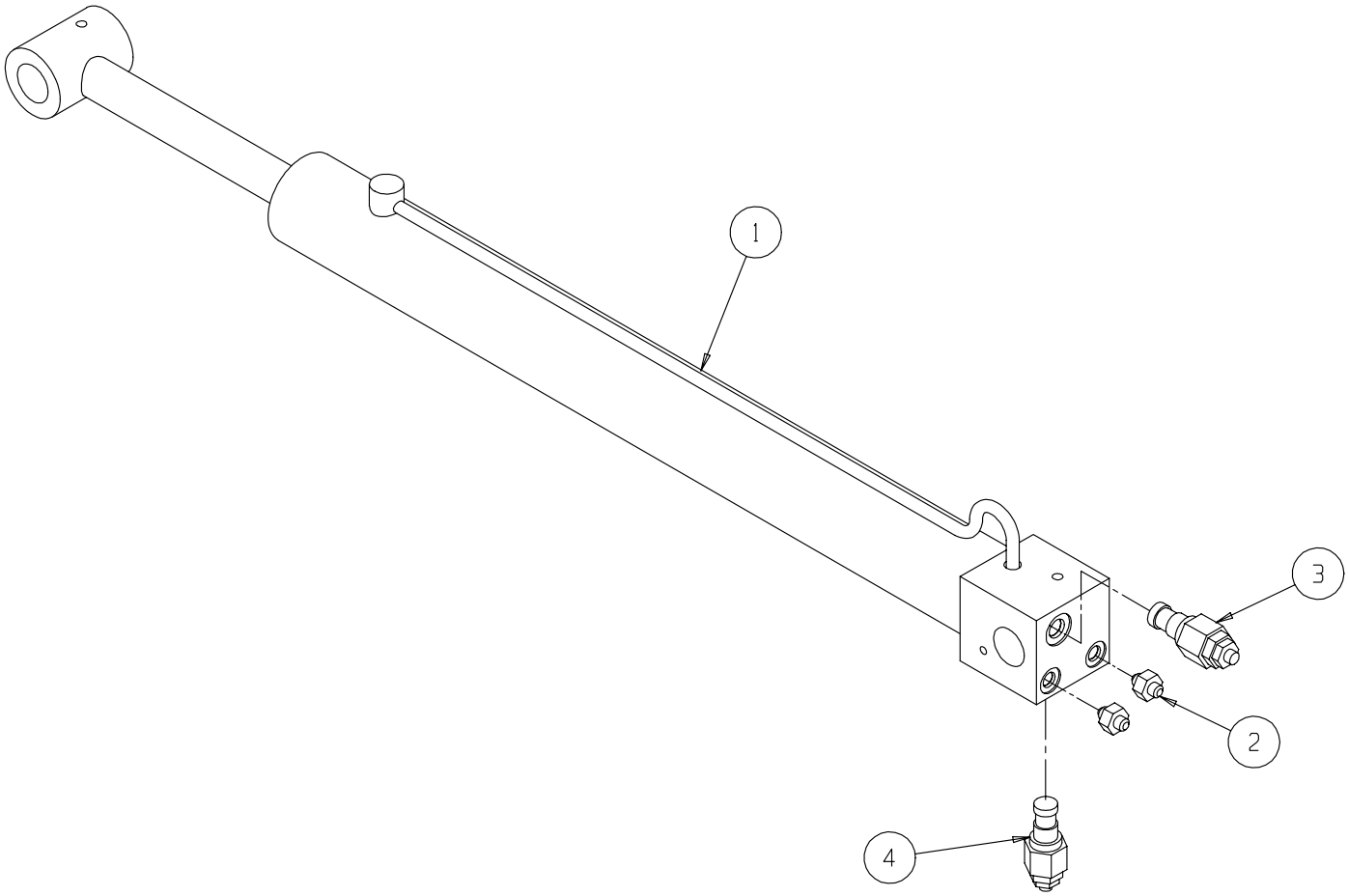


Jib Cylinder Assembly

104040-000 (S/N 1100-1110)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104257-000	JIB CYLINDER	1
*	104257-011	SEAL KIT, JIB CYLINDER	1
2	011941-001	FITTING, STRAIGHT MB4-MJ4	2

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
3	060390-022	VALVE, RELIEF	1
4	068778-013	VALVE, COUNTERBALANCE	1

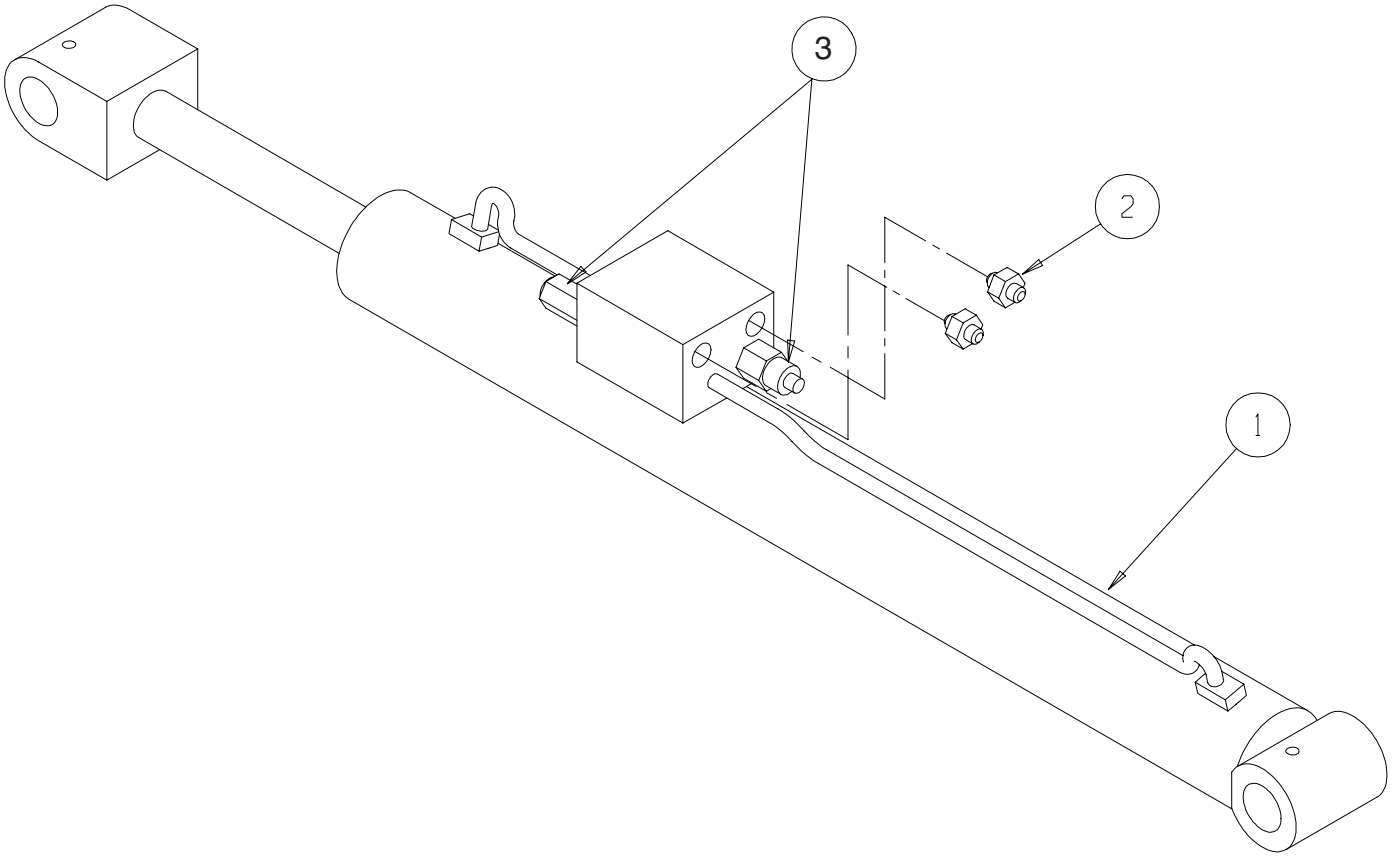


Jib Cylinder Assembly

104040-001 (S/N 1111- Current)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104257-001	JIB CYLINDER	1
*	104257-010	SEAL KIT, JIB CYLINDER	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
2	011941-002	FITTING, STRAIGHT MB4-MJ6	2
3	100555-015	COUNTERBALANCE VALVE	2

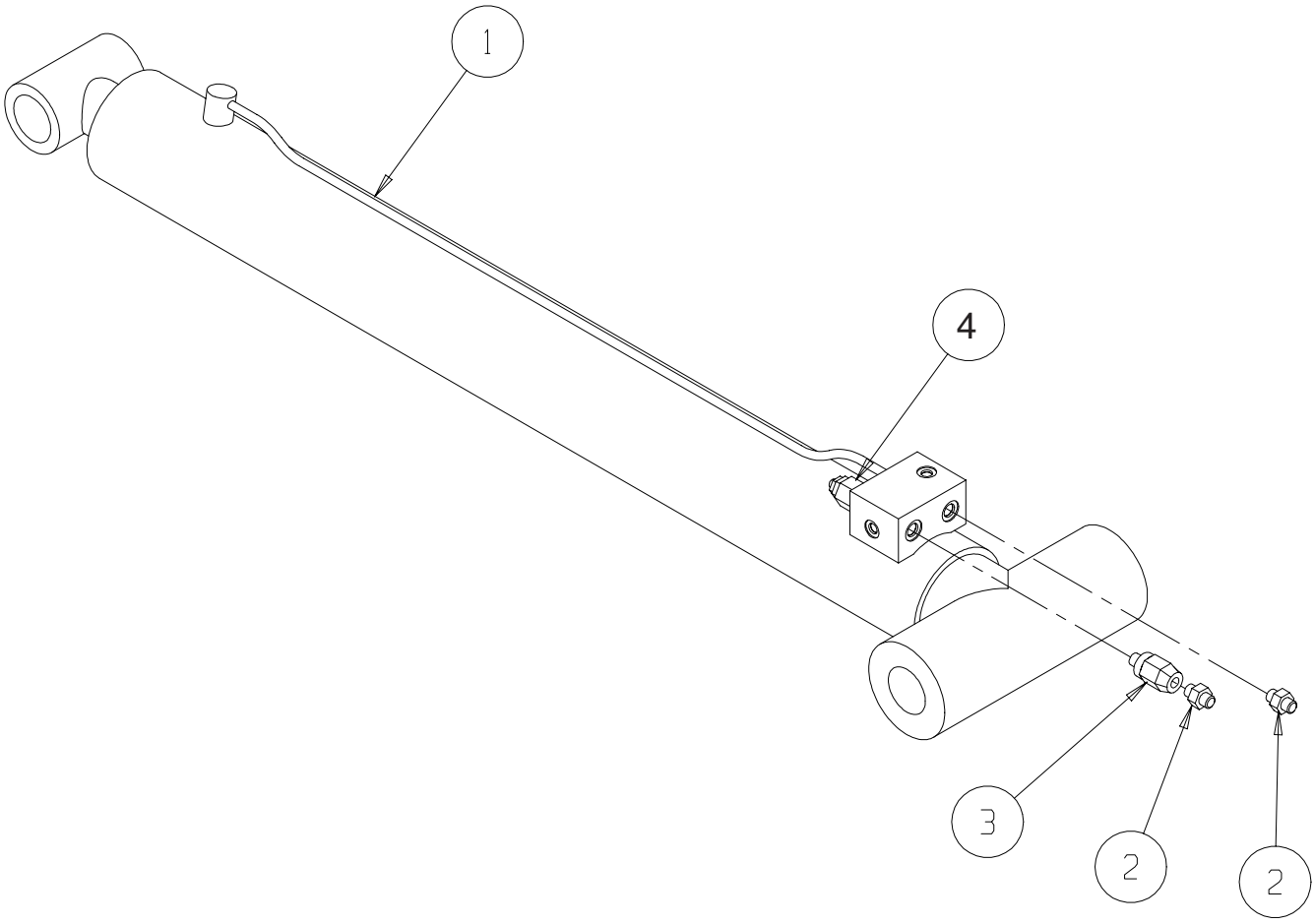


Riser Cylinder Assembly

104037-000 (S/N 1100 - 1108)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104260-000	RISER CYLINDER	1
*	104260-011	SEAL KIT, RISER CYLINDER	1
2	011941-005	FITTING, STRAIGHT MB6-MJ6	2

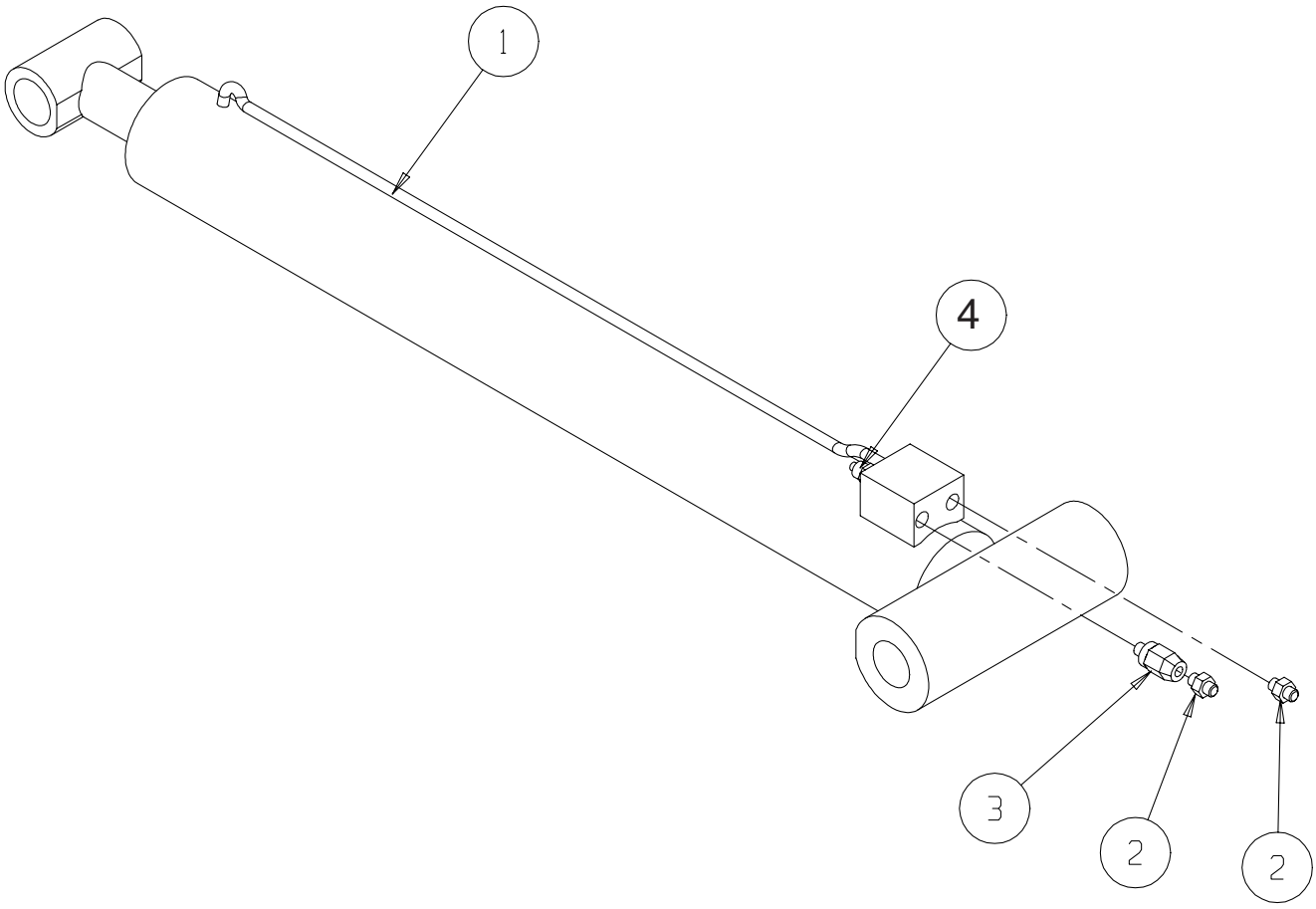
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
3	102477-008	ORIFICE ASSEMBLY	1
4	068778-013	COUNTERBALANCE VALVE	1



Riser Cylinder Assembly

104037-001 (S/N 1109 - Current)

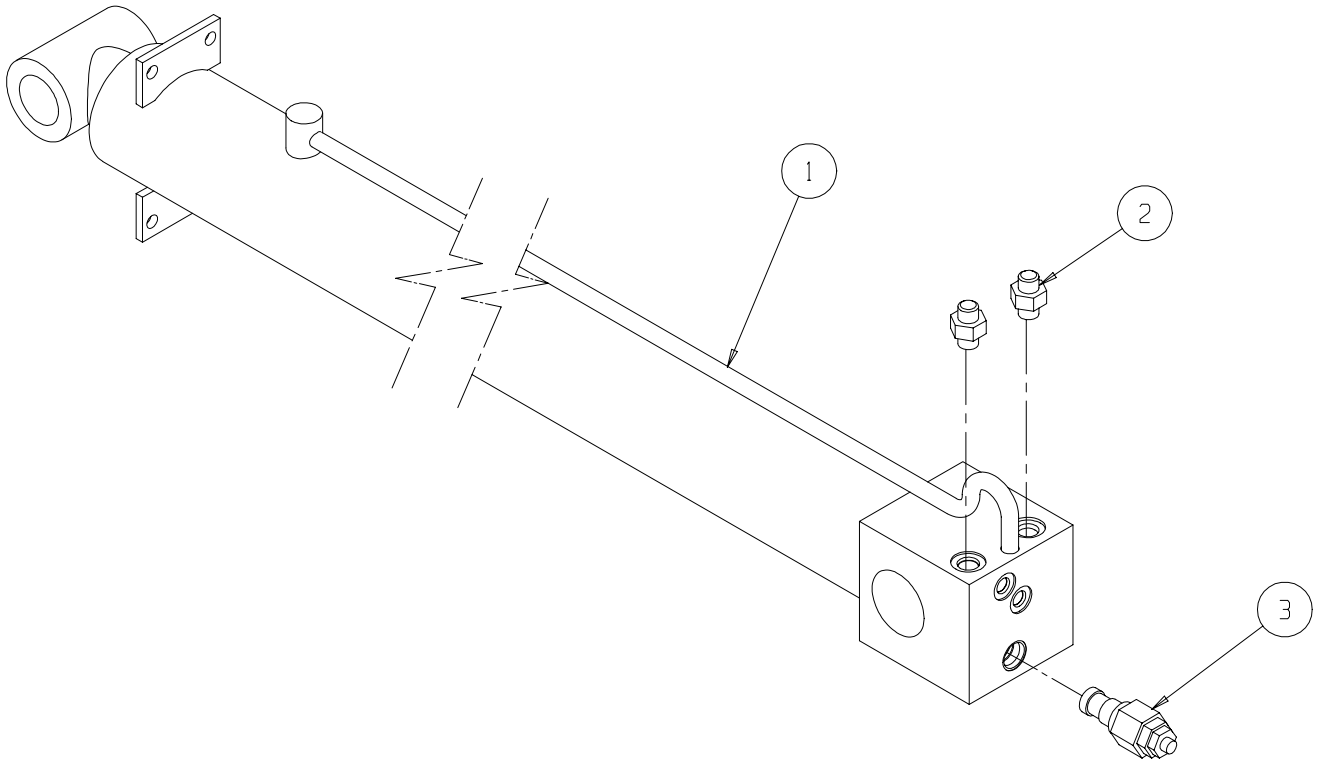
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104260-001	RISER CYLINDER	1
*	104260-010	SEAL KIT, RISER CYLINDER	1
2	011941-005	FITTING, STRAIGHT MB6-MJ6	2
3	102477-008	ORIFICE ASSEMBLY	1
4	100555-015	COUNTERBALANCE VALVE	1



Extend Cylinder Assembly

104038-001 (S/N 1100 - 1108)

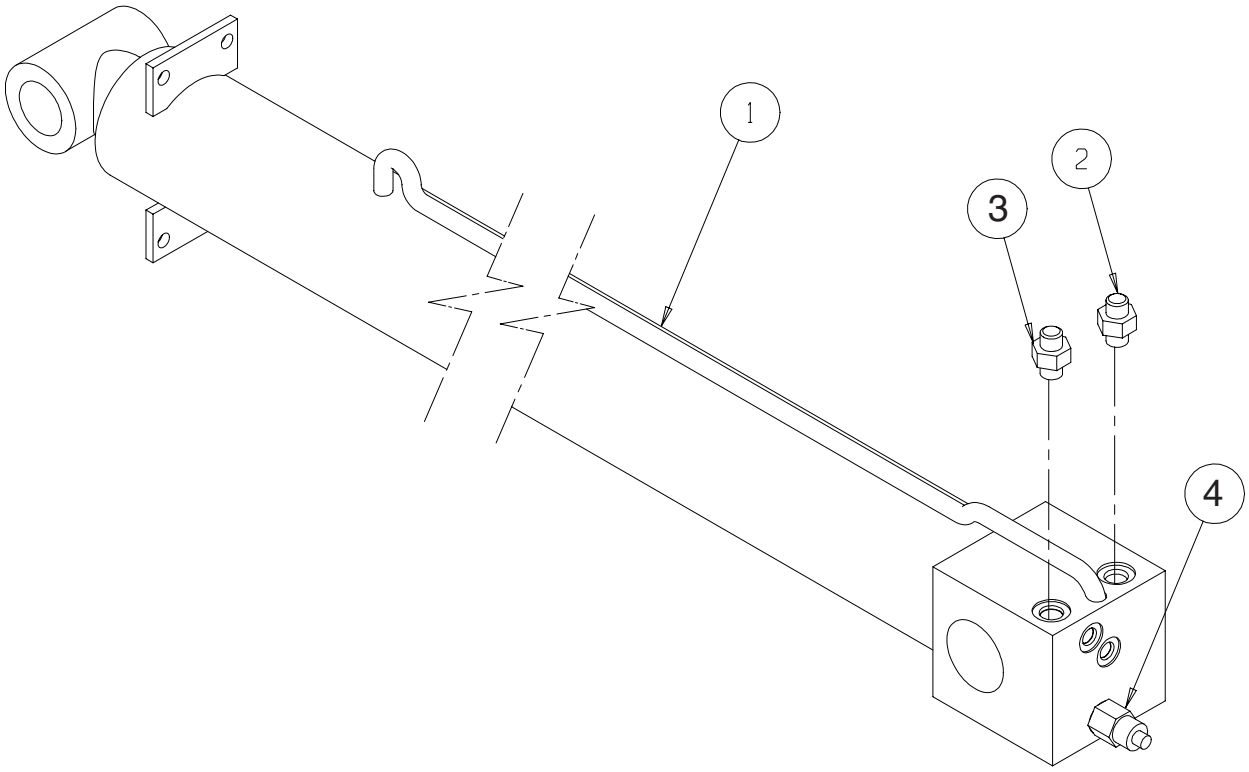
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104255-000	EXTEND CYLINDER	1
*	104255-011	SEAL KIT, EXTEND CYLINDER	1
2	011941-005	FITTING, STRAIGHT MB6-MJ6	2
3	068778-011	VALVE, COUNTERBALANCE	1



Extend Cylinder Assembly

104038-001 (S/N 1109 - Current)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104255-001	EXTEND CYLINDER	1
*	104255-010	SEAL KIT, EXTEND CYLINDER	1
2	011941-005	FITTING, STRAIGHT MB6-MJ6	1
3	011941-009	FITTING, STRAIGHT MB8-MJ6	1
4	100555-015	COUNTERBALANCE VALVE	1

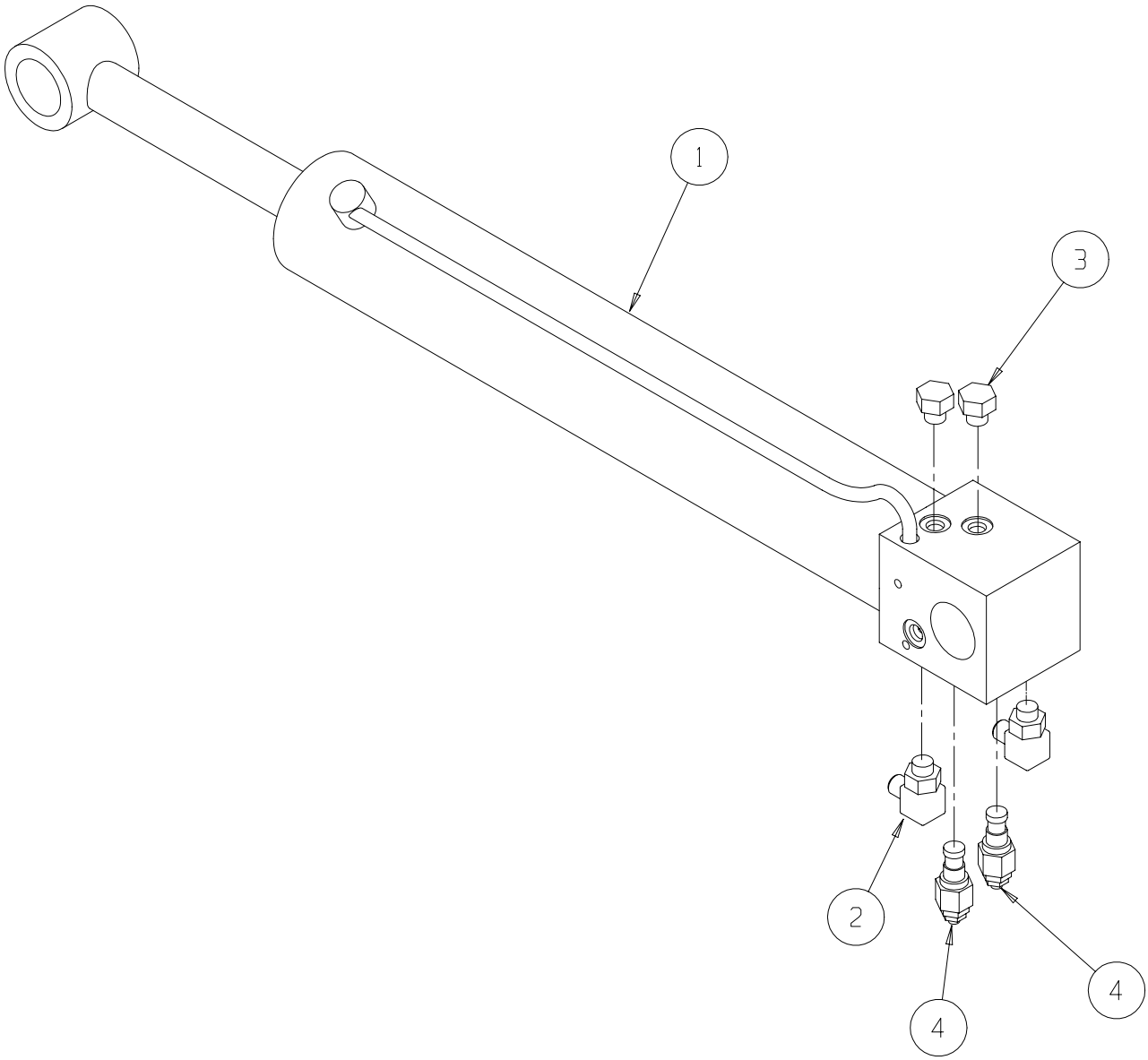


Level Cylinder Assembly

104041-000 (S/N 1100 - 1108)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104258-000	LEVEL CYLINDER	1
*	104258-011	SEAL KIT, LEVEL CYLINDER	1
2	100434-002	FITTING, ELBOW MB4-MFOR4 90°	2

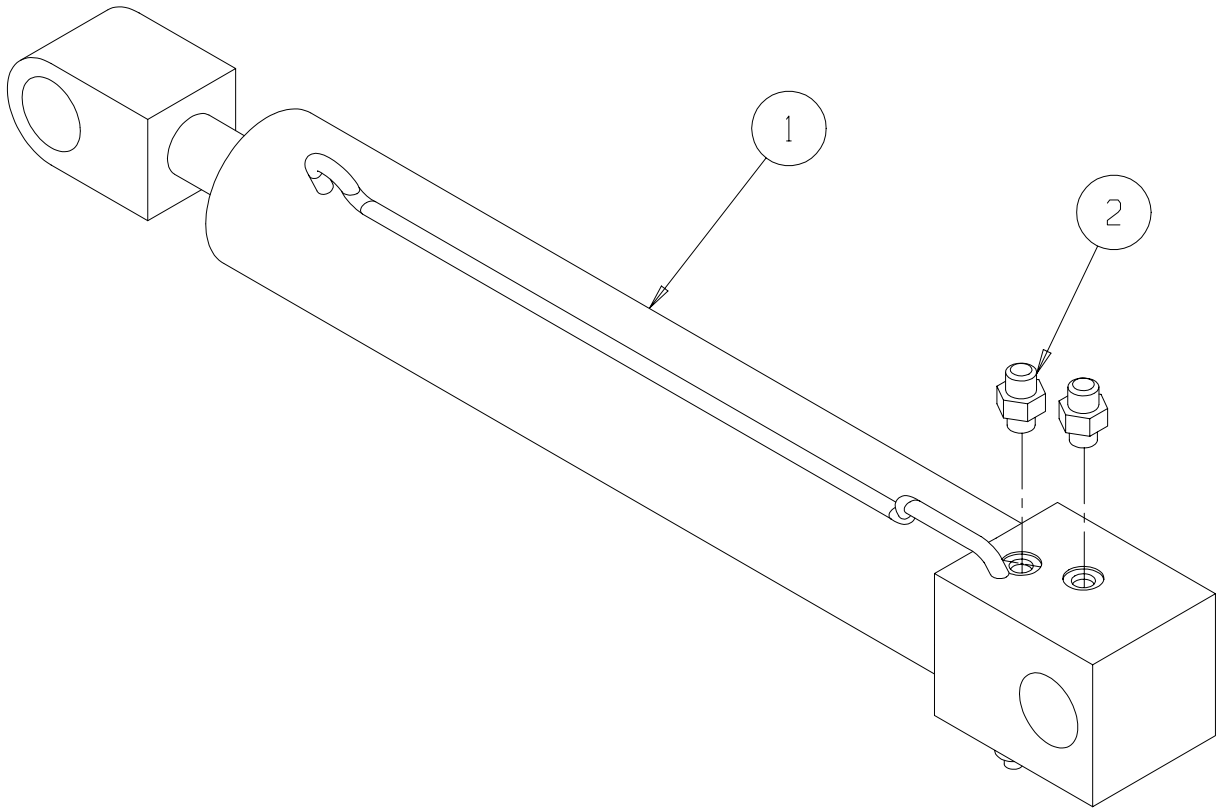
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
3	020021-004	PLUG, MB4	2
4	068778-013	VALVE, COUNTERBALANCE	2



Level Cylinder Assembly

104041-001 (S/N 1109 - Current)

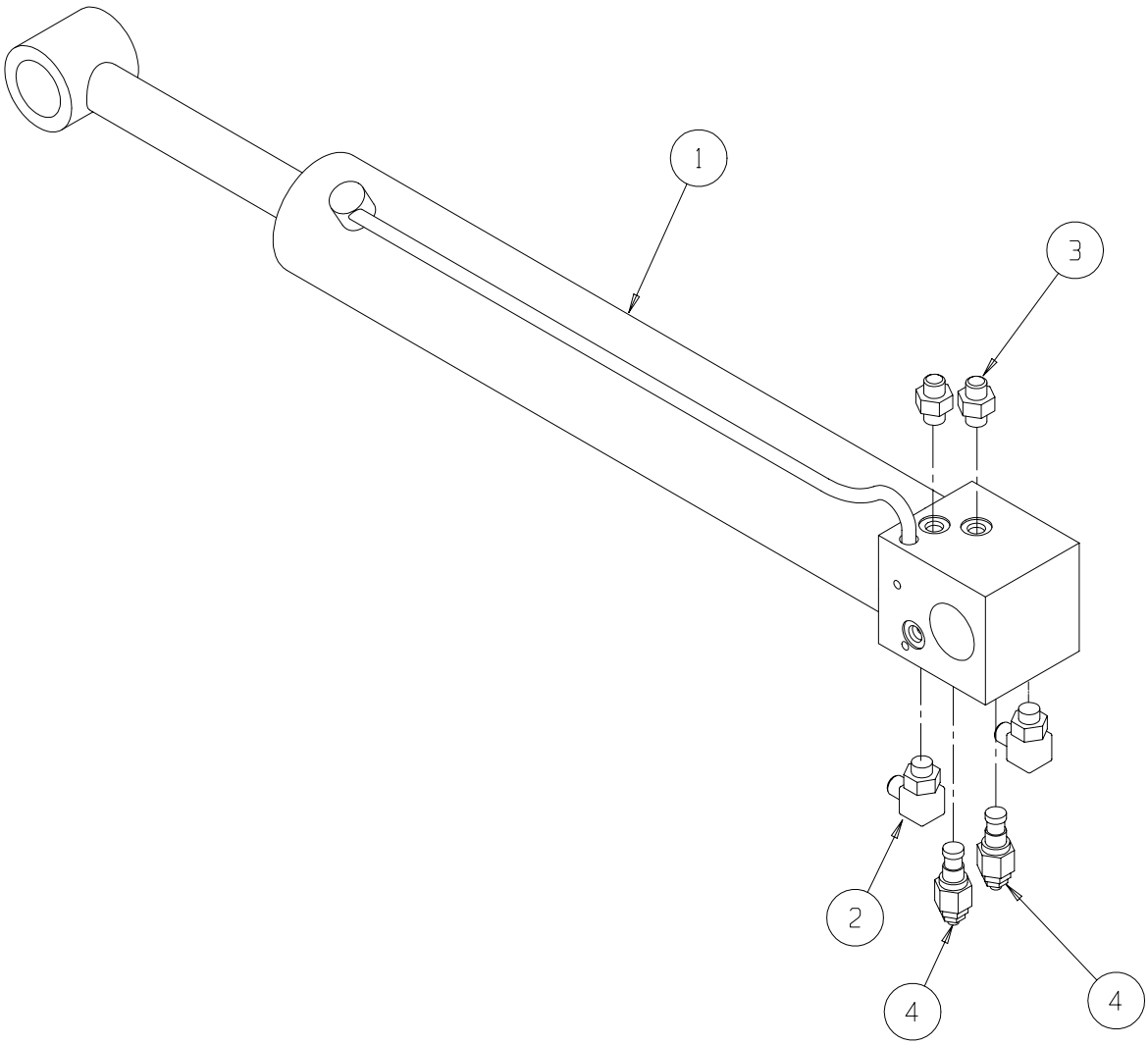
ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104258-001	LEVEL CYLINDER	1
*	104258-010	SEAL KIT, LEVEL CYLINDER	1
2	100434-002	FITTING, ELBOW MB4-MFOR4 90°	2



Master Cylinder Assembly

104042-000 (S/N 1100 - 1108)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104258-000	LEVEL CYLINDER	1
*	104258-011	SEAL KIT, LEVEL CYLINDER	
2	011934-026	FITTING, ELBOW MB4-MJ6 90°	2
3	100432-002	FITTING, STRAIGHT MB4-MFOR4	2
4	068778-013	VALVE, COUNTERBALANCE	2

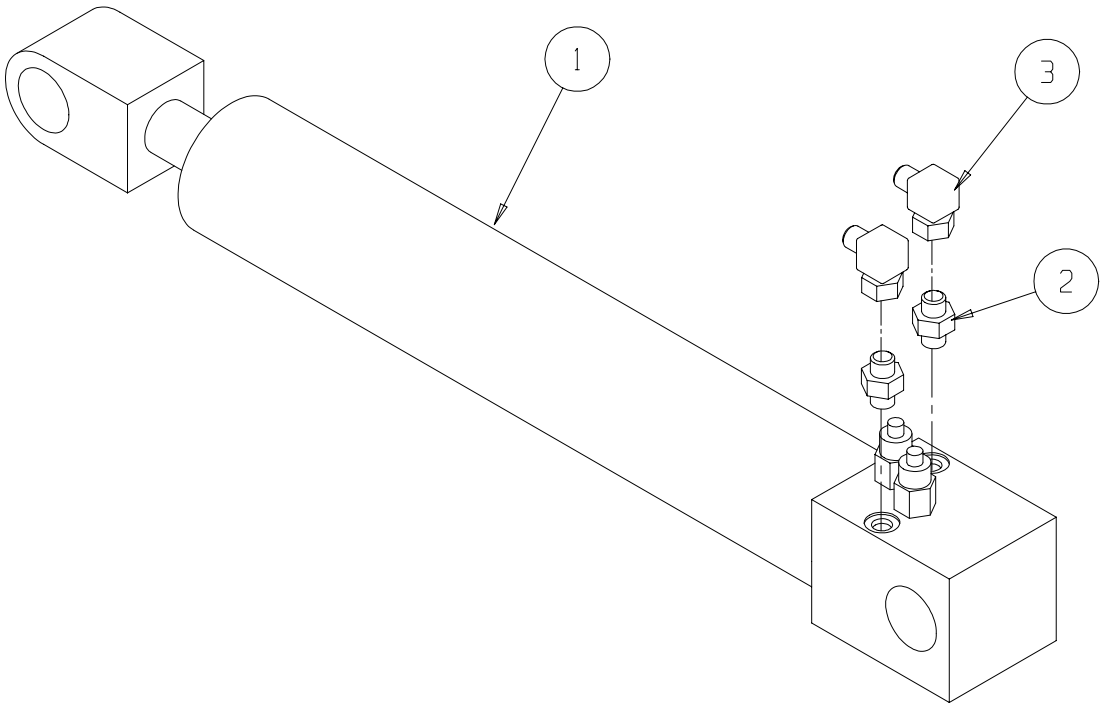


Master Cylinder Assembly

104042-001 (S/N 1109 - Current)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104258-001	LEVEL CYLINDER	1
*	104258-010	SEAL KIT, LEVEL CYLINDER	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
2	011941-002	FITTING, STRAIGHT 4MB-6MJ	2
3	011937-003	FITTING, ELBOW 6MB-6MJ 90°	2

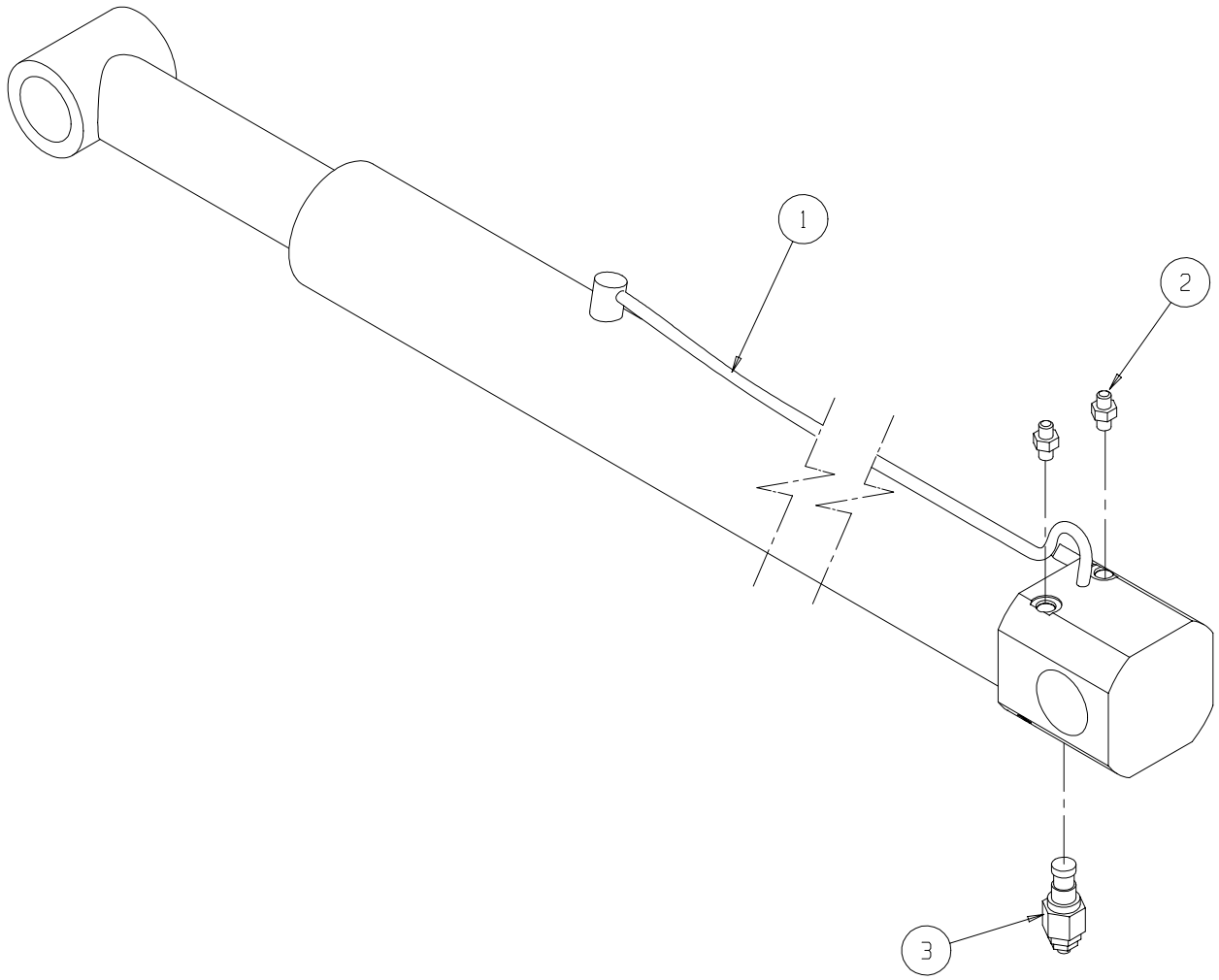


Boom Cylinder Assembly

104039-000 (S/N 1100 - 1108)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104256-000	BOOM CYLINDER	1
*	104256-011	SEAL KIT, BOOM CYLINDER	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
2	011941-005	FITTING, STRAIGHT MB6-MJ6	2
3	068778-013	VALVE, COUNTERBALANCE	1

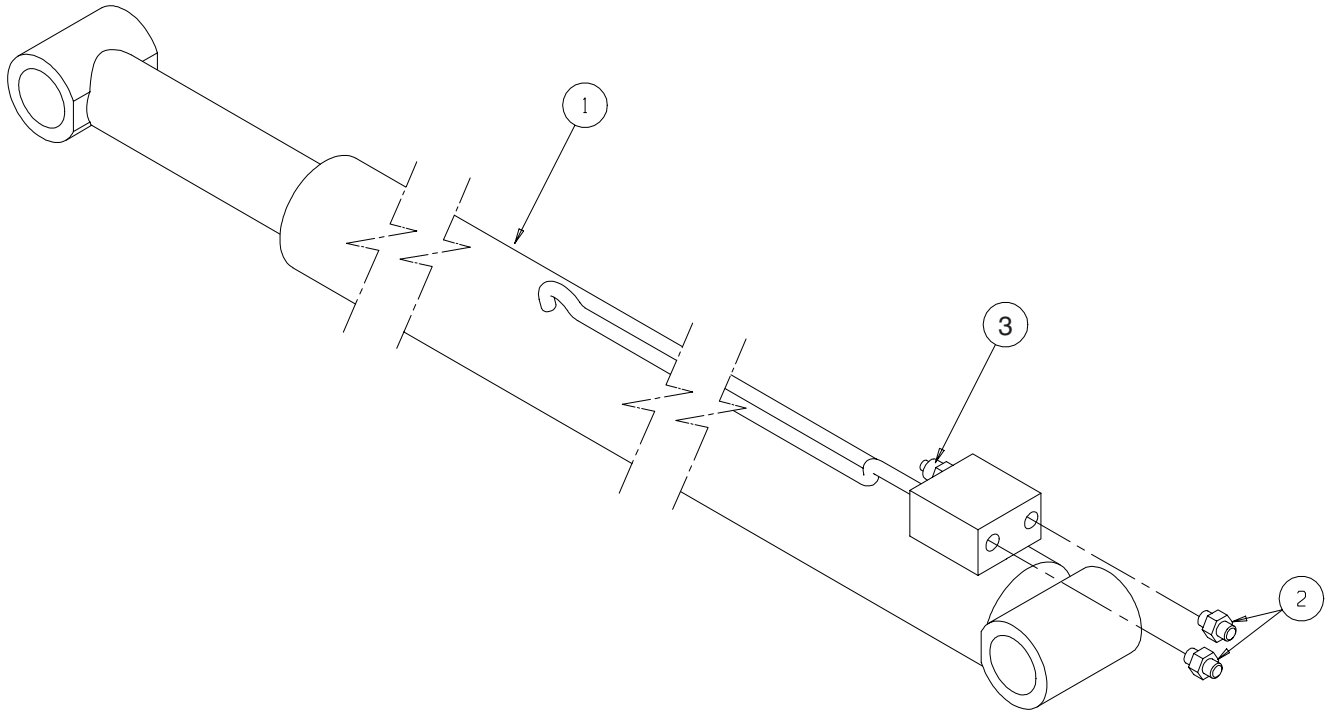


Boom Cylinder Assembly

104039-001 (S/N 1109 - Current)

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	104256-001	BOOM CYLINDER	1
*	104256-010	SEAL KIT, BOOM CYLINDER	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
2	011941-005	FITTING, STRAIGHT MB6-MJ6	2
3	100555-015	COUNTERBALANCE VALVE	1

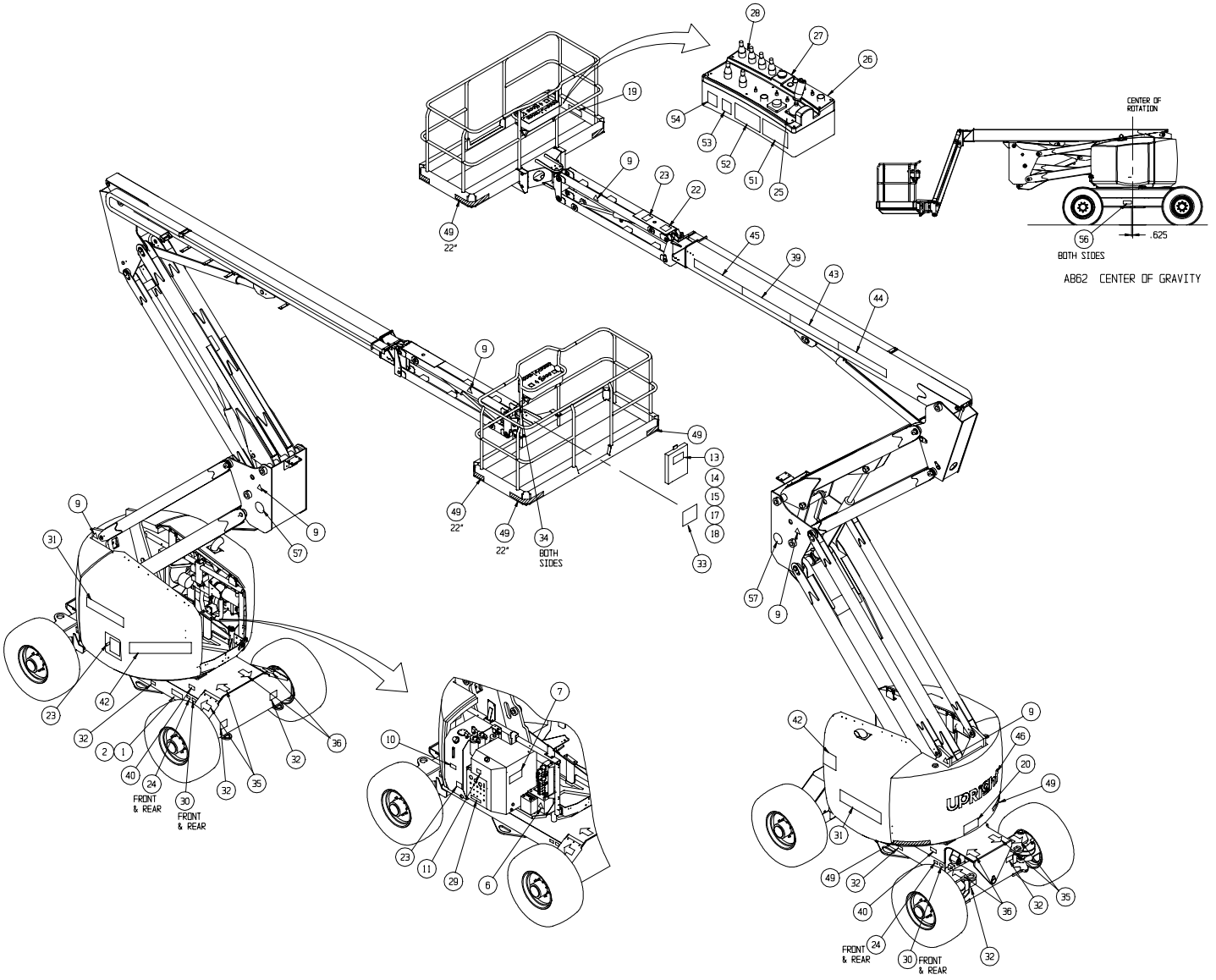


Label Kit, AB62 Diesel

104047-100

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	061205-002	NAME PLATE	1
2	065368-000	TACK	4
6	101210-000	LABEL, BATTERY LEVEL	1
7	066555-000	LABEL, CAUTION DO NOT ADJUST	1
9	101208-000	LABEL, PINCH POINT	6
10	101203-001	LABEL, HYDRAULIC FLUID	1
11	027898-001	LABEL, DIESEL FUEL	1
13	010076-001	LABEL, ATTENTION	1
14	010076-000	MANUAL CASE	1
15	104044-020	USER MANUAL	1
17	011248-004	LOCKNUT, 1/4-20 UNC HEX	4
18	011252-008	SCREW, 1/4-20 UNC HEX HD CAP X 1	4
19	062557-012	MAX LOAD 500 LBS / 225 Kg	1
20	104434-000	LABEL, 4WD	1
22	064444-000	LABEL, USA	1
23	066554-000	LABEL, BEFORE OPERATING	3
24	068979-000	CHOCK WHEELS	4
25	104332-000	LABEL, UPPER CONTROLS	1
26	104347-001	LABEL, UPPER CONTROLS	1
27	100340-002	LABEL, UPPER CONTROLS - EMERGENCY STOP	1
28	104331-000	LABEL, UPPER CONTROLS	1
29	104330-000	LABEL, LOWER CONTROLS	1
30	066562-005	LABEL, TIRE PRESSURE	4

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
31	104429-000	LABEL, AB62 RT	2
32	068632-000	LABEL, HOLD DOWN	6
33	068633-001	LABEL, READ & UNDERSTAND-EURO	1
34	068635-000	LABEL, HARNESS POINT	2
35	068637-000	LABEL, ARROW YELLOW	4
36	068637-001	LABEL, ARROW ORANGE	4
39	104430-000	LABEL, AB62	1
40	062814-000	LABEL, INSERT PIN	2
42	061683-018	LABEL, UPRIGHT	2
43	104433-000	LABEL, BOOM	1
44	104432-000	LABEL, LIFT	1
45	061683-019	LABEL, UPRIGHT	1
46	061683-011	LABEL, UPRIGHT	1
49	100339-099	TAPE, SAFETY YELLOW & BLACK	EA .10
51	100104-000	LABEL, OPERATING INSTRUCTIONS	1
52	100100-000	LABEL, EMERGENCY DOWN	1
53	100102-000	LABEL, NON-INSULATED	1
54	100103-000	LABEL, TILT ALARM	1
55	030768-002	LABEL, GS	1
56	100105-000	CG LOGO	2
57	100101-000	LABEL, ENTRY	2

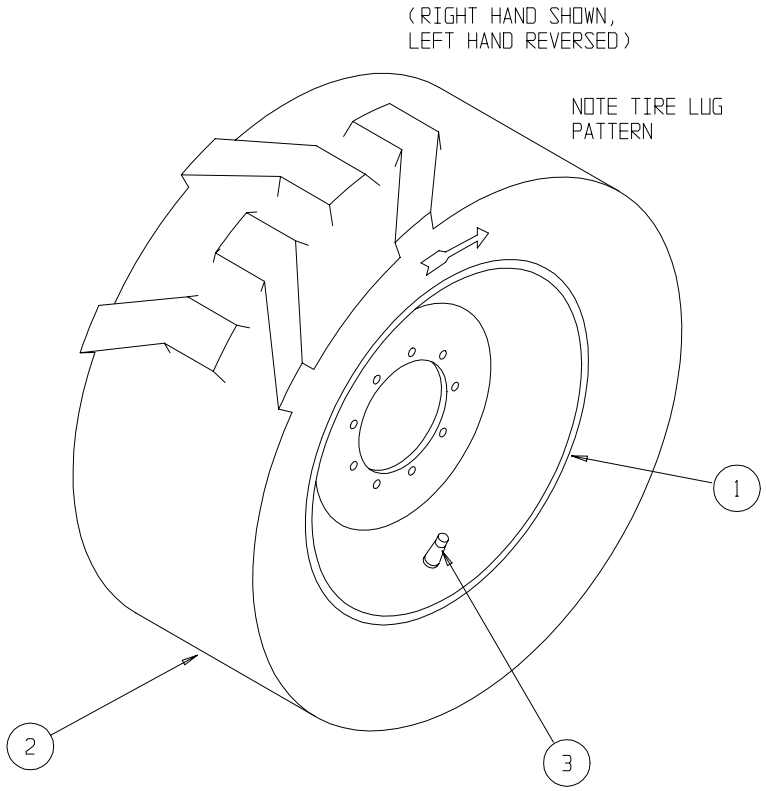

CENTER OF ROTATION
.625
56
BOTH SIDES
AB62 CENTER OF GRAVITY
FRONT & REAR
BOTH SIDES
22"
UPRIGHT

Tire & Wheel Assembly

100090-000 Left

100090-001 Right

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	100091-000	WHEEL, 19.5 X 12 9 HOLE	1
2	100092-000	TIRE, 19.5 X 15 NHS 14 PLY	1
3	012282-001	VALVE STEM	1



NOTES:

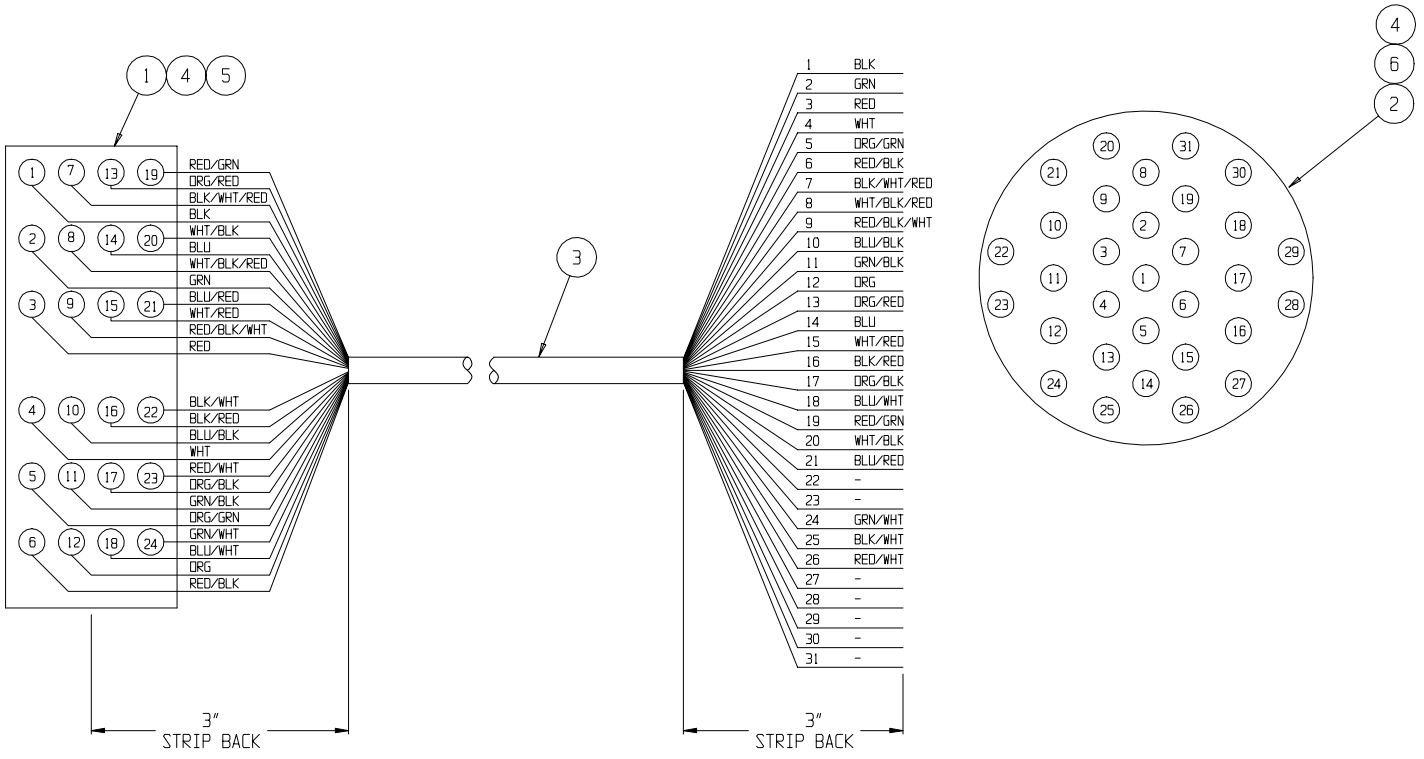
1. FILL TIRE & WHEEL ASSY WITH 115-120 FL. OZ. OF TRAC SEAL (OR EQUIV) TIRE SEALANT. INFLATE TO 80 PSI MIN TIRE PRESSURE. -TRAC SEAL REQ. WT.= 12.5 - 13.5 LBS (REF)

Control Cable

104032-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	015790-012	CONNECTOR, PLUG 24 CONTACT	1
2	065926-012	CONNECTOR, PLUG 31 CONTACT	1
3	029433-099	CABLE, 18 GA 24 COND	85 FT
4	015790-003	SOCKET CONTACT 16-18	48

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
5	015790-009	BOOT, PLUG	1
6	028800-015	PLUG, SEALING	7

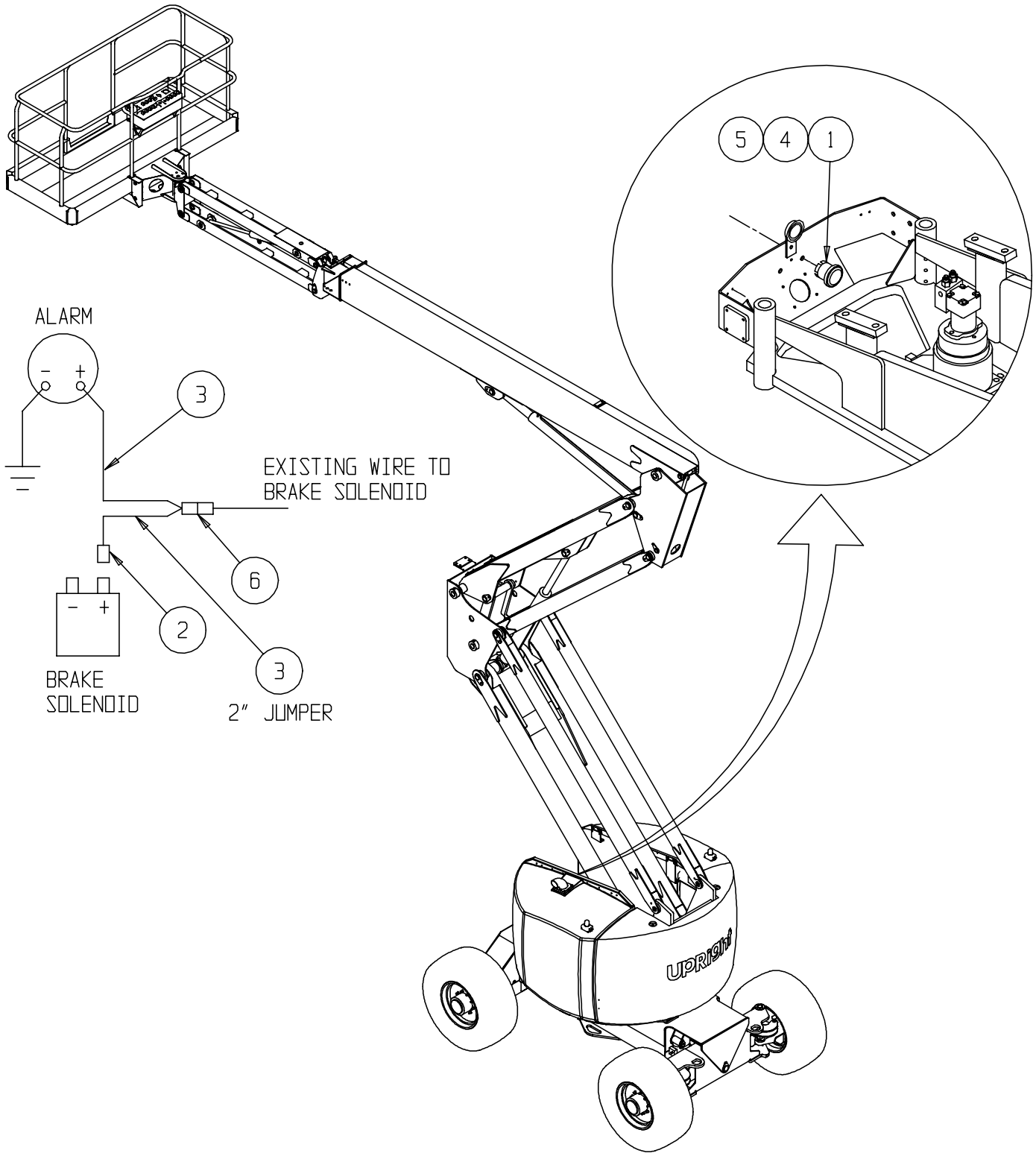


Motion Alarm Option

104485-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	066807-004	ALARM - 112 db	1
2	029616-002	CONN F PUSH 16-14 GA	1
3	029452-099	WIRE 16 GA BLK	FT 6
4	011252-004	SCREW HHC 1/4-20 UNC X 1/2	1

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
5	011240-004	WASHER, FLAT 1/4	1
6	029617-002	CONN M PUSH 16-14 GA	1

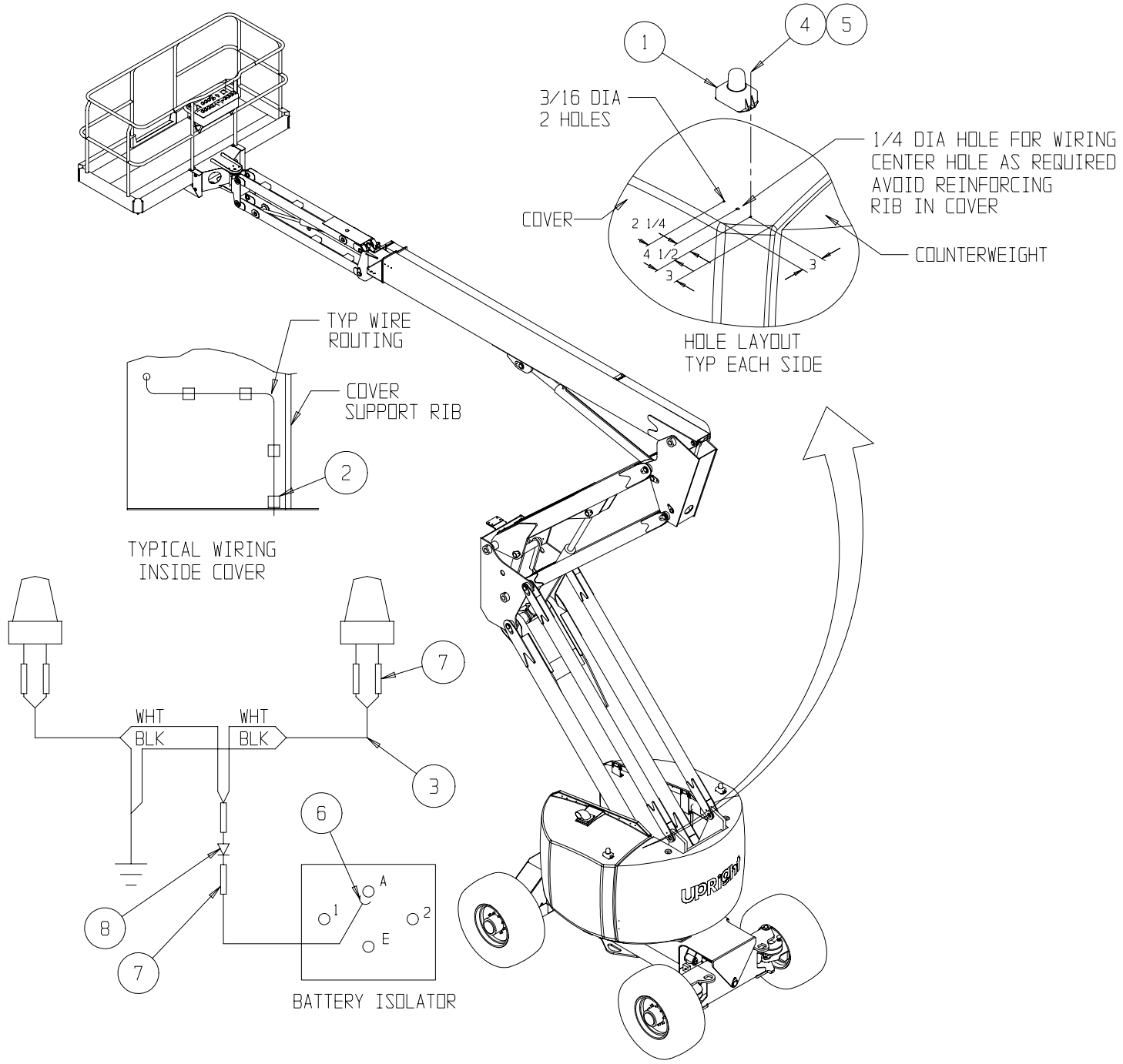


Flashing Beacon, Option

104486-000

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
1	012848-004	FLASHING STROBE LIGHT	2
2	013283-002	CABLE TY WRAP	8
3	029496-099	WIRE 2 COND 16 GA	FT 16
4	011709-008	SCREW #10-24 X UNC X 1 LG	4
5	011248-003	LOCKNUT #10-24 UNC ESNA	4

ITEM	PART NO.	PART/MATERIAL DESCRIPTION	QTY.
6	029610-002	CONN FORK 16-14GA	1
7	029620-002	CONN BUTT 16-14GA	6
8	029620-002	DIODE, 5 AMP	1



NOTES:

UpRight

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Selma, California 93662
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FAX: 559/891-9012
PARTS: 1-888-UR-PARTS
PARTSFAX: 559/896-9244

Call Toll Free in U.S.A.
1-800-926-LIFT

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P/N 104045-020
05/00 K