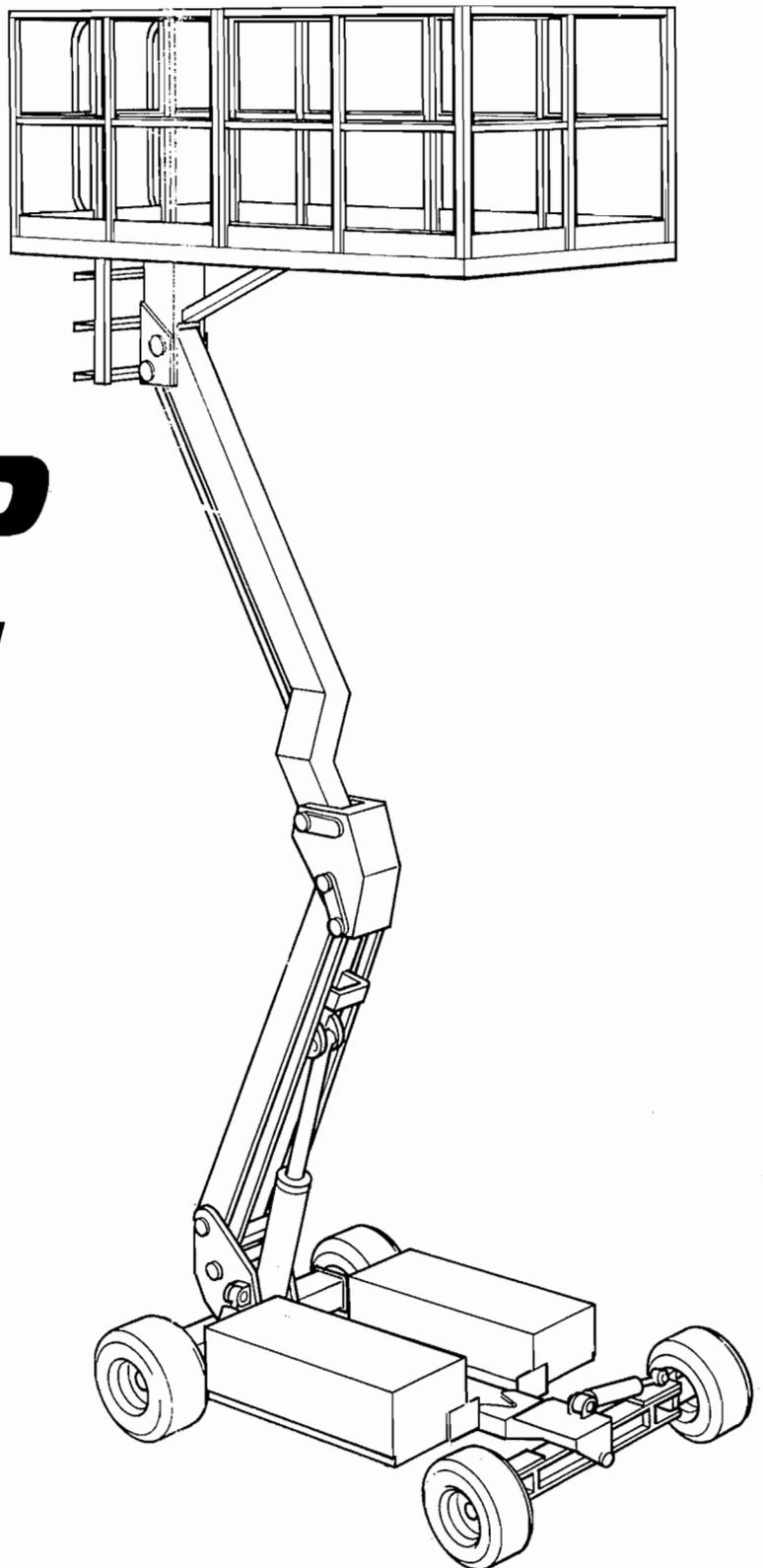
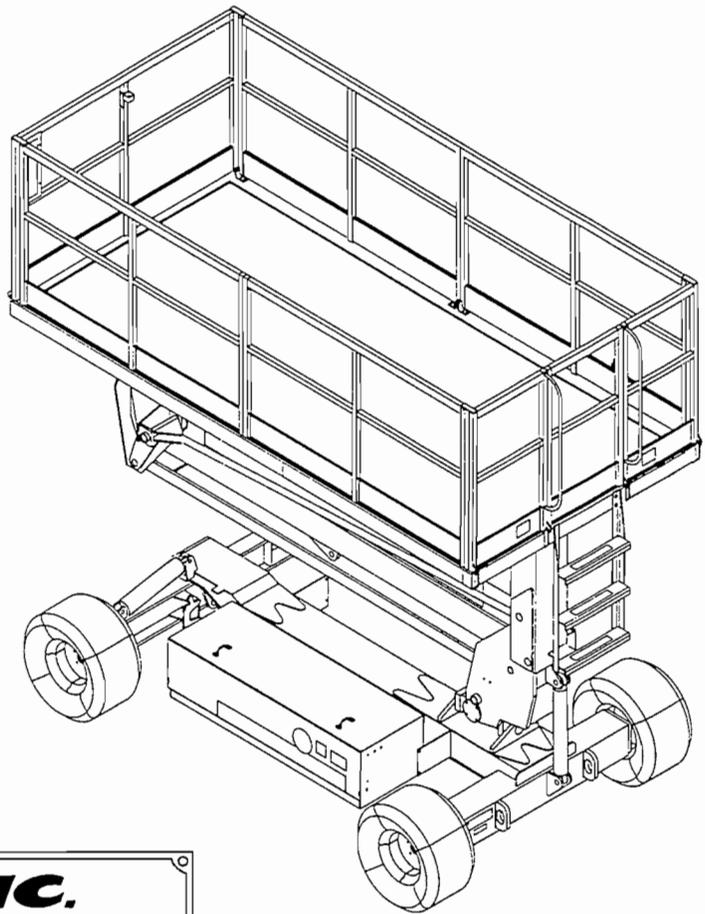


UpRight

***SPEED
LEVEL
SL-26***

**SERVICE
& PARTS
MANUAL**





UP-RIGHT INC.	
1775 PARK ST. SELMA, CA 93662	
MODEL NO. <input type="text"/>	MAX. PLATFORM HEIGHT <input type="text"/>
SERIAL NO. <input type="text"/>	BATTERY VOLTAGE <input type="text"/>
MAX. DISTRIBUTED LOAD <input type="text"/>	<input type="text"/>
CAUTION: CONSULT OPERATOR'S MANUAL BEFORE USE. THIS PLATFORM IS NOT ELECTRICALLY INSULATED	
<small>P/N 61205-000-00</small>	

Part Number

Identification Plate and Model Number

SERVICE & PARTS MANUAL

Information herein, subject to change without notice. When contacting Up-Right for service or parts information, be sure to include the MODEL NUMBERS from the equipment name plate.

UpRight

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FAX: 209/896-9012
PARTS FAX: 209/896-9244

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Call Toll Free

1-800-926-LIFT

P/N 60587-002-00

10/93 D

SL-26 Speed Level Work Platform

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Section 1.

Introduction and 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 an UpRight SL-26 Speed Level 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

ITEM DESCRIPTION

The SL-26 Speed Level Work Platform consists of the platform, controller, elevating assembly, leveling system, power module, control module, floating axle, and chassis. (Ref. Figure 1-1, Assemblies and Components for SL-26 Speed Level Work Platform)

Platform

The platform has a reinforced wood floor, 43.5 inch high railings with midrail, 6-inch toeboards and an entrance gate at the rear of the platform. The rails can be folded down for access through doors or for shipment.

NOTE: DO NOT use the maintenance platform without the guardrails being properly in place.

Controller

The controller is a hardwired remote control console which contains the controls to operate the machine. It is usually hung on the front guardrail, but may be hand held if desired. To operate the machine, the foot switch must be used with the control console functions. A complete explanation of the control functions can be found in Section 3.2, Controls and Indicators.

Elevating Assembly

The platform is raised and lowered by the elevating assembly, a two section arm pivoting on a gear, and powered by a single stage lift cylinder. A power source powers a hydraulic pump which in turn actuates the cylinder. Solenoid operated valves control raising and lowering.

Leveling System

The base of the elevating assembly is mounted on two pivots. Hydraulic cylinders at the side and rear of the elevating assembly tilt the elevating assembly and platform side to side or fore and aft. Instructions for leveling the platform and elevating assembly are found in Section 3.1, Introduction.

Power Module

The power module contains the engine, hydraulic pump, battery, and fuel tank(s).

Control Module

The control module contains the hydraulic tank, hydraulic valve manifold, horn/alarm, hour meter, electrical terminal strips, and chassis controls. A complete explanation of the chassis control functions is found in Section 3.2, Controls and Indicators.

Floating Axle

The front axle has two wheels which are steered by a double acting hydraulic cylinder. The front axle is also free to pivot and follow the contour of the ground when the work platform is driven in the lowered configuration.

Chassis

The chassis is a stout structural frame that supports all the components of the SL-26 Speed Level Work Platform.

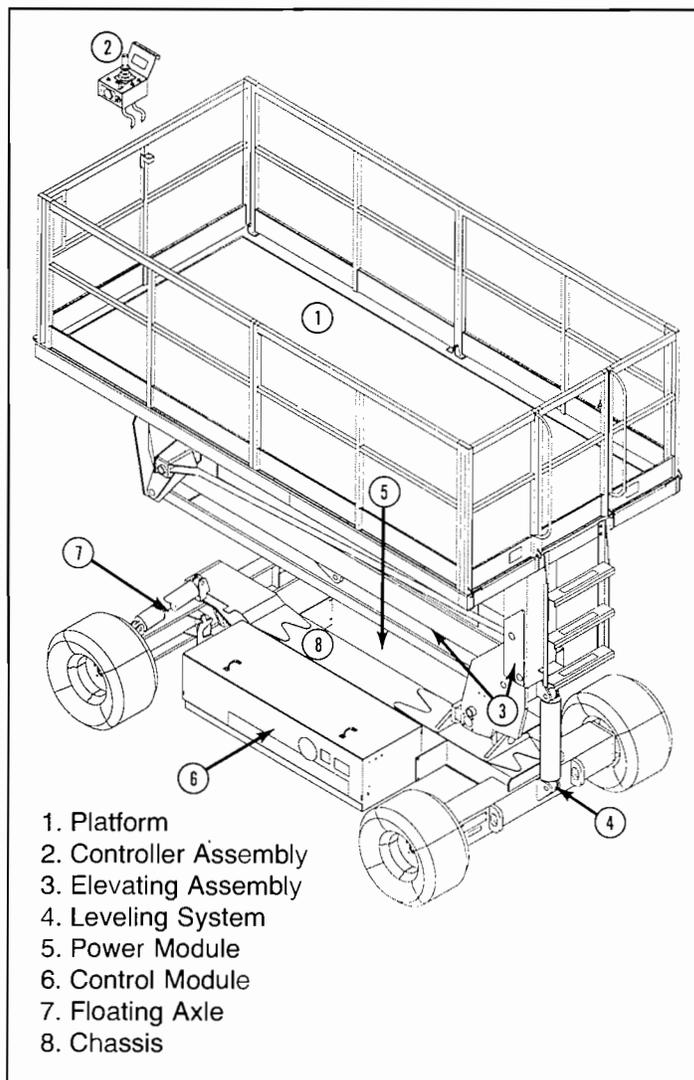


Figure 1-1
Assemblies and Components for
SL-26 Speed Level Work Platform

PURPOSE OF EQUIPMENT

The UpRight SL-26 Speed Level Work Platform is designed to elevate personnel and materials to overhead work areas. It is designed to:

- provide mobility across rough terrain with the platform lowered;
- level and raise the work platform on uneven terrain; and,
- drive the machine with the platform elevated on **EVEN** and **FIRM** surfaces only. (NOTE: Travel with the platform raised is limited to a "creep" speed range.)

The objective of the SL-26 Speed Level Work Platform is to provide a quickly deployable, self-propelled, variable height work platform for work site use.

NOTE: 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.

1.3 Specifications

**Table 1-1
Specifications for SL-26 Speed Level Work Platform**

ITEM	DESCRIPTION
Platform Size	70 In. x 144 In. (1.78m x 3.66m)
Maximum Platform Capacity	1500 lbs. (even distribution) (680 kg)
Working Height	32 Ft. (9.8m)
Maximum Platform Height	26 Ft. (7.92m)
Minimum Platform Height	58 In. (1.48m)
Energy Source	20 HP Kohler Engine 18 HP Kubota Engine
Lift System	Single Stage Lifting Cylinder
Driveable Height	26 Ft. (8m)
Surface Speed Platform Lowered	0 to 1.6 MPH (High Torque) (0 to 2.57 KPH)
Platform Raised	0 to 3.0 MPH (High Speed) (0 to 5.00 KPH) 0 to 0.5 MPH (0 to 2.57 KPH)
Hydraulic Tank Capacity	12 Gallons
Hydraulic Fluid	Mobil 423 or equivalent
Dimensions Weight	Dual Fuel - 5990 lb. (2722 kg) Diesel - 6190 lb. (2814 kg)
Overall Width	84 In. (2.15m)
Overall Height	126 In. (3.23m)
Overall Length	58 In. (1.47m) w/ Guardrails lowered) 148 In. (3.76m)
Control System	Lever with Thumb Rocker Steer
Drive Control	Proportional
Horizontal Drive	4 Wheel Drive
Tires	26 x 12.00 12 NHS - 50 PSI
Braking	Spring Applied, Hydraulic Release Parking Brake
Toeboard	6 In. (152mm)
Guardrails	43.5 In. (1.1m)
Turning Radius	13 Ft. Inside (4m)
Gradeability	35%
Level Capacity	Fore/Aft - 9° Side/Side - 13°
Wheel Base	100 In. (2.56m)

NOTE: Specifications subject to change without notice.

Section 2.

Preparation for Use, Shipment and Storage

NOTE: Read and familiarize yourself with all operating instructions before attempting to operate the SL-26 Speed Level Work Platform.

2.1 Preparation for Use

WARNING

STAND CLEAR when cutting the metal banding to avoid being cut when the banding snaps back.

1. Remove the metal banding from the module covers and elevating linkage.
2. Remove the banding from the control console.
3. Remove tie wraps holding guardrail gate.
4. Connect the negative (-) lead terminal to battery in power module.
5. Close the emergency lowering valve, if necessary.
6. Fill fuel tank.

2.2 Preparation for Shipment

1. Grease all the grease fittings. (Ref. Section 4.2, Preventative Maintenance)
2. Fully lower the platform.
3. Disconnect the battery negative (-) lead from the battery terminal.
4. Band the control console to the front guardrail.
5. Band the elevating linkage to the frame just behind the front wheels and at the rear wheels.
6. For sea shipment, perform preservation per extended storage.
7. For container shipment, drain fuel tank (NOTE: If work platform is dual fuel model, remove the propane tank and replace with an empty propane tank.)
8. Open the emergency lowering valve.

2.3 Movement of the Work Platform by Forklift

NOTE: Forklifting is for transporting only.

WARNING

See specifications for weight of work platform and be certain that forklift is of adequate capacity to lift the platform.

Forklift from the side of the platform by lifting under the lifting modules.

2.4 Transporting the Work Platform

1. Maneuver the work platform into transport position and chock the wheels.
2. Place blocks under the front wheel yokes.
3. Secure the work platform to the transport vehicle with chains or straps of adequate load capacity attached to the chassis tie down lugs. (Ref. Figure 2-1, Location of Chassis Tie Down Lugs)
4. Open the Emergency Lowering Valve.

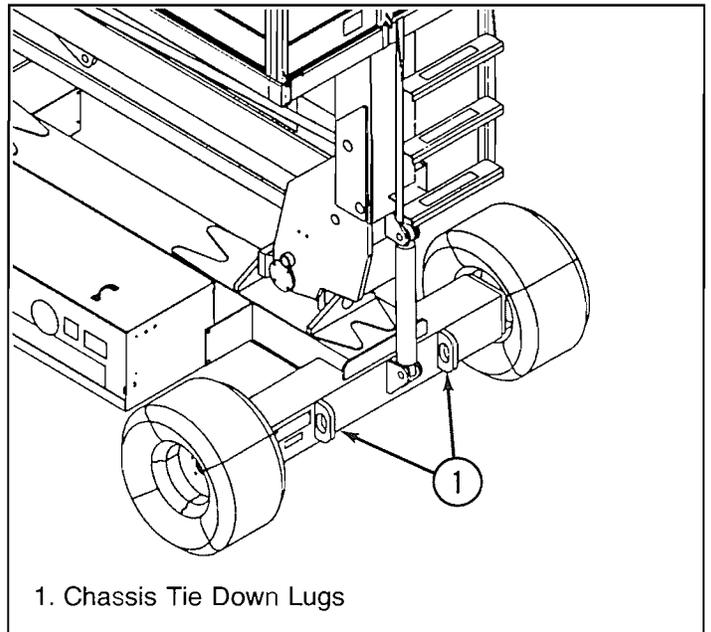


Figure 2-1
Location of Chassis Tie Down Lugs

WARNING

The chassis tie down lugs are not to be used for lifting the work platform. Over-tightening of the chains or straps may result in damage to the machine.

2.5 Storage

No preparation for storage is required when the work platform is in normal usage. Regular maintenance procedures should continue to be performed. (Ref. Figure 4-1, Preventative Maintenance and Table 4-1, Preventative Maintenance Checklist)

If the work platform is to be placed in long term storage (dead storage), follow the recommended preservation procedures, below.

PRESERVATION

1. Clean painted surfaces. If the paint is damaged, repaint.
2. Fill the hydraulic tank to operating level, fluid will be visible at the Sight Gauge.

(NOTE: Do NOT drain the hydraulic system prior to long term storage.)

3. Coat exposed portions of extended cylinder rods with an approved preservative and wrap with barrier material.
4. Coat all exposed unpainted metal surfaces with preservative.

BATTERY

1. Disconnect the battery ground cable and secure to the chassis.
2. Disconnect the remaining battery lead and secure to the chassis.
3. Remove the battery and place in alternate service.

Section 3.

Operation

3.1 Introduction

GENERAL FUNCTIONING

The engine directly drives a hydraulic pump. The pump supplies oil under pressure to operate all the work platform functions. The oil flow is directed to the different functions by electrically activated solenoid valves.

DRIVING

With the engine running (Controller Key Switch "ON"), both chassis and controller Emergency Stop Switches "ON", the Foot Switch depressed, and the Drive/Lift Switch on "DRIVE", the machine will drive forward or reverse at a speed proportional to the angle the control lever is pushed or pulled.

Driving with the Platform Lowered

Selecting "HIGH SPEED" on the Drive Speed Switch and moving the control lever forward or reverse with the platform fully lowered will energize the platform Off Level Interlock Relay, the Drive Relay, the High Speed Relay, the Axle Float Valve Solenoid, the 2nd Speed Coil, and the Drive Coil to allow oil to flow into the brake release and serially through the hydraulic motors. A flow control valve closes or opens in proportion to the movement of the control lever to allow the machine to move at any speed from stopped to full speed.

Selecting "HIGH TORQUE" (low speed) on the Drive Speed Switch de-energizes the Series/Parallel Coils and forces oil to divide through the hydraulic motors to effect a low drive speed.

Driving with the Platform Elevated

Raising the platform de-energizes the High Speed Relay and the Axle Float Valve Solenoid. This locks the axle in place and prevents the 2nd Speed Coil and Series/Parallel Coils from energizing. Raising the platform only allows the platform to move at the creep speed (motors in parallel).

Steering

At the top of the control lever is a momentary rocker switch for steering the machine in any direction. Pressing the right or left side of the rocker switch will energize the steering coils and allow oil to flow through the Steering Valve to the Steering Cylinder. Releasing the rocker switch de-energizes the Steering Coils and holds the Steering Cylinder in position. The Steering Cylinder will not return to center unless actuated by the Steering Coils.

LEVELING

With the engine running (Controller Key Switch "ON"), both chassis and controller Emergency Stop Switches "ON", the Foot Switch depressed, and the Platform Level Height Switch activated, the machine can be tilted right or left with the Side/Side Switch or forward and backward with the Fore/Aft Switch to allow centering of the platform bubble

indicator. The Side/Side Switch and the Fore/Aft Switch energize flow control valves to actuate the Right/Left Tilt Cylinder and Fore/Aft Tilt Cylinder, respectively.

The platform may require elevating a few inches to allow full tilt forward. Centering the bubble indicator energizes the Platform Off Level Interlock Relay and allows the platform to be raised to full height. The tilt controls will not function once the platform is raised beyond about 87 inches in height.

RAISING AND LOWERING THE PLATFORM

With the engine running (Controller Key Switch "ON"), both chassis and controller Emergency Stop Switches "ON", the Foot Switch depressed, and the Drive/Lift Switch on "LIFT", the machine will elevate (if level) at a speed proportional to the angle the control lever is pushed forward.

Pushing forward on the control lever (when level) energizes the Proportional Coil and Up Coil to allow oil to flow into the Lift Cylinder (raising the platform) in proportion to the control lever movement. The Up Coil will de-energize above the 87 inch height unless the platform is level. Pulling the control lever backwards energizes only the Down Coil to allow oil to flow out of the Lift Cylinder at a fixed speed to the oil reservoir tank.

The platform can also be lowered at this same fixed speed from the chassis (Control Module) by manually opening the Emergency Down Valve (manual portion of the Down Valve).

NOTE: With a fully charged battery, the platform can be lowered with the engine off as follows: with the Chassis and Controller Emergency Stop Switches "ON", the foot switch depressed, and the Drive Lift Switch on "LIFT", pull the Control Lever backward and the platform will descend.

SAFETY DESIGN

The SL-26 Speed Level series has the following features to ensure safe operation.

- The leveling system is limited to operation when the work platform is below about 87 inches in height.
- The platform raising coils are de-energized above about 87 inches in height, if the platform is not level.
- The front floating axle locks in position upon elevating the work platform.
- An alarm horn sounds and the drive and lift coils are de-energized, if the work platform should become unlevel while elevated.
- A motion alarm horn beeps when the work platform is lowering.
- The platform descent rate is controlled by an orifice. The Lift Cylinders are equipped with velocity fuses to prevent descent should a hose fail.
- The drive speed is limited to "creep" speed when operating the work platform while elevated.

- Elevated drive will not operate unless the front axle is positioned parallel to the rear axle.
- Holding brakes are automatically engaged when the Drive Coils are de-energized from the Controller or from a loss of power.
- The Control Box (Controller) and chassis controls are equipped with an Emergency-Off Switch.
- A Lift Switch is located in the Control Module on the chassis for lifting and lowering the work platform from ground level.

3.2 Controls and Indicators

The controls and indicators for operation of the SL-26 Speed Level Work Platform are shown in Figure 3-1, Controls and Indicators. The name and function of each control and indicator are listed in Table 3-1, Controls and Indicators. The index numbers in Figure 3-1 correspond to the index numbers in Table 3-1. The operator should know the location of each control and indicator and have a thorough knowledge of the function and operation of each before attempting to operate the unit.

Table 3-1
Controls and Indicators

INDEX NO.	NAME	FUNCTION
CONTROLLER		
1	KEY SWITCH (Dual Fuel)	Turn key clockwise to start engine. Power is provided to the Platform Foot Switch. Turn key counterclockwise to stop engine.
	KEY SWITCH (Diesel)	Turn key counterclockwise to preheat engine glow plugs (Ref. Sect. 3.4, Pre-Operation Checks). Turn key clockwise to start engine. Power is provided to the Platform Foot Switch. Turn key counterclockwise to stop engine.
2	GUARDED EMERGENCY STOP SWITCH	Position toggle switch ON to power all circuits and push guard to cut off power to all circuits.
3	SIDE/SIDE SWITCH	Toggle momentary switch right or left to tilt the work platform in that direction.
4	FORE/AFT SWITCH	Toggle momentary switch forward or rearward to tilt the work platform in that direction.
5	CONTROL LEVER (Drive)	Move joy stick forward or reverse to proportionally control the drive speed in that direction.
	CONTROL LEVER (Lift)	Move joy stick forward to proportionally control the work platform elevation speed. Move the joy stick backwards to lower the work platform.
6	STEERING SWITCH	Moving the momentary rocker switch right or left steers the work platform in that direction.

INDEX NO.	NAME	FUNCTION
CONTROLLER (Cont.)		
7	DRIVE SPEED/TORQUE SELECTOR SWITCH	Provides two speed/torque ranges, in forward or reverse. High Speed – low torque and High Torque – low speed)
8	DRIVE/LIFT SWITCH	Selecting Drive allows the work platform to move forward or reverse. Selecting Lift allows the work platform to raise or lower.
9	FOOT SWITCH	Depressing the foot pedal allows activation of all functions controlled from the work platform.

CHASSIS

10	GUARDED EMERGENCY STOP SWITCH	Position toggle switch ON to power all circuits and push guard to cut off all power.
11	LIFT/DOWN SWITCH	Toggle switch up to lift the work platform and toggle switch down to lower the work platform.
12	FUEL SELECTOR SWITCH	Toggling the switch right or left changes the engines fuel supply between Gasoline or Propane . Placing the toggle switch in the center position allows purging of fuel lines prior to changing fuels.
13	EMERGENCY LOWERING VALVE	Turning knob ¼ turn counterclockwise lowers the work platform.
14	HOURMETER	Records the cumulative hours the engine has been operating.
15	ALARM, LOWERING	Horn sounds while the work platform is lowering (except during emergency lowering).
16	ALARM, OFF-LEVEL (in controller, not shown)	Horn sounds if the work platform becomes out of level while elevated.
17	BUBBLE LEVEL (on guardrail, not shown)	Bubble completely within circle indicates the work platform is level for raising.

3.3 Safety Rules and Precautions

Before using the UpRight SL-26 Speed Level Work Platform:

INSPECT the machine thoroughly for cracked welds, loose hardware, hydraulic leaks, damaged control cable, loose wire connections and tire damage.

CHECK that all guardrails are properly in place and secured with all fasteners properly tightened.

CHECK all four tires for 50 psi inflation (for pneumatic tires).

DISTRIBUTE all loads evenly on the platform. (Maximum platform load is 1500 lbs.)

SURVEY the work area for surface hazards such as holes, drop-offs, bumps and debris before operating the machine.

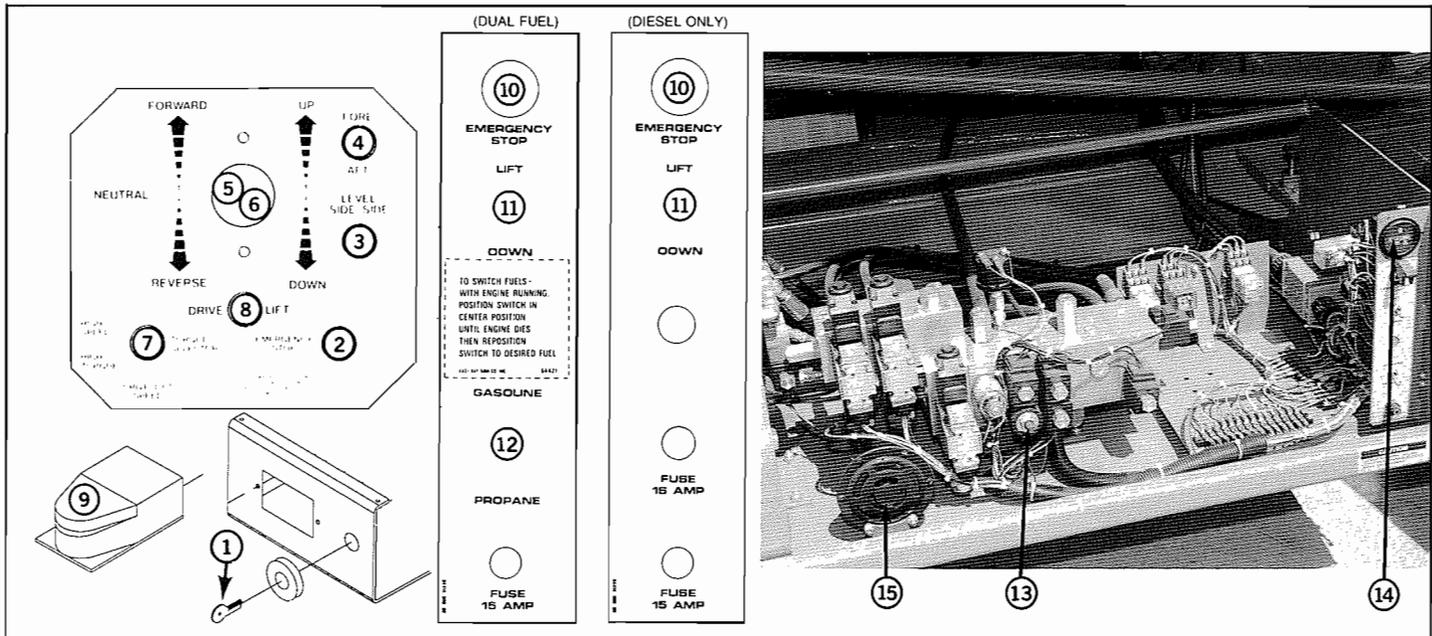


Figure 3-1
Controls and Indicators

LOOK up, down and around for overhead obstructions and electrical conductors.

CLOSE gate across entrance after mounting the platform.

NEVER use damaged equipment. (Contact UpRight for instructions. See toll free numbers on back cover.)

NEVER change operating or safety systems.

NEVER operate the machine within ten feet of power lines.
(THIS MACHINE IS NOT INSULATED.)

NEVER elevate the platform unless the machine is level.
The bubble must be centered in the level.

NEVER elevate the platform or drive the machine while elevated unless the machine is on firm even surface.

NEVER attach overhanging loads or increase the size of the platform.

NEVER use ladders or scaffolding on the platform.

NEVER sit, stand or climb on guardrail or midrail.

NEVER climb down elevating assembly with the platform elevated.

NEVER recharge batteries near sparks or open flame; batteries that are being charged emit highly explosive hydrogen gas.

AFTER USE secure the work platform against unauthorized use by turning the key switch off and removing the key from the key switch.

3.4 Pre-Operation Inspections

NOTE: Carefully read and understand all safety rules. Perform the following steps each day before use.

Pre-Operation Inspection

WARNING

DO NOT perform service on work platform with the platform elevated unless it is properly blocked.

1. Remove module covers and inspect for damage, oil leaks or missing parts.
2. Check the level of the hydraulic oil with the platform fully lowered. Oil should be visible in the sight gauge. Add ISO #46 hydraulic oil or equivalent, if necessary.
3. Check that the fluid level in the battery is correct. (Ref. Section 4.3, Maintenance Instructions)
4. Carefully inspect the entire work platform for damage such as cracked welds or structural members, loose or missing parts, oil leaks, damaged cables or hoses, loose connections and tire damage.
5. Check that all guardrails are securely in place with all fasteners properly tightened.
6. Check bubble level for damage.
7. Check tire pressure (50 psi for 26 x 12.00 – 12NHS.)

STEERING

1. Push the Steering Switch "RIGHT" or "LEFT" to turn the wheels. Observe the tires while maneuvering to insure proper direction.

NOTE: Steering is not self-centering. Wheels must be returned to the straight ahead position by operating the Steering Switch.

RAISING AND LOWERING THE WORK PLATFORM

WARNING

LOOK up and around for obstructions before performing the lift function.

DO NOT elevate the platform unless the work platform is on a hard and level surface.

DO NOT operate the work platform within 10 feet of any electrical lines. (THIS WORK PLATFORM IS NOT INSULATED.)

DO NOT perform service on the work platform with the platform elevated, unless the platform is properly blocked.

NEVER enter the scissor linkage while the platform is elevated.

1. Position the Drive/Lift Switch to "LIFT".
2. Push the Control Lever slowly forward to raise the platform. Increasing the Control Lever angle increases the lift speed. Selecting "HIGH TORQUE" with the Drive/Lift Speed Range Switch will allow slow elevation speed.
3. When the work task is completed, position the Drive/Lift Switch to "LIFT" and lower the platform by pulling back on the Control Lever until the platform is fully lowered.

TRAVEL WITH WORK PLATFORM ELEVATED

WARNING

Travel with platform elevated ONLY on hard and level surfaces.

NOTE: The Work Platform will travel at reduced speed when in the elevated position.

1. Check that the route is clear of persons, obstructions, holes and drop-offs and is capable of supporting the wheel loads.
2. Check clearances above, below and to the sides of platform.
3. Position the Drive/Lift Switch to the "DRIVE" position.
4. Push the Control Lever to "FORWARD" or "REVERSE" for the desired direction of travel.

EMERGENCY LOWERING

NOTE: If the platform should fail to lower, NEVER climb down the elevating assembly. Ask a person on the ground to open the Emergency Lowering Valve to lower the platform. This valve is located on the left hand side of the chassis (through the cutout in the control module cover).

1. Open the Emergency Lowering Valve by turning the knob counterclockwise approximately ¼ turn and pull out to disengage detent. (Ref. Figure 3-1, Controls and Indicators)
2. Once the platform is fully lowered, be certain that the Emergency Lowering Valve is closed again. The platform will not elevate if the emergency lowering valve has not been closed.
3. To close the Emergency Lowering Valve, push the knob in and turn approximately ¼ turn clockwise until the detent engages.

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 Key Switch to "OFF" and remove the key to prevent unauthorized operation.

Dual Fuel System Inspection

1. Check fuel supply.
2. Check engine oil level.
3. Set dual-fuel selector to desired position. Set to the center position to purge the system when switching fuels. If the machine is to be operated on propane, open the supply valve on the tank.

NOTE: When using LP gas, use clean, dry liquid petroleum gas, preferably from a bulk storage tank. Follow the instructions located on the Power Module tray for filling the tank. Overfilling the propane tank may cause regulator freeze-up.

CAUTION

If you smell propane, close the supply valve immediately until you have located and corrected the leak.

4. Check that the Emergency Stop Switch on Control Module is in the "ON" position.

Diesel System Inspection

1. Check fuel supply.
2. Check engine oil level.
3. While the engine is cool check the radiator coolant level. DO NOT check coolant when the engine or radiator is hot.
4. Check that the Emergency Stop Switch on the Control Module is in "ON" position.

NOTE: Unhook control console from front guardrail and hold while performing the following checks from the ground.

WARNING

STAND CLEAR of the work platform while performing the following checks.

5. Before operating the work platform survey the work area for surface hazards such as holes, drop-offs, bumps and debris.
6. Check in ALL directions, including above the work platform, for obstructions and electrical conductors.
7. Protect control console cable from possible damage while performing checks.
8. Lift the Emergency Stop Switch cover and position the toggle to the "ON" position. (NOTE: When the switch guard is closed, the Emergency Stop Switch will automatically go to the "OFF" position.)
9. Turn the Mode Switch to "DRIVE" position.
10. With the Speed Range Switch first in "LOW" and then in "HIGH" push the Drive Switch to the "FORWARD" position and then to the "REVERSE" position to check for speed and directional control.
11. Move the Steering Switch to "RIGHT" and then "LEFT" to check for steering control.
12. Move both the "FORE/AFT" and "SIDE/SIDE" switches to check for leveling function. Leave the machine level for lift function tests.

13. Turn the Mode Switch to "LIFT" and rehook the Control Console to the front guardrail.

CAUTION

LOOK up and around for obstructions prior to operating the lift function.

DO NOT operate the work platform within 10 feet of any electrical power lines. (THIS WORK PLATFORM IS NOT INSULATED.)

DO NOT elevate the platform unless the work platform is on firm and level ground.

DO NOT enter the elevating assembly area while the platform is elevated.

14. Push the Chassis Lift Switch to the "UP" position and fully elevate the platform.
15. Visually inspect the elevating assembly, rollers, lift cylinder, cables and hoses for damage or erratic operation. Check for missing or loose parts.
16. Partially lower the platform by pushing the Chassis Lift Switch to "DOWN" and check the operation of the audible lowering alarm.
17. Open the Emergency Lowering Valve manually to check for proper operation. Once the platform is fully lowered, close the valve.
18. Replace module covers.

3.5 Operating Instructions

NOTE: Understand the functions of all the controls before operating the machine AND ensure that the pre-operation inspections (Ref. Section 3.4, Pre-Operation Inspections) have been completed and any deficiencies corrected.

TRAVEL WITH PLATFORM LOWERED**CAUTION**

Before operating always check that route is clear of persons, obstructions, holes and drop-offs, above, below and to the sides of the platform and is capable of supporting the wheel loads.

1. Set the Lift/Drive Mode Switch to the "DRIVE" position and start the engine.
2. Set the Drive Range Switch to "LOW".
3. Push forward or backward to travel in the desired direction.
4. While moving, push the Drive Range Switch to "HIGH SPEED", if faster speed is desired.
5. Set the Drive Range Selector to "HIGH SPEED" for travel on level surfaces or to "HIGH TORQUE" for climbing grades or traveling in confined areas.



Section 4.

Maintenance Instructions

4.1 Introduction

This section contains instructions for the maintenance of the SL-26 Speed Level Work Platform. Procedures for the operations checkout, adjustment, scheduled maintenance, troubleshooting, and repair/removal are included. Refer to

Figure 4-1, Location of Components, for location of the various components and Table 4-1, Preventative Maintenance Checklist, for recommended maintenance intervals.

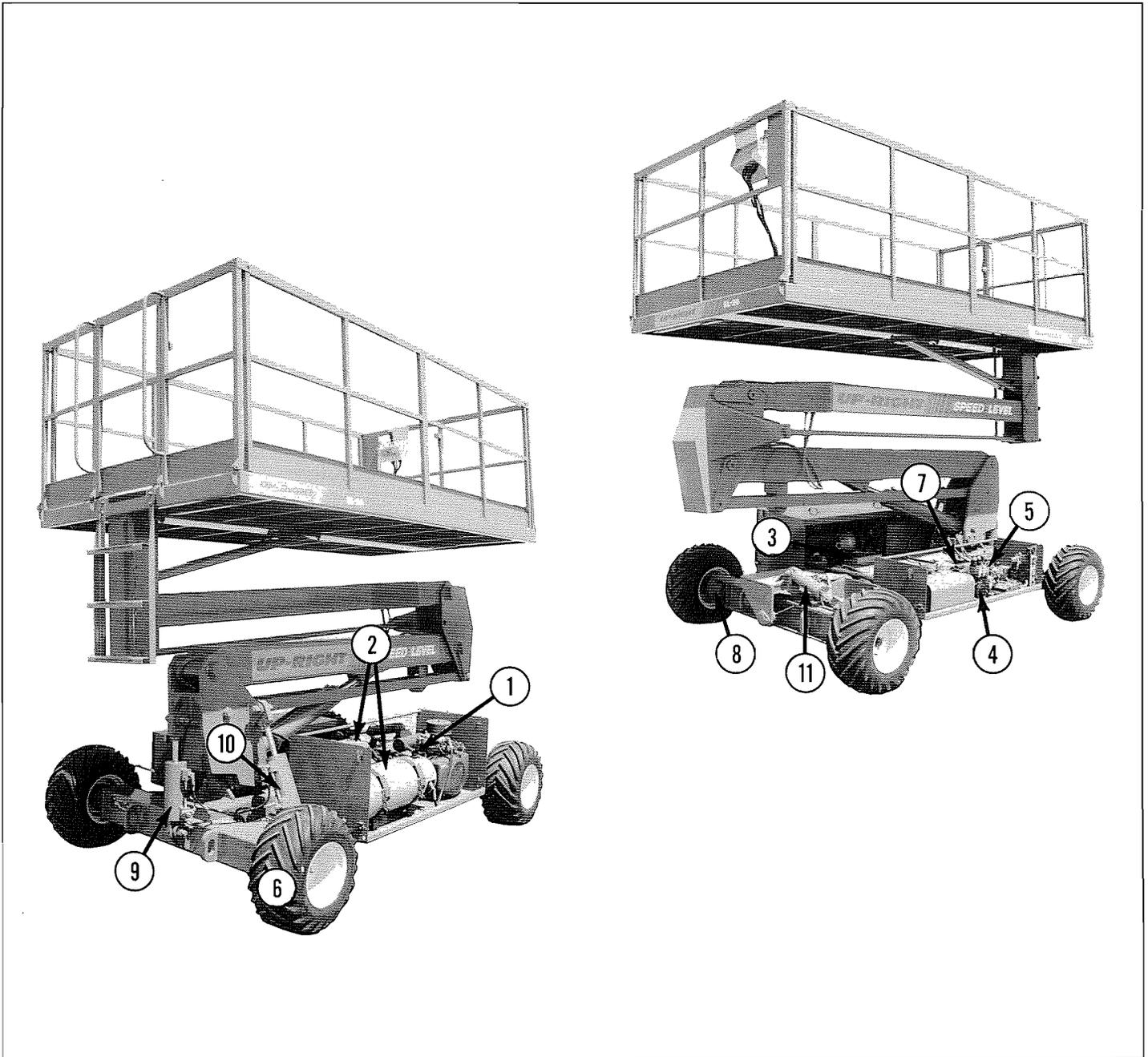


Figure 4-1
Location of Components

4.2 Preventative Maintenance

Table 4-1
Preventative Maintenance Checklist

REF. NO.	COMP.	INSPECTION OR SERVICES	INTERVAL			
			EA. SHIFT	50 HRS.	250 HRS.	1000 HRS.
1	Engine Oil	Check level and condition Check for leaks Change oil & filter (dual fuel) Change oil & filter (diesel)	X X	X 100hr		
2	Engine Fuel System	Check fuel level Check for leaks Replace fuel filter Check air cleaner (replacement, see engine service manual appendix)	X X X		X	
3	Battery System (All Models)	Check electrolyte level Check specific gravity Clean exterior Check battery cable cond.	X X X		X	
4	Hydraulic Oil	Check oil level Change filter Drain and replace oil (ISO #46)	X		X	X
5	Hydraulic System	Check for leaks Check hose connections Check for exterior wear	X	X X		
	Engine Coolant (Diesel)	Check coolant level (with engine cold) Replace coolant	X			X
	Emergency Hydraulic System	Open the emergency down valve and check for serviceability		X		
	Control Console	Check switch operation	X			
	Control Cable	Check the exterior of the cable for pinching, binding or wear	X			
	Platform Deck and Rails	Check fasteners for proper torque Check welds for cracks Check condition of deck	X X X			
6	Tires	Check for damage Check air pressure (50psi-26x12.00-12NHS) Check lug nuts (torque to 90 ft. lbs.)	X X	X		
7	Hydraulic Pump	Wipe clean Check for leaks at mating surfaces Check for hose fitting leaks Check mounting bolts for proper torque Check the drive coupling for proper torque and alignment	X	X X X		X
8	Drive Motors	Check for operation and leaks		X		
	Steering System	Check hardware & fittings for proper torque Grease pivot pins * Check steering cylinder for leaks & mounting bolts for proper torque		X X	X	

REF. NO.	COMP.	INSPECTION OR SERVICES	INTERVAL			
			EA. SHIFT	50 HRS.	250 HRS.	1000 HRS.
	Elevating Assembly	Inspect for structural cracks Check gear mechanism for wear Check elevating arms for bending Grease linkage pins *			X X X	
	Chassis	Check hoses for pinch or rubbing points Check component mountings for proper torque Check welds for cracks		X	X X	
	Lift Cylinder	Check the cylinder rod for wear Check mounting pin pivot bolts for proper torque Check seals for leaks Inspect pivot points for wear Check fittings for proper torque		X X X X X		
9	Fore/Aft Cylinder	Check cylinder rod for wear Check mounting pin pivot bolts for proper torque Check seals for leaks Inspect pivot points for wear Check fittings for proper torque Grease cylinder bearings*		X X X X X		
10	Side/Side Cylinder	Check cylinder rod for wear Check mounting pin pivot bolts for proper torque Check seals for leaks Inspect pivot points for wear Check fittings for proper torque Grease cylinder bearings*		X X X X X		
	Entire Unit	Check for and repair collision damage Check fasteners for proper torque Check for corrosion – remove and repaint	X		X X	
	Decals	Check for peeling, missing or illegible decals & replace	X			
11	Axle Cylinder	Check the cylinder rod for wear Check mounting pin pivot bolts for proper torque Check seals for leaks Inspect pivot points for wear Check fittings for proper torque		X X X X X		
	Level Indicator	Check bubble level and target ring for damage	X			

NOTE: *Maintenance components are located by REF. NO. in Figure 4-1. Components with no REF. NO. are not shown. Lubrication points are located in Figure 4-2.

4.3 Maintenance Instructions

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 work platform is being used in a warm, dry climate. If required, add distilled water ONLY. Use of tap water with high mineral content may shorten battery life.

The battery and cables should be inspected regularly for signs of cracks in the cases, 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 or ammonia solution to clean the battery, 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.

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

LUBRICATION

Refer to Figure 4-2, Lubrication Points, for location of items that require lubrication service. Refer to the appropriate sections for lubrication information on the Hydraulic Oil Tank and Filter and Rear Wheel Bearings.

Wipe each grease 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.

HYDRAULIC OIL TANK AND FILTER

Fluid Level

With the platform fully lowered, the oil should be visible in the Sight Gauge. If the oil is NOT visible, fill the tank until the oil can be seen. DO NOT fill above the Sight Gauge. (Ref. Figure 4-3, Hydraulic Oil Tank and Filter)

Oil and Filter Replacement

1. Operate the work platform until the hydraulic tank feels warm to the touch. To change filter only, go to Step 5.

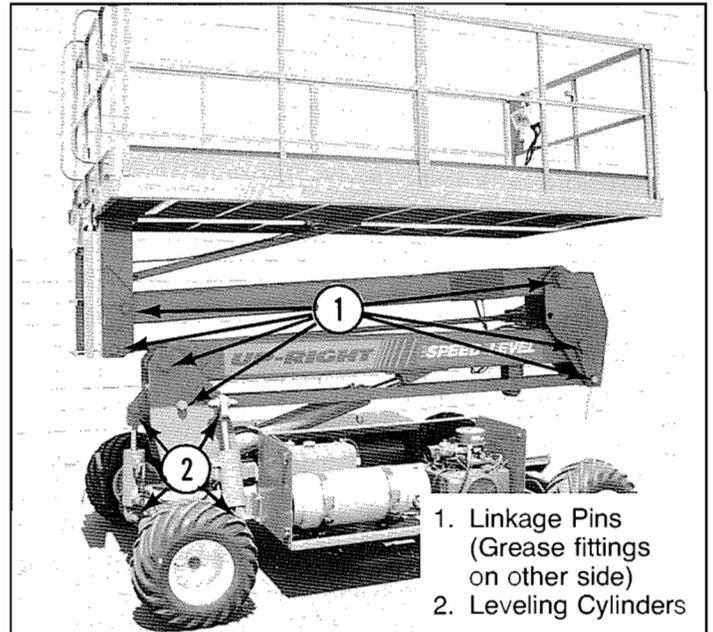


Figure 4-2
Lubrication Points (Grease)

WARNING

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. The hydraulic tank has an oil capacity of 12.0 gallons.
3. Remove the drain plug and allow all oil to drain.
4. Reinstall the drain plug.

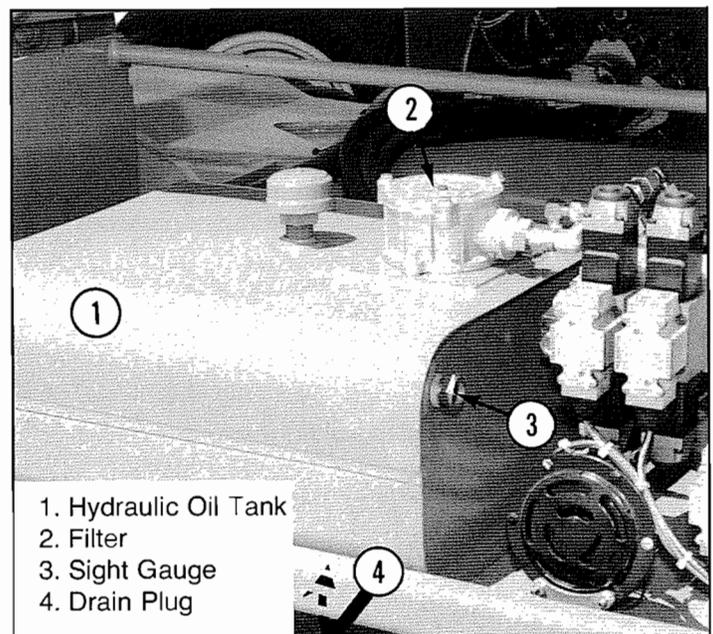


Figure 4-3
Hydraulic Oil Tank and Filter

5. Unscrew the filter top from the filter body.
6. Lift the filter element from the filter body.
7. Insert the replacement filter element into the filter body and press into position.
8. Fill the hydraulic oil tank to the level of the Sight Gauge with ISO #46 hydraulic oil or equivalent by pouring the oil into the top of the filter. Since the oil is being filtered as it is going into the tank, it will take a while to fill the tank completely.

SETTING HYDRAULIC PRESSURES

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

WARNING

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

The oil in the hydraulic system is under very high pressure which can easily cause severe cuts. Obtain medical assistance immediately if cut by hydraulic oil.

Main Relief Valve

(Ref. Figure 4-4, Hydraulic Manifold Assembly)

1. Operate the hydraulic system until the hydraulic reservoir feels warm to the touch.
2. Remove the gauge port plug and install a 0 – 3000 psi pressure gauge.
3. Remove the plug from the Main Relief Valve to expose the adjusting screw.
4. Remove the coils from both Drive Valves.
5. With the engine running and the Lift/Drive Switch in "DRIVE", position the Control Lever to "REVERSE" and hold until the system bypasses (approximately 2 seconds).
6. While holding the Control Lever in "REVERSE", set the pressure to 2500 psi maximum by slowly turning the adjusting screw clockwise to increase pressure.
7. Reinstall the coils on the Drive Valves.
8. Remove the pressure gauge and reinstall the plugs.

Counterbalance Valves

(Ref. Figure 4-4, Hydraulic Manifold Assembly).

1. Operate the hydraulic system until the hydraulic reservoir feels warm to the touch.
2. Remove the gauge port plug and install a 0 – 1000 psi pressure gauge.
3. Exchange the Main Relief Valve with the top Counterbalance Valve.
4. Remove the plug from the end of the valve to expose the adjusting screw.

5. Remove coils from both Drive Valves.
6. With the engine running and Lift/Drive Switch in "DRIVE", position the Control Lever to "REVERSE" and hold until the system bypasses (approximately 2 seconds).
7. While holding the Control Lever in "REVERSE", set the pressure to 500 psi maximum by slowly turning the adjusting screw clockwise to increase pressure.
8. Exchange the top Counterbalance Valve with the bottom Counterbalance Valve and repeat the procedure.
9. Be sure to reinstall the valves to their original locations and replace all plugs when finished setting pressures.

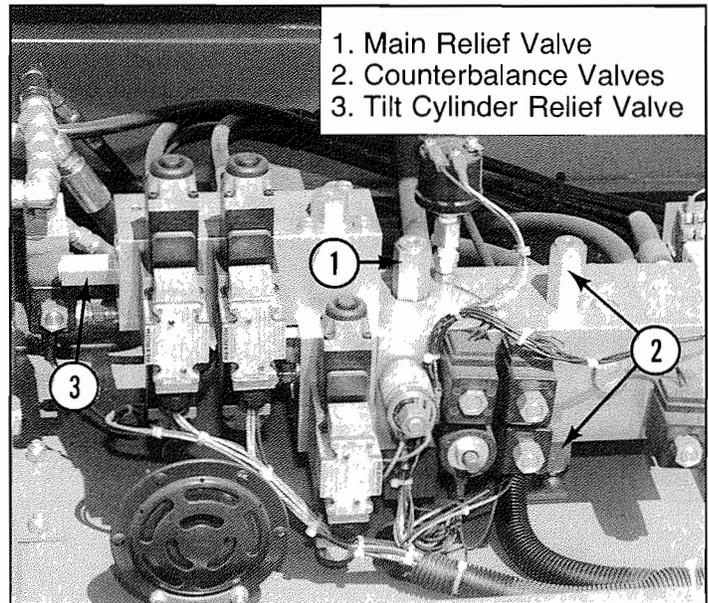


Figure 4-4
Hydraulic Manifold Assembly

Tilt Cylinder Relief Valve

(Ref. Figure 4-4, Hydraulic Manifold Assembly).

1. Operate the hydraulic system until the hydraulic reservoir feels warm to the touch.
2. Remove the gauge port plug and install a 0 – 1000 psi pressure gauge.
3. Remove the plug from the end of the valve to expose the adjusting screw.
4. With the engine running tilt the platform fully forward using the Fore/Aft Level Switch.
5. While holding the Level Switch forward, set the pressure to 500 psi maximum by slowly turning the adjusting screw, clockwise to increase pressure.
6. Replace the valve plug.
7. Remove the gauge and reinstall the plug.
8. Level the platform.

Steering Relief Valve

(Located on rear side of manifold block.)

1. Remove the top steering hose from back of the manifold and replace it with a 0 – 3000 psi gauge.
2. Block the end of the hose with a plug fitting. Block the fitting in the manifold block with a cap fitting.
3. Remove the plug from the end of the steering relief valve to expose the adjusting screw.
4. With the engine running, push the Steering Switch "RIGHT" and set the pressure to 1200 psi maximum by slowly turning the adjusting screw clockwise to increase pressure.
5. Replace the relief valve plug.
6. Remove the gauge and reinstall the hose.

Brake Pressure Reducing Valve

(Located on rear side of manifold block.)

1. Jack the work platform up to raise all four wheels off the ground and block securely.
2. Remove a hose from the outlet side of the Brake Release Valve and install a 0 – 1000 psi gauge in-line with a tee fitting.
3. With the engine running, position the Control Lever to "REVERSE" and hold.
4. While holding the Control Lever in "REVERSE", set the pressure to 350 – 450 psi maximum by slowly turning the adjusting screw clockwise to increase pressure.
5. Replace the valve plug.
6. Remove the gauge and tee fitting and reinstall the hose.
7. Remove the blocks and lower the machine.

SERVICING HYDRAULIC BRAKES, DRIVE MOTORS, AND HUBS (Rear Axle)

(Ref. Figure 4-5, Rear Axle Assembly – Exploded View)

Removal

1. Park the work platform on firm level ground and block the wheels to prevent the work platform from rolling.
2. Loosen the wheel lug bolts on the motor to be removed.
3. Raise the rear work platform using a 2-ton jack.
4. Position jack stands under the rear axle to prevent the work platform from falling if the jack fails.
5. Remove the wheel lug bolts and wheel.
6. Remove the cotter pin, nut, hub, and shaft key.

CAUTION

Use a ONLY a wheel puller to remove the hub. Using any other method of removal may damage the drive motor housing and void the warranty.

Clean all fittings before disconnecting the hose assemblies. Plug all port holes and hose assemblies IMMEDIATELY to prevent contamination from dust and debris.

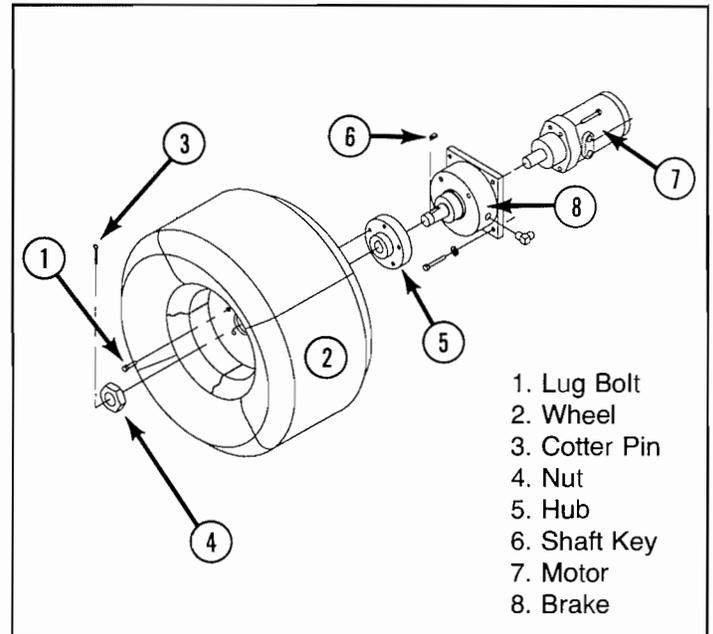


Figure 4-5
Rear Axle Assembly – Exploded View

1. Lug Bolt
2. Wheel
3. Cotter Pin
4. Nut
5. Hub
6. Shaft Key
7. Motor
8. Brake

7. Tag and disconnect the hose assemblies.
8. Remove the adaptor and crossover block assembly from the hydraulic motor.
9. Remove the capscrews and washer and the brake and drive motor assembly from the rear axle.
10. Remove the socket screws from the drive motor and then separate the brake from the drive motor.

Installation

1. Insert the drive motor shaft into the brake and secure with socket screws using Locktite retaining compound on the screws.
2. Position the drive motor and brake in the rear axle and secure with washers and capscrews.
3. Reinstall the adaptor and crossover block assembly to the hydraulic motor.
4. Reinstall the hose assemblies.
5. Reinstall the shaft key, hub, and nut. Torque each wheel hub nut to 350 ft. lbs. Align the slot in the nut with the hole in the shaft and insert the cotter pin. **DO NOT** back off the nut to align.
6. Reinstall the wheel and lug bolts onto the hub. Torque the lug bolts to 90 ft. lbs.
7. Remove the jack stands used to block the wheels. Lower the jack and remove. Operate the drive system to check for leaks.

SERVICING HYDRAULIC DRIVE MOTORS AND HUBS (Front Axle)

(Ref. Figure 4-6, Front Axle Assembly – Exploded View)

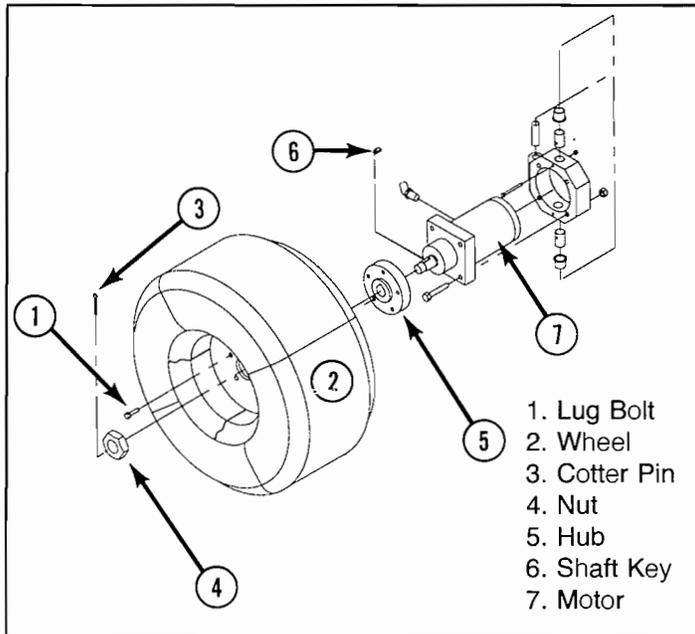


Figure 4-6

Front Axle Assembly – Exploded View

Removal

1. Park the work platform on firm level ground and block the wheels to prevent the work platform from rolling.
2. Loosen the wheel lug bolts on the motor to be removed.
3. Raise the front of the work platform using a 2-ton jack.
4. Position jack stands under the front axle to prevent the work platform from falling if the jack fails.
5. Remove the wheel lug bolts and wheel.
6. Remove the cotter pin, nut, hub, and shaft key.

CAUTION

Use a ONLY a wheel puller to remove the hub. Using any other method of removal may damage the drive motor housing and void the warranty.

Clean all fittings before disconnecting the hose assemblies. Plug all port holes and hose assemblies IMMEDIATELY to prevent contamination from dust and debris.

7. Tag and disconnect the hose assemblies.
8. Remove the adaptor from the hydraulic motor.
9. Remove the capscrews and nuts and then remove the drive motor from the front axle steering mount.

Installation

1. Position the drive motor into the steering mount and secure with capscrews and nuts.
2. Reinstall the adapters to the hydraulic motor.

3. Reinstall the hose assemblies.
4. Reinstall the shaft key, hub, and nut. Torque each wheel hub nut to 350 ft. lbs. Align the slot in the nut with the hole in the shaft and insert the cotter pin. **DO NOT** back off the nut to align.
5. Reinstall the wheel and lug bolts onto the hub. Torque the lug bolts to 90 ft. lbs.
6. Remove the jack stands used to block the wheels. Lower the jack and remove. Operate the drive system to check for leaks.

SWITCH ADJUSTMENTS

Platform Level Height Switch

(Ref. Figure 4-7, Platform Height Switch)

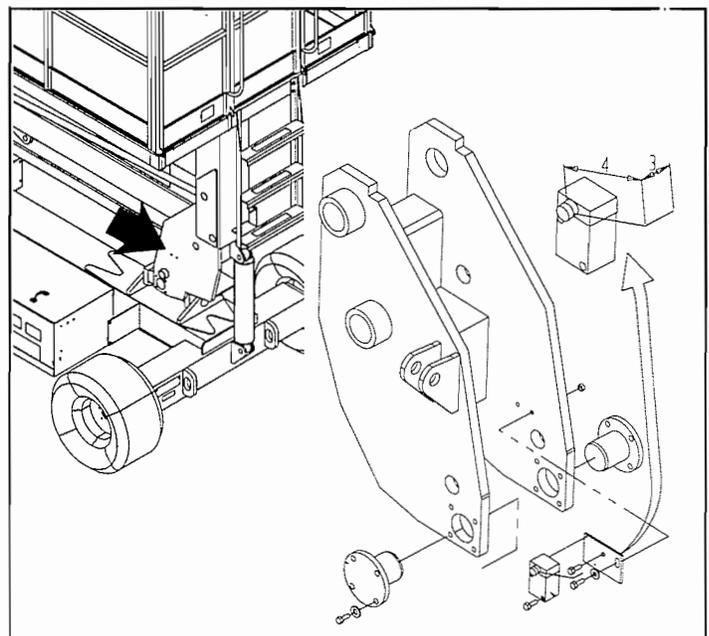


Figure 4-7

Platform Height Switch

1. Place machine on a level surface.
2. Raise the platform to 87 inches (± 2 inches) from the ground with the platform level.
3. Adjust the switch level so the switch just actuates.

Front Axle Switch

(Ref. Figure 4-8, Front Axle Switch)

1. Place the work platform on a level surface with the front and rear axles parallel (on the same plane).
2. Adjust the limit switch so it is centered in the front axle actuator linkage. When centered the switch will be open. Adjust using the allen head screw on the switch arm.
3. Test the switch function by positioning the front axle off center and raising the platform to at least eight feet. The work platform should not drive. Retest with the axle off center in the other direction.

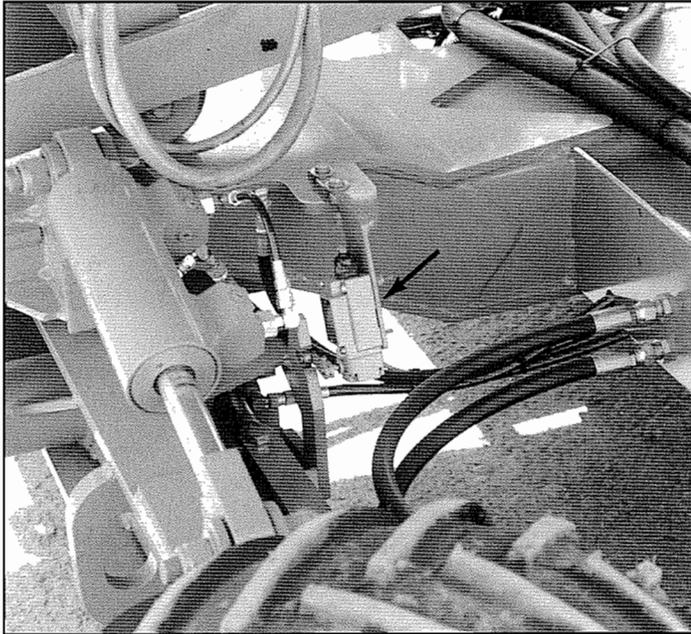


Figure 4-8
Front Axle Switch

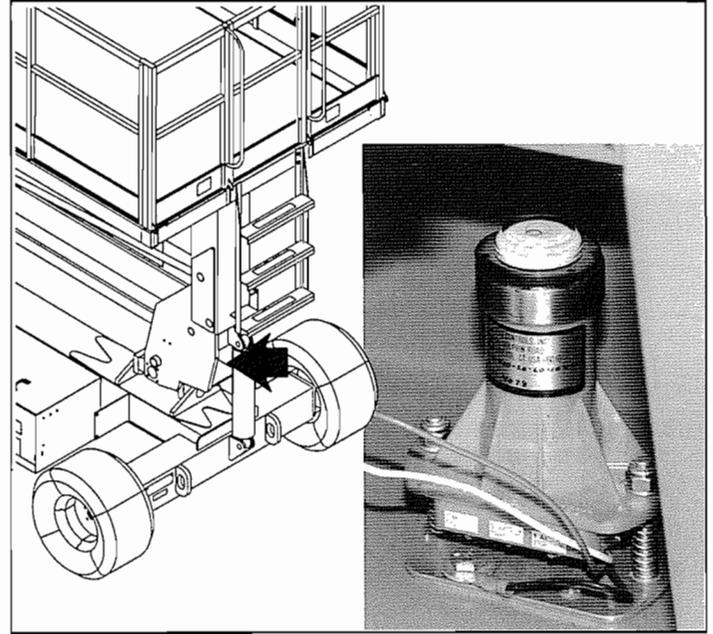


Figure 4-9
Level Switch

LEVELING SYSTEM ADJUSTMENT

Perform the following procedure whenever any leveling related component is replaced or adjusted.

1. Check the tire pressure and inflate, if necessary, to 50 psi.
2. Ensure that the platform is completely lowered.
3. Place the entire machine on a level surface ($\pm 1/4$ degree).
4. Using a precision level, check that the Chassis is level, front and rear ($\pm 1/4$ degree).
5. Verify that the limit switch is centered in the front axle actuator linkage. When centered the switch will be open. Adjust using the allen head screw on the switch arm.
6. Check mast perpendicularity by placing a precision level on the side and back of the mast. The mast must be perpendicular ($\pm 1/4$ degree). Adjust by actuating the Side/Side and/or Fore/Aft Level Switch.
7. Remove the cover plate to the level sensor located behind the Fore/Aft Tilt Cylinder. Place an orbit level adaptor tool on the level sensor cap. Using a mirror observe the orbit level and check to ensure that the bubble is in the circle. Adjust the level sensor with the three adjusting nuts and replace the cover plate. (Ref. Figure 4-9, Level Switch)
8. Check the platform orbit level mounted on the front guardrail. The bubble should be in the circle. Verify that the orbit level mounting bracket is secure. Adjust using the three orbit level mounting screws.
9. Check the work platform for proper operation.

STEERING CYLINDER ADJUSTMENT

1. Disconnect the cylinder rod ends.
2. Operate steering so that both ends of the cylinder rod are equal length ($\pm 1/32$ inch).
3. Position both tires so they are parallel with the frame and with each other.
4. Adjust the rod ends until they align with the holes on the steering linkage bars.
5. Reinstall the bolts through the steering linkage bars and rod ends. Tighten the jam nuts on the rod ends and all hardware.
6. When properly adjusted, the wheels must turn the same amount in each direction.

SERVICING THE AXLE CYLINDER

Removal

Be sure platform is fully down and that machine is on level ground.

1. Remove and cap the hoses.
2. Unscrew both cylinder retaining bolts noting the position of the washers. Remove the bolts from the cylinder and mounts.
3. Lift the cylinder from the mounts.

Installation

1. Completely fill both ends of cylinder with hydraulic oil.
2. Lay the cylinder on its side on a level table with the pilot operated check valves up.
3. Remove the pilot operated check valves from the ports.

4. Pour hydraulic oil into the cylinder through the pilot operated check valve ports.
5. The opening to the cylinder is small. Be careful to insure all air is removed and the cylinder is full of oil.
6. Reinstall the pilot operated check valve.
7. Attach both ends of the cylinder to mounts with cylinder retaining bolts.
8. Torque the retaining bolts to 150 ft. lbs.
9. Operate the work platform over rough terrain and check for proper function and leaks.

SERVICING THE LEVEL CYLINDER

NOTE: Do NOT support or raise the front of the platform during any maintenance operation as this might result in damage to the tension members.

Removal

1. Support the rear of the platform with a suitable overhead crane or forklift.
2. Mark, remove and cap the hoses and fittings.
3. Unscrew both retaining bolts noting the position of washers before removing.
4. While supporting the cylinder remove both the top and bottom retaining bolts.
5. Remove the cylinder.

Installation

1. Install the bottom retaining bolt.
2. Install both hoses.
3. Operate the tilt controls to extend or retract the cylinder so the top mounting holes are properly aligned.
4. Install the top retaining bolt.
5. Torque both retaining nuts on each pin to 350 ft. lbs.
6. Operate the level cylinder to check for proper function and leaks.

SERVICING THE LIFT CYLINDER

NOTE: Do NOT support or raise the front of the platform during any maintenance operation as this might result in damage to the tension members.

Removal

1. Raise and block the front of the elevating assembly approximately 12 inches above the chassis. Support with a jackstand with a minimum rating of 4000 lbs.
2. Open Emergency Down Valve to be sure all pressure is off the lift cylinder.
3. Remove and cap both hoses and fittings.
4. Support the lift cylinder to prevent falling.
5. Remove the set screw from the end of the cylinder.

6. Remove the retaining ring from the upper cylinder pin. Remove the upper cylinder pin by tapping out using a soft punch.
7. Remove the retaining bolt from the lower cylinder pin and remove the pin using a soft punch.
8. Remove the cylinder by sliding it out of the front of the machine.

Installation

NOTE: Before installing the cylinder, check the pins and bearings for excessive wear. Replace if necessary.

1. Place the cylinder in position taking care to support the cylinder to prevent falling.
2. Install the lower pin and retaining bolt.
3. Install the upper pin and retaining ring.
4. Install both hoses.
5. Raise the machine and check for leaks.

Section 5.

Troubleshooting

5.1 Introduction

The following section on troubleshooting provides guidelines on the types of problems users may encounter in the field, helps determine the cause of problems, and suggests proper corrective action.

Careful inspection and accurate analysis of the symptoms listed in the Troubleshooting Guide will localize the trouble more quickly than any other method. 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.

FOR SERVICE ASSISTANCE, IN THE USA, CALL:
1-800-926-LIFT
 FROM OVERSEAS, CALL 1-209-896-5150

5.2 Troubleshooting Guide

Table 5-1, Troubleshooting Guide

PROBLEM	PROBABLE CAUSE	REMEDY
START-UP PROBLEMS		
Engine fails to start. Does not crank or cranks slowly.	1. Battery terminals corroded or loose.	Check and tighten terminals.
	2. Discharged battery.	Check condition of battery. If serviceable, recharge battery. If defective, replace battery.
	3. Starter solenoid.	Replace the starter solenoid.
	4. Starter motor.	Repair or replace starter.
	5. Starter switch.	Replace the switch.
	6. Main fuse.	Check fuse and replace if required.
	7. Emergency stop switch.	Replace switch if inoperative.
	8. Key switch	Replace switch if inoperative.
Engine cranks but will not start.	1. Out of fuel	Fill tank.
	2. Blocked fuel line.	Remove obstruction.
	3. Fuel filter clogged.	Clean or replace filter.
	4. Air leaks in the fuel system.	Tighten all fuel line fittings or clamps.
	5. Water in fuel system.	Drain water separator and tank if necessary to remove all water.
	6. Shut-off solenoid damaged.	Check solenoid. Replace if inoperative.
	7. Fuel pump defective/damaged.	Replace the pump.
Engine starts then stops.	1. Low fuel level.	Fill fuel tank.
	2. Fuel filter clogged.	Clean or replace the filter element.
	3. Air leaks in the fuel system.	Tighten all fuel line connections and clamps.
	4. Water in the fuel.	Drain the filter separator and tank if necessary to remove all water.
	5. Fuel pump defective/damaged.	Replace the pump.

PROBLEM	PROBABLE CAUSE	REMEDY
START-UP PROBLEMS (Cont.)		
Engine starts then stops (cont.)	6. Clogged air filter.	Clean or replace air filter.
	7. Engine run switch defective or damaged.	Replace the switch.
Engine smokes (white).	1. Oil level too high in crankcase.	Drain oil to proper level.
	2. Piston rings worn or sticking.	Replace rings.
Loss of power.	1. Clogged air filter.	Clean or replace the filter.
	2. Clogged fuel filter.	Replace the filter.
	3. Incorrect fuel.	Drain and refill tank with proper fuel.
	4. Incorrect valve clearance.	Adjust to proper clearance.
	5. Fuel pump defective/damaged.	Replace the pump.
Engine stops.	1. Fuel tank empty.	Refill tank and prime system as required.
	2. Water in fuel	Drain fuel system to remove all water and refill with fresh fuel.
	3. Shut off solenoid failure.	Replace the solenoid.
All functions inoperable.	1. Blown control circuit fuse.	Check 15 amp control circuit fuse. Replace if blown.
	2. Faulty battery.	After completely charging the battery, test and replace as required.
	3. Faulty foot switch.	Check foot switch for continuity, replace if faulty.
	4. Faulty key switch.	Check key switch for continuity, replace if faulty.
	5. Emergency stop switch open.	With the emergency stop switch in the "ON" position, check continuity across the contacts. If none, replace.
	6. Hydraulic oil tank low.	Check hydraulic oil level, top off as required.

Table 5-1, Troubleshooting Guide (Cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
START-UP PROBLEMS (cont.)		
All functions inoperable (cont.)	7. Damaged drive coupling.	Remove pump from motor and check coupling.
	8. Faulty hydraulic pump.	Check pressure and delivery of the hydraulic pump. Replace if required.
Hourmeter does not register.	1. Electrical connections loose or connected improperly.	Tighten and/or correct the connections.
	2. Hourmeter failure.	Replace the meter.

OPERATING PROBLEMS

All console controls inoperative.	1. Blown fuse.	Find short. Replace fuse.
Platform will not elevate.	1. Manual lowering valve open.	Close valve.
	2. Platform overloaded.	Observe maximum load rating.
	3. Ruptured hydraulic hose.	Replace the hose and check relief valve setting.
	4. Lift valve solenoid.	Test solenoid and replace if inoperative.
	5. Circuit relief valve stuck open.	Replace the relief valve.
	6. Lift switch on control console.	Test switch, replace if inoperative.
	7. Drive/Lift switch.	Test the switch, replace if inoperative.
	8. Lift valve.	Repair or replace valve.
	9. Hydraulic pump.	Check for pressure and delivery. Repair or replace if inoperative.
	10. Down valve stuck open.	Remove and inspect the valve for sticky operation or damaged o-rings. Repair or replace if unserviceable.
	11. Proportional coil.	Test solenoid and replace if inoperative.
	12. Interlock relay.	Check for contact closure when energized. If contacts do not close, replace the relay.
	13. Platform level height switch.	Test switch and replace if inoperative.
	14. Proportional controller.	Test controller, replace if inoperative.
	15. Up/Forward relay.	Check for contact closure when energized. If contacts do not close, replace the relay.
	16. Pressure switch.	Test switch and replace if inoperative.
Unit will not steer. (Lift function operative.)	1. Steering valve coils (right and left).	Test coil, replace if inoperative.
	2. Open circuit in control cable.	Test cable for continuity, replace if inoperative.
	3. Steering valve.	Test valve, replace if not serviceable.
	4. Mechanical damage.	Replace damaged parts.

PROBLEM	PROBABLE CAUSE	REMEDY
OPERATING PROBLEMS (cont.)		
Unit will not steer (Lift function operative) (cont.)	5. Steering switch.	Replace steering switch.
	6. Steering dump coil.	Test coil and replace if inoperative.
	7. Diode.	Test diodes to steering dump valve. Replace if faulty.
Unit will not drive.	1. Drive/Lift switch.	Position switch in "DRIVE" position. Test switch and replace if inoperative.
	2. Forward or reverse solenoid valve.	Test solenoid and replace if inoperative.
	3. Control cable.	Test cable and replace if damaged.
	4. Ruptured hydraulic hose.	Replace hose.
	5. Proportional controller	Test controller and replace if inoperative.
	6. Main pressure relief valve.	Test relief valve and replace if not serviceable.
	7. Hydraulic pump	Test pump pressure and delivery. Replace if not serviceable.
	8. Hydraulic motors	Test hydraulic pressure at drive circuit. If normal, replace motors.
	9. Pressure switch	Test switch and replace if inoperative.
	10. Drive relay	Check for contact closure when energized. If contacts do not close, replace the relay.
	11. Interlock relay	Check for contact closure when energized. If contacts do not close, replace the relay.
	12. Platform level height switch	Test switch and replace if inoperative.
	13. Up/Forward relay	Check for contact closure when energized. If contacts do not close, replace the relay.
	14. Down/Reverse relay	Check for contact closure when energized. If contacts do not close, replace the relay.
	15. Axle Center switch	Test switch and replace if inoperative.
Unit will not drive full speed.	1. Series/Parallel valve solenoids	Test solenoid and replace if inoperative.
	2. Bypass valve (2nd speed)	Test solenoid and replace if inoperative.
	3. Control lever	Test the control and replace if inoperative.
	4. Hydraulic motors worn	Inspect the motors and replace if not serviceable.
	5. Hydraulic pump worn	Check pump pressure and delivery. Replace if not serviceable.
	6. Main pressure relief valve stuck open	Check relief valve and replace if inoperative.
	7. Torque selector/ drive speed switch	Replace switch.

Figure 5-1, Troubleshooting Guide (Cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
OPERATING PROBLEMS (cont.)		
Unit will not drive full speed. (cont.)	8. High speed relay	Check for contact closure when energized. If contacts do not close, replace the relay.
	9. Pressure switch	Test switch and replace if inoperable.
Brake does not release.	1. Pressure reducing valve	Check pressure at brake. Replace valve if not serviceable.
	2. Shuttle valve stuck	Clean or replace shuttle valve assembly.
Platform will not lower.	1. Blown fuse	Locate electrical short and then then replace fuse.
	2. Down valve solenoid coil	Test coil and replace if inoperable.
	3. Control cable	Check cable and replace if damaged.
	4. Control lever	Test control and replace if inoperable.
	5. Drive/Lift switch	Check switch and replace if inoperable.
	6. Down/Reverse relay.	Check for contact closure when energized. If contacts do not close, replace the relay.
Platform starts to lower then stops.	1. Hydraulic cylinder internal fuse blown (oil viscosity too high)	Raise platform slightly. Allow hydraulic oil to warm up, then lower platform.
Platform will not level.	1. Fore/Aft switch.	Test switch and replace if inoperable.
	2. Side/Side switch.	Test switch and replace if inoperable.
	3. Tilt fore coil.	Test coil and replace if inoperable.
	4. Tilt aft coil.	Test coil and replace if inoperable.
	5. Tilt right coil.	Test coil and replace if inoperable.
	6. Tilt left coil.	Test coil and replace if inoperable.
	7. Platform level height switch.	Test switch and replace if inoperable.
	8. Torque Selector/ Drive speed switch	Test switch connections and reconnect if loose.
Front axle will not float.	1. Pressure switch	Test switch and replace if inoperable.
	2. Axle center switch.	Test switch and replace if inoperable.
	3. High speed relay.	Check for contact closure when energized. If contacts do not close, replace the relay.
	4. Axle float valve valve solenoid.	Test coil and replace if inoperable.



Introduction

This section contains the Electrical Schematics, Hydraulic Schematic, and Manifold Valve Assembly, showing the major components.

The schematics are to be used in conjunction with **Table 5-1, Troubleshooting Guide**. They allow an understanding of the make-up and functions of the systems for checking, tracing, and fault-finding during the troubleshooting process.

The schematics/diagrams appear in the following order:

- Figure 6-2, Electrical Schematic, Diesel;
for machines w/serial nos. to 9159
- Figure 6-3, Electrical Schematic, Dual Fuel;
for machines w/serial nos. to 9159
- Figure 6-4, Electrical Schematic, Diesel;
for machines w/serial nos. 9160 to current
- Figure 6-5, Electrical Schematic, Dual Fuel;
for machines w/serial nos. 9160 to current
- Figure 6-6, Hydraulic Schematic
- Figure 6-7, Manifold Valve Assembly

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.

Refer to Figure 1 to aid in finding the terminal referenced on the Electrical Schematics.

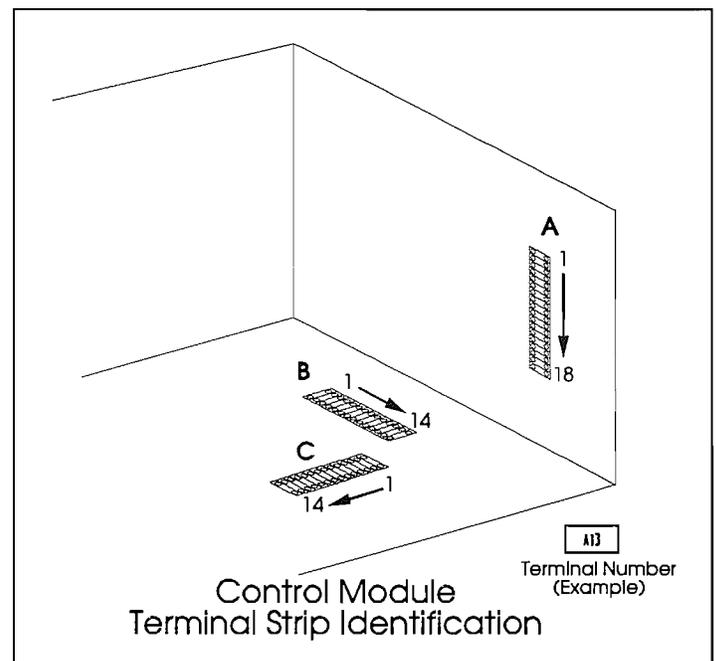


Figure 1: Terminal Strip Identification

Table 6-1: Electrical Schematic Legend

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
ALM1	Down Alarm	Provides warning sound when deck is lowering	Control Module, center front
ALM2	Platform Tilt Alarm	Provides warning sound when platform is not level	Inside Controller
BAT	Battery, 12 volts	Stores energy to start engine	Power module
CONT	Proportional Controller & Steering Switch	Supplies power to Up/Fwd Relay or Dn/Rev Relay and Proportional Coil and to R & L Steer coils.	Platform Controller (Control Box)
CO1	Throttle Solenoid	Controls Engine RPM	Left side of Engine Carburetor
CO2	Run Solenoid	Shuts off fuel flow	Right side of Engine Idle Coil
CR1	Start Solenoid	Connects battery to starter motor	Power Module
CR2	Drive Relay	Cuts power to forward and reverse solenoids if platform is elevated and not level	Control Module
CR3	Up/Fwd Relay	Provides power to Up/Fwd contacts in Drive/Lift Switch	Controller
CR4	Dn/Rev Relay	Provides power to Dn/Rev contacts in Drive/Lift Switch	Controller
CR5	Accelerator Relay	Controls engine idle and full RPM	Control Module
CR6	Platform Off Level Interlock Relay	Prevents lift and drive when platform is not level above 86 in.	Control Module
CR7	High Speed Relay	Controls Second Speed Valve and Series/Parallel Valves to cut out high speed when elevated	Control Module
CR8	Down Alarm Relay	Provides power to Down Alarm	Control Module
CR9	Glow Plug Relay	Provides power to Indicator and Glow Plugs	Top rear of Engine
CR10	Start Relay	Engages Starter Relay	Next to Battery in Power Module
CR11	Run Relay	Engages fuel shutoff	Control Module
DIO1	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during FORWARD operation	Terminal Strip between terminals A4 and A6
DIO2	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during REVERSE operation	Terminal Strip between terminals A7 and A6
DIO3	Diode	Supplies power to Down Alarm from down circuit	Terminal Strip between terminals A8 and A9
DIO4	Diode	Supplies power from lift circuit to Off Level Interlock & Drive Relays and Accelerator Relay coil	Terminal Strip between terminals A5 and A10
DIO5	Diode	Prevents feedback to down circuit from high speed drive circuit	Terminal Strip between terminals A8 and A16

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
DIO6	Diode	Supplies power to 2nd Speed Coil during lift	Terminal Strip between terminals C10 and C11
DIO7	Diode	Energizes Down Valve during high speed drive	Terminal Strip between terminals B14 and A16
DIO8	Diode	Supplies power to Steering Dump Valve during steer left	Terminal Strip between terminals C3 and C5
DIO9	Diode	Supplies power to Steering Dump Valve during steer right	Terminal Strip between terminals C4 and C5
DIO10	Diode	Supplies power to Steering Dump Valve during tilt forward	Terminal Strip between terminals C8 and C5
DIO11	Diode	Supplies power to Steering Dump Valve during tilt aft	Terminal Strip between terminals C9 and C5
DIO12	Diode	Supplies power to Steering Dump Valve during tilt right	Terminal Strip between terminals C6 and C5
DIO13	Diode	Supplies power to Steering Dump Valve during tilt left	Terminal Strip between terminals C7 and C5
DIO14	Diode	Prevents feedback from Off Level Sensor	Terminal Strip between terminals B9 and B10
DIO15	Diode	Prevents feedback to High Speed circuit	Connected between terminal B14 and the Drive Relay
FU1	15 Amp Fuse	Overload protection	Top left side of Control Module
FU2	15 AMP Fuse	Overload protection for the Run, Throttle, & Horn Relays, Oil Pressure Switch and Run Solenoid	Right front of Control Module, upper Fuse in Chassis Control Panel
GP(s)	Glow Plugs	Preheats cylinders to aid in starting a cold engine	Screwed into cylinder head
IND	Indicator, Glow Plugs	Indicates that Glow Plugs are on and Functioning	Rear of Engine to the right of Glow Plug Relay
HM	Hour meter	Records hours of engine operation	Control Module
LSW1	Platform Level Height Switch	Cuts power to leveling and high speed drive	Elevating Assembly
LSW2	Axle Center Switch	Cuts power to Drive circuits when elevated and front axle is not parallel with rear axle	Left side of chassis behind front axle
PSW1	Hydraulic Pressure (NC) Switch (first contact set)	Cuts power to High Speed relay and Axle Float solenoid when there is pressure in lift circuit	Top of manifold assembly
PSW2	Pressure Switch, Engine Oil, normally open	Stops fuel if engine loses oil pressure	Top right of engine
OLS	Off Level Sensor	Cuts out tilt and drive functions if elevated platform is off level	Elevating Assembly
SOL1	Axle Float Valve Solenoid	Allows front axle to oscillate when platform is fully lowered	Mounted between Manifold Assembly and Hydraulic Tank
SOL2	Steering Dump Solenoid	Closes in conjunction with steering solenoid to direct oil pressure to Steering and Tilt Cylinder	Mounted on rear of upper block of Manifold Assembly

Table 6-2: Electrical Schematic Legend

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION	REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
ALM1	Down Alarm	Provides warning sound when deck is lowering	Control Module, center front	DIO6	Diode	Supplies power to 2nd Speed Coil during lift	Terminal Strip between terminals C10 and C11
ALM2	Platform Tilt Alarm	Provides warning sound when platform is not level	Inside Controller	DIO7	Diode	Energizes Down Valve during high speed drive	Terminal Strip between terminals B14 and A16
BAT	Battery, 12 volts	Stores energy to start engine	Power module	DIO8	Diode	Supplies power to Steering Dump Valve during steer left	Terminal Strip between terminals C3 and C5
CONT	Proportional Controller & Steering Switch	Supplies power to Up/Fwd Relay or Dry/Rev Relay and Proportional Coil and to R & L Steer coils	Platform Controller (Control Box)	DIO9	Diode	Supplies power to Steering Dump Valve during steer right	Terminal Strip between terminals C4 and C5
CO1	Choke Coil	Opens Choke as Engine warms up	Right side of Engine Carburetor	DIO10	Diode	Supplies power to Steering Dump Valve during tilt forward	Terminal Strip between terminals C8 and C5
CO2	Engine Idle Coil	Holds throttle in idle position	Left side of Engine Carburetor	DIO11	Diode	Supplies power to Steering Dump Valve during tilt aft	Terminal Strip between terminals C9 and C5
CO3	Fuel Shut-off Coil	Allows fuel flow to Carburetor	Right side of Engine Idle Coil	DIO12	Diode	Supplies power to Steering Dump Valve during tilt right	Terminal Strip between terminals C6 and C5
CO4	Gasoline Valve Coil	Allows gasoline to flow to Fuel Shut-off Valve	In front of Battery on module floor	DIO13	Diode	Supplies power to Steering Dump Valve during tilt left	Terminal Strip between terminals C7 and C5
CO5	L.P. Gas Valve Coil	Allows L.P. Gas to flow to Fuel Shut-off Valve	Left side of Engine, mounted to L.P. Gas Regulator	DIO14	Diode	Prevents feedback from Off Level Sensor	Terminal Strip between terminals B9 and B10
CR1	Start Solenoid	Connects battery to starter motor	Power Module	DIO15	Diode	Prevents feedback to Fuel Cutoff Valves	Connected to Accelerator Relay
CR2	Drive Relay	Cuts power to forward and reverse solenoids if platform is elevated and not level	Control Module	DIO16	Diode	Prevents feedback to Fuel Cutoff Valves	Connected to Engine Oil Pressure Switch PSW3
CR3	Up/Fwd Relay	Provides power to Up/Fwd contacts in Drive/Lift Switch	Controller	DIO17	Diode	Prevents feedback to High Speed circuit	Connected between Terminal B14 and the Drive Relay
CR4	Dry/Rev Relay	Provides power to Dry/Rev contacts in Drive/Lift Switch	Controller	FU1	15 Amp Fuse	Overload protection	Top left side of Control Module
CR5	Accelerator Relay	Controls engine idle and full RPM	Control Module	HM	Hour meter	Records hours of engine operation	Control Module
CR6	Platform Off Level Interlock Relay	Prevents lift and drive when platform is not level above 86 in.	Control Module	LSW1	Platform Level Height Switch	Cuts power to leveling and high speed drive	Elevating Assembly
CR7	High Speed Relay	Controls Second Speed Valve and Series/Parallel Valves to cut out high speed when elevated	Control Module	LSW2	Axle Center Switch	Cuts power to Drive circuits when elevated and front axle is not parallel with rear axle	Left side of chassis behind front axle
DIO1	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during FORWARD operation	Terminal Strip between terminals A4 and A6	PSW1	Hydraulic Pressure (NC) Switch	Cuts power to High Speed relay and Axle Float solenoid when there is pressure in lift circuit	Top of manifold assembly
DIO2	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during REVERSE operation	Terminal Strip between terminals A7 and A6	PSW2	Pressure Switch, Engine Oil, normally closed.	Stops ignition if engine loses oil pressure	Right of engine
DIO3	Diode	Supplies power to Down Alarm from down circuit	Terminal Strip between terminals A8 and A9	PSW3	Pressure Switch, Engine Oil, normally open.	Stops fuel if engine loses oil pressure	Right of engine
DIO4	Diode	Supplies power from lift circuit to Off Level Interlock & Drive Relays and Accelerator Relay coil	Terminal Strip between terminals A5 and A10	OLS	Off Level Sensor	Cuts out tilt and drive functions if elevated platform is off level	Elevating Assembly
DIO5	Diode	Prevents feedback to down circuit from high speed drive circuit	Terminal Strip between terminals A8 and A16	SOL1	Axle Float Valve Solenoid	Allows front axle to oscillate when platform is fully lowered	Mounted between Manifold Assembly and Hydraulic Tank
				SOL2	Steering Dump Solenoid	Closes in conjunction with steering solenoid to direct oil pressure to Steering and Tilt Cylinder	Mounted on rear of upper block of Manifold Assembly

Table 6-2: Electrical Schematic Legend

NAME	FUNCTION	LOCATION
Right Steer (coil) Solenoid	Shifts Steer Valve to RIGHT turn position.	Top end of Spool Valve mounted on left front of Manifold Block.
Left Steer (coil) Solenoid	Shifts Steer Valve to LEFT turn position.	Bottom end of Spool Valve mounted on left front of Manifold Block.
Lift Solenoid	Directs oil to cylinder to raise platform	Top front of Manifold Assembly
Forward Solenoid	Directs oil through drive circuit for forward motion	Top front of Manifold Assembly
Reverse Solenoid	Directs oil through drive circuit for reverse motion	Bottom front of Manifold Assembly
Down Solenoid	Opens to allow oil to flow from lift cylinder for platform descent	Bottom front of Manifold Assembly
Second Speed Solenoid	Closes to shift drive speed from second speed to full speed	Left front of Manifold Assembly
Series/Parallel Solenoid	Shifts to change from parallel drive (high torque) to series (high speed)	Right front of Manifold Assembly
Series/Parallel Solenoid	Shifts to change from parallel drive (high torque) to series drive (high speed)	Right end of Manifold Assembly
Tilt Fore Solenoid	Directs oil to tilt platform forward	Bottom end of spool valve mounted on left front of top auxiliary block on Manifold Assembly
Tilt Aft Solenoid	Directs oil to tilt platform to rear	Top end of spool valve mounted on left front of top auxiliary block on Manifold Assembly
Tilt Right Solenoid	Directs oil to tilt platform to right	Top end of spool valve mounted on center front of top auxiliary block on Manifold Assembly
Tilt Left Solenoid	Direct oil to tilt platform to left	Bottom end of spool valve mounted on center front of top auxiliary block on Manifold Assembly
Proportional Solenoid	Controls Proportional Valve.	Bottom left of Manifold Assembly.
Chassis Emergency Stop Switch	Kills engine, cuts power to all functions	Control Module
Platform Emergency Stop Switch	Kills engine, cuts power to all functions	Controller
Key Switch	Starts and kills engine, provides power to all functions	Controller
Torque Selector Switch	Selects either high torque drive or high speed drive capabilities	Controller
Lift/Lower Switch, Chassis	Lower control switch for lift and lower functions	Control Module
Drive/Lift Selector Switch	Selects either horizontal travel or vertical travel	Controller

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
SW7	Fuel Selector Switch	Selects either propane or gasoline	Controller
SW8	Side/Side Level Switch	Directs power to Tilt Right or Tilt Left Solenoids	Controller
SW9	Fore/Aft Level Switch	Directs power to Tilt Fore or Tilt Aft Solenoids	Controller
SW10	Foot Switch	Provides power to all functions in Controller	Platform

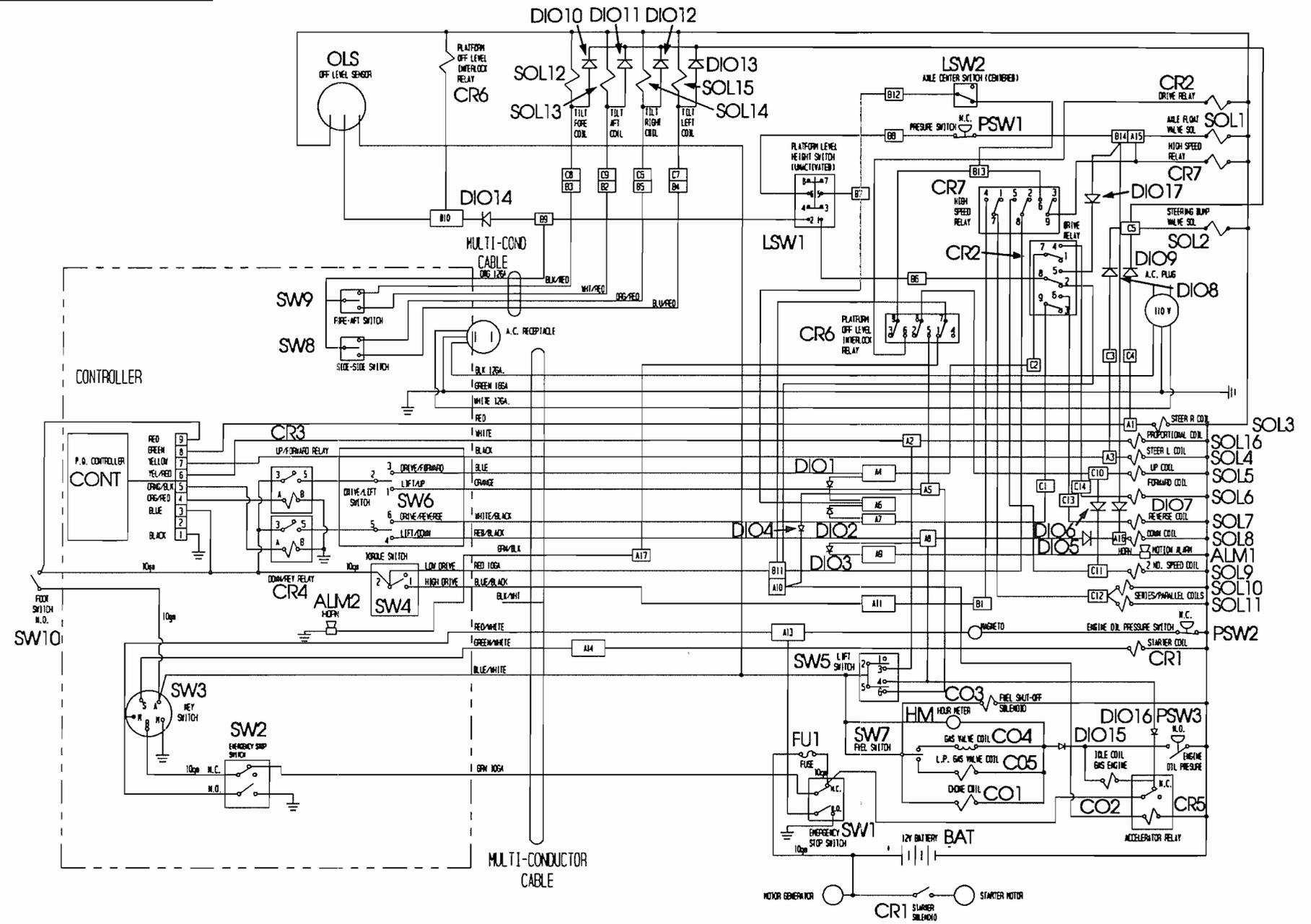


Figure 6-3: Electrical Schematic, Dual Fuel; For Machines With Serial Numbers to 9159

SECTION SIX Schematics

Table 6-3: Electrical Schematic Legend

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
ALM1	Down Alarm	Provides warning sound when deck is lowering	Control Module, center front
ALM2	Platform Tilt Alarm	Provides warning sound when platform is not level	Inside Controller
BAT	Battery, 12 volts	Stores energy to start engine	Power module
CONT	Proportional Controller & Steering Switch	Supplies power to Up/Fwd Relay or Dn/Rev Relay and Proportional Coil and to R & L Steer coils.	Platform Controller (Control Box)
CO1	Throttle Solenoid	Controls Engine RPM	Left side of Engine Carburetor
CO2	Run Solenoid	Shuts off fuel flow	Right side of Engine Idle Coil
CR1	Start Solenoid	Connects battery to starter motor	Power Module
CR2	Drive Relay	Cuts power to forward and reverse solenoids if platform is elevated and not level	Control Module
CR3	Up/Fwd Relay	Provides power to Up/Fwd contacts in Drive/Lift Switch	Controller
CR4	Dn/Rev Relay	Provides power to Dn/Rev contacts in Drive/Lift Switch	Controller
CR5	Accelerator Relay	Controls engine idle and full RPM	Control Module
CR6	Platform Off Level Interlock Relay	Prevents lift and drive when platform is not level above 86 in.	Control Module
CR7	High Speed Relay	Controls Second Speed Valve and Series/Parallel Valves to cut out high speed when elevated	Control Module
CR8	Down Alarm Relay	Provides power to Down Alarm	Control Module
CR9	Glow Plug Relay	Provides power to Indicator and Glow Plugs	Top rear of Engine
CR10	Start Relay	Engages Starter Relay	Next to Battery in Power Module
CR11	Run Relay	Engages fuel shutoff	Control Module
DIO1	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during FORWARD operation	Terminal Strip between terminals A4 and A6
DIO2	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during REVERSE operation	Terminal Strip between terminals A7 and A6
DIO3	Diode	Supplies power to Down Alarm from down circuit	Terminal Strip between terminals A8 and A9
DIO4	Diode	Supplies power from lift circuit to Off Level Interlock & Drive Relays and Accelerator Relay coil	Terminal Strip between terminals A5 and A10
DIO5	Diode	Prevents feedback to down circuit from high speed drive circuit	Terminal Strip between terminals A8 and A16

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
DIO6	Diode	Supplies power to 2nd Speed Coil during lift	Terminal Strip between terminals C10 and C11
DIO7	Diode	Energizes Down Valve during high speed drive	Terminal Strip between terminals B14 and A16
DIO8	Diode	Supplies power to Steering Dump Valve during steer left	Terminal Strip between terminals C3 and C5
DIO9	Diode	Supplies power to Steering Dump Valve during steer right	Terminal Strip between terminals C4 and C5
DIO10	Diode	Supplies power to Steering Dump Valve during tilt forward	Terminal Strip between terminals C8 and C5
DIO11	Diode	Supplies power to Steering Dump Valve during tilt aft	Terminal Strip between terminals C9 and C5
DIO12	Diode	Supplies power to Steering Dump Valve during tilt right	Terminal Strip between terminals C6 and C5
DIO13	Diode	Supplies power to Steering Dump Valve during tilt left	Terminal Strip between terminals C7 and C5
DIO14	Diode	Prevents feedback from Off Level Sensor	Terminal Strip between terminals B9 and B10
FU1	15 Amp Fuse	Overload protection	Top left side of Control Module
FU2	15 AMP Fuse	Overload protection for the Run, Throttle, & Horn Relays, Oil Pressure Switch and Run Solenoid	Right front of Control Module, upper Fuse in Chassis Control Panel
GP(s)	Glow Plugs	Preheats cylinders to aid in starting a cold engine	Screwed into cylinder head
IND	Indicator, Glow Plugs	Indicates that Glow Plugs are on and Functioning	Rear of Engine to the right of Glow Plug Relay
HM	Hour meter	Records hours of engine operation	Control Module
LSW1	Platform Level Height Switch	Cuts power to leveling and high speed drive	Elevating Assembly
LSW2	Axle Center Switch	Cuts power to Drive circuits when elevated and front axle is not parallel with rear axle	Left side of chassis behind front axle
PSW1	Hydraulic Pressure (NC) Switch (first contact set) (second contact set)	Cuts power to High Speed relay and Axle Float solenoid when there is pressure in lift circuit Engages Off Level Sensor for elevated drive	Top of manifold assembly
PSW2	Pressure Switch, Engine Oil, normally open	Stops fuel if engine loses oil pressure	Top right of engine
OLS	Off Level Sensor	Cuts out tilt and drive functions if elevated platform is off level	Elevating Assembly
SOL1	Axle Float Valve Solenoid	Allows front axle to oscillate when platform is fully lowered	Mounted between Manifold Assembly and Hydraulic Tank
SOL2	Steering Dump Solenoid	Closes in conjunction with steering solenoid to direct oil pressure to Steering and Tilt Cylinder	Mounted on rear of upper block of Manifold Assembly

Schematics

NAME	FUNCTION	LOCATION
Right Steer (coil) Solenoid	Shifts Steer Valve to RIGHT turn position.	Top end of Spool Valve mounted on left front of Manifold Block.
Left Steer (coil) Solenoid	Shifts Steer Valve to LEFT turn position.	Bottom end of Spool Valve mounted on left front of Manifold Block.
Lift Solenoid	Directs oil to cylinder to raise platform	Top front of Manifold Assembly
Forward Solenoid	Directs oil through drive circuit for forward motion	Top front of Manifold Assembly
Reverse Solenoid	Directs oil through drive circuit for reverse motion	Bottom front of Manifold Assembly
Down Solenoid	Opens to allow oil to flow from lift cylinder for platform descent	Bottom front of Manifold Assembly
Second Speed Solenoid	Closes to shift drive speed from second speed to full speed	Left front of Manifold Assembly
Series/Parallel Solenoid	Shifts to change from parallel drive (high torque) to series (high speed)	Right front of Manifold Assembly
Series/Parallel Solenoid	Shifts to change from parallel drive (high torque) to series drive (high speed)	Right end of Manifold Assembly
Tilt Fore Solenoid	Directs oil to tilt platform forward	Bottom end of spool valve mounted on left front of top auxiliary block on Manifold Assembly
Tilt Aft Solenoid	Directs oil to tilt platform to rear	Top end of spool valve mounted on left front of top auxiliary block on Manifold Assembly
Tilt Right Solenoid	Directs oil to tilt platform to right	Top end of spool valve mounted on center front of top auxiliary block on Manifold Assembly
Tilt Left Solenoid	Direct oil to tilt platform to left	Bottom end of spool valve mounted on center front of top auxiliary block on Manifold Assembly
Proportional Solenoid	Controls Proportional Valve.	Bottom left of Manifold Assembly.
Chassis Emergency Stop Switch	Kills engine, cuts power to all functions	Control Module
Platform Emergency Stop Button	Kills engine, cuts power to all functions	Controller
Key Switch	Starts and kills engine, provides power to all functions	Controller
Torque Selector Switch	Selects either high torque drive or high speed drive capabilities	Controller
Lift/Lower Switch, Chassis	Lower control switch for lift and lower functions	Control Module
Drive/Lift Selector Switch	Selects either horizontal travel or vertical travel	Controller

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
SW7	Side/Side Level Switch	Directs power to Tilt Right or Tilt Left Solenoids	Controller
SW8	Fore/Aft Level Switch	Directs power to Tilt Fore or Tilt Aft Solenoids	Controller
SW9	Foot Switch	Provides power to all functions in Controller	Platform

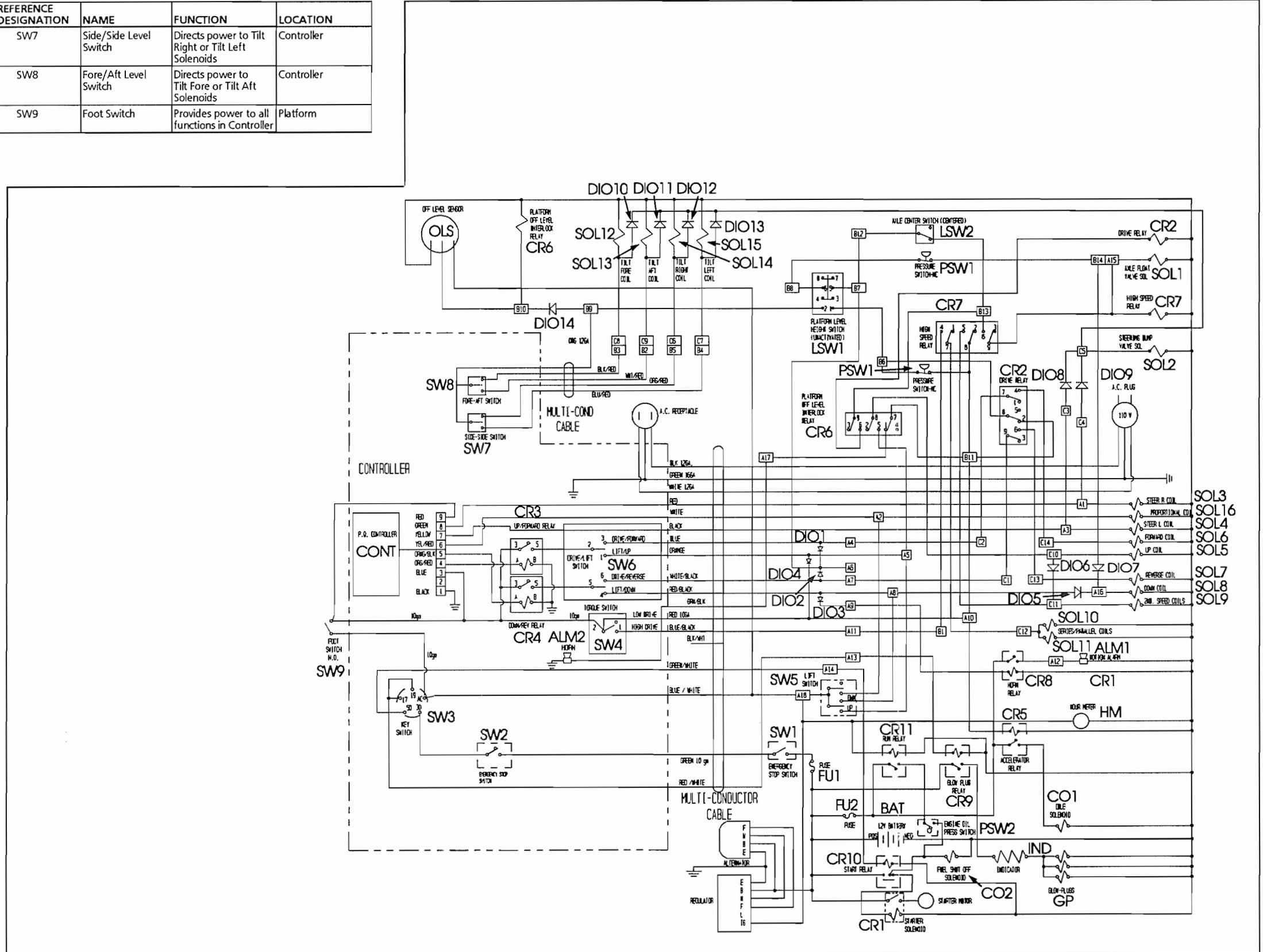


Figure 6-4: Electrical Schematic, Diesel; For Machines With Serial Numbers From 9160 to Current

Table 6-4: Electrical Schematic Legend

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
ALM1	Down Alarm	Provides warning sound when deck is lowering	Control Module, center front
ALM2	Platform Tilt Alarm	Provides warning sound when platform is not level	Inside Controller
BAT	Battery, 12 volts	Stores energy to start engine	Power module
CONT	Proportional Controller & Steering Switch	Supplies power to Up/Fwd Relay or Dn/Rev Relay and Proportional Coil and to R & L Steer coils.	Platform Controller (Control Box)
CO1	Choke Coil	Opens Choke as Engine warms up	Right side of Engine Carburetor
CO2	Engine Idle Coil	Holds throttle in idle position	Left side of Engine Carburetor
CO3	Fuel Shut-off Coil	Allows fuel flow to Carburetor	Right side of Engine Idle Coil
CO4	Gasoline Valve Coil	Allows gasoline to flow to Fuel Shut-off Valve	In front of Battery on module floor
CO5	L.P. Gas Valve Coil	Allows L.P. Gas to flow to Fuel Shut-off Valve	Left side of Engine, mounted to L.P. Gas Regulator
CR1	Start Solenoid	Connects battery to starter motor	Power Module
CR2	Drive Relay	Cuts power to forward and reverse solenoids if platform is elevated and not level	Control Module
CR3	Up/Fwd Relay	Provides power to Up/Fwd contacts in Drive/Lift Switch	Controller
CR4	Dn/Rev Relay	Provides power to Dn/Rev contacts in Drive/Lift Switch	Controller
CR5	Accelerator Relay	Controls engine idle and full RPM	Control Module
CR6	Platform Off Level Interlock Relay	Prevents lift and drive when platform is not level above 86 in.	Control Module
CR7	High Speed Relay	Controls Second Speed Valve and Series/Parallel Valves to cut out high speed when elevated	Control Module
DIO1	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during FORWARD operation	Terminal Strip between terminals A4 and A6
DIO2	Diode	Supplies power to Platform Level Height and Axle Center Switches from Drive/Lift Switch during REVERSE operation	Terminal Strip between terminals A7 and A6
DIO3	Diode	Supplies power to Down Alarm from down circuit	Terminal Strip between terminals A8 and A9
DIO4	Diode	Supplies power from lift circuit to Off Level Interlock & Drive Relays and Accelerator Relay coil	Terminal Strip between terminals A5 and A10
DIO5	Diode	Prevents feedback to down circuit from high speed drive circuit	Terminal Strip between terminals A8 and A16

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
DIO6	Diode	Supplies power to 2nd Speed Coil during lift	Terminal Strip between terminals C10 and C11
DIO7	Diode	Energizes Down Valve during high speed drive	Terminal Strip between terminals B14 and A16
DIO8	Diode	Supplies power to Steering Dump Valve during steer left	Terminal Strip between terminals C3 and C5
DIO9	Diode	Supplies power to Steering Dump Valve during steer right	Terminal Strip between terminals C4 and C5
DIO10	Diode	Supplies power to Steering Dump Valve during tilt forward	Terminal Strip between terminals C8 and C5
DIO11	Diode	Supplies power to Steering Dump Valve during tilt aft	Terminal Strip between terminals C9 and C5
DIO12	Diode	Supplies power to Steering Dump Valve during tilt right	Terminal Strip between terminals C6 and C5
DIO13	Diode	Supplies power to Steering Dump Valve during tilt left	Terminal Strip between terminals C7 and C5
DIO14	Diode	Prevents feedback from Off Level Sensor	Terminal Strip between terminals B9 and B10
DIO15	Diode	Prevents feedback to Fuel Cutoff Valves	Connected to Accelerator Relay
DIO16	Diode	Prevents feedback to Fuel Cutoff Valves	Connected to Engine Oil Pressure Switch PSW3
FU1	15 Amp Fuse	Overload protection	Top left side of Control Module
HM	Hour meter	Records hours of engine operation	Control Module
LSW1	Platform Level Height Switch	Cuts power to leveling and high speed drive	Elevating Assembly
LSW2	Axle Center Switch	Cuts power to Drive circuits when elevated and front axle is not parallel with rear axle	Left side of chassis behind front axle
PSW1	Hydraulic Pressure (NC) Switch (first contact set)	Cuts power to High Speed relay and Axle Float solenoid when there is pressure in lift circuit	Top of manifold assembly
		(second contact set)	Engages Off Level Sensor for elevated drive
PSW2	Pressure Switch, Engine Oil, normally closed	Stops ignition if engine loses oil pressure	Right of engine
PSW3	Pressure Switch, Engine Oil, normally open	Stops fuel if engine loses oil pressure	Right of engine
OLS	Off Level Sensor	Cuts out tilt and drive functions if elevated platform is off level	Elevating Assembly
SOL1	Axle Float Valve Solenoid	Allows front axle to oscillate when platform is fully lowered	Mounted between Manifold Assembly and Hydraulic Tank
SOL2	Steering Dump Solenoid	Closes in conjunction with steering solenoid to direct oil pressure to Steering and Tilt Cylinder	Mounted on rear of upper block of Manifold Assembly

Table 6-4: Electrical Schematic Legend

NAME	FUNCTION	LOCATION
Right Steer (coil) Solenoid	Shifts Steer Valve to RIGHT turn position.	Top end of Spool Valve mounted on left front of Manifold Block.
Left Steer (coil) Solenoid	Shifts Steer Valve to LEFT turn position.	Bottom end of Spool Valve mounted on left front of Manifold Block.
Lift Solenoid	Directs oil to cylinder to raise platform	Top front of Manifold Assembly
Forward Solenoid	Directs oil through drive circuit for forward motion	Top front of Manifold Assembly
Reverse Solenoid	Directs oil through drive circuit for reverse motion	Bottom front of Manifold Assembly
Down Solenoid	Opens to allow oil to flow from lift cylinder for platform descent	Bottom front of Manifold Assembly
Second Speed Solenoid	Closes to shift drive speed from second speed to full speed	Left front of Manifold Assembly
Series/Parallel Solenoid	Shifts to change from parallel drive (high torque) to series (high speed)	Right front of Manifold Assembly
Series/Parallel Solenoid	Shifts to change from parallel drive (high torque) to series drive (high speed)	Right end of Manifold Assembly
Tilt Fore Solenoid	Directs oil to tilt platform forward	Bottom end of spool valve mounted on left front of top auxiliary block on Manifold Assembly
Tilt Aft Solenoid	Directs oil to tilt platform to rear	Top end of spool valve mounted on left front of top auxiliary block on Manifold Assembly
Tilt Right Solenoid	Directs oil to tilt platform to right	Top end of spool valve mounted on center front of top auxiliary block on Manifold Assembly
Tilt Left Solenoid	Direct oil to tilt platform to left	Bottom end of spool valve mounted on center front of top auxiliary block on Manifold Assembly
Proportional Solenoid	Controls Proportional Valve.	Bottom left of Manifold Assembly.
Chassis Emergency Stop Switch	Kills engine, cuts power to all functions	Control Module
Platform Emergency Stop Switch	Kills engine, cuts power to all functions	Controller
Key Switch	Starts and kills engine, provides power to all functions	Controller
Torque Selector Switch	Selects either high torque drive or high speed drive capabilities	Controller
Lift/Lower Switch, Chassis	Lower control switch for lift and lower functions	Control Module
Drive/Lift Selector Switch	Selects either horizontal travel or vertical travel	Controller

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
SW7	Fuel Selector Switch	Selects either propane or gasoline	Controller
SW8	Side/Side Level Switch	Directs power to Tilt Right or Tilt Left Solenoids	Controller
SW9	Fore/Aft Level Switch	Directs power to Tilt Fore or Tilt Aft Solenoids	Controller
SW10	Foot Switch	Provides power to all functions in Controller	Platform

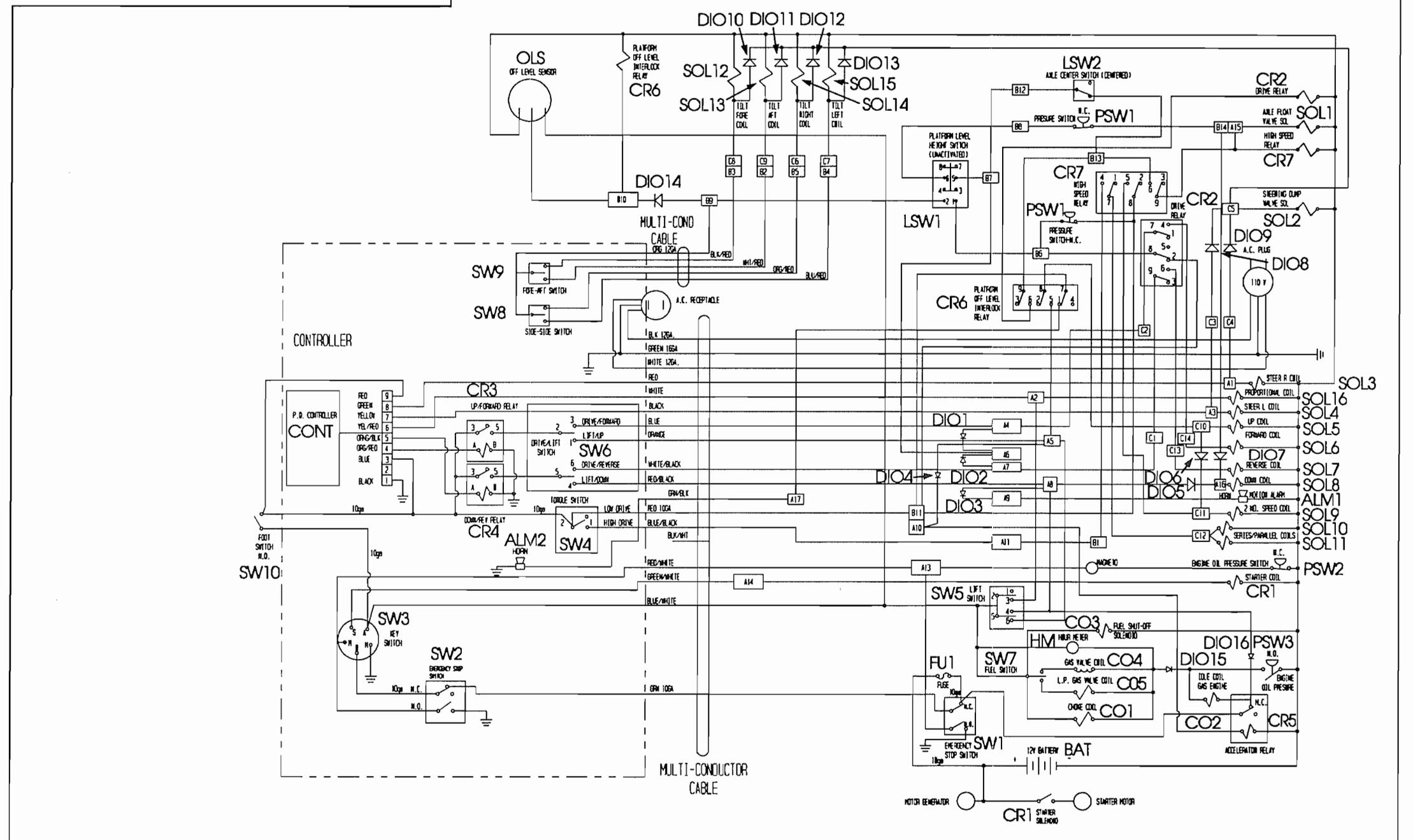


Figure 6-5: Electrical Schematic, Dual Fuel; For Machines With Serial Numbers From 9160 to Current

Table 6-5: Hydraulic Schematic Legend

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
BR1	Brake, Multi Disc	Parking Brake	Right rear wheel
BR2	Brake, Multi Disc	Parking brake	Left rear wheel
CV1	Check Valve	Allows free flow from brakes	Bottom right of Manifold Assembly
CV2	Check Valve	Prevents oil from leaking through lift valve	Center back of Manifold Assembly
CV3,4	Check Valve Pilot Operated	Locks axle float cylinder to prevent motion when platform is elevated	In ports on axle float cylinder (CYL2)
CV5,6,7,8	Check Valve Pilot Operated	Locks tilt cylinders to prevent motion when platform is elevated	In ports of tilt cylinders (CYL4,5)
CYL1	Steering Cylinder	Provides power to steer machine	Front of chassis behind front axle
CYL2	Axle Float Cylinder	Locks axle when platform is elevated	Front axle
CYL3	Lift Cylinder	Provides power to elevate platform	Elevating Assy
CYL4	Right/Left Tilt Cylinder	Provides side leveling of Elevating Assy	Right rear of Elevating Assy
CYL5	Fore/Aft Tilt Cylinder	Provides forward and rear leveling of Elevating Assy	Rear of Elevating Assy
FC1	Flow Control Creep	Dumps oil to allow elevated, creep drive	Left bottom of Manifold Assembly
FD1	Flow Divider Steering	Diverts oil to Steering valve	Left end of Manifold Assembly
FD2	Flow Divider Tilt	Diverts oil for platform leveling	Right top of upper auxiliary block of Manifold Assembly
FD3	Flow Divider/Combiner	Allows positive traction in parallel drive	Right front of Manifold Assembly
FL1	Filter	Filters oil returning to hydraulic reservoir	Top of hydraulic reservoir
FL2	Suction Screen	Traps particles in Hydraulic Reservoir	Inside outlet fitting Hydraulic Reservoir
MOT1	Drive Motor	Converts hydraulic power to torque for horizontal movement	Left front of chassis
MOT2	Drive Motor	Converts hydraulic power to torque for horizontal movement	Left rear of chassis
MOT3	Drive Motor	Converts hydraulic power to torque for horizontal movement	Right front of chassis
MOT4	Drive Motor	Converts hydraulic power to torque for horizontal movement	Right rear of chassis
ORF1*	Orifice	Controls speed of application of brakes	Lower center back of Manifold Assembly
ORF2	Orifice	Controls rate of platform descent	Center back of Manifold Assembly
PMP1	Pump	Provides hydraulic power for all functions	Power module
PMP2	Hand Pump	Provides power to release brakes for winching	Mounted between control module and rear axle

REFERENCE DESIGNATION	NAME	FUNCTION	LOCATION
RV1	Main Relief Valve	Provides over pressure protection to pump	Left center top of Manifold Assembly
RV2	Steering Relief Valve	Provides overpressure protection to steering and tilt cylinders	Back lower right of upper auxiliary block Manifold Assembly
RV3	Fore/Aft Tilt Relief Valve	Provides over pressure protection for forward leveling	Left end upper auxiliary block of Manifold Assembly
RV4	Drive Cross Relief Valve, Rear	Provides over pressure protection during turning	Left rear drive motor
RV5	Drive Cross Relief Valve, Front	Provides over pressure protection during turning	Front of control module
SV1	Shuttle Valve	Directs oil to brakes from either Forward or Reverse Valves	Center top of Manifold Assembly
V1	Fore/Aft Tilt Valve	Provides direction control of oil to fore /aft Platform leveling	Left front upper auxiliary block of Manifold Assembly
V2	Side/Side Tilt Valve	Provides directional control of oil to side /side platform leveling	Center front upper auxiliary block of Manifold Assembly
V3	Steering Valve	Provides directional control of oil to steering cylinder	Left front of Manifold Assembly
V4	Steering Dump Valve	Directs oil to platform leveling and steering valves	Back center upper auxiliary block of Manifold Assembly
V5	Axle Float Valve	Locks Axle Float Cylinder to provide stability when elevated	Right side of Hydraulic Tank
V6	Up Valve	Directs oil to Lift Cylinder to raise platform	Front upper center left of Manifold Assembly
V7	Down Valve	Opens to allow oil to flow from Lift Cylinder for platform descent	Front lower center left of Manifold Assembly
V8	Velocity Fuse Valve	Prevents uncontrolled platform descent	Inside inlet fitting of Lift Cylinder
V9	Proportional Valve	Closes in conjunction with joystick movement to direct oil to lift or drive functions	Bottom center right of Manifold Assembly
V10	Creep Valve	Closes to send all oil to lift and drive circuits for full speed	Front left of Manifold Assembly
V11	Forward Valve	Energizes to direct oil to motors for forward travel	Front upper center right of Manifold Assembly
V12	Reverse Valve	Energizes to direct oil to motors for reverse travel	Front lower center right of Manifold Assembly
V13,V14	Series/Parallel Valve	Shifting both valves changes the oil flow from high torque (parallel) to high speed (series)	Front right and right end of Manifold Assembly
V15	Reverse Counterbalance Valve	Produces dynamic braking of machine preventing runaway on slopes	Bottom, right of center, of Manifold Assembly
V16	Forward Counterbalance Valve	Produces dynamic braking of machine preventing runaway on slopes	Top, right of center, of Manifold Assembly
V17	Pressure Reducing Valve	Drops system pressure to 450 psi (31 bar) for proper brake operation	Back center of Manifold Assembly

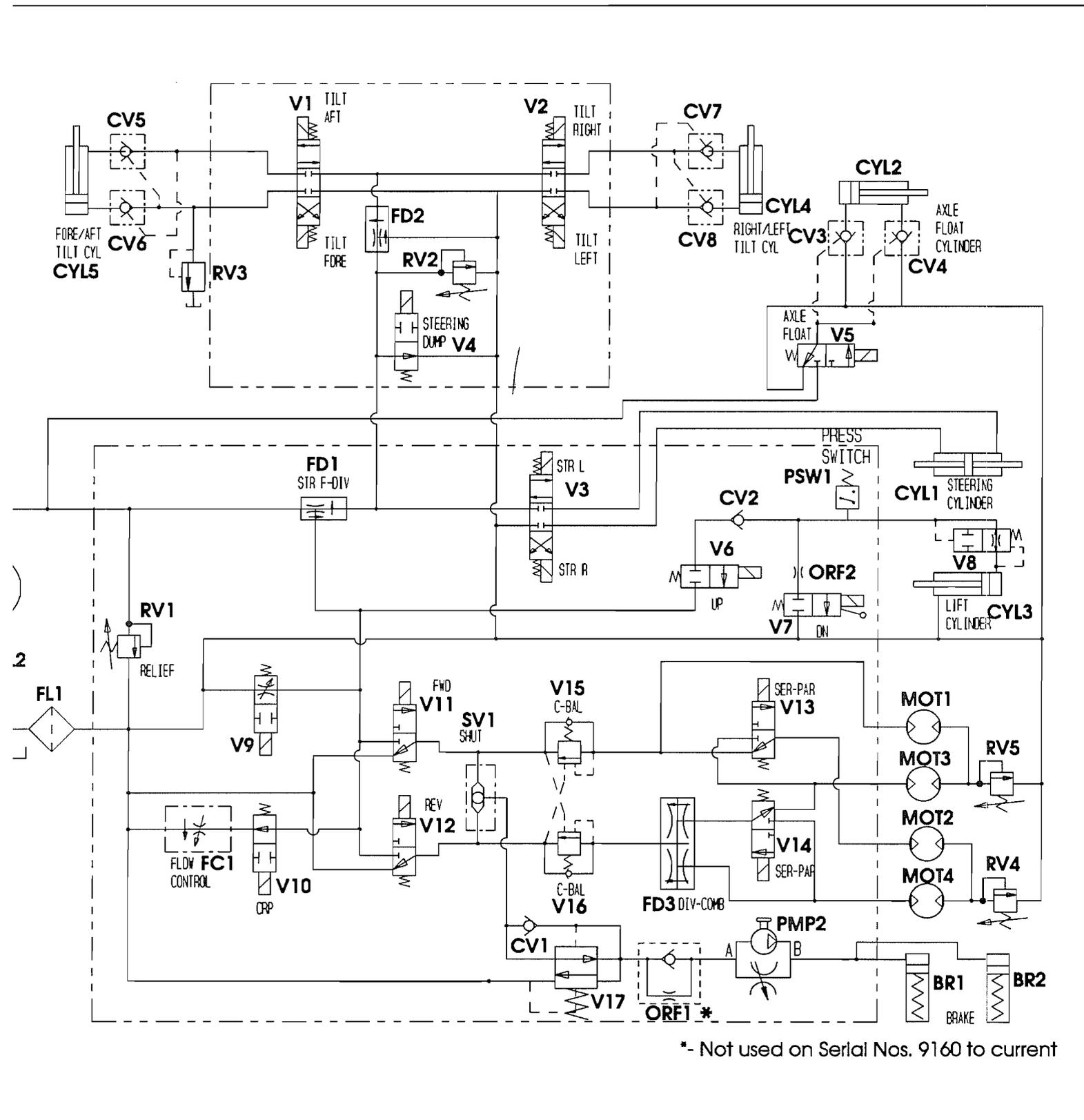


Figure 6-6: Hydraulic Schematic

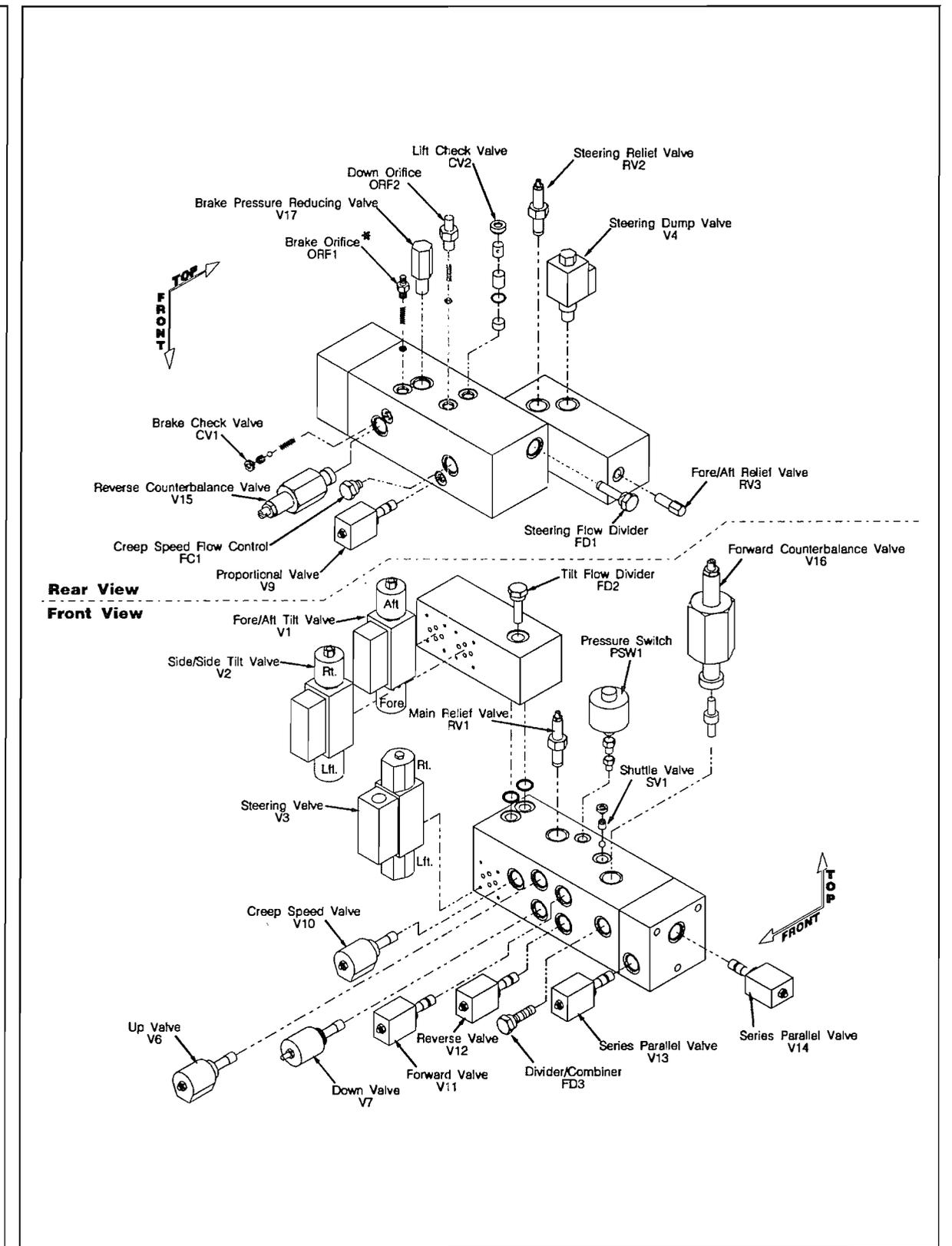


Figure 6-7: Manifold Assembly, Exploded View

Section 7.

Illustrated Parts Breakdown

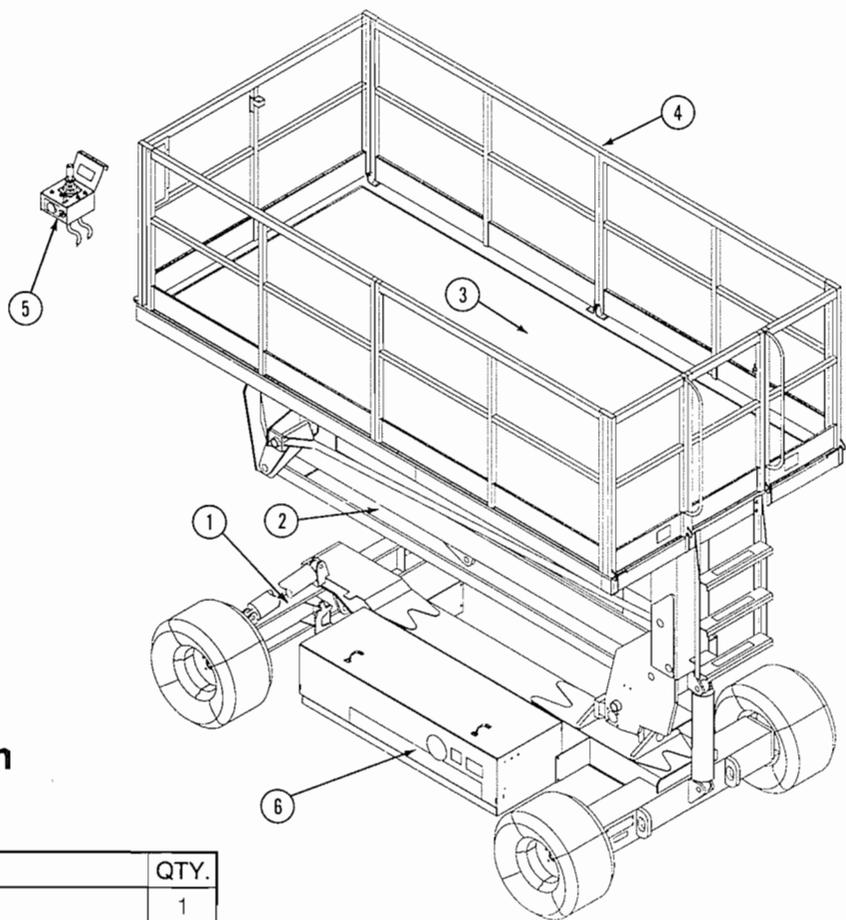
This section lists and illustrates the replaceable assemblies and parts of the SL-26 Speed Level Work Platform, as manufactured by UpRight, Inc.

The **ITEM** numbers correspond to the item numbers of each part on the illustration.

The **PART** number contains the manufacturer's part number for each item listed.

The **DESCRIPTION** contains the manufacturer's nomenclature for each assembly or part. Reference to next higher assembly or detail parts breakdown follows the description where applicable.

The **QUANTITY** contains the quantity required for each assembly in the higher assembly and for each detail part in an assembly.



Speed Level Work Platform

64404-000-00 Dual Fuel

64405-000-00 Diesel

ITEM	PART	DESCRIPTION	QTY.
1	64001-009-00 64001-010-00	Chassis Assembly (See Page 7-2, 7-3)	1
2	—	Elevating Assembly (See Page 7-13)	1
3	—	Platform Assembly (See Page 7-12)	1
4	—	Fold-Down Guardrail Assembly (See Page 7-15)	1
5	64005-007-00 64005-008-00	Controller Assy. Dual Fuel -Diesel (See Page 7-14)	1
6	64006-004-00 64006-005-00	Decal Kit Instal. Dual Fuel Diesel (See Page 7-16)	1

Chassis Assembly

64001-009-00 Dual Fuel

64001-010-00 Diesel

ITEM	PART	DESCRIPTION	QTY.
1	64300-002-00	Chassis Weldment	1
3	64029-001-00	Motor, Hub Drive	4
4	64030-000-00	Steering Mount Weldment	2
5	64033-001-00	Steering Linkage	4
6	64034-000-00	Pivot Pin	4
7	64054-001-00	Tire/Wheel Assembly Rear RH	1
—	08596-001-00	Tire Only	1
—	63910-000-00	Wheel Only	1
8	64054-002-00	Tire/Wheel Assembly Rear LH	1
—	08596-001-00	Tire Only	1
—	63910-000-00	Wheel Only	1
9	11239-005-00	Washer 5/16 Dia ASTM Flat	4
10	11248-004-00	Locknut 1/4-20 UNC Hex	5
11	11248-008-00	Locknut 1/2-13 UNC Hex	16
12	11248-010-00	Locknut 5/8-11 UNC Hex	4
13	11252-024-00	Screw 1/4-20 UNC HHCx3	4
14	11253-006-00	Screw 5/16-18 UNC HHCx3/4	4
15	11177-012-00	Screw 1/2-20 UNF SOC HDx1 1/2	8
16	11256-040-00	Screw 1/2-13 UNC HHCx5	8
17	64150-000-00	Bolt, Serrated	2
18	14122-001-00	Bolt, Wheel	20
19	11754-012-00	Pin, Cotter 5/32 Dia x 1 1/2	4
20	64220-000-00	Cover, Control Module Side	1
21	62649-002-00	Bearing, Gaplock #16PDU16	4
22	63901-001-00	Brake	2
*	63901-010-00	Seal Kit, Brake	1
23	63903-005-00	Motor, Hydraulic, Front	2
*	63903-010-00	Seal Kit, Hydraulic Motor, Front	1
24	63903-002-00	Motor, Hydraulic, Rear	2
*	61817-010-00	Seal Kit, Hydraulic Motor, Rear	1
25	63905-000-00	Cylinder, Steering	1
*	63905-010-00	Seal Kit, Steering Cylinder	1
26	63927-001-00	Rod Ends 5/8	2
28	11238-010-00	Lockwasher 5/8 Dia Split	8
29	11257-012-00	Screw 5/8-11 UNC HHC 1 1/2	8
30	62642-001-00	Bearing, Gaplock #10DU12	2
31	11935-005-00	Fitting Adapter 90	4
32	11941-014-00	Fitting Adapter STR	4
33	11934-001-00	Fitting Adapter 90	2
34	20495-010-00	Nuts 5/8-18 UNF Jam Hex	2
35	64002-007-00	Power Module Assy D/F (Fig. 7-)	1
	64002-005-00	Power Module Assy Diesel (Fig. 7-)	1
36	64219-000-00	Cover, Power Module Top, D/F	1
	64181-000-00	Cover, Power Module Top, Diesel	1
37	64003-009-00	Control Module Assy D/F (Fig. 7-)	1
	64003-010-00	Control Module Assy Diesel (Fig. 7-1)	1
38	64222-000-00	Cover, Control Module Front, D/F	1
	64182-000-00	Cover, Control Module Front, Diesel	1
39	11256-010-00	Screw 1/2-13 UNC HHC x 1 1/4	7
40	64221-000-00	Cover, Control Module Top	1
41	11256-014-00	Screw 1/2-13 UNC HHC x 1 3/4	9
42	10150-005-00	Fitting Adapter	2
43	11979-008-00	O-Ring	1
44	64169-000-00	Valve Block	2
45	60390-000-00	Relief Valve	2
46	11941-006-00	Fitting Adapter	2
47	11941-001-00	Fitting Adapter	2
48	64170-005-00	Fitting Adapter	1
49	11257-024-00	Screw 5/8-11 UNC HHC x 3	2
50	64036-000-00	Clamp, Hose	1
51	11252-014-00	Screw 1/4-20 UNC HHC x 1 3/4	1
53	11238-005-00	Lockwasher 5/16 Dia Split	4

* Not Shown

ITEM	PART	DESCRIPTION	QTY.
54	29976-099-00	Tube \varnothing 1/2 Shrink	17FT
55	64350-000-00	Axle Pivot	2
56	64054-003-00	Tire/Wheel Assy Front RH	1
—	08596-001-00	Tire Only	1
—	63910-001-00	Wheel Only	1
57	64054-004-00	Tire/Wheel Assy Front LH	1
—	08596-001-00	Tire Only	1
—	63910-001-00	Wheel Only	1
58	64206-001-00	Wire Harness Duel/Fuel	1
59	64299-011-00	Bushing	2
60	64346-000-00	Cylinder, Axle	1
*	64346-010-00	Seal Kit, Axle Cylinder	1
61	64370-000-00	Cylinder Pin	2
62	11249-016-00	Locknut 1-14 UNF Hex	4
63	64371-001-00	Cylinder Pin	2
64	11249-002-00	Locknut 1-14 UNF Hex	4
65	64296-001-00	Actuator Lever	1
*	64294-000-00	Roller Lever	1
66	11248-006-00	Locknut 3/8-16 UNC Hex	8
67	11240-006-00	Washer 3/8 Dia STD Flat	11
68	64336-000-00	Front Pivot Weldment	1
69	64295-007-00	Clamp Lever	1
70	12004-004-00	Plug SAE4	8
71	11248-003-00	Locknut 10-24 UNC Hex	2
72	11709-018-00	Screw 10-24 UNC MPHx2 1/4	2
73	11763-038-00	Ring, Snap	8
74	64288-005-00	Bearing, Spherical	4
75	64345-000-00	Cylinder, Tilt	2
*	64345-010-00	Seal Kit, Tilt Cylinder	1
76	64339-001-00	Mast Pivot Weldment SL-26	1
77	64331-001-00	Level Pivot Weldment SL-26	1
78	64343-001-00	Trunnion Weldment SL-26	2
79	64320-001-00	Mast Weldment SL-26	1
80	64347-000-00	Cover Plate, Lever	1
81	11254-006-00	Screw 3/8-16 UNC HHC x 3/4	4
82	11239-008-00	Washer 1/2 Dia A325 Flat	8
83	11239-008-00	Screw 1/4-20 UNC HHC x 1	4
84	11246-004-00	Locknut 1/4-20 UNC Hex	4
85	29945-005-00	Lever, Control	1
86	64298-004-00	Flange, Bearing BRZ	2
87	64297-001-00	Valve, Check P.O.	4
88	64348-000-00	Mount, Height Limit	1
89	64349-000-00	Spacer, Bearing	4
90	64324-000-00	Weldment, Front Axle SL-26	1
91	11238-006-00	Lockwasher 3/8 Split	5
93	11254-020-00	Screw 3/8-16 UNC x 2 1/2	2
94	63978-000-00	Seals, Hand Pump	1
95	11254-016-00	Screw 3/8-16 UNC x 2	2
100	11709-012-00	Screw Mach RD HD 10-24 UNC x 1 1/2	2
101	64284-001-00	Switch, Limit	1
102	64285-001-00	Rod Lever	1
103	64007-002-00	Wire Cable	1
104	64007-003-00	Wire Cable	1
105	15961-004-00	Fitting Tee	2
106	11934-003-00	Fitting 90	1
107	11709-004-00	Screw 10-24 UNC Mach RD HD x 1/2	2
108	64372-000-00	Pin, Cylinder	2
109	11297-020-00	Washer Bell	8
110	11297-016-00	Washer Bell	4
111	13336-001-00	Grease Fitting	4
112	64145-000-00	Bracket, Hose	1
113	64367-001-00	Switch Mount	1
114	64383-000-00	Thrust Washer	4
115	62642-032-00	Bearing, BRZ	4
116	64296-001-00	Axle Limit Switch	1

Control Module Assembly

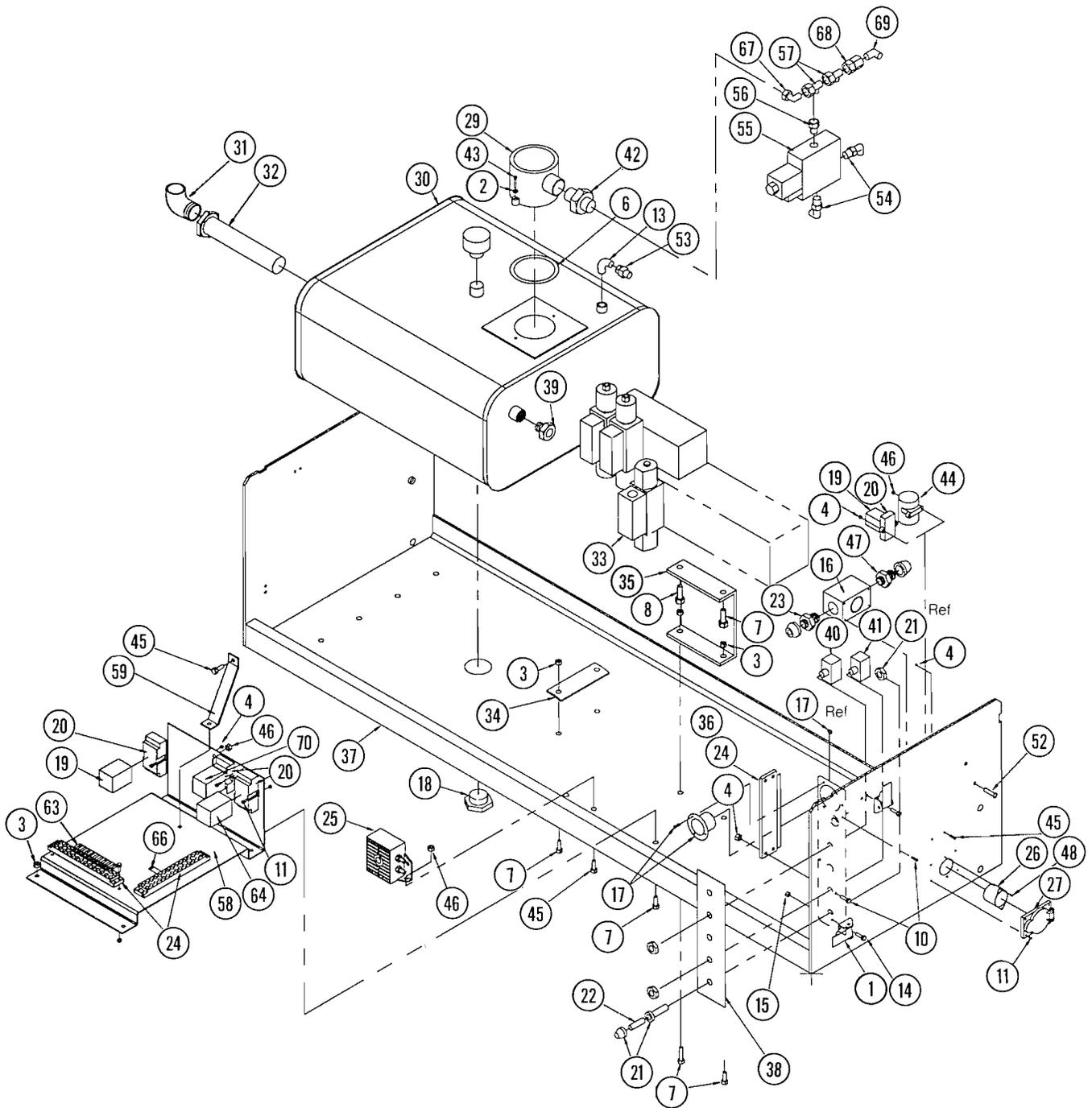
54003-009-00 Duel Fuel

54003-010-00 Diesel

ITEM	PART	DESCRIPTION	QTY.
1	05299-000-00	Latch, Toggle	4
2	11238-005-00	Lockwasher, 5/16 Dia Split	2
3	11248-006-00	Locknut 3/8-16 UNC Hex	12
4	11248-047-00	Locknut 6-32 UNC Hex	14
6	63962-001-00	Backup-Ring	1
7	11254-008-00	Screw, 3/8-16 UNC HHCx1	12
8	11254-012-00	Screw 3/8-16 UNC HHCx1 1/2	1
10	11715-006-00	Screw 6-32 UNC RHx3/4	3
11	11715-008-00	Screw 6-32 UNC RHx1	10
13	11940-006-00	Fitting Adapter	1
14	11706-004-00	Screw 8-32 UNC Mach RD HDx1/2	8
15	11248-002-00	Locknut 8-32 UNC Hex	8
16	15915-000-00	Boxbell	1
17	15752-000-00	Hourmeter	1
18	21305-006-00	Plug, Magnetic	1
19	27962-000-00	Relay	2
20	27963-000-00	Socket	4
21	29701-000-00	Fuse Holder	1
22	29704-015-00	Fuse ABC 15 AMP	1
23	29925-001-00	Cable, Connector	1
24	29928-000-00	Term Block	1
25	29958-001-00	Horn 6 VC	1
26	29961-000-00	Flange, Inlet	1
27	29958-001-00	Box Cover, Electrical	1
28	15789-000-00	Flasher	1
29	63919-001-00	Filter, Hydraulic Oil	1
*	63919-010-00	Element, Hydraulic Oil Filter	1
30	63930-010-00	Oil Reserve	1
-	63930-001-00	Cap, Oil Reservoir	1
31	63931-016-00	Elbow 1-NPT BLK STL Street	1
32	63935-000-00	Screen, Suction	1

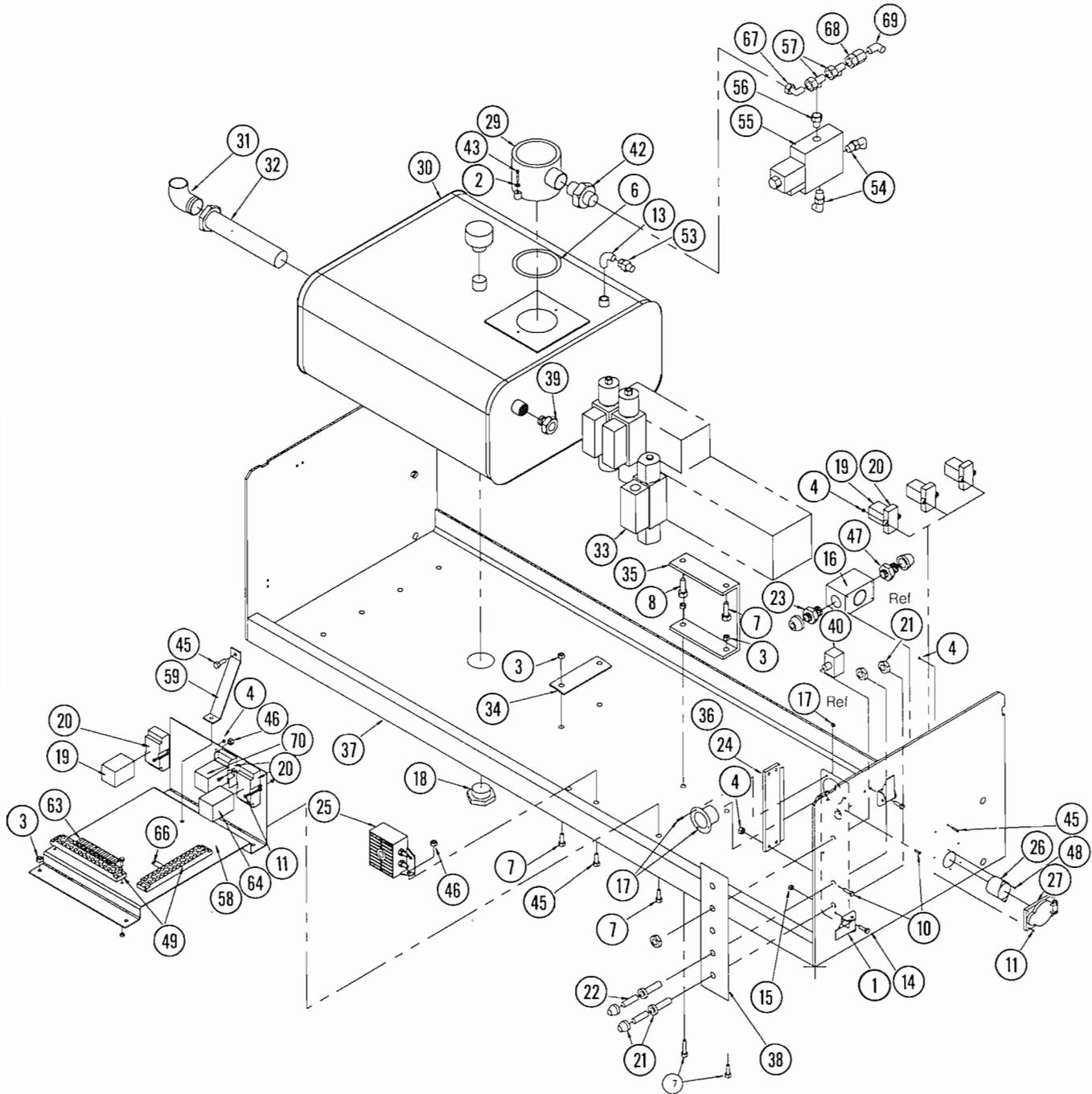
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ITEM	PART	DESCRIPTION	QTY.
33	64004-010-00	Control Valve Assembly, D/F	1
	64004-008-00	Control Valve Assembly, Diesel	1
34	64039-000-00	Fuel Tank Mounting Tab	3
35	64305-000-00	Mount, Manifold	1
36	64056-001-00	Fanning Strip Assembly	1
37	64058-002-00	Module Weldment	1
38	64414-000-00	Decal, Module Control	1
39	63979-006-00	Sight Gage	1
40	12798-001-00	Switch, Toggle	1
41	28971-001-00	Switch, Toggle	1
42	11939-019-00	Fitting Adapter	1
43	11253-006-00	Screw 5/16-18 UNC HHC x 3/4	2
44	27972-000-00	Relay (Duel Fuel Only)	1
45	11252-006-00	Screw 1/4-20 UNC HHC x 3/4	4
46	11248-004-00	Locknut 1/4-20 UNC Hex	4
47	29925-011-00	Cable, Connector	1
48	11715-004-00	Screw 6-32 UNC x 1/2	6
53	20733-002-00	Fitting Adapter Tee	1
54	11934-003-00	Fitting 90	2
55	63923-003-00	Valve Solenoid	1
56	64170-004-00	Fitting STR	1
57	20733-003-00	Fitting Tee	2
58	64351-000-00	Mount Circuit Board	1
59	64357-000-00	Support, Bracket	1
63	64056-003-00	Fanning Strip	1
64	27962-003-00	Relay	2
*	27962-003-00	Clip, Relay Hold Down	1
66	28925-002-00	Diod 3 Amp	1
67	11937-004-00	Fitting 90	1
68	14048-002-00	Fitting STR	1
69	11940-010-00	Fitting 90	1
70	27962-005-00	Relay, 6V	1



Note:
 1. Adjust limit switch lever to contact tension member and actuate before PL raises 3 ft.

Control Module Assembly, Dual Fuel

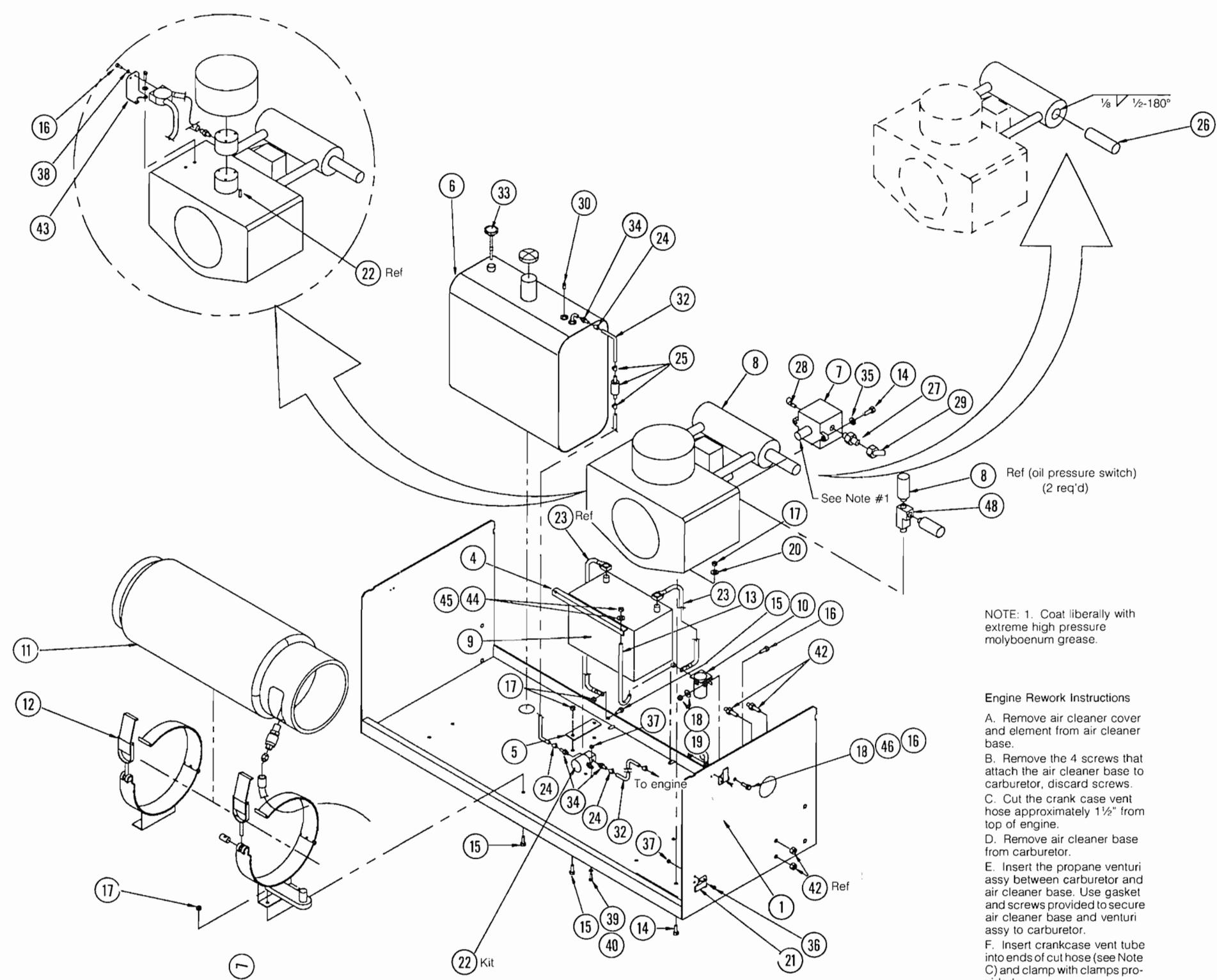


Control Module Assembly, Diesel

**er Module Assembly
-007-00 Dual Fuel**

PART	DESCRIPTION	QTY.
1057-000-00	Power Module Tray, Weldment	1
3982-001-00	Fuel Level Gage	1
1040-000-00	Angle, Battery Hold Down	1
1039-000-00	Mounting Tab, Fuel Tank	2
3929-001-00	Fuel Tank	1
3929-001-00	Cap, Fuel Tank	1
3902-001-00	Pump	1
3954-000-00	Engine, Gas	1
3900-010-00	Switch, N/C, Oil Pressure Engine	1
3900-011-00	Switch, N/O, Oil Pressure Engine	1
2299-002-00	Battery, 12 VOC Group 27C	1
7972-000-00	Solenoid, Starter	1
7934-002-00	Tank, Propane 10 Gal.	1
7823-000-00	BRKT Propane Tank Set	1
2039-000-00	Hold Down, Battery	2
1254-010-00	Screw, 3/8-16 UNC HHC x 1 1/4	6
1254-008-00	Screw, 3/8-16 UNC HHC x 1	8
1252-006-00	Screw, 1/4-20 UNC HHC x 3/4	4
1248-006-00	Locknut, 3/8-16 UNC HEX	12
1248-004-00	Locknut, 1/4-20 UNC HEX	2
1240-004-00	Washer, 1/4 DIA STD Flat	2
1240-006-00	Washer, 3/8 DIA STD Flat	4
5299-000-00	Latch, Toggle	4
3957-000-00	Propane Conversion Kit	1
3934-002-00	Regulator, L.P.	1
3934-003-00	Cutoff, L.P.	1
4934-001-00	Microswitch	1
3934-005-00	Carburetor Adapator	1
3934-004-00	Solenoid, Gasoline	1
2125-005-00	Battery Cable Assembly	2
3125-008-00	Clamp, Hose	4
0331-000-00	Filter, Fuel Inline	1
3217-000-00	Tube, 1 5/8 OO x .049 Wall CPS x 5	1
1941-022-00	Fitting, Adapter	3
1934-010-00	Fitting, Adapter	1
1932-007-00	Fitting, Adapter	1
1919-002-00	Fitting, Adapter	1
1435-001-00	Terminal, Battery	2
2739-099-00	Hose 1/4 ID	4 FT.
0178-003-00	Fitting, Barbed	1
1238-006-00	Locknut, 3/8 DIA Split	2
1708-004-00	Screw, 3-32 UNC Mach RD HD x 1/2	8
1248-002-00	Locknut, 8-32 UNC Hex	8
1238-004-00	Locknut, 1/4 DIA Split	2
1275-006-00	Screw, 10-32 UNC HHC x 3/4	2
1240-003-00	Washer, #10 STD Flat	2
1249-003-00	Locknut, 10-32 UNF Hex	2
0150-005-00	Fitting, Adapter	2
4232-000-00	Backfire Bracket	1
1248-005-00	Locknut, 5/16-18 UNC Hex	2
1240-005-00	Washer, 5/16 DIA STD Flat	2
3919-009-00	Clamp, Hose	1
0193-001-00	Fitting, Tee	1

Illustrated Parts Breakdown



NOTE: 1. Coat liberally with extreme high pressure molybdenum grease.

- Engine Rework Instructions**
- A. Remove air cleaner cover and element from air cleaner base.
 - B. Remove the 4 screws that attach the air cleaner base to carburetor, discard screws.
 - C. Cut the crank case vent hose approximately 1 1/2" from top of engine.
 - D. Remove air cleaner base from carburetor.
 - E. Insert the propane venturi assy between carburetor and air cleaner base. Use gasket and screws provided to secure air cleaner base and venturi assy to carburetor.
 - F. Insert crankcase vent tube into ends of cut hose (see Note C) and clamp with clamps provided.

* Not Shown

Power Module Assembly

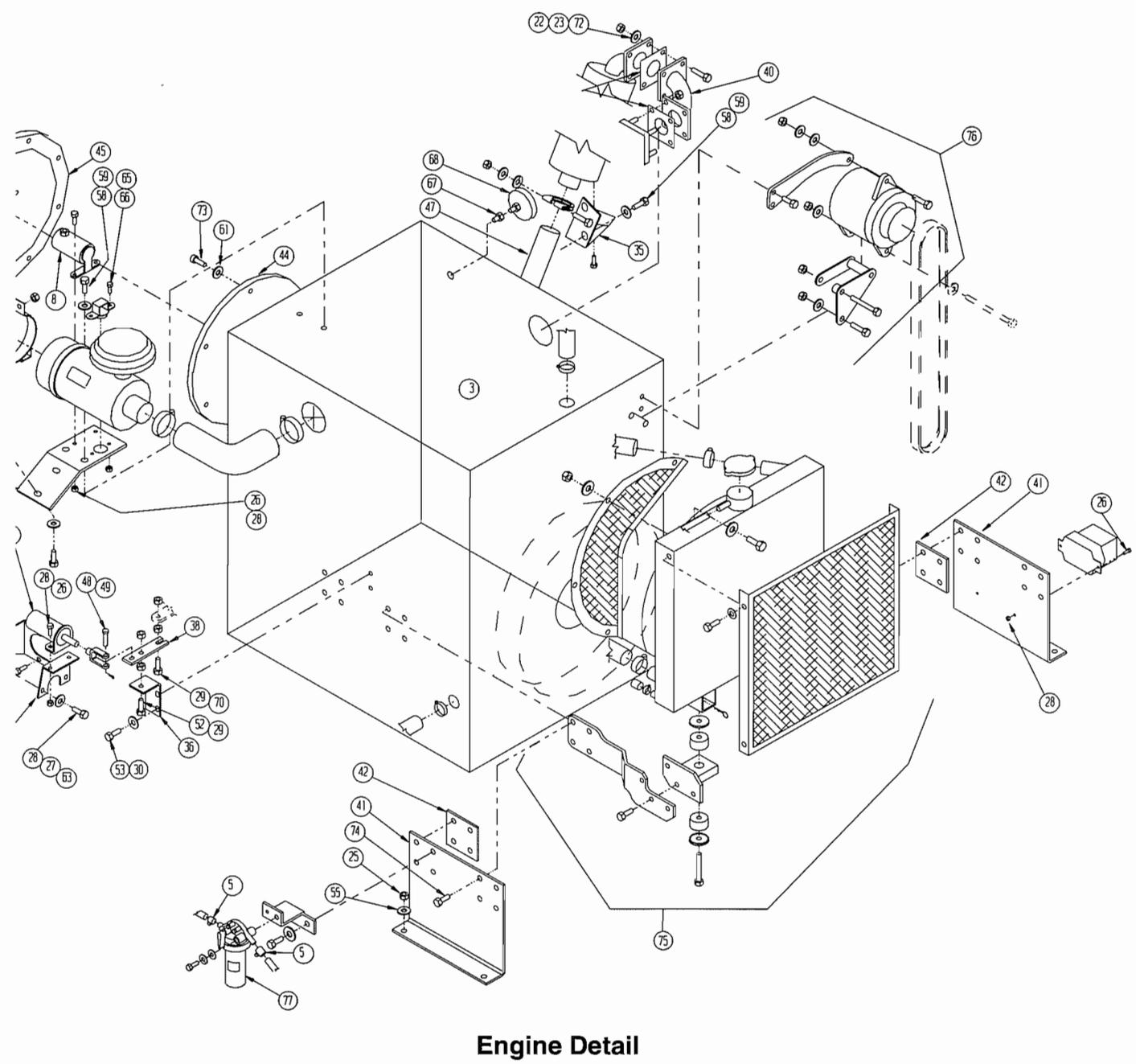
64002-005-00 Diesel

ITEM	PART	DESCRIPTION	QTY.
1	64040-000-00	Angle, Battery Hold Down	1
2	64039-000-00	Mouting Tab, Fuel Tank	2
3	63936-000-00	Engine, Diesel	1
4	63929-000-00	Tank, Fuel	1
*	63929-001-00	Cap, Fuel Tank	1
5	20541-001-00	Clamp, Hose	4
6	62299-002-00	Battery, 12 Voc Group 27C	1
7	62175-005-00	Cable, Battery Assembly x 14	2
8	27972-000-00	Solenoid, Starter	2
9	14435-001-00	Terminal, Battery	2
10	12733-099-00	Hose 5/16 ID	5Ft.
11	12736-099-00	Hose 3/16 ID	8ft.
12	12039-000-00	Rod, Battery Hold Down	2
13	11941-022-00	Fitting Adapter	1
14	11934-010-00	Fitting Adapter	1
15	11932-007-00	Fitting Adapter	1
16	03142-001-00	Fitting Adapter	1
17	03495-001-00	Fitting Adapter	1
18	10178-001-00	Fitting Adapter	1
19	10178-005-00	Fitting Adapter	1
20	10150-005-00	Fitting Adapter	2
21	05299-000-00	Toggle, Latch	4
22	11254-010-00	Screw 3/8-16 UNC HHC x 1 1/4	14
23	11236-006-00	Lockwasher 3/8 Dia Split	14
24	11254-008-00	Screw 3/8-16 UNC HHC x 1	4
25	11248-006-00	Locknut 3/8-16 UNC Hex	8
26	11252-006-00	Screw 1/4-20 UNC HHC x 3/4	9
27	11240-004-00	Washer 1/4 Dia STD Flat	6
28	11248-004-00	Locknut 1/4-20 UNC Hex	2
29	11248-005-00	Locknut 5/16-18 UNC Hex	2
30	11240-005-00	Washer 5/16 Dia STD Flat	2
31	64184-000-00	Weldment, Module Tray	1
32	63902-003-00	Pump	1
33	11708-004-00	Screw 8-32 UNC Mach RD HD 1/2	8

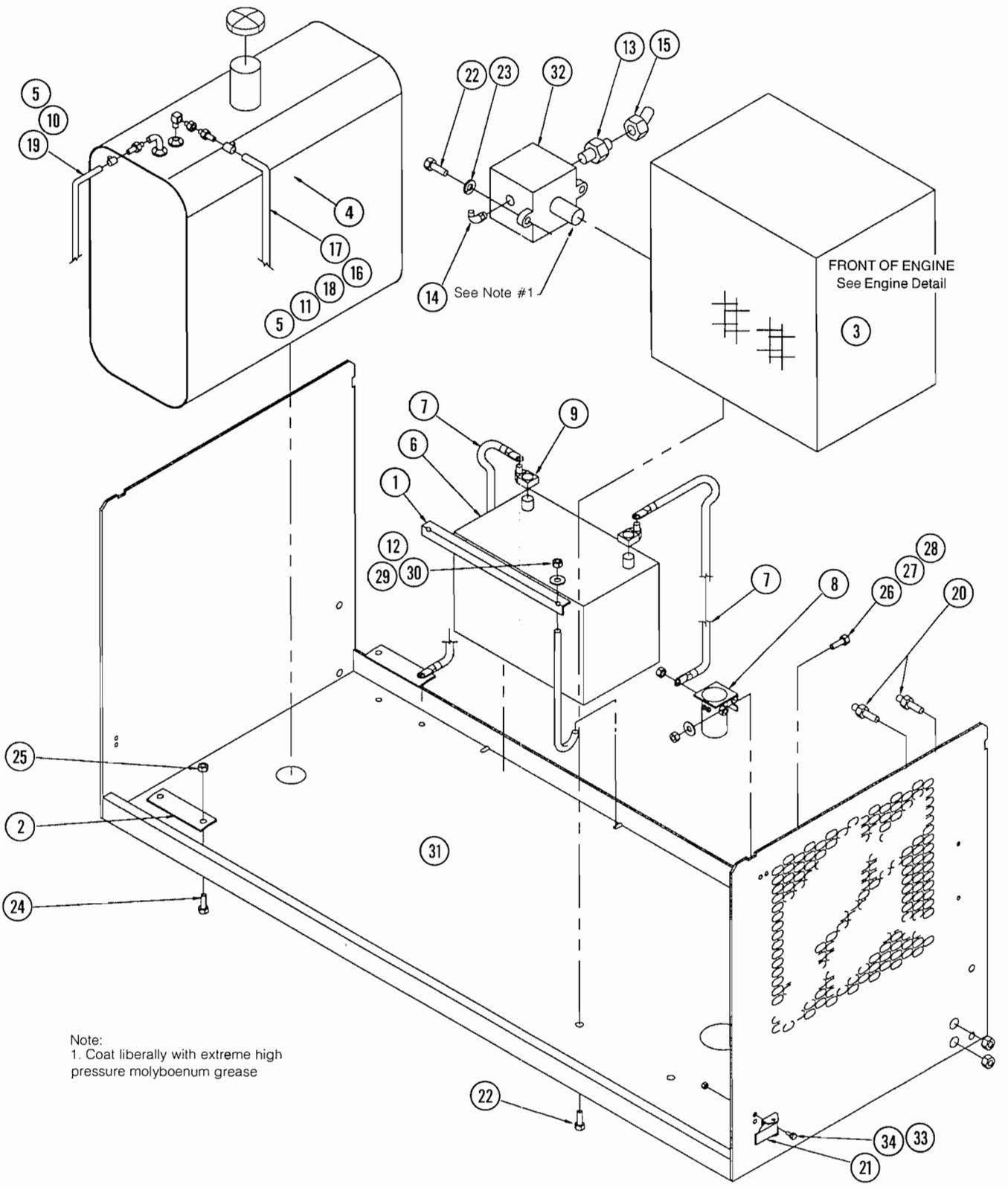
* Not Shown

ITEM	PART	DESCRIPTION	QTY.
34	11248-002-00	Locknut 8-32 UNC Hex	8
35	64171-000-00	Bracket, Muffler Mounting	1
36	64172-000-00	Bracket, Throttle Link	1
37	64173-000-00	Bracket, Solenoid	1
38	64174-000-00	Link, Throttle	1
39	64175-000-00	Bracket, Air Cleaner	1
40	64177-000-00	Weldment, Muffler	1
41	64180-000-00	Mount, Angle	2
42	64183-000-00	Spacer, Engine	2
43	63941-000-00	Solenoid	1
44	63939-000-00	Drive Plate	1
45	63938-000-00	Cover, Flywheel	1
46	63937-000-00	Shut Down Kit, Engine	1
*	63937-001-00	Solenoid, Engine Shutdown	1
*	63945-001-00	Pressure SW Low Oil Shutoff	1
*	63941-001-00	Solenoid Engine Idle	1
47	64188-000-00	Tail Pipe, Muffler	1
48	11847-004-00	Clevis With Pin	1
49	11751-004-00	Cotter Pin	1
51	11250-005-00	Nut 5/16-18 UNC Hex	4
52	11253-008-00	Screw 5/16-18 UNC HHC x1	1
55	11240-005-00	Washer 3/8 Dia ASTN A-325 Flat	4
58	11256-006-00	Screw 1/2-13 UNC HHC x 3/4	4
59	11239-008-00	Washer 1/2 Dia ASTN A-325 Flat	4
61	11238-005-00	Lockwasher 5/16 Dia Split	6
63	11252-008-00	Screw 1/4-20 UNC HHC x 1	1
65	11275-006-00	Screw 10-32 UNC HHC x 3/4	2
66	11249-003-00	Locknut 10-32 UNF Hex	2
67	03556-001-00	Fitting Adapter	1
68	63945-010-00	Switch, Oil Pressure	1
70	11253-010-00	Screw 5/16-18 HHC x 1 1/4	1
72	11250-006-00	Nut 3/8-16 Hex	1
73	11287-008-00	Screw 5/16-18 UNC SOCHDx1	8
74	63946-030-00	Screw 10M x 1.25HHx30MM	8
75	63936-002-00	Radiator Kit	1
76	63936-007-00	Alternator Kit	1
77	63936-005-00	Fuel Filter Kit	1

Illustrated Parts Breakdown



Engine Detail



Power Module Assembly, Diesel

Manifold Assembly**64004-008-00 Speed Level**

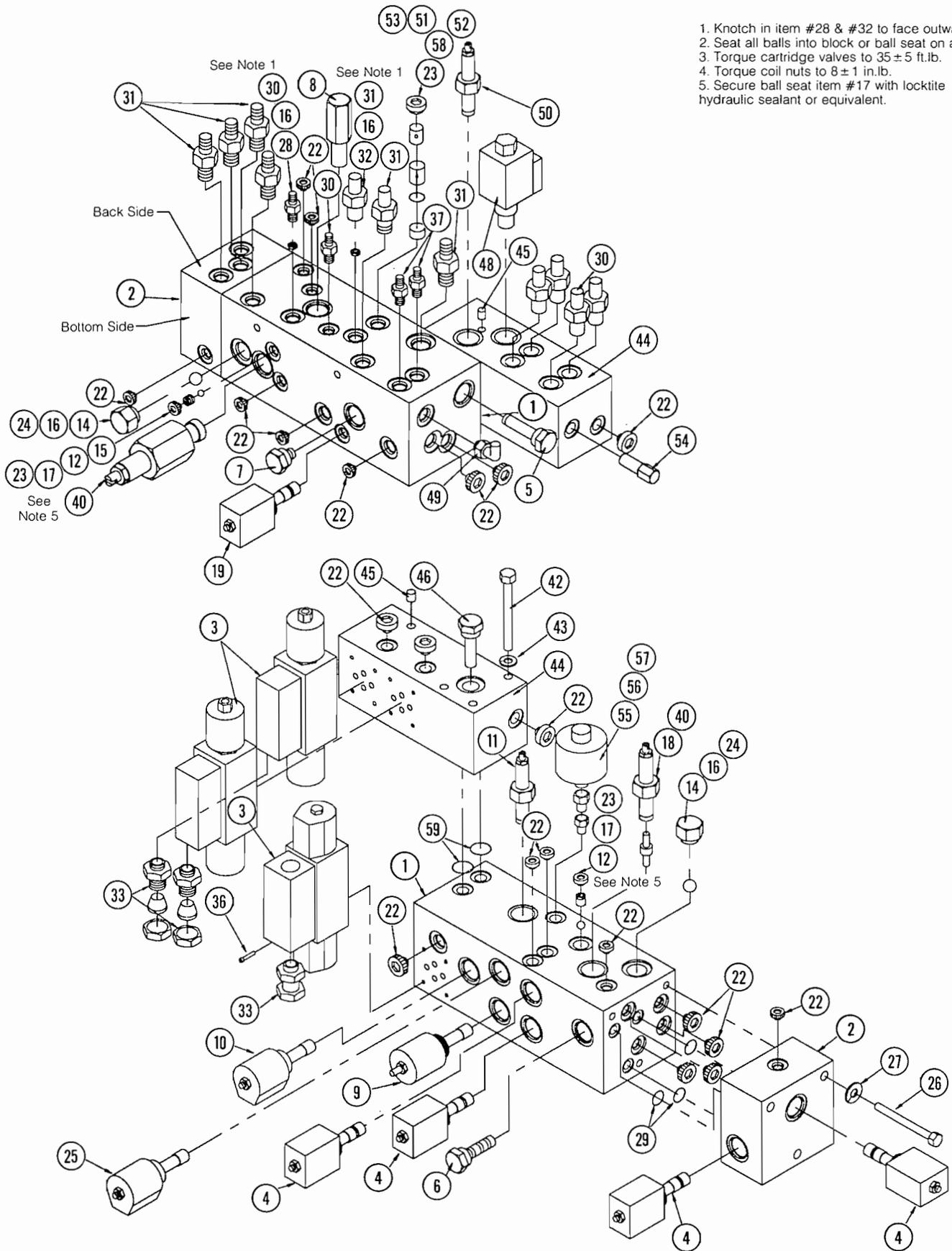
ITEM	PART	DESCRIPTION	QTY.
1	64050-001-00	Manifold, SL-26	1
*	30576-003-00	Block, Service, Manifold	1
2	64051-000-00	Manifold, Block	1
3	63928-001-00	Valve, Steering 12VDC	3
4	63923-001-00	Valve, 3-Way	4
*	63976-010-00	Seal Kit 3-Way Valve	1
5	63924-001-00	Flow Regulator	1
6	63924-003-00	Flow Divider	1
7	63924-002-00	Flow Regulator	1
8	63922-001-00	Pressure Reducing	1
9	63925-001-00	Valve, Lowering	1
10	60296-000-00	Valve, Solenoid No -12V	1
11	60390-000-00	Valve, Relief - Preset 2000 PSI Set to 2500 PSI	1
12	05135-000-00	Ball 5/16 Dia STL	2
14	08998-000-00	Ball 1/2 Dia STL	2
15	15799-000-00	Spring	1
16	05133-000-00	Spring	5
17	61728-000-00	Orifice	2
18	63920-000-00	Piston	1
19	63952-001-00	Valve, Proportional	1
22	12004-004-00	Plug, -SAE #4	21
23	12004-006-00	Plug, -SAE #6	3
24	20021-008-00	Plug, -SAE #8	2
25	60291-000-00	Valve, Solenoid NC-12V	1
26	11254-022-00	Screw 3/8-16 UNC HHC x 2 3/4	3
27	11239-006-00	Washer 3/8 Dia STD Flat	3

* Not Shown

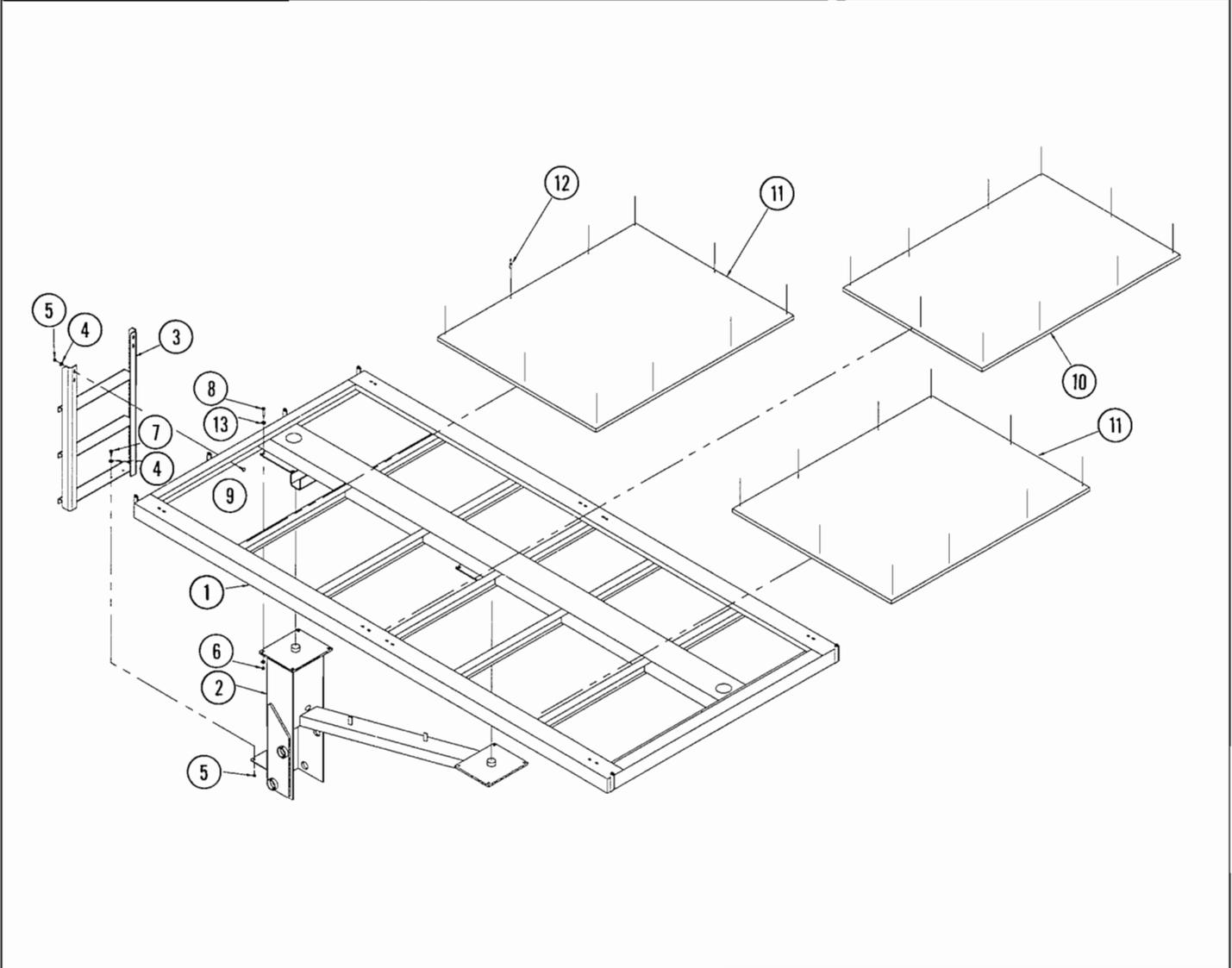
ITEM	PART	DESCRIPTION	QTY.
28	15919-002-00	Orifice, Brake	1
29	13888-044-00	O-Ring	3
30	11941-004-00	Fitting Adapter	5
31	11941-006-00	Fitting Adapter	7
32	15919-003-00	Orifice, Lower	1
33	29925-000-00	Cable, Connection T&B #2535 3/4	3
36	14412-016-00	Screw 10-24 UNC SOC HD x 2	12
37	11941-005-00	Fitting Adapter	2
38	11941-001-00	Fitting Adapter	1
40	60390-001-00	Valve, Relief - Preset 500 PSI	2
42	11263-028-00	Screw 5/16-24 UNF HHC x 3 1/2	3
43	11238-005-00	Lockwasher 5/16 Dia Split	3
44	64344-000-00	Block, Tilt Level SL-26 AL	1
45	63977-001-00	Plug, Koenig M8-800-090	2
46	63924-005-00	Valve, Relief	1
48	64293-003-00	Valve, Popet N.O.	1
49	11934-003-00	Fitting 90	1
50	60390-003-00	Valve, Relief 1200 PST	1
51	64281-000-00	Spacer	1
52	13888-007-00	O-Ring	3
53	03391-002-00	Valve, Check Lift	1
54	60390-006-00	Valve, Relief 500 PSI	1
55	15959-001-00	Fitting	1
56	11922-003-00	Fitting	1
57	63921-003-00	Pressure Sw. - Serial #'s to 9159	1
	63921-005-00	Pressure Sw. - Serial #'s 9160 to Current	1
58	64278-000-00	Spacer	1

ISAAC GONZALEZ

Illustrated Parts Breakdown



Manifold Assembly



Platform Assembly

ITEM	PART	DESCRIPTION	QTY.
1	64100-002-00	Deck Weldment	1
2	64111-002-00	Pedestal Weldment	REF
3	64119-000-00	Ladder Weldment	1
4	11240-006-00	Washer 3/8 DIA STD Flat	6
5	11248-006-00	Locknut 3/8-16 UNC	6
6	11248-008-00	Locknut 1/2-16 UNC	8

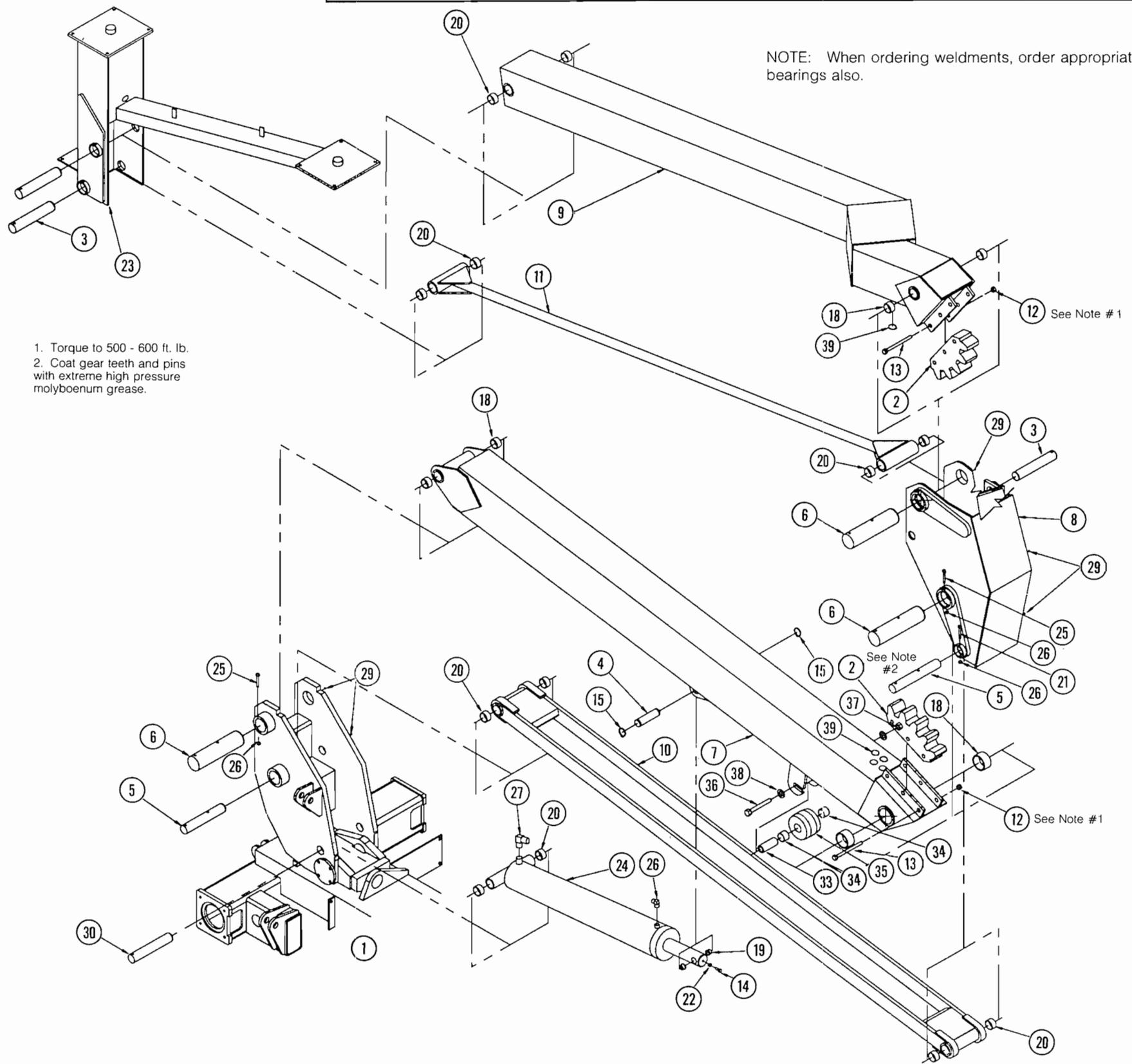
ITEM	PART	DESCRIPTION	QTY.
7	11254-010-00	Screw 3/8-16 UNC x 1 1/4	2
8	11256-016-00	Screw 1/2-13 UNC x 2	8
9	11831-008-00	Bolt Carriage 3/8-16 UNC x 1	4
10	26505-001-00	Plywood 3/4 A/C EXT 42 x 60	1
11	26505-002-00	Plywood 3/4 A/C EXT 48 x 60	2
12	26554-006-00	Rivet Pop 1/4 DIA .751-.875 Grip	30
13	11240-008-00	Washer 1/2 DIA STD Flat	16

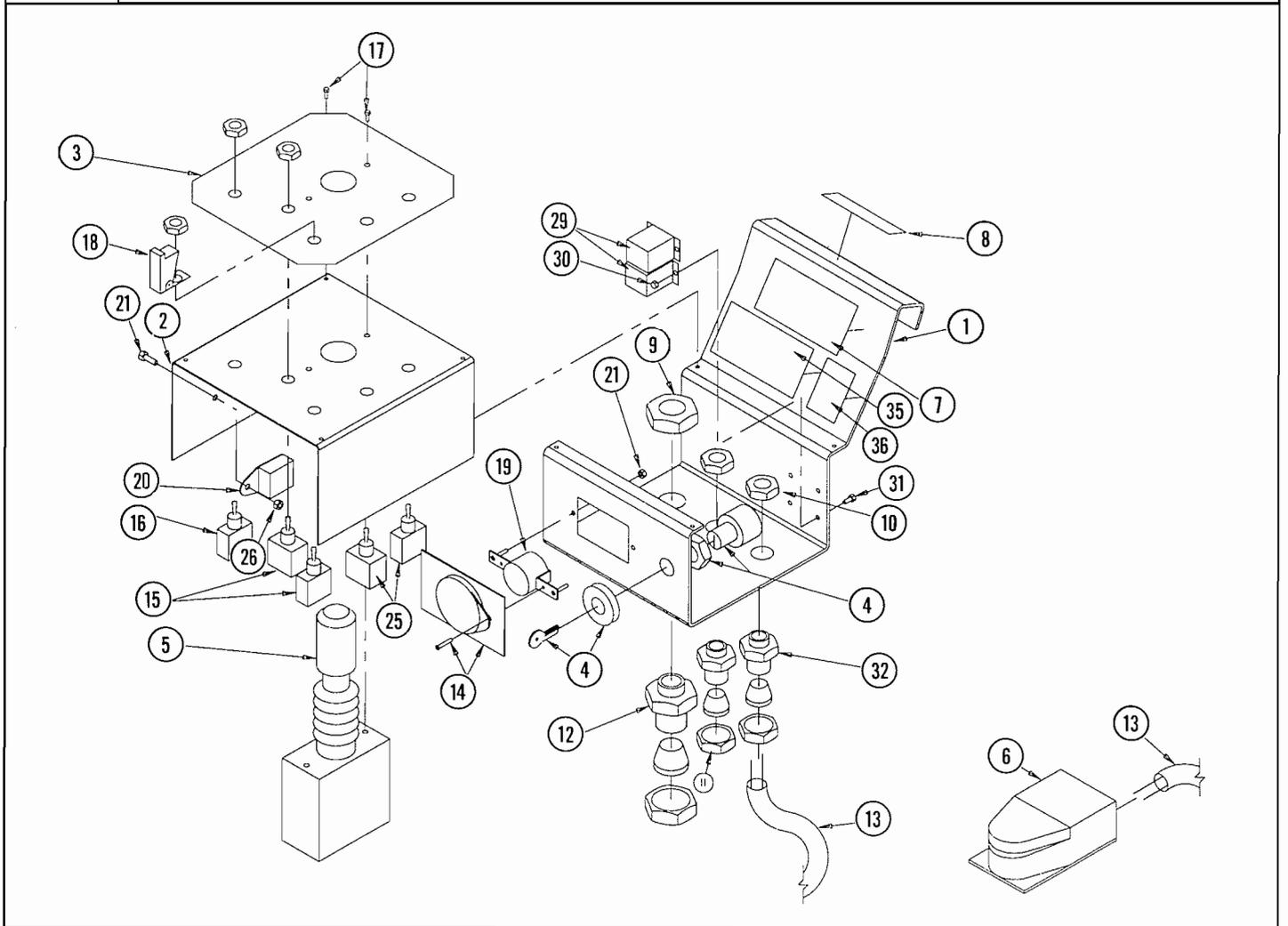
Illustrated Parts Breakdown

ing Assembly

100-00 Elevating Assembly
100-00 Speed Level

PART	DESCRIPTION	QTY.
001-000-00	Chassis Assembly	1
089-000-00	Lift Gear	2
090-000-00	Pivot Pin, 1.75 x 11.45	3
093-000-00	Cylinder Pin	1
094-000-00	Pivot Pin, 1.75 x 13.11	2
095-000-00	Pivot Pin, 1.75 x 13.27	3
060-001-00	Lower Boom Weldment	1
070-001-00	Mid-Linkage Weldment	1
078-001-00	Upper Boom Weldment	1
084-000-00	Lower Tension Weldment	1
087-000-00	Upper Tension Weldment	1
248-016-00	Locknut, 1-8 UNC HEX	5
318-056-00	Screw, 1-8 UNC HEX Head Cap x 7	6
705-020-00	Screw, 3/8-16 UNC Set HEXSOC x 1-1/4	1
764-020-00	RET Ring TRUARC #5100-125	2
342-030-00	Bearing Garlock #44OU32	6
549-010-00	Bearing Garlock #20FOU16	2
349-020-00	Bearing Garlock #28FOU24	12
254-024-00	Screw 3/8-16 UNC HHC x 3	6
273-006-00	Nut 3/8-16 UNC HHC x 3	6
111-000-00	Pedestal Weldment	1
304-000-00	Cylinder, Lift	1
304-010-00	Seal Kit, Lift Cylinder	1
254-030-00	Screw 3/8-16 UNC HHC x 3 3/4	3
248-006-00	Locknut 3/8-16 UNC HEX	9
334-013-00	Fitting Adapter	1
340-006-00	Fitting Adapter	1
336-001-00	Grease Fitting	5
092-000-00	Pin (1 3/4)	1
356-000-00	Wheel Tube	1
331-057-00	Bearing, BRZ Oilite AA-1704-11	2
354-000-00	Wheel	1
318-048-00	Screw 1-8 UNC HHC GPD 5 x 6	1
246-016-00	Locknut 1-8 UNC HEX	1
239-016-00	Washer 1 DIA ASTM A-325 Flat	2
368-014-00	Bushing Strain Relief	4
007-002-00	Control Cable	1
007-003-00	Aux Cable	1





Controller Assembly

64005-007-00 Dual Fuel

67005-008-00 Diesel

ITEM	PART	DESCRIPTION	QTY.
1	64099-006-00	Body, Controller	1
2	64098-002-00	Panel, Controller	1
3	64047-004-00	Decal, Controller	1
4	63916-000-00	Switch, Dual Fuel	1
-	63916-001-00	Key Only	1
-	63936-006-00	Diesel Key Switch	1
5	63953-000-00	Controller Proportional	1
-	63953-001-00	Cap, Switch, Controller	1
-	63903-002-00	Boot, Controller	1
6	63906-000-00	Switch, Foot	1
7	61831-000-00	Decal, Before Operating	1
8	61515-000-00	Decal, Lift Here	1
9	29939-003-00	Locknut 3/4-NPT	2
10	29939-002-00	Locknut 1/2-NPT	1
11	29925-000-00	Connector Cable 1/2	1
12	29925-011-00	ConnecotrCable 3/4	1
13	29442-099-00	Cord 14/3 Wire	6FT.

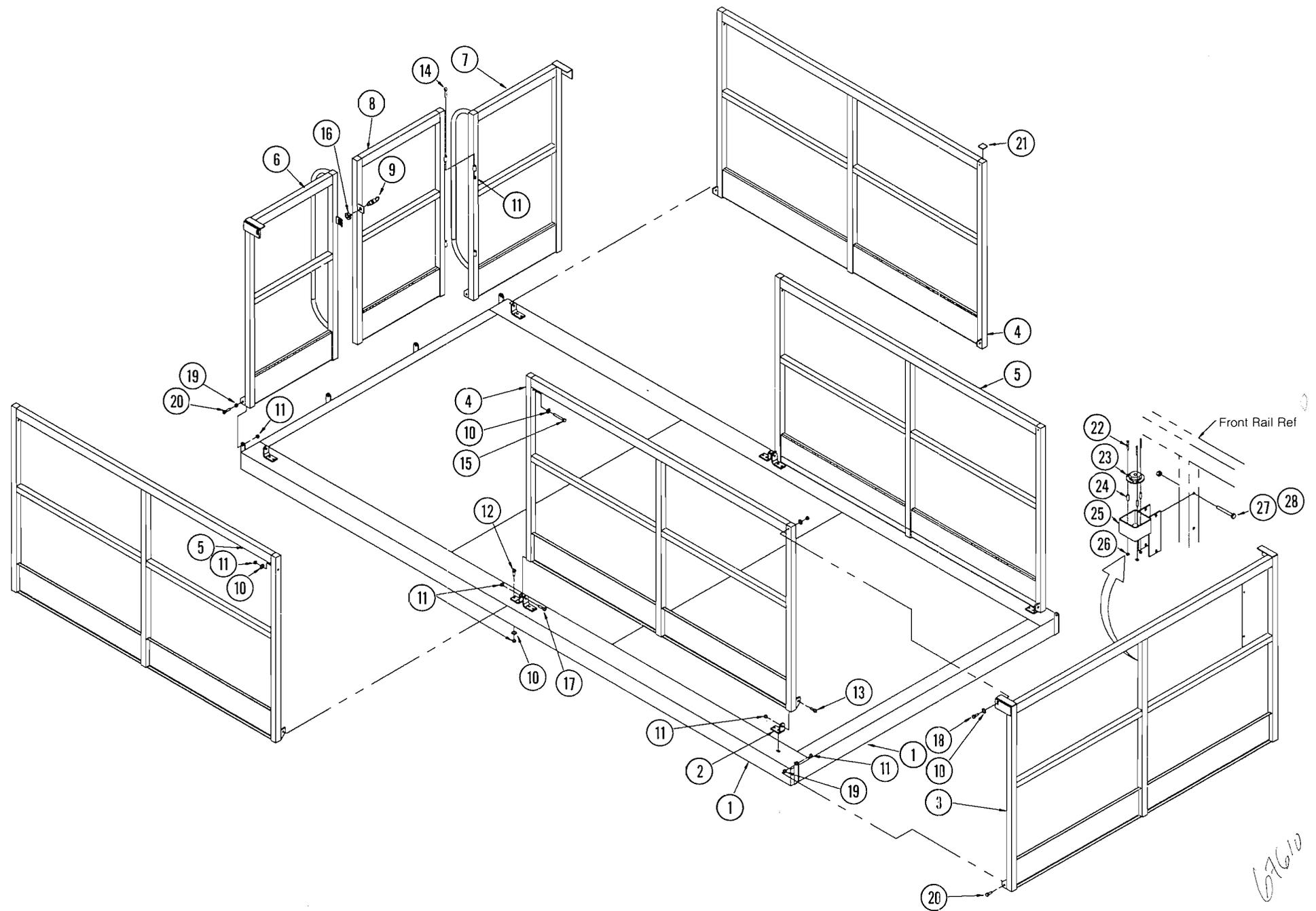
ITEM	PART	DESCRIPTION	QTY.
14	26611-002-00	Cover, Electric Box	1
15	15941-001-00	Switch, (Emergency Stop / Drive & Lift)	2
16	12797-000-00	Switch, (Toggle)	1
17	11811-006-00	Screw 10-32 SLFTP Type F RD HD	6
18	29936-006-00	Guard, Switch	1
19	08942-000-00	Receptacle	1
22	29616-001-00	Terminal, Connector	8
23	29610-002-00	Terminal, Connector	17
24	29452-099-00	Wire 16 AMG THHN STRD Black	5FT
25	12798-000-00	Switch, Toggle (Leveling)	2
27	63956-001-00	Plug, Connector	1
28	63956-002-00	Pin	9
29	63951-001-00	Relay	2
30	11248-047-00	Locknut 6-32 UNF Hex	6
31	11715-004-00	Screw 6-32 UNF HHC x 1/2	4
32	29925-002-00	Cable, Connector 3/4	1
33	29610-004-00	Terminal, Connector Fork 12-IOGA #10	2
34	29481-099-00	Wire, 10 AMG THHN STRD COP Black	.5FT
35	64282-000-00	Decal, Danger Never Elevate	1
36	64374-000-00	Decal, To Level	1

Down Guardrail Assembly
100-00 Fold-Down Guardrail Assembly
100-00 Fold-Down Guardrail Assembly

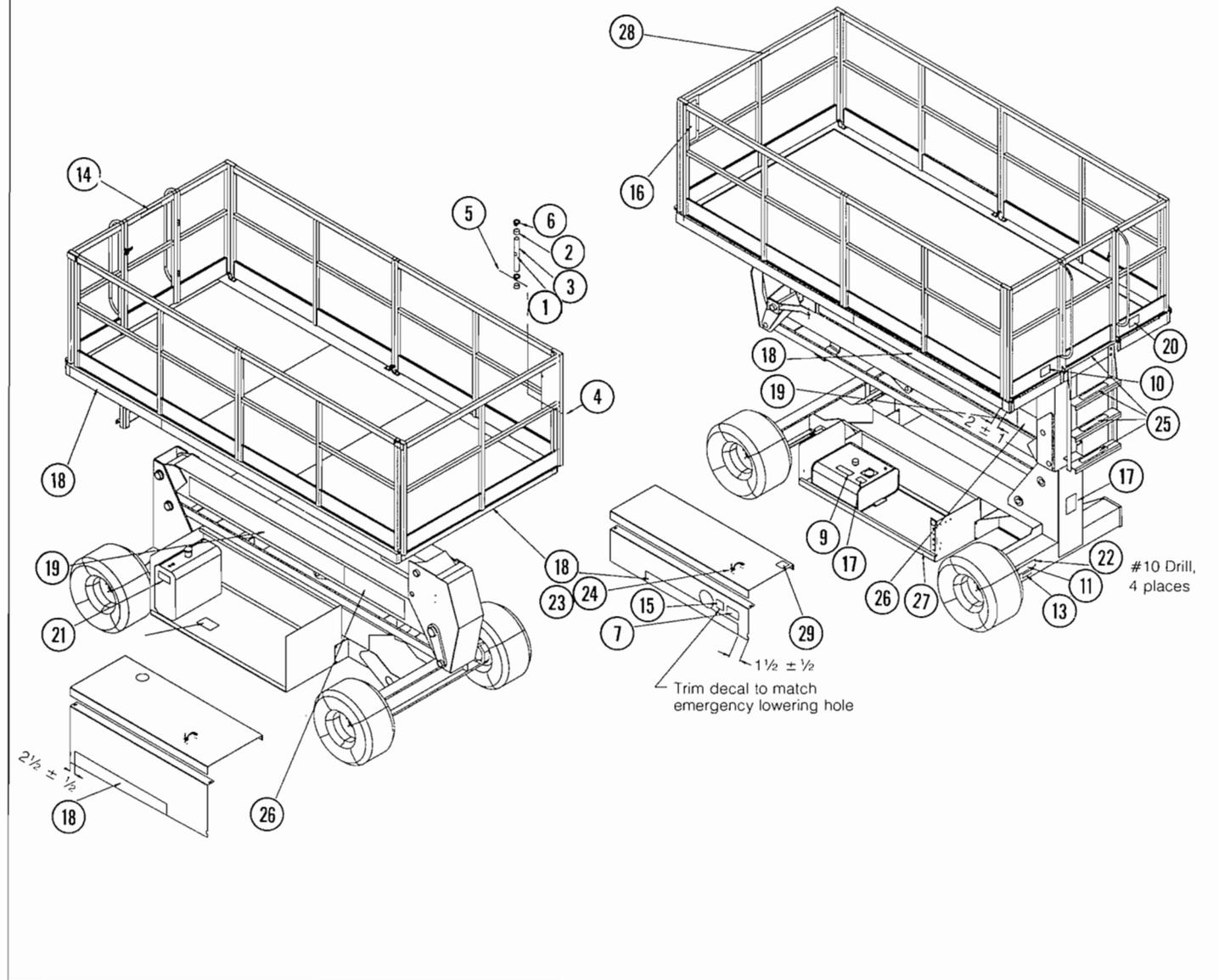
Illustrated Parts Breakdown

SECTION SEVEN

PART	DESCRIPTION	QTY.
100-000-00	Platform Weldment	Ref
046-000-00	Bracket, Rail Mounting	8
124-001-00	Weldment, Front Rail	1
125-001-00	Weldment, Side Rail R/H	2
126-001-00	Weldment, Side Rail L/H	2
127-001-00	Weldment, Rear Rail R/H	1
128-001-00	Weldment, Rear Rail L/H	1
129-001-00	Weldment, Gate	1
570-000-00	Retaining Pin Assembly	1
240-006-00	Washer, 3/8 DIA STD Flat	26
248-006-00	Locknut, 3/8-16 UNC	36
254-008-00	Screw, 3/8-16 UNC HHC x 1	16
254-010-00	Screw, 3/8-16 UNC HHC x 1 1/4	4
254-022-00	Screw, 3/8-16 UNC HHC x 2 3/4	2
254-026-00	Screw, 3/8-16 UNC HHC x 3 1/4	2
495-012-00	Screw, 3/4-16 UNF Jam HEX	1
254-014-00	Screw, 3/8-16 UNC HHC x 1 3/4	2
254-018-00	Screw, 3/8-16 UNC HHC 2 1/4	4
273-006-00	Nut, 3/8-16 UNC Jam HEX	6
254-012-00	Screw, 3/8-16 UNC HHC x 1 1/2	6
026-001-00	Plug, Square Tube	8
721-008-00	Screw, Mach RD HD 4-IOUIC x 1	3
042-000-00	Orbit Level, Mayers Bros. # OR	1
133-000-00	Spring	3
061-000-00	Weldment, Level Mount	1
250-018-00	Nut, Hex 4-40 UNC	3
248-004-00	Locknut, 1/4-20 UNC Hex	2
252-016-00	Screw, 1/4-20 UNC HHC x 2	2



Fold-Down Guardrail Assembly



Decal Kit Installation

164006-004-00 Dual Fuel
64006-005-00 Diesel

ITEM	PART	DESCRIPTION	QTY.
1	03610-000-00	Decal, Operation Instructions	1
2	03612-000-00	Cap	2
3	03613-001-00	Tube	1
4	11248-004-00	Locknut 1/4-20 UNC Hex	2
5	11252-006-00	Screw 1/4-20 UNC HHC x 3/4	2
6	20398-012-00	Clamp	2
7	27993-000-00	Decal, Lower Platform	1
8	64189-000-00	Decal, Vapor Withdrawal	1
9	60197-000-00	Decal, Hydraulic Fluid	1
10	60350-000-00	Decal, Load 1500 LBS	1
11	61205-000-00	Decal, Name Plate	1
12	61214-000-00	Decal, Danger Hydrogen Gas	1
13	61220-000-00	Decal, ANSI Requirements	1

ITEM	PART	DESCRIPTION	QTY.
14	64358-000-00	Decal, Before Exiting	1
15	62524-001-00	Decal, Emergency Lowering	1
16	64167-001-00	Decal, Danger Instructions	1
17	64359-000-00	Decal, Caution Do Not Adjust	2
18	64048-000-00	Decal, SL-26 4 x 4D	5
19	64049-000-00	Decal, 7 1/4 x 68 1/2	2
20	64165-000-00	Decal, Tire Pressure 50 PSI	1
21	64166-000-00	Decal, Gas Unleaded Only	1
22	26551-005-00	Rivet, Pop	4
23	25427-002-00	Handle	4
24	26553-002-00	Rivet, Pop	16
25	60830-000-00	Safety Walk	4
26	64231-000-00	Decal, Speed Level	2
28	64226-000-00	Decal, Tipping Hazard	1
29	64421-000-00	Switch, Fuel	1

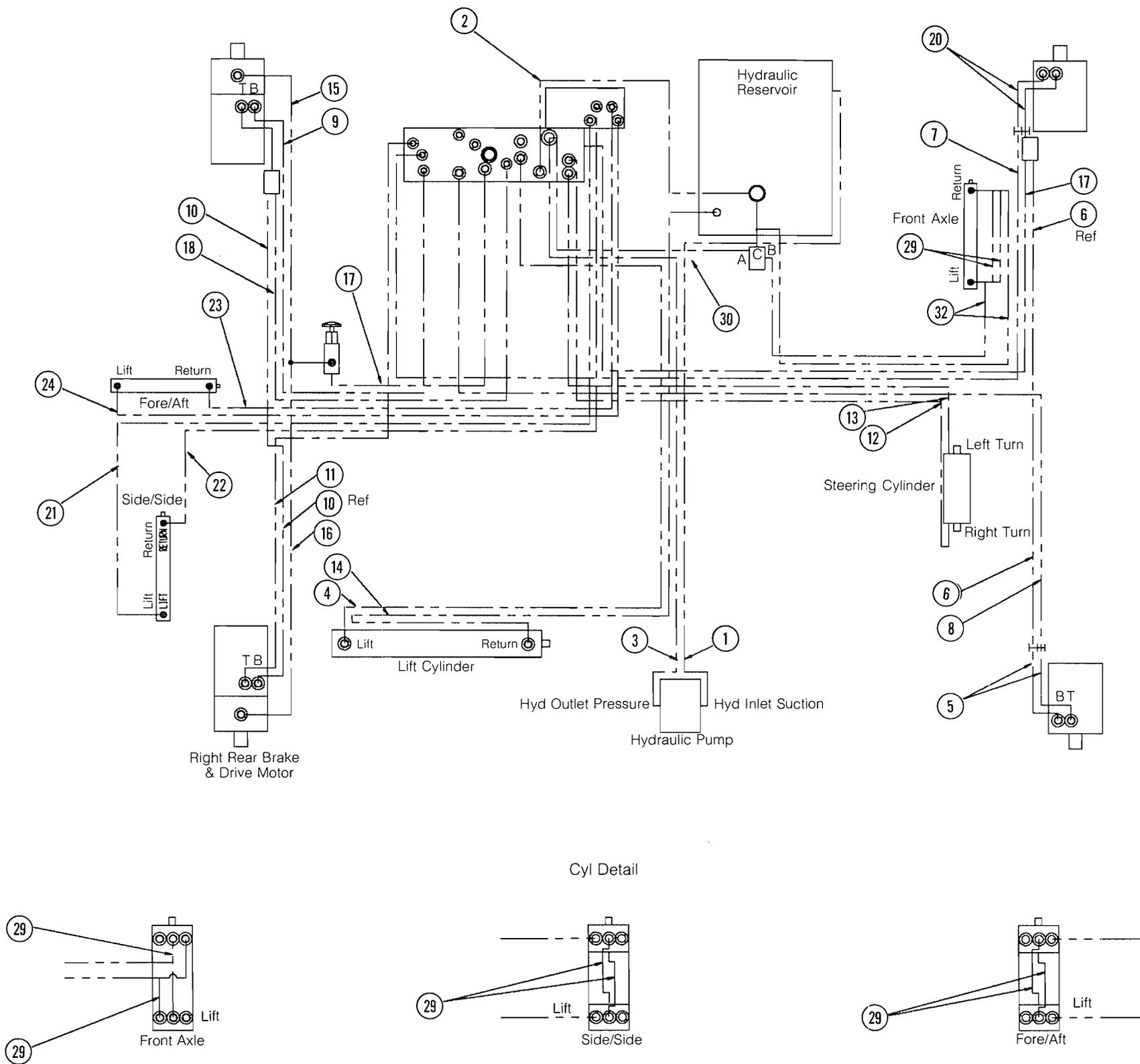
Kit Installation

05-00 Dual Fuel & Diesel

PART	DESCRIPTION	QTY.
57-006-00	Hose Assembly, x 41 Dual Fuel	1
57-007-00	Hose Assembly, x 68 Diesel	1
56-002-00	Hose Assembly, x 23	1
56-019-00	Hose Assembly, x 67 Dual Fuel	1
56-033-00	Hose Assembly, x 94 Diesel	1
56-028-00	Hose Assembly, x 63	1
56-032-00	Hose Assembly, x 30	2
56-021-00	Hose Assembly, x 42	1
56-022-00	Hose Assembl, x 54	1
56-023-00	Hose Assembly, x 78	1
56-024-00	Hose Assembly, x 52	1
56-019-00	Hose Assembly, x 67	1
56-025-00	Hose Assembly, x 75	1
31-010-00	Hose Assembly, x 83 1/2	1
31-007-00	Hose Assembly, x 64	1
32-007-00	Hose Assembly, x 103	1
51-022-00	Hose Assembly, x 30	1
51-006-00	Hose Assembly, x 53	1
51-008-00	Hose Assembly, x 41	2
51-015-00	Hose Assembly, x 56	1
56-017-00	Hose Assembly, x 33	2
60-008-00	Hose Assembly, x 84	1
60-009-00	Hose Assembly, x 90	1
60-010-00	Hose Assembly, x 93	1
60-011-00	Hose Assembly, x 89	1
51-016-00	Hose Assembly, 1/8 Synflex x 8	6
51-018-00	Hose Assembly, x 16	1
60-012-00	Hose Assembly, x 66	2

Illustrated Parts Breakdown

SECTION SEVEN



UpRight

UpRight, Inc.
1775 Park Street
Selma, California 93662
TEL: 209/896-5150
FAX: 209/896-9012
PARTS FAX: 209/896-9244

Call Toll Free in U.S.A.

1-800-926-LIFT

UpRight, Europe
(Europe, Africa & Middle East)
Pottery Road
Dunloire, Ireland
TEL: 353/1/285-3333
FAX: 353/1/284-0015

P/N 60587-002-00

10/93 D