

# UpRight

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***XRT Series***  
WORK PLATFORM



**Service &  
Parts Manual**

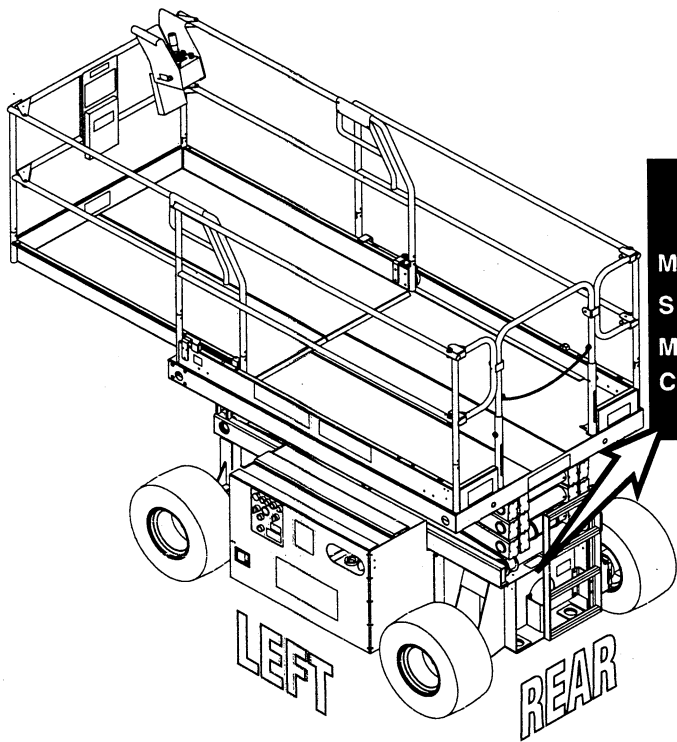
# SERVICE & PARTS MANUAL

## XRT27 & XRT33

### Aerial Work Platform

**Serial Numbers 1000 - Current**

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



#### **UpRight, Inc.**

1775 PARK ST.

SELMA, CA 93662 USA

MODEL NO.  MAX. PLATFORM HEIGHT

SERIAL NO.  BATTERY VOLTAGE

MAX. DISTRIBUTED LOAD

CAUTION: CONSULT OPERATOR'S MANUAL BEFORE USE.  
THIS PLATFORM IS NOT ELECTRICALLY INSULATED

P/N 61205-000-00

## **UpRight**

**Call Toll Free in U.S.A.**

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Selma, California 93662

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P/N 066899-000  
7/99 K



# FORWARD

## HOW TO USE THIS MANUAL

This manual is divided into 6 sections. The section number printed at the top corner of each page can be used as a quick reference guide.

### Special information

#### **DANGER**

*Indicates the hazard or unsafe practice **will** result in severe injury or death.*

#### **WARNING**

*Indicates the hazard or unsafe practice **could** result in severe injury or death.*

#### **CAUTION**

*Indicates the hazard or unsafe practice **could** result in **minor** injury or property damage*

**NOTES:** Give helpful information.

### WORKSHOP PROCEDURES

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

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

## Introduction & Specifications

General description and machine specifications.

**1.0**

## Machine Preparation & Operation

Information on how to operate the work platform and how to prepare it for operation.

**2.0**

## Maintenance

Preventative maintenance and service information.

**3.0**

## Troubleshooting

Causes and solutions to typical problems.

**4.0**

## Schematics

Schematics and valve block diagram with description and location of components.

**5.0**

## Illustrated Parts Breakdown

Complete parts lists with illustrations.

**6.0**

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# Section 1

## INTRODUCTION & SPECIFICATIONS

### 1.1 INTRODUCTION

#### Purpose

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

#### Scope

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

### 1.2 GENERAL DESCRIPTION

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

#### Platform

The platform has a reinforced steel floor, 44 inch (1.11 m) high guardrails with midrail, 6 inch (152 mm) toeboards and an entrance gate at the rear of the platform. The guardrails can be folded down for access through doors or for shipment.

### WARNING

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

#### Controller

The controller contains the controls to operate the machine. It should be hung on the front, left, or right guardrail, but may be hand held if necessary. To operate the machine, the interlock lever must be depressed to operate any function. A complete explanation of control functions can be found in Section 2.

#### Elevating Assembly

The platform is raised and lowered by the elevating assembly;

**XRT27:** a four section scissor assembly powered by one single stage lift cylinder

**XRT33:** a five section scissor assembly powered by two single stage lift cylinders.

The hydraulic pump, driven by the engine, powers the cylinder(s). Solenoid operated valves control raising and lowering.

#### Power Module

The power module contains the engine, hydraulic pump, and starter solenoid.

#### Control Module

The control module contains the fuel tank, hydraulic reservoir, hydraulic valve manifold, horn/alarms, volt/hour meter, electrical terminal strips, and chassis control panel. A complete explanation of the chassis control functions is found in Section 2.

#### Roll-Out Tray

All models have a roll-out tray which contains the battery, and the LP fuel tank (dual fuel models).

#### Chassis

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

#### Purpose of Equipment

The objective of the XRT Work Platform is to provide a quickly deployable, self propelled, variable height work platform to elevate personnel and materials to overhead work areas. 4WD models can be driven over rough terrain.

#### Special Limitations

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

Elevating of the Work Platform is limited to firm, level surfaces only. Any degree of slope greater than 3° will lockout the elevating circuits and sound a warning alarm.

**FOUR WHEEL DRIVE MODELS:** driving while elevated is limited to flat surfaces only.

### DANGER

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

## 1.3 SPECIFICATIONS

**Table 1-1: Specifications**

Specifications are subject to change without notice

Meets or exceeds all applicable requirements of OSHA and ANSI A92.6-1999

ITEM	XRT27	XRT33
Platform Size (Outside)		
Standard	58 in. x 90.5 in. [1,47 m x 2,34 m]	58 in. x 90.5 in. [1,47 m x 2,34 m]
Slide Out Deck Extended	58 in. x 103.5 in. [1,47 m x 2,62 m]	58 in. x 103.5 in. [1,47 m x 2,62 m]
Max. Platform Capacity		
Standard	1,250 lbs. [567 kg]	1,000 lbs. [454 kg]
w/ Extension	1,250 lbs. [567 kg]	1,000 lbs. [454 kg]
on Extension	250 lbs. [113 kg]	250 lbs. [113 kg]
Max. No. of occupants		
Standard	4 people	3 people
on Extension	1 people	1 people
Height		
Working Height	33 ft. [10,1 m]	39 ft. [12 m]
Max. Platform Height	27 ft. [8,2 m]	33 ft. [10,1 m]
Max. Drive Height	27 ft. [8,2 m]	33 ft. [10,1 m]
Dimensions		
Weight, Standard	7,000 lbs. [3175 kg]	8,167 lbs. [3704 kg]
Overall Width	69 in. [1,75 m]	69 in. [1,75 m]
Overall Height (Rails Up)	98.5 [2,5 m]	105 in. [2,7 m]
Overall Height (Rails Folded)	69.5 in. [1,8 m]	76 in. [1,9 m]
Overall Length, Standard	106 in. [2,72 m]	106 in. [2,72 m]
Driveable Height	27 ft. [8,2 m]	33 ft. [11,1 m]
Surface Speed		
Platform Lowered	0 to 6.4 mph [0 to 4,0 km/h]	0 to 6.4 mph [0 to 4,0 km/h]
Platform Raised	0 to 0.45 mph [0 to 0,73 km/h]	0 to 0.45 mph [0 to 0,73 km/h]
System Voltage	12 Volt DC	12 Volt DC
Hydraulic Tank Capacity	16.25 US Gallons [74 l]	16.25 US Gallons [74 l]
Maximum Hydraulic System Pressure	3200 psi [220,7 bar]	3200 psi [220,7 bar]
Hydraulic Fluid		
Normal use: Above 32° F [0° C]	ISO #46	ISO #46
Low Temp. use: Below 32° F [0° C]	ISO #32	ISO #32
Below 0° F [-17° C]	ISO #15	ISO #15
Lift System	One Single Stage Lift Cylinder	Two Single Stage Lift Cylinders
Lift Speed	Raise, 30 sec./Lower, 31 sec.	Raise, 35 sec./Lower, 31 sec.
Power Source	Kubota D905E Diesel	Kubota D905E Diesel
	Kohler Gasoline	Kohler Gasoline
Drive Control - Horizontal Drive	Proportional	Proportional
2wd:	2 Hyd. Wheel Motors	2 Hyd. Wheel Motors
4wd:	4 Hyd. Wheel Motors	4 Hyd. Wheel Motors
Air Filled Tires (except European, foam filled tires)	26 X 12-10 ply, 65 psi [4,5 bar]	26 X 12-10 ply, 65 psi [4,5 bar]
Parking Brakes	Spring Applied, Hydraulic Release, Multiple Disc	Spring Applied, Hydraulic Release, Multiple Disc
Turning Radius (inside)	68 in. [1,7 m]	68 in. [1,7 m]
Maximum Gradeability		
2wd:	30% [16,7°]	30% [16,7°]
4wd:	40% [21,9°]	35% [19,2°]
Ground Clearance	7.6 in [194 mm]	7.6 in [194 mm]
Wheel Base	78 3/8 in. [2 m]	78 3/8 in. [2 m]
Guardrails	44 in. [1,1 m] high, Fold Down with gate.	44 in. [1,1 m] high, Fold Down with gate.
Toeboard	6 in. [152 mm] High	6 in. [152 mm] High



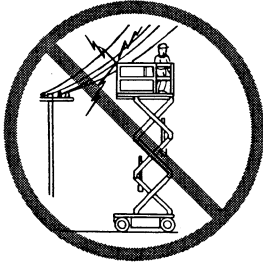
## Section 2

# MACHINE PREPARATION & OPERATION

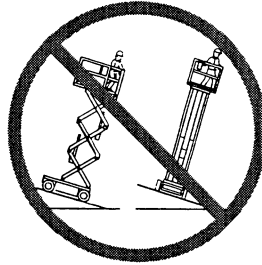
## Safety Rules

### Warning

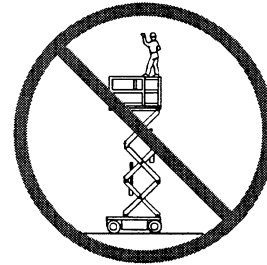
All personnel shall carefully read, understand and follow all safety rules, operating instructions, and the Scaffold Industry Association's **Manual of Responsibilities (ANSI A92.6)** before operating or performing maintenance on any Upright aerial work platform.



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



**NEVER** elevate or drive elevated on uneven slopes or soft ground or elevate the platform unless the platform is level



**NEVER** sit, stand or climb on guardrail or midrail

**NEVER** operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps and debris.

**NEVER** operate the machine if all guardrails are not properly in place and secured with all fasteners properly torqued.

**SECURE** and lock gate after mounting platform.

**KEEP** all body parts clear of outriggers when extending or retracting (outrigger equipped machines only).

**NEVER** use ladders or scaffolding on the platform.

**NEVER** attach overhanging loads or increase platform size.

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

**DISTRIBUTE** all loads evenly on the platform. See the back cover for maximum platform load.

**NEVER** use damaged equipment. (Contact UpRight for instructions. See toll-free phone number on back cover.)

**NEVER** change operating or safety systems.

**INSPECT** the machine thoroughly for cracked welds, loose hardware, hydraulic leaks, damaged control cable, loose wire connections and wheel bolts.

**NEVER** climb down elevating assembly with the platform elevated.

**NEVER** perform service on machine while platform is elevated without blocking elevating assembly.

**NEVER** recharge battery 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 key switch off and removing key.

**NEVER** replace any component or part with anything other than original UpRight replacement parts without the manufacturer's consent.

### California Proposition 65 Warning

Gasoline and diesel engine exhaust and some of their constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

**NOTE:** Read and familiarize yourself with all operating instructions before attempting to operate the XRT Work Platform.

## 2.1 PREPARATION FOR USE

### ⚠ CAUTION ⚠

*STAND CLEAR when cutting the metal banding to avoid being cut if 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 to the negative (-) battery terminal in the roll-out tray (see Figure 2-1).

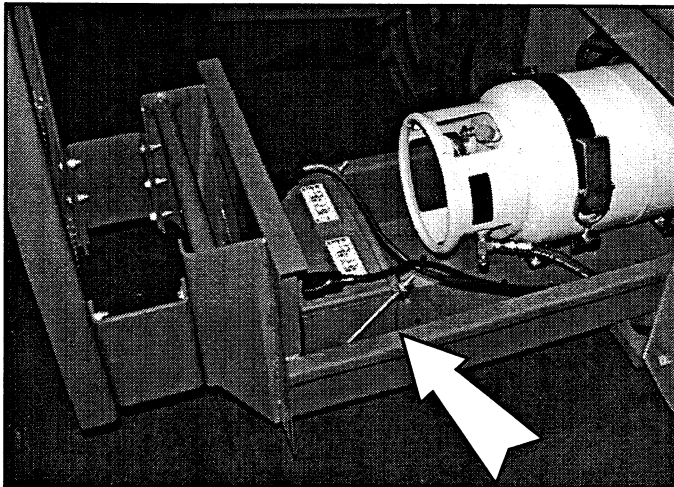


Figure 2-1: Battery (rear of machine)

## 2.2 TRANSPORTING WORK PLATFORM

### By Crane

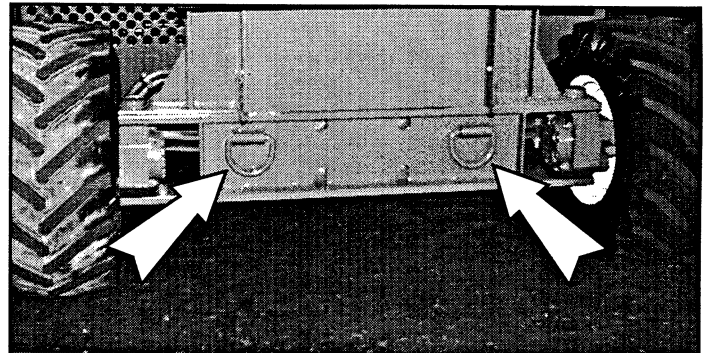
1. Secure straps to chassis tie down/lifting lugs only (see Figure 2-2).

### By Truck

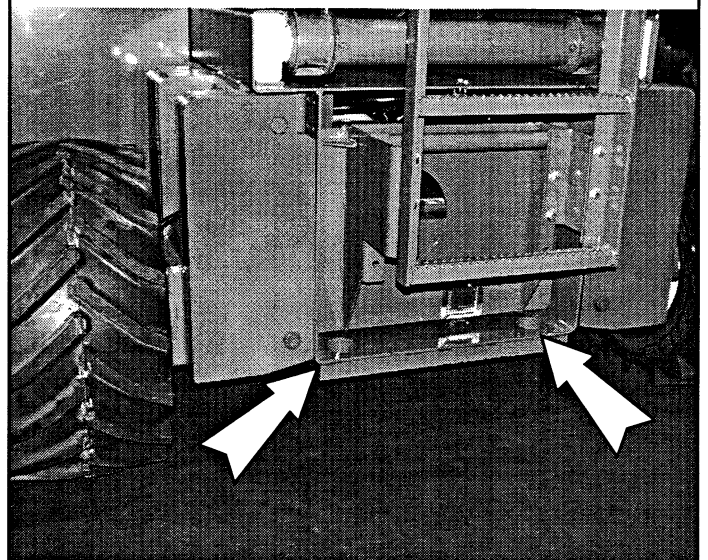
1. Maneuver the work platform into transport position and chock wheels.
2. Secure the work platform to the transport vehicle with chains or straps of adequate load capacity attached to the chassis tie down/lifting lugs.

### ⚠ CAUTION ⚠

*Overtightening of chains or straps through tie down lugs may result in damage to work platform.*



Lifting Lugs/Tie Downs - Front



Lifting Lugs/Tie Downs - Rear

Figure 2-2: Transporting Work Platform

## 2.3 PREPARATION FOR SHIPMENT

1. Grease all the grease fittings.
2. Fully lower the platform.
3. Disconnect the battery negative (-) lead from the battery terminal (see Figure 2-1).
4. Band the controller to the front guardrail.
5. Band the elevating linkage to the frame.

### 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. DO NOT fill the hydraulic tank while the platform is elevated.

**NOTE: DO NOT drain the hydraulic system prior to long term storage.**

3. Coat exposed portions of extended cylinder rods with a preservative such as multipurpose grease and wrap with barrier material.
4. Coat all exposed unpainted metal surfaces with preservative.
5. Service the engine according to the manufacturers recommendations.

### Battery

1. Disconnect the battery negative (-) cable and secure to the chassis.
2. Disconnect the remaining battery leads and secure to the chassis.
3. Remove the battery and place in alternate service.

## 2.4 DESIGN FEATURES

The XRT has the following features to insure safe operation:

1. The Lift Valve will not energize unless the chassis is level.
2. A warning alarm sounds and Drive Valves are de-energized, if the work platform should become unlevel while elevated.
3. A motion alarm sounds when the work platform is lowering.
4. The platform descent rate is controlled by an orifice. The Lift Cylinder is equipped with a holding valve to prevent descent should a leak develop.
5. The drive speed is limited to "creep" speed when operating the work platform while elevated.
6. Holding brakes are automatically engaged when the Drive Valves are de-energized from the Controller or from a loss of power.
7. The Platform and Chassis controls are each equipped with an Emergency Stop Switch.
8. Up and Down Buttons are located in the Control Module on the chassis for lifting and lowering the work platform from ground level.
9. The Down Valve can be operated manually by means of a cable linkage in the event of powered function failure.
10. Dynamic braking, and runaway protection are provided by the use of Counterbalance Valves in the drive system.
11. A Level Sensor is used to sense when the machine is unlevel, disabling lift functions, and drive when elevated.

## 2.5 CONTROLS AND INDICATORS

The controls and indicators for operation of the XRT 27 & XRT 33 Work Platform are shown in (see Figure 2-3). The name and function of each control and indicator are listed in Table 2-1. The index numbers

in Figure 2-3 correspond to the index numbers in Table 2-1. The operator shall 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 2-1: Controls and Indicators**

Controller			Platform/Chassis		
INDEX #	NAME	FUNCTION	INDEX #	NAME	FUNCTION
1	Key Switch (right side)	Turn key fully clockwise to start engine, when released key goes to RUN to provide power to the Interlock Switch.	10	Hourmeter (Optional)	Tracks the number of hours of engine powered operation.
2	Emergency Stop Switch	Push red button to cut power to all controls (off). Turn clockwise to provide power (on).	11	Raise Button	Press button to lift the platform and
3	Control Lever	Move joystick forward or backwards to control Drive and Lift Valves proportionally or Down Valve depending on position of Drive Lift Switch.	12	Lower Button	Press button to lower the platform.
4	Steering Switch	Moving the momentary rocker switch Right or Left steers the work platform in that direction. Although the Steering Switch is self centering the steering system is not. The wheels must be steered back to straight.	13	Emergency Stop Switch	Push red button to cut power to all controls (off). Turn clockwise to provide power (on).
5	Drive Speed/Torque Selector Switch	Provides three speed/torque ranges, in forward or reverse. - High Speed-low torque - Mid Range - High Torque-low speed.	14	Fuel Selector Switch (Dual Fuel Only)	Turning switch left or right changes the engine's fuel supply between Gasoline and Propane. Placing the switch in the center position purges the fuel lines prior to changing fuels.
6	Drive/lift Switch	Selecting Drive allows the work platform to move forward or reverse. Selecting Lift allows the work platform to raise or lower.	15	Emergency Stop Indicator	Illuminates when Emergency Stop is enabled, turns off when disabled.
7	Interlock Lever Switch (back of Control Lever)	Provides power to the Controller powered functions, only when depressed, preventing accidental activation of the Controller.	16	Power Indicator	Illuminates when power is on, turns off when power is off.
8	Choke Button (gasoline / dual fuel)	Press to engage choke when starting engine.	17	Platform / Chassis Switch	Turn switch to the left to enable platform controls. Turn switch to the right to enable chassis controls.
	Glow Plug Button (diesel)	Press and hold for 6 seconds to preheat glow plugs before starting.	18	Start Button	Press to start the engine. Release after engine starts.
			19	Choke Button (gasoline / dual fuel)	Press to engage choke when starting engine.
				Glow Plug Button (Diesel)	Press and hold for 6 seconds to preheat glow plugs before starting.
			20	Throttle Button	Press to increase engine RPM when operating functions from the lower control panel.
			21	Stop Button	Press to kill the engine.
			22	Brake Release Pump	Releases the Parking Brake allowing the machine to be moved in the event power is lost or for winching onto a trailer.
			23	Hydraulic Fluid Sight Gauge	Indicates fluid level.
			24	Fuel Level	Indicates fluid level.
			25	Emergency Lowering Valve	Pull out to lower the platform in the event of powered function failure.

\* Down Alarm and Tilt Alarm are the same unit with different inputs.

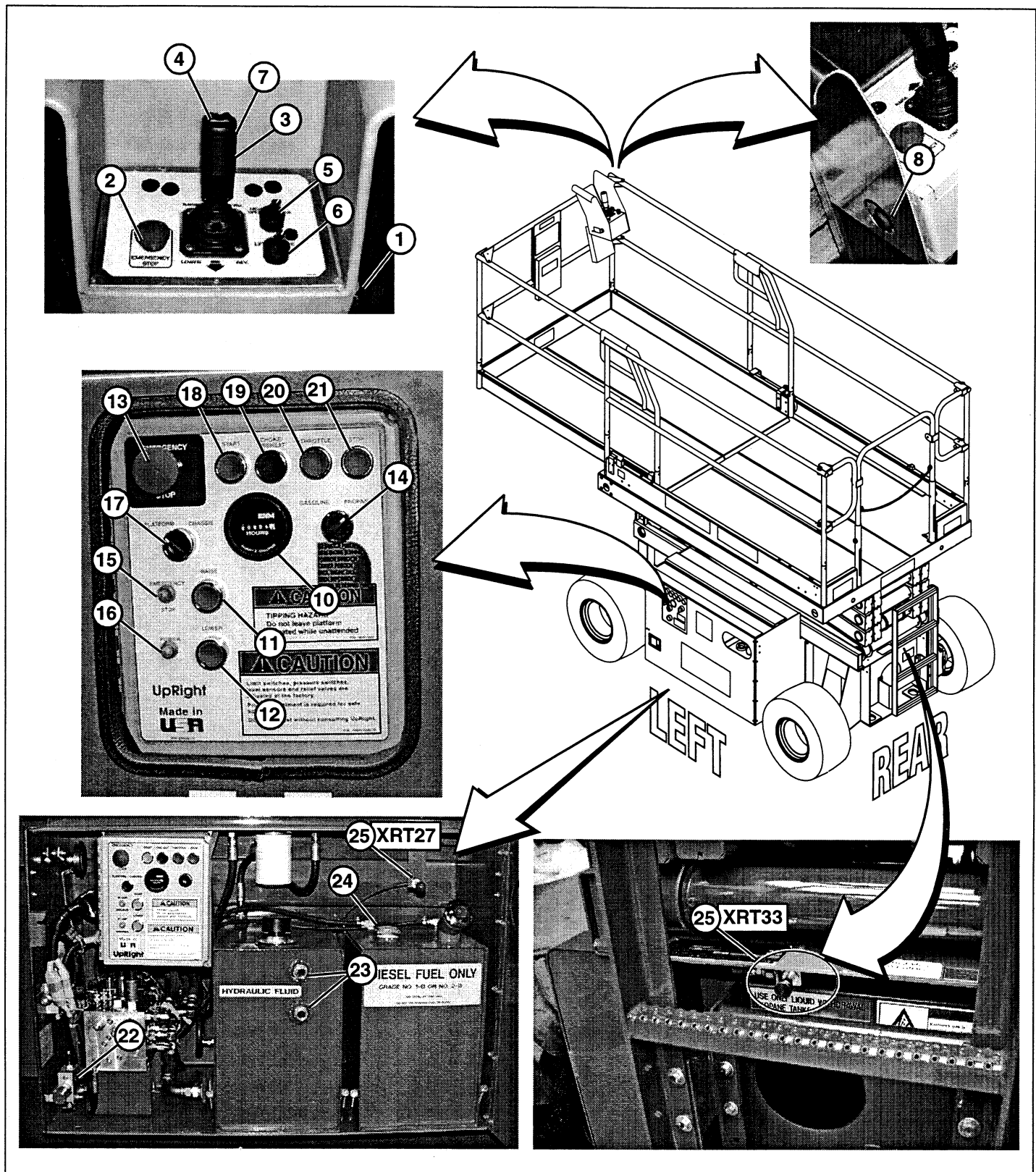


Figure 2-3: Controls and Indicators

## 2.6 PRE-OPERATION INSPECTION

Refer to Table 2-1 and Figure 2-3

**NOTE:** Carefully read, understand and follow all safety rules, operating instructions, labels and the Scaffold Industry Association's **MANUAL OF RESPONSIBILITIES**. Perform the following steps each day before use.

1. Open modules and inspect for damage, oil leaks or missing parts.
2. Check the hydraulic oil level sight gauge on the hydraulic tank with the platform fully lowered. Add specified hydraulic oil if necessary.
3. Check that fluid level in the battery is correct.
4. Check the engine oil level and fuel level.
5. Check that all guardrails are in place, the slide out deck extension is secured with the pin and all fasteners are properly tightened.
6. Check tire pressure; 65 psi (4,5 bar).
7. 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.
8. Move machine, if necessary, to unobstructed area to allow for full elevation.

9. Place chassis and platform emergency stop switches in the ON position by pulling the buttons out.
10. Verify platform/chassis switch is on PLATFORM.
11. Dual Fuel Models: 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, water free liquid petroleum gas, preferably from a bulk storage tank. Follow the instructions located on the power module tray for filling the tank.

### **W A R N I N G**

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

12. While the engine is cool check the engine coolant level.

### **C A U T I O N**

*DO NOT check coolant when engine or radiator is hot, hot coolant can cause severe burns.*

## System Function Inspection

### **WARNING**

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

*Before operating the work platform survey the work area for surface hazards such as holes, drop-offs, bumps and debris.*

*Check in ALL directions, including above the work platform, for obstructions and electrical conductors.*

*Protect control console cable from possible damage while performing checks.*

1. Unhook controller from front guardrail. Firmly grasp controller hanger in such a manner that the interlock lever can be depressed, while performing the following checks from the ground.
2. Turn controller key switch clockwise to ON. Turn fully clockwise to start engine, releasing the key once the engine starts.  
**Note: If the engine is cold, on gasoline / propane models, hold the choke button in while starting the engine. On diesel models, depress the glow plug button and hold for 6 seconds to engage the glow plugs.**
3. Position drive/lift switch to DRIVE position.
4. With the speed range switch first in HIGH TORQUE and then in HIGH SPEED depress the interlock lever and slowly push the control lever to FORWARD then REVERSE positions to check for speed and directional control. The farther you push or pull the control lever the faster the machine will travel.
5. Push steering switch RIGHT then LEFT to check for steering control.
6. Rehook controller on front guardrail.
7. Turn the platform/chassis switch to Chassis.
8. Push the throttle button in. Push chassis raise button to elevate platform while pushing the tilt sensor off of level. The platform should only partially elevate and the tilt alarm should sound. If the platform continues to elevate and/or there is no alarm STOP and remove the machine from service until it is repaired.
9. Release the tilt sensor and fully elevate platform.
10. Visually inspect the elevating assembly, lift cylinder, cables and hoses for damage or erratic operation. Check for missing or loose parts.
11. Lower the platform partially by pushing in on the chassis lower switch, and check operation of the audible lowering alarm.
12. Open the chassis emergency lowering valve to check for proper operation by pulling and holding the knob out. Once the platform is fully lowered, close the valve by releasing the knob.
13. Turn the platform/chassis switch to platform.
14. Mount the platform making sure the gate is latched.
15. Position drive/lift switch to LIFT.
16. Depress the interlock lever and slowly push the control lever to RAISE the platform, fully actuate the control lever to check proportional lift speed. Elevate the platform to 12 ft. (3,7 m).
17. Slowly pull control lever to DOWN position to lower platform. Check that lowering alarm sounds.
18. Turn controller key switch to OFF, push the emergency stop button and dismount the platform.
19. Close and secure module covers.

## 2.7 OPERATION

Before operating work platform, ensure that the pre-operation and safety inspection has been completed, any deficiencies have been corrected and the operator has been thoroughly trained on this machine.

### Travel With Platform Lowered

1. Verify chassis emergency stop switch is in the ON position (turn counterclockwise), and that the platform/chassis switch is on platform.

**Note: Verify that the platform is fully lowered.**

2. After mounting platform, close and latch gate. Check that guardrails are in position and properly assembled with fasteners properly torqued.
3. Check that route is clear of persons, obstructions, holes and drop-offs and is capable of supporting the wheel loads.
4. Check clearances above, below and to the sides of the platform.
5. Pull controller emergency stop button out to ON position.
6. Turn controller key switch fully clockwise to start engine, releasing the key once the engine starts.

**Note: If the engine is cold, on dual fuel models, depress and hold the choke button in while starting the engine. On diesel models, depress and hold the glow plug button for 6 seconds to engage the glow plugs.**

7. Set the drive/lift speed range switch to HIGH TORQUE.
8. Grasp the control lever so the interlock lever is depressed (releasing the interlock lever cuts power to controller). Slowly push or pull the control lever to forward or REVERSE to travel in the desired direction. The farther you push or pull the control lever from center the faster the machine will travel.
9. While moving, push the drive/lift speed range switch to HIGH SPEED or MID RANGE for travel on level surfaces or to HIGH TORQUE for climbing grades or traveling in confined areas.

### 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 Platform

1. Position the drive/lift switch to LIFT.
2. While holding the control lever so the interlock lever is depressed, push the control lever slowly to UP to raise the platform. Pushing the control lever farther increases the lift 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

Travel with platform elevated ONLY on firm 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, is level and 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.

**Note: If the machine quits driving and the tilt alarm sounds, immediately lower the platform and move the machine to a level location before re-elevating the platform.**

#### Emergency Lowering

The emergency lowering control is located;

- XRT27 - in the Control Module at the fuel filler access hole.
- XRT33 - at the rear of the machine at the base of the scissor assembly.

(see Figure 2-4)

1. Open the emergency lowering valve by pulling on the knob and holding it.
2. Once the platform is fully lowered, release the knob to close the valve.





Figure 2-4: Emergency Lowering Down Valve

## Switching Fuels (Dual Fuel Only)

1. With engine running turn the fuel selector switch to the center position (see Figure 2-3).
2. After the engine has quit running select the appropriate fuel supply.
3. Restart the engine.

## 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.

## Parking Brake Release

Perform the following only when the machine will not operate under its own power and it is necessary to move the machine or when winching onto a trailer to transport (see Figure 2-5).

The hand pump is located in lower left corner of the control module.

1. Close the needle valve by turning the knob clockwise.
2. Pump the brake release pump until the parking brakes release and the wheels can be turned.
3. The machine will now roll when pushed or pulled.
4. Be sure to open the needle valve and verify that the parking brakes have engaged before the machine is operated.

## ! WARNING !

*Never operate work platform with the parking brakes released. Serious injury or damage could result.*

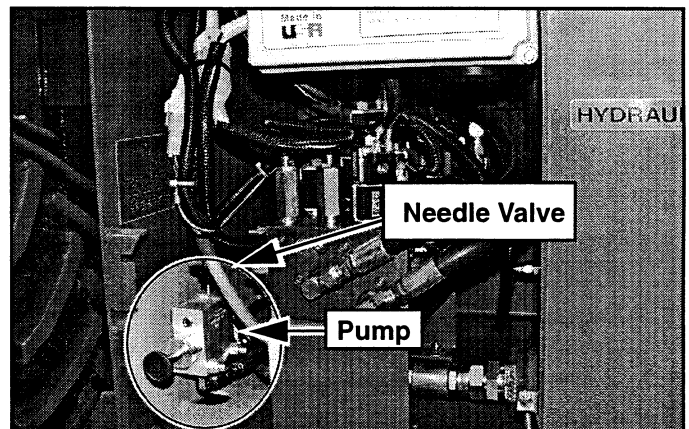


Figure 2-5: Parking Brake Release

## 2.8 FOLD DOWN GUARDRAILS

This procedure is only for passing through doorways. Guardrails must be returned to proper position before using the machine (see Figure 2-6).

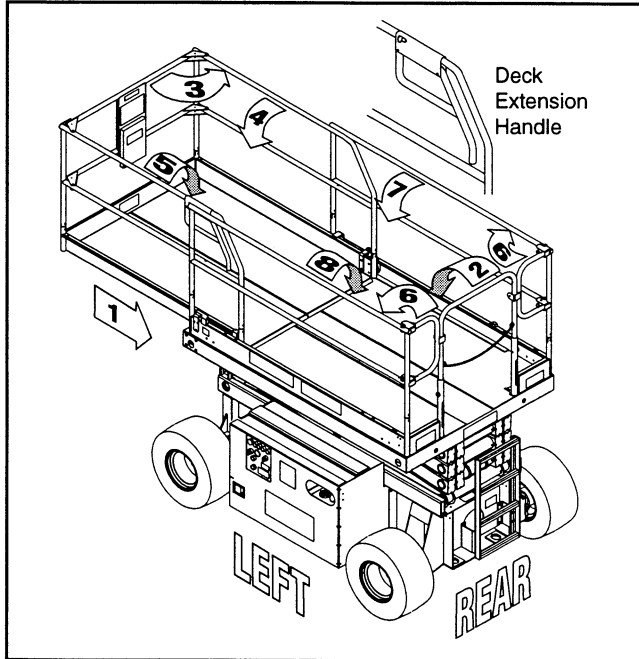


Figure 2-6: Fold Down Guardrails

## Fold Down Procedure

**Note:** When performing the following procedures retain all fasteners.

1. Ensure that the platform is fully retracted and deck pin is locked. Place the controller on the platform.
2. Pull the pins on the two end gate arms. Lower the rear gate to the floor. Replace the pins.
3. Pull the pins (2) on the left side of the front rail and swing the front rail back against the right handrail. Insert pins into right handrail.
4. Push the right deck extension into locked position. Lift the right handrail up, then lower it to the extension deck floor.
5. Push the left deck extension into locked position. Lift the left handrail up, then lower it on top of the right handrail.
6. Rotate the arms in against handrails.
7. Lift the right main handrail and lower to the floor.
8. Lift the left main handrail and lower it on top of right hand rail.

## Erection Procedure

1. Reverse the fold down procedure.
2. Hang the controller from front guardrail.
3. Before operating the work platform, check that all fasteners are in place.

# Section 3

## MAINTENANCE

### 3.1 INTRODUCTION

#### **WARNING**

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

**Note:** For information on the engine refer to your local engine dealer.

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

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

Refer to "Table 3-1: Preventative Maintenance Check list" on page 3-5 for recommended maintenance intervals.

**Note:** Unless otherwise specified, torque all fittings according to "Table 3-5: Torque Specifications for Fasteners" on page 3-30, and "Table 3-6: Torque Specifications for Hydraulic Components" on page 3-30.

### 3.2 DATE CODE IDENTIFICATION ON HOSES

GATES uses a five digit code: Year, Month, Day.

i.e.: 6 11 29 - means 1996, month 11 (November), day 29.

PARKER uses a ten digit code: Plant, Year, Month, Day.

i.e.: XXXX 6 11 29 - means Plant XXXX, 1996, month 11 (November), day 29.

DAYCO stamps month, day and year on each hose.

### 3.3 SPECIAL TOOLS

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

- 0-1000 psi (0-69 bar) Hydraulic Pressure Gauge with Adapter Fittings
- 0-3000 psi (0-207 bar) Hydraulic Pressure Gauge with Adapter Fittings
- 0-6000 psi (0-414 bar) Hydraulic Pressure Gauge with Adapter Fittings
- Small Deutsch Connector Field Kit (UpRight P/N 030899-000)
- Large Deutsch Connector Field Kit (UpRight P/N 030898-000)
- Inclinator

## 3.4 DEUTSCH CONNECTORS

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

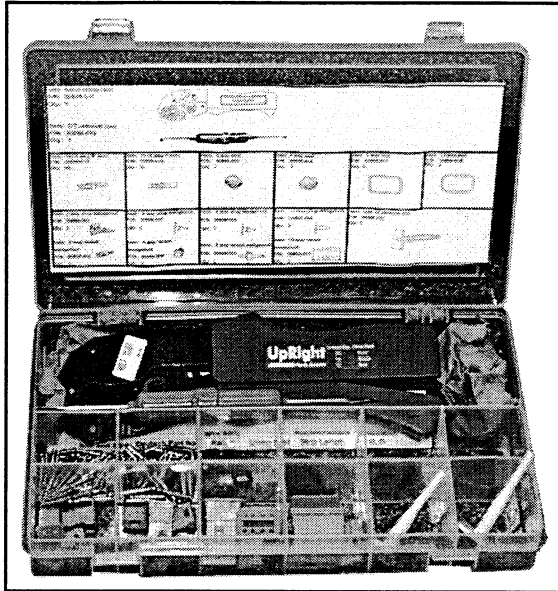


Figure 3-1: Deutsch Connector Kit, Small

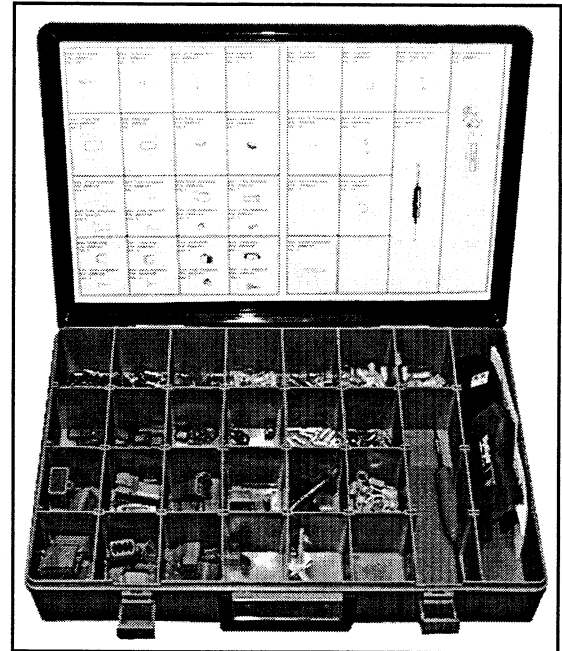


Figure 3-2: Deutsch Connector Kit, Large

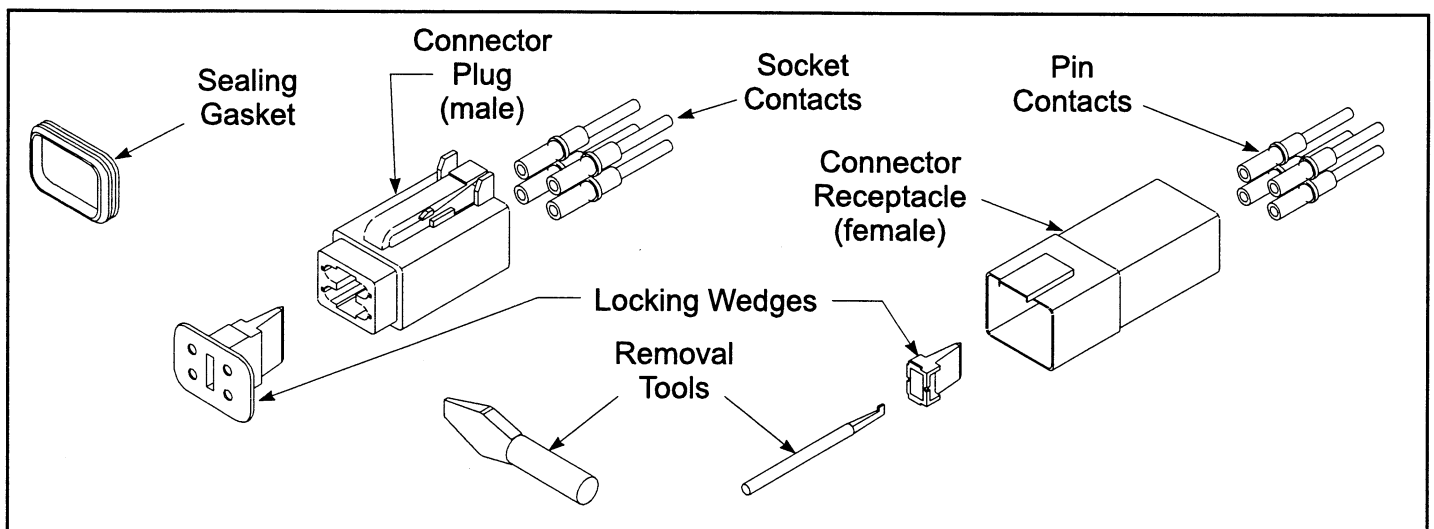


Figure 3-3: Plugs and Receptacles, Deutsch Connectors

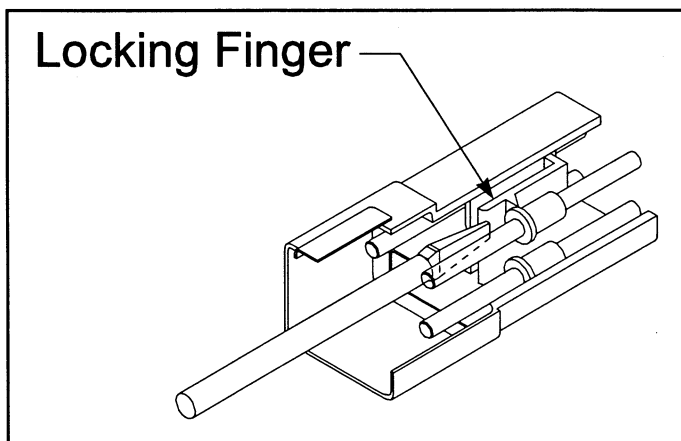
## Male Connector (Plug)

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

## Female Connector (Receptacle)

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

## Releasing Locking Fingers



**Figure 3-4: Locking Finger, Deutsch Connector**

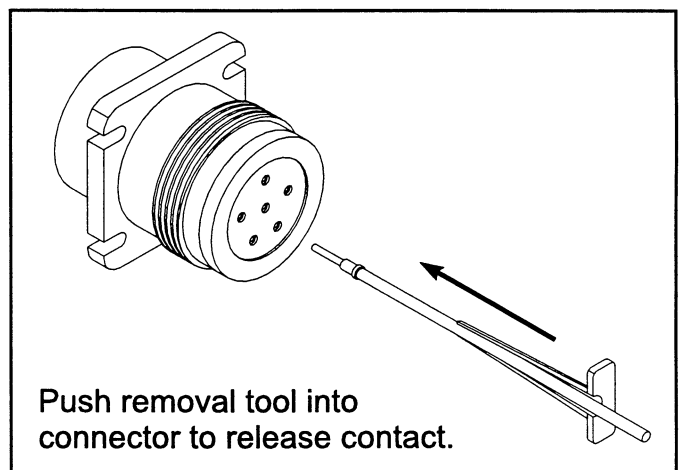
1. The Locking Fingers can be released following the removal of the Locking Wedge of either the male or female connector.
2. Use the removal tool (or flat bladed screwdriver) to push the Locking Fingers aside. This will release the grip on the contact.
3. Pull the wire and contact out of the connector.

## Crimping

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

1. Strip 1/4" (6 mm) from the wire.
2. Insert the contact into the crimping tool.
3. Insert the stripped wire into the contact. Copper strands should be visible in the bleed hole of the contact and no copper strands should be loose (outside) of the contact barrel.
4. Completely close the handles of the crimping tool. Release the handles of the crimping tool and remove the crimped contact.
5. Inspect the crimped contact to ensure that all strands are secure in the crimp barrel.

## Removing Contact from Heavy Duty Plug



**Figure 3-5: Heavy Duty Deutsch Connector**

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

### 3.5 PREVENTATIVE MAINTENANCE

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

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

#### **W A R N I N G**

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

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

# MAINTENANCE

## Section 3.5

### Preventative Maintenance Table Key

#### Interval

Daily=each shift or every day

50h/30d=every 50 hours or 30 days

250h/6m=every 250 hours or 6 months

1000h/2y=every 1000 hours or 2 years

Y=Yes/Acceptable      N=No/Not Acceptable

R=Repaired/Acceptable

### Preventative Maintenance Report

Date: \_\_\_\_\_

Owner: \_\_\_\_\_

Model No: \_\_\_\_\_

Serial No: \_\_\_\_\_

Serviced By: \_\_\_\_\_

Service Interval: \_\_\_\_\_

**Table 3-1: Preventative Maintenance Check list**

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Battery	Check electrolyte level	6m			
	Check specific gravity	6m			
	Clean exterior	6m			
	Check battery cable condition	Daily			
	Clean terminals	6m			
Engine Oil and Filter	Check level and condition	Daily			
	Check for leaks	Daily			
	Change oil filter	200h			
Engine Fuel System	Check fuel level	Daily			
	Check for leaks	Daily			
	Replace fuel filter	400h/6m			
	Check air cleaner	Daily			
	Replace air cleaner element (Diesel)	Yearly			
Engine Coolant	Check Intake Air Line (Diesel)	200h			
	Check coolant level (with engine cold)	Daily			
	Replace coolant	3m			
Hydraulic Oil	Check Hoses and Clamps	200h			
	Check oil level	Daily			
	Change filter	6m			
Hydraulic System	Drain and replace oil	2y			
	Check for leaks	Daily			
	Check hose connections	30d			
Emergency Hydraulic System	Check hoses for exterior wear	30d			
	Operate the emergency lowering valve and check for serviceability	Daily			
Controller	Check switch operation	Daily			
Control Cable	Check the exterior of the cable for pinching, binding or wear	Daily			
Platform Deck and Rails	Check fasteners for proper torque	Daily			
	Check welds for cracks	Daily			
	Check condition of deck	Daily			
Tires	Check for damage	Daily			
	Check lug nuts (torque to 90 ft. lbs.)	30d			
Hydraulic Pump	Wipe clean	30d			
	Check for leaks at mating surfaces	30d			
	Check for hose fitting leaks	Daily			
	Check mounting bolts for proper torque	30d			
Drive Motors	Check for operation and leaks	Daily			

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Steering System	Check hardware & fittings for proper torque	6m			
	Grease pivot pins	30d			
	Oil king pins	30d			
	Check steering cylinder for leaks	30d			
Elevating Assembly	Inspect for structural cracks	Daily			
	Check pivot points for wear	30d			
	Check mounting pin pivot bolts for proper torque	30d			
	Check elevating arms for bending	6m			
Chassis	Check hoses for pinch or rubbing points	Daily			
	Check component mounting for proper torque	6m			
	Check welds for cracks	Daily			
Lift Cylinder	Check the cylinder rod for wear	30d			
	Check mounting pin pivot bolts for proper torque	30d			
	Check seals for leaks	30d			
	Inspect pivot points for wear	30d			
	Check fittings for proper torque	30d			
Entire Unit	Check for and repair collision damage	Daily			
	Check fasteners for proper torque	3m			
	Check for corrosion-remove and repaint	6m			
	Lubricate	30d			
Labels	Check for peeling, missing, or unreadable labels & replace	Daily			

### 3.6 SUPPORTING ELEVATING ASSEMBLY

#### **! WARNING !**

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

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

1. Park the work platform on firm level ground.
2. Verify both Emergency Stop Switches are ON.
3. Turn Chassis Key Switch to CHASSIS.
4. Position Chassis Lift Switch to UP and elevate platform approximately 9 feet (2,7 m).

#### **XRT27 Brace Installation**

(see Figure 3-6)

1. Rotate the Scissors Brace so that it hangs vertically.
2. Push Chassis Lift Switch to DOWN position and gradually lower platform until the Scissors Brace rests on the weldment cross member.

#### **XRT27 Brace Removal**

1. Push Chassis Lift Switch to UP position and gradually raise platform until the Scissors Brace is clear.
2. Rotate the Scissors Brace until it rests on the weldment.
3. Push Chassis Lift Switch to DOWN position and completely lower platform.

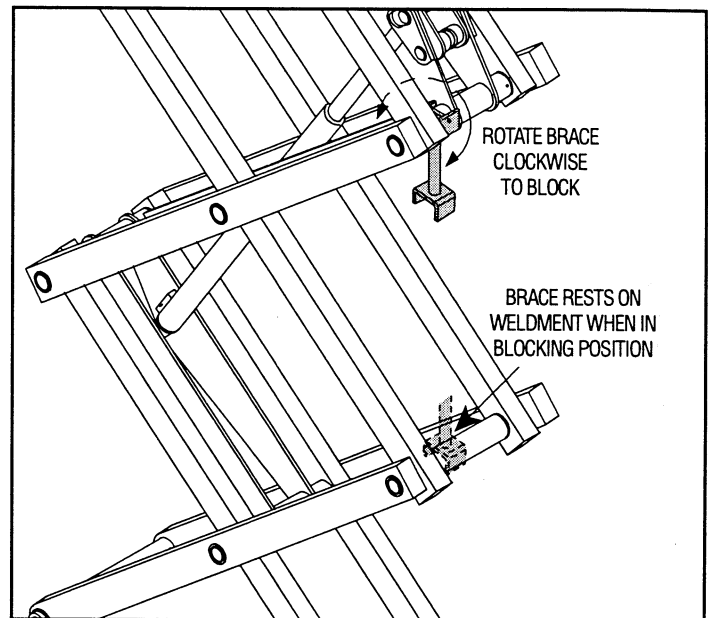
#### **XRT33 Brace Installation**

(see Figure 3-7)

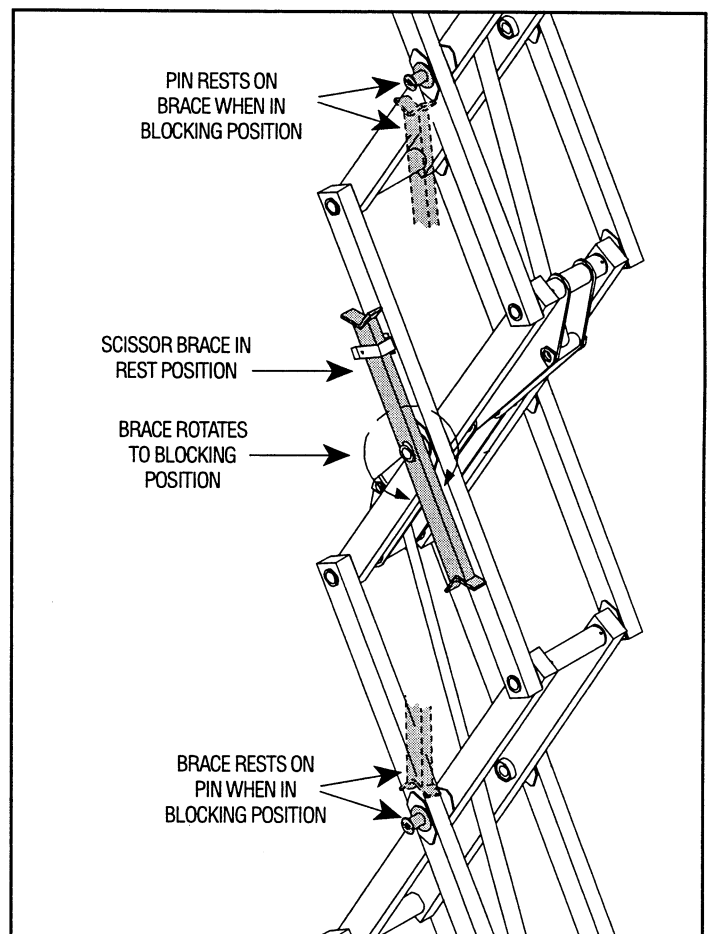
1. Pull out on the retaining pin and rotate the Scissors Brace into vertical position.
2. Push Chassis Lift Switch to DOWN position and gradually lower platform until the upper and lower pivot pins rest on the Scissors Brace.

#### **XRT33 Brace Removal**

1. Push Chassis Lift Switch to UP position and gradually raise platform until the Scissors Brace is clear.
2. Rotate the Scissors Brace until it locks into position parallel with the scissor arm.
3. Push Chassis Lift Switch to DOWN position and completely lower platform.



**Figure 3-6: Blocking the XRT27 Elevating Assembly**



**Figure 3-7: Blocking the XRT33 Elevating Assembly**



## 3.7 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

The battery is located in the roll-out tray at the rear of the machine (see Figure 3-8).

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 will shorten battery life.

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

Clean the battery when it shows signs of corrosion at the terminals or when electrolyte has overflowed during charging. Use a baking soda solution to clean the 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 !**

Before disconnecting the battery negative (-) lead, make sure all switches are OFF. If ON, a spark will occur at the ground terminal which could cause an explosion if hydrogen gas or fuel vapors are present.

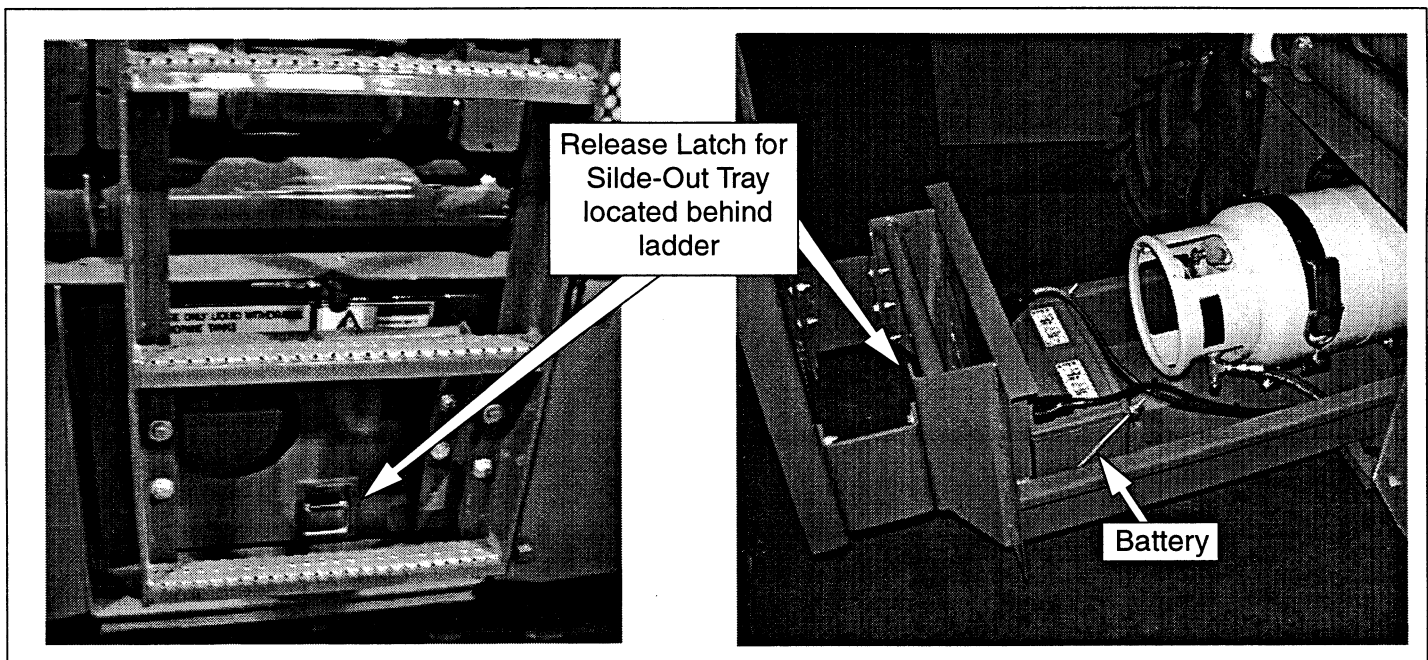


Figure 3-8: Battery Location (battery cover not shown)

## 3.8 LOWER CONTROLS

Refer to Section 5 for wiring diagram. Refer to Figure 3-9 for component locations.

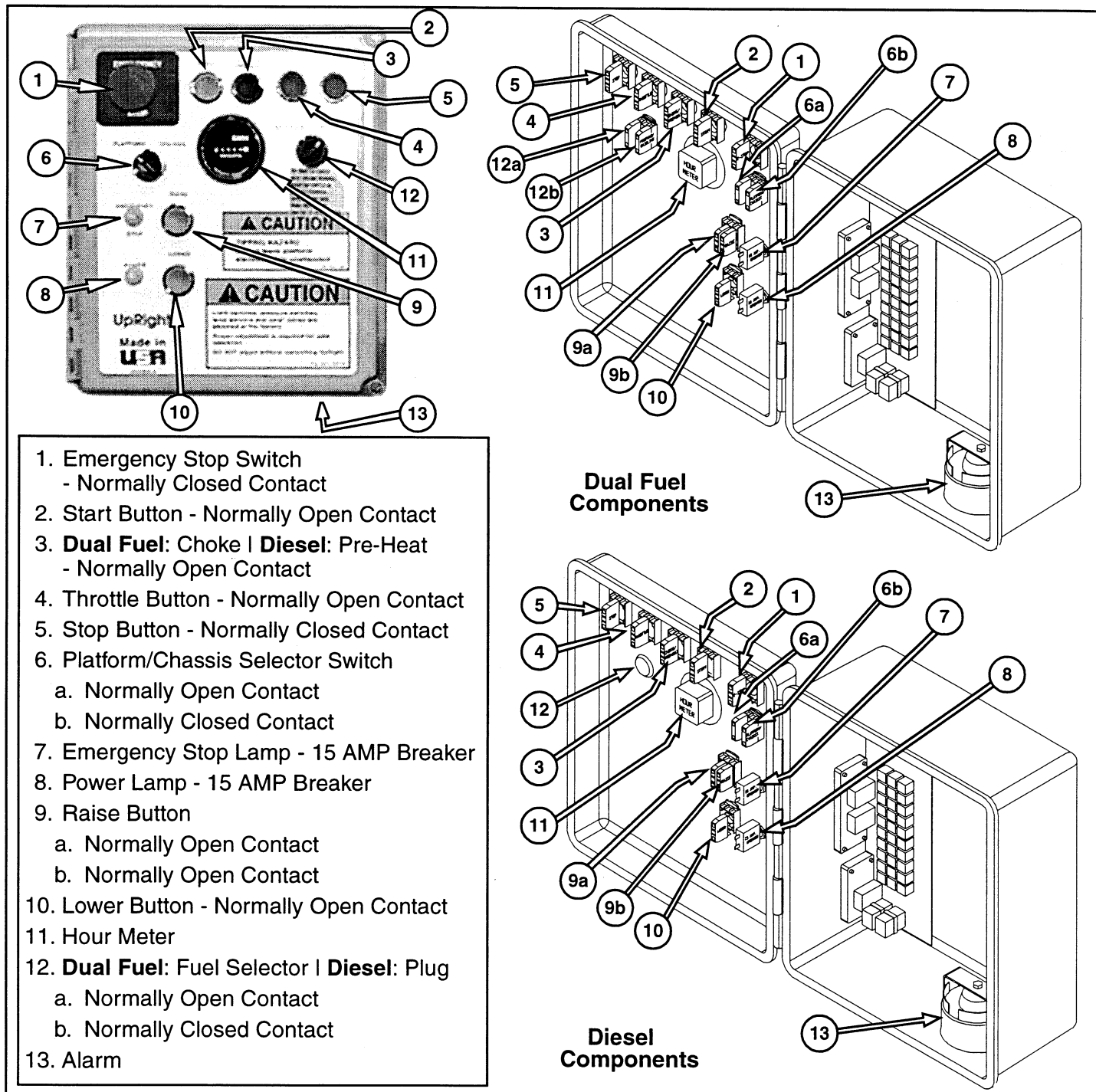


Figure 3-9: Lower Controls - Switches and Components

### 3.9 UPPER CONTROLS

#### Proportional Control Adjustment

Refer to Figure 3-10.

Lay out a twenty foot course, on level ground, free from potholes or other obstructions. Mark a starting line and finish line visible from the platform of the machine.

Potentiometers are sealed to protect sensitive adjustments from vibrations, or from tampering. Remove sealant prior to adjustment, and replace after.

Use a small screwdriver or special adjustment tool to set adjustment pots. Pots can be easily damaged.

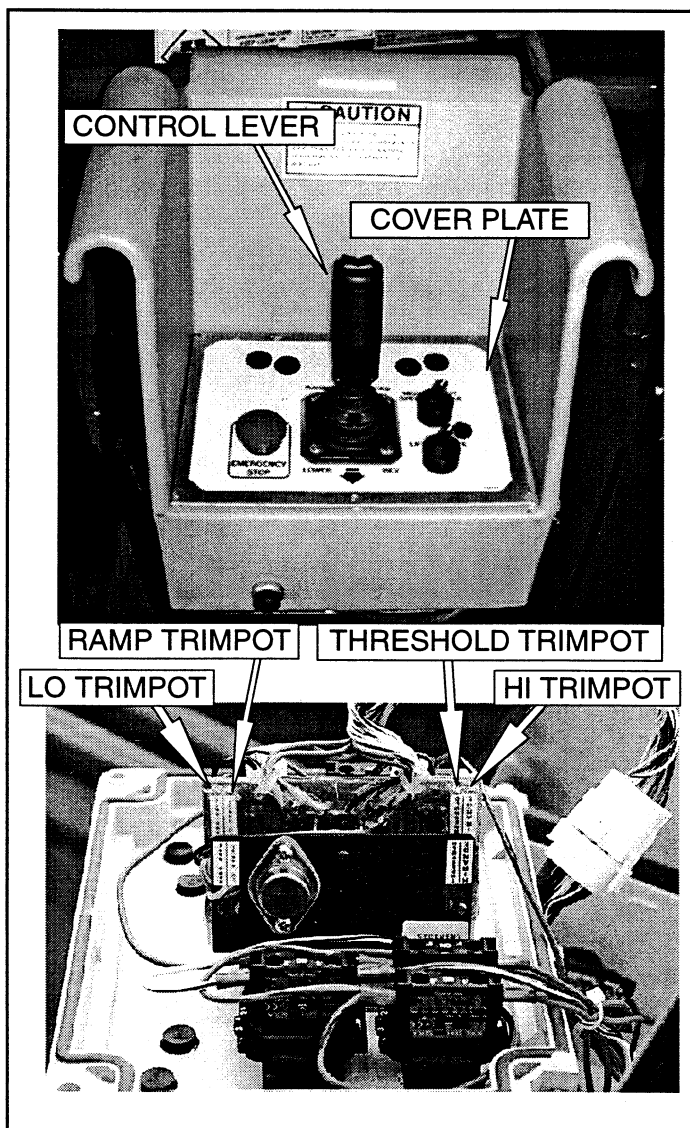


Figure 3-10: Proportional Controller

Pots have 15 turns of adjustment, more than one turn will often be required to complete the adjustment. If pots have been previously set, reset by turning no more than One turn at a time. If they have not been previously set, preset to about mid range and start from there.

- Turn pot clockwise (CW) to increase settings.
- Turn pot counterclockwise (CCW) to decrease settings.
- Adjust pots only in sequence as outlined in this procedure.

#### Procedure

1. Lower machine fully to insure that controller is in high speed range.
2. Turn Ramp Trimpot fully counterclockwise until a click is heard with each revolution.
3. Push Control Handle slightly forward, just enough to illuminate the red L.E.D. on the P.C.B.
4. Adjust the Threshold Trimpot so that the machine just begins to move.
5. Push the Control Handle fully forward and drive the machine over the 20 ft. (6 m) course.
6. Note: Do not steer the wheels during speed test, insure that the front wheels are straight prior to this operation. Allow the machine to rise to full speed, and mark time from second that the Front Wheels cross the starting line, until the second that the Front Wheels cross the finish line.
7. Adjust the Hi Trimpot to the proper high speed.
8. Elevate the platform enough to put the machine into low speed range.
9. Push the Control Handle fully forward and drive the machine over the 20 ft. (6 m) course.
10. Adjust the Lo Trimpot to the proper low speed .
11. Lower the machine fully and turn the Ramp Trimpot 8 to 10 turns clockwise. Adjust for smooth acceleration.
12. Recheck speeds to insure proper adjustment. Reset as necessary.

### 3.10 POWER

The XRT is powered by an internal combustion engine mounted on a swing-out tray inside the power module. There are three possible engine configurations; Kubota Diesel, Kubota Dual Fuel (Liquefied Petroleum Gas/Gasoline), and Kohler Dual Fuel.

For detailed service information, refer to the engine manufacturer's manual supplied with your UpRight work platform.

### 3.11 ENGINE SAFETY ISSUES

#### Rotating Parts

#### **! WARNING !**

*Rotating parts can cause severe injury.*

Keep hands, feet, hair and clothing away from all moving parts to prevent injury. Never operate the engine with covers, shrouds or guards removed.

#### Electrical Shock

#### **! CAUTION !**

*Electrical shock can occur if you touch wires while engine is running.*

Never touch electrical wires or components while the engine is running. Electrical shock can occur.

#### Hot Parts

#### **! WARNING !**

*Hot parts can cause severe burns.*

Never touch engine components while engine is running, or immediately after shut-down. Hot surfaces can cause severe burns. Never operate the engine with heat shields or guards removed.

#### Accidental Starting

#### **! WARNING !**

*Accidental starts can cause severe death or injury.*

*Disconnect and ground spark plug leads before servicing.*

#### Disable Engine - LPG/Gasoline

To avoid accidental starting, disable engine before servicing.

1. Disconnect the spark plug leads.
2. Remove battery cables
  - a. remove negative lead first
  - b. reconnect negative lead last when reconnecting the battery.

**IMPORTANT!** Before disconnecting the negative (-) lead, make sure all switches are OFF. If ON, a spark will occur at the ground terminal which could cause an explosion if hydrogen gas or fuel vapors are present.

## Fuel

### **WARNING**

*Stop engine before filling fuel tank.  
Explosive Fuel can cause fires and severe burns.*

Fuel is extremely flammable. vapors settle in low areas where a spark or flame can ignite the gas. Spilled gasoline can ignite if it comes in contact with hot parts or sparks.

- Do not start or operate the engine in a poorly ventilated area.
- Do not fill the fuel tank while the engine is hot or running.

Do not start engine near spilled fuel.

**DIESEL:** Do not mix gasoline or alcohol with diesel fuel. The mixture can cause a fire.

Do not allow the fuel tank to empty, or it may be necessary to bleed the fuel system.

Do not bleed the fuel system when the engine is hot.

**LPG:** Installation and repair of LPG systems should be performed by qualified technicians. Improperly maintained or installed LPG components can cause components to malfunction and/or leak.

## Exhaust

### **WARNING**

*Carbon Monoxide can cause severe nausea, fainting or death.  
Do not operate engine in a closed or confined area.*

Engine exhaust gases contain poisonous carbon monoxide, an odorless, colorless gas which can cause death. Avoid inhaling exhaust fumes. Never run the engine in a closed building or confined area.

## Radiator

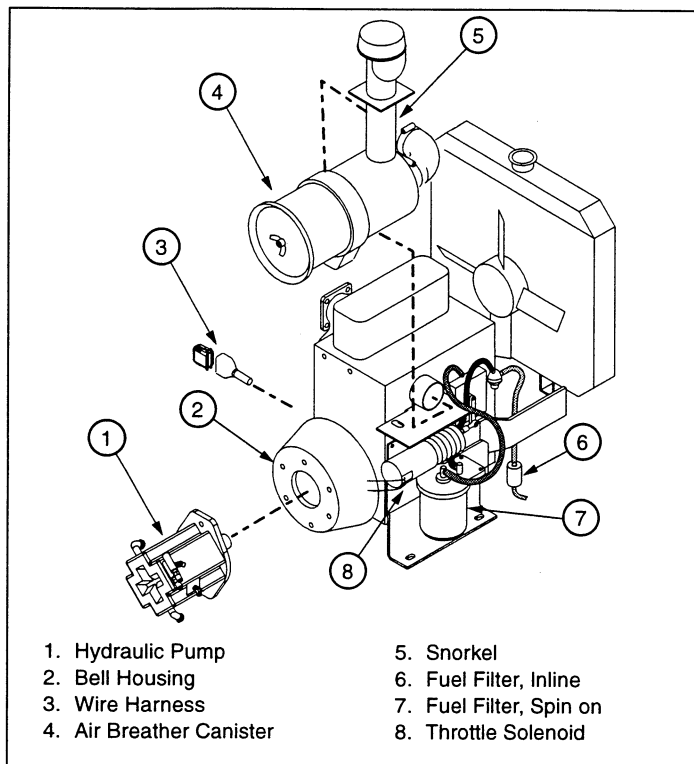
### **WARNING**

*Never remove the radiator cap while the engine is hot. Severe burns can occur.*

Check coolant level before operating equipment. Insufficient coolant can cause the engine to overheat.

- Do not stop an engine suddenly. Allow a hot engine to idle for five (5) minutes.
- Do not remove the radiator cap from a hot radiator. Rushing steam can result in severe burns.
- Allow the radiator to cool for 30 minutes before removing radiator cap. Rotate cap to first stop to allow pressure to escape, then remove cap.

## Kubota Diesel



**Figure 3-11: Kubota Diesel Engine**

### Maintenance

Refer to the Engine Service Manual included with your UpRight Work Platform for detailed Maintenance instructions.

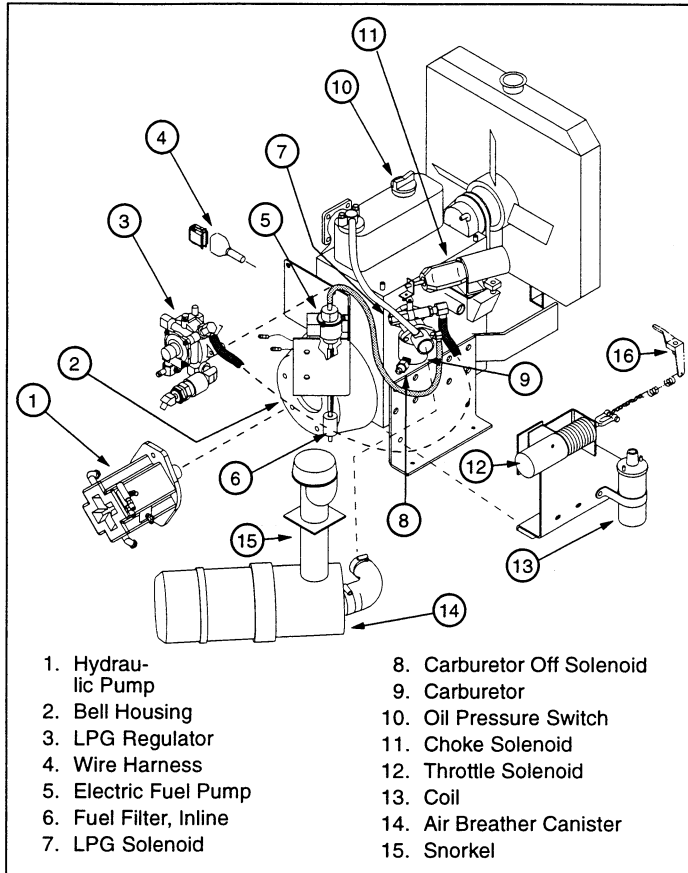
### Fuel System

If the fuel supply is allowed to empty, air may be introduced into the fuel system, and bleeding of the system will be required.

**Table 3-2: Engine Maintenance, Kubota Diesel**

INTERVAL	ITEM
DAILY	Check Engine Oil
	Check Engine Coolant
50 HOURS	Check Fuel Pipes
	Clean Air Filter
100 HOURS	Clean Fuel Filter
	Check Fan Belts
	Check Radiator Hoses and Clamps
200 HOURS	Replace Engine Oil & Filter
	Check Air Intake Line
	Replace Fuel Filter Cartridge
400 HOURS	Remove Sediment from Fuel Tank
	Clean Radiator
	Replace Fan Belt
500 HOURS	Check Valve Clearance
	Check Fuel Injection Nozzle Pressure
	Check Turbo Charger
800 HOURS	Check Fuel Injection Pump
	Check Fuel Injection Timer
	Replace Air Cleaner Element
1500 HOURS	Check Electrical Wiring
	Replace Radiator Coolant
	Replace Radiator Hoses and Clamps
3000 HOURS	Replace Fuel Pipes and Clamps
	Replace Intake Air Line
YEARLY	
2 YEARS	

### Kubota Dual Fuel



**Figure 3-12: Kubota Dual Fuel**

### Maintenance

Refer to the Engine Service Manual included with your UpRight Work Platform for detailed maintenance instructions.

**Table 3-3: Engine Maintenance, Kubota Dual Fuel**

INTERVAL	ITEM
DAILY	Check Engine Oil
	Check Engine Coolant
	Check LPG Carburetor & Line Connections
	Check LPG Regulator Connections
50 HOURS	Check Air Cleaner Element
	Check LPG Tank Connection for Leakage
	Check Gasoline Lines & Clamps
100 HOURS	Change Engine Oil
	Clean/Adjust Spark Plugs
	Clean Gasoline Fuel Line
	Check LPG Fuel to Filter Connection
	Check Spark Arrestor
	Check Fan Belts
200 HOURS	Check Radiator Hoses and Clamps
	Replace Engine Oil & Filter
	Check LPG Fuel Tank Settings
500 HOURS	Clean Radiator
	Replace Fan Belt
800 HOURS	Change Spark Plugs
	Check LPG Regulator Hot Water Lines
	Check LPG Regulator Vacuum Lock Pipe
	Check Valve Clearance
	Clean Cylinder Head
	Check/Relap Valve Seats
	Replace Air Cleaner Element
YEARLY	Change Fuel Filter (Gasoline & LPG)
	Clean Fuel Tank (Gasoline)
	Change Gasoline Line & Clamps
	Change Radiator Coolant
	Clean Radiator
	Change Ignition Wires
2 YEARS	Change Air Intake Pipe & Clamps
	Change LPG Line & Clamps
	Inspect LPG Regulator (internal parts)
	Replace Radiator Hoses and Clamps

## Kohler Dual Fuel

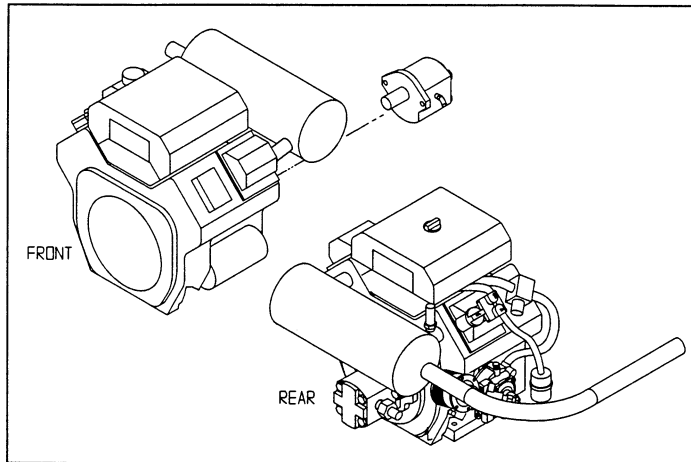


Figure 3-13: Kohler Gasoline Engine

## Maintenance

Refer to the Engine Service Manual included with your UpRight Work Platform for detailed maintenance instructions.

Table 3-4: Engine Maintenance, Kubota Dual Fuel

INTERVAL	ITEM
DAILY	Check Engine Oil
	Check Engine Coolant
	Check LPG Carburetor & Line Connections
	Check LPG Regulator Connections
50 HOURS	Check Air Cleaner Element
	Check LPG Tank Connection for Leakage
	Check Gasoline Lines & Clamps
100 HOURS	Change Engine Oil
	Clean/Adjust Spark Plugs
	Clean Gasoline Fuel Line
	Check LPG Fuel to Filter Connection
	Check Spark Arrestor
	Check Fan Belts
200 HOURS	Check Radiator Hoses and Clamps
	Replace Engine Oil & Filter
	Check LPG Fuel Tank Settings
500 HOURS	Clean Radiator
	Replace Fan Belt
800 HOURS	Change Spark Plugs
	Check LPG Regulator Hot Water Lines
	Check LPG Regulator Vacuum Lock Pipe
	Check Valve Clearance
	Clean Cylinder Head
	Check/Relap Valve Seats
YEARLY	Replace Air Cleaner Element
	Change Fuel Filter (Gasoline & LPG)
	Clean Fuel Tank (Gasoline)
	Change Gasoline Line & Clamps
	Change Radiator Coolant
	Clean Radiator
2 YEARS	Change Ignition Wires
	Change Air Intake Pipe & Clamps
	Change LPG Line & Clamps
	Inspect LPG Regulator (internal parts)
	Replace Radiator Hoses and Clamps



## 3.12 FUEL SUPPLY

### Diesel or Gasoline

The fuel tank for Gasoline or Diesel is located in the Control Module.

**FUEL LEVEL** The fuel gauge is located on top of the fuel tank (see Figure 3-14).

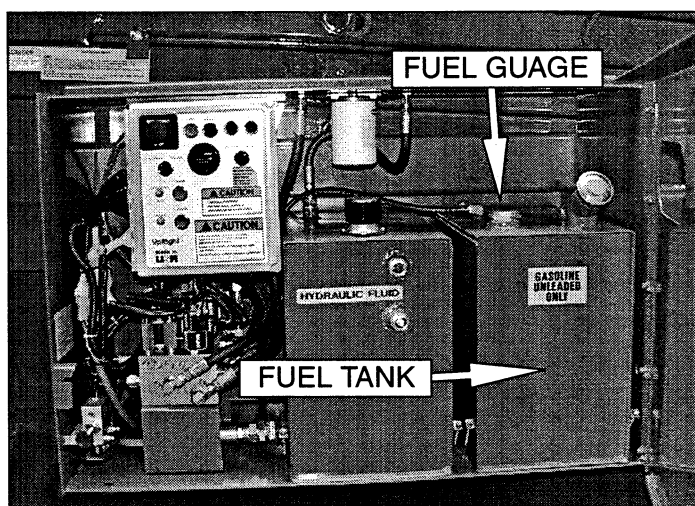


Figure 3-14: Fuel Tank

### Liquefied Petroleum Gas (Dual Fuel)

The LPG tank is located in the roll-out tray behind the ladder in the rear of the machine.

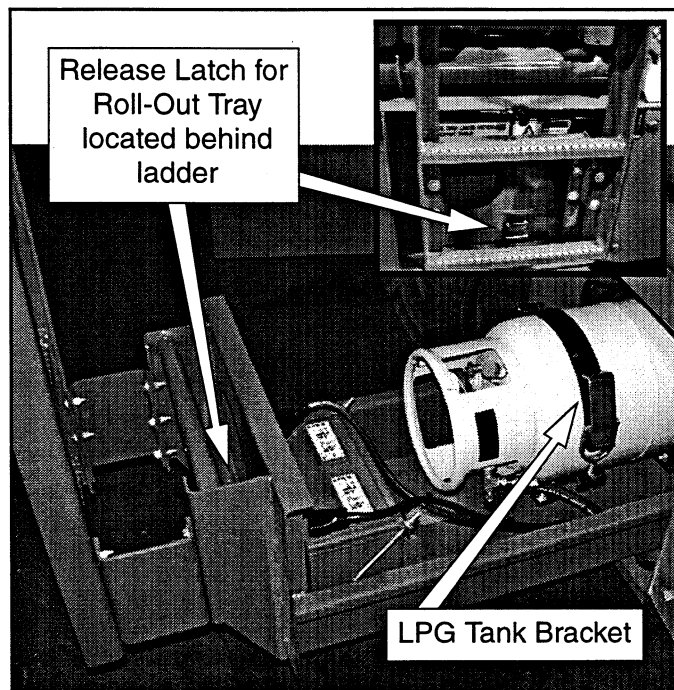


Figure 3-15: LPG Tank

### Access Roll-Out Tray

Facing the rear of the machine, look through the lower rungs of the ladder to locate the release latch (see Figure 3-15). Pull the latch with one hand, and pull the tray towards you with the other hand.

### Remove & Replace LPG Tank

1. Open the roll-out tray.
2. Close the valve on the LPG tank.
3. Carefully disconnect the fuel supply line.
4. Release the latches on the LPG tank brackets.
5. Carefully lift the LPG tank from the roll-out tray.
6. Installation is reverse of removal.

## Manual Brake Pump

The manual brake pump is located in the lower left corner of the Control Module (see Figure 3-16). It is used to release the brakes when the machine must be moved in a power-down situation. Refer to Section 2, "Parking Brake Release", for operation instructions.

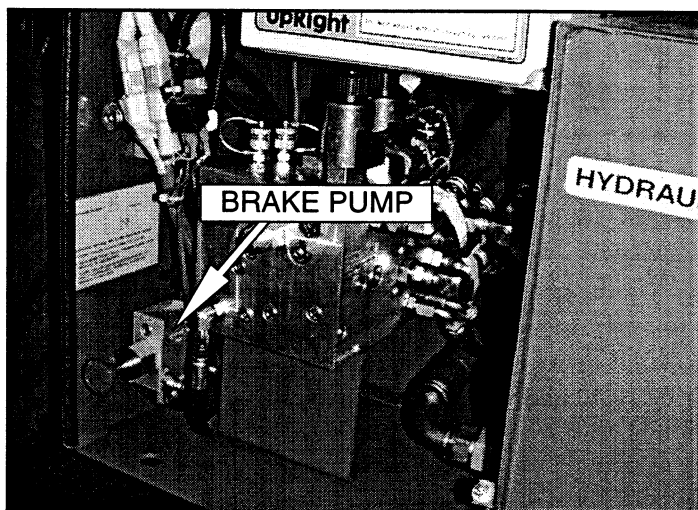


Figure 3-16: Manual Brake Pump

## Emergency Lowering Valve

The Emergency Lowering Valve Handle is located;

- XRT27 - in the control module at the fuel filler access hole.
- XRT33 - at the rear of the machine, behind the ladder weldment.

(see Figure 3-17)

It is used to lower the scissor assembly under a power-down, or emergency situation. Refer to Section 2, "Emergency Lowering" for operation instructions.

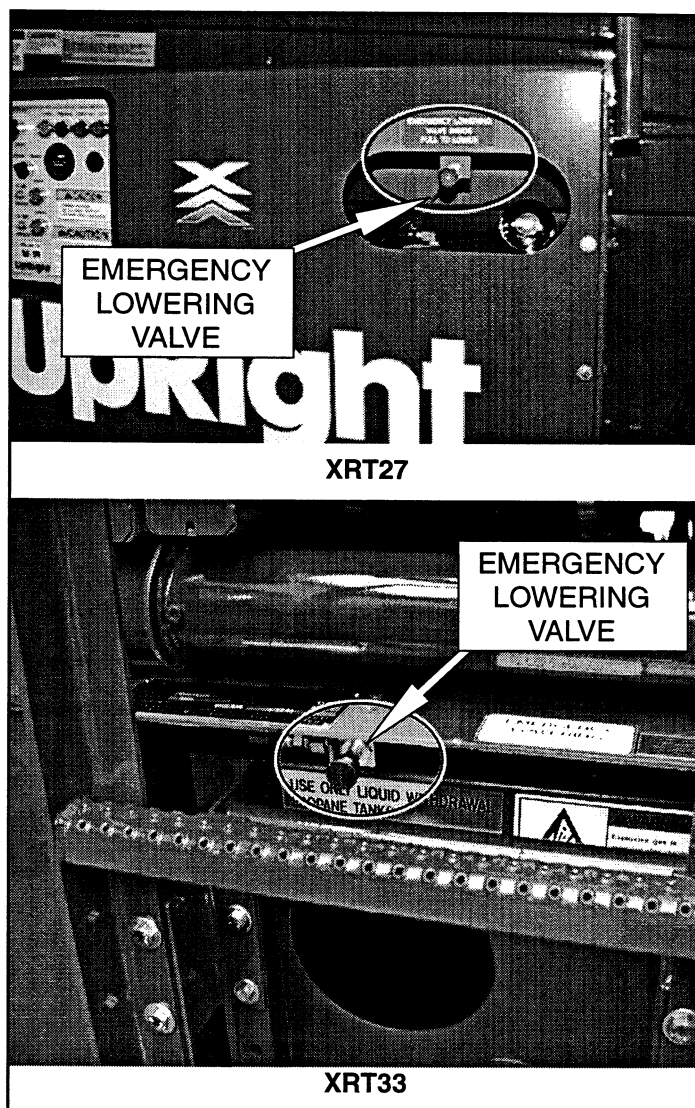


Figure 3-17: Emergency Lowering Valve Handle

## Hydraulic Pump

The Hydraulic Pump is located in the Power Module, and is mounted on the rear of the engine.

**NOTE: If the hydraulic tank has not been drained, suitable means for plugging the hoses should be provided to prevent excessive fluid loss.**

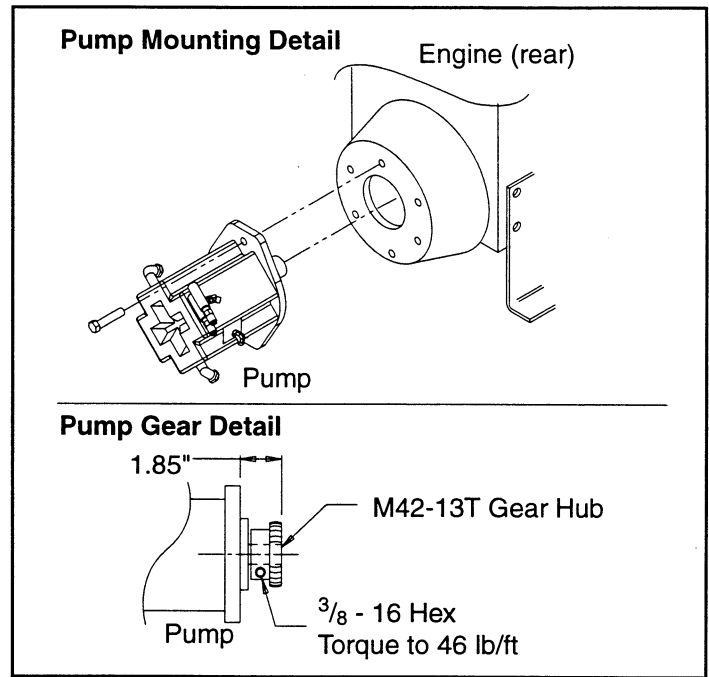
### Removal

1. Mark, disconnect and plug the hose assemblies.
2. Loosen the capscrews and remove the pump assembly from the engine.

### Installation

1. Torque each capscrew a little at a time until both capscrews are torqued to 20 ft. lbs. (27 N-m).
2. Unplug and reconnect the hydraulic hoses.
3. Fill the pump completely with clean hydraulic oil by pouring it into the drain line cavity.
4. Check the oil level in the hydraulic tank before operating the work platform.

**NOTE: Hydraulic pump pressure is factory set. Adjusting pump pressure may cause damage to hydraulic components.**



**Figure 3-18: Hydraulic Pump**

## Hydraulic Oil Tank

The Hydraulic Oil Tank is located in the center of the Control Module (see Figure 3-19).

**FLUID LEVEL** With the platform *fully lowered*, check sight gauge. Oil should be visible through top sight gauge (see Figure 3-19).

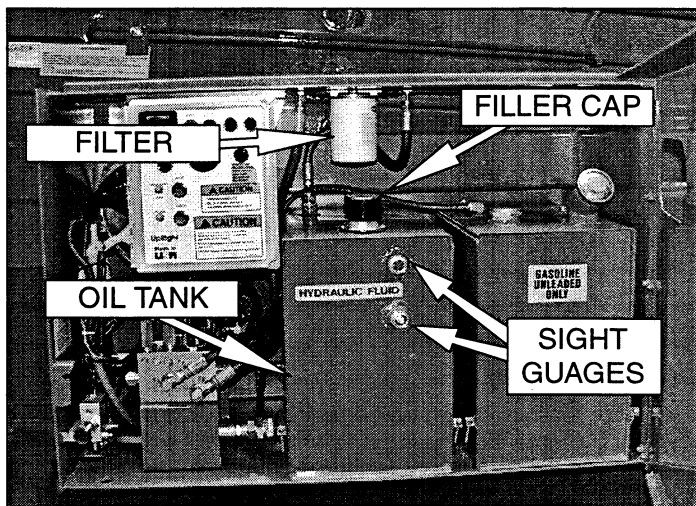


Figure 3-19: Hydraulic Oil Filter Replacement

## Hydraulic Oil and Filter Replacement

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

### CAUTION

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

2. Provide a suitable container to catch the drained oil. The hydraulic tank has a capacity of 16.25 U.S. gallons (74 l).
3. Open the module door.
4. Remove the magnetic drain plug and allow all oil to drain into the container, be sure to dispose of oil properly.
5. Clean and reinstall the drain plug.
6. Unscrew the filter from the filter assembly.
7. Apply a thin film of clean hydraulic oil to the gasket of the replacement filter.
8. Screw the replacement filter onto the filter head until the gasket makes contact, then rotate the filter  $\frac{3}{4}$  of a turn further.

9. Fill the hydraulic reservoir with the appropriate hydraulic oil until the oil is visible through the top sight gauge.

## Clean/Replace Hydraulic Tank and Screens

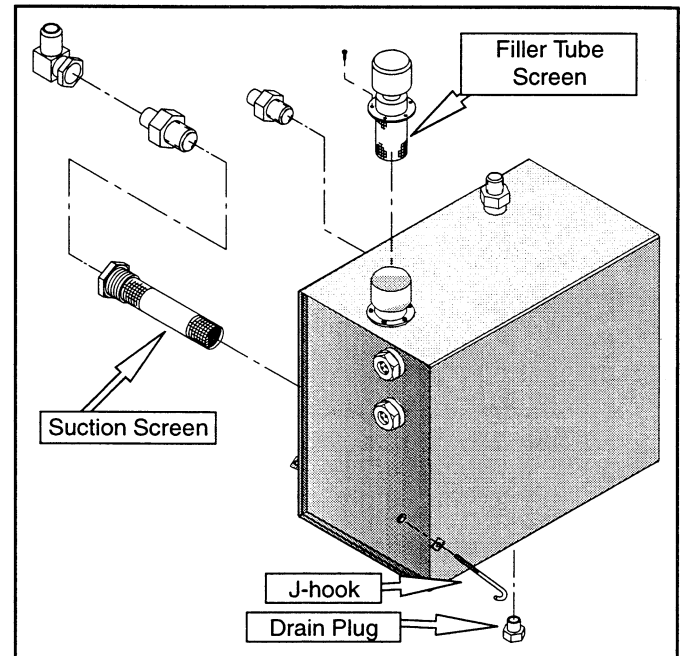


Figure 3-20: Hydraulic Tank Oil Screens

1. Perform steps 1-4 from "Hydraulic Oil and Filter replacement".
2. Mark, disconnect, and plug the hydraulic hoses.
3. Remove the locknuts from the J-hooks.
4. Remove the tank from the control module.
5. Remove the six screws around the filler tube and remove the filler tube and screen.
6. Unscrew and remove the suction screen.
7. Flush the tank with a suitable solvent. Dispose of solvent properly.
8. Clean or replace the filler tube screen as necessary, and reinstall.
9. Clean or replace the suction screen as necessary, and reinstall.
10. Clean and reinstall the drain plug.
11. Place the clean tank into the control module and reinstall the J-hooks and locknuts.
12. Connect the hydraulic hoses.
13. Fill the hydraulic reservoir with the appropriate hydraulic oil until the oil is visible through the top sight gauge.

## Main Hydraulic Manifold

Refer to "Figure 3-21: Hydraulic Manifold, Exploded View" on page 3-20

Though it is not necessary to remove the manifold to perform all maintenance procedures, a determination should be made prior to beginning as to whether or not the manifold should be removed before maintenance procedures begin.

### Removal

1. Disconnect the battery ground cable.
2. Unplug valve block wiring harness.
3. Tag, disconnect and plug hydraulic hoses.
4. Remove the bolts that hold the manifold mounting bracket to the module floor.
5. Remove manifold block.

### Disassembly

(see Figure 3-21).

**Note: Mark all components as they are removed so as not to confuse their location during assembly.**

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

## Cleaning and Inspection

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

### Assembly

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

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

### Installation

1. Attach manifold assembly to module floor with bolts.
2. Plug in the valve block wiring harness.
3. Operate each hydraulic function and check for proper operation and leaks.

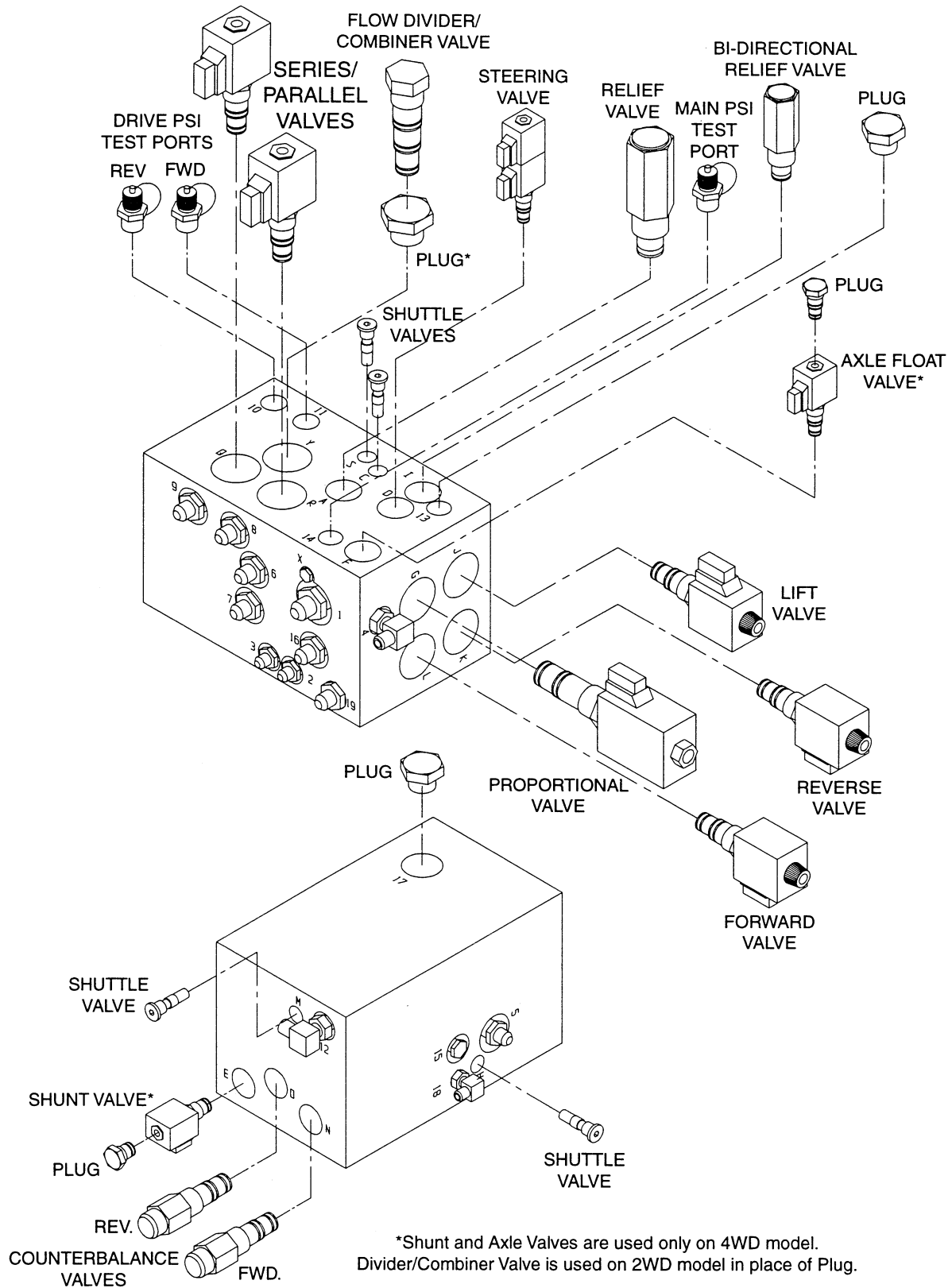


Figure 3-21: Hydraulic Manifold, Exploded View

## Setting Hydraulic Pressures

(see Figure 3-21).

**Note: Follow Pump Set - Up procedure whenever Pump has been replaced, or when testing performance to isolate possible failure.**

### Lift Relief Valve

1. Operate the hydraulic system 10 to 15 minutes to warm the oil.
2. Remove the cap or loosen the locknut on the Lift Relief Valve.
3. Turn the Lift Relief Valve adjustment screw counterclockwise two full turns.
4. Place rated load on the platform (Refer to specifications).
5. Depress the Throttle Button, and the Raise Button to lift the platform.
6. Slowly turn the Lift Relief Valve adjustment screw clockwise until the platform begins to rise.
7. Replace the cap, or tighten the locknut on the Lift Relief Valve, and remove the load from the platform

### Counterbalance Valves

1. Operate the hydraulic system 10 to 15 minutes to warm the oil.
2. Elevate the Drive Wheels to allow them to spin freely, and place on jackstands suitable to support the weight of the machine.

**Note: 2WD - drive wheels are in front  
4WD - all wheels are drive wheels**

3. Remove the Green/White wire from terminal 7 in the Control Panel Assembly.
4. Install a 0-1000 psi (0-69)bar pressure gauge at the Forward Drive Pressure Test Port.
5. Loosen the locknut on the Reverse Counterbalance Valve, push the control handle forward, and adjust the valve until the gauge reads 800 psi (55 bar) (CW to decrease psi, CCW to increase psi) Tighten the locknut.
6. Install a 0-1000 psi (0-69)bar pressure gauge at the Reverse Drive Pressure Test Port.
7. Loosen the locknut on the Forward Counterbalance Valve, push the control handle reverse, and adjust the valve until the gauge reads 800 psi (55 bar).
  - a. **Sterling valves;** CCW to decrease psi, CW to increase psi.
  - b. **Compact Valves;** CW to decrease psi, CCW to increase psi.

Tighten the locknut.

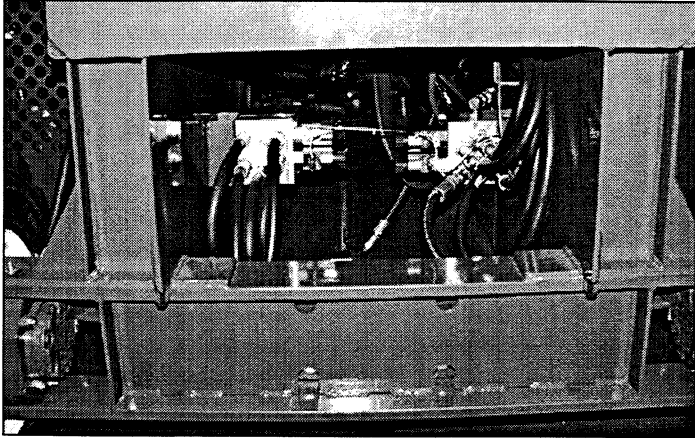
8. Recheck the pressures and adjust as necessary.
9. Remove the gauge and replace the cap. Replace the Green/White wire to terminal. Lower the machine off of the jackstands.

### Steering Relief Valves

1. Operate the hydraulic system 10 to 15 minutes to warm the oil.
2. Install a 0-3000 psi (207 bar) gauge at the Main Pressure Test Port.
3. Loosen the locknut or remove the cap on the Steer Relief Valve.
4. Turn the adjustment screw two full turns counterclockwise.
5. Press the Steering Switch to the left and hold until the system bypasses.
6. Turn the Steering Relief Valve adjustment screw clockwise until the gauge reads 1400 psi (96,5 bar).
7. Tighten locknut or replace cap on Left Steering Relief Valve.
8. Press the steering switch to the right and hold to check pressure in that direction.

## Series Parallel Valve Bodies

The Series Parallel Valve Bodies are located inside the chassis toward the front of the machine (see Figure 3-22).



**Figure 3-22: Valve Bodies**

## Brake Pressure Reducing Valve

### Adjustment

1. **2 WHEEL DRIVE** - Using two 1-ton jack stands and a 2-ton jack, jack the work platform up to raise the rear wheels off the ground and block the machine securely.
- 4 **WHEEL DRIVE** - Using four 1-ton jack stands and a 2-ton jack, jack the work platform up to raise all four wheels off the ground.
2. Remove the outlet hose from the backside of the Brake Release Pump and install a 0-600 psi (41.4 bar) gauge assembly in-line with a tee fitting.
3. Remove the plug on the end of the Brake Relief Valve.
4. With the engine running, position the Control Lever to **REVERSE** and hold.
5. While holding the Control Lever in **REVERSE**, set the pressure to 800 psi (55 bar) maximum by slowly turning the adjusting screw, clockwise to increase pressure.
6. Replace the valve plug.
7. Remove the gauge and tee fitting and reinstall the hose.
8. Remove the jack stands and lower the machine.



## 3.13 CYLINDER REPAIR

### Removal

1. Remove cylinder from machine.

**Note:** Refer to “Illustrated Parts Section” for location of cylinder and list of parts which secure cylinder.

**Note:** If necessary, refer to “3.6 Supporting Elevating Assembly” on page 3-6.

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

### **WARNING**

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

### Disassembly

1. Remove head from cylinder body.
2. Carefully slide rod assembly out of cylinder.
3. remove seal kit components (wipers, rod seals, o-rings and backup rings) from head and piston.
4. Inspect parts for scratches, pits or polishing. Check seal grooves and sealing surfaces. Scratches or pits deep enough to catch the fingernail are unacceptable; replace the cylinder. Polishing is a sign of uneven loading. when this occurs, the surface should be checked for roundness. Cylinders not round within .007” (0,18 mm) should be replaced.

### Assembly

**Note:** Torque all hardware to torques listed on page 30 unless otherwise specified.

1. Lubricate all components with clean hydraulic fluid.

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

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

### Installation

1. Installation is reverse of removal.
2. Carefully remove elevating assembly support.
3. Slowly cycle cylinder several times to remove air from the hydraulic system.

Check for proper cylinder operation. Check hydraulic connections for leaks.

## Steering Cylinder

### Removal

1. Remove the capscrews securing the rod ends to the steering linkage.
2. Remove the capscrews and locknuts that fasten the cylinder assembly to the chassis.
3. Remove the cylinder from the chassis.

### Repair

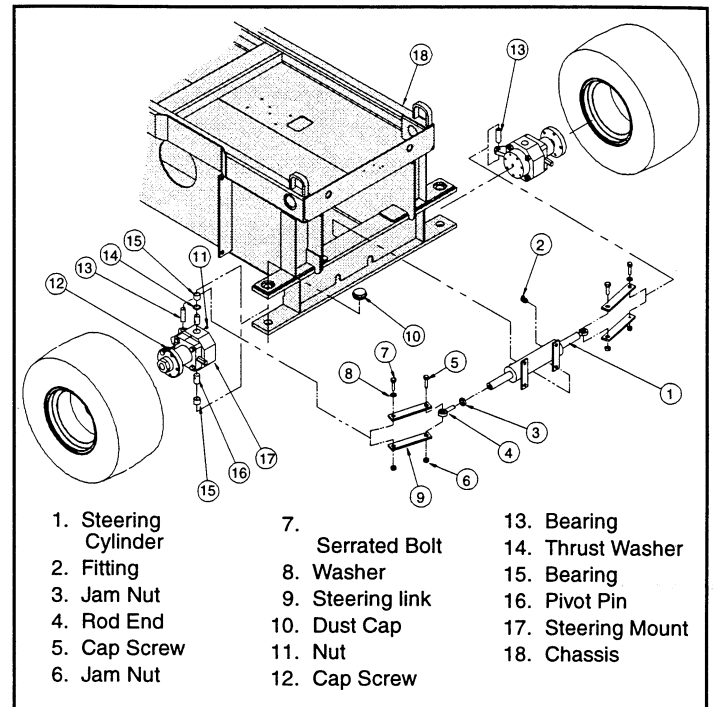
Refer to "3.13 Cylinder Repair" on page 3-23.

### Installation

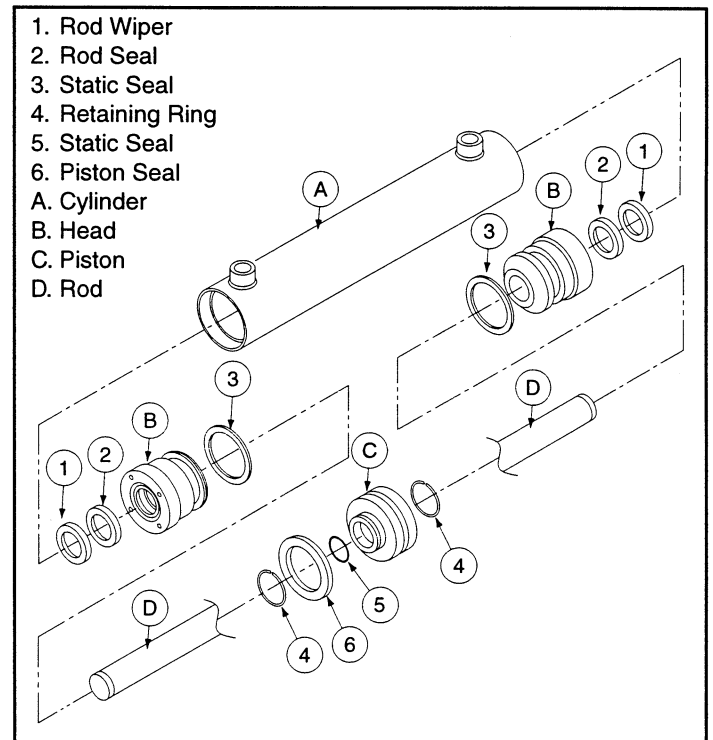
1. Install jam nut on rod end, then thread onto steering cylinder. Do not tighten jam nut.
2. Position the cylinder assembly in the chassis and install with fasteners and locknuts.
3. Adjust the cylinder rod ends in or out to line up with holes in the steering links. Then tighten jam nut to lock rod end into position.
4. Connect the hose assemblies to the fittings.
5. Operate the steering circuit several times throughout its entire range of travel to expel trapped air and check for leaks.

### Steering Adjustment

1. Disconnect the cylinder rod ends (if connected).
2. Operate steering so that both ends of the cylinder rod are equal length (1/32 in. [0,8 mm]).
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.



**Figure 3-23: Steering Cylinder Removal & Installation**



**Figure 3-24: Steering Cylinder Seal Kit**

## Lift Cylinders

### Removal

1. Elevate platform and install brace.
2. Remove Emergency Lowering Valve Cable and Down Valve wires from the Emergency Lowering/Down Valve.
3. Remove retaining rings securing Lift Cylinder Pivot Pins. On XRT27 machines remove the left roll pin in the Upper Pivot Pin.
4. Remove lower Pivot Pin by driving pin towards locking pin side. Lower cylinder to rest on chassis.
5. Attach a suitable hoisting device and sling to the cylinder and remove upper Pivot Pin.
6. Carefully remove cylinder.

### Repair

Refer to "3.13 Cylinder Repair" on page 3-23.

### Installation

1. Attach a suitable hoisting device and sling to the cylinder. Carefully position cylinder in the Elevating Assembly and install the upper Pivot Pin.
2. Make sure the Locking Pin fully engages the pivot and pin and install the retaining ring.
3. Install a new roll pin (if equipped).
4. Carefully lift the cylinder and align the lower mount and install the Pivot Pin. Make sure Locking Pin is properly installed then install the retaining ring.
5. Connect the Emergency Lowering Valve cable and Down Valve wires.
6. Unplug hydraulic hoses and attach to the cylinder.
7. Replace hydraulic fluid removed from Lift Cylinder.
8. Test with weight at rated platform load to check system operation. Check for leaks and level of fluid.

## 3.14 DRIVE MOTORS & BRAKES

### Removal

Refer to Figure 3-25, Figure 3-26, or Figure 3-27.

### **CAUTION**

*ONLY use 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.*

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 work platform using a 2-ton jack.
4. Position two 1-ton jack stands under the 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.
7. Tag and disconnect the hose assemblies.
8. Remove the capscrews and nuts and then remove the drive motor from the motor mount.

### Installation

1. Position the drive motor into the motor mount and secure with capscrews and nuts.
2. Reinstall the hose assemblies.
3. Reinstall the shaft key, hub, and nut. Torque each wheel hub nut to 350 ft. lbs. (475 N-m). 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.
4. Reinstall the wheel and lug bolts onto the hub. Torque the lug bolts to 90 ft. lbs. (122 N-m).
5. Remove the jack stands used to block the wheels. Lower the jack and remove.
6. Operate the drive system to check for leaks.
7. FRONT: Adjust steering. See "Steering Adjustment" on page 3-24.

### Front Axle

#### Motor Assemblies

The front motor assemblies are common to all XRT models.

#### Remove and Replace

See "Drive Motors & Brakes" on page 3-26.

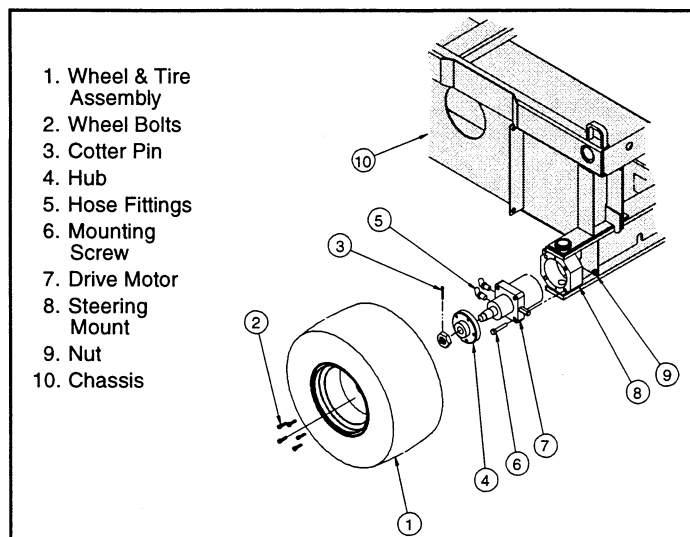


Figure 3-25: Front Motor, All Models

### Rear Axle

#### 2 Wheel Drive - Brake Assemblies

Two wheel drive models are equipped with brake assemblies in the rear.

#### Remove and Replace

See "Drive Motors & Brakes" on page 3-26.

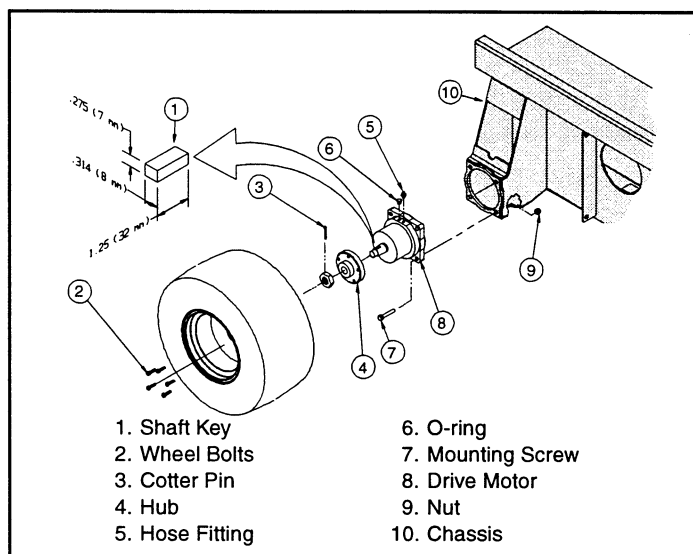


Figure 3-26: Rear Brake Assembly

#### 4 Wheel Drive - Rear Motor Assemblies

Four wheel drive models are equipped with brake/drive motor assemblies in the rear, and drive motors in the front.

#### Remove and Replace

See "Drive Motors & Brakes" on page 3-26.

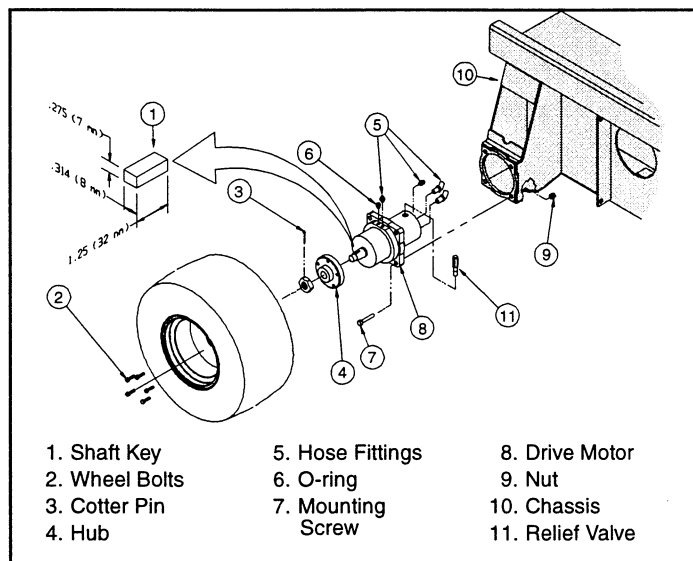


Figure 3-27: Rear Motor and Brake Assembly

## 3.15 ELEVATING ASSEMBLY

Refer to "Lift Cylinders" on page 3-25 for cylinder repair instructions.

### XRT27

The XRT27 is equipped with a four section scissor assembly, and one Lift Cylinder.

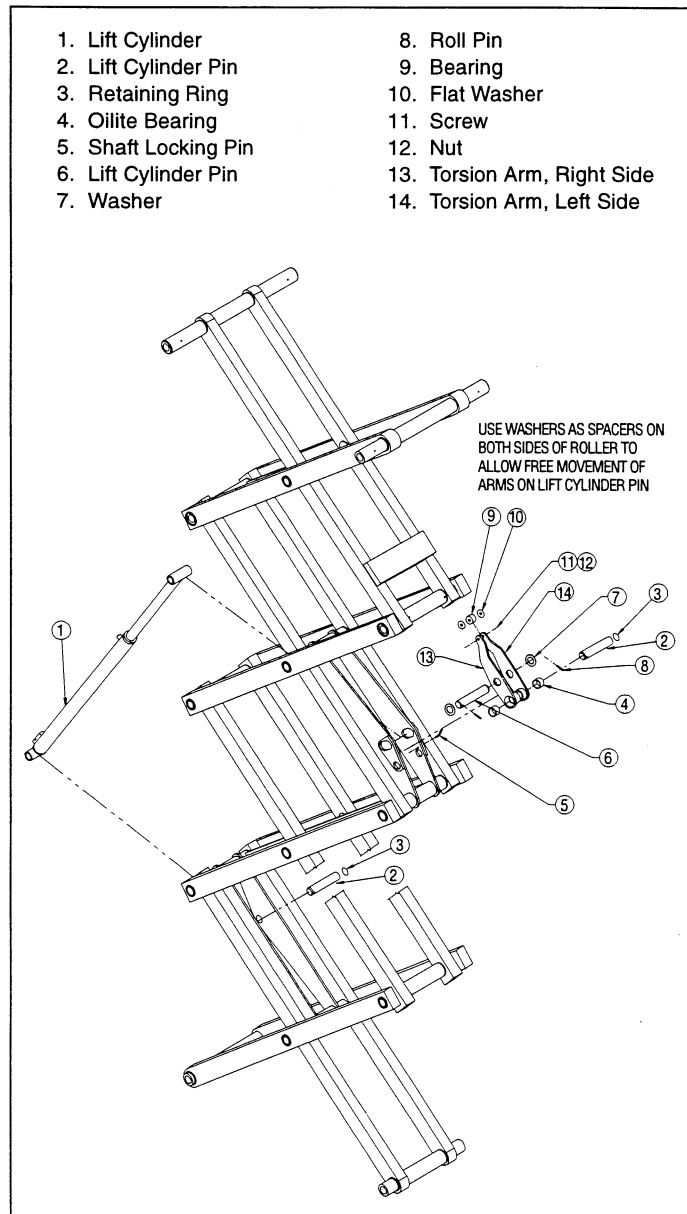


Figure 3-28: Lift Cylinder Remove and Replace, XRT27

### XRT33

The XRT33 is equipped with a five section scissor assembly and two Lift Cylinders.



*Use a suitable maintenance stand to access the upper Lift Cylinder on the XRT33. DO NOT stand on the Elevating Assembly*

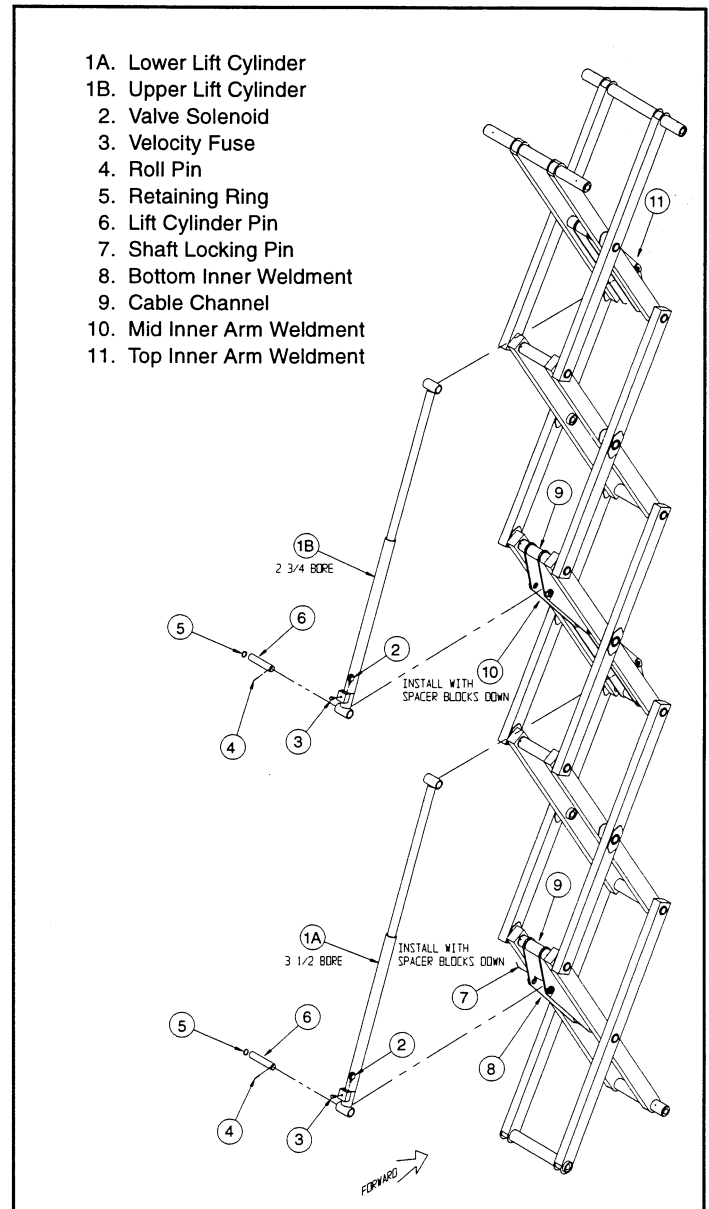


Figure 3-29: Lift Cylinder Remove and Replace, XRT33

## 3.16 CHASSIS

### Control Module

The Control module is located on the left side of the machine, and contains the following;

1. Lower Controls (see "Lower Controls" on page 3-8)
2. Main Hydraulic Manifold (see "Main Hydraulic Manifold" on page 3-19)
3. Pressure Reducing Valve (see "Brake Pressure Reducing Valve" on page 3-22)
4. Brake Release Pump (see "Manual Brake Pump" on page 3-16)
5. Hydraulic Oil Tank (see "Hydraulic Oil Tank" on page 3-18)
6. Hydraulic Oil Filter (see "Hydraulic Oil and Filter Replacement" on page 3-18)
7. Fuel tank (see "Fuel Supply" on page 3-15)
8. Emergency Down Control
9. Horn (Optional)

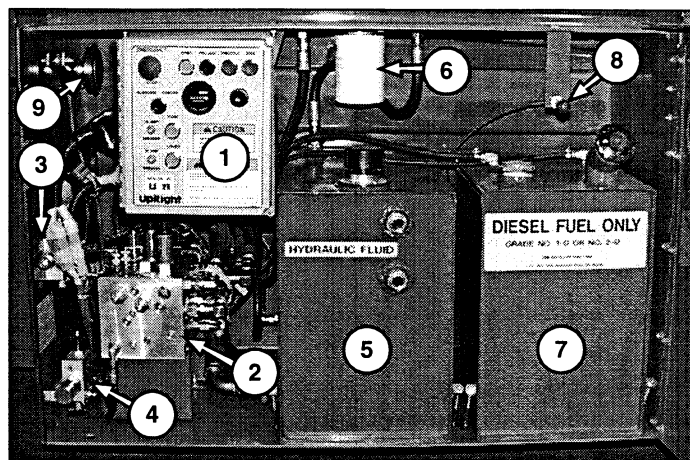


Figure 3-30: Control Module

### Power Module

The Power Module is located on the right side of the machine, and contains the following;

1. Engine (see "Power" on page 3-10)
2. Hydraulic Pump (see "Hydraulic Pump" on page 3-17)

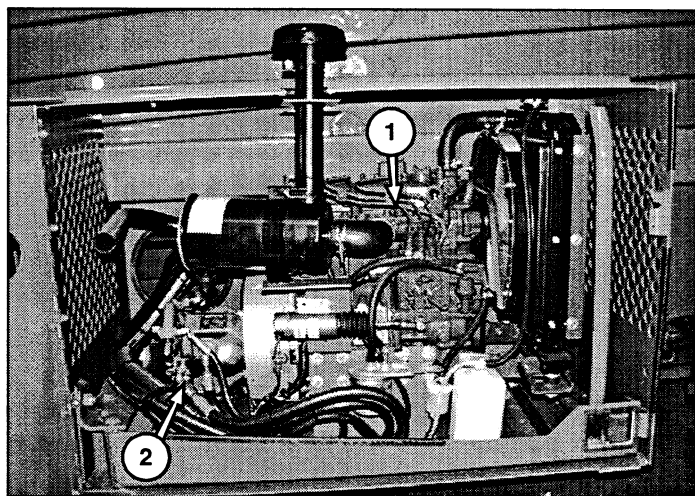


Figure 3-31: Power Module

### Platform Down Limit Switch

The Platform Down Switch closes the circuit to

- the Cutout Relay, bypassing the Tilt Sensor when the platform is lowered;
- and to the Platform Down Relay, which provides power to the Drive Relay, Proportional Controller high speed circuit, and Series/Parallel Relay.

## ! WARNING !

*DO NOT attempt to adjust Limit Switches without first blocking the elevating assembly (see section 2).*

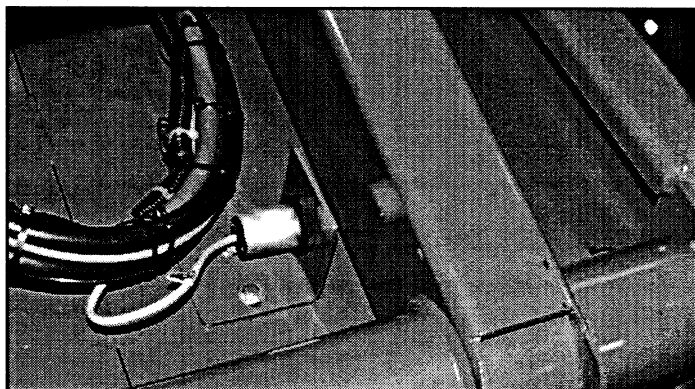


Figure 3-32: Platform Down Limit Switch

## 3.17 TORQUE SPECIFICATIONS

### Fasteners







Use the following values to torque fasteners used on UpRight Work Platforms unless a specific torque value is called out for the part being installed.

### Hydraulic Components

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

**Note: Always lubricate threads with clean hydraulic oil prior to installation**

**Table 3-5: Torque Specifications for Fasteners**

AMERICAN STANDARD CAP SCREWS									METRIC CAP SCREWS								
SAE GRADE	5				8				METRIC GRADE	8.8				10.9			
Cap Screw Size (inches)									Cap Screw Size (millimeters)	 				 			
	TORQUE				TORQUE					TORQUE				TORQUE			
	Ft./Lbs		Nm.		Ft./Lbs.		Nm.			Ft./Lbs.		Nm.		Ft./Lbs.		Nm.	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1/4 - 20	6.25	7.25	8.5	10	8.25	9.5	11	13	M6 x 1.00	6	8	8	11	9	11	12	15
1/4 - 28	8	9	11	12	10.5	12	14	16	M8 x 1.25	16	20	21.5	27	23	27	31	36.5
5/16 - 18	14	15	19	20	18.5	20	25	27	M10 x 1.50	29	35	39	47	42	52	57	70
5/16 - 24	17.5	19	23	26	23	25	31	34	M12 x 1.75	52	62	70	84	75	91	102	123
3/8 - 16	26	28	35	38	35	37	47.5	50	M14 x 2.00	85	103	115	139	120	146	163	198
3/8 - 24	31	34	42	46	41	45	55.5	61	M16 x 2.50	130	158	176	214	176	216	238	293
7/16 - 14	41	45	55.5	61	55	60	74.5	81	M18 x 2.50	172	210	233	284	240	294	325	398
7/16 - 20	51	55	69	74.5	68	75	92	102	M20 x 2.50	247	301	335	408	343	426	465	577
1/2 - 13	65	72	88	97.5	86	96	116	130	M22 x 2.50	332	404	450	547	472	576	639	780
1/2 - 20	76	84	103	114	102	112	138	152	M24 x 3.00	423	517	573	700	599	732	812	992
9/16 - 12	95	105	129	142	127	140	172	190	M27 x 3.00	637	779	863	1055	898	1098	1217	1488
9/16 - 18	111	123	150	167	148	164	200	222	M30 x 3.00	872	1066	1181	1444	1224	1496	1658	2027
5/8 - 11	126	139	171	188	168	185	228	251	<b>NOTE:</b> These values apply to fasteners as received from the supplier, dry or when lubricated with normal engine oil. They do not apply if special graphited or molydisulphide greases or other extreme pressure lubricants are used								
5/8 - 18	152	168	206	228	203	224	275	304									
3/4 - 10	238	262	322	355	318	350	431	474									
3/4 - 16	274	302	371	409	365	402	495	544									
7/8 - 9	350	386	474	523	466	515	631	698									
7/8 - 14	407	448	551	607	543	597	736	809									
1 - 8	537	592	728	802	716	790	970	1070									
1 - 14	670	740	908	1003	894	987	1211	1337									

**Table 3-6: Torque Specifications for Hydraulic Components**

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



## Section 4

### TROUBLESHOOTING

#### 4.1 INTRODUCTION

This section contains troubleshooting Truth Tables for the Work Platform.

#### **W A R N I N G**

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

*When performing any service on, or in the Elevating Assembly area, which requires the platform to be raised, the Elevating Assembly must be blocked.*

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

#### 4.2 GENERAL PROCEDURE

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

#### Upright Product Support

UPRIGHT USA

TEL: 1-559-891-5200

FAX: 1-559-896-9244

UPRIGHT IRELAND

TEL: 353-1-202-4100

FAX: 353-1-202-4105

### 4.3 ELECTRICAL TROUBLE SHOOTING

#### Two Wheel Drive, Dual Fuel

Table 4-1: Electronic Truth Table - Two Wheel Drive, Dual Fuel

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
ALM	Alarm				OPT	OPT	OPT				X	OPT				X
ALT	Alternator									X						
BAT	Battery		X	X										X	X	
C/D	Coil/Distributor													X	X	
D1	Diode, Upper Controller		X			X	X					X				
D2	Diode, Coil/Distributor													X	X	
D3	Diode, Throttle Solenoid													X	X	
D4	Diode, Throttle Relay													X	X	
F1	Emergency Stop Circuit Breaker		X	X	X	X	X	X	X		X	X	X	X	X	X
F2	Power Circuit Breaker		X	X	X	X	X	X	X		X	X	X	X	X	X
MOT1	Starter and Solenoid													X		
MOT2	Fuel Pump													X	X	
PS1	Oil Pressure Switch													X	X	
R1	Throttle Relay													X	X	
R2	Down Relay										X					
R3	Ignition Relay													X	X	
S1	Controller Micro Switch, Upper Controls		X		X	X	X					X				
S2	Reverse Micro Switch, Upper Controls										X	X				
S3	Forward Micro Switch, Upper Controls				X	X										
S4	Interlock Micro Switch, Upper Controls		X		X	X	X	X			X	X				
S5	Steering Micro Switch, Upper Controls							X	X							
S6	Drive Switch, Upper Controls					X	X					X				
S7	Lift Switch, Upper Controls				X						X					
S8	Torque Switch, Upper Controls					X						X				
S9	Ignition Switch, Upper Controls													X	X	
S10	Choke Switch, Upper Controls													X	X	
S11	Emergency Stop Switch, Upper Controls		X	X	X	X	X	X	X		X	X		X	X	X
S12	Starter Switch, Lower Controls													X	X	
S13	Choke Switch, Lower Controls													X	X	
S14	Engine Stop Switch, Lower Controls													X	X	
S15	Emergency Stop Switch, Lower Controls		X	X	X	X	X	X	X		X	X		X	X	X
S16	Chassis Platform Switch, Lower Controls		X	X												
S17	Down Switch, Lower Controls			X							X					
S18	Lift Switch, Lower Controls			X	X											
S19	Gasoline Switch, Lower Controls													X	X	
S20	Propane Switch, Lower Controls													X	X	

# TROUBLESHOOTING

## Section 4.3

**Table 4-1: Electronic Truth Table - Two Wheel Drive, Dual Fuel (Continued)**

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
S21	Throttle Switch, Lower Controls													X	X	
S22	Proximity Switch				X	X						X				
S23	Up Limit Switch				X											
SEN	Level Sensor	X	X	X	X	X	X	X	X			X				X
SOL1	Throttle Solenoid, Power Module													X	X	
SOL2	LP Shutoff Solenoid, Power Module													X	X	
SOL3	LP Valve Solenoid, Power Module													X	X	
SOL4	Gasoline Solenoid, Power Module													X	X	
SOL5	Choke Solenoid, Power Module													X	X	
SOL6	Proportional Solenoid, Valve Block	X		X	X	X						X				
SOL7	Forward Solenoid, Valve Block				X											
SOL8	Reverse Solenoid, Valve Block											X				
SOL9	Lift Solenoid, Valve Block			X												
SOL10	Series Parallel Solenoid, Valve Block				X	X								X		
SOL11	Series Parallel Solenoid, Valve Block				X	X								X		
SOL12	Down Solenoid, Lift Cylinder										X					
SOL13	Steer Right Solenoid, Valve Block								X							
SOL14	Steer Left Solenoid, Valve Block							X								

## Four Wheel Drive, Dual Fuel

Table 4-2: Electronic Truth Table - Four Drive Wheel, Dual Fuel

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
ALM	Alarm				OPT	OPT	OPT				X	OPT				X
ALT	Alternator									X						
BAT	Battery	X	X											X	X	
C/D	Coil/Distributor													X	X	
D1	Diode, Upper Controller	X				X	X					X				
D2	Diode, Coil/Distributor													X	X	
D3	Diode, Throttle Solenoid													X	X	
D4	Diode, Throttle Relay													X	X	
F1	Emergency Stop Circuit Breaker	X	X	X	X	X	X	X	X		X	X	X	X	X	X
F2	Power Circuit Breaker	X	X	X	X	X	X	X	X		X	X	X	X	X	X
F3	Series Parallel Circuit Breaker				X							X				
MOT1	Starter and Solenoid													X		
MOT2	Fuel Pump													X	X	
PS1	Oil Pressure Switch													X	X	
R1	Throttle Relay													X	X	
R2	Down Relay										X					
R3	Ignition Relay													X	X	
R5	Time Delay Relay				X							X				
R6	Series Parallel Relay				X	X						X				
S1	Controller Micro Switch, Upper Controls	X		X	X	X						X				
S2	Reverse Micro Switch, Upper Controls										X	X				
S3	Forward Micro Switch, Upper Controls			X	X											
S4	Interlock Micro Switch, Upper Controls	X		X	X	X	X	X	X		X	X				
S5	Steering Micro Switch, Upper Controls						X	X								
S6	Drive Switch, Upper Controls				X	X						X				
S7	Lift Switch, Upper Controls			X							X					
S8	Torque Switch, Upper Controls				X							X				
S9	Ignition Switch, Upper Controls													X	X	
S10	Choke Switch, Upper Controls													X	X	
S11	Emergency Stop Switch, Upper Controls	X	X	X	X	X	X	X	X		X	X		X	X	X
S12	Starter Switch, Lower Controls													X	X	
S13	Choke Switch, Lower Controls													X	X	
S14	Engine Stop Switch, Lower Controls													X	X	
S15	Emergency Stop Switch, Lower Controls	X	X	X	X	X	X	X	X		X	X		X	X	X
S16	Chassis Platform Switch, Lower Controls	X	X													
S17	Down Switch, Lower Controls		X								X					
S18	Lift Switch, Lower Controls		X	X												
S19	Gasoline Switch, Lower Controls													X	X	

# TROUBLESHOOTING

## Section 4.3

**Table 4-2: Electronic Truth Table - Four Drive Wheel, Dual Fuel (Continued)**

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOUT
S20	Propane Switch, Lower Controls													X	X	
S21	Throttle Switch, Lower Controls													X	X	
S22	Proximity Switch				X	X						X				
S23	Up Limit Switch			X												
SEN	Level Sensor	X	X	X	X	X	X	X	X			X				X
SOL1	Throttle Solenoid, Power Module													X	X	
SOL2	LP Shutoff Solenoid, Power Module													X	X	
SOL3	LP Valve Solenoid, Power Module													X	X	
SOL4	Gasoline Solenoid, Power Module													X	X	
SOL5	Choke Solenoid, Power Module													X	X	
SOL6	Proportional Solenoid, Valve Block	X		X	X	X						X				
SOL7	Forward Solenoid, Valve Block				X											
SOL8	Reverse Solenoid, Valve Block											X				
SOL9	Lift Solenoid, Valve Block			X												
SOL10	Series Parallel Solenoid, Valve Block				X	X								X		
SOL11	Series Parallel Solenoid, Valve Block				X	X								X		
SOL12	Down Solenoid, Lift Cylinder										X					
SOL13	Steer Right Solenoid, Valve Block								X							
SOL14	Steer Left Solenoid, Valve Block							X								
SOL15	Shunt Solenoid, Valve Block				X	X						X				
SOL16	Series Parallel Solenoid, Front Valve Block				X	X						X				
SOL17	Series Parallel Solenoid, Front Valve Block				X	X						X				
SOL18	Series Parallel Solenoid, Rear Valve Block				X	X						X				
SOL19	Series Parallel Solenoid, Rear Valve Block				X	X						X				

## Two Wheel Drive, Diesel

Table 4-3: Electronic Truth Table - Two Wheel Drive, Diesel

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
ALM	Alarm				OPT	OPT	OPT				X	OPT				X
ALT	Alternator									X						
BAT	Battery		X	X										X	X	
D1	Diode, Upper Controller		X			X	X					X				
D2	Diode, Glow Plug Relay													X	X	
D3	Diode, Throttle Solenoid													X	X	
D4	Diode, Throttle Relay													X	X	
D5	Diode, Glow Plug Power													X	X	
F1	Emergency Stop Circuit Breaker		X	X	X	X	X	X	X		X	X	X	X	X	X
F2	Power Circuit Breaker		X	X	X	X	X	X	X		X	X	X	X	X	X
F3	Series Parallel Circuit Breaker					X						X				
MOT1	Starter and Solenoid													X		
MOT2	Fuel Pump													X	X	
PS1	Oil Pressure Switch													X	X	
R1	Throttle Relay													X	X	
R2	Down Relay										X					
R3	Ignition Relay													X	X	
R4	Glow Plug Relay													X	X	
RES1	Glow Plug													X	X	
S1	Controller Micro Switch, Upper Controls		X		X	X	X					X				
S2	Reverse Micro Switch, Upper Controls										X	X				
S3	Forward Micro Switch, Upper Controls				X	X										
S4	Interlock Micro Switch, Upper Controls		X		X	X	X	X	X		X	X				
S5	Steering Micro Switch, Upper Controls						X	X								
S6	Drive Switch, Upper Controls					X	X					X				
S7	Lift Switch, Upper Controls				X						X					
S8	Torque Switch, Upper Controls					X						X				
S9	Ignition Switch, Upper Controls													X	X	
S10	Glow Plug Switch, Upper Controls													X	X	
S11	Emergency Stop Switch, Upper Controls		X	X	X	X	X	X	X		X	X		X	X	X
S12	Starter Switch, Lower Controls													X	X	
S13	Glow Plug Switch, Lower Controls													X	X	
S14	Engine Stop Switch, Lower Controls													X	X	
S15	Emergency Stop Switch, Lower Controls		X	X	X	X	X	X	X		X	X		X	X	X
S16	Chassis Platform Switch, Lower Controls		X	X												
S17	Down Switch, Lower Controls			X							X					
S18	Lift Switch, Lower Controls			X	X											
S19	Gasoline Switch, Lower Controls													X	X	

# TROUBLESHOOTING

## Section 4.3

Table 4-3: Electronic Truth Table - Two Wheel Drive, Diesel (Continued)

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
S20	Propane Switch, Lower Controls													X	X	
S21	Throttle Switch, Lower Controls													X	X	
S22	Proximity Switch				X	X						X				
SEN	Level Sensor	X	X	X	X	X	X	X	X			X				X
SOL1	Throttle Solenoid, Power Module													X	X	
SOL5	Glow Plug Solenoid, Power Module													X	X	
SOL6	Proportional Solenoid, Valve Block	X		X	X	X						X				
SOL7	Forward Solenoid, Valve Block				X											
SOL8	Reverse Solenoid, Valve Block											X				
SOL9	Lift Solenoid, Valve Block			X												
SOL10	Series Parallel Solenoid, Valve Block				X	X								X		
SOL11	Series Parallel Solenoid, Valve Block				X	X								X		
SOL12	Down Solenoid, Lift Cylinder										X					
SOL13	Steer Right Solenoid, Valve Block								X							
SOL14	Steer Left Solenoid, Valve Block							X								

## Four Wheel Drive, Diesel

Table 4-4: Electronic Truth Table - Four Wheel Drive, Diesel

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
ALM	Alarm				OPT	OPT	OPT				X	OPT				X
ALT	Alternator									X						
BAT	Battery		X	X										X	X	
C/D	Coil/Distributor													X	X	
D1	Diode, Upper Controller		X			X	X					X				
D2	Diode, Glow Plug Relay													X	X	
D3	Diode, Throttle Solenoid													X	X	
D4	Diode, Throttle Relay													X	X	
D5	Diode, Glow Plug Power													X	X	
F1	Emergency Stop Circuit Breaker		X	X	X	X	X	X	X		X	X	X	X	X	X
F2	Power Circuit Breaker		X	X	X	X	X	X	X		X	X	X	X	X	X
F3	Series Parallel Circuit Breaker					X						X				
MOT1	Starter and Solenoid													X		
MOT2	Fuel Pump													X	X	
PS1	Oil Pressure Switch													X	X	
R1	Throttle Relay													X	X	
R2	Down Relay										X					
R3	Ignition Relay													X	X	
R5	Time Delay Relay					X						X				
R6	Series Parallel Relay					X	X					X				
S1	Controller Micro Switch, Upper Controls		X		X	X	X					X				
S2	Reverse Micro Switch, Upper Controls										X	X				
S3	Forward Micro Switch, Upper Controls				X	X										
S4	Interlock Micro Switch, Upper Controls		X		X	X	X	X	X		X	X				
S5	Steering Micro Switch, Upper Controls							X	X							
S6	Drive Switch, Upper Controls					X	X					X				
S7	Lift Switch, Upper Controls				X						X					
S8	Torque Switch, Upper Controls					X						X				
S9	Ignition Switch, Upper Controls													X	X	
S10	Glow Plug Switch, Upper Controls													X	X	
S11	Emergency Stop Switch, Upper Controls		X	X	X	X	X	X	X		X	X		X	X	X
S12	Starter Switch, Lower Controls													X	X	
S13	Glow Plug Switch, Lower Controls													X	X	
S14	Engine Stop Switch, Lower Controls													X	X	
S15	Emergency Stop Switch, Lower Controls		X	X	X	X	X	X	X		X	X		X	X	X
S16	Chassis Platform Switch, Lower Controls		X	X												
S17	Down Switch, Lower Controls			X							X					
S18	Lift Switch, Lower Controls			X	X											



# TROUBLESHOOTING

## Section 4.3

**Table 4-4: Electronic Truth Table - Four Wheel Drive, Diesel (Continued)**

	COMPONENT	FUNCTION	UPPER CONTROL FUNCTIONS	LOWER CONTROL FUNCTIONS	LIFT	DRIVE FORWARD	CREEP	STEER LEFT	STEER RIGHT	BATTERY CHARGE	DOWN	DRIVE REVERSE	BRAKES	ENGINE START	ENGINE RUN	TILT WARNING CUTOFF
S21	Throttle Switch, Lower Controls													X	X	
S22	Proximity Switch				X	X						X				
S23	Up Limit Switch			X												
SEN	Level Sensor	X	X	X	X	X	X	X	X			X				X
SOL1	Throttle Solenoid, Power Module													X	X	
SOL5	Glow Plug Solenoid, Power Module													X	X	
SOL6	Proportional Solenoid, Valve Block	X		X	X	X						X				
SOL7	Forward Solenoid, Valve Block				X											
SOL8	Reverse Solenoid, Valve Block											X				
SOL9	Lift Solenoid, Valve Block			X												
SOL10	Series Parallel Solenoid, Valve Block				X	X								X		
SOL11	Series Parallel Solenoid, Valve Block				X	X								X		
SOL12	Down Solenoid, Lift Cylinder										X					
SOL13	Steer Right Solenoid, Valve Block								X							
SOL14	Steer Left Solenoid, Valve Block							X								
SOL15	Shunt Solenoid, Valve Block				X	X						X				
SOL16	Series Parallel Solenoid, Front Valve Block				X	X						X				
SOL17	Series Parallel Solenoid, Front Valve Block				X	X						X				
SOL18	Series Parallel Solenoid, Rear Valve Block				X	X						X				
SOL19	Series Parallel Solenoid, Rear Valve Block				X	X						X				

## 4.4 HYDRAULIC TROUBLE SHOOTING

### XRT27, Two Wheel Drive

Table 4-5: Hydraulic Truth Table - XRT27, Two Wheel Drive

		FUNCTION	LIFT	DRIVE FORWARD	DRIVE REVERSE	CREEP	STEER LEFT	STEER RIGHT	DOWN	BRAKES
CV	Check Valve			X	X	X				
CYL1	Steering Cylinder						X	X		
CYL2	Lift Cylinder		X						X	
CYL4, 5	Brakes									X
M1	Front Drive Motor, Left Side			X	X	X				
M2	Front Drive Motor, Right Side			X	X	X				
ORF1	Steering Orifice						X	X		
ORF2	Down Orifice								X	
ORF4	Brake Orifice									X
P1	Hydraulic Pump		X	X	X	X	X	X		X
P2	Brake Release Pump									X
RV1	Steer Relief Valve						X	X		
RV2	Lift Relief Valve		X							
RV3	Motor Relief Valve, Left Front			X	X	X				
RV4	Motor Relief Valve, Right Front			X	X	X				
RV7	Pressure Reducing Valve									X
SV1	Shuttle Valve		X	X	X	X	X	X		
SV2	Shuttle Valve		X	X	X	X	X	X		
SV3	Steering Shuttle Valve						X	X		
SV4	Brake Shuttle Valve									X
V1	Steering Valve						X	X		
V2	Emergency Down Valve								X	
V3	Proportional Valve		X	X	X	X				
V4	Lift Valve		X							
V5	Forward valve			X		X				
V6	Reverse valve				X	X				
V7	Reverse Counter Balance Valve				X	X				
V8	Forward Counter Balance Valve			X		X				
V9	Series Parallel Valve			X	X	X				
V10	Series Parallel Valve			X	X	X				
V18	Down Valve, Lower Cylinder								X	

# TROUBLESHOOTING

## Section 4.4

### XRT33, Two Wheel Drive

Table 4-6: Hydraulic Truth Table - XRT33, Two Wheel Drive

COMPONENT		FUNCTION	LIFT	DRIVE FORWARD	DRIVE REVERSE	CREEP	STEER LEFT	STEER RIGHT	DOWN	BRAKES
CV	Check Valve			X	X	X				
CYL1	Steering Cylinder						X	X		
CYL2	Lower Lift Cylinder		X						X	
CYL3	Upper Lift Cylinder		X						X	
CYL4, 5	Brakes									X
M1	Front Drive Motor, Left Side			X	X	X				
M2	Front Drive Motor, Right Side			X	X	X				
ORF1	Steering Orifice						X	X		
ORF2, 3	Down Orifice								X	
ORF4	Brake Orifice									X
P1	Hydraulic Pump		X	X	X	X	X	X		X
P2	Brake Release Pump									X
RV1	Steer Relief Valve						X	X		
RV2	Lift Relief Valve		X							
RV3	Motor Relief Valve, Left Front			X	X	X				
RV4	Motor Relief Valve, Right Front			X	X	X				
RV7	Pressure Reducing Valve									X
SV1	Shuttle Valve		X	X	X	X	X	X		
SV2	Shuttle Valve		X	X	X	X	X	X		
SV3	Steering Shuttle Valve						X	X		
SV4	Brake Shuttle Valve									X
V1	Steering Valve						X	X		
V2	Emergency Down Valve								X	
V3	Proportional Valve		X	X	X	X				
V4	Lift Valve		X							
V5	Forward valve			X		X				
V6	Reverse valve				X	X				
V7	Reverse Counter Balance Valve				X	X				
V8	Forward Counter Balance Valve			X		X				
V9	Series Parallel Valve			X	X	X				
V10	Series Parallel Valve			X	X	X				
V18	Down Valve, Lower Cylinder								X	
V19	Down Valve, Upper Cylinder								X	
V20	Velocity Fuse, Lower Cylinder		X						X	
V21	Velocity Fuse, Upper Cylinder		X						X	

## XRT27, Four Wheel Drive

Table 4-7: Hydraulic Truth Table - XRT27, Four Wheel Drive

	COMPONENT	FUNCTION	LIFT	DRIVE FORWARD	DRIVE REVERSE	CREEP	STEER LEFT	STEER RIGHT	DOWN	BRAKES
CV	Check Valve			X	X	X				
CYL1	Steering Cylinder						X	X		
CYL2	Lift Cylinder		X						X	
CYL4, 5	Brakes									X
FD1	Flow Divider, Main Valve Block			X	X	X				
FD2	Flow Divider, Front Valve Block			X	X	X				
FD3	Flow Divider, Rear Valve Block			X	X	X				
M1	Front Drive Motor, Left Side			X	X	X				
M2	Front Drive Motor, Right Side			X	X	X				
M3	Rear Drive Motor, Left Side			X	X	X				
M4	Rear Drive Motor, Right Side			X	X	X				
ORF1	Steering Orifice						X	X		
ORF2	Down Orifice								X	
ORF4	Brake Orifice									X
ORF5	Slip Orifice, Front			X	X	X				
ORF6	Slip Orifice, Rear			X	X	X				
P1	Hydraulic Pump		X	X	X	X	X	X		X
P2	Brake Release Pump									X
RV1	Steer Relief Valve						X	X		
RV2	Lift Relief Valve		X							
RV3	Motor Relief Valve, Left Front			X	X	X				
RV4	Motor Relief Valve, Right Front			X	X	X				
RV5	Motor Relief Valve, Left Rear			X	X	X				
RV6	Motor Relief Valve, Right Rear			X	X	X				
RV7	Pressure Reducing Valve									X
SV1	Shuttle Valve		X	X	X	X	X	X		
SV2	Shuttle Valve		X	X	X	X	X	X		
SV3	Steering Shuttle Valve						X	X		
SV4	Brake Shuttle Valve									X
V1	Steering Valve						X	X		
V2	Emergency Down Valve							X		
V3	Proportional Valve		X	X	X	X				
V4	Lift Valve		X							
V5	Forward valve			X		X				
V6	Reverse valve				X	X				
V7	Reverse Counter Balance Valve				X	X				
V8	Forward Counter Balance Valve			X		X				
V9	Series Parallel Valve			X	X	X				
V10	Series Parallel Valve			X	X	X				
V11	Shunt Valve			X	X	X				

# TROUBLESHOOTING

## Section 4.4

Table 4-7: Hydraulic Truth Table - XRT27, Four Wheel Drive (Continued)

	COMPONENT	FUNCTION	LIFT	DRIVE FORWARD	DRIVE REVERSE	CREEP	STEER LEFT	STEER RIGHT	DOWN	BRAKES
V12, 13	Series Parallel Valves, Front			X	X	X				
V14, 15	Diverter Valves, Rear			X	X	X				
V16, 17	Series Parallel Valves, Rear			X	X	X				
V18	Down Valve, Lower Cylinder								X	

## XRT33, Four Wheel Drive

Table 4-8: Hydraulic Truth Table - XRT33, Four Wheel Drive

COMPONENT		FUNCTION	LIFT	DRIVE FORWARD	DRIVE REVERSE	CREEP	STEER LEFT	STEER RIGHT	DOWN	BRAKES
CV	Check Valve			X	X	X				
CYL1	Steering Cylinder						X	X		
CYL2	Lower Lift Cylinder		X						X	
CYL3	Upper Lift Cylinder		X						X	
CYL4, 5	Brakes									X
FD1	Flow Divider, Main Valve Block			X	X	X				
FD2	Flow Divider, Front Valve Block			X	X	X				
FD3	Flow Divider, Rear Valve Block			X	X	X				
M1	Front Drive Motor, Left Side			X	X	X				
M2	Front Drive Motor, Right Side			X	X	X				
M3	Rear Drive Motor, Left Side			X	X	X				
M4	Rear Drive Motor, Right Side			X	X	X				
ORF1	Steering Orifice						X	X		
ORF2, 3	Down Orifice								X	
ORF4	Brake Orifice									X
ORF5	Slip Orifice, Front			X	X	X				
ORF6	Slip Orifice, Rear			X	X	X				
P1	Hydraulic Pump		X	X	X	X	X	X		X
P2	Brake Release Pump									X
RV1	Steer Relief Valve						X	X		
RV2	Lift Relief Valve		X							
RV3	Motor Relief Valve, Left Front			X	X	X				
RV4	Motor Relief Valve, Right Front			X	X	X				
RV5	Motor Relief Valve, Left Rear			X	X	X				
RV6	Motor Relief Valve, Right Rear			X	X	X				
RV7	Pressure Reducing Valve									X
SV1	Shuttle Valve		X	X	X	X	X	X		
SV2	Shuttle Valve		X	X	X	X	X	X		
SV3	Steering Shuttle Valve						X	X		
SV4	Brake Shuttle Valve									X
V1	Steering Valve						X	X		
V2	Emergency Down Valve								X	
V3	Proportional Valve		X	X	X	X				
V4	Lift Valve		X							
V5	Forward valve			X		X				
V6	Reverse valve				X	X				
V7	Reverse Counter Balance Valve				X					
V8	Forward Counter Balance Valve			X						
V9	Series Parallel Valve			X	X	X				
V10	Series Parallel Valve			X	X	X				

# TROUBLESHOOTING

## Section 4.4

**Table 4-8: Hydraulic Truth Table - XRT33, Four Wheel Drive (Continued)**

COMPONENT		FUNCTION	LIFT	DRIVE FORWARD	DRIVE REVERSE	CREEP	STEER LEFT	STEER RIGHT	DOWN	BRAKES
V11	Shunt Valve			X	X	X				
V12, 13	Series Parallel Valves, Front			X	X	X				
V14, 15	Diverter Valves, Rear			X	X	X				
V16, 17	Series Parallel Valves, Rear			X	X	X				
V18	Down Valve, Lower Cylinder								X	
V19	Down Valve, Upper Cylinder								X	
V20	Velocity Fuse, Lower Cylinder		X						X	
V21	Velocity Fuse, Upper Cylinder		X						X	

## **NOTES**

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# Section 5

## SCHEMATICS

### 5.1 INTRODUCTION

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

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

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

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## 5.2 ELECTRICAL SCHEMATIC - XRT 27 & 33 2-WHEEL DRIVE, DUAL FUEL

Table 5-1: Legend, Electrical Schematic, 2-Wheel Drive Dual Fuel

Reference Designation	Name	Function	Location
ALM	Alarm	Warning Sound	Lower Control Box
ALT	Alternator	Maintain Current	Power Module
BAT	Battery	Starting Power	
C/D	Coil/Distributor	Provide Spark to Engine	Power Module
D1	Diode	Power to Upper Controller PC Board	Upper Controls
D2	Diode	Power to Coil/Distributor	Power Module
D3	Diode	Power to Throttle Solenoid	Power Module
D4	Diode	Power to Throttle Relay	Power Module
DC1	Deutsch Connector	Connect Upper Controller to Circuit Board	Upper Controls
DC2	Deutsch Connector	Connect Upper Controller, Valve Block and Chassis to Circuit Board	Circuit Board
DC3	Deutsch Connector	Connect Valve Block and Chassis to Circuit Board	Control Module
DC4	Deutsch Connector	Connect Power Module to Circuit Board	Circuit Board
DC5	Deutsch Connector	Connect Power Module to Circuit Board	Power Module
F1	Emergency Stop Circuit Breaker	Power to Upper Control Ignition Switch	Lower Controls
F2	Power Circuit Breaker	Power to all function solenoids	Lower Controls
L1	Drive Enable Light	Indicates Drive Enabled	Upper Controls
J1	Jumper	Axle Float Setting	Circuit Board
J2	Jumper	8 Meter Limit Setting	Circuit Board
J3	Jumper	Outtrigger Option	Circuit Board
J4	Jumper	Outtrigger Option	Circuit Board
MOT1	Starter and Solenoid	Start Engine	Power Module
MOT2	Fuel Pump	Supplies Gasoline to Engine	Power Module
MTR	Hour Meter	Displays Operating Time	Lower Controls
PC1	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC2	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PC3	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC4	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PS1	Oil Pressure Switch	Cut Power to Engine when Oil Pressure Too Low	Power Module
R1	Throttle Relay	Power to Throttle Solenoid	Power Module
R2	Down Relay	Power to Down Solenoid	Control Module
R3	Ignition Relay	Enable Engine Start	Upper Controls
S1	Micro Switch	Power to Controller	Upper Controls
S2	Reverse Micro Switch	Power to Drive/Lift Relay, Reverse/Down Contacts	Upper Controls
S3	Forward Micro Switch	Power to Drive/Lift Relay, Forward/Up Contacts	Upper Controls

Reference Designation	Name	Function	Location
S4	Interlock Micro Switch	Interrupts Power to Controller when Not Engaged	Upper Controls, In Joystick Handle
S5	Steering Micro Switch	Power to Left and Right Steer Relays	Upper Controls, In Joystick Handle
S6	Drive Switch	Power to S5 (Drive)	Upper Controls
S7	Lift Switch	Power to Drive/Lift Relay	Upper Controls
S8	Torque Switch	Power to Series Parallel Relay	Upper Controls
S9	Ignition Switch	Power to Upper Controls, Engine and Starter Motor	Upper Controls
S10	Choke Switch	Power to Choke Relay	Upper Controls
S11	Emergency Stop Switch	Cut Power to Upper Controls and Engine	Upper Controls
S12	Starter Switch	Power to Starter Motor	Lower Controls
S13	Choke Switch	Power to Choke Relay	Lower Controls
S14	Engine Stop Switch	Cut Power to Power Relay	Lower Controls
S15	Emergency Stop Switch	Cut Power to Lower Controls and Engine	Lower Controls
S16	Chassis Platform Switch	Power to Either Upper or Lower Controls	Lower Controls
S17	Down Switch	Power to Down Relay	Lower Controls
S18	Lift Switch	Power to Up Relay	Lower Controls
S19	Gasoline Switch	Power to Fuel Pump Solenoid	Lower Controls
S20	Propane Switch	Power to Propane Valve Solenoids	Lower Controls
S21	Throttle Switch	Power to Throttle Relay	Lower Controls
S22	Proximity Switch	Limits Drive Height to Eight Meters	Chassis
S23	Up Limit Switch	Prevents Full Extension of Lift Cylinders	Chassis
SEN	Level Sensor	Power to Cutout Relay when Machine is Level	Chassis
SOL1	Throttle Solenoid	Control Engine Speed	Power Module
SOL2	LP Shutoff Solenoid	Control Propane Valve	Power Module
SOL3	LP Valve Solenoid	Control Propane Valve	Power Module
SOL4	Gasoline Solenoid	Control Gasoline Valve	Power Module
SOL5	Choke Solenoid	Control Choke	Power Module
SOL6	Proportional Solenoid	Control Proportional Valve	Valve Block
SOL7	Forward Solenoid	Control Forward Valve	Valve Block
SOL8	Reverse Solenoid	Control Reverse Valve	Valve Block
SOL9	Lift Solenoid	Control Lift Valve	Valve Block
SOL10, 11	Series/Parallel Solenoid	Control Series/Parallel Valves	Valve Block
SOL12	Down Solenoid	Control Down Valve	Lift Cylinder
SOL13	Steer Right Solenoid	Control Steering Valve	Valve Block
SOL14	Steer Left Solenoid	Control Steering Valve	Valve Block

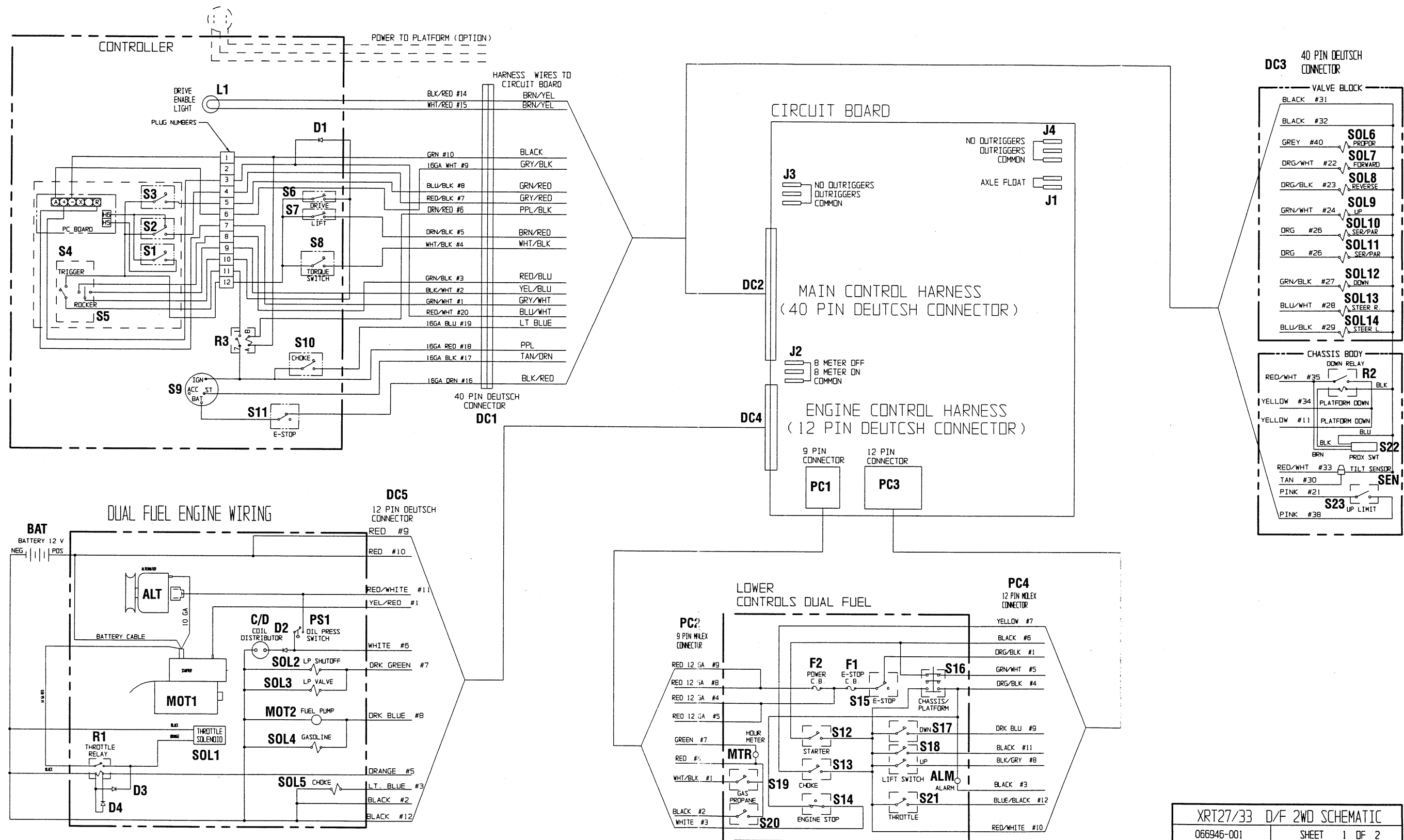
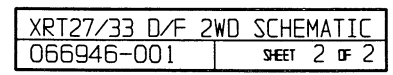


Figure 5-1: Electrical Schematic, 2-Wheel Drive, Dual Fuel

**5.3 PRINTED CIRCUIT BOARD - XRT 27 & 33 2-WHEEL DRIVE, DUAL FUEL**

**Table 5-2: Legend, Printed Circuit Board, 2-Wheel Drive Dual Fuel**

Reference Designation	Name	Function
DS1	Dip Switch	Configure Circuit Board for proper operation
J1	Jumper - Axle Float Setting	Configure Circuit Board for Axle Float
J2	Jumper - 8 Meter Limit Setting	Configure Circuit Board for 8 Meter Limit Switch
J3	Jumper - Outrigger Option	Configure Circuit Board for Outrigger Option
J4	Jumper - Outriggers	Configure Circuit Board for Outrigger Functions



### XRT Work Platform - Domestic

5.4 ELECTRICAL SCHEMATIC - XRT 27 & 33 2-WHEEL DRIVE, DIESEL

Table 5-3: Legend, Electrical Schematic, 2-Wheel Drive Diesel

Reference Designation	Name	Function	Location
ALM	Alarm	Warning Sound	Lower Control Box
ALT	Alternator	Maintain Current	Power Module
BAT	Battery	Starting Power	
D1	Diode	Power to Upper Controller PC Board	Upper Controls
D2	Diode	Power to Glow Plug Relay	Power Module
D3	Diode	Power to Throttle Solenoid	Power Module
D4	Diode	Power to Throttle Relay	Power Module
D5	Diode	Power to Glow Plug	Power Module
DC1	Deutsch Connector	Connect Upper Controller to Circuit Board	Upper Controls
DC2	Deutsch Connector	Connect Upper Controller, Valve Block and Chassis to Circuit Board	Circuit Board
DC3	Deutsch Connector	Connect Valve Block and Chassis to Circuit Board	Control Module
DC4	Deutsch Connector	Connect Power Module to Circuit Board	Circuit Board
DC5	Deutsch Connector	Connect Power Module to Circuit Board	Power Module
F1	Emergency Stop Circuit Breaker	Power to Upper Control Ignition Switch	Lower Controls
F2	Power Circuit Breaker	Power to all function solenoids	Lower Controls
L1	Drive Enable Light	Indicates Drive Enabled	Upper Controls
J1	Jumper	Axle Float Setting	Circuit Board
J2	Jumper	8 Meter Limit Setting	Circuit Board
J3	Jumper	Outtrigger Option	Circuit Board
J4	Jumper	Outtrigger Option	Circuit Board
MOT1	Starter and Solenoid	Start Engine	Power Module
MTR	Hour Meter	Displays Operating Time	Lower Controls
PC1	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC2	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PC3	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC4	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PS1	Oil Pressure Switch	Cut Power to Engine when Oil Pressure Too Low	Power Module
R1	Throttle Relay	Power to Throttle Solenoid	Power Module
R2	Down Relay	Power to Down Solenoid	Control Module
R3	Ignition Relay	Enable Engine Start	Upper Controls
R4	Glow Plug Relay	Power to Glow Plug	Power Module
RES1	Glow Plug	Heat to Start Engine	Engine
S1	Micro Switch	Power to Controller	Upper Controls
S2	Reverse Micro Switch	Power to Drive/Lift Relay, Reverse/Down Contacts	Upper Controls
S3	Forward Micro Switch	Power to Drive/Lift Relay, Forward/Up Contacts	Upper Controls
S4	Interlock Micro Switch	Interrupts Power to Controller when Not Engaged	Upper Controls, In Joystick Handle
S5	Steering Micro Switch	Power to Left and Right Steer Relays	Upper Controls, In Joystick Handle

Reference Designation	Name	Function	Location
S6	Drive Switch	Power to S5 (Drive)	Upper Controls
S7	Lift Switch	Power to Drive/Lift Relay	Upper Controls
S8	Torque Switch	Power to Series Parallel Relay	Upper Controls
S9	Ignition Switch	Power to Upper Controls, Engine and Starter Motor	Upper Controls
S10	Glow Plug Switch	Power to Glow Plug Relay	Upper Controls
S11	Emergency Stop Switch	Cut Power to Upper Controls and Engine	Upper Controls
S12	Starter Switch	Power to Starter Motor	Lower Controls
S13	Glow Plug Switch	Power to Glow Plug Relay	Lower Controls
S14	Engine Stop Switch	Cut Power to Power Relay	Lower Controls
S15	Emergency Stop Switch	Cut Power to Lower Controls and Engine	Lower Controls
S16	Chassis Platform Switch	Power to Either Upper or Lower Controls	Lower Controls
S17	Down Switch	Power to Down Relay	Lower Controls
S18	Lift Switch	Power to Up Relay	Lower Controls
S21	Throttle Switch	Power to Throttle Relay	Lower Controls
S22	Proximity Switch	Limits Drive Height to Eight Meters	Chassis
S23	Up Limit Switch	Prevents Full Extension of Lift Cylinders	Chassis
SEN	Level Sensor	Power to Cutout Relay when Machine is Level	Chassis
SOL1	Throttle Solenoid	Control Engine Speed	Power Module
SOL5	Run Solenoid	Allows Engine to Run with Proper Oil Pressure	Power Module
SOL6	Proportional Solenoid	Control Proportional Valve	Valve Block
SOL7	Forward Solenoid	Control Forward Valve	Valve Block
SOL8	Reverse Solenoid	Control Reverse Valve	Valve Block
SOL9	Lift Solenoid	Control Lift Valve	Valve Block
SOL10, 11	Series/Parallel Solenoid	Control Series/Parallel Valves	Valve Block
SOL12	Down Solenoid	Control Down Valve	Lift Cylinder
SOL13	Steer Right Solenoid	Control Steering Valve	Valve Block
SOL14	Steer Left Solenoid	Control Steering Valve	Valve Block

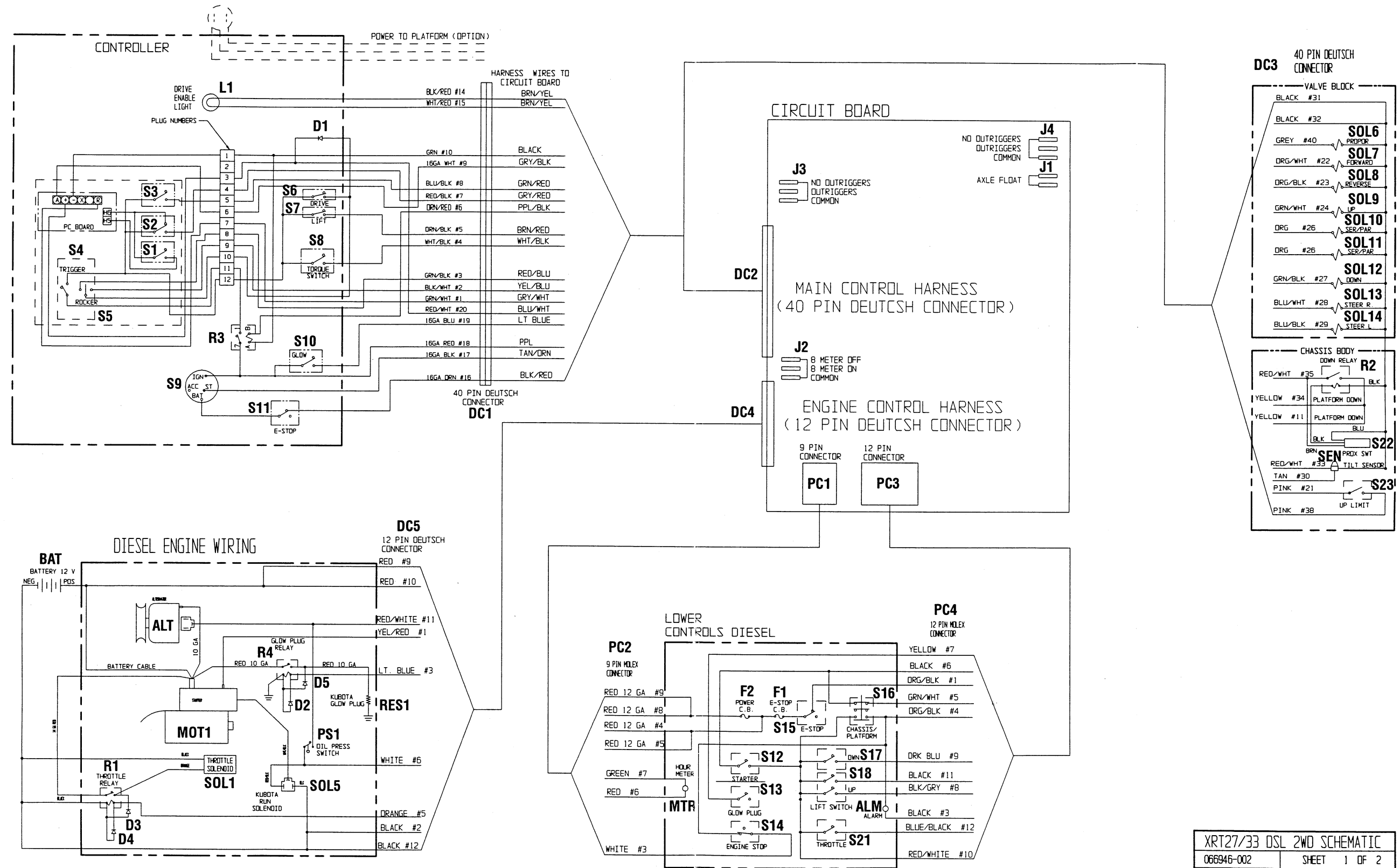


Figure 5-3: Electrical Schematic, 2-Wheel Drive Diesel

5.5 PRINTED CIRCUIT BOARD - XRT 27 & 33 2-WHEEL DRIVE, DIESEL

Table 5-4: Legend, Printed Circuit Board, 2-Wheel Drive Diesel

Reference Designation	Name	Function
DS1	Dip Switch	
J1	Jumper - Axle Float Setting	
J2	Jumper - 8 Meter Limit Setting	
J3	Jumper - Outtrigger Option	
J4	Jumper - Outriggers	



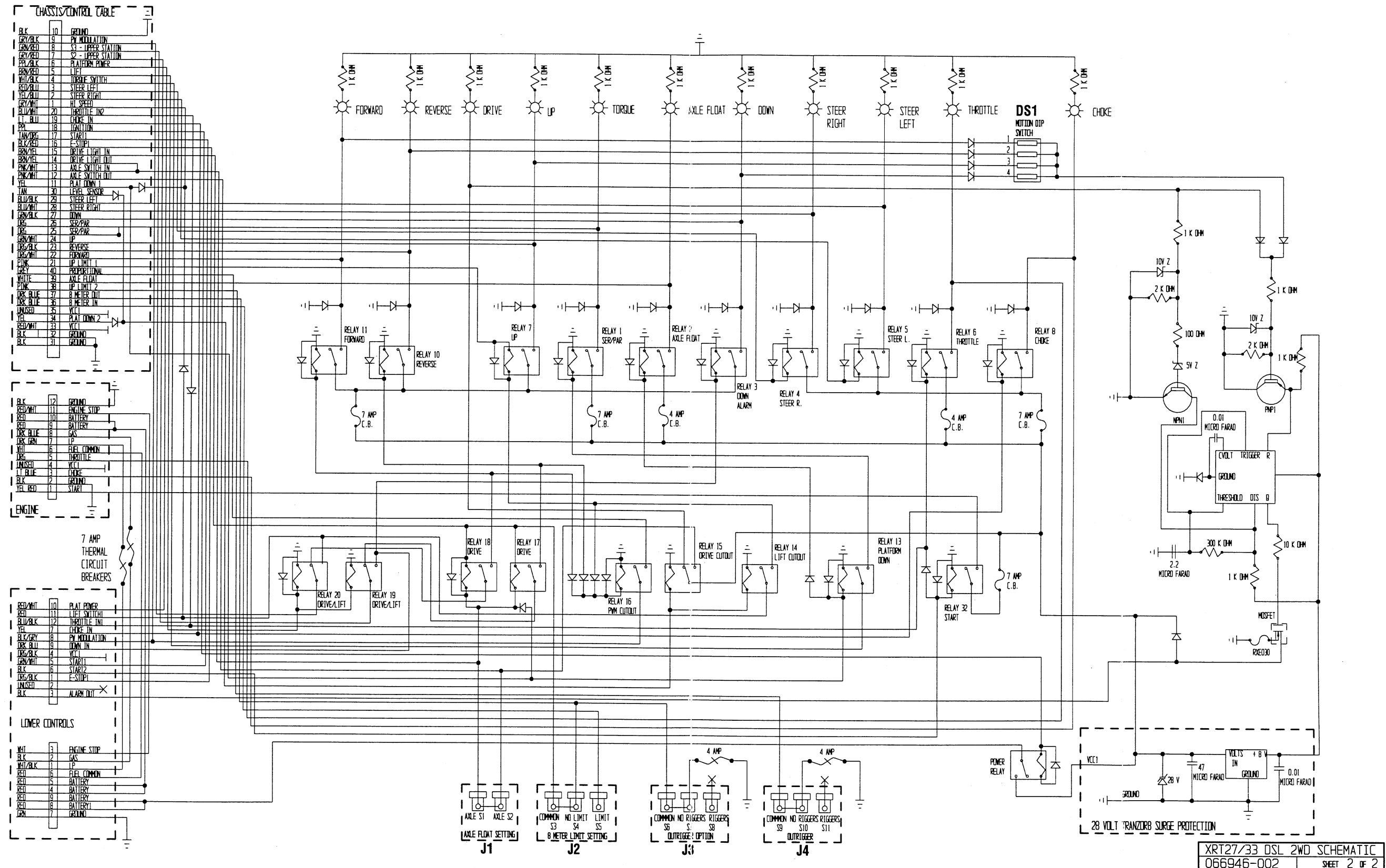


Figure 5-4: Printed Circuit Board, 2-Wheel Drive Diesel

5.6 ELECTRICAL SCHEMATIC - XRT 27 & 33 4-WHEEL DRIVE, DUAL FUEL

Table 5-5: Legend, Electrical Schematic, 4-Wheel Drive, Dual Fuel

Reference Designation	Name	Function	Location
ALM	Alarm	Warning Sound	Lower Control Box
ALT	Alternator	Maintain Current	Power Module
BAT	Battery	Starting Power	
C/D	Coil/Distributor	Provide Spark to Engine	Power Module
D1	Diode	Power to Upper Controller PC Board	Upper Controls
D2	Diode	Power to Coil/Distributor	Power Module
D3	Diode	Power to Throttle Solenoid	Power Module
D4	Diode	Power to Throttle Relay	Power Module
DC1	Deutsch Connector	Connect Upper Controller to Circuit Board	Upper Controls
DC2	Deutsch Connector	Connect Upper Controller, Valve Block and Chassis to Circuit Board	Circuit Board
DC3	Deutsch Connector	Connect Valve Block and Chassis to Circuit Board	Control Module
DC4	Deutsch Connector	Connect Power Module to Circuit Board	Circuit Board
DC5	Deutsch Connector	Connect Power Module to Circuit Board	Power Module
F1	Emergency Stop Circuit Breaker	Power to Upper Control Ignition Switch	Lower Controls
F2	Power Circuit Breaker	Power to all function solenoids	Lower Controls
F3	Series Parallel Circuit Breaker	Power to Series Parallel Relay	Lower Controls
L1	Drive Enable Light	Indicates Drive Enabled	Upper Controls
J1	Jumper	Axle Float Setting	Circuit Board
J2	Jumper	8 Meter Limit Setting	Circuit Board
J3	Jumper	Outtrigger Option	Circuit Board
J4	Jumper	Outtrigger Option	Circuit Board
MOT1	Starter and Solenoid	Start Engine	Power Module
MOT2	Fuel Pump	Supplies Gasoline to Engine	Power Module
MTR	Hour Meter	Displays Operating Time	Lower Controls
PC1	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC2	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PC3	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC4	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PS1	Oil Pressure Switch	Cut Power to Engine when Oil Pressure Too Low	Power Module
R1	Throttle Relay	Power to Throttle Solenoid	Power Module
R2	Down Relay	Power to Down Solenoid	Control Module
R3	Ignition Relay	Enable Engine Start	Upper Controls
R5	Time Delay relay		Upper Controls
R6	Series Parallel Relay	Power to Series Parallel Solenoids	Lower Controls
S1	Micro Switch	Power to Controller	Upper Controls
S2	Reverse Micro Switch	Power to Drive/Lift Relay, Reverse/Down Contacts	Upper Controls
S3	Forward Micro Switch	Power to Drive/Lift Relay, Forward/Up Contacts	Upper Controls

Reference Designation	Name	Function	Location
S4	Interlock Micro Switch	Interrupts Power to Controller when Not Engaged	Upper Controls, In Joystick Handle
S5	Steering Micro Switch	Power to Left and Right Steer Relays	Upper Controls, In Joystick Handle
S6	Drive Switch	Power to S5 (Drive)	Upper Controls
S7	Lift Switch	Power to Drive/Lift Relay	Upper Controls
S8	Torque Switch	Power to Series Parallel Relay	Upper Controls
S9	Ignition Switch	Power to Upper Controls, Engine and Starter Motor	Upper Controls
S10	Choke Switch	Power to Choke Relay	Upper Controls
S11	Emergency Stop Switch	Cut Power to Upper Controls and Engine	Upper Controls
S12	Starter Switch	Power to Starter Motor	Lower Controls
S13	Choke Switch	Power to Choke Relay	Lower Controls
S14	Engine Stop Switch	Cut Power to Power Relay	Lower Controls
S15	Emergency Stop Switch	Cut Power to Lower Controls and Engine	Lower Controls
S16	Chassis Platform Switch	Power to Either Upper or Lower Controls	Lower Controls
S17	Down Switch	Power to Down Relay	Lower Controls
S18	Lift Switch	Power to Up Relay	Lower Controls
S19	Gasoline Switch	Power to Fuel Pump Solenoid	Lower Controls
S20	Propane Switch	Power to Propane Valve Solenoids	Lower Controls
S21	Throttle Switch	Power to Throttle Relay	Lower Controls
S22	Proximity Switch	Limits Drive Height to Eight Meters	Chassis
S23	Up Limit Switch	Prevents Full Extension of Lift Cylinders	Chassis
SEN	Level Sensor	Power to Cutout Relay when Machine is Level	Chassis
SOL1	Throttle Solenoid	Control Engine Speed	Power Module
SOL2	LP Shutoff Solenoid	Control Propane Valve	Power Module
SOL3	LP Valve Solenoid	Control Propane Valve	Power Module
SOL4	Gasoline Solenoid	Control Gasoline Valve	Power Module
SOL5	Choke Solenoid	Control Choke	Power Module
SOL6	Proportional Solenoid	Control Proportional Valve	Valve Block
SOL7	Forward Solenoid	Control Forward Valve	Valve Block
SOL8	Reverse Solenoid	Control Reverse Valve	Valve Block
SOL9	Lift Solenoid	Control Lift Valve	Valve Block
SOL10, 11	Series/Parallel Solenoids	Control Series/Parallel Valves	Valve Block
SOL12	Down Solenoid	Control Down Valve	Lift Cylinder
SOL13	Steer Right Solenoid	Control Steering Valve	Valve Block
SOL14	Steer Left Solenoid	Control Steering Valve	Valve Block
SOL15	Shunt Solenoid		Valve Block
SOL16, 17	Series Parallel Solenoids	Control Front Series/Parallel Valves	Front Series Parallel Valve Block
SOL18, 19	Series Parallel Solenoids	Control rear Series/Parallel Valves	Rear Series Parallel Valve Block
SOL20, 21	Axle Float Solenoids	Control Axle Float Valves	Rear Series Parallel Valve Block

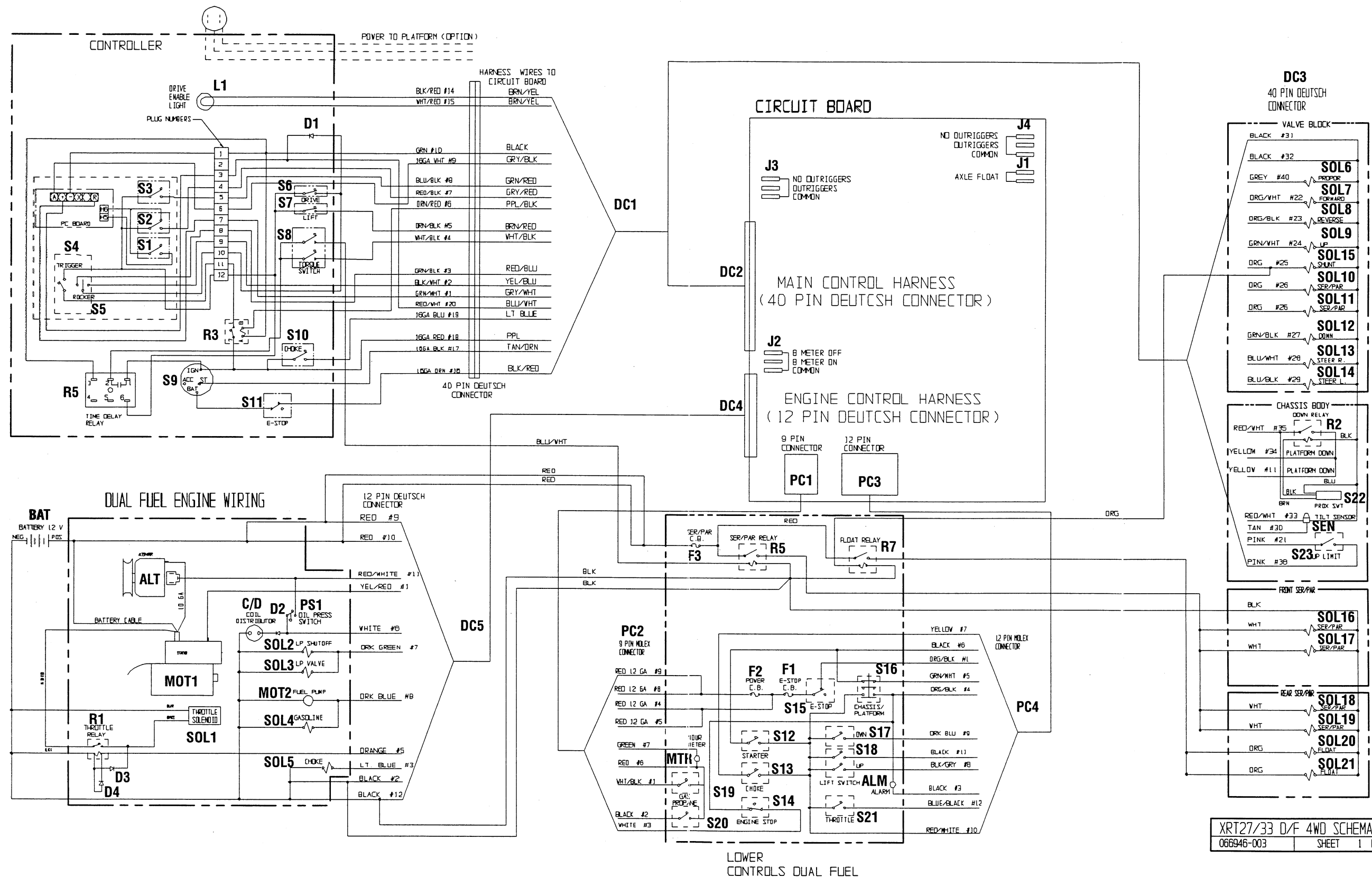


Figure 5-5: Electrical Schematic, 4-Wheel Drive Dual Fuel

5.7 PRINTED CIRCUIT BOARD - XRT 27 & 33 4-WHEEL DRIVE, DUAL FUEL

Table 5-6: Legend, Printed Circuit Board, 4-Wheel Drive, Dual Fuel

Reference Designation	Name	Function
DS1	Dip Switch	
J1	Jumper - Axle Float Setting	
J2	Jumper - 8 Meter Limit Setting	
J3	Jumper - Outtrigger Option	
J4	Jumper - Outriggers	

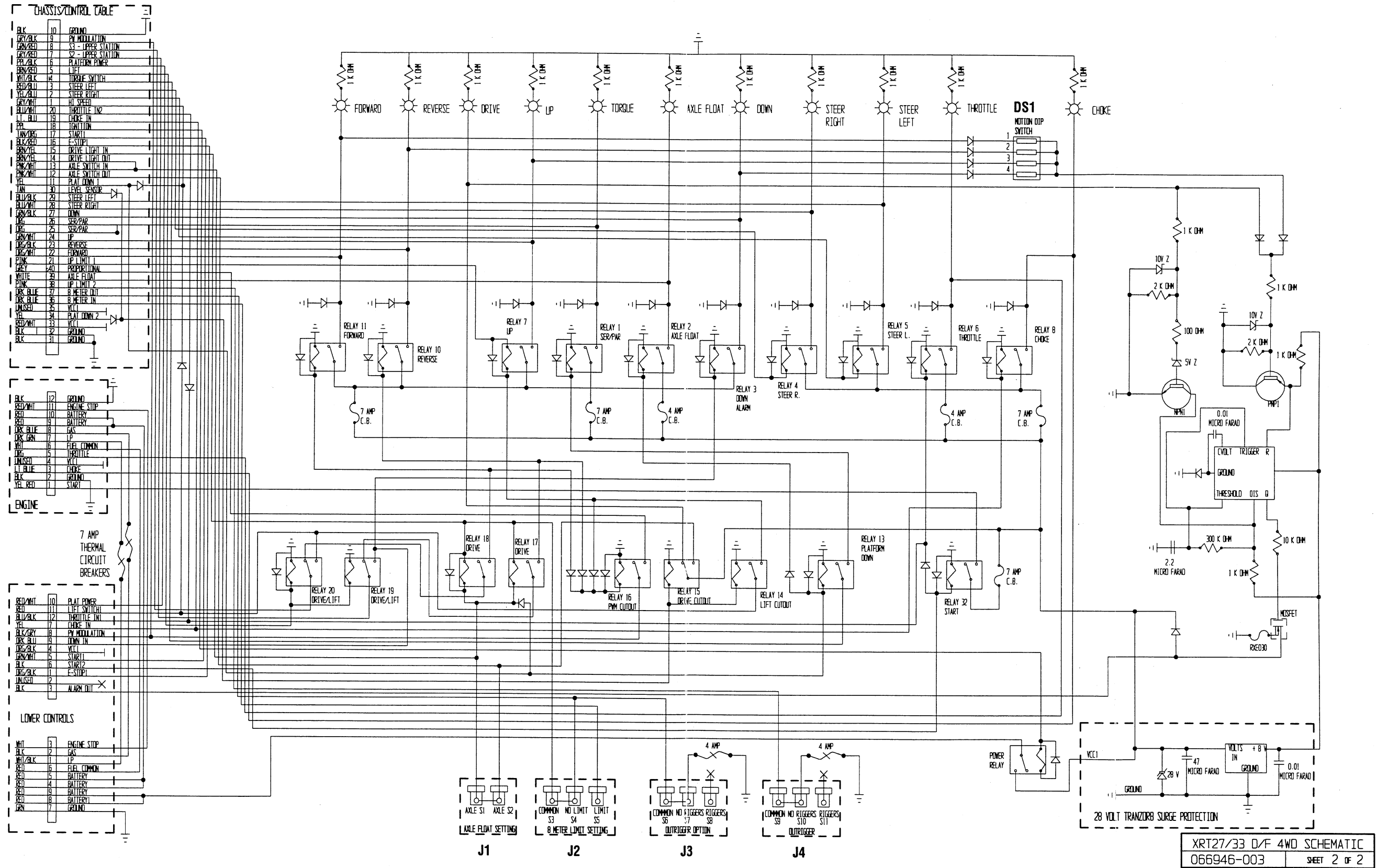


Figure 5-6: Printed Circuit Board, 4-Wheel Drive, Dual Fuel

5.8 ELECTRICAL SCHEMATIC - XRT 27 & 33 4-WHEEL DRIVE, DIESEL

Table 5-7: Legend, Electrical Schematic, 4-Wheel Drive Diesel

Reference Designation	Name	Function	Location
ALM	Alarm	Warning Sound	Lower Control Box
ALT	Alternator	Maintain Current	Power Module
BAT	Battery	Starting Power	
D1	Diode	Power to Upper Controller PC Board	Upper Controls
D2	Diode	Power to Glow Plug Relay	Power Module
D3	Diode	Power to Throttle Solenoid	Power Module
D4	Diode	Power to Throttle Relay	Power Module
D5	Diode	Power to Glow Plug	Power Module
DC1	Deutsch Connector	Connect Upper Controller to Circuit Board	Upper Controls
DC2	Deutsch Connector	Connect Upper Controller, Valve Block and Chassis to Circuit Board	Circuit Board
DC3	Deutsch Connector	Connect Valve Block and Chassis to Circuit Board	Control Module
DC4	Deutsch Connector	Connect Power Module to Circuit Board	Circuit Board
DC5	Deutsch Connector	Connect Power Module to Circuit Board	Power Module
F1	Emergency Stop Circuit Breaker	Power to Upper Control Ignition Switch	Lower Controls
F2	Power Circuit Breaker	Power to all function Solenoids	Lower Controls
F3	Series Parallel Circuit Breaker	Power to Series Parallel Solenoids	Lower Controls
L1	Drive Enable Light	Indicates Drive Enabled	Upper Controls
J1	Jumper	Axle Float Setting	Circuit Board
J2	Jumper	8 Meter Limit Setting	Circuit Board
J3	Jumper	Outrigger Option	Circuit Board
J4	Jumper	Outrigger Option	Circuit Board
MOT1	Starter and Solenoid	Start Engine	Power Module
MTR	Hour Meter	Displays Operating Time	Lower Controls
PC1	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC2	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PC3	Pin Connector	Connect Lower Controls to Circuit Board	Circuit Board
PC4	Pin Connector	Connect Lower Controls to Circuit Board	Lower Controls
PS1	Oil Pressure Switch	Cut Power to Engine when Oil Pressure Too Low	Power Module
R1	Throttle Relay	Power to Throttle Solenoid	Power Module
R2	Down Relay	Power to Down Solenoid	Control Module
R3	Ignition Relay	Enable Engine Start	Upper Controls
R4	Glow Plug Relay	Power to Glow Plug	Power Module
R5	Time Delay Relay		Upper Controls
R6	Series Parallel Relay	Power to Series Parallel Solenoids	Lower Controls
RES1	Glow Plug	Heat to Start Engine	Engine
S1	Micro Switch	Power to Controller	Upper Controls
S2	Reverse Micro Switch	Power to Drive/Lift Relay, Reverse/Down Contacts	Upper Controls

Reference Designation	Name	Function	Location
S3	Forward Micro Switch	Power to Drive/Lift Relay, Forward/Up Contacts	Upper Controls
S4	Interlock Micro Switch	Interrupts Power to Controller when Not Engaged	Upper Controls, In Joystick Handle
S5	Steering Micro Switch	Power to Left and Right Steer Relays	Upper Controls, In Joystick Handle
S6	Drive Switch	Power to S5 (Drive)	Upper Controls
S7	Lift Switch	Power to Drive/Lift Relay	Upper Controls
S8	Torque Switch	Power to Series Parallel Relay	Upper Controls
S9	Ignition Switch	Power to Upper Controls, Engine and Starter Motor	Upper Controls
S10	Glow Plug Switch	Power to Glow Plug Relay	Upper Controls
S11	Emergency Stop Switch	Cut Power to Upper Controls and Engine	Upper Controls
S12	Starter Switch	Power to Starter Motor	Lower Controls
S13	Glow Plug Switch	Power to Glow Plug Relay	Lower Controls
S14	Engine Stop Switch	Cut Power to Power Relay	Lower Controls
S15	Emergency Stop Switch	Cut Power to Lower Controls and Engine	Lower Controls
S16	Chassis Platform Switch	Power to Either Upper or Lower Controls	Lower Controls
S17	Down Switch	Power to Down Relay	Lower Controls
S18	Lift Switch	Power to Up Relay	Lower Controls
S21	Throttle Switch	Power to Throttle Relay	Lower Controls
S22	Proximity Switch	Limits Drive Height to Eight Meters	Chassis
S23	Up Limit Switch	Prevents Full Extension of Lift Cylinders	Chassis
SEN	Level Sensor	Power to Cutout Relay when Machine is Level	Chassis
SOL1	Throttle Solenoid	Control Engine Speed	Power Module
SOL5	Run Solenoid	Allows Engine to Run with Proper Oil Pressure	Power Module
SOL6	Proportional Solenoid	Control Proportional Valve	Valve Block
SOL7	Forward Solenoid	Control Forward Valve	Valve Block
SOL8	Reverse Solenoid	Control Reverse Valve	Valve Block
SOL9	Lift Solenoid	Control Lift Valve	Valve Block
SOL10, 11	Series/Parallel Solenoids	Control Series/Parallel Valves	Valve Block
SOL12	Down Solenoid	Control Down Valve	Lift Cylinder
SOL13	Steer Right Solenoid	Control Steering Valve	Valve Block
SOL14	Steer Left Solenoid	Control Steering Valve	Valve Block
SOL15	Shunt Solenoid		Valve Block
SOL16, 17	Series Parallel Solenoids	Control Front Series/Parallel Valves	Front Series Parallel Valve Block
SOL18, 19	Series Parallel Solenoids	Control rear Series/Parallel Valves	Rear Series Parallel Valve Block
SOL20, 21	Axle Float Solenoids	Control Axle Float Valves	Rear Series Parallel Valve Block

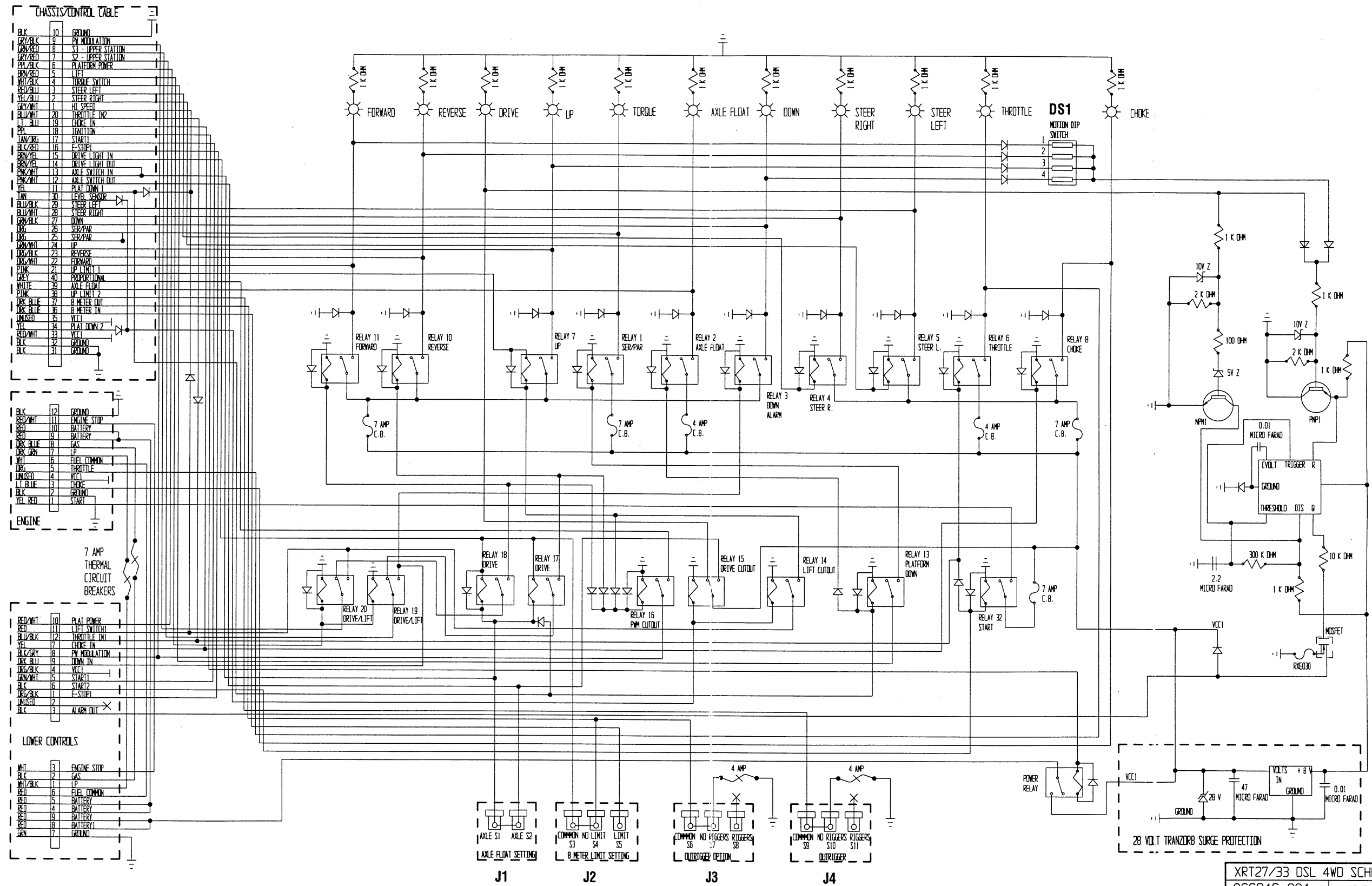


5.9 PRINTED CIRCUIT BOARD - XRT 27 & 33 4-WHEEL DRIVE, DIESEL

Table 5-8: Legend, Printed Circuit Board, 4-Wheel Drive Diesel

Reference Designation	Name	Function
DS1	Dip Switch	
J1	Jumper - Axle Float Setting	
J2	Jumper - 8 Meter Limit Setting	
J3	Jumper - Outtrigger Option	
J4	Jumper - Outriggers	





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Figure 5-8: Printed Circuit Board, 4-Wheel Drive Diesel

5.10 ENGINE WIRING DIAGRAM - KUBOTA DIESEL

Table 5-9: Legend, Kubota Diesel Wiring Harness

PIN	GAUGE	COLOR	FUNCTION
1	14	Yellow / Red	Start
2	14	Black	Ground
3	16	Light Blue	Glow Plug
4	OPEN		
5	16	Orange	Throttle
6	16	White	Oil Pressure
7	16	Green	Alternator / Fuel
8	16	Dark Blue	Fuel Pump
9	14	Red	Alternator / Battery
10	14	Red	Power
11	14	Red / White	Oil Pressure Switch
12	14	Black	Ground

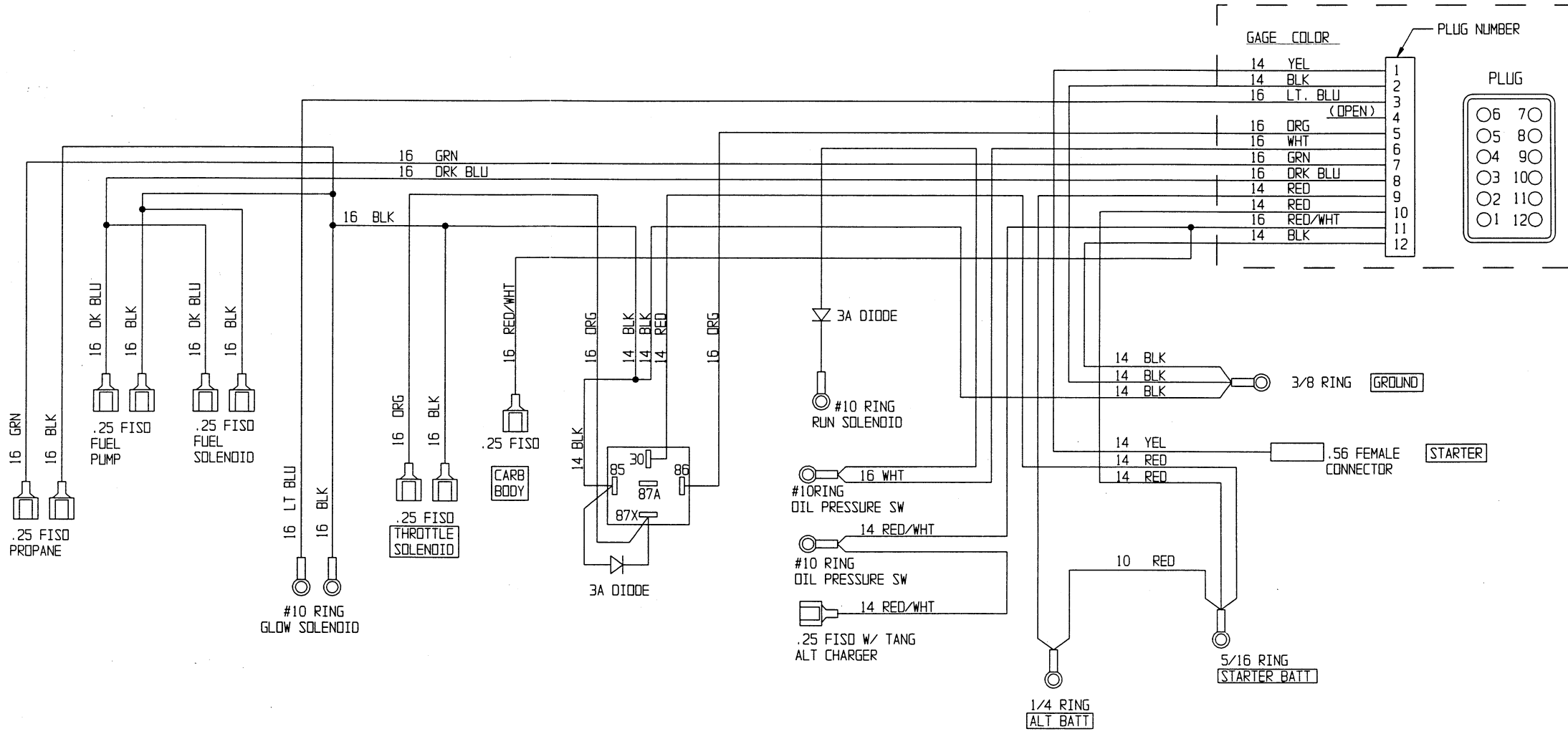
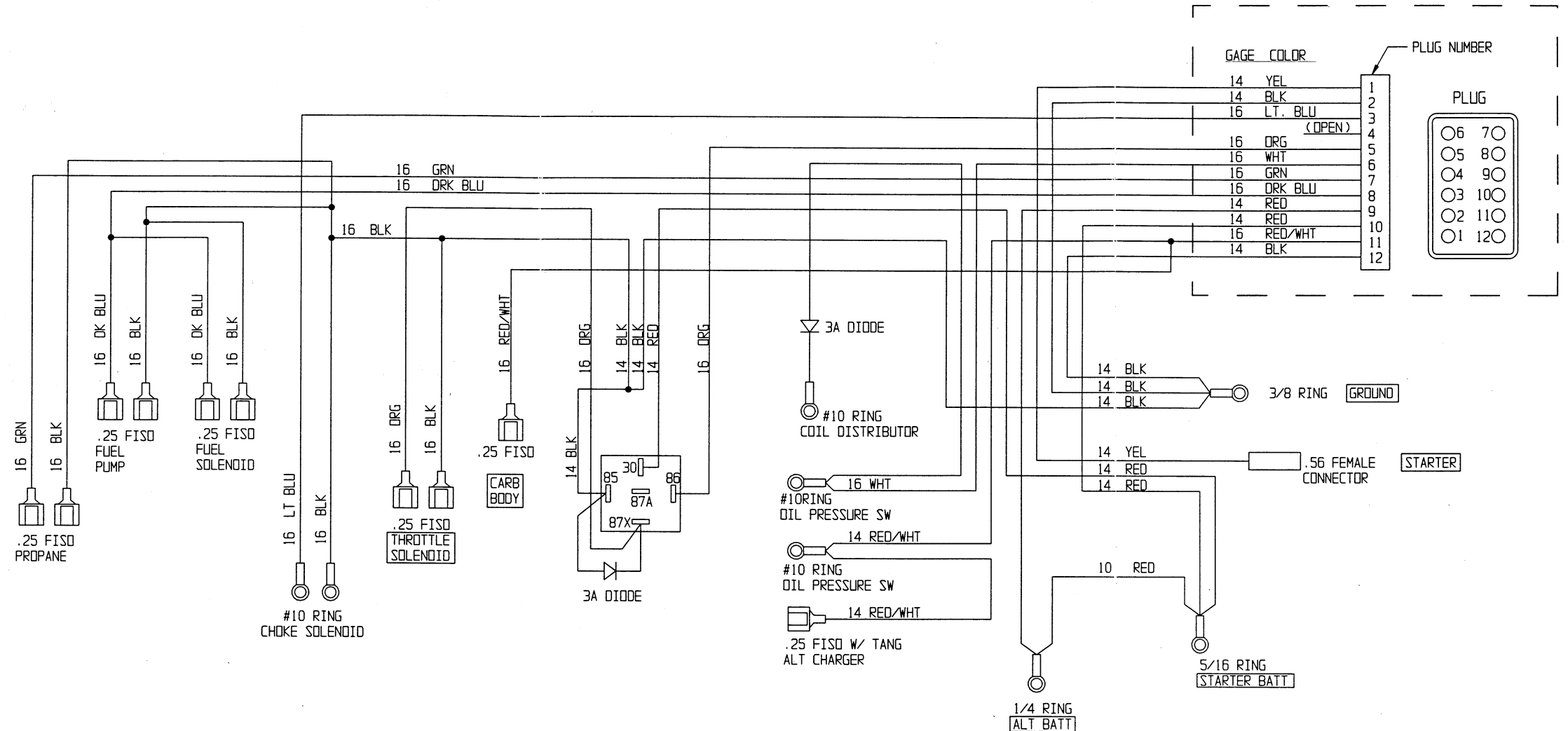


Figure 5-9: Engine Wiring, Kubota Diesel

### Table 5-10: Legend, Kubota Dual Fuel Wiring Harness

PIN	GAUGE	COLOR	FUNCTION
1	14	Yellow / Red	Start
2	14	Black	Ground
3	16	Light Blue	Choke
4	OPEN		
5	16	Orange	Throttle
6	16	White	Oil Pressure
7	16	Green	Alternator / Fuel
8	16	Dark Blue	Fuel Pump
9	14	Red	Alternator / Battery
10	14	Red	Power
11	14	Red / White	Oil Pressure Switch
12	14	Black	Ground

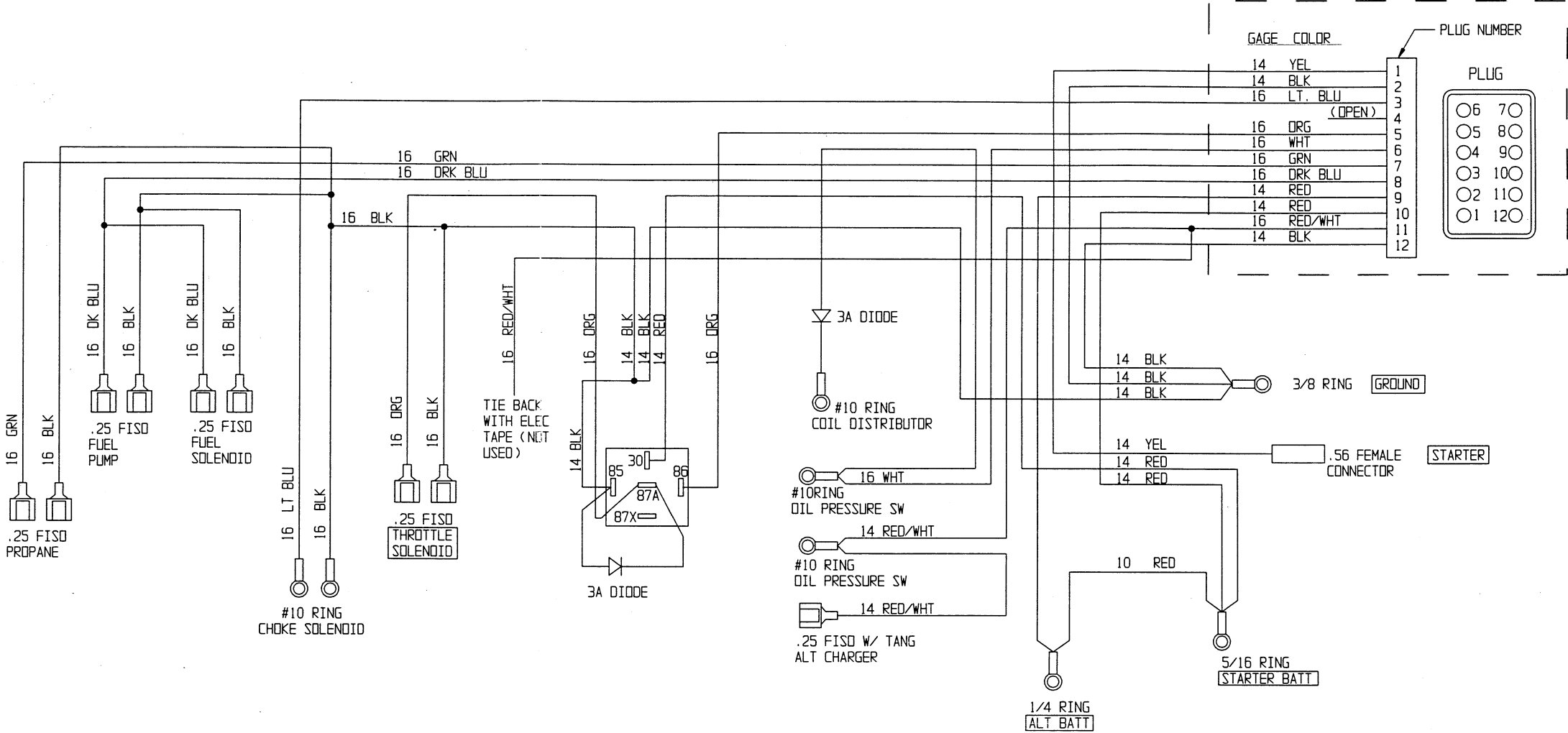


**Figure 5-10: Engine Wiring, Kubota Dual Fuel**

5.12 ENGINE WIRING DIAGRAM - KOHLER DUAL FUEL

Table 5-11: Legend, Kohler Gasoline Wiring Harness

PIN	GUAGE	COLOR	FUNCTION
1	14	Yellow / Red	Start
2	14	Black	Ground
3	16	Light Blue	Choke
4	OPEN		
5	16	Orange	Throttle
6	16	White	Oil Pressure
7	16	Green	Alternator / Fuel
8	16	Dark Blue	Fuel Pump
9	14	Red	Alternator / Battery
10	14	Red	Power
11	14	Red / White	Oil Pressure Switch
12	14	Black	Ground



KOHLER ENGINE WIRE HARNESS  
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Figure 5-11: Engine Wiring, Kohler Gasoline

**Notes**

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5.13 HYDRAULIC SCHEMATIC - XRT27 2-WHEEL DRIVE

Table 5-12: Legend, Hydraulic Schematic, XRT27 - 2-Wheel Drive

Reference Designation	Name	Function	Location
CV	Check Valve	Prevent Cavitation of Downstream Motors	Valve Block
CP1	Cavity Plug	Plug unused Port	Main Valve Block, Port F
CP2	Cavity Plug	Plug unused Port	Main Valve Block, Port E
CYL1	Steering Cylinder	Steer Machine	Front Axle Assembly
CYL2	Lift Cylinder	Lift Platform	Scissor Assembly
CYL4, 5	Brakes	Parking Brakes	Rear Axle Assembly
M1, 2	Front Drive Motors	Drive Front Wheels	Front Axle Assembly
ORF1	Steering Orifice	Limit Oil Flow to Steering Cylinder	Main Valve Block, Port T
ORF2	Down Orifice	Limit Platform Descent Speed	Under Down Valves
ORF4	Brake Orifice	Control Oil Flow from Brakes	Main Valve Block Port 12
P1	Hydraulic Pump	Provide Fluid Power for Hydraulic System	Power Module, Engine Assembly
P2	Brake Release Pump	Manual Brake Release	Control Module
RV1	Steer Relief Valve	Pressure Protection for Steering Components	Main Valve Block
RV2	Lift Relief Valve	Limit Load of Elevating Assembly	Main Valve Block
RV3, 4	Motor Relief Valve	Pressure Protection for Drive Motor	Front of Each Front Drive Motor
RV7	Pressure Reducing Valve	Pressure Protection for Brake Assemblies	Control Module
SV1	Shuttle Valve	Sense Line Shuttle	Main Valve Block, Port S
SV2	Shuttle Valve	Sense Line Shuttle	Main Valve Block, Port H

Reference Designation	Name	Function	Location
SV3	Steering Shuttle Valve	Allow Pilot Pressure to Pump Sense Line form Steering	Main Valve Block, Port C
SV4	Brake Shuttle Valve	Allow Oil Pressure from Drive to Release Brakes	Main Valve Block, Port M
V1	Steering Valve	Control Oil Flow to Steering Cylinder	Main Valve Block, Port D
V2	Emergency Down Valve	Emergency Lowering	Rear of Chassis
V3	Proportional Valve	Regulates Drive and Lift Speed	Main Valve Block, Port G
V4	Lift Valve	Allow Oil Flow to Lift Cylinders	Main Valve Block, Port J
V5	Forward Valve	Control Oil Flow for Forward Drive System	Main Valve Block, Port K
V6	Reverse Valve	Control Oil Flow for Reverse Drive System	Main Valve Block, Port L
V7	Reverse Counter Balance Valve	Provide Dynamic braking for Machine in Forward	Main Valve Block, Port N
V8	Forward Counter Balance Valve	Provide Dynamic braking for Machine in Reverse	Main Valve Block, Port O
V9, 10	Series Parallel Valves	Directs Oil Flow to Drive Motors in either Series or Parallel Configuration	Main Valve Block, Ports Q and R
V18	Down Valve	Lower Cylinder	Base of Cylinder

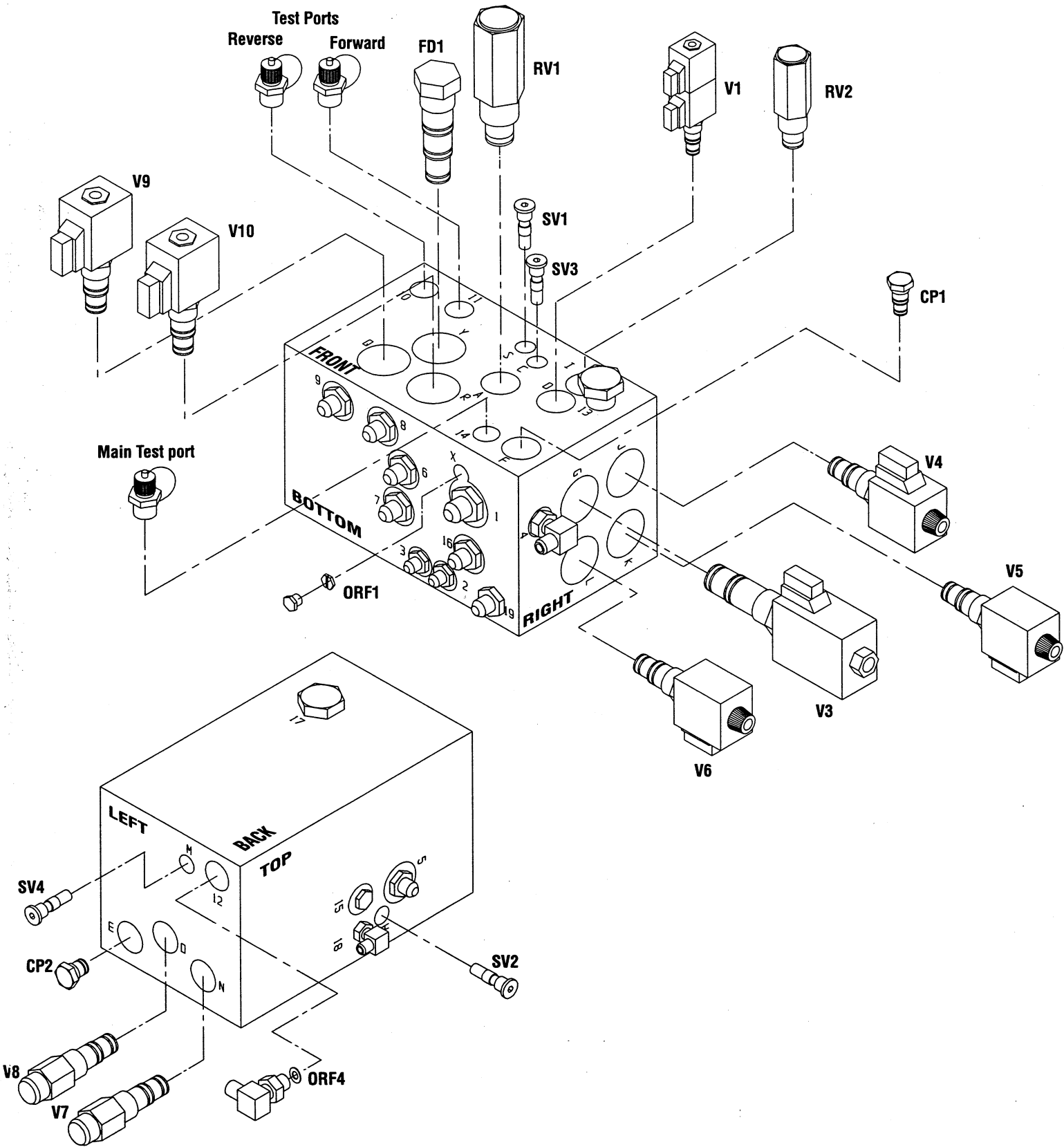


Figure 5-12: Main Valve Block, 2-Wheel Drive

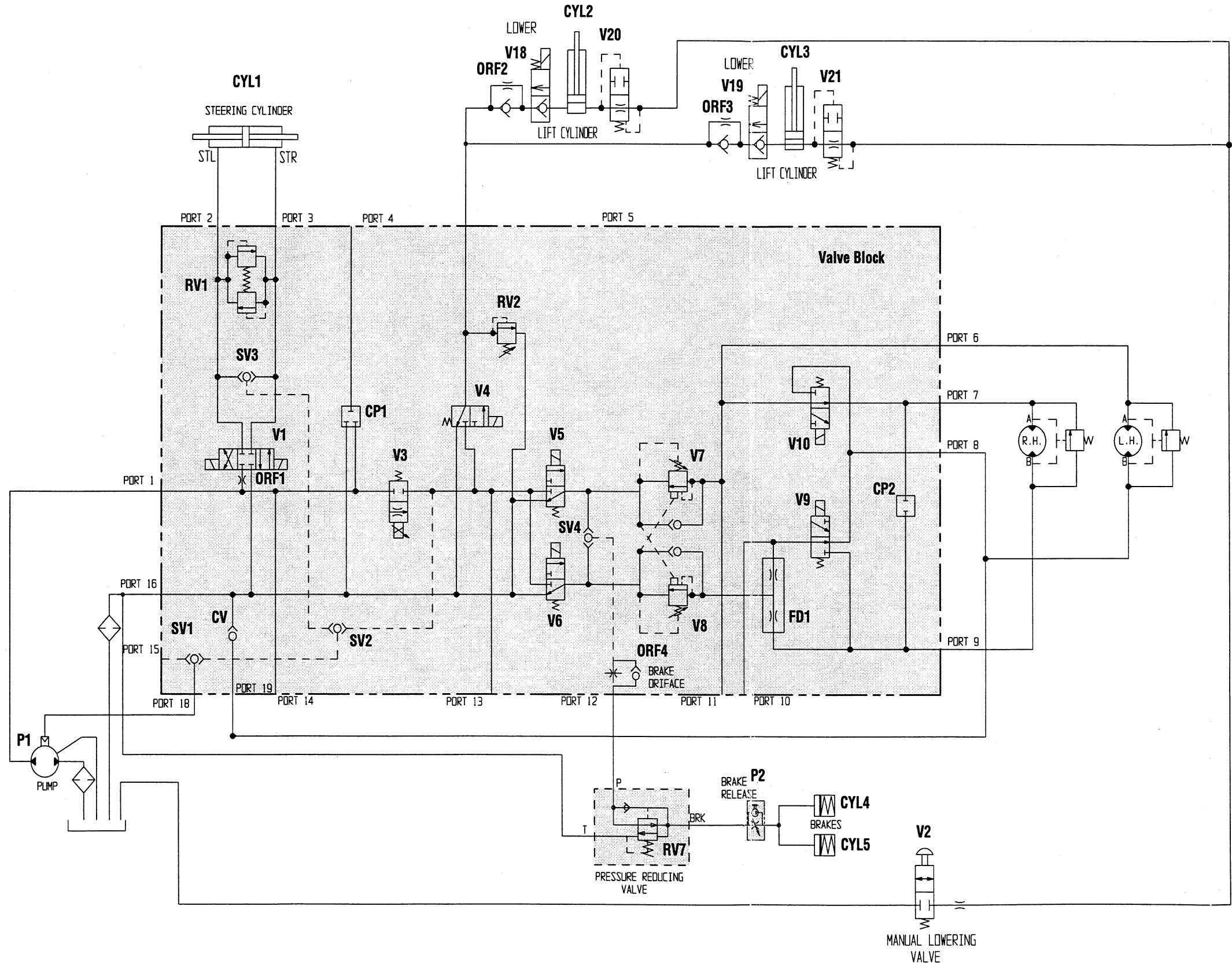


Figure 5-17: Hydraulic Schematic, XRT33 - 2-Wheel Drive

5.16 HYDRAULIC SCHEMATIC - XRT33 4-WHEEL DRIVE

Table 5-15: Legend, Hydraulic Schematic, XRT33 - 4-Wheel Drive

Reference Designation	Name	Function	Location
CV	Check Valves	Prevent Cavitation of Downstream Motors	Rear Valve Block
CP1	Cavity Plug	Plug unused Port	Main Valve Block, Port F
CYL1	Steering Cylinder	Steer Machine	Front Axle Assembly
CYL2, 3	Lift Cylinder	Lift Platform	Scissor Assembly
CYL4, 5	Brakes	Parking Brakes	Rear Axle Assembly
FD1	Flow Divider	Limited Slip Drive	Main Valve Block
FD2	Flow Divider	Limited Slip Drive	Series Parallel Block, Front
FD3	Flow Divider	Limited Slip Drive	Series Parallel Block, Rear
M1, 2	Front Drive Motors	Drive Front Wheels	Front Axle Assembly
M3, 4	Rear Drive Motors	Drive rear Wheels	Rear Axle Assembly
ORF1	Steering Orifice	Limit Oil Flow to Steering Cylinder	Main Valve Block, Port T
ORF2, 3	Down Orifice	Limit Platform Descent Speed	Under Down Valves
ORF4	Brake Orifice	Control Oil Flow from Brakes	Main Valve Block Port 12
ORF5	Slip Orifice	Allow Slippage for Turning	Front Valve Block
ORF6	Slip Orifice	Allow Slippage for Turning	Rear Valve Block
P1	Hydraulic Pump	Provide Fluid Power for Hydraulic System	Power Module, Engine Assembly
P2	Brake Release Pump	Manual Brake Release	Control Module
RV1	Steer Relief Valve	Pressure Protection for Steering Components	Main Valve Block
RV2	Lift Relief Valve	Limit Load of Elevating Assembly	Main Valve Block
RV3, 4	Motor Relief Valve	Pressure Protection for Drive Motor	Front of Each Front Drive Motor
RV5, 6	Motor Relief Valve	Pressure Protection for Drive Motor	Beneath Each Rear Drive Motor
RV7	Pressure Reducing Valve	Pressure Protection for Brake Assemblies	Control Module
SV1	Shuttle Valve	Sense Line Shuttle	Main Valve Block, Port S
SV2	Shuttle Valve	Sense Line Shuttle	Main Valve Block, Port H
SV3	Steering Shuttle Valve	Allow Pilot Pressure to Pump Sense Line form Steering	Main Valve Block, Port C
SV4	Brake Shuttle Valve	Allow Oil Pressure from Drive to Release Brakes	Main Valve Block, Port M
V1	Steering Valve	Control Oil Flow to Steering Cylinder	Main Valve Block, Port D
V2	Emergency Down Valve	Emergency Lowering	Rear of Chassis
V3	Proportional Valve	Regulates Drive and Lift Speed	Main Valve Block, Port G
V4	Lift Valve	Allow Oil Flow to Lift Cylinders	Main Valve Block, Port J
V5	Forward Valve	Control Oil Flow for Forward Drive System	Main Valve Block, Port K
V6	Reverse Valve	Control Oil Flow for Reverse Drive System	Main Valve Block, Port L
V7	Reverse Counter Balance Valve	Provide Dynamic braking for Machine in Forward	Main Valve Block, Port N

Reference Designation	Name	Function	Location
V8	Forward Counter Balance Valve	Provide Dynamic braking for Machine in Reverse	Main Valve Block, Port O
V9, 10	Series Parallel Valves	Directs Oil Flow to Drive Motors in either Series or Parallel Configuration	Main Valve Block, Ports Q and R
V11	Shunt Valve	Allows oil Flow Past Rear Drive Motors During High Speed Travel	Main Valve Block, Port E
V12, 13	Series Parallel Valves	Directs Oil Flow to Front Drive Motors in either Series of Parallel Configuration	Front Valve Block
V14, 15	Diverter Valves	Float Rear Motors in High Speed	Rear Valve Block
V16, 17	Series Parallel Valves	Directs Oil Flow to Rear Drive Motors in either Series of Parallel Configuration	Rear Valve Block
V18, 19	Down Valve	Lower Cylinders	Base of Cylinders
V20, 21	Velocity Fuse Valve	Lock Cylinder if Hose Breaks	Inside Lift Cylinders

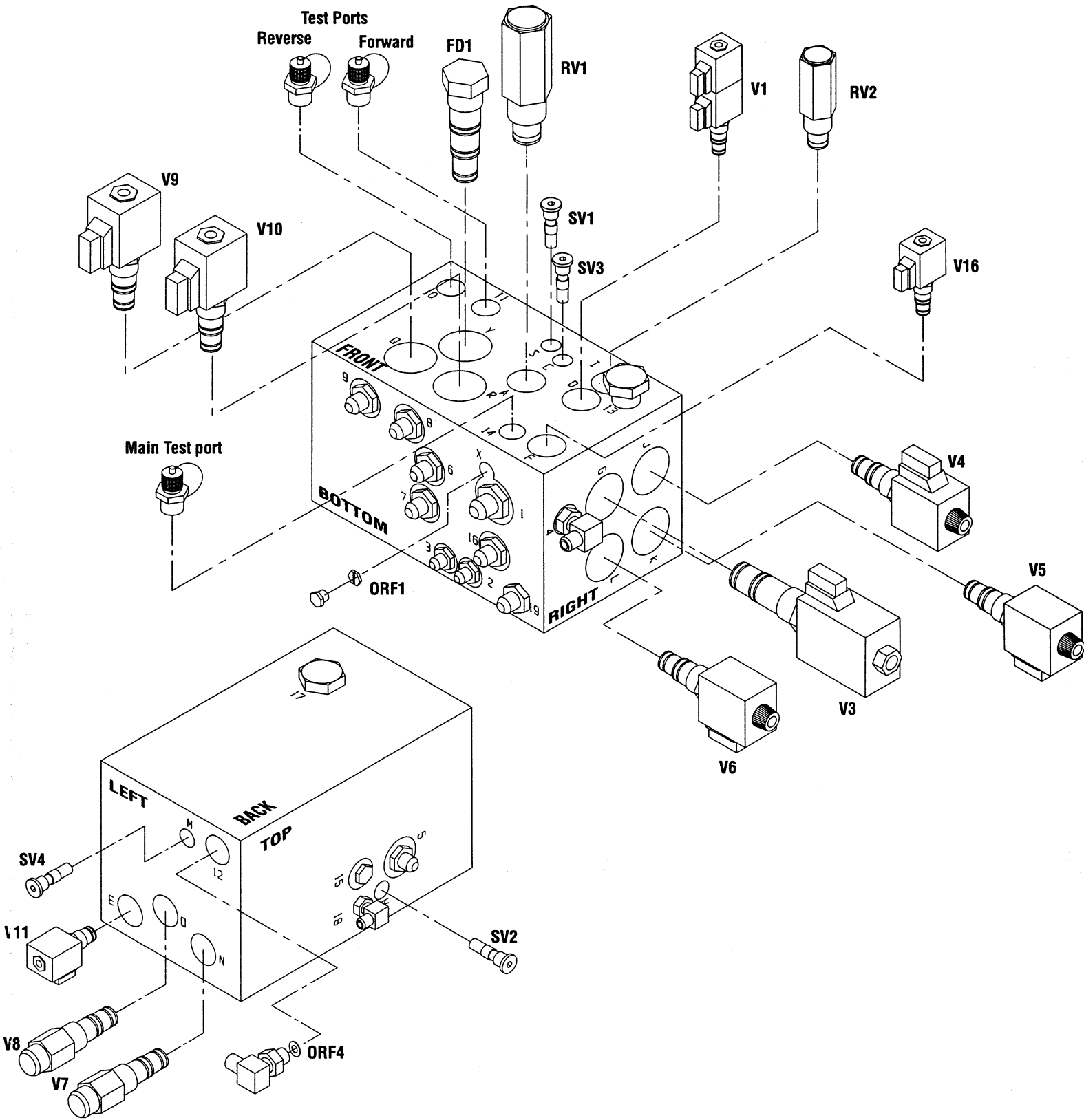
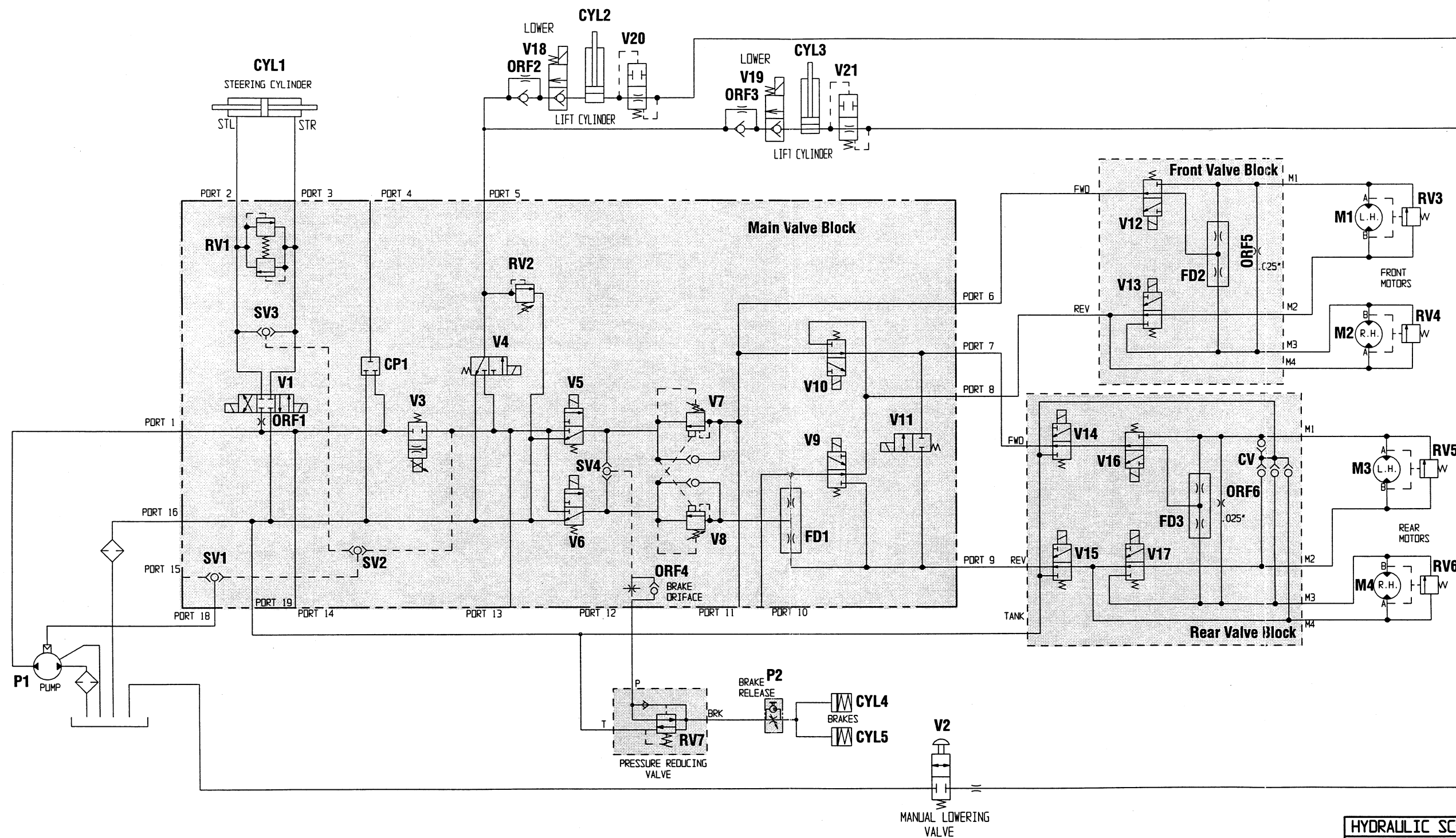


Figure 5-18: Main valve Block, 4-Wheel Drive





HYDRAULIC SCHEMATIC  
XRT33 4WD DDM 066945-003

Figure 5-19: Hydraulic Schematic, XRT33 - 4-Wheel Drive

5.17 HOSE ROUTING - XRT27 2-WHEEL DRIVE

Table 5-16: Legend, Hose Routing, XRT27 2-Wheel Drive,

Reference Designation	Name
CYL1	Steering Cylinder
CYL2	Lift Cylinder
CYL4	Brake Cylinder, Right Side
CYL5	Brake Cylinder, Left Side
FLT	Hydraulic Oil Filter
M1	Drive Motor, Left Front
M2	Drive Motor, Right Front
P1	Hydraulic Pump
P2	Manual Brake Release Pump
RES	Hydraulic Reservoir
RV7	Pressure Reducing Valve, Brakes
VB1	Main Valve Block
VB2	Lift Cylinder Valve Block

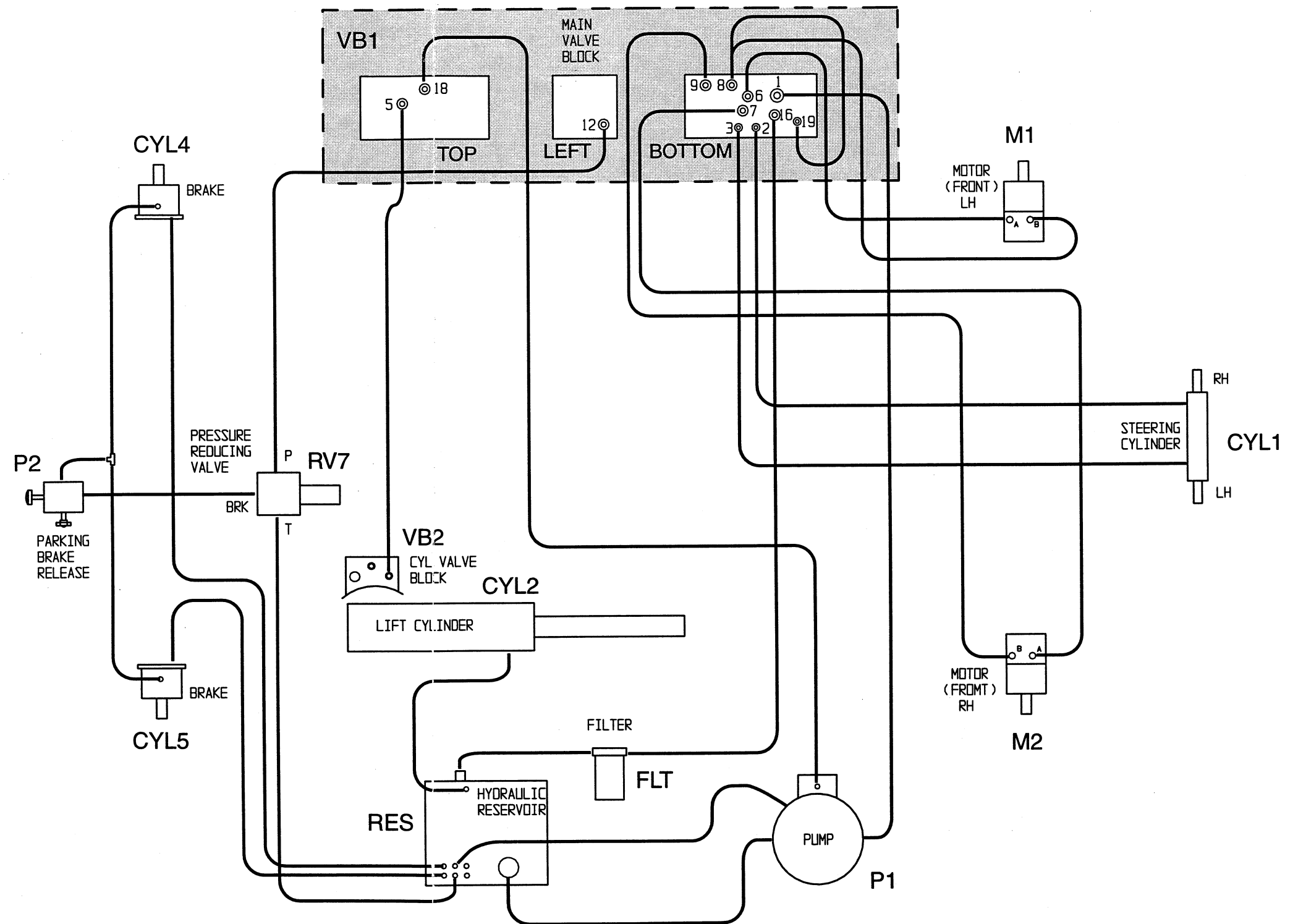


Figure 5-20: Hose Routing, XRT27 2-Wheel Drive

5.18 HOSE ROUTING - XRT27 4-WHEEL DRIVE

Table 5-17: Legend, Hose Routing, XRT27 4-Wheel Drive,

Reference Designation	Name
CYL1	Steering Cylinder
CYL2	Lift Cylinder
FLT	Hydraulic Oil Filter
M1	Drive Motor, Left Front
M2	Drive Motor, Right Front
M3	Drive Motor, Left Rear
M4	Drive Motor, Right Rear
P1	Hydraulic Pump
P2	Manual Brake Release Pump
RES	Hydraulic Reservoir
RV7	Pressure Reducing Valve, Brakes
VB1	Main Valve Block
VB2	Lift Cylinder Valve Block
VB4	Series Parallel Valve Block, Rear
VB5	Series Parallel Valve Block, Front

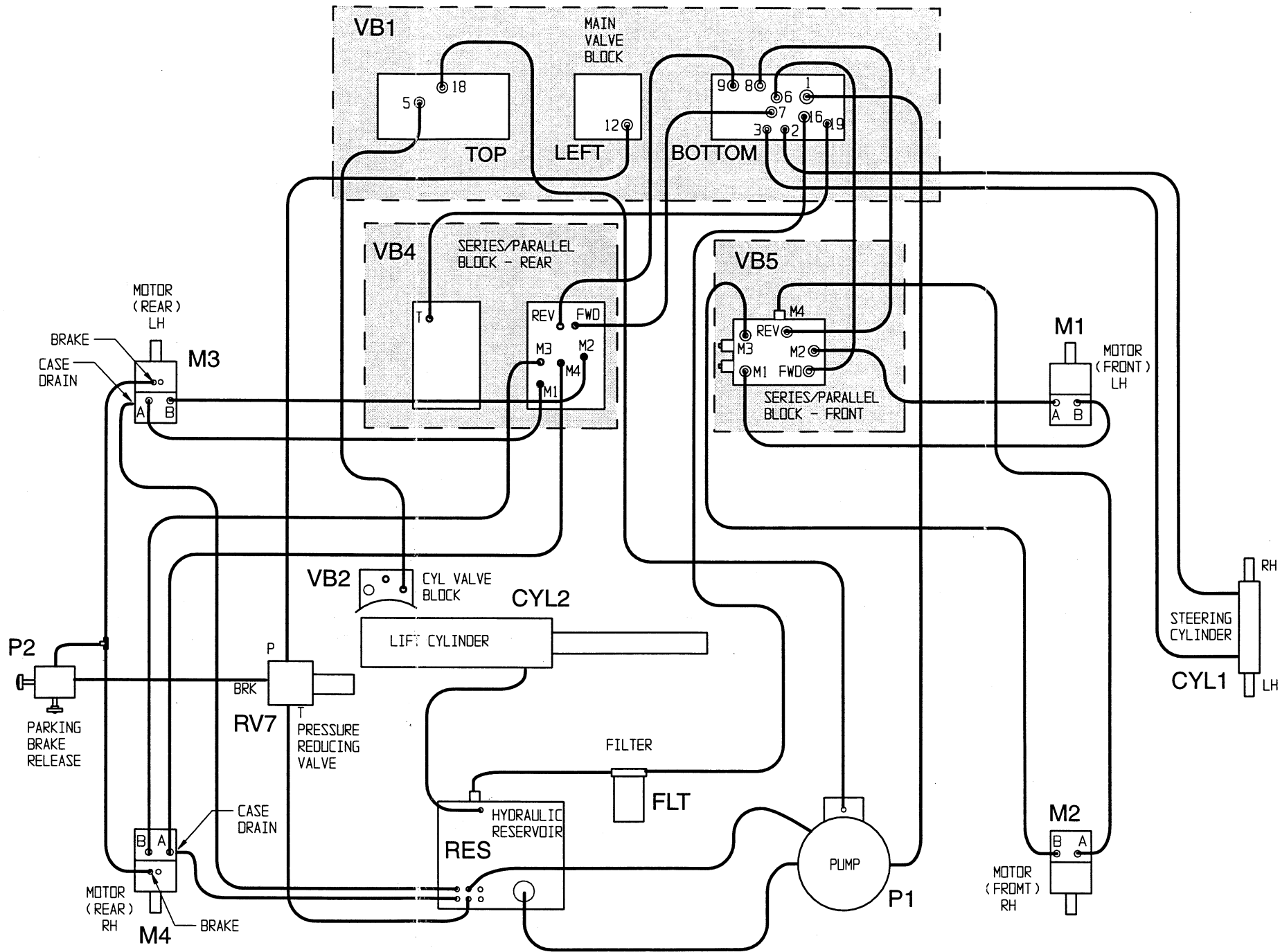


Figure 5-21: Hose Routing, XRT27 4-Wheel Drive

# 5.19 HOSE ROUTING - XRT33 2-WHEEL DRIVE

Table 5-18: Legend, Hose Routing, XRT33 2-Wheel Drive,

Reference Designation	Name
CYL1	Steering Cylinder
CYL2	Lift Cylinder, Lower
CYL3	Lift Cylinder, Upper
CYL4	Brake Cylinder, Right Side
CYL5	Brake Cylinder, Left Side
FLT	Hydraulic Oil Filter
M1	Drive Motor, Left Front
M2	Drive Motor, Right Front
P1	Hydraulic Pump
P2	Manual Brake Release Pump
RES	Hydraulic Reservoir
RV7	Pressure Reducing Valve, Brakes
V2	Down Valve
VB1	Main Valve Block
VB2	Lift Cylinder Valve Block, Lower
VB3	Lift Cylinder Valve Block, Upper

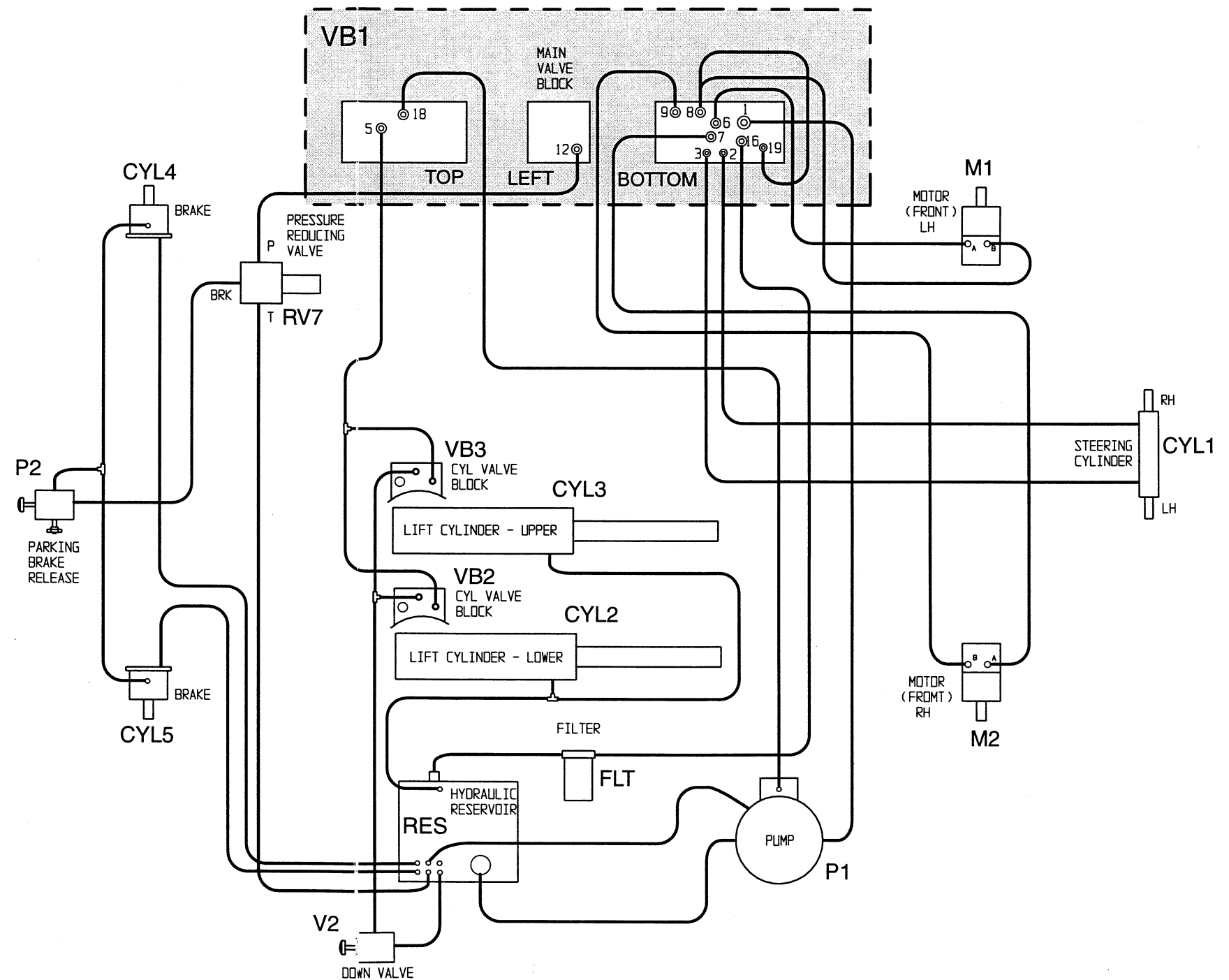


Figure 5-22: Hose Routing, XRT33 2-Wheel Drive

5.20 HOSE ROUTING - XRT33 4-WHEEL DRIVE

Table 5-19: Legend, Hose Routing, XRT33 4-Wheel Drive,

Reference Designation	Name
CYL1	Steering Cylinder
CYL2	Lift Cylinder, Lower
CYL3	Lift Cylinder, Upper
FLT	Hydraulic Oil Filter
M1	Drive Motor, Left Front
M2	Drive Motor, Right Front
M3	Drive Motor, Left Rear
M4	Drive Motor, Right Rear
P1	Hydraulic Pump
P2	Manual Brake Release Pump
RES	Hydraulic Reservoir
RV7	Pressure Reducing Valve, Brakes
V2	Down Valve
VB1	Main Valve Block
VB2	Lift Cylinder Valve Block, Lower
VB3	Lift Cylinder Valve Block, Upper
VB4	Series Parallel Valve Block, Rear
VB5	Series Parallel Valve Block, Front

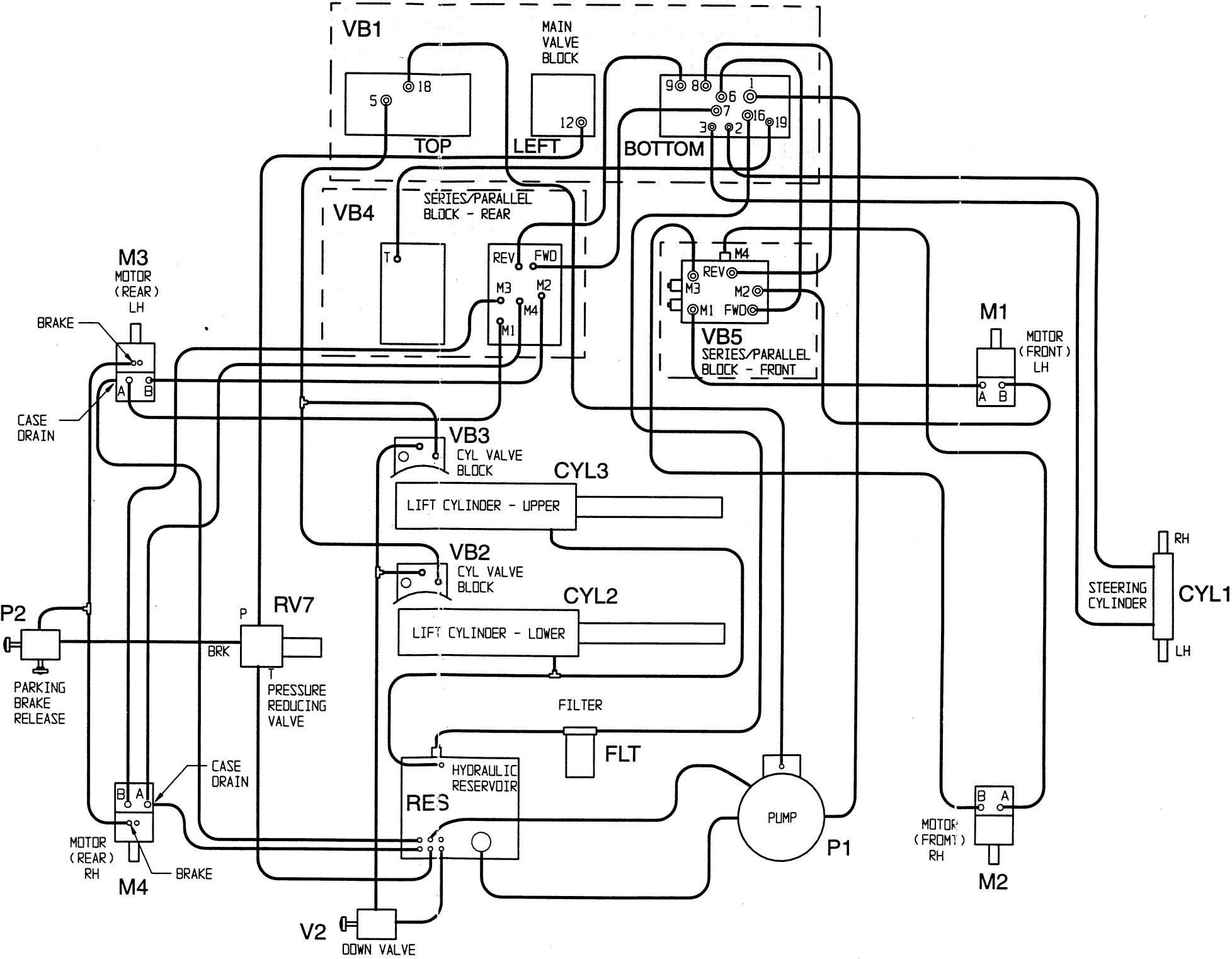


Figure 5-23: Hose Routing, XRT33 4-Wheel Drive

5.21 LOWER CONTROL BOX COMPONENTS - DUAL FUEL

Table 5-20: Legend, Lower Control Box Components, Dual Fuel

Reference Designation	Name
ALM	Alarm
B1	Emergency Stop Button
B2	Start Engine Button
B3	Pre-Heat (glow plug) Button
B4	Throttle Button
B5	Stop Engine Button
B6	Raise Platform Button
B7	Lower Platform Button
C1	Start Engine Contact, Normally Closed
C2	Throttle Contact, Normally Open
C3	Pre-Heat (glow plug) Contact, Normally Open
C4	Start Engine Contact, Normally Open
C5	Emergency Stop Contact, Normally Closed
C6	Platform/Chassis Selector Contact, Normally Open
C7	Platform/Chassis Selector Contact, Normally Closed
C8&9	Raise Platform Contact, Normally Open
C10	Lower Platform Contact, Normally Open
C11	Fuel Selector Contact, Normally Open
C12	Fuel Selector Contact, Normally Closed
CB1	Emergency Stop Lamp Circuit Breaker
CB2	Power Lamp Circuit Breaker
L1	Emergency Stop Lamp
L2	Power Lamp
MTR	Hour Meter
S1	Platform/Chassis Selector Switch
S2	Fuel Selector Switch

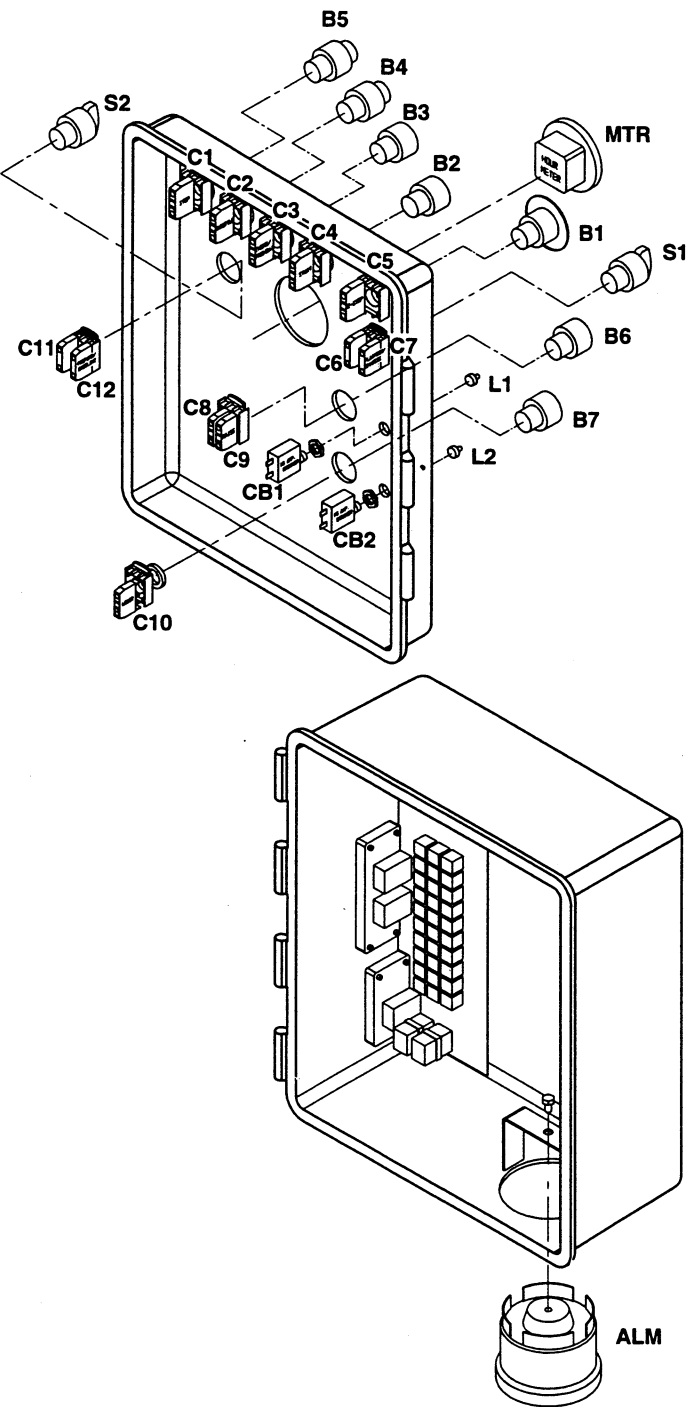


Figure 5-25: Lower Controls Components, Dual Fuel

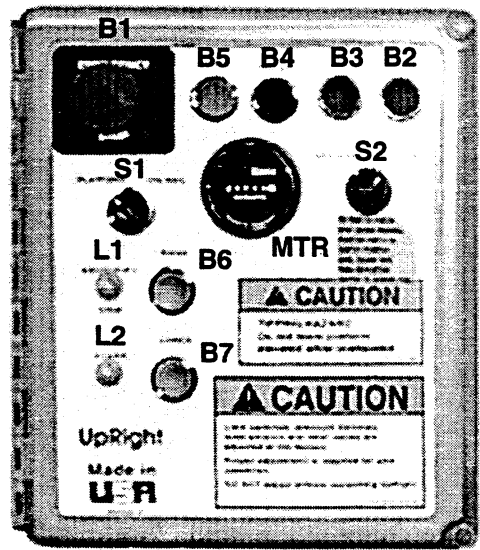


Figure 5-24: Lower Controls, Dual Fuel

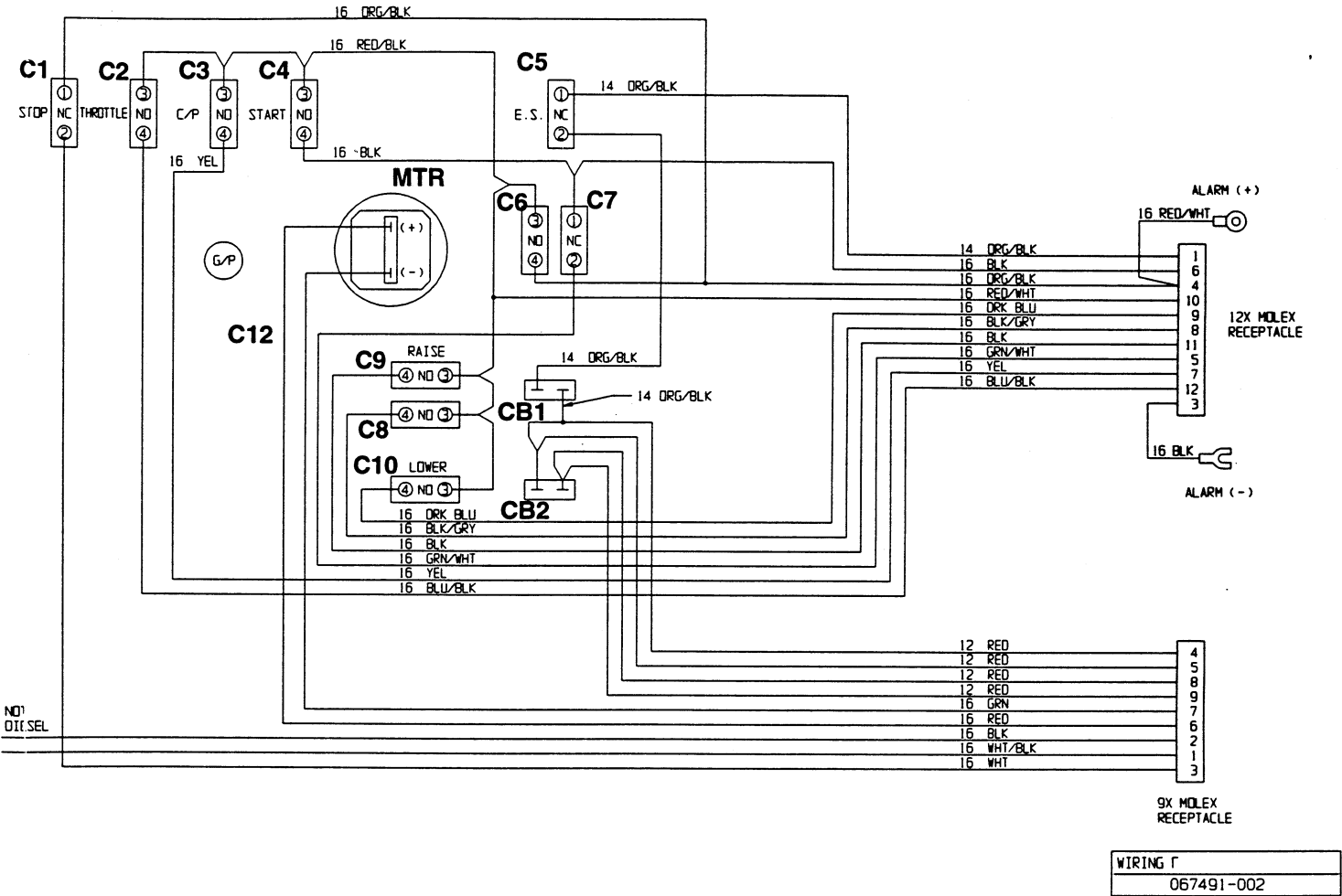


Figure 5-26: Lower Controls Wiring, Dual Fuel

5.22 LOWER CONTROL BOX COMPONENTS - DIESEL

Table 5-21: Legend, Lower Control Box Components, Diesel

Reference Designation	Name
ALM	Alarm
B1	Emergency Stop Button
B2	Start Engine Button
B3	Pre-Heat Button
B4	Throttle Button
B5	Stop Engine Button
B6	Raise Platform Button
B7	Lower Platform Button
C1	Start Engine Contact, Normally Closed
C2	Throttle Contact, Normally Open
C3	Pre-Heat Contact, Normally Open
C4	Start Engine Contact, Normally Open
C5	Emergency Stop Contact, Normally Closed
C6	Platform/Chassis Selector Contact, Normally Open
C7	Platform/Chassis Selector Contact, Normally Closed
C8&9	Raise Platform Contact, Normally Open
C10	Lower Platform Contact, Normally Open
CB1	Emergency Stop Lamp Circuit Breaker
CB2	Power Lamp Circuit Breaker
L1	Emergency Stop Lamp
L2	Power Lamp
MTR	Hour Meter
P1	Plug (to fill unused hole)
S1	Platform/Chassis Selector Switch

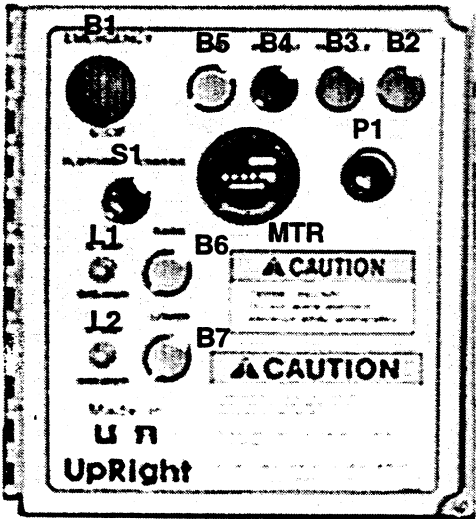
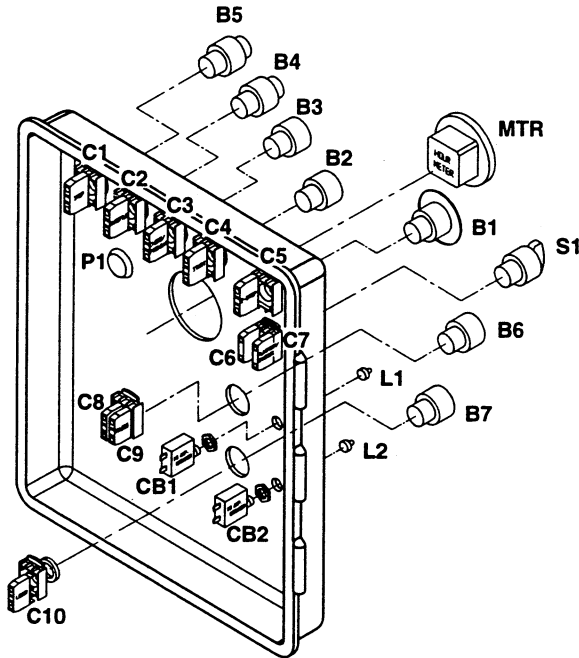


Figure 5-27: Lower Controls, Diesel

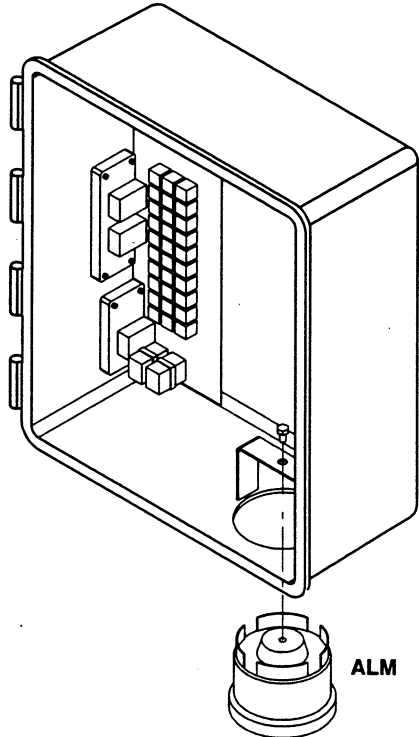


Figure 5-28: Lower Controls Components, Diesel

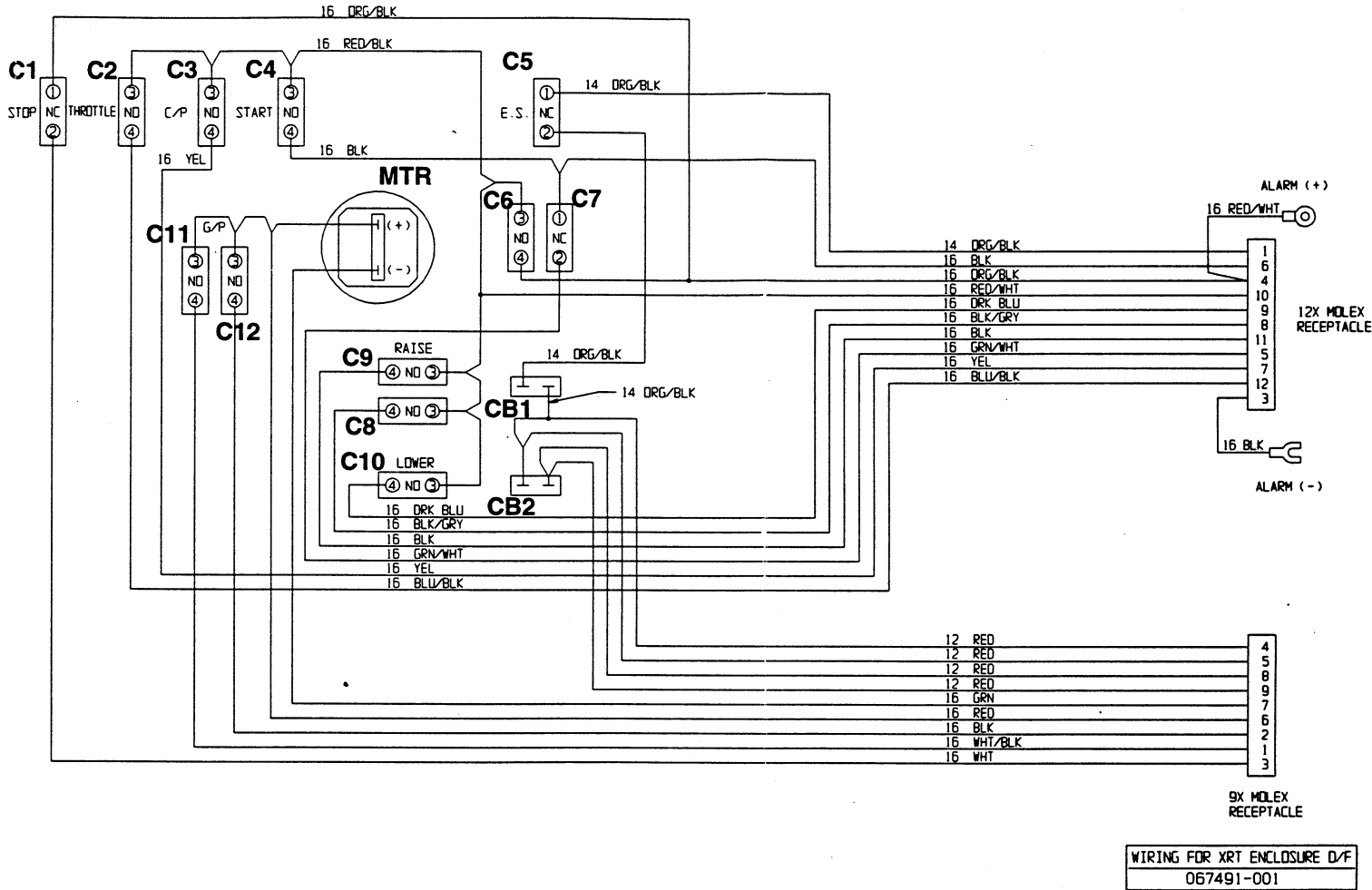


Figure 5-29: Lower Controls Wiring, Diesel

### 5.23 UPPER CONTROL BOX COMPONENT LOCATION

Table 5-22: Legend, Upper Control Box Components

Reference Designation	Name
B1	Emergency Stop Button
B2	Choke/Pre-heat Button
C1	Emergency Stop Contact
C2	Choke/Pre-heat Contact
C3	Drive/Lift Contact, Normally Open
C4	Drive/Lift Contact, Normally Closed
C5	Torque Contact, Normally Open
C6	Torque Contact, Normally Closed
CONT	Proportional Controller (Joystick)
K1	Key
L1	Drive Enable Light
R1	Relay
R2	Time Relay (067194-000)
S1	Key Switch
S2	Lift/Drive Selector Switch
S3	Speed Selector Switch

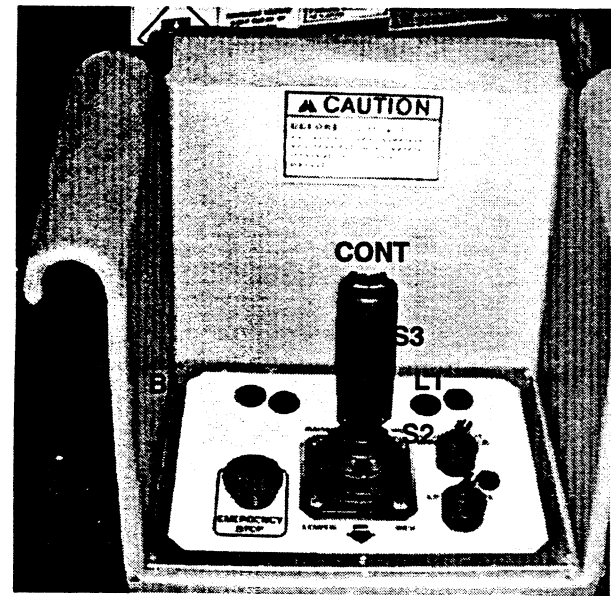


Figure 5-30: Upper Controls

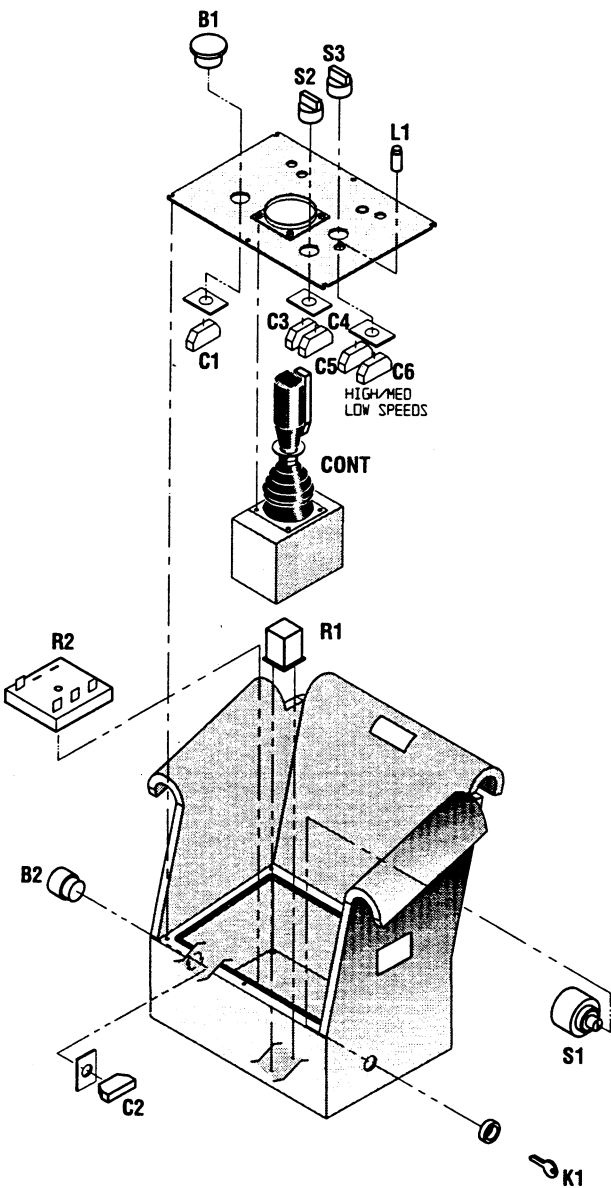


Figure 5-31: Upper Controls Components

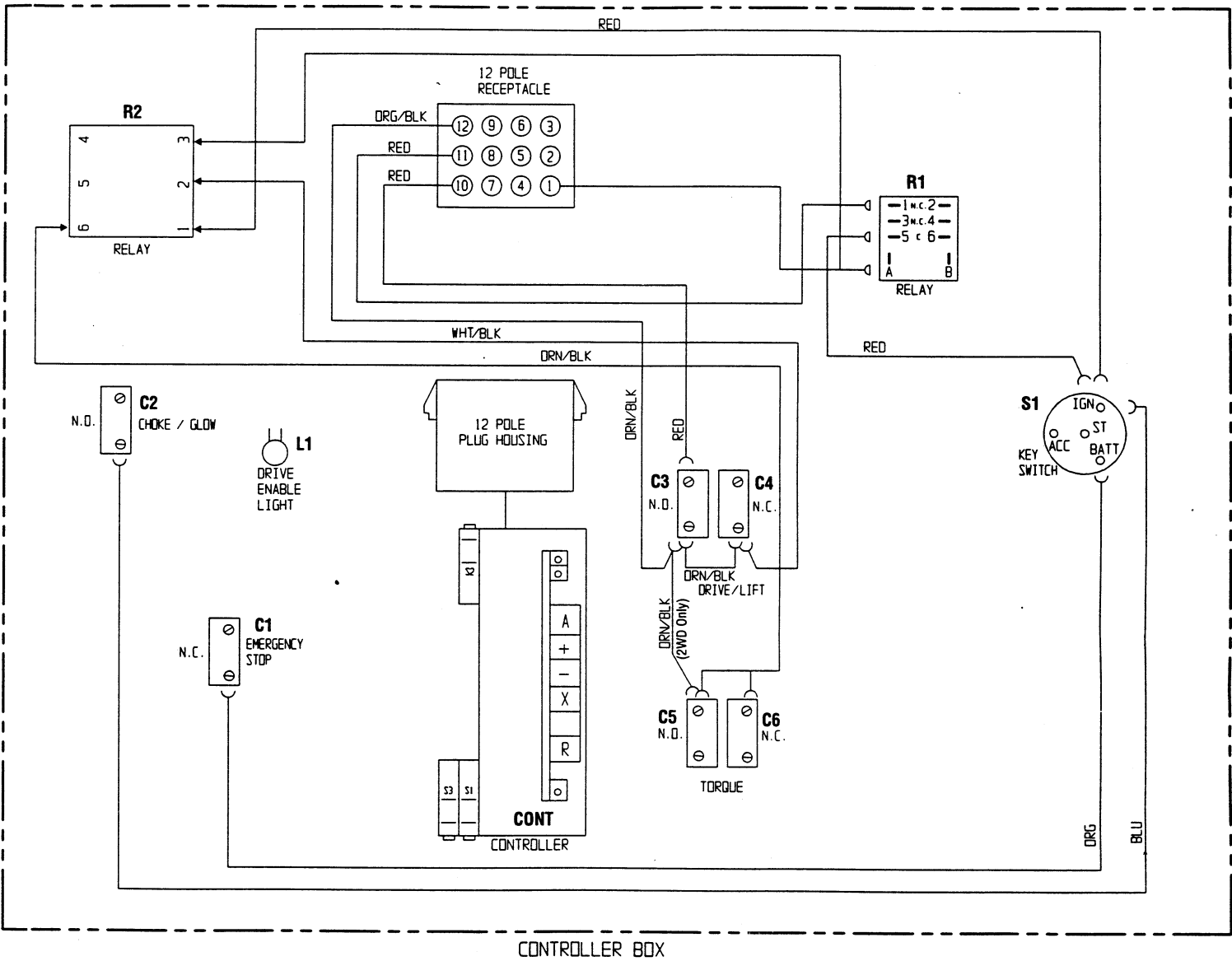


Figure 5-32: Upper Controls Wiring



# Section 6

## ILLUSTRATED PARTS BREAKDOWN

### Introduction

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

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# ILLUSTRATED PARTS BREAKDOWN

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**6.1**

## NOTES

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**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT27 2WD Dual Fuel Kohler

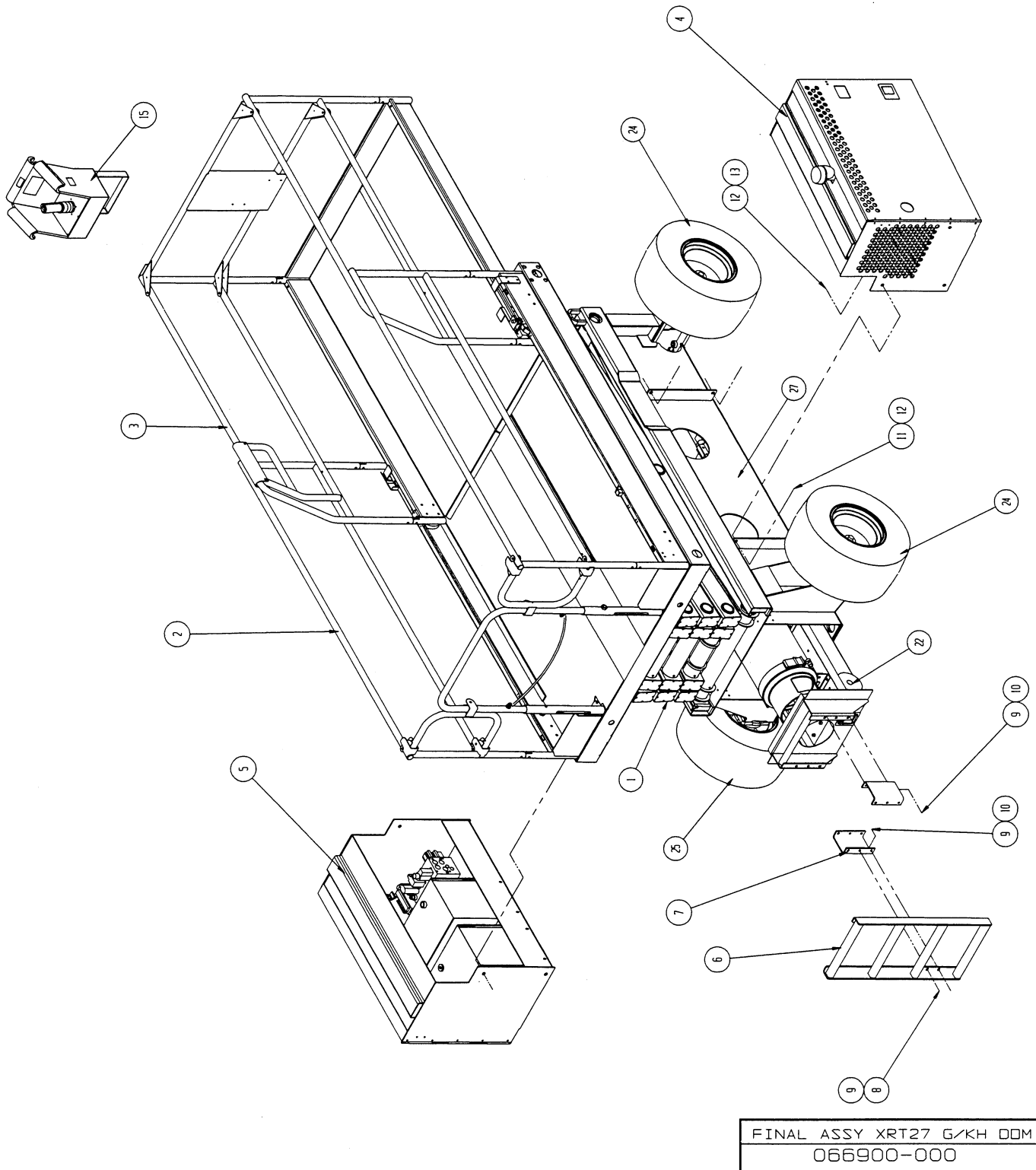
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2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-000	POWER MODULE	1
5	066935-000	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
15	067942-000	CONTROLLER ASSEMBLY	1
16	066944-000	CONTROL CABLE ASSEMBLY	1
17	066940-000	LABEL KIT / INSTALLATION	1
18	066941-000	HOSE KIT / INSTALLATION	1
20	066946-001	ELECTRICAL SCHEMATIC	REF
21	066945-000	HYDRAULIC SCHEMATIC	REF
22	066936-000	ROLL-OUT TRAY INSTALLATION	1
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-000	CHASSIS ASSY, XRT 27, 2WD	1

# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT27 2WD Diesel Kubota

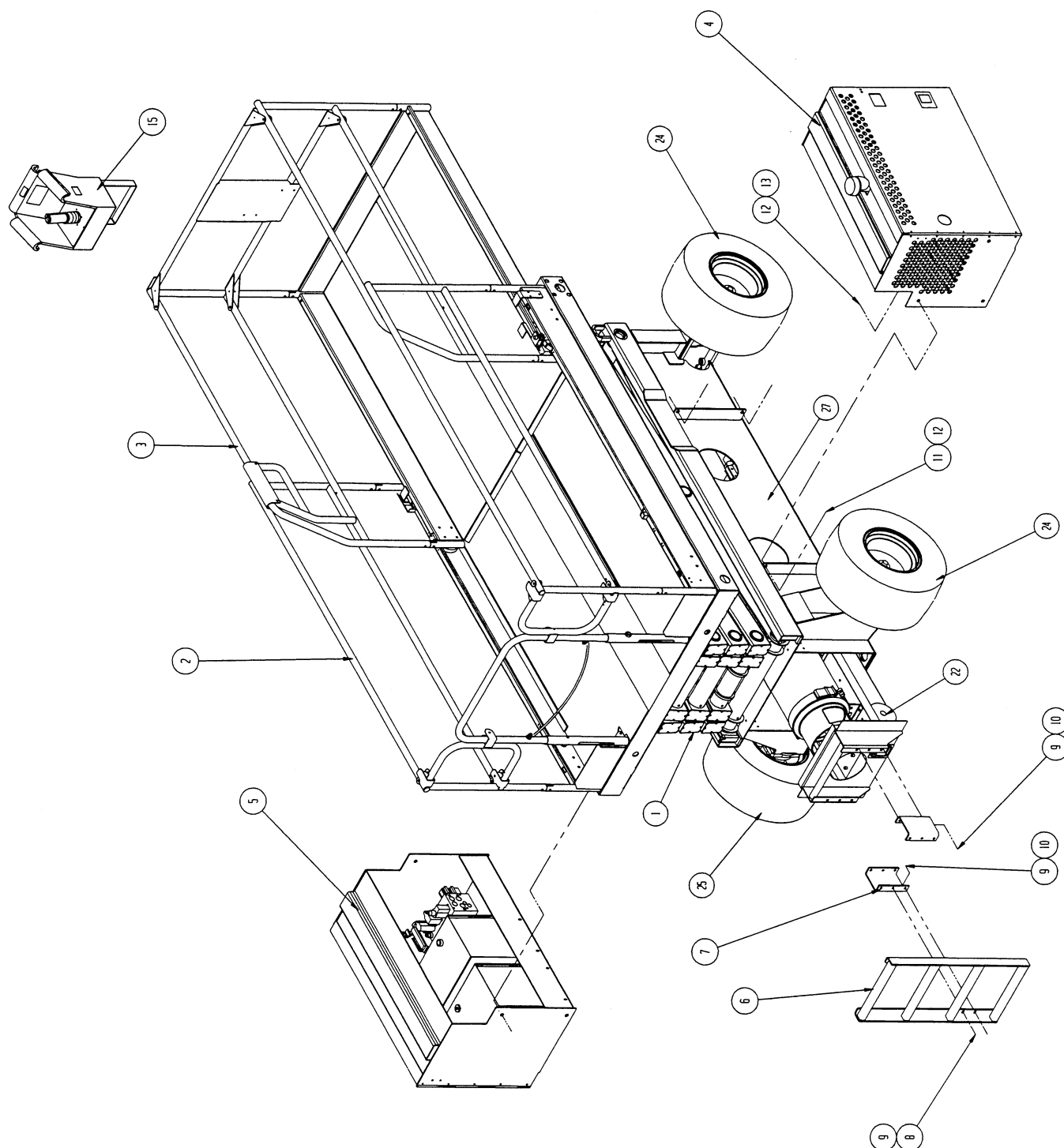
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4	066937-001	POWER MODULE	1
5	066935-001	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
15	066942-000	CONTROLLER ASSEMBLY	1
16	066944-000	CONTROL CABLE ASSEMBLY	1
17	066940-001	LABEL KIT / INSTALLATION	1
18	066941-000	HOSE KIT / INSTALLATION	1
20	066946-00?	ELECTRICAL SCHEMATIC	REF
21	066945-000	HYDRAULIC SCHEMATIC	REF
22	066936-001	ROLL-OUT TRAY INSTALLATION	1
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-000	CHASSIS ASSEMBLY	1

# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1



FINAL ASSY XRT27 G/KH DDM  
066900-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT27 2WD Dual Fuel Kubota

066902-000

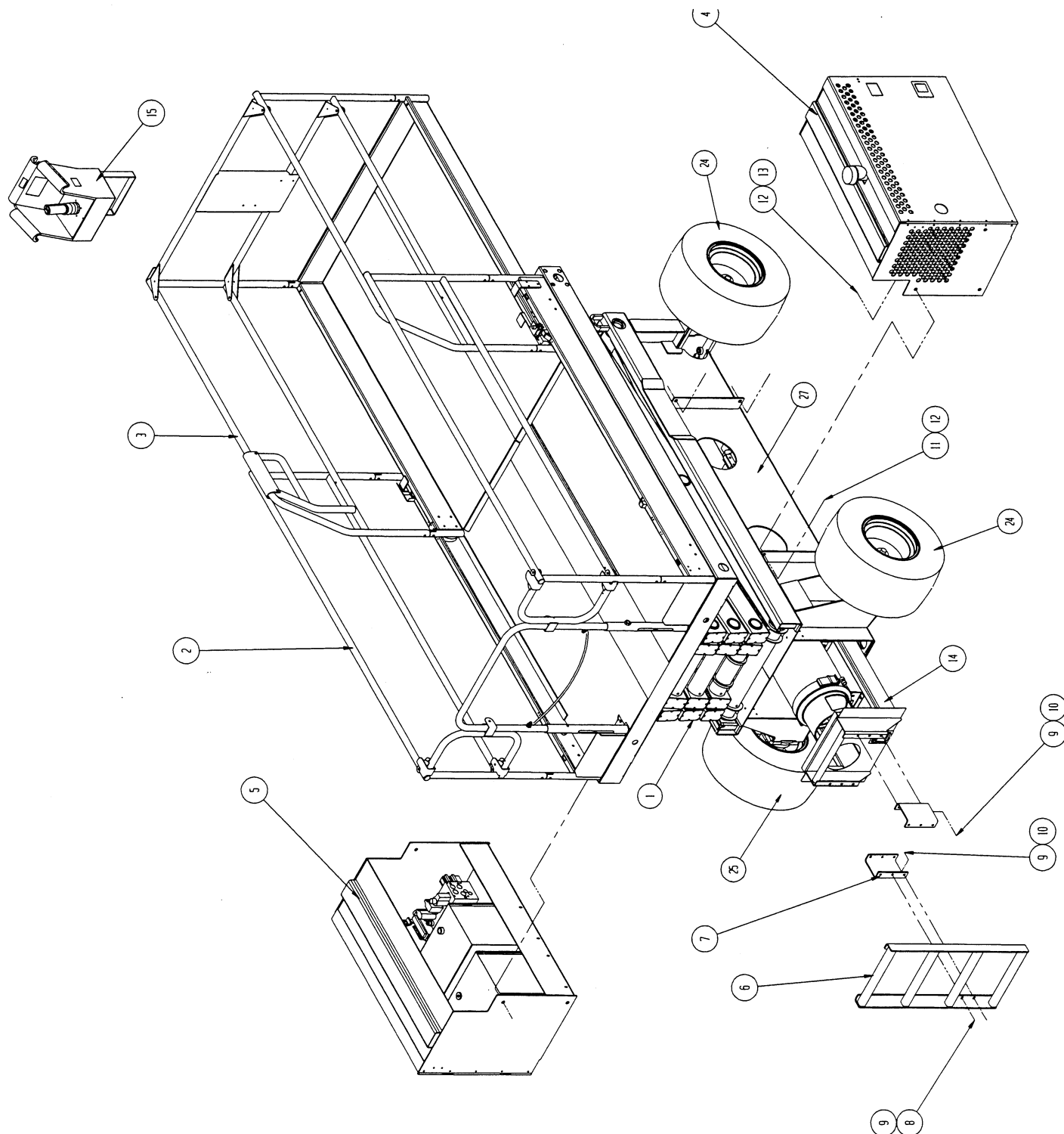
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2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-002	POWER MODULE	1
5	066935-000	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-000	CONTROLLER ASSEMBLY	1
16	066944-000	CONTROL CABLE ASSEMBLY	1
17	066940-003	LABEL KIT / INSTALLATION	1
18	066941-000	HOSE KIT / INSTALLATION	1
20	066946-00?	ELECTRICAL SCHEMATIC	REF
21	066945-000	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-000	CHASSIS ASSEMBLY, XRT-27	1



# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1



FINAL ASSY XRT27 G/KB DDM  
066902-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT27 4WD Dual Fuel Kohler

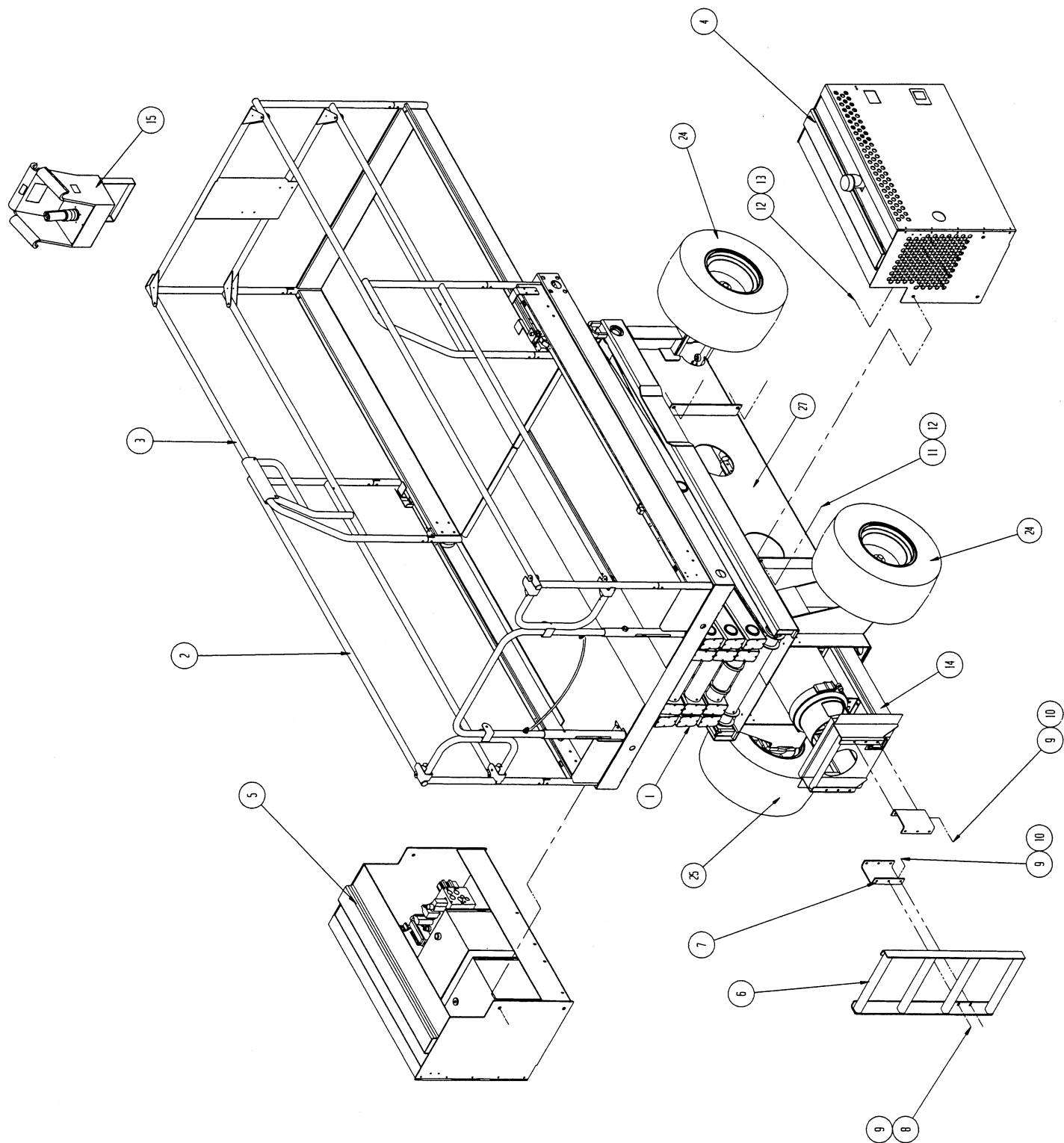
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3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-000	POWER MODULE	1
5	066935-002	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
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14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-001	CONTROLLER ASSEMBLY	1
16	066944-000	CONTROL CABLE ASSEMBLY	1
17	066940-004	LABEL KIT / INSTALLATION	1
18	066941-001	HOSE KIT / INSTALLATION	1
20	066946-007	ELECTRICAL SCHEMATIC	REF
21	066945-001	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	066932-001	CHASSIS ASSEMBLY, XRT-27	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



FINAL ASSY XRT27-4WD G/KH DOM  
066906-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT27 4WD Diesel Kubota

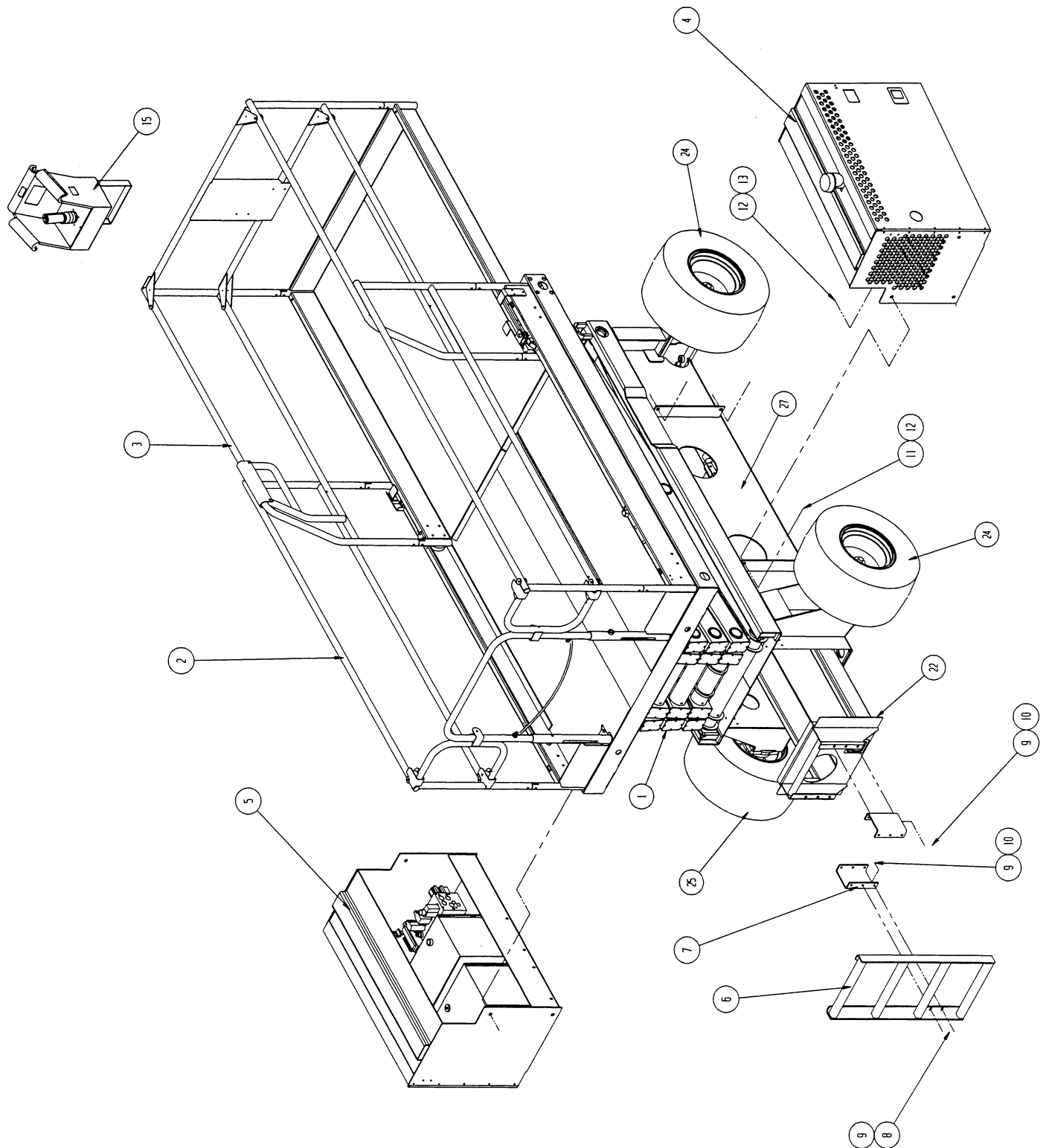
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3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-001	POWER MODULE	1
5	066935-003	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
15	066942-001	CONTROLLER ASSEMBLY	1
16	066944-000	CONTROL CABLE ASSEMBLY	1
17	066940-005	LABEL KIT / INSTALLATION	1
18	066941-001	HOSE KIT / INSTALLATION	1
20	066946-004	ELECTRICAL SCHEMATIC	REF
21	066945-001	HYDRAULIC SCHEMATIC	REF
22	066936-001	ROLL-OUT TRAY INSTALLATION	1
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-001	CHASSIS ASSEMBLY, XRT	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



FINAL ASSY XRT27-4WD DIES DDM  
066907-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT27 4WD Dual Fuel Kubota

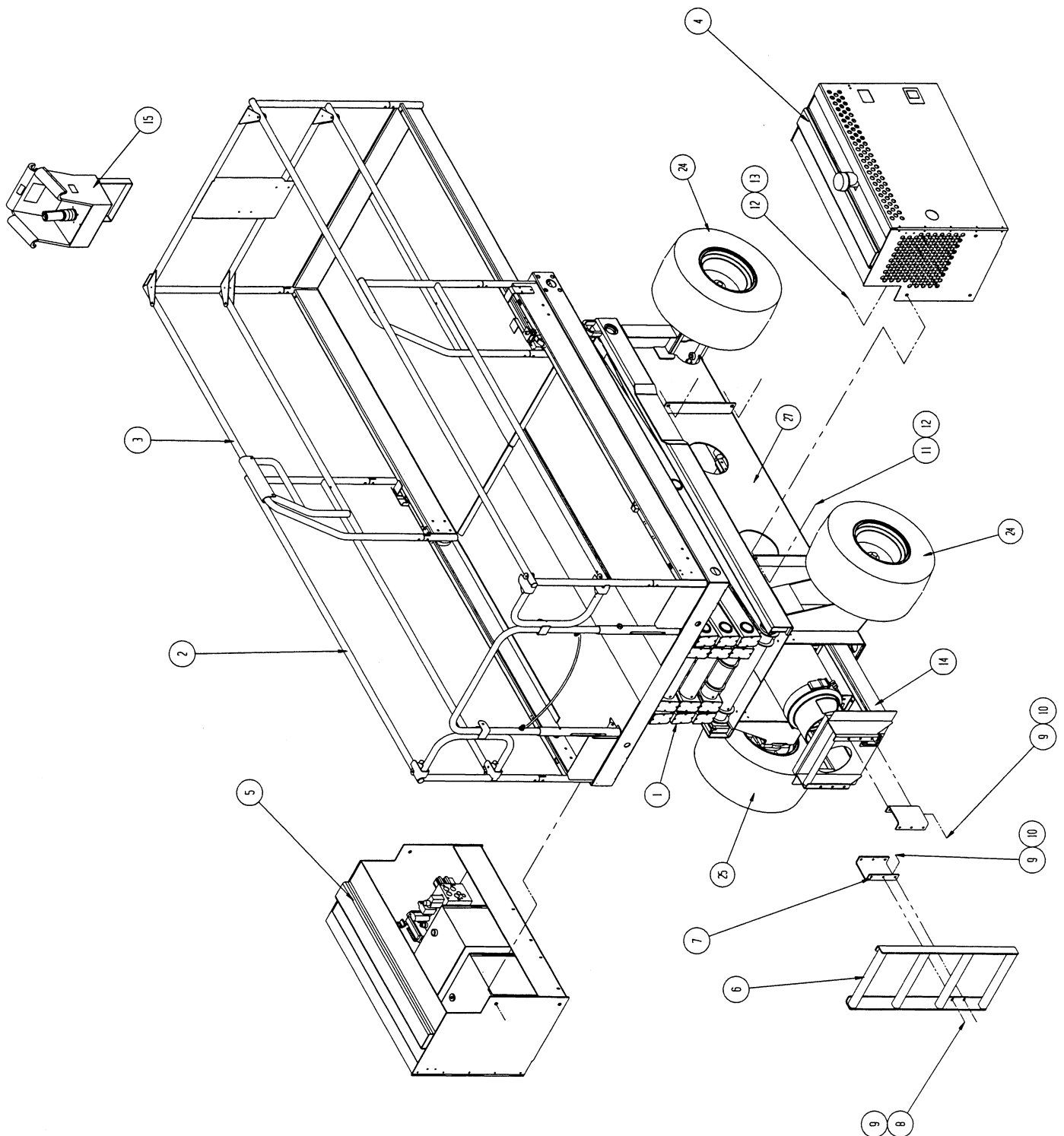
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3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-002	POWER MODULE	1
5	066935-002	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
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14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-001	CONTROLLER ASSEMBLY	1
16	066944-000	CONTROL CABLE ASSEMBLY	1
17	066940-007	LABEL KIT / INSTALLATION	1
18	066941-001	HOSE KIT / INSTALLATION	1
20	066946-003	ELECTRICAL SCHEMATIC	REF
21	066945-001	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-001	CHASSIS ASSEMBLY, XRT-27	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



FINAL ASSY XRT27-4WD G/KB DOM  
066908-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT33 2WD Dual Fuel Kohler

066912-000

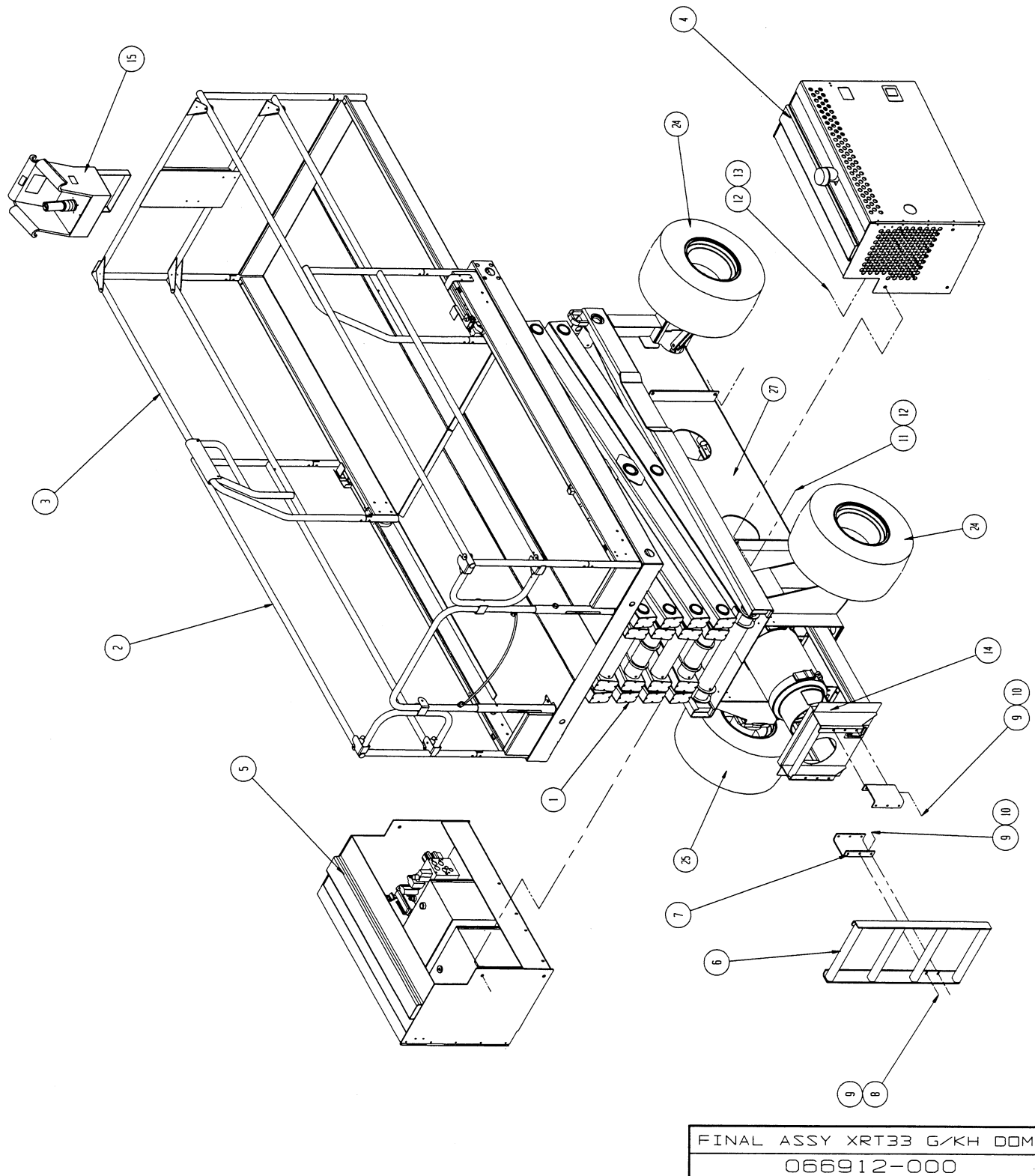
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066929-000	SCISSOR/PLATFORM INSTALLATION, XRT-33	1
2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-000	POWER MODULE	1
5	066935-000	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-000	CONTROLLER ASSEMBLY	1
16	066944-001	CONTROL CABLE ASSEMBLY	1
17	066940-008	LABEL KIT / INSTALLATION	1
18	066941-002	HOSE KIT / INSTALLATION	1
20	066946-003	ELECTRICAL SCHEMATIC	REF
21	066945-002	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-002	CHASSIS ASSEMBLY, XRT-33	1



# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1



**Section  
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# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT33 2WD Diesel Kubota

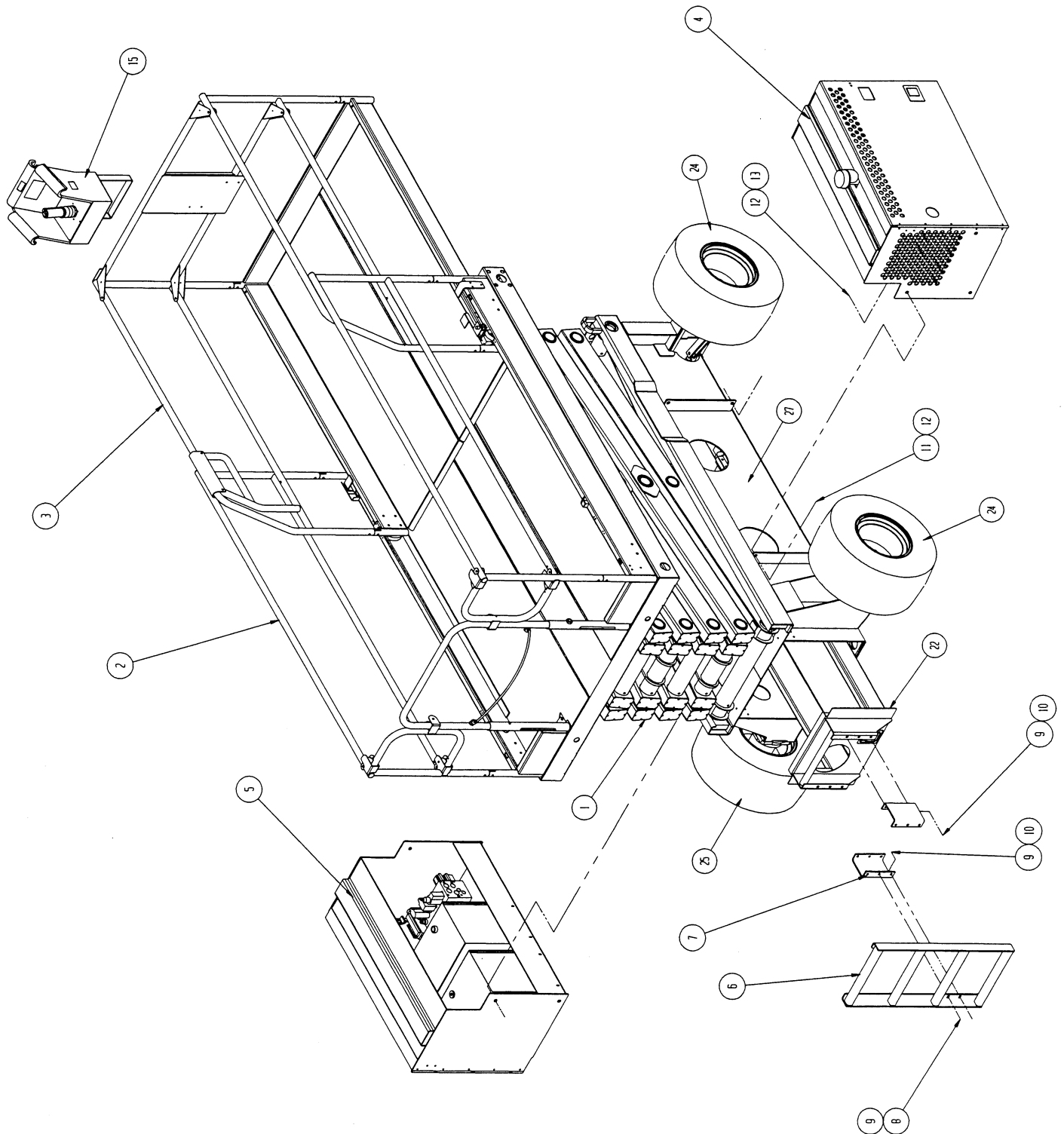
066913-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066929-000	SCISSOR/PLATFORM INSTALLATION, XRT-33	1
2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-001	POWER MODULE	1
5	066935-001	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
15	066942-000	CONTROLLER ASSEMBLY	1
16	066944-001	CONTROL CABLE ASSEMBLY	1
17	066940-009	LABEL KIT / INSTALLATION	1
18	066941-002	HOSE KIT / INSTALLATION	1
20	066946-002	ELECTRICAL SCHEMATIC	REF
21	066945-002	HYDRAULIC SCHEMATIC	REF
22	066936-001	ROLL-OUT TRAY INSTALLATION	1
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-002	CHASSIS ASSEMBLY, XRT-33	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



FINAL ASSY XRT33 DIES DDM  
066913-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT33 2WD Dual Fuel Kubota

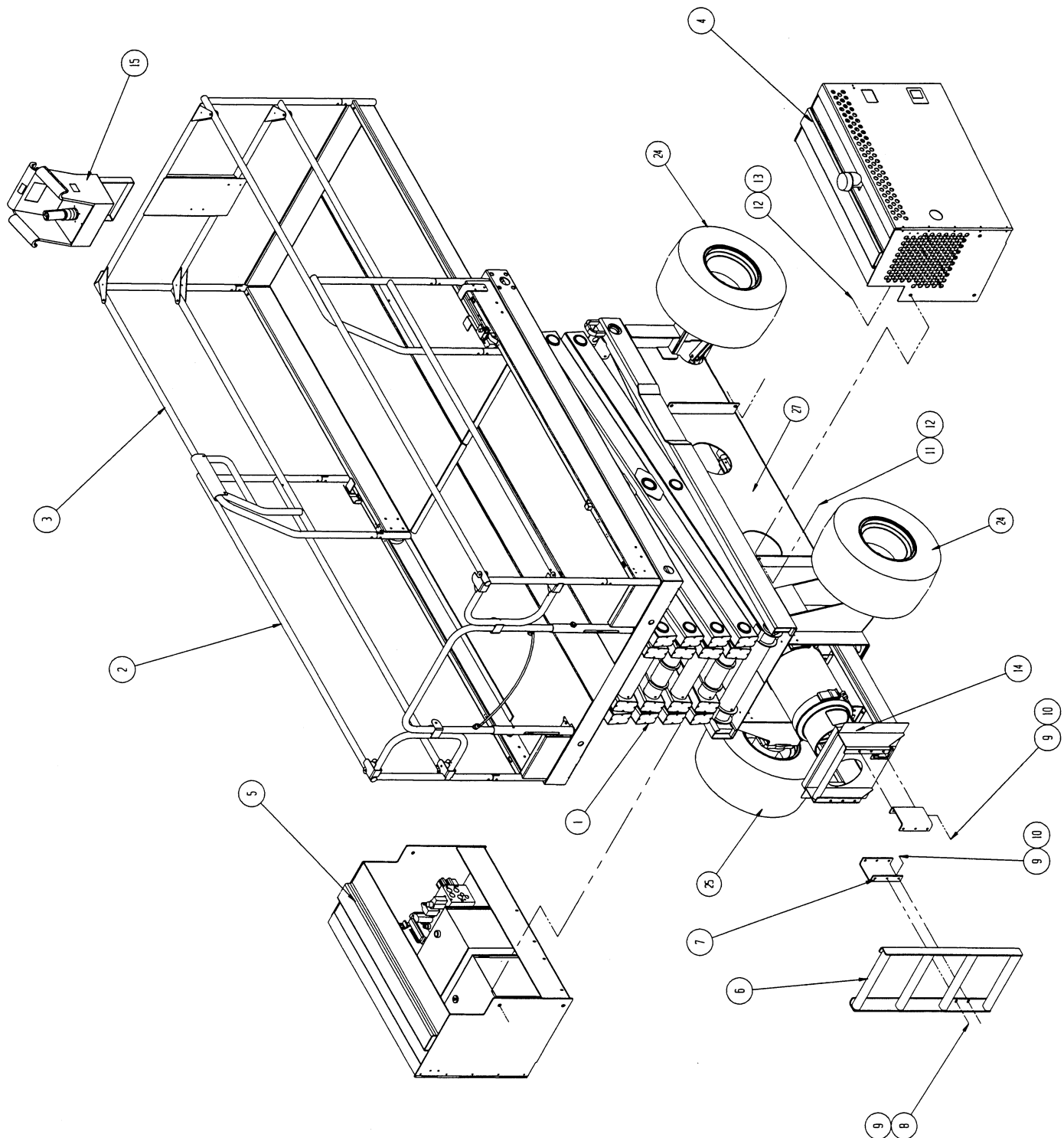
066914-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066929-000	SCISSOR/PLATFORM INST., XRT-33	1
2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-002	POWER MODULE	1
5	066935-000	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-000	CONTROLLER ASSEMBLY	1
16	066944-001	CONTROL CABLE ASSEMBLY	1
17	066940-011	LABEL KIT / INSTALLATION	1
18	066941-002	HOSE KIT / INSTALLATION	1
20	066946-003	ELECTRICAL SCHEMATIC	REF
21	066945-002	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-002	CHASSIS ASSEMBLY, XRT-33	1

# ILLUSTRATED PARTS BREAKDOWN

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FINAL ASSY XRT33 G/KB DDM  
066914-000

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6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT33 4WD Dual Fuel Kohler

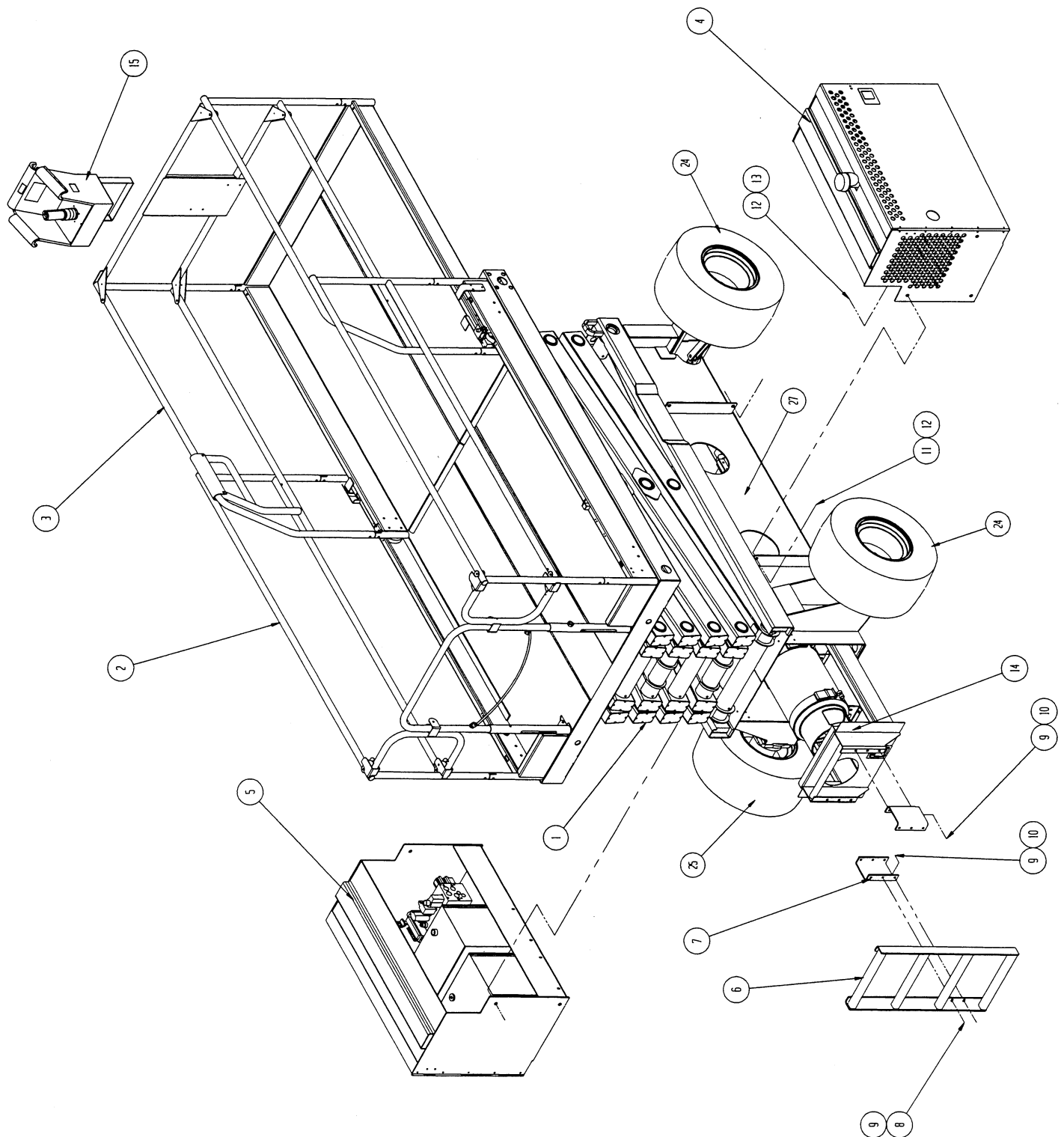
066918-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066929-000	SCISSOR/PLATFORM INST., XRT-33	1
2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-000	POWER MODULE	1
5	066935-002	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-001	CONTROLLER ASSEMBLY	1
16	066944-001	CONTROL CABLE ASSEMBLY	1
17	066940-012	LABEL KIT / INSTALLATION	1
18	066941-003	HOSE KIT / INSTALLATION	1
20	066946-003	ELECTRICAL SCHEMATIC	REF
21	066945-003	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-003	CHASSIS ASSEMBLY, XRT-33	1

# ILLUSTRATED PARTS BREAKDOWN

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FINAL ASSY XRT33-4WD G/KH DOM  
066918-000

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6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT33 4WD Diesel Kubota

066919-000

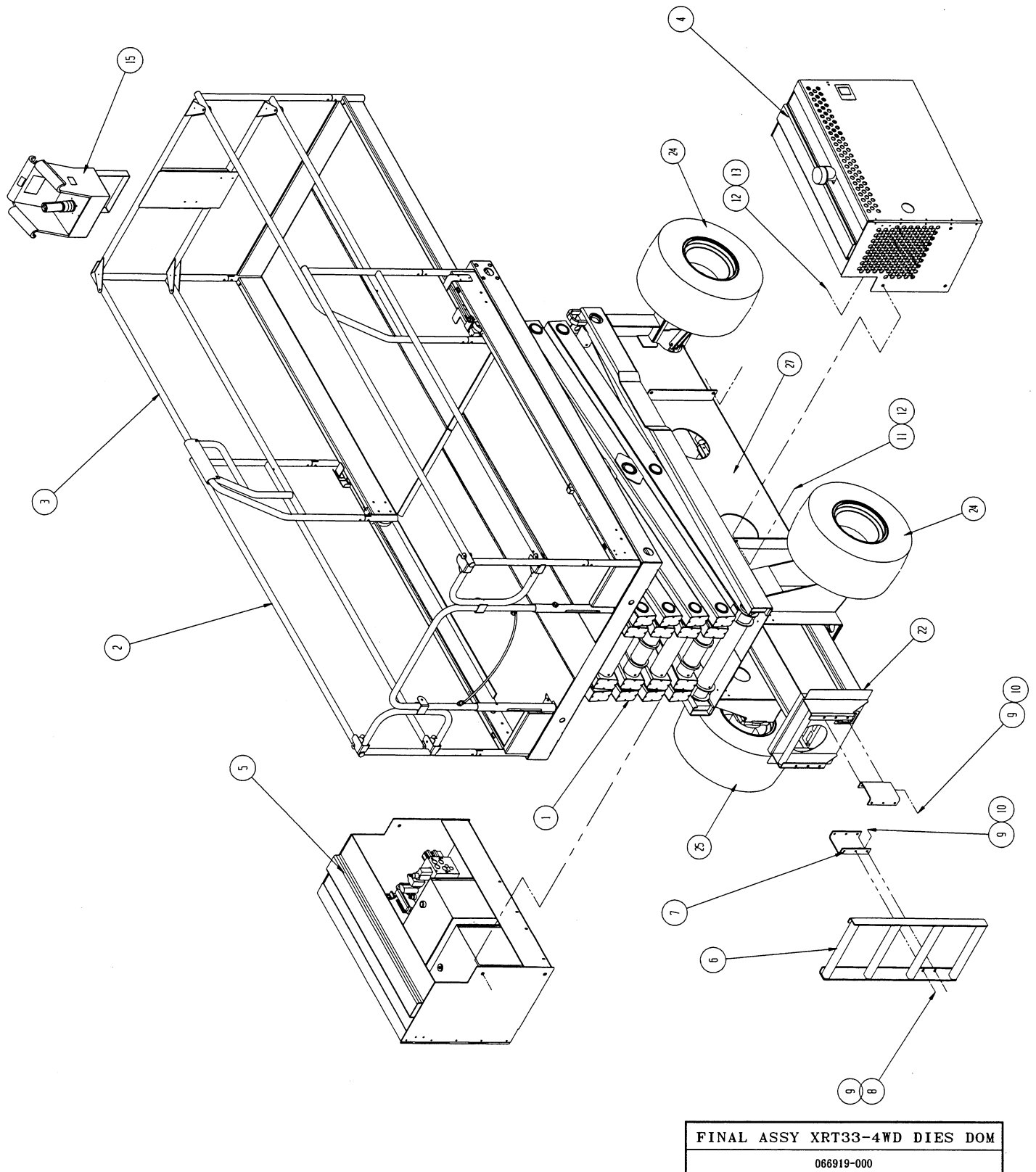
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066929-000	SCISSOR/PLATFORM INSTAL., XRT-33	1
2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-001	POWER MODULE	1
5	066935-003	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
15	066942-001	CONTROLLER ASSEMBLY	1
16	066944-001	CONTROL CABLE ASSEMBLY	1
17	066940-013	LABEL KIT / INSTALLATION	1
18	067941-003	HOSE KIT / INSTALLATION	1
20	066946-004	ELECTRICAL SCHEMATIC	REF
21	066945-003	HYDRAULIC SCHEMATIC	REF
22	066936-001	ROLL-OUT TRAY INSTALLATION	1
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-003	CHASSIS ASSEMBLY, XRT-33	1



# ILLUSTRATED PARTS BREAKDOWN

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FINAL ASSY XRT33-4WD DIES DOM

066919-000

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# ILLUSTRATED PARTS BREAKDOWN

## Final Assembly XRT33 4WD Dual Fuel Kubota

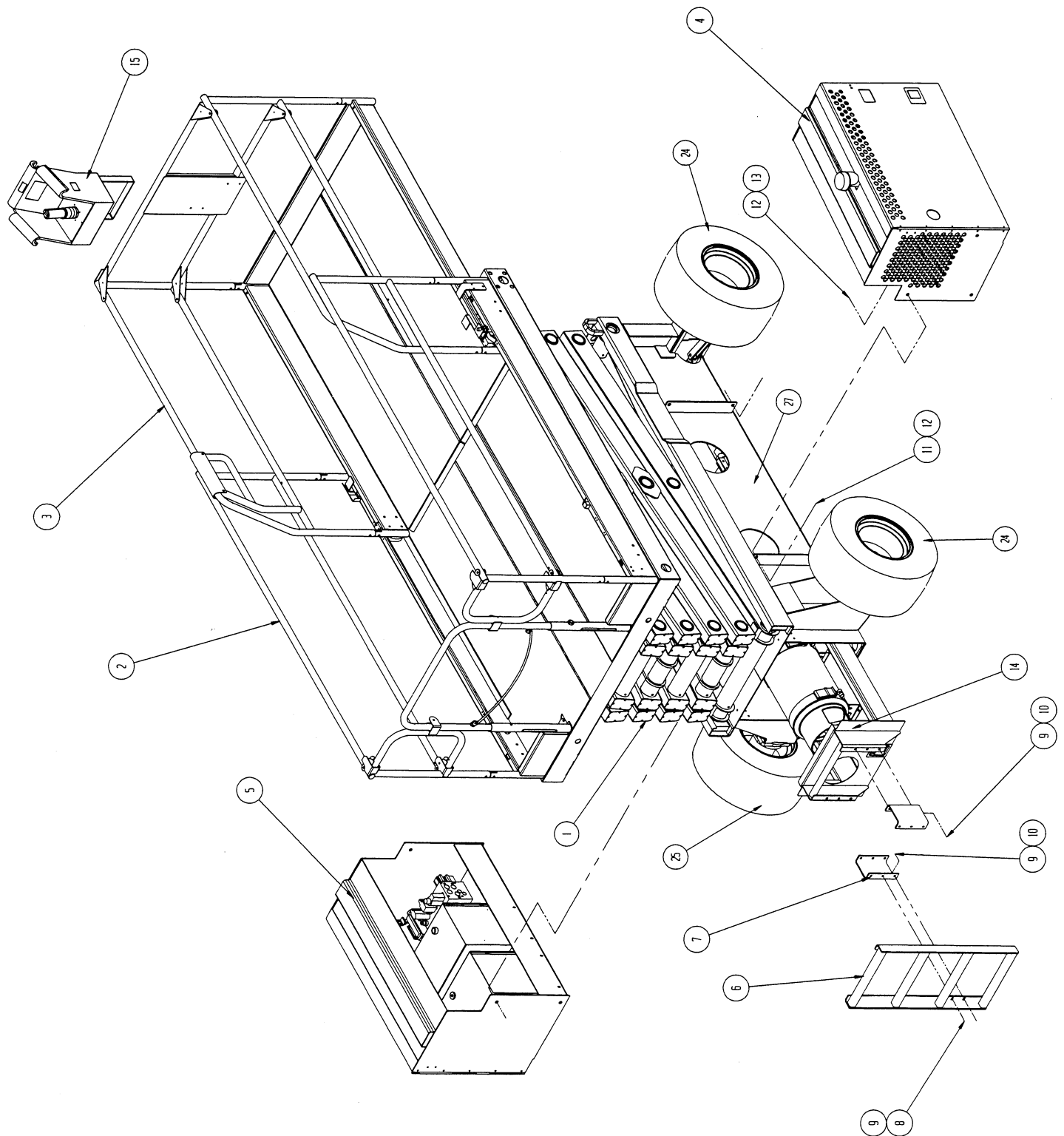
066920-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066929-000	SCISSOR/PLATFORM INSTAL., XRT-33	1
2	066938-000	GUARD RAIL INSTALLATION	1
3	066939-000	EXTENSION PLATFORM INSTALLATION	1
4	066937-002	POWER MODULE	1
5	066935-002	CONTROL MODULE	1
6	066964-000	WELDMENT, LADDER	1
7	067259-000	BRACKET, LADDER STANDOFF	2
8	011254-008	SCREW HHC 3/8-16 x 1	8
9	011240-006	WASHER 3/8 FLAT	16
10	011248-006	NUT 3/8-16 HEX ESNA	8
11	011256-008	SCREW HHC 1/2-13 x 1	8
12	011240-008	WASHER 1/2 FLAT	16

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
13	011248-008	NUT 1/2-13 HEX ESNA	8
14	066936-000	ROLL-OUT TRAY INSTALLATION	1
15	066942-001	CONTROLLER ASSEMBLY	1
16	066944-001	CONTROL CABLE ASSEMBLY	1
17	066940-015	LABEL KIT / INSTALLATION	1
18	066941-003	HOSE KIT / INSTALLATION	1
20	066946-003	ELECTRICAL SCHEMATIC	REF
21	066945-003	HYDRAULIC SCHEMATIC	REF
24	064054-010	TIRE/WHEEL ASSY RH-TRAC SEAL	2
25	064054-011	TIRE/WHEEL ASSY LH-TRAC SEAL	2
27	066932-003	CHASSIS ASSEMBLY, XRT-33	1

# ILLUSTRATED PARTS BREAKDOWN

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FINAL ASSY XRT33-4WD G/KB DDM  
066920-000

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# ILLUSTRATED PARTS BREAKDOWN

## Scissor / Platform Installation XRT27

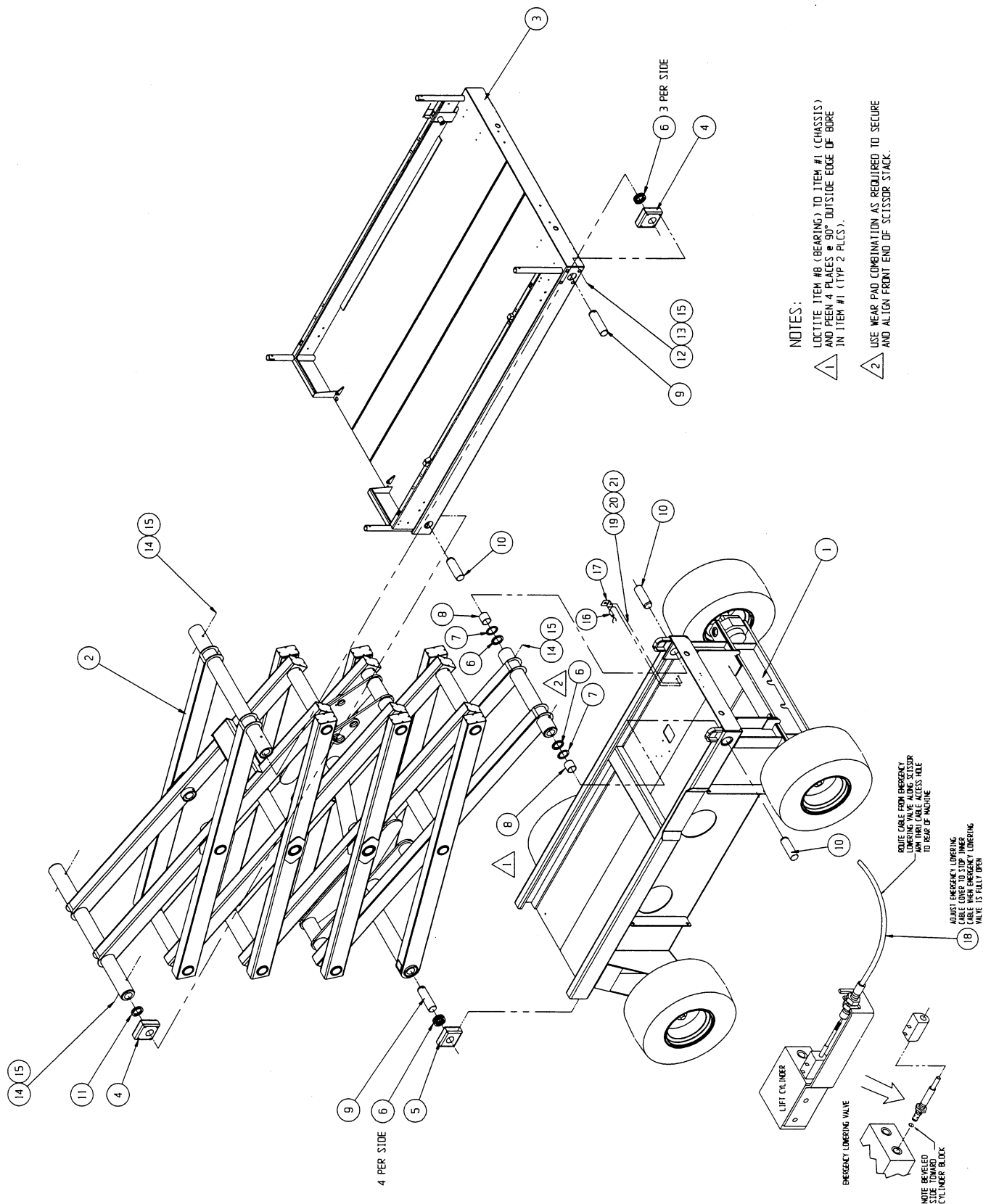
066927-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066932-000	CHASSIS ASSEMBLY 2WD 27FT	REF
2	066933-000	SCISSOR ASSEMBLY	1
3	066954-000	PLATFORM WELDMENT	1
4	066191-000	SLIDE BLOCK	4
5	066191-001	SLIDE BLOCK - BOTTOM	2
6	066189-000	WEAR PAD 1/4	16
7	066189-004	WEAR PAD 1/8	2
8	066183-001	BEARING EAGLE PICHER #323632	2
9	066222-001	MOUNTING PIN	4
10	066222-002	MOUNTING PIN	4
11	066189-001	WEAR PAD 3/8	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
12	011254-032	SCREW HHC 3/8-16 x 4 LG	8
13	011240-006	WASHER 3/8 FLAT	8
14	011287-032	SCREW SOC HD CAP 3/8-16 x 4 LG	8
15	011248-006	NUT 3/8-16 UNC ESNA	16
16	067193-000	PROXIMITY SWITCH	1
17	067318-000	SWITCH BRACKET	1
18	065754-003	CABLE ASSEMBLY-EMERGENCY LOWERING	1
19	011253-006	SCREW, HHC 5/16 X 3/4	2
20	011240-005	WASHER, 5/16 FLAT	2
21	011248-005	NUT, 5/16-18 UNC ESNA	2

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



SCISSOR/PLATFORM INSTALLATION XRT-27  
066927-000

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# ILLUSTRATED PARTS BREAKDOWN

## Scissor / Platform Installation XRT33

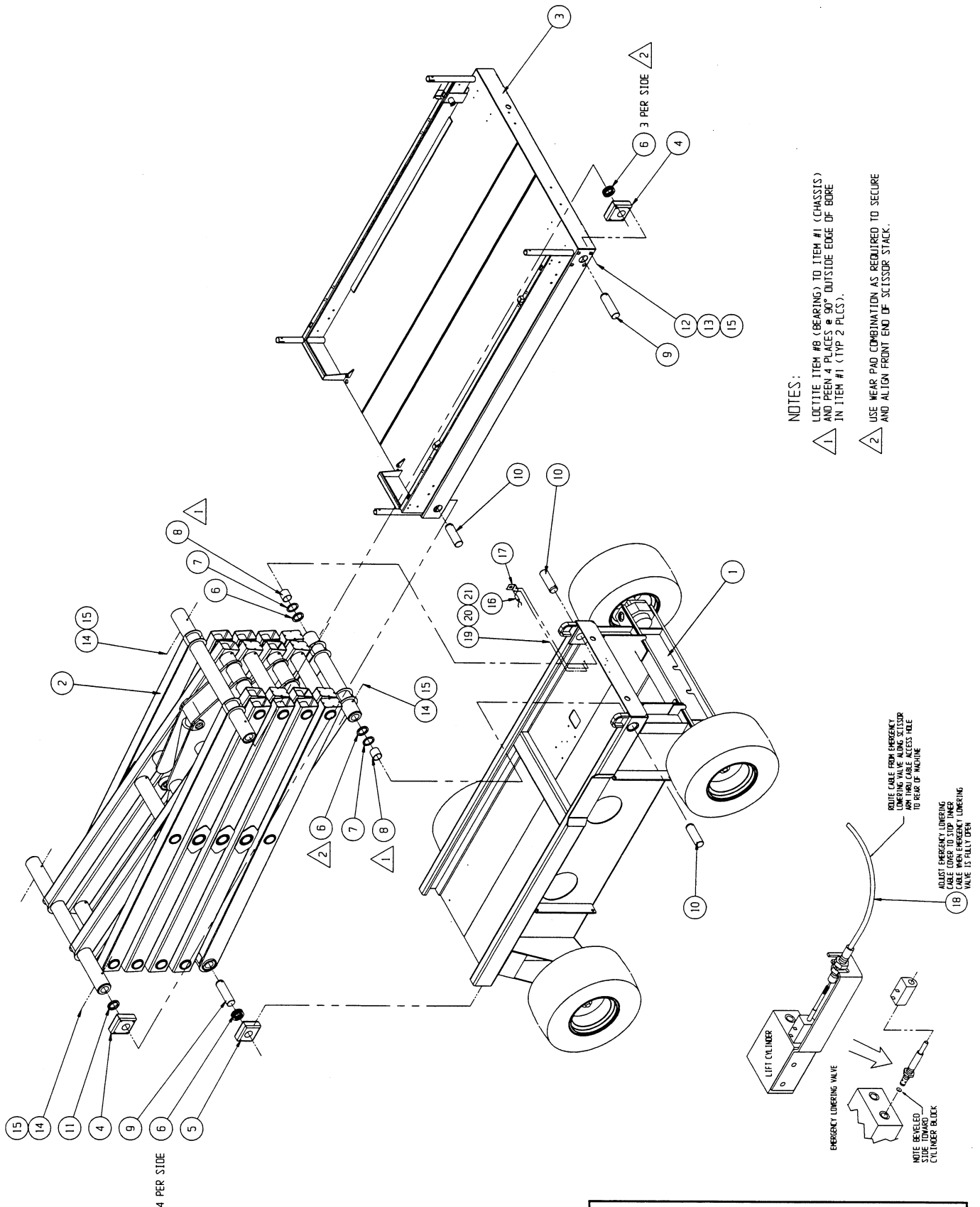
066929-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066932-002	CHASSIS ASSEMBLY 2WD 33FT	REF
2	066934-000	SCISSOR ASSEMBLY	1
3	066954-000	PLATFORM WELDMENT	1
4	066191-000	SLIDE BLOCK	4
5	066191-001	SLIDE BLOCK - BOTTOM	2
6	066189-000	WEAR PAD 1/4	16
7	066189-004	WEAR PAD 1/8	2
8	066183-001	BEARING EAGLE Picher #323632	2
9	066222-001	MOUNTING PIN	4
10	066222-002	MOUNTING PIN	4
11	066189-001	WEAR PAD 3/8	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
12	011254-032	SCREW HHC 3/8-16 x 4 LG	8
13	011240-006	WASHER 3/8 FLAT	8
14	011287-032	SCREW SOC HD CAP 3/8-16 x 4 LG	8
15	011248-006	NUT 3/8-16 UNC ESNA	16
16	067193-000	PROXIMITY SWITCH	1
17	067318-000	SWITCH BRACKET	1
18	065754-003	CABLE ASSEMBLY-EMERGENCY LOWERING	1
19	011253-006	SCREW, HHC 5/16 X 3/4	2
20	011240-005	WASHER, 5/16 FLAT	2
21	011248-005	NUT, 5/16-18 UNC ESNA	2

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



SCISSOR/PLATFORM INSTALLATION XRT-33  
066929-000

**Section  
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# ILLUSTRATED PARTS BREAKDOWN

## Chassis Assembly XRT27 2wd

066932-000

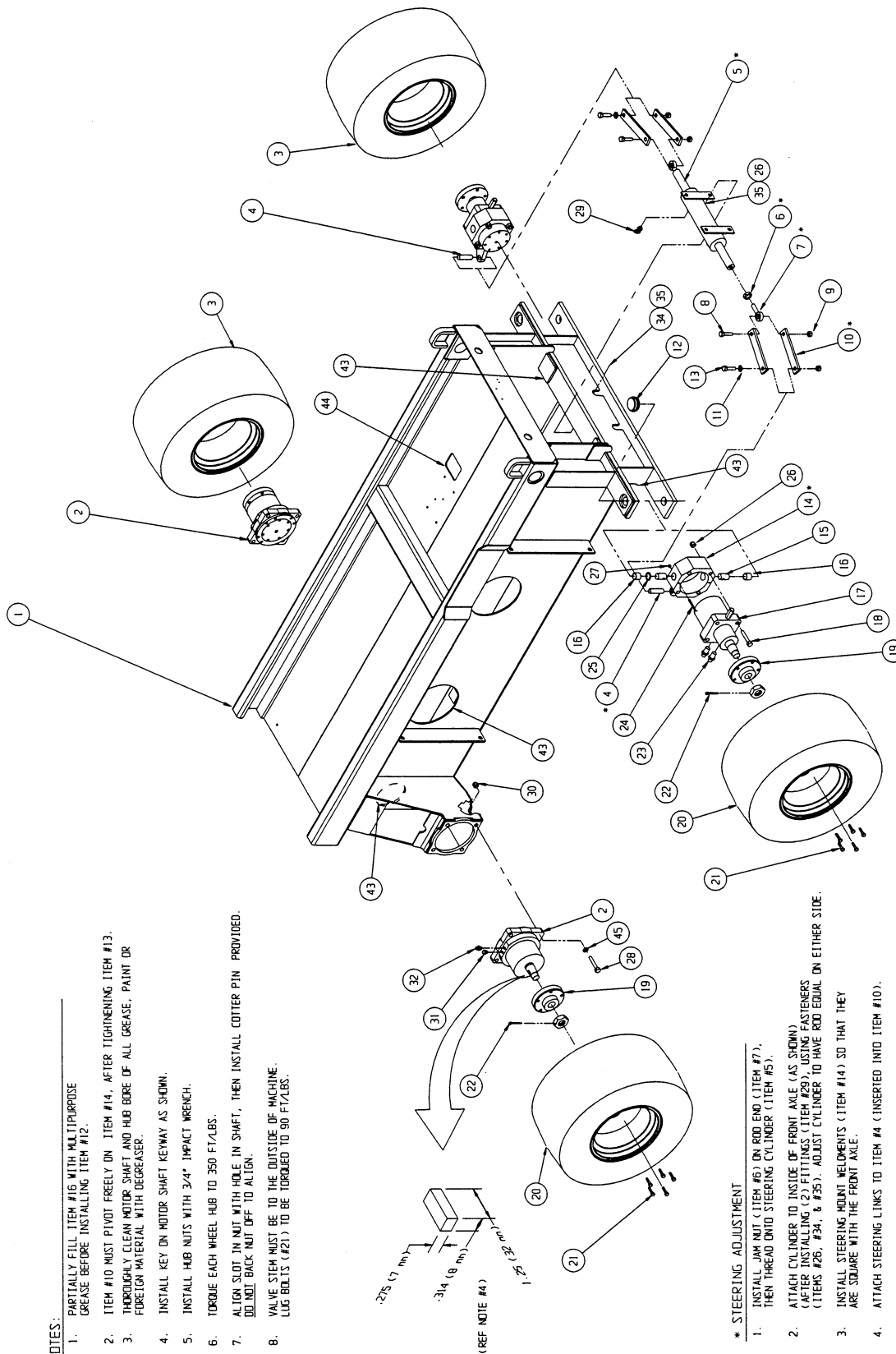
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-005	CHASSIS WEIGHT INST'L 27' XRT WELDMENT	1
2	067171-000	REAR BRAKE (2WD)	2
3	064054-011	WHEEL & TIRE ASSY T/S (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
20	064054-010	WHEEL & TIRE ASSY T/S (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
37	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 Ft
44	061692-099	GROMMET, TRIM	1.25 Ft



# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



CHASSIS ASSY - 2WD - XRT 27 FT  
066932-000

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# ILLUSTRATED PARTS BREAKDOWN

## Chassis Assembly XRT27 4WD

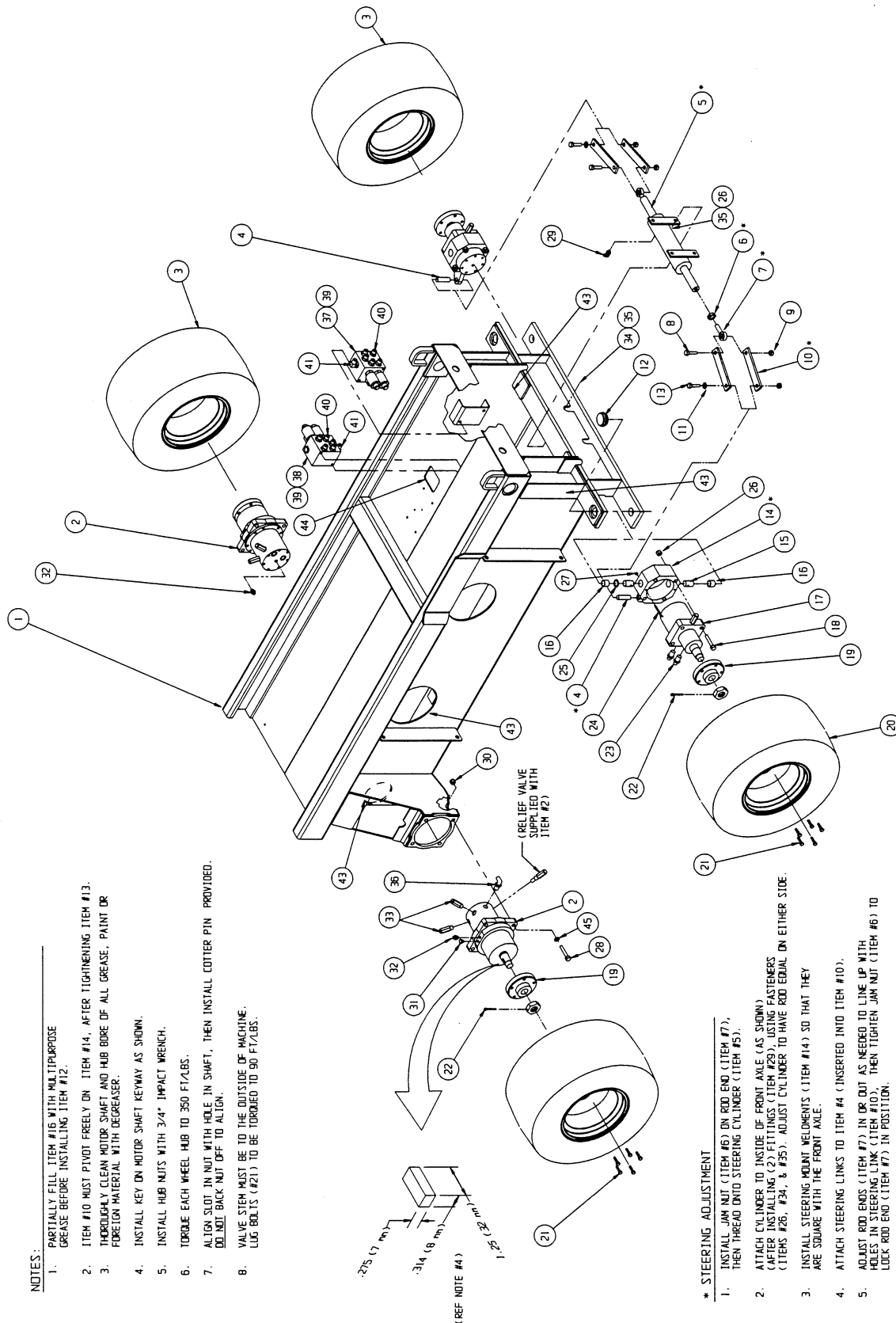
066932-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-005	CHASSIS WEIGHT INST'L 27' XRT WELDMENT	1
2	067184-000	REAR DRIVE MOTOR W/BRAKE	2
3	064054-011	WHEEL & TIRE ASSY T/S (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4
20	064054-010	WHEEL & TIRE ASSY T/S (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
23	011941-014	FITTING, STR 10MB-8MJ	4
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
33	011941-014	FITTING, 10MB-8MJ	4
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
36	011934-001	FITTING, 90° 4MB-4MJ	2
37	067183-000	SERIES PARALLEL VALVE BLOCK	1
38	067183-001	SERIES PARALLEL VALVE BLOCK	1
39	011254-044	SCREW, HHC GR5 3/8 X 5"	4
40	011941-010	FITTING, 8MB-8MJ	10
41	011940-015	FITTING, 8MB-8MJ, 90°	2
42	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	FT. 14.25
44	061692-099	GROMMET, TRIM	FT. 1.25

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



### NOTES:

1. PARTIALLY FIT ITEM #16 WITH MULTIPURPOSE GREASE BEFORE INSTALLING ITEM #12.
2. ITEM #10 MUST PIVOT FREELY ON ITEM #14. AFTER TIGHTENING ITEM #13.
3. THOROUGHLY CLEAN MOTOR SHAFT AND HUB BORE OF ALL GREASE. PAINT OR FOREIGN MATERIAL WITH DEGREASER.
4. INSTALL KEY ON MOTOR SHAFT KEYWAY AS SHOWN.
5. INSTALL HUB NUTS WITH 3/4" IMPACT WRENCH.
6. TORQUE EACH WHEEL HUB TO 350 FT/LBS.
7. ALIGN SLOT IN NUT WITH HOLE IN SHAFT, THEN INSTALL COTTER PIN PROVIDED. DO NOT BACK NUT OFF TO ALIGN.
8. VALVE STEM MUST BE TO THE OUTSIDE OF MACHINE. LOG BOLTS (#21) TO BE TORQUED TO 90 FT/LBS.

### \* STEERING ADJUSTMENT

1. INSTALL JAM NUT (ITEM #6) ON ROD END (ITEM #7), THEN THREAD INTO STEERING CYLINDER (ITEM #5).
2. ATTACH CYLINDER TO INSIDE OF FRONT AXLE (AS SHOWN) (AFTER INSTALLING (2) FITTINGS (ITEM #29) USING FASTENERS (ITEMS #26, #34, & #35). ADJUST CYLINDER TO HAVE ROD EQUAL ON EITHER SIDE.
3. INSTALL STEERING MOUNT WELDMENTS (ITEM #14) SO THAT THEY ARE SQUARE WITH THE FRONT AXLE.
4. ATTACH STEERING LINKS TO ITEM #4 (INSERTED INTO ITEM #10).
5. ADJUST ROD ENDS (ITEM #7) IN OR OUT AS NEEDED TO LINE UP WITH WHEEL STEERING LINK (ITEM #10). THEN TIGHTEN JAM NUT (ITEM #6) TO LOCK ROD END (ITEM #7) IN POSITION.
6. WHEN PROPERLY ADJUSTED, WHEELS SHOULD TURN THROUGH THE SAME ANGLE.

CHASSIS ASSY - 4WD - XRT 27 FT  
066932-001

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6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Chassis Assembly XRT33 2WD

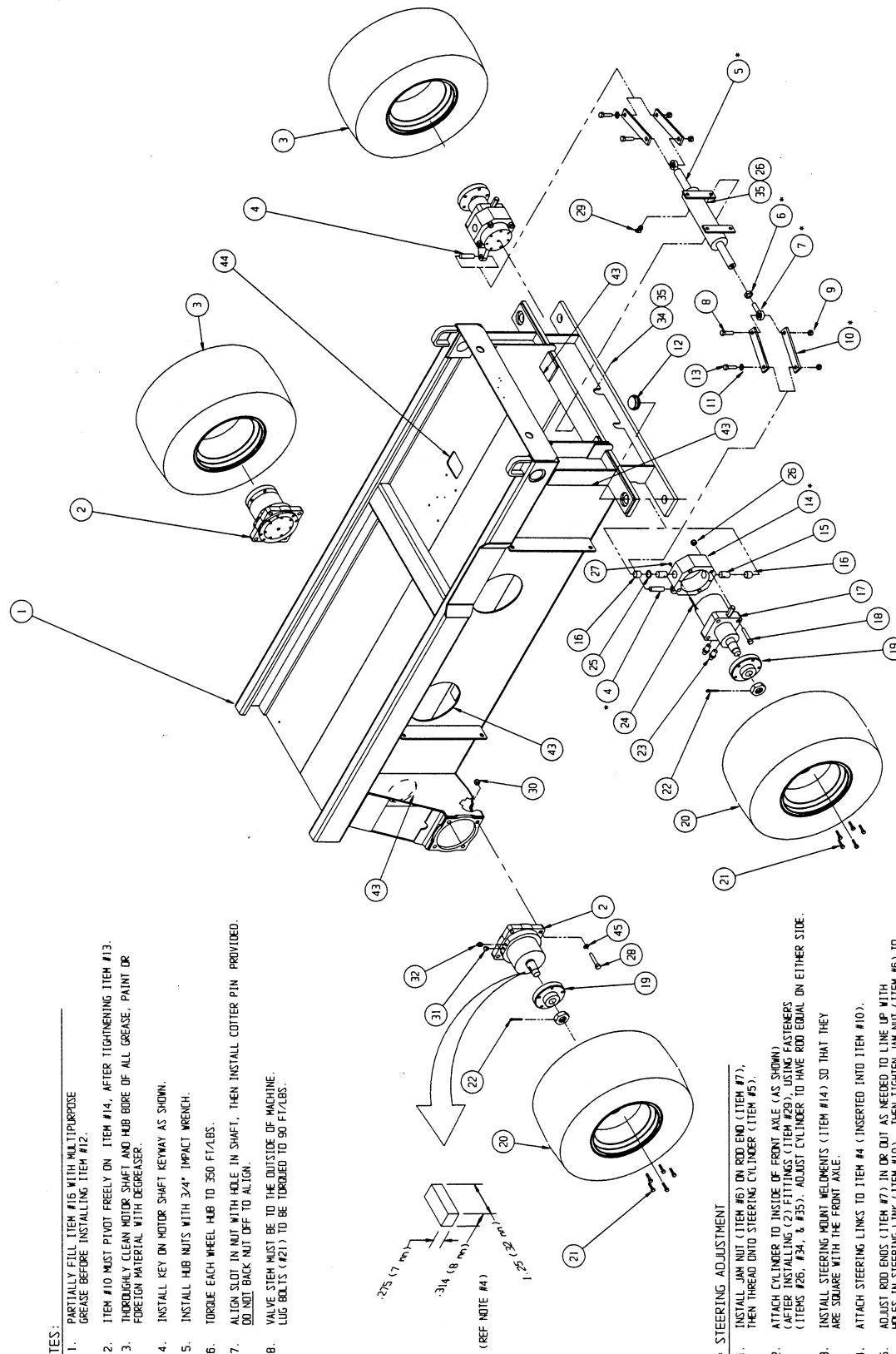
066932-002

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-007	CHASSIS WEIGHT INST'L 33' XRT WELDMENT	1
2	067171-000	REAR BRAKE (2WD)	2
3	064054-011	WHEEL & TIRE ASSY T/S (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
20	064054-010	WHEEL & TIRE ASSY T/S (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
36	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 FT.
44	061692-099	GROMMET, TRIM	1.25 FT.
45	011239-010	WASHER, ASTM FLAT 5/8"	8

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



- NOTES:**
1. PARTIALLY FILL ITEM #18 WITH MULTIPURPOSE GREASE BEFORE INSTALLING ITEM #12.
  2. ITEM #10 MUST PIVOT FREELY ON ITEM #14. AFTER TIGHTENING ITEM #13.
  3. THOROUGHLY CLEAN MOTOR SHAFT AND HUB BORE OF ALL GREASE, PAINT OR FOREIGN MATERIAL WITH DEGREASER.
  4. INSTALL KEY ON MOTOR SHAFT KEYWAY AS SHOWN.
  5. INSTALL HUB NUTS WITH 3/4" IMPACT WRENCH.
  6. TORQUE EACH WHEEL HUB TO 350 FT/LBS.
  7. ALIGN SLOT IN NUT WITH HOLE IN SHAFT, THEN INSTALL COTTER PIN PROVIDED. DO NOT BACK NUT OFF TO ALIGN.
  8. VALVE STEM MUST BE TO THE OUTSIDE OF MACHINE. LUG BOLTS (#21) TO BE TORQUED TO 90 FT/LBS.

- \* STEERING ADJUSTMENT**
1. INSTALL JAM NUT (ITEM #6) ON ROD END (ITEM #7), THEN THREAD ONTO STEERING CYLINDER (ITEM #5).
  2. ATTACH CYLINDER TO INSIDE OF FRONT AXLE (AS SHOWN) (AFTER INSTALLING (2) FITTINGS (ITEM #20) USING FASTENERS (ITEMS #26, #34, & #35). ADJUST CYLINDER TO HAVE ROD EQUAL ON EITHER SIDE.
  3. INSTALL STEERING MOUNT WELDMENTS (ITEM #14) SO THAT THEY ARE SQUARE WITH THE FRONT AXLE.
  4. ATTACH STEERING LINKS TO ITEM #4 (INSERTED INTO ITEM #10).
  5. ADJUST ROD ENDS (ITEM #7) IN OR OUT AS NEEDED TO LINE UP WITH ADJUST STEERING LINK (ITEM #10). THEN TIGHTEN JAM NUT (ITEM #6) TO LOCK ROD END (ITEM #7) IN POSITION.
  6. WHEN PROPERLY ADJUSTED, WHEELS SHOULD TURN THROUGH THE SAME ANGLE.

CHASSIS ASSY - 2WD - XRT 33 FT  
066932-002

## Section 6.1

# ILLUSTRATED PARTS BREAKDOWN

### Chassis Assembly XRT33 4WD

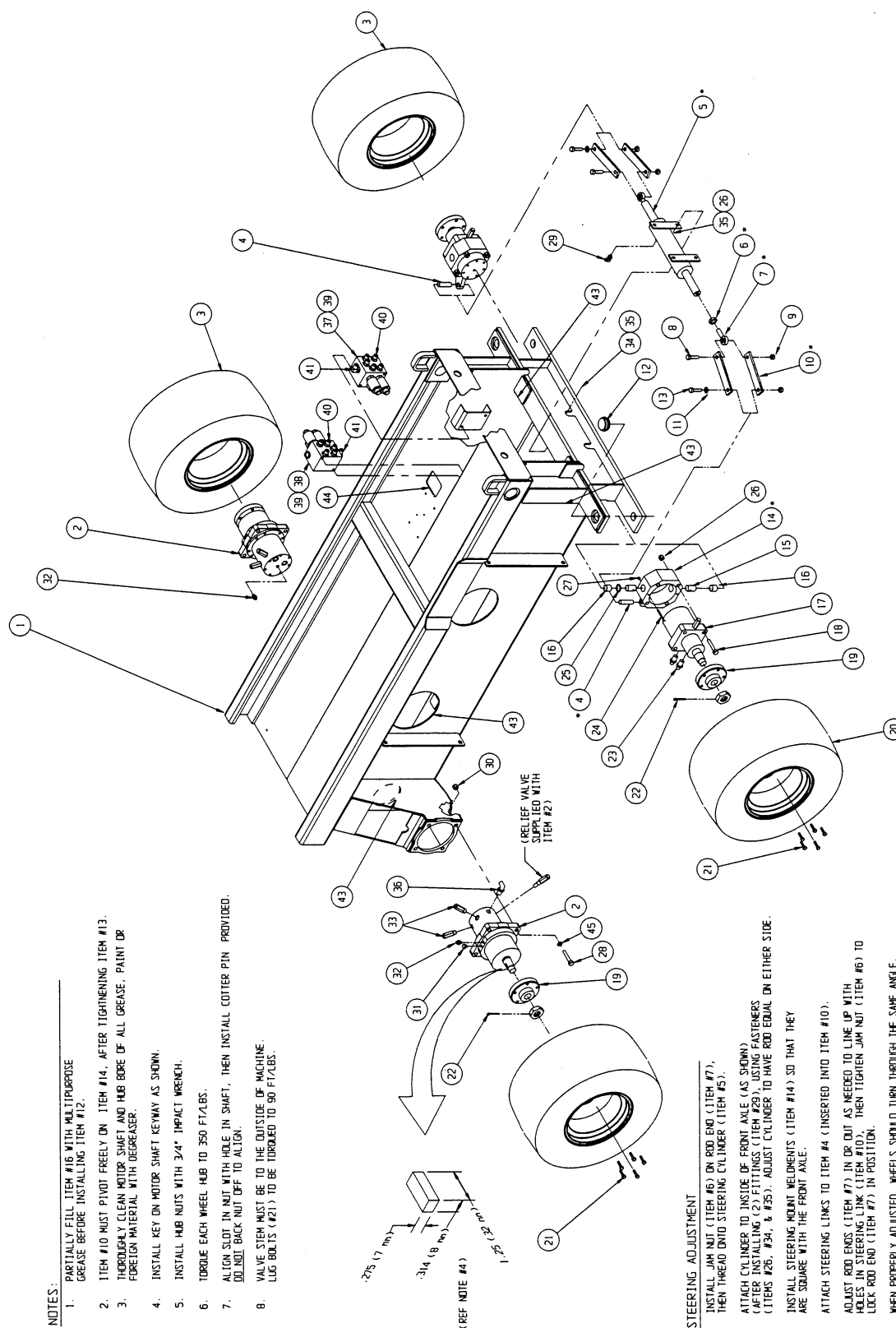
066932-003

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-007	CHASSIS WEIGHT INSTALLMENT - 33XRT	1
2	067184-000	REAR DRIVE MOTOR W/BRAKE	2
3	064054-011	WHEEL & TIRE ASSY T/S (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR 2-13UNC X 5	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4
20	064054-010	WHEEL & TIRE ASSY T/S (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
33	011941-014	FITTING, 10MB-8MJ	4
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
36	011934-001	FITTING, 90° 4MB-4MJ	2
37	067183-000	SERIES PARALLEL VALVEBLOCK	1
38	067183-001	SERIES PARALLEL VALVEBLOCK	1
39	011254-044	SCREW, HHC GR5 3/8 X 5"	4
40	011941-010	FITTING, 8MB-8MJ	10
41	011940-015	FITTING, 8MB-8MJ, 90°	2
42	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 FT.
44	067805-099	GROMMET, TRIM	1.25 FT.
45	011239-010	WASHER, ASTM FLAT 5/8"	8

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



### NOTES:

1. PARTIALLY FILL ITEM #16 WITH MULTIPURPOSE GREASE BEFORE INSTALLING ITEM #12.
2. ITEM #10 MUST PIVOT FREELY ON ITEM #14. AFTER TIGHTENING ITEM #13, THOROUGHLY CLEAN MOTOR SHAFT AND HUB BORE OF ALL GREASE. PAINT OR FOREGOIN MATERIAL WITH DEGREASER.
4. INSTALL KEY ON MOTOR SHAFT KEYWAY AS SHOWN.
5. INSTALL HUB NUTS WITH 3/4" IMPACT WRENCH.
6. TORQUE EACH WHEEL HUB TO 350 FT/LBS.
7. ALIGN SLOT IN NUT WITH HOLE IN SHAFT, THEN INSTALL COTTER PIN PROVIDED. DO NOT BACK NUT OFF TO ALIGN.
8. VALVE STEM MUST BE TO THE OUTSIDE OF MACHINE. LUG BOLTS (#21) TO BE TORQUED TO 90 FT/LBS.

### \* STEERING ADJUSTMENT

1. INSTALL JAM NUT (ITEM #6) ON ROD END (ITEM #7), THEN THREAD INTO STEERING CYLINDER (ITEM #5).
2. ATTACH CYLINDER TO INSIDE OF FRONT AXLE (AS SHOWN) AFTER INSTALLING (2) FITTINGS (ITEM #20) USING FASTENERS (ITEMS #26, #34, & #35). ADJUST CYLINDER TO HAVE ROD EQUAL ON EITHER SIDE.
3. INSTALL STEERING MOUNT WELDMENTS (ITEM #14) SO THAT THEY ARE SQUARE WITH THE FRONT AXLE.
4. ATTACH STEERING LINKS TO ITEM #4 (INSERTED INTO ITEM #10).
5. ADJUST ROD ENDS (ITEM #7) IN OR OUT AS NEEDED TO LINE UP WITH HOLES IN STEERING LINK (ITEM #10). THEN TIGHTEN JAM NUT (ITEM #6) TO LOCK ROD END (ITEM #7) IN POSITION.
6. WHEN PROPERLY ADJUSTED, WHEELS SHOULD TURN THROUGH THE SAME ANGLE.

CHASSIS ASSY - 4WD - XRT 33 FT  
066932-003

## Section 6.1

# ILLUSTRATED PARTS BREAKDOWN

### Chassis Assembly XRT33 2WD P/F

066932-004

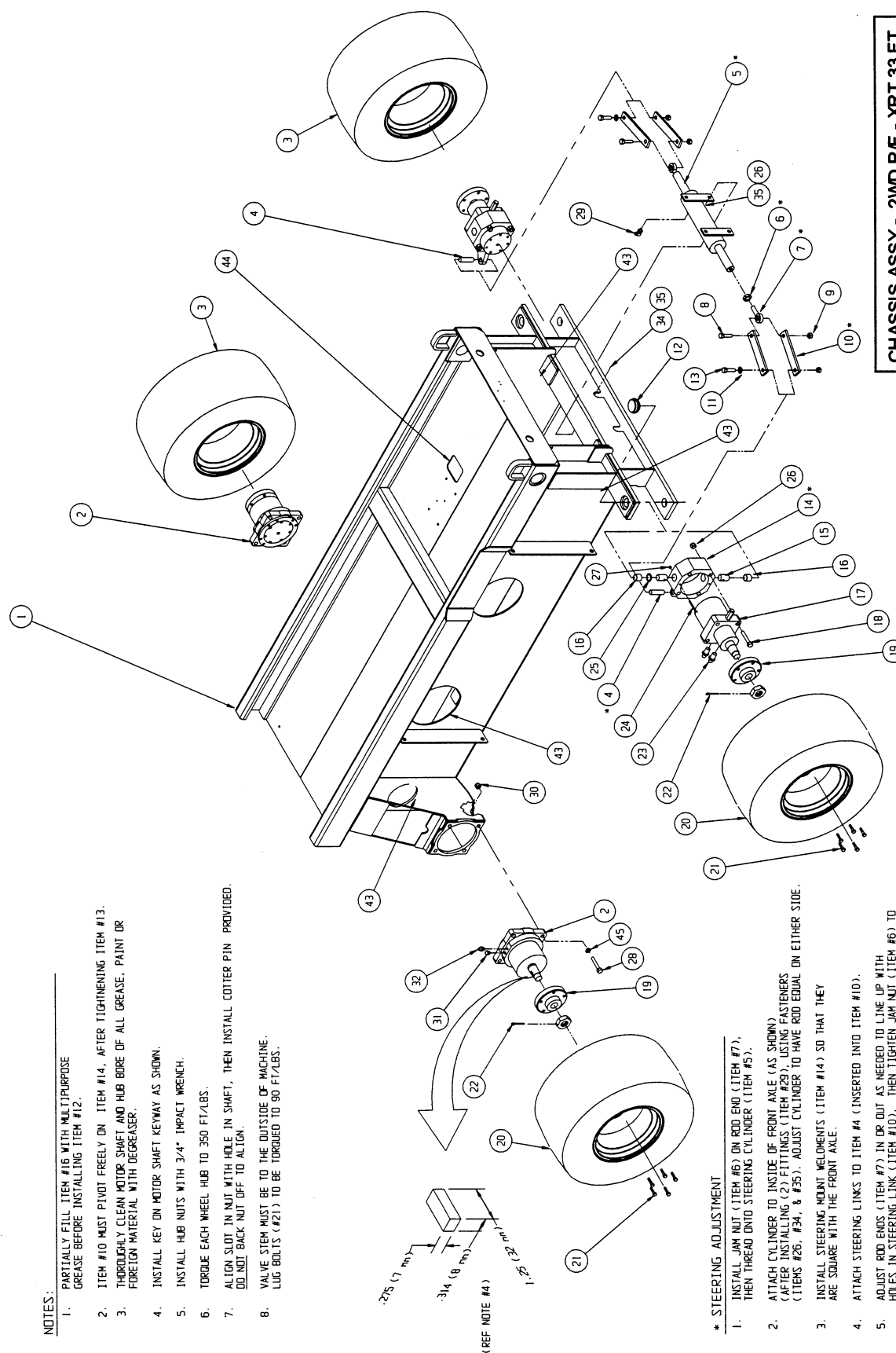
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-008	CHASSIS WEIGHT INST'L 27" XRT P/F WELDMENT	1
2	067171-000	REAR BRAKE (2WD)	2
3	064187-011	WHEEL & TIRE ASSY POLYFILL (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
20	064187-010	WHEEL & TIRE ASSY POLYFILL (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC X 1-3/4	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
36	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 FT.
44	061692-099	GROMMET, TRIM	1.25 FT.
45	011238-010	WASHER, FLAT ASTM 5/8"	8



# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



CHASSIS ASSY - 2WD P/F - XRT 33 FT  
066932-004

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Chassis Assembly XRT33 4WD P/F

066932-005

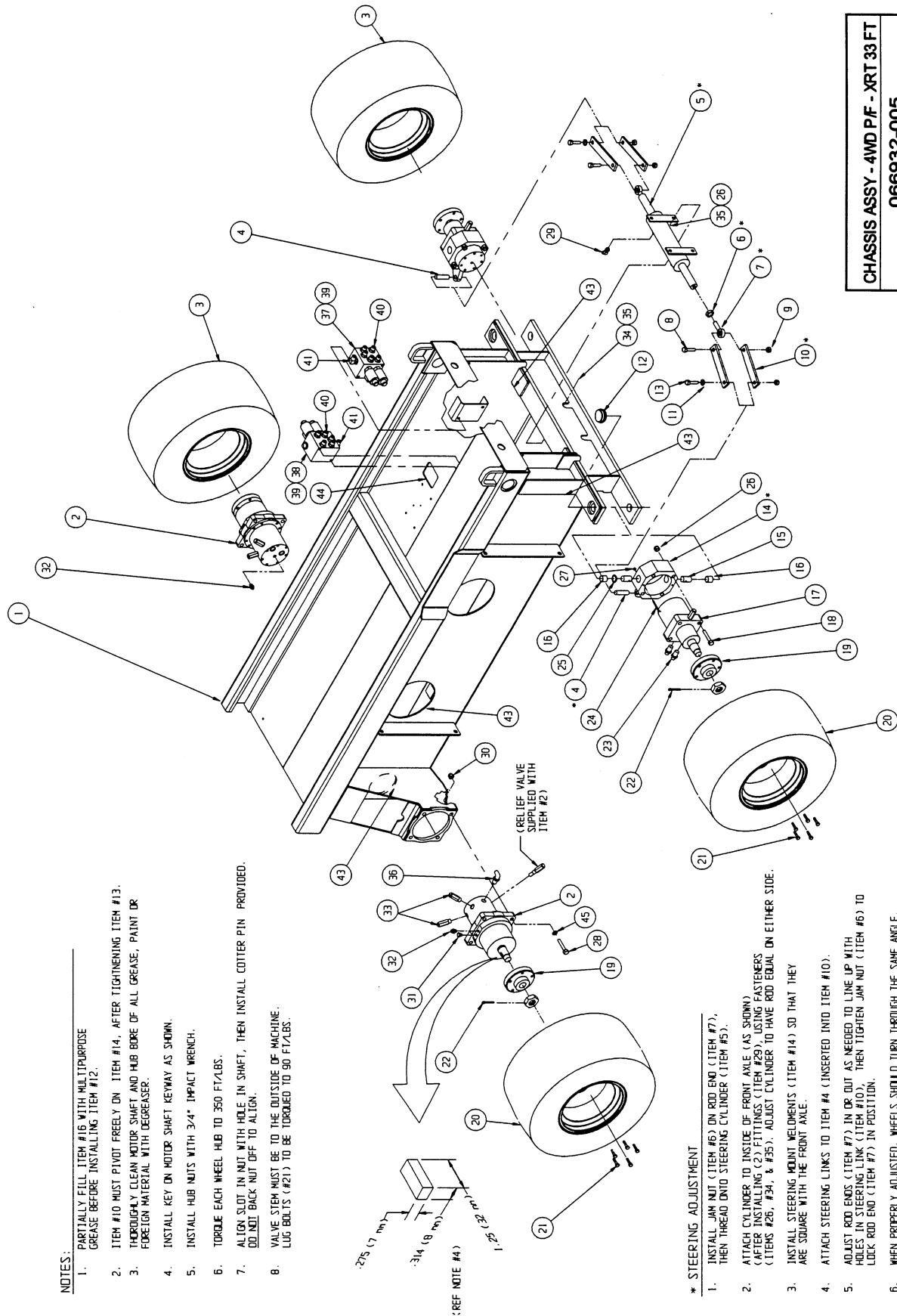
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-008	CHASSIS WEIGHT INST'L 33 X-RT P/F WELDMT	1
2	067184-000	REAR DRIVE MOTOR W/BRAKE	2
3	064187-011	WHEEL & TIRE ASSY POLYFILL (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4
20	064187-010	WHEEL & TIRE ASSY POLYFILL (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
33	011941-014	FITTING, 10MB-8MJ	4
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
36	011934-001	FITTING, 90° 4MB-4MJ	2
37	067183-000	SERIES PARALLEL VALVE BLOCK	1
38	067183-001	SERIES PARALLEL VALVE BLOCK	1
39	011254-044	SCREW, HHC GR5 3/8 X 5"	4
40	011941-010	FITTING, 8MB-8MJ	10
41	011940-015	FITTING, 8MB-8MJ, 90°	2
42	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 FT.
44	061692-099	GROMMET, TRIM	1.25 FT.
45	011239-010	WASHER, FLAT ASTM 5/8"	8

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1

CHASSIS ASSY - 4WD PF - XRT 33 FT  
066932-005



- NOTES:**
- PARTIALLY FILL ITEM #16 WITH MULTIPURPOSE GREASE BEFORE INSTALLING ITEM #12.
  - ITEM #10 MUST PIVOT FREELY ON ITEM #14. AFTER TIGHTENING ITEM #13.
  - THOROUGHLY CLEAN MOTOR SHAFT AND HUB BORE OF ALL GREASE, PAINT OR FOREIGN MATERIAL WITH DEGREASER.
  - INSTALL KEY ON MOTOR SHAFT KEYWAY AS SHOWN.
  - INSTALL HUB NUTS WITH 3/4" IMPACT WRENCH.
  - TORQUE EACH WHEEL HUB TO 350 FT/LBS.
  - ALIGN SLOT IN NUT WITH HOLE IN SHAFT, THEN INSTALL COTTER PIN PROVIDED. DO NOT BACK NUT OFF TO ALIGN.
  - VALVE STEM MUST BE TO THE OUTSIDE OF MACHINE. LUG BOLTS (#21) TO BE TORQUED TO 90 FT/LBS.

- \* STEERING ADJUSTMENT**
- INSTALL JAM NUT (ITEM #6) ON ROD END (ITEM #7), THEN THREAD ONTO STEERING CYLINDER (ITEM #5).
  - ATTACH CYLINDER TO INSIDE OF FRONT AXLE (AS SHOWN) (AFTER INSTALLING (2) FITTINGS (ITEM #29), USING FASTENERS (ITEMS #26, #34, & #35). ADJUST CYLINDER TO HAVE ROD EQUAL ON EITHER SIDE.
  - INSTALL STEERING MOUNT WELDMENTS (ITEM #14) SO THAT THEY ARE SQUARE WITH THE FRONT AXLE.
  - ATTACH STEERING LINKS TO ITEM #4 (INSERTED INTO ITEM #10).
  - ADJUST ROD ENDS (ITEM #7) IN OR OUT AS NEEDED TO LINE UP WITH HOLES IN STEERING LINK (ITEM #10). THEN TIGHTEN JAM NUT (ITEM #6) TO LOCK ROD END (ITEM #7) IN POSITION.
  - WHEN PROPERLY ADJUSTED, WHEELS SHOULD TURN THROUGH THE SAME ANGLE.

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Chassis Assembly XRT27 2WD P/F

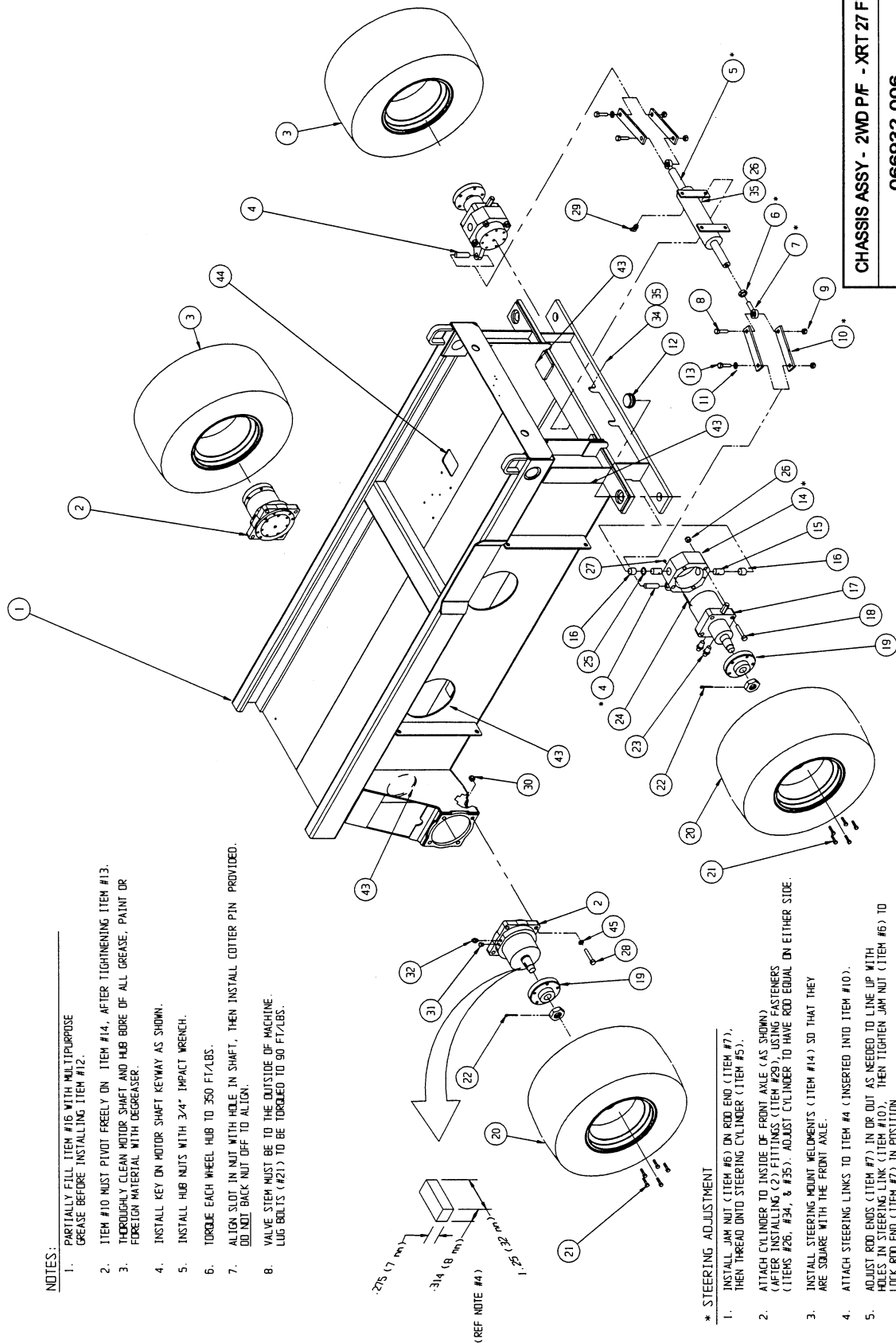
066932-006

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-006	CHASSIS WEIGHT INST'L 27"XRT P/F WELDMENT	1
2	067171-000	REAR BRAKE (2WD)	2
3	064187-011	WHEEL & TIRE ASSY POLYFILL (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
20	064187-010	WHEEL & TIRE ASSY POLYFILL (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
37	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 Ft.
44	061692-099	GROMMET, TRIM	1.25 ft.
45	011239-010	WASHER, FLAT ASTM 5/8"	8

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Chassis Assembly XRT27 4WD P/F

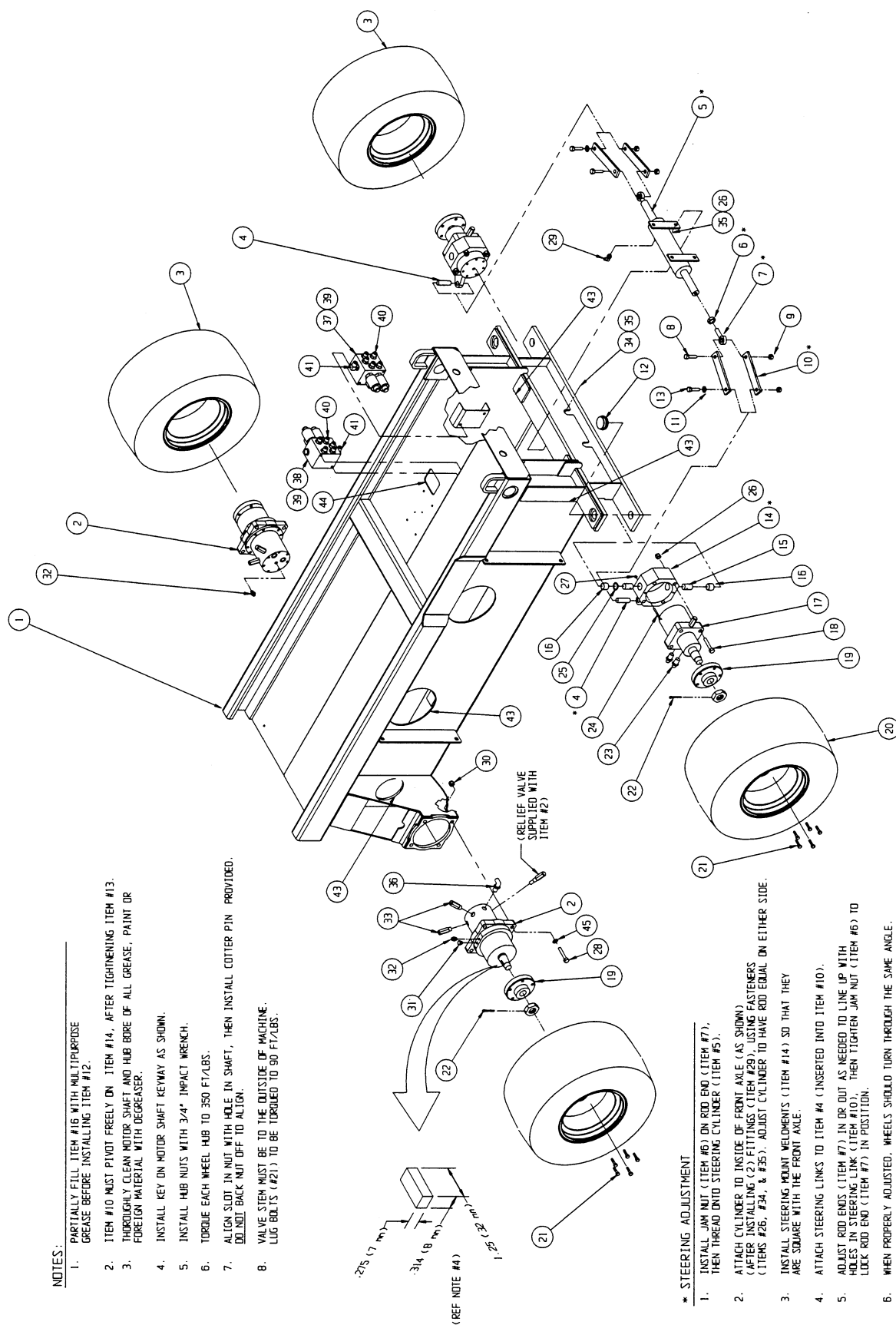
066932-007

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066950-006	CHASSIS WEIGHT INST'L 27' XRT P/F WELDMENT	1
2	067184-000	REAR DRIVE MOTOR W/BRAKE	2
3	064187-011	WHEEL & TIRE ASSY POLYFILL (LH)	REF
4	062642-001	BEARING	2
5	067168-000	CYLINDER - STEERING	1
6	020495-010	NUT, HEX JAM 5/8-18 UNF	2
7	063927-001	ROD END 5/8-18 UNF	2
8	011257-024	SCREW HHC GR5 5/8-11UNC X 3	2
9	011248-010	NUT HEX ESNA 5/8-11UNC	4
10	067221-000	STEERING LINK	4
11	011240-010	WASHER, FLAT STD 5/8 DIA.	2
12	005078-000	CAP, DUST	2
13	064150-000	SERRATED BOLT	2
14	064030-001	STEERING MOUNT WELDMENT	2
15	064034-001	PIVOT PIN	4
16	067606-013	BEARING, GARLOCK #020DXR012	4
17	067169-000	FRONT DRIVE MOTOR	2
18	011256-040	SCREW, HHC GR5 1/2-13UNC X 5	8
19	064029-001	HUB, DRIVE MOTOR	4
20	064187-010	WHEEL & TIRE ASSY POLYFILL (RH)	REF
21	014122-001	WHEEL BOLT, 1/2-20UNF 90° X 1" LG	20
22	011754-012	COTTER PIN 5/32 DIA X 1 1/2	4
23	011941-014	FITTING, STR 10MB-8MJ	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	011252-024	SCREW HHC GR5 1/4-20UNC X 3	4
25	011782-001	BEARING, THRUST WASHER	2
26	011248-008	NUT, HEX ESNA 1/2-13UNC	8
27	011248-004	NUT, HEX ESNA 1/4-20UNC	4
28	011257-014	SCREW HHC GR5 5/8-11UNC X 1-3/4	8
29	011934-004	FITTING 90° 4MB-4MJ	2
30	011248-010	NUT HEX ESNA 5/8-11UNC	8
31	020021-004	PLUG, O-RING -4	2
32	011941-001	FITTING, 4MB-4MJ	2
33	011941-014	FITTING, 10MB-8MJ	4
34	011256-008	SCREW, HHC GR5 1/2-13UNC X 1	4
35	011239-008	WASHER, ASTM FLAT 1/2"	8
36	011934-001	FITTING, 90° 4MB-4MJ	2
37	067183-000	SERIES PARALLEL VALVE BLOCK	1
38	067183-001	SERIES PARALLEL VALVE BLOCK	1
39	011254-044	SCREW, HHC GR5 3/8 X 5"	4
40	011941-010	FITTING, 8MB-8MJ	10
41	011940-015	FITTING, 8MB-8MJ, 90°	2
42	067313-000	COVER, FRONT CHASSIS	1
43	067805-099	GROMMET, TRIM	14.25 Ft.
44	061692-099	GROMMET, TRIM	1.25 Ft.
45	011239-010	WASHER, 5/8 ASTM FLAT	8

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Linkage Assembly XRT27

066933-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066183-000	BEARING, OILITE #EP3236-24	42
2	066601-000	LIFT CYLINDER	1
3	066201-001	WELDMENT, MID INNER TUBE 1/8	1
4	066961-000	WELDMENT, BOTTOM OUTER 3/16	2
5	066962-000	WELDMENT, BOTTOM INNER 3/16	1
6	066211-002	WELDMENT, MID OUTER 1/4	2
7	066210-000	WELDMENT, PIVOT PIN	19
8	066224-000	PIN, LIFT CYLINDER	2
9	066225-000	PIN, SHAFT LOCKING	2
10	011764-032	RET RING TRUARC #5100-200	2
11	066214-000	WELDMENT, SAFETY STAND	1
12	011248-005	NUT HEX 5/16-18	20
13	011248-006	NUT HEX 3/8-16	1
14	015936-023	SCREW SHOULDER 3/8-16 X 3 1/2	20
15	011254-044	SCREW HHC GR5 3/8-16 X 5 1/2	1
16	066240-001	WELDMENT, TOP OUTER 3/16	1
17	066211-001	WELDMENT, MID OUTER ARM 1/8	2
18	066199-000	PIPE RING	4

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	066226-000	CHANNEL, CABLE	1
20	011248-004	NUT HEX 1/4-20	4
21	011252-008	SCREW HHC GR5 1/4-20 X 1	3
22	066120-000	WELDMENT, MID INNER ARM 3/16	1
23	066121-000	WELDMENT, TOP INNER ARM 1/8	1
24	011239-002	WASHER 2 DIA ASTM	2
25	011740-024	ROLL PIN 1/2 X 3	2
26	065367-001	BEARING TORRINGTON #YCRS32	1
27	066574-001	WELDMENT, TORSION ARM L.H.	1
28	011257-028	SCREW HHC 5/8-11 X 3 1/2	1
29	011246-010	NUT 5/8-11 THIN HEX	1
30	066224-001	PIN, LIFT CYLINDER	1
31	066226-001	CHANNEL, CABLE	1
32	066210-002	WELDMENT, PIVOT PIN	1
33	066574-002	WELDMENT, TORSION ARM R.H.	1
34	011239-010	WASHER, FLAT 5/8 ASTM	4
35	067318-000	BRACKET, PLATFORM DOWN	1
36	066179-001	VALVE - LOWERING	1

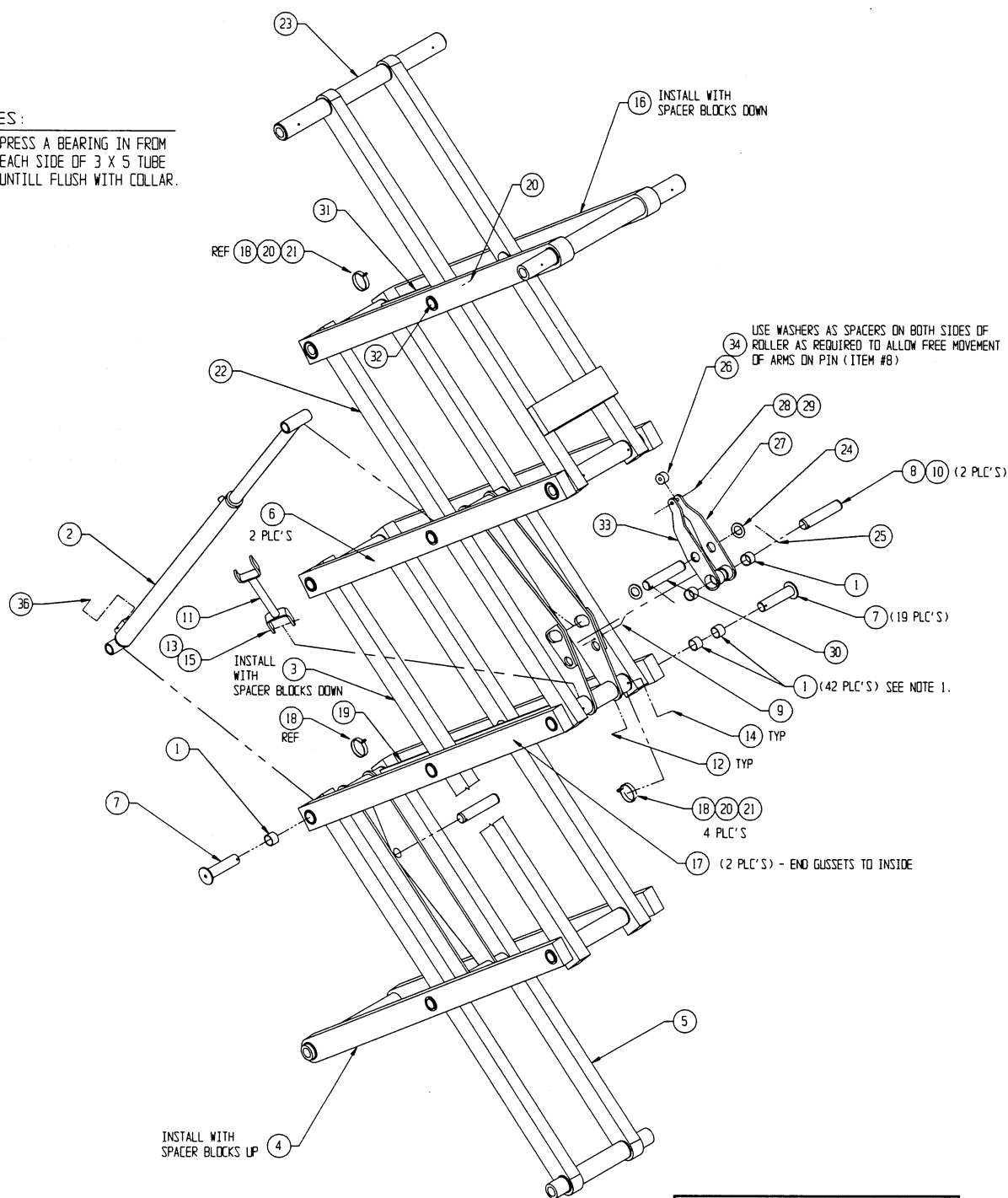


# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1

### NOTES:

1. PRESS A BEARING IN FROM EACH SIDE OF 3 X 5 TUBE UNTILL FLUSH WITH COLLAR.



ASSEMBLY, SCISSOR ARM X27 RT  
66933-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Linkage Assembly XRT33

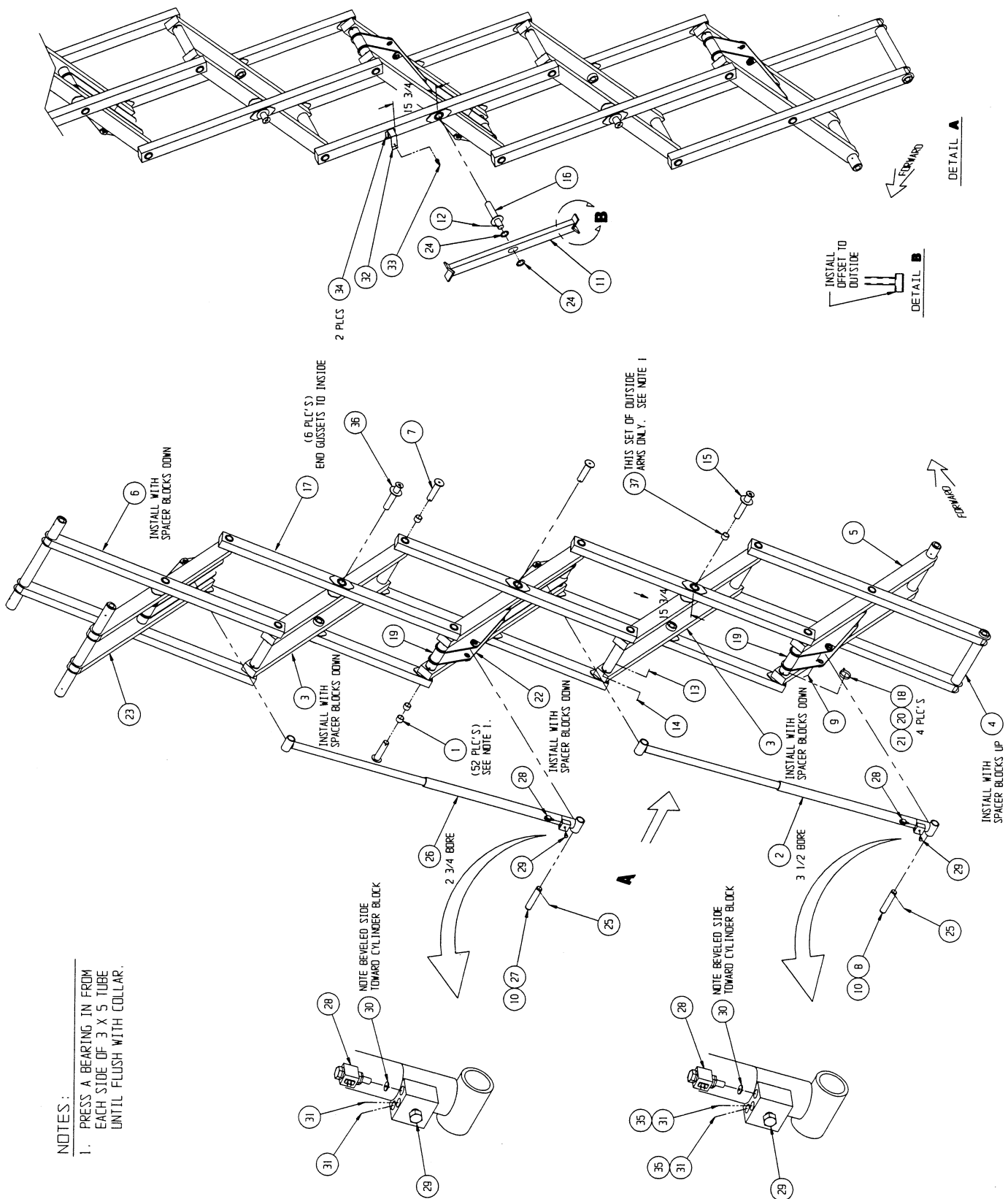
066934-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066183-000	BEARING, OILITE #EP3236-24	40
2	066601-000	LIFT CYLINDER 3-1/2" BORE	1
3	066201-001	WELDMENT, MID INNER TUBE 1/8	2
4	066961-000	WELDMENT, BOTTOM OUTER 3/16	1
5	066962-000	WELDMENT, BOTTOM INNER 3/16	1
6	066240-001	WELDMENT, TOP OUTER 3/16	1
7	066210-000	WELDMENT, PIVOT PIN	23
8	066224-000	PIN, LIFT CYLINDER	2
9	066225-000	PIN, SHAFT LOCKING	4
10	011764-032	RET RING TRUARC #5100-200	4
11	067591-000	WELDMENT, SAFETY STAND	1
12	011757-028	COTTER PIN 3/8 DIA X 3-1/2	1
13	011248-005	NUT HEX 5/16-18	26
14	015936-023	SCREW SHOULDER 3/8 X 3 1/2	26
15	066210-010	WELDMENT, PIVOT PIN	1
16	066210-011	WELDMENT, PIVOT PIN	1
17	066211-001	WELDMENT, MID OUTER ARM 1/8	6
18	066199-000	PIPE RING	4
19	066226-000	CHANNEL, CABLE	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
20	011248-004	NUT HEX 1/4-20	4
21	011252-008	SCREW HHC GR5 1/4-20 X 1	4
22	066120-011	WELDMENT, MID INNER ARM 1/4	1
23	066121-010	WELDMENT, TOP INNER ARM 1/8	1
24	011786-017	MACHINERY BUSHING 2" ID X 14GA	2
25	011740-024	ROLL PIN 1/2 X 3	2
26	066168-000	LIFT CYLINDER 2-3/4" BORE	1
27	066224-010	PIN LIFT CYLINDER	2
28	066179-001	VALVE SOLENOID - LOWERING	2
29	066811-000	FITTING, VELOCITY FUSE	2
30	063664-008	ORIFICE HYDRFORCE #7051070	2
31	011941-005	FITTING STR 6MB-6MJ	4
32	066814-000	WELDMENT, SCISSOR BRACE	1
33	03570-001	RETAINING RING	1
34	026554-002	RIVET 1/4 POP	2
35	011937-003	FITTING 6FJX-6MJ 90	2
36	066210-012	WELDMENT, PIVOT PIN	1
37	068899-001	BEARING, GAR MAX 3236-24	12
38	067318-000	BRACKET, PLATFORM DOWN SWITCH	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



ASSEMBLY, SCISSOR ARM X33RT (US)

66934-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Control Module Assembly 2WD Dual Fuel

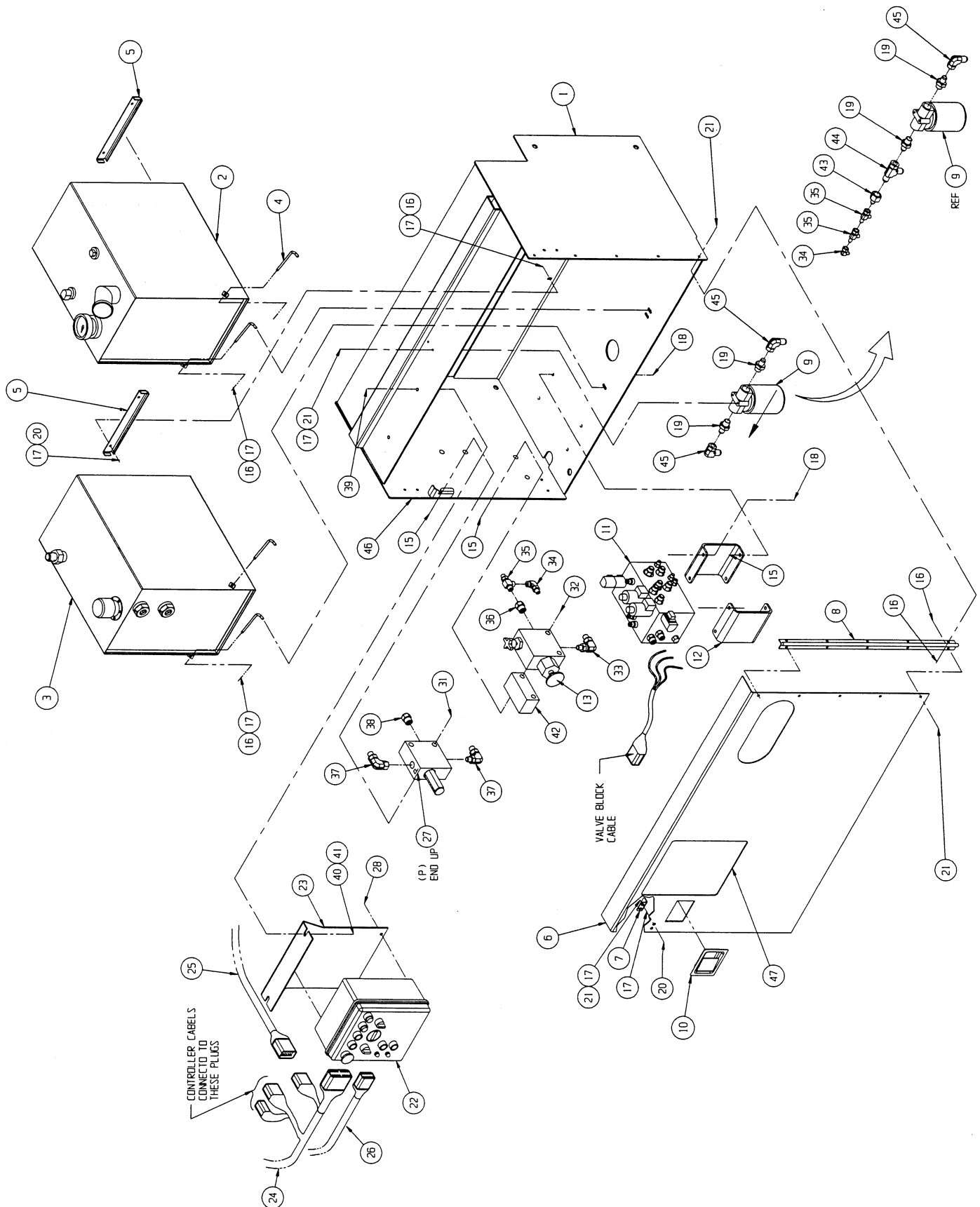
066935-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066951-000	WELDMNT, CONTROL MODULE	1
2	066999-000	FUEL TANK ASSY (X-RT) GAS	1
3	066998-000	HYDRAULIC TANK ASSY (X-RT)	1
4	067174-000	J- HOOK (X-RT)	4
5	066960-000	TANK BRACKET, REAR	2
6	067233-001	DOOR, POWER MODULE (X-RT)	1
7	067236-000	SUPPORT, DOOR LATCH END	1
8	067232-000	HINGE, DOOR	1
9	005154-001	FILTER, HYDRAULIC W/MOUNT	1
10	062791-002	LATCH, DOOR	1
11	067489-000	MAIN VALVE BLOCK ASSEMBLY (LX)	1
12	100267-002	BRACKET, VALVE BLOCK	2
13	063978-000	BRAKE PUMP	1
14	011254-004	SCREW, HHC 3/8-16 UNC x 1/2	6
15	011248-006	NUT, HEX 3/8-16UNC ESNA	10
16	011248-004	LOCKNUT, HEX 1/4-20UNC	18
17	011240-004	WASHER, STD FLAT 1/4"	10
18	011254-008	SCREW, HHC 3/8-16 UNC X 1"	8
19	011939-019	FITTING, 12MP-8MJ	2
20	011252-006	SCREW HHC 1/4-20UNC X 3/4"	16
21	011248-004	NUT, HEX, ESNA, 1/4-20UNC	2
22	067491-001	CONTROL BOX XRT	1
23	067283-000	MOUNT, LOWER CONTROL BOX	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	067492-010	WIRE HARNESS - MAIN	1
25	067492-002	WIRE HARNESS - VALVE BLOCK (XRT)	1
26	067492-012	WIRE HARNESS, ENGINE EXTENSION	1
27	067477-000	PRESSURE REDUCING VALVE	1
28	011826-006	SCREW, RD HD 10-32UNC X 3/4	4
31	011254-016	SCREW HHC 3/8UNC X 2"	2
32	011254-028	SCREW HHC 3/8UNC X 3 1/2"	2
33	011934-004	FITTING, 6MB-6MJ, 90°	2
34	011937-001	FITTING, 4FJ-4MJ 90°	2
35	020733-001	FITTING, TEE, 4MJ-4MJ-4FJ	3
36	011941-001	FITTING, 4MB-4MJ	1
37	011934-003	FITTING, 6MB-4MJ, 90°	2
38	011941-004	FITTING, 6MB-4MJ	1
39	011253-008	SCREW HHC 5/16-18UNC X 1"	2
40	011248-005	NUT, HEX 5/16-18UNC ESNA	2
41	011240-005	WASHER FLAT STD 5/16	2
42	065183-000	BRAKE PUMP SPACER	1
43	013969-002	FITTING, REDUCER, 8MJ-4MJ	1
44	020733-003	FITTING, TEE, 8MJ-8MJ-8FJ	1
45	011937-004	FITTING, 8FJ-8MJ, 90°	2
46	061692-099	GROMMIT, TRIM LOCK	1.67 Ft.
47	100395-099	TRIM SEAL, 3/4 BULB	3.75 Ft.

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Control Module Assembly 2WD Diesel

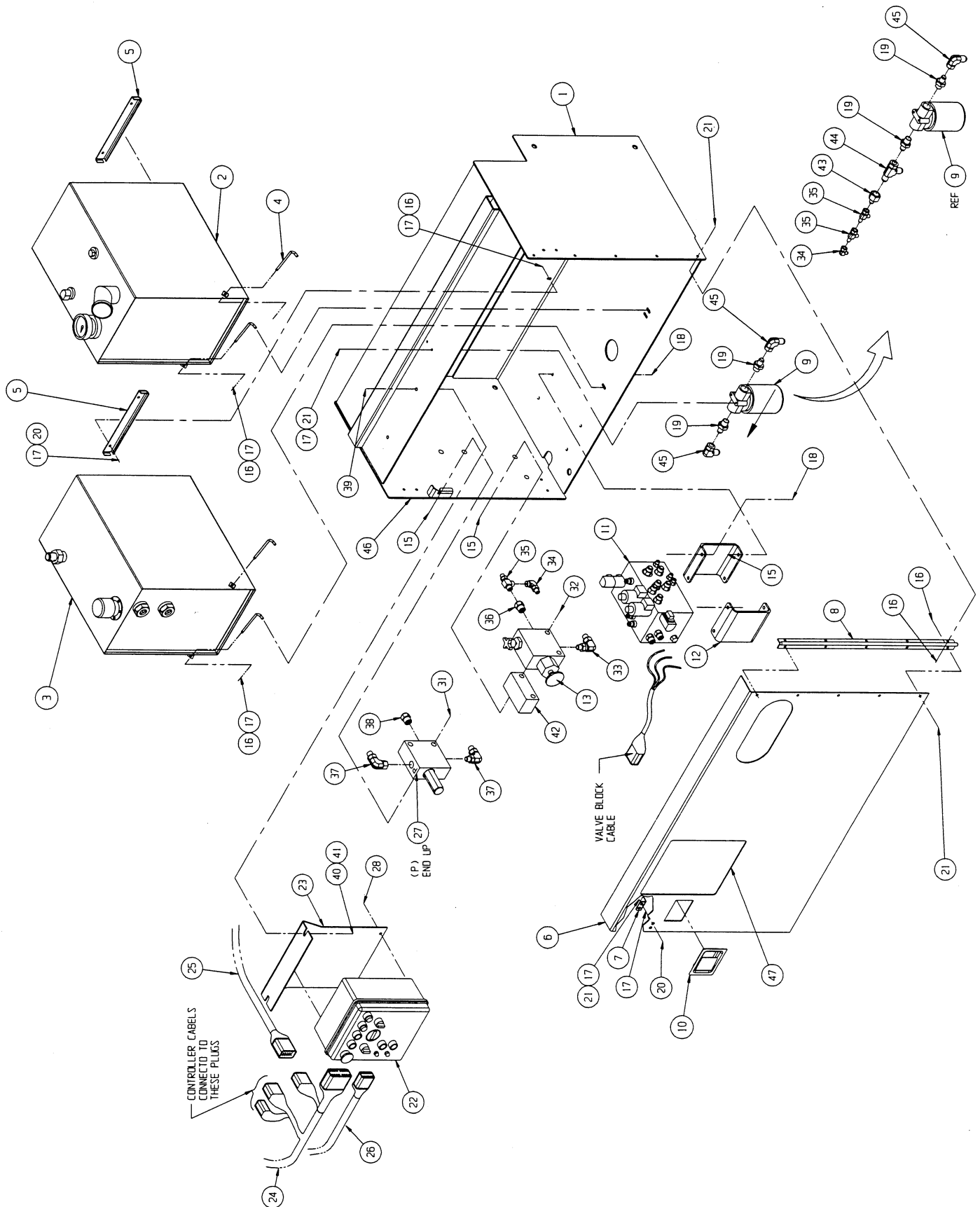
066935-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066951-000	WELDMENT, CONTROL MODULE	1
2	066999-001	FUEL TANK ASSY (X-RT) DIESEL	1
3	066998-000	HYDRAULIC TANK ASSY (X-RT)	1
4	067174-000	J- HOOK (X-RT)	4
5	066960-000	TANK BRACKET, REAR	2
6	067233-001	DOOR, POWER MODULE (X-RT)	1
7	067236-000	SUPPORT, DOOR LATCH END	1
8	067232-000	HINGE, DOOR	1
9	005154-001	FILTER, HYDRAULIC W/MOUNT	1
10	062791-002	LATCH, DOOR	1
11	067489-000	MAIN VALVE BLOCK ASSEMBLY	1
12	100267-002	BRACKET, VALVE BLOCK	2
13	063978-000	BRAKE PUMP	1
14	011254-004	SCREW, HHC 3/8-16 UNC x 1/2	6
15	011248-006	NUT, HEX 3/8-16UNC ESNA	6
16	011248-004	LOCKNUT, HEX 1/4-20UNC	18
17	011240-004	WASHER, STD FLAT 1/4"	12
18	011254-008	SCREW, HHC 3/8-16 UNC X 1"	8
19	011939-019	FITTING, 12MP-8MJ	2
20	011252-006	SCREW HHC 1/4-20UNC X 3/4"	6
21	011248-004	NUT, HEX, ESNA, 1/4-20UNC	2
22	067491-002	CONTROL BOX XRT (DIESEL)	1
23	067283-000	MOUNT, LOWER CONTROL BOX	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	067492-010	WIRE HARNESS - MAIN	1
25	067492-002	WIRE HARNESS - VALVE BLOCK (XRT)	1
26	067492-012	WIRE HARNESS, ENGINE EXTENSION	1
27	067477-000	PRESSURE REDUCING VALVE	1
28	01826-006	SCREW, RD HD 10-32UNC X 3/4	4
31	011254-016	SCREW HHC 3/8UNC X 2"	2
32	011254-028	SCREW HHC 3/8UNC X 3 1/2"	2
33	011934-004	FITTING, 6MB-6MJ, 90°	2
34	011937-001	FITTING, 4FJ-4MJ 90°	2
35	020733-001	FITTING, TEE, 4MJ-4MJ-4FJ	3
36	011941-001	FITTING, 4MB-4MJ	1
37	011934-003	FITTING, 6MB-4MJ, 90°	2
38	011941-004	FITTING, 6MB-4MJ	1
39	011253-008	SCREW HHC 5/16-18UNC X 1"	2
40	011248-005	NUT, HEX 5/16-18UNC ESNA	2
41	011240-005	WASHER FLAT STD 5/16	2
42	065183-000	BRAKE PUMP SPACER	1
43	013969-002	FITTING, REDUCER, 8MJ-4MJ	1
44	020733-003	FITTING, TEE, 8MJ-8MJ-8FJ	1
45	011937-004	FITTING, 8FJ-8MJ, 90°	2
46	061692-099	GROMMIT, TRIM LOCK	1.67 Ft.
47	100395-099	TRIM SEAL, 3/4 BULB	3.75 Ft.

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
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# ILLUSTRATED PARTS BREAKDOWN

## Control Module Assembly 4WD Dual Fuel

066935-002

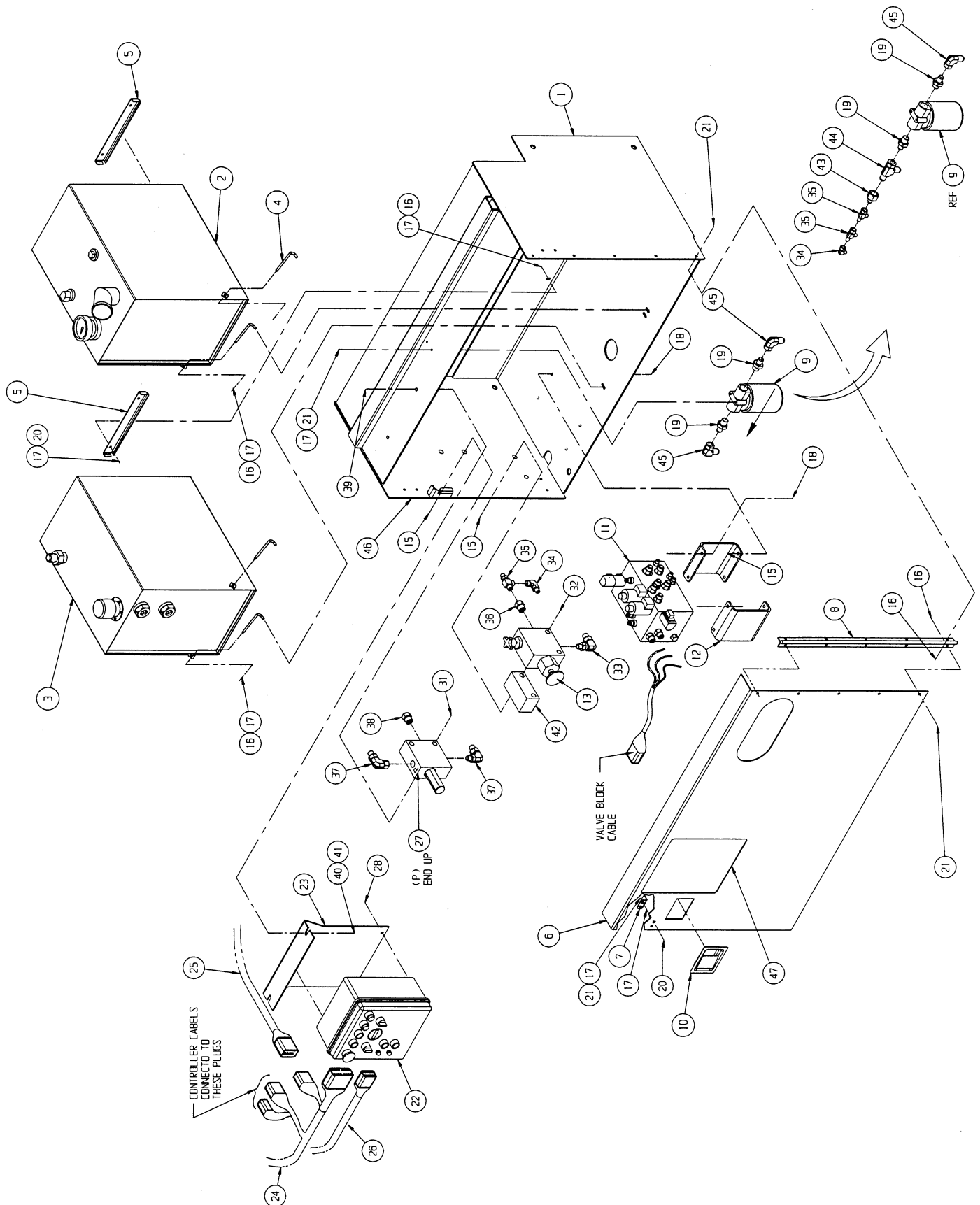
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066951-000	WELDMENT, CONTROL MODULE	1
2	066999-000	FUEL TANK ASSY (X-RT) GAS	1
3	066998-000	HYDRAULIC TANK ASSY (X-RT)	1
4	067174-000	J- HOOK (X-RT)	4
5	066960-000	TANK BRACKET, REAR	2
6	067233-001	DOOR, POWER MODULE (X-RT)	1
7	067236-000	SUPPORT, DOOR LATCH END	1
8	067232-000	HINGE, DOOR	1
9	005154-001	FILTER, HYDRAULIC W/MOUNT	1
10	062791-002	LATCH, DOOR	1
11	067489-002	MAIN VALVE BLOCK ASSEMBLY (4WD)	1
12	100267-002	BRACKET, VALVE BLOCK	2
13	063978-000	BRAKE PUMP - HAND	1
14	011254-004	SCREW, HHC 3/8-16 UNC x 1/2	6
15	011248-006	NUT, HEX 3/8-16UNC ESNA	6
16	011248-004	LOCKNUT, HEX 1/4-20UNC	20
17	011240-004	WASHER, STD FLAT 1/4"	8
18	011254-008	SCREW, HHC 3/8-16 UNC X 1"	8
19	011939-019	FITTING, 12MP-8MJ	2
20	011252-006	SCREW, HHC 1/4-20UNC X 3/4"	8
21	011248-004	NUT, HEX, ESNA, 1/4-20UNC	2
22	067491-001	CONTROL BOX XRT (D/F)	1
23	067283-000	MOUNT, LOWER CONTROL BOX	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	067492-010	WIRE HARNESS - MAIN	1
25	067492-002	WIRE HARNESS - VALVE BLOCK (XRT)	1
26	067492-012	WIRE HARNESS - ENGINE EXTENSION	1
27	067477-000	PRESSURE REDUCING VALVE	1
28	011826-006	SCREW RD HD 10-32UNC X 3/4	4
31	011254-016	SCREW HHC 3/8UNC X 2"	2
32	011254-028	SCREW HHC 3/8UNC X 3 1/2"	2
33	011934-004	FITTING, 6MB-6MJ, 90°	2
34	011937-001	FITTING, 4FJ-4MJ 90°	2
35	020733-001	FITTING, TEE, 4MJ-4MJ-4FJ	3
36	011941-001	FITTING, 4MB-4MJ	1
37	011934-003	FITTING, 6MB-4MJ, 90°	2
38	011941-004	FITTING, 6MB-4MJ	1
39	011253-008	SCREW HHC 5/16-18UNC X 1"	2
40	011248-005	NUT, HEX 5/16-18UNC ESNA	2
41	011240-005	WASHER FLAT STD 5/16	2
42	065183-000	BRAKE PUMP SPACER	1
43	013969-002	FITTING, REDUCER, 8MJ-4MJ	1
44	020733-003	FITTING, TEE, 8MJ-8MJ-8FJ	1
45	011937-004	FITTING, 8FJ-8MJ, 90°	2
46	061692-099	GROMMIT, TRIM LOCK	1.67 Ft.
47	100395-099	TRIM SEAL, 3/4 BULB	3.75 Ft.



# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
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# ILLUSTRATED PARTS BREAKDOWN

## Control Module Assembly 4WD Diesel

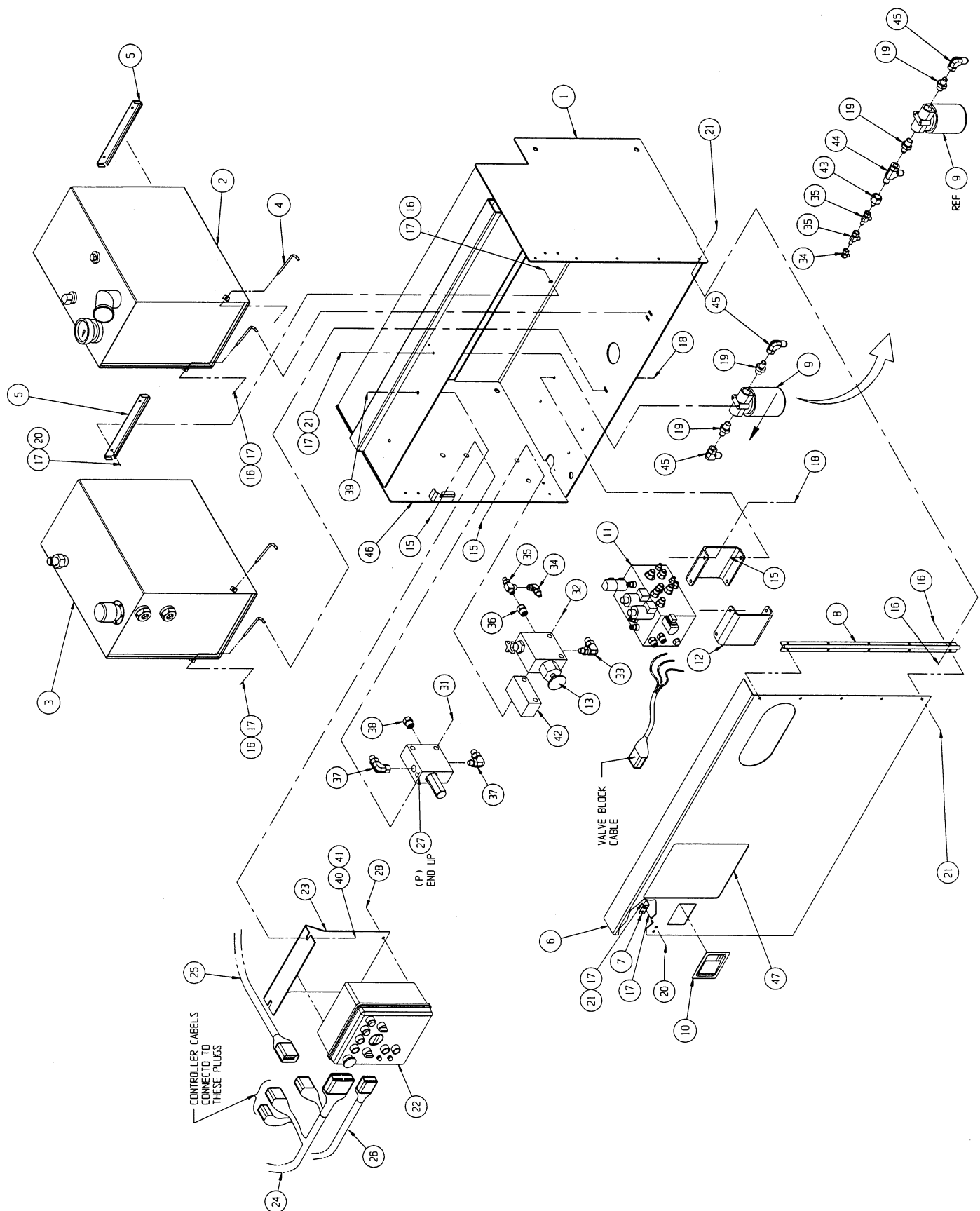
066935-003

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066951-000	WELDMNT, CONTROL MODULE	1
2	066999-001	FUEL TANK ASSY (X-RT) DIESEL	1
3	066998-000	HYDRAULIC TANK ASSY (X-RT)	1
4	067174-000	J- HOOK (X-RT)	4
5	066960-000	TANK BRACKET, REAR	2
6	067233-001	DOOR, POWER MODULE (X-RT)	1
7	067236-000	SUPPORT, DOOR LATCH END	1
8	067232-000	HINGE, DOOR	1
9	005154-001	FILTER, HYDRAULIC W/MOUNT	1
10	062791-002	LATCH, DOOR	1
11	067489-000	MAIN VALVE BLOCK ASSEMBLY	1
12	100267-002	BRACKET, VALVE BLOCK (4WD)	2
13	063978-000	BRAKE PUMP - HAND	1
14	011254-004	SCREW, HHC 3/8-16 UNC x 1/2	6
15	011248-006	NUT, HEX 3/8-16UNC ESNA	6
16	011248-004	LOCKNUT, HEX 1/4-20UNC	20
17	011240-004	WASHER, STD FLAT 1/4"	8
18	011254-008	SCREW, HHC 3/8-16 UNC X 1"	8
19	011939-019	FITTING, 12MP-8MJ	2
20	011252-006	SCREW, HHC 1/4-20UNC X 3/4"	8
21	011248-004	NUT, HEX, ESNA, 1/4-20UNC	2
22	067491-002	CONTROL BOX XRT (DIESEL)	1
23	067283-000	MOUNT, LOWER CONTROL BOX	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
24	067492-010	WIRE HARNESS - MAIN	1
25	067492-002	WIRE HARNESS - VALVE BLOCK (XRT)	1
26	067492-012	WIRE HARNESS - ENGINE EXTENSION	1
27	067477-000	PRESSURE REDUCING VALVE	1
28	011826-006	SCREW RD HD 10-32UNC X 3/4	4
31	011254-016	SCREW HHC 3/8UNC X 2"	2
32	011254-028	SCREW HHC 3/8UNC X 3 1/2"	2
33	011934-004	FITTING, 6MB-6MJ, 90°	2
34	011937-001	FITTING, 4FJ-4MJ 90°	2
35	020733-001	FITTING, TEE, 4MJ-4MJ-4FJ	3
36	011941-001	FITTING, 4MB-4MJ	1
37	011934-003	FITTING, 6MB-4MJ, 90°	2
38	011941-004	FITTING, 6MB-4MJ	1
39	011253-008	SCREW HHC 5/16-18UNC X 1"	2
40	011248-005	NUT, HEX 5/16-18UNC ESNA	2
41	011240-005	WASHER FLAT STD 5/16	2
42	065183-000	BRAKE PUMP SPACER	1
43	013969-002	FITTING, REDUCER, 8MJ-4MJ	1
44	020733-003	FITTING, TEE, 8MJ-8MJ-8FJ	1
45	011937-004	FITTING, 8FJ-8MJ, 90°	2
46	061692-099	GROMMIT, TRIM LOCK	1.67 Ft.
47	100395-099	TRIM SEAL, 3/4 BULB	3.75 Ft.

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
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# ILLUSTRATED PARTS BREAKDOWN

## Roll Out Tray Assembly Dual Fuel

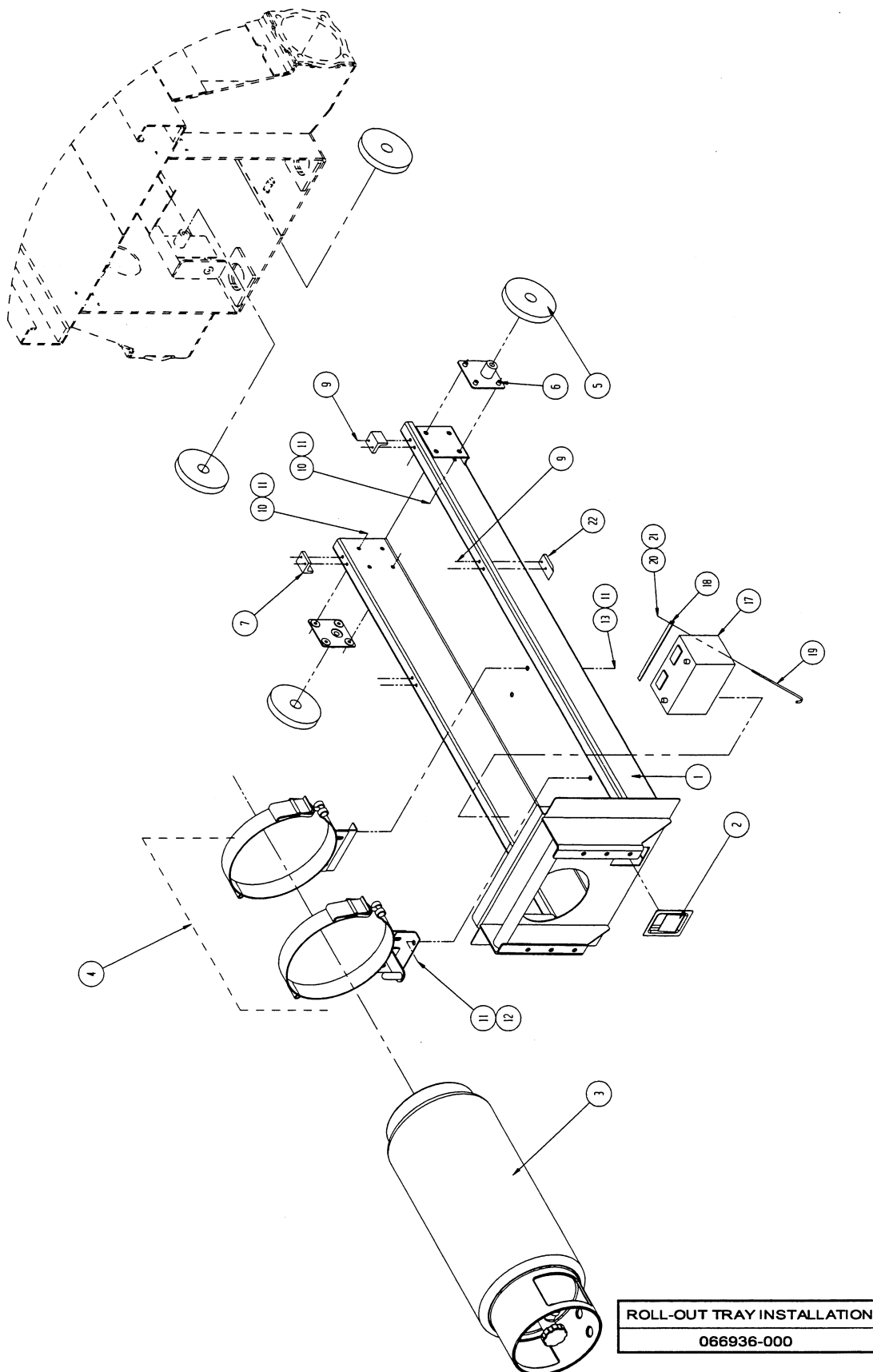
066936-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066963-001	WELDMENT, ROLL-OUT TRAY	1
2	062791-002	LATCH	1
3	027934-009	PROPANE TANK 7 GAL. LIQUID	1
4	027823-000	BRACKET, PROPANE TANK SET	1
5	066195-000	ROLLER	4
6	066256-001	WELDMENT, ROLLER MOUNT	2
7	066170-000	WEAR PAD	2
9	026553-010	RIVET 3/16 DIA. x 5/8 GRIP	8
10	011254-014	SCREW HHC 3/8-16 x 1 3/4	9

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
11	011240-006	WASHER 3/8 FLAT	16
13	011254-008	SCREW HHC 3/8-16 x 1	4
15	011238-006	WASHER 3/8 LOCK	8
17	062292-002	BATTERY 12 VDC GROUP	1
18	064040-000	ANGLE BATTERY HOLD DOWN	1
19	012039-000	ROD BATTERY HOLD DOWN	2
20	011240-005	WASHER FLAT STD 5/16	2
21	011248-005	NUT HEX ESNA 5/16-18UNC	2
22	066193-000	STOP	2

# ILLUSTRATED PARTS BREAKDOWN

Section  
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**Section  
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# ILLUSTRATED PARTS BREAKDOWN

## Roll Out Tray Assembly Diesel

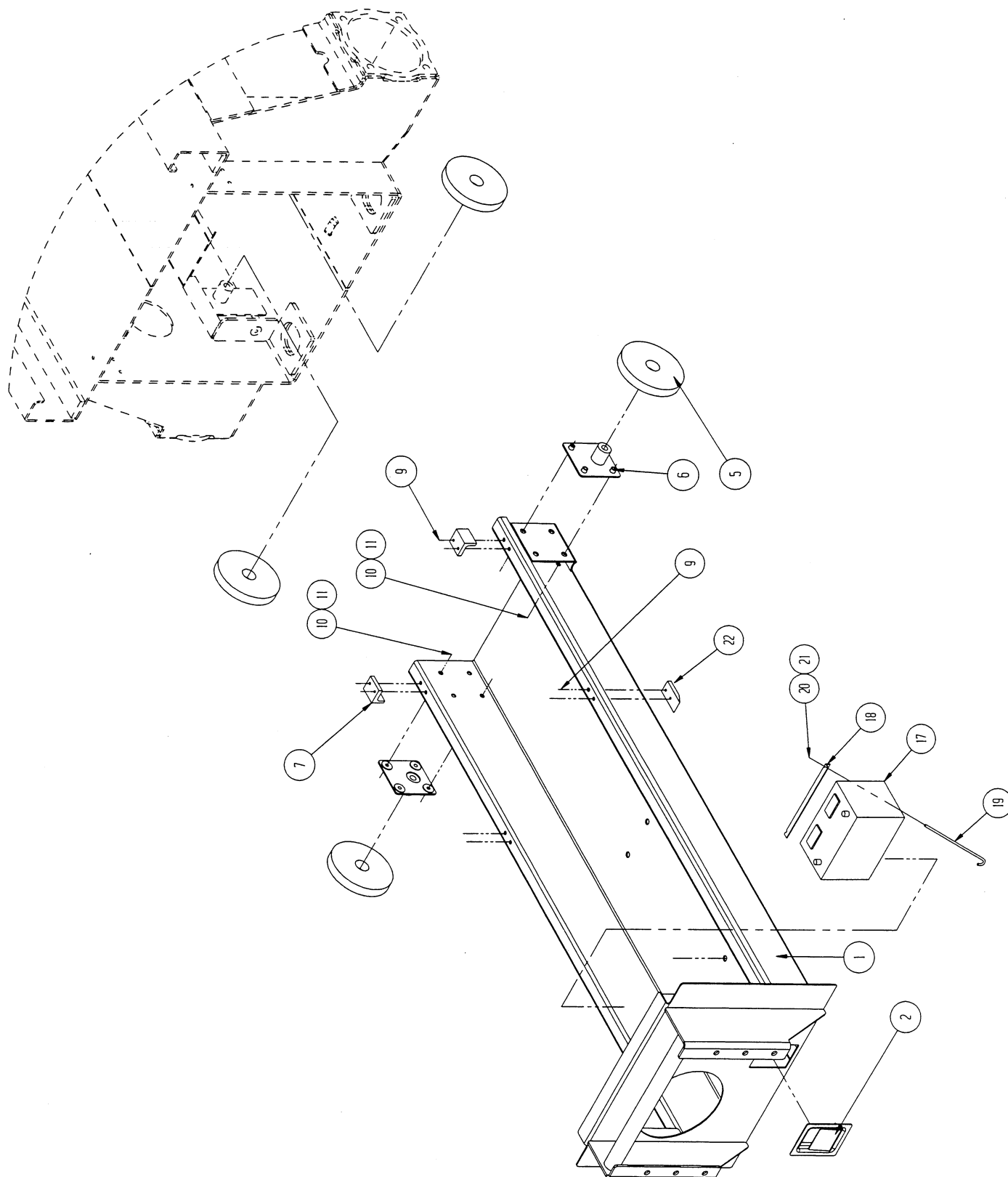
066936-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066963-001	WELDMENT, ROLL-OUT TRAY	1
2	062791-002	LATCH	1
5	066195-000	ROLLER	4
6	066256-001	WELDMENT, ROLLER MOUNT	2
7	066170-000	WEAR PAD	2
9	026553-010	RIVET 3/16 DIA. x 5/8 GRIP	8
10	011254-014	SCREW HHC 3/8-16 x 1 3/4	9
11	011240-006	WASHER 3/8 FLAT	8

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
15	011238-006	WASHER 3/8 LOCK	8
17	062292-002	BATTERY 12 VDC GROUP	1
18	064040-000	ANGLE BATTERY HOLD DOWN	1
19	012039-000	ROD BATTERY HOLD DOWN	2
20	011240-005	WASHER FLAT STD 5/16	2
21	011248-005	NUT HEX ESNA 5/16-18UNC	2
22	066193-000	STOP	2

# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1



ROLL-OUT TRAY INSTALLATION (DIESEL)

066936-001

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Power Module Assembly Dual Fuel Kohler

066937-000

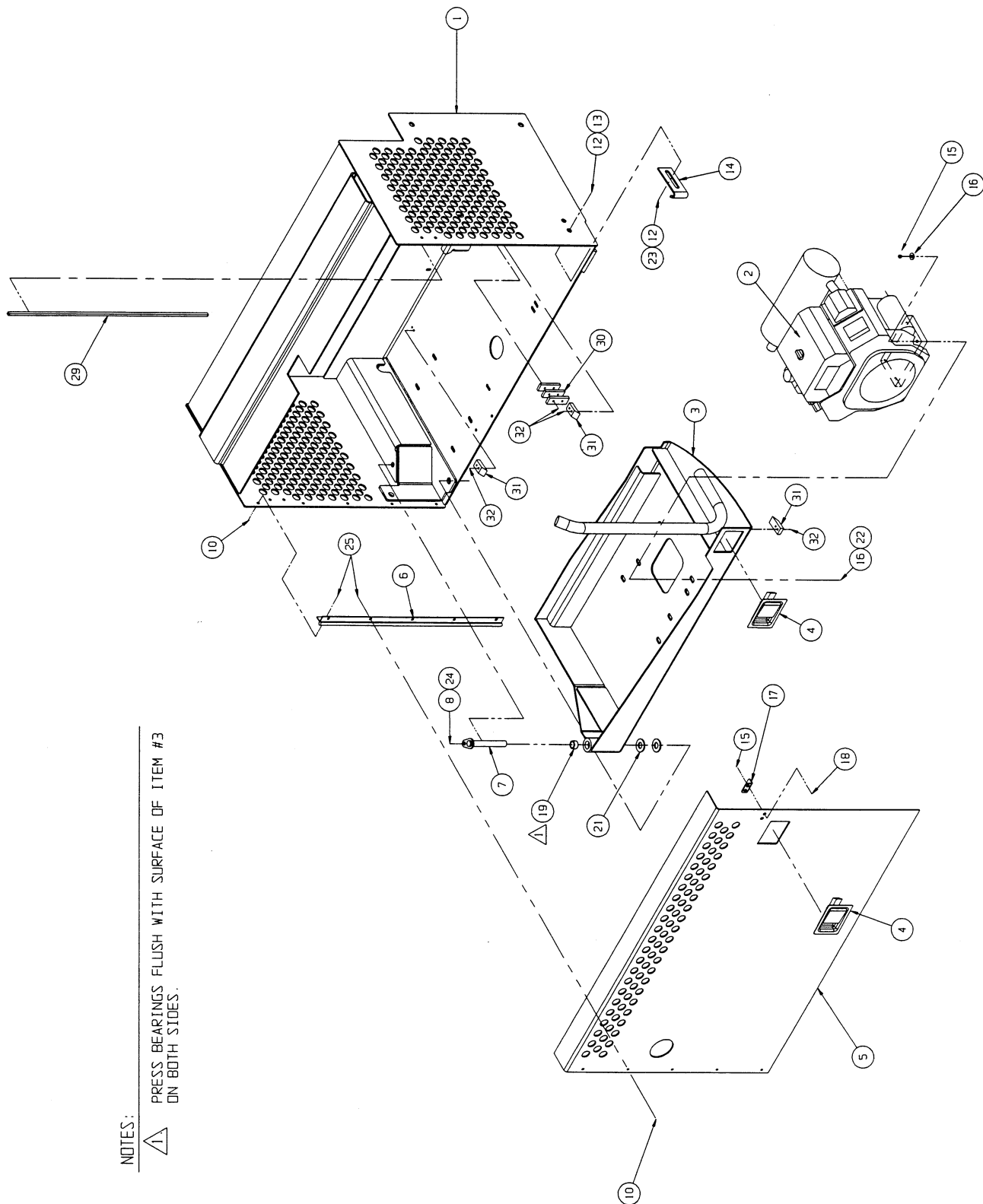
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066953-001	POWER MODULE WELDMENT (XRT)	1
2	066947-000	ENGINE ASSY, KOHLER CH25 (XRT)	1
3	066948-001	SWING OUT TRAY SUB-WELDMENT (KOHLER)	1
4	062791-002	SLAM LATCH	2
5	067233-000	DOOR, POWER MODULE XRT	1
6	067232-000	HINGE	1
7	066958-000	WELDMENT, PIN SWING OUT PIVOT	1
8	011254-006	SCRW HHC GR5 3/8-16UNC X 3/4"LG	1
10	011252-004	SCRW HHC 1/4-20UNC X 1/2	10
12	011240-008	WASHER, 1/2" FLAT STD	4
13	011256-008	SCREW, 1/2-13UNC X 1"	2
14	067231-000	PLATE, LATCH	1
15	011248-006	NUT, HEX 3/8-16UNC ESNA	6

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
16	011240-006	WASHER, 3/8 FLAT STD	12
17	067236-000	SUPPORT, DOOR LATCH END	1
18	011254-004	SCREW, HHC 3/8-16UNC X 1/2	2
19	027931-016	BUSHING, OILITE AA-1049-14	2
21	011154-020	THRUST WASHER	2
22	011254-010	SCREW, HHC 3/8-16UNC X 1-1/4	4
23	011248-008	NUT HEX 1/2-13UNC ESNA	2
24	011238-006	WASHER, SPLIT LOCK 3/8"	1
25	011248-004	NUT, HEX ESNA 1/4-20UNC	14
29	061692-099	GROMMIT, TRIM LOCK	1.83
30	066198-000	WEAR PAD	3
31	066193-000	STOP WEAR PAD	3
32	026553-008	RIVOT POP, 3/16 DIA .501-.625 GRIP	8



# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



POWER MODULE ASSY X-RT KOHLER  
066937-000

### NOTES:

- △ PRESS BEARINGS FLUSH WITH SURFACE OF ITEM #3 ON BOTH SIDES.

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Power Module Assembly Diesel Kubota

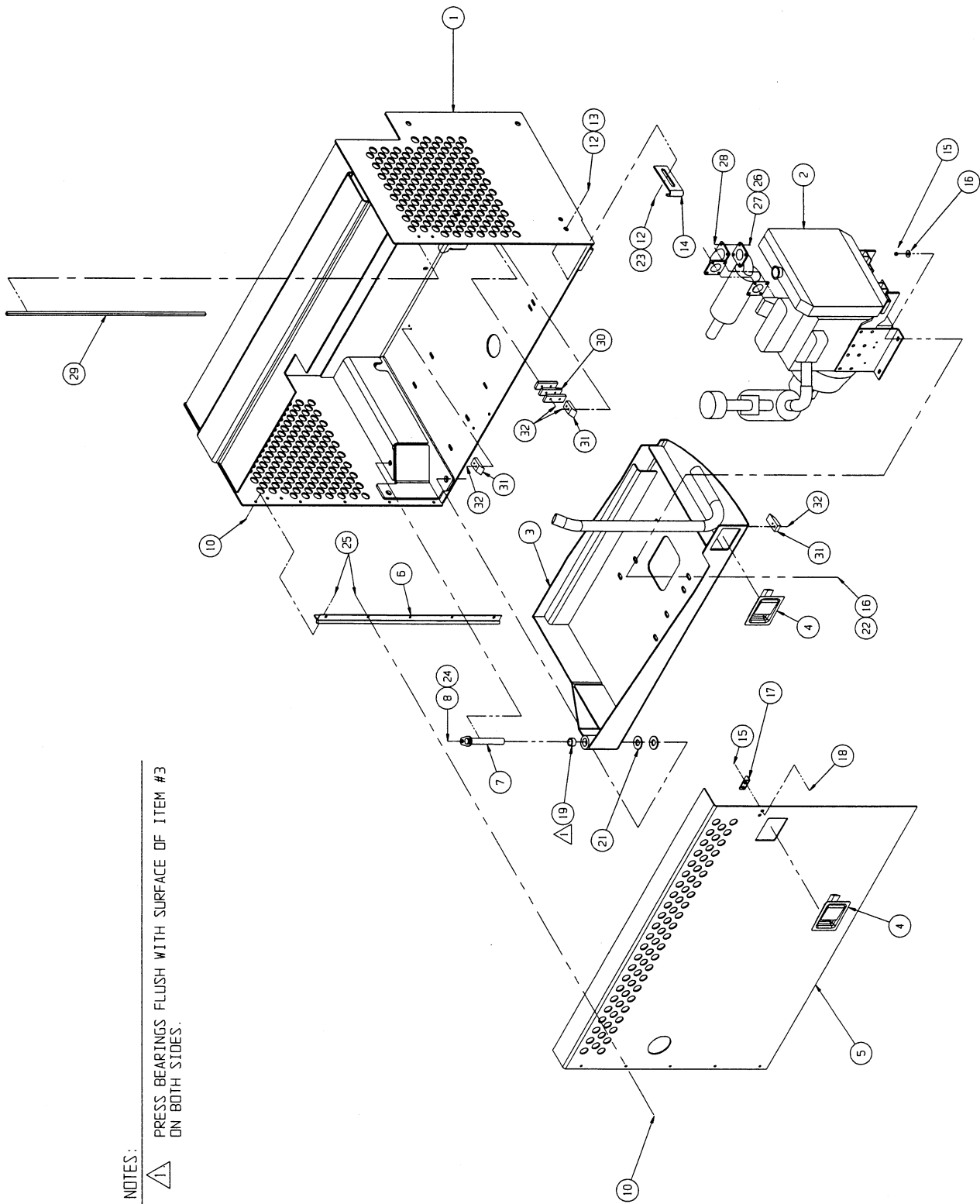
066937-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066953-001	POWER MODULE WELDMENT (XRT)	1
2	066947-001	ENGINE ASSY, KUBOTA DIESEL (XRT)	1
3	066948-001	SWING OUT TRAY SUB-WELDMENT (KUBOTA)	1
4	062791-002	SLAM LATCH	2
5	067233-000	DOOR, POWER MODULE XRT	1
6	067232-000	HINGE	1
7	066958-000	WELDMENT, PIN SWING OUT PIVOT	1
8	011254-006	SCRW HHC GR5 3/8-16UNC X 3/4"LG	1
10	011252-004	SCRW HHC 1/4-20UNC X 1/2	10
12	011240-008	WASHER, 1/2" FLAT STD	4
13	011256-008	SCREW, 1/2-13UNC X 1"	2
14	067231-000	PLATE, LATCH	1
15	011248-006	NUT, HEX 3/8-16UNC ESNA	6
16	011240-006	WASHER, 3/8 FLAT STD	12
17	067236-000	SUPPORT, DOOR LATCH END	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
18	011254-004	SCREW, HHC 3/8-16UNC X 1/2	2
19	027931-016	BUSHING, OILITE AA-1049-14	2
21	011154-020	THRUST WASHER	2
22	011254-010	SCREW, HHC 3/8-16UNC X 1-1/4	4
23	011248-008	NUT HEX 1/2-13UNC ESNA	2
24	011238-006	WASHER, SPLIT LOCK 3/8"	1
25	011248-004	NUT, HEX ESNA 1/4-20UNC	14
26	011248-005	NUT, HEX, ESNA, 5/16-18UNC	4
27	011238-005	SPLIT LOCK WASHER, 5/16	4
28	011253-010	SCREW, HHC, 5/16-18UNC X 1 1/4	4
29	061692-099	GROMMIT, TRIM LOCK	1.83 Ft.
30	066198-000	WEAR PAD	3
31	066193-000	STOP WEAR PAD	3
32	026553-008	RIVOT POP, 3/16 DIA .501-.625 GRIP	8

# ILLUSTRATED PARTS BREAKDOWN

Section  
**6.1**



NOTES:

△ PRESS BEARINGS FLUSH WITH SURFACE OF ITEM #3 ON BOTH SIDES.

POWER MODULE ASSY X-RT KUBOTA DIESEL  
**066937-001**

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Power Module Assembly Dual Fuel Kubota

066937-002

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066953-001	POWER MODULE WELDMENT (XRT)	1
2	066947-002	ENGINE ASSY, KUBOTA DF750-E (XRT)	1
3	066948-001	SWING OUT TRAY SUB-WELDMENT (KUBOTA)	1
4	062791-002	SLAM LATCH	2
5	067233-000	DOOR, POWER MODULE XRT	1
6	067232-000	HINGE	1
7	066958-000	WELDMENT, PIN SWING OUT PIVOT	1
8	011254-006	SCRW HHC GR5 3/8-16UNC X 3/4"LG	1
10	011252-004	SCRW HHC 1/4-20UNC X 1/2	10
12	011240-008	WASHER, 1/2" FLAT STD	4
13	011256-008	SCREW, 1/2-13UNC X 1"	2
14	067231-000	PLATE, LATCH	1
15	011248-006	NUT, HEX 3/8-16UNC ESNA	62
16	011240-006	WASHER, 3/8 FLAT STD	12
17	067236-000	SUPPORT, DOOR LATCH END	1

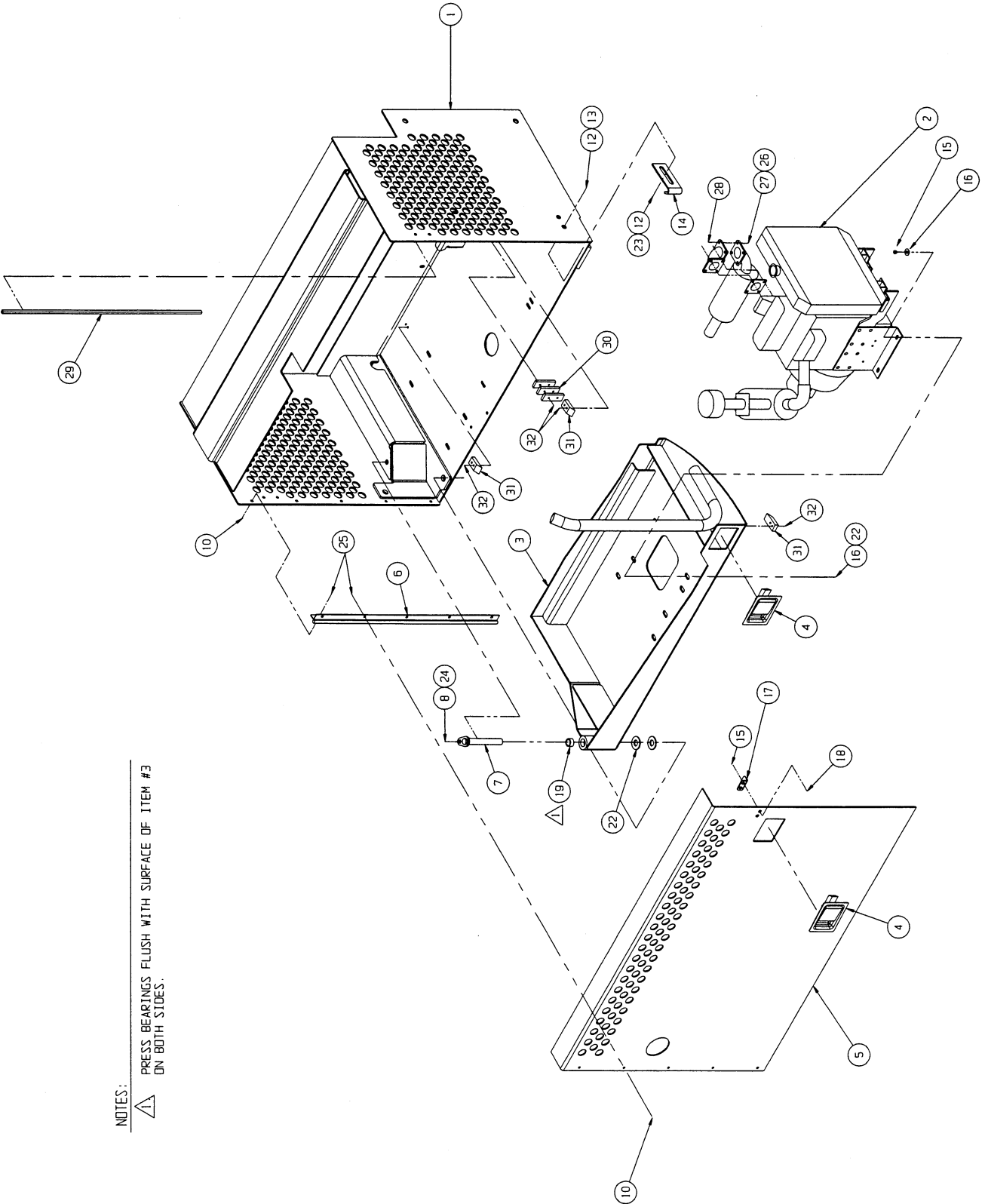
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
18	011254-004	SCREW, HHC 3/8-16UNC X 1/2	2
19	027931-016	BUSHING, OILITE AA-1049-14	2
21	011154-020	THRUST WASHER	2
22	011254-010	SCREW, HHC 3/8-16UNC X 1-1/4	4
23	011248-008	NUT HEX 1/2-13UNC ESNA	2
24	011238-006	WASHER, SPLIT LOCK 3/8"	1
25	011248-004	NUT, HEX ESNA 1/4-20UNC	14
26	011248-005	NUT, HEX, ESNA 5/16-18UNC	4
27	011238-005	SPLIT LOCK WASHER, 5/16	4
28	011253-010	SCREW, HHC, 5/16-18UNC X 1 1/4	4
29	061692-099	GROMMIT, TRIM LOCK	1.83 Ft.
30	066198-000	WEAR PAD	3
31	066193-000	STOP WEAR PAD	3
32	026553-008	RIVOT POP, 3/16 DIA .501-.625 GRIP	8

# ILLUSTRATED PARTS BREAKDOWN

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6.1

POWER MODULE ASSY XRT KUBOTA DUAL FUEL

066937-002



NOTES:

△ PRESS BEARINGS FLUSH WITH SURFACE OF ITEM #3 ON BOTH SIDES.

Section  
**6.1**

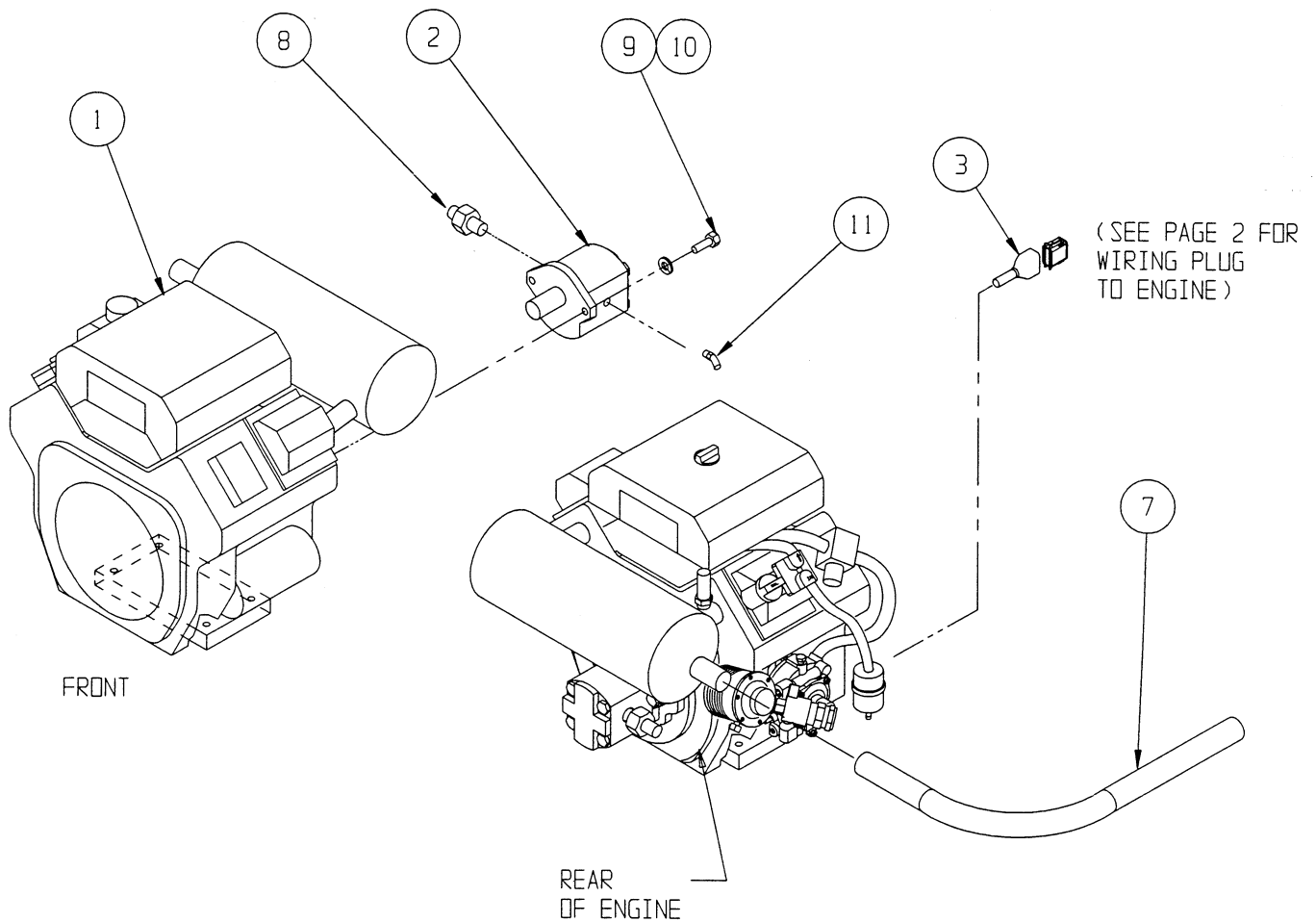
# ILLUSTRATED PARTS BREAKDOWN

## Engine Assembly Dual Fuel Kohler

066947-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	064849-001	ENGINE, KOHLER CH25 DUAL FUEL X-RT	1
2	063902-014	PUMP, HYDRAULIC	1
3	067492-013	WIRE HARNESS - KOHLER ENGINE	1
7	0-	EXHAUST PIPE	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
8	011941-028	FITTING, ADAPTER	1
9	011238-006	LOCKWASHER, 3/8" SPLIT	2
10	011254-010	SCREW, HHC 3/8-16UNC X 1 1/4"	2
11	011934-010	FITTING, ADAPTER	1



**Kohler Dual Fuel**  
**066947-000**

1 of 2

## Section 6.1



2 of 2

PIN	GAGE-COLOR	FUNCTION
1	14 YEL/RED	START
2	14 BLK	GROUND
3	16 LT BLU	CHOKE
4	(OPEN)	
5	16 GRN	THROTTLE
6	16 WHT	OIL PRESSURE
7	16 GRN	ALT FUEL
8	16 DK BLU	FUEL PUMP
9	14 RED	ALT BATT
10	14 RED	POWER
11	14 RED/WHT	OIL PRESSURE SW
12	14 BLK	GROUND

## Section 6.1

# ILLUSTRATED PARTS BREAKDOWN

### Engine Assembly Diesel Kubota

066947-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067614-001	ENGINE, KUBOTA DIESEL D905B-0	1
3	067599-000	SOLENOID, THROTTLE	1
4	012733-099	HOSE, FUEL LINE Ø 5/16	10 FT
5	020541-001	HOSE CLAMP	6
6	REF.	FUEL FILTER, INLINE	1
7	063945-001	OIL PRESSURE SWITCH	1
9	064180-001	ENGINE MOUNT BRACKET	2
10	REF	FUEL FILTER MOUNT - SPIN ON	1
11	067859-000	BRACKET, AIR CLEANER	1
12	REF	FUEL FILTER - SPIN ON	1
13	011935-001	FITTING, 4MB-4MJ, 45°	1
14	014338-005	FITTING FLANGE, 16MJ 90°	1
15	067323-000	BRACKET, DIESEL FUEL FILTER	1
16	064423-000	INLINE SWIVEL - 1/4	1
17	011760-004	ROD END BEARING - 1/4-28	1
18	067670-012	SPLIT FLANGE HALF, S12	2
19	015724-012	FITTING FLANGE - 12MJ 45°	1
20	067190-000	PUMP, HYDRAULIC - LOAD SENSE	1
21	067670-016	SPLIT FLANGE HALF, S16	2
22	067492-005	WIRE HARNESS - KUBOTA DIESEL ENGINE	1
23	011252-008	SCREW HHC 1/4-20UNC X 1	1
24	067671-012	O-RING, BUNA-N, S12	1
25	011943-004	FITTING, AERO, 500024-16S, 90°	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
26	011238-006	LOCKWASHER, 3/8" SPLIT	10
27	011254-010	SCREW, HHC 3/8-16UNC X 1 1/4"	2
28	011934-010	FITTING, ADAPTER	1
29	011252-006	SCREW HHC 1/4-20UNC X 3/4	2
30	011253-008	SCREW HHC 5/16-18UNC X 1	3
31	011240-004	WASHER FLAT STD 1/4	2
32	067671-016	O-RING, BUNA-N, S16	1
33	011248-005	NUT HEX 5/16 ESNA	3
34	067824-010	KTR BELL HOUSING KIT	1
35	067691-000	SNORKEL WELDMENT (LX DIESEL)	1
36	011254-010	SCREW, HHC, .375-16UNC X 1 1/4	8
37	064183-000	SPACER, ENGINE	2
38	013259-007	U-BOLT BRACKET	1
40	063946-030	SCREW HHC M10 X 1.25 GR5 X 30MM	12
41	REF	SCREW (SUPPLIED W/ AIR CLEANER)	2
42	REF	SCREW MANIFOLD (SUPPLIED W/ ENGINE)	2
43	03142-001	ADAPTER, 2MP-2FP	1
44	029601-039	CONN. RING, 12-10GA., 5/16Ø	1
46	011240-007	WASHER FLAT STD 7/16	12
47	029416-099	WIRE, 12AWG, RED	1 FT
48	029601-020	CONN. RING, 12-10GA., 1/4Ø	1
49	014914-001	CONN. MALE PUSH, 16-14 AWG, .25 TAB	5



# ILLUSTRATED PARTS BREAKDOWN

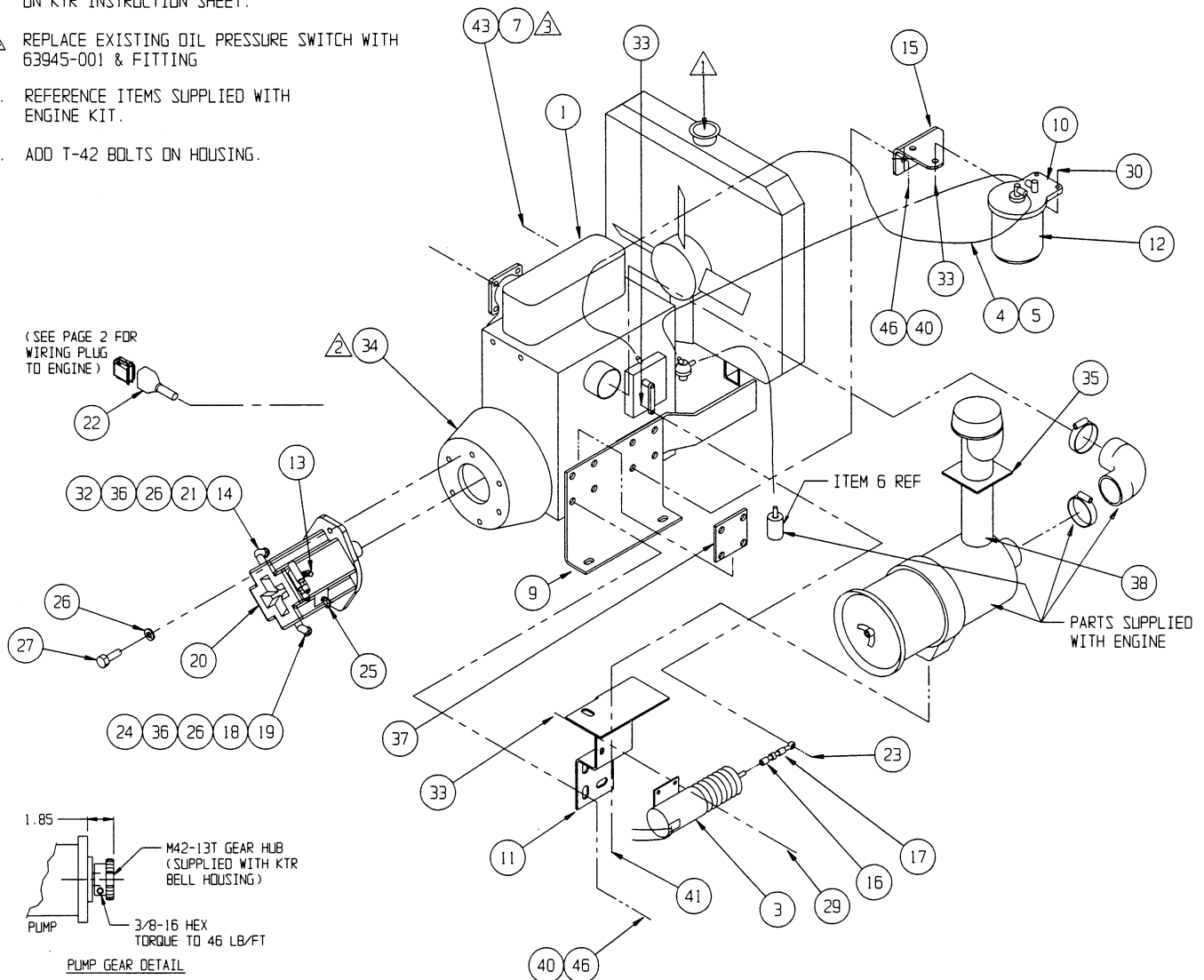
Section  
6.1

Kubota Diesel  
066947-001

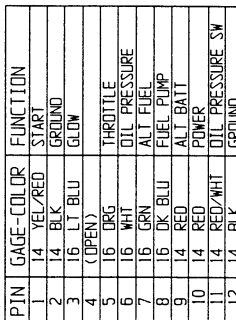
1 of 2

## NOTES: UNLESS OTHERWISE SPECIFIED

1. FILL COOLING SYSTEM WITH 50% WATER AND 50% ANTIFREEZE SOLUTION.
2. TORQUE BELL HOUSING FASTENERS PER SPECS ON KTR INSTRUCTION SHEET.
3. REPLACE EXISTING OIL PRESSURE SWITCH WITH 63945-001 & FITTING
4. REFERENCE ITEMS SUPPLIED WITH ENGINE KIT.
5. ADD T-42 BOLTS ON HOUSING.



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# ILLUSTRATED PARTS BREAKDOWN

Section  
**6.1**

NOTES

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**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Engine Assembly Dual Fuel Kubota

066947-002

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067824-000	ENGINE, KUBOTA DUEL FUEL (D/F750E)	1
3	063941-000	SOLENOID, THROTTLE	1
4	012733-099	HOSE, FUEL LINE Ø 5/16	FT 9
5	020541-001	HOSE CLAMP	6
6	REF	FUEL FILTER, INLINE	1
8	011252-006	SCREW HHC 1/4-20 X 3/4	10
9	067874-000	BRACKET, ENGINE MOUNT GAS	2
10	067615-042	ENGINE ACCESSORY KIT	1
11	067872-001	BRACKET, AIR CLEANER	1
12	011254-008	SCREW HHC 3/8-16 X 1	2
13	011935-001	FITTING, 4MB-4MJ, 45°	1
14	REF	COIL, IGNITION	1
15	067599-000	SOLENOID, CHOKE	1
16	011240-005	WASHER FLAT STD 5/16	2
17	011248-005	NUT HEX 5/16-18 ESNA	2
18	067670-012	SPLIT FLANGE HALF, S12	2
19	067871-000	BRACKET, SOLENOID	1
20	067190-000	PUMP, HYDRAULIC LOAD SENSING	1
21	067492-004	WIRE HARNESS - KUBOTA GAS ENGINE	1
22	014338-0052	FITTING FLANGE, 16MJ 90°	1
23	015724-012	FITTING FLANGE - 12MJ 45°	1
24	067671-012	O-RING, BUNA-N, S12	1
25	011941-028	FITTING, ADAPTER	1
26	011238-006	LOCKWASHER, 3/8" SPLIT	10
27	011254-010	SCREW, HHC 3/8-16UNC X 1 1/4"	2
28	011934-010	FITTING, ADAPTER	1
29	011253-014	SCREW HHC 5/16-18UNC X 1 3/4	2
30	011252-008	SCREW HHC 1/4-20UNC X 1	2
31	011240-004	WASHER FLAT STD 1/4	6
32	011238-004	WASHER SPLIT LOCK 1/2	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
33	011248-004	NUT HEX 1/4-20 ESNA	10
34	067617-020	KTR BELL HOUSING KIT D/F #0034	1
35	011256-010	SCREW HHC 1/2-13UNC X 1-1/4	2
36	011254-010	SCREW, HHC, .375-16UNC X 1 1/4	8
37	064183-000	SPACER, ENGINE	2
38	067670-016	SPLIT FLANGE HALF, S16	2
39	011240-006	WASHER FLAT STD 3/8	2
40	063946-030	SCREW HHC M10 X 1.25 GR5 X 30MM	14
41	REF	SCREW (SUPPLIED W/ AIR CLEANER)	2
42	REF	SCREW MANIFOLD (SUPPLIED W/ ENGINE)	2
43	011709-004	SCREW RD HD 10-24UNC X 1/2	2
44	011248-003	NUT HEX ESNA 10-24UNC	2
45	014914-001	CONN. MALE PUSH, 16-14 AWG, .25 TAB	9
46	REF	ELECTRIC FUEL PUMP	1
47	011261-004	SCREW HHC 1/4-28 UNF	2
48	030624-019	CHOKE ANGLE	1
49	030624-020	CHOKE ROD	1
50	030624-008	CHOKE SOLENOID BRACKET	1
51	011240-007	WASHER FLAT STD 7/16	12
52	067671-016	O-RING, BUNA-N, S16	1
53	063945-001	OIL PRESS SWITCH	1
54	003142-001	FITTING 2MP-2FP	1
55	067807-000	SOLENOID BRACKET	1
56	020495-004	NUT HEX JAM 1/4-28UNF	1
57	011847-004	YOKE END	1
58	020731-005	CHAIN 4 LINKS	1
59	REF	SPRING LINKAGE	1
60	REF	LPG REGULATOR	1
61	067824-010	DUAL FUEL KIT (PROPANE)	1
62	020541-004	HOSE CLAMP (#8)	2

## Section 6.1

**NOTES:**

1. REFERENCE ITEMS INCLUDED WITH ENGINE KIT.
2. FILL COOLING SYSTEM WITH 50% WATER AND 50% ANTI-FREEZE SOLUTION.
3. TORQUE BELL HOUSING FASTENERS PER SPECS ON KTR INSTRUCTION SHEET.
4. ITEM #61 PROPANE KIT (67824-010) ITEM ARE LISTED WITH LP-\_\_
5. REPLACE EXISTING OIL PRESSURE SWITCH WITH ITEMS 53 & 54.
6. USE FUEL FILTER SUPPLIED WITH KUBOTA ENGINE.
7. ZIP TIE (2) LP-18'S & LP-13 HOSES TOGETHER FROM REG. TO ENGINE.

(SEE PAGE 2 FOR WIRING PLUG TO ENGINE)

PROPANE SOLENOID

CARB OFF SOLENOID

SHEET METAL WELD AROUND BASE

ATTACH VACUUM LINE (LP-13 FROM MANIFOLD)

VAPOR LINE (LP-10) TO CARBURETTOR

LPG REGULATOR DETAIL

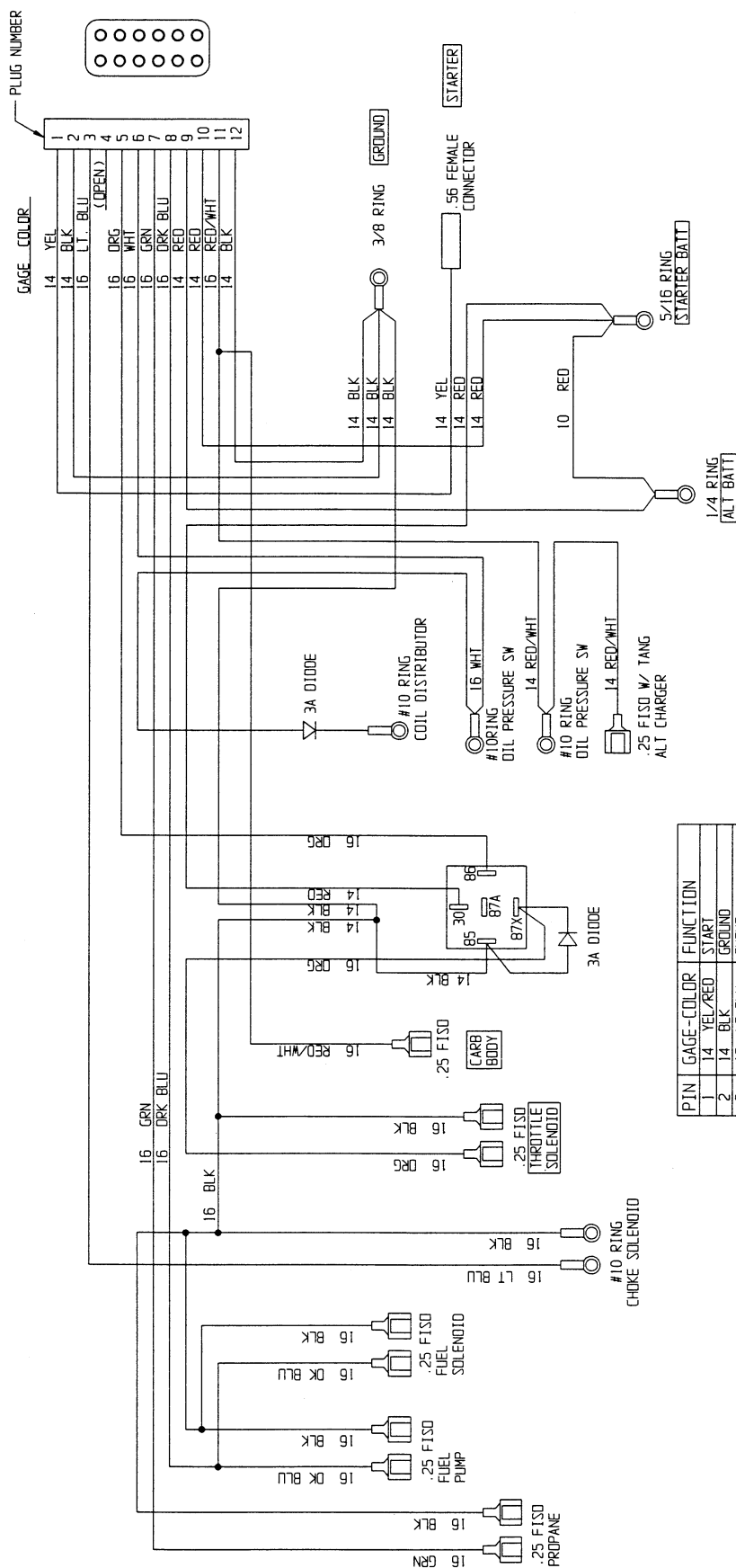
PUMP GEAR DETAIL

M42-13T GEAR HUB (SUPPLIED WITH ENGINE KIT)

3/8-16 HEX TORQUE TO 46 LB/FT

**Kubota Dual Fuel**  
**066947-002**

2 of 2



# ILLUSTRATED PARTS BREAKDOWN

Section  
**6.1**

NOTES

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**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Control Cable Assembly XRT27

066944-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067645-099	CABLE, 16/6, 18/12 MULTICONDUCTOR	FT 50
2	029601-013	CONN RING TERM 16-14 GA #10	2
3	063956-002	PIN, CONTACT MALE 20-14 GA	7
4	029610-002	CONN FORK TERM 16-14 GA #8	7
5	029457-099	WIRE, 16GA GRN X 12 IN	FT 1
6	029620-002	CONN, BUTT 16-14GA	2
7	029616-001	CONN, FEMALE PUSH 16-14GA X .188	2
8	029483-099	WIRE 16 GA RD/WHT X 14 IN	FT 1.2
9	068760-001	DT CONNECTOR, RECEPTACLE, # DT04-12P	1
10	067990-001	DT CONNECTOR, RECEPTACLE, # DT04 6P	1
11	068761-000	LOCKING WEDGE, RECEPTACLE, # W12P	1
12	067990-003	LOCKING WEDGE, RECEPTACLE, # W6P	1
13	015790-004	CONTACT PIN, 16-18 AWG	18
14	068908-001	BOOT ELECT. RECEPTACLE, # DT-12-P-BT	1
15	068908-002	BOOT ELECT. RECEPTACLE, # DT-6-P-BT	1

## Control Cable Assembly XRT33

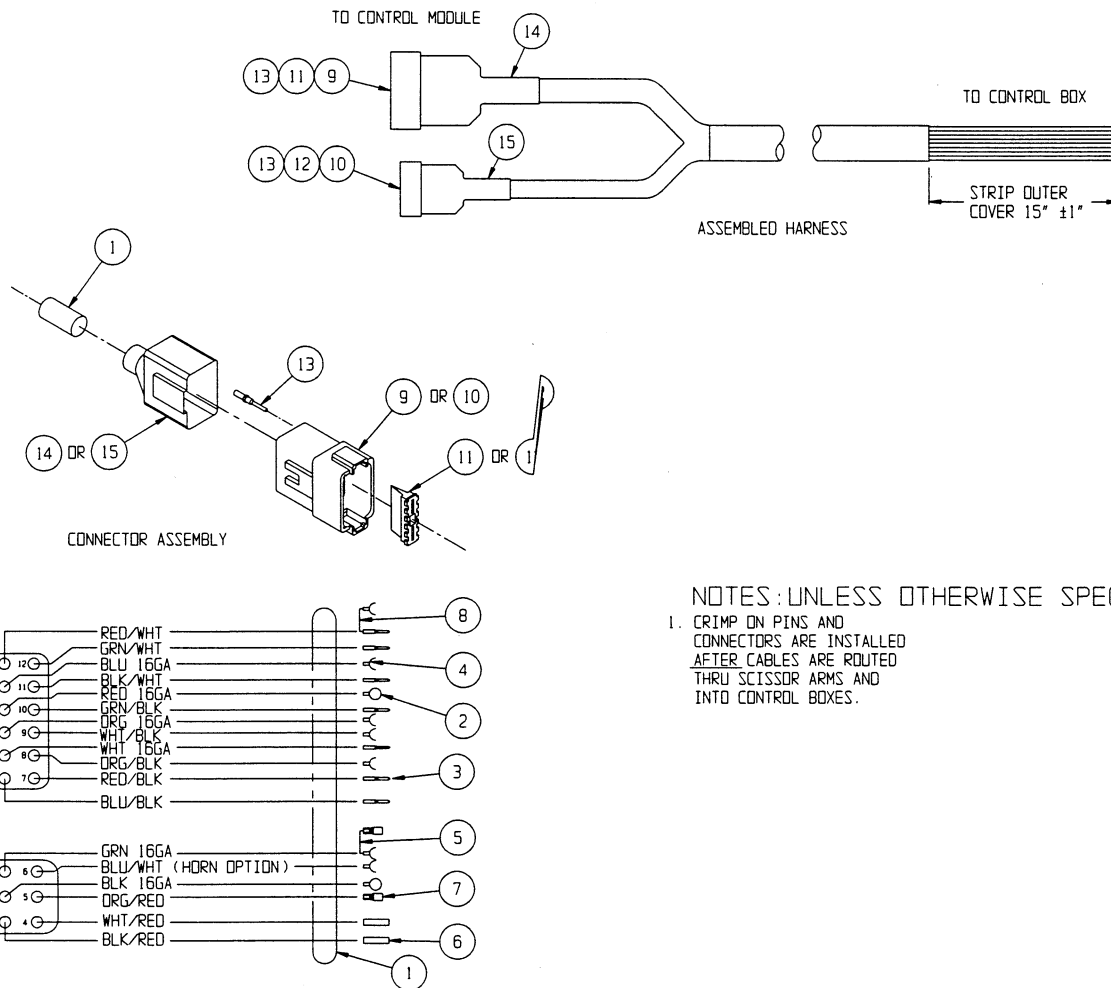
066944-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067645-099	CABLE, 16/6, 18/12 MULTICONDUCTOR	FT 60
2	029601-013	CONN RING TERM 16-14 GA #10	2
3	063956-002	PIN, CONTACT MALE 20-14 GA	7
4	029610-002	CONN FORK TERM 16-14 GA #8	7
5	029457-099	WIRE, 16GA GRN X 12 IN	FT 1
6	029620-002	CONN, BUTT 16-14GA	2
7	029616-001	CONN, FEMALE PUSH 16-14GA X .188	2
8	029483-099	WIRE 16 GA RD/WHT X 14 IN	FT 1.2
9	068760-001	DT CONNECTOR, RECEPTACLE, # DT04-12P	1
10	067990-001	DT CONNECTOR, RECEPTACLE, # DT04 6P	1
11	068761-000	LOCKING WEDGE, RECEPTACLE, # W12P	1
12	067990-003	LOCKING WEDGE, RECEPTACLE, # W6P	1
13	015790-004	CONTACT PIN, 16-18 AWG	18
14	068908-001	BOOT ELECT. RECEPTACLE, # DT-12-P-BT	1
15	068908-002	BOOT ELECT. RECEPTACLE, # DT-6-P-BT	1



# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



CONTROL CABLE ASSY (XRT SERIES KIT)

066944-000

## Section 6.1

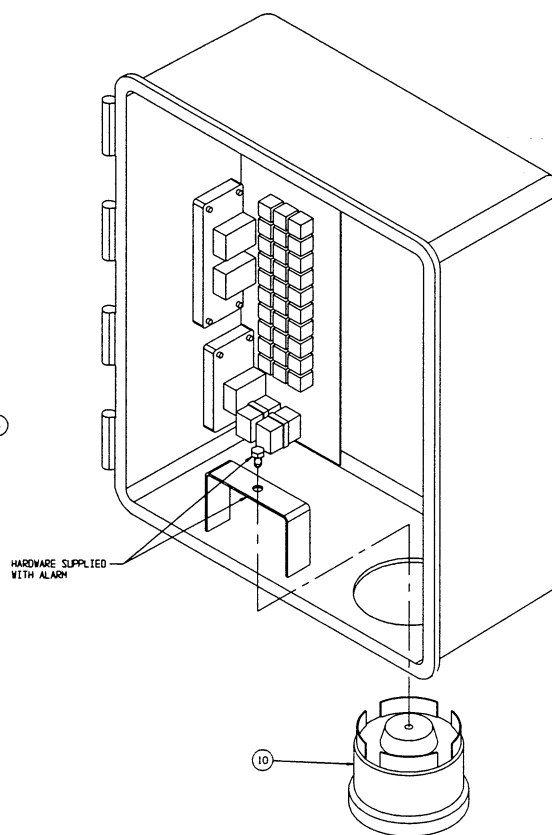
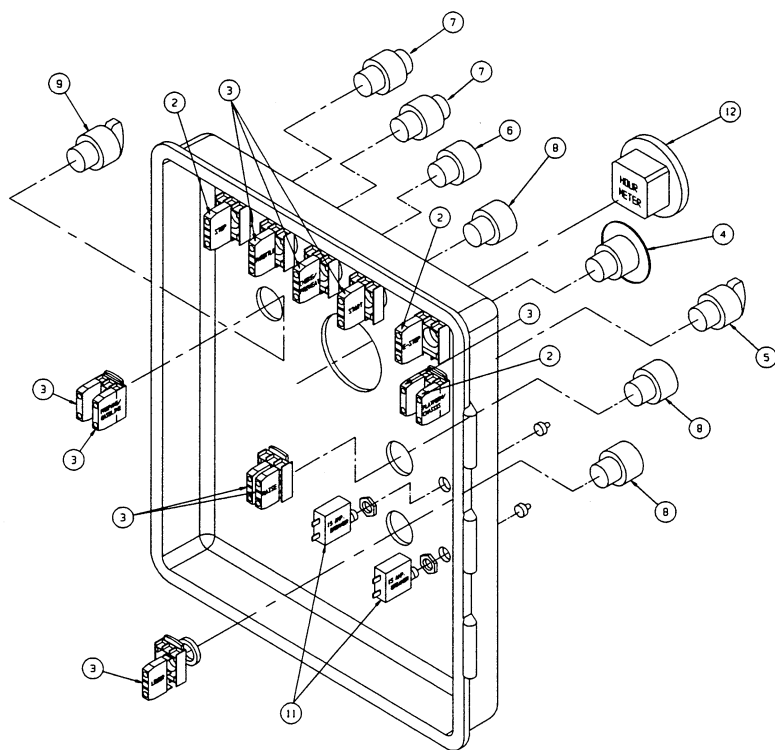
# ILLUSTRATED PARTS BREAKDOWN

### Controller Assembly, Dual Fuel Lower Controls

067491-001#1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	REF	ENCLOSURE	1
2	066805-011	CONTACT BLOCK N.C.	3
3	066805-010	CONTACT BLOCK N.O.	9
4	066805-006	EMERGENCY STOP	1
5	066805-002	2 POSITION SELECTOR SWITCH	1
6	066805-018	BLK STANDARD PUSH BUTTON	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
7	066805-017	RED STANDARD PUSH BUTTON	2
8	066805-016	GRN STANDARD PUSH BUTTON	3
9	066805-003	3 POSITION SELECTOR	1
10	066807-001	ALARM, 107DB	1
11	029868-007	15 AMP-CIRCUIT BREAKER	2
12	015752-000	HOURL-METER	1



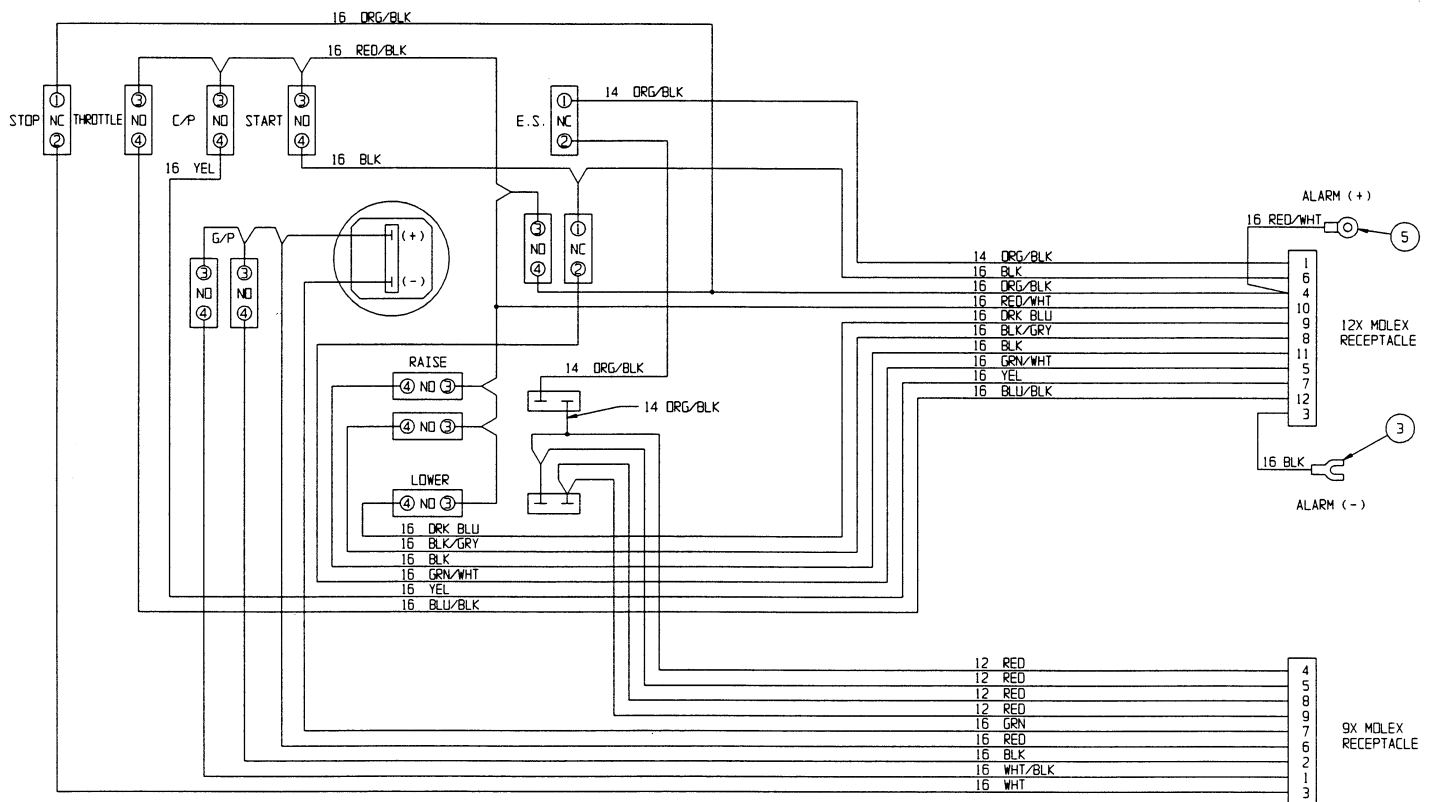
WIRING FOR LX AND XRT ENCLOSURE D/F  
67491-001

## Section 6.1

067491-001#2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	029616-002	CONN. FEMALE PUSH 16-14 .25 TAB	12
2	029616-003	CONN. FEMALE PUSH 10-12 .25 TAB	2
3	029610-002	CONN. FORK 16-14 #8	21
5	029601-012	CONN. RING TERM 16-14 #8	1
6	029470-099	WIRE, 12 AWG RED	5 FT
7	029457-099	WIRE, 16 AWG GREEN	1.5 FT
8	029454-099	WIRE, 16 AWG RED	1.5 FT
9	029452-099	WIRE, 16 AWG BLACK	5 FT
10	029479-099	WIRE, 16 AWG WHITE/BLACK	1.5 FT

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
11	029451-099	WIRE, 16 AWG WHITE	1.5 FT
12	029352-099	WIRE, 16 AWG RED/WHITE	2.5 FT
13	-	WIRE, 14 AWG ORANGE/BLACK	2.5 FT
14	029450-099	WIRE, 16 AWG DARK BLUE	1.5 FT
15	029477-099	WIRE, 16 AWG ORANGE/BLACK	3 FT
16	-	WIRE, 16 AWG BLACK/GREY	1.5 FT
17	029353-099	WIRE, 16 AWG GREEN/WHITE	1.5 FT
18	029456-099	WIRE, 16 AWG YELLOW	1.5 FT
19	029475-099	WIRE, 16 AWG BLUE/BLACK	1.5 FT



WIRING FOR LX AND XRT ENCLOSURE D/F  
67491-001

## Section 6.1

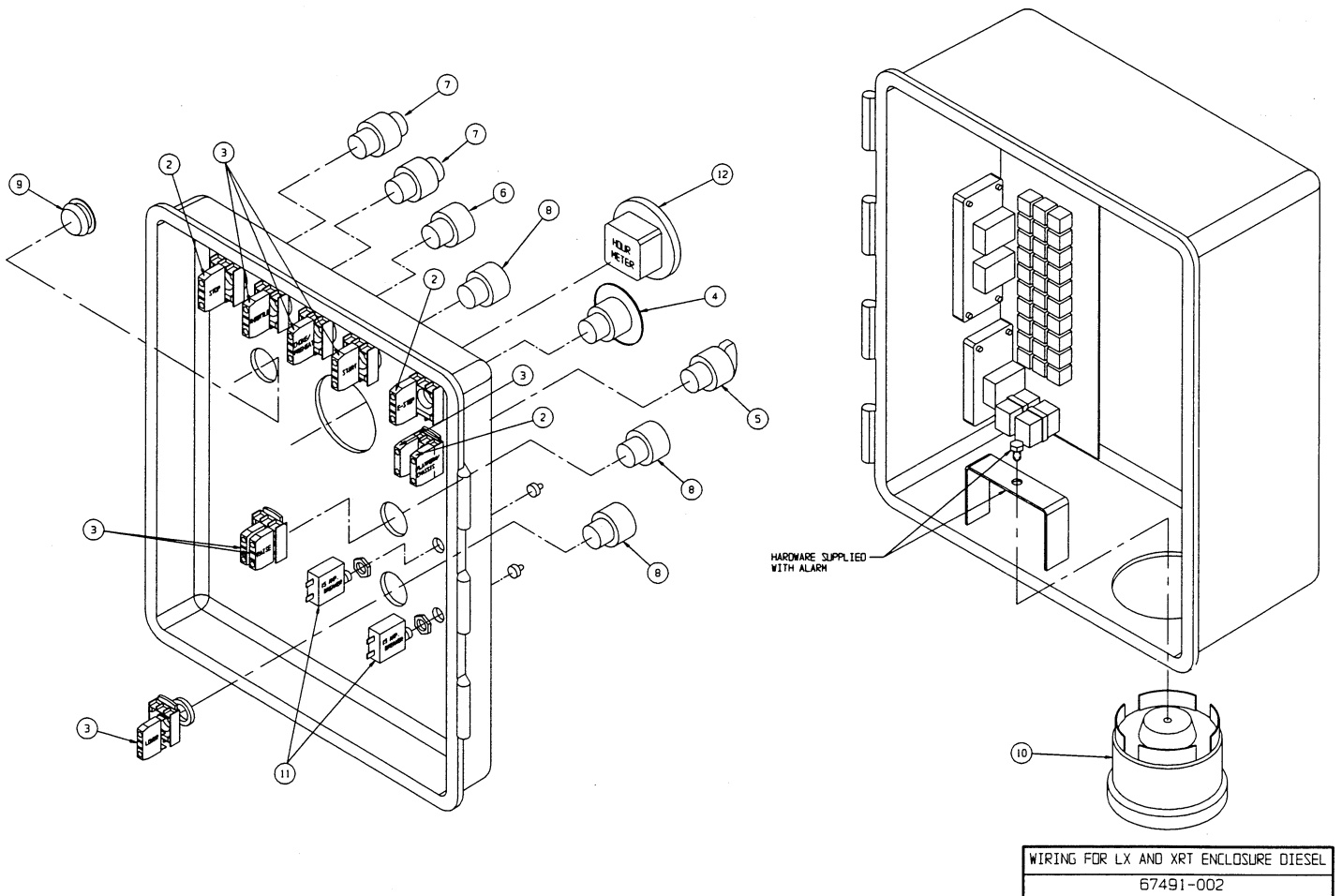
# ILLUSTRATED PARTS BREAKDOWN

### Controller Assembly, Diesel Lower Controls

067491-002#1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
2	066805-011	CONTACT BLOCK N.C.	3
3	066805-010	CONTACT BLOCK N.O.	7
4	066805-006	EMERGENCY STOP	1
5	066805-002	2 POSITION SELECTOR SWITCH	1
6	066805-018	BLK STANDARD PUSH BUTTON	1
7	066805-017	RED STANDARD PUSH BUTTON	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
8	066805-016	GRN STANDARD PUSH BUTTON	3
9	064462-007	CAP PLUG, Ø 7/8	1
10	066807-001	ALARM, 107DB	1
11	029868-007	15 AMP-CIRCUIT BREAKER	2
12	015752-000	HOUR-METER	1



# ILLUSTRATED PARTS BREAKDOWN

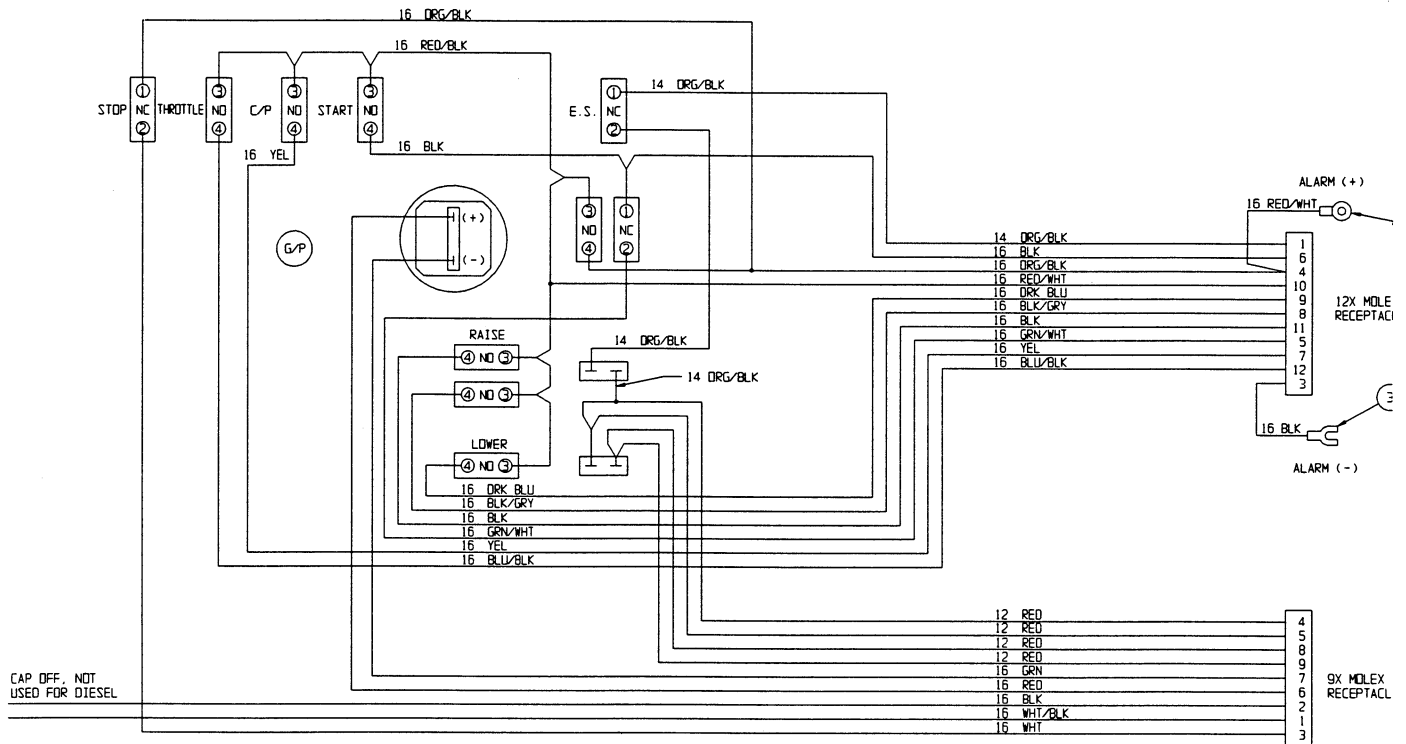
## Section 6.1

### Controller Assembly Wiring, Diesel Lower Controls

067491-002#1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	029616-002	CONN. FEMALE PUSH 16-14 .25 TAB	12
2	029616-003	CONN. FEMALE PUSH 10-12 .25 TAB	2
3	029610-002	CONN. FORK 16-14 #8	21
5	029601-012	CONN. RING TERM 16-14 #8	1
6	029470-099	WIRE, 12 AWG RED	5 FT
7	029457-099	WIRE, 16 AWG GREEN	1.5 FT
8	029454-099	WIRE, 16 AWG RED	1.5 FT
9	029452-099	WIRE, 16 AWG BLACK	5 FT
10	029479-099	WIRE, 16 AWG WHITE/BLACK	1.5 FT

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
11	029451-099	WIRE, 16 AWG WHITE	1.5 FT
12	029352-099	WIRE, 16 AWG RED/WHITE	2.5 FT
13	-	WIRE, 14 AWG ORANGE/BLACK	2.5 FT
14	029450-099	WIRE, 16 AWG DARK BLUE	1.5 FT
15	029477-099	WIRE, 16 AWG ORANGE/BLACK	3 FT
16	-	WIRE, 16 AWG BLACK/GREY	1.5 FT
17	029353-099	WIRE, 16 AWG GREEN/WHITE	1.5 FT
18	029456-099	WIRE, 16 AWG YELLOW	1.5 FT
19	029475-099	WIRE, 16 AWG BLUE/BLACK	1.5 FT



WIRING FOR LX AND XRT ENCLOSURE DIESEL  
67491-002

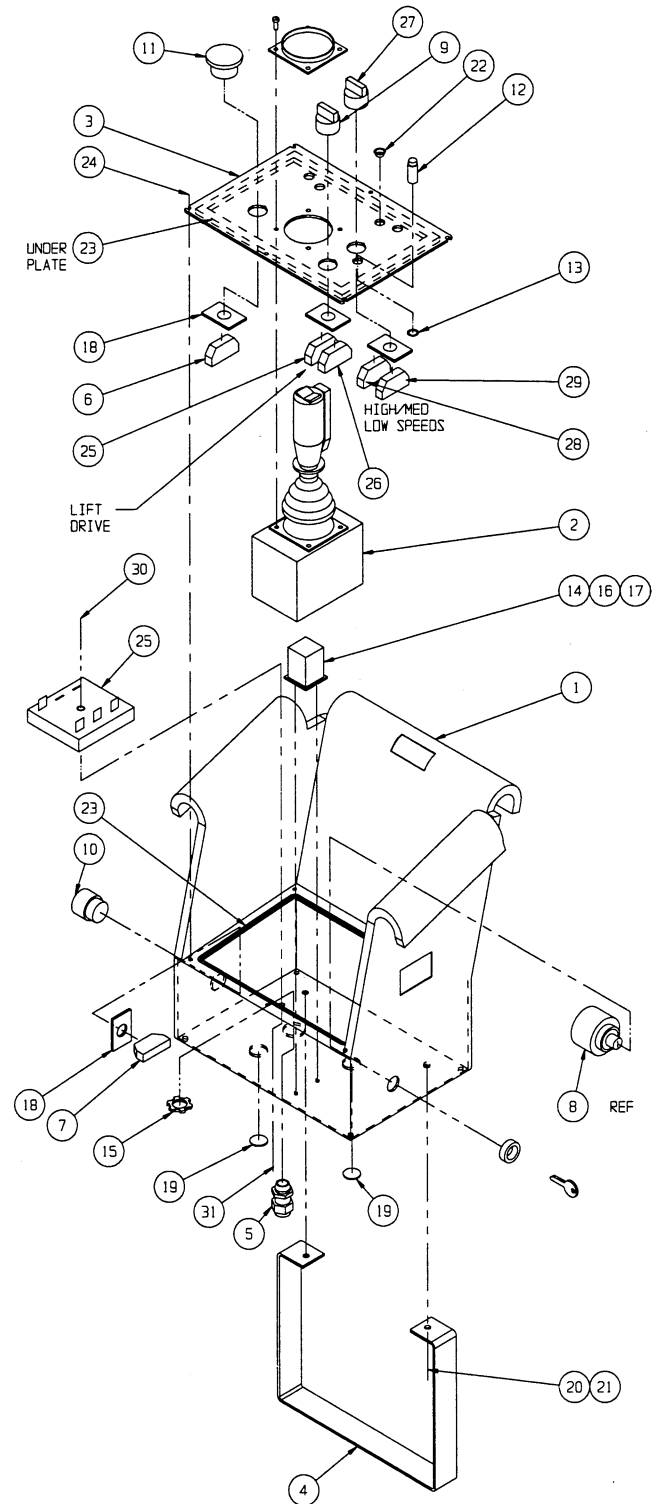
## Section 6.1

# ILLUSTRATED PARTS BREAKDOWN

### Controller Assembly Upper Controls

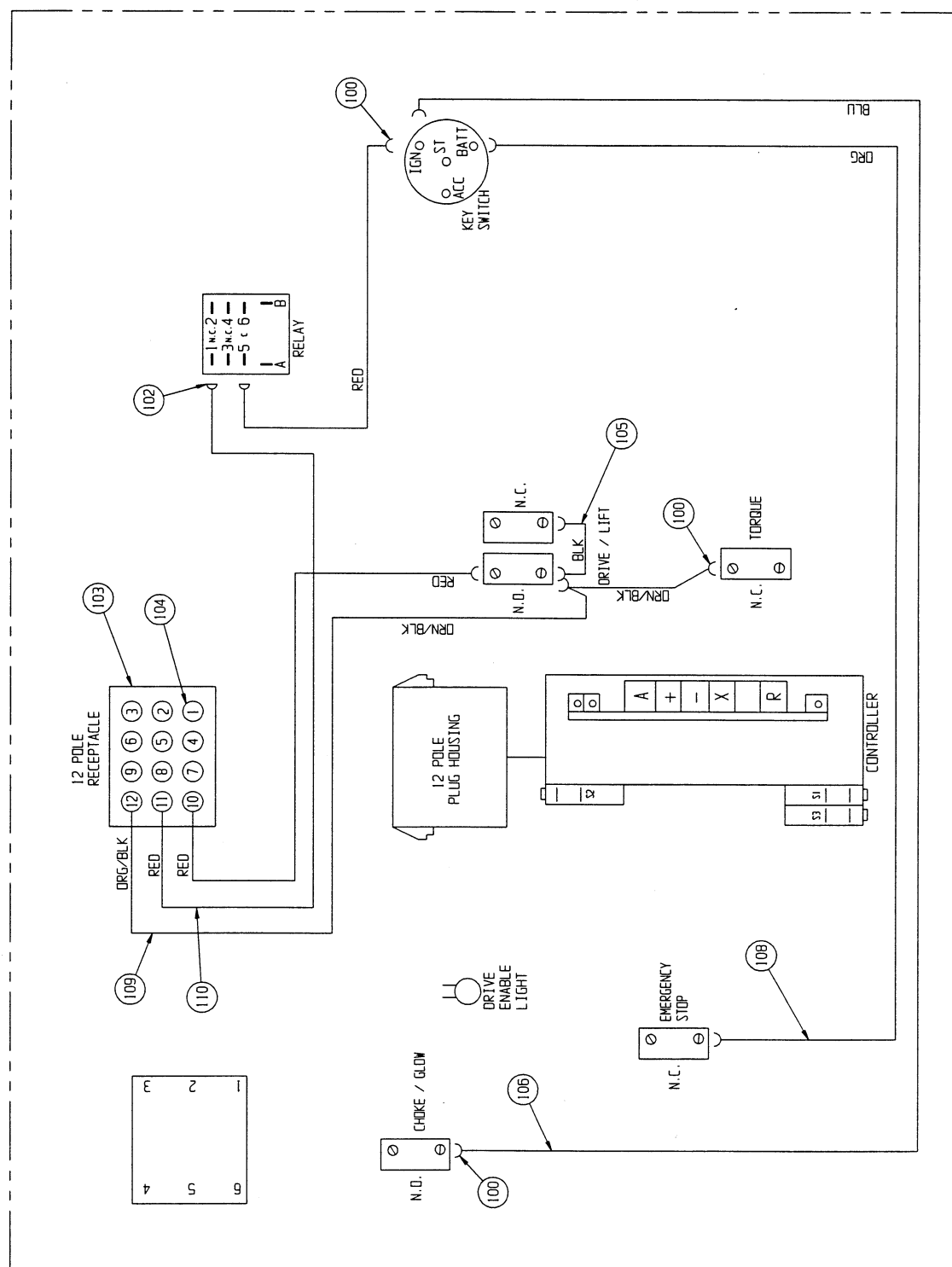
067528-013

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067487-000	LX CONTROL BOX	1
2	067643-001	CONTROLLER, PROPORTIONAL 12V	1
3	067486-000	COVER PLATE, CONTROLLER BOX	1
4	067483-000	CONTROLLER SUPPORT	1
5	029925-010	CABLE CONNECTOR, 3/4"	1
6	064443-002	CONTACT BLOCK, N.C.	2
7	064443-001	CONTACT BLOCK, N.O.	1
8	064666-000	KEY SWITCH	1
9	066805-002	SELECTOR SWITCH	1
10	067653-000	PUSH BUTTON	1
11	064446-003	MUSHROOM BUTTON	1
12	068133-000	INDICATOR LIGHT	1
13	067806-000	RING, RETAINING	1
14	063951-001	RELAY	1
15	029939-003	CONDUIT NUT, 3/4"	1
16	011248-047	LOCKNUT, #6-32	2
17	011715-004	SCREW, #6-32 X 1/2	2
18	064417-001	MOUNTING LATCH	2
19	064462-007	CAP PLUG Ø 7/8	2
20	011252-006	SCREW, 1/4-20 UNC, HEX HD CAP X 3/4	2
21	011248-004	LOCKNUT, 1/4-20 UNC, HEX	2
22	064462-002	CAP PLUG Ø 1/2"	4
23	68889-099	WEATHERSTRIP 1/2 X 3/16 FOAM	3 FT.
24	010952-004	SCREW, BUTT. HD, TORX, 10-24 UNC X 1/2	6
25	067194-000	TIME RELAY SSAC	-
27	066805-003	SWITCH, 3 POSITION	1
28	066805-010	CONTACT BLOCK N.O.	1
29	066805-011	CONTACT BLOCK N.C.	1
30	011248-004	NUT, HEX 1/4" ESNA	1
31	011252-010	SCREW HHC 1/4-20 X 1 1/4	1
100	029610-004	CONNECTOR FORK TERM 12-10 GA. #10	11
102	029615-002	CONNECTOR FEMALE PUSH 16-14 GA.	2
103	063956-003	PLUG, HOUSING	1
104	063956-010	PIN, CONTACT MALE	3
105	029452-099	WIRE 16 GA. BLACK	2 FT
106	029450-099	WIRE 16 GA. BLUE	3 FT
108	029453-099	WIRE 16 GA. ORG	1 FT
109	029477-099	WIRE 16 GA. ORG/BLK	1 FT
110	029454-099	WIRE 16 GA. RED	2 FT



# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1



**Controller Assembly**  
**067528-013**

**2 of 2**

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Guardrail Assembly With Extension Deck

066938-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066967-000	WELDMENT, SIDE RAIL MAIN DECK RH	1
2	066967-001	WELDMENT, SIDE RAIL MAIN DECK LH	1
3	066969-000	WELDMENT, SLIDE TUBE (U.S.) RH	1
4	066969-001	WELDMENT, SLIDE TUBE (U.S.) LH	1
5	066978-000	WELDMENT, REAR SWING TUBE	2
6	066970-000	WELDMENT, SLIDE TUBE U.S.	1
7	063133-000	CHAIN ASSEMBLY	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
8	011254-014	SCREW HHC 3/8-16 x 1 3/4	8
9	011248-006	NUT 3/8-16 UNC ESNA	10
10	011254-008	SCREW HHC 3/8-16 x 1	2
11	011287-006	SCRW SOC HD 3/8-16 x 3/4	2
12	003570-000	RETAINING PIN ASSEMBLY	2
13	010414-006	LOCKING PIN ASSEMBLY	4
14	026553-004	RIVET 3/16 DIA. x 1/4 GRIP	4

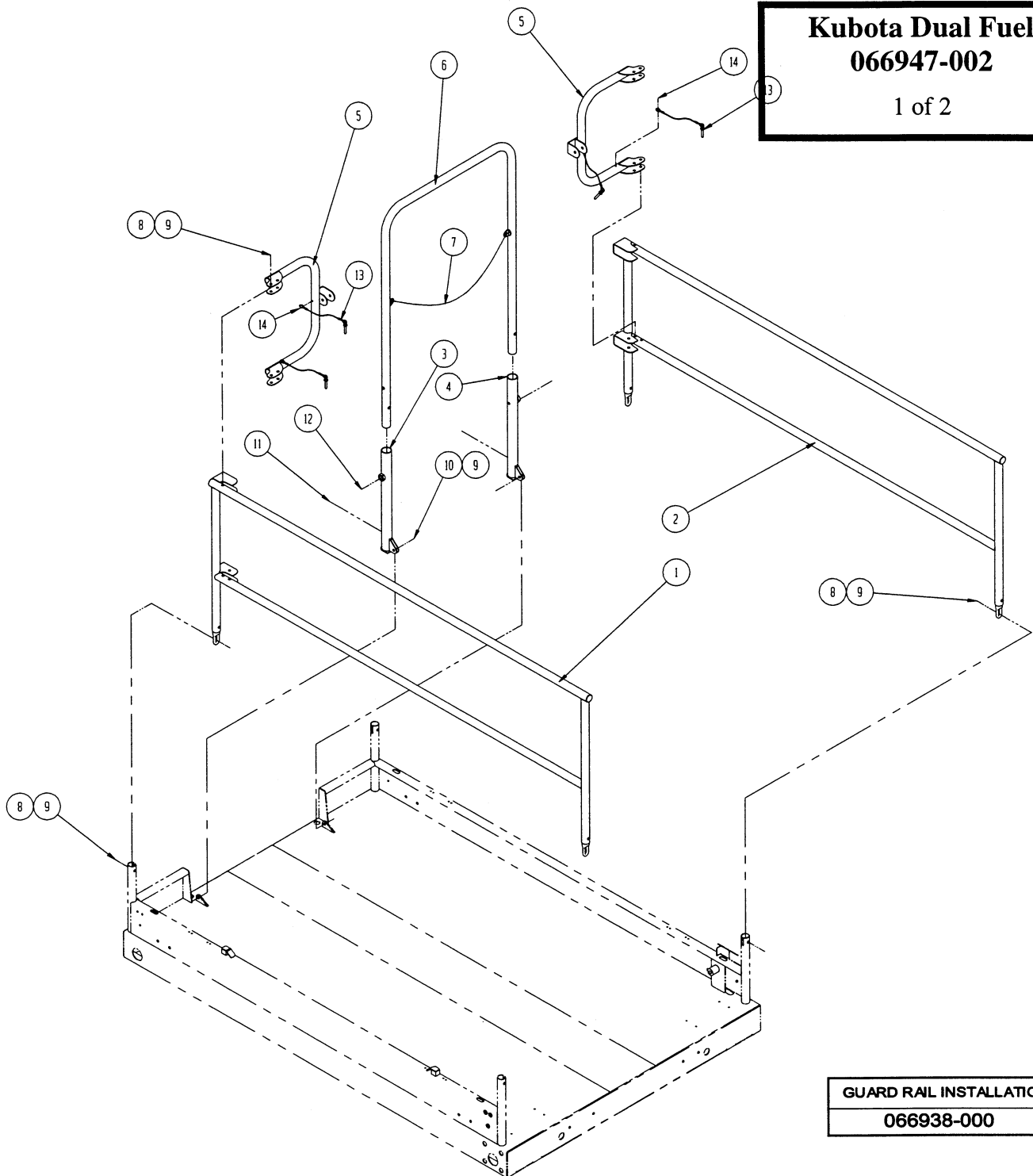


# ILLUSTRATED PARTS BREAKDOWN

Section  
**6.1**

**Kubota Dual Fuel**  
**066947-002**

1 of 2



**GUARD RAIL INSTALLATION**  
**066938-000**

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Guardrail Assembly Without Extension Deck

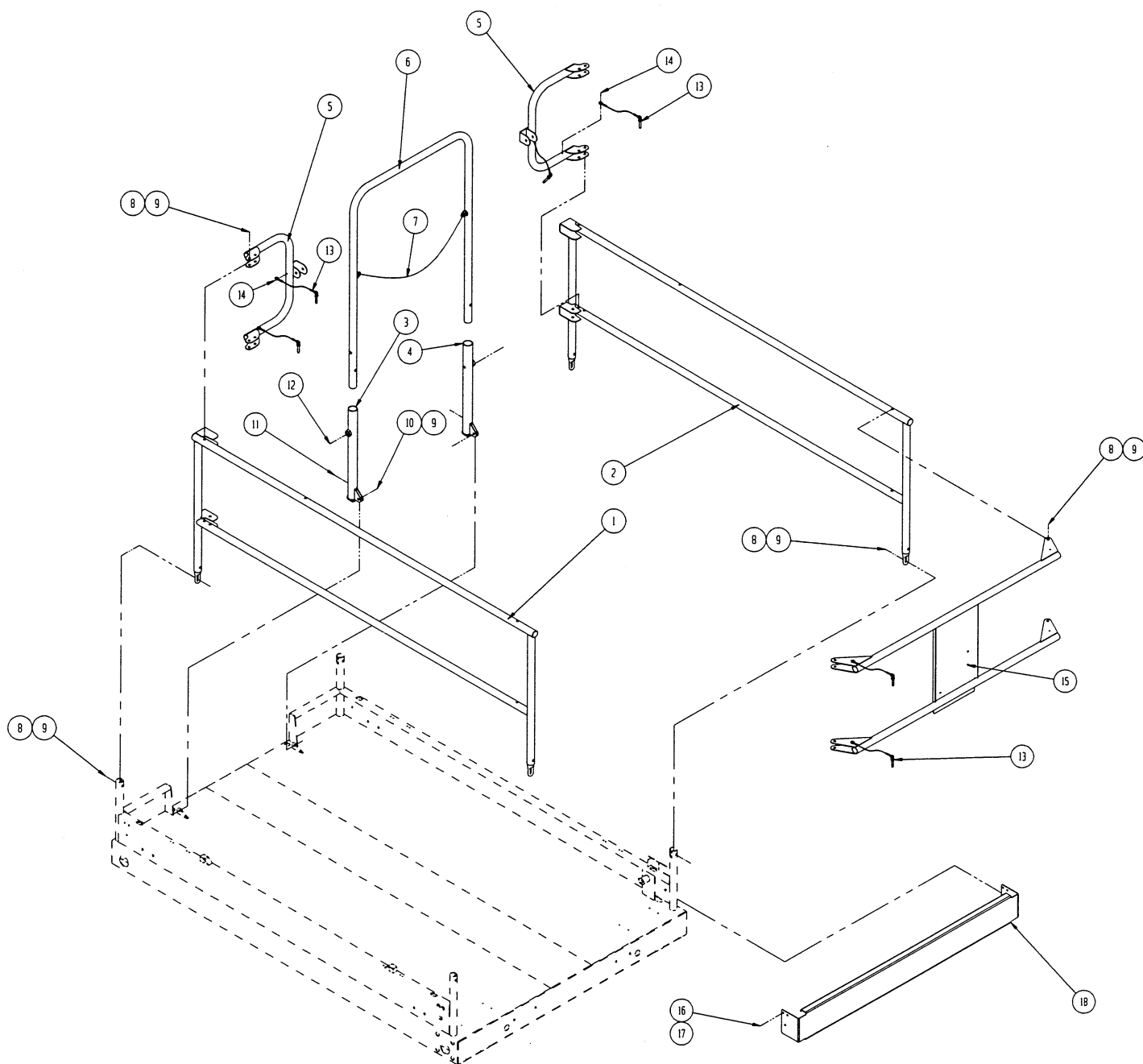
066938-002

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066967-000	WELDMENT, SIDE RAIL MAIN DECK RH	1
2	066967-001	WELDMENT, SIDE RAIL MAIN DECK LH	1
3	066969-000	WELDMENT, SLIDE TUBE (U.S.) RH	1
4	066969-001	WELDMENT, SLIDE TUBE (U.S.) LH	1
5	066978-000	WELDMENT, REAR SWING TUBE	2
6	066970-000	WELDMENT, SLIDE TUBE U.S.	1
7	063133-000	CHAIN ASSEMBLY	1
8	011254-014	SCREW HHC 3/8-16 x 1 3/4	10
9	011248-006	NUT 3/8-16 UNC ESNA	12

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
10	011254-008	SCREW HHC 3/8-16 x 1	2
11	011287-006	SCREW SOC 3/8-16 x 3/4	2
12	003570-000	RETAINING PIN ASSEMBLY	2
13	010414-006	LOCKING PIN ASSEMBLY	6
14	026553-004	RIVET 3/16 DIA. x 1/4 GRIP	6
15	066966-001	FRONT RAIL, MAIN DECK	1
16	011252-006	SCREW, HHC 1/4-20 x 3/4	6
17	011240-004	WASHER 1/4 FLAT	6
18	066518-012	KICK PLATE	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



GUARD RAIL INST. W/O EXT DECK
066938-002

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Roll Out Deck Installation

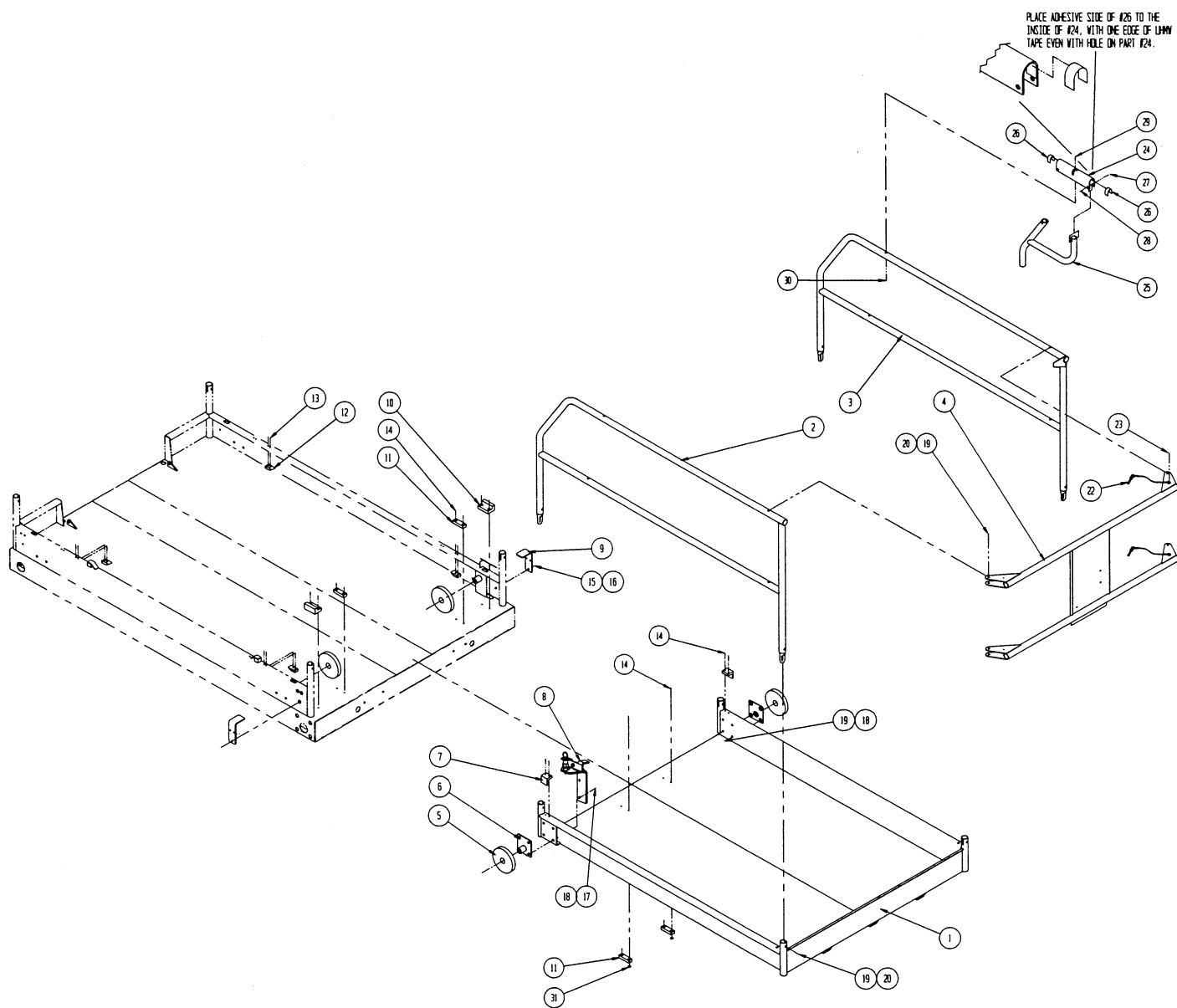
066939-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	066955-000	EXTENSION DECK WELDMENT	1
2	066965-001	WELDMENT, SIDE RAIL - RIGHT	1
3	066965-000	WELDMENT, SIDE RAIL - LEFT	1
4	066966-000	FRONT GATE, SLIDE OUT DECK	1
5	066195-000	PLATFORM ROLLER	4
6	066127-000	WELDMENT, ROLLER MOUNT	2
7	066170-001	WEAR PAD	2
8	067185-000	DECKLOCK, SLIDE OUT ASSY	1
9	066407-011	BRACKET	2
10	066176-002	WEAR PAD - XRT	2
11	066198-002	WEAR PAD - XRT	4
12	066193-000	STOP	4
13	026553-008	RIVET 3/16 DIA. x 1/2 GRIP	16
14	026553-010	RIVET 3/16 DIA. x 5/8 GRIP	12
15	011252-006	SCREW HHC 1/4-20 x 3/4	6

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
16	011240-004	WASHER 1/4 FLAT	6
17	011254-016	SCREW HHC 3/8-16 x 2	2
18	011238-006	WASHER 3/8 LOCK	8
19	011254-014	SCREW HHC 3/8-16 x 1 3/4	12
20	011248-006	NUT 3/8-16 UNC ESNA	6
22	010414-006	LOCKING PIN ASSEMBLY	2
23	026553-004	RIVET 3/16 DIA. x 1/4 GRIP	2
24	067761-001	PIVOT, PUSH BAR XRT	1
25	067310-000	WELDMENT, HANDLE DECK EXTENTION	1
26	066520-099	TAPE, UHMW 2" WIDE W/ ADHESIVE	FT .75
27	011250-005	NUT, HEX ESNA 5/16-18	2
28	011253-018	SCREW, HHC 5/16-18 X 2-1/4"	2
29	014339-014	SCREW SOC HD SSTL 5/16-18 X 1-3/4"	1
30	011248-005	NUT, HEX ESNA 5/16-18	1
31	002186-000	WASHER, 3/16" SS FLAT	4

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



DECK EXTENSION INSTALLATION  
066939-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Hose Kit Installation XRT27 2WD

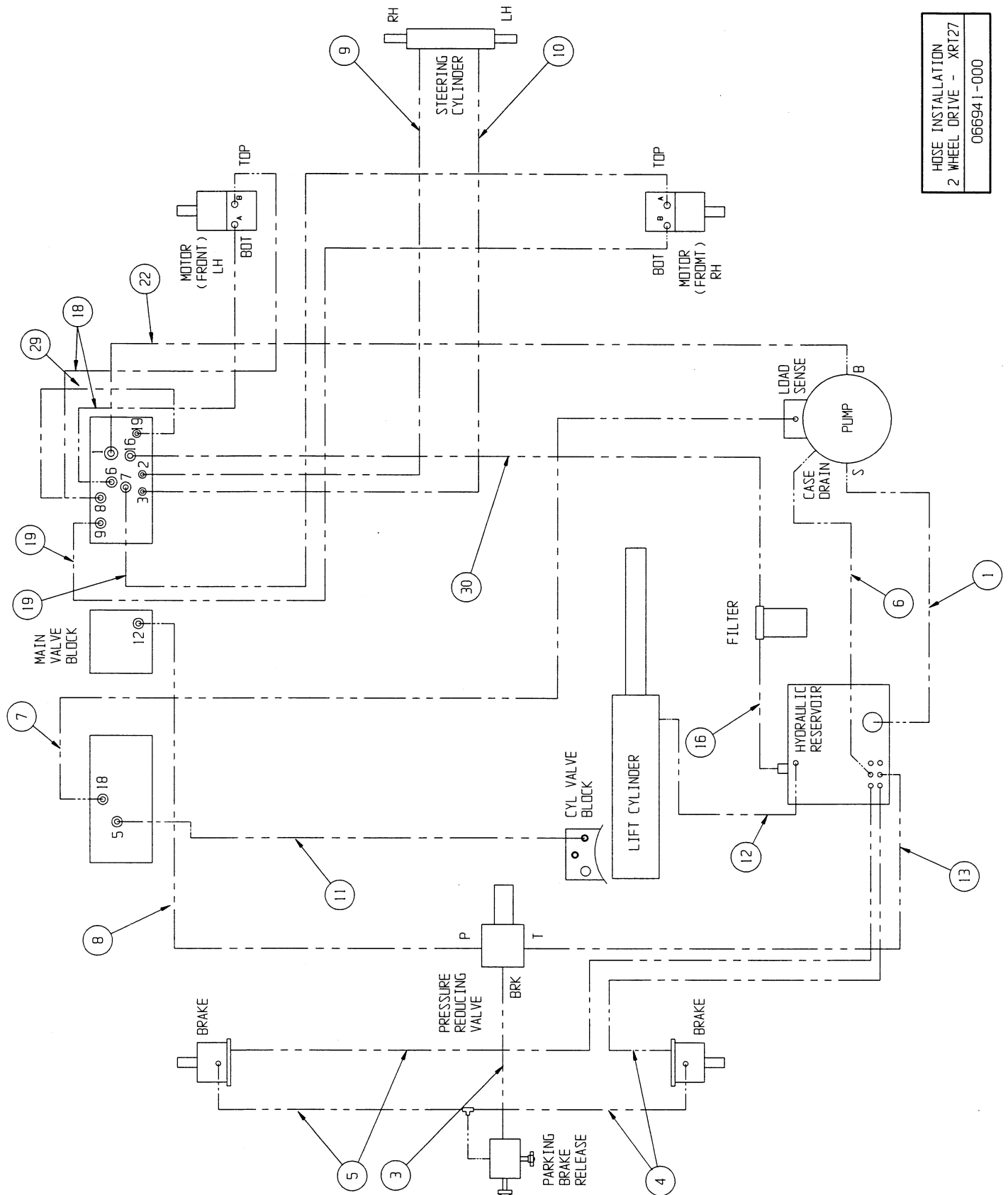
066941-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067198-132	1 HOSE ASSY X 132 16FJX-16FJX 90	1
3	068737-023	1/4 HOSE ASSY X 23 4FJX-4FJX	1
4	068737-096	1/4 HOSE ASSY X 96 4FJX-4FJX	2
5	068737-110	1/4 HOSE ASSY X 110 4FJX-4FJX	2
6	068745-136	3/8 HOSE ASSY X 136 6FJX-6FJX	1
7	068737-132	1/4 HOSE ASSY X 132 4FJX-4FJX	1
8	068737-032	1/4 HOSE ASSY X 32 4FJX-4FJX	1
9	068965-068	3/8 HOSE ASSY X 68 6FJX-6FJX 90	1
10	068965-063	3/8 HOSE ASSY X 63 6FJX-6FJX 90	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
11	068745-126	3/8 HOSE ASSY X 156 6FJX-6FJX	1
12	068745-130	3/8 HOSE ASSY X 190 6FJX-6FJX	1
13	068737-057	1/4 HOSE ASSY X 57 4FJX-4FJX	1
16	064156-051	1/2 HOSE ASSY X 21 8FJX-8FJX	1
18	067312-084	1/2 HOSE ASSY X 84 8FJX-8FJX90	2
19	067312-093	1/2 HOSE ASSY X 93 8FJX-8FJX90	2
22	067667-132	5/8 HOSE ASSY X 132 12FJX-12FJX90	1
29	064156-039	1/2 HOSE ASSY X 15 8FJX-8FJX	1
30	067682-033	1/2 HOSE ASSY X 33 8FJX-8FJX90°	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



HOSE INSTALLATION
2 WHEEL DRIVE - XRT27
066941-000

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Hose Kit Installation XRT33 2WD

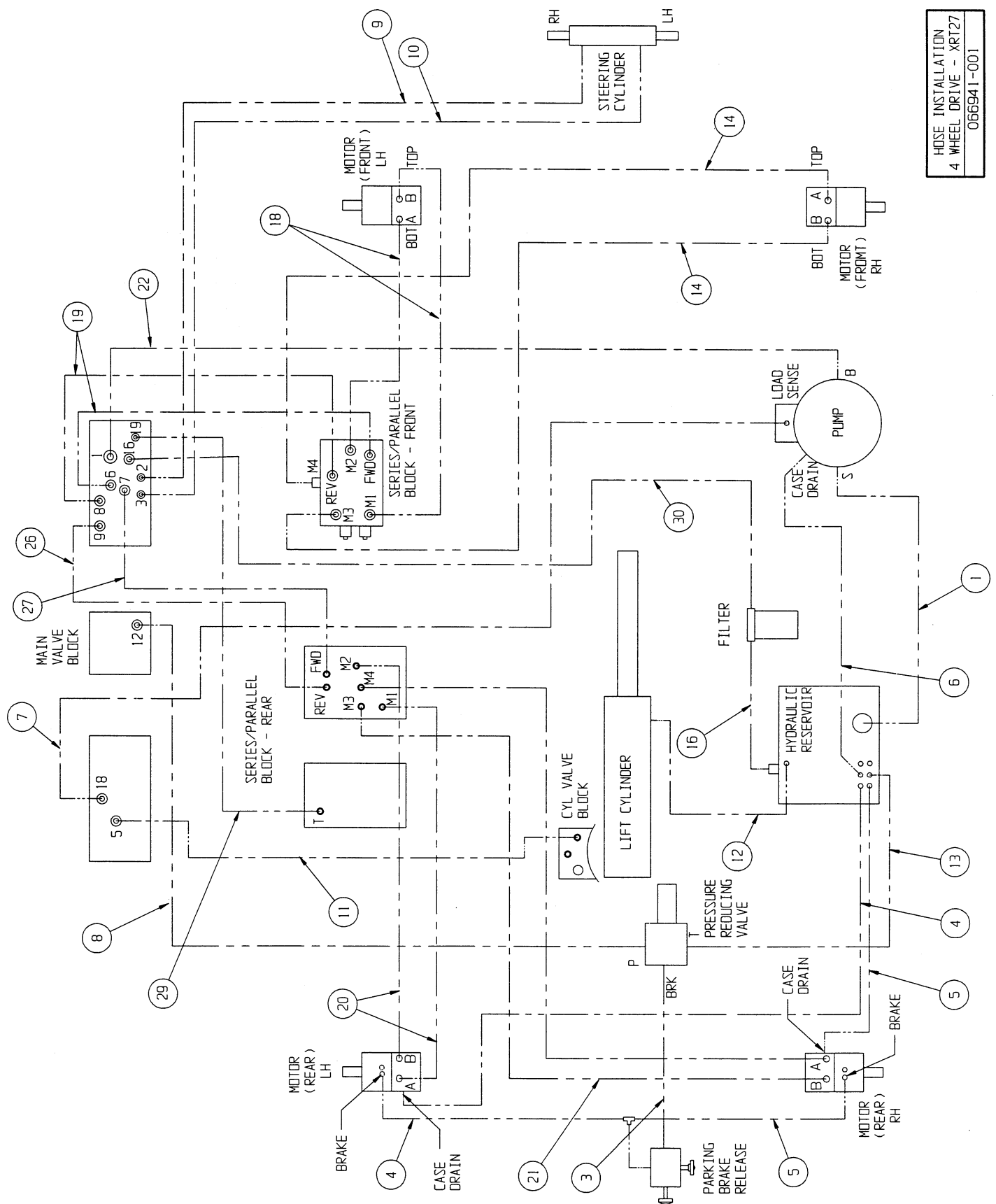
066941-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067198-132	1 HOSE ASSY X 132 16FJX-16FJX90	1
3	068737-023	1/4 HOSE ASSY X 23 4FJX-4FJX	1
4	068737-096	1/4 HOSE ASSY X 96 4FJX-4FJX	2
5	068737-110	1/4 HOSE ASSY X 110 4FJX-4FJX	2
6	068745-136	3/8 HOSE ASSY X 136 6FJX-6FJX	1
7	068737-132	1/4 HOSE ASSY X 132 4FJX-4FJX	1
8	068737-032	1/4 HOSE ASSY X 32 4FJX-4FJX	1
9	068965-068	3/8 HOSE ASSY X 68 6FJX-6FJX90	1
10	068965-063	3/8 HOSE ASSY X 63 6FJX-6FJX90	1
11	068745-126	3/8 HOSE ASSY X 156 6FJX-6FJX	1
12	068745-130	3/8 HOSE ASSY X 190 6FJX-6FJX	1
13	068737-057	1/4 HOSE ASSY X 57 4FJX-4FJX	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
14	067312-060	1/2 HOSE ASSY X 60 8FJX-8FJX90	2
16	064156-051	1/20HOSE ASSY X 21 8FJX-8FJX	1
18	067312-051	1/2 HOSE ASSY X 51 8FJX-8FJX90	2
19	067682-055	1/2 HOSE ASSY X 55 8FJX-8FJX90	2
20	064156-065	1/2 HOSE ASSY X 125 8FJX-8FJX	2
21	064156-069	1/2 HOSE ASSY X 99 8FJX-8FJX	2
22	067667-132	5/8 HOSE ASSY X 132 12FJX-12FJX90	1
24	020032-001	FITTING 4MJ-4MJ TEE	REF
26	067682-088	1/2 HOSE ASSY X 88 8FJX-8FJX90	1
27	067682-078	1/2 HOSE ASSY X 78 8FJX-8FJX90	1
29	064156-021	1/2 HOSE ASSY X 42 8FJX-8FJX	1
30	067682-033	1/2 HOSE ASSY X 33 8FJX-8FJX90	1



## Section 6.1



HOSE INSTALLATION 4 WHEEL DRIVE - XRT27	066941-001
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**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Hose Kit Installation XRT27 4WD

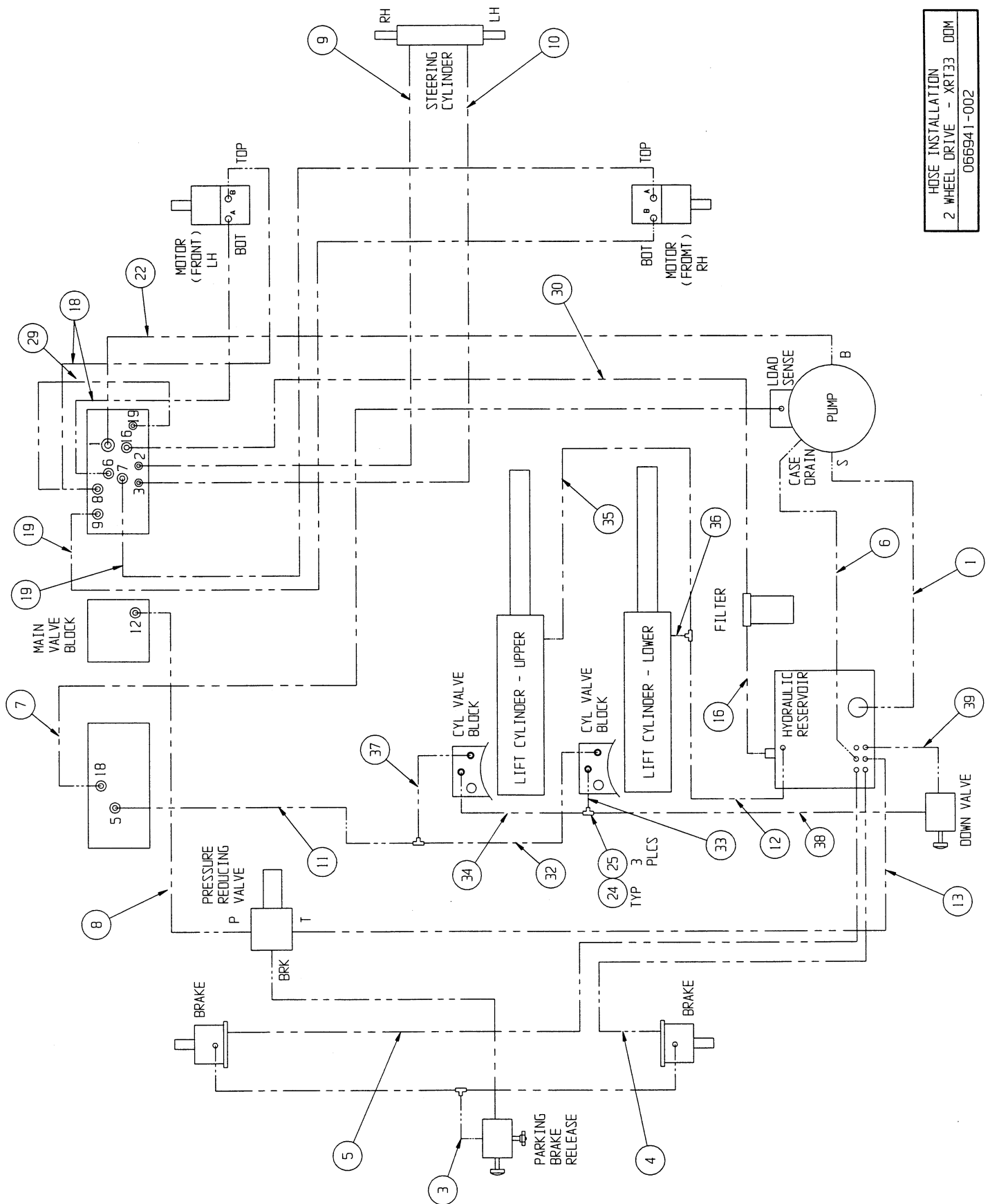
066941-002

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067198-132	1 HOSE ASSY X 132 16FJX-16FJX 90	1
3	068737-023	1/4 HOSE ASSY X 23 4FJX-4FJX	1
4	068737-096	1/4 HOSE ASSY X 96 4FJX-4FJX	2
5	068737-110	1/4 HOSE ASSY X 110 4FJX-4FJX	2
6	068745-136	3/8 HOSE ASSY X 136 6FJX-6FJX	1
7	068737-132	1/4 HOSE ASSY X 132 4FJX-4FJX	1
8	068737-032	1/4 HOSE ASSY X 32 4FJX-4FJX	1
9	068965-068	3/8 HOSE ASSY X 68 6FJX-6FJX 90	1
10	068965-063	3/8 HOSE ASSY X 63 6FJX-6FJX 90	1
11	066824-005	3/8 HOSE ASSY X 84 6FJX-6FJX	1
12	066825-015	1/4 HOSE ASSY X 115 6FJX-6FJX	1
13	068737-057	1/4 HOSE ASSY X 57 4FJX-4FJX	1
16	064156-051	1/2 HOSE ASSY X 21 8FJX-8FJX	1
18	067312-084	1/2 HOSE ASSY X 84 8FJX-8FJX90	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	067312-093	1/2 HOSE ASSY X 93 8FJX-8FJX90	2
22	067667-132	5/8 HOSE ASSY X 132 12FJX-12FJX90	1
24	020032-003	FITTING 6MJ-6MJ-6MJ TEE	REF
25	011937-003	FITTING 90 6FJX - 6MJ	REF
29	064156-039	1/2 HOSE ASSY X 15 8FJX-8FJX	1
30	067682-033	1/2 HOSE ASSY X 33 8FJX-8FJX90	1
32	066823-002	3/8 HOSE ASSY X 60 6JFX-6JFX90	1
33	066822-001	1/4 HOSE ASSY X 51 6JFX-6JFX90	1
34	066825-005	1/4 HOSE ASSY X 215 6FJX-6FJX	1
35	066824-003	1/4 HOSE ASSY X 245 6FJX-6FJX	1
36	066825-007	1/4 HOSE ASSY X 71 6FJX-6FJX	1
37	066825-004	1/4 HOSE ASSY X 245 6FJX-6FJX	1
38	066825-008	1/4 HOSE ASSY X 127 6FJX-6FJX	1
39	066825-014	1/4 HOSE ASSY X 74 6FJX-6FJX	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



HOSE INSTALLATION  
2 WHEEL DRIVE - XRT33 DDM  
066941-002

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Hose Kit Installation XRT33 4WD

066941-003

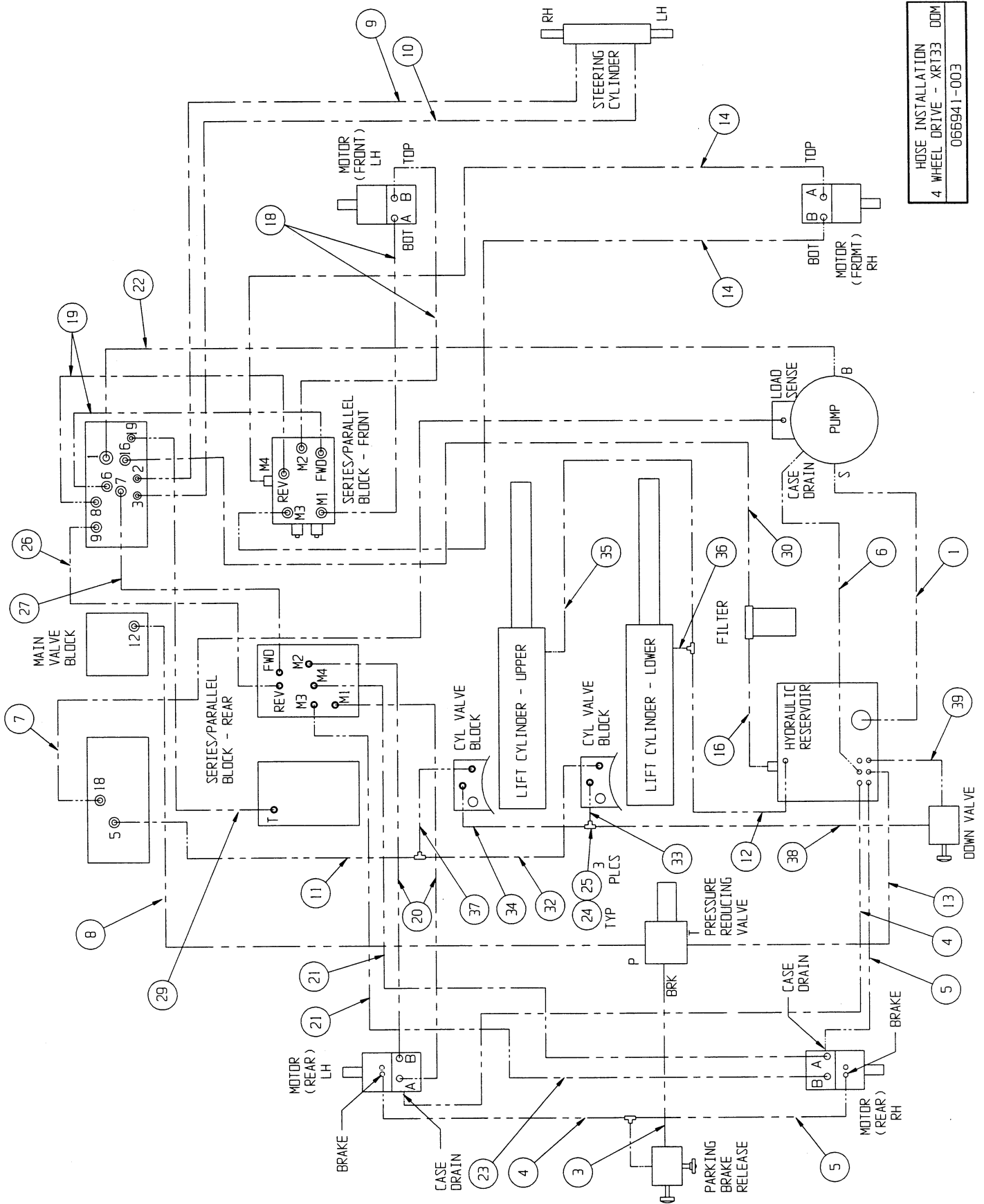
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067198-132	1 HOSE ASSY X 132 16FJX-16FJX90	1
3	068737-023	1/4 HOSE ASSY X 23 4FJX-4FJX	1
4	068737-096	1/4 HOSE ASSY X 96 4FJX-4FJX	2
5	068737-110	1/4 HOSE ASSY X 110 4FJX-4FJX	2
6	068745-136	3/8 HOSE ASSY X 136 6FJX-6FJX	1
7	068737-132	1/4 HOSE ASSY X 132 4FJX-4FJX	1
8	068737-032	1/4 HOSE ASSY X 32 4FJX-4FJX	1
9	068965-068	3/8 HOSE ASSY X 68 6FJX-6FJX90	1
10	068965-063	3/8 HOSE ASSY X 63 6FJX-6FJX90	1
11	066824-005	3/8 HOSE ASSY X 84 6FJX-6FJX	1
12	066825-015	1/4 HOSE ASSY X 115 6FJX-6FJX	1
13	068737-057	1/4 HOSE ASSY X 57 4FJX-4FJX	1
14	067312-060	1/2 HOSE ASSY X 60 8FJX-8FJX90	2
16	064156-051	1/2 HOSE ASSY X 21 8FJX-8FJX	1
18	067312-051	1/2 HOSE ASSY X 51 8FJX-8FJX90	2
19	067682-055	1/2 HOSE ASSY X 55 8FJX-8FJX90	2
20	064156-065	1/2 HOSE ASSY X 125 8FJX-8FJX	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
21	064156-069	1/2 HOSE ASSY X 99 8FJX-8FJX	2
22	067667-132	5/8 HOSE ASSY X 132 12FJX-12FJX90	1
24	020032-003	FITTING 6MJ-6MJ-6MJ TEE	REF
25	011937-003	FITTING 90 6FJX - 6MJ	REF
26	067682-088	1/2 HOSE ASSY X 88 8FJX-8FJX90	1
27	067682-078	1/2 HOSE ASSY X 78 8FJX-8FJX90	1
29	064156-021	1/2 HOSE ASSY X 42 8FJX-8FJX	1
30	067682-033	1/2 HOSE ASSY X 33 8FJX-8FJX90	1
32	066823-002	3/8 HOSE ASSY X 60 6JFX-6JFX90	1
33	066822-001	1/4 HOSE ASSY X 51 6JFX-6JFX90	1
34	066825-005	1/4 HOSE ASSY X 215 6FJX-6FJX	1
35	066824-003	1/4 HOSE ASSY X 245 6FJX-6FJX	1
36	066825-007	1/4 HOSE ASSY X 71 6FJX-6FJX	1
37	066825-004	1/4 HOSE ASSY X 245 6FJX-6FJX	1
38	066825-008	1/4 HOSE ASSY X 127 6FJX-6FJX	1
39	066825-014	1/4 HOSE ASSY X 74 6FJX-6FJX	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1

HOSE INSTALLATION  
4 WHEEL DRIVE - XRT33 DDM  
066941-003



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT27 Dual Fuel

066940-000

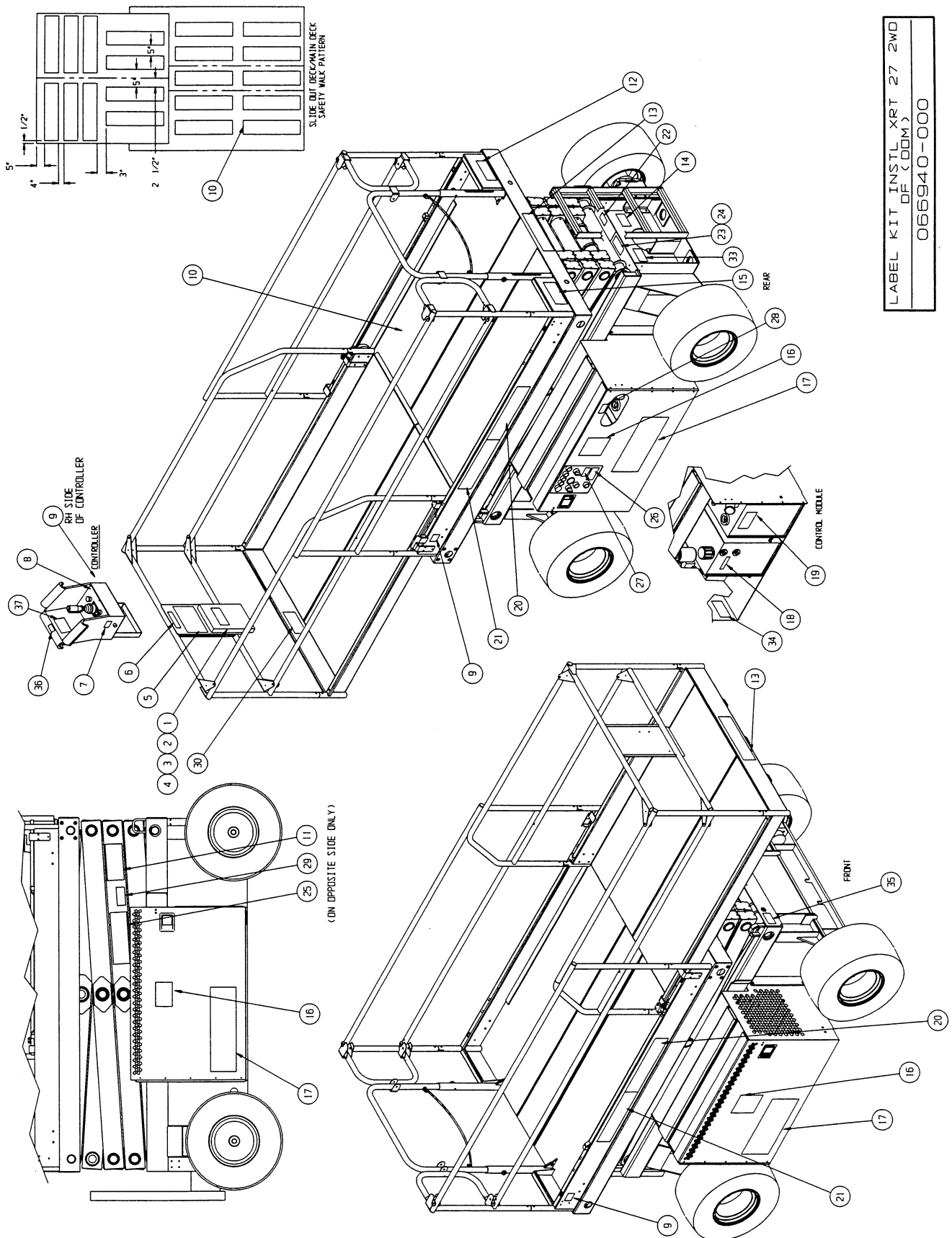
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	030624-024	LABEL - CHOKE	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-016	LABEL - WARNING MAX LOAD (1250 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (28" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	064166-000	LABEL - UNLEADED GAS ONLY	1
20	066957-002	LABEL - XRT 27	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
33	064189-001	LABEL - LIQUID WITHDRAWAL	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1
37	066554-000	LABEL - CAUTION READ INSTRUCTIONS	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1

LABEL KIT INSTL XRT 27 2WD  
OF (DDM)  
066940-000



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT27 Diesel

066940-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	067822-000	LABEL - GLOW	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-016	LABEL - WARNING MAX LOAD (1250 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (28" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	027898-000	LABEL - DIESEL FUEL	1
20	066957-002	LABEL - XRT 27	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
31	067822-001	LABEL - GLOW PLUG	1
32	067554-000	LABEL - CAUTION	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1



## Section 6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT27 4WD Dual Fuel

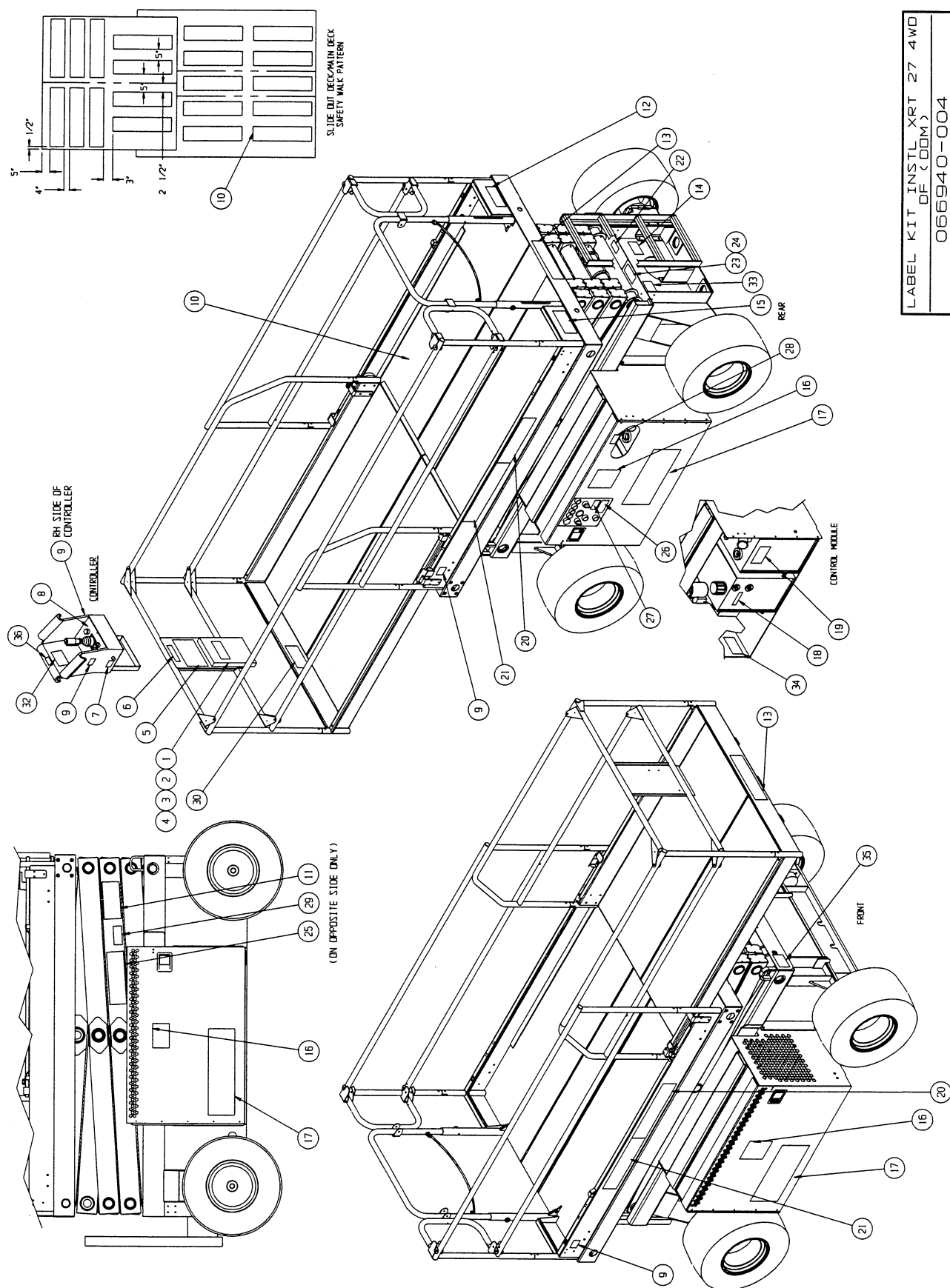
066940-004

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASERIAL DESCRIPTION	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	030624-024	LABEL - CHOKE	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-016	LABEL - WARNING MAX LOAD (1250 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (32.25" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	064166-000	LABEL - UNLEADED GAS ONLY	1
20	066957-000	LABEL - XRT 27 4WD	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
32	066554-000	LABEL - CAUTION	1
33	064189-001	LABEL - LIQUID WITHDRAWAL	1
34	063432-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT27 4WD Diesel

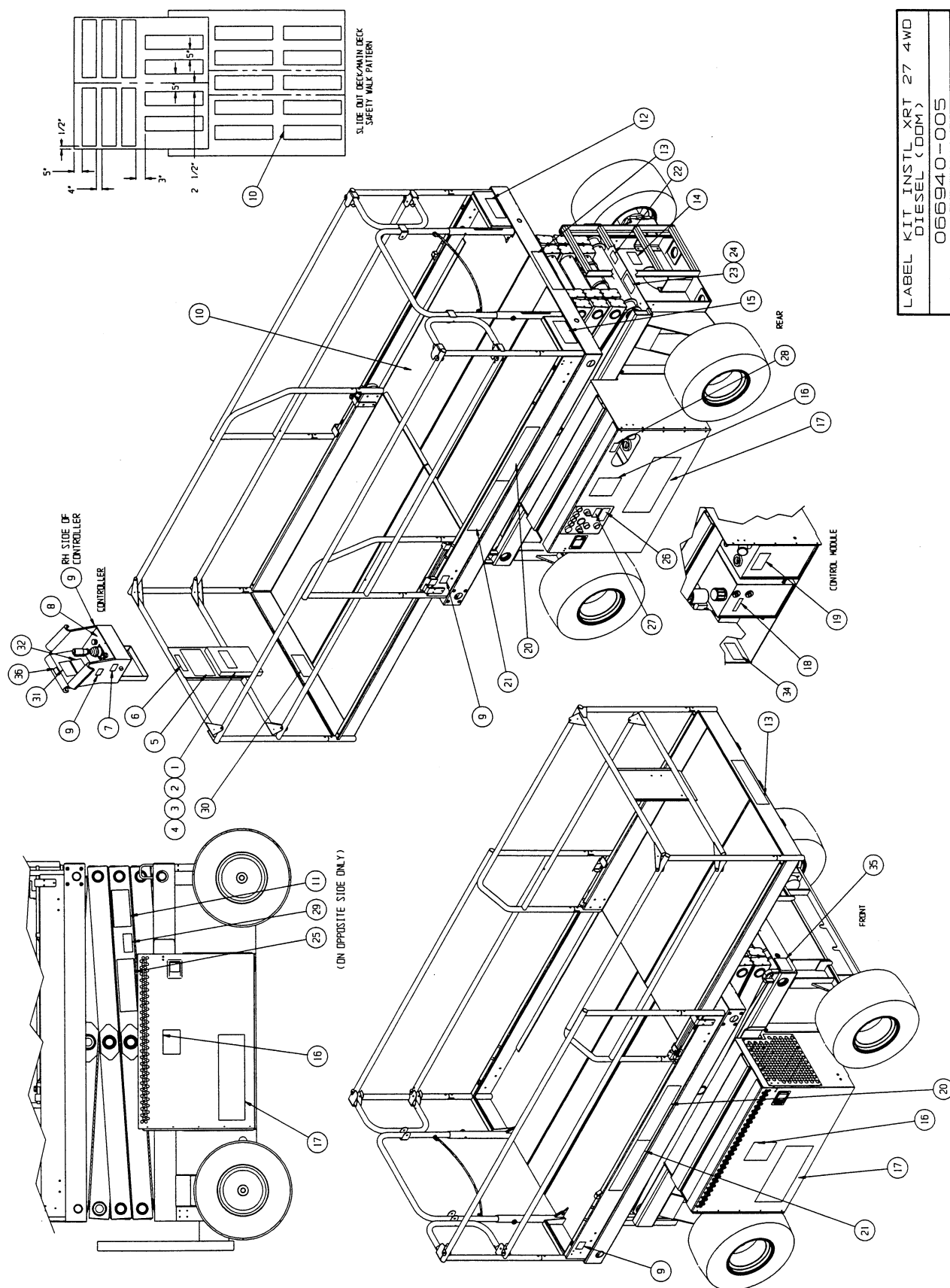
066940-005

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTIONDESCRIPTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	067822-000	LABEL - GLOW	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-016	LABEL - WARNING MAX LOAD (1250 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (32.25" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	027898-000	LABEL - DIESEL FUEL	1
20	066957-000	LABEL - XRT 27 4WD	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
31	067822-001	LABEL - GLOW PLUG	1
32	066554-000	LABEL - CAUTION	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



LABEL KIT INSTL XRT 27 4WD  
DIESEL (DDM)

066940-005

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT33 Dual Fuel

066940-008

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	030624-024	LABEL - CHOKE	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-017	LABEL - WARNING MAX LOAD (1000 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (32.25" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	064166-000	LABEL - UNLEADED GAS ONLY	1
20	066957-003	LABEL - XRT 33	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
32	066554-000	LABEL - CAUTION	1
33	064189-001	LABEL - LIQUID WITHDRAWAL	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1

## Section 6.1

LABEL KIT INSTL XRT 33 DF (DOM)  
066940-008



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT33 Diesel

066940-009

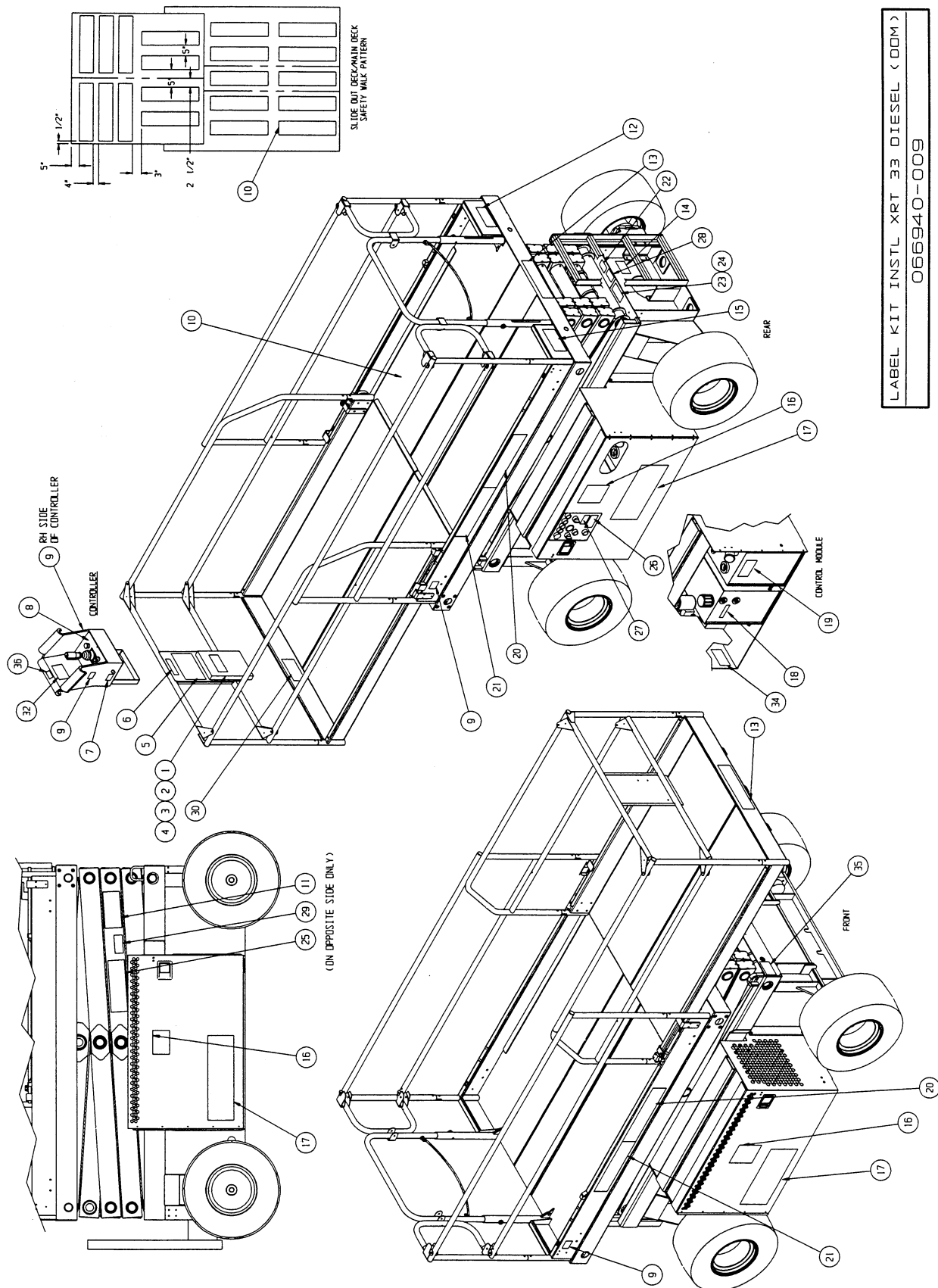
ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	067822-000	LABEL - GLOW	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-017	LABEL - WARNING MAX LOAD (1000 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (32.25" LG)	2

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
18	060197-000	LABEL - HYDRAULIC FLUID	1
19	027898-000	LABEL - DIESEL FUEL	1
20	066957-003	LABEL - XRT 33	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
32	066554-000	LABEL - CAUTION	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1



# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



LABEL KIT INSTL XRT 33 DIESEL (DOM)  
066940-009

**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT33 4WD Dual Fuel

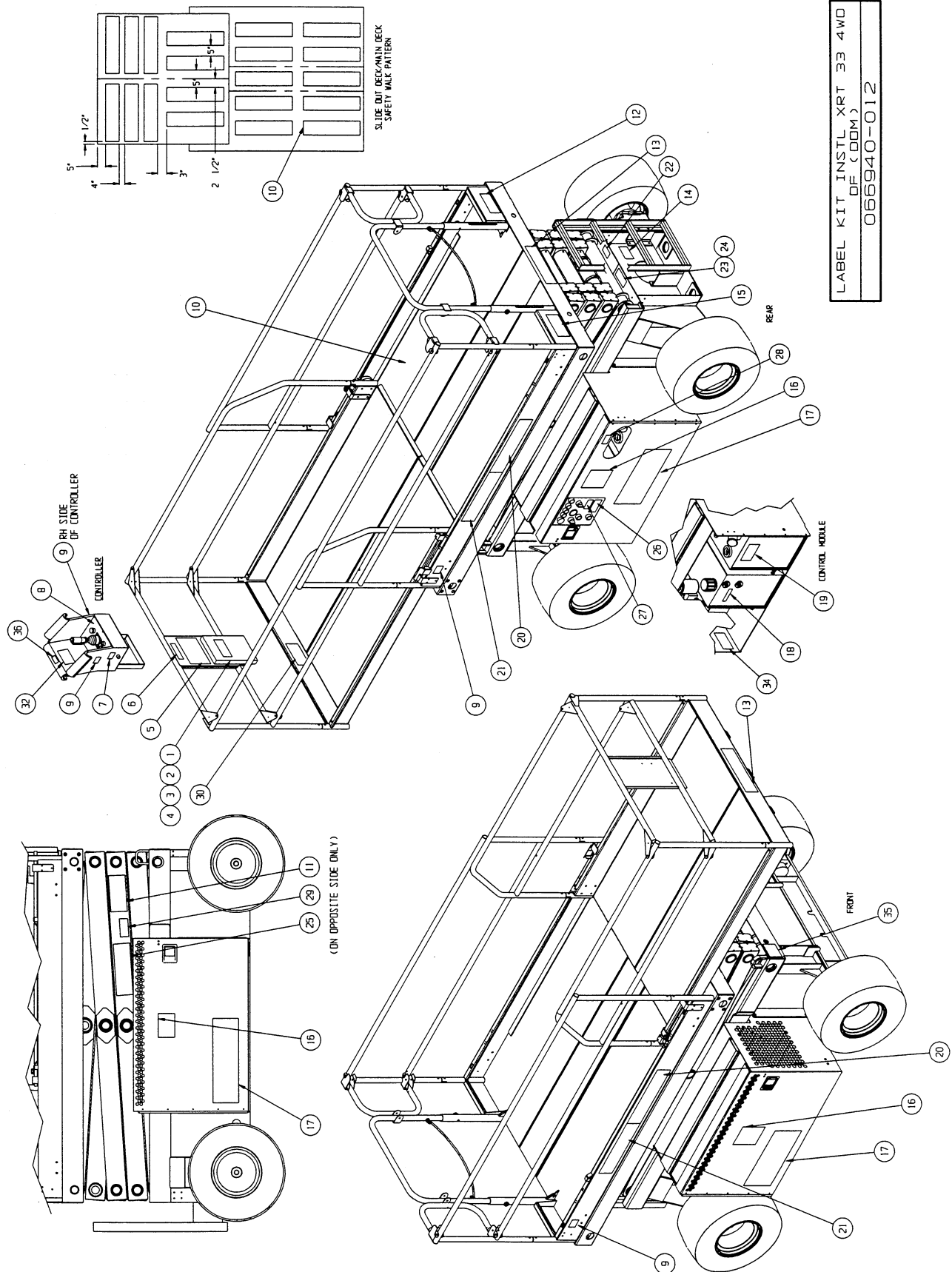
066940-012

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	030624-024	LABEL - CHOKE	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-017	LABEL - WARNING MAX LOAD (1000 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (32.25" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	064166-000	LABEL - UNLEADED GAS ONLY	1
20	066957-001	LABEL - XRT 33 4WD	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
32	066554-000	LABEL - CAUTION	1
33	064189-000	LABEL - LIQUID WITHDRAWL	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Label Kit Installation XRT33 4WD Diesel

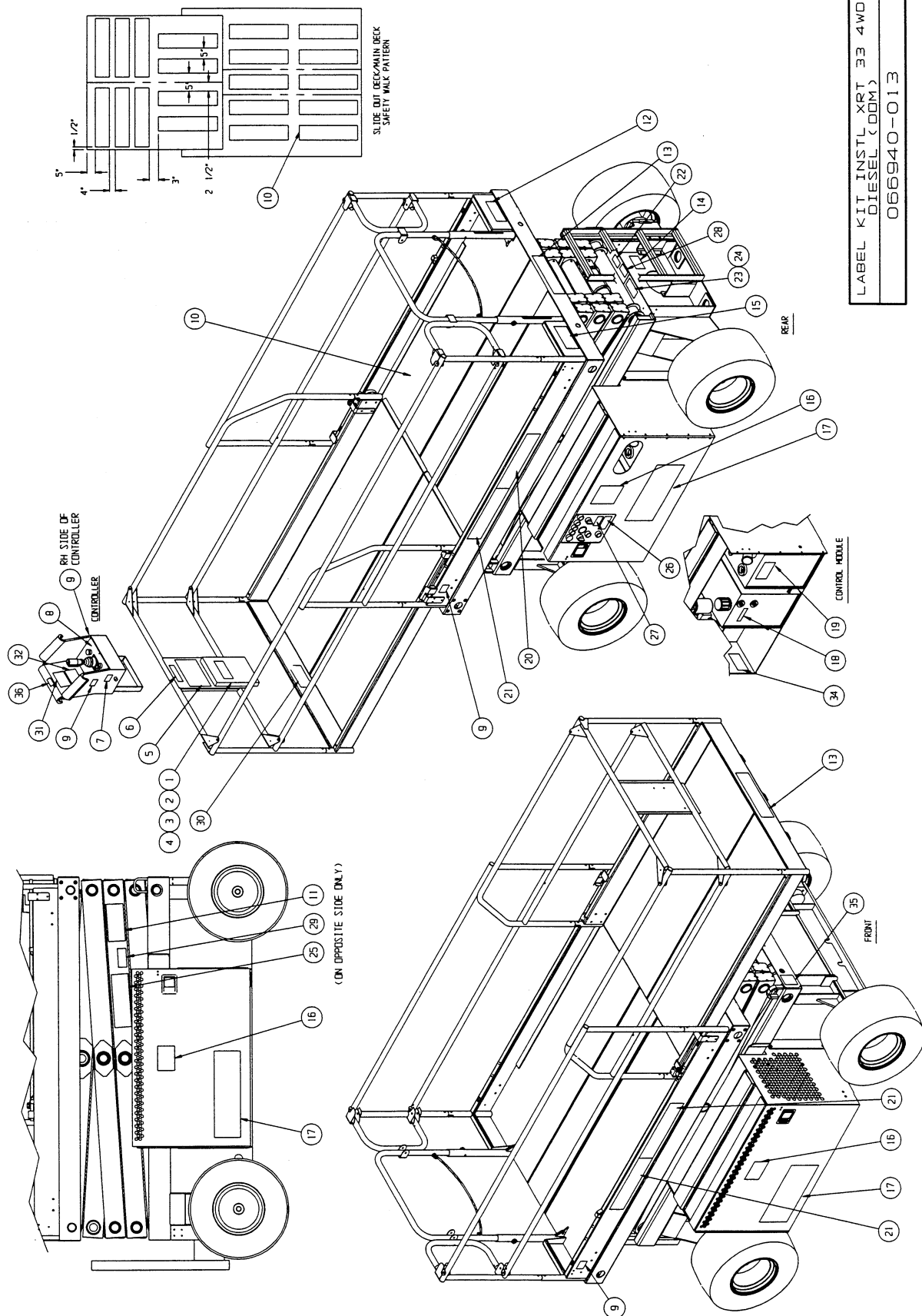
066940-013

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	010076-000	MANUAL CASE	1
2	010076-001	LABEL - ATTENTION	1
3	066898-000	USER MANUAL - XRT SERIES (DOMESTIC)	1
4	060577-000	ANSI MANUAL	1
5	066550-009	LABEL - DANGER	1
6	066551-003	LABEL - DANGER TIPPING	1
7	067822-000	LABEL - GLOW	1
8	067642-003	LABEL - CONTROLLER (XRT)	1
9	064444-000	LABEL - USA	4
10	027966-005	FLEX TREAD (NO SLIP)	20
11	066568-000	LABEL - WARNING CRUSHING HAZARD	2
12	066562-007	LABEL - WARNING TIRE PRESSURE 65 PSI	1
13	061683-013	LABEL - UPRIGHT (4 X 17.69)	2
14	066552-000	LABEL - WARNING BATTERY	1
15	066557-017	LABEL - WARNING MAX LOAD (1000 LBS)	2
16	061684-016	LABEL - X SERIES	2
17	061683-006	LABEL - UPRIGHT (32.25" LG)	2
18	060197-000	LABEL - HYDRAULIC FLUID	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
19	027898-000	LABEL - DIESEL FUEL	1
20	066957-001	LABEL - XRT 33 4WD	2
21	061683-005	LABEL - UPRIGHT (5.5" X 21.63")	2
22	061220-001	LABEL - ANSI -1990	1
23	061205-000	NAME PLATE	1
24	065368-000	TACK	4
25	066561-002	LABEL - SAFETY STAND	1
26	066555-000	LABEL - CAUTION LIMIT SWITCH	1
27	066551-002	LABEL - CAUTION TIPPING	1
28	066558-000	LABEL - EMERGENCY LOWERING	1
29	066561-003	LABEL - CAUTION STRUCTURAL DAMAGE	1
30	066551-000	LABEL - DANGER WEIGHT LIMIT	1
31	067822-001	LABEL - GLOW PLUG	1
32	066554-000	LABEL - CAUTION READ INSTRUCTIONS	1
34	063423-000	LABEL - BRAKE RELEASE	1
35	066556-000	LABEL - CAUTION DECENDING PLATFORM	1
36	061515-000	LABEL - LIFT HERE	1

# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1



Section  
6.1

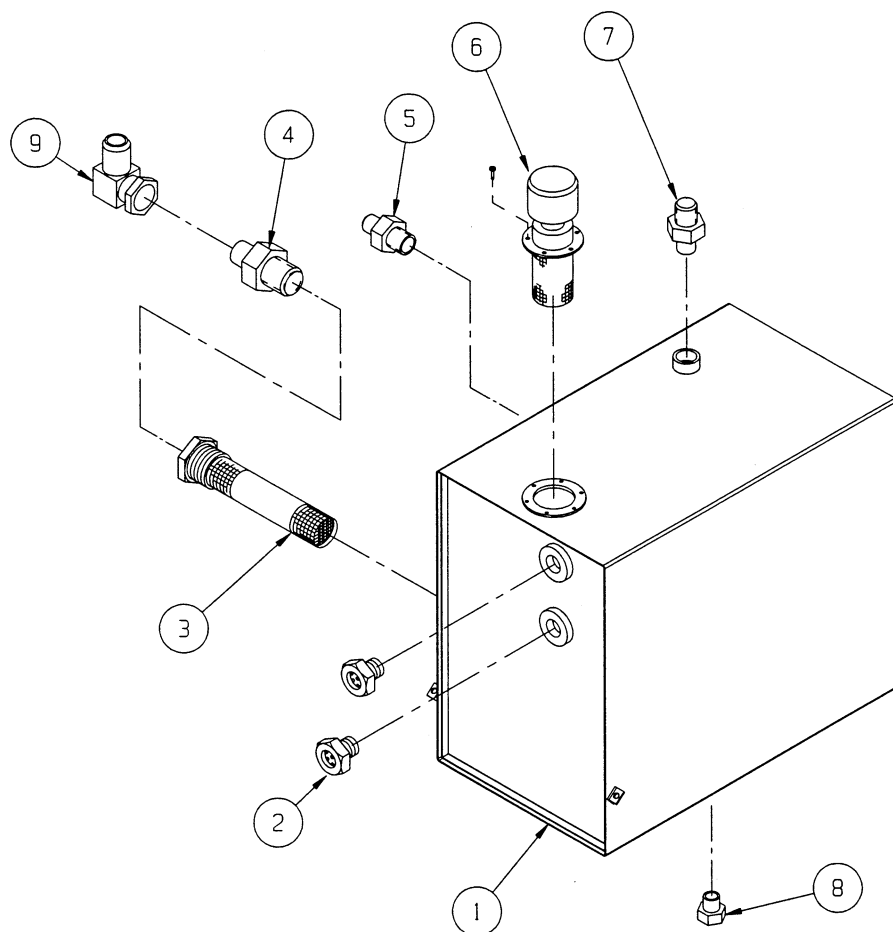
# ILLUSTRATED PARTS BREAKDOWN

## Hydraulic Tank Assembly

066998-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067172-000	HYDRAULIC OIL TANK X-RT	1
2	063979-006	SIGHT GLASS	2
3	100286-001	SUCTION SCREEN (32MP)	1
4	011939-029	FITTING, 20MP-16MJ	1
5	011939-010	FITTING, 6MP-6MJ	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
6	068840-000	FILLER BREATHER CAP & SCREEN	1
7	011939-019	FITTING, 12MP-8MJ	1
8	021305-006	PLUG, MAGNETIC (1/2-14NPT)	1
9	011937-008	FITTING, 16FJ-16MJ 90°	1



HYDRAULIC TANK ASSEMBLY X-RT  
066998-000

# ILLUSTRATED PARTS BREAKDOWN

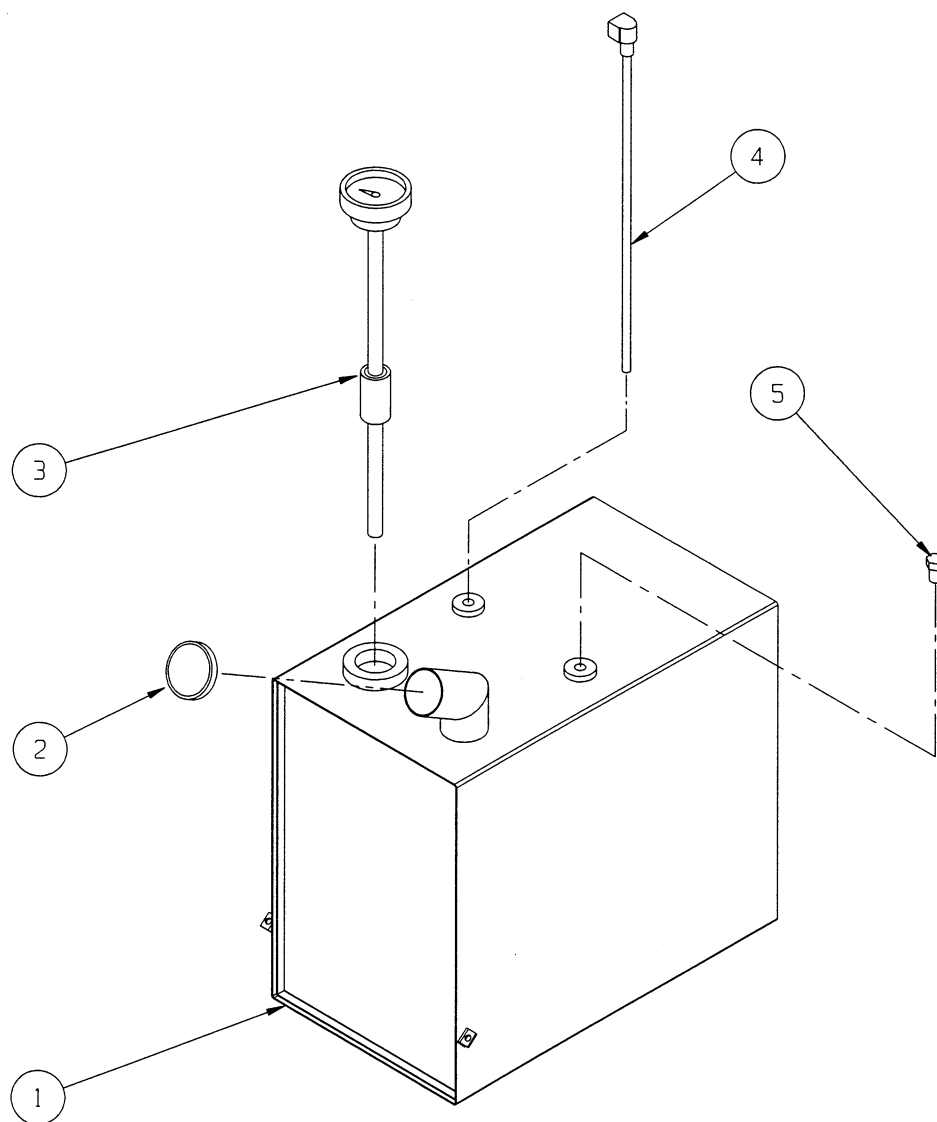
Section  
6.1

## Fuel Tank Assembly Gasoline

066999-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067173-000	TANK, FUEL (STEEL)	1
2	063929-001	GAS CAP	1
3	063982-001	FUEL LEVEL GAUGE	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
4	066971-000	WITHDRAWAL TUBE WELDMENT	1
5	011919-002	FITTING PLUG 4MP	1



FUEL TANK ASSY, GAS X-RT  
066999-000

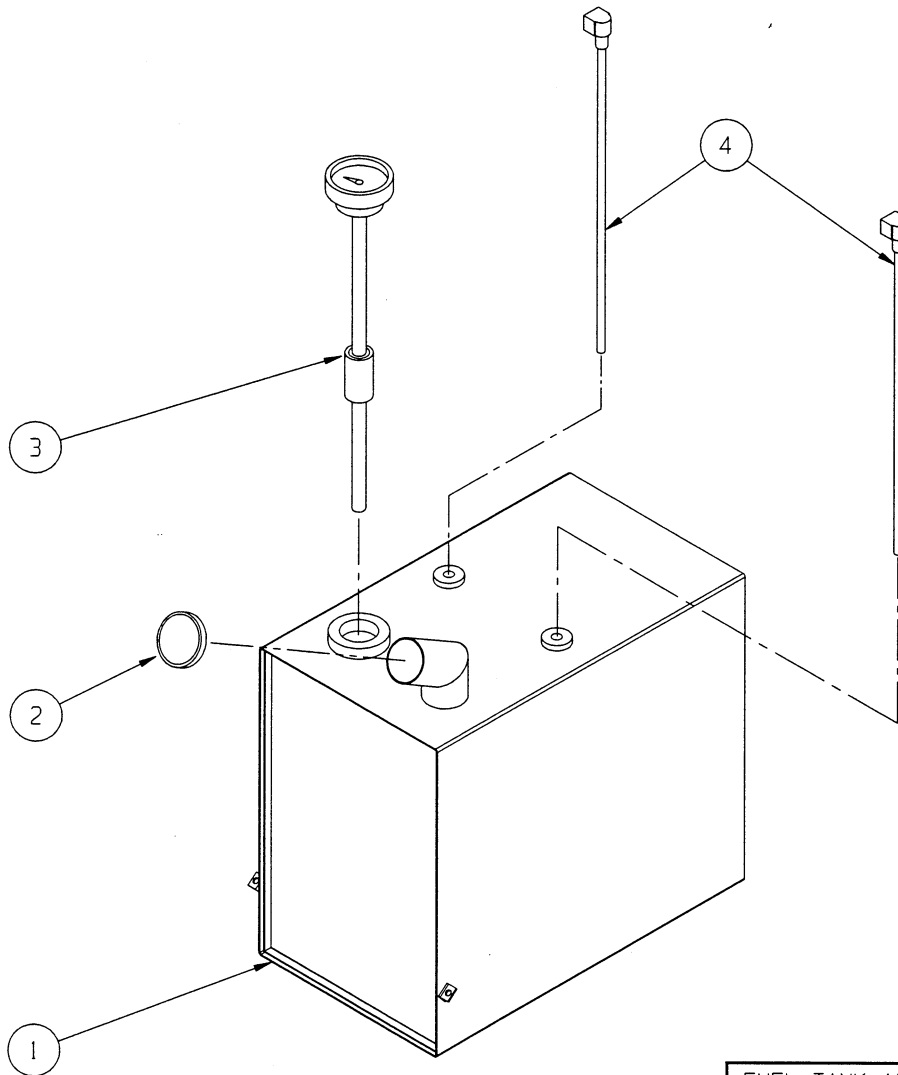
Section  
**6.1**

## ILLUSTRATED PARTS BREAKDOWN

### Fuel Tank Assembly Diesel

066999-001

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	067173-000	TANK, FUEL (STEEL)	1
2	063929-001	FUEL CAP	1
3	063982-001	FUEL LEVEL GAUGE	1
4	066971-000	WITHDRAWAL TUBE WELDMENT	2



FUEL TANK ASSY, DIESEL X-RT
066999-001



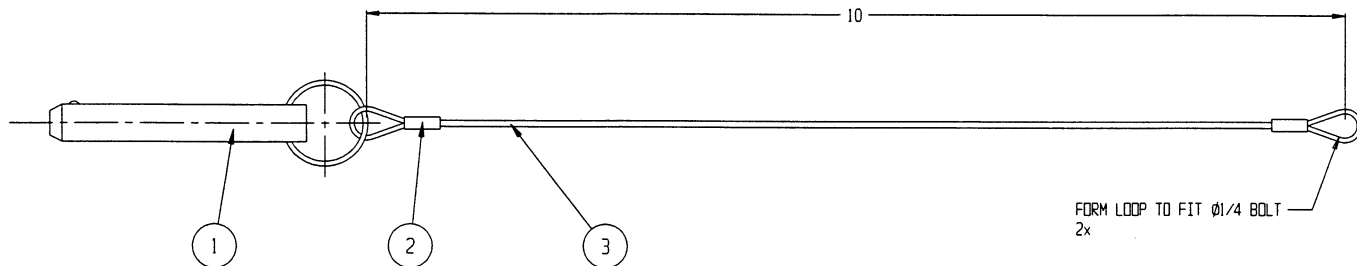
# ILLUSTRATED PARTS BREAKDOWN

Section  
**6.1**

## Locking Pin Assembly

010414-006

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	012791-002	PIN BALL DETENT 3/8 DIA. X 2	1
2	03195-000	SLEEVE - NICOPRESS	2
3	03192-099	WIRE CABLE	FT 1.12



LOCKING PIN ASSEMBLY

010414-006

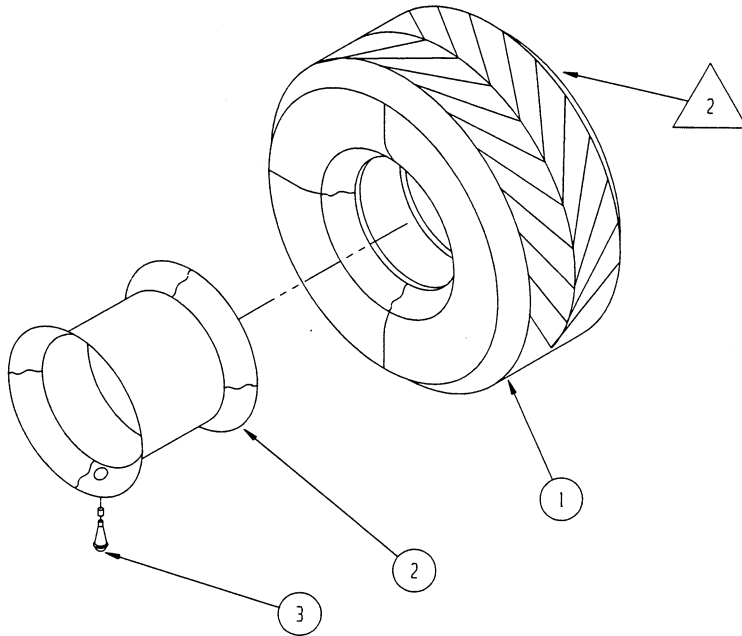
**Section  
6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Tire/Wheel Assembly Trac Seal RT/RH

064054-010

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	008596-002	TIRE	1
2	063910-011	WHEEL	1
3	012282-001	VALVE STEM	1



**NOTES:**

1. FILL TIRE WHEEL ASSY WITH 60 FL. OZ. OF TRAC SEAL (OR EQUIV.) TIRE SEALANT.  
-TIRE & WHEEL ASSY DRY WT.= 51 LBS.  
-TRAC SEAL WEIGHT/GAL = 14 LBS  
-TRAC SEAL REQ.(WT) = 6.5 LBS (REF)



2. BRAND BACKSIDE OF TIRE/WHEEL ASSY AS FOLLOWS:

"UPRIGHT 6KT"  
 SPACE ——— TIRE SEALANT  
 LAST DIGIT OF YEAR WHEN TIRE WAS FILLED.  
 LETTER CORRESPONDING TO MONTH: (JAN-A, ETC)

TIRE/WHEEL ASSY RH TRAC SEAL- XRT
064054-010

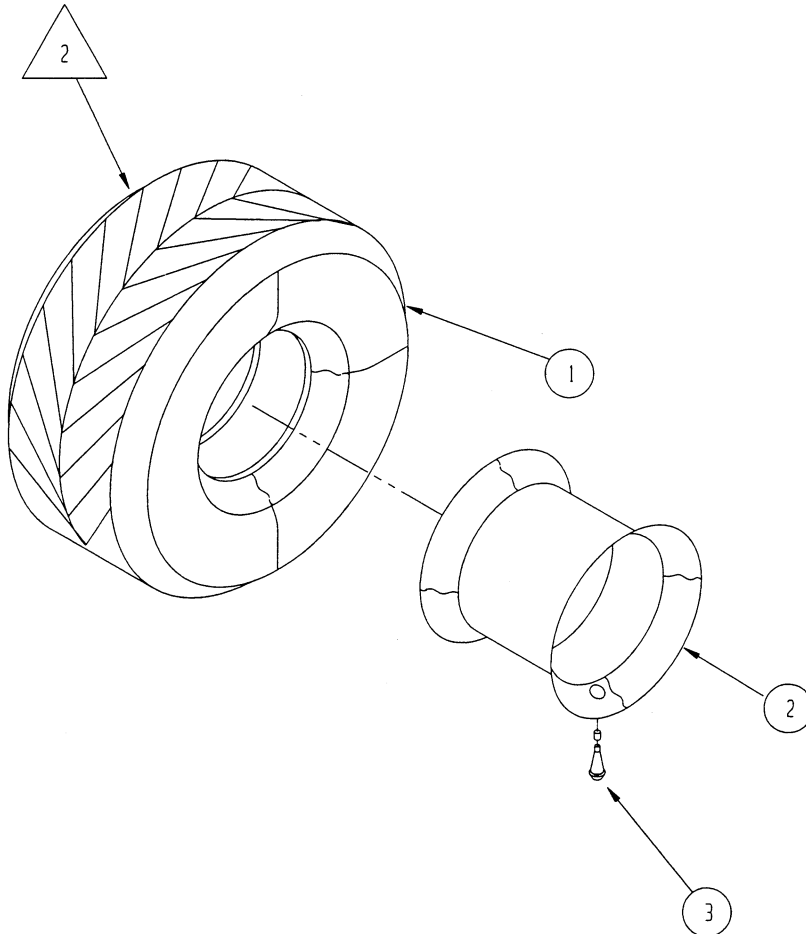
# ILLUSTRATED PARTS BREAKDOWN

Section  
6.1

## Tire/Wheel Assembly Trac Seal RT/LH

064054-011

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	008596-002	TIRE	1
2	063910-011	WHEEL	1
3	012282-001	VALVE STEM	1



### NOTES:

1. FILL TIRE WHEEL ASSY WITH 60 FL. OZ. OF TRAC SEAL (OR EQUIV.) TIRE SEALANT.  
-TIRE & WHEEL ASSY DRY WT. = 51 LBS.  
-TRAC SEAL WEIGHT/GAL = 14 LBS  
-TRAC SEAL REQ. (WT) = 6.5 LBS (REF)

2. BRAND BACKSIDE OF TIRE/WHEEL ASSY AS FOLLOWS:  
"UPRIGHT 6KT"  
SPACE      TIRE SEALANT  
LAST DIGIT OF YEAR WHEN TIRE WAS FILLED.  
LETTER CORRESPONDING TO MONTH: (JAN=A, ETC)

TIRE/WHEEL ASSY LH -TRAC SEAL - XRT
064054-011

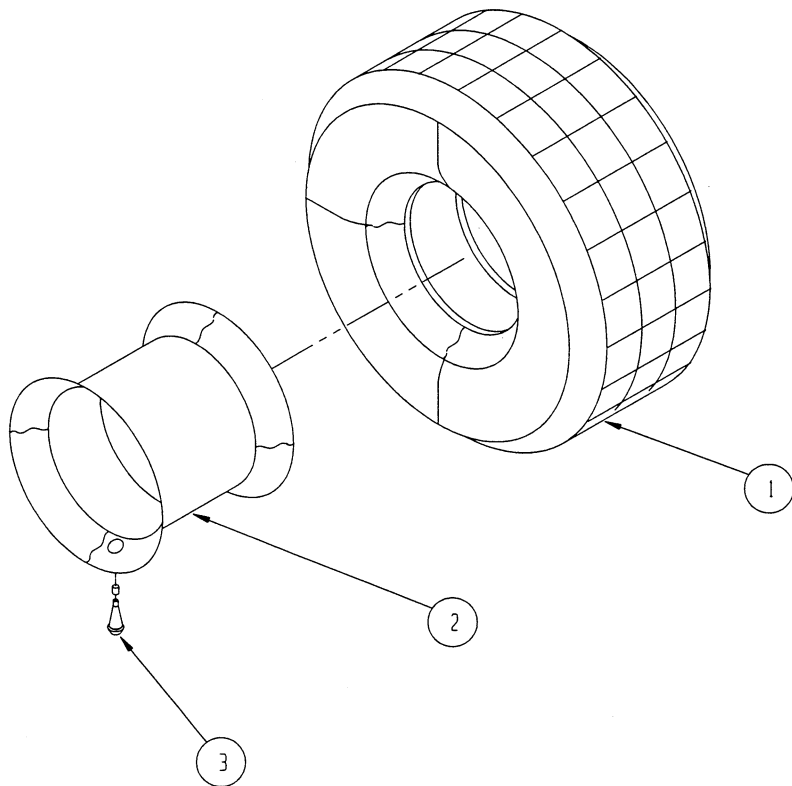
Section  
**6.1**

# ILLUSTRATED PARTS BREAKDOWN

## Tire/Wheel Assembly Softrac Polyfill /RH

064186-010

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	060209-000	TIRE	1
2	063910-010	WHEEL	1
3	012282-000	VALVE STEM	1



NOTE: AFTER ASSEMBLY FILL TIRE WITH POLYFILL

TIRE WHEEL ASSY R/T SOFTRAC FRONT POLY-FILLED
064186-010

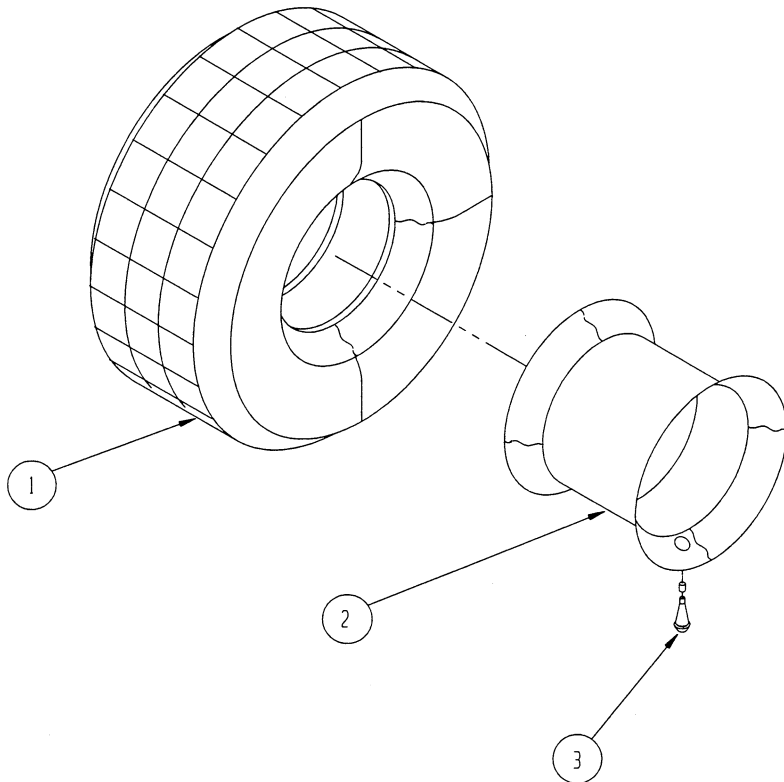
# ILLUSTRATED PARTS BREAKDOWN

Section  
**6.1**

## Tire/Wheel Assembly Softrac Polyfill /LH

064186-011

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	060209-000	TIRE	1
2	063910-010	WHEEL	1
3	012282-000	VALVE STEM	1



NOTE: AFTER ASSEMBLY FILL TIRE WITH POLYFILL

TIRE WHEEL ASSY R/T SOFTRAC FRONT POLY-FILLED
064186-011

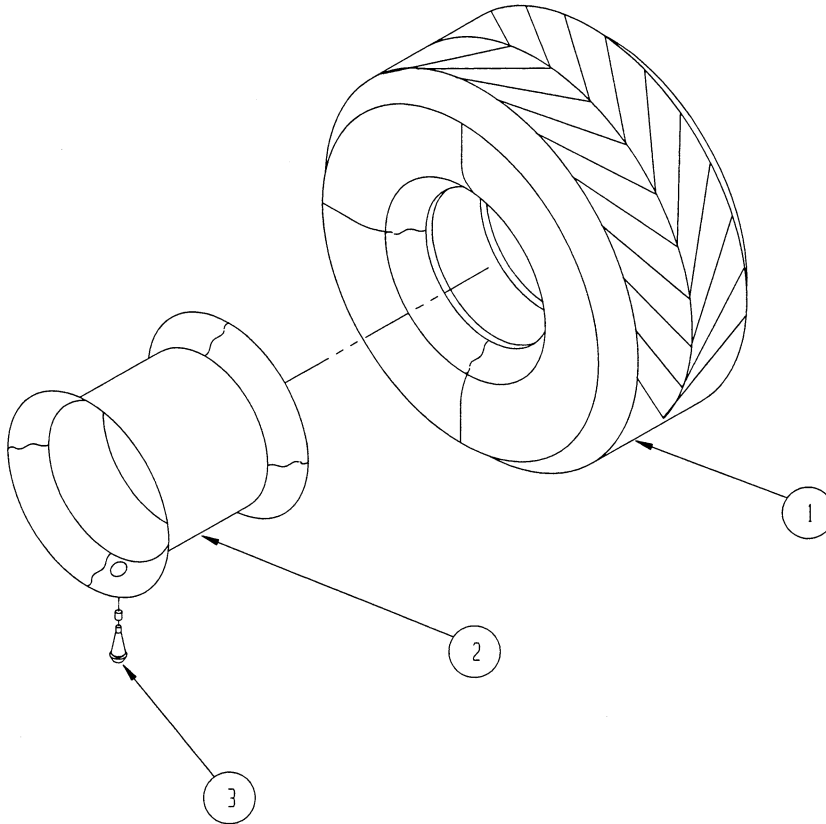
Section  
**6.1**

## ILLUSTRATED PARTS BREAKDOWN

### Tire/Wheel Assembly Polyfill RT/RH

064187-010

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	008596-002	TIRE	1
2	063910-011	WHEEL	1
3	012282-001	VALVE STEM	1



NOTE: AFTER ASSEMBLY FILL TIRE WITH POLYFILL

TIRE/WHEEL ASSY RH - POLYFILL - XRT
064187-010

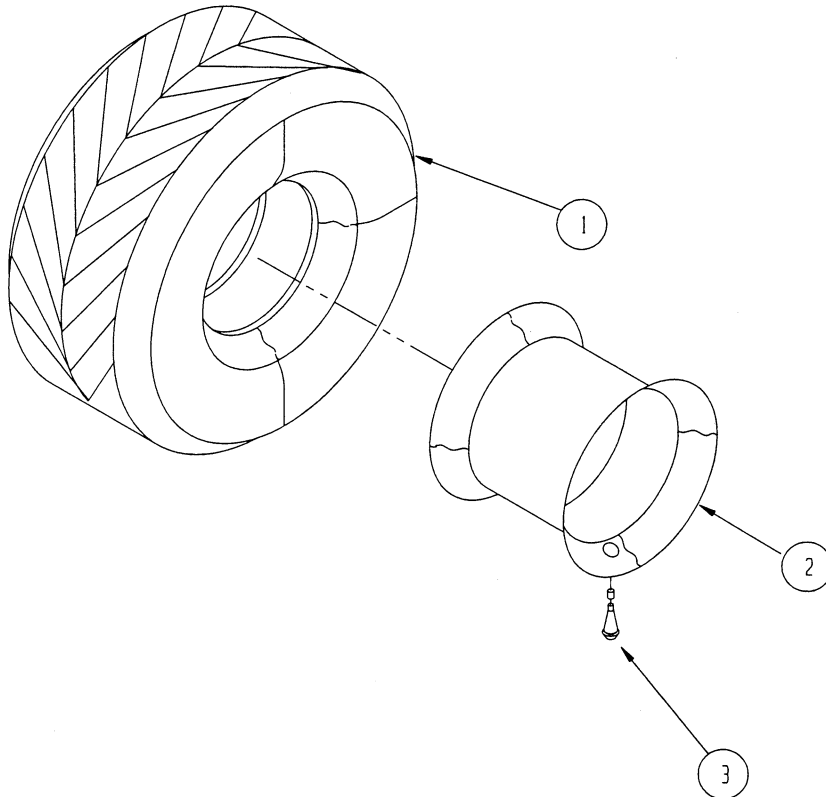
# ILLUSTRATED PARTS BREAKDOWN

## Section 6.1

### Tire/Wheel Assemblym Polyfill RT/LH

064187-011

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	008596-002	TIRE	1
2	063910-011	WHEEL	1
3	012282-001	VALVE STEM	1



NOTE: AFTER ASSEMBLY FILL TIRE WITH POLYFILL

TIRE/WHEEL ASSY LH - POLYFILL - XRT
064187-011

Section  
**6.1**

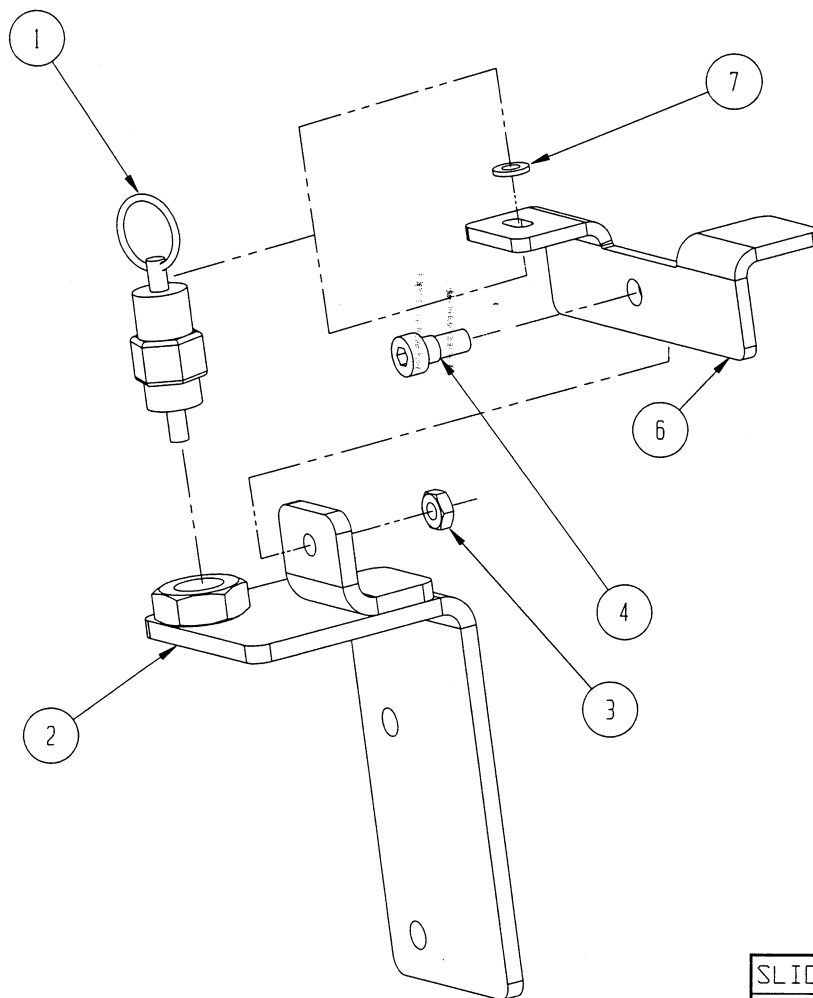
# ILLUSTRATED PARTS BREAKDOWN

## Deck Lock Assembly Slideout

067185-000

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
1	003570-002	RETAINING PIN ASSEMBLY	1
2	067186-000	BRACKET WELDMENT	1
3	011273-005	JAM NUT 5/16-18	1

ITEM	PART NO.	PART / MATERIAL DESCRIPTION	QTY
4	015936-003	SHOULDER SCREW 3/8 X 1/4	1
6	067189-000	LEVER	1
7	014996-005	WASHER 5/16 FLAT	1



SLIDE OUT DECK LOCK ASSY  
67185-000



# **UpRight**

**Call Toll Free in U.S.A.**

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Upright, Inc.

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Selma, California 93662

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FAX: 559/891-9012

PARTS: 1-888-UR-PARTS  
PARTSFAX: 559/896-9244

P/N 066899-000  
7/99 K