Form No. 3327–824 Rev A

Four Wheel Drive Kit

Groundsmaster 580D

Model No. 30598–200000001 and Up

Installation Instructions

⚠ WARNING

POTENTIAL HAZARD
- **Traction Unit rolls over.**

WHAT CAN HAPPEN
- **Bodily injury could occur.**

HOW TO AVOID THE HAZARD
- **Make sure ROPS is installed on all Groundsmaster 580–D Traction Units equipped with a Four Wheel Drive Kit. Make sure to install ROPS Kit, Part No. 104–1265 included with this kit.**

Mount Wheel Motors

1. Disconnect/remove the rear tires, tie rod assembly, and steering cylinder from wheel spindles.

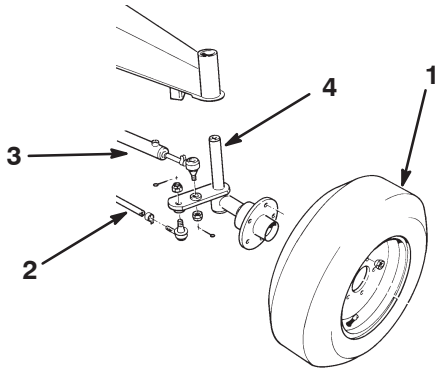

Figure 1

1. Rear tire
2. Tire rod
3. Steering cylinder
4. Wheel spindle

2. Slide a thrust washer over the shaft on each wheel motor housing (Fig. 2).

3. Slide the left and right wheel motor housings onto the axle and secure with retaining rings, spindle caps, and 3/8–16 x 3/4" lg. flange bolts (Fig. 2).

4. Reinstall the steering cylinders. Adjust the ball joint on the steering cylinder so that the steering arms contact the stops on the axle in either direction (Fig. 2).

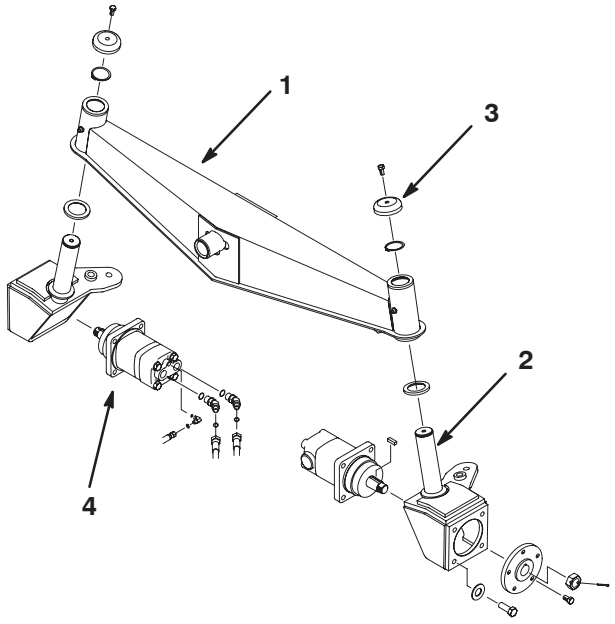

Figure 2

1. Four wheel drive axle
2. Wheel motor housing
3. Spindle caps
4. Wheel motor

5. Reinstall the tie rod and tires. Torque wheel studs to 50 ft–lbs. Adjust the tie rod so that the toe–in (measure at the front of the tires) is within 1/8 of an inch when the wheels are in the straight ahead position. The measurement must be taken at the same height from the ground both front and rear (Fig. 3). After adjusting, the slots in the tie rod and the clamps should face downwards.

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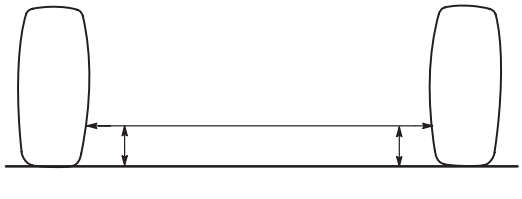


Figure 3

Install Hydraulic Lines

1. Remove the hydraulic tubes from the bulkhead assembly (Fig. 4).

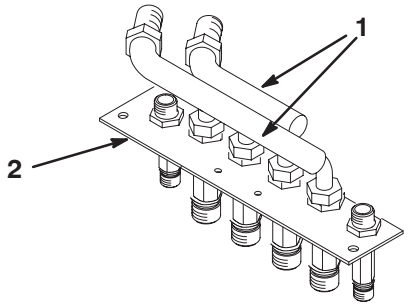


Figure 4

1. Hydraulic tubes
2. Bulkhead assembly

2. Secure the bulkhead assembly to the rear bumper with two 3/8–16 x 1" lg. screws and 3/8–16 locknuts (Fig. 5).

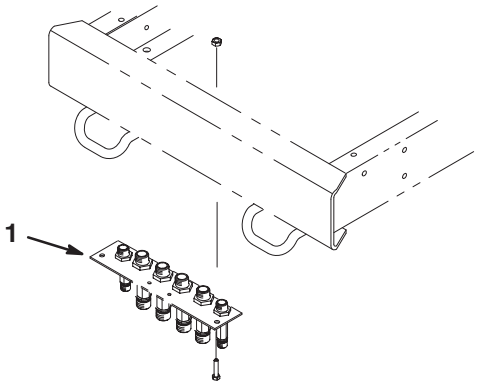


Figure 5

1. Bulkhead assembly

3. Install the hoses from the wheel motors to the bulkhead assembly (Fig. 6).

Note: The two hoses in the center of the bulkhead assembly go to the rear port holes that are closest to the rear of the unit. The outside hoses attach to the port holes that are closest to the front of the unit.

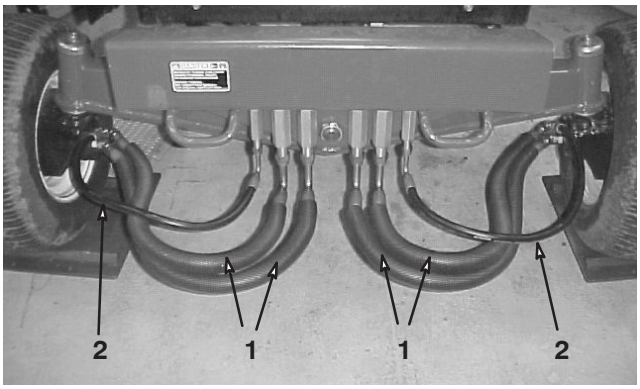


Figure 6

1. Wheel motor hoses (Part No. 100–3910)
2. Wheel motor drain hoses (Part No. 100–3912)

4. Install a Tee fitting to the bulkhead plate as shown in figure. 7.

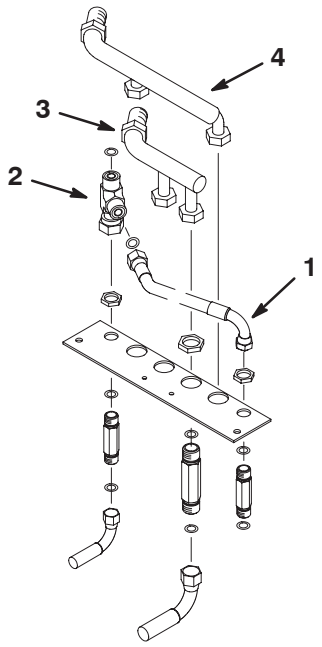


Figure 7

1. Bulkhead hose (Part No. 100–3911)
2. Tee fitting
3. Hydraulic tube (short)
4. Hydraulic tube (long)

5. Install bulkhead hose as shown in figure. 7.

6. Reinstall the hydraulic tubes to the bulkhead assembly. Install longer tube first.

7. Attach the block bracket to the frame with two 5/16–18 x 3/4” lg. self–tapping screws and washers (Fig. 8).

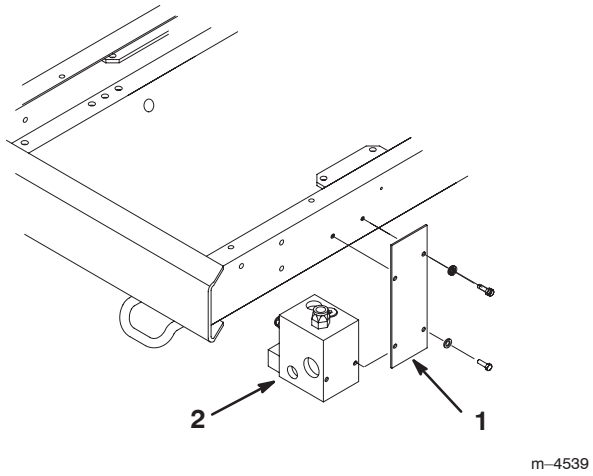


Figure 8

1. Block bracket
2. Control block

8. Remove the two fasteners from the cover on the bottom of the Hydrostat. Install the mechanical switch so that the arm on the switch is in contact with the cam neutral device (approx. 3/8” in from outer edge of cam). Engage the switch by sliding it towards the cam until a click is heard. Slowly slide the switch away from the cam until it clicks again (resets) (Fig. 9).

9. To check position and operation of switch, depress traction pedal fully in reverse and measure gap between arm and switch body. Gap should be 1/8” minimum.

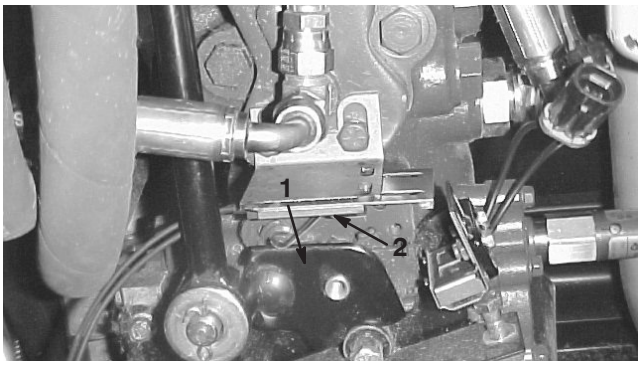


Figure 9

1. Cam
2. Switch

10. Insert the spacer into the hose clamp. Attach the hose clamp to the hose bracket using two 1/4–20 x 2–1/2” lg. screws and nuts. Remove the bolts and locknuts from the left front motor mount near the left side of the carrier frame and discard the locknuts. Install the hose bracket and hose clamp with the previously removed bolts and two new locknuts (Fig. 10).

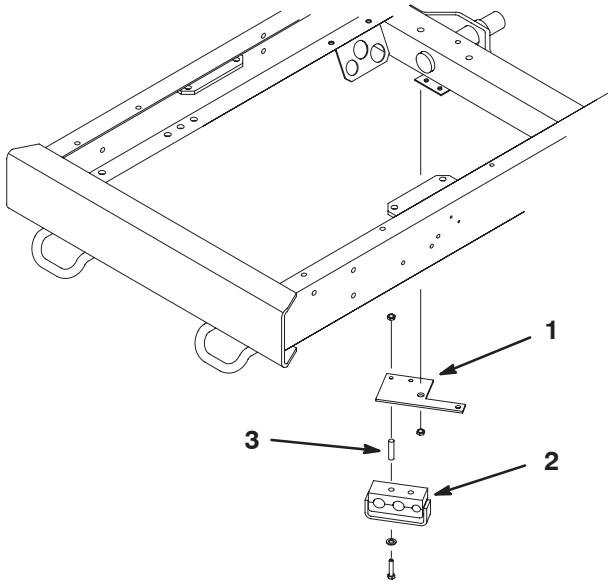


Figure 10

1. Hose bracket
2. Hose clamp
3. Spacer

11. Attach the control block to the block bracket using two 5/16–18 x 5/8” lg. screws and washers (Fig. 8).

12. Install the remaining hoses positioning as shown in figures 11 thru 13 Use figures 14 –19 for reference during installation.

Note: Route hoses #2 thru #4 above carrier frame, on top of existing long hydraulic tubes and next to main wire harness.

Note: When mounting the kit on a machine with a serial number prior to 219999999, use the following hoses:

- Hoses 100–3916 & 100–3917 are connected to the control block and tee fittings (Fig. 11). Remove caps from fittings.

Note: When mounting kit on a machine with a serial number of 220000001 & Up, use the following hoses:

- Hoses 106–0197 & 106–0198 are connected to the control block and bulkhead fittings (Fig. 12). Remove caps from fittings.

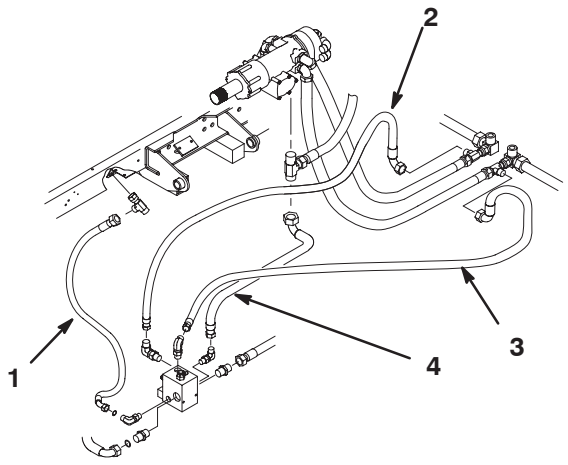


Figure 11

1. Hose (Part No. 76–9570)
2. Hose (Part No. 100–3916)
3. Hose (Part No. 100–3917)
4. Hose (Part No. 100–3919)

Note: Hose #1 connects to existing Tee fitting located at bulkhead for the right, deck motor hydraulic hoses.

Note: Hose #4 connects to existing Tee fitting located on the underside of the hydrostat.

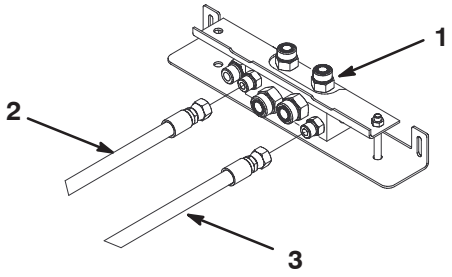


Figure 12

1. Bulkhead
2. Hose (Part No. 106–0197)
3. Hose (Part No. 106–0198)

13. Secure all new hoses with cable ties. Make sure hoses do not contact any hot or moving parts.

Note: Route hose #3 under oil pan allowing a 4” gap between oil pan and hose.

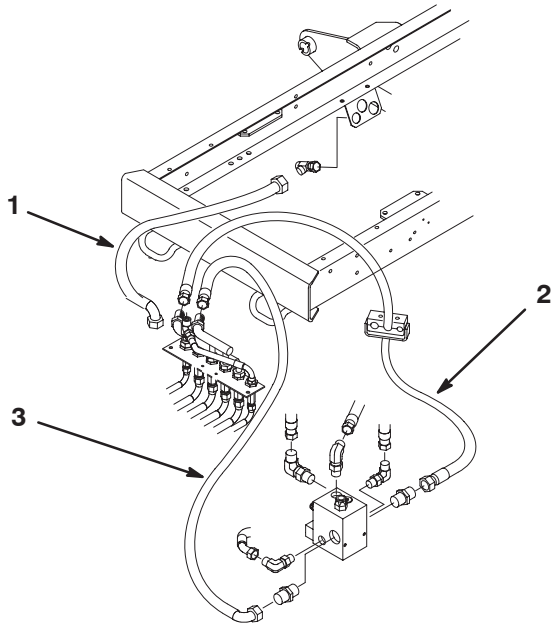


Figure 13

1. Hose (Part No. 100–3915)
2. Hose (Part No. 100–3913)
3. Hose (Part No. 100–3914)

Note: Hose #1 connects to existing Tee fitting located at bulkhead connections for the left, deck motor hydraulic hoses

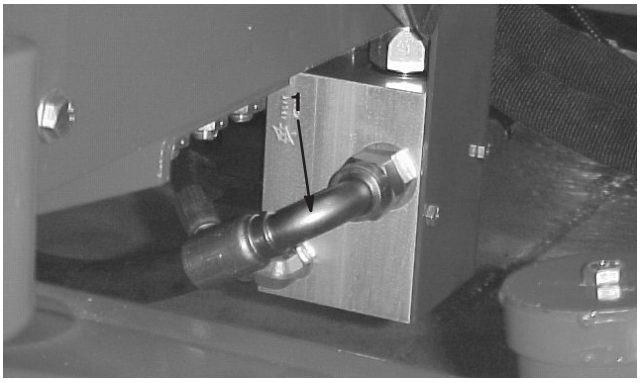


Figure 14

1. Hose (Part No. 100–3914)

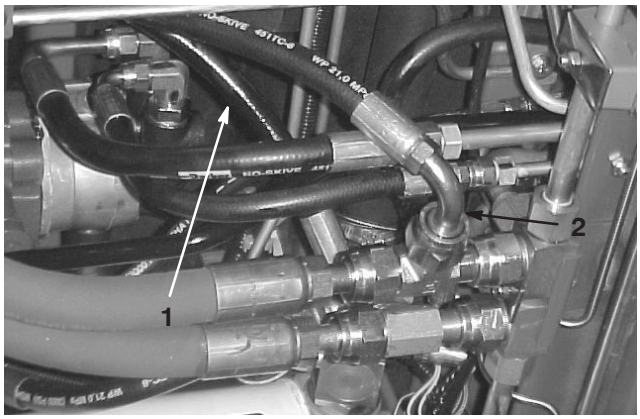


Figure 15

1. Hose (Part No. 100–3916)
2. Hose (Part No. 100–3917)

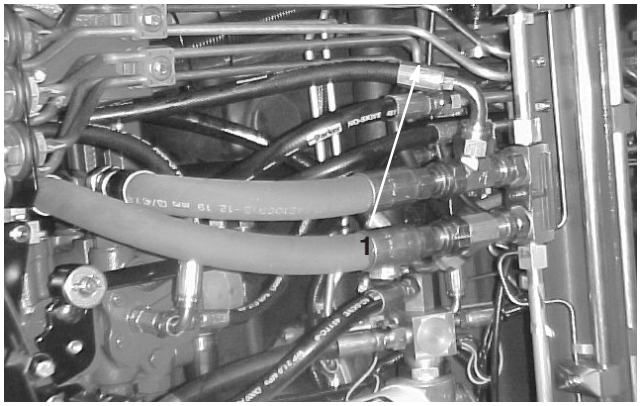


Figure 16

1. Hose (Part No. 100–3917)

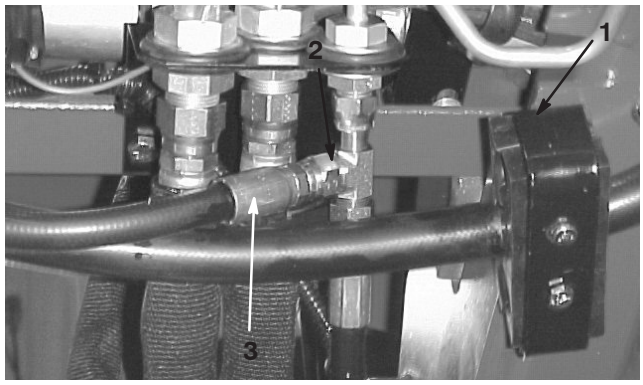


Figure 17

1. Clamp
2. Tee fitting
3. Hose (Part No. 100–3915)

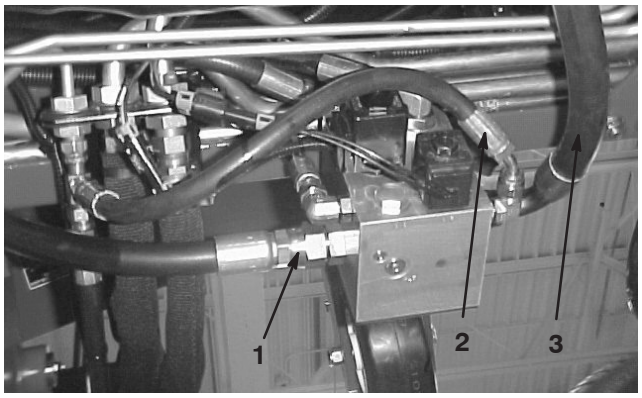


Figure 18

1. Hose (Part No. 100–3913)
2. Hose (Part No. 76–9570)
3. Hose (Part No. 100–3914)

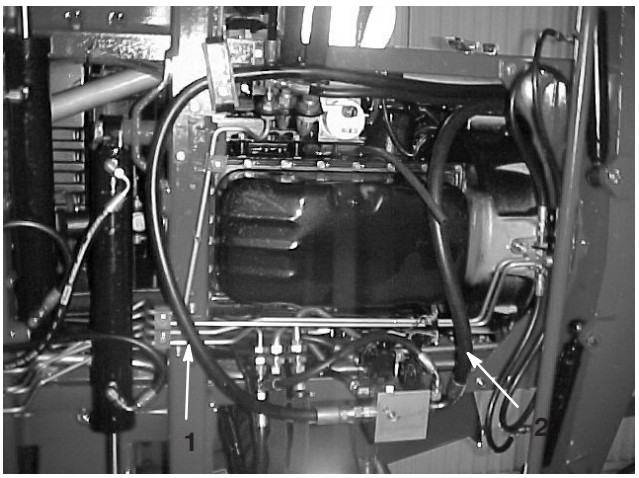


Figure 19

1. Hose (Part No. 100–3913)
2. Hose (Part No. 100–3914)

Installing Wire Harness and Bumper Guard

1. Attach the four–wheel–drive toggle switch to the right of the ignition switch on the control panel.

2. Install the new wire harness by following the electrical schematic. Route the harness under and out the back of the cup holder. The harness should continue straight down the outside of the shrouding to the existing wire harness and run along side of it.

3. Attach the bumper bracket to the frame using eight 3/8–16 x 1–1/4" lg. bolts, washers, and nuts. (Fig. 20).

4. Secure the guard assembly to the bumper bracket with four carriage bolts (Fig. 20).

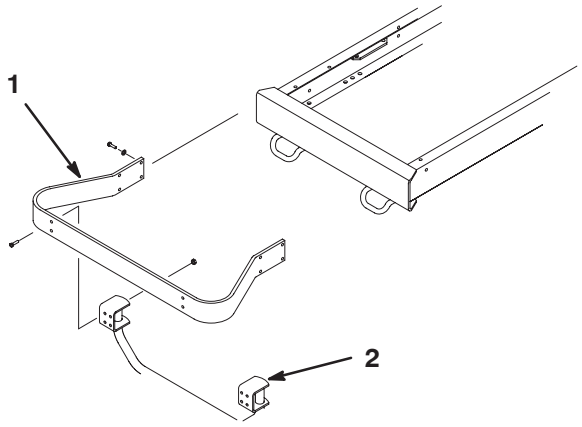


Figure 20

1. Bumper bracket 2. Guard assembly

Install Decals

1. Using dimensions shown in figure 21, locate and affix a 4 wd decal to each side of machine.

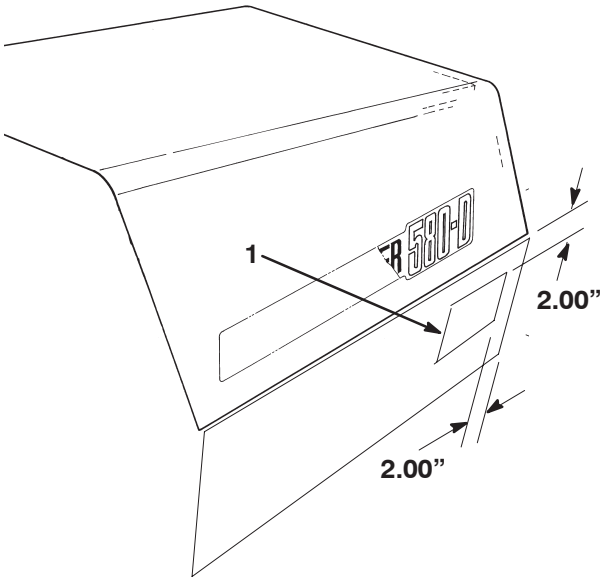


Figure 21

1. Decal

Operation

Toggle the switch in the on or forward position to engage the four wheel drive in forward. Toggle the switch in the momentary or reverse position will engage the four wheel drive in reverse.

Note: The Four Wheel Drive Kit is designed as a traction assist to the front traction wheels. In wet conditions or during a steep hill climb, loss of traction may occur causing the front tires to spin.

Note: The rear tires will not spin freely causing loss of steering.

Note: Come to a complete stop before engaging or disengaging the four wheel drive.

Note: Refer to Traction Unit Operator's Manual for proper towing procedures.

Note: Mow speed will drop from 7.5 mph to 5.2 mph with 4 wheel drive engaged.

Note: Four wheel drive should only be used in mowing mode.

Check Hydraulic Lines

Check the hydraulic lines and hoses for leaks, loose fittings, kinked lines, and loose mounting supports. Make necessary repairs before operating.

Note: Keep areas around the hydraulic system clean from grass and debris build up.

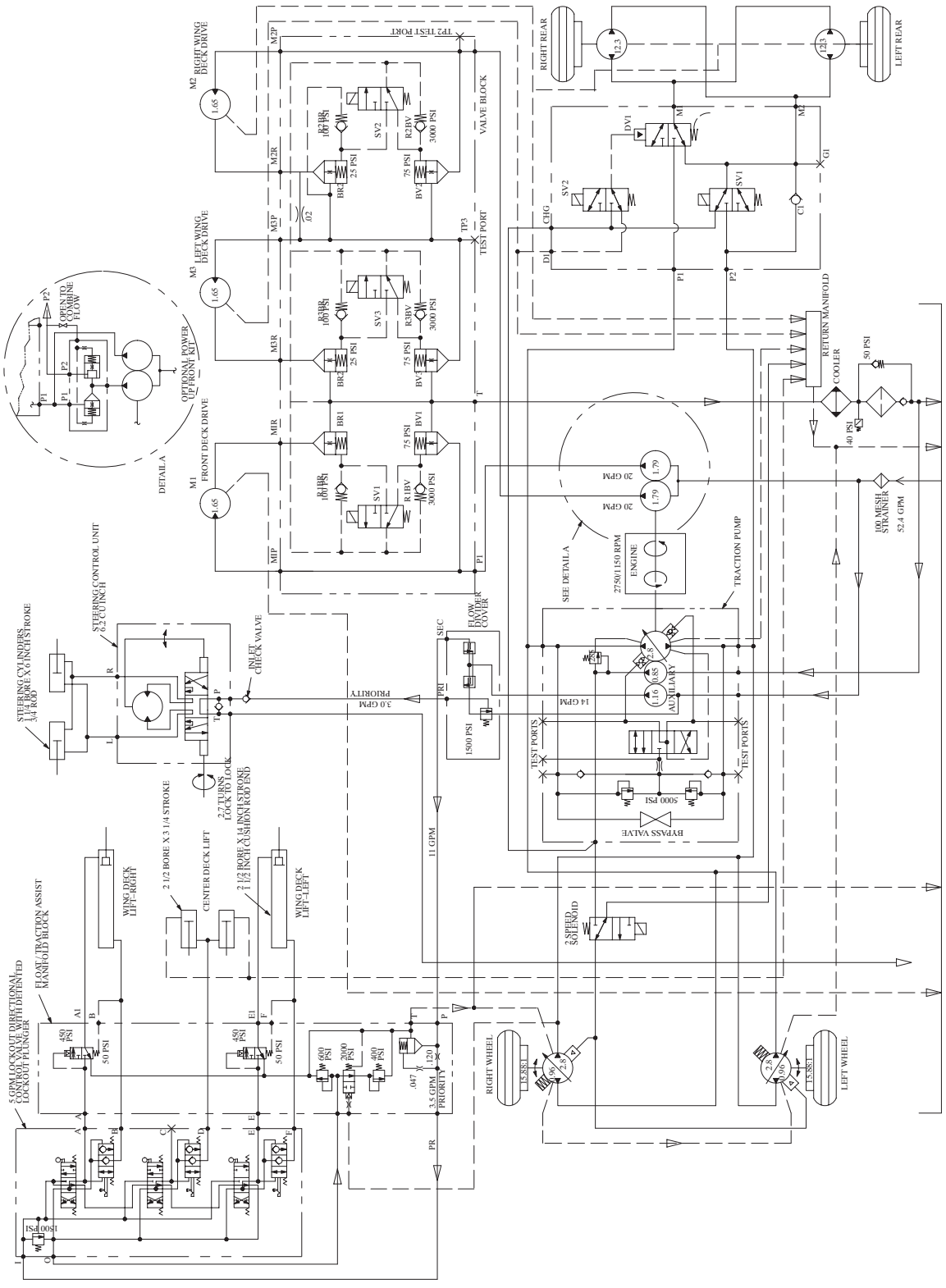
⚠ WARNING

POTENTIAL HAZARD
- **Hydraulic fluid escaping under pressure can penetrate skin and cause injury.**

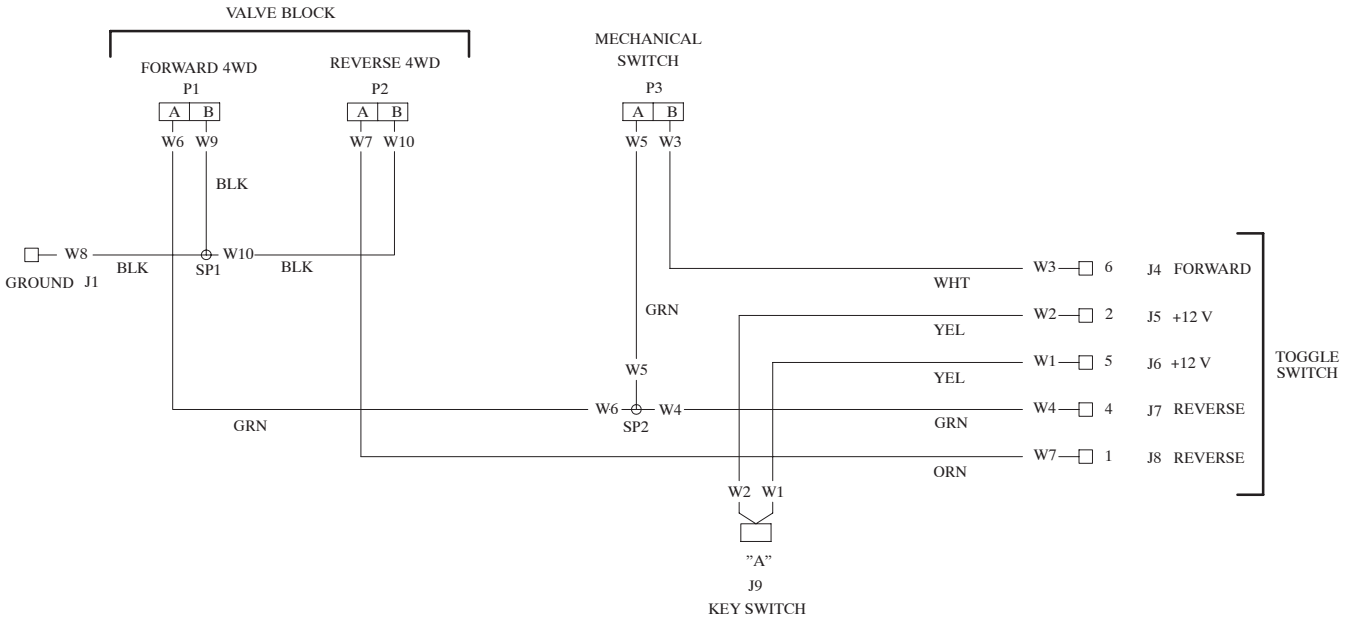
WHAT CAN HAPPEN
- **Fluid accidentally injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.**

HOW TO AVOID THE HAZARD
- **Keep body and hands away from pin hole leaks or nozzles that eject high pressure hydraulic fluid.**
- **Use cardboard or paper to find hydraulic leaks.**

HYDRAULIC SCHEMATIC



ELECTRICAL SCHEMATIC



WIRE HARNESS