

HP6500

Parts Manual



The information, specifications, and illustrations in this manual are on the basis of information available at the time it was written. The specifications, torque values, pressures of operation, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service of the given product.

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**For most recent manual
version please visit:**

www.hoggdavis.com

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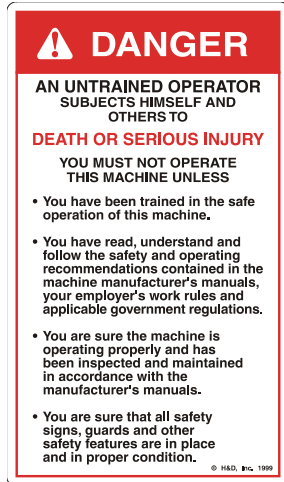
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PRODUCT WARNINGS

These warning labels and others like it are placed in critical areas of the machine. The warnings are to be read and fully understood prior to operation of the unit.



OPERATIONS

Interim Tier4

INTRODUCTION

The Hogg & Davis, Inc **HP 6500** Cable Reel Unit is an advanced design cable pulling trailer that provides tremendous pulling forces in a compact vehicle. Its total design provides for easy operations and affords great savings in set-up and manpower. Full utilization of the **HP 6500** will greatly improve your cable installation and removal operations.

This manual is designed to make you familiar with the machine and its operation.

READ THIS MANUAL THOROUGHLY BEFORE
OPERATING THE MACHINE

GENERAL SPECIFICATIONS.

- REEL CAPACITY; 108" dia X 56" wide
- HYDRAULIC REEL LIFTING CYLINDERS
- HYDRAULIC POWERED IDLER WHEEL
- HYDRASTATIC TRANSMISSION POWER UNIT
- CADMIUM PLATED, QUICK RELEASE JACKSTANDS
- 20,000 STUB SPINDLE AXLE
- AIR BRAKES w/ABS
- 2.5" REEL MANDREL WITH TAPERED CENTERING CONES, LOCKING COLLARS, AND NYLATRON BEARINGS

DIESEL ENGINE SPECIFICATIONS

4TNV98-ZDSNA General Specification

67.7 HP (50.5 kW) @ 2500 rated rpm*

Type • • 4 Cylinder, 4-Cycle, Liquid Cooled Diesel Engine

Bore 98 mm

Stroke 110 mm

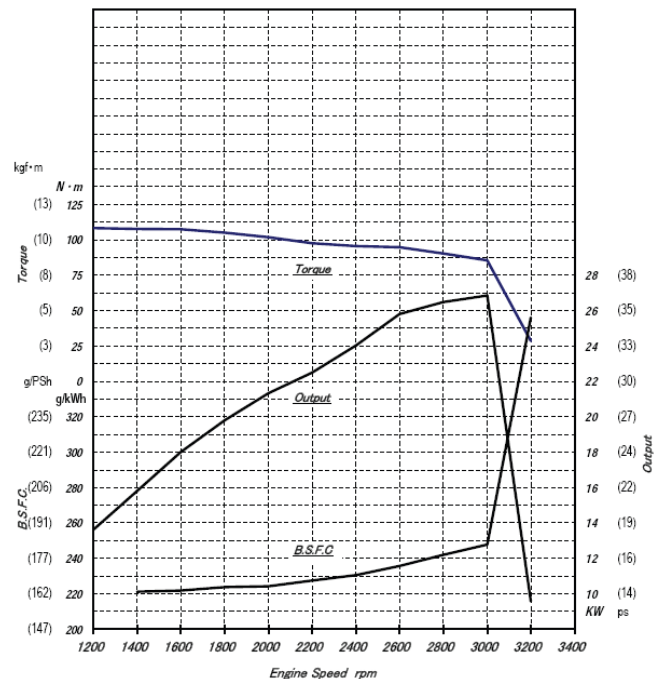
Displacement • • • • • 3.319 L

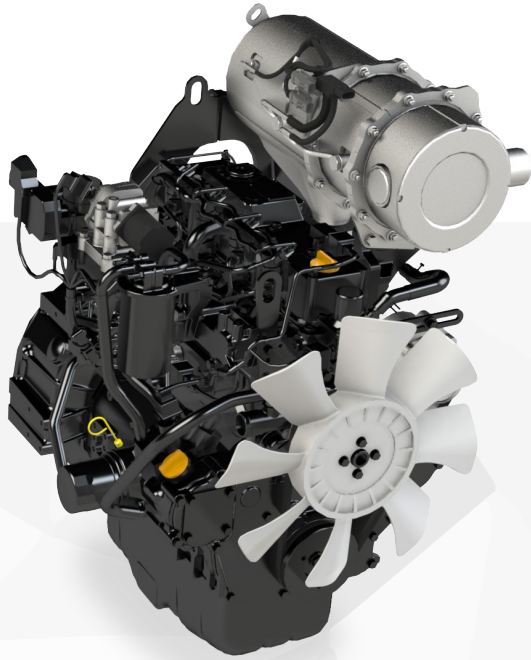
Aspiration Naturally Aspirated

Combustion System • • • • • Direct Injection

Rotation (from flywheel end)
Counterclockwise

Dry Weight • • • • • 518 lbs (234 kg)



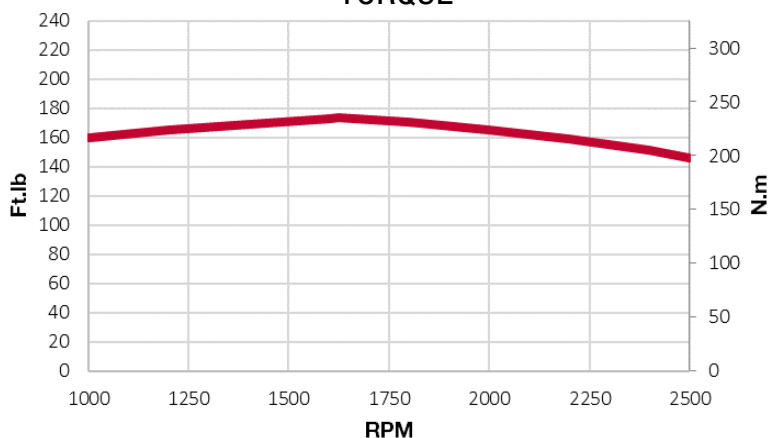


4TNV98C-NYEM

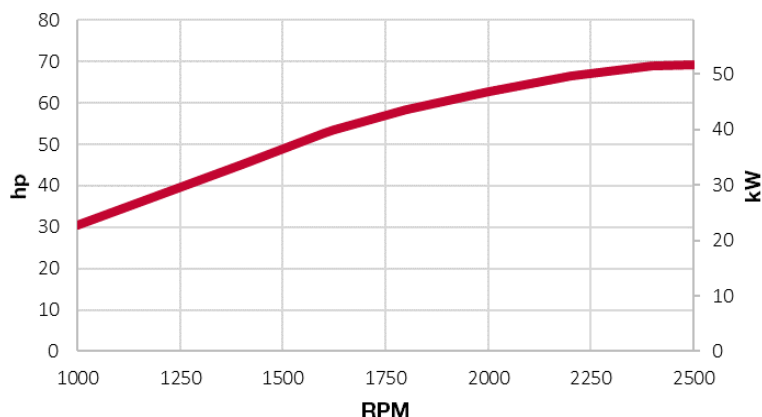
Tier 4 Final

SPECIFICATION	NYEM
CYLINDERS	4
BORE x STROKE (mm)	98 x 110
DISPLACEMENT L (ci)	3.32 (203)
GROSS POWER hp (kW)	69.3 (51.7)
RATED SPEED rpm	2500
LENGTH w/fan in (mm)	30.9 (786)
WIDTH in (mm)	25.2 (639)
HEIGHT in (mm)	38.9 (987)
WEIGHT lbs (kg)	~ 637 (289)
COMBUSTION TYPE	Direct Injection
ASPIRATION	Naturally Aspirated
GOVERNOR TYPE	Electronic
LUBRICATION SYSTEM	10.2L Capacity Oil Pan
ELECTRICAL SYSTEM	12V-55A
FUEL SYSTEM	Common Rail Fuel Injection
COOLING SYSTEM	Water Pump, Belt Driven
POWER TAKE OFF	FWH:SAE 4 FW: SAE 10

TORQUE

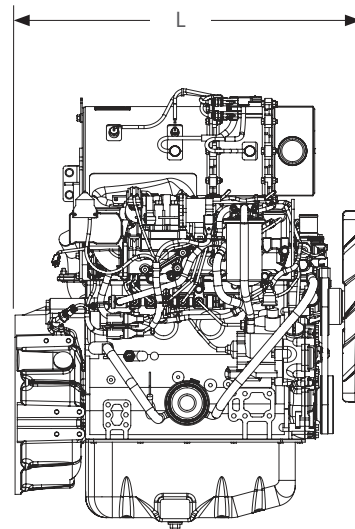
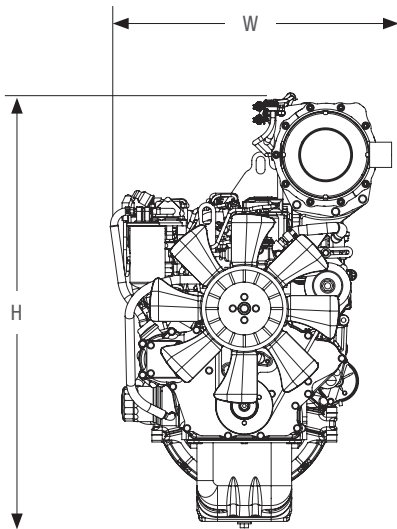


POWER



Pure. Reliable. Power.





NOW EVEN MORE RELIABLE

The YANMAR line of Final Tier 4 engines continues to build upon the legendary reliability of the YANMAR TNV line with a focus on vibration reduction and high-strength materials. The result is an engine more than capable of handling the most demanding applications.

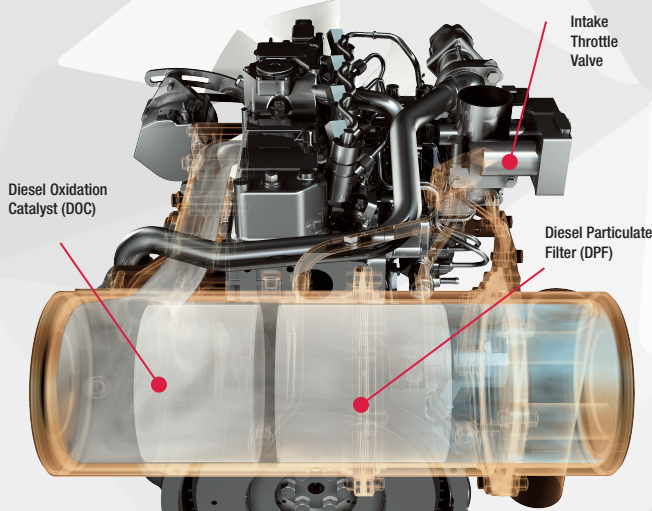
FINAL TIER 4 AND EU STAGE 5 COMPLIANT

Building off the proven TNV design, YANMAR has achieved superior exhaust emissions utilizing common rail direct-injection, exhaust gas recirculation, precise ECU engine control and a diesel particulate filter. YANMAR engines are compliant with EPA Tier 4 Final and EU Stage V regulations allowing customers to use a common platform for highly regulated sales regions.

BETTER FUEL EFFICIENCY, FEWER EMISSIONS

YANMAR continues its reputation for superior starting characteristics by refining the combustion process to assure more precise fuel delivery and control. The result is reduced emissions, improved performance over a wide range of applications and increased fuel economy.

ADVANCED PROVEN TECHNOLOGY | Diesel Particulate Filter (DPF) system



AUTOMATIC REGENERATION

No down time or “out of service” time for cleaning or servicing filters. YANMAR’s DPF regeneration technology provides seamless operation for the customer.

ROBUST DESIGN

While other engines use Mass Air Flow Sensors, YANMAR uses more reliable Pressure and Temperature sensors for superior DPF monitoring and EGR control.

MORE FLEXIBILITY

YANMAR does not require the use of an after-cooler on most turbo models and allows for more options with air filter placement, providing OEM’s more design flexibility at a lower cost.

www.yanmar.com / 770.877.9894

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IE19-4TNV98C-NYEM-0819

TRAILER ORIENTATION

The HP 6500 is made up of four (4) major working components (see Fig.1) they are:

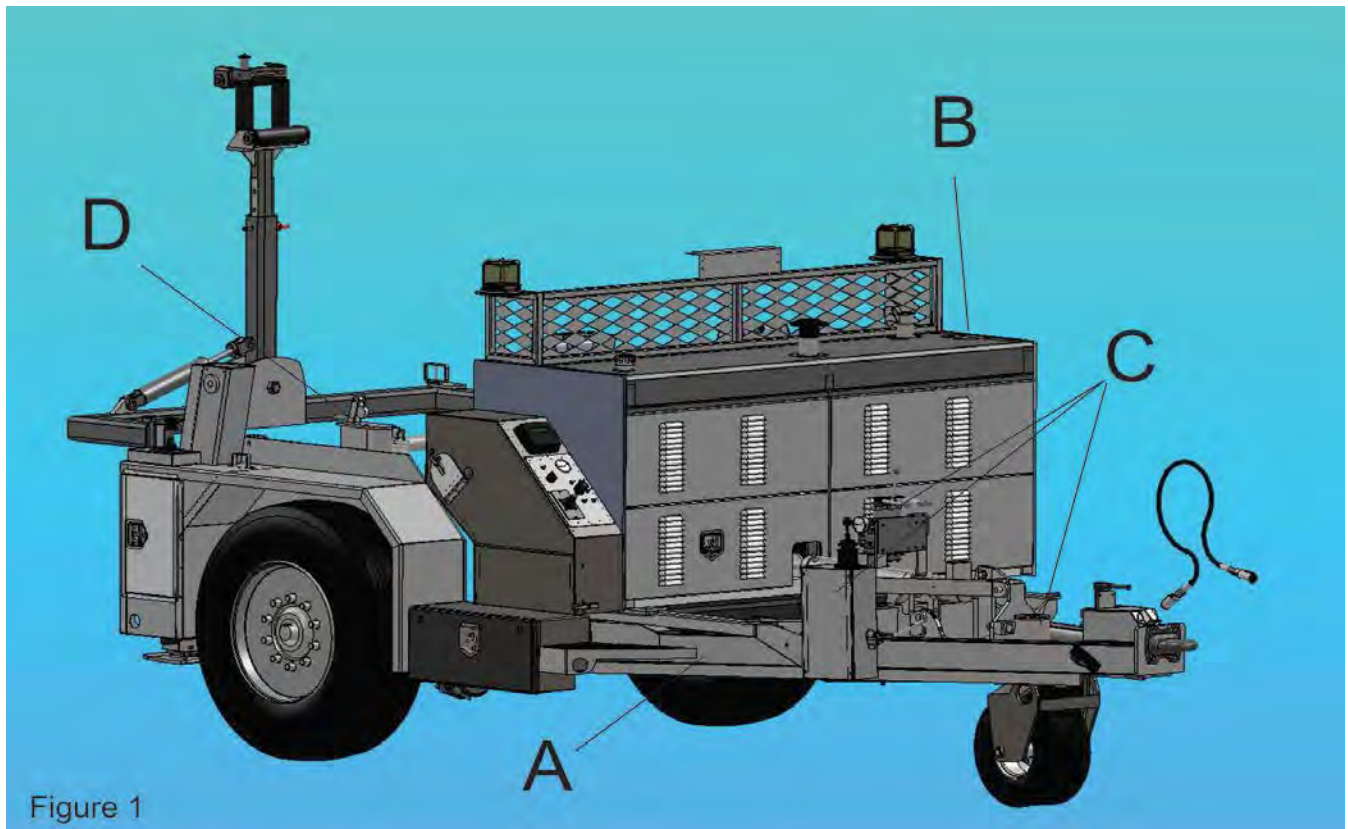
- A. MAIN FRAME AND AXLE
- B. POWER UNIT
- C. POWER IDLER WHEEL AND CONTROLS
- D. REEL CARRYING RACKS

MAIN FRAME AND AXLE

The main frame and axle carry the entire weight of the trailer and its payload. Constructed of heavy steel, the main frame will provide many years of durable service and minimum maintenance. The fenders and tool compartments are incorporated as part of the main frame structure.

The axle is of the 20,000 lb capacity stub type. Heavy duty brakes, hubs and bearings provide many years of service over all highway types.

**LUBRICATION SCHEDULE SHOULD
BE FOLLOWED**

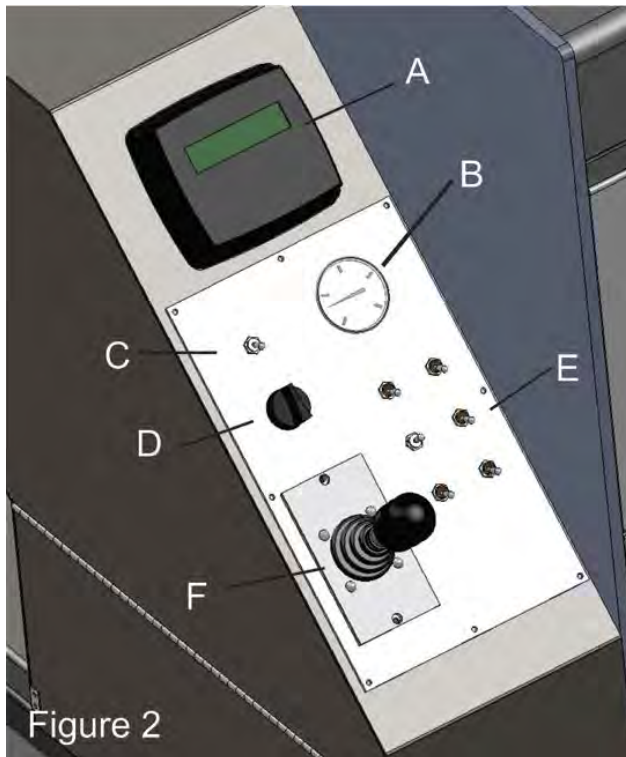


CONTROLS

The control panel has a variety of gauges and switches that control certain functions during the operation of the HP 6500. Here is a description of these controls. (Figure 2)

- A. Engine Control Center: This panel controls engine throttle, as well as displaying fuel level, RPM's, coolant temperature, and oil pressure. Units equipped with a Remote Display Panel may have more functions.
- B. Hydrostatic Pressure Gauge: This gauge alerts the operator to the system pressure at all times during operation. IT IS NOT A GUAGE TO ILLUSTRATE line pull.
- C. Front / Rear Control: This switch isolates the front and rear controls of the unit during operation.
- D. Ignition Switch
- E. Switch Panel: This panel contains various switch to control functions of the unit. Depending on options installed the location of the switches may vary. They Include: Two speed on the fly shift to Hi or Low speed, maker beacons, level wind, auxiliary air compressor, work lights, auxiliary hydraulic tool circuit, etc.
- F. Joystick: Spring return to Neutral control joystick for operating the Pay out or Take up feature of the puller. Proportional control allows for infinite speeds and pulling force during operation. An "OPERATOR PRESENT" switch may be installed on certain units. This provides security against payout under power. Unit will not pay out until the switch has been pressed and the joystick moved out of the neutral position

Tier 4 Final



LOADING INSTRUCTIONS

LOADING INSTRUCTIONS

IMPORTANT: This unit is designed to load a reel that is setting on the ground. **DO NOT LOAD WITH FORKLIFT** or other device as this causes cable damage and can effect the safe carrying procedures of this unit. **FOLLOW DIRECTIONS.**

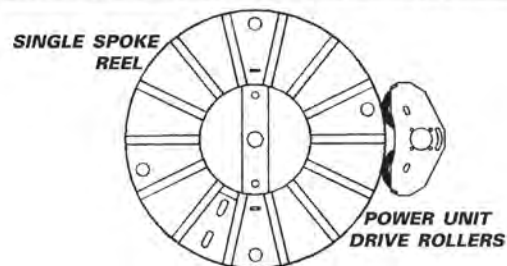
LOADING PROCEDURE

NOTE: This dolly will accept reels of 50" to 108" in diameter and 26" minimum to 56" maximum in width.

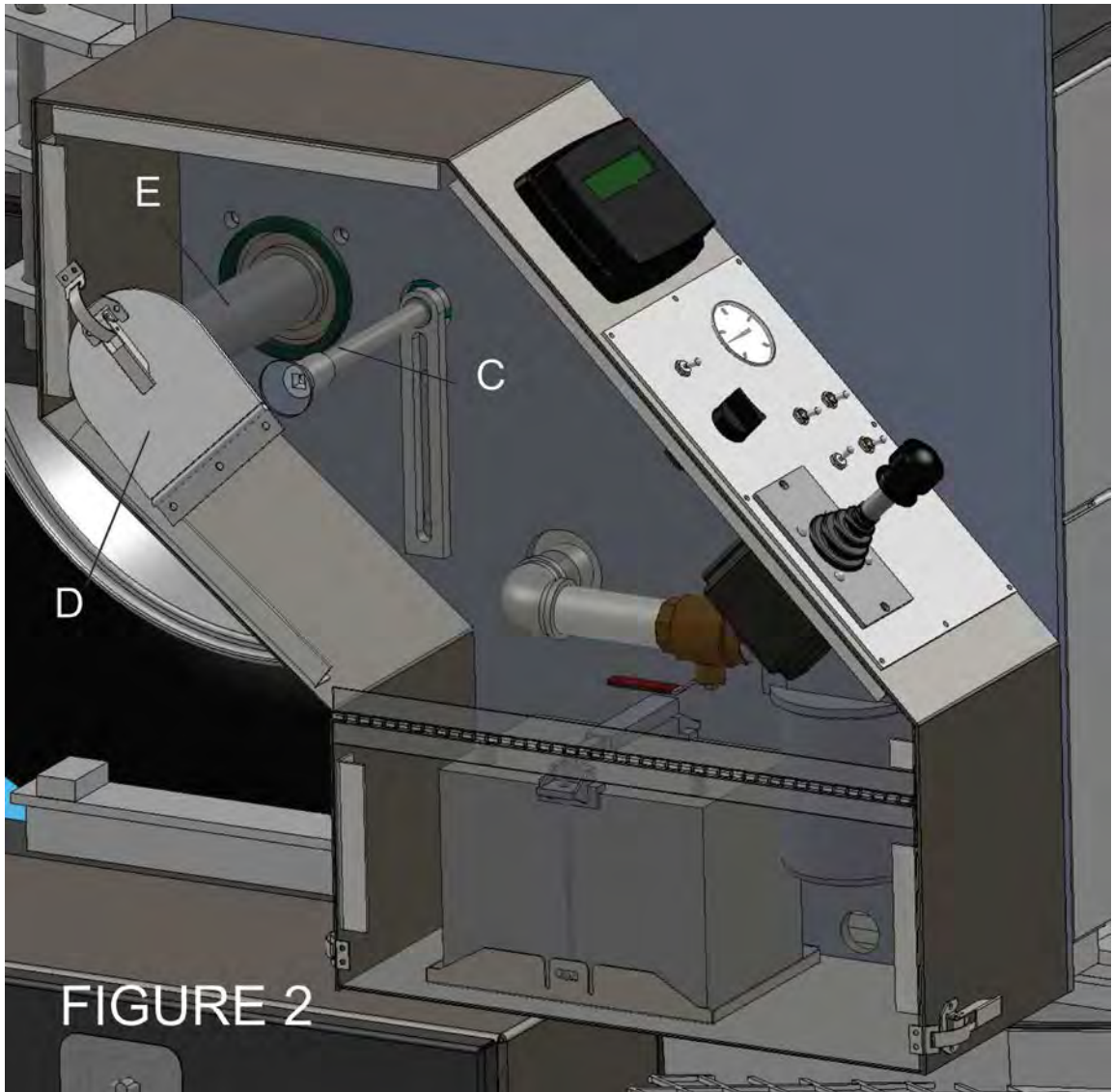
1. To load, make sure power driving unit is forward as far as possible.
2. Lower mandrel lifts to bottom
3. Pull out mandrel lock rods, remove mandrel and install in reel.
4. If reel bore is over 2-1/2" in diameter, use tapered cones for centering.
5. Always center mandrel in reel so that reel will be centered in dolly.
6. Install lock collar on each side of reel.
7. Place bearing on ends of mandrel.
8. Roll reel into unit or back unit astraddle reel into lifting racks. (Insert mandrel into lowest rack possible.)
9. Put bearing block in place on each end of mandrel to hold bearing.
10. Insert mandrel rack rods through rack and bearing block.
11. Set cylinder locks - one on each side. These are located at rear of fenders. Push handle down to engage.
12. Raise reel until locks snap in place.
13. Lower reel with both valves and hold for 30 seconds to take load off lifting cylinders. Racks should be setting on locks.
14. Adjust each set of drive wheels to center on reel flanges.
15. See instructions for adjusting rollers for proper reel diameter.
16. Move power unit against reel flange before towing this dolly.

**BEFORE TOWING VEHICLE**

NOTE: With reels that have a single spoke (note drawing following), have spoke in vertical position before moving power unit against flanges.

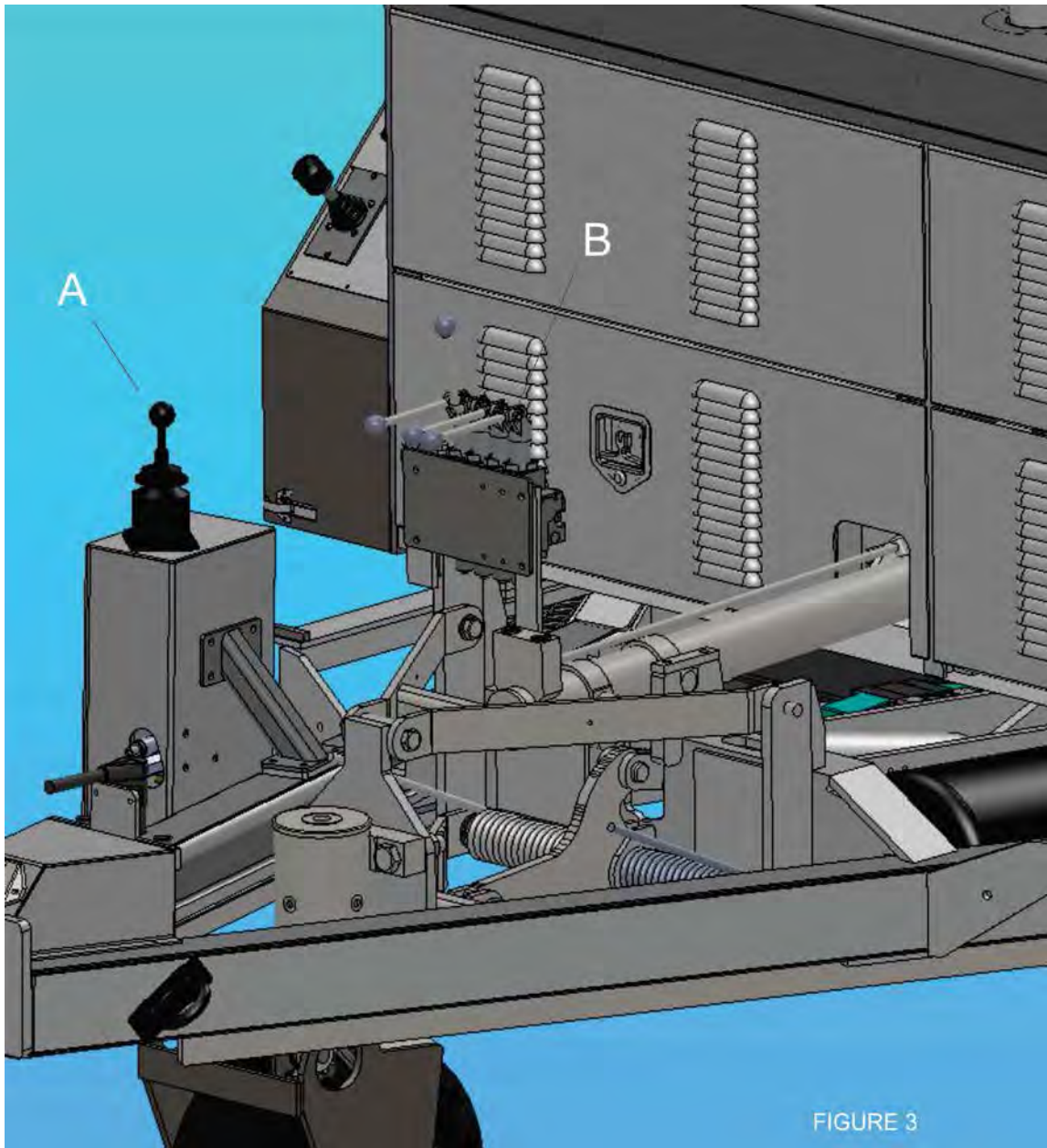


HYDRAULIC CONTROLS



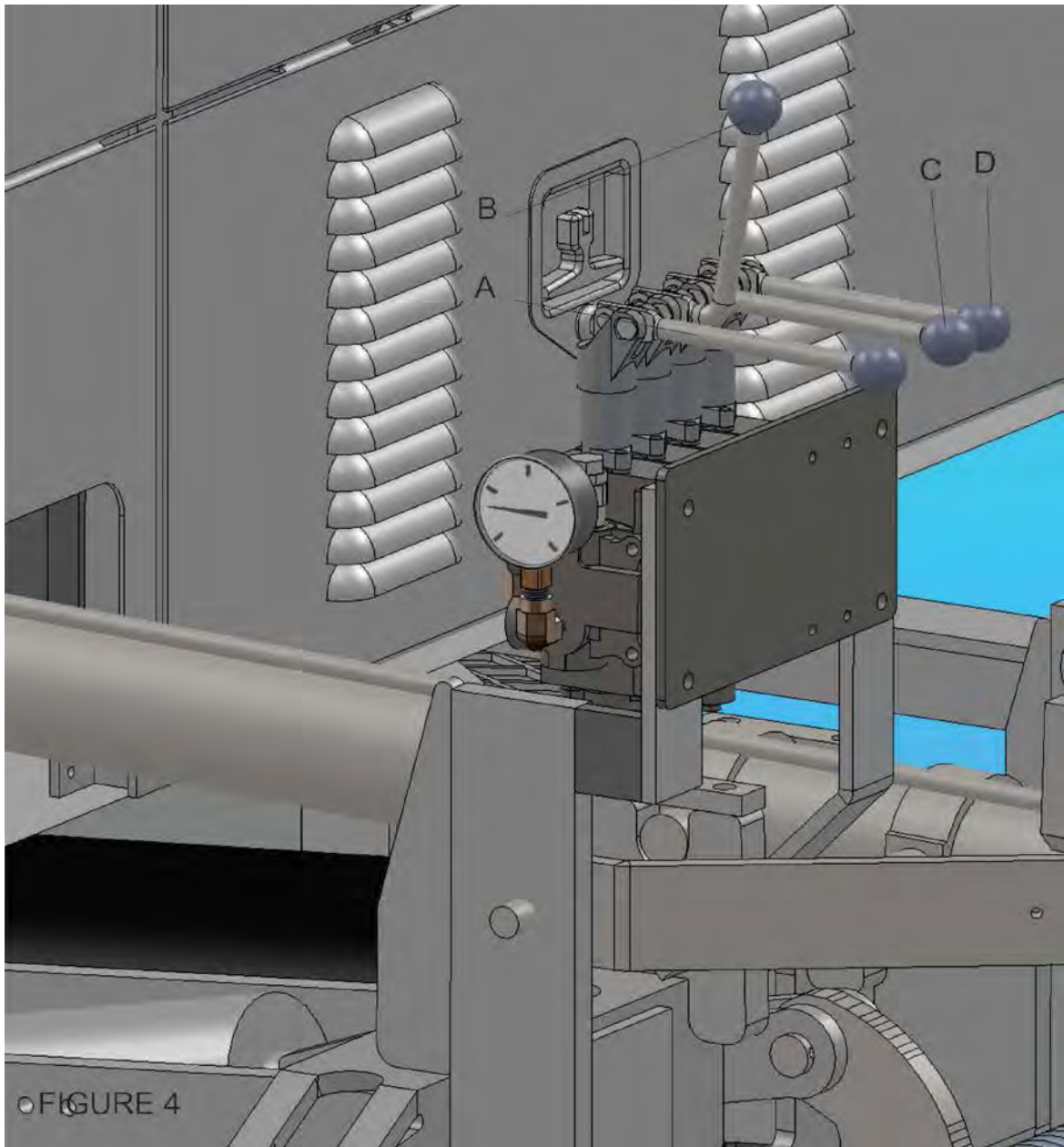
Power Unit Features

- C - ACME ADJUSTING SCRW
- D - EXTENDED SHAFT GUARD COVER
- E - POWER UNIT DRIVE SHAFT 2 7/16"



FRONT HYDRAULIC CONTROLS

- A - STEER GO SYSTEM
- B - FRONT HYDRAULIC CONTROLS (DRAWBAR, POWER UNIT, LEFT AND RIGHT MANDREL RACKS)



2000 PSI MAX

FRONT CONTROL BANK

- A - DRAWBAR RAISE AND LOWER
- B - POWER UNIT FORWARD AND BACK
- C,D - RIGHT AND LEFT AND RIGHT MANDREL RACK RAISE AND LOWER

POWER UNIT

The Power Unit consists of the engine, Hydrostatic Transmission Drive Unit, Drive Rollers, Engine Controls, hydraulic reservoir and auxiliary power shaft. The power unit supplies power for all hydraulic functions and turns the reels to provide cable pulling. Pulling controls are located at the power unit, the rear curb side of the trailer, and the Remote Pendant box (if equipped). Electronic controls at the rear of the trailer control the direction of pull for cable take-up or pay-out and control the throttle, level wind, hydraulic tool circuit, and hi and low shift. All primary engine controls are located at the front of the power unit.

AUXILIARY POWER SHAFT

This shaft is located on the side of the power unit and is used for light duty winding operations. Attachments can be added to the shaft. The rotation of the shaft is controlled with the Joystick that controls the take up and pay out functions. When not in use, the shaft should be covered with the cover provided.

POWERED IDLER WHEELS AND HYDRAULIC CONTROLS

The powered idler wheel is located towards the front of the trailer. This wheel is hydraulically raised or lowered and hydraulically powered to provide maneuverability of the trailer when disconnected from the towing vehicle. The wheel is steered by means of a power steering control unit (figure 3). The joystick controls forward and reverses movement as well as left and right direction of the trailer. Refer to the Steer-Go Power Steering section. The hydraulic controls are located between the power unit and the idler wheel at the main drawbar cross member.

The four valves control the following functions:

- Drawbar Height: raise and lower
- Power Unit direction: fore and aft
- Right Mandrel Rack: raise and lower
- Left Mandrel Rack: raise and lower

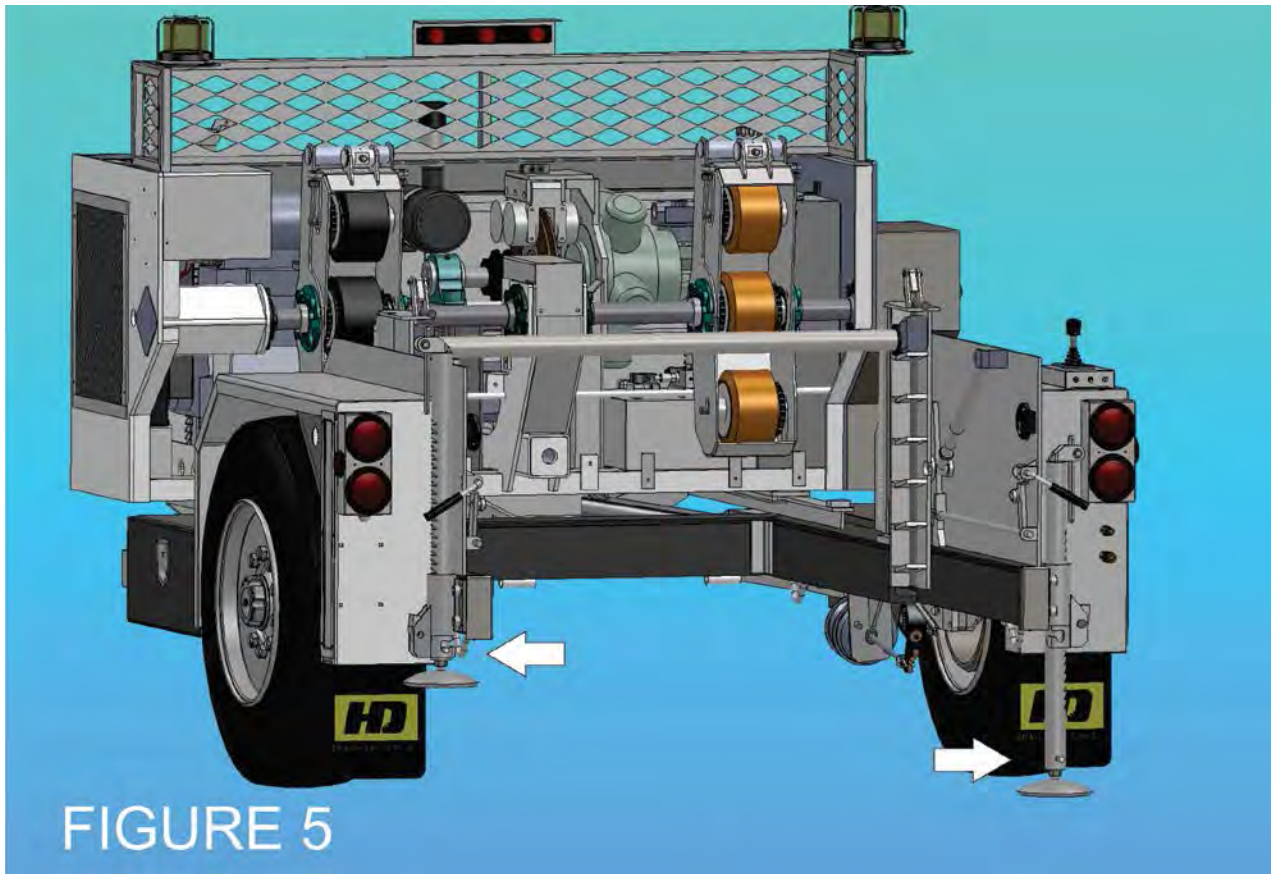
REEL CARRYING RACKS (MANDREL RACKS)

The reel carrying racks (mandrel racks) are located in the reel carrying area at the rear of the trailer (fig 5A and 5B). These racks have several pockets to allow a variety of reel diameters to be picked from the ground. Follow the LOADING INSTRUCTIONS when loading the reel. The mandrel rack locks are indicated in Fig 5C. Also, Fig 5D shows the rear controls for the power unit and the Jack stands (Fig 5E and 5F)

JACKSTANDS

JACKSTANDS ARE STABILIZING LEGS LOCATED AT THE REAR OF THE TRAILER. THE JACKSTANDS SHOULD BE USED DURING ALL PULLING OPERATIONS

In Fig 5, the jack stand at the left is shown in the stowed or carried position. The jack stand at the right is shown in the down or pulling position. Each jack stand is positioned by the use of a ratchet locking in the notches. To release the jack stands from the carrying position, lift and rotate out of the carrier. To raise, rotate stand one quarter turn to release the ratchet from the notch and raise the stand to lock into the carrier.



ADJUSTING ROLLERS FOR REEL DIAMETER

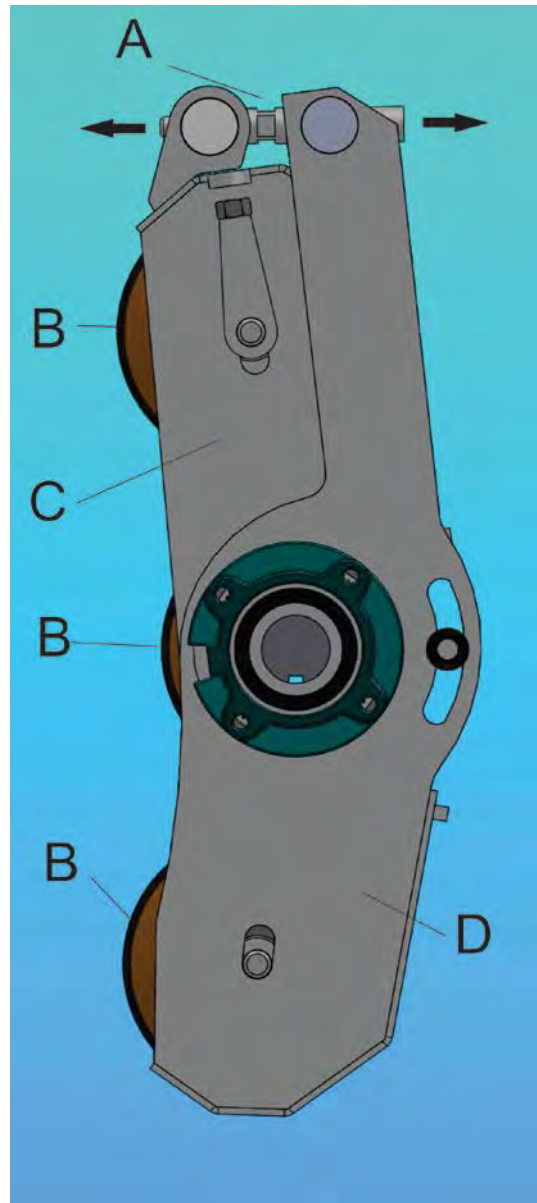
1. Open housing to maximum position. Use adjusting screw at top of housing.
2. Bring rollers to reel until center roller barely touches reel
3. close housing down, using adjusting screw, until all three roller barely touch the reel flange
4. Use power unit control to bring all rollers and power unit against reel

IF YOU FOLLOW THIS PROCEDURE, YOU SHOULD HAVE EQUAL PRESSURE ON EACH ROLLER AND PROVIDE MAXIMUM ROLLER LIFE.

ROLLER HOUSING COMPONENTS

- A. Adjusting Mechanism
- B. Driver Roller
- C. Upper Housing
- D. Lower Housing

IT IS IMPORTANT TO HAVE AN EQUAL VISIBLE INDENTATION IN THE DRIVE ROLLER FRICTION MATERIAL. FAILURE TO DO SO WILL RESULT IN UNEVEN PRESSURE AND PREMATURE FAILURE OF ONE OR ALL DRIVE ROLLERS.



Orientation on unit may differ

MANUVERING INSTRUCTIONS

One of the main features of the HP 6500 is its ability to maneuver under its own power by use of the Powered Idler Wheel and the Steer Go System.

The Power Steering Joystick is used to maneuver the unit into position

USE OF THE STICK WHICH CONTROLS THE IDLER WHEEL MOTOR AS A BRAKE SHOULD BE AVOIDED

STEER-GO OPERATION

There are two (2) main components in the system.

- A. The Steer-Go Control Box mounted to the right hand (curb) side of the trailer drawbar.
- B. The Rotary Actuator Assembly attached to the Idler Wheel Fork Assembly

Working together, these components allow the operator to easily steer and maneuver the trailer by merely moving the joystick control as desired. The actuator can move the wheel through a 180 degree arc, 90 degrees either side of center.

In the instructions that follow we will often refer to "steering" and "motion" For out purposes, "Steering" will always refer to the action of turning right or left. The word "motion" will always refer to forward or reverse direction of the idler wheel

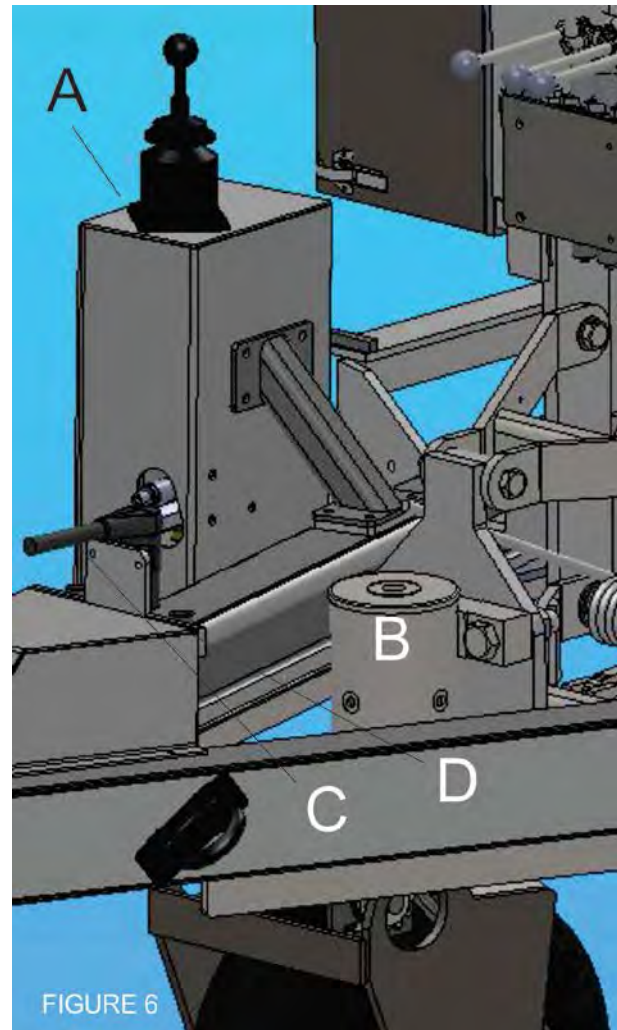


FIGURE 6

THE JOYSTICK

The joystick is a two-axis control that controls both steering and motion of the idler wheel functions. The joystick is either mechanically linked or electronically controlled (depending on options) to hydraulic control valves. Mechanical valves are spring return to neutral. Electronic joysticks are also spring return to neutral. Releasing the joystick will cause all movement to stop.

The linkage system, in the mechanical system, provides quick positive response to the operators action. Because the response is quick, steering right or left is usually accomplished by a series of short, momentary movements of the joystick in the desired left or right direction.

NOTE: Refer to the directional decal (Fig. 7) on the top of the control box prior to operating. Become familiar with the feel of the joystick with the engine running. Note the short movement required to move through the full range of direction

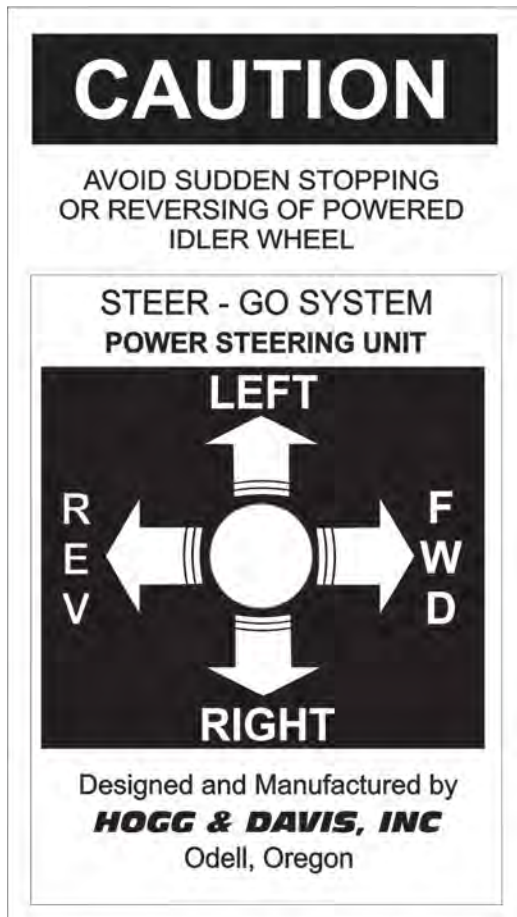


Figure 7

TO STEER AND MOVE

CAUTION: Note the direction the idler wheel is pointing before actuating the joystick. The trailer will move in the direction the wheel is pointing

Start the Engine. With the engine running at **IDLE SPEED**, move the joystick to the right or left. (NOTE: *Steering speed is NOT affected by engine RPM*)

Move the joystick to the FWD position. The trailer now travels forward. By holding the joystick in the forward position and moving it to the RIGHT, the trailer will turn RIGHT. Release the turning motion when the wheel has reached the angle of turn you desire. Trailer will continue to turn until you steer LEFT to straighten out the wheel.

To back the trailer, move the joystick to the REV position. When you turn to face the rear of the trailer as you are backing, the steering directions are reversed.

NOTE: *Idler wheel speed is a function of engine RPM. Idle is enough to provide easy, smooth operation. The higher the RPM the faster the unit will move*

BRAKE CONTROLLERS

Brake controllers on the HP 6500 are what is commonly used in an air brake trailer. Figure 6 shows us the location of the following:

- C: The hand control located on the apex of the trailer
- D: The Push-Pull Switch located at the apex of the trailer

ON BOARD AIR COMPRESSOR

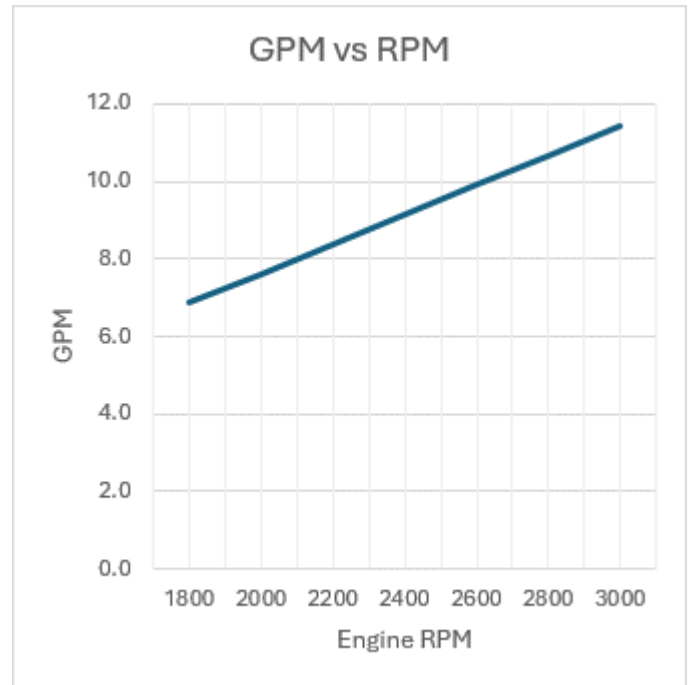
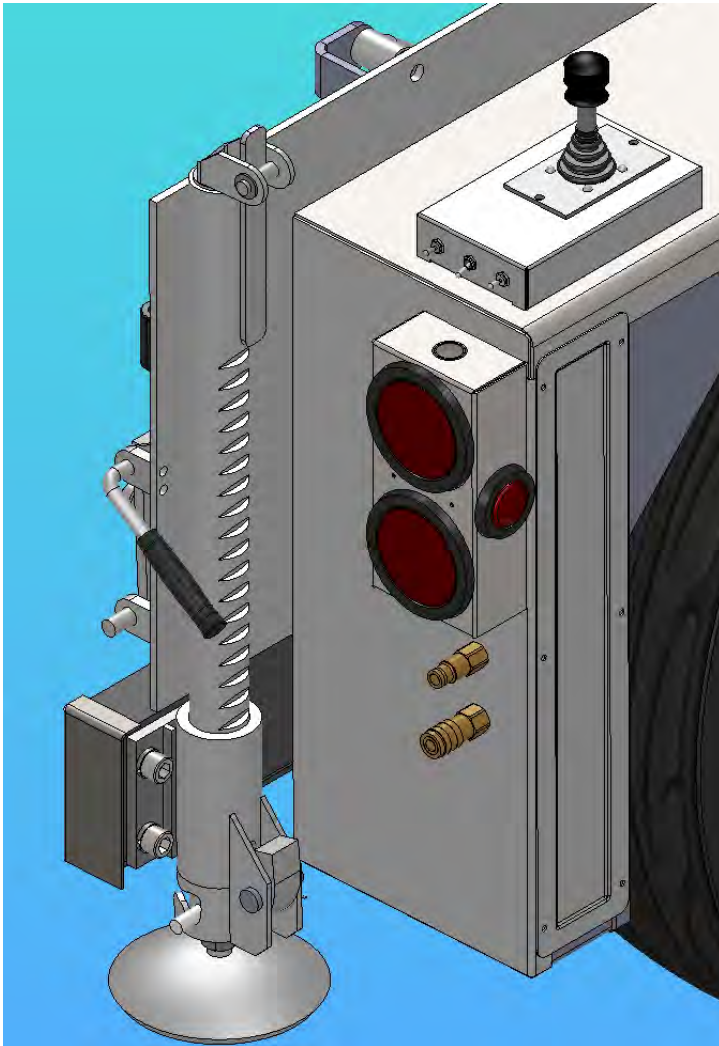
Each air brake unit that is equipped with an engine has an air compressor installed to charge the system while away from a tow vehicle. This compressor is located in the power unit and can be controlled by a switch on the main control panel. It is recommended that the unit engine be started with the switch in the OFF position to allow for maximum battery power for starting. After the engine is running, turn the compressor on to charge the system. Although the compressor has an automatic shut off when it reaches the pre determined pressure in the system, for extended life and better starting power, it is recommended that the compressor be switched OFF after the system pressure of 105 psi. has been reached. System is protected by a 140 psi. pop-off valve.

TOOL CIRCUIT (OPTIONAL)

Some trailers may be equipped with an optional hydraulic tool circuit. The circuit is designed for tools which are used intermittently or for short duration such as a pump or hydraulic cutters. It is NOT designed for uses of long or continuous duration such as hydraulic blowers or generators.

The tool circuit outlets are located in the rear curbside (Fig. 8) fender panels. Two quick disconnect fittings are provided. The tool circuit is actuated by an electric switch located on the main control panel, and the rear fender panel. This system is designed to provide 10 GPM at 2000 psi.

WARNING: WHEN NOT IN USE, THE SWITCH MUST BE IN THE OFF POSITION. IF THE SWITCH IS LEFT ON, WHEN TOOLS ARE DISCONNECTED, SEVERE BACKPRESSURE WILL OCCUR THAT COULD DAMAGE THE HYDRAULIC SYSTEM.



LEVELWIND OPERATIONS

Some units are equipped with a Level wind System. This system is hydraulically actuated boom style level wind located at the rear of the trailer (Fig. 9)

There are two switch locations to operate the level wind. They are at the main control panel and the rear control panel located at the curbside fender. Each switch is directional in relation with the travel of the level wind boom. That is, if you push the switch to the right, the boom travels right as you view the level wind. If you push the switch left, the boom travels left. The switches are momentary and as you release them, it comes to a neutral position and the boom stops.

The level wind does not operate automatically. The operator must activate the switch each time the rope or wire is to be moved on the reel. The top roller of the boom carriage is made with a swing away mounting to allow for insertion or removal of the line. By removing the pin located in the boom, the upper boom section can be extended or retracted as needed. **DO NOT OPERATE THE LEVELWIND WITHOUT THE PIN INSTALLED IN THE BOOM SECTIONS. THIS MAY CAUSE THE BOOM TO COME OUT OF THE LOWER SECTION DURING OPERATION.**

The level wind is most suitable for overhead pulls. Its use for underground is greatly restricted due to manhole size and amount of pull required. Do not use the level wind as a "breaker bar" for underground pulls.

To load with the level wind installed, pull the left hinge pin and swing the assembly out of the hinge and to the right. After the reel is loaded, swing assembly back into hinge and insert the lock pin.

The lower turnbuckle support is provided to allow for easy movement of the level wind arm during loading and unloading of reels. It may be necessary to adjust this turnbuckle if the unit becomes difficult to swing in and out of the hinge.

The unit can be easily removed from the trailer by disconnecting the hoses and pulling the hinge pins.

BE SURE TO USE A FORKLIFT OR OVERHEAD CRANE WHEN REMOVING AND INSTALLING THE LEVELWIND ASSEMBLY.

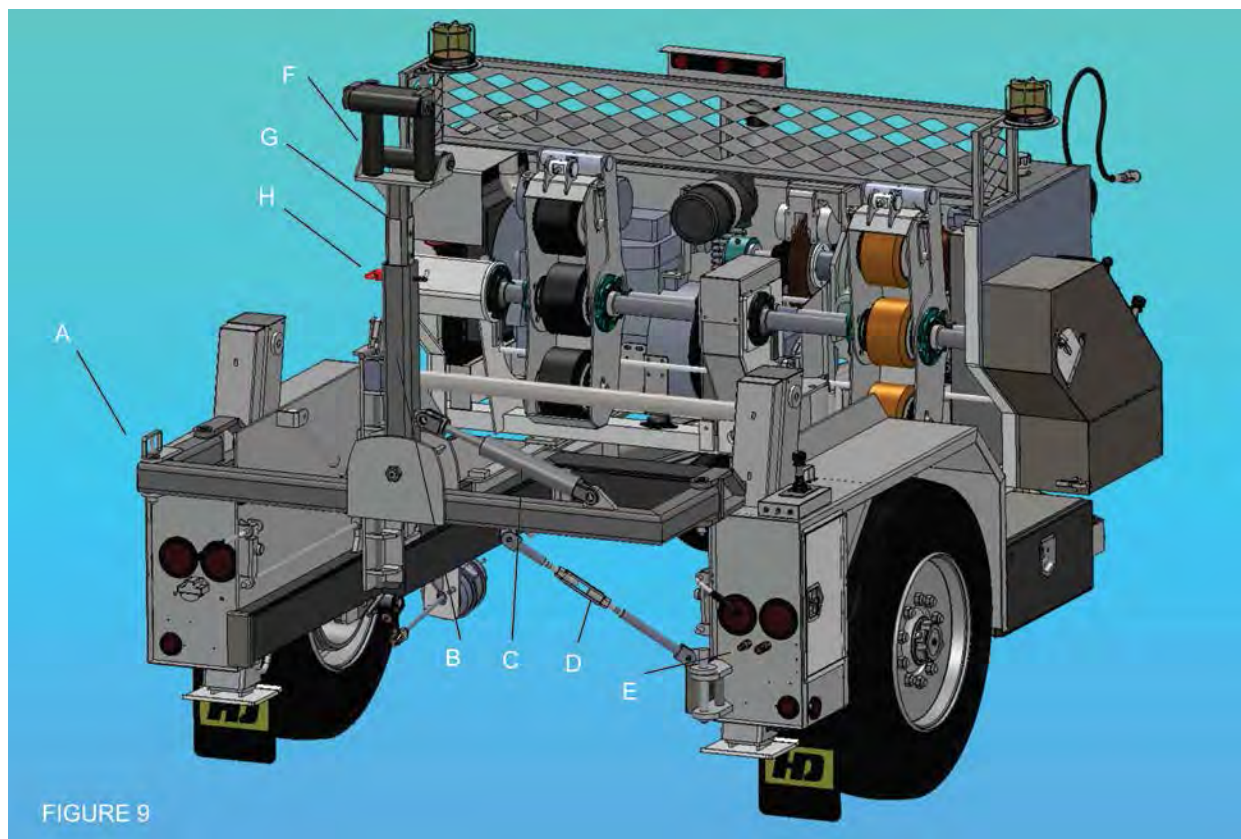


FIGURE 9

LEVELWIND COMPONENTS

The following are the main components in the LW Assembly

- A. Hinge Pin
- B. Lower Boom Assembly
- C. Level wind cylinder
- D. Turnbuckle
- E. Hydraulic QD fittings
- F. Carriage Assembly
- G. Upper Boom Assembly
- H. Lock pin for Boom Assemblies



HPLW3 (Screw Levelwind)

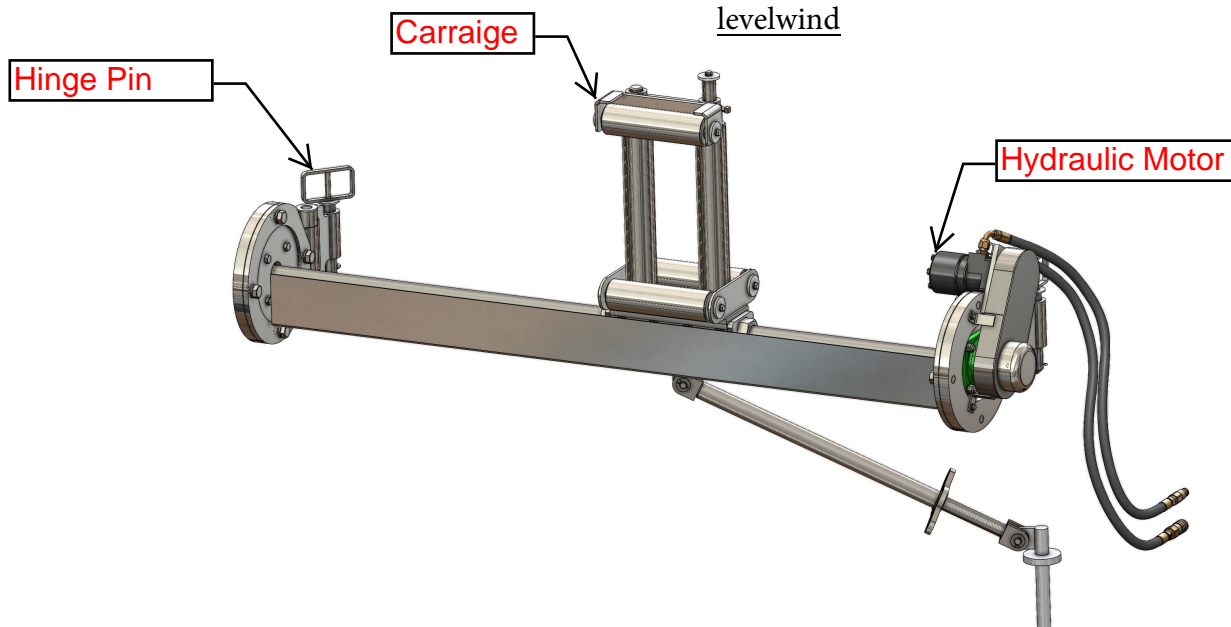
Some units are equipped with the optional HPLW3 levelwind system. This levelwind system is a hydraulically actuated screw-type levelwind located at the rear of the unit.

The hydraulic motor is operated by electric switch which actuates a solenoid controlled valve. There are two switch locations. One is located in the main control panel located at the front of the unit. The other is located in the curbside rear control panel. Each switch is directional in relation with the travel of the levelwind guide rollers. That is if you push the switch to the right, the levelwind carriage travels to the right. And if you push the switch to the left the levelwind will travel left. Each switch is of the momentary type and as you release it, it comes to a neutral center position and the carriage stops.

The levelwind does not operate automatically. The operator must activate the switch each time the wire or rope is to be moved on the reel. The top roller of the carriage is made with a swing away mounting to allow insertion or removal of the line. By loosening the carriage bolts in each end flange of the levelwind, the entire carriage can be rotated for better pulling angle.

The HPLW3 Levelwind is most suitable for overhead pulls. Its use for underground is greatly restricted due to manhole size and amount of pull required. Do not use the levelwind as a "Breaker bar" for underground pulls. To load with the levelwind, pull the left hinge pin and swing the assembly out of the hinge and to the right. After the reel is loaded, swing assembly back into the hinge and insert the locking pin.

The unit can be easily removed from the trailer by disconnecting the hoses and removing the hinge pins. Be sure to use a forklift or overhead crane when removing the levelwind



PULLING PROCEDURES

Although all jobs will vary, below is a basic description of how to operate the HP 6500. Please consult your Employers rules and regulations and always consult and follow guidelines set for by the IEEE.

OVERHEAD WIRE

The following is a basic description of how to set up and pull overhead wire.

1. Set up the dolly with the longest lead possible with the axis of the trailer in line with the pull.
2. Lower the drawbar - set the jack stands - raise the drawbar to put pressure on the legs
3. Chock the wheels
4. Move the drive rollers against the flange of the reel until visible indentations are visible on the drive roller friction material. Apply more pressure to reel flange if drive wheels slip.
5. Select the desired Hi-Lo speed setting
6. Increase engine RPM to 2000
7. Move control lever to take-up position and start pulling.
8. To stop the pull, return the control lever to neutral.

DANGER

NEVER allow the Power Unit to become disengaged from the reel during an overhead pull. This will cause the reel to spin freely and may drop the rope or conductor. Doing so may cause the pulling line and or wire to drop onto other energized conductors causing serious injury or death

UNDERGROUND PULLING

1. Position the trailer over the manhole (vault opening, etc). The best position for maximum pulling power is to position the reel DIRECTLY over the pull.
2. Lower trailer drawbar
3. Set Jack stands
4. Raise trailer drawbar to set pressure on the jack stands. It is not advised to remove the tires from the ground when setting the jack stands. They are there to help stabilize the trailer and spread the load over the entire frame, stub axles and front idler wheel.
5. Chock the tires
6. Set the brakes - Air ABS systems ONLY
7. Move the drive rollers against the flange of the reel until visible indentations are visible on the drive roller friction material. Apply more pressure to reel flange if drive wheels slip.
8. Select the desired Hi-Lo speed setting
9. Set the engine RPM to IDLE. Increase engine RPM as needed.

NOTE: Most wreck out jobs can be broken loose with the RPM at idle. If slipping occurs during the pull, gently increase the pressure of the Power Unit against the reel flange.

Level wind on the reel.

After the pull has begun, it may be necessary to keep the pulling rope or wire level on the reel. To do so, stop the pull, lower the drawbar to release pressure on the jack stands, turn the Idler wheel perpendicular to the axis of the trailer and slight change the rear angle of the unit. This slight change with all for the rope to wind itself back towards the other flange. Set the pressure back to the jack stands and continue take-up operation.

SERVICE

HP 6500 Lubrication

The following lubrication instructions are offered as "rule of thumb". Precise lubrication instructions will vary with each usage of each unit. **CHECK ALL LUBRICATIONS BEFORE EACH USE**

ENGINE: Consult Engine Manual for precise instructions. Unit is delivered by Hogg & Davis, Inc. with 10W40 oil.

HYDRASTATIC DRIVE SYSTEM: This Drive System is practically maintenance- free, however the oil should be changed every six months with ISO 46 wt. or its equivalent. There are three oil filters that should be changed also at this time. (Refer to schematic) One of these filters is a high pressure filter and has a restriction gauge on it, this gauge should be checked daily, if it reaches the red line, this filter should be changed immediately.

WHEEL BEARINGS: Wheel bearings are of the oil bath style and should be inspected as part of the Drivers Pre-Trip Inspection. 80-90 Gear oil

IDLER WHEEL: Lubricate every 30 days. Zerk fittings are provided for proper application of lube. Lube all parts, including spindle housing, "A" frame supports, and hydraulic cylinder linkage.

LIFTING RACKS: Lubricate every 30 days.. Lube all parts, including rack and attached stabilizer bars. NOTE: If racks do not lower properly, it may be necessary to lift rack entirely off cylinder, and with solvent clean away caked grease and dirt build-up. Wipe thin coat of lube all around cylinder before replacing rack. The holes on the racks are NOT designed for Zerk fittings. They allow air to escape during the lowering process. It may be helpful to spray some light oil into the holes to aid with raising and lowering.

DRIVER ROLLERS: Sealed bearings.

SPROCKET ASSEMBLIES: Lubricate once each week. Zerk fittings are provided for proper lube application.

ROLLER CHAIN: Lubricate once each week. Use regular lube oil to oil all chain, including driver roller chain, main drive chain (oil cup provided), and power idler wheel chain.

DRIVE SHAFT BEARINGS: Lubricate as required. It is recommended that the track be kept clean of grease and dirt build up, and fresh lube be applied after each cleaning.

TOOL BOX DOORS: Lubricate as required. Hinges and locks should be lubricated with oil as needed for easy operation.

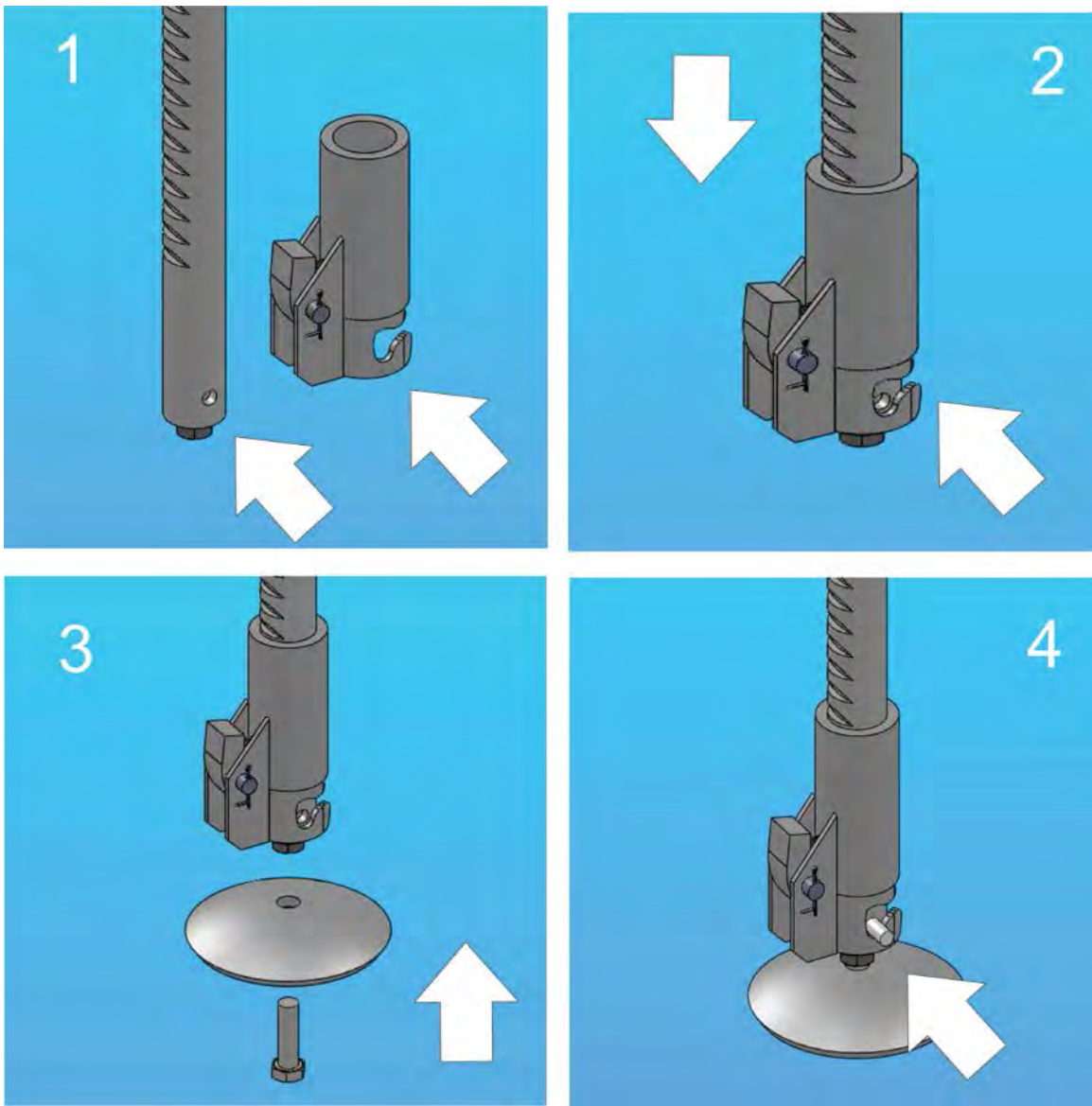
NOTE: All lubrication should be performed consistently to Insure proper operation and extended life of equipment.

CAUTION: OILS SHOULD NOT BE MIXED. IF BRAND OR TYPE IS CHANGED, OLD OIL MUST BE DRAINED, ALL FILTERS CHANGED, AND NEW OIL USED THROUGHOUT THE SYSTEM.

JACKSTAND INSTALLATION

When installing any model Hogg and Davis Jack stand, the following procedure should be Used.

1. Determine If stand Is left or right. Hole in side of stand should line up with holding lug on trailer when teeth of stand engage with spring loaded ratchet pawl.
2. Insert stand into sleeve.
3. Install pad with pad bolt. Screw bolt all the way in, leaving Just loose enough for pad to swivel.
4. Screw stud Into stand until it wedges against the pad bolt. Tighten stud **HARD AGAINST** pad bolt. This **LOCK** bolt and eliminates loss of pad from bolt vibrating loose.

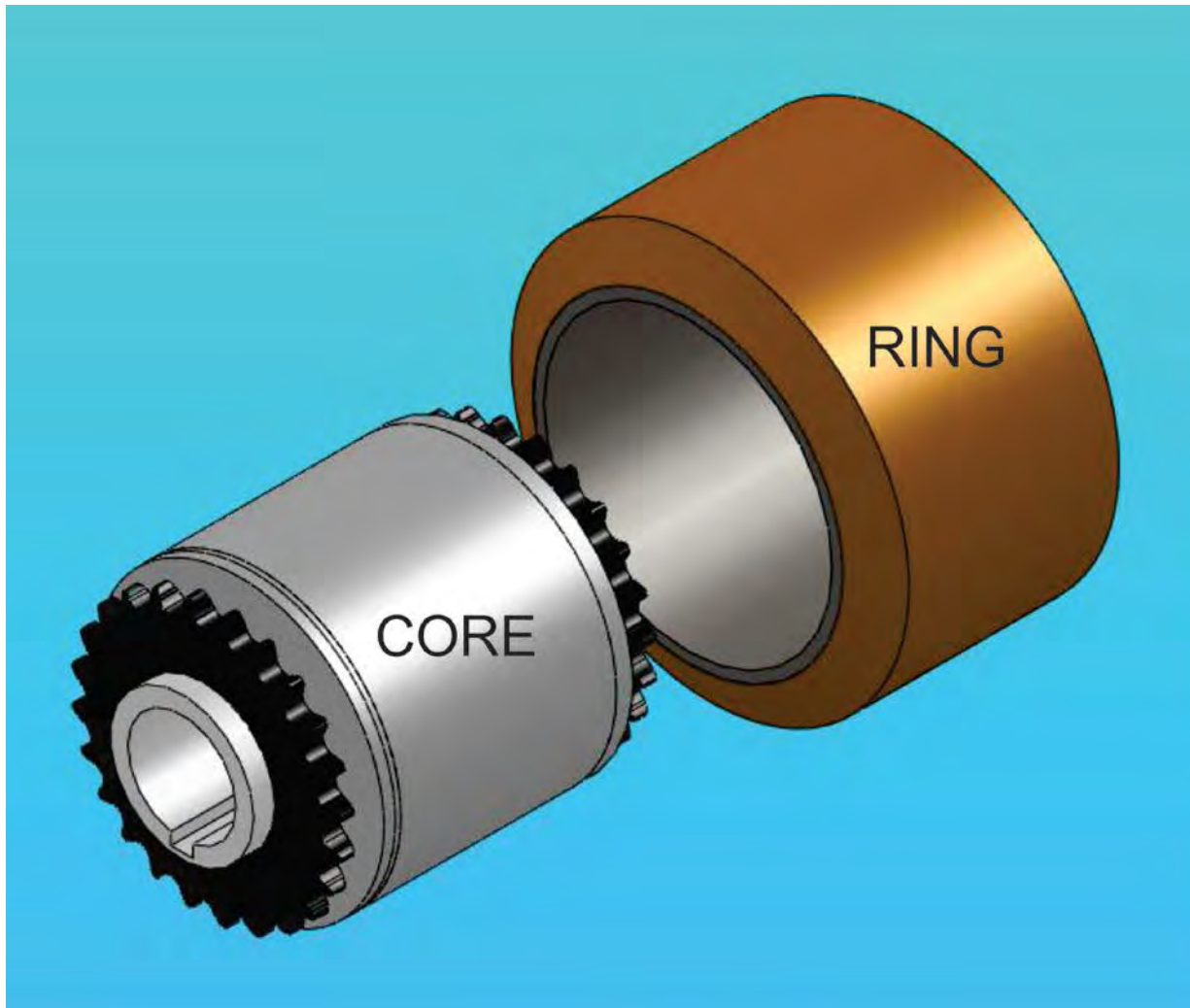


DRIVE ROLLER MAINTENANCE

The "heart" of any friction drive cable pulling machine is the rollers that transfers the power to the reel. This is also usually the highest mortality item on these units because they take the full brunt of all the pulling torque. The current production drive roller consists of two (2) pieces; a core and a ring.

The ring consists of a special composition neoprene rubber compound (or optional urethane) molded to a steel ring. The core is made of steel, has bearing seats and a 24-tooth #60 sprocket welded on one end. The core and the ring are machined for press fit tolerance. When repairing roller due to "dead" or torn rubber, the core is pressed out of the old ring and new rings are pressed on.

When replacing rollers, it is advised that they be replaced in horizontal pairs, i.e. both top rollers or both bottom rollers. This is so equal thickness of rubber is applied to each flange of the reel. If replaced in vertical pairs with new, thick rollers in one housing and old compressed rollers in the other housing, the power unit will have the tendency to cock under pressure. This tendency forces the rollers to be cut by the reel flange edges and can greatly reduce the expected life of the roller.



ACME ADJUSTING SCREW

Ninety to ninety-five percent of all damage to the acme adjusting screws on the above machine is in the form of bending. Since it is nearly impossible to straighten them to work properly, it is necessary to replace them.

This damage can be prevented by employing one or more of the following simple precautions.

1. Instruct all operators, that after they have adjusted the drive roller housing to its proper position, by use of the screw, to back-off one-half turn. This relieves that binding pressure between the acme nut and the drive roller housing, allowing the housing to "dolly" freely with the shape of the reel flange.
2. Keep the acme screws and drive shaft well greased. This not only allows the drive roller housing to move laterally and "dolly" properly, but will also protect the parts from corrosion and rust.
3. Wipe grease on housing where acme nut makes contact. This will also allow housing to "dolly" easier without binding.
4. Be sure acme screw brackets are adjusted to maintain a level setting throughout the drive roller housings

DRAWBAR (Pintle Eye) INSPECTION

1. Regularly inspect the drawbar (Pintle Eye) for wear and damage. If wear exceeds 1/8", replace the drawbar.
2. Check all drawbar mounting fasteners for proper torque.
3. Do not modify or add to the product.
4. Do not weld on this product without written permission from the factory.
5. Be sure the drawbar size is compatible with the coupling device on the tow vehicle.
6. Do not damage the coupling components. Be particularly careful during coupling and uncoupling.
7. Inspect the coupling device on the tow vehicle for proper locking prior to use.
8. Consult OSHA and DOT regulations and AMERICAN TRUCKING ASSOCIATION GUIDELINES FOR COMPLETE OPERATING PROCEDURES.

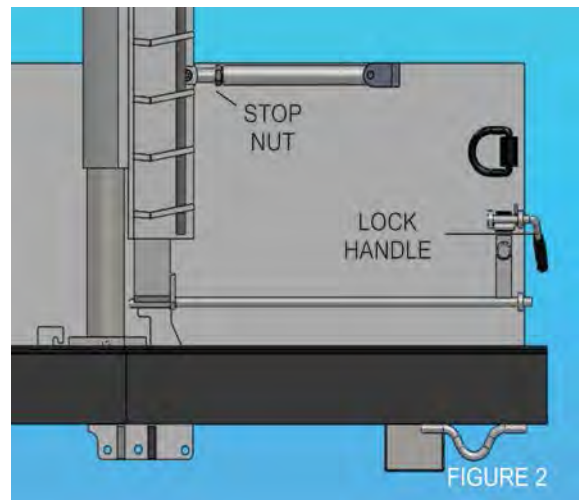
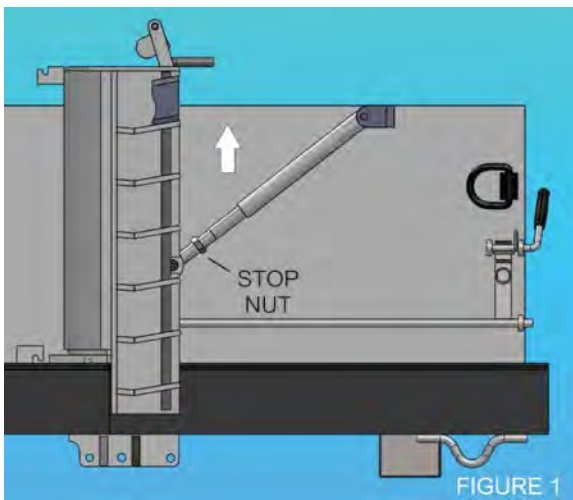
MANDREL RACK STABILIZER INSTALLATION

The mandrel rack stabilizers are very critical to the proper operation of your trailer. One stabilizer is attached to each mandrel rack. This stabilizer keeps the racks rigid and takes all the strain put against the racks when pressure is applied by the power unit against the reel. Without the stabilizers, the power unit could apply enough pressure to bend or break the lifting cylinders upon which the mandrel racks ride. Therefore, it is important that the stabilizers be properly installed and maintained.

When it becomes necessary to replace a stabilizer due to damage or loss, the new stabilizer will be sent with the stop nut loose on the male rod portion of the stabilizer (Fig. 1).

The stabilizer should be bolted in position between the mandrel rack and the anchor bracket on the fender panel. The rack should then be raised to its locked position and settled on the lock. The stabilizer should now be at a right angle to the rack and parallel to the top of the fender panel. The stop nut should be screwed on the male shaft until it sits against the female portion of the stabilizer. (Fig. 2).

Loctite® can be used to properly set the stop nut. Proper installation will assure protection against damage to lifting cylinders and stability for rack and reel mandrel.



Section 2

YANMAR WARRANTIES

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YANMAR LIMITED WARRANTY

What is Covered by this Warranty?

YANMAR warrants to the original retail purchaser that a new YANMAR TNV series industrial engine will be free from defects in material and/or workmanship for the duration of the warranty period.

Note: YANMAR engines may be equipped with external components including, but not limited to: wiring harnesses, electrical devices, control panels, radiators, air filters, fuel filters, and/or exhaust systems that are supplied and/or installed by manufacturers other than YANMAR. For warranty information on such external components, please contact the machine or component manufacturer directly or see your authorized YANMAR dealer or distributor.

This warranty is provided in lieu of all other warranties, express or implied. YANMAR specifically disclaims any implied warranties of merchantability or fitness for a particular purpose, except where such disclaimer is prohibited by law. If such disclaimer is prohibited by law, then implied warranties shall be limited in duration to the life of the express warranty.

How Long is the Warranty Period?

The YANMAR standard limited warranty period runs for a period of **twenty-four (24) months or two-thousand (2000) engine operation hours**, whichever occurs first. An extended limited warranty of thirty-six (36) months or three thousand (3000) engine operating hours, whichever occurs first, is provided for these specific parts only: the cylinder block, cylinder head, crankshaft forging, connecting rods, flywheel, flywheel housing, camshaft, timing gear, and gear case. The warranty period for both the standard limited warranty and the extended limited warranty (by duration or operation hours) begins on the date of delivery to the original retail purchaser and is valid only until the applicable warranted duration has passed or the operation hours are exceeded, whichever comes first.

What the Engine Owner must Do:

If you believe your YANMAR engine has experienced a failure due to a defect in material and/or workmanship, you must contact an authorized YANMAR industrial engine dealer or distributor within thirty (30) days of discovering the failure. You must provide proof of ownership of the engine, proof of the date of the engine purchase and delivery, and documentation of the engine operation hours. Acceptable forms of proof of delivery date include, but are not limited to: the original warranty registration or sales receipts or other documents maintained in the ordinary course of business by YANMAR dealers and/or distributors, indicating the date of delivery of the YANMAR product to the original retail purchaser. This information is necessary to establish whether the YANMAR product is still within the warranty period. Thus, YANMAR strongly recommends you register your engine as soon as possible after purchase in order to facilitate any future warranty matters.

You are responsible for the transportation of the engine to and from the repair location as designated by YANMAR.

YANMAR limited warranty - continued**To Locate an Authorized YANMAR Industrial Engine Dealer or Distributor:**

You can locate your nearest authorized YANMAR industrial engine dealer or distributor by visiting the YANMAR Co., Ltd. website at:

<http://www.yanmar.co.jp> (The Japanese language page will be displayed.) For English language “click” on “English Page.”)

- “Click” on “Network” in the website heading to view the “Yanmar Worldwide Network.”
- Choose and “Click” on the desired product group.
- “Click” on the Icon closest to your region.
- “Click” on the desired country or associate company to locate your nearest authorized YANMAR industrial engine dealer or distributor.
- You may also contact YANMAR by clicking on “Inquiry” in the website heading and typing in your question or comment.

What YANMAR will Do:

YANMAR warrants to the original retail purchaser of a new YANMAR engine that YANMAR will make such repairs and/or replacements at YANMAR’s option, of any part(s) of the YANMAR product covered by this warranty found to be defective in material and/or workmanship. Such repairs and/or replacements will be made at a location designated by YANMAR at no cost to the purchaser for parts or labor.

What is not Covered by this Warranty?

This warranty does not cover parts affected by or damaged by any reason other than defective materials or workmanship including, but not limited to, accident, misuse, abuse, “Acts of God,” neglect, improper installation, improper maintenance, improper storage, the use of unsuitable attachments or parts, the use of contaminated fuels, the use of fuels, oils, lubricants, or fluids other than those recommended in your YANMAR Operation Manual, unauthorized alterations or modifications, ordinary wear and tear, and rust or corrosion. This warranty does not cover the cost of parts and/or labor required to perform normal/scheduled maintenance on your YANMAR engine. This warranty does not cover consumable parts such as, but not limited to, filters, belts, hoses, fuel injector nozzles, lubricants and cleaning fluids. This warranty does not cover the cost of shipping the product to or from the warranty repair facility.

*YANMAR limited warranty - continued***Warranty Limitations:**

The foregoing is YANMAR's only obligation to you and your exclusive remedy for breach of warranty. Failure to follow the requirements for submitting a claim under this warranty may result in a waiver of all claims for damages and other relief. **In no event shall YANMAR or any authorized industrial engine dealer or distributor be liable for incidental, special or consequential damages.** Such consequential damages may include, but not be limited to, loss of revenue, loan payments, cost of rental of substitute equipment, insurance coverage, storage, lodging, transportation, fuel, mileage, and telephone costs. The limitations in this warranty apply regardless of whether your claims are based on breach of contract, tort (including negligence and strict liability) or any other theory. Any action arising hereunder must be brought within one (1) year after the cause of action accrues or it shall be barred. Some states and countries do not allow certain limitations on warranties or for breach of warranties. **This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country.** Limitations set forth in this paragraph shall not apply to the extent that they are prohibited by law.

Warranty Modifications:

Except as modified in writing and signed by the parties, this warranty is and shall remain the complete and exclusive agreement between the parties with respect to warranties, superseding all prior agreements, written and oral, and all other communications between the parties relating to warranties. **No person or entity is authorized to give any other warranty or to assume any other obligation on behalf of YANMAR, either orally or in writing.**

Questions:

If you have any questions or concerns regarding this warranty, please call or write to the nearest authorized YANMAR industrial engine dealer or distributor or other authorized facility.

EMISSION SYSTEM WARRANTY

YANMAR CO., LTD. LIMITED EMISSION CONTROL SYSTEM WARRANTY - USA ONLY

Your Warranty Rights and Obligations:

■ California

The California Air Resources Board (CARB), the Environmental Protection Agency (EPA) and YANMAR Co., Ltd. hereafter referred to as YANMAR, are pleased to explain the **emission control system warranty** on your industrial compression-ignition engine. In California, model year 2000 or later off-road compression-ignition engines must be designed, built and equipped to meet the state's stringent anti-smog standards. In all states, 1998 and later non-road compression-ignition engines must be designed, built and equipped to meet the United States EPA emissions standards. YANMAR warrants the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system, Electronic Control Unit, Exhaust Gas Recirculation (EGR) system, after treatment system (DPF) and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, YANMAR will repair your non-road compression-ignition engine at no charge to you including diagnosis, parts and labor.

Manufacturer's Warranty Period:

The model year 1998 or later certified and labeled non-road compression-ignition engines are warranted for the periods listed below. If any emission-related part on your engine is found to be defective during the applicable warranty period, the part will be replaced by YANMAR.

If your engine is certified as	And its maximum power is	And its rated speed is	Then its warranty period is
Variable speed or constant speed	kW < 19	Any speed	1,500 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	19 ≤ kW < 37	3,000 rpm or higher	1,500 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	19 ≤ kW < 37	Less than 3,000 rpm	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed	19 ≤ kW < 37	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed or constant speed	kW ≥ 37	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.

Limited emission control system warranty - USA only - continued**Warranty Coverage:**

This warranty is transferable to each subsequent purchaser for the duration of the warranty period. Repair or replacement of any warranted part will be performed at an authorized YANMAR industrial engine dealer or distributor.

Warranted parts not scheduled for replacement as required maintenance in the operation manual shall be warranted for the warranty period. Warranted parts scheduled for replacement as required maintenance in the operation manual are warranted for the period of time prior to the first scheduled replacement. Any part repaired or replaced under warranty shall be warranted for the remaining warranty period.

During the warranty period, YANMAR is liable for damages to other engine components caused by the failure of any warranted part during the warranty period.

Any replacement part which is functionally identical to the original equipment part in all respects may be used in the maintenance or repair of your engine, and shall not reduce YANMAR's warranty obligations. Add-on or modified parts that are not exempted may not be used. The use of any non-exempted add-on or modified parts shall be grounds for disallowing a warranty.

Warranted Parts:

This warranty covers engine components that are a part of the emission control system of the engine as delivered by YANMAR to the original retail purchaser. Such components may include the following:

- Fuel injection system
- Electronic control system
- Cold start enrichment system
- Intake manifold
- Turbocharger systems
- Exhaust manifold
- EGR system
- Positive crankcase ventilation system
- After treatment system (Diesel Particulate Filter)
- Hoses, belts, connectors and assemblies associated with emission control systems

Since emissions-related parts may vary slightly between models, certain models may not contain all of these parts and other models may contain the functional equivalents.

Limited emission control system warranty - USA only - continued**Exclusions:**

Failures other than those arising from defects in material and/or workmanship are not covered by this warranty. The warranty does not extend to the following: malfunctions caused by abuse, misuse, improper adjustment, modification, alteration, tampering, disconnection, improper or inadequate maintenance or use of non-recommended fuels and lubricating oils; accident-caused damage, and replacement of expendable items made in connection with scheduled maintenance. YANMAR disclaims any responsibility for incidental or consequential damages such as loss of time, inconvenience, loss of use of equipment/engine or commercial loss.

Owner's Warranty Responsibilities:

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. YANMAR recommends that you retain all documentation, including receipts, covering maintenance on your non-road compression-ignition engine, but YANMAR cannot deny warranty solely for the lack of receipts, or for your failure to ensure the performance of all scheduled maintenance.

YANMAR may deny your warranty coverage of your non-road compression-ignition engine if a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

Your engine is designed to operate on diesel fuel only. Use of any other fuel may result in your engine no longer operating in compliance with applicable emissions requirements.

You are responsible for initiating the warranty process. You must present your engine to a YANMAR dealer as soon as a problem exists. The warranty repairs should be completed by the dealer as expeditiously as possible. If you have any questions regarding your warranty rights and responsibilities, or would like information on the nearest YANMAR dealer or authorized service center, you should contact YANMAR America Corporation.

Website: www.yanmar.com

E-mail: CS_support@yanmar.com

Toll free telephone number: 1-800-872-2867, 1-855-416-7091

SPN	FMI	TEXT TRANSLATION
28	3	% Accelerator Position #3 (Throttle 2) Voltage Above Normal or Shorted to High Source H
28	4	Percent Accelerator Position #3 (Throttle 2) Voltage Below Normal or Shorted to Low Source
29	3	Percent Accelerator Position #2 (Throttle 1) Voltage Above Normal or Shorted to High Source
29	4	Percent Accelerator Position #2 (Throttle 1) Voltage Below Normal or Shorted to Low Source
91	3	Accelerator Pedal Position (Multi-State Throttle) Voltage Above Normal, or Shorted to High Source
91	4	Accelerator Pedal Position (Multi-State Throttle) Voltage Below Normal or Shorted to Low Source
91	9	Accelerator Pedal Position A valid throttle message is not being received or is late
91	14	Accelerator Pedal Position Throttle signal voltage is or has been out of range
94	1	Fuel Delivery Pressure Pressure Very low
94	3	Fuel Delivery Pressure Fuel Rail Pressure Voltage out of range high
94	4	Fuel Delivery Pressure Fuel Rail Pressure Voltage out of range low
94	10	Fuel Delivery Pressure Pressure dropping too fast
94	13	Fuel Delivery Pressure Out of calibration
94	16	Fuel Delivery Pressure High fuel pressure
94	17	Fuel Delivery Pressure No rail fuel pressure
94	18	Fuel Delivery Pressure Low fuel pressure
97	0	Water In Fuel Indicator Water In Fuel Detected
97	3	Water In Fuel Indicator Water In Fuel Voltage out of range high
97	4	Water In Fuel Indicator Water In Fuel Voltage out of range low
97	16	Water In Fuel Indicator Water In Fuel Detected
97	31	Water In Fuel Indicator Water In Fuel Detected
100	1	Engine Oil Pressure Low oil pressure
100	3	Engine Oil Pressure Voltage Above Normal or Shorted to High Source
100	4	Engine Oil Pressure Voltage Below Normal or Shorted to Low Source
100	16	Engine Oil Pressure Oil pressure reading incorrect
100	18	Engine Oil Pressure Low oil pressure
105	0	Intake Manifold 1 Temperature High manifold air temperature
105	3	Intake Manifold 1 Temperature Voltage Above Normal or Shorted to High Source
105	4	Intake Manifold 1 Temperature Voltage Below Normal or Shorted to Low Source
105	16	Intake Manifold 1 Temperature High manifold air temperature
107	0	Air Filter Differential Pressure Plugged air filter condition detected
107	31	Air Filter Differential Pressure Plugged air filter condition detected
110	0	Engine Coolant Temperature High coolant temperature
110	3	Engine Coolant Temperature Voltage Above Normal or Shorted to High Source
110	4	Engine Coolant Temperature Voltage Below Normal or Shorted to Low Source
110	15	Engine Coolant Temperature High coolant temperature
110	16	Engine Coolant Temperature High coolant temperature
111	1	Coolant Level Low coolant level
158	2	Keyswitch Intermittent
158	17	Keyswitch Circuit problem
174	0	Fuel Temperature High fuel temperature
174	3	Fuel Temperature Voltage Above Normal or Shorted to High Source
174	4	Fuel Temperature Voltage Below Normal or Shorted to Low Source
174	15	Fuel Temperature High fuel temperature
174	16	Fuel Temperature High fuel temperature
174	31	Fuel Temperature Voltage out of range
189	31	Rated Engine Speed Speed Derate Condition Exists due to fault
190	0	Engine Speed Engine overspeed
190	2	Engine Speed Data Erratic, Intermittent or Incorrect
190	3	Engine Speed Voltage Above Normal or Shorted to High Source
190	4	Engine Speed Voltage Below Normal or Shorted to Low Source
190	5	Engine Speed Circuit is open
190	16	Engine Speed Engine overspeed

SPN	FMI	TEXT TRANSLATION
611	3	Injector Wiring Shorted to battery
611	4	Injector Wiring Shorted to ground
620	3	Sensor Supply Voltage 1 (+5V DC) Voltage Above Normal or Shorted to High Source
620	4	Sensor Supply Voltage 1 (+5V DC) Voltage Below Normal or Shorted to Low Source
627	1	Power Supply Low voltage to injectors
627	4	Power Supply Power interruption
629	13	Reprogram Controller ECU problem
629	19	ECU to Pump Communications Error ECU not receiving messages from Pump
632	2	Fuel Shutoff Valve Fuel Shutoff Error Detected
632	5	Fuel Shutoff Valve Fuel Shutoff Non-Functional
632	11	Fuel Shutoff Valve Fuel Shutoff Solenoid circuit is open or shorted
636	2	Engine Position Sensor Timing signal error
636	8	Engine Position Sensor Timing signal error
636	10	Engine Position Sensor Timing signal error
637	2	Timing (Crank) Sensor Timing signal error
637	7	Timing (Crank) Sensor Timing signal error
637	8	Timing (Crank) Sensor Timing signal error
637	10	Timing (Crank) Sensor Timing signal error
639	13	CAN Bus The CAN bus failure
651	5	Injector Cylinder #1 The current to the injector is less than expected
651	6	Injector Cylinder #1 The current to the injector increases too rapidly
651	7	Injector Cylinder #1 The injector fuel flow is lower than expected
652	5	Injector Cylinder #2 The current to the injector is less than expected
652	6	Injector Cylinder #2 The current to the injector increases too rapidly
652	7	Injector Cylinder #2 The injector fuel flow is lower than expected
653	5	Injector Cylinder #3 The current to the injector is less than expected
653	6	Injector Cylinder #3 The current to the injector increases too rapidly
653	7	Injector Cylinder #3 The injector fuel flow is lower than expected
654	5	Injector Cylinder #4 The current to the injector is less than expected
654	6	Injector Cylinder #4 The current to the injector increases too rapidly
654	7	Injector Cylinder #4 The injector fuel flow is lower than expected
655	5	Injector Cylinder #5 The current to the injector is less than expected
655	6	Injector Cylinder #5 The current to the injector increases too rapidly
655	7	Injector Cylinder #5 The injector fuel flow is lower than expected
656	5	Injector Cylinder #6 The current to the injector is less than expected
656	6	Injector Cylinder #6 The current to the injector increases too rapidly
656	7	Injector Cylinder #6 The injector fuel flow is lower than expected
729	3	Inlet Air Heater Driver #1 Inlet air heater stuck on
729	5	Inlet Air Heater Driver #1 Inlet air heater will not turn on
833	2	Rack Position Sensor Error
833	3	Rack Position Sensor Rack Position Voltage above normal
833	4	Rack Position Sensor Rack Position Voltage below normal
834	2	Rack Actuator Rack Error
834	3	Rack Actuator Rack Actuator Circuit voltage above normal
834	5	Rack Actuator Rack Actuator Circuit open
834	6	Rack Actuator Rack Actuator Circuit grounded
834	7	Rack Actuator Rack Position Error
970	2	Auxiliary Engine Shutdown Switch External Engine Shutdown Switch intermittent
970	11	External Engine Protection Shutdown External Engine Protection Shutdown active
970	31	Auxiliary Engine Shutdown Switch External Engine Protection Shutdown active
971	31	Engine Derate Switch External Derate input has been activated
1041	2	Start Signal Indicator Start Signal Missing
1041	3	Start Signal Indicator Start Signal Always Active

SPN	FMI	TEXT TRANSLATION
1076	0	Fuel Injection Pump Fuel Control Valve Error
1076	1	Fuel Injection Pump Fuel Control Valve Error
1076	2	Fuel Injection Pump Fuel Control Valve Error
1076	3	Fuel Injection Pump Fuel Control Valve Error
1076	5	Fuel Injection Pump Fuel Control Valve Error
1076	6	Fuel Injection Pump Fuel Control Valve Error
1076	7	Fuel Injection Pump Fuel Control Valve Error
1076	10	Fuel Injection Pump Fuel Control Valve Error
1076	13	Fuel Injection Pump Fuel Control Valve Error
1077	7	Fuel Injection Pump Controller
1077	11	Fuel Injection Pump Controller
1077	12	Fuel Injection Pump Controller
1077	19	Fuel Injection Pump Controller
1077	31	Fuel Injection Pump Controller Power derated
1078	7	Fuel Injection Pump Speed/Position Sensor Error
1078	11	Fuel Injection Pump Speed/Position Sensor Error
1078	31	Fuel Injection Pump Speed/Position Sensor VP44 Unable to Achieve Desired Timing
1079	3	Sensor Supply Voltage 1 (+5V DC) Voltage Above Normal or Shorted to High Source
1079	4	Sensor Supply Voltage 1 (+5V DC) Voltage Below Normal or Shorted to Low Source
1080	3	Sensor Supply Voltage 2 (+5V DC) Voltage Above Normal or Shorted to High Source
1080	4	Sensor Supply Voltage 2 (+5V DC) Voltage Below Normal or Shorted to Low Source
1109	31	Engine Protection System Approaching Shutdown Approaching Shutdown
1110	31	Engine Protection System Engine has been shutdown
1347	5	Fuel Pump Assembly #1 The circuit is open, shorted to ground, or overloaded
1347	7	Fuel Pump Assembly #1 Rail pressure control mismatch
1347	10	Fuel Pump Assembly #1 Low fuel flow
1348	5	Fuel Pump Assembly #2 The circuit is open, shorted to ground, or overloaded
1348	10	Fuel Pump Assembly #2 Low fuel flow
1485	2	ECU Main Relay Pump power relay fault
1569	31	Engine Protection Torque Derate Fuel derate limit condition exists
2000	6	Fuel Injection Pump Fuel Control Valve Error
2000	13	Security Violation The proper controller has not been installed

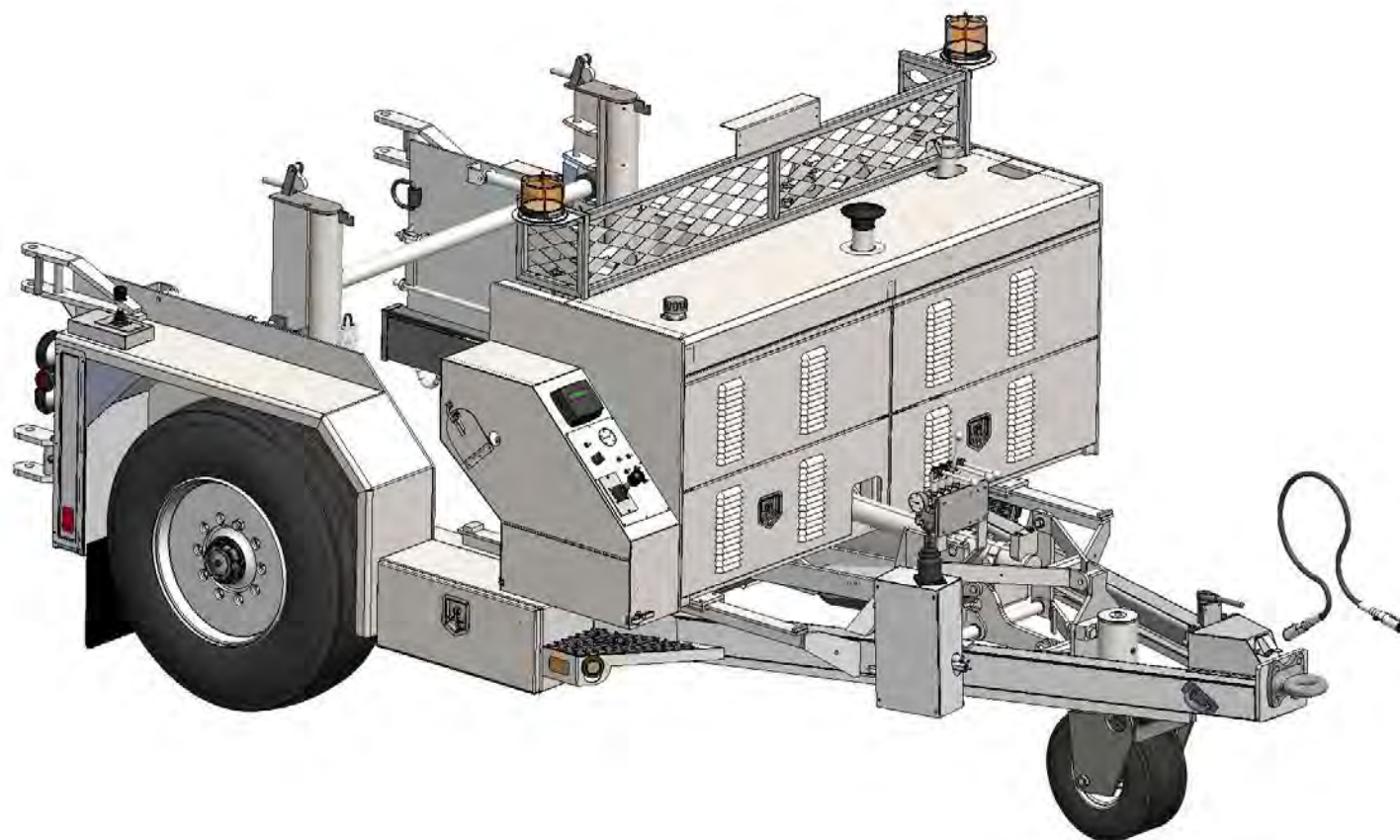
2G-ECO Governor Controller DTC Table

Ver. 3.8.1 2007/5/18

Remark	DTC			Description	J1939 Lamp Status			
	SPN (Hex)	SPN (DEC)	FMI		MIL	RSL	AWL	PL
	4BA	1210	4	Engine Fuel Rack Position Sensor : Shorted to low source		X	X	
			3	Engine Fuel Rack Position Sensor : Shorted to high source		X (Engine drive)	X (E-ECU start)	
	5B	91	4	Accelerator Pedal Position Sensor "A" : Shorted to low source			X	
			3	Accelerator Pedal Position Sensor "A" : Shorted to high source			X	
			2	Accelerator Pedal Position Sensor "A" : Intermittent fault				
			1	Accelerator Pedal Position Sensor "A" : Below normal operational range (SAE J1843)			X	
			0	Accelerator Pedal Position Sensor "A" : Above normal operational range (SAE J1843)			X	
			15	Accelerator Pedal Position Sensor "A" : Not available (SAE J1843)			X	
	1D	29	4	Accelerator Pedal Position Sensor "B" : Shorted to low source			X	
			3	Accelerator Pedal Position Sensor "B" : Shorted to high source			X	
			2	Accelerator Pedal Position Sensor "B" : Intermittent fault				
			1	Accelerator Pedal Position Sensor "B" : Below normal operational range (SAE J1843)			X	
			0	Accelerator Pedal Position Sensor "B" : Above normal operational range (SAE J1843)			X	
			8	Accelerator Pedal Position Sensor "B" : Communication fault			X	
			15	Accelerator Pedal Position Sensor "B" : Not available (SAE J1843)			X	
	6C	108	4	Barometric Pressure Sensor : Shorted to low source	X			
			3	Barometric Pressure Sensor : Shorted to high source	X			
			2	Barometric Pressure Sensor : Intermittent fault				
	470	1136	4	E-ECU Internal Temperature Sensor : Shorted to low source			X	
			3	E-ECU Internal Temperature Sensor : Shorted to high source			X	
			2	E-ECU Internal Temperature Sensor : Intermittent fault				
			0	E-ECU Internal Temperature : Too High				X
	6E	110	4	Engine Coolant Temperature Sensor : Shorted to low source			X	
			3	Engine Coolant Temperature Sensor : Shorted to high source			X	
			2	Engine Coolant Temperature Sensor : Intermittent fault				
			0	Engine Coolant Temperature : Too High				X
	437	1079	4	Sensor 5V : Shorted to low source			X	
			3	Sensor 5V : Shorted to high source (FUEL INJ PUMP SPEED SENSOR)				X
			2	Sensor 5V : Intermittent fault				
	9E	158	1	System Voltage : Too Low				X
			0	System Voltage : Too High				X
	436	1078	4	Engine Fuel Injection Pump Speed Sensor : Shorted to low source		X (Both)	X (Ether)	
*	7F8A2	522402	4	Auxiliary Speed Sensor : Shorted to low source				
			4	Engine Fuel Rack Actuator Relay : Circuit fault A		X		
			3	Engine Fuel Rack Actuator Relay : Circuit fault B		X		
			7	(Reserved)				
			2	Engine Fuel Rack Actuator Relay : Intermittent fault				
*	7F803	522243	4	Air Heater Relay : Circuit fault A	X			
			3	Air Heater Relay : Circuit fault B	X			
			2	Air Heater Relay : Intermittent fault				
*	7F802	522242	4	Cold Start Device : Circuit fault A	X			
			3	Cold Start Device : Circuit fault B	X			
			2	Cold Start Device : Intermittent fault				
*	7F80B	522251	4	EGR Stepping Motor "A" : Circuit fault A	X			
			3	EGR Stepping Motor "A" : Circuit fault B	X			
*	7F80C	522252	4	EGR Stepping Motor "B" : Circuit fault A	X			
			3	EGR Stepping Motor "B" : Circuit fault B	X			
*	7F80D	522253	4	EGR Stepping Motor "C" : Circuit fault A	X			
			3	EGR Stepping Motor "C" : Circuit fault B	X			
*	7F80E	522254	4	EGR Stepping Motor "D" : Circuit fault A	X			
			3	EGR Stepping Motor "D" : Circuit fault B	X			
	64	100	4	Oil Pressure Switch : Shorted to low source			X	
			1	Oil Pressure : Too Low				X
	A7	167	4	Battery Charge Switch : Shorted to low source			X	
			1	Charge warning				X
*	7F84A	522314	0	Engine Coolant Temperature : Abnormal temperature				X
*	7F853	522323	0	Air Cleaner : Mechanical Malfunction				X
*	7F859	522329	0	Oily Water Separator : Mechanical Malfunction				X
	BE	190	0	Engine speed : Over speed Condition		X		
			4	Engine Fuel Rack Actuator : Shorted to low source		X		
			3	Engine Fuel Rack Actuator : Shorted to high source		X		
			7	Engine Fuel Rack Actuator : Mechanical Malfunction		X		
			2	Engine : Malfunction		X		
	27F	639	12	High Speed CAN Communication : Communication fault			X	
			2	E-ECU internal fault : EEPROM Check Sum Error (Data Set 2)		X		
	276	630	12	E-ECU internal fault : EEPROM ReadWrite fault			X	
			12	E-ECU internal fault : FlashROM Check Sum Error (Main Software)		X		
			2	E-ECU internal fault : FlashROM Check Sum Error (Data Set 1)		X		
			2	E-ECU internal fault : FlashROM Check Sum Error (Data Set 2)		X		
	5CD	1485	4	E-ECU Main Relay : Shorted to low source			X	
			12	E-ECU internal fault : Sub-CPU Error A			X	
*	7F9E7	522727	12	E-ECU internal fault : Sub-CPU Error B			X	
			12	E-ECU internal fault : Sub-CPU Error C			X	
*	7F9E8	522728	12	E-ECU internal fault : Engine Map Data Version Error		X		
*	7F9EA	522730	12	Immobilizer : CAN Communication fault			X	
			8	Immobilizer : Pulse Communication fault			X	
	4B2	1202	2	Immobilizer : System fault			X	

Remark : Yanmar original DTC

Parts Manual



HOGG & DAVIS, Inc.

The information, specifications, and illustrations in this manual are on the basis of information available at the time it was written. The specifications, torque values, pressures of operation, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service of the given product.

For the complete and most current information, contact:

Hogg & Davis, Inc
P.O. Box 405 / 3800 Eagle Loop
Odell, OR 97044-0405
541-354-1001
541-354-1080 Fax
www.hoggdavis.com



"Rugged Dependability."

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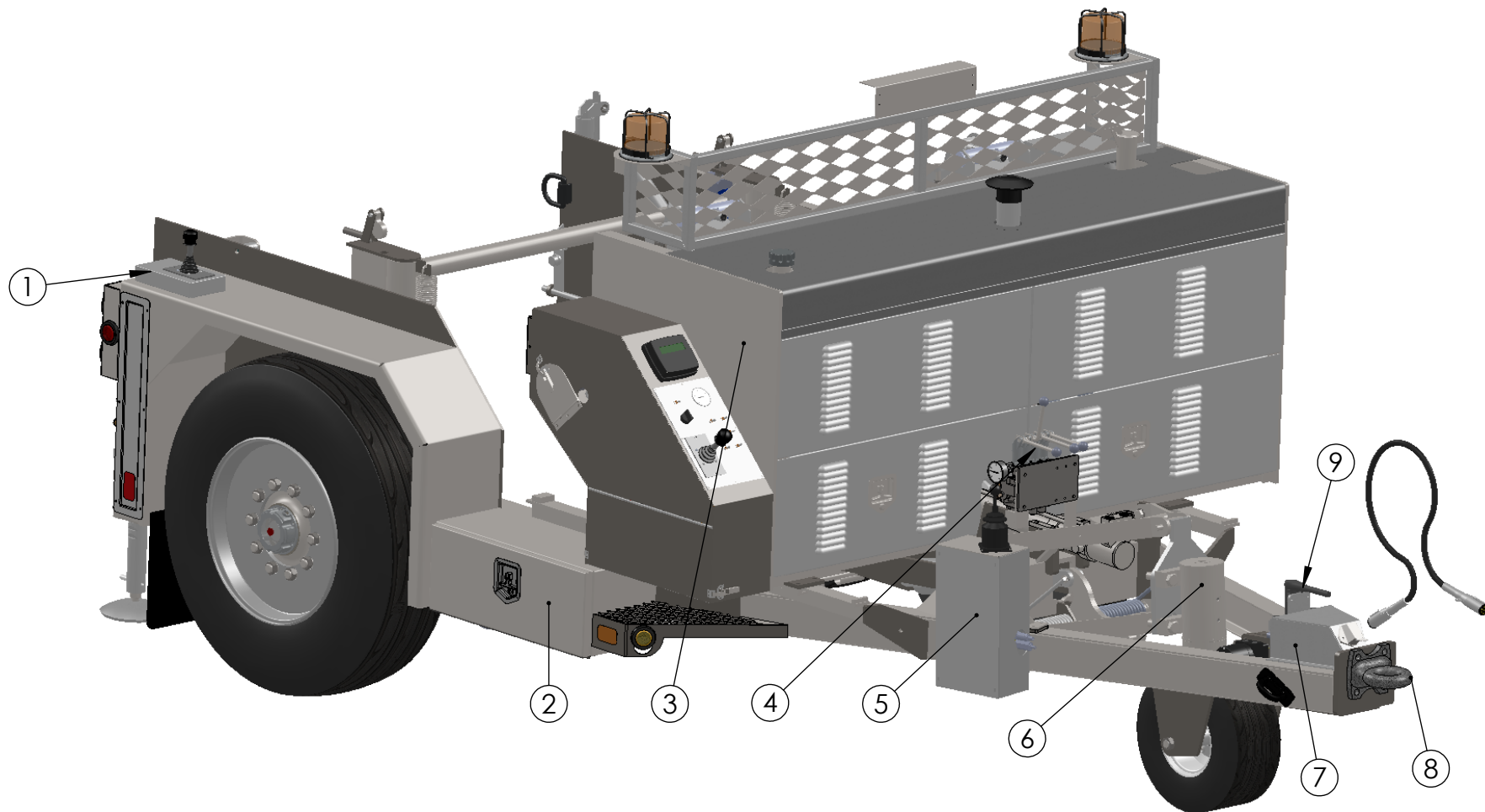


v 3.0

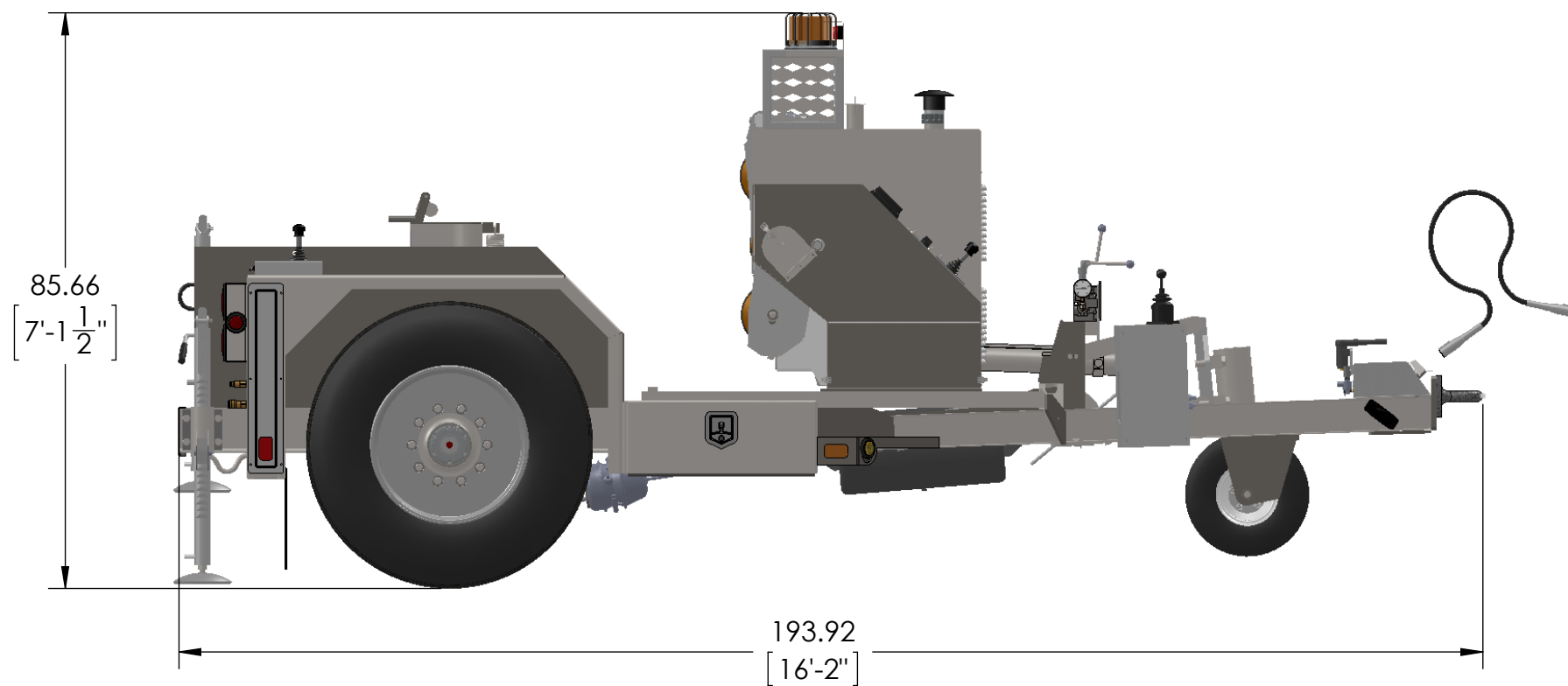
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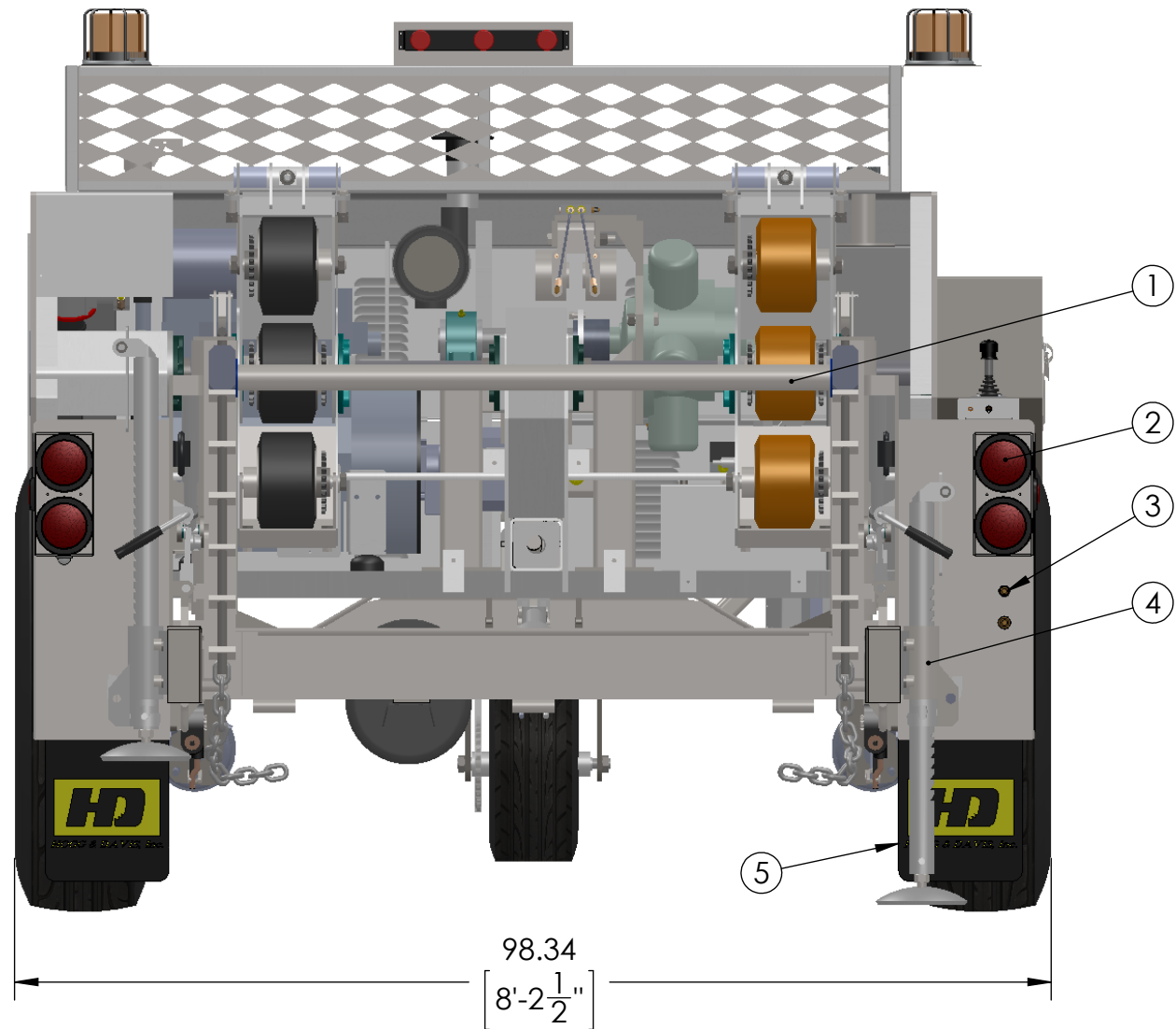
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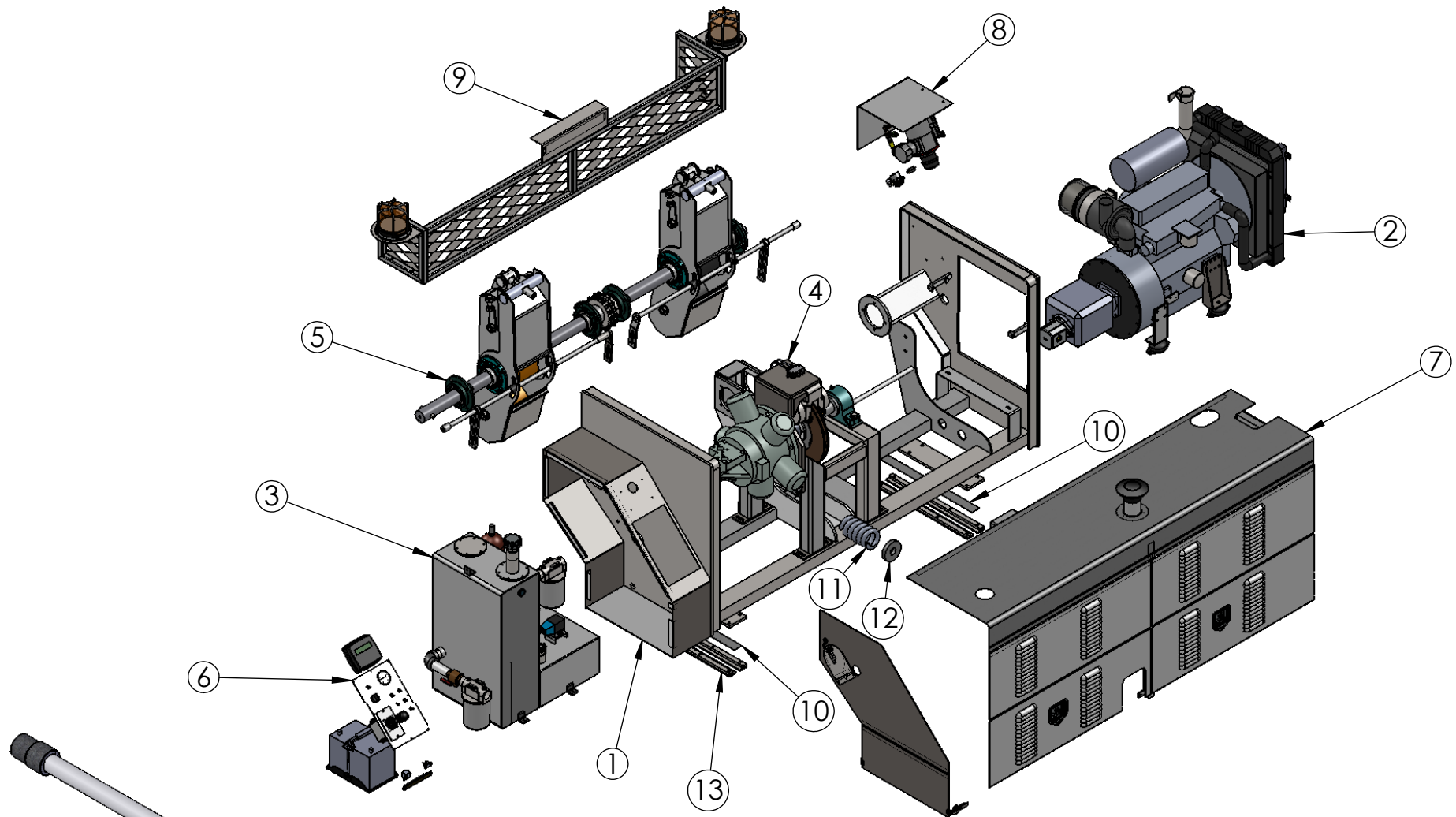


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Rear controls	See Rear Controls Sheet	1
2	D05150	Toolbox Door	2
3	Power Unit	See Power Unit Sheet	1
4	Valve Bank	See Prince Valve Bank Sheet	1
5	HPPS2	See Steer-Go Controls Sheet	1
6	HPPS1	See Steer-Go Assembly Sheet	1
7	HPEC7	See Electrical Hood Sheet	1
8	E04017	Eye, Pintle	1
9	HPBA	See Air Brake Assembly Sheet	1



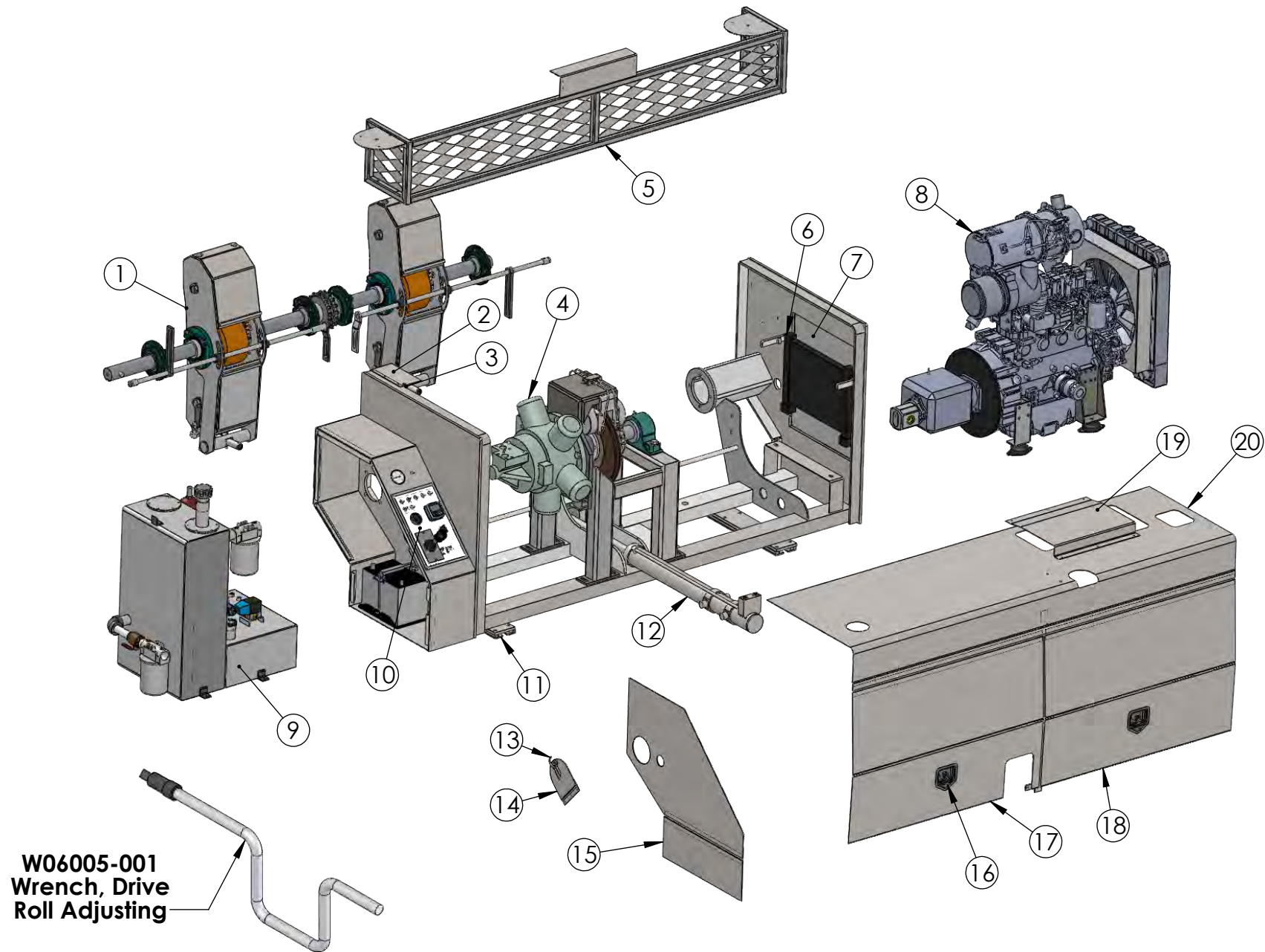


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Mandrel Racks	See Mandrel Rack Sheet	1
2	Trailer Lighting	See Lighting Sheets	1
3	Quick connectors	See Quick Connector Sheet	1
4	Manual jackstands	See Jackstand Sheet	1
5	f10010	Mud Flap	2



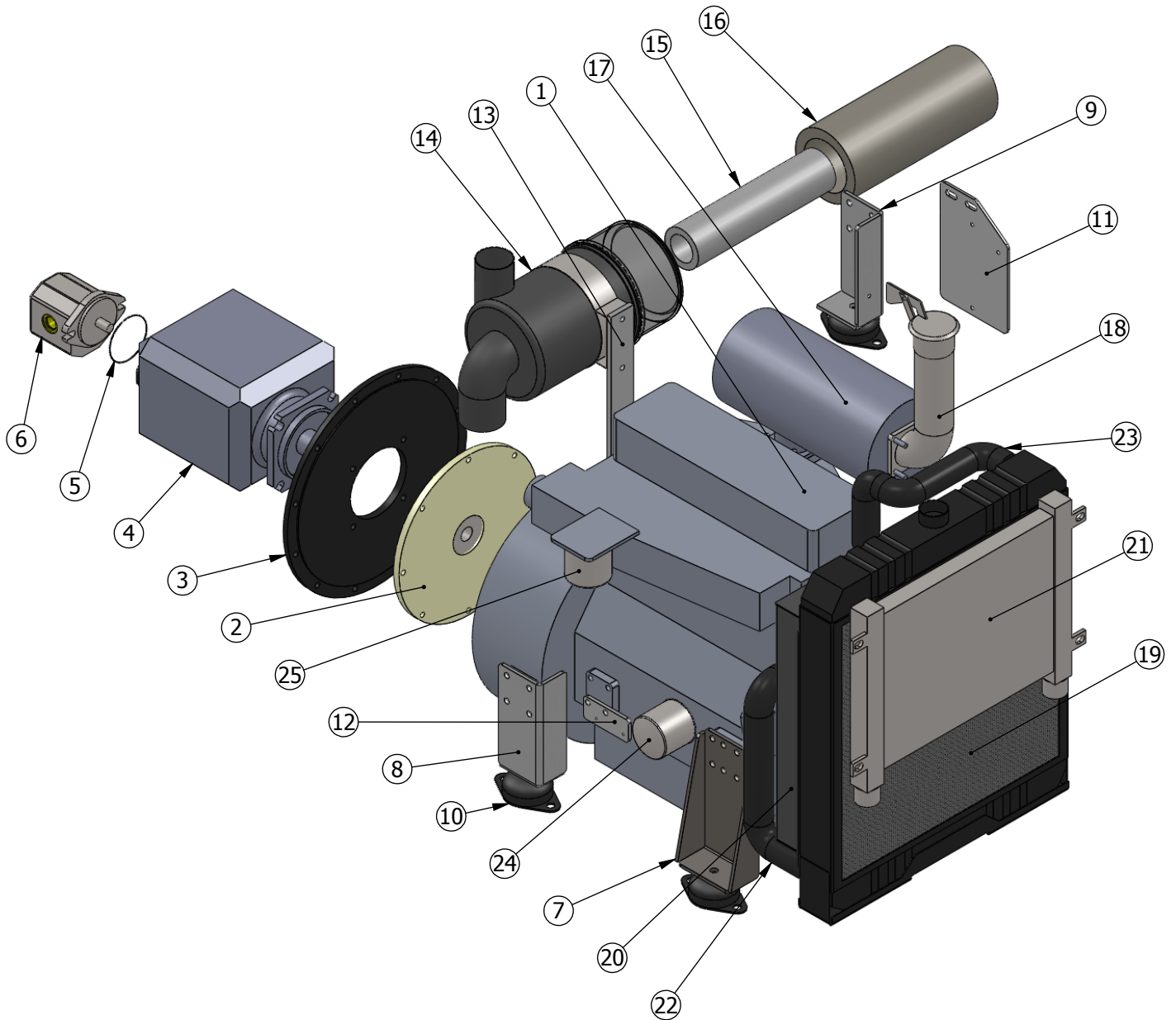
W06005
Wrench, Drive Roll Adjust

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	C41039	HP 6500 PU CHASSIS	1
2	Engine	see Engine Page	1
3	Tanks	see Tank Page	1
4	Staffa	see Staffa Page	1
5	Drive Assembly	see Drive Page	1
6	Front controls E	see Controls page	1
7	Hood and doors	see Sheetmetal page	1
8	HPBAC	see HPBAC page	1
9	HPHVG	see HPHVG page	1
10	T19020-6500	6500 UHMW	2
11	S28048	Spring, Power Unit	1
12	F06005	Flange, PowerUnit Spring	1
13	Slide Assembly	see Slide Page	1

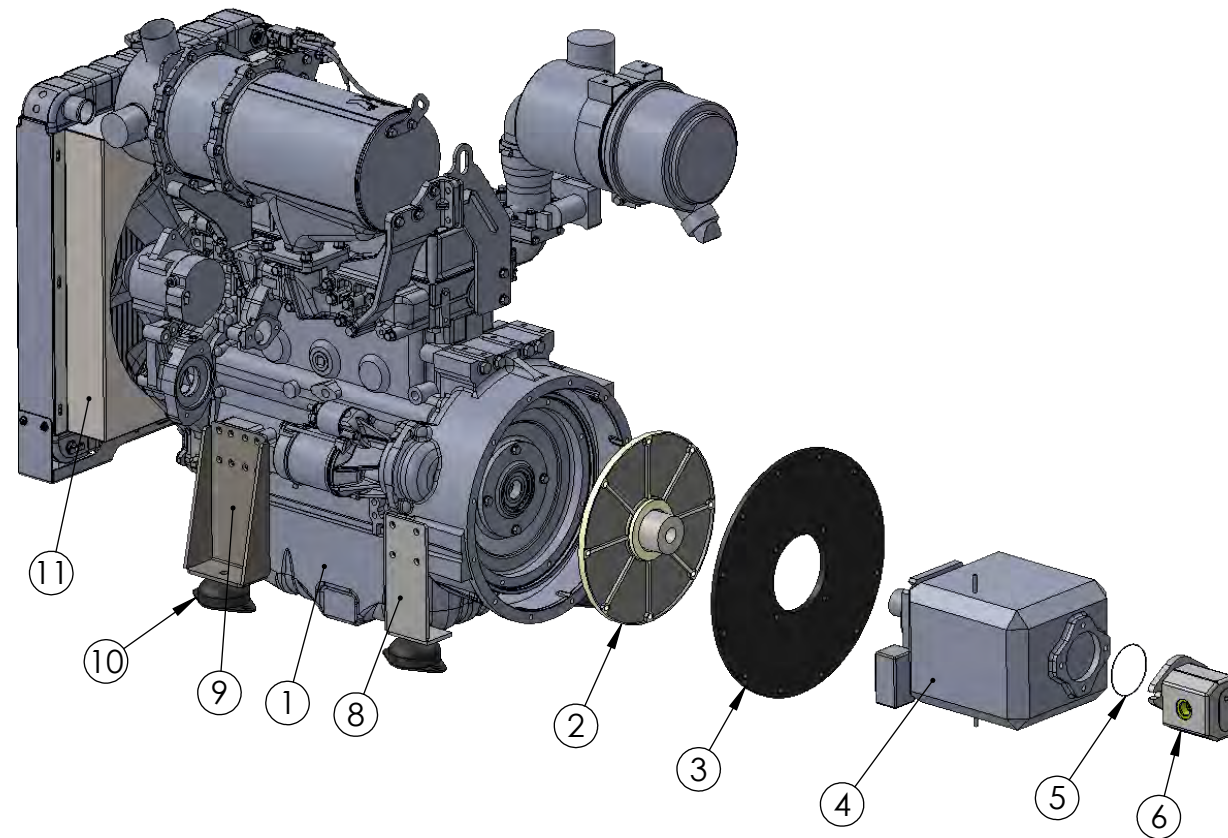


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Drive Assembly T4f	See Drive Sheet	1
2	C29301	Cover, Air Compressor 6500T4f	1
3	HPBAC T4f	Extreme Air Compressor	1
4	Staffa	See Staffa Sheet	1
5	S08001	Screen, HP6500 Power Unit	1
6	C35010	Cooler, Oil	1
7	C29201	Cover, Radiator	1
8	Engine T4f	See Engine Sheet	1
9	Tanks	See Tank Sheet	1
10	Front Controls T4	See Controls Sheet	1
11	Slide Assembly	See Slide Sheet	1
12	C32050	Cylinder, PowerUnit	1
13	L01020	Latch, Over center	1
14	C29083	Cover, Driveshaft Capstan	1
15	C29053	Cover, Control Panel Side	1
16	L08025	Lock, T-Handle	2
17	D05170	Door, Engine Cover Curbside	1
18	D05171	Door, Engine Cover Streetside	1
19	C29170	Cover, Exhaust	1
20	H05008	Hood, Power Unit	1

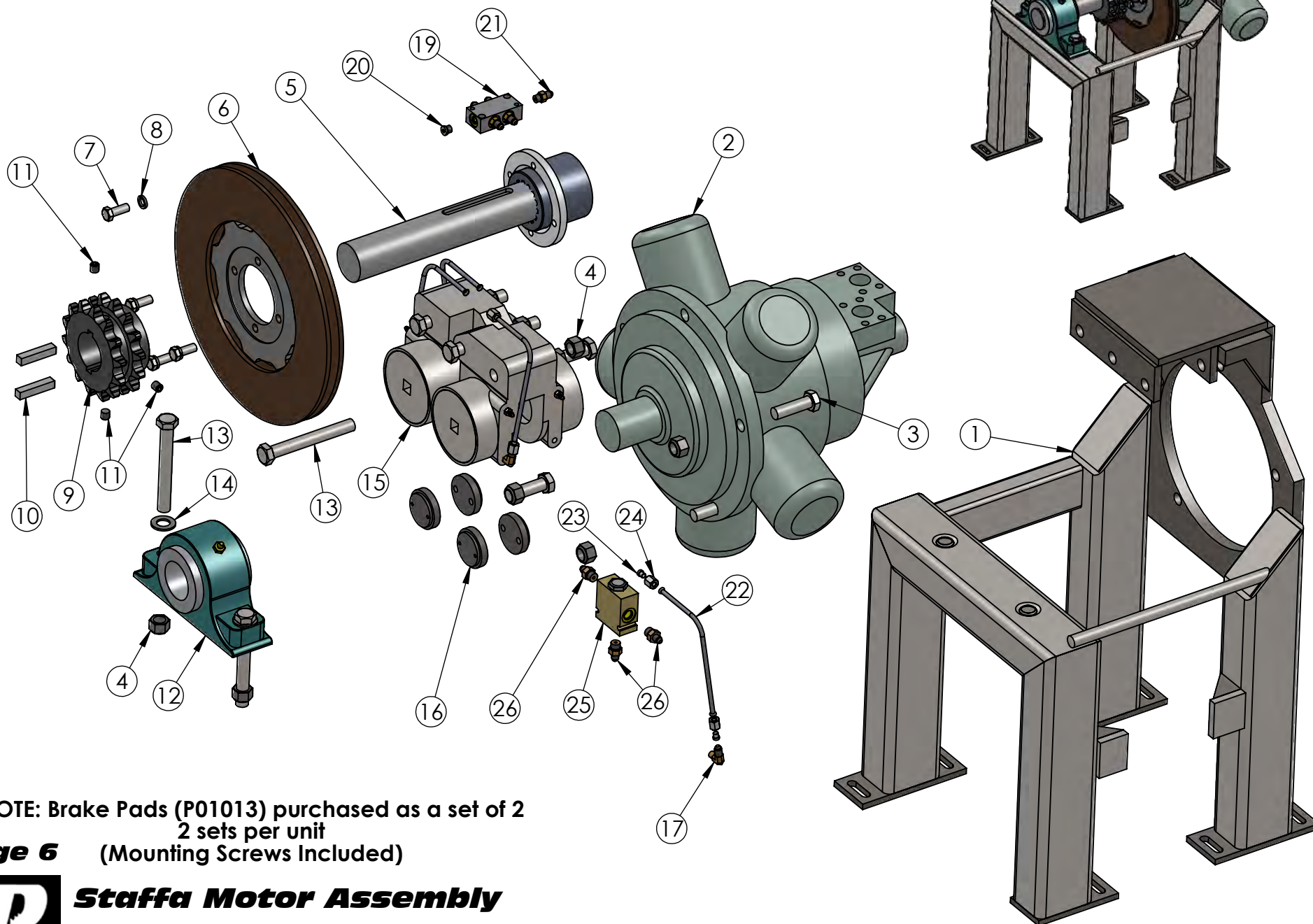




ITEM	PART NUMBER	DESCRIPTION	QTY.
1	E02021	4TNV98-ZDSNA	1
2	C28002	Coupler, Pump Adaptor	1
3	P09001	Pump mount plate	1
4	P20005	75cc Series 90 Pump	1
5	O01111	O-ring Small Gear Pump	1
6	P20103	Pump, 10gpm	1
7	M09005	Mount, Engine Front	2
8	M09004	Mount, Engine Right Rear	1
9	M09006	Mount, Engine Left Rear	1
10	I04000	Isolator, Engine	4
11	M09035	Mount, ECU	1
12	M09018	Mount, Fuel Pump	1
13	B15115	Bracket, Air Cleaner	1
14	E02021-2	Air Cleaner Assembly	1
15	E02021-4	Inner Air Filter	1
16	E02021-5	Outer Air Filter	1
17	E02021-1	Exhaust	1
18	P07402	6500 4TNV Exhaust	1
19	E02021-3	Radiator	1
20	R16020	Radiator Shroud	1
21	C35010	Cooler, Oil	1
22	E02021-8	Lower Radiator Hose	1
23	E02021-9	Upper Radiator Hose	1
24	E02021-6	Oil Filter	1
25	E02021-7	Fuel Filter	1



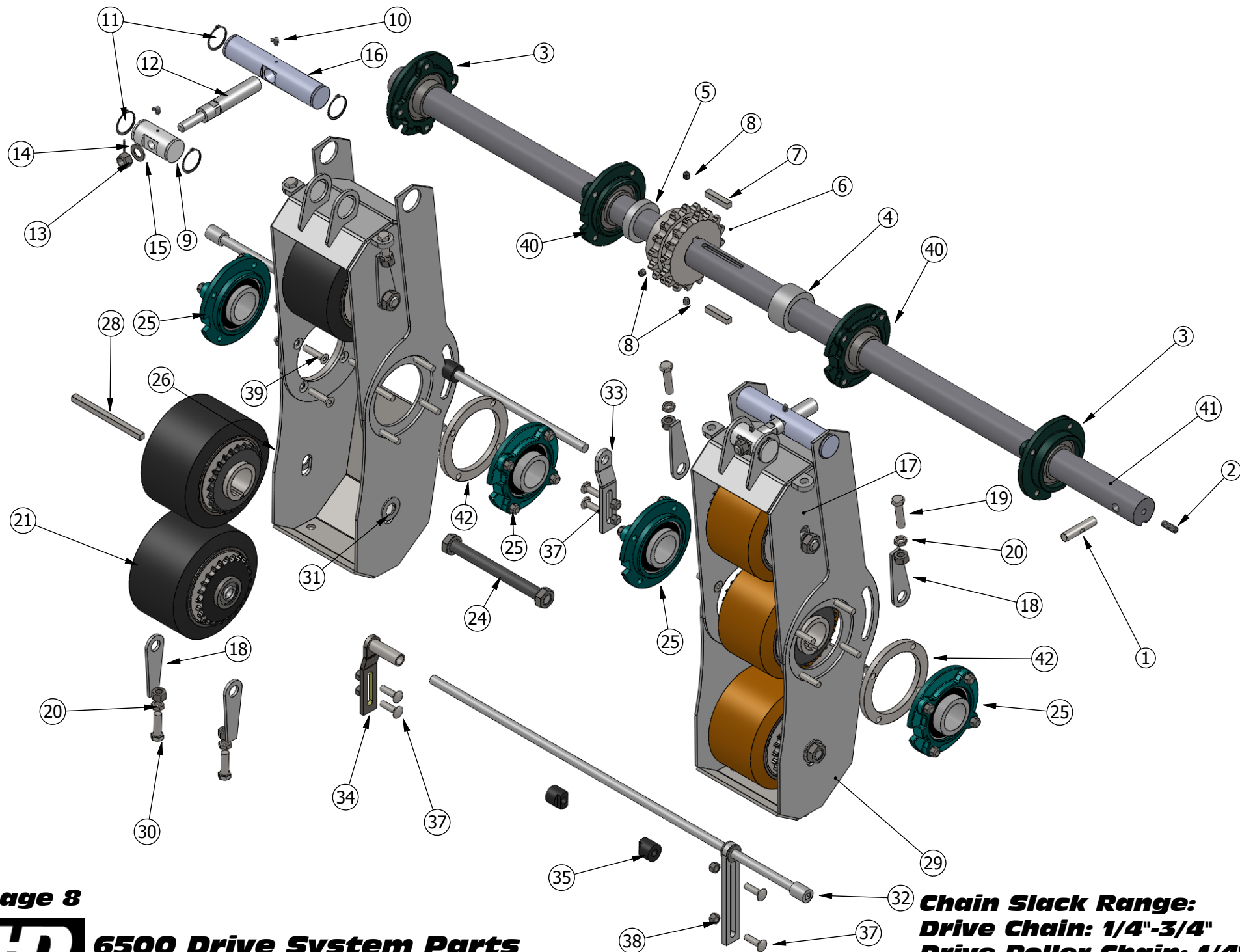
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	E02037	Yanmar 4TNV98C-NYEM	1
2	C28002	Coupler, Pump Adaptor	1
3	P09001	Pump mount plate	1
4	P20005	75cc Series 90 Pump	1
5	O01111	O-ring Small Gear Pump	1
6	P20103	Pump, 10gpm	1
7	M09004	Mount, Engine Right Rear	1
8	M09006	Mount, Engine Left Rear	1
9	M09005	Mount, Engine Front	2
10	I04000	Isolator, Engine	4
11	S16021	Shroud, Fan	1



NOTE: Brake Pads (P01013) purchased as a set of 2
2 sets per unit
(Mounting Screws Included)

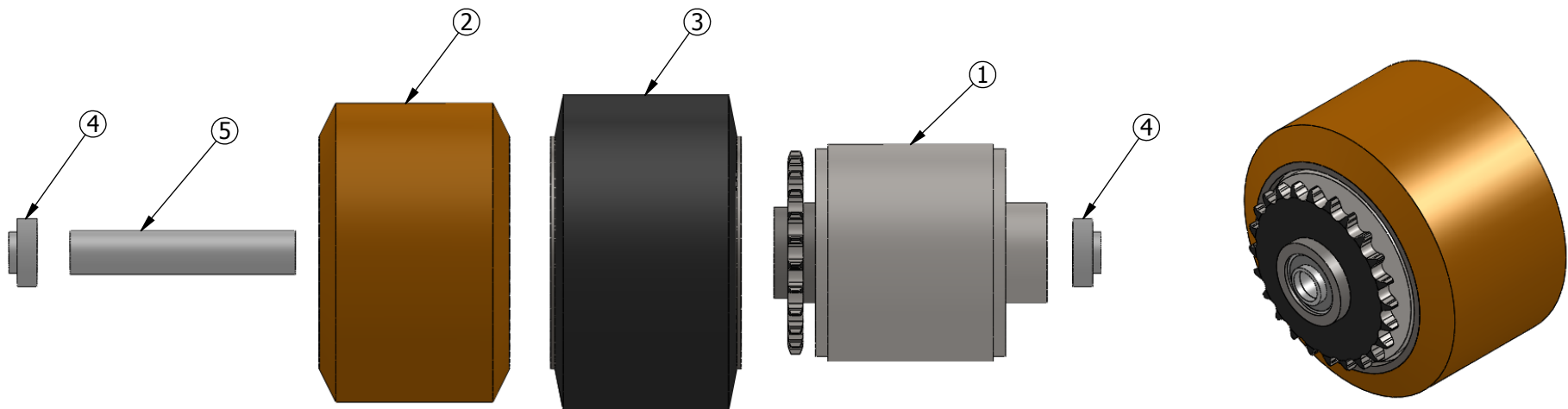
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	F09001	Frame, Staffa mount	1
2	M08001	Motor, Drive Staffa	1
3	B11490	Bolt, Hx Head 3/4"-16 x 3" Z8	5
4	N04586	Nut, Hx Nylock® 3/4"-16	10
5	S43003	Shaft, Drive 6500	1
6	D02020	Disc, Vented Brake	1
7	B11363	Bolt, Hx Head 1/2"-13 x 1-1/4"	4
8	W01565	Washer, Split Lock 1/2"zinc	4
9	S29006	Sprocket Dbl 14 Tooth	1
10	K01010	Key, 1/2 x 1/2 x 2-1/2	2
11	S04261	Screw, Set 1/2"-13 x 1/2" Cone Pt	3
12	B07275	Bearing, 2-7/16 Pillow Block	1
13	B11007	Bolt, Hx Head 3/4"-16 x 6" Z8	5
14	W01285	Washer, Flat SAE 3/4"zinc	2
15	C04024	Caliper, Fail Safe	2
16	P01013	Pad, Brake	4
17	F05183	Fitting, -4 JIC to 1/8 NPT	4
18	B18000	Bleeder, 1/8 NPT	4
19	M04050	Manifold, Distribution	1
20	F05377	Fitting, Plug -4 SAE	1
21	F05042	Fitting, 4-4 Str SAE	5
22	T14090-6500	Tube, Brake 6500 Fail-Safe	4
23	F05113	Fitting, Sleeve -4	8
24	F05300	Fitting, Tube Nut -4	8
25	S45005	Valve, Shuttle	1
26	F05754	Fitting, 4-6 Str SAE	3





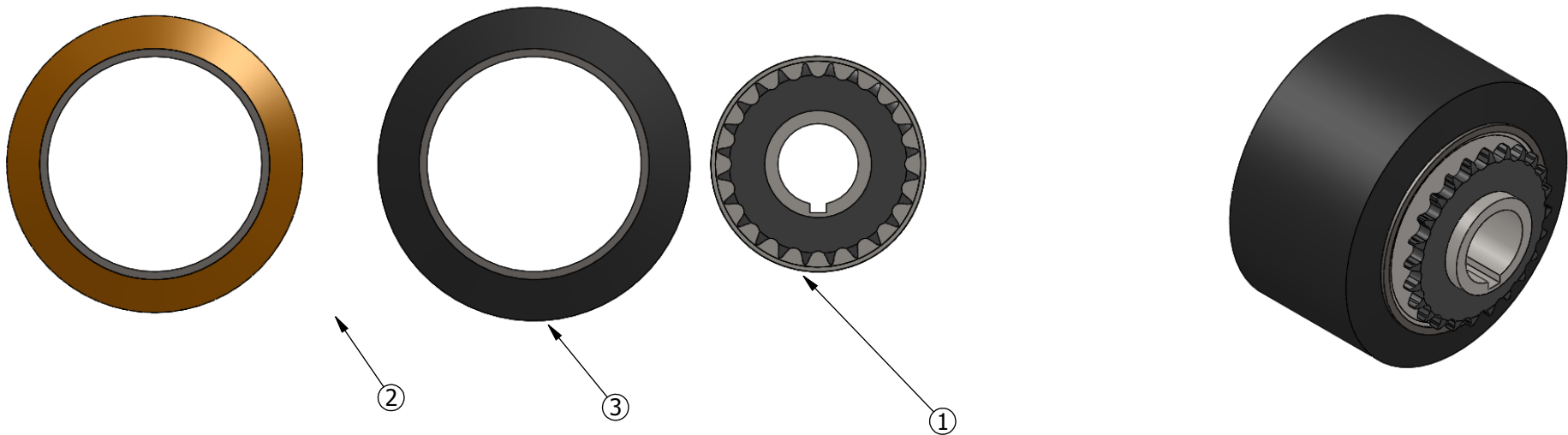
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	P06103	Pin, Capstan drive HYDRA	1
2	S04476	Screw, Set 1/2"-13 x 1-1/2"	1
3	B07198	Bearing, SC Pilot Flange 2-7/16"	2
4	S24106	Spacer, 1-3/4"	1
5	S24105	Spacer, 3/4"	1
6	S29004	Sprocket D100B16	1
7	K01010	Key, 1/2 x 1/2 x 2-1/2	2
8	S04032	Screw, Set 1/2"-13 x 1/2"	3
9	B03063	Bar, Short Drive Roller Adjusting	2
10	F05785	Fitting, Zerk 1/4-28 90°	4
11	R18133	Ring, Snap	8
12	R19010	Rod, Adjusting Drive Rollers	2
13	N04586	Nut, Hx Nylock® 3/4"-16	2
14	P06187	Pin, Roll 1/8" x 1-1/4"	2
15	W01285	Washer, Flat SAE 3/4"zinc	2
16	B06045	Bar, Long Drive Roller Adjusting	2
17	H08038	Housing, Drive Roller Upper	2
18	B15968	Bracket, Drive Roller Adjusting	8
19	B11381	Bolt, Hx Head 5/8"-11 x 2-1/2"	4
20	N04474	Nut, Hx Jam 5/8"-11	8
21	Drive roller	Drive Roller Assembly	2
22	Drive roller	Drive Roller Assembly	2
23	A07055	Axle, Drive Roller Assembly	2
24	A07055	Axle, Drive Roller Assembly	2
25	B07030	Bearing, SCM Pilot Flange 2-7/16	4
26	Center drive roller	Center Drive Roller Assembly	1
27	Center drive roller	Center Drive Roller Assembly	1
28	K01020	Key, 1/2 x 1/2 x 7-3/4	2
29	H08048	Housing, Drive Roller Lower	2
30	B11376	Bolt, Hx Head 5/8"-11 x 2"	4
31	W01294	Washer, Flat SAE 1"zinc	4
32	S04153	Screw, Acme Long	2
33	B15980	Bracket, Acme Screw Adjust	1
34	B15043	Bracket, Acme Screw Adjust Long	1
35	N04098	Nut, Acme Screw	4
36	B11150	Bolt, Carriage 1/2"-13 x 1-1/2"	2
37	B11153	Bolt, Carriage 1/2"-13 x 1-3/4"	6
38	N04555	Nut, Hx Nylock® 1/2"-13	24
39	B11120	Bolt, FSHCS 1/2"-13 x 2-1/4"	16
40	B07198	Bearing, SC Pilot Flange 2-7/16"	2
41	S43128	Shaft, 2-7/16 Keyed Chrome	1
42	R18034	Plate 1/2 A36	4





ITEM	PART NUMBER	DESCRIPTION	QTY.
1	C27005	Core, Drive Roller Standard	1
2	R18024	Roller, Drive Urethane	1
3	R18025	Roller, Drive Rubber	1
4	B07135	Bearing, 1" I.D.	2
5	S24010	Spacer, Drive Roller	1

Drive Rollers



Page 10

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	R20050	Roller, Center Drive	1
2	R18024	Roller, Drive Urethane	1
3	R18025	Roller, Drive Rubber	1

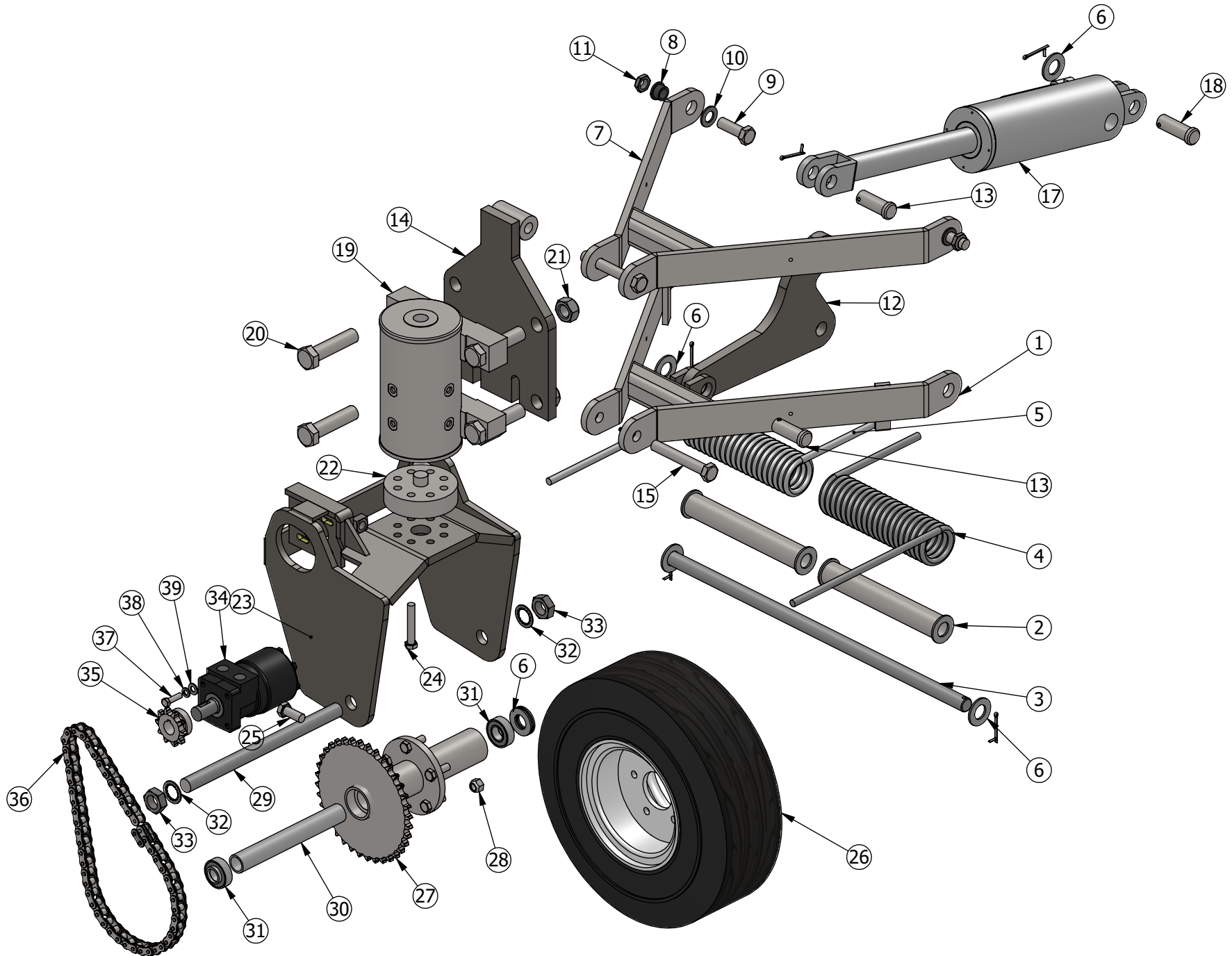


Center Drive Rollers

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HD

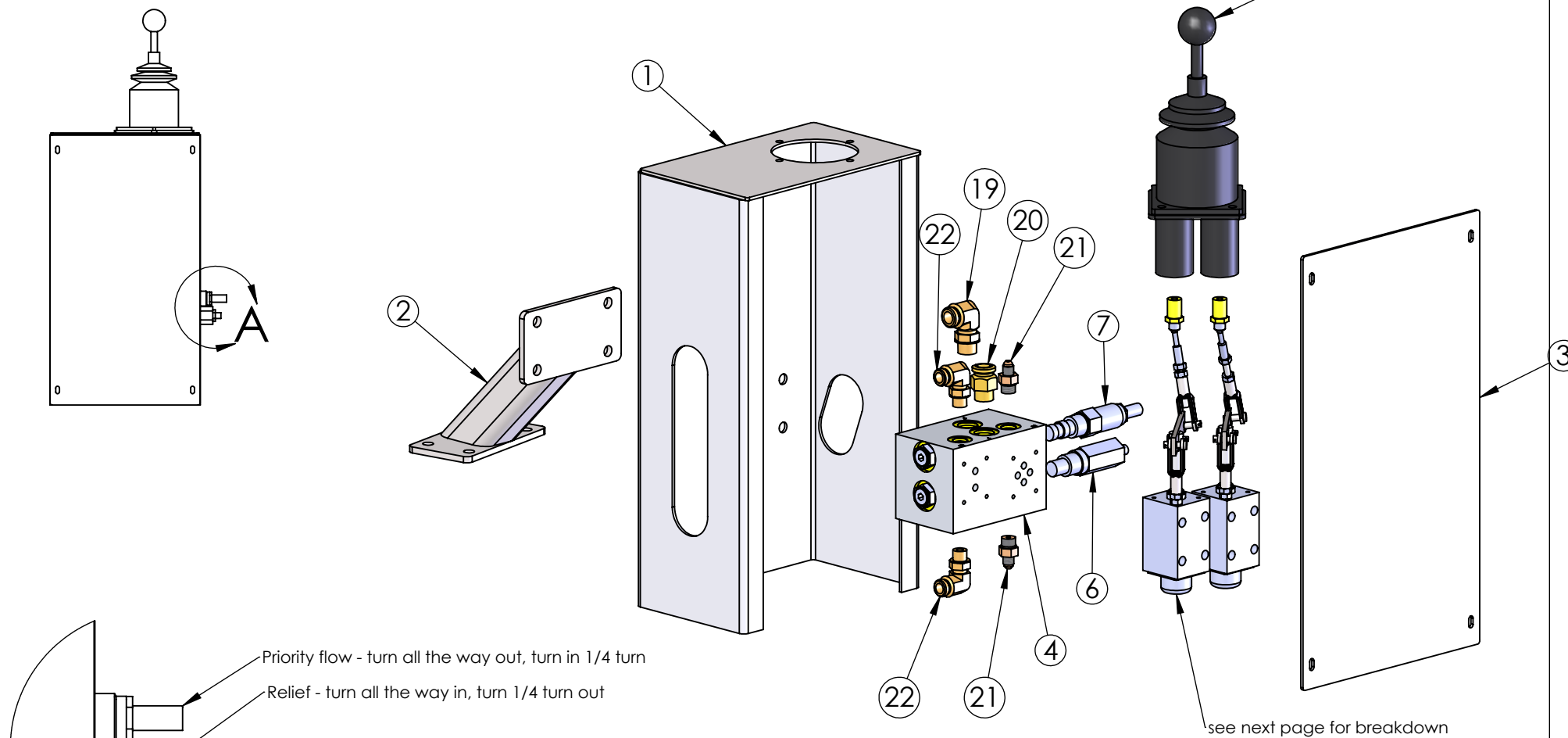
system operates at 2,000 psi
pressure drop to drive motor is up to 200 psi



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	F09020	Frame, Lower A-arm	1
2	S24070	Spacer, Torsion Spring	2
3	S43099	Shaft, Lower A-arm Pivot	1
4	S28101	Spring, 985 torsion, LH	1
5	S28102	Spring, 985 Torsion, RH	1
6	W01294	Washer, Flat SAE 1"zinc	7
7	F09005	Frame, Upper A-arm	1
8	B07365	Bearing, I-Glide 3/4x1x5/8	2
9	B11460	Bolt, Hx Head 3/4"-16 x 2-1/4" Z8	2
10	W01285	Washer, Flat SAE 3/4"zinc	2
11	N04587	Nut, Hx Jam Nylock® 3/4"-16	4
12	A08015	Plate 3/4" A36	1
13	P06070	Pin, 1x2-1/2	2
14	M09010	Mount, Actuator plate	1
15	B11449	Bolt, Hx Head 3/4"-16 x 5" Z8	2
16	F05630	Zerk, Grease 1/4"-28	2
17	C32030	Cylinder, Drawbar	1
18	P06073	Pin, 1x2-3/4	1
19	A01050	Actuator, Rotary	1
20	B11482	Bolt, Hx Head 1"-8 x 4" Z8	4
21	N11482	Nut, Hx Toplock 1"-8 Z8	4
22	S24009	Spacer, Actuator	1
23	F08912A	Fork, Hydra Idler Wheel	1
24	B11605-S	Bolt, Hx Head 1/2"-13 x 3" special	1
25	B11370	Bolt, Hx Head 5/8"-11 x 1-1/2"	1
26	W03907A	Wheel and Tire assy 18x7	1
27	S29905	Sprocket and Hub	1
28	N04040	Nut, Lug 1/2"-20 Z	1
29	A07015	Axle, Drive Wheel	1
30	S24053	Spacer, Hub and Sprocket	1
31	B07135	Bearing, 1" I.D.	2
32	W01090	Washer, Internal Lock 1"	2
33	N04095	Nut, Hx Jam 1"-14	2
34	M08050	Motor, Hydraulic Drive	1
35	S29005	Sprocket, Drive	1
36	C10060-26	Chain, #60 39"L	1
37	B11343	Bolt, Hx Head 3/8"-16 x 1-1/4"	1
38	W01545	Washer, Split Lock 3/8"zinc	1
39	W01002	Washer, Flat SAE 3/8"zinc	1



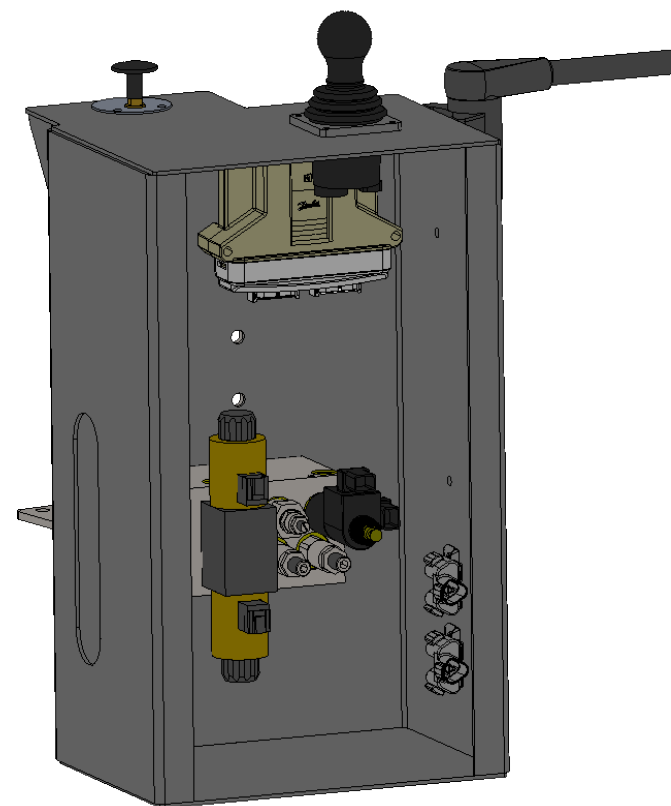
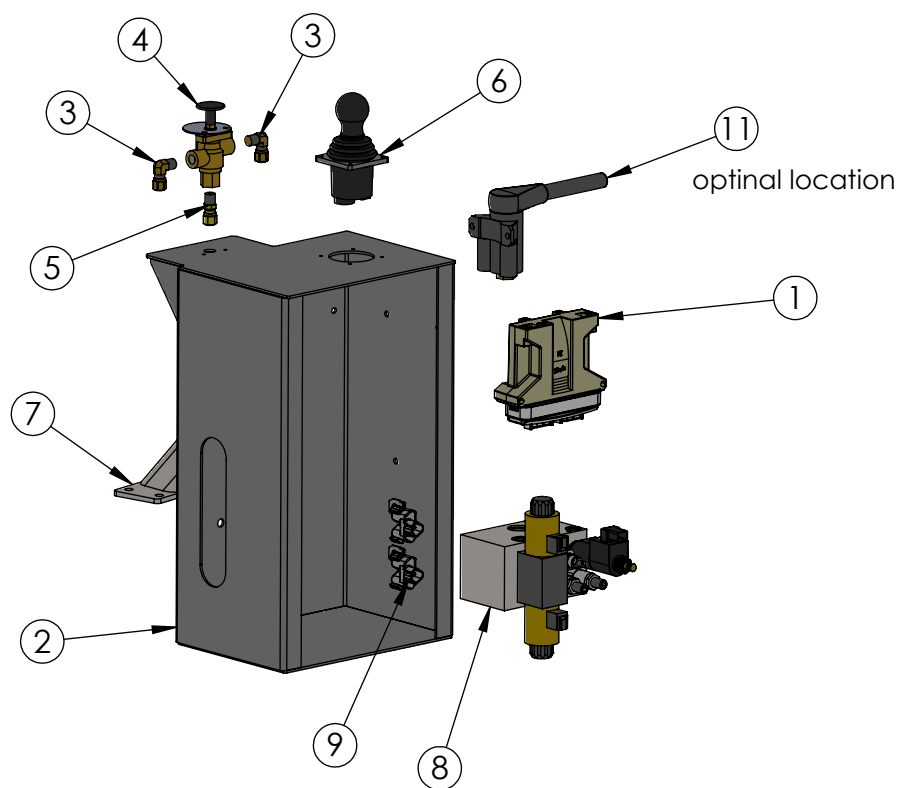
If items look different than the parts breakdown please call for assistance. (541)354-1001



System operates at 2000 psi.

ITEM	PART NUMBER	DESCRIPTION	QTY.	ITEM	PART NUMBER	DESCRIPTION	QTY.
1	B13930	Box Steer-Go	1	13	R19062	Rod, Long 1/4-28 x 2-1/2	2
2	B15093	Bracket, Steer-Go Box	1	14	N04570	Nut, Hx 1/4"-28	8
3	C29120	Cover, Steer-Go	1	15	Y01055	Yoke, 1/4" clevis	4
4	M04015	Manifold Steer-Go	1	16	L07004	Link, Steer-Go	2
5	V02185	Valve, Check	2	17	R19061	Rod, Short 1/4-28 x 1-1/2	2
6	V02186	Valve, Relief	1	18	Y01002	Yoke, modified	2
7	V02401	Valve, Priority Flow	1	19	F05326	Fitting, 8-8 90° STC	1
8	V02021	Valve, Directional	2	20	F05322	Fitting, 8-8 STR STC	1
9	L03055	Lever, Steer-Go Joystick	1	21	F05754	Fitting, 4-6 Str SAE	2
10	L03055-A	9/16"-18 ADAPTER	2	22	F05324	Fitting, 6-6 90° STC	2
11	J03007	Joint, Ball Straight 1/4-28	1	23	P06947	Pin Clevis 3/16x3/4	2
12	J03007	Joint, Ball Straight 1/4-28	1				

DETAIL A
SCALE 1 : 3

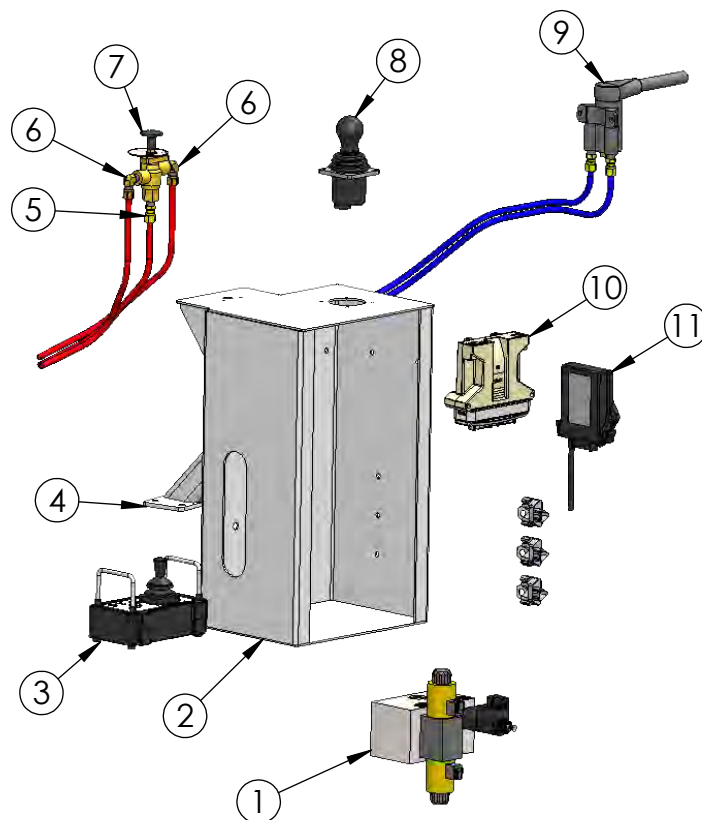
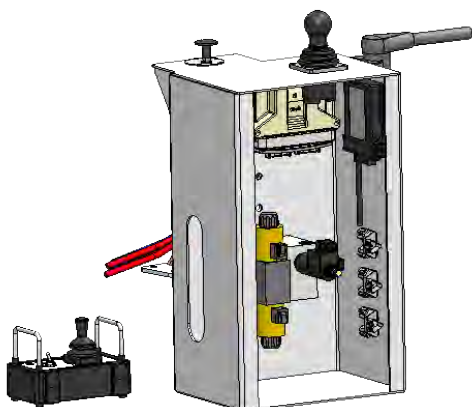
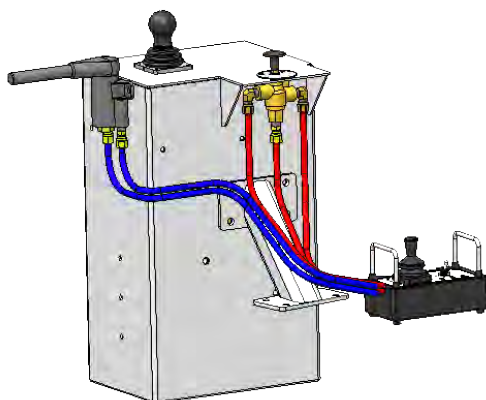


system operates at 2,000 psi
pressure drop through manifold up to 200 psi for drive motor

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	C34101	Controler, HYPS-E HPPS-E	1
2	B13935	Box, Steergo Electric	1
3	F05438	Fitting, Air 90° 6-4	2
4	V02008	Valve, Cab control	1
5	F05413	Fitting Brass Str 68NTA-6-4	1
6	C34037	JS1000 Joystick Steer-Go	1
7	B15093	Bracket, Steer-Go Box	1
8	C34039	Manifold Steer-Go Electronic	1
9	DT04-3p-p007	3 Port CAN Y-Splitter	2
10	1027-003-1200	Bracket, CAN Y-Splitter	2
11	V02018	Valve, Trolley Air	1



HPPS-E Electric Steer-Go

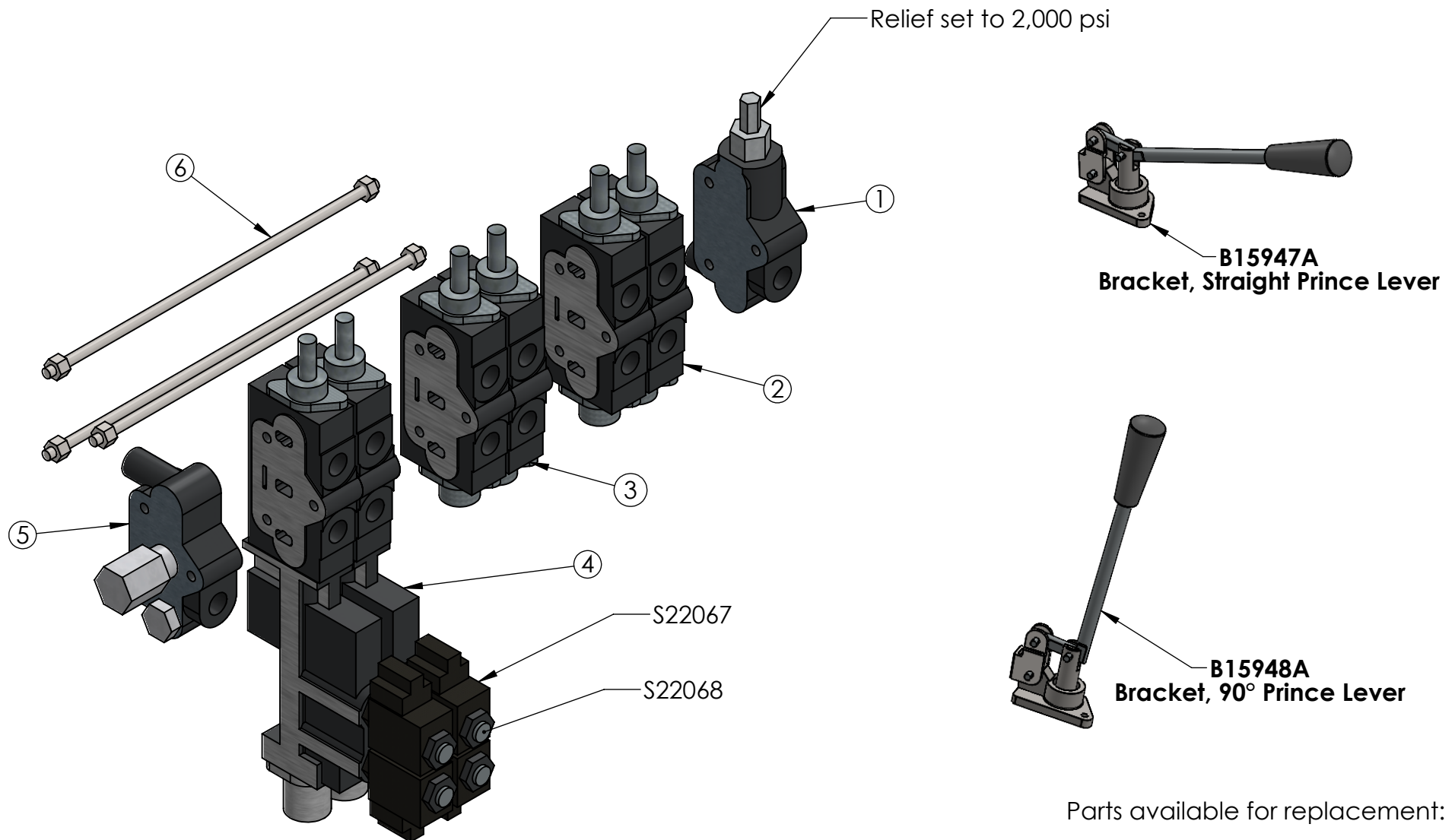


System operates at 2000 psi.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	C34039	Manifold Steer-Go Electronic	1
2	B13935	Box, Steergo Electric	1
3	R13006	Remote, Control Box	1
4	B15093	Bracket, Steer-Go Box	1
5	F05413	Fitting Brass Str 68NTA-6-4	3
6	F05438	Fitting, Air 90° 6-4	2
7	V02008	Valve, Cab control	1
8	C34037	JS1000 Joystick Steer-Go	1
9	V02018	Valve, Trolley Air	1
10	C34101	Controler, 24 Pin	1
11	R13005	Remote, Reciever Kit	1

**HPPS-ER
Electric Steer-Go w/ Remote**

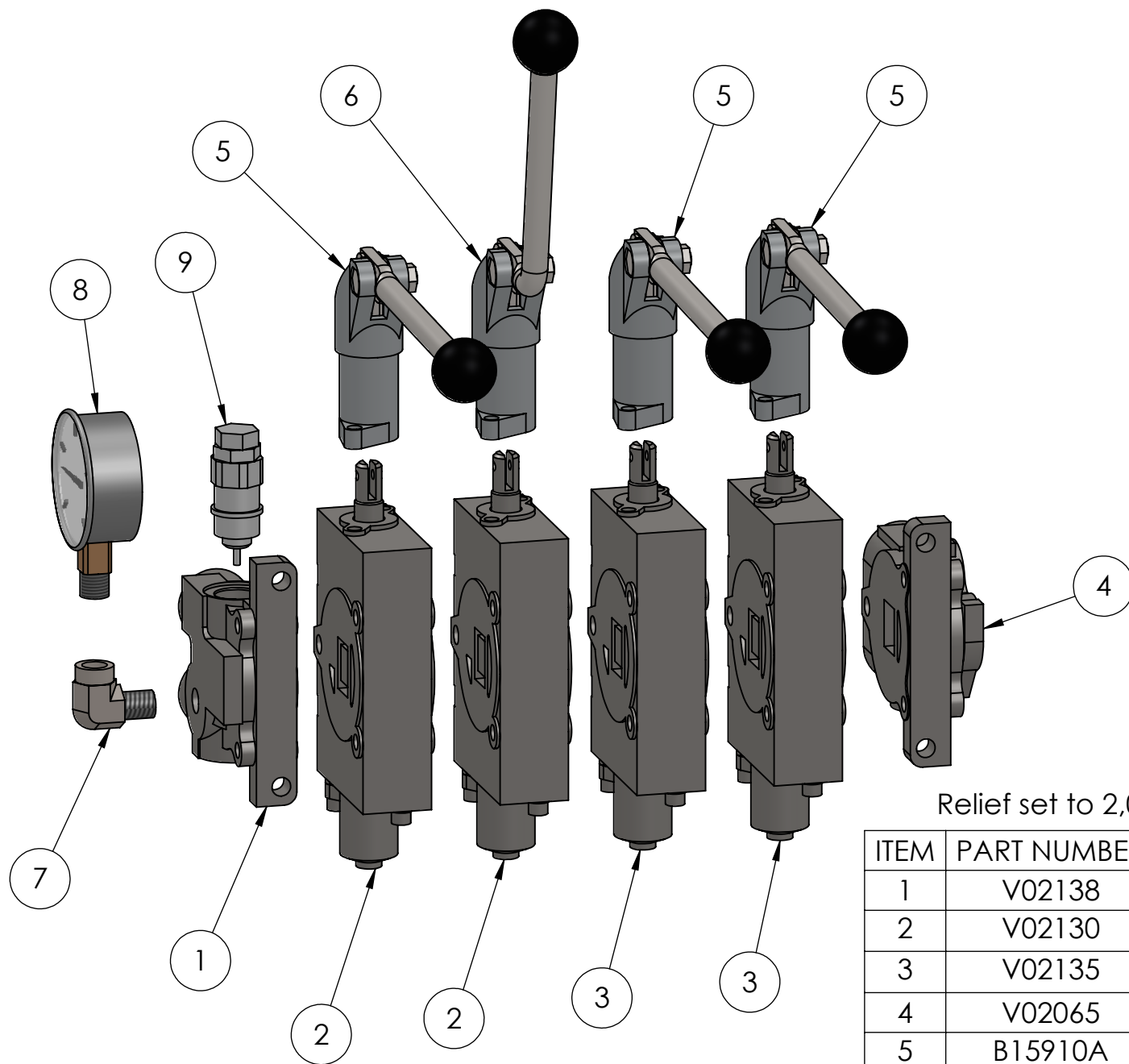




Parts available for replacement:

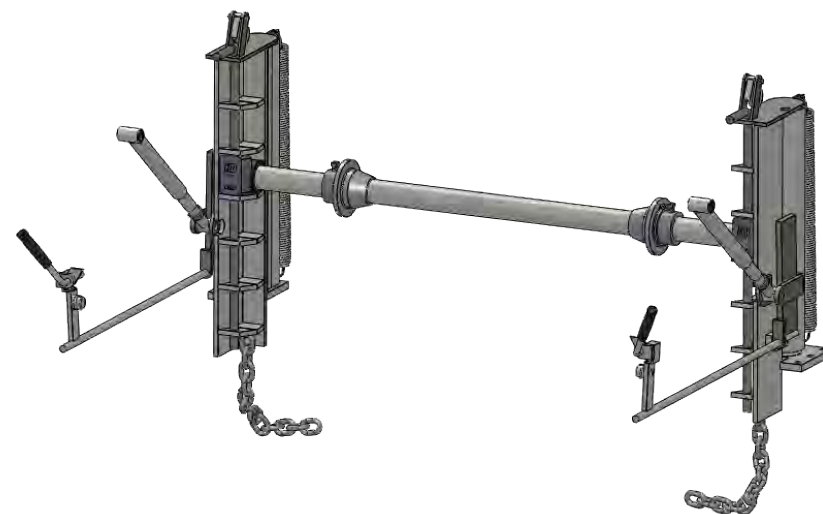
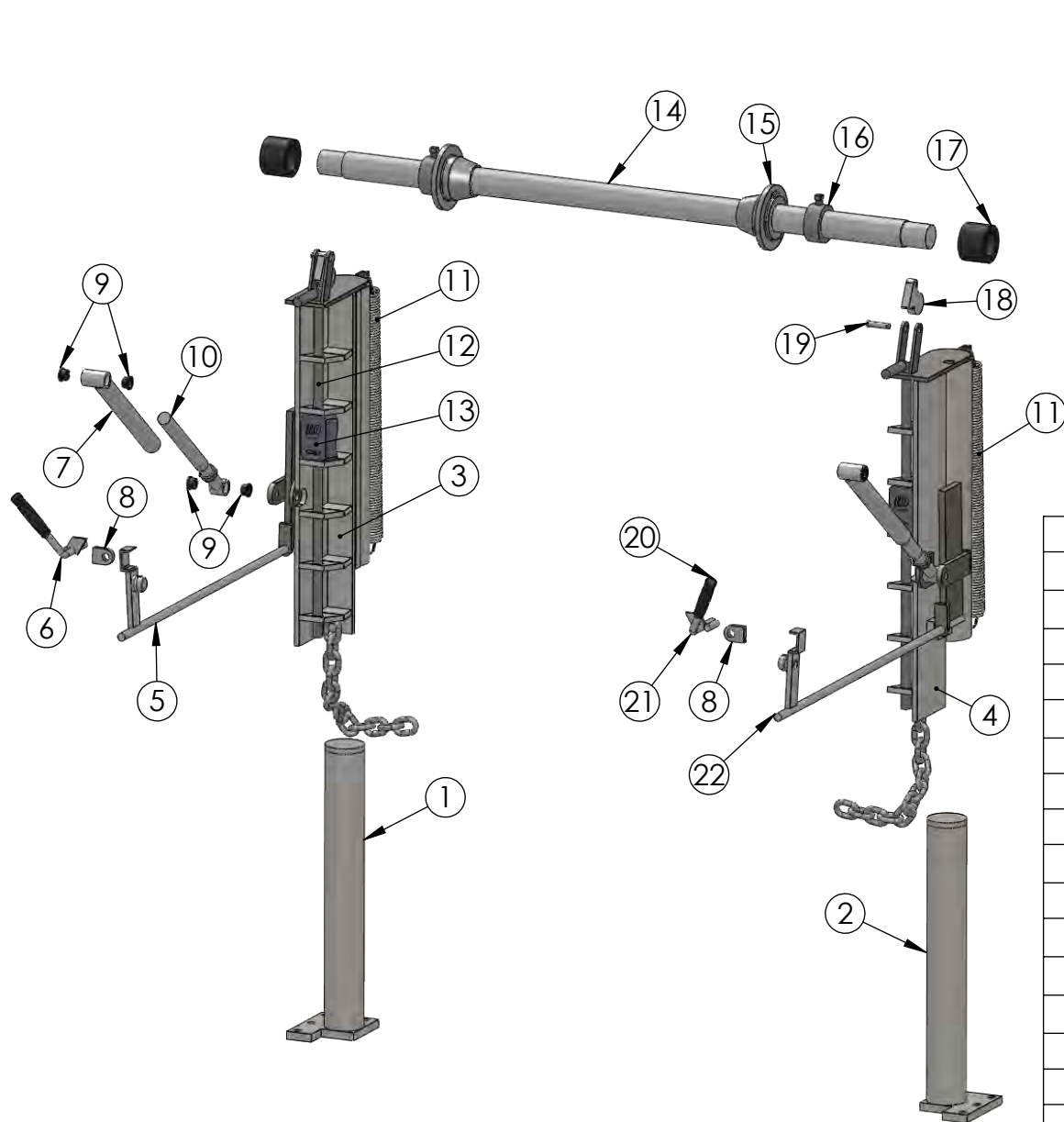
S22067 - Coil only for V02103
 S22068 - Cartridge only for V02103
 K02073 - Seal kit for S22068

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	V02100	Valve Inlet w/relief Prince	1
2	V02101	Valve 4 Way Manual Prince	2
3	V02102	Valve 3 Way Manual Prince	2
4	V02103	Valve 4 Way Solenoid Prince	2
5	V02104	Valve Sec Outlet w/PB Prince	1
6	K02319	Kit, Rod 6-Bank Prince	1

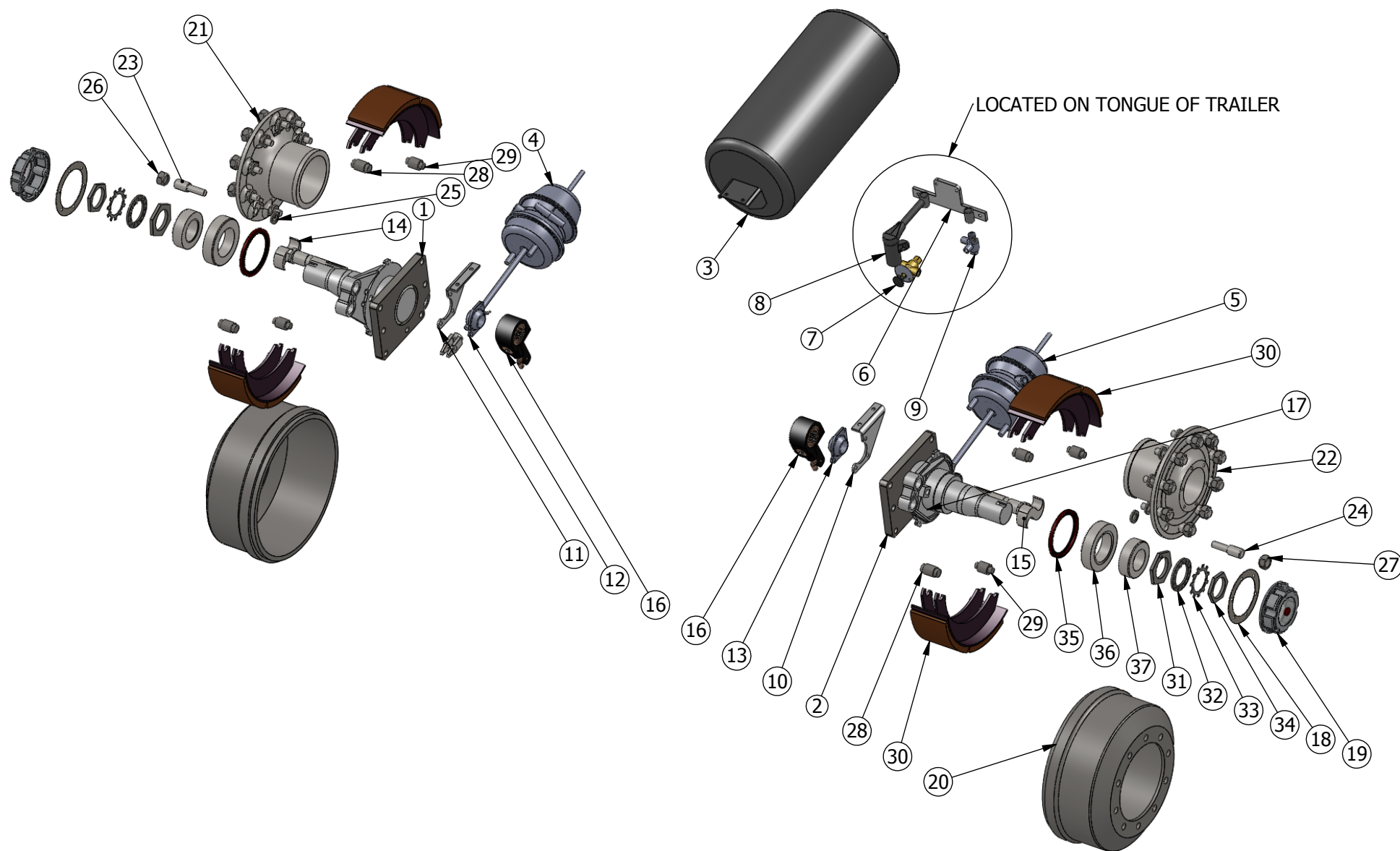


Relief set to 2,000 psi

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	V02138	INLET W/O RELIEF	1
2	V02130	Double Acting	2
3	V02135	Single Acting	2
4	V02065	Outlet w/PB	1
5	B15910A	Handle, Straight	3
6	B15912A	90° lever assembly	1
7	F05150	Fitting, Street Elbow 4-4	1
8	G02055	3K bottom mount	1
9	V02150	relief valve	1

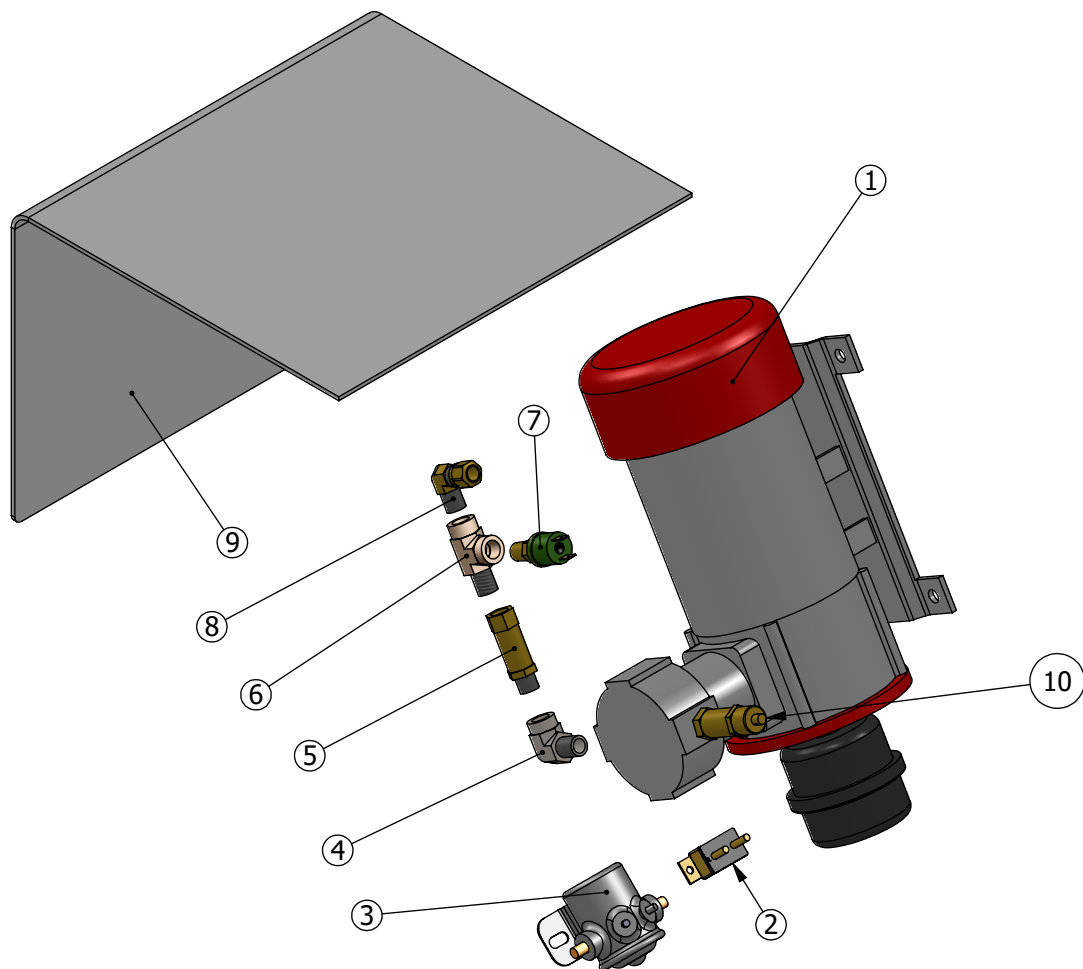


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	C32040	Mandrel Cylinder LH D3188	1
2	C32025	Mandrel Cylinder RH D3189	1
3	R01925	Rack, Mandrel LH	1
4	R01945	Rack, Mandrel RH	1
5	L08015A	Lock Assy, Mandrel Rack LH	1
6	H02045A	Handle, Mandrel Lock LH	1
7	S30021	Stabilizer, Outside	2
8	B15130	Bracket, Mandrel Lock Handle	2
9	B07365	Bearing, I-Glide 3/4x1x5/8	8
10	S30005	Stabilizer, Inner	2
11	S28030	Spring, Mandrel Return	2
12	P06035	Pin, Mandrel Locking	2
13	B22045	Block, Mandrel Bearing	2
14	S43115	Shaft, 2-1/2" Mandrel	1
15	C25020	4" Aluminum Cone	2
16	C20015	Collar, 2-1/2" w/ studs	2
17	B07075	Bearing, Nylatron Mandrel	2
18	P04020	Pawl, Mandrel Locking Pin	2
19	P06095	Pin, 1/2 x 2	2
20	G07010	Handle, Rubber Flapper lock	2
21	H02050A	Handle, Mandrel Lock RH	1
22	L08020A	Lock Assy, Mandrel Rack RH	1



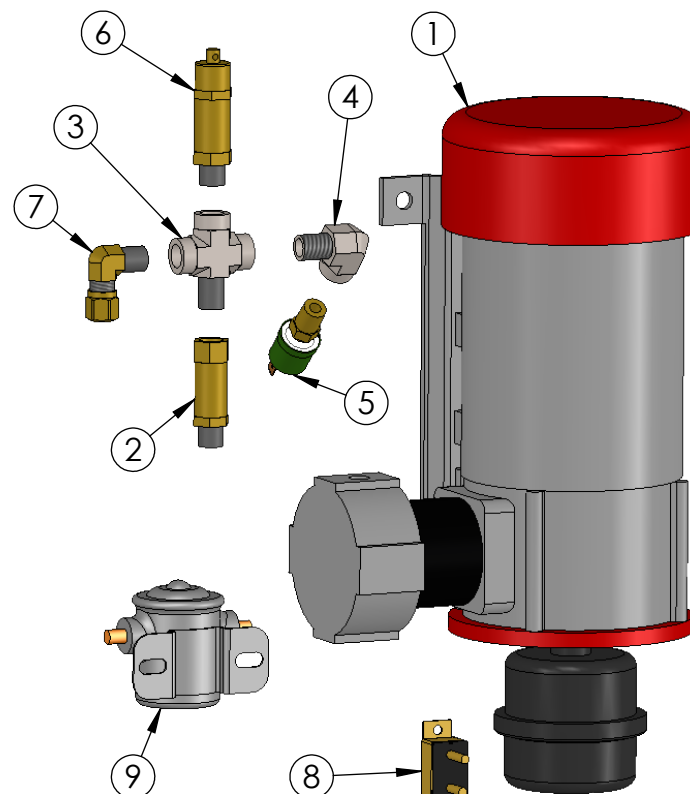
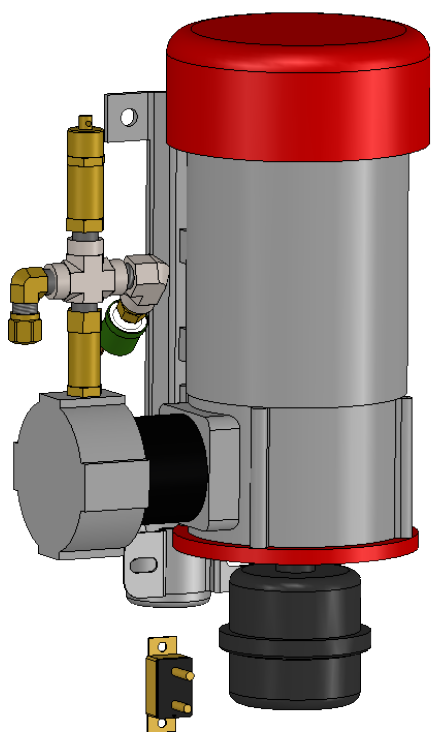
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S26945	Spindle, Air LH	1
2	S26953	Spindle Air RH	1
3	T01041	Tank, Air large	1
4	C32095	Can, Air 30/30 w/Long Rod	1
5	C32095	Can, Air 30/30 w/Long Rod	1
6	B12210	Bracket, Gladhand	1
7	V02008	Valve, Cab control	1
8	V02018	Valve, hand control	1
9	V02038	Valve, check 2-way	1
10	B15096	Bracket, S-Cam Bushing RH	1
11	B15097	Bracket, S-Cam Bushing LH	1
12	B15902	Bushing,S-Cam RH	1
13	B15903	Bushing S-Cam LH	1
14	C44015	Cam, Air brake LH	1
15	C44020	Cam, Air brake RH	1
16	A11030	Adjuster, Auto Slack 10 spline	2
17	Y01043	Yoke Midland Straight	2
18	G01010	Gasket, Hub acp 16-1/2x5	2
19	C06071	Cap, Hub 16-1/2 x 5	2
20	D08000	Drum Only, Air Brake 16-1/2x5	2
21	H09974	Hub Only, Air Brake LH	1
22	H09975	Hub Only, Air Brake RH	1
23	S37083	Stud, Air Brake 1-1/8-16 LH	10
24	S37082	Stud, Air Brake 1-1/8-16 RH	10
25	W01290	Washer, Thick Drum Assembly	20
26	N04058	Nut, Lug 1-1/8-16 LH	10
27	N04059	Nut, Lug 1-1/8-16 RH	10
28	P04002-1	Pin, Air Brake Large	4
29	P04002-2	Pin, Air Brake Small	4
30	S15030	Shoe, Air Brake 16-1/2x5	4
31	N04201	Nut, Hub Inner	2
32	W01202	Washer, Locking Air Brake	2
33	W01201	Washer, Lock Spindle Tab	2
34	N04202	Nut, Hub Outer	2
35	S05130	Seal, Grease Hub	2
36	B07140	Bearing, Inner	2
37	B07085	Bearing, Outter	2





air pressure switch is 105 psi, pop off is 140 psi
this is the air compressor setup before the T4f engines

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	C21020	Compressor, Air	1
2	B36003	50amp Circuit Breaker	1
3	S22050	Cole Hersee HD Solenoid	1
4	F05150	Fitting, Street Elbow 4-4	1
5	V02220	Valve, check one way	1
6	F05728	Fitting, Street Tee 4-4-4	1
7	S40120	Extreme Air pressure switch	1
8	F05438	Fitting, Air 90° 6-4	1
9	C29300	Cover, Air Compressor	1
10	V02012	Valve, pop-off 140psi	1



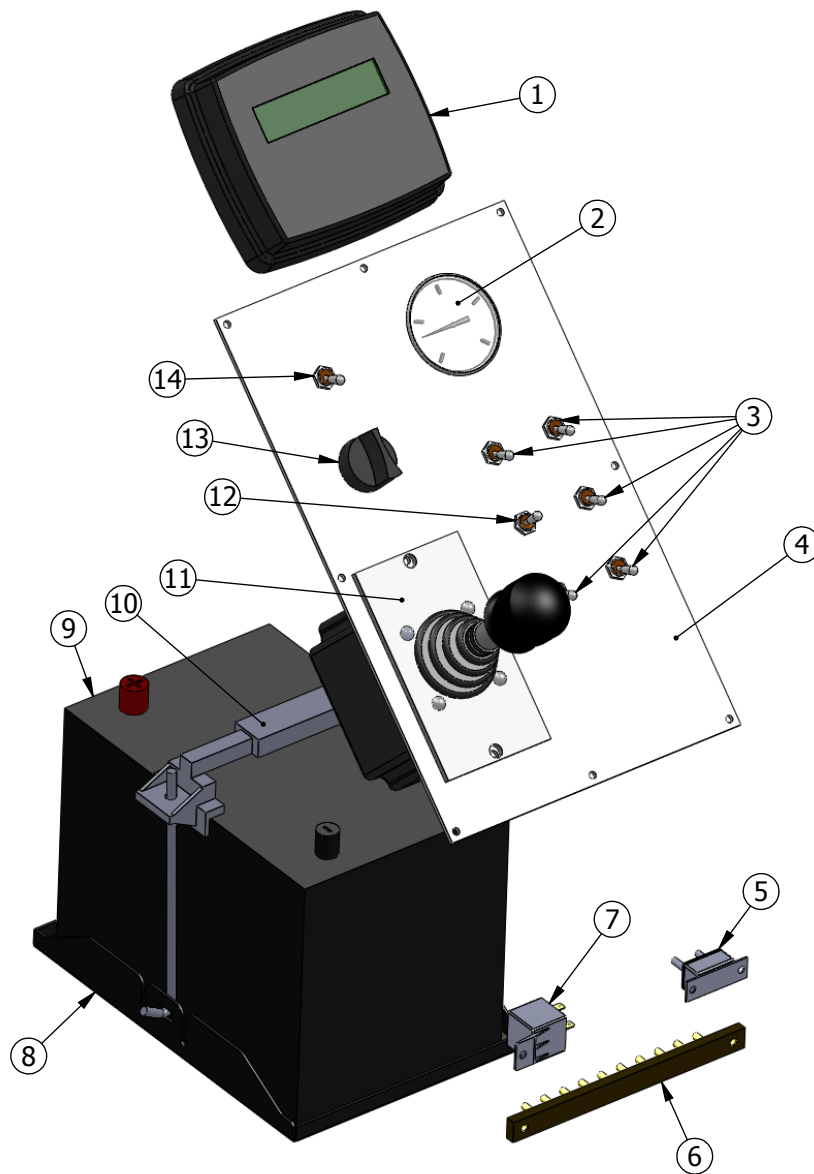
Located Inside
Control Panel

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	C21023	Compressor, Air	1
2	V02220	Valve, check one way	1
3	F05059	Fitting, Pipe Cross 4-4-S	1
4	F05150	Fitting, Street Elbow 4-4	1
5	S40120	Extreme Air pressure switch	1
6	V02012	Valve, pop-off 140psi	1
7	F05438	Fitting, Air 90° 6-4	1
8	B36003	50amp Circuit Breaker	1
9	S22050	Cole Hersee HD Solenoid	1

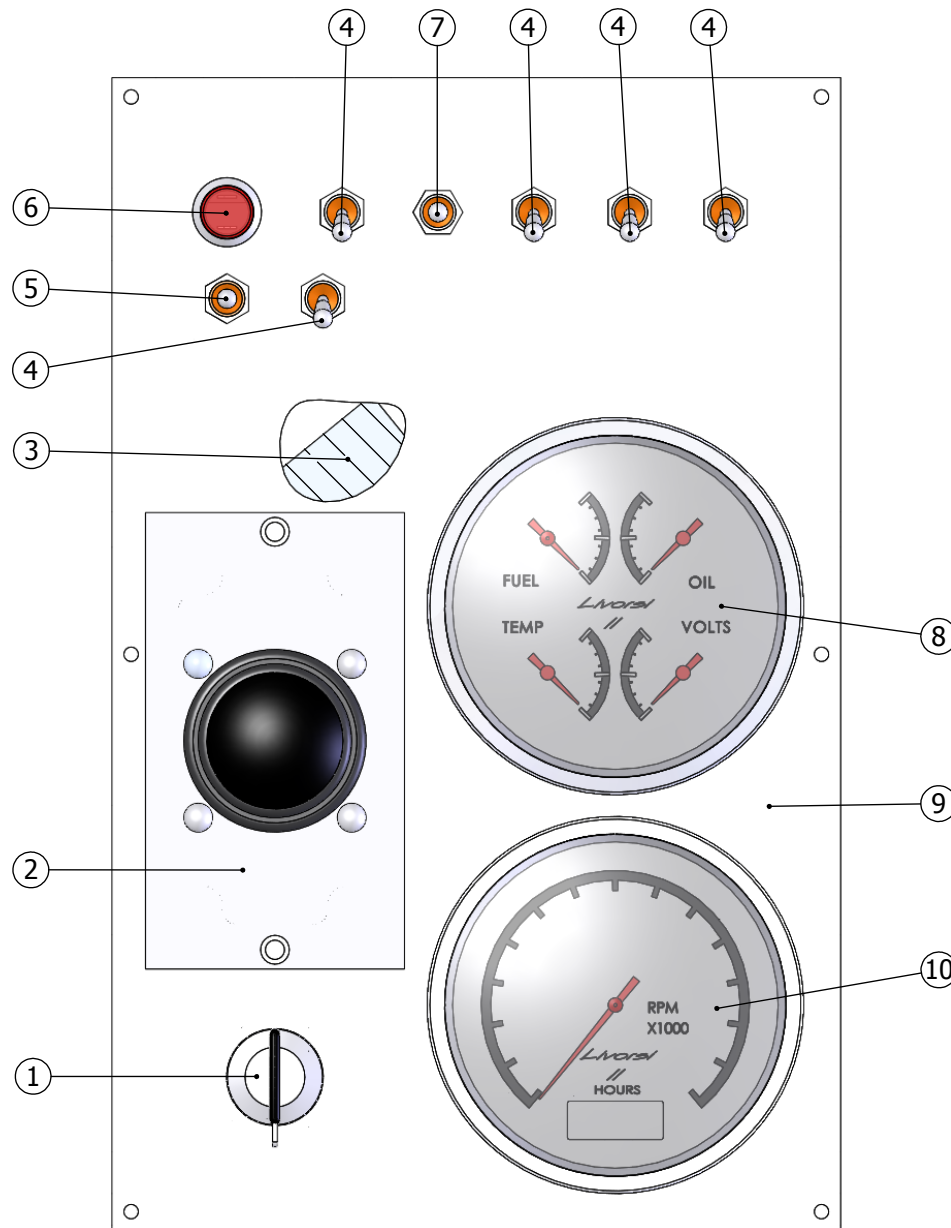


Air Compressor T4f

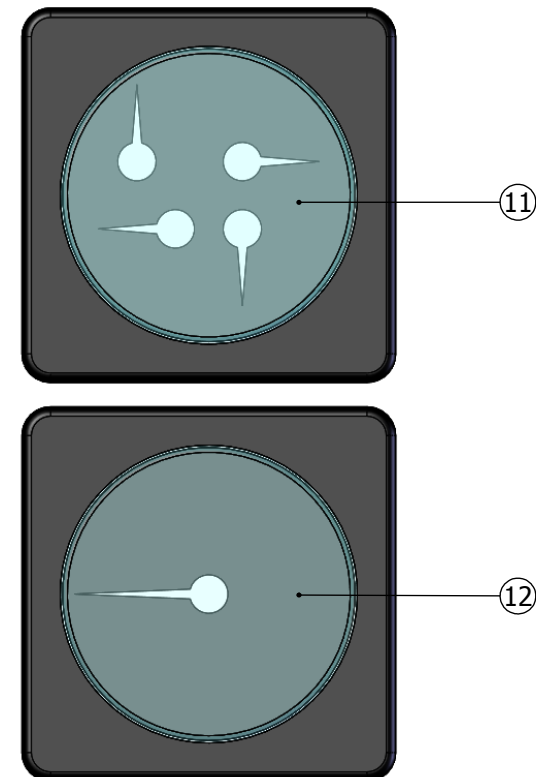
140 psi pop off #6
105 psi switch #5

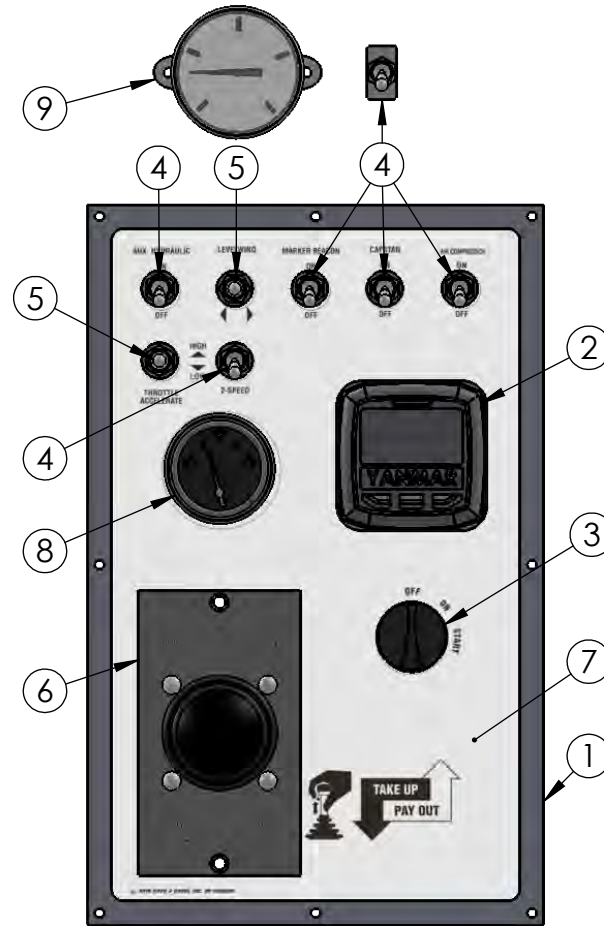


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D09030	Display, Controls Inc.	1
2	G02075	5000 PSI GAUGE back mount	1
3	S40035	Switch, SP/ST Toggle	5
4	P03021	Panel, HP6500 Electronic Engine	1
5	B36003	50amp Circuit Breaker	1
6	B22075	10 Pole Terminal Strip	1
7	S40016	Bosch Relay	1
8	H10060	Tray, battery	1
9	B06012	Battery MTP-24	1
10	R19025	Battery hold down	1
11	C34030	Controller, Joystick MCH	1
12	S40100	Switch, SP/DT Momentary	1
13	S40070	Switch, Key Cole Hersee	1
14	S40008	Switch, SP/DT Maintained	1

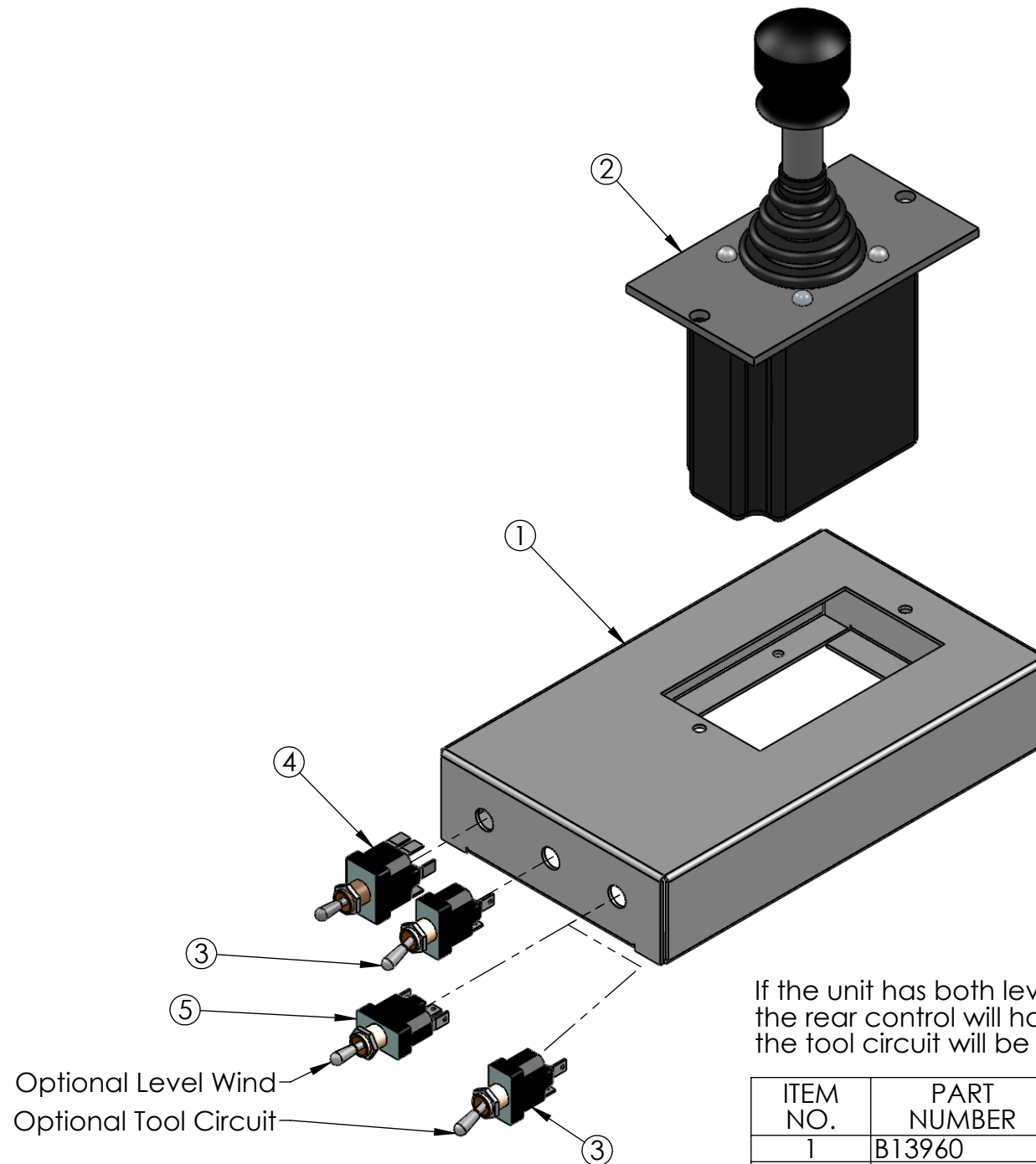


ITEM	PART NUMBER	DESCRIPTION	QTY.
1	S41100	Switch Ignition JDD	1
2	C34030	Controller, Joystick MCH	1
3	S41001	JD Pre-Heat Timer	1
4	S40035	Switch, SP/ST Toggle	5
5	S40150	Switch, DP/DT Momentary	1
6	L04025	Light, Pilot	1
7	S40100	Switch, SP/DT Momentary	1
8	G02033	Gauge, Livorsi 4 in 1	1
9	P03020	Control Panel (Analog)	1
10	G02022	Livorsi Tachometer	1
11	G02003	Gauge, 4 Gauge Cluster	1
12	G02002	Gauge, Tachometer VDO	1



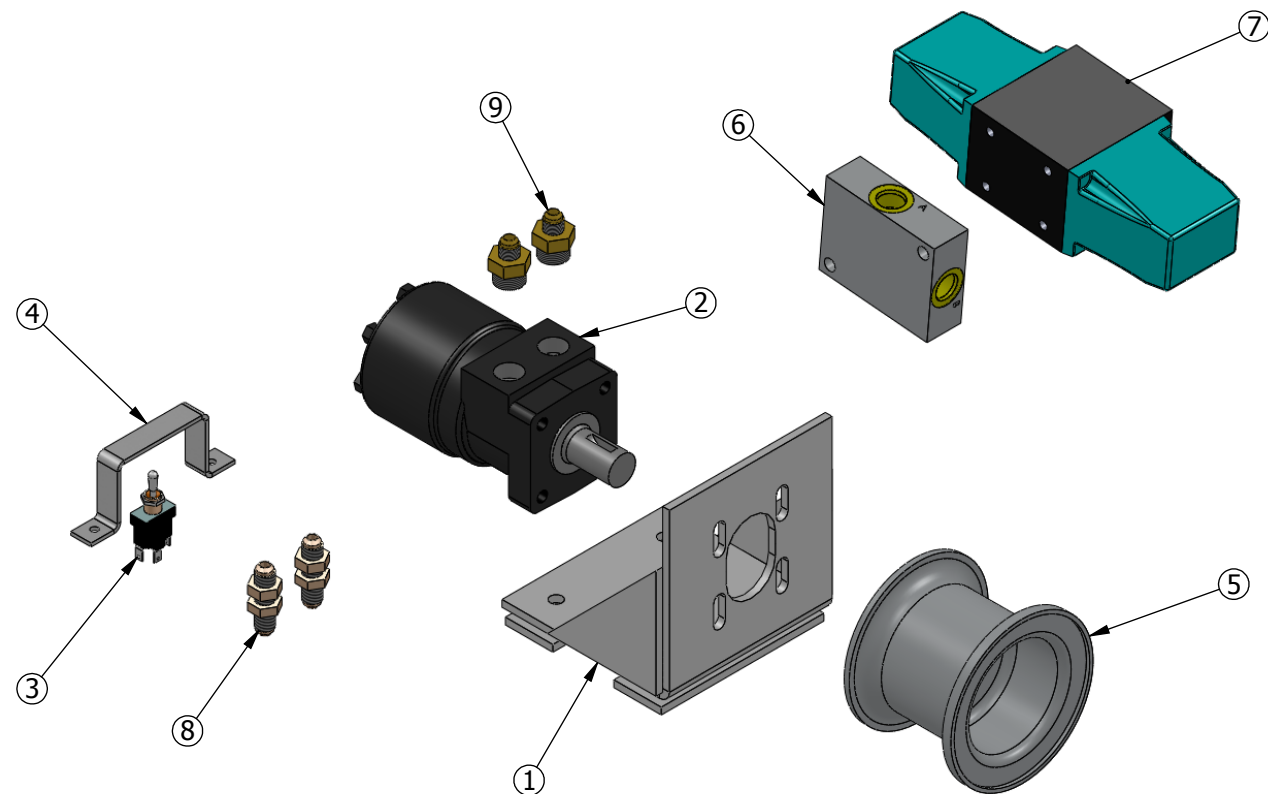


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	P03023	Panel, Control	1
2	D09022	Display, Yanmar T4 Final	1
3	S40070	Switch, Key Cole Hersee	1
4	S40035	Switch, SP/ST Toggle	6
5	S40100	Switch, SP/DT Momentary	2
6	C34030	Controller, Joystick MCH	1
7	D30150	Decal, Control Panel T4f	1
8	G02005	Gauge, Fuel Level	1
9	G02075	5000 PSI GAUGE back mount	1



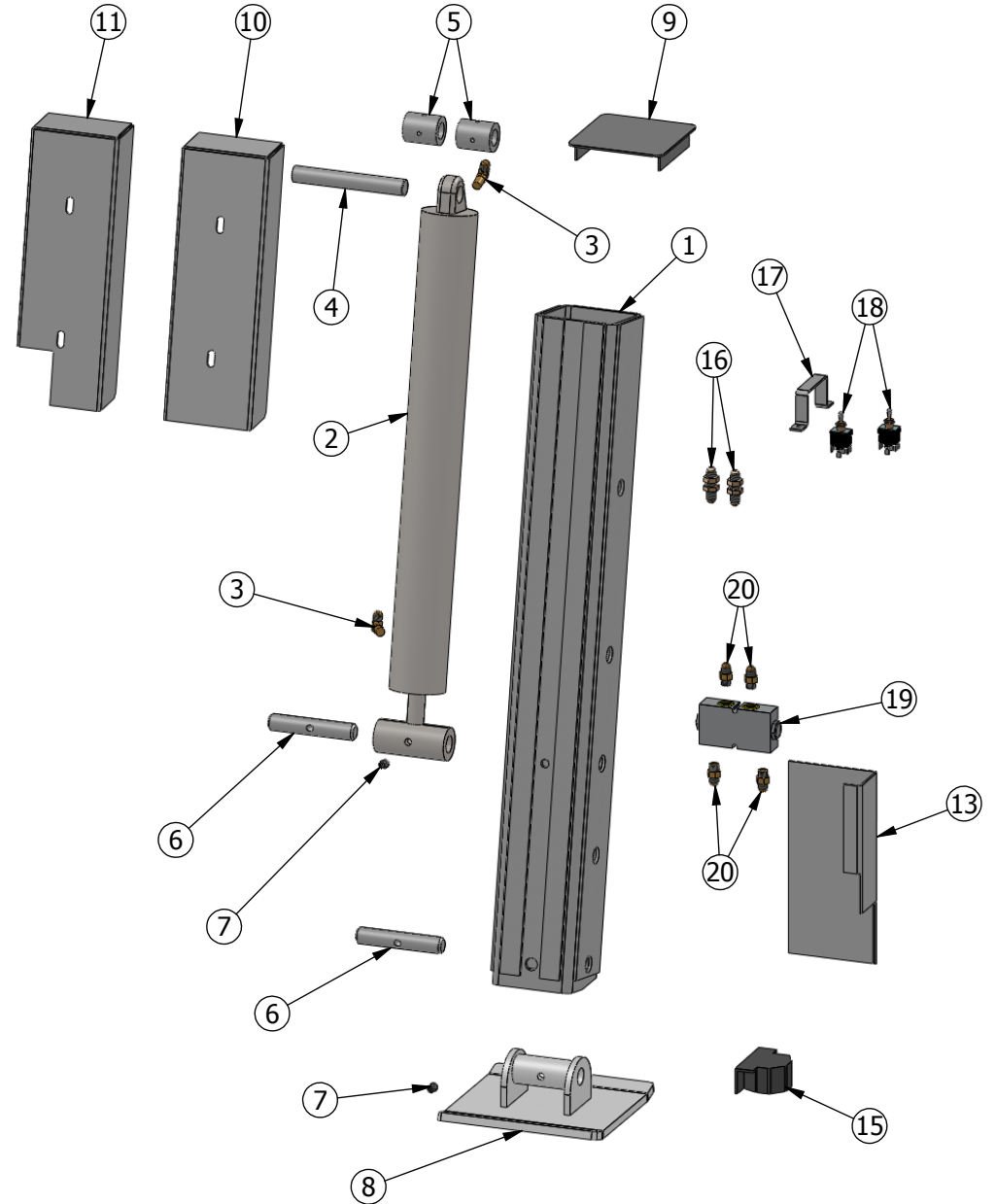
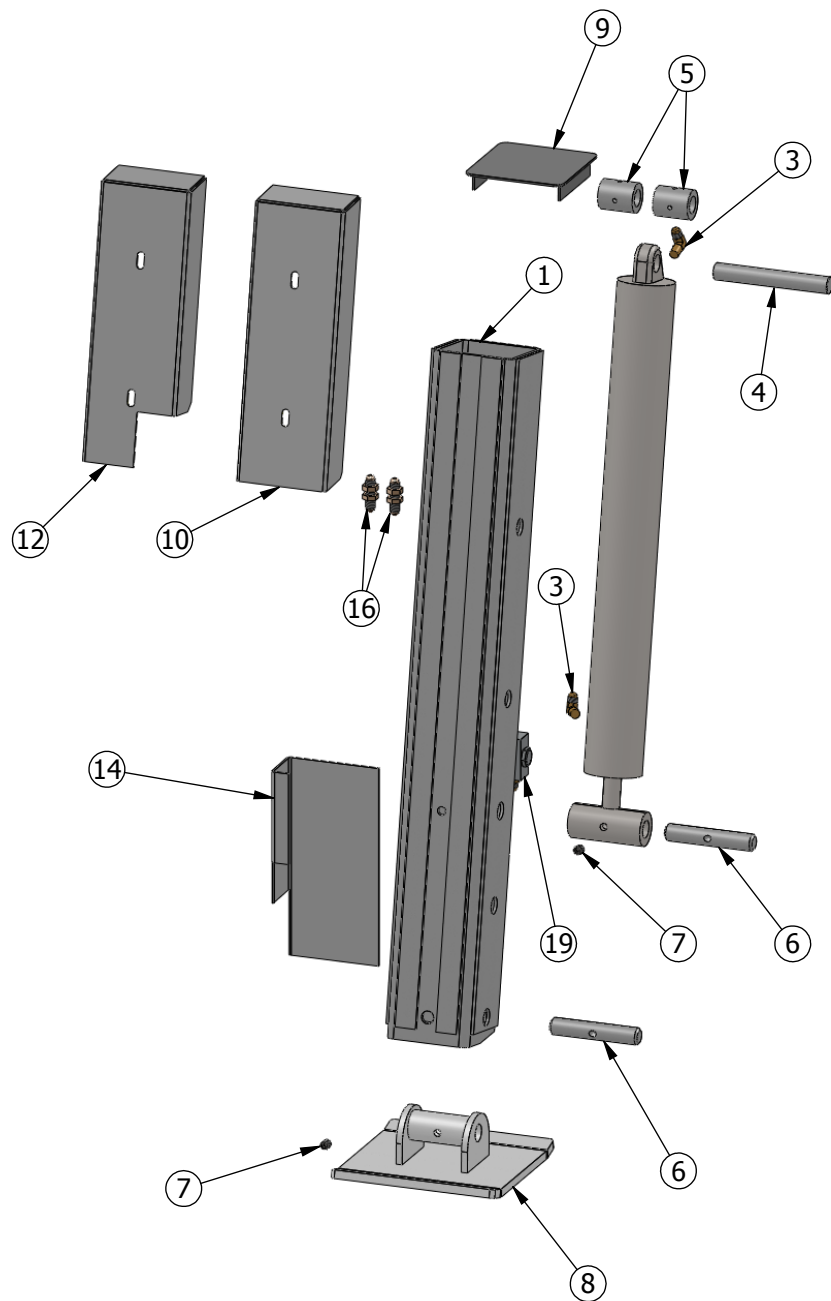
If the unit has both level wind and tool circuit,
the rear control will have the level wind switch
the tool circuit will be controlled by the front control

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B13960	Rear Control Panel	1
2	C34030	Controller, Joystick MCH	1
3	S40035	Switch, SP/ST Toggle	2
4	S40150	Switch, DP/DT Momentary	1
5	S40100	Switch, SP/DT Momentary	1

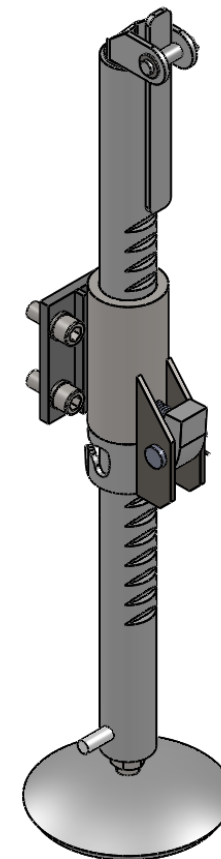
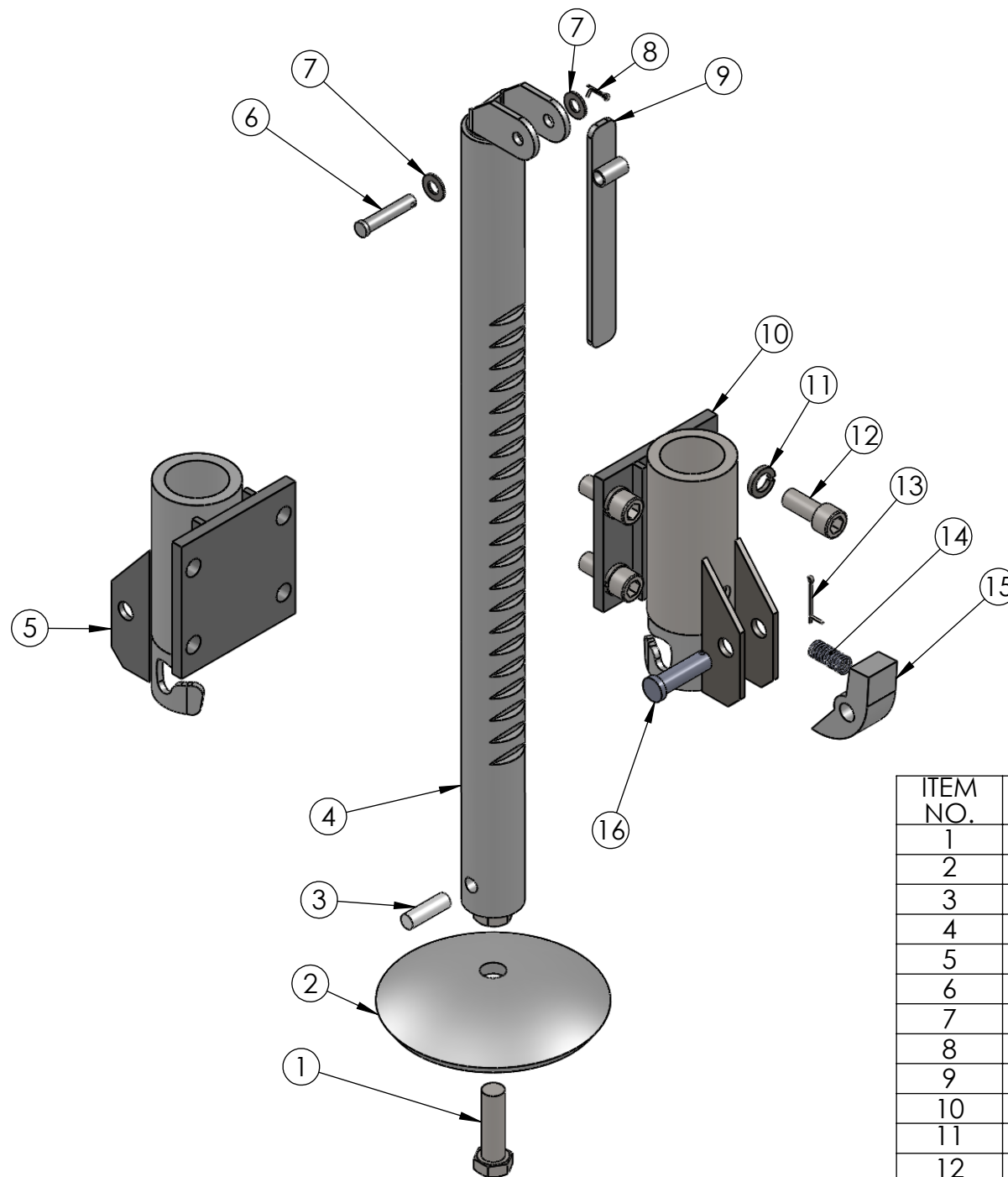


System operates at 2000 psi.

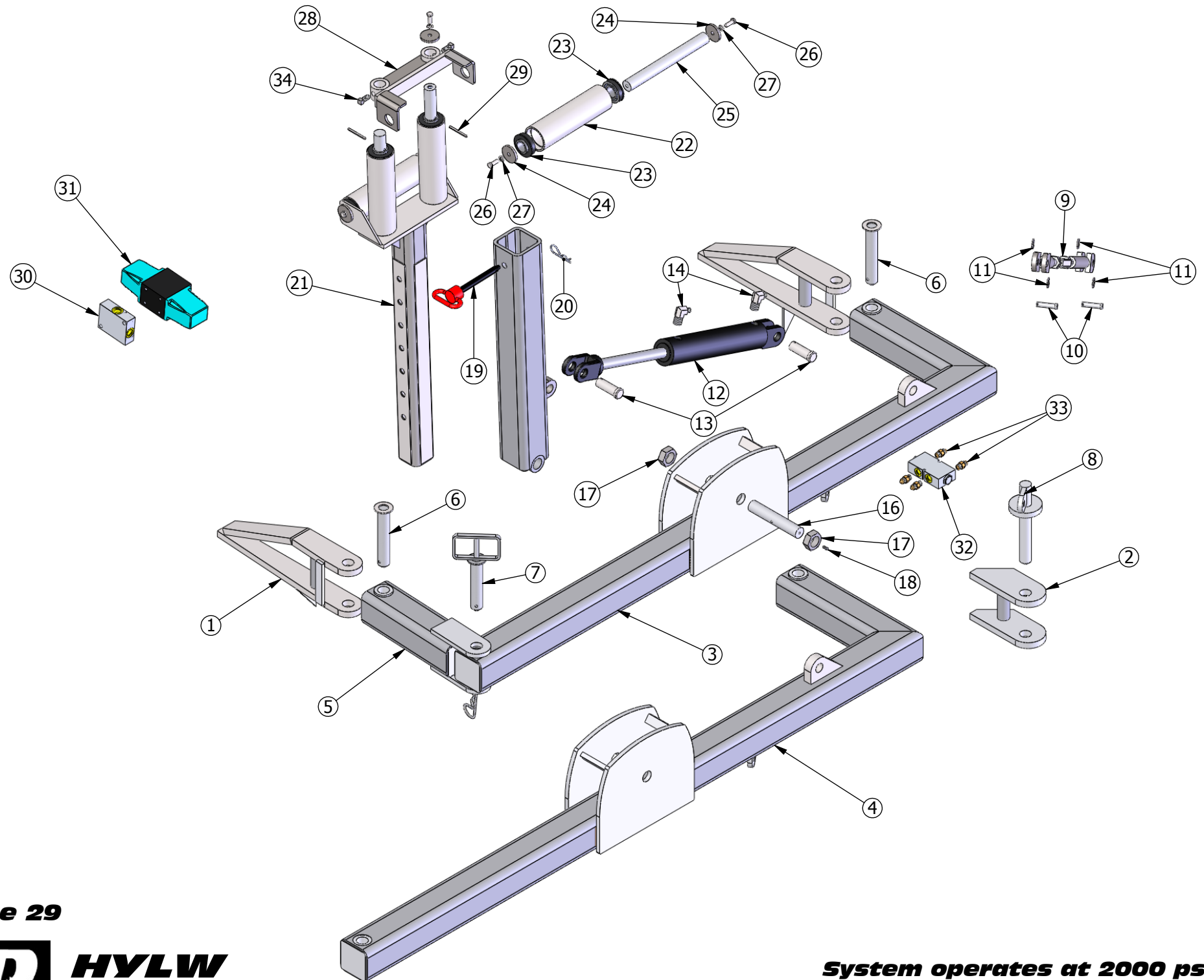
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	B15998	Bracket, Capstan Mount	1
2	M08050	Motor, Hydraulic Drive	1
3	S40153	Switch, SP/DT Maintained w/center	1
4	G09021	Guard, Toggle Switch	1
5	C38905A	Caphead, Capstan	1
6	P09170	Plate, Sub	1
7	V02145	Valve Capstan/Levelwind	1
8	F05170	Fitting, -6 JIC bulkhead	2
9	F05762	Fitting, 6-10 Str SAE	2



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	J04005	Jack, Hydraulic Outriggers	2
2	C32015	Cylinder Outtrigger	2
3	F05565	Fitting, 6-4 Elbow	4
4	P06200	Pin, Outtrigger Cylinder Upper	2
5	C20040	Spacer, Outtrigger Cylinder	4
6	P06165	Pin, Lower Outtrigger	4
7	S04261	Screw, Set 1/2-13x1/2 CP	4
8	P01035	Pad, Hydraulic Outtrigger	2
9	C29013	Cover, Outtrigger Top	2
10	C29055	Cover, Outtrigger Hoses	2
11	C29058	Cover, Outtrigger Hoses RH	1
12	C29056	Cover, Outtrigger Hoses LH	1
13	G09015	Guard, Fender Wiring	1
14	G09020	Guard, Fender Wiring	1
15	A03005	Alarm, motion	1
16	F05170	Fitting, -6 JIC bulkhead	4
17	G09021	Guard, Toggle Switch	1
18	S40150	Switch, DP/DT Momentary	2
19	V02075	Valve, Loadlock	2
20	F05755	Fitting, 6-6 Str SAE	8

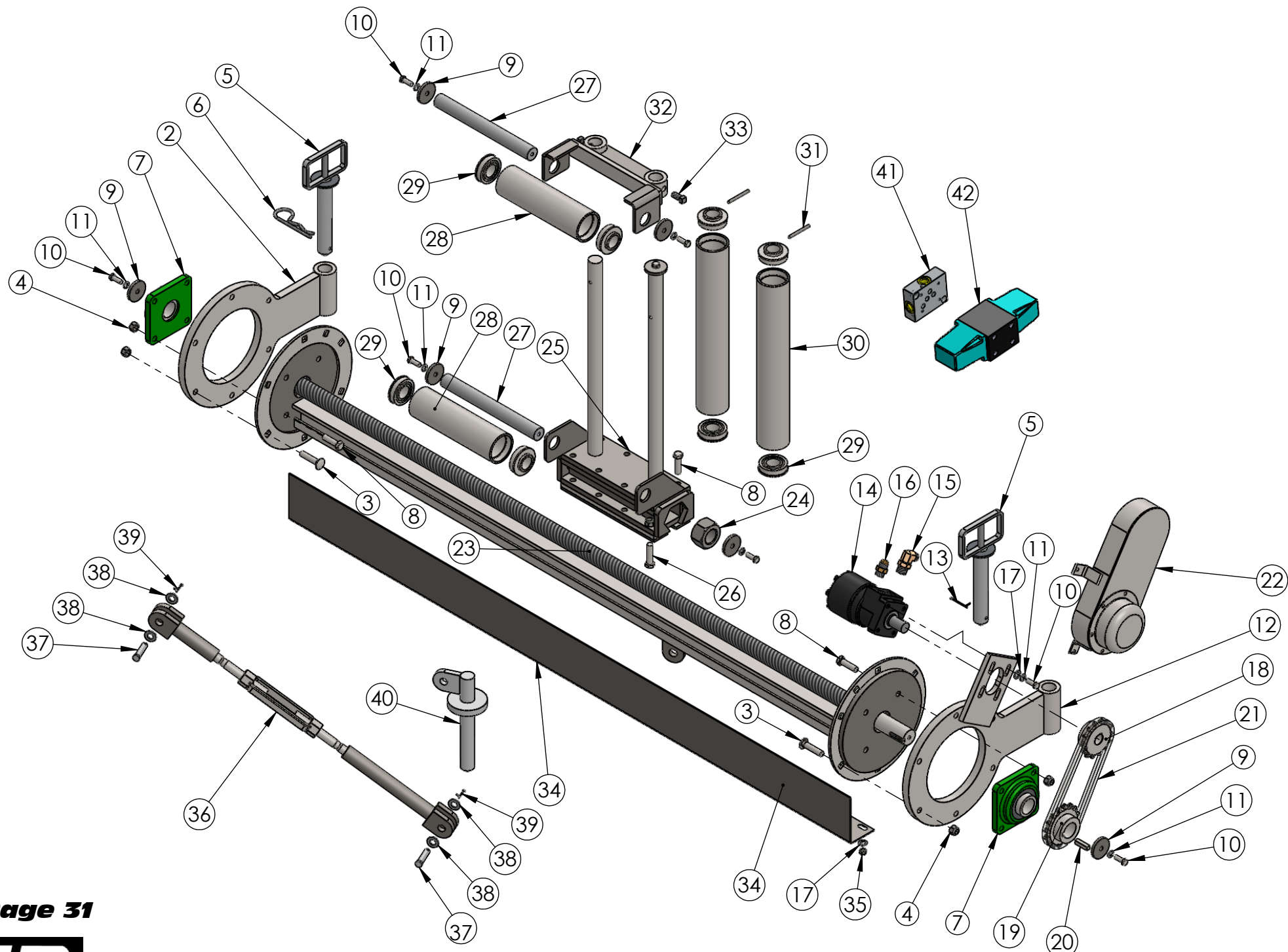


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B11060	Bolt Hx head 7/8-9x3 Z8	2
2	P01020	Pad, Jackstand Large	2
3	S37010	5/8"-11 X 2" STUD	2
4	J01010	Jackstand, 985/6500	2
5	S17930	Sleeve, Jackstand bolt on LH	1
6	P06105	Pin, Clevis 1/2 x 2-1/2	2
7	W01005	Washer, Flat SAE 1/2"	4
8	P06933	Pin, Cotter 1/8x1 Z	2
9	H02015	Handle, Jackstand	2
10	S17935	Sleeve, Jackstand bolt on RH	1
11	W01585	Washer Split Lock 3/4	8
12	S04245	Screw SHCS 3/4-16x1-3/4	8
13	P06925	Pin, Cotter 1/8x2 Z	2
14	S28075	Spring, Jackstand / E.P.O.	2
15	P04005	Pawl, Jackstand 985/6500	2
16	P06104	Pin, Clevis 3/4 x 2-1/2	2



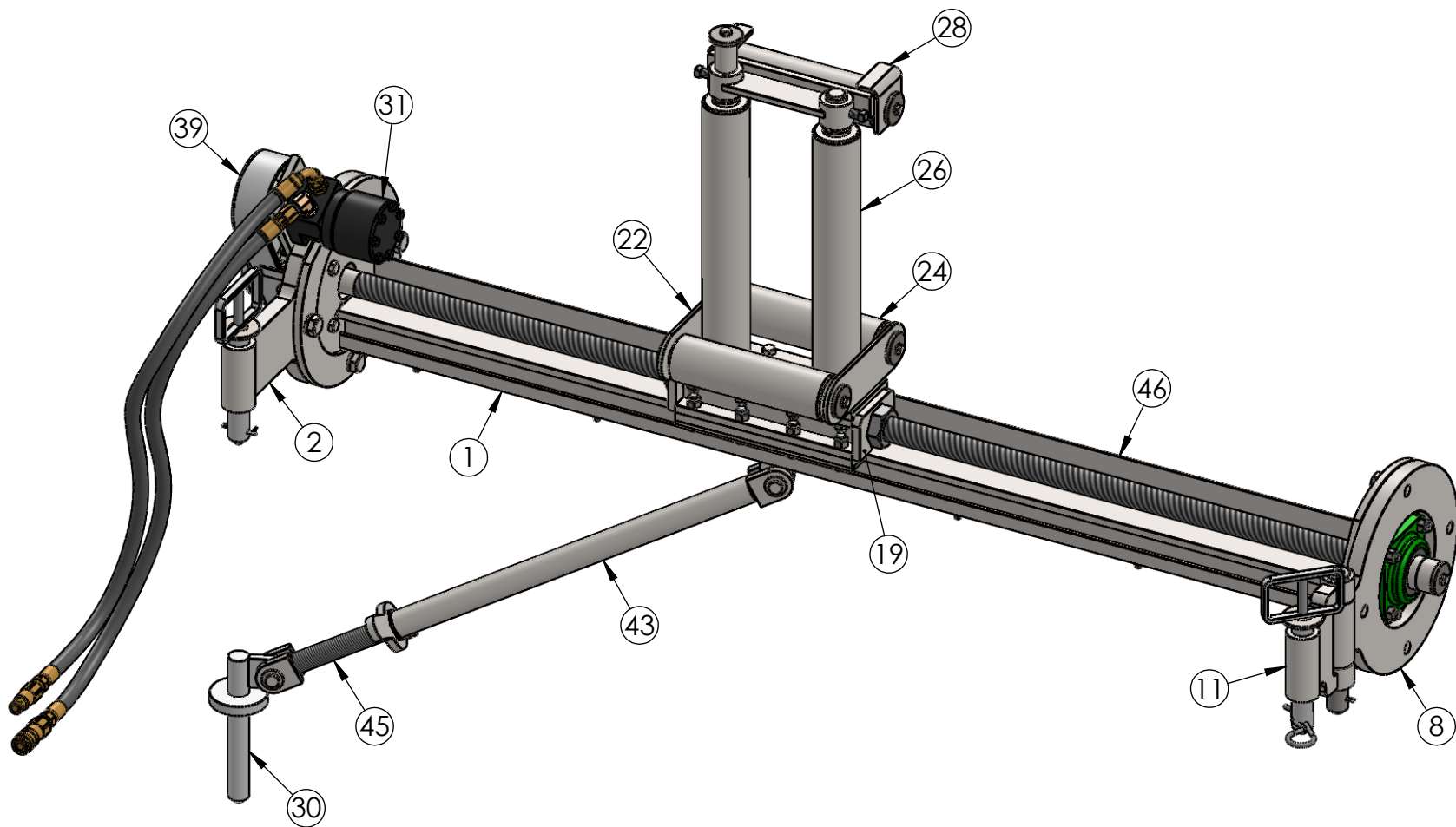
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B15943	Bracket, Levelwind Std Fenders	1
2	B15230	Bracket, levelwind Lower	1
3	B15996	Levelwind Arm Standard	1
4	B15995	Levelwind Arm X/wide	1
5	B15997	Levelwind Short Arm	1
6	P06029	Pin, Levelwind Pivot	2
7	P06042	Pin, Levelwind	1
8	P06830	Pin Lower Pivot	1
9	T15905A	Turnbuckle Assembly	1
10	P06095	Pin, 1/2 x 2	2
11	W01005	Washer, Flat SAE 1/2"	4
12	C32020	Cylinder, Levelwind	1
13	P06073	Pin, 1x2-3/4	2
14	F05360	Fitting, 6-8 90° NPT	2
15	S17000	Sleeve, Levelwind	1
16	P06156	Pin, Levelwind Pivot	1
17	N04097	Nut Hex Jam 1-1/4-12	2
18	F05630	Fitting, 1/4-28 Zerk	1
19	P06027	Pin, 5/8 x 6 w/Handle	1
20	C17020	Clip, Hitch #20	1
21	A08089	Arm, Levelwind	1
22	R20044	Roller, Painted Steel	4
23	B07110	Bearing, Roller	8
24	C06041	Cap, End	5
25	S43129	Shaft, Roller	2
26	B11342	Bolt Hx head 3/8-16x1	5
27	W01545	Washer, Split Lock 3/8"	5
28	B15897	Bracket, Swing-away Fairlead	1
29	P06193	Pin, Roll 1/4 x 2-1/2	2
30	P09170	Plate, Sub	1
31	V02145	Valve Capstan/Levelwind	1
32	V02075	Valve, Loadlock	1
33	F05755	Fitting, 6-6 Str SAE	4
34	S04475	Screw, Set Sq Head 1/2 x 1	2
35	C17015	Clip, Hitch Pin 5"	1

If items look different than the parts breakdown please call for assistance. (541)354-1001



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	F09060	Frame L/W Acme Screw	1
2	P09080	Plate L/W End	1
3	B11155	Bolt Carriage 1/2-13x2-1/4	12
4	N04555	Nut, Hex Nylock® 1/2"-13	36
5	P06155	Pin, Level Wind 7"	2
6	C17015	Clip, Hitch Pin 5"	1
7	B07130	Bearing	2
8	B11364	Bolt Hx head 1/2-13x1-3/4	16
9	C06041	Cap, End	7
10	B11342	Bolt Hx head 3/8-16x1	11
11	W01545	Washer, Split Lock 3/8"	11
12	P09078	Plate L/W end w/Motor	1
13	P06925	Pin, Cotter 1/8x2 Z	1
14	M08050	Motor, Hydraulic Drive	1
15	F05015	Fitting, 8 JIC to -8 SAE 90°	1
16	F05315	Fitting, 8-8 Str SAE	1
17	W01002	Washer Flat SAE 3/8	10
18	S29080	Sprocket, 14 tooth #60	1
19	S29075	Sprocket, 16 tooth #60	1
20	K01028	Key, Drive LW2	1
21	C10155	Chain, Drive LW2	1
22	G09045	Guard, Chain HYLW2	1
23	S04115	Bar, Round 1-1/2 CD 1018	1
24	N04905	Nut, Hex 1-1/2-6	2
25	C37905A	Carrier, HYLW2	1
26	B11446	Bolt Hx head 1/2-13x2 Z8	8
27	S43129	Shaft, Roller	2
28	R20044	Roller, Painted Steel	2
29	B07110	Bearing, Roller	8
30	R20005	Roller, Vertical HYLW2	2
31	P06193	Pin, Roll 1/4 x 2-1/2	2
32	B15897	Bracket, Swing-away Fairlead	1
33	S04475	Screw, Set Sq Head 1/2 x 1	2
34	G09000	Guard, HYLW2	1
35	N04545	Nut, Hex Nylock® 3/8"-16	6
36	T15905A	Turnbuckle Assembly	1
37	P06095	Pin, 1/2 x 2	2
38	W01005	Washer, Flat SAE 1/2"	4
39	P06933	Pin, Cotter 1/8x1 Z	2
40	P06830	Pin Lower Pivot	1
41	P09170	Plate, Sub	1
42	V02145	Valve Capstan/Levelwind	1

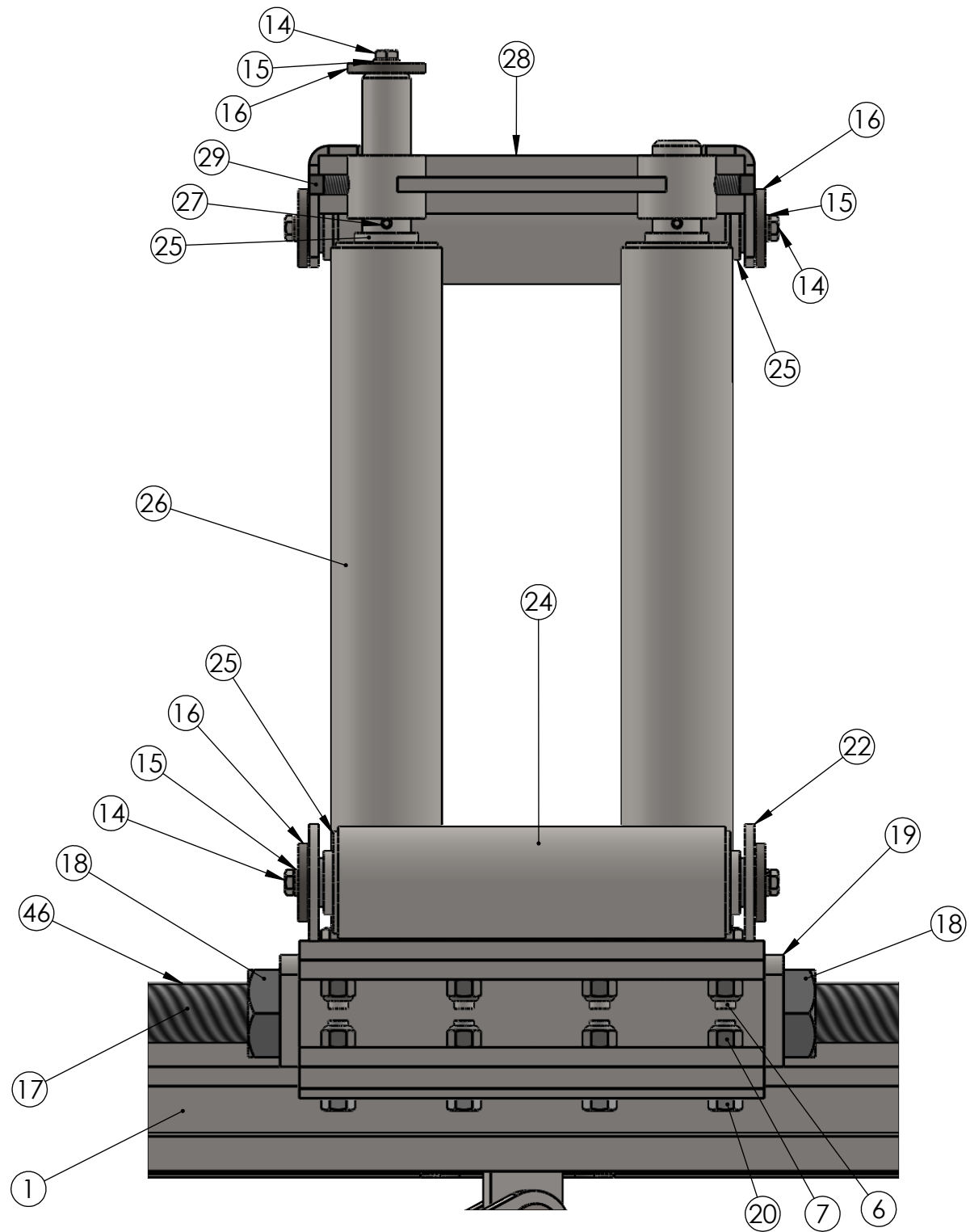


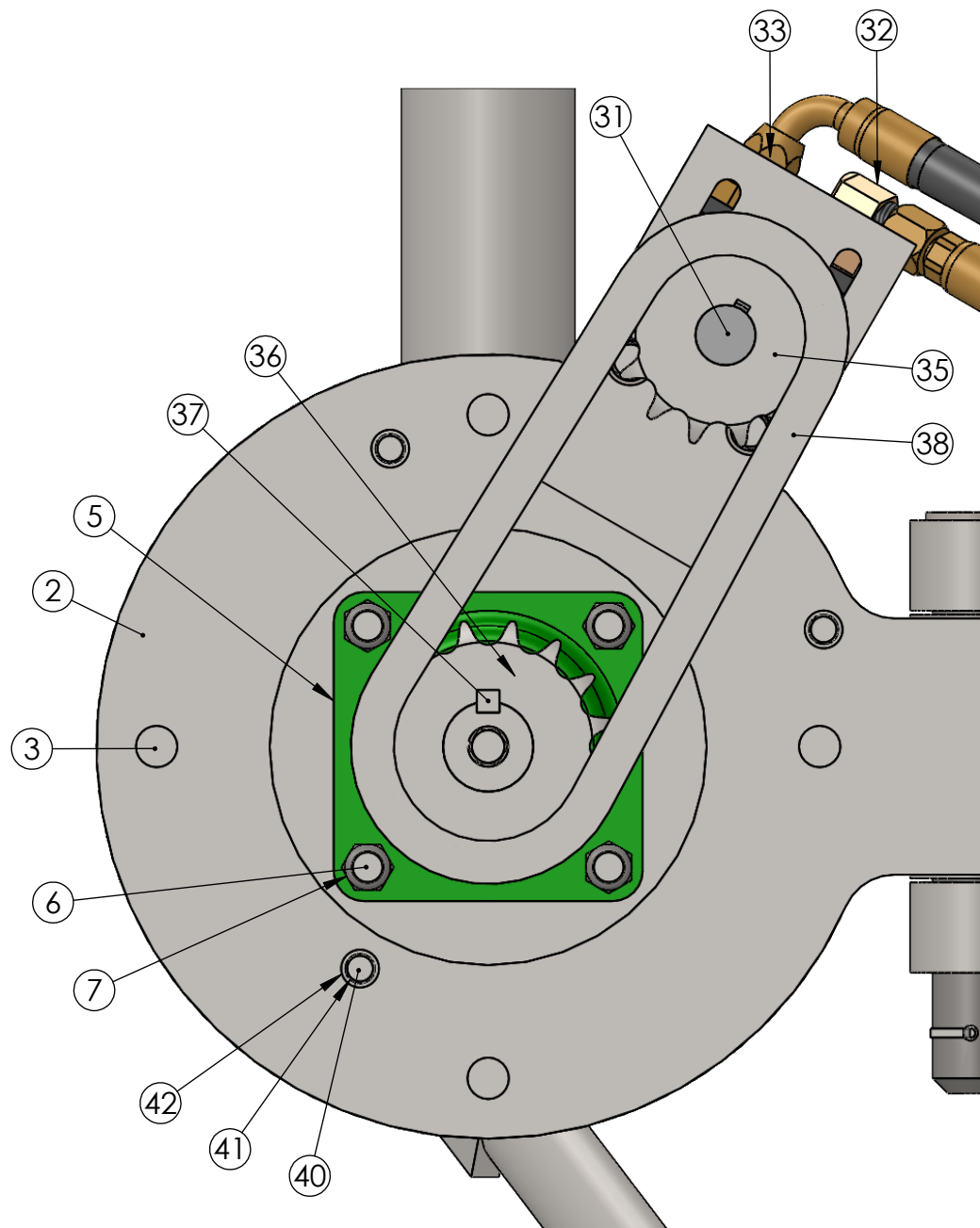


Screw Levelwind HYLW3

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	F09061	Frame Screw Levelwind	1
2	P09079	Plate Motor Mounting	1
3	B11382	Bolt, Hx Head 3/4"-16 x 1-3/4"	8
4	W01585	Washer, Split Lock 3/4"zinc	8
5	B07130	Bearing	2
6	B11364	Bolt, Hx Head 1/2"-13 x 1-3/4"	16
7	N04555	Nut, Hx Nylock® 1/2"-13	24
8	P09081	Plate Swivel End	1
9	P06043	Pin	1
10	P06948	Pin, Cotter 3/16x2 Z	2
11	S41121	Swivel Link Levelwind LW3	1
12	P06155	Pin, Level Wind 7"	2
13	C17015	Clip, Hitch Pin 5"	1
14	B11437	Bolt, Hx Head 3/8"-16 x 1" Z8	13
15	W01545	Washer, Split Lock 3/8"zinc	13
16	C06041	Cap, End	9
17	S04115	Screw, Acme Levelwind	1
18	N04905A	Nut, Acme 1-1/2-4	2
19	C37906	Carrige Screw Levelwind LW3	1
20	B11366	Bolt, Hx Head 1/2"-13 x 2"	8
21	S24032	Spacer, Levelwind Shaft	1
22	F09111	Fairlead Levelwind LW3	1
23	S43129	Shaft, Roller	3
24	R20044	Roller, Horizontal	3
25	B07110	Bearing, Roller	10
26	R20005	Roller, Vertical	2
27	P06193	Pin, Roll 1/4" x 2-1/2"	2
28	B15897	Bracket, Swing-away Fairlead	1
29	S04475	Screw, Set Sq Head 1/2" x 1"	2
30	P06830	Pin Lower Pivot	1
31	M08050	Motor, Hydraulic Drive	1
32	F05555	Fitting, 8 JIC to -10 SAE 90°	1
33	F05270	Fitting, 8-10 Str SAE	1
34	W01002	Washer, Flat SAE 3/8"zinc	14
35	S29080	Sprocket, 60B14 1"Bore	1
36	S29075	Sprocket, 60B14 1-1/2"Bore	1
37	K01028	Key, Drive	1
38	C10155	Chain #60	1
39	G09045	Guard, Chain	1
40	B11323	Bolt, Hx Head 1/4"-20 x 3/4"	3
41	W01525	Washer, Split Lock 1/4"zinc	3
42	W01205	Washer, Flat SAE 1/4"zinc	3
43	S30050	Stabilizer Levelwind Upper LW3	1
44	P06933	Pin, Cotter 1/8" x "1 Z	2
45	S30051	Stabilizer Levelwind Lower LW3	1
46	G09013	Guard, HYLW3	1
47	N04545	Nut, Hx Nylock® 3/8"-16	5
48	P06077	Pin, 5/8 x 2 plated	2
49	W01053	Washer, Flat SAE 5/8"zinc	4
50	F05013	Fitting Hs -8 F JIC 90°	1
51	F05028	Fitting, Hs -8 F JIC	1
52	F05325	Fitting -8 Hs - 1/2 Mnpt	2
53	H07173-1	Hose 1/2 -1wire 38"	1
54	H07173-2	Hose 1/2 -1wire 40"	1
55	C28061	Coupler, F quick 1/2 NPT	1
56	C28062	Coupler, M quick 1/2 NPT	1







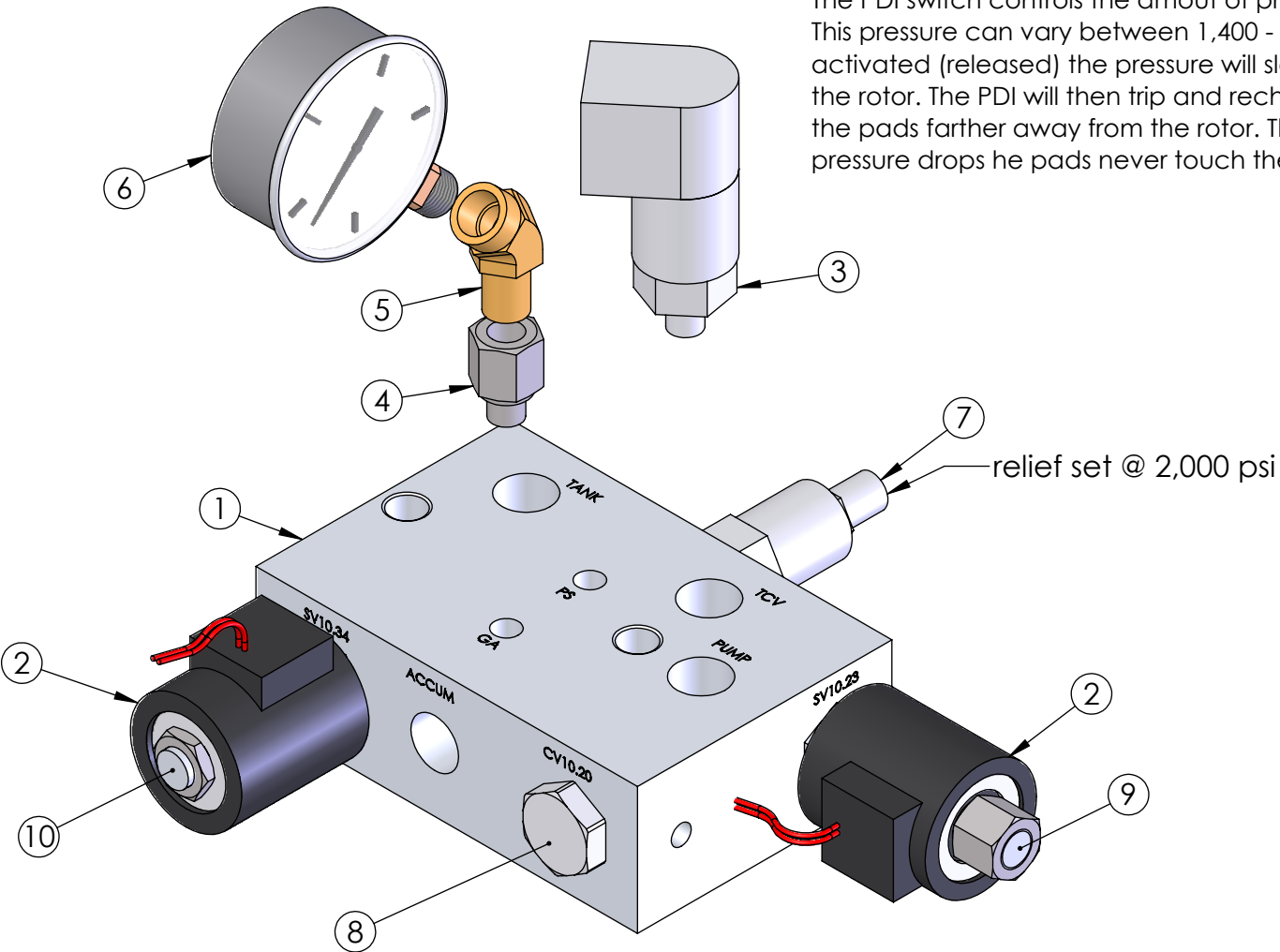
#40~#42 guard bolts



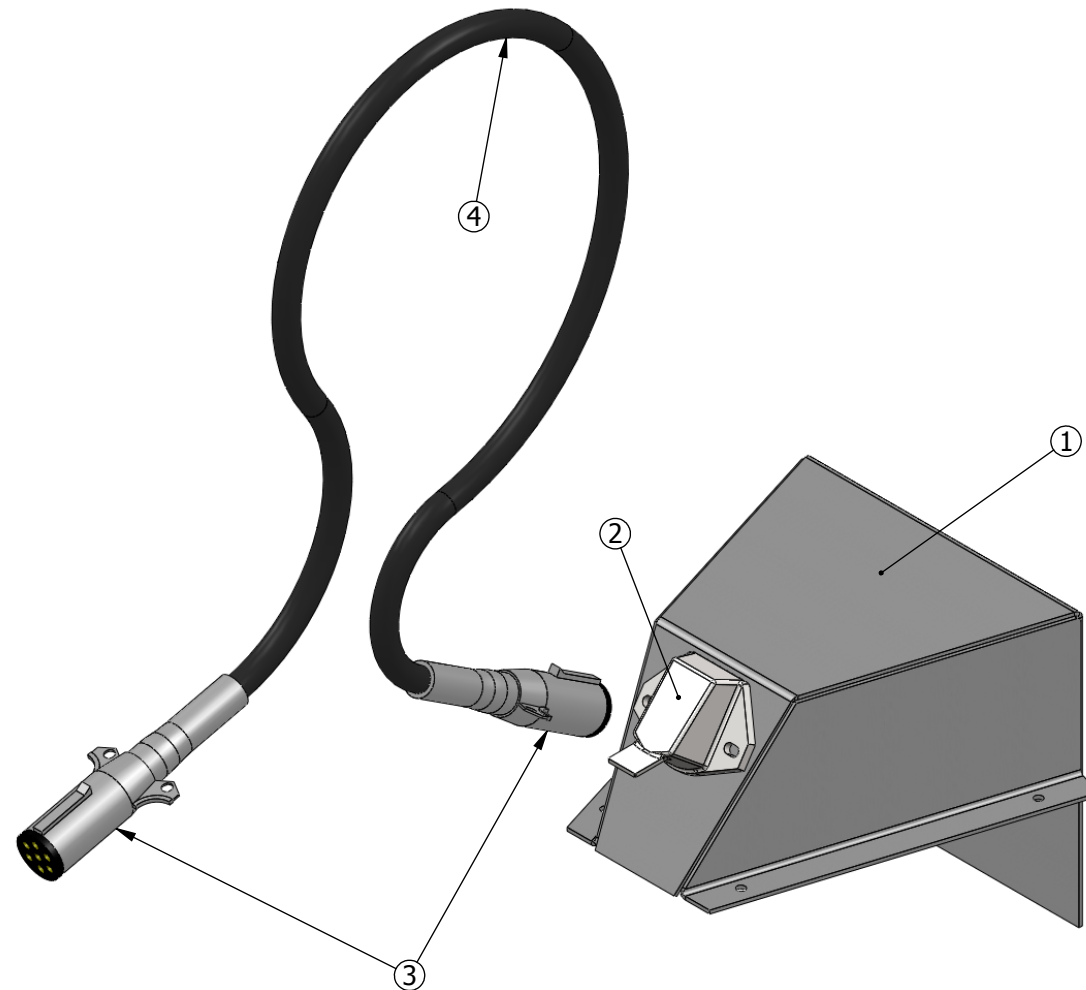
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	T01002	Tank, Hydraulic 6500	1
2	T01001	Tank, Fuel 6500	1
3	C06155A	Cap, Hydraulic	1
4	C06205	Cap, Fuel	1
5	F04021	Filter Head	2
6	G02046	Gauge, Hyd oil level	1
7	Brake Manifold	Brake Manifold Assembly	1
8	N06200	Neck, Hydraulic Fill	1
9	S46015	Sender, Fuel Level	1
10	B15004	Bracket, Accumulator Mount	1
11	A12001	Accumulator, 1 gallon	1
12	N02001	Nipple, 1-1/4" x 3"LG	3
13	E01002	Elbow, 1-1/4" FNPT 90°	1
14	N02002	Nipple, 1-1/4" x 6"LG	1
15	V02001	Valve, Ball 1-1/4" NPT	1
16	F04020	Filter 10 micron	2
17	P09171	Plate, Sub shift	1
18	G01165	Gasket, Neck Fill	2
19	C29203	Cover, Tank Access	1
20	F04040	Filter, Suction Strainer	1
21	S40002	Switch, Hi-Low Shift	1

max operating pressure for the brake is 2,000 psi

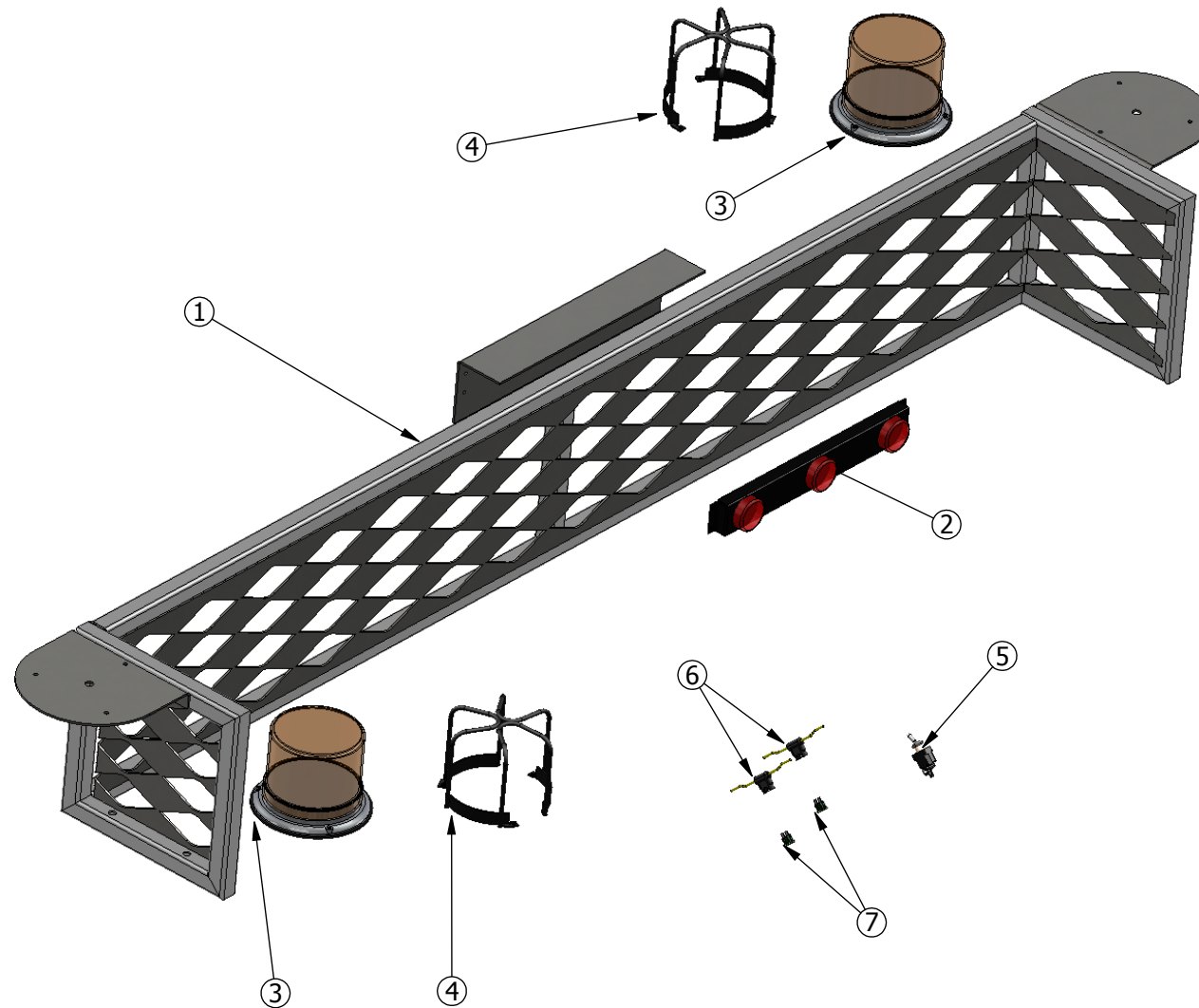
The PDI switch controls the amount of pressure available to open the brake caliper. This pressure can vary between 1,400 - 2,000 psi. It controls item #9. While the brake is activated (released) the pressure will slowly drop, allowing the pads to get closer to the rotor. The PDI will then trip and recharge the brake side of the manifold pushing the pads farther away from the rotor. The PDI should be adjusted so that when the pressure drops the pads never touch the rotor.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	M04001	Manifold, Brake	1
2	C19040	Coil, cartridge	2
3	S40001	PDI Switch	1
4	F05706	Fitting, 4-4 FNPT-SAE	1
5	F05018	-4 FNPT to -4 NPT 45°	1
6	G02055	3K bottom mount	1
7	V02068	Valve, relief	1
8	V02067	Valve, check	1
9	V02502	Valve, Charge	1
10	V02501	Valve, Brake	1

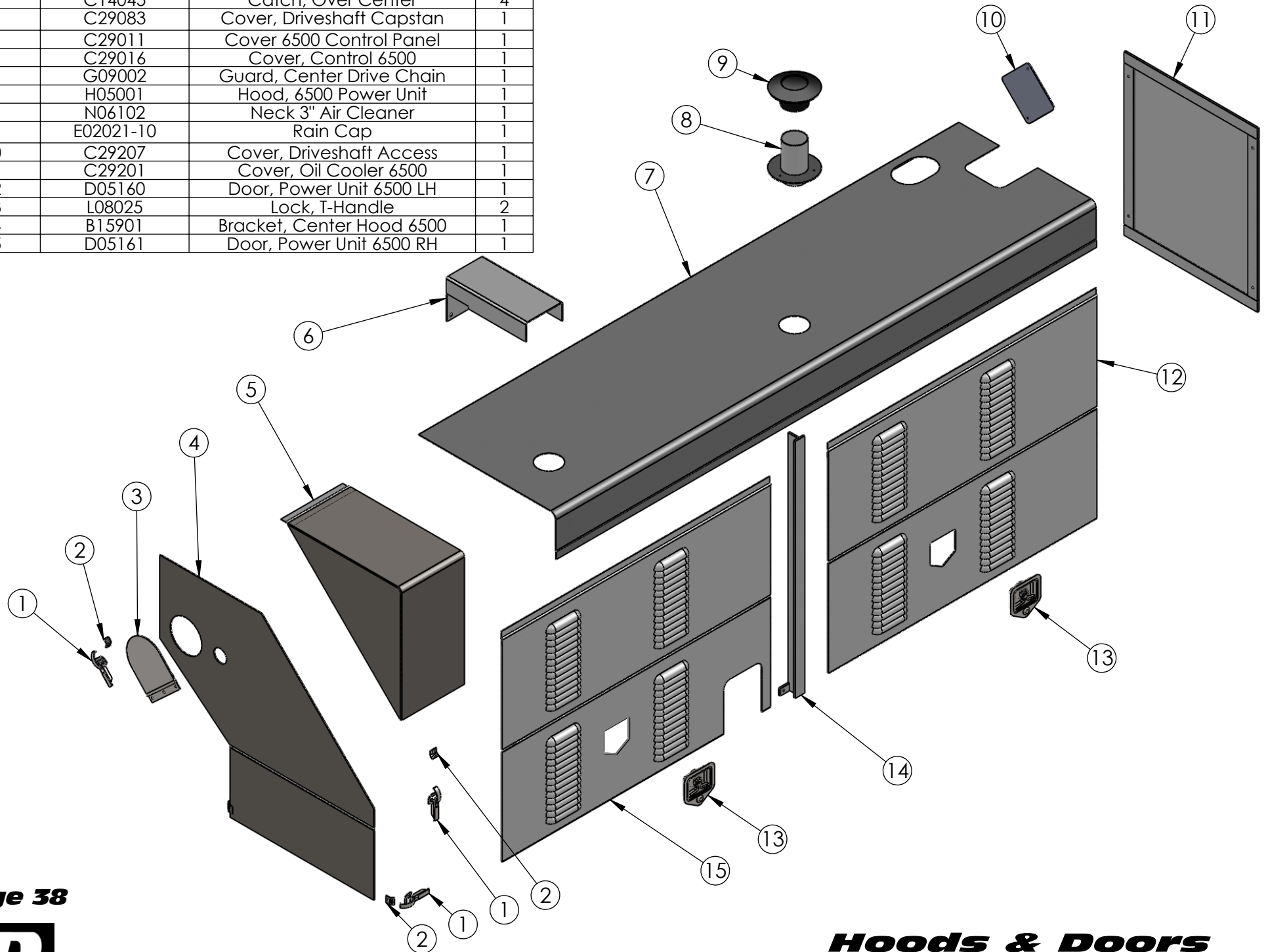


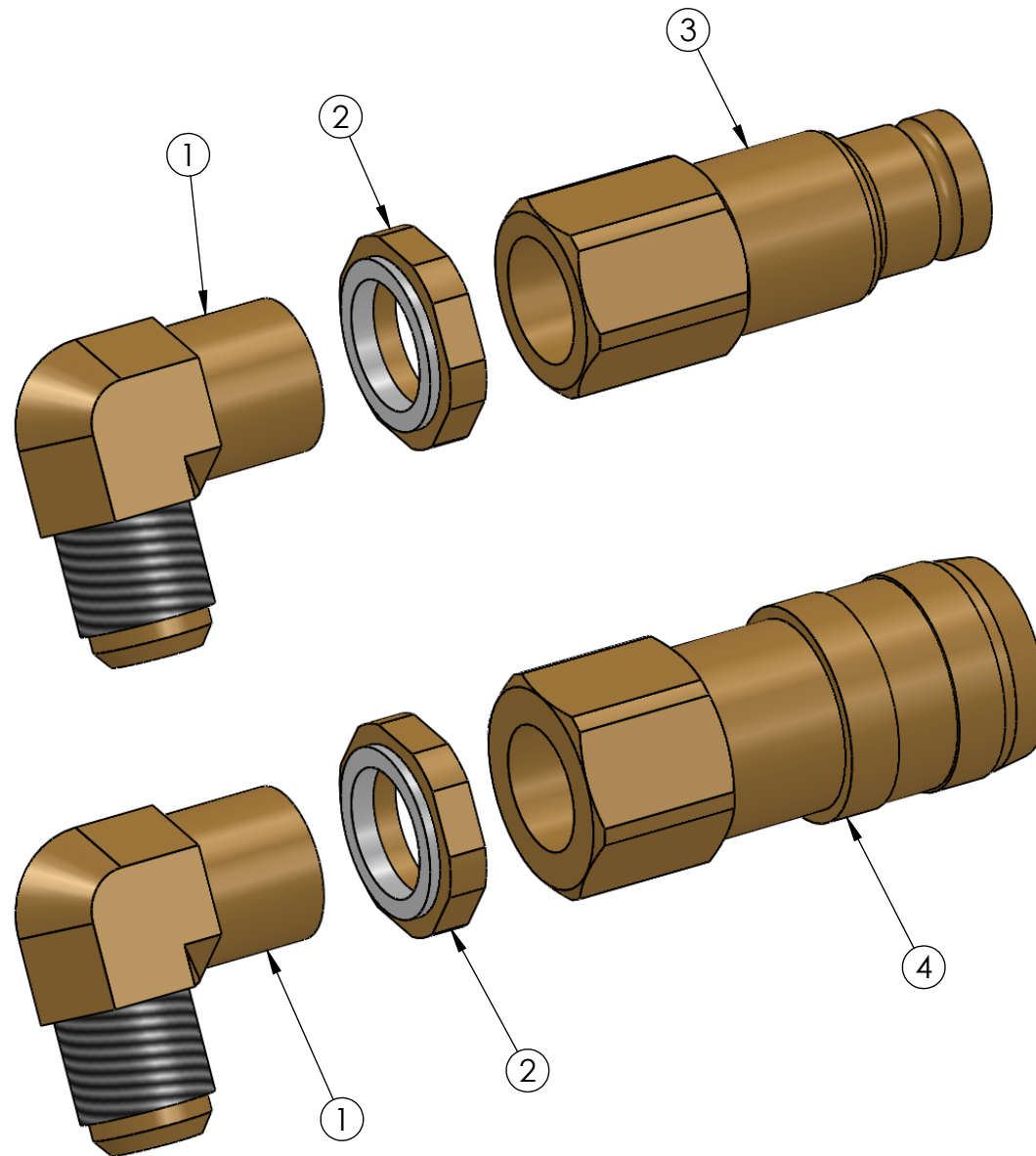
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	H05070	Hood, Electrical 7 wire	1
2	S21035	Socket 7-wire Pollak	1
3	P10025	Plug, 7-Wire w/Spring	2
4	C02038-1	Cable	1



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	S08001	Screen, HP6500 Power Unit	1
2	L04060	Light Bar, 3 light	1
3	L04105	Light, Amber Strobe	2
4	G09019	Guard, strobe	2
5	S40035	Switch, SP/ST Toggle	1
6	H10002	Holder, Fuse	2
7	F01002	Fuse, 30amp	2

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	L01020	Latch, Over center	4
2	C14045	Catch, Over Center	4
3	C29083	Cover, Driveshaft Capstan	1
4	C29011	Cover 6500 Control Panel	1
5	C29016	Cover, Control 6500	1
6	G09002	Guard, Center Drive Chain	1
7	H05001	Hood, 6500 Power Unit	1
8	N06102	Neck 3" Air Cleaner	1
9	E02021-10	Rain Cap	1
10	C29207	Cover, Driveshaft Access	1
11	C29201	Cover, Oil Cooler 6500	1
12	D05160	Door, Power Unit 6500 LH	1
13	L08025	Lock, T-Handle	2
14	B15901	Bracket, Center Hood 6500	1
15	D05161	Door, Power Unit 6500 RH	1

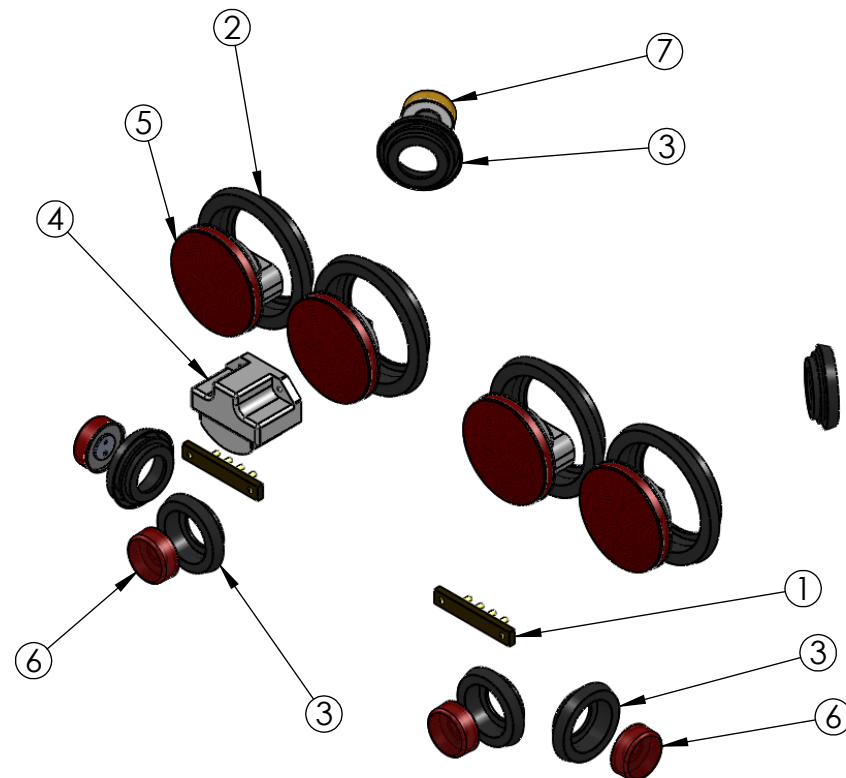
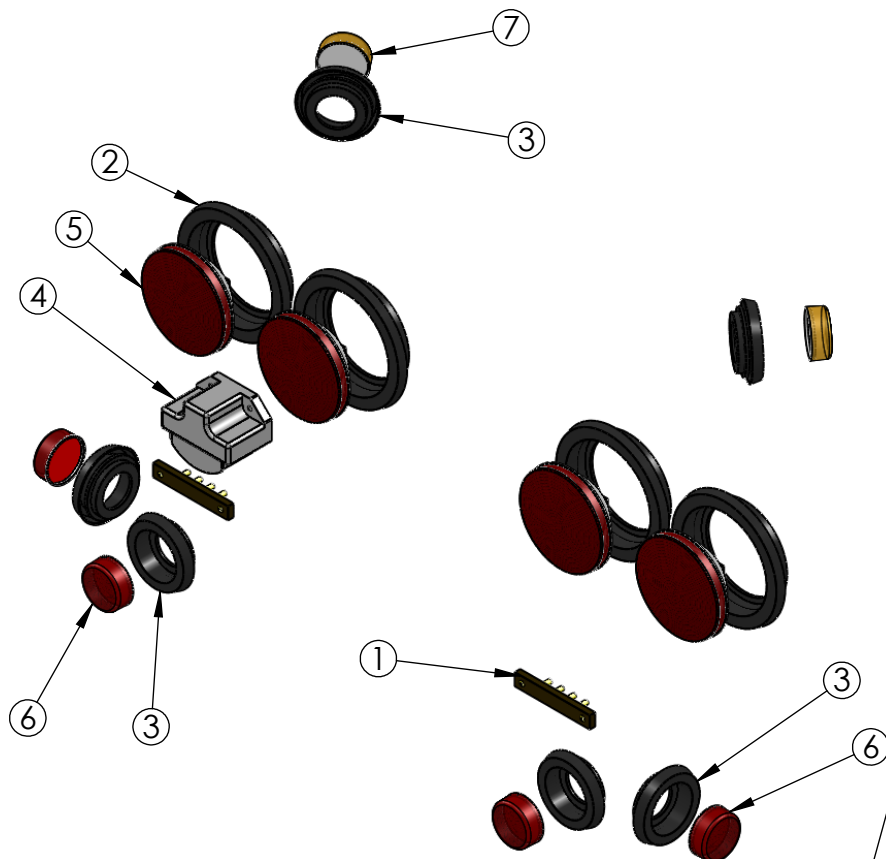




ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	F05215	Fitting, 8-8 90° NPT	2
2	F05393	Fitting 1/2 NPT Jam nut	2
3	C28062	Coupler, M quick 1/2 NPT	1
4	C28061	Coupler, F quick 1/2 NPT	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B22050	Block, 4 Pole Terminal Strip	2
2	G08010	Grommet, 4" Tail/Stop/Turn	4
3	G08005	Grommet 2" Light	6
4	L04055	Light, License plate	1
5	L04030	Light, 4" Tail Stop Turn	4
6	L04070	Light, 2" Red	4
7	L04035	Light, 2" Amber	2

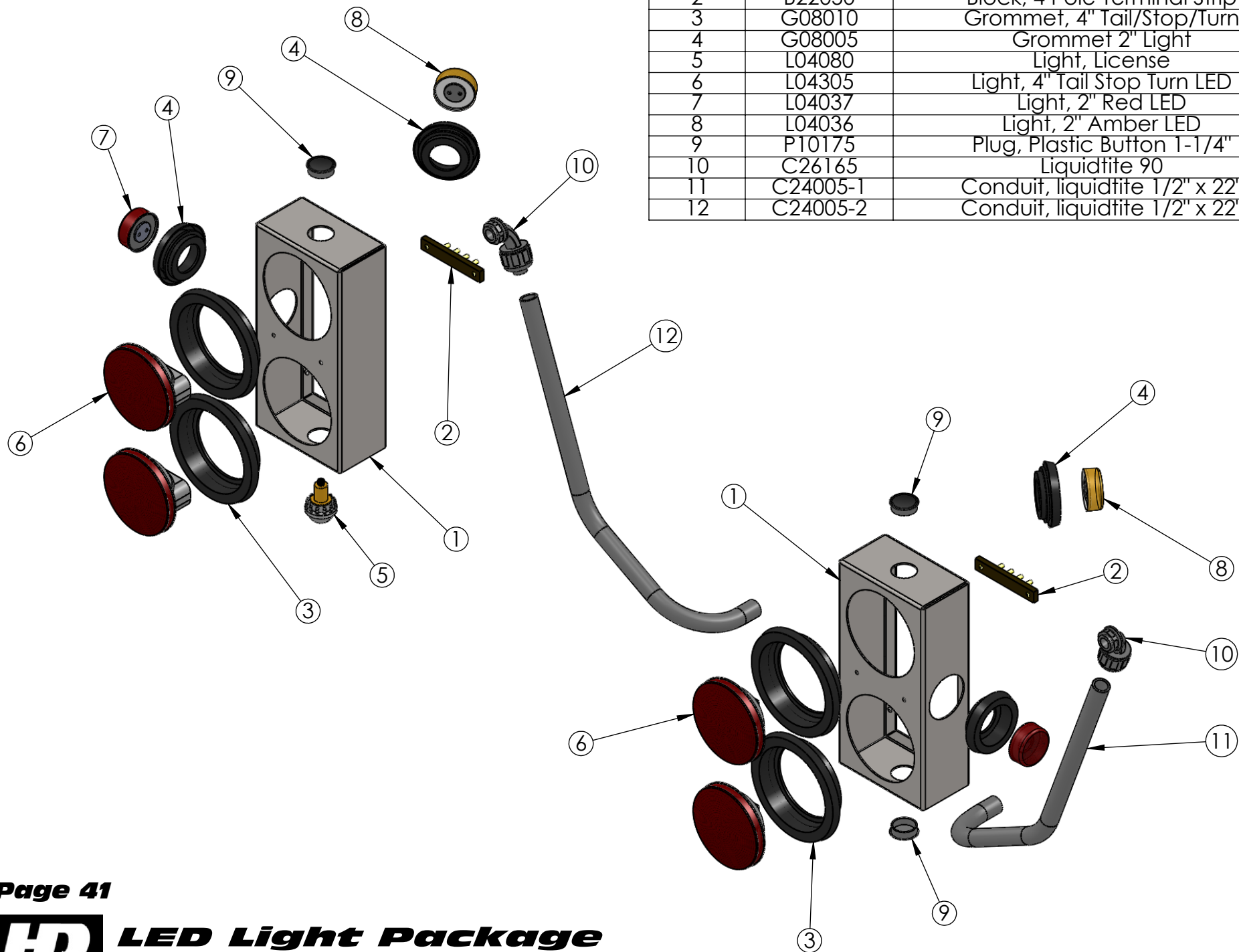
Standard Lights



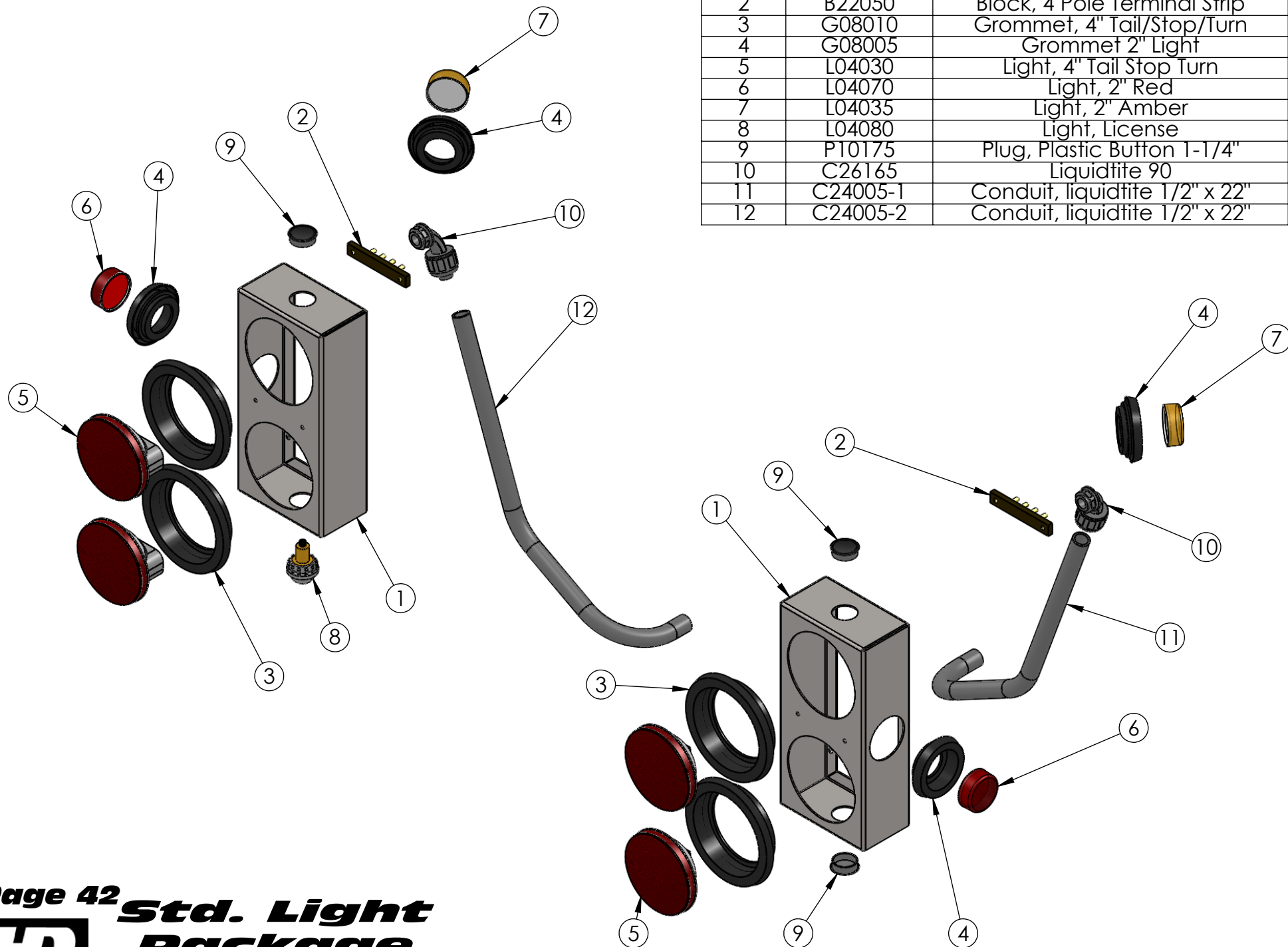
LED Lights

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B22050	Block, 4 Pole Terminal Strip	2
2	G08010	Grommet, 4" Tail/Stop/Turn	4
3	G08005	Grommet 2" Light	6
4	L04055	Light, License plate	1
5	L04305	Light, 4" Tail Stop Turn LED	4
6	L04037	Light, 2" Red LED	4
7	L04036	Light, 2" Amber LED	2

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B13048	Box, light Vertical	2
2	B22050	Block, 4 Pole Terminal Strip	2
3	G08010	Grommet, 4" Tail/Stop/Turn	4
4	G08005	Grommet 2" Light	4
5	L04080	Light, License	1
6	L04305	Light, 4" Tail Stop Turn LED	4
7	L04037	Light, 2" Red LED	2
8	L04036	Light, 2" Amber LED	2
9	P10175	Plug, Plastic Button 1-1/4"	3
10	C26165	Liquidtite 90	2
11	C24005-1	Conduit, liquidtite 1/2" x 22"	1
12	C24005-2	Conduit, liquidtite 1/2" x 22"	1

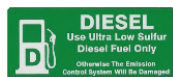


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B13048	Box, light Vertical	2
2	B22050	Block, 4 Pole Terminal Strip	2
3	G08010	Grommet, 4" Tail/Stop/Turn	4
4	G08005	Grommet 2" Light	4
5	L04030	Light, 4" Tail Stop Turn	4
6	L04070	Light, 2" Red	2
7	L04035	Light, 2" Amber	2
8	L04080	Light, License	1
9	P10175	Plug, Plastic Button 1-1/4"	3
10	C26165	Liquidfite 90	2
11	C24005-1	Conduit, liquidfite 1/2" x 22"	1
12	C24005-2	Conduit, liquidfite 1/2" x 22"	1





D30001
(2)



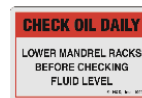
D30027
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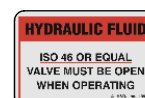
D30010
(1)



D30015
(1)



D30032
(1)



D30033
(1)



D30034
(2)

HOGG & DAVIS, INC
www.hogadavis.com

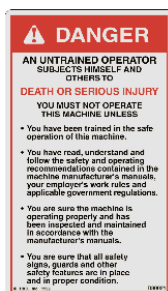
D30018
(2)



D30053
(2)



D30022
(1)



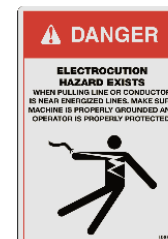
D30021
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D30026
(2)



D30028
(5)



D30036
(3)



D30037
(1)



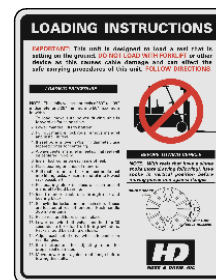
D30042
(10)



D30128
(1)



D30055
(1)



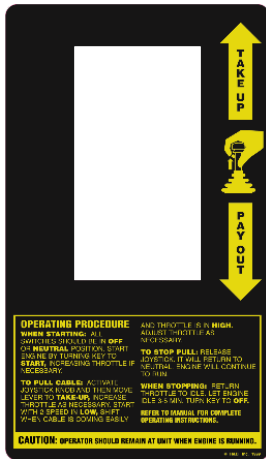
D30002
(1)



R09043
(4)



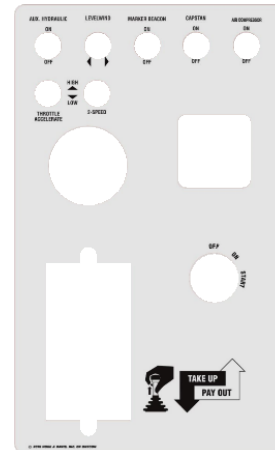
R09044
(2)



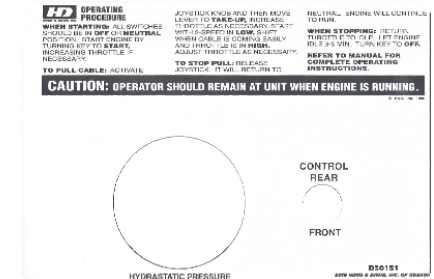
D30111
(1)



D30025
(1)



D30150
(1)



D30151
(1)

Decal Kit# D30122



D30030
(1)



D30029
(1)



(1)

Sheet 1



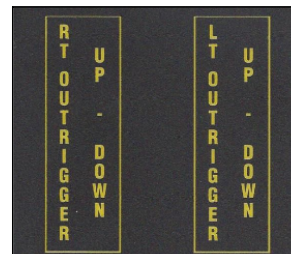
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(2)



(2)



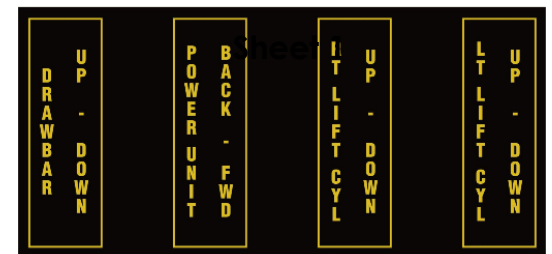
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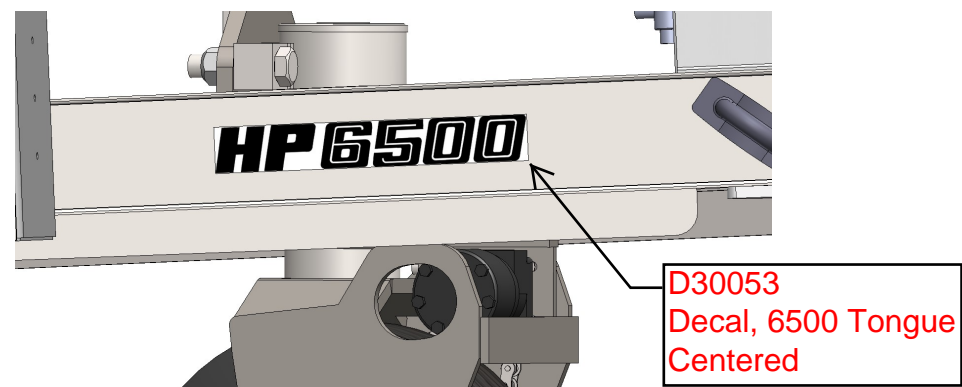
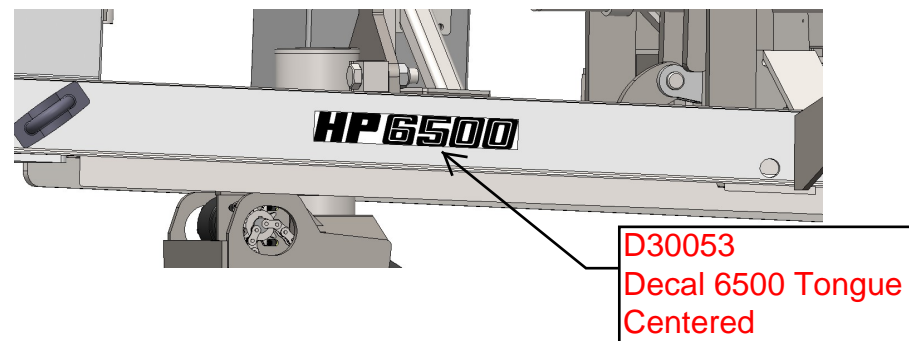
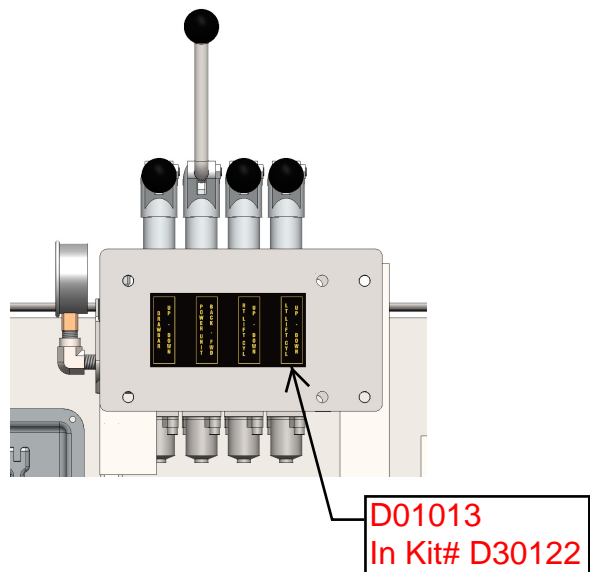
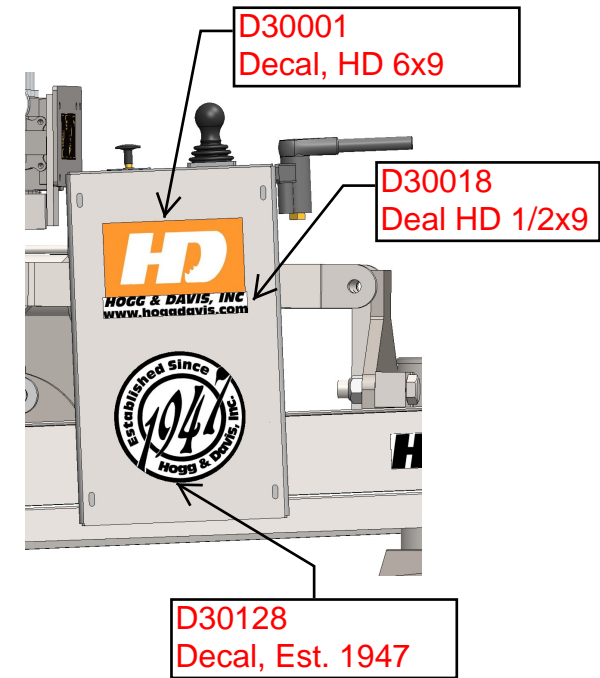
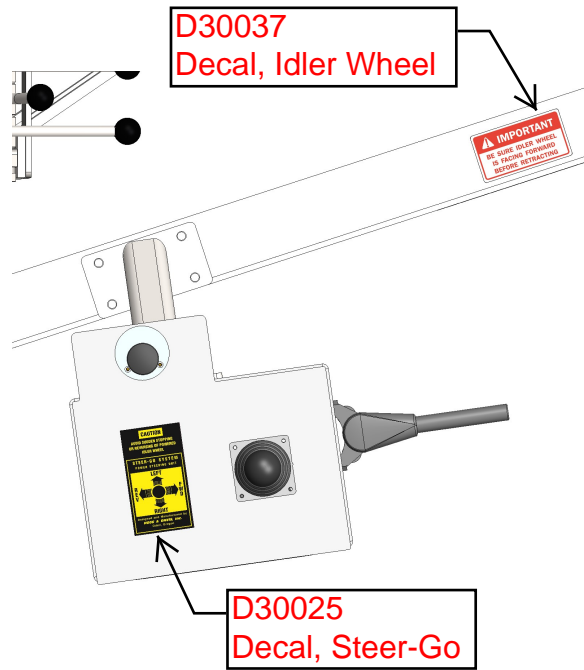
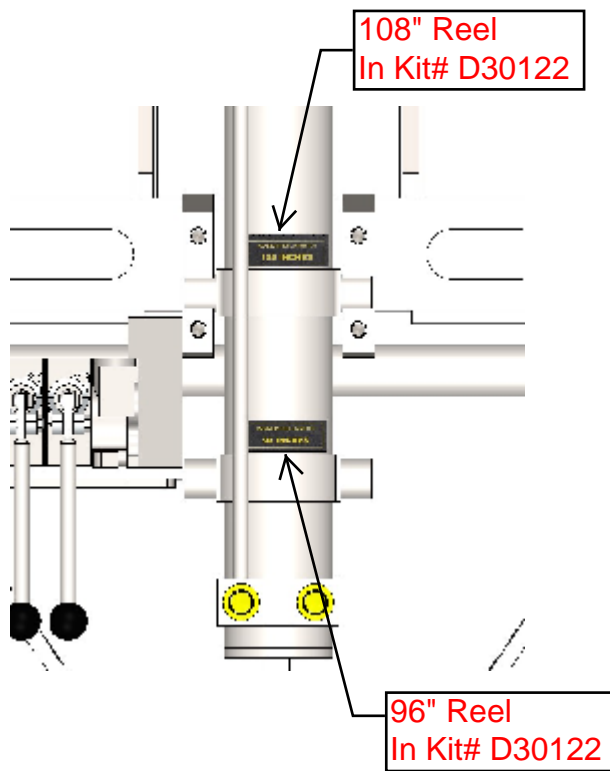
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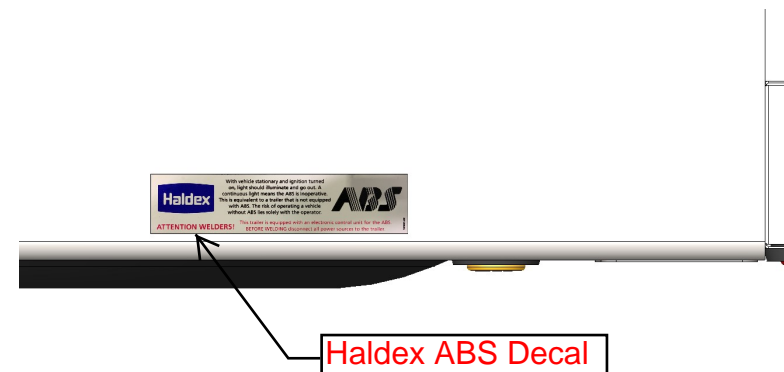
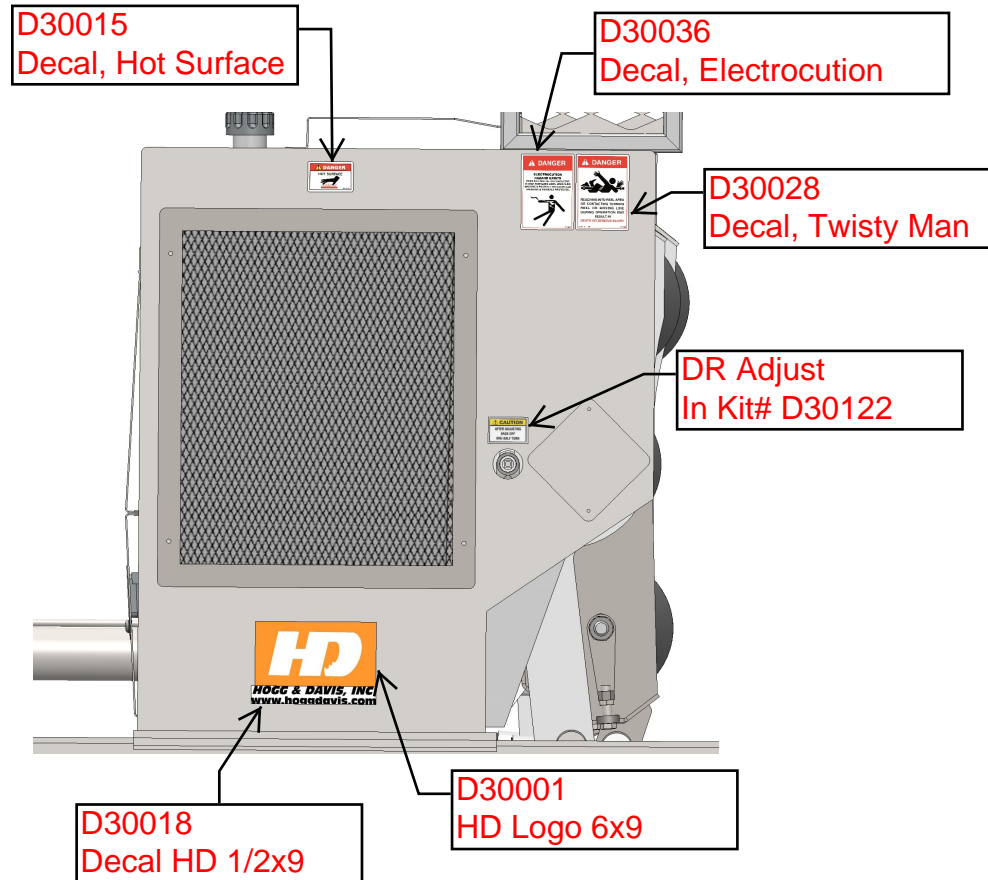
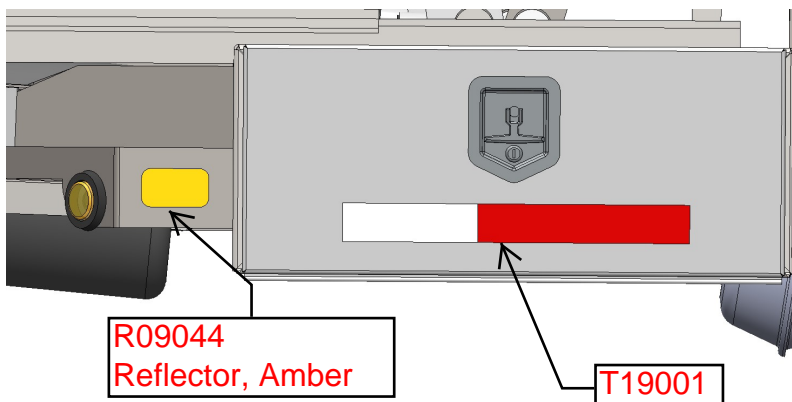
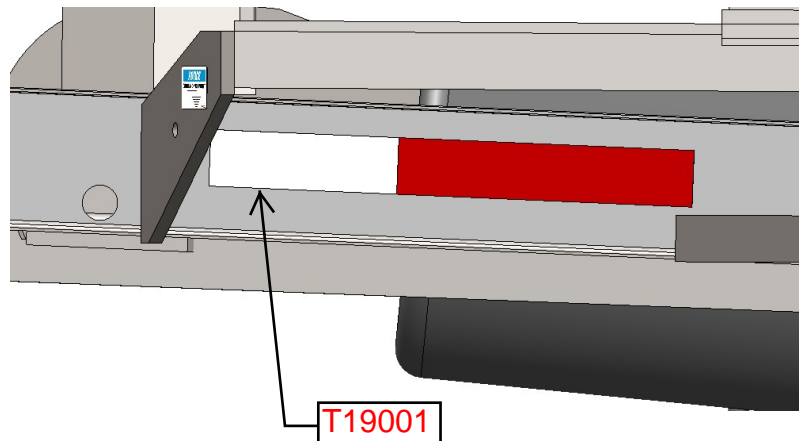
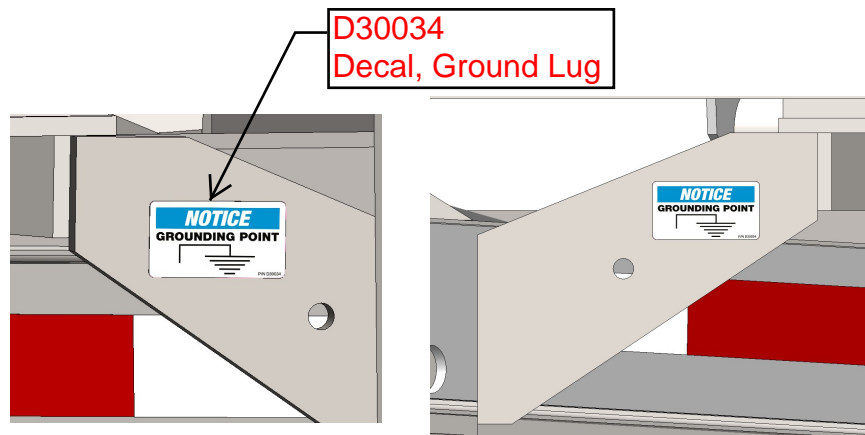


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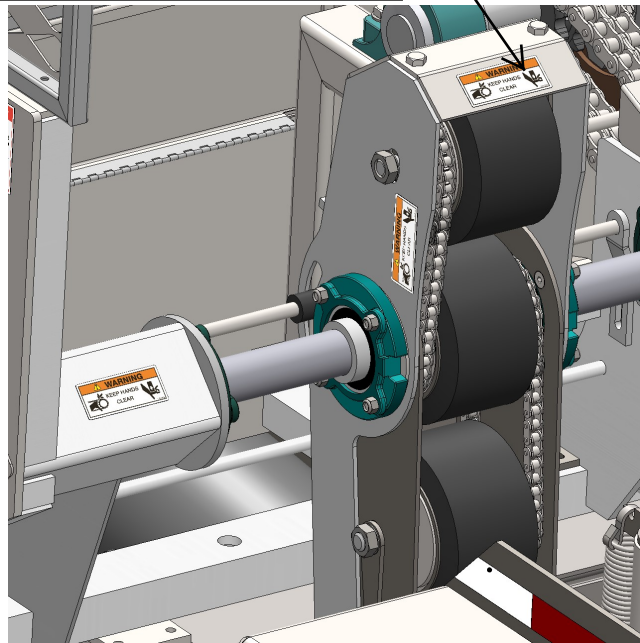


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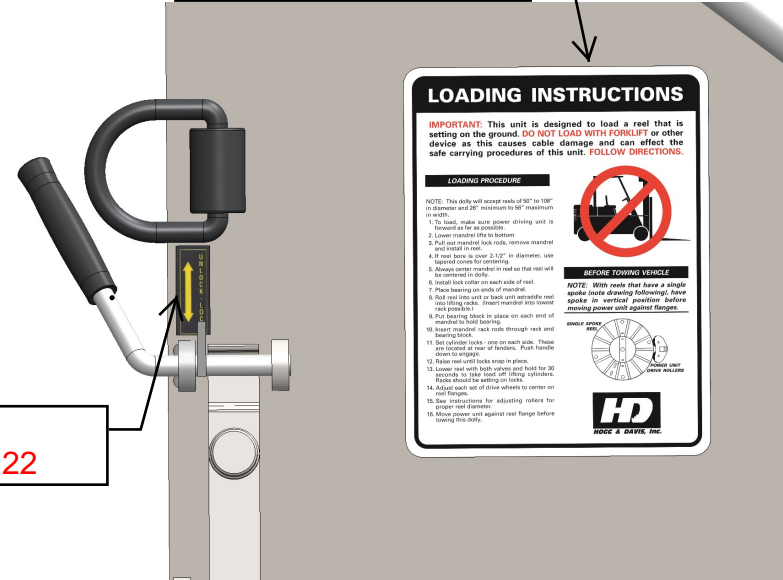




D30042
Decal, Keep Hands Clear



D30002
Loading Instructions

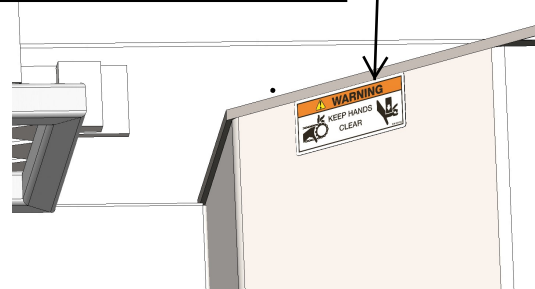


Lock/Unlock
In Kit# D30122

D30042
Decal, Keep Hands Clear



D30042
Decal, Keep Hands Clear



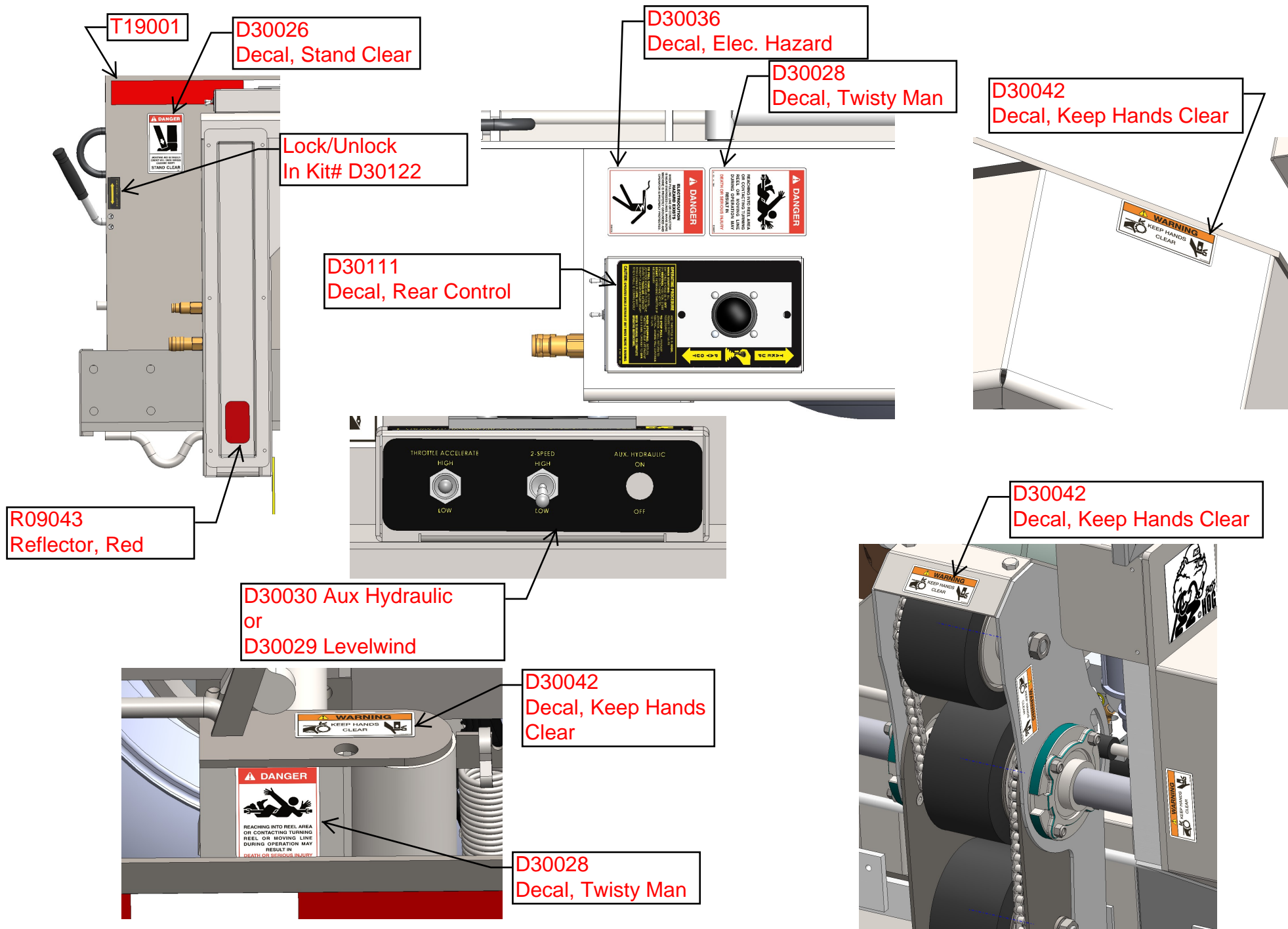
D30028
Decal, Twisty Man

D30029
Decal, Stand Clear

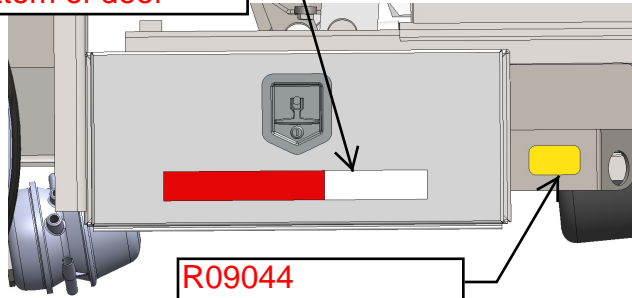
Lock/Unlock
In Kit# D30122



R09043
Reflector, Red

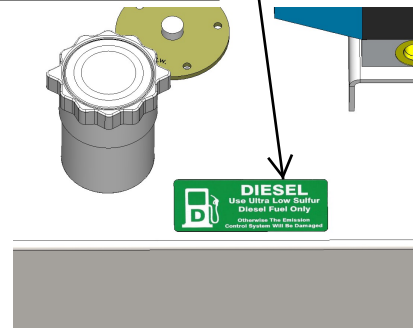


T19001
Approx. 1-1/2" from
bottom of door

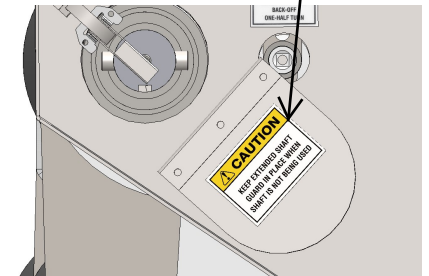


R09044
Reflector, Amber

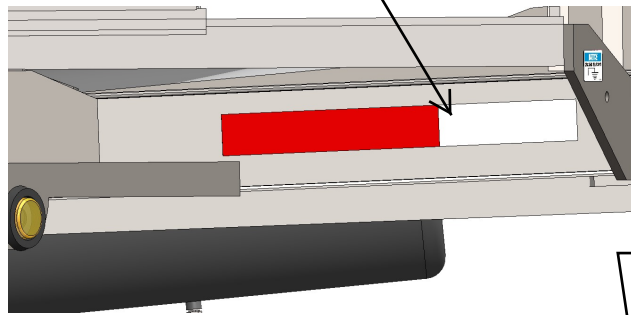
D30027
Decal, Diesel Fuel



D30023
Decal, Extended Shaft
In Kit# D30122



T19001



D30055
Decal, Boss Hog

D30021
Untrained Operator

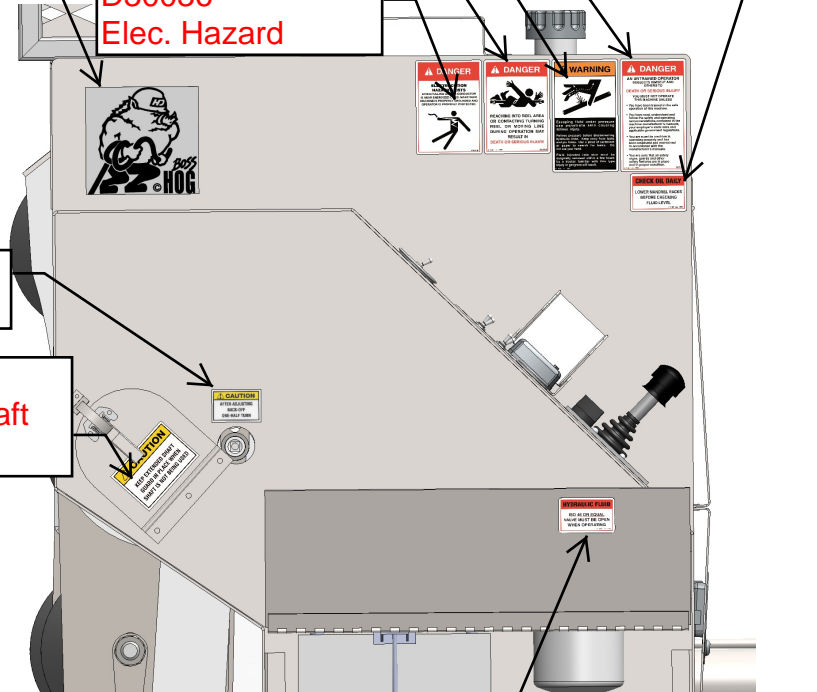
D30032
Check Oil

D30022
Fluid Pressure

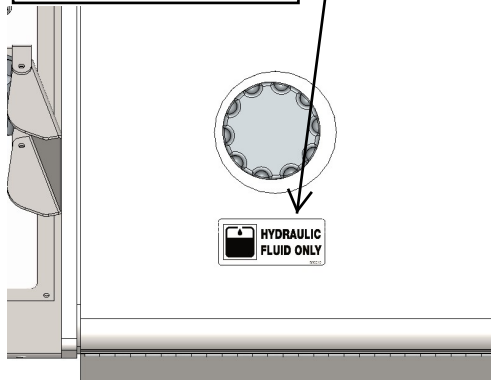
D30028
Twisty Man

D30036
Elec. Hazard

D30151
Decal, Hydrostatic

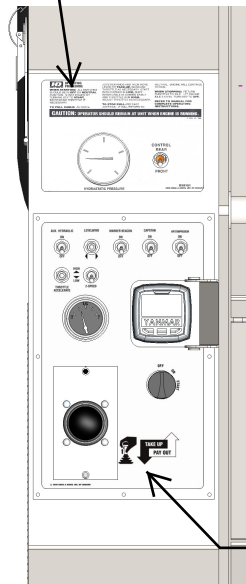


D30010
Decal, Hyd. Fluid



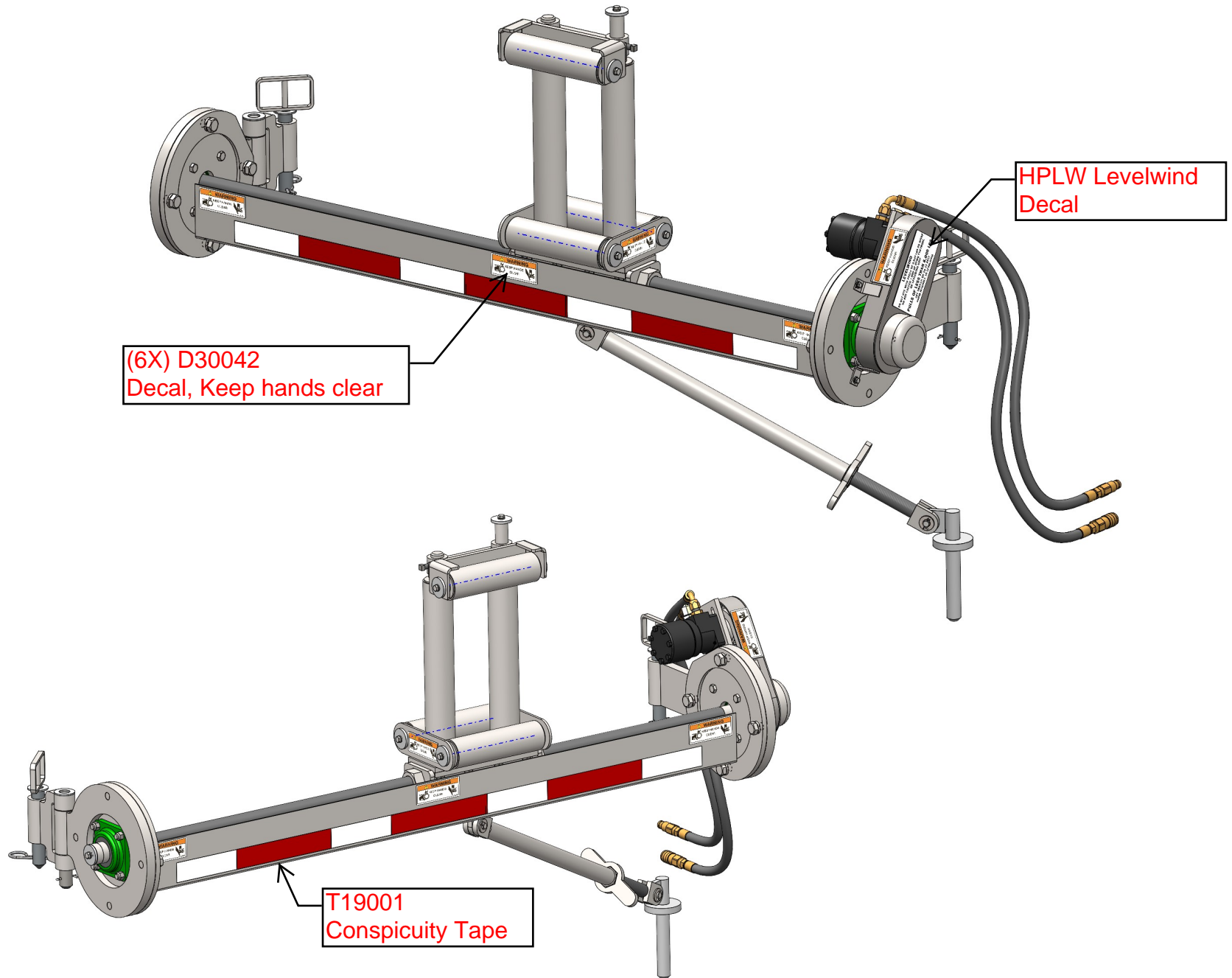
DR Adjust
In Kit# D30122

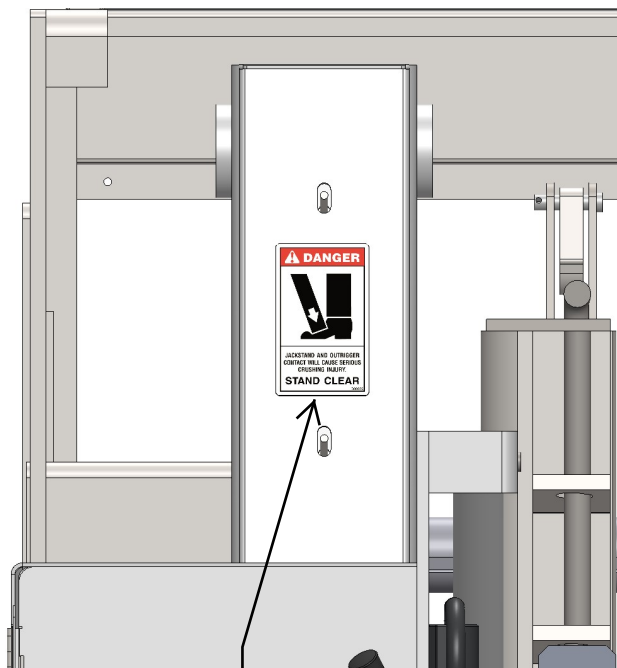
D30023
Decal, Extended Shaft
In Kit# D30122



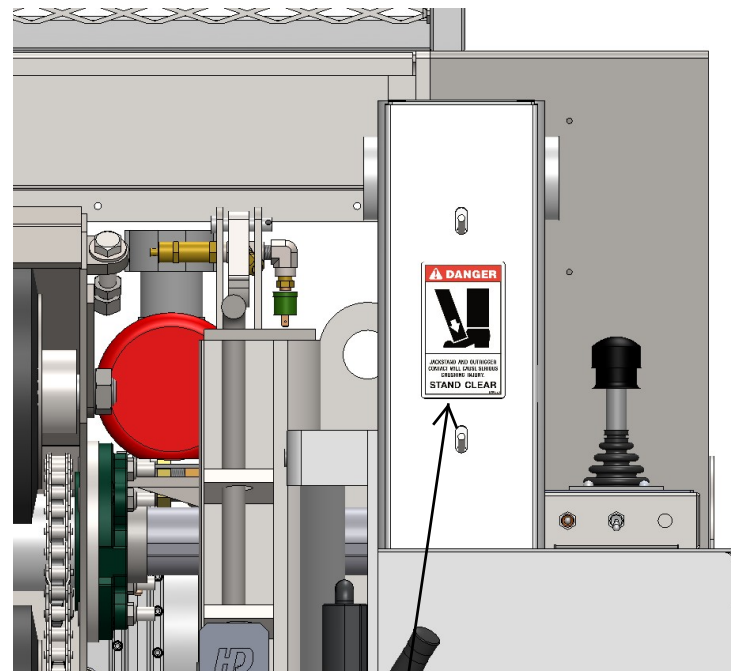
D30150
Decal, Controls

D30033
ISO 46

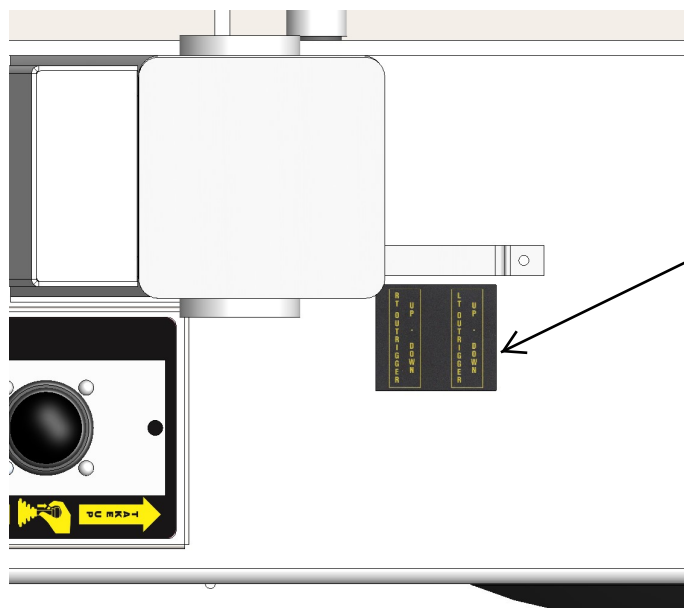




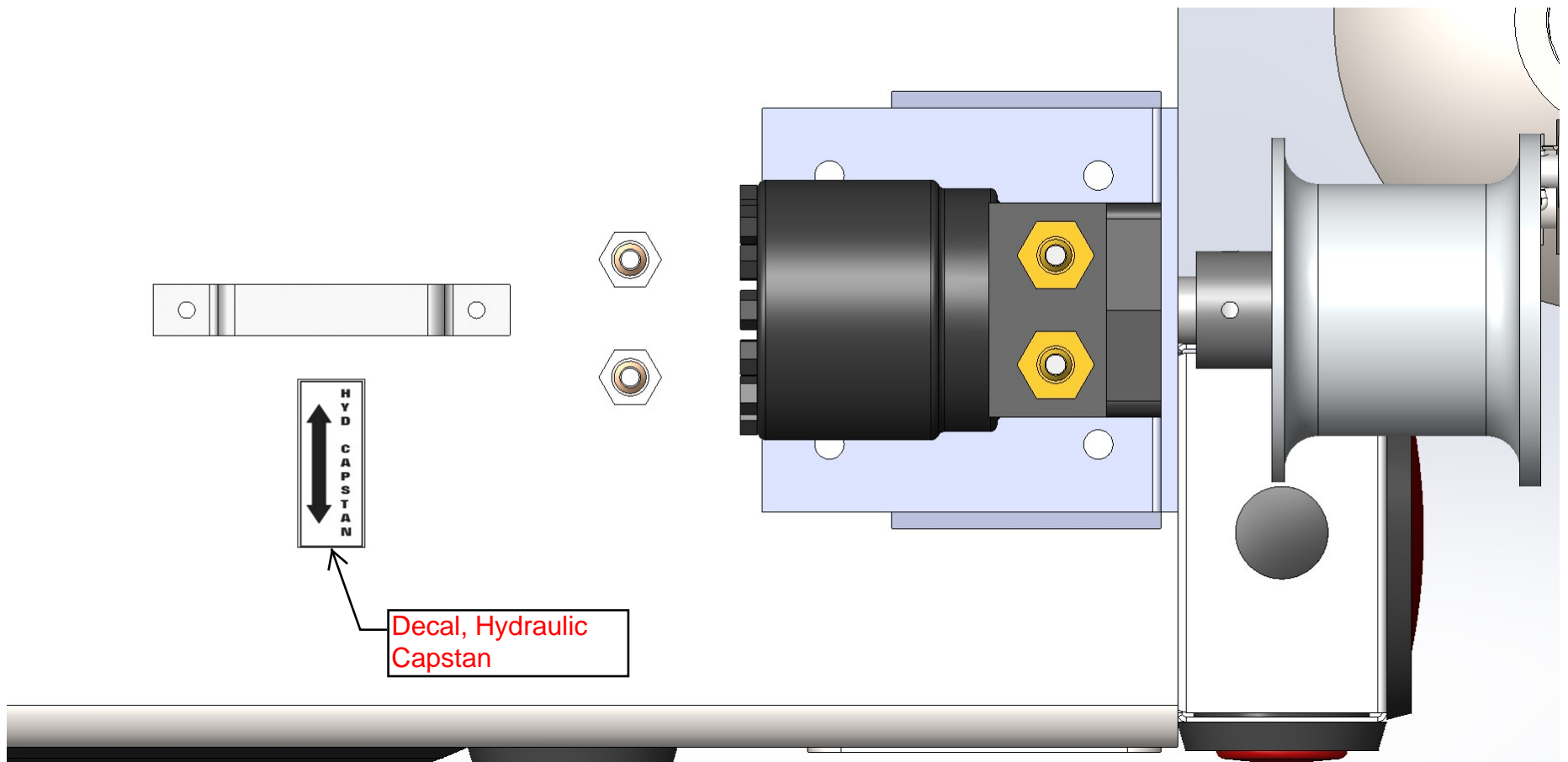
D30026
Decal, Stand Clear

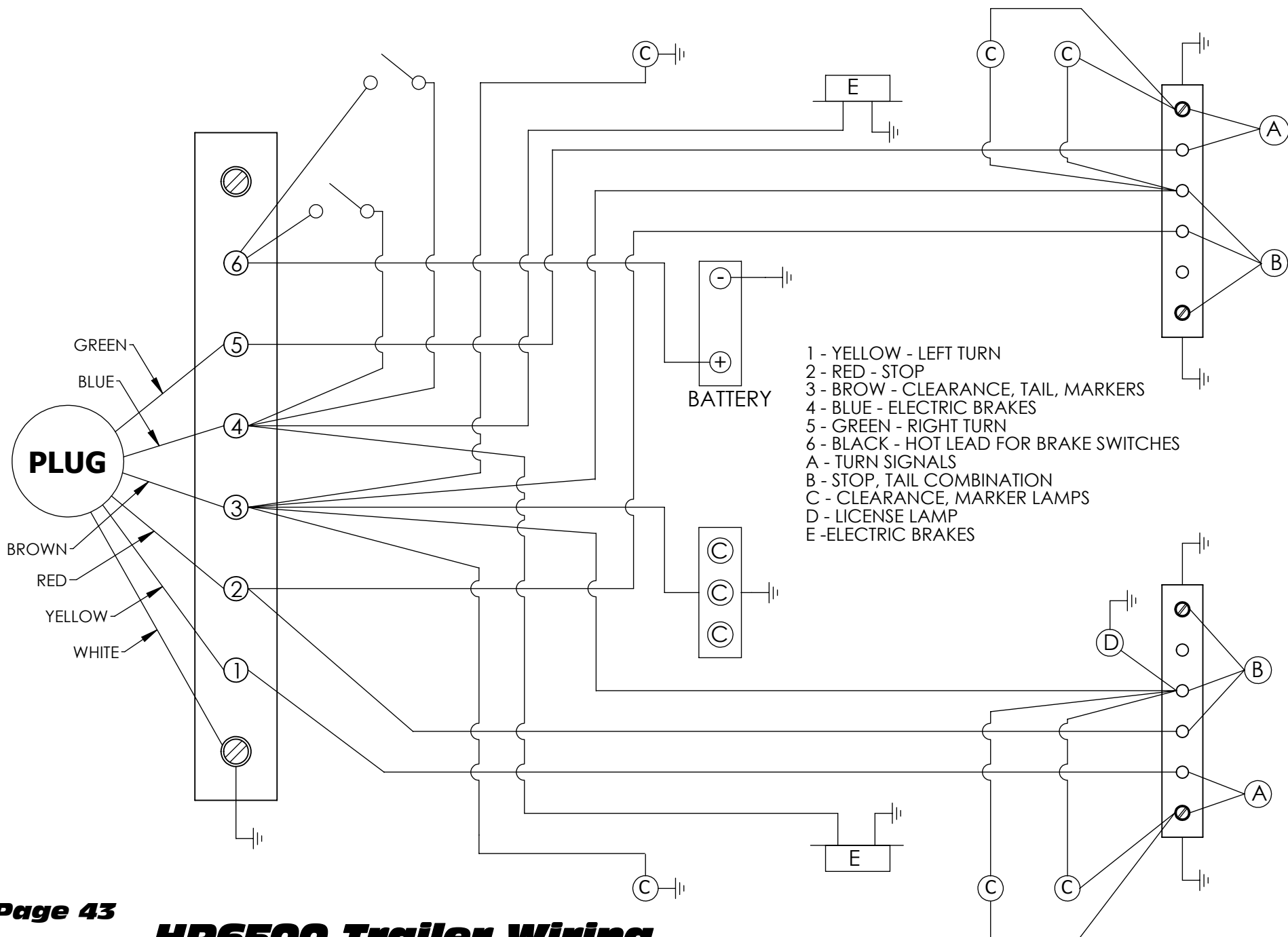


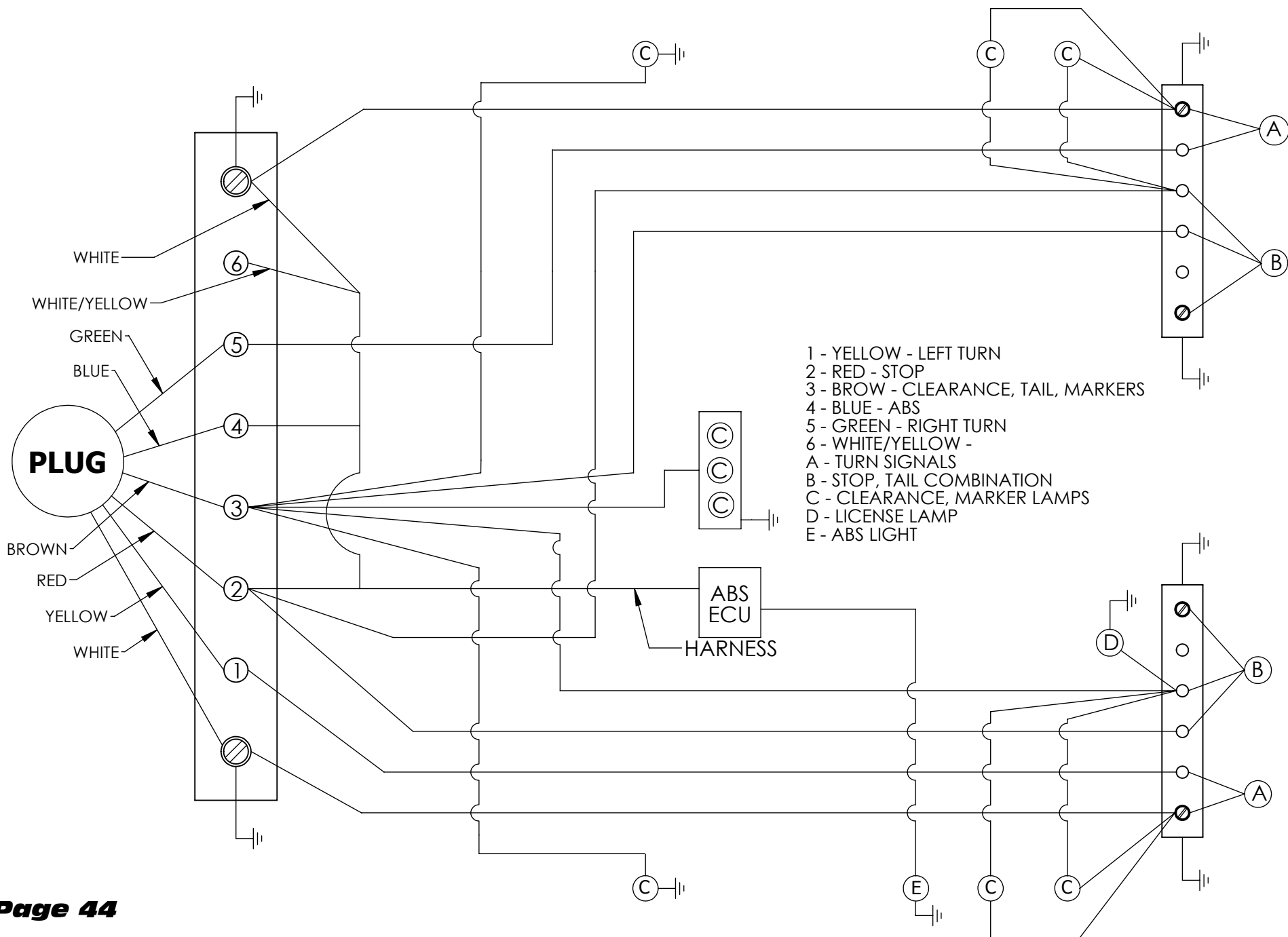
D30026
Decal, Stand Clear



Outrigger Decal
In Kit# D30122









Torque Specifications



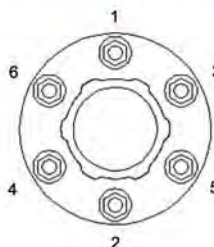
HUBS (For Ball Seat Mounted Disc Wheels) 6 and 10 Stud Hubs

Applies to 3/4-16 and 1 1/8-16 Fastener Sizes

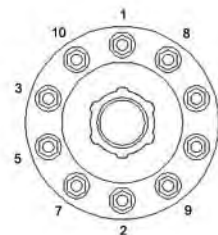
RECOMMENDED TORQUE DRY: 450-500 ft. lbs.

INNER CAP NUTS - First tighten cap nuts to 50 ft. lbs. using sequence shown. Then tighten cap nuts to recommended torque (450-500 ft. lbs. DRY) using sequence shown.

OUTER CAP NUTS - First tighten cap nuts to 50 ft. lbs. using sequence shown. Then tighten cap nuts to recommended torque (450-500 ft. lbs. DRY) using sequence shown.



6-STUD



10-STUD

Recheck torque after first 50 to 100 miles of service and retorque as required to recommended torque specifications.

NOTE: In all applications where an aluminum disc wheel is to be installed, a special inner cap nut must be substituted for the standard inner cap nut.



HUBS (For Pilot Mounted Disc Wheels) 8 and 10 Stud Hubs

Applies to M22 x 1.5 studs/two piece flange nuts

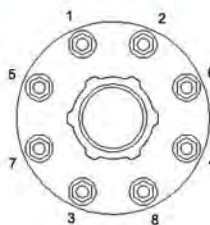
RECOMMENDED TORQUE: 450-500 ft.lbs.

All threads are right hand metric.

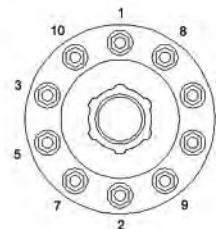
First tighten flange nuts to 50 ft. lbs. using sequence shown.

Check disc-wheels for proper positioning on pilots and proper seating against flange.

Then tighten flange nuts to recommended torque (450-500 ft. lbs.) using sequence shown.



8-STUD



10-STUD

Recheck torque after first 50 to 100 miles of service and retorque as required to recommended torque specifications.



SPOKE WHEELS

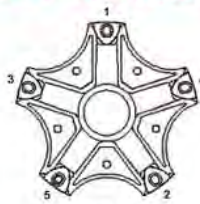
Applies to 3/4-10 Fastener Sizes

RECOMMENDED TORQUE DRY: 200-260 ft. lbs.



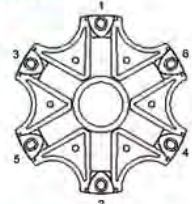
3 SPOKE

TIGHTEN CLAMPS
EVENLY
IN THIS ORDER



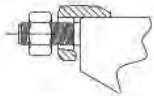
5 SPOKE

TIGHTEN CLAMPS
EVENLY
IN THIS ORDER



6 SPOKE

Recheck rim nut torque after first 50 to 100 miles of service and retorquing as required to recommended torque specifications.



Heel-less clamps do not depend on a fulcrum at the bottom of the clamp to produce the force to wedge the rims.

Heel of clamp does not touch wheel.

HEEL-LESS CLAMP



Gap permissible but not required - if gap exceeds 1/4" or if clamp bottoms out before reaching 80% of recommended torque, check to insure that the proper clamps and spacer are being used.

HEEL TYPE CLAMP

IMPORTANT: Do not overtorque! Rim clamp does not have to heel. Overtorquing can deform rim spacer and damage back flange.



BRAKE DRUM or ROTOR ASSEMBLY TORQUE SPECIFICATIONS for Mounting Bolts (Grade 8 Fasteners)

Thread Size		Torque Requirements Foot Pounds		Thread Size		Torque Requirements Foot Pounds	
		Minimum	Maximum			Minimum	Maximum
5/8-18 (Tapped Holes)	Rotate Bolt	150	200	3/4-16 (Wheels)	Rotate Nut	275	300
5/8-18 (Through Holes)	Rotate Nut	150	175	3/4-16 (Hubs)	Rotate Nut	100	225
3/4-10	Rotate Nut	250	275	1-14	Rotate Nut	175	225

Note: All fastener parts must be clean and dry.

WARNING

This brochure contains information taken from our Installation, Service and Safety Instructions Manual. Copies of the complete manual can be obtained at no cost by contacting our Sales Department at the address shown below.

Read and Understand the Installation, Service and Safety Instructions Manual before installing or servicing the hub. Failure to do so may result in personal injury or death, and may result in a compromise of your vehicle's safety through loss or failure of a wheel or compromise of the braking system.

The symbol shown above is used to call your attention to instructions concerning your personal safety and the safety of others. Watch for this symbol. It points out important safety precautions. It means "ATTENTION! Become Alert! Your personal safety is involved!" Read the message that follows and be alert to the risk of personal injury or death.

"The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury." Ref: 29CFR 1926.20 (b) (4) (a) (2)

It is understood that safety rules within individual companies vary. If a conflict exists between the material contained in the manual and the rules of a using company, the more stringent rules should take precedence.

Webb Wheel Products, Inc. Aftermarket Business Unit www.webbwheel.com

The following lubrication instructions are offered as a “rule of thumb”. Precise lubrication instructions will vary with each usage of each unit. **CHECK ALL LUBRICATION POINTS BEFORE EACH USE.**

ENGINE: Consult engine manual for precise instructions. Units are delivered by Hogg & Davis, inc. with 10W-40 oil.

HYDRASTATIC DRIVE SYSTEM: This drive system is practically maintenance free, however the oil should be changed every six months with **ISO 46** or its equivalent. There are two oil filters that should be changed at this time. (Refer to schematic) One is a high pressure filter and has a restriction gauge on it. (Located inside control panel) This gauge should be checked daily, if it reaches the red line the filter should be changed immediately.

DO NOT USE ANY LUBRICANT HEAVIER THAN RECOMMENDED

WHEEL BEARINGS: Should be checked and adjusted after **FIRST 30 DAYS OF USE**. Bearings should be repacked yearly or as per company specifications.

IDLER WHEEL: Lubricate every 30 days. Zerk fittings are provided for proper application of grease. Lubricate all parts, including spindle housing, “A” frame supports and hydraulic cylinder linkage. Spindle bearings are packed at the factory and need not to be checked for 5 years.

DRIVE ROLLERS: Sealed bearings

SPROCKET ASSEMBLIES: Lubricate once a week. Zerk fittings are provided for proper grease application.

ROLLER CHAIN: Lubricate roller chains weekly. Use regular lube oil to oil all chains. Including drive roller chains, main drive chain (Oil cup provided) and power idler wheel chain.

DRIVE SHAFT BEARINGS: Lubricate as required. It is recommended that the track be kept clean of grease and dirt buildup, and fresh lube be applied after each cleaning.

TOOL BOX DOORS: Lubricate as required. Hinges and locks should be lubricated with oil as needed for easy operation.

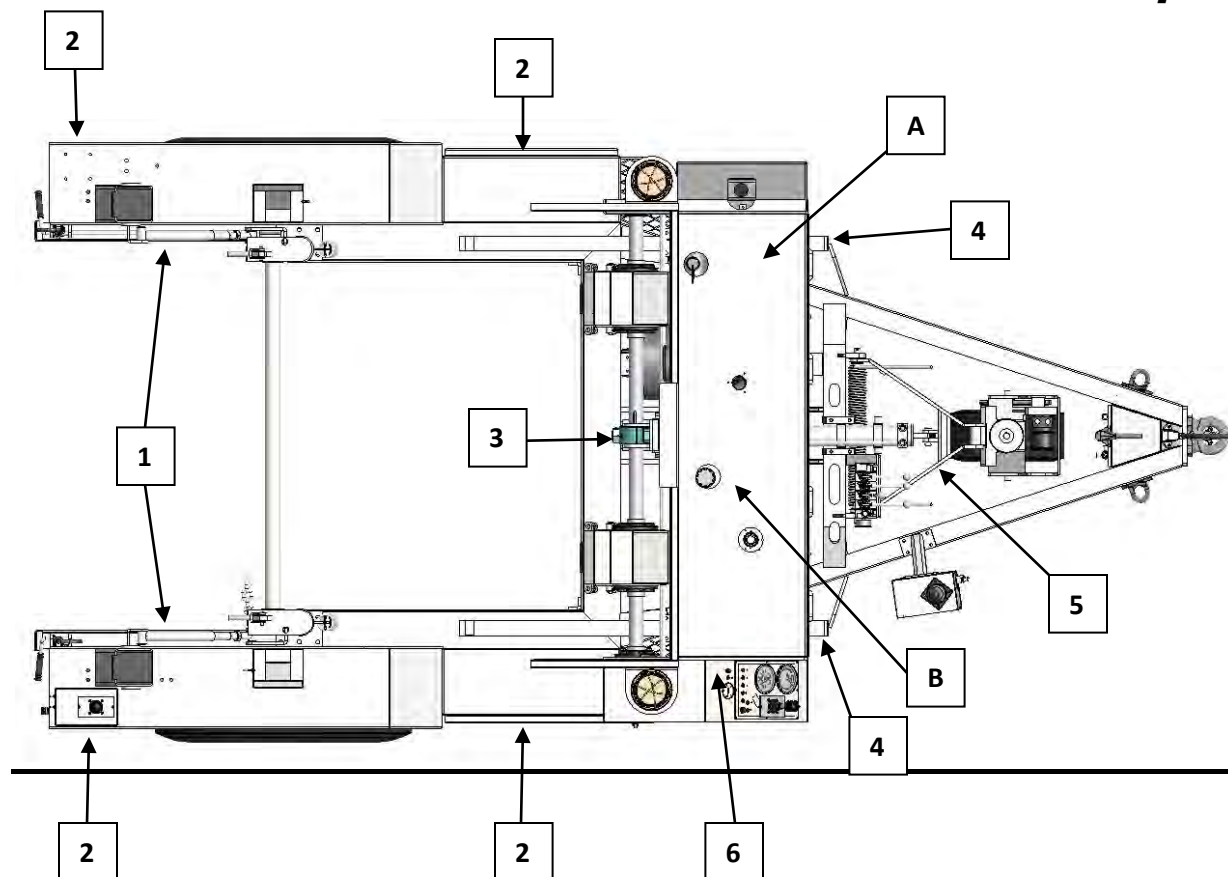
CAUTION: OILS SHOULD NOT BE MIXED. IF BRAND OR TYPE IS CHANGED, OLD OIL MUST BE DRAINED AND ALL FILTERS MUST BE CHANGED AND NEW OIL REPLACED THROUGHOUT THE SYSTEM.

HYDRAULIC OIL: Machine is delivered with **ISO 46** oil.

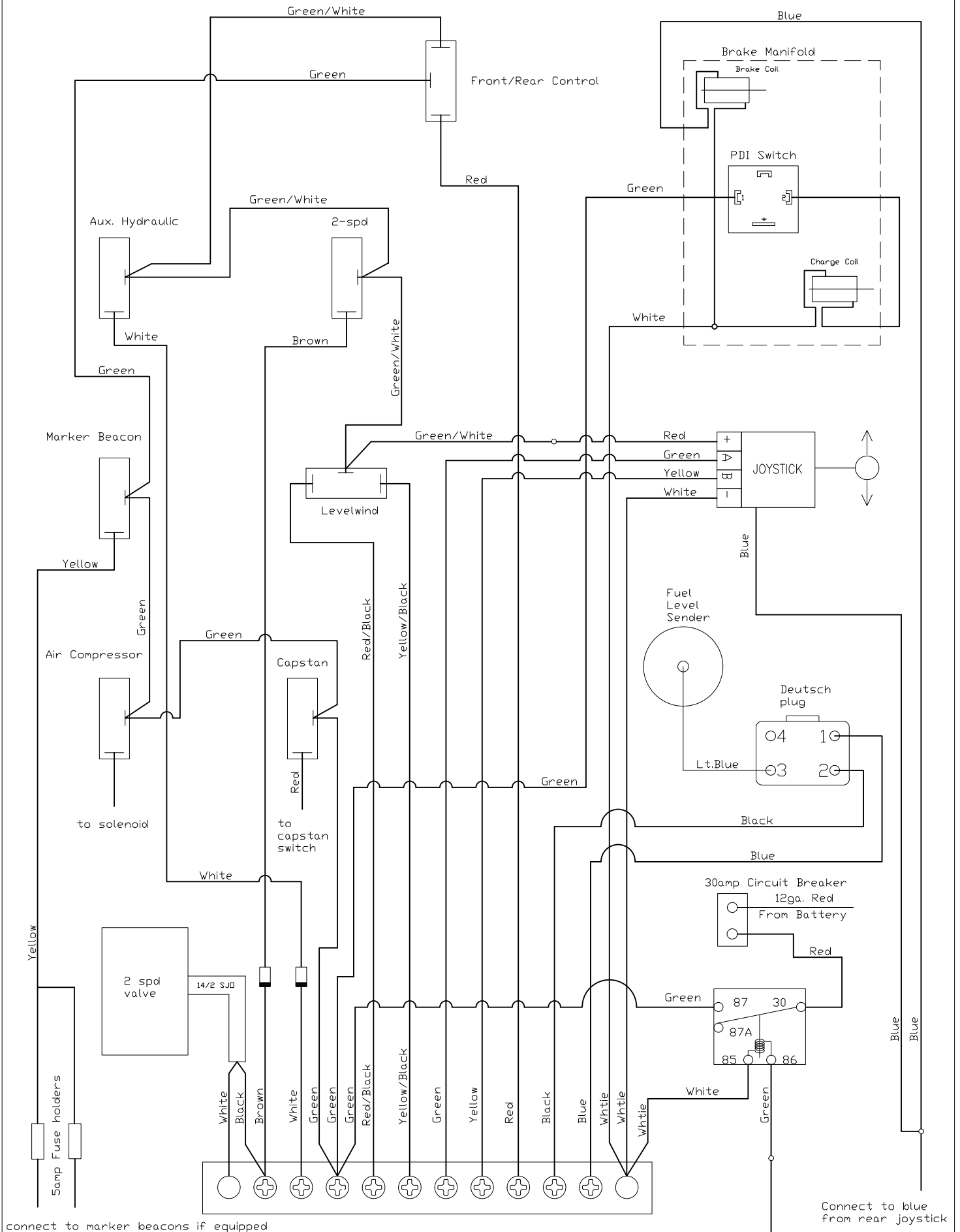
DO NOT USE AIRCRAFT TYPE HYDRAULIC FLUID.

ITEM		CHECK	LUBE TYPE	PERIOD
A	ENGINE	DIPSTICK	10W-40	DAILY
B	HYD. RESERVOIR	SIGHT GAUGE	ISO 46 *	DAILY
1	MANDREL STABILIZER	ZERKS (3)	MULTI-PURPOSE GREASE	WEEKLY
2	DOORS, HINGES	OPEN	LUBE OIL	AS NEEDED
3	REEL DRIVE	ZERKS (7)	MULTI-PURPOSE GREASE	WEEKLY
4	SLIDE RAILS	OPEN (2)	MULTI-PURPOSE GREASE	AS NEEDED
5	IDLER WHEEL	ZERKS (6)	MULTI-PURPOSE GREASE	WEEKLY
6	DRIVE CHAIN	OIL CUP	LUBE OIL	CHECK DAILY

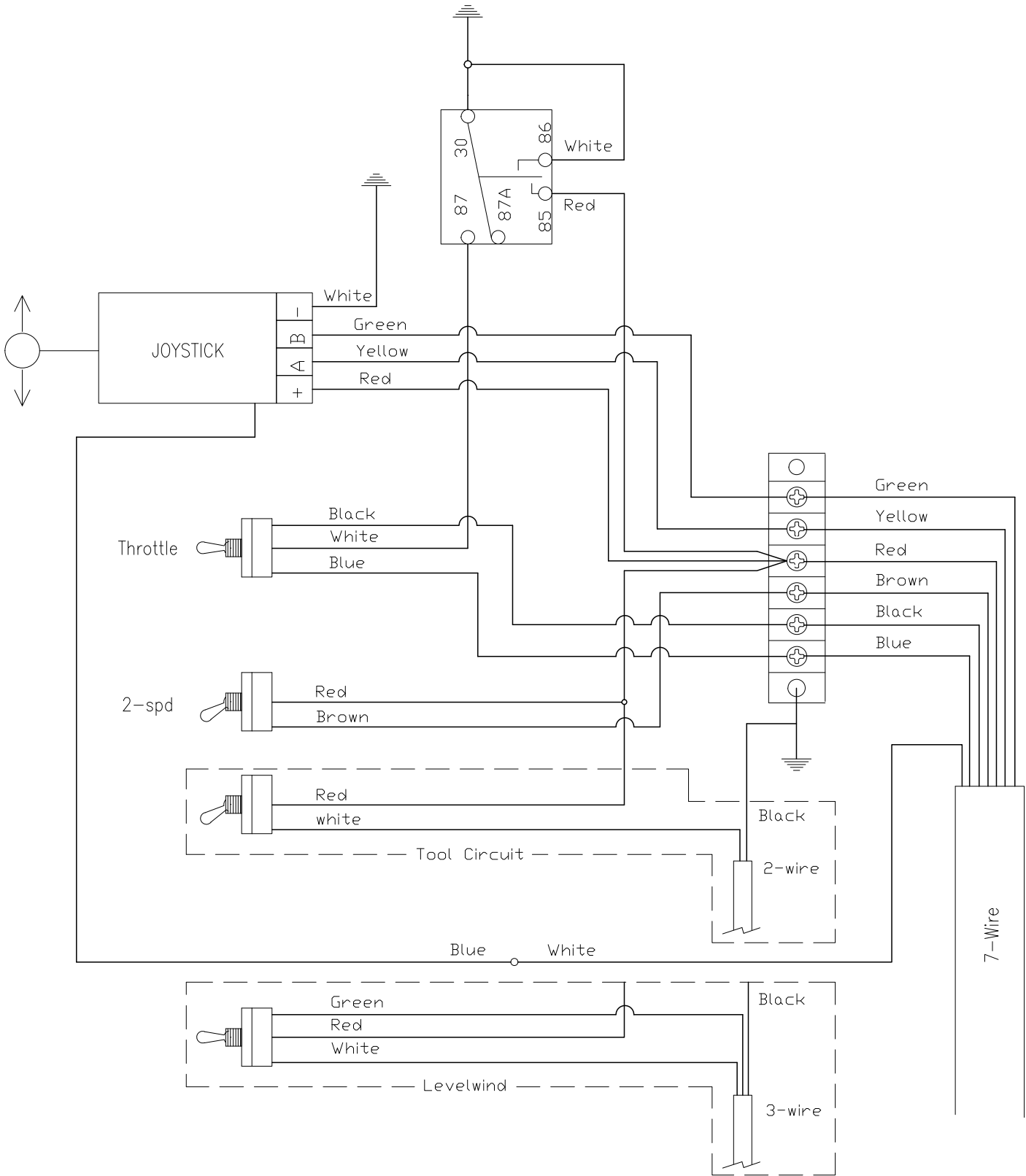
* **Customer Specified**



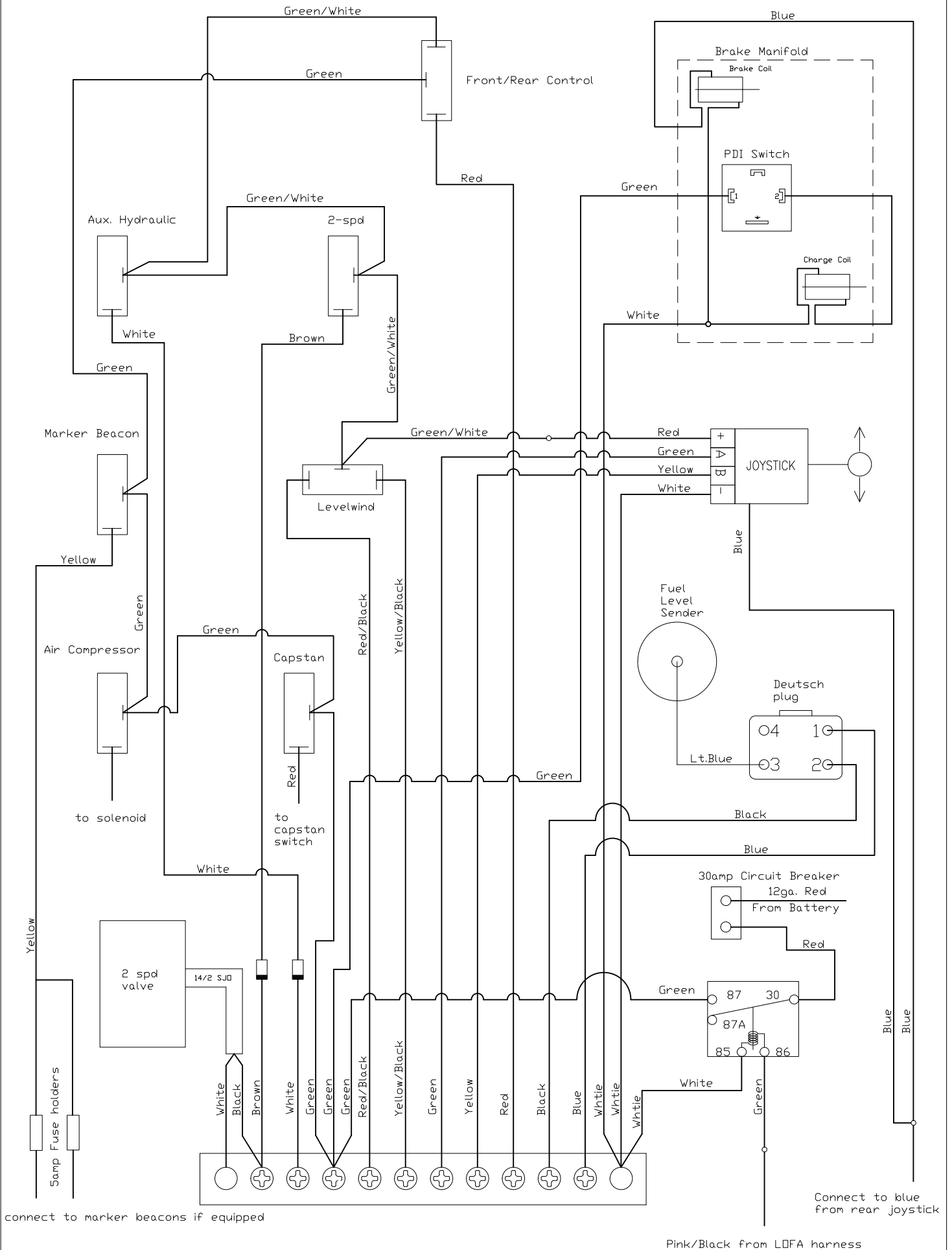
6500 Control Panel LOFA



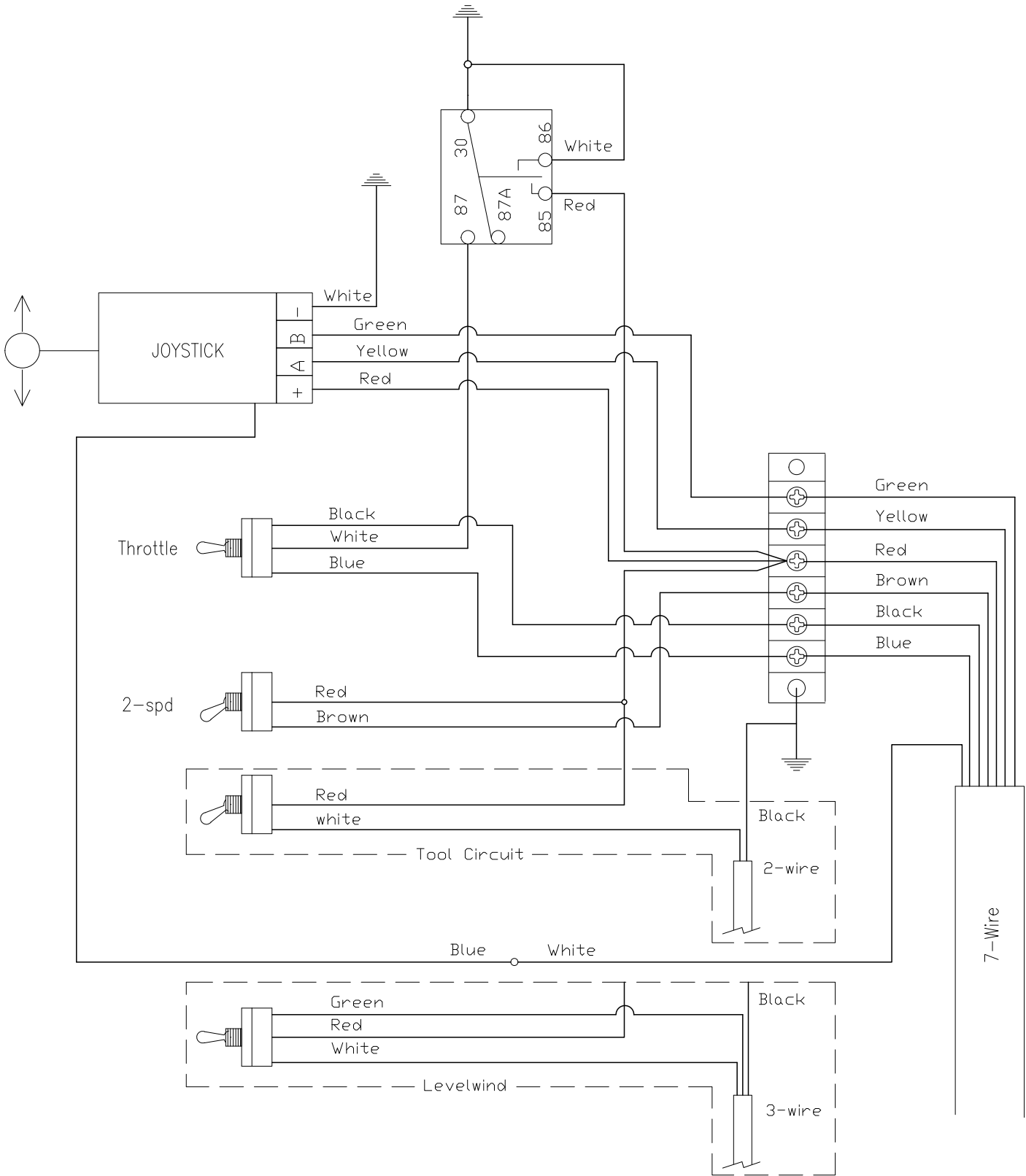
6500 Rear Control Wiring (LOFA)



6500 Control Panel LOFA

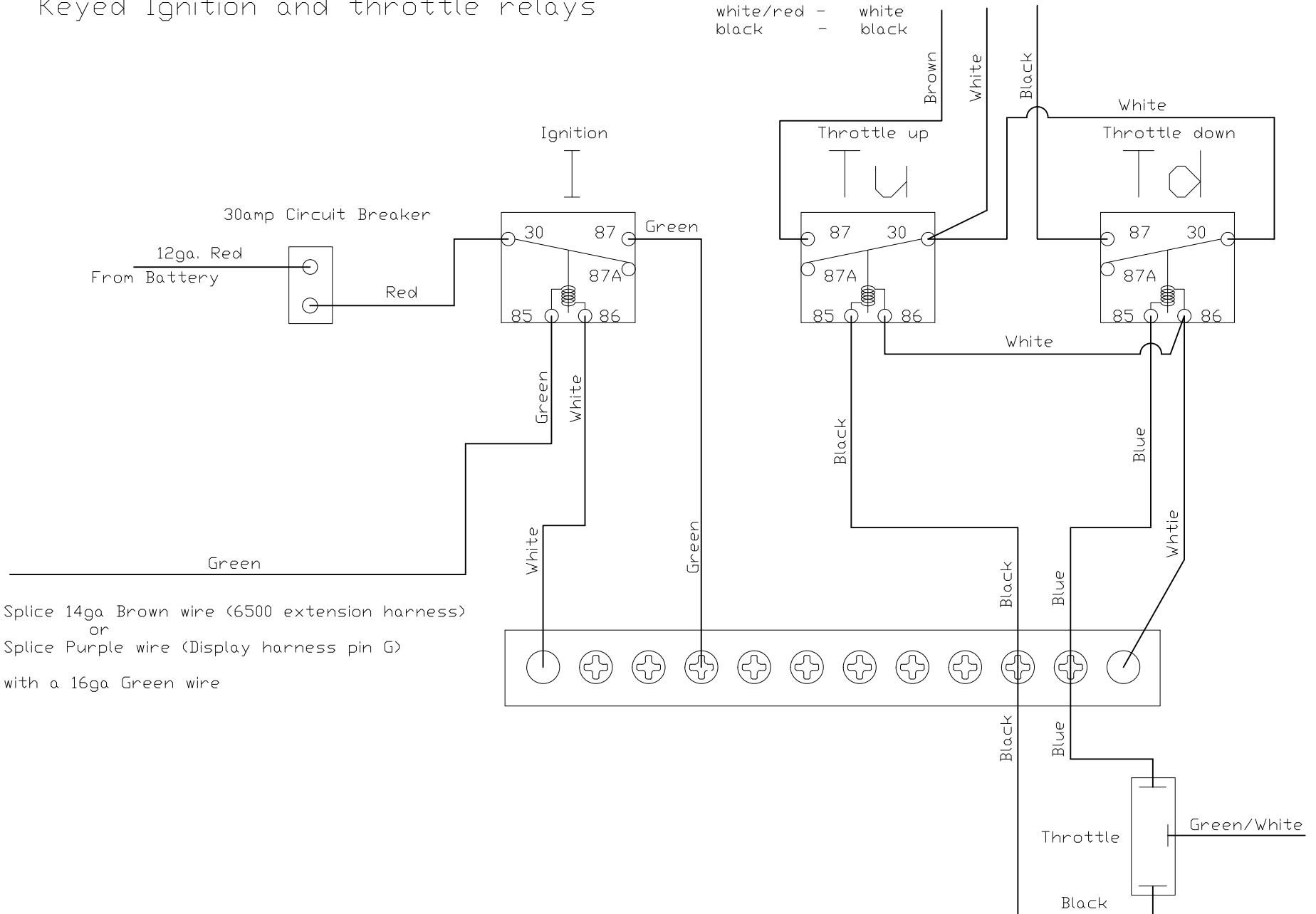


6500 Rear Control Wiring (LOFA)

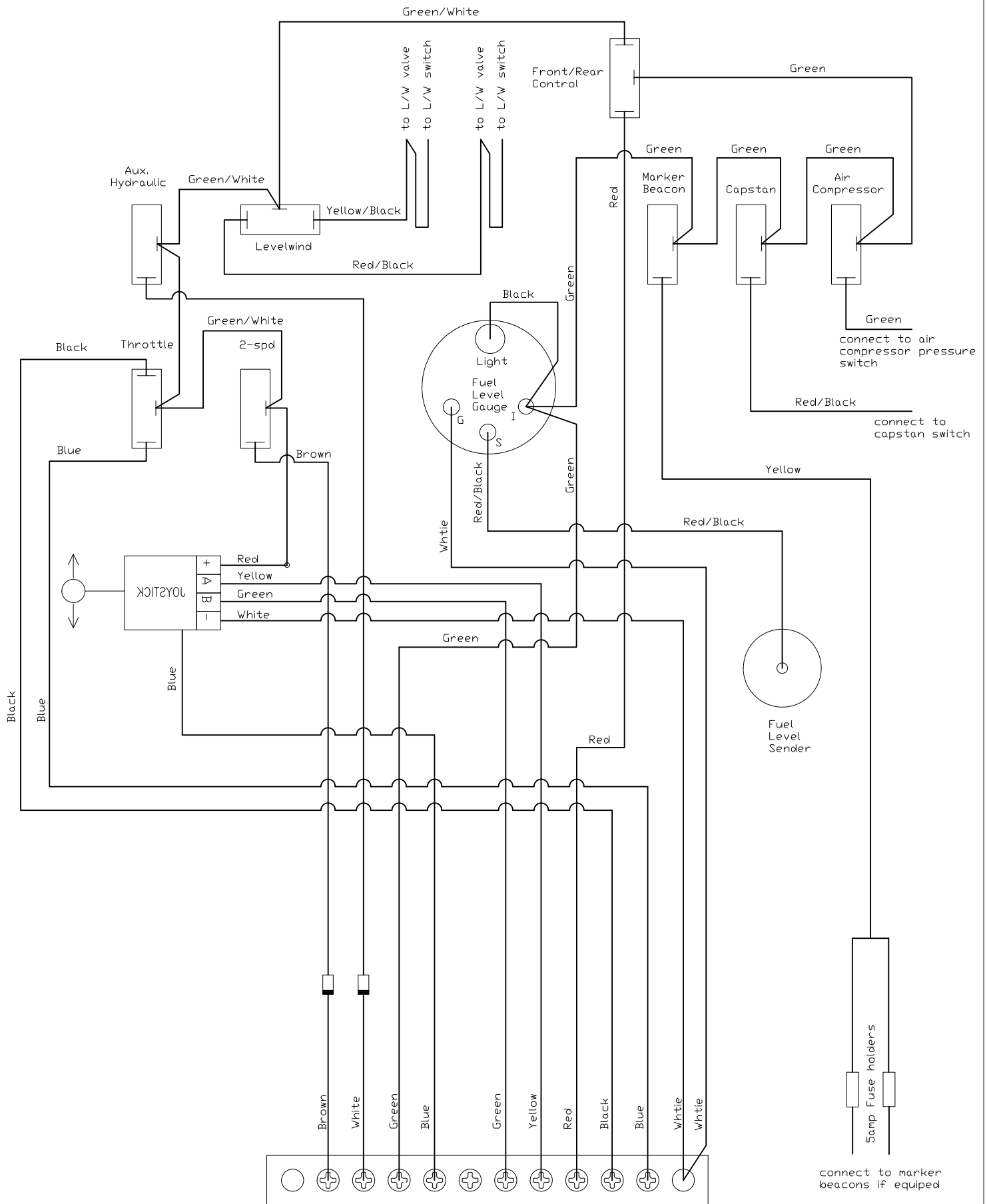


6500 Control Wiring Keyed Ignition and throttle relays

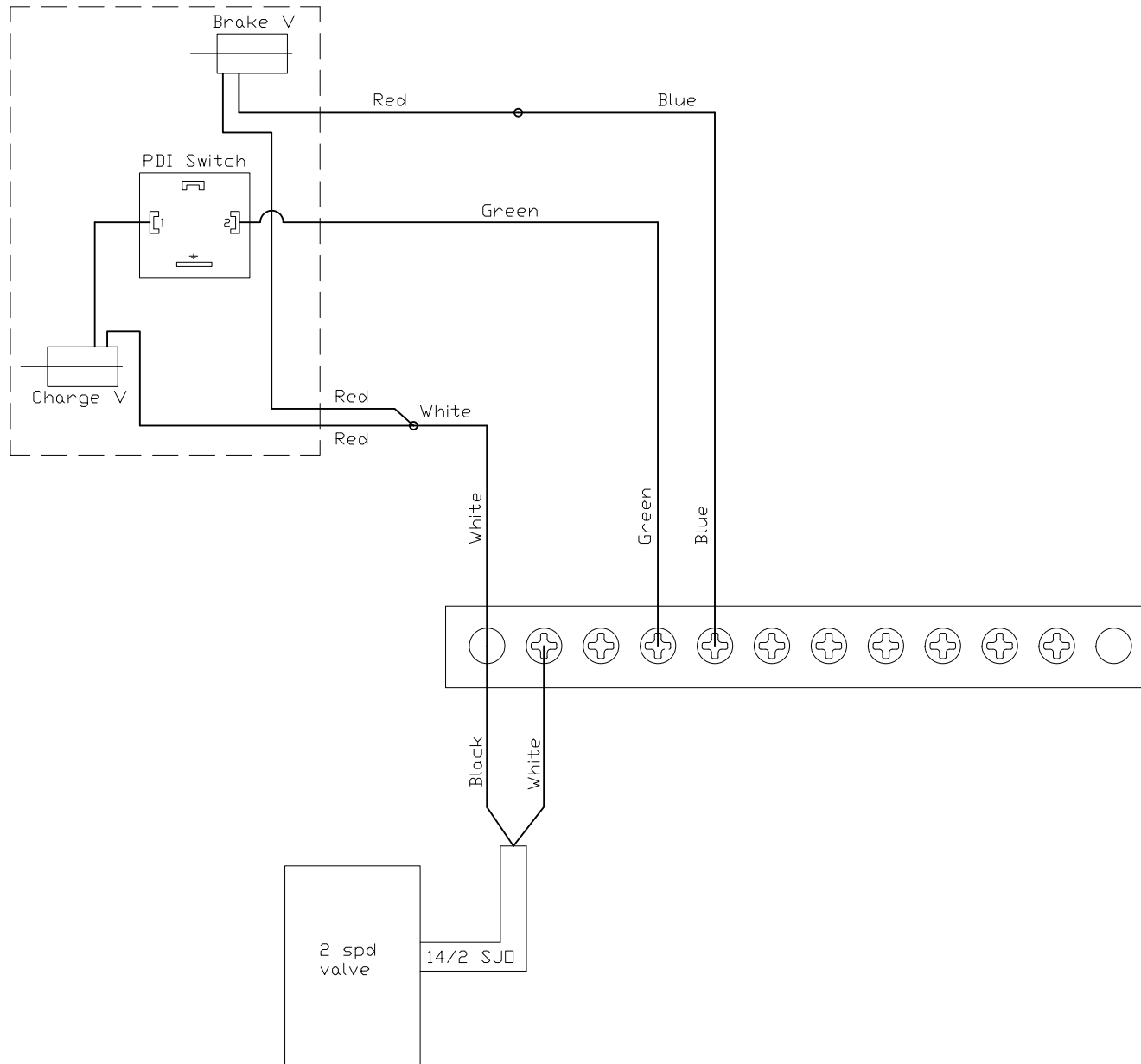
Wires for original throttle switch
factory - HD
brown - brown
white/red - white
black - black



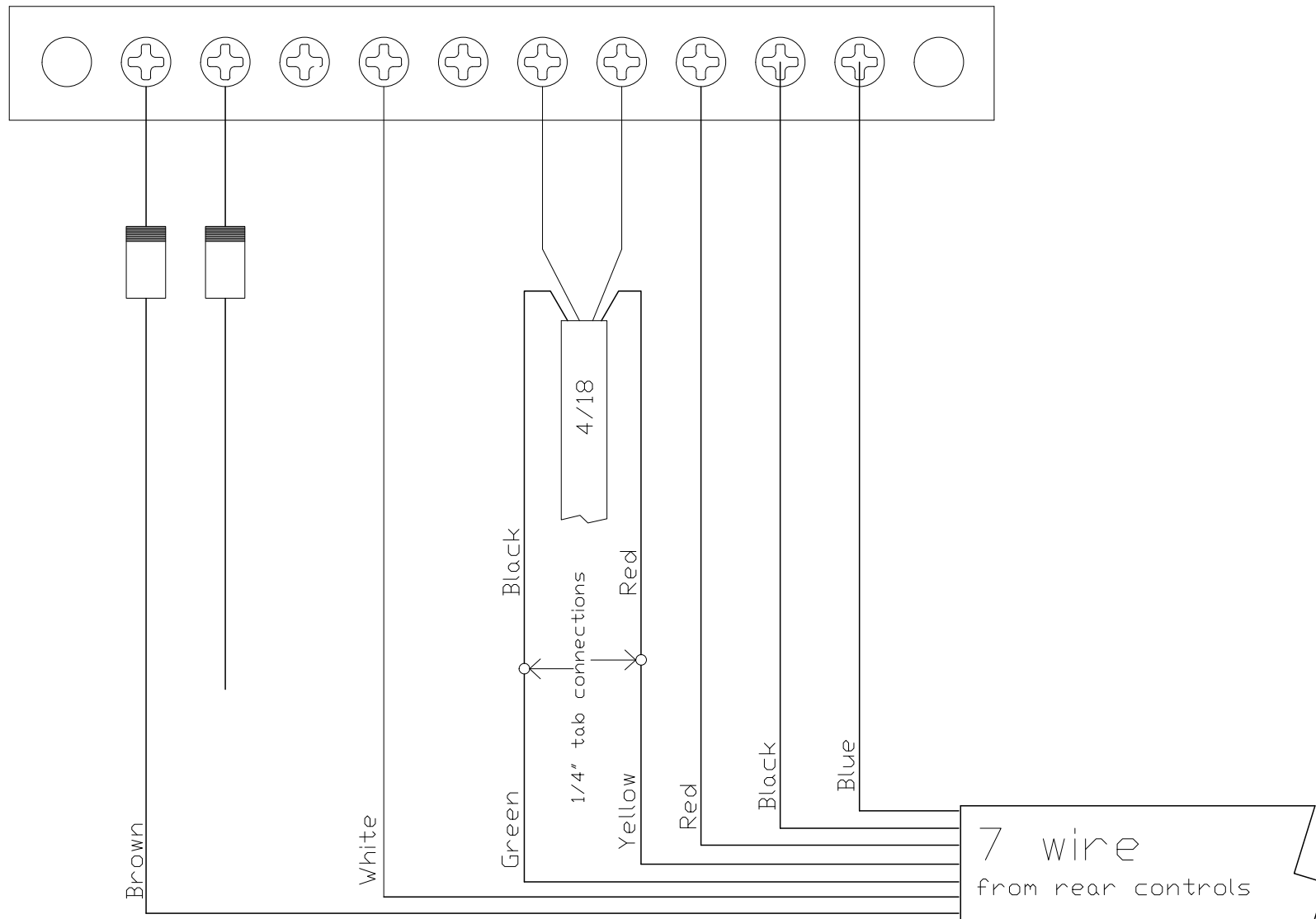
6500 Control Panel T4f Switches



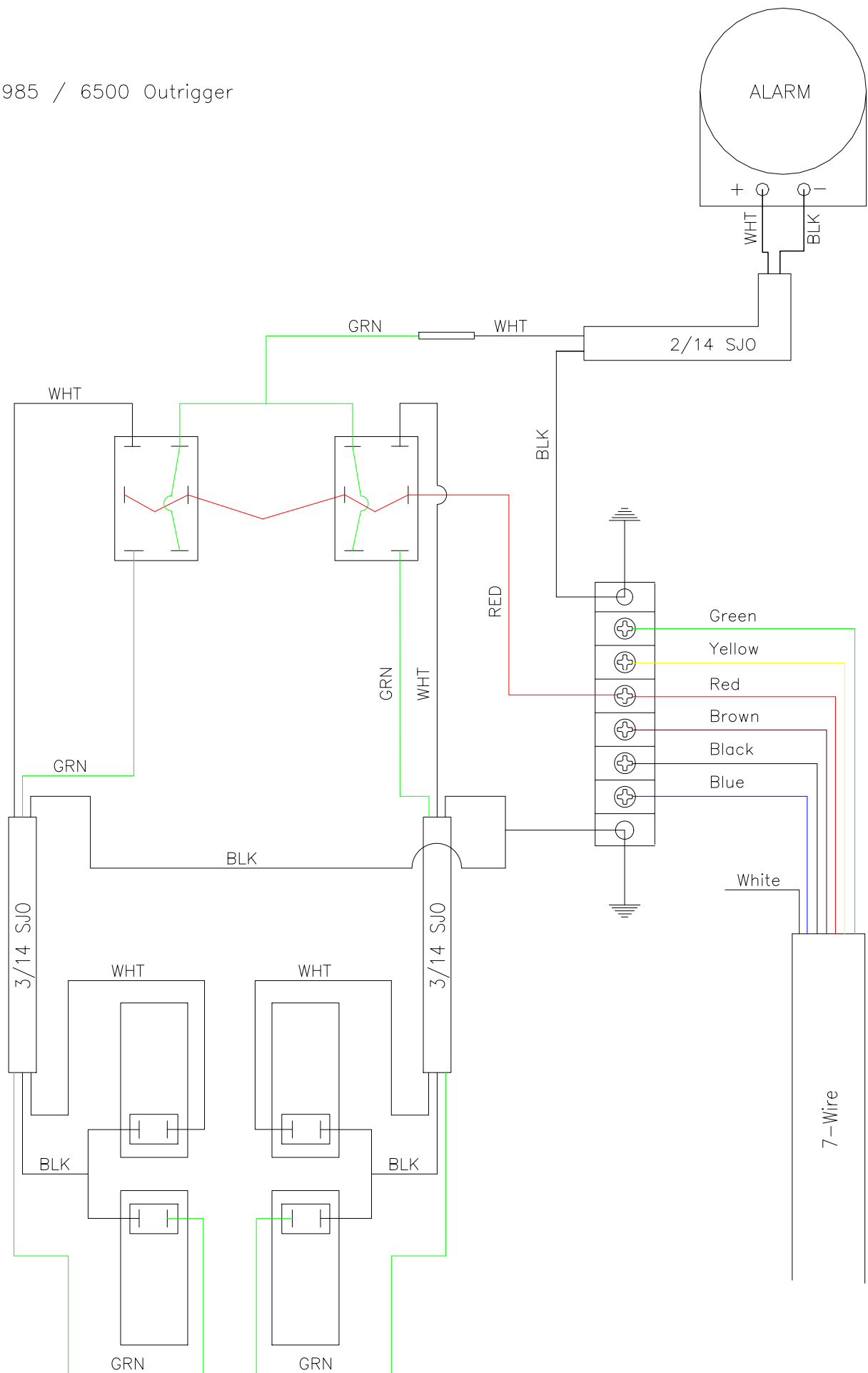
6500 Control Panel Valves T4f



6500 Lower Control Panel T4f

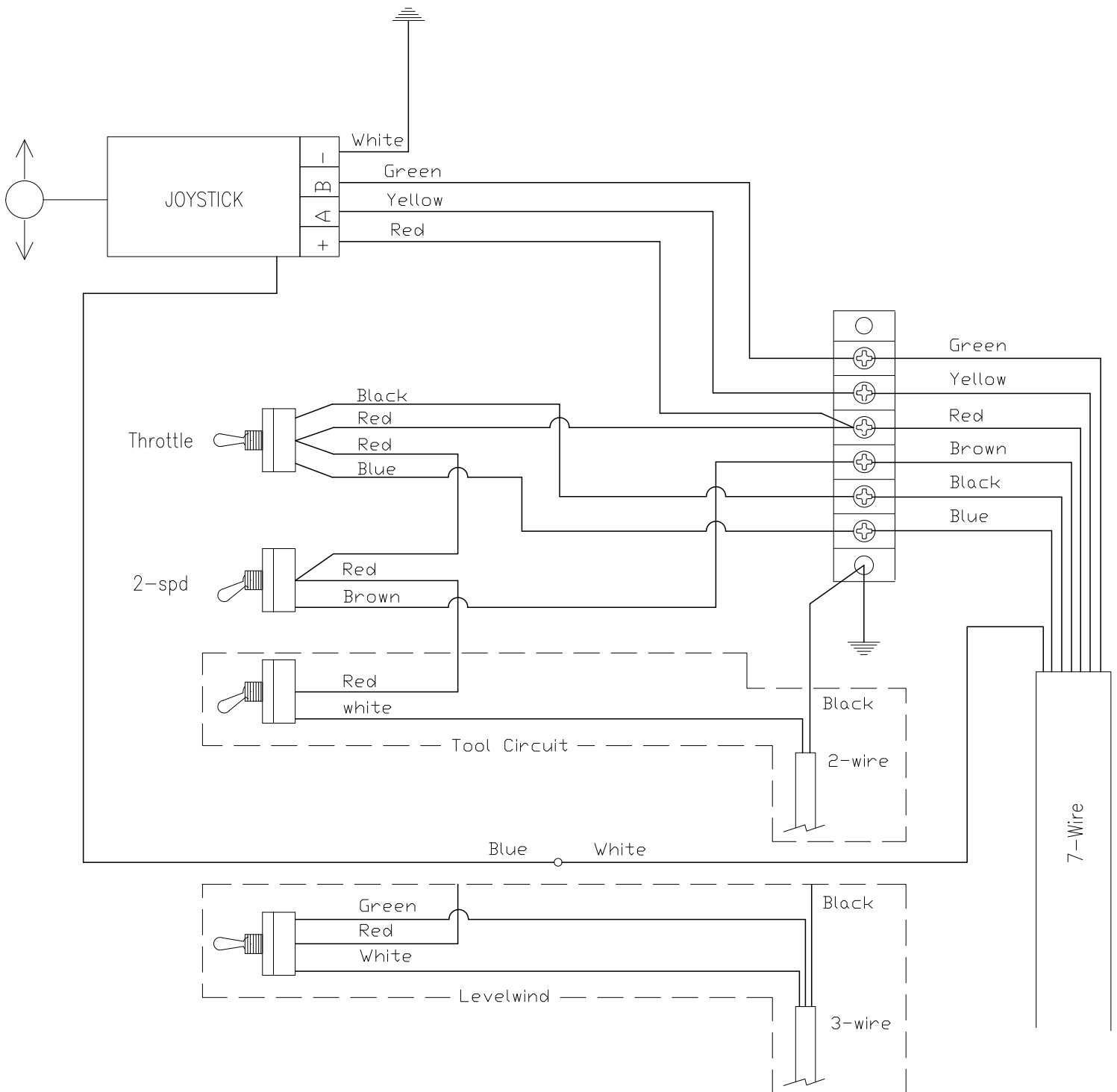


Tool Circuit equipped units require a 14/2 SJW to be run along with the 7 wire
Level Wind equipped units require a 14/3 SJW to be run along with the 7 wire



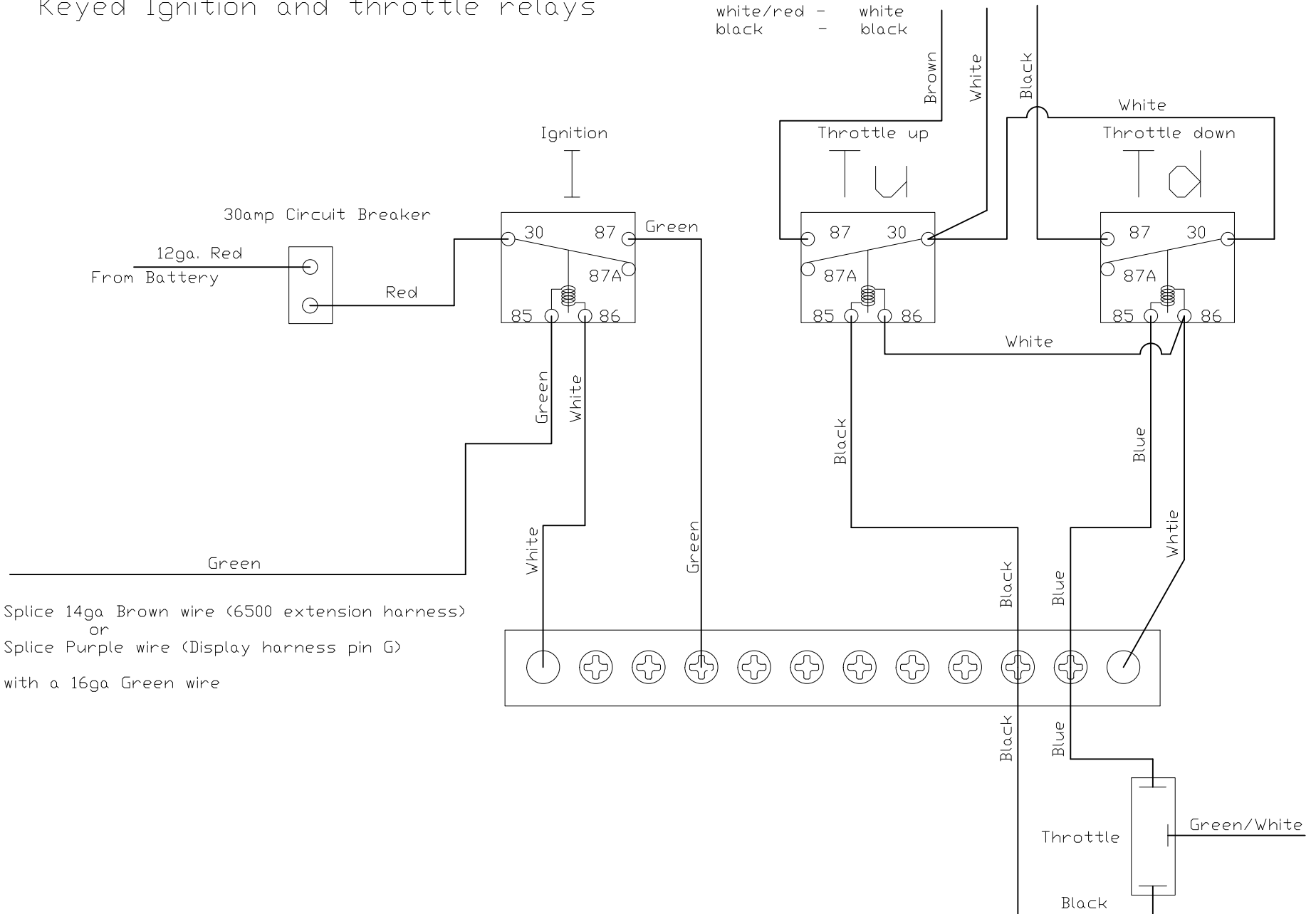
6500 Rear Control Wiring T4f

if the unit has a tool circuit you must run a 14/2 SJD
if the unit has a level wind you must run a 14/3 SJD

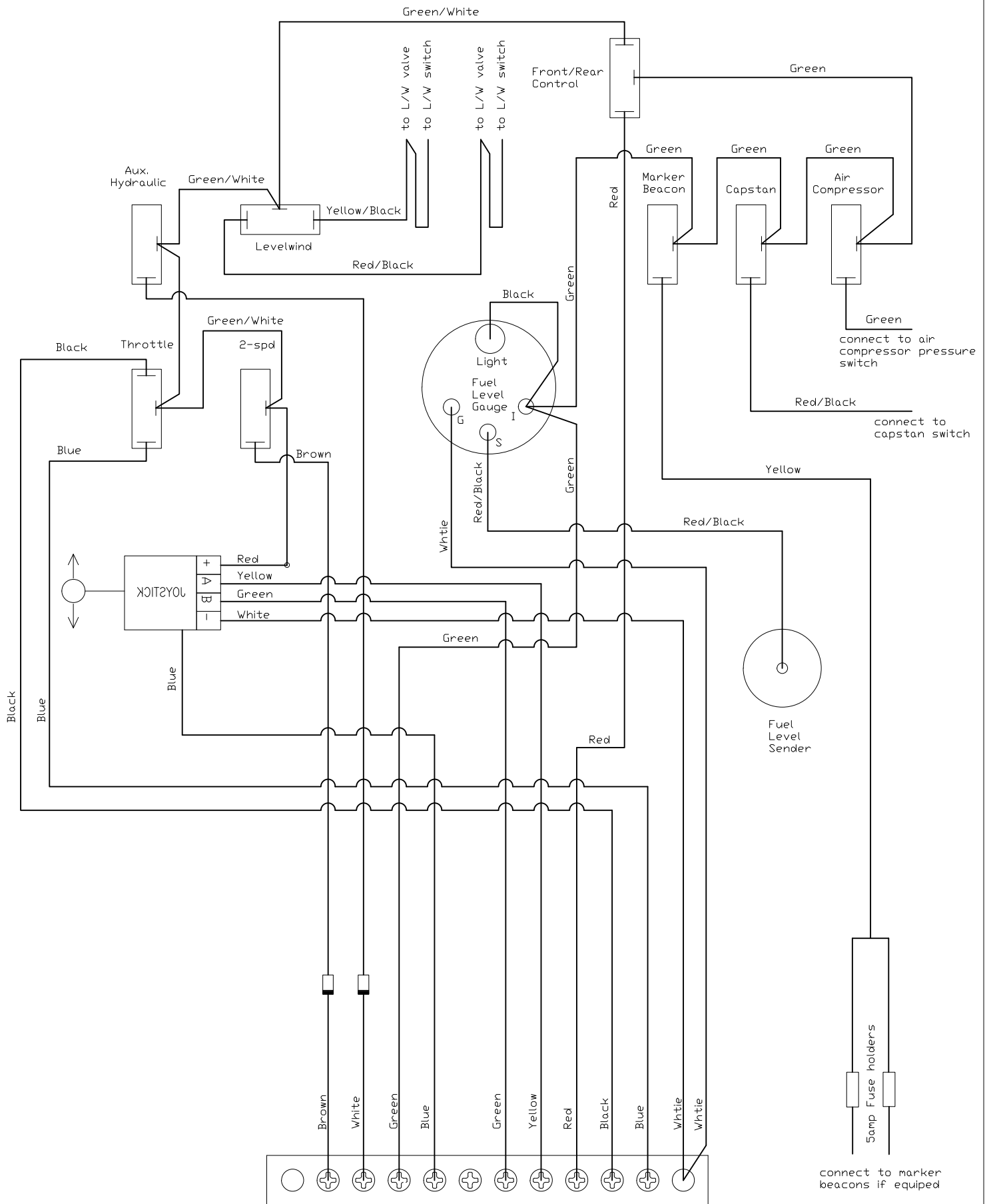


6500 Control Wiring Keyed Ignition and throttle relays

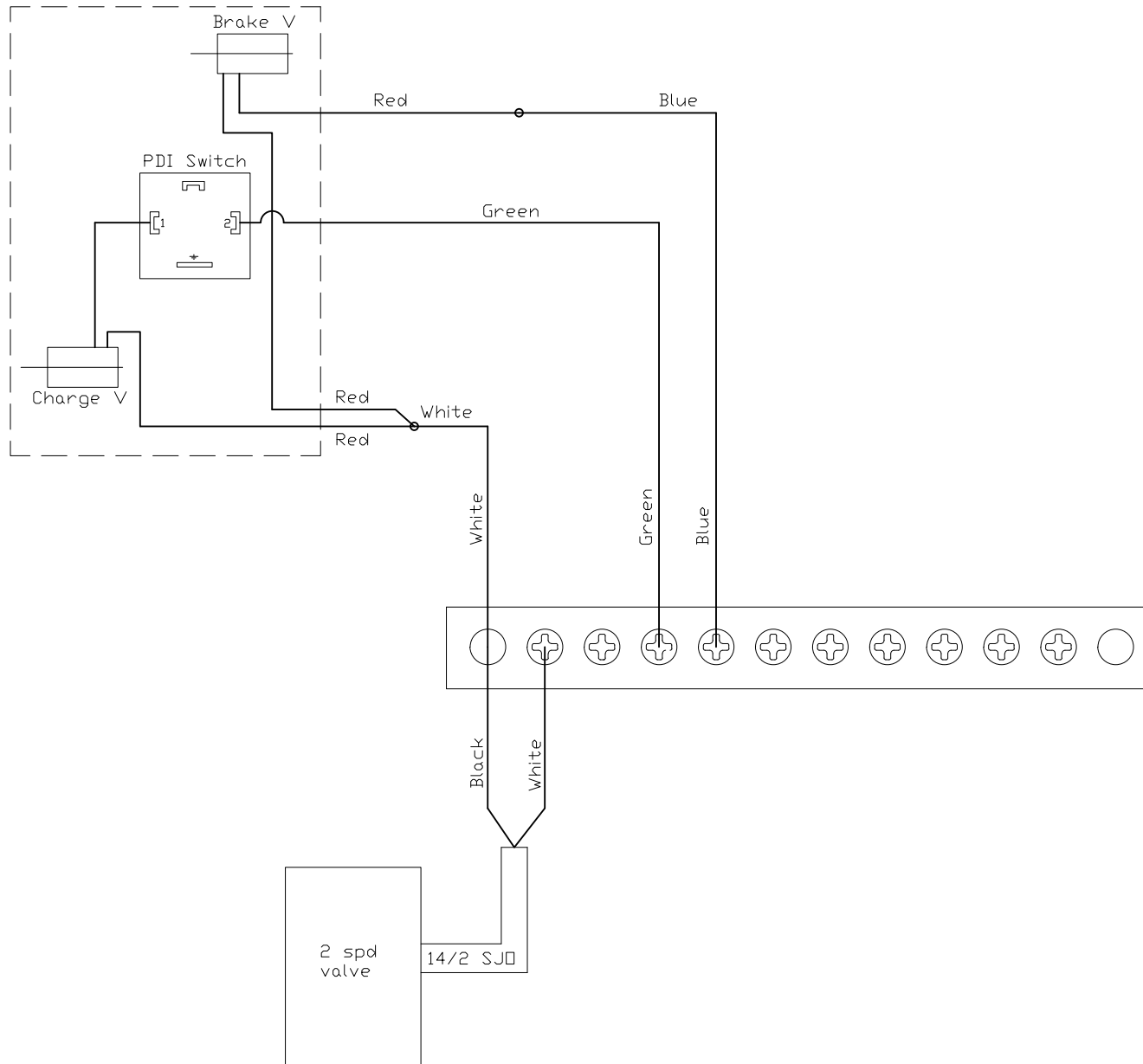
Wires for original throttle switch
factory - HD
brown - brown
white/red - white
black - black



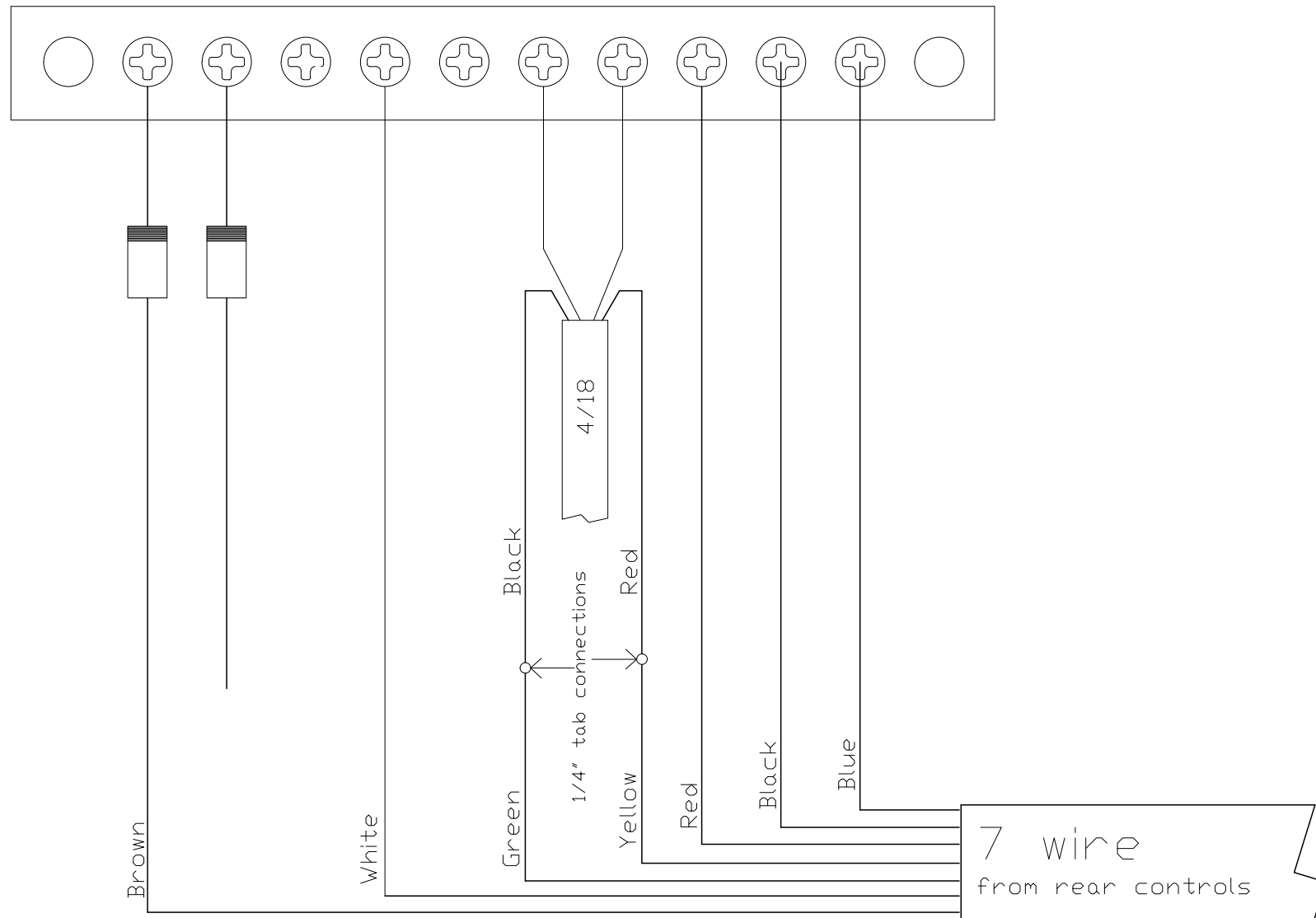
6500 Control Panel T4f Switches



6500 Control Panel Valves T4f



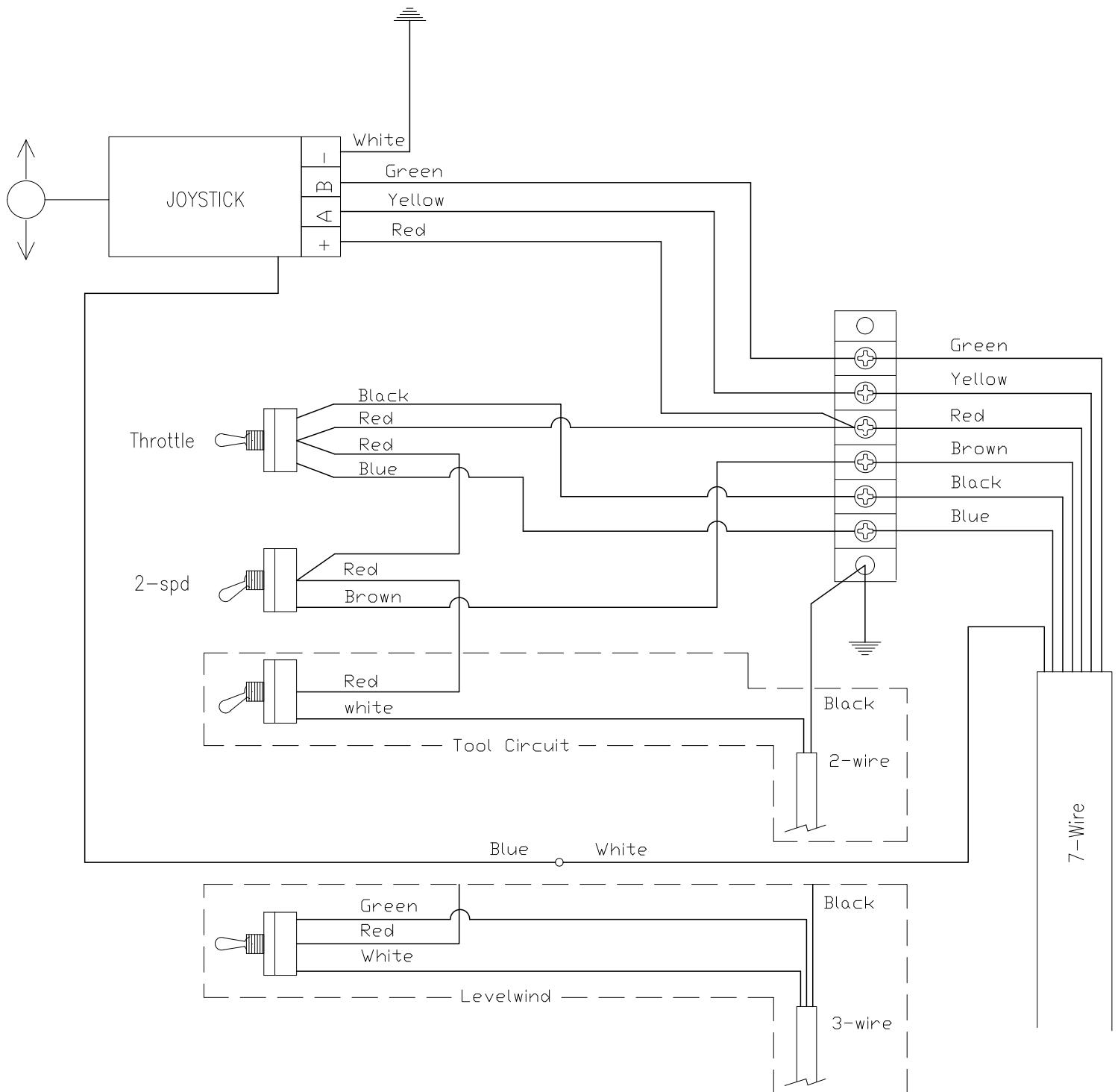
6500 Lower Control Panel T4f



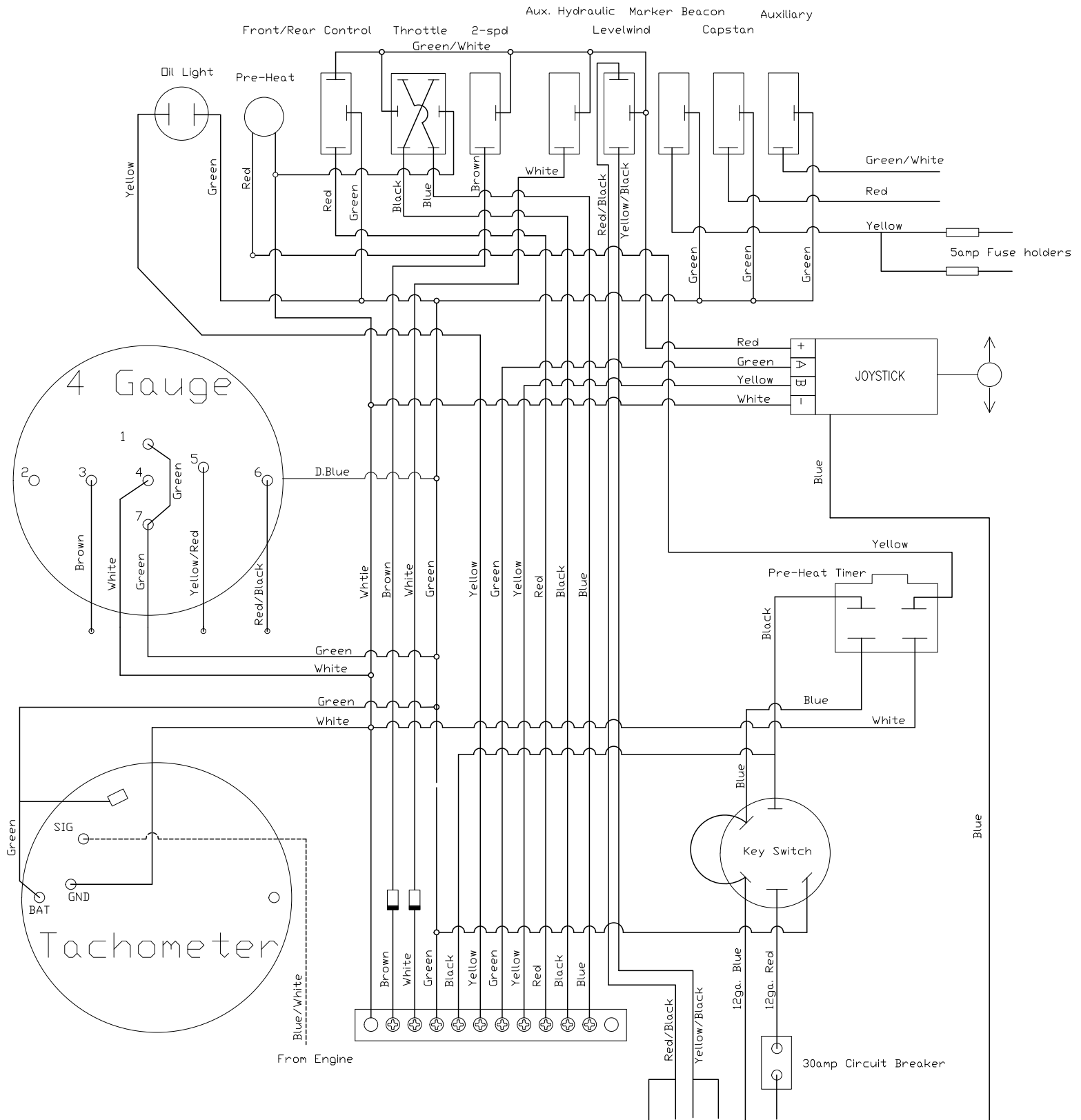
Tool Circuit equipped units require a 14/2 SJW to be run along with the 7 wire
Level Wind equipped units require a 14/3 SJW to be run along with the 7 wire

6500 Rear Control Wiring T4f

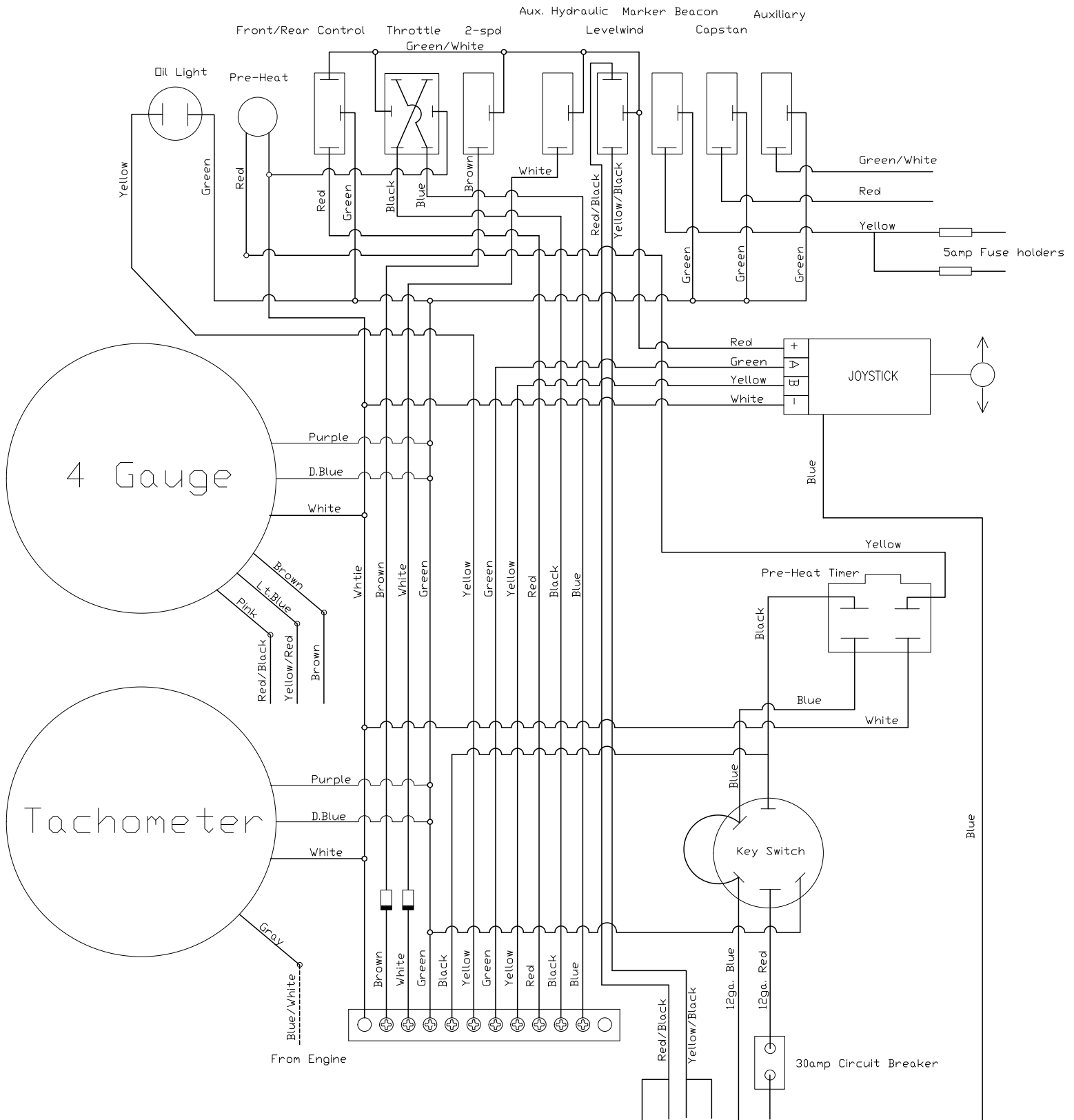
if the unit has a tool circuit you must run a 14/2 SJD
if the unit has a level wind you must run a 14/3 SJD



6500 Contol Panel Faria



6500 Contol Panel



Livorsi gauges shown. If replacing VDO gauges see below.

VDO gauges - green wire is power - white wire is ground.

the green wire jumped from the keyswitch to each gauge then up the the switches that are powered up with the key.

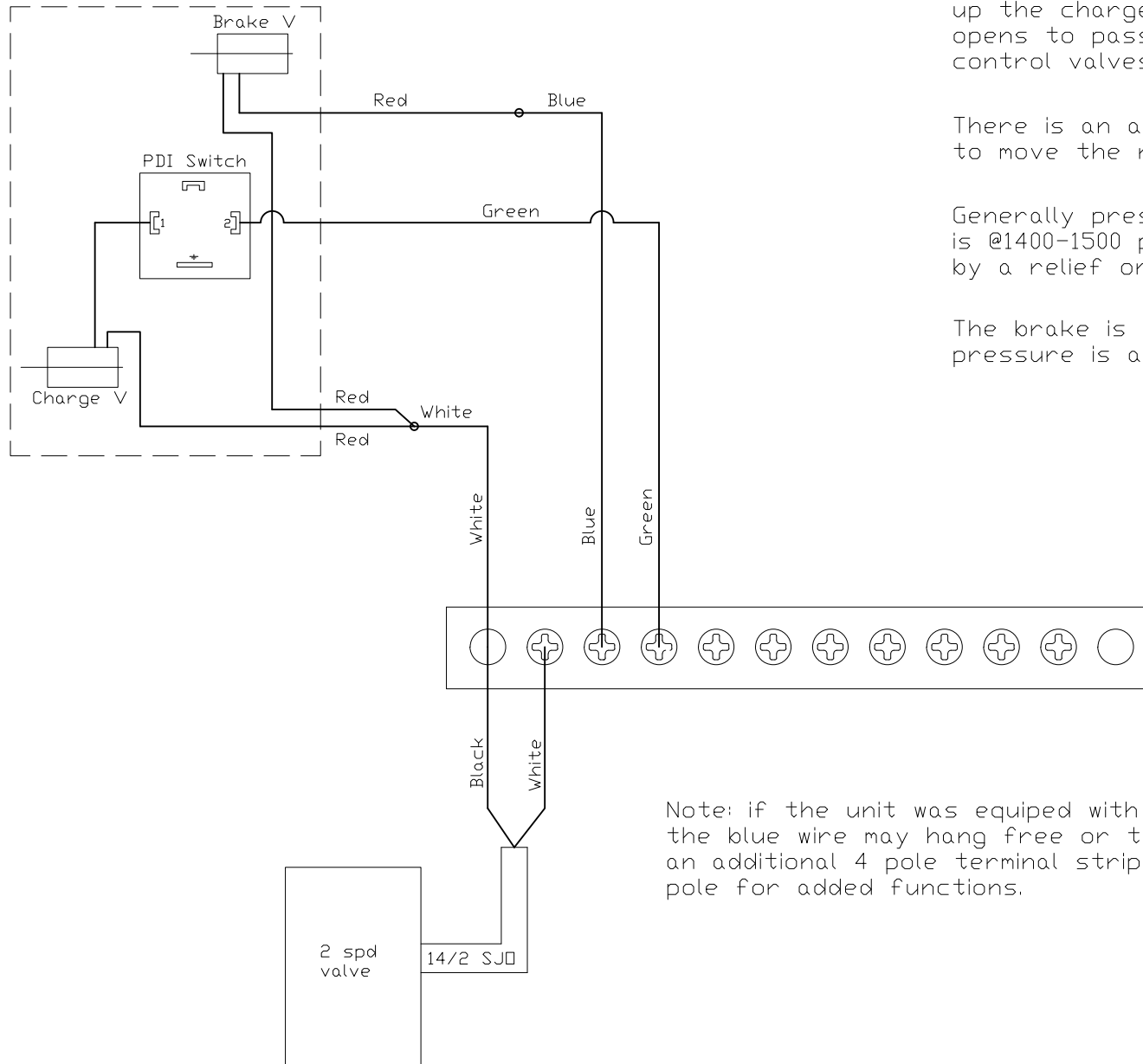
6500 Brake Manifold and 2 Spd

The PDI switch controls the operation of the charge valve. The PDI has about a 400psi range. Below that range it closes to power up the charge valve. Above that range it opens to pass flow along to the trailer control valves.

There is an adjuster in the top of the PDI to move the range up or down.

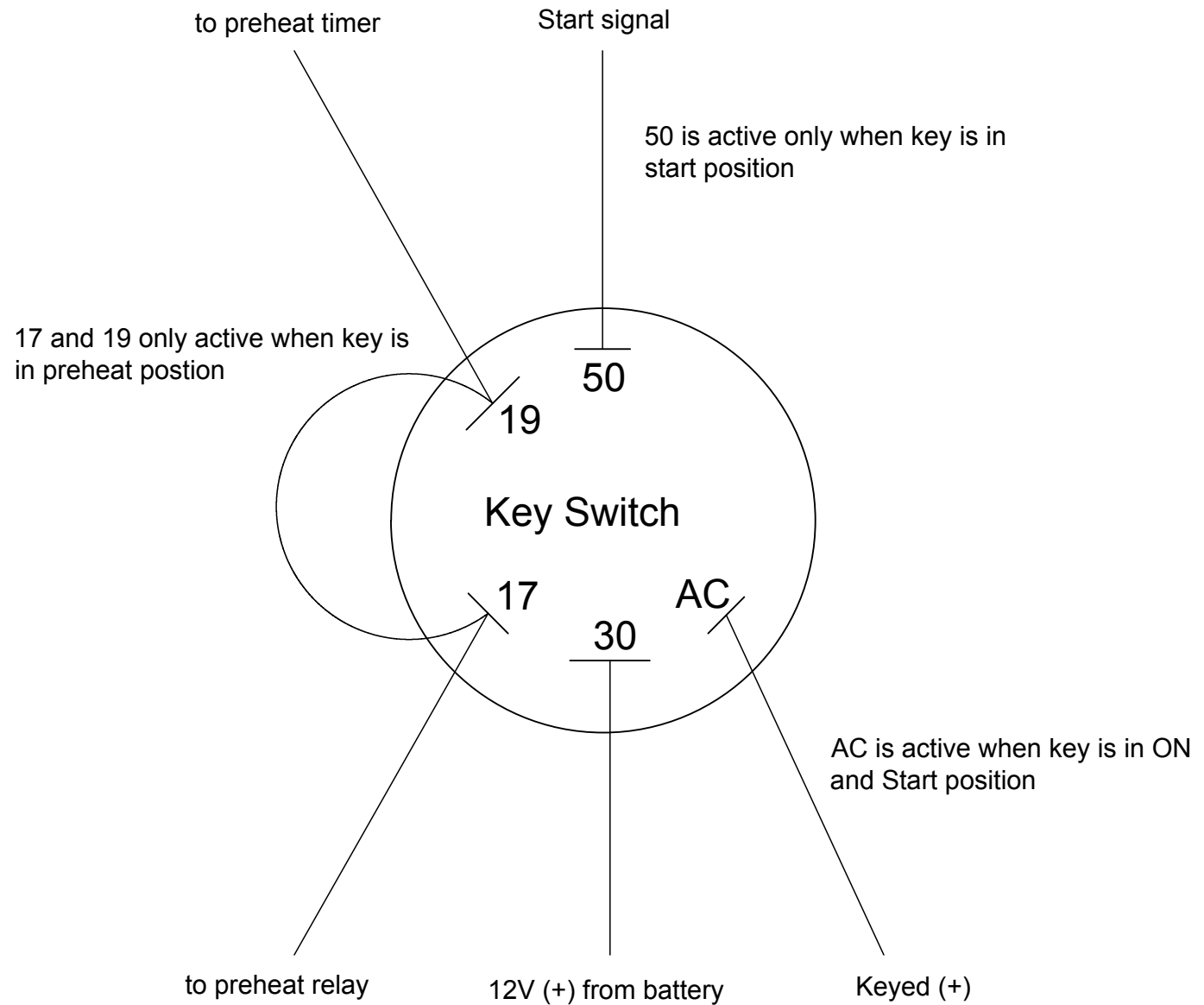
Generally pressure in the the brake manifold is @1400-1500 psi. Max is 2000, which is controled by a relief on the manifold.

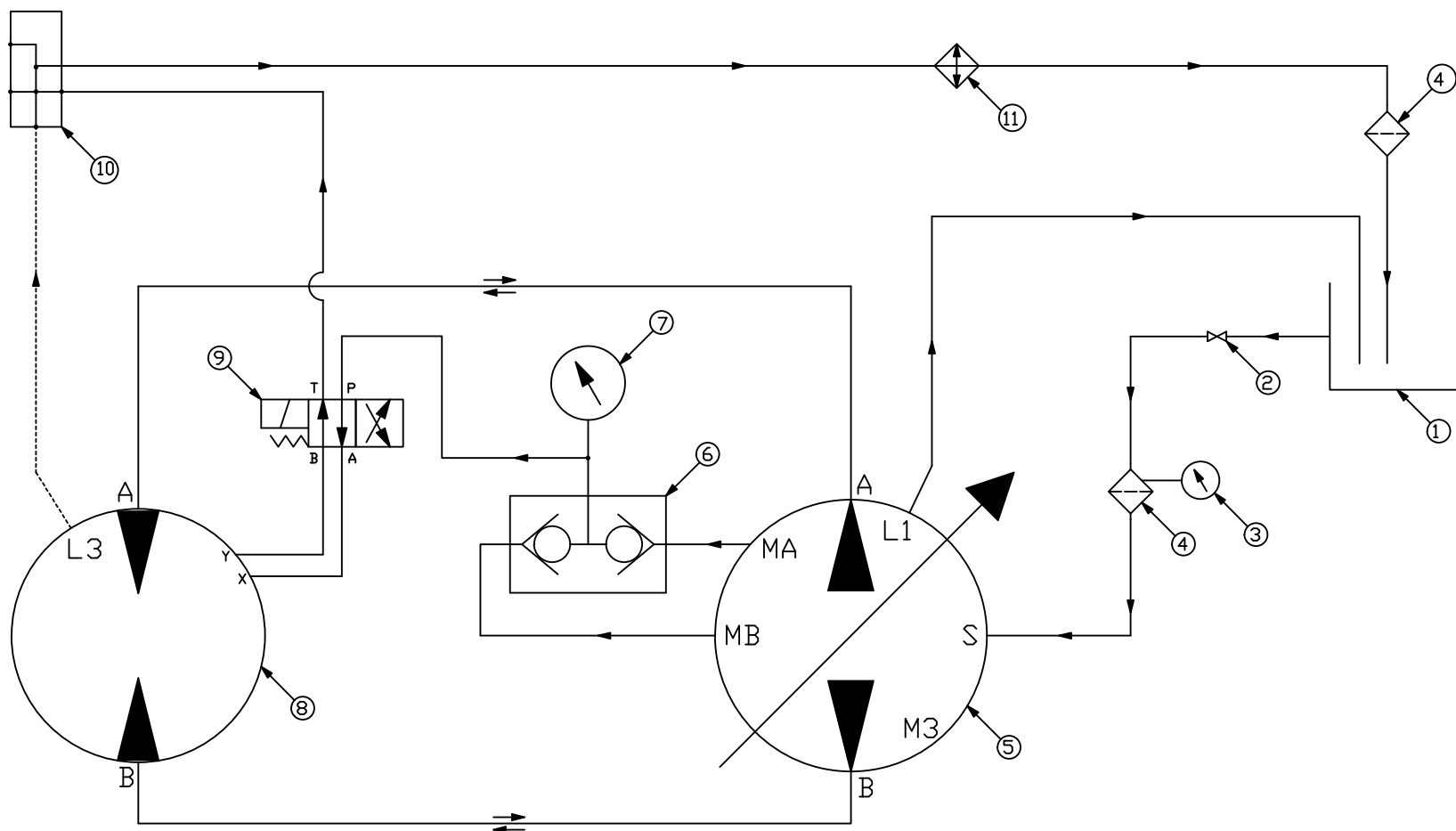
The brake is released when hydraulic pressure is applied to it.



Note: if the unit was equiped with a tool circuit, the blue wire may hang free or there may be an additional 4 pole terminal strip below the 10 pole for added functions.

JOHN DEERE keyswitch pinout





REF	QTY	PART #	DESCRIPTION
1	1	T01002	Tank, Hydraulic
2	1	V02300	Valve, Ball 1-1/4
3	1	G02010	Gauge, Suction
4	2	F04021	Filterhead
	2	F04020	Filter, Spin-on 10 Micron
5	1	P20005	Pump Sundstrand
6	1	S40005	Shuttle Valve

REF	QTY	PART #	DESCRIPTION
7	1	G02075	Gauge, 5K PSI
8	1	M08001	Motor, Staffa 2-spd
9	1	S04002	Valve, Two Posiiton
		P09171	Sub plate
10	1	M04043	Return Manifold
11	1	C35010	Cooler, Hydraulic Oil



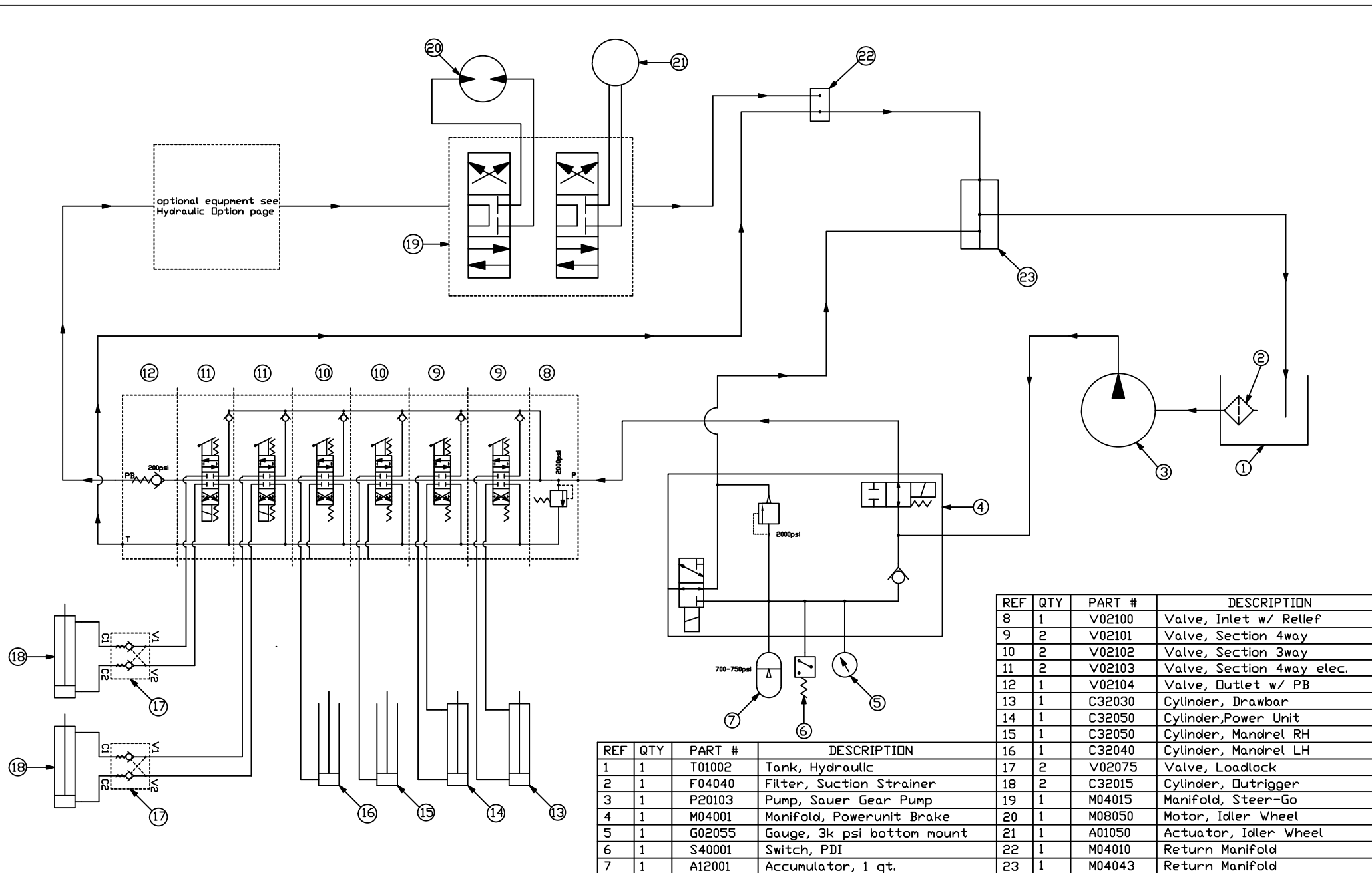
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PO BOX 405, 3800 EAGLE LOOP
ODELL, OR 97044 (541) 354-1001

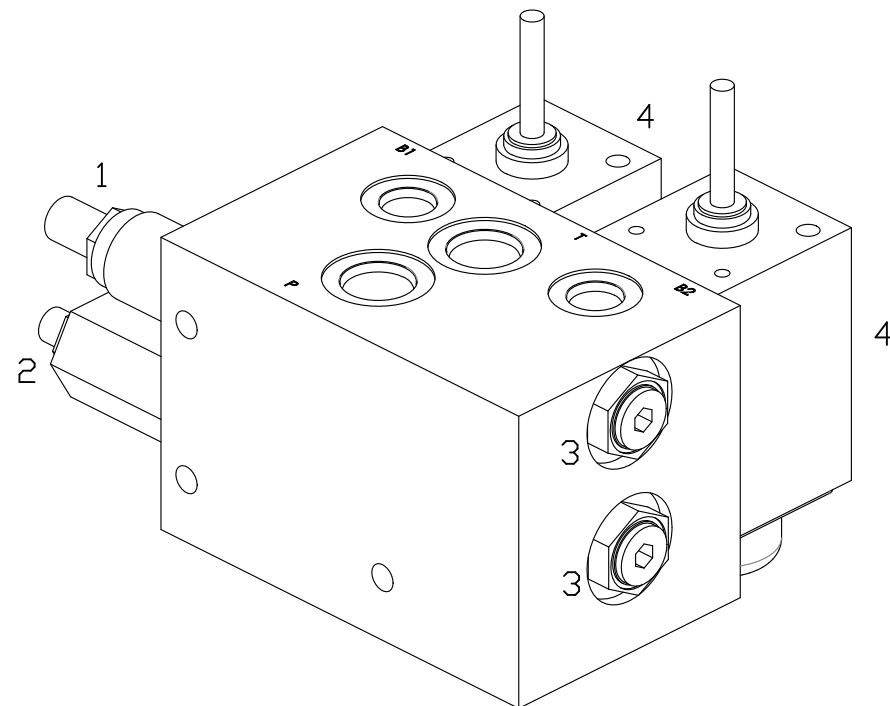
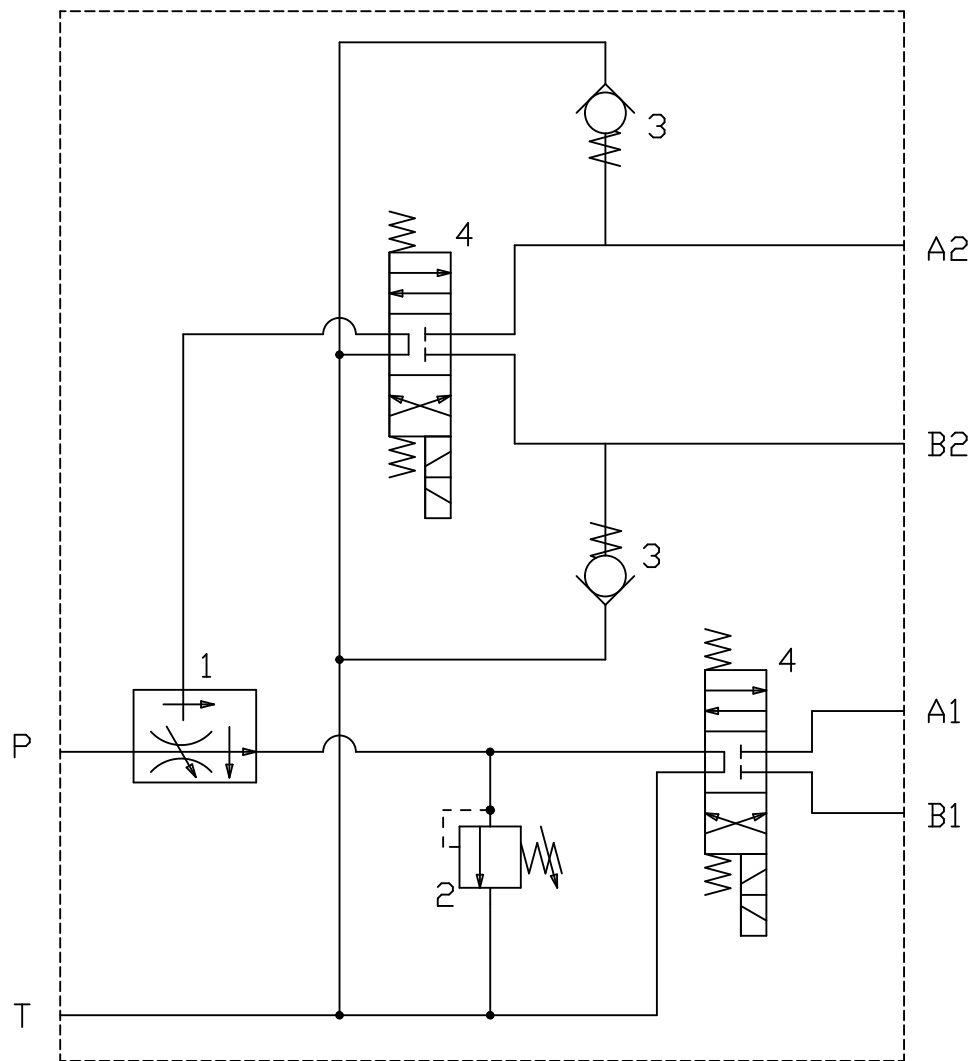
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DRAWN
NAME sm
DATE 7/12/2016
SHEET 1 OF 1

TITLE: Hydrostatic Schematic

Part #: HP6500





A2 and B2 go
to wheel motor

A1 and B1 go
to actuator



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NAME	sm
DATE	4/3/2013
SHEET 1 OF 1	

TITLE: Steer-Go Manifold

Part #: M04015