ODP 40

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

For most recent manual version please visit:
www.hoggdavis.com

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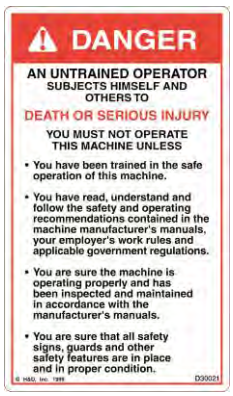
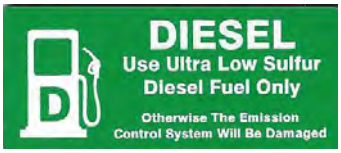
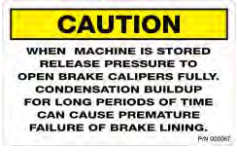
Product Warnings







WARNING

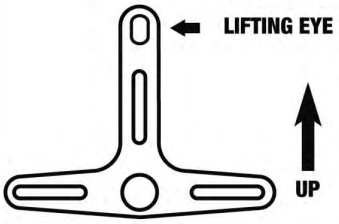
THE REEL MANDREL PIN AND LOCKING PIN MUST BE INSTALLED PRIOR TO OPERATION. FAILURE TO DO SO MAY ALLOW REEL TO BECOME DISENGAGED DURING OPERATION WHICH COULD CAUSE SERIOUS INJURY OR DEATH.

REEL LOADING / UNLOADING INSTRUCTIONS

1. MAKE SURE THAT LIFTING EYES ARE POINTING UP BEFORE REMOVING LOCKING PIN AND MANDREL SHAFT PIN.
2. APPLY OVER SPIN BRAKE.
3. SECURE LOAD WITH LIFTING DEVICE.
4. REMOVE LOCKING PIN AND MANDREL SHAFT PIN.
5. REMOVE REEL MANDREL SHAFT.

LOADING INSTRUCTIONS

1. REPLACE REEL AND SHAFT ASSEMBLY.
2. INSTALL MANDREL SHAFT PIN AND LOCKING PIN.
3. RELEASE LOAD FROM LIFTING DEVICE.
4. RELEASE OVER SPIN BRAKE.



P/N D30082 HOGG & DAVIS, Inc.

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.

General Specifications

This unit is designed to install overhead cable/conductor.

- Single Reel Puller
- 4000 lbs Maximum Line Pull
- 72" X 56" Maximum Reel Diameter
- 6,000 lb Maximum Reel Capacity
- Manual Jack stands (2) Rear – (1) Tongue
- Hydraulic Jack stands (optional)
- Maximum Line Speed 0-4 mph

YANMAR

INDUSTRIAL / ENGINES / TNV SERIES

Dimensions, Performance Data & Quick Specs

4TNV88C-DYEM

NET INTERMITTENT POWER (kW/hp) Potencia Neta Intermitente	34 / 45.6
RATED SPEED (RPM) Velocidad de Regimen	3000
LENGTH (w/fan) (in/mm) Longitud	28.6 / 726 w/DPF
WIDTH (in/mm) Ancho	21.9 / 556 w/DPF
HEIGHT (in/mm) Altura	34.0 / 863 w/DPF

SPECIFICATION Especificacion	DYEM
CYLINDERS Cilindros	4
BORE X STROKE Diametro x Carrera	88 x 90 (mm) 3.46 x 3.54 (in)
DISPLACEMENT Cilindrada	2190 (cc) 133.6 (ci)

COMBUSTION TYPE
Tipo de Combustion

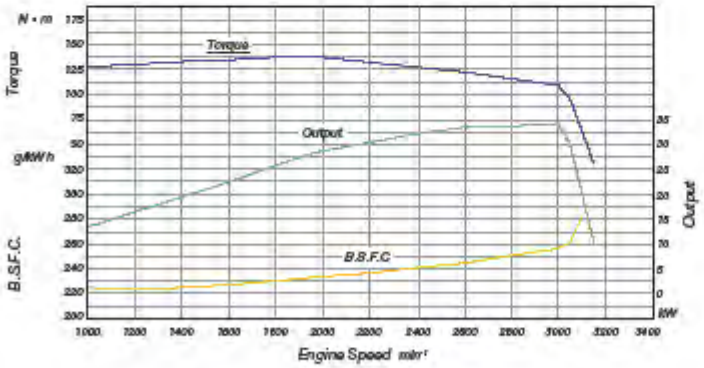
Common Rail Direct Injection
Common Rail de Inyección Directa

ASPIRATION
Aspiracion

Naturally Aspirated
Aspiracion Natural

GOVERNOR TYPE
Tipo de Gobernador

Electronic Control
Electrónico



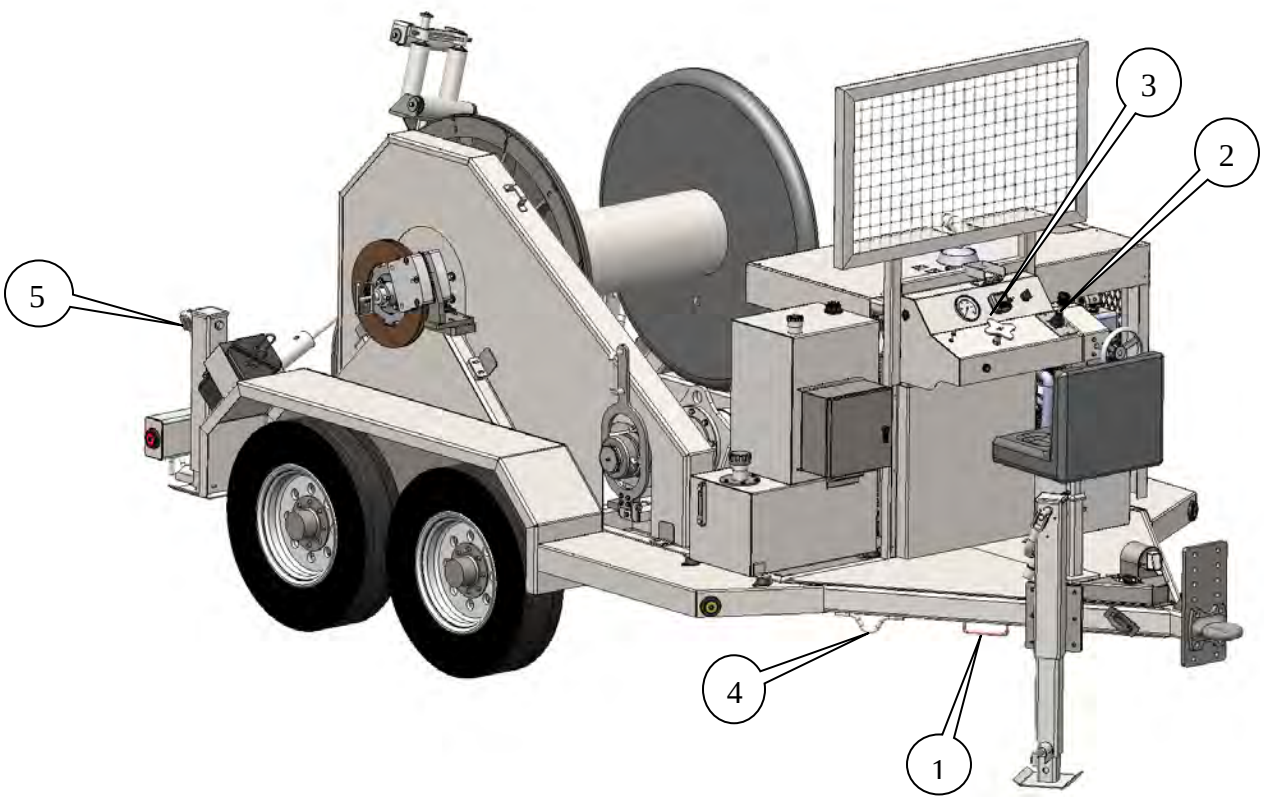
Lubrication System
7.4L Capacity Deep Oil Pan

Electrical System
12V, 55A Alternator

Fuel System
Common Rail System

Cooling System
Water Pump, Belt-driven

Power Take Off
FWH: SAE #5 t=124
FW: SAE 7.5"



Operating Instructions

All persons operating this machine must read and understand this manual as well as the operating, danger, and warning decals placed on the machine. Failure to read and understand these items subjects the operator and others to DEATH or SERIOUS INJURY.

Operators shall make themselves familiar with the placement of the following operating and safety features of the machine.

1. Grounding Lugs and their placement on Machine
2. Take Up / Pay-Out Control
3. Engine Controls and Gauges
4. Tie Down Locations
5. Manual Jack stands (standard)

Setup on the Job

Setup of the unit

Position of unit

Position the trailer with the centerline of the trailers inline with the pull. Place the unit at a minimum of two times the height of the first block.

Jack Stands / Outriggers

Actuate the rear outriggers to stabilize the trailer. Attempt to level the trailer as much as possible. The outriggers have the ability to raise the tires from the ground, but as a rule they should be used to stabilize the load across all contact points on the ground, i.e. Jack stands, tires, front tongue jack stand.

Tie Down/ Brake/ Chock

Chock all wheels and set brakes (if applicable). It should be noted that a fully loaded trailer may exceed the tension desired during the pull. As the pull progresses, the weight of the trailer may increase or decrease, therefore proper securing procedures should be followed during operation. This unit is equipped with tie – down eyes for staking to the ground and it is recommended that the unit stay secured to the tow vehicle whenever possible.

LOADING INSTRUCTIONS

ALL REELS TO BE LOADED FOR PAYOUT UNDERNEATH THE REEL. PAYOUT OF CONDUCTOR OVER THE TOP OF THE REEL MAY CAUSE DAMAGE TO THE CONDUCTOR.

1. Position trailer so that forklift or crane can be easily positioned.
2. Position reel drive pin assembly so that the lifting eye and removable pin are in the top position and apply brake.
3. Remove retaining pin from both the reel drive pin assembly and the dumb end of the mandrel shaft pocket.
4. Remove entire shaft and drive pin assembly by lifting up.
5. Remove Nylatron bearing from dumb end of mandrel shaft.
6. Remove locking collar / lifting assembly and centering cone.
7. Insert mandrel shaft in the reel all the way to the drive pin assembly, being careful to insert the pins completely.
8. Install centering cone (if needed) and locking collar / lifting assembly. Be sure to set reel tight against drive pin assembly.
9. Replace Nylatron bearing onto dumb end of mandrel shaft.
10. Lift reel with forklift or crane making sure that the drive pin assembly has the lifting eye on top for proper fit.
11. Insert reel into the stand by indexing drive pin assembly from above and lower into place.
12. Insert retaining pins into both the drive pin assembly and the dumb end of the shaft pocket.

WARNING

THE REEL MANDREL PIN AND LOCKING PIN MUST BE INSTALLED PRIOR TO OPERATION. FAILURE TO DO SO MAY ALLOW REEL TO BECOME DISENGAGED DURING OPERATION WHICH COULD CAUSE SERIOUS INJURY OR DEATH.

REEL LOADING / UNLOADING INSTRUCTIONS

1. MAKE SURE THAT LIFTING EYES ARE POINTING UP BEFORE REMOVING LOCKING PIN AND MANDREL SHAFT PIN.
2. APPLY OVER SPIN BRAKE.
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4. REMOVE LOCKING PIN AND MANDREL SHAFT PIN.
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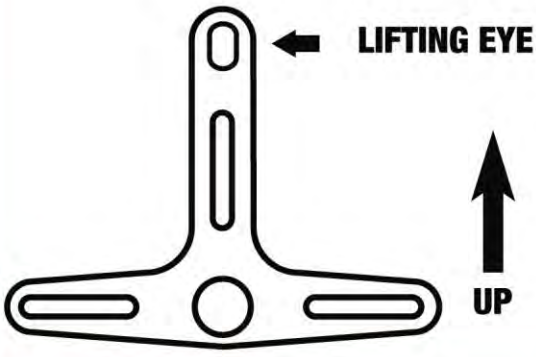


P/N D30082 HOGG & DAVIS, Inc.

Rope Payout Procedure (Free Wheel)

When beginning the rope payout feature, be sure that the engine is turned off. Ensure that all tension is removed from the pulling rope before attempting to remove drive pin.

Adjust reel brake to provide tension to the reel of rope. Remove the drive pin from the sprocket drive and place in the provided storage sleeve. Begin to pull rope through the blocks while continuing to adjust the over spin brake. When the rope install is completed, insert the drive pin the sprocket drive. Manual rotation of the rope reel may be needed to properly install drive pin.

Refer to the performance chart for proper hydraulic pressure as it directly relates to conductor tension. ***This chart is located on the control panel of the unit.***

****These instructions assume that the operator has set the proper drive pin for the reel to be pulled in. All other reels are to be disengaged with the over spin brake fully applied.***

Pulling Control

The following instructions explain how to properly set up the unit when it is to be used as a puller and have a pulling rope with NO TENSION. DO NOT FOLLOW THESE INSTRUCTIONS WHEN YOU HAVE A ROPE UNDER TENSION!!

1. Apply the brake.
2. Turn the Hydraulic Pressure knob CCW to release pressure
3. Increase to approximately full throttle.
4. Begin to actuate the joystick to take up.
5. Turn the Hydraulic Pressure Control knob and set to 800 psi.
6. Release the joystick into the neutral position.
7. Wait for confirmation from the tension side of the job for readiness
8. Release the brake
9. As the rope reel begins to take up, increase the hydraulic to the maximum line pull desired. As the rope diameter increases on the reel, it might be necessary to adjust the Hydraulic Control Knob to keep the pull moving.
10. Adjust joystick for line speed as also desired.
11. To stop the pull, place control into neutral while applying the brake.

Pulling Control

The following instructions explain how to properly set up the unit when it is to be used as a puller and have a pulling rope UNDER TENSION. Use of these instructions assumes that all controls are at the same setting when the pulled previously stopped.

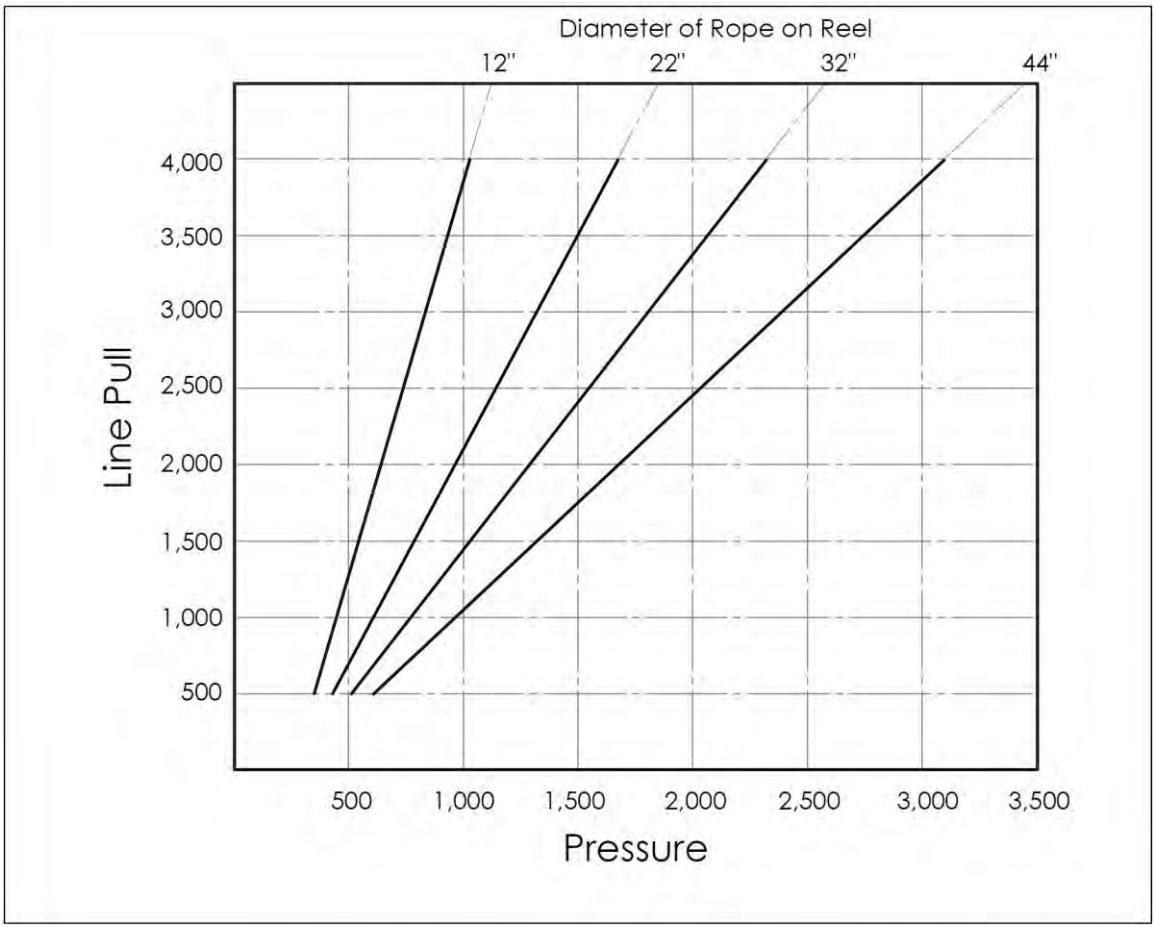
1. Begin to slightly actuate the joystick to take up
2. Release the brake
3. Actuate the joystick to take up as desired (if reel does not begin to move, slightly increase the Hydraulic Pressure Control until it does.

Level wind

This unit is equipped with manual post style level wind. Operator must control during pull as needed for even take up of rope on reel.

IF MACHINE IS TO BE USED FOR FIBRE OPTIC INSTALLATION, REFER TO THE CABLE MANUFACTURER FOR PROPER TENSIONING TECHNIQUES. FAILURE TO CONSULT MANUFACTURER MAY DAMAGE CABLE AND VOID WARRANTY.

ODP 40
4,000 Lb Drum Puller



WARNING

Failure to understand and follow the line pull graph can result in failure of reels and other major components.

LUBRICATION AND MAINTENANCE

This unit has no set PM schedule beyond that of the engine manufacturers suggested maintenance schedule. This unit should be visually inspected prior to each use while repairing any and all discrepancies prior to use.

Items to be inspected prior to use are:

- Drive Chains and sprockets for wear and slack
- Pintle eye (excessive wear)
- Safety Chains (wear / damage)
- All welds and seams
- Loose or missing fasteners (bolts, nuts, set screws)
- Loose or leaking hydraulic hoses
- Damaged or worn hydraulic hoses
- Brake calipers (loose fittings, hoses, worn linings)
- Brake Pads
- Brake rotors
- Tires and trailer brakes
- Engine and hydraulic system fluid levels.

Lubrication Schedule

- Drive chain and sprockets (daily)
- Reel Shaft Bearings (as needed)
- Reel Bearings (as needed)
- Engine oil as per manufacturers recommendation
- Idler sprocket (daily)
- Axle Bearings (as needed)

Drawbar inspection

- Regularly inspect he drawbar for wear and damage. If wear exceeds 1/8", replace the drawbar eye.
- Check all drawbar mounting fasteners for proper torque
- Do not modify or add to the product
- Do not weld on this product without written permission from the factory
- Be sure the drawbar size is compatible with the coupling device on the tow vehicle
- Do not damage the coupling components. Be particularly careful during coupling and uncoupling
- Inspect the coupling device on the tow vehicle for proper locking prior to use
- Consult OSHA and DOT regulations and American Trucking Association guidelines for complete operating procedures.

15-15 Warranty

Hogg and Davis, Inc. warrants its trailers against defects in material or workmanship for period of 15 months from the date of shipment from Hogg and Davis, Inc. (see General Conditions & Exceptions). Hogg and Davis, Inc. will replace, free of charge, F.O.B. Hogg and Davis, Inc. factory, such parts or parts thereof, that in their judgement have proven defective. Additionally, Hogg and Davis, Inc. will pay reasonable and customary labor charges when defective part is replaced, installed or repaired by a fully authorized Hogg and Davis, Inc. trailer dealer at his facility.

Warranty credit will be issued only upon receipt and inspection of defective parts of at the Hogg and Davis, Inc. factory.

Hogg and Davis, Inc. warrants it's trailer main frame assemblies (except pintle eyes or other towing attachments, spindles and axles) against defects in material or workmanship for a period of **15 years** from the date of shipment from Hogg and Davis, Inc. (see General Conditions & Exceptions). Hogg and Davis, Inc. shall replace or repair, in a manner as it shall determine, free of charge, F.O.B. factory, any parts or parts thereof, that in its judgement have proven defective. Additionally, Hogg and Davis, Inc. will pay reasonable and customary labor charges when defective part is replaces, installed or repaired by a fully authorized Hogg and Davis, Inc. trailer dealer at his facility.

General Conditions & Exceptions

All warranties, options and representations made herein shall apply only provide such equipment shall not have been subject to misuse, negligence or accident and has been operated in accordance with factory approved procedures. This warranty does not obligate Hogg and Davis, Inc. or its authorized dealers to bear the cost of parts obtained from or labor performed by unauthorized sources. Nor does it obligate Hogg and Davis, Inc. **or its** authorized dealers to bear the cost of transportation of parts or equipment for repair or **replacement purposes.** This warranty is in lieu of any other warranty, expressed **or implied,** or any other obligation or liability on the part of Hogg and Davis, Inc and no persons or entity is authorized to make any representation beyond those stated herein.

Hogg and Davis, Inc. shall not be held liable for consequential damage of any kind. Hogg and Davis, Inc. also reserves the right to make changes and improvements in its products without incurring any obligation to install any such charges or improvements upon its products previously manufactured.

The above warranty shall not be misconstrued to mean warranty of tires, clutch, transmission assemblies or customer requested accessory equipment other than the warranty extended by their respective manufactures to Hogg and Davis, Inc. In addition, friction, drive rollers are warranted only to extent of bonding failure. All warranties, options and representations made herein are applicable to the original end-user of the product and are not sellable or transferable in any manner.

Parts and other manufacturer manuals

The Following drawings are for part identification only. Please reference the unit V.I.N. number and the corresponding part number when ordering.

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:

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Section 2

YANMAR WARRANTIES

Page

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

CONTROLS INCORPORATED

Common SPN.FMI Codes

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 - Suspect Parameter Number
FMI - Failure Mode Identifier

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 Value Error
1076	1	Fuel Injection Pump Fuel Control Value 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

SPN - Suspect Parameter Number
FMI - Failure Mode Identifier

2G-ECO Governor Controller DTC Table

Ver. 3.8.1 2007/5/18

Remark	DTC J1939 Format SPN (Hex)	SPN (DEC)	FMI	Description	J1939 Lamp Status MIL	RSL	AWL	PL
	4BA	1210	4	Engine Fuel Rack Position Sensor : Shorted to low source			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				
*	7F801	522241	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		
	27E	638	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	
	276	630	2	E-ECU internal fault : EEPROM Check Sum Error (Data Set 2)		X		
			12	E-ECU internal fault : EEPROM ReadWrite fault			X	
	274	628	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	
*	7F9E7	522727	12	E-ECU internal fault : Sub-CPU Error A			X	
			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

ODP 40

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

For most recent manual version please visit:
www.hoggdavis.com

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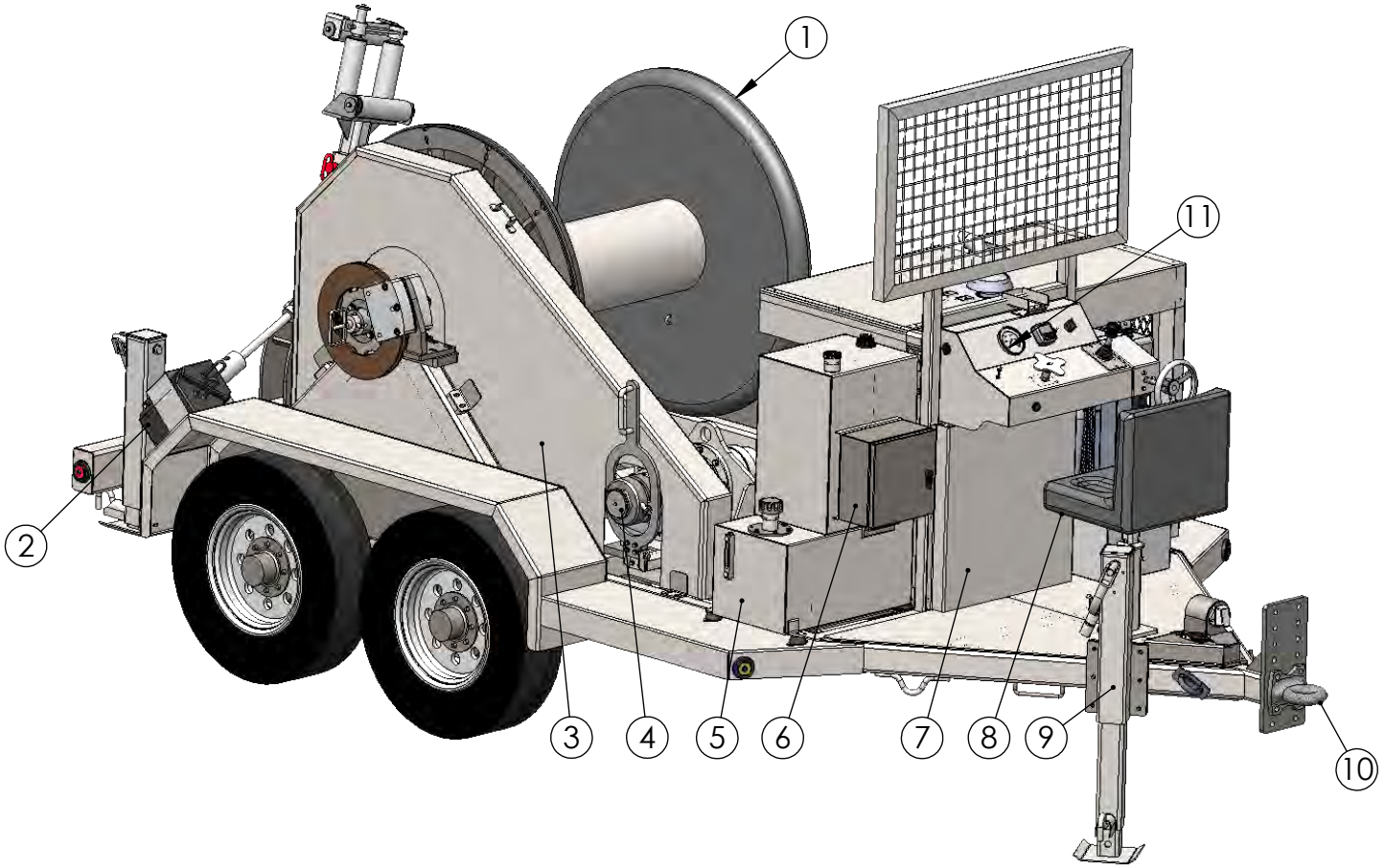
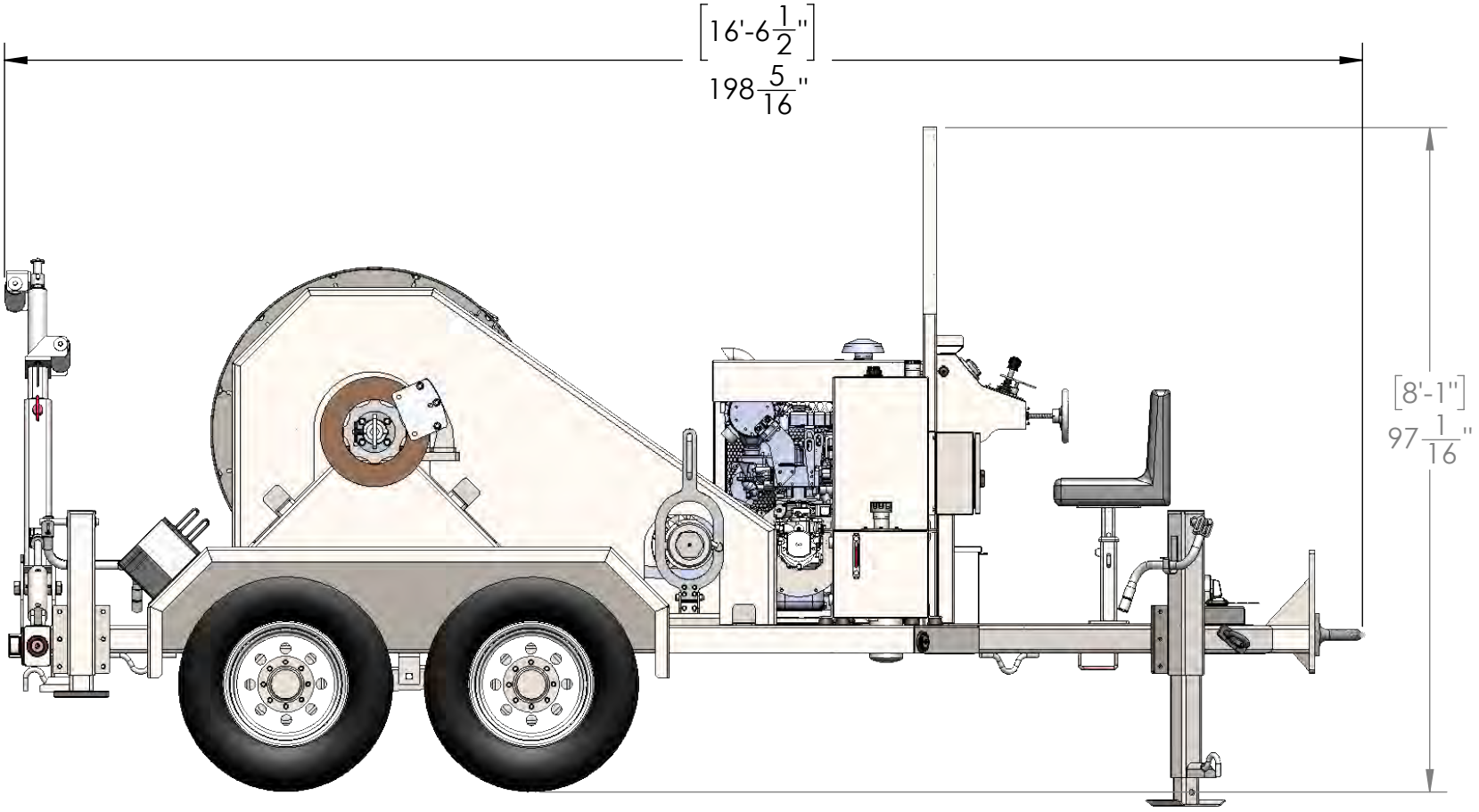
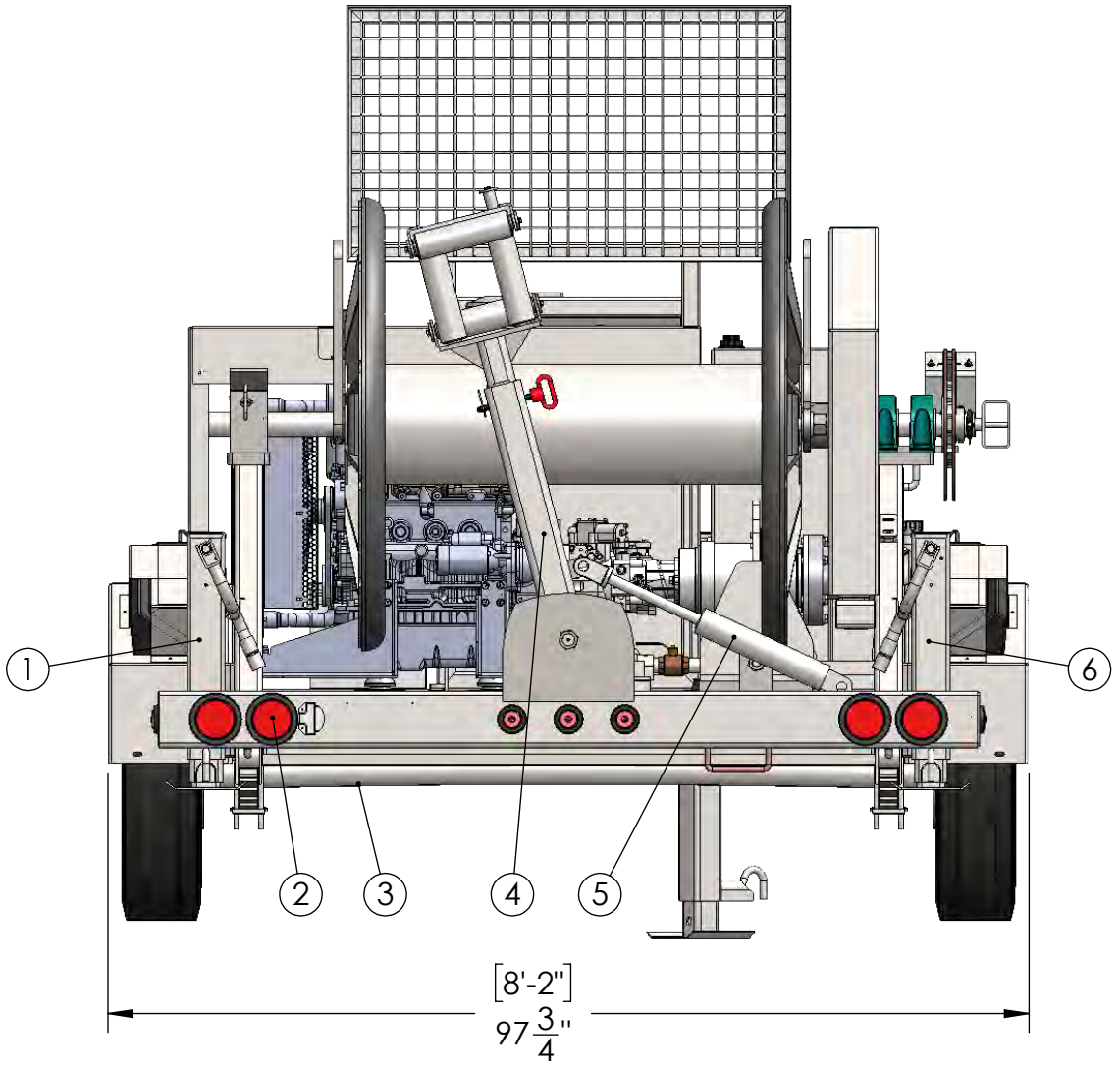
If items look different than the parts breakdown please call for assistance. (541)354-1001



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Reel Assembly	Reel Assembly	1
2	C12005	Wheel Chock	4
3	G09221	Guard, Chain	1
4	ODP40 Drive	See Drive Sheet	1
5	Tanks	See Tanks Sheet	1
6	B13106	Box, Electrical	1
7	C29027	Cover, Kick Panel	1
8	Seat Assy	Seat Assy w/ pin	1
9	J04044	12k Dropleg Jack	1
10	E04017	Eye, Pintle	1
11	Controls T4f	See Controls Sheet	1



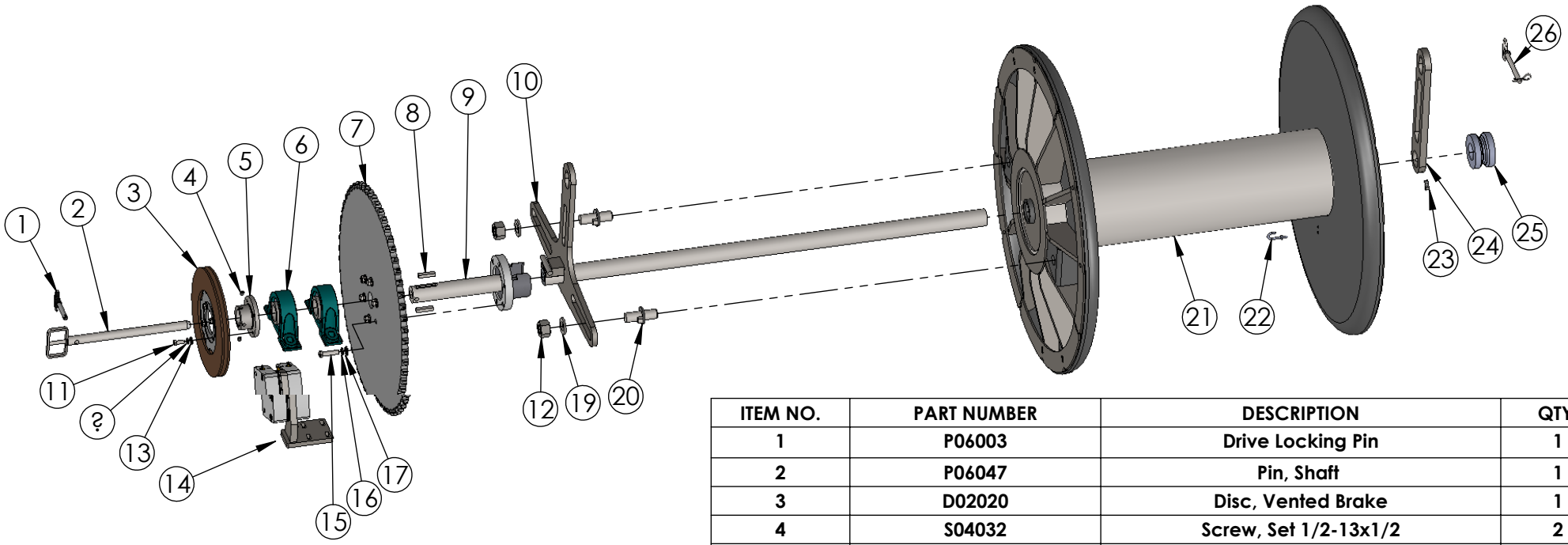
Curbside View

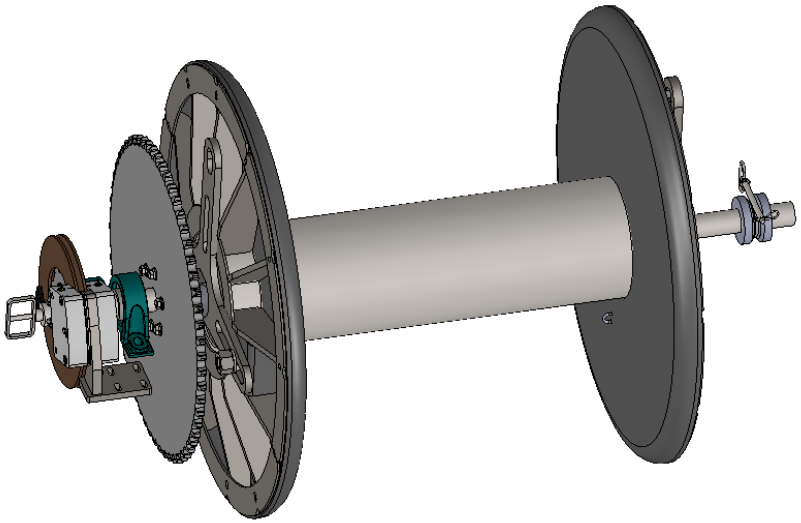


Weight: 11,720 lbs.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	J04042	12k Dropleg Jack	1
2	Lighting	See Lighting Sheet	1
3	Axle Assembly	Tandem Axle	1
4	Levelwind Assembly	See Levelwind Sheet	1
5	C32020	Cylinder, Levelwind	1
6	J04043	12k Dropleg Jack	1

HD **Rear View**



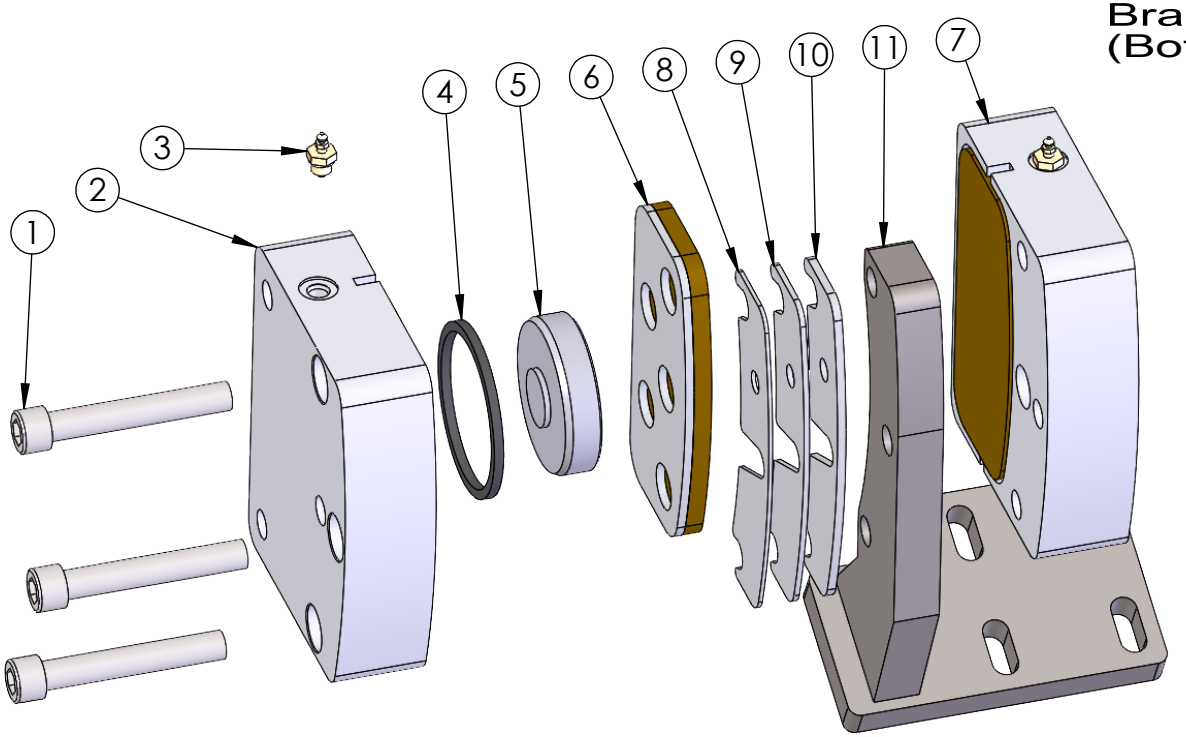


D02020: Min. thickness - 1.125"

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	P06003	Drive Locking Pin	1
2	P06047	Pin, Shaft	1
3	D02020	Disc, Vented Brake	1
4	S04032	Screw, Set 1/2-13x1/2	2
5	H09106	Hub, brake 2-7/17" shaft	1
6	B07401	2-7/16" Pillow Block Bearing	2
7	S29032	Drive Sprocket	1
8	K01010	Key, 1/2 x 1/2 x 2-1/2	2
9	S43034	Bearing Shaft w/ Seat	1
10	S43053	Shaft, Reel	1
11	B11430	Bolt Hx head 1/2-13x1-1/4 Z8	4
12	N04380	Nut, Hex 1-3/8 -6	2
13	W01005	Washer Flat SAE 1/2	4
14	HD Brake assy	Caliper 7" HD brake	1
15	B11476	Bolt Hx head 5/8-11x2-1/2 Z8	6
16	W01040	Washer, Split Lock 5/8"	6
17	W01053	Washer, Flat 5/8	6
18	W01565	Washer, 1/2" Split Lockz	4
19	W01595	Washer, Reel Pin	2
20	P06062	Reel Pin, 1-3/8"	2
21	R07006	48" OD x 44"W x 12 3/4 core	1
22	H06035	Holder, Rope	1
23	S04475	Screw, Set Sq Head 1/2 x 1	2
24	E04002	Lifting Eye	1
25	B07077	Shaft, Bearing- Nylatron	1
26	P06056	Pin, 5/8 x 6"	1

ODP40 Reel Assembly

Use Spacers to get Approx. 1/16" Clearance Between Brake Pads and Brake Rotor (Both sides)



C04031A-- Complete Assembly
Contains Items 1-7

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S04141	Screw, SHCS 5/8"-18 x 4" Z	3
2	C04037	Caliper Half, Countersink	1
3	B18005	Bleader, -4 o-ring	2
4	O01225	O-Ring, Piston	2
5	P08004	3-3/8" Piston	2
6	P01012	Pad, 7" HD brake caliper	2
7	C04038	Caliper Half, Threaded	1
8	S14065	Spacer 14ga	1
9	S14066	Spacer 11ga	1
10	S14067	Spacer 3/16	1
11	B15248	Brake Caliper Mount	1

HD 7" HD Brake Assembly

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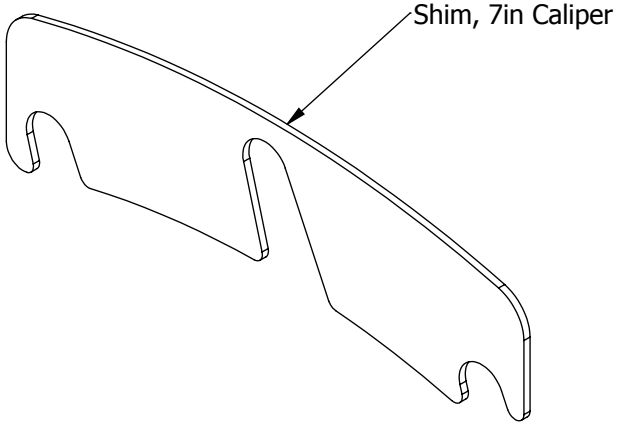

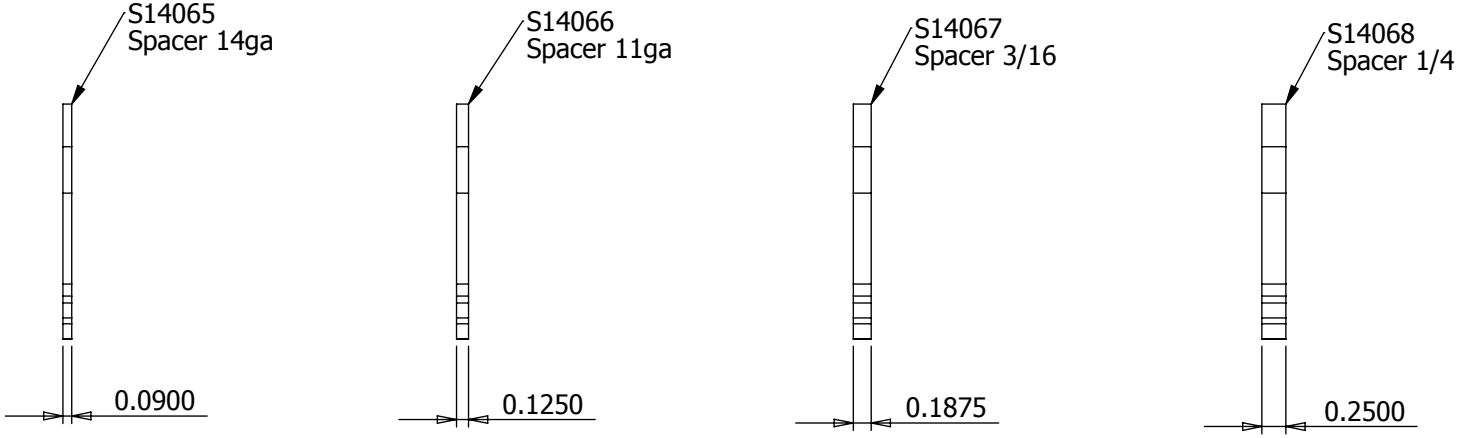

HOGG & DAVIS
PO BOX 405, 3800 EAGLE LOOP
ODELL, OR 97044 (541) 354-1001

DRAWN	
NAME	sm
DATE	12/27/2010
SHEET 1 OF 1	

TITLE: Shim, 7" Caliper

Part #: S14065-S14068

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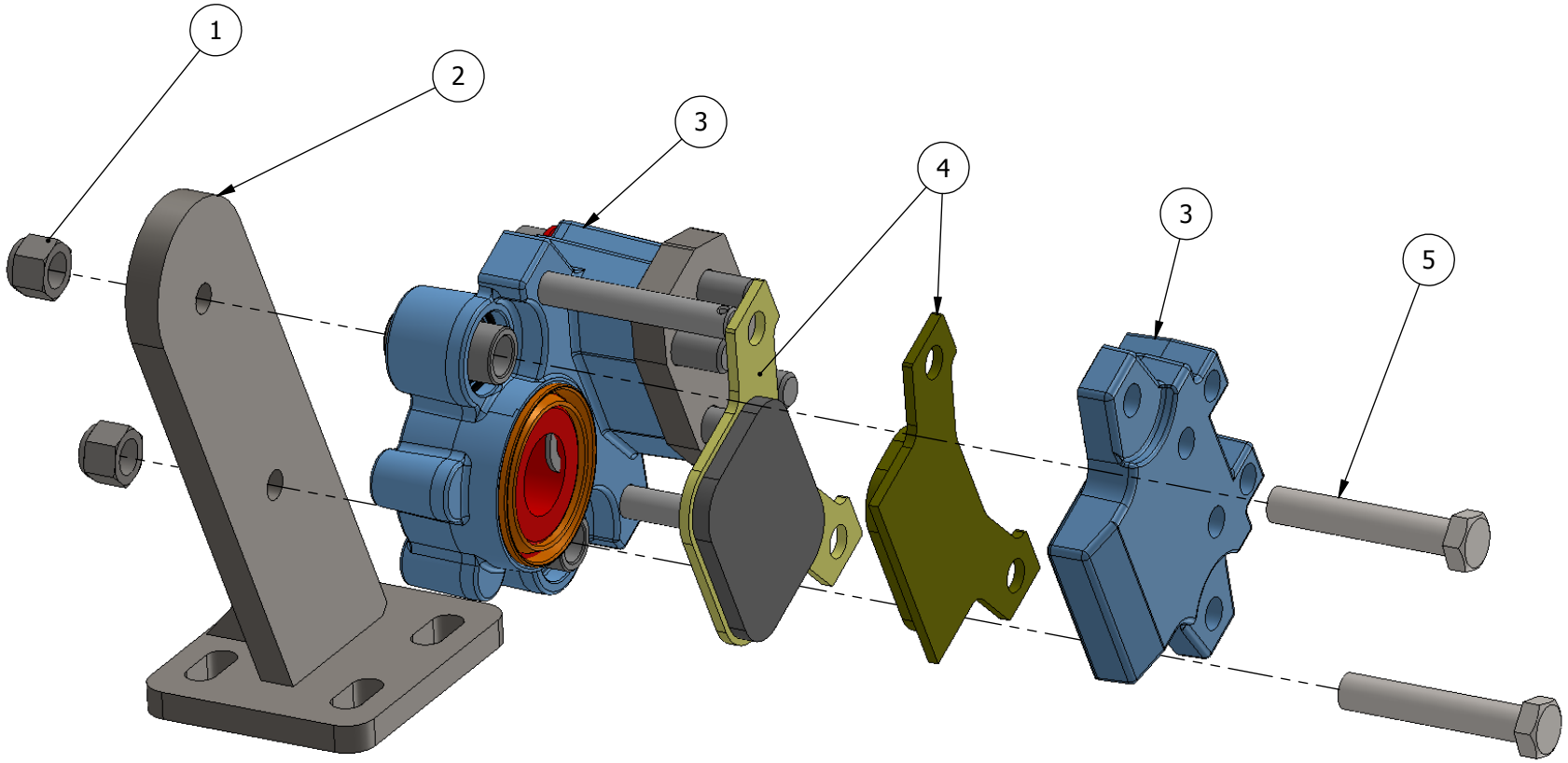
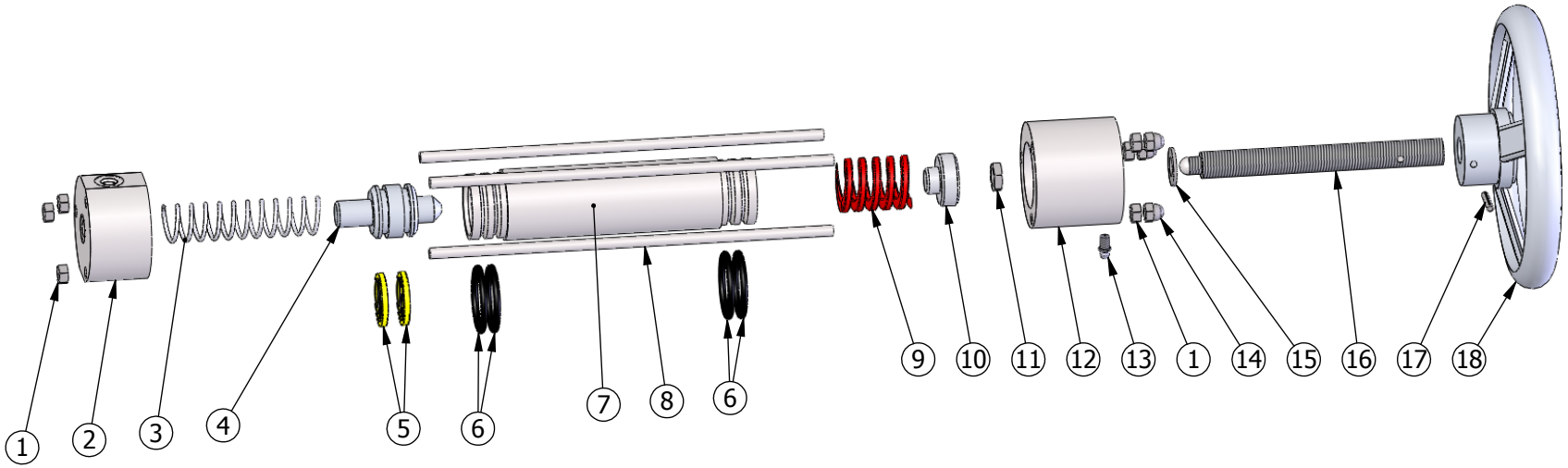
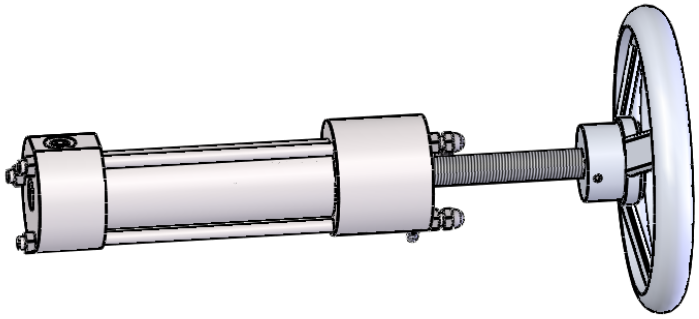


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	N04558	Nut Hex Nylock® 5/8-11	2
2	B15924	Caliper Mount	1
3	C04912WIDE	Caliper, Overspin Brake	1
4	P01052	Brake Pads (Set of 2)	2
5	B11484	Bolt Hx head 5/8-11x3-1/2 Z8	2

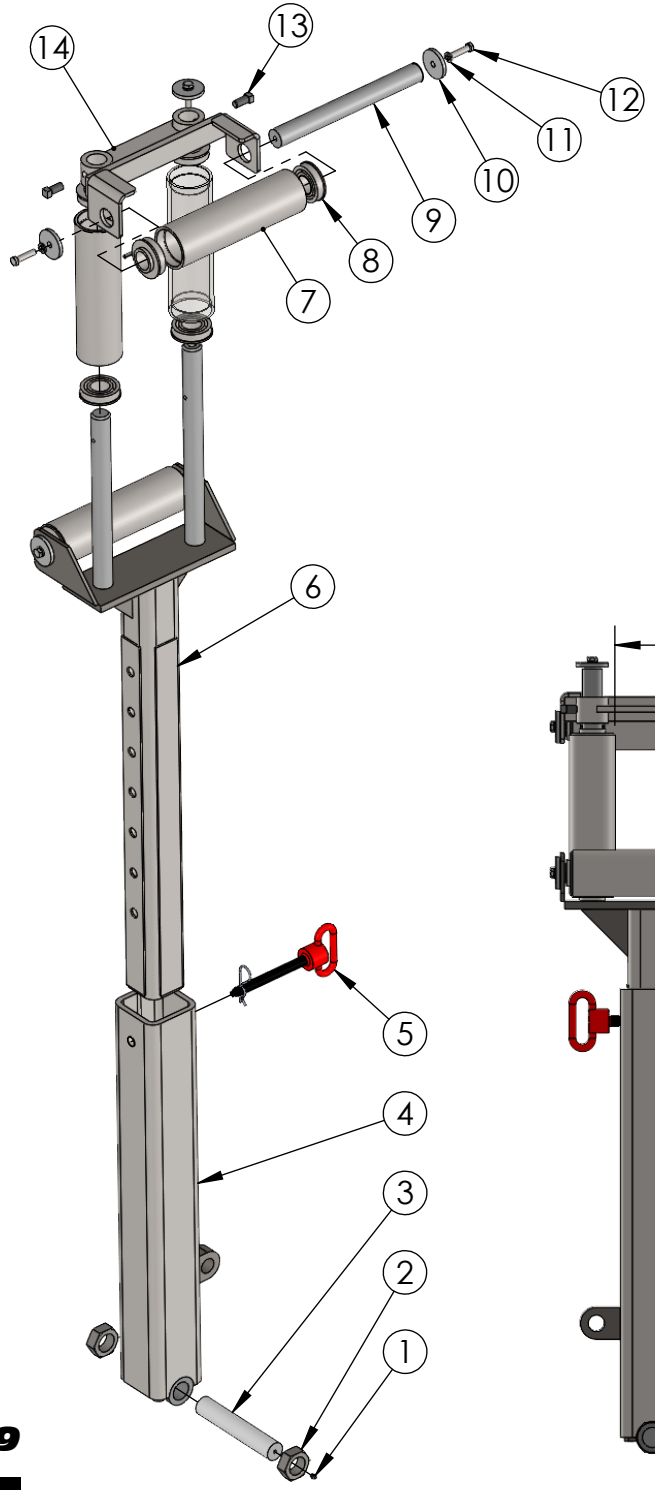
Overspin Brake (Old Style)





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	N04107	Nut Hex 5/16"-18	6
2	C06009	Bar round 3" 1018	1
3	S28022	Return Spring	1
4	P08017	Piston, Aluminum two groove	1
5	O01061	Seal	2
6	O01060	O-Ring	4
7	H08003	Cylinder Tube	1
8	R19007	Bar round 5/16" 1018	3
9	S28021	Spring	1
10	P08016	2" Aluminum RB	1
11	N04039	Nut Hex Jam 1/2-20	1
12	C06012	Bar round 3" 1018	1
13	F05630	Fitting, 1/4"-28 Zerk	1
14	N04103	Nut Hex 5/16"-18 Acorn	3
15	W01005	Washer, Flat SAE 1/2"	1
16	S04006	Bar 3/4"-8 acme thread	1
17	P06186	Pin, Roll 3/16 "x 1"	1
18	H02060	Handle, 8" Dia.	1

C32004
HD Brake Cylinder



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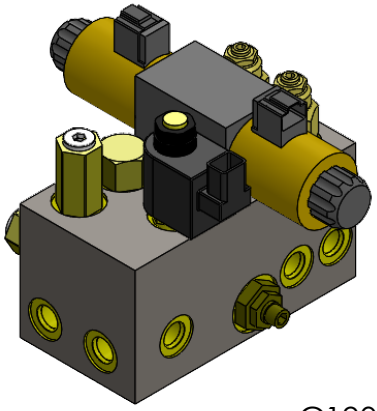
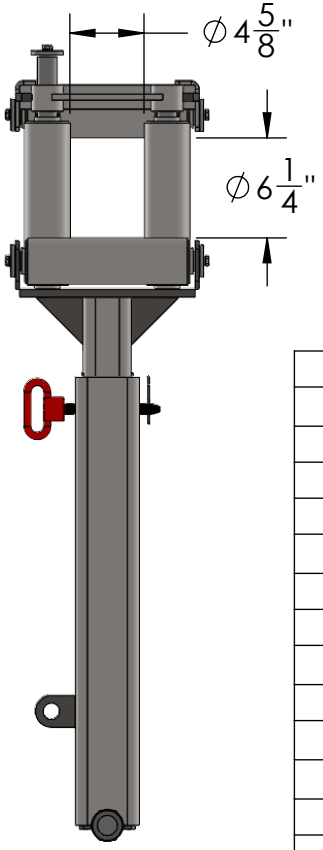
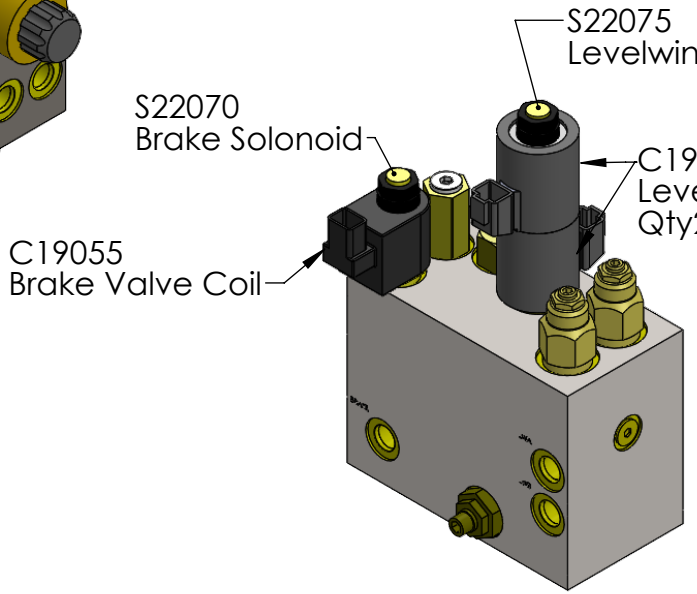
DIscontinued 2014



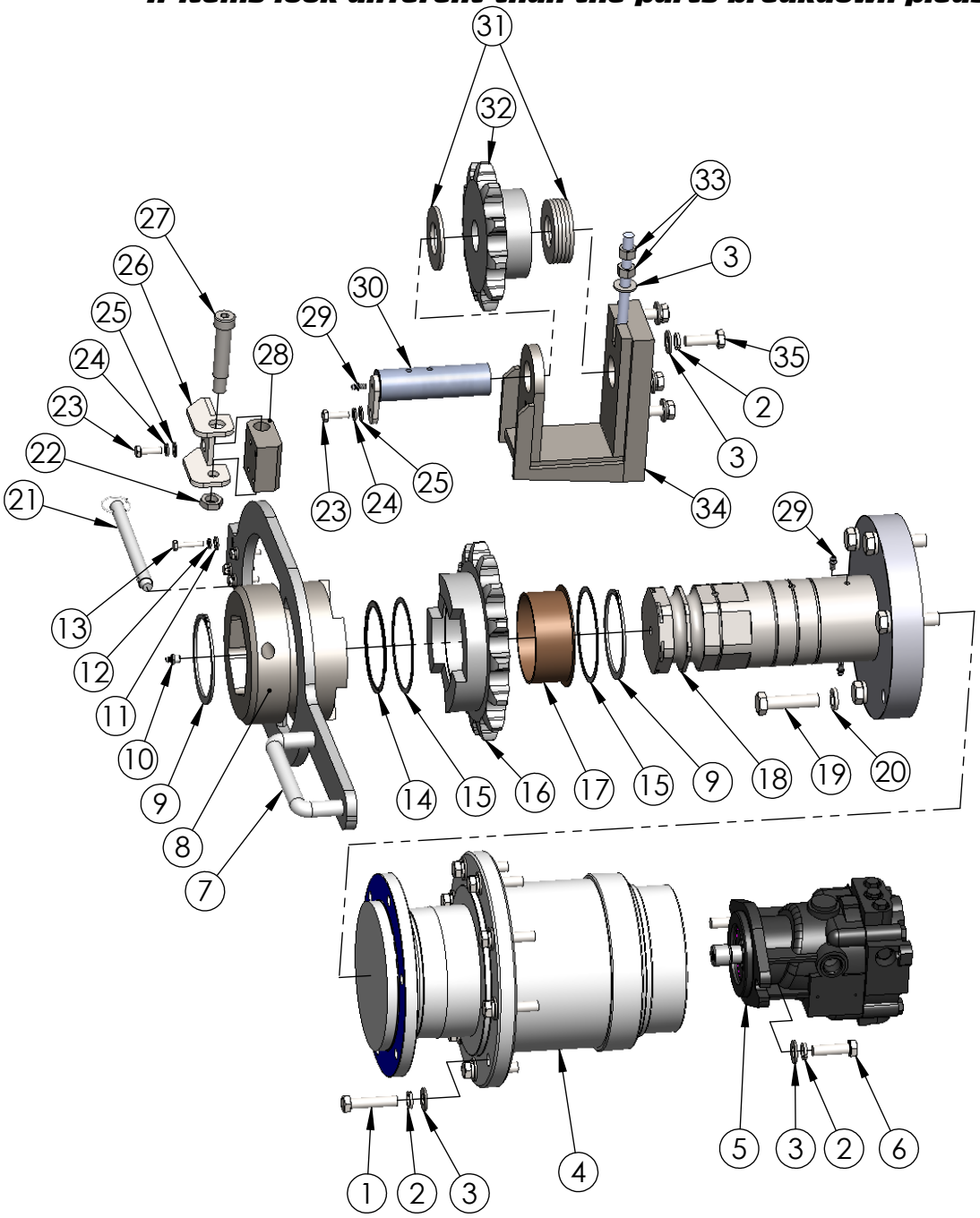


S22072 Solonoid & Coil Assembly



M04090
Levelwind Manifold

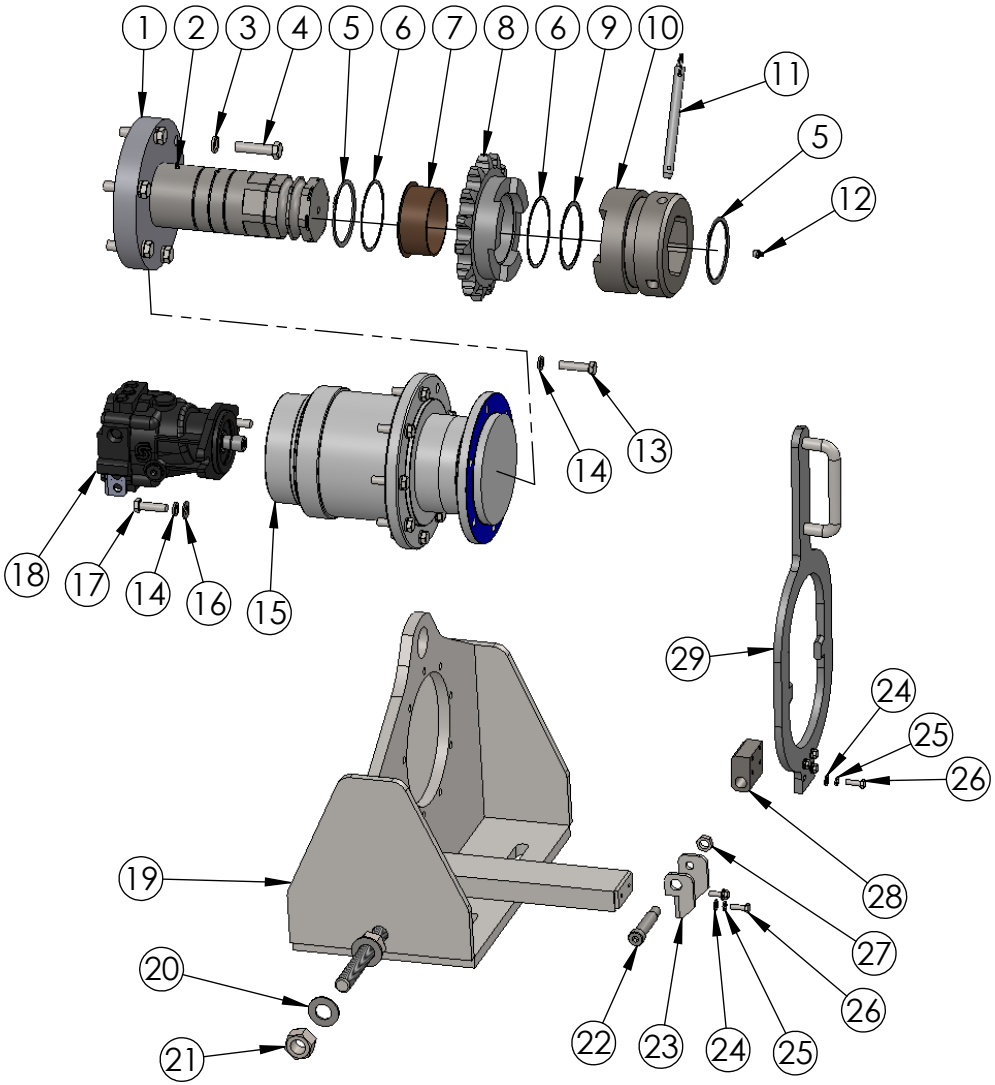
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	F05071	Fitting, Grease Zerk 1/4"-28 tap	1
2	N04097	Nut, Hx Jam 1-1/4"-12	2
3	P06156	Pin, Levelwind Pivot	1
4	S17000	Sleeve, Levelwind	1
5	P06027	Pin, Height Adjust	1
6	A08089	Arm, Levelwind	1
7	R20044	Roller, Horizontal	4
8	B07110	Bearing, Roller	8
9	S43129	Shaft, Roller	2
10	C06041	Cap, End	5
11	W01545	Washer, Split Lock 3/8"zinc	5
12	B11344	Bolt, Hx Head 3/8"-16 x 1-1/2"	5
13	S04475	Screw, Set Sq Head 1/2" x 1"	2
14	B15897	Bracket, Swing-away Fairlead	1
15	P06185	Pin, Roll 1/4" x 1-1/2"	2

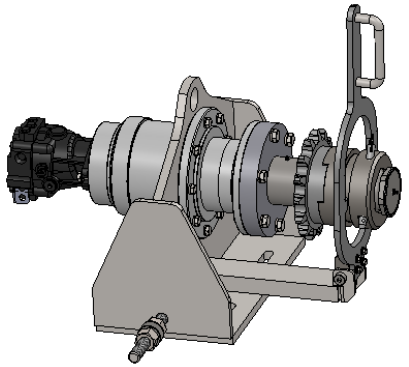


Drive Chain Slack Range: 1"-2"

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B11451	Bolt Hx head 1/2-13x2-1/4 Z8	9
2	W01565	Washer, Split Lock 1/2"	15
3	W01005	Washer Flat SAE 1/2	16
4	G12006	Planetary Gear	1
5	M08043	Motor, Sauer MMF035D	1
6	B11445	Bolt Hx head 1/2-13x1-3/4 Z8	2
7	Y01068	Drive Disengage Yoke	1
8	H09022	Engagement Hub	1
9	R18014	Ring, Snap External	2
10	F05629	Grease Zerk 1/8NPT	1
11	W01205	Washer, Flat SAE 1/4"	4
12	W01525	Washer, Split Lock 1/4"	4
13	B11325	Bolt, Hex 1/4"-20 x 1-1/4"	4
14	R18009	External 4" Spiral Retaining Ring	1
15	W01014	Washer, Thrust	2
16	S29068	Sprocket	1
17	B21019	Bushing, Bronze	1
18	S43057	Hex Shaft	1
19	B11476	Bolt Hx head 5/8-11x2-1/2 Z8	6
20	W01040	Washer, Split Lock 5/8"	6
21	P06049	Pin, 5/8" X 5-1/2" w/ Lanyard	1
22	N04474	Nut Hex Jam 5/8-11	1
23	B11020	Bolt, Hex 5/16"-18 x 1"	3
24	W01048	Washer, Split Lock 5/16"	3
25	W01235	Washer Flat SAE 5/16	3
26	B15084	Yoke Pivot	1
27	B11030	Bolt shoulder 3/4x2-3/4	1
28	B15114	2-1/2" SQ	1
29	F05630	Fitting, 1/4-28 Zerk	3
30	S43062	Shaft, Idler Sprocket	1
31	W01110	1 1/2" SAE Washer	6
32	S29014	Sprocket, Idler 11t	1
33	N04264	Nut Hex 1/2-13	2
34	I02101	Idler Sprocket Bracket	1
35	B11433	Bolt, Hex 1/2"-13 x 1-1/2" Z8	4

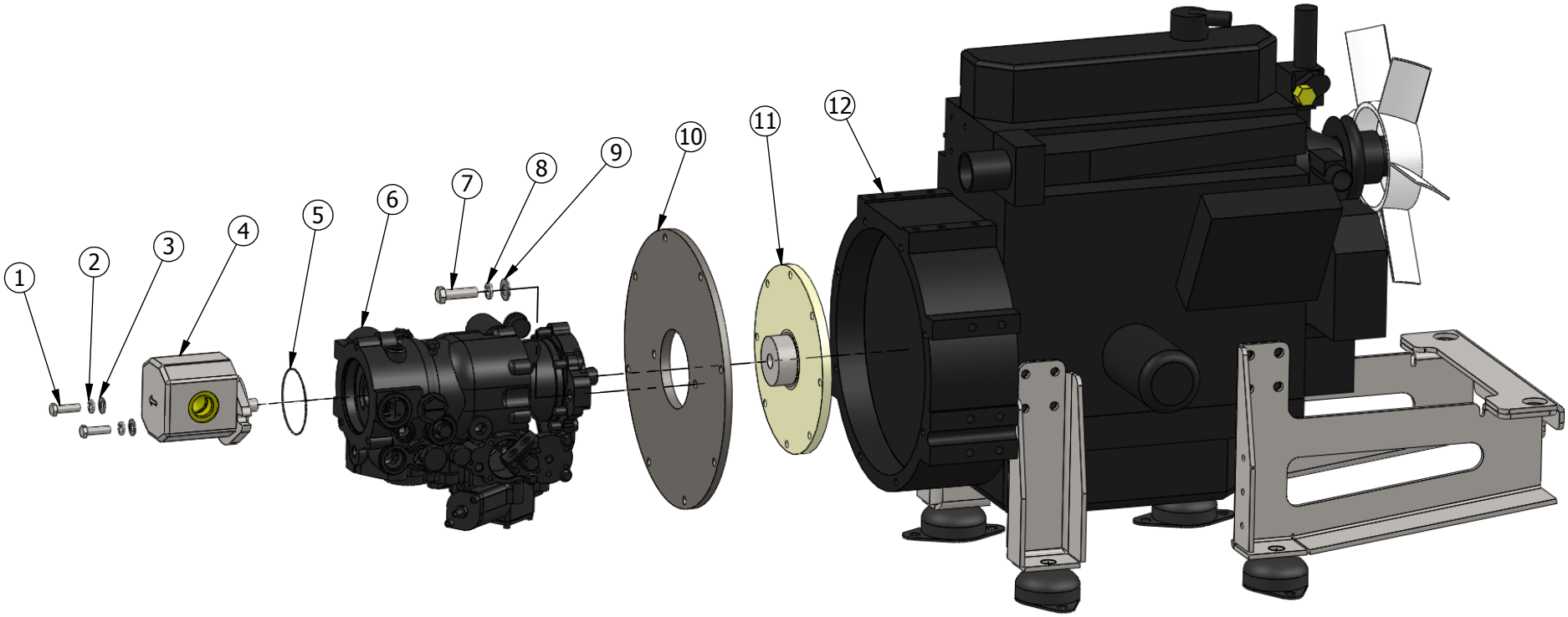
HD Planetary Drive





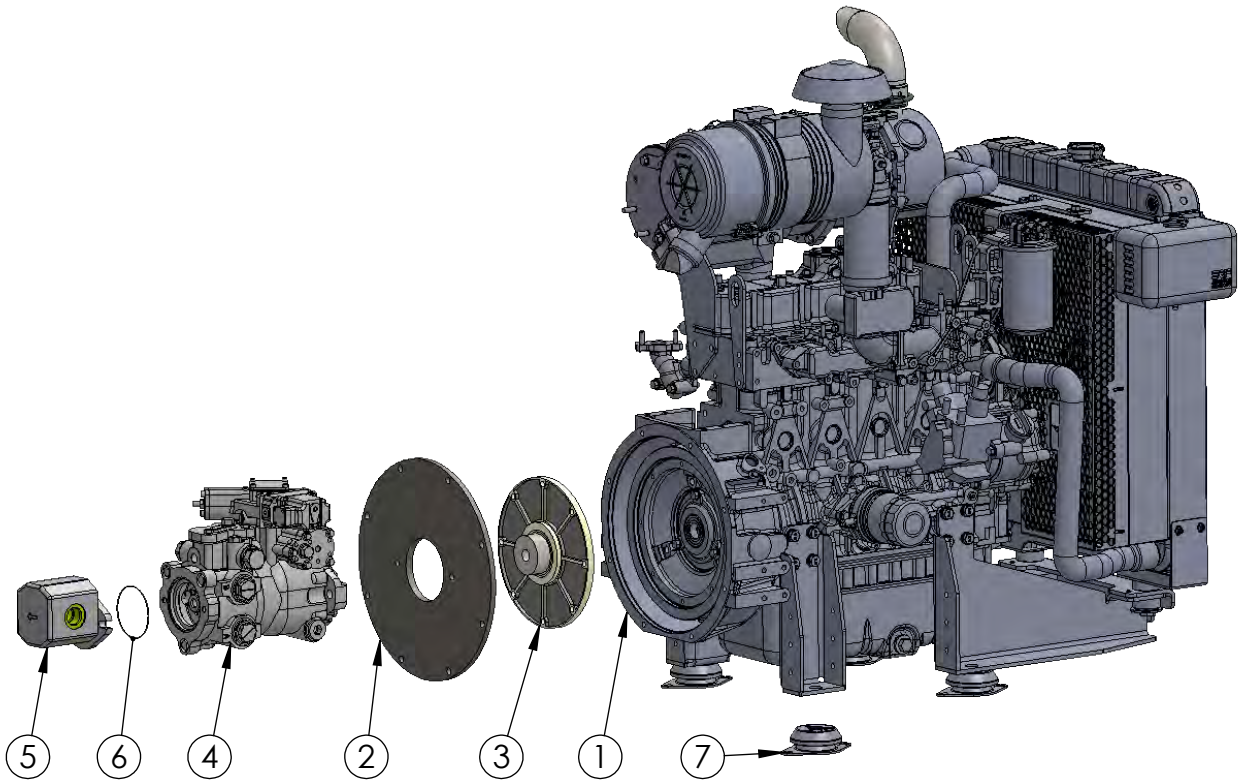
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S43057	Hex Shaft	1
2	F05630	Zerk, Grease 1/4"-28	1
3	W01040	Washer, Split Lock 5/8"zinc	6
4	B11476	Bolt, Hx Head 5/8"-11 x 2-1/2" Z8	6
5	R18014	Ring, Snap External	2
6	W01014	Washer, Thrust	2
7	B21019	Bushing, Bronze	1
8	S29068	Sprocket	1
9	R18009	External 4" Spiral Retaining Ring	1
10	H09022	Engagement Hub	1
11	P06049	Pin, 5/8" X 5-1/2" w/ Lanyard	1
12	F05629	Zerk, Grease 1/8"NPT	1
13	B11446	Bolt, Hx Head 1/2"-13 x 2" Z8	9
14	W01565	Washer, 1/2" Split Lockz	11
15	G12006	Gear, Planetary	1
16	W01005	Washer, Flat SAE 1/2"zinc	2
17	B11445	Bolt, Hx Head 1/2"-13 x 1-3/4" Z8	2
18	M08043	Motor, Sauer	1
19	M09048	Mount, Planetary	1
20	W01293	Washer, Flat SAE 1"	2
21	N04267	Nut, 1-8 Z	2
22	B11030	Bolt, Shoulder 3/4" x 2-3/4"	1
23	B15084	Yoke Pivot	1
24	W01235	Washer, Flat SAE 5/16"zinc	6
25	W01048	Washer, Split Lock 5/16"zinc	6
26	B11020	Bolt, Hx Head 5/16"-18 x 1"	6
27	N04474	Nut, Hx Jam 5/8"-11	1
28	B15114	2-1/2" SQ	1
29	Y01062	Yoke, Hex Drive	1

Planetary Drive



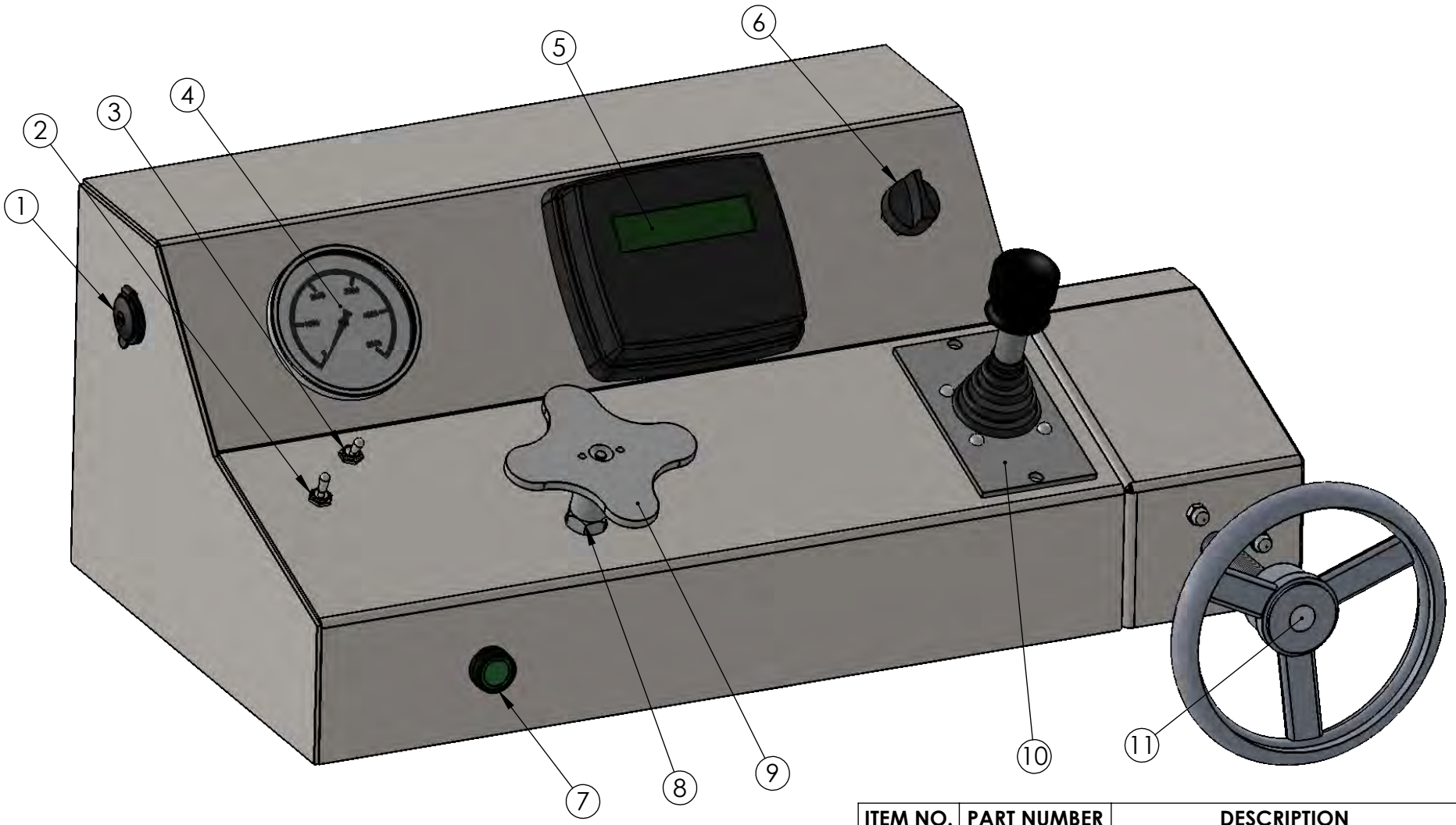
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B11343	Bolt Hx head 3/8-16x1-1/4	2
2	W01545	Washer, Split Lock 3/8"	2
3	W01002	Washer Flat SAE 3/8	2
4	P20103	Pump, 10gpm	1
5	O01111	O-ring Small Gear Pump	1
6	P20070	Pump, Hydraulic	1
7	B11364	Bolt Hx head 1/2-13x1-3/4	2
8	W01565	Washer, Split Lock 1/2"	2
9	W01005	Washer Flat SAE 1/2"	2
10	P09097	Pump Adapter Plate	1
11	C28026	Pump Adapter/ Flywheel	1
12	E02024	Engine	1

Engine/Pump Assembly

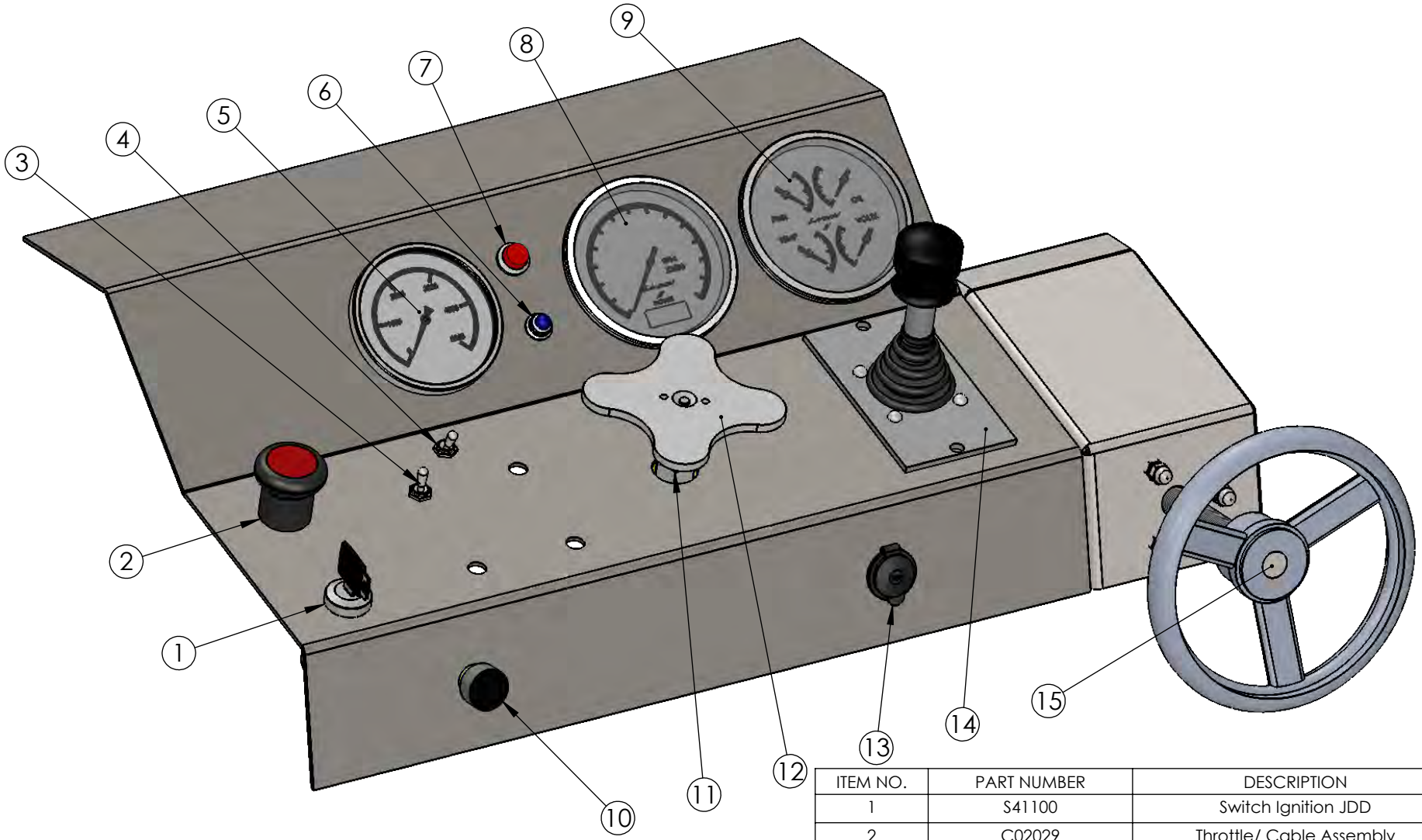


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	E02034 assy	Engine	1
2	P09097	Pump Adapter Plate	1
3	C28026	Pump Coupler/ Flywheel	1
4	P20070	Pump, Hydraulic	1
5	P20103	Pump, 10gpm	1
6	O01111	O-ring Small Gear Pump	1
7	I04010	Spring Isolator 176#	4

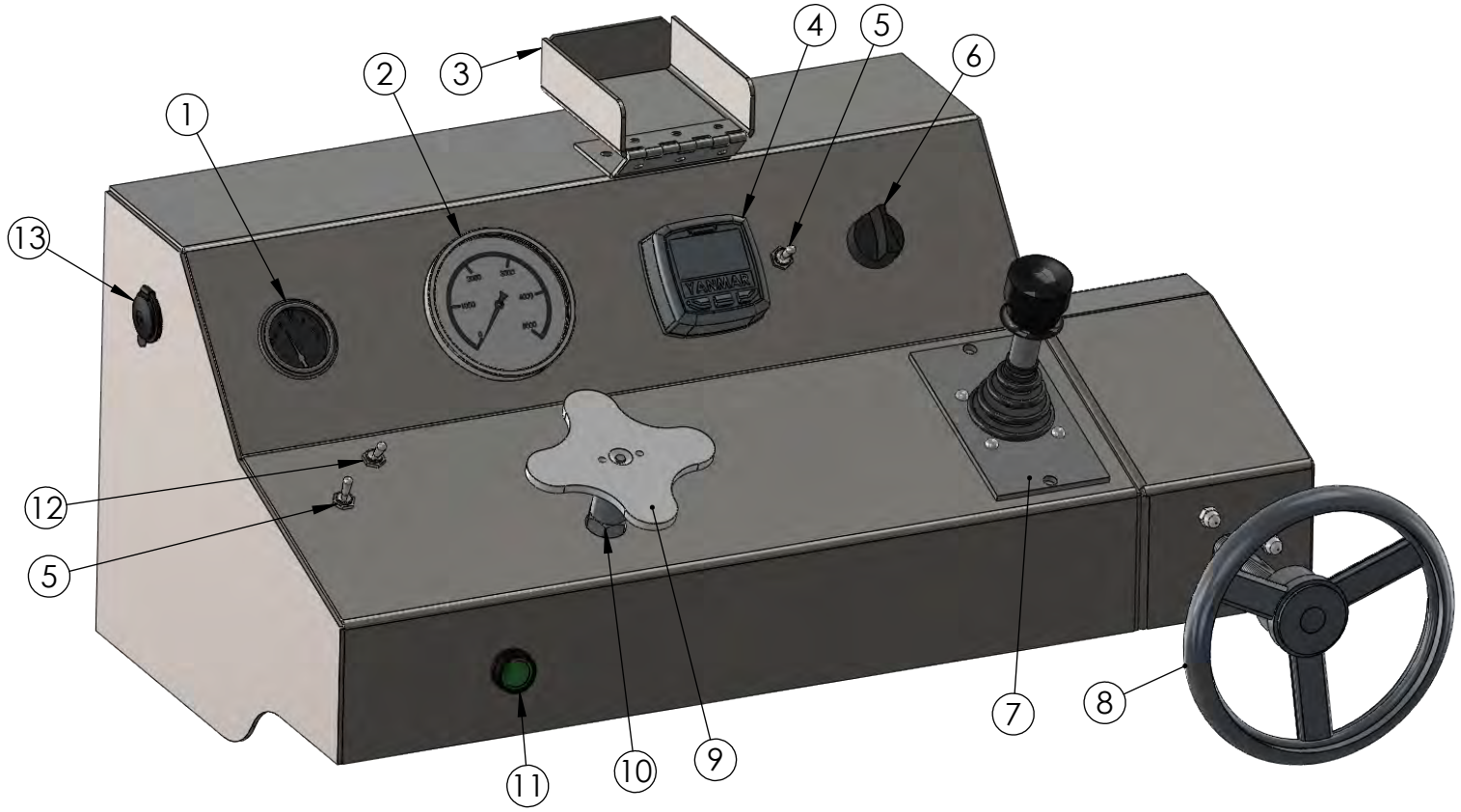
Engine Assembly Tier 4 Final

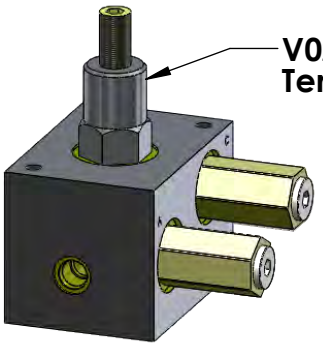


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	R12005	12v Socket	1
2	S40100	Switch, SP/DT Momentary	1
3	S40035	Switch, SP/ST Toggle	1
4	G02076	Gauge, 600PSI	1
5	D09030	Display, Controls Inc.	1
6	S40070	Switch, Key Cole Hersee	1
7	S40169	Switch, Payout Lock-Out	1
8	M04061	Manifold Tension Control	1
9	H02063	Handle CP210 relief	1
10	C34030	Controller, Joystick MCH	1
11	C32004	Brake Cylinder	1



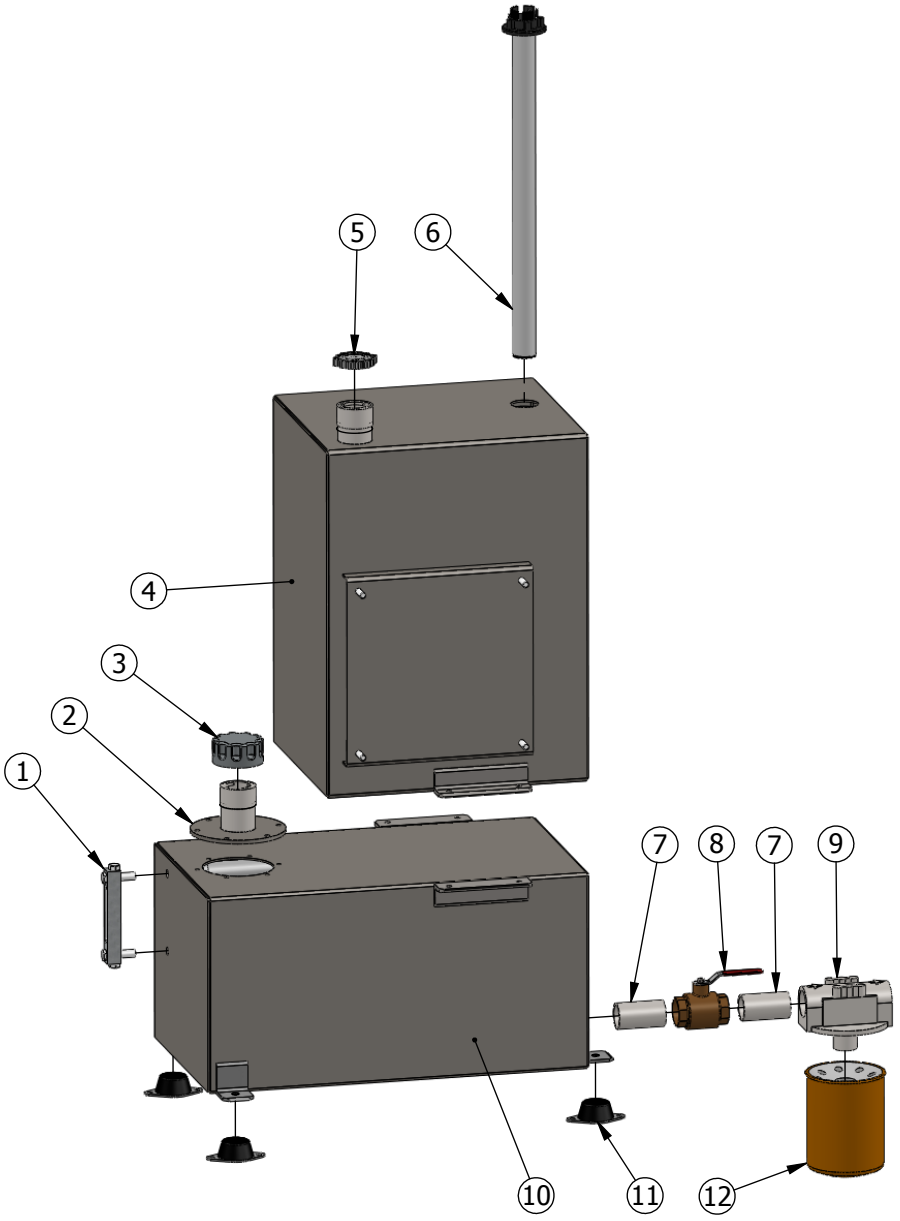
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S41100	Switch Ignition JDD	1
2	C02029	Throttle/ Cable Assembly	1
3	S40100	Switch, SP/DT Momentary	1
4	S40035	Switch, SP/ST Toggle	1
5	G02076	Gauge, 600PSI	1
6	L04200	PreHeat Light	1
7	L04025	Light, Pilot	1
8	G02022	Livorsi Tachometer	1
9	G02033	Gauge, Livorsi 4 in 1	1
10	S40167	Switch, Payout Lock-Out	1
11	M04061	Manifold Tension Control	1
12	H02063	Handle CP210 relief	1
13	R12005	12v Socket	1
14	C34030	Controller, Joystick MCH	1
15	C32004	Brake Cylinder	1

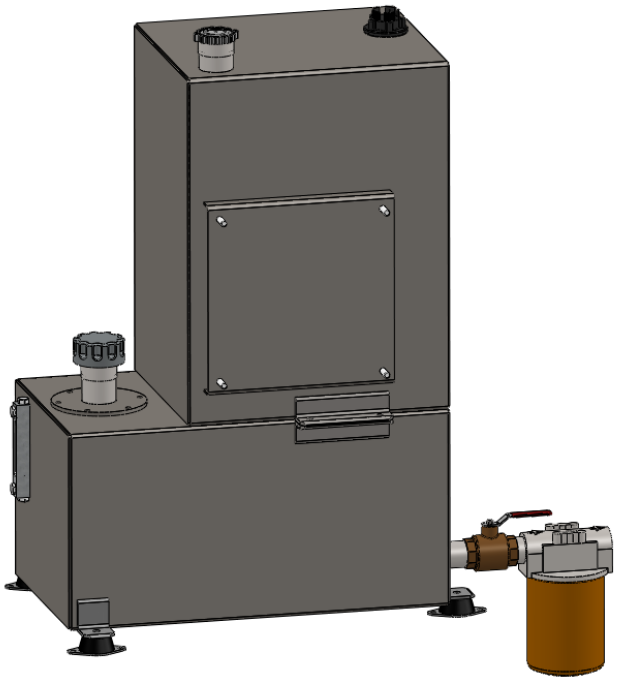




V02081
Tension Control

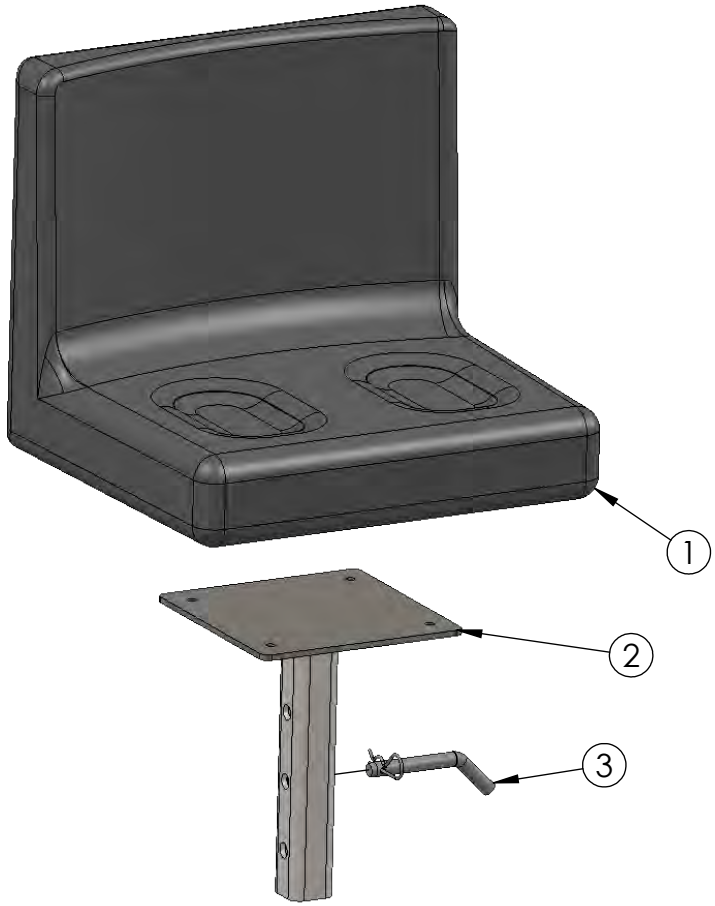
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	G02005	Gauge, Fuel Level	1
2	G02076	Gauge, 600PSI	1
3	C29034	Cover, Display Yanmar T4f	1
4	K02707	Display, Yanmar T4 w/ Keyswitch	1
5	S40100	Switch, SP/DT Momentary	2
6	S40070	Switch, Key Cole Hersee	1
7	C34030	Controller, Joystick MCH	1
8	C32004	Brake Cylinder	1
9	H02063	Handle CP210 relief	1
10	M04061	Manifold Tension Control	1
11	S40169	Switch, Payout Lock-Out	1
12	S40035	Switch, SP/ST Toggle	1
13	R12005	12v Socket	1





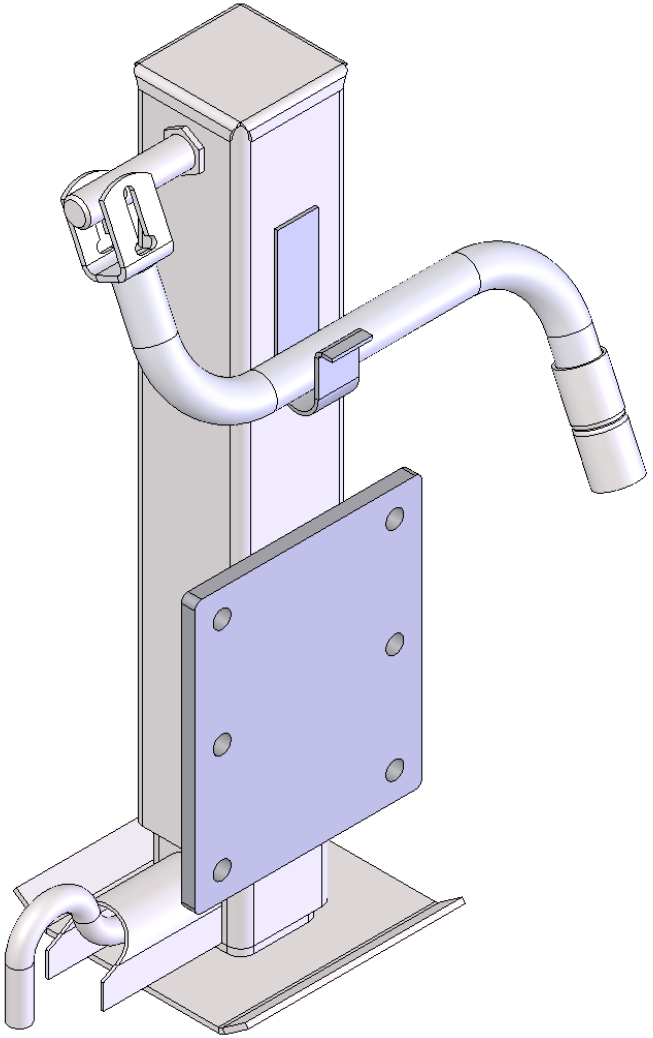
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	G02046	Gauge, Hyd oil level	1
2	N07002	Neck, Hydraulic fill	1
3	C06155A	Cap, Hydraulic	1
4	T01955	Tank, Fuel 21 Gallon	1
5	C06205	Cap, Fuel	1
6	S46006	Fuel Sender	1
7	N02001	Nipple, 1-1/4" x 3"LG	2
8	V02001	Valve, Ball 1-1/4" NPT	1
9	F04021	Filter Head	1
10	T01004	Tank, Hyd Fluid 18 Gallon	1
11	I04003	Insulator, Small	4
12	F04020	Filter 10 micron	1

Tank Assembly

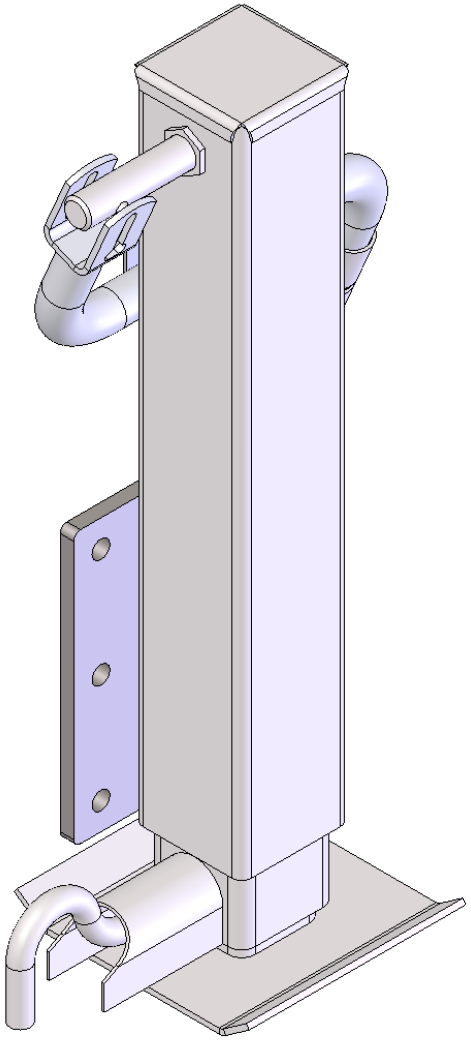


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S03040	Seat, Operator JD	1
2	P14051	Post, Seat Mount	1
3	P06999	Pin, Bent Hitch 5/8 x 3"	1

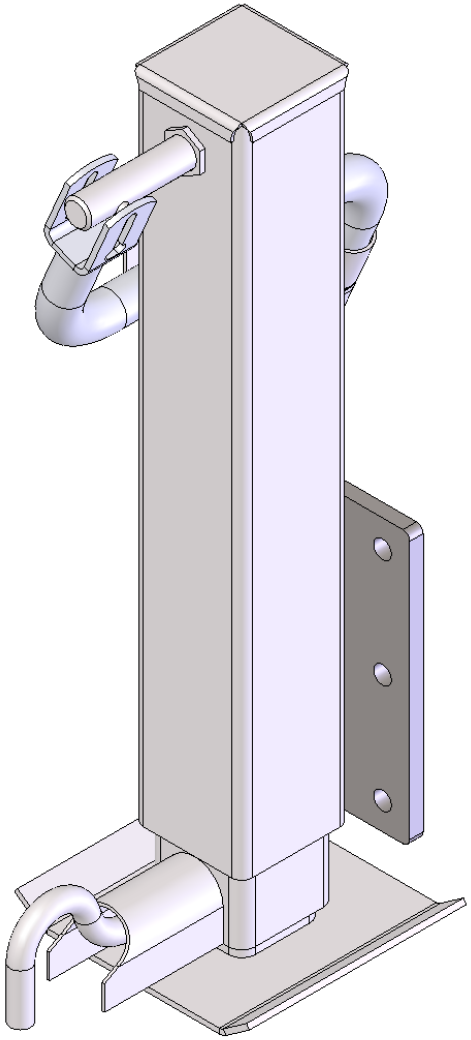
HD Seat Assembly



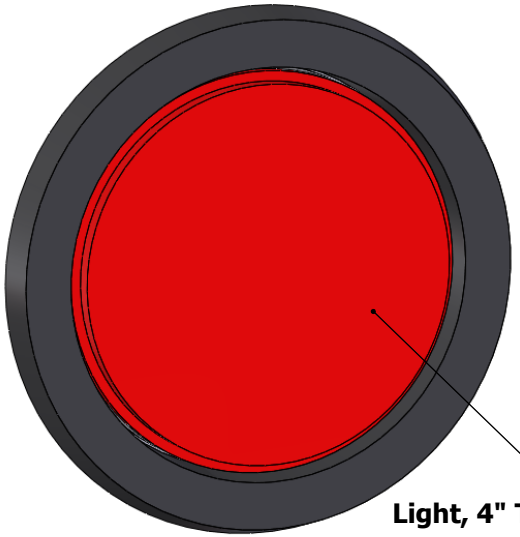
J04042
LEFT REAR
JACKSTAND



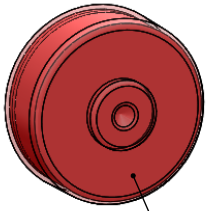
J04043
RIGHT REAR
JACKSTAND



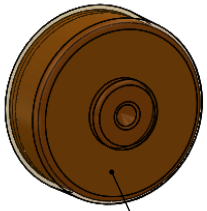
J04044
FRONT
JACKSTAND



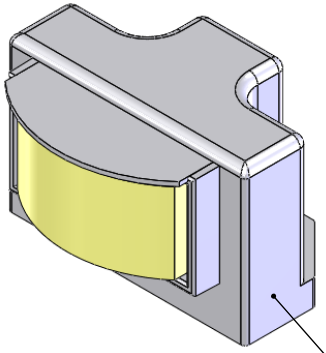
L04032
Light, 4" Tail/Stop/Turn Kit LED



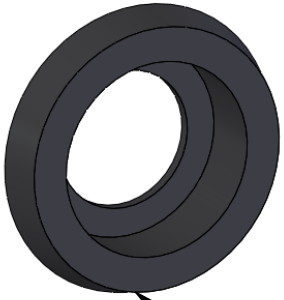
L04310
Light Red 2" LED



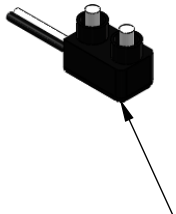
L04311
Light Amber 2" LED



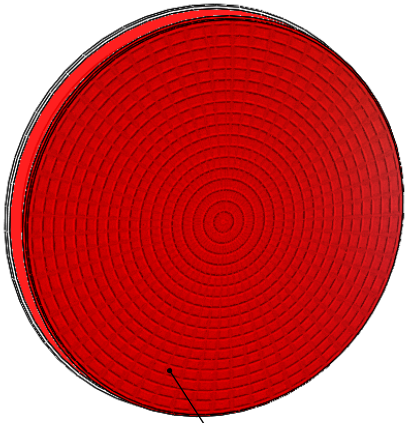
L04055
Light, License plate



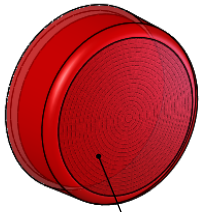
G08005
Grommet 2" Light



P05025
Pigtail 2 wire

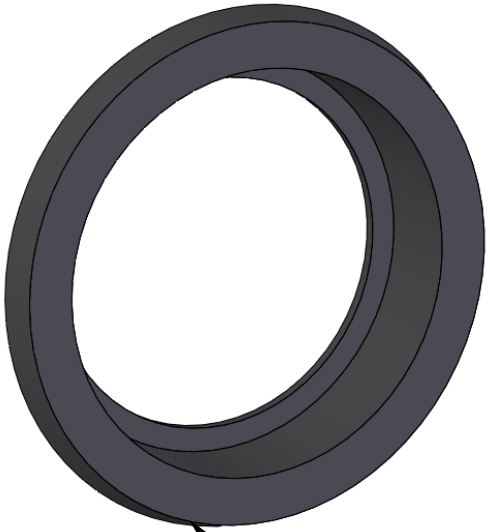


L04030
Light, 4" Tail Stop Turn

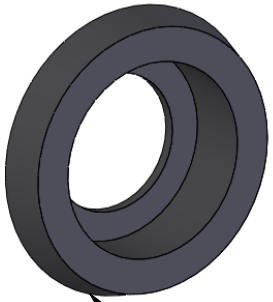


L04070
Light, 2" Red

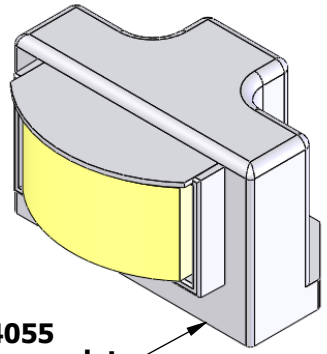
L04035
Light, 2" Amber



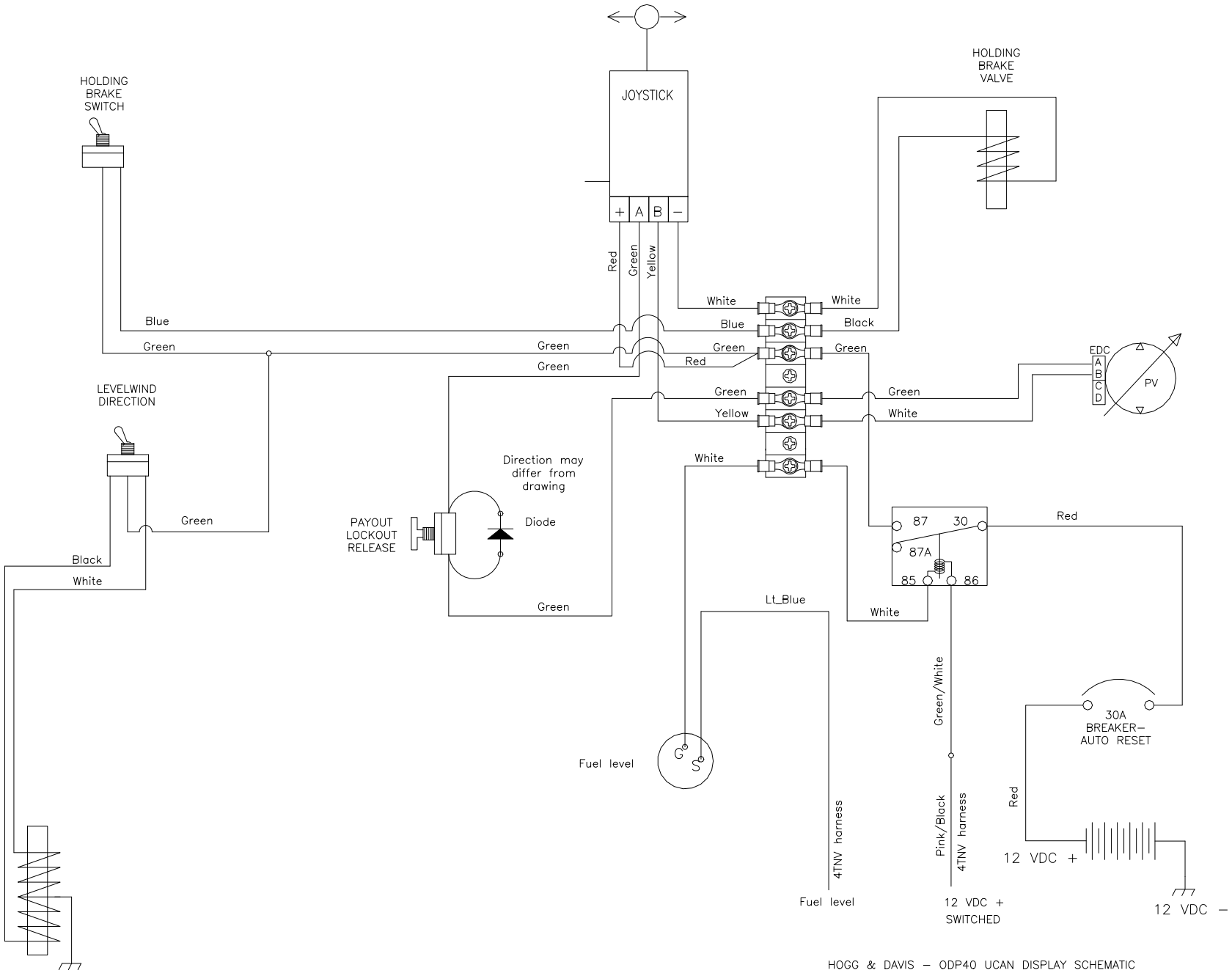
G08010
Grommet, 4" Tail/Stop/Turn



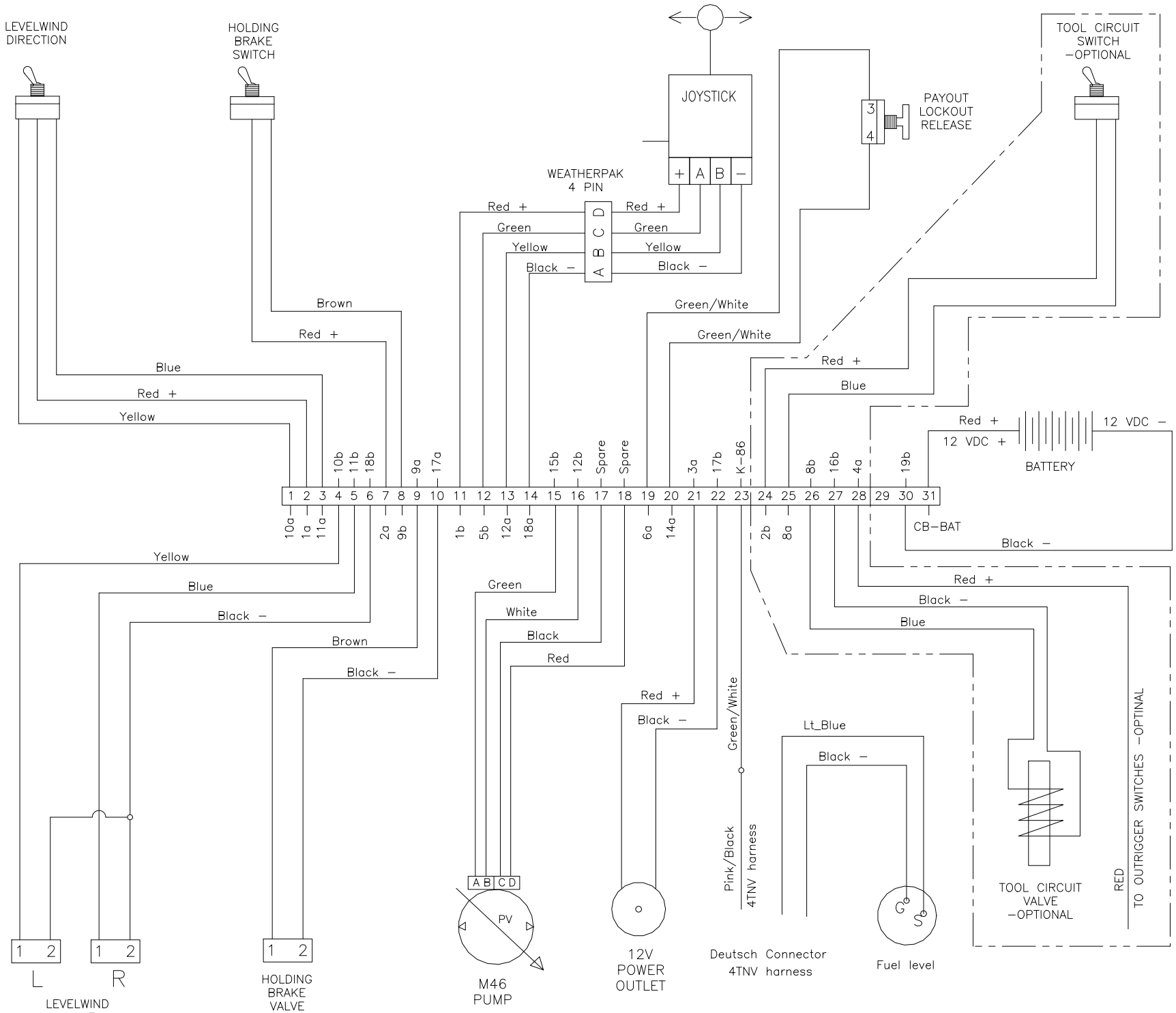
G08005
Grommet 2" Light



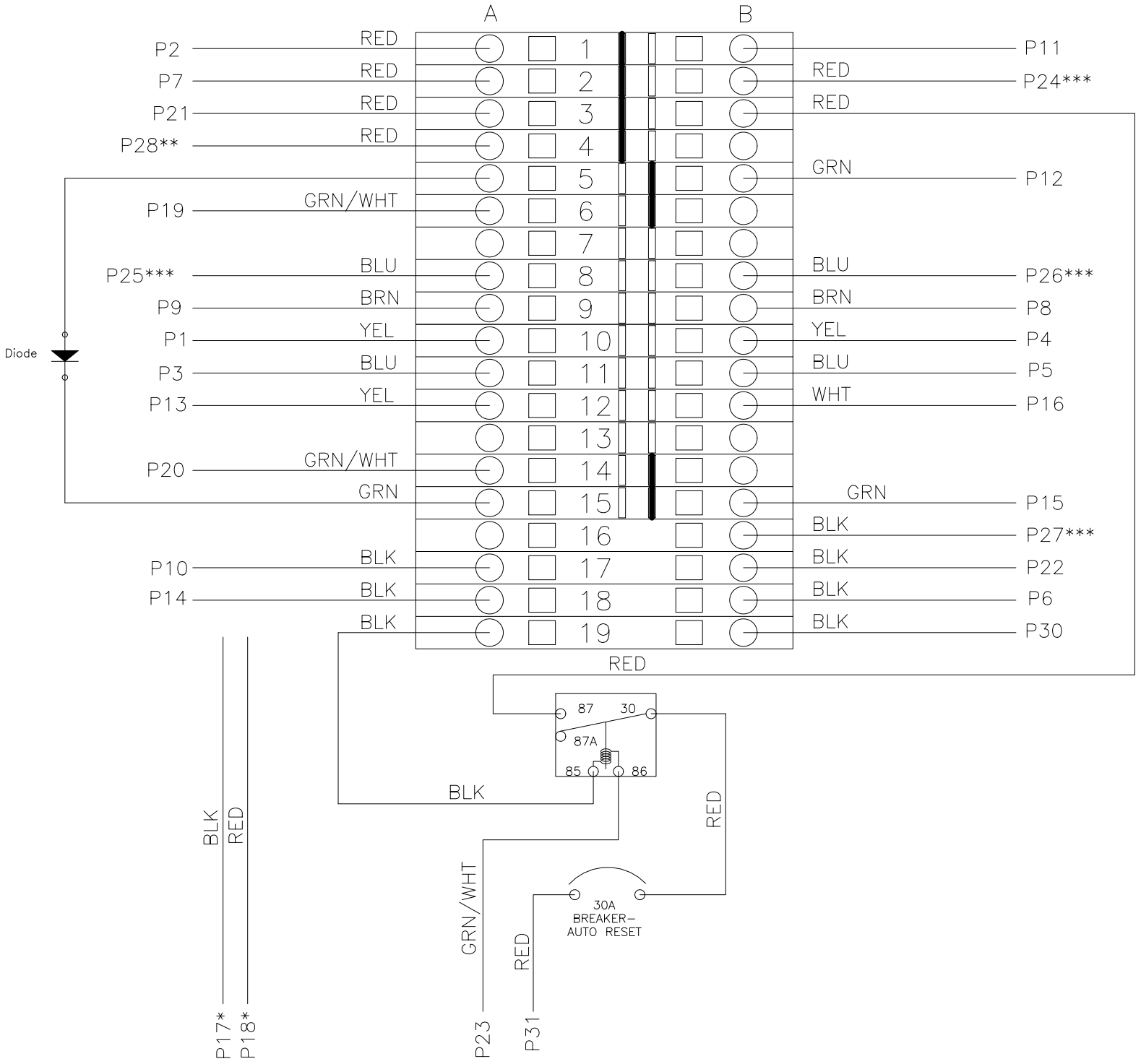
L04055
Light, License plate



HOGG & DAVIS – ODP40 UCAN DISPLAY SCHEMATIC



Note: all wires 16ga



* 2nd coil from M46 pump

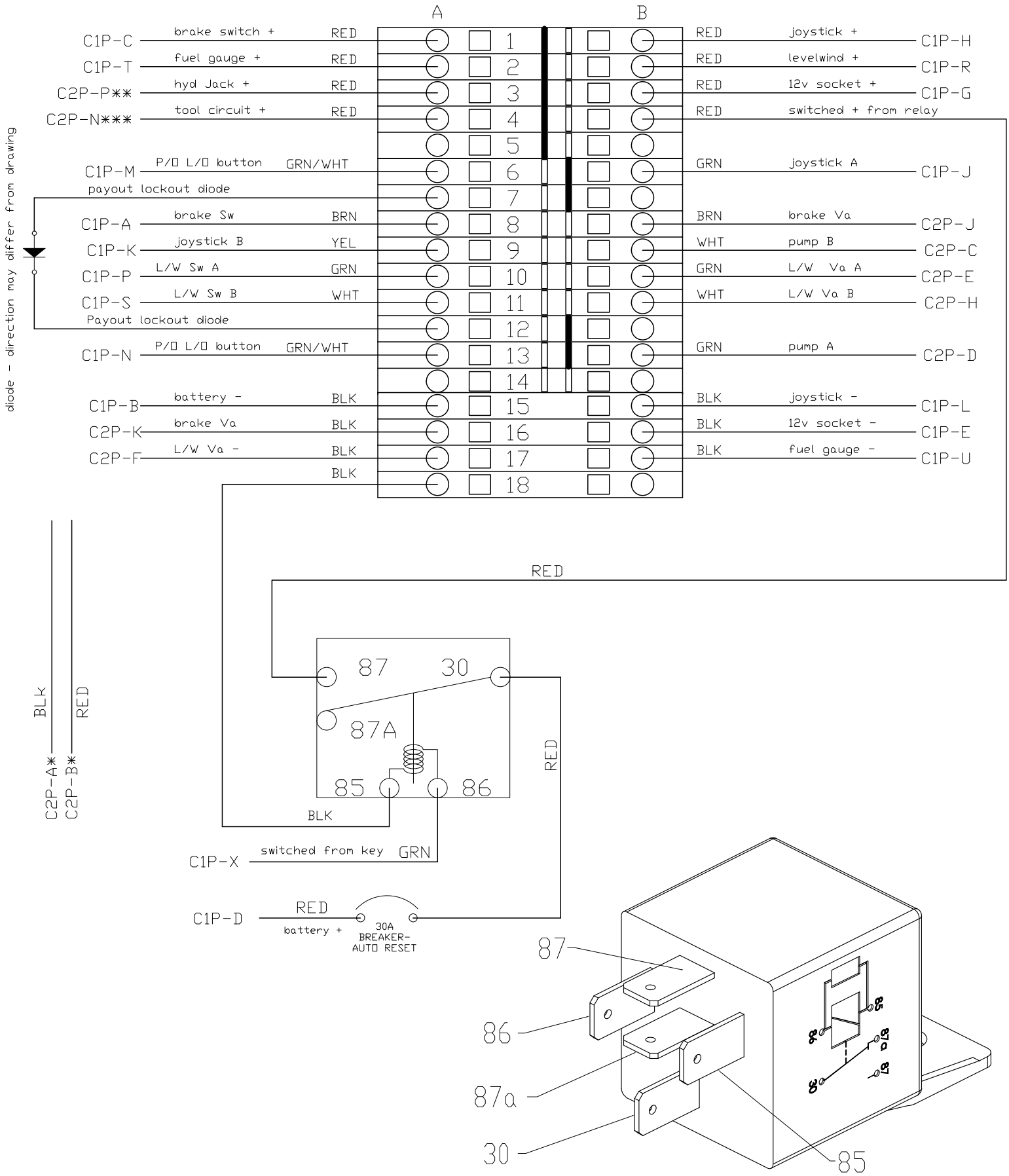
** Pin is OPTINAL power wire for HYDRAULIC OUTRIGGERS

*** Pins are for OPTIONAL TOOL CIRCUIT

Pin 31 is BATTERY +

Pin 30 is BATTERY –

HOGG & DAVIS – ODP40 UCAN TERMINAL LAYOUT



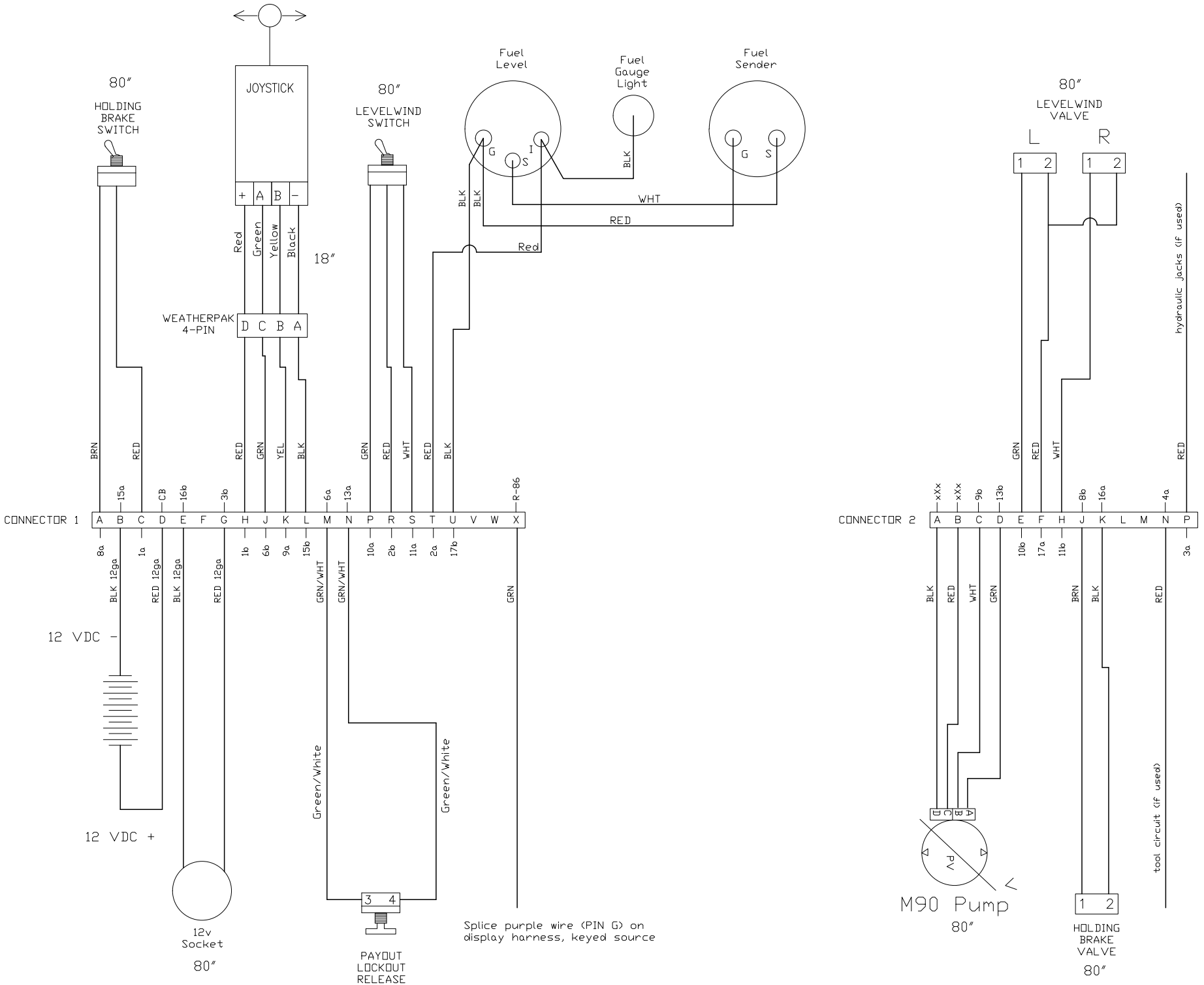
* 2nd coil from M90 pump

** Pin is OPTINAL power wire for HYDRAULIC OUTRIGGERS

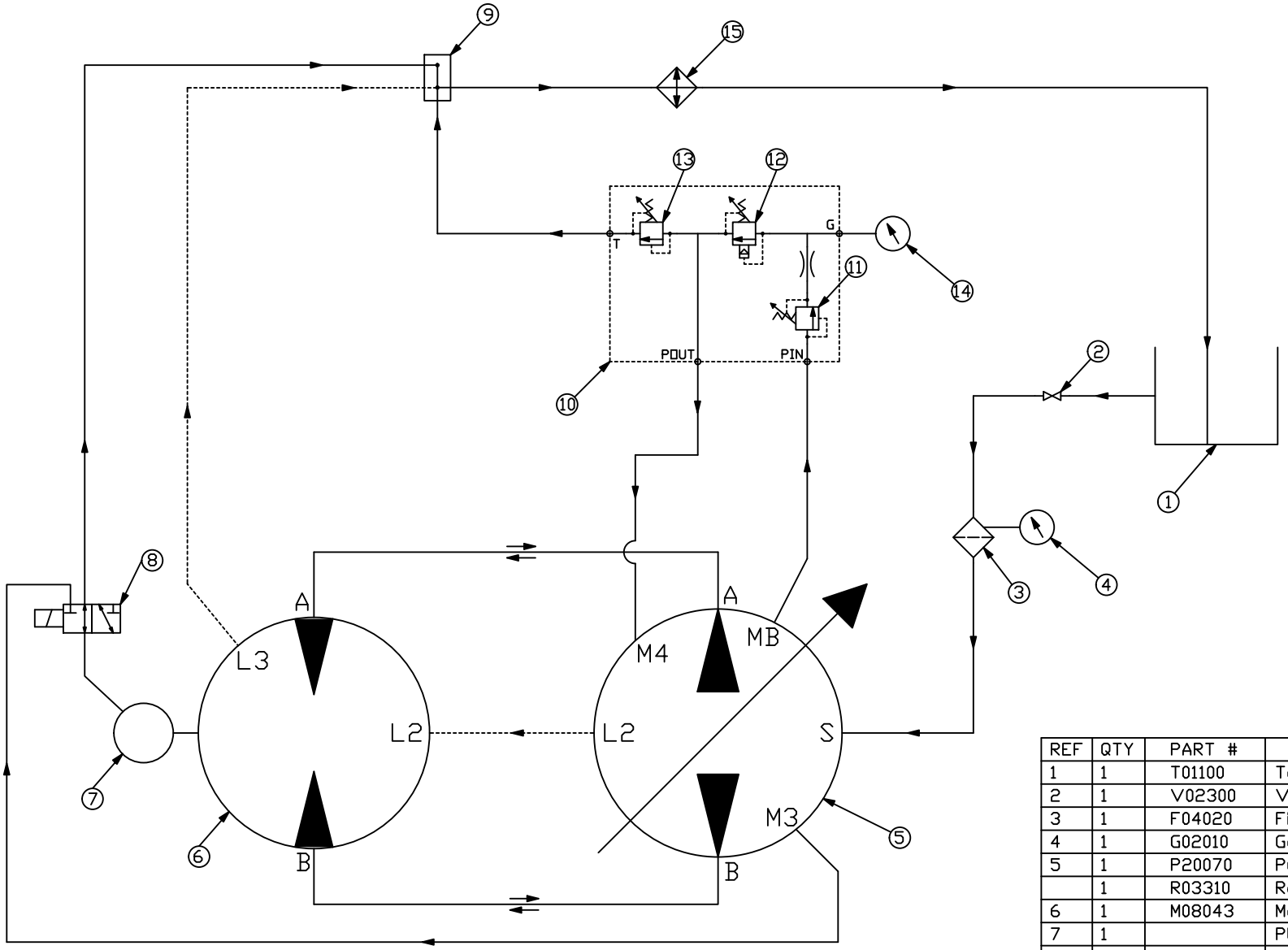
*** Pins are for OPTIONAL TOOL CIRCUIT

C1P-D is BATTERY (+)

C1P-P is BATTERY (-)



HOGG & DAVIS - DDP40 T4f



REF	QTY	PART #	DESCRIPTION
1	1	T01100	Tank, Hydraulic
2	1	V02300	Valve, Ball 1-1/4
3	1	F04020	Filter, Spin-on 10 Micron
4	1	G02010	Gauge, Suction
5	1	P20070	Pump Sundstrand
	1	R03310	Relief, 2755 PSI
6	1	M08043	Motor, Sauer Danfoss
7	1		Planetary Brake
8	1	V02006	Valve, Two Posiiton
9	1	M04010	Return Manifold
10	1	M04061	Manifold, Pressure Limiting
11	1		Relief, LOW PSI
12	1		Relief, TENSION
13	1		Relief, HIGH PSI
14	1	G02076	Gauge, 5K PSI
15	1	C35010	Cooler, Hydrulic Oil

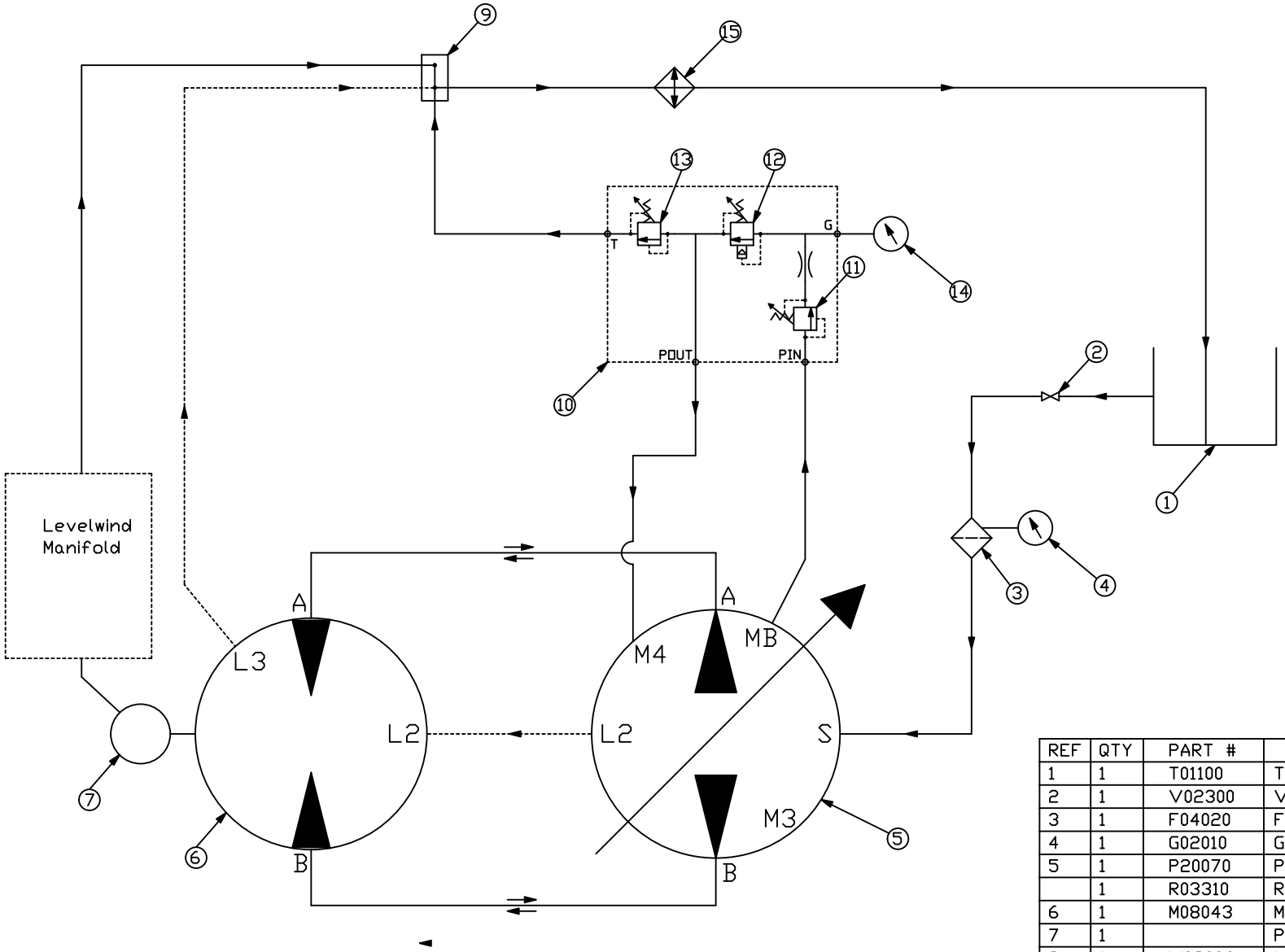
using charge pressure for the planetary brake

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

DRAWN	
NAME	sm
DATE	10/21/2011
SHEET 1 OF 1	

TITLE: Hydrostatic Schematic

Part #: ODP40 Hydrostatic



REF	QTY	PART #	DESCRIPTION
1	1	T01100	Tank, Hydraulic
2	1	V02300	Valve, Ball 1-1/4
3	1	F04020	Filter, Spin-on 10 Micron
4	1	G02010	Gauge, Suction
5	1	P20070	Pump Sundstrand
	1	R03310	Relief, 2755 PSI
6	1	M08043	Motor, Sauer Danfoss
7	1		Planetary Brake
8	1	V02006	Valve, Two Posiiton
9	1	M04010	Return Manifold
10	1	M04061	Manifold, Pressure Limiting
11	1		Relief, LOW PSI
12	1		Relief, TENSION
13	1		Relief, HIGH PSI
14	1	G02076	Gauge, 5K PSI
15	1	C35010	Cooler, Hydrulic Oil

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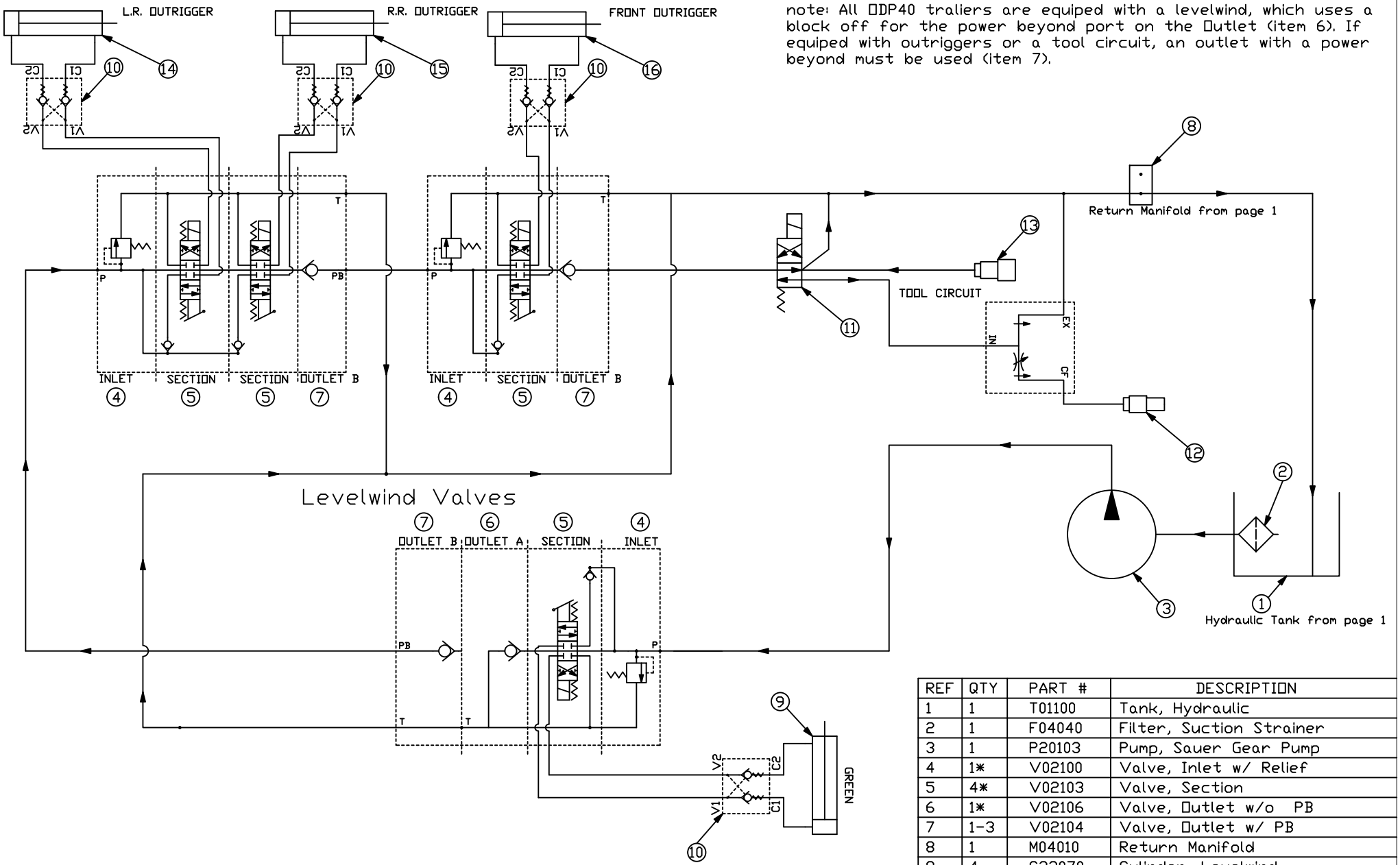
ODELL, OR 97044 (541) 354-1001

DRAWN	
NAME	sm
DATE	10/21/2011
SHEET 1 OF 1	

TITLE: Hydrostatic Schematic

Part #: ODP40 Hydrostatic

note: All ODP40 traliers are equiped with a levelwind, which uses a block off for the power beyond port on the Outlet (item 6). If equiped with outriggers or a tool circuit, an outlet with a power beyond must be used (item 7).



REF	QTY	PART #	DESCRIPTION
1	1	T01100	Tank, Hydraulic
2	1	F04040	Filter, Suction Strainer
3	1	P20103	Pump, Sauer Gear Pump
4	1*	V02100	Valve, Inlet w/ Relief
5	4*	V02103	Valve, Section
6	1*	V02106	Valve, Outlet w/o PB
7	1-3	V02104	Valve, Outlet w/ PB
8	1	M04010	Return Manifold
9	4	C32070	Cylinder, Levelwind
10	4*	V02075	Valve, Loadlock
11	1 tc	V02143	Valve, Tool Circuit
12	1 tc	C28062	Connector, Quick Male
13	1 tc	C28061	Connector, Quick Female
14	1 tc	V02037	Valve, Flow Control

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SHEET 2 OF 2	

TITLE: Hydraulic Schematic

Part #: ODP40 Levelwind

HOGG & DAVIS, INC
Odell, Oregon USA

MODEL	**ODP40** Single Drum Puller

Unit Concept:

- Single drum puller capable of pulling up to 4,000 lbs. Trailer mounted.
- Puller unit totally independent of truck or trailer system
- Drum is individually powered by hydraulic motor coupled to chain and sprocket.
- The ability to engage and disengage pulling drum from Mechanical Clutch on drive hub.

Unit Specifications:

- Unit constructed of 6" x 4" Rect. Tubing A500 gr B, fully welded and reinforced.
- Dimensions:
    - Length – Puller unit: 194" (16'-4")
    - Width – Puller unit: 98”
    - Height – Puller unit: 97”
    - Weight – Puller unit with reel and 10,000’ of 5/8” dia rope: 11,000lb approx.
- 12V-DC electric system. Wiring installed in metal conduit or mesh loom when applicable. All wiring terminated with heat shrink connectors and mounted to terminal block.
- Double Shock mounted Lexan lights with pigtail connectors (FMVSS108)
- Conspicuity system
- Unit is metal grit blasted, primer coated, and flash baked. 2 finish coats baked at 140 degF for 2 hours. All components painted prior to assembly.

Trailer Data:

- Tandem Axle – 7,000 pound rating each with leaf springs
- Electric Brakes
- Tires: (4) R17.5 - 16 Ply Rating
- GVWR: 14,000 lbs
- Leveling Jacks: One Front, Two Rear - Drop Leg Manual Screw type
- Trailer Lighting: D.O.T. 4-Light System, 7 Wire Connector
- Fenders: Full Coverage with Mudflaps

Reel Capacity:

- Reel: 48” dia x 40” inside width x 12-3/4” dia core
- Rope Capacity: 10,000 ft of 5/8” dia rope
- Maximum Reel weight capacity: 6,000lbs
- Maximum Reel diameter: 72 inches
- Reel maximum width: 56 inches
- Reel shaft: 2.5” dia StressProof

Overspin brakes: Reel has a 16” dia ventilated disc with hydraulic control

Levelwind: Individual pivot arm style for reel

HOGG & DAVIS, INC
Odell, Oregon USA

MODEL	**ODP40** Single Drum Puller

Performance:

- Torque Rating – Continuous/Intermittent 88,000 in-lb / 99,000 in-lb
- Linepull Ratings: 44“ full drum dia 4,000 lbs pull
- Reel speed– Infinitely Variable: 0.0 ~ 30.5 rpm
- Speed – Infinitely Variable: 0.0 ~ 4.0 mph Full Drum

Engine Specifications:

- 45.6 HP @ 3,000 RPM Diesel
- With weather enclosure
- 21 gallon metal fuel tank with sender

Hydraulic Drive Specifications:

- Fully hydrastatic drive system with infinite speed and tension control up to 4,000 lbs
- Electric hydraulic controls with positive stop in neutral
- Spring applied – hydraulic release brake incorporated into the reel drive system. Brake rated at 150% of maximum rated torque.
- Hydraulic oil cooler
- 17.5 gallon metal hydraulic tank with oil level gauge
- Reel drive to be disconnected from system to provide freewheel when needed

Operators Console:

- Elevated and positioned closest to unit centerline for maximum visibility and safety.
- OPCON provided with the following controls:
    - Hydraulic pressure gauge
    - Take-up and Pay-out / Tension functions
    - Throttle control
    - Ammeter
    - Engine oil pressure
    - Engine temperature
    - Hour meter
    - Tachometer
    - Fuel gauge
    - 12V-DC auxiliary power outlet
- Permanently engraved operators panel: Material shall be RowMark Laser Engraveable Industrial Plastic. Engraved no deeper than 0.005” for cleaning. Material has a guaranteed life of seven (7) years in UV exposure. Panel adhered with 3M VHB sheet adhesive.
- Operator seat and welded wire protective screen.

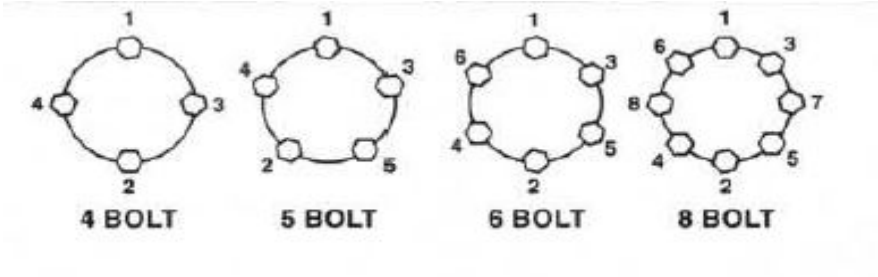
04/04/2011

Wheel Torque Requirements

Be sure to use only the fasteners matched to the cone angle of your wheel (usually 60° or 90°). The proper procedure for attaching your wheels is as follows:

1. Start all bolts or nuts by hand to prevent cross threading.
2. Tighten bolts or nuts in the sequence shown for wheel torque requirements.
3. The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners as shown in the chart below.
4. Wheel nuts/bolts should be torqued before first road use and after each wheel removal. Check and re-torque after the first 10 miles, 25 miles and again at 50 miles. Check periodically thereafter.

Wheel Size	1st Stage	2nd Stage	3rd Stage
12"	20-25	35-40	50-75
13"	20-25	35-40	50-75
14"	20-25	50-60	90-120
15"	20-25	50-60	90-120
16"	20-25	50-60	90-120
16.5" x 6.75"	20-25	50-60	90-120
16.5" x 9.75"	55-60	120-125	175-225
14.5" Demount	Tighten Sequentially to		85-95
17.5" Hub Pilot Clamp Ring & Cone Nuts	50-60	100-120	190-210
17.5" Hub Pilot 5/8" Flange Nuts	50-60	90-200	275-325



Maximum Wheel Fastener Torque

The wheel mounting studs used on Dexter Axles conforms to the SAE standards for grade 8. The maximum torque level that can be safely applied to these studs is listed in the following chart:

Stud Size	Max. Torque
½”-20 UNF, class 2A	120 lb ft.
9/16”-18, class 2A	170 lb ft.
5/8”-18, class 2A	325 lb ft.

CAUTION

Exceeding the above listed torque limits can damage studs and/or nuts and lead to eventual fractures and dangerous wheel separation.

Decal Kit #K40015

D30001
(1)

D30018
(1)

D30009
(1)

D30010
(3)

D30015
(2)

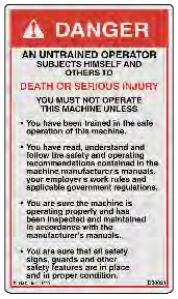
D30033
(1)

D30042
(8)

D30077
(2)

D30034
(3)

D30022
(1)



D30021
(1)

D30026
(3)

D30028
(5)

D30036
(5)

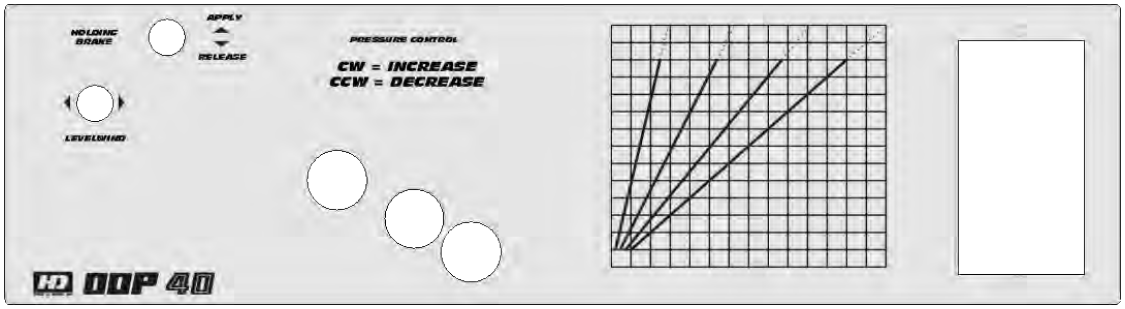
D30127
(2)

D30067
(2)

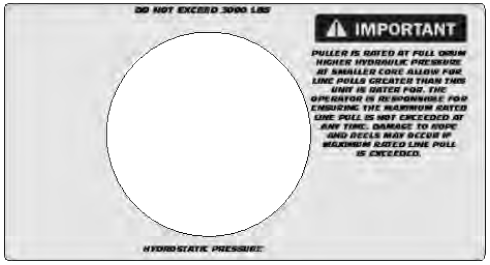
D30069
(2)

D30080
(1)

D30081
(1)

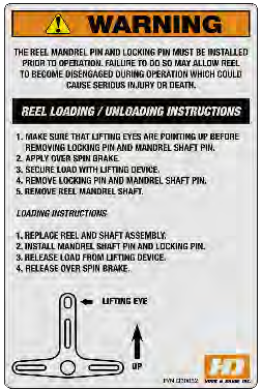


D30086
(1)

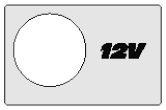


D30084
(1)

D30128
(1)



D30082
(1)



D30083
(1)

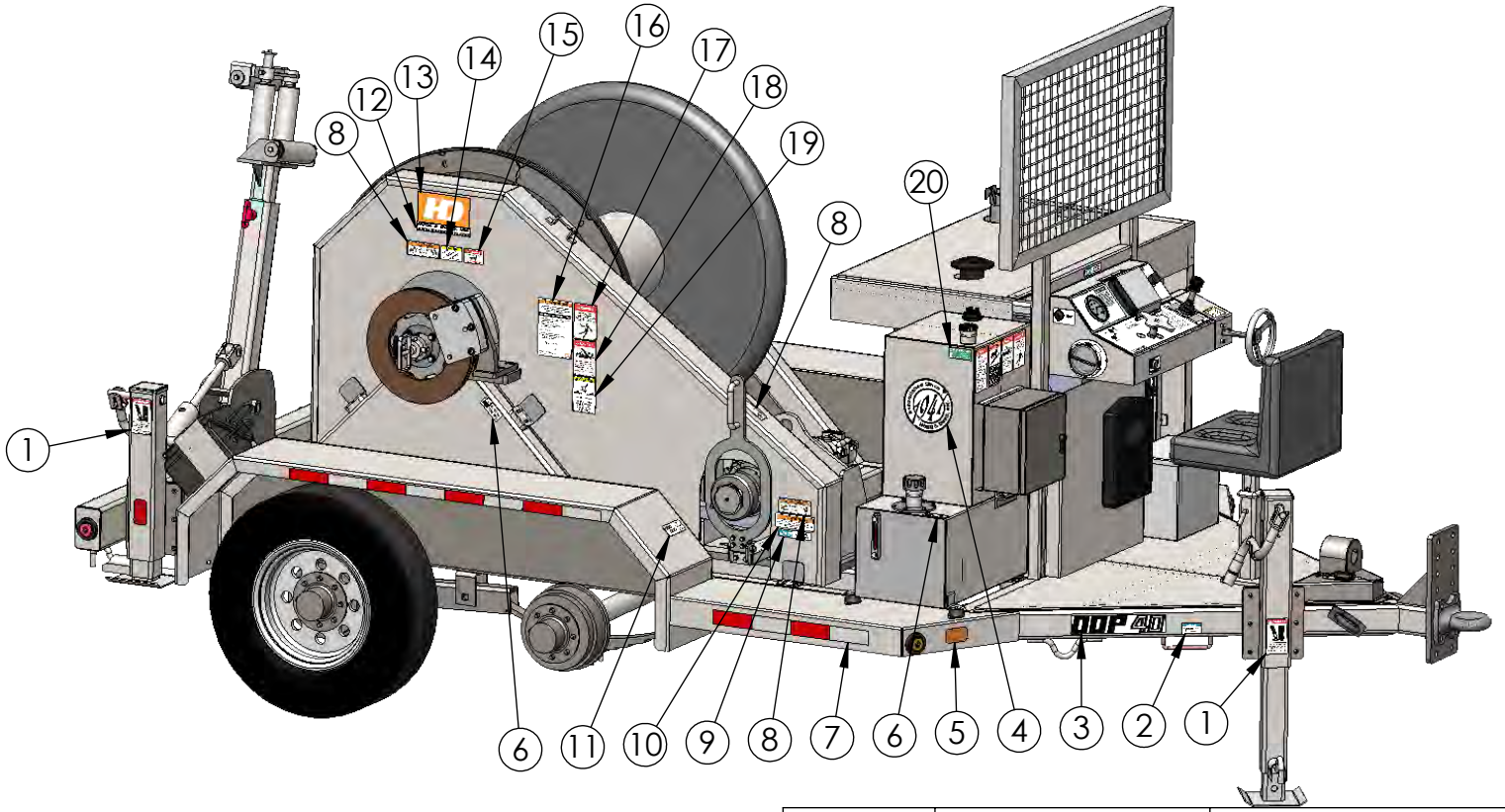
D30068
(1)

D30078
(1)

R09043
(4)

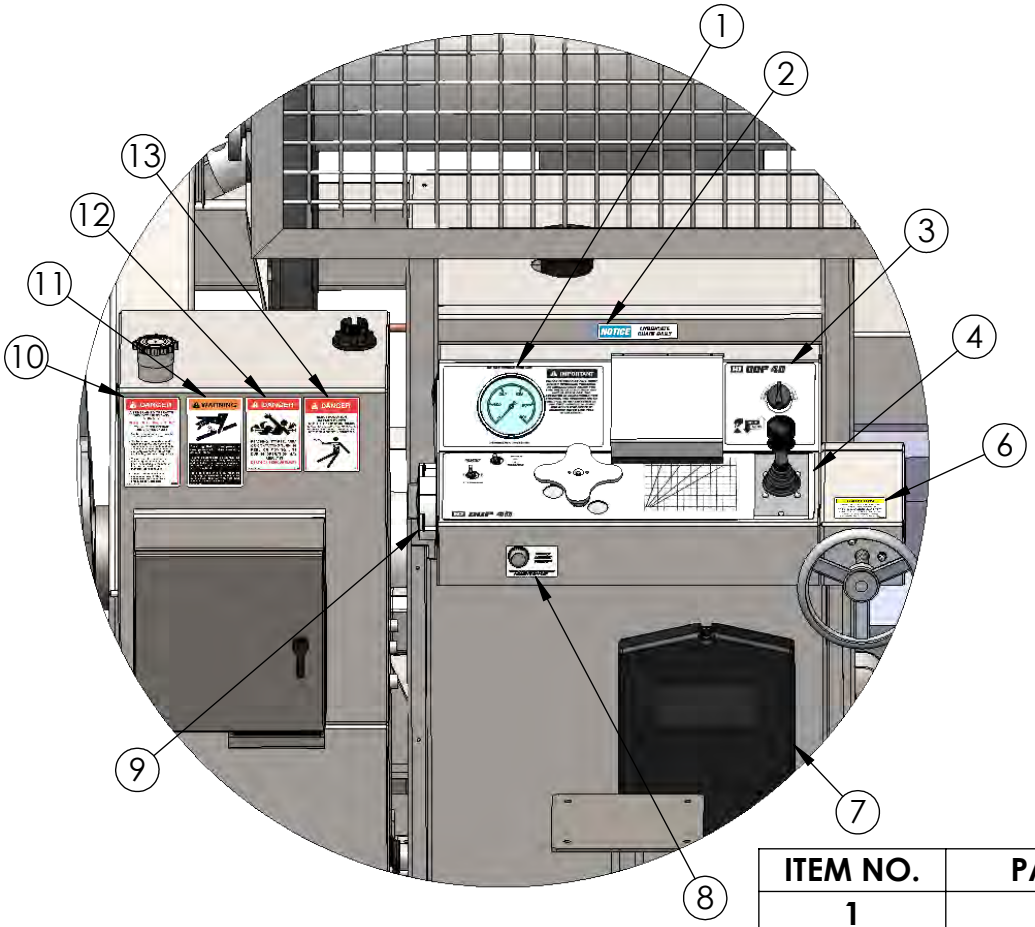
R09044
(2)

T19001
(12')



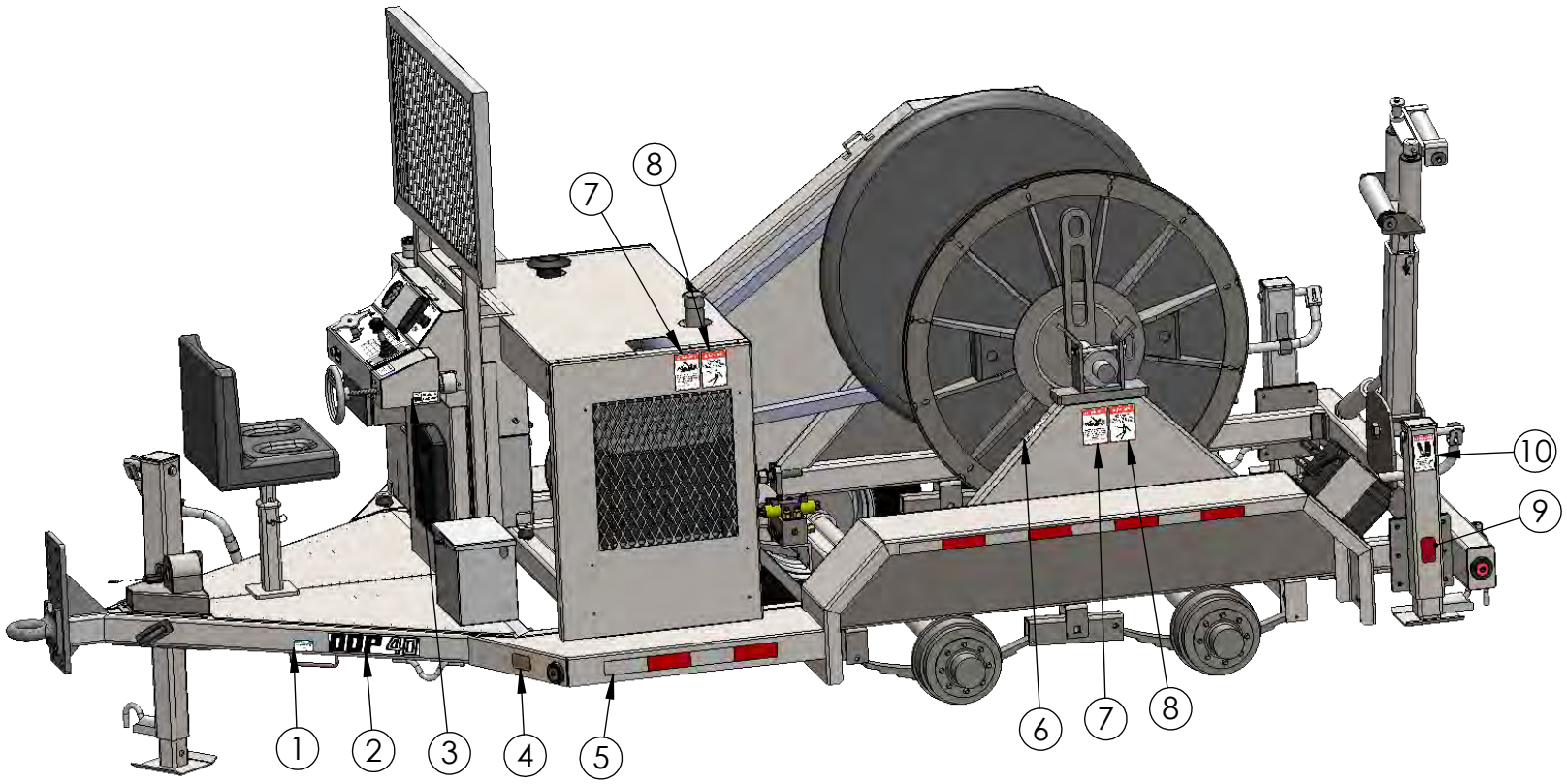
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D30026	Decal, Danger Stand Clear	3
2	D30034	Decal, Grounding Lug	3
3	D30077	Decal, ODP 40 Tongue	2
4	D30128	Established 1947	1
5	R09044	Reflector, Amber 2x3-1/2	2
6	D30010	Hydraulic Fluid Only	3
7	T19001	Red/White Reflective tape	12
8	D30042	Decal, Keep Hands Clear	8
9	D30069	Decal, Lubricate Chain Daily	2
10	D30080	Decal, Caution Drive Dogs	1
11	D30081	Decal, Reel Drive Dog Engage	1
12	D30018	Decal, HD 1/2" x 9"	1
13	D30001	HD Logo 6x9	1
14	D30067	Decal, Release Pressure	2
15	D30015	Decal, Hot Surface	2
16	D30082	Decal, Reel Loading Inst.	1
17	D30036	Decal, Electrocution Hazard	5
18	D30028	Decal, Danger Twisty Man	5
19	D30127	Decal, Burn Hazard	1
20	D30009	Decal, Diesel Fuel Only	1

Decal Locations



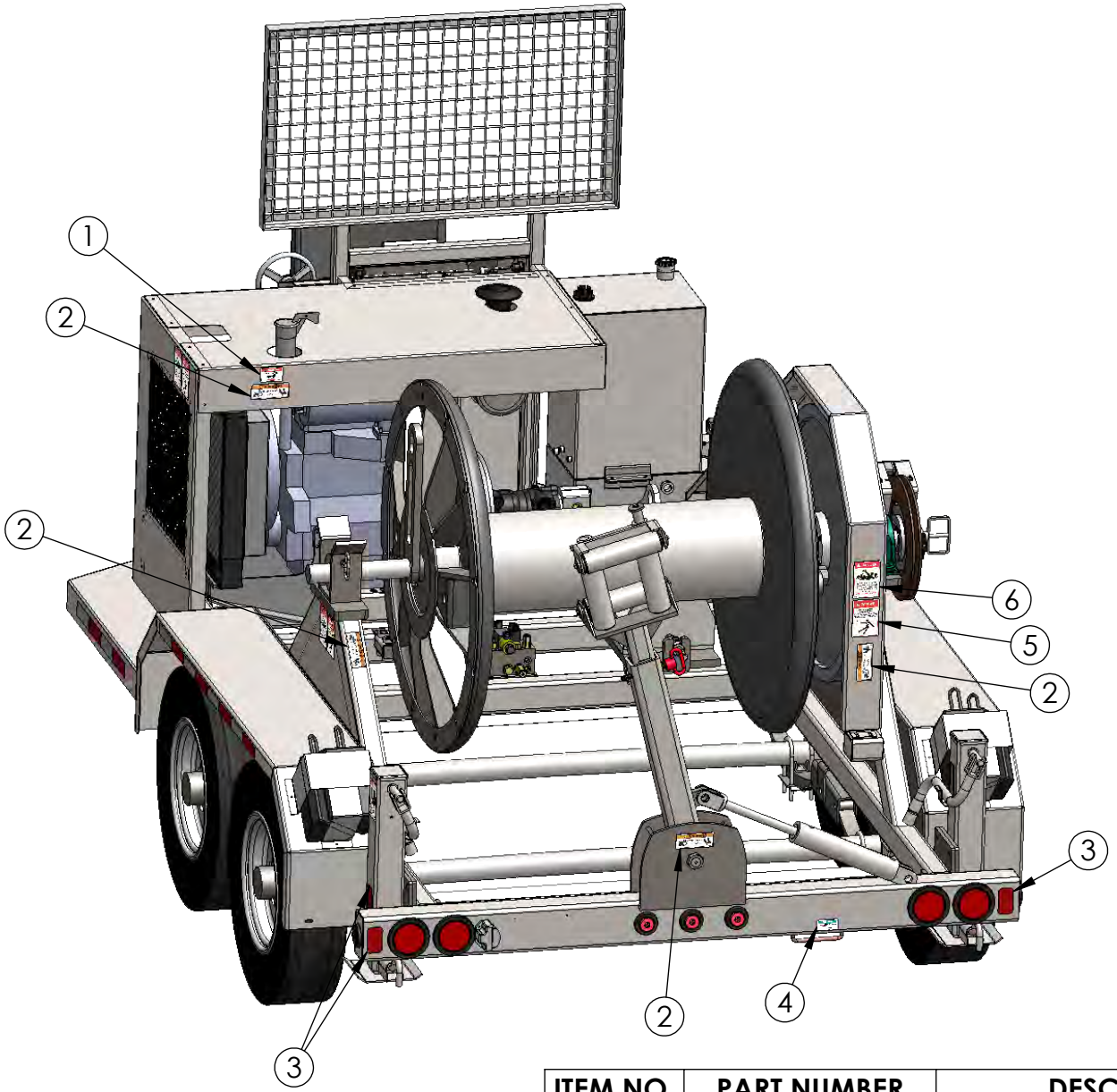
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D30084	Decal, Hyd Pressure	1
2	D30069	Decal, Lubricate Chain Daily	2
3	D30078	Decal, Upper Control	1
4	D30086	Decal, Lower Control	1
5	D30127	Decal, Burn Hazard	1
6	D30067	Decal, Release Pressure	2
7	H10075	Holder, Manual	1
8	D30068	Decal, Payout Lockout Release	1
9	H10020	Holder, Registration	1
10	D30021	Decal, Untrained Operator	1
11	D30022	Decal, Danger Fluid Pressure	1
12	D30028	Decal, Danger Twisty Man	5
13	D30036	Decal, Electrocution Hazard	5

Decal Locations



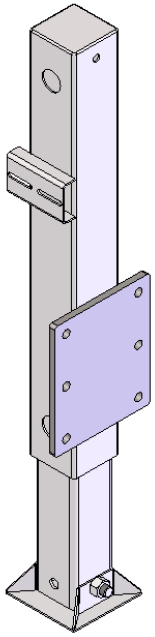
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D30034	Decal, Grounding Lug	3
2	D30077	Decal, ODP 40 Tongue	2
3	D30010	Decal, Hydraulic Fluid Only	3
4	R09044	Reflector, Amber 2x3-1/2	2
5	T19001	Tape, Red/White Reflective	12
6	D30042	Decal, Keep Hands Clear	8
7	D30028	Decal, Danger Twisty Man	5
8	D30036	Decal, Electrocution Hazard	5
9	R09043	Reflector, Red 2x3-1/2	4
10	D30026	Decal, Danger Stand Clear	3

Decal Locations

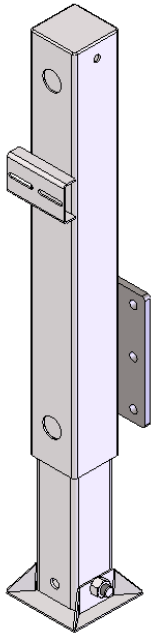


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D30015	Decal, Hot Surface	2
2	D30042	Decal, Keep Hands Clear	8
3	R09043	Reflector, Red 2x3-1/2	4
4	D30034	Decal, Grounding Lug	3
5	D30036	Decal, Electrocution Hazard	5
6	D30028	Decal, Danger Twisty Man	5

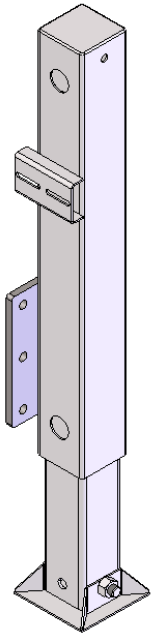
Decal Locations



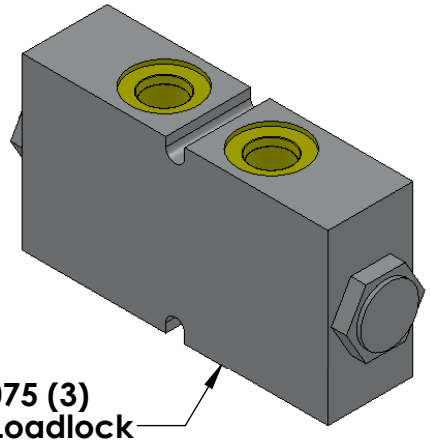
J04031 (1)
Curbside



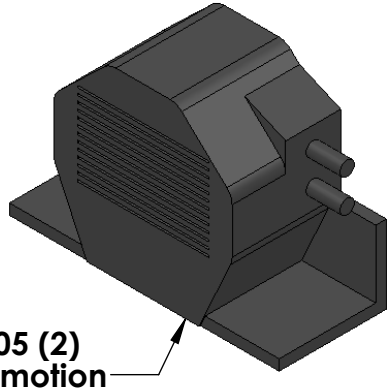
J04032 (1)
Streetside



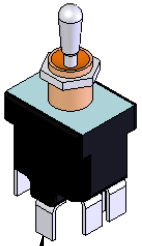
J04033 (1)
Tongue



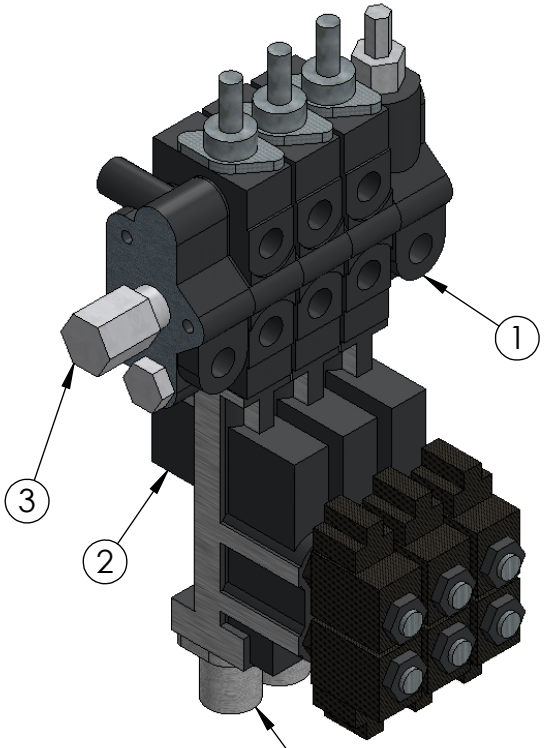
V02075 (3)
Valve, Loadlock



A03005 (2)
Alarm, motion



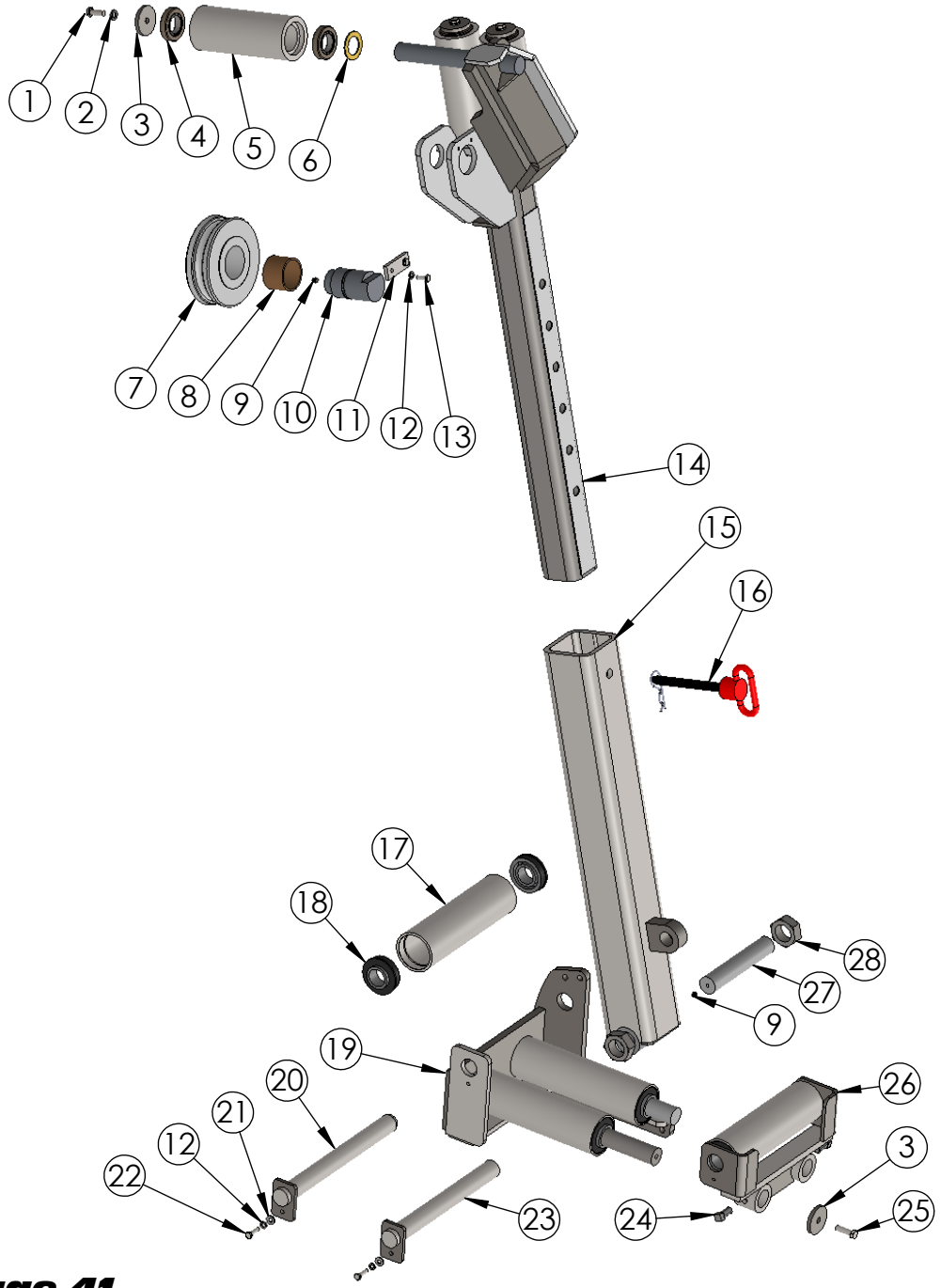
S40150 (3)
Switch, DP/DT Momentary



Prince Valve 3Bank

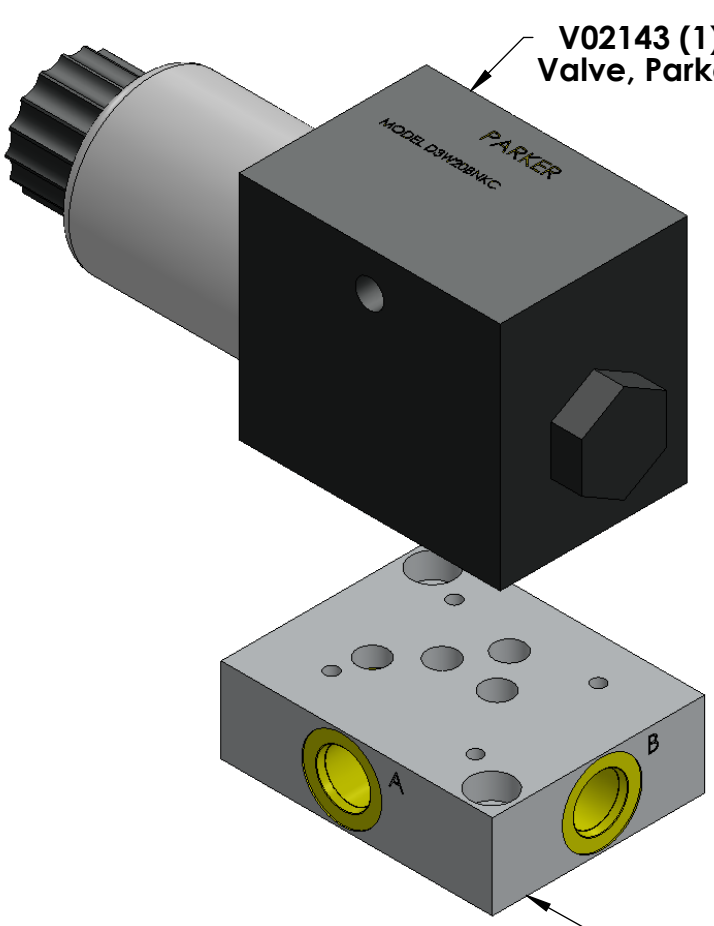
Hydraulic Jackstands (Optional)

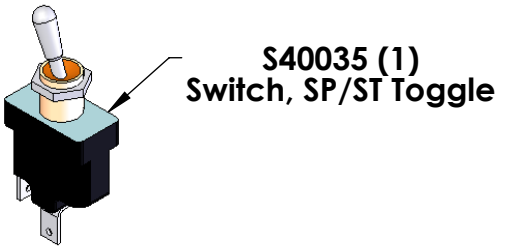
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	V02100	Prince Inlet	1
2	V02103	Valve, Prince Elec 4-Way	3
3	V02104	Prince Outlet	1

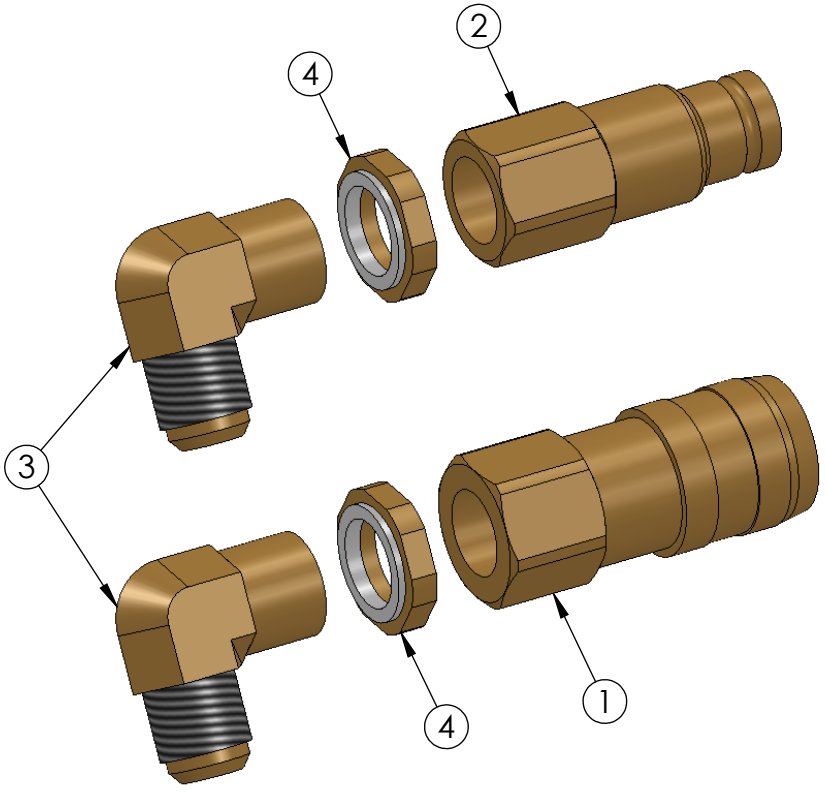


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B11342	Bolt, Hx Head 3/8"-16 x 1"	3
2	W01545	Washer, 3/8" Split Lock	3
3	C06041	Cap, End	4
4	B07137	Bearing, Roller	6
5	R20046	Roller	3
6	W01594	Washer, Thrust Brass	3
7	P19014	Pulley	1
8	B07027	Bushing, Bronze	1
9	F05071	Fitting, Grease Zerk 1/4"-28 tap	2
10	S43031	Shaft	1
11	R15006	Retainer, Shaft	1
12	W01525	Washer, Split Lock 1/4"zinc	4
13	B11323	Bolt, Hx Head 1/4"-20 x 3/4"	2
14	A08096	Arm, Levelwind	1
15	S17000	Sleeve, Levelwind	1
16	P06027	Pin, Height Adjust	1
17	R20044	Roller, Painted Steel	4
18	B07110	Bearing, Roller	8
19	B15121	Bracket, Fairlead	1
20	S43073	Shaft, Roller	1
21	W01205	Washer, Flat SAE 1/4"zinc	2
22	B11324	Bolt, Hx Head 1/4"-20 x 1"	2
23	S43135	Shaft, Roller	1
24	S04475	Screw, Set Sq Head 1/2" x 1"	2
25	B11343	Bolt, Hx Head 3/8"-16 x 1-1/4"	1
26	B15899	Bracket, Top Fairlead	1
27	P06156	Pin, Levelwind Pivot	1
28	N04097	Nut, Hx Jam 1-1/4"-12	2

Underground Levelwind (Optional)

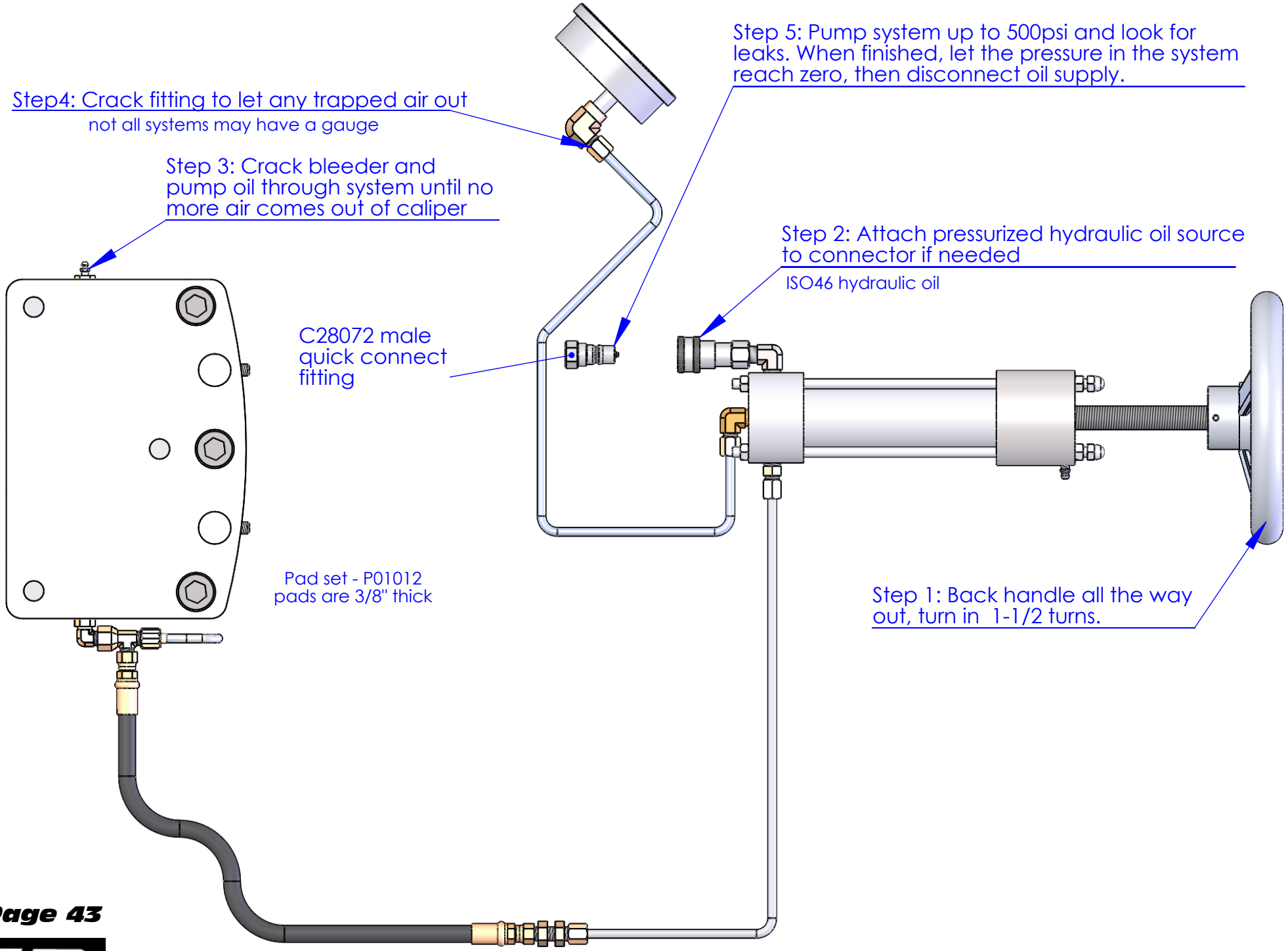






ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	C28061	Coupler, F quick 1/2 NPT	1
2	C28062	Coupler, M quick 1/2 NPT	1
3	F05215	Fitting, 8-8 90° NPT	2
4	F05393	Fitting 1/2 NPT Jam nut	2

Auxiliary Tool Circuit (Optional)



Brake System

Note: Used for reference only, parts may vary.