

Hydraulic Spring Switch Gauge

P/N 225480-00X



Instruction Manual

Rev: 2019

**Warnings:**

1. DO NOT operate the Spring Switch Gauge for any purpose other than, for which it was designed. DO NOT overextend the Spring Switch Gauge cylinder, to prevent damage to cylinder piston.
2. Make sure that all system components are protected from external sources of damage, such as excessive heat, flame, moving machine parts, sharp edges, and corrosive chemicals.
3. Wear proper personal protective gear when operating hydraulic equipment.

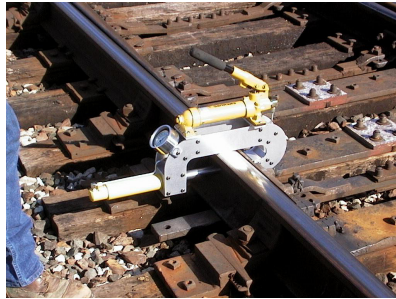
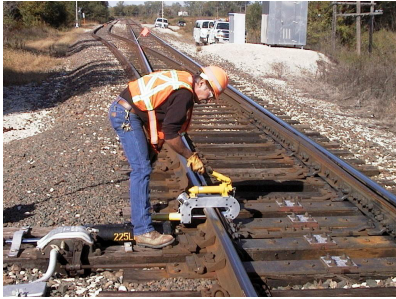
Notes

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Instruction Sheet



Receiving Instructions:

The Spring Switch Gauge should be visually inspected for any shipping damage. If damage is found, notify the carrier at once. Shipping damage is not covered by warranty. The carrier is responsible for repair or replacement cost resulting from damage in shipment. However, J&A will see that, as our customer, are not inconvenienced by shipping damage.

Safety Information:

Read and follow all CAUTIONS, WARNINGS and INSTRUCTIONS to avoid personal injury or property damage during system operation. J&A Industries cannot be responsible for damage or injury resulting from unsafe use of product, lack of maintenance, or improper system application.

Notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Maintenance

Air Removal:

Removing air from the hydraulic system will help the cylinder to advance and retract more smoothly.

1. Close release valve by turning clockwise.
2. Ensure Spring Switch Gauge is set upright with hydraulic pump positioned over the cylinder. Spring Switch Gauge must be off the rail.
3. Operate pump to fully extend the cylinder without bottoming out the piston.
4. Open the release valve to retract the cylinder. This will force the trapped air to move up to the pump reservoir. Repeat as necessary to ensure that all air has been removed.
5. Add oil as necessary. Replace fill plug.

Keeping Oil Lines Clean:

When the fill plug is removed or hydraulic lines are disconnected always screw on dust caps. Use every precaution to guard against entrance of dirt into unit. Foreign objects may cause pump, cylinder, or valve failure.

Adding Oil to the Pump:

Use a high quality automotive grade automatic transmission fluid (type F) or Enerpac HF-100 hydraulic oil with this pump. Other fluid types will damage seals and void warranty.

1. Remove fill plug from reservoir.
2. Fill reservoir only to level mark shown on pump.
3. Remove air from system if required as stated previously. Re-check oil level.

Parts Warranty

All parts ordered from **J&A Industries, LLC.** are warranted to be free from defective workmanship and material. Defective parts may be returned to our facility. After approval from **J&A Industries, LLC.** full credit, up to the part purchase value, will be provided upon receipt of the part and verification of defects. The warranty is exclusive of the normal effects of corrosion, erosion, wear, improper handling or storage, misuse, abuse, or other conditions beyond the control of **J&A Industries, LLC.**

The limited warranty is in lieu of all other warranties, expressed or implied, including, but not limited to, expressed or implied warranty of fitness for particular use, or expressed or implied warranty asserted to arise by implication under any statute, rule, regulation, or any jurisdiction.

Liability

Total liability of **J&A Industries, LLC.** with respects to an order, whether based on contract, warranty, negligence, indemnity, strict liability or otherwise, shall not exceed the purchase price of the part upon which such liability is based. J&A Industries, LLC. shall in no event be liable to the buyer, any successors in interest or any beneficiary of an order for any consequential, incidental, indirect, special or punitive damages arising out of such order or breach thereof, whether or not such loss or damage is based on contract, warranty, negligence, indemnity, strict liability, or otherwise.

Troubleshooting Guide:

Problem	Possible Cause	Solution
Cylinder does not advance, advances slowly, or does not advance smoothly	Oil level in reservoir is low	Add oil according to maintenance instructions
	Release valve is open	Close release valve
	Loose hydraulic couplers	Check that all couplers are fully tightened
	Load is too heavy	Do not attempt to move more than system rating (5500 lbs. of force max)
	Air trapped in system	Remove air according to the instructions
	Cylinder plunger is binding	Check for damage to the cylinder, have cylinder serviced by the factory
Cylinder advances but does not hold pressure	Leaking connections	Check that all connections are tight and free from leaks
	Leaking seals	Locate leaks and have equipment serviced by factory or qualified service technician
	Internal pump leakage	Have pump serviced by factory or qualified service technician
	Release valve not seated properly	Check for contamination under release valve needle
Cylinder does not retract, or retracts part way	Release valve closed	Open release valve
	Pump reservoir is over-filled	Drain oil level to full mark
	Loose hydraulic coupler	Check that all couplers are fully tightened
	Air trapped in system	Remove air according to the instructions
	Hose I.D. is too narrow	Check for kinked or damaged tubes

Service

To obtain service for your Spring Switch Gauge, simply pack it to prevent damage in transit and ship it prepaid, insured to:

Be sure to include a note stating a description of the problem and instructions where to return the repaired Spring Switch Gauge.

Maintenance – (continued)

Changing Hydraulic Oil:

1. Drain all oil from reservoir and refill every 12 months using a high-grade automatic transmission fluid (type F) or Enerpac brand hydraulic oil (HF-100). If pump is used in dirty conditions oil may need to be replaced more often.
2. Remove fill plug from reservoir.
3. Tilt pump to drain out old oil.
4. Fill the reservoir only to level mark shown on pump.
5. Replace the fill plug.
6. Remove air from system if required as stated on the previous page.

Note: The non-vented hand pump used with this system requires air in the reservoir to function properly. If the reservoir is completely filled, a vacuum will form preventing oil from flowing out of the pump.



Always add oil with cylinder fully retracted or the system will contain more oil than the reservoir can hold.

Relief Valve Adjustment:

The hydraulic pump contains a factory set relief valve to prevent over-pressurization of the system.

ANY ADJUSTMENT OF RELIEF VALVE MAY CAUSE DAMAGE, VOID WARRANTY, AND RESULT IN DAMAGE TO EQUIPMENT AND/OR PERSONAL INJURY.

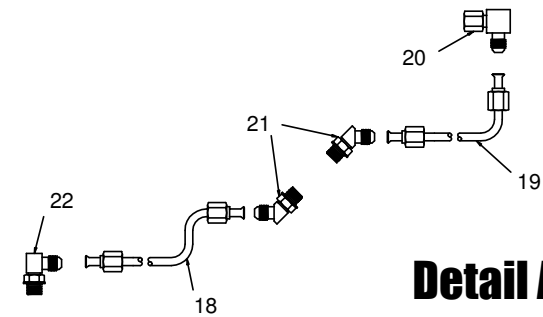
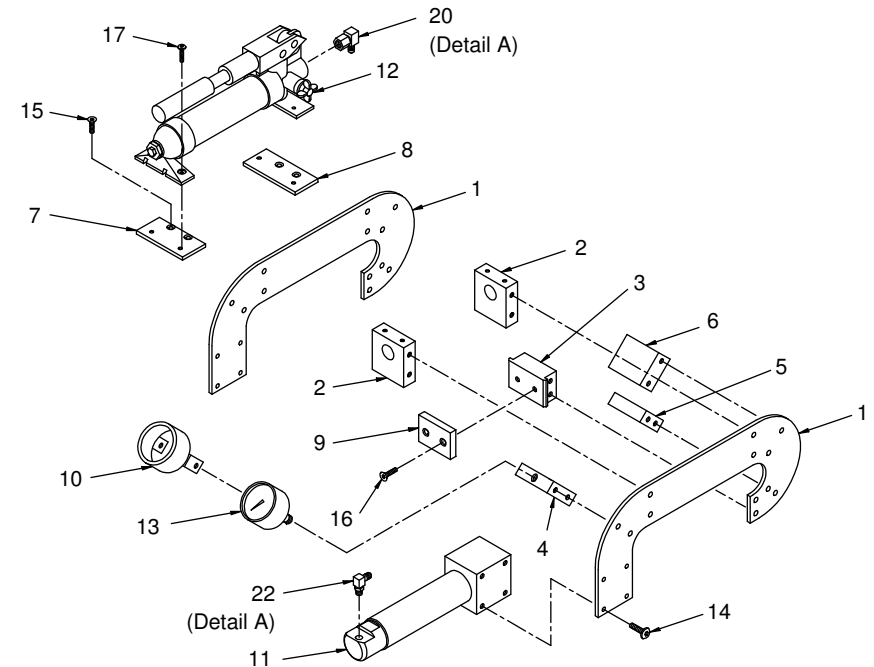
Replacement Parts:

The following is a list of replacement parts for the Spring Switch Gauge. Use the drawing on the right to determine the Item number that is needed. Then call J&A Industries, LLC. at (800) 748-7722 or (913) 281-5722.

Item #	J&A Part #	Description
1	141039-000	Plate, Side
2	141041-000	Spacer, Mount with Hole
3	141042-000	Block, Clamp End
4	141048-000	Spacer, Manifold
5	141049-000	Spacer, Small
6	141050-000	Spacer, Large
7	141488-000	Plate, Rear Pump Mounting
8	141487-000	Plate, Front Pump Mount
9	141057-000	Block, End
10	160436-000	Guard, Gage
11	220063-000	Cylinder, Spring Switch Test
12	011809-000	Pump, Enerpac P-18
13	011810-000	Gage, Hydraulic 2.5" LF
14	013251-2616	Screw, 5/16-18 X 1" BHSOC
15	013223-008	Screw, 1/4-20 X 1/2" FSHC SS
16	013250-2716	Screw, 5/16-18 X 1 FHCS
17	013229-1614	Screw, 1/4-20 X 7/8" BHSOC
18	011404-0000	Tube Assembly, Cylinder
19	011404-0001	Tube Assembly, Hand Pump
20	011010-0306	Fitting, Ell 3/8" NPT 04 JIC
21	011050-0201	Fitting, 45° Tube O-ring #4
22	011050-0303	Fitting, Ell 90° Tube O-ring #4

Exploded Assembly Drawing

See item number description on the following page for identification



Detail A
Plumbing Schematic