

**KOBELT**

## 2588-E Driller's Lever

*Owner's Operation, Installation &  
Maintenance Manual*



[illegible]

RECORD DATA BEFORE INSTALLATION FOR FUTURE REFERENCE	
Model #:	
Serial #:	
Date of Purchase:	
Date of Installation:	

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# 1 INTRODUCTION

## 1.1 CONTACT

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This document is intended to clearly present comprehensive product data and provide technical information to assist the end user in design applications. Kobelt reserves the right, without notice, to change the design, or construction, of any products and to discontinue or limit distribution of any products. Kobelt also reserves the right to change, or update, without notice, any technical information contained within this document.

Kobelt recommends that customers visit our website to check for updates to this Manual. Once a product has been selected for use, it should be tested by the user to ensure proper function in all possible applications. For further instructions, please contact our distributors or visit our website.

## 1.2 SAFETY

### 1.2.1 Safety Alerts

Throughout this manual, the following symbols, and their accompanying explanation, are used to alert the user to special instructions concerning a service or operation that may be hazardous if performed incorrectly or carelessly. The associated risk levels are stated below.

 <b>DANGER</b>	This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 <b>WARNING</b>	This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 <b>CAUTION</b>	This symbol indicates a hazardous situation, which if not avoided, could result in minor or moderate injury.
<b>NOTICE</b>	This symbol informs the reader of events not related to personal injury but which there is a risk of damage to property or equipment.
<b>SAFETY INSTRUCTIONS</b>	This symbol informs the reader of safety-related instructions or procedures.


### 1.2.2 Notice to Installer


Disregarding the following safety measures can result in an accident causing severe injury to personnel and damage to material assets.

- Only use the product as directed in this manual.
- Never put the product into service if there is evidence of visible damage.
- Never put the product into service before fully completing installation and commissioning.
- Do not carry out any modifications to the product.

- Only use authentic Kobelt spare parts.
- Observe all local regulations, directives and laws during the installation of this product.
- All installation, commissioning, and maintenance work must only be conducted by qualified personnel. (For the purpose of this manual, qualified personnel are persons who are familiar with the assembly, installation, commissioning, and operation of the product and who have the qualifications necessary for their occupation.)
- Observe all specifications in this manual. If these guidelines are not followed and damage occurs, the warranty will be voided.

### 1.2.3 Product Hazards

	<p><b>Equipment Starts Automatically:</b></p> <p>The connected brakes may activate suddenly while servicing this product, causing bodily harm. Ensure that all power sources are locked out prior to performing work.</p>
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	<p><b>Pinch Points:</b></p> <p>The 2588-E driller's Lever contains pinch points, which can cause bodily harm. Ensure that hands and fingers remain clear of the pinch points when performing work.</p>
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## 2 PRODUCT DESCRIPTION

### 2.1 OVERVIEW

The Kobelt 2588 driller's Lever permits proportional control of air applied brakes. A rotary position sensor senses the position of the operator's handle as it turns the connected shaft. The signal from the position sensor is used by a valve controller to modulate the air pressure. Pressure output is proportional to the handle movement with the maximum output achieved when the handle is fully depressed.

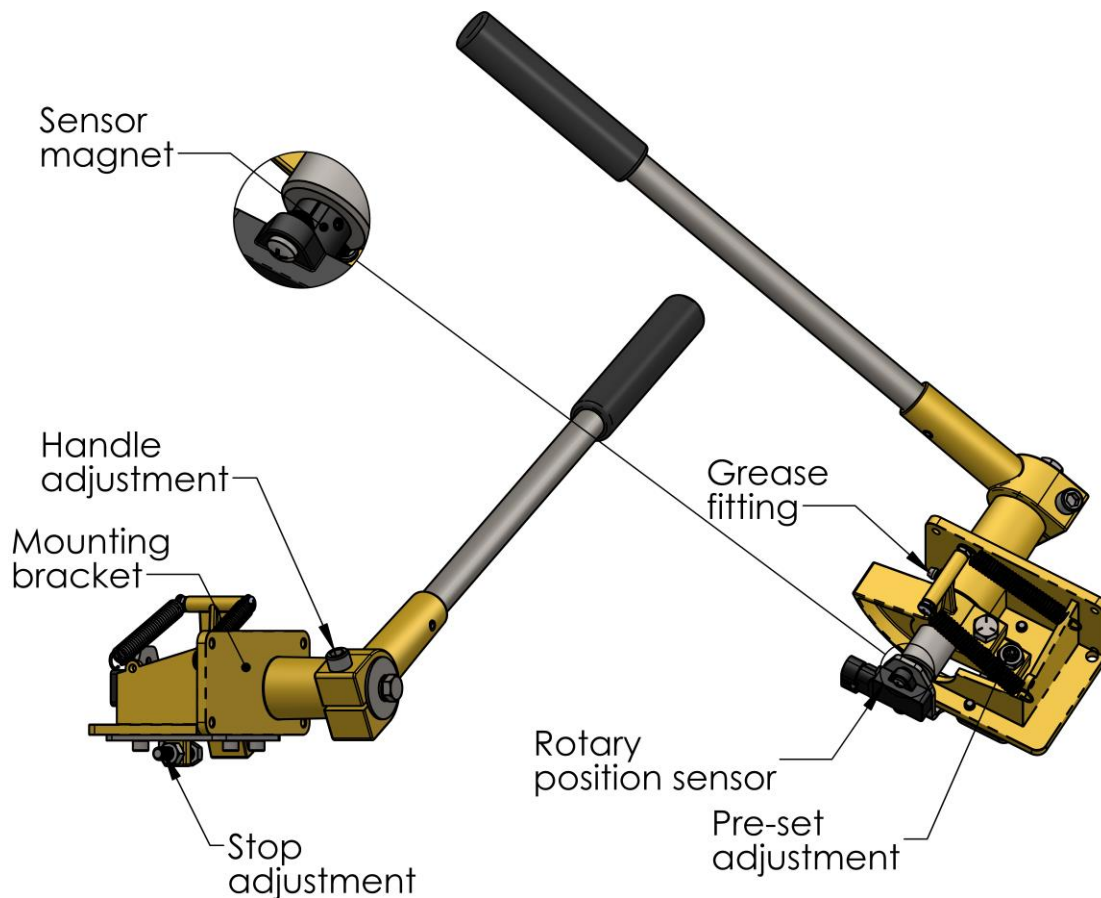


Figure 1: Lever Nomenclature

### 2.2 TECHNICAL DATA

Power Supply:	10-30VDC / 32 mA
Signal Output:	0.5 – 4.5 VDC
Handle Travel:	50 degrees
Ingress Protection:	IP69K
Ambient Temperature:	-40°F...+140°F [-40 °C... + 60 °C]
Weight:	8 lbs [3.6 kg]

## 3 INSTALLATION

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### 3.1 MECHANICAL

The driller's valve must be mounted on a flat surface with sufficient stiffness to withstand the operating forces without excessive flexing. Choose a location that has sufficient room for the handle to swing to both extreme positions.

Use the template in [Appendix C](#) to provide the correct cut-out on the control console.

The valve is equipped with (4) four threaded holes for ¼ UNC screws or bolts inserted from the front for direct mounting to the console. Ensure the unit is securely fastened, preferably with an anaerobic thread locker such as Loctite 243.

### 3.2 ELECTRICAL CONNECTION

The 2588-E control lever is equipped with a 3 pin AMP Superseal receptacle. Ensure the mating cable is inserted completely and the safety clip is latched. The pin assignment is as follows:

Pin 1: Vin  
Pin 2: GND  
Pin 3: Output

### 3.3 SYSTEM ARRANGEMENT

Below is a block diagram depicting how to utilize the Kobelt 2588 Driller's lever in a hoist braking system.

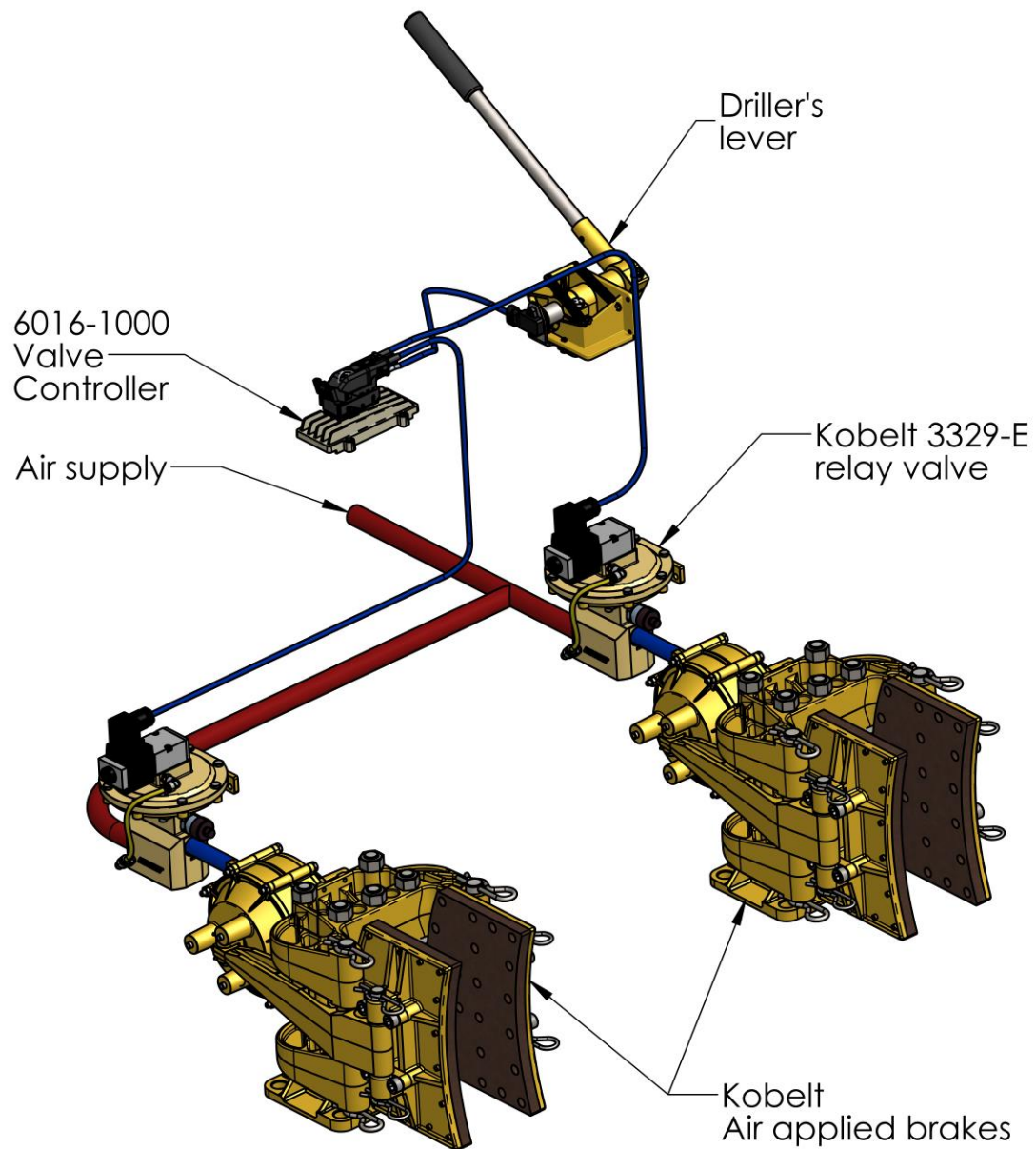


Figure 2: 2588-E system arrangement



## 4 COMMISSIONING

### 4.1 ADJUSTMENT

The control lever is adjusted at the factory and, as such, will not require any further adjustment after installation.

### 4.2 FUNCTIONAL TEST

<b>⚠ CAUTION</b>	Do not put the unit into service until it has been tested. The Functional Test should be carried out while the equipment is in a secure state.
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After installation, test the control lever and verify that it operates the brakes over the full pressure range. Cycle the pressure to maximum and back to zero. Verify that the pressure to the brakes follows the handle command gradually without jumps or delays.

## 5 MAINTENANCE

### 5.1 PREVENTATIVE MAINTENANCE

- Every 2 years
  - Lubricate shaft journal

### 5.2 ADJUSTMENT

After events such as a major repair, it may be necessary to set all the adjustment points correctly:

1. Sensor magnet position:

Tools: 1.5mm Allen key + Phillip's screw driver

Remove the sensor and rotate handle so back edge of cam is perpendicular. Rotate the magnet until the arrow is oriented as shown in the figure below. Lock the position by tightening the two set screws.

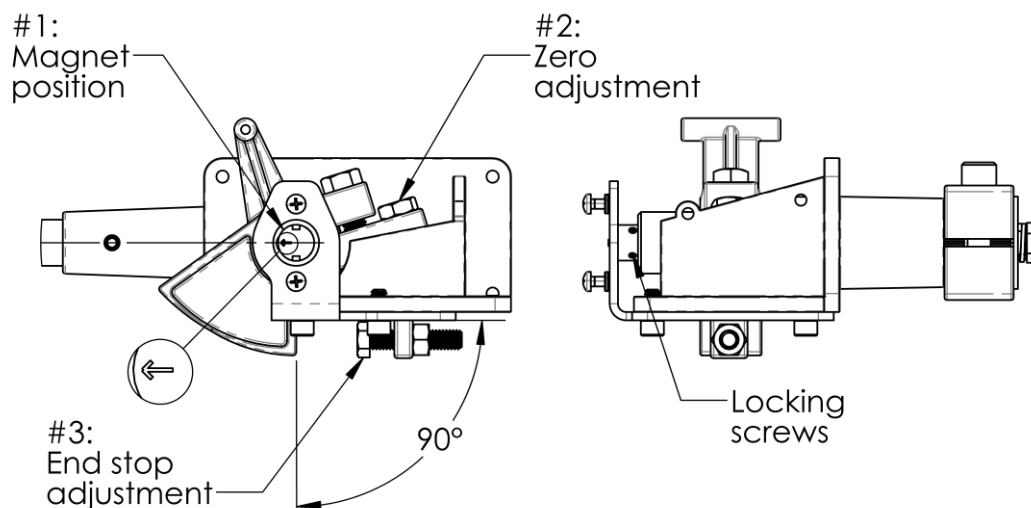


Figure 3: Lever adjustments

## 2. Zero adjustment:

Tools: 3/16 in Allen key + 9/16 in wrench

Turn the screw CW until the sensor output begins to increase above 0.5 VDC.

## 3. Handle end stop adjustment:

Tools: 5/16 in wrench + 3/8 in wrench

With the handle in the down position, adjust the screw until the sensor output is at 4.5 VDC.

### 5.3 RECOMMENDED SPARE PARTS AND KITS

The spare parts kept on hand will depend on the severity of the service. The User should monitor the condition of their control lever to predict necessary spare parts and ensure they are on hand when needed. As a minimum Kobelt recommends keeping the following parts for each unit in service:

1. One **6011-0012** rotary position sensor

Refer to the parts list drawings in [Appendix B](#) for a complete list of parts. When purchasing spare parts refer to Appendix B: Parts List at the back of this manual for Kobelt component Part Numbers.

**NOTICE**

It is recommended that any required service work on a Kobelt unit be performed by a factory authorized service representative. Please contact the nearest Kobelt authorized distributor for assistance.

## 6 WARRANTY

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Kobelt Manufacturing Co. Ltd. ("Kobelt") warrants the Products and Parts manufactured by Kobelt to be free from defects in workmanship or material and that said products are designed mechanically and functionally to perform to specifications.

This warranty is effective providing:

- The equipment is used within the intended operating conditions and in accordance with Kobelt recommendations
- The equipment is installed according to equipment diagrams, specifications and recommendations which Kobelt has provided

This warranty becomes invalid if the factory supplied serial number has been removed or altered on the product. This warranty does not cover cosmetic damage or damage caused by an act of God, accident, misuse, abuse, negligence or modification of any part of the product. This warranty does not cover damage due to improper operation or maintenance, connection to inappropriate equipment or attempted repair by anyone other than an authorized Kobelt representative.

Upon identification of a potential issue or defect with a Kobelt Product or Part, the Warranty Applicant ("Applicant") must immediately contact Kobelt and describe the issue in writing, by letter, fax, email or other electronic conveyance. Kobelt will then assess the cause of the defect and determine warranty applicability and appropriate remediation.

If any part is found to be defective, Kobelt will replace said part FOB the Kobelt factory provided that any such defective part is returned by the Buyer with freight and applicable forwarding charges prepaid by the Buyer. Kobelt's sole obligation to the Applicant will be to repair or replace the defective part with same or similar product, to a maximum value of the list price of the product or part. The Kobelt warranty does not cover labour charges, travel or any other associated expenses.

All Products and Parts manufactured by Kobelt, are subject to a warranty against manufacturer's defects in materials or workmanship for a period of two (2) years from the date of purchase.

Kobelt will be responsible for all Products or Parts sold by Kobelt but manufactured by 3<sup>rd</sup> party manufacturing companies. However, these products and parts are subject to applicable 3<sup>rd</sup> party warranties and may not be the same as the Kobelt warranty.

## 7 APPENDIX A: INSTALLATION DIMENSIONS

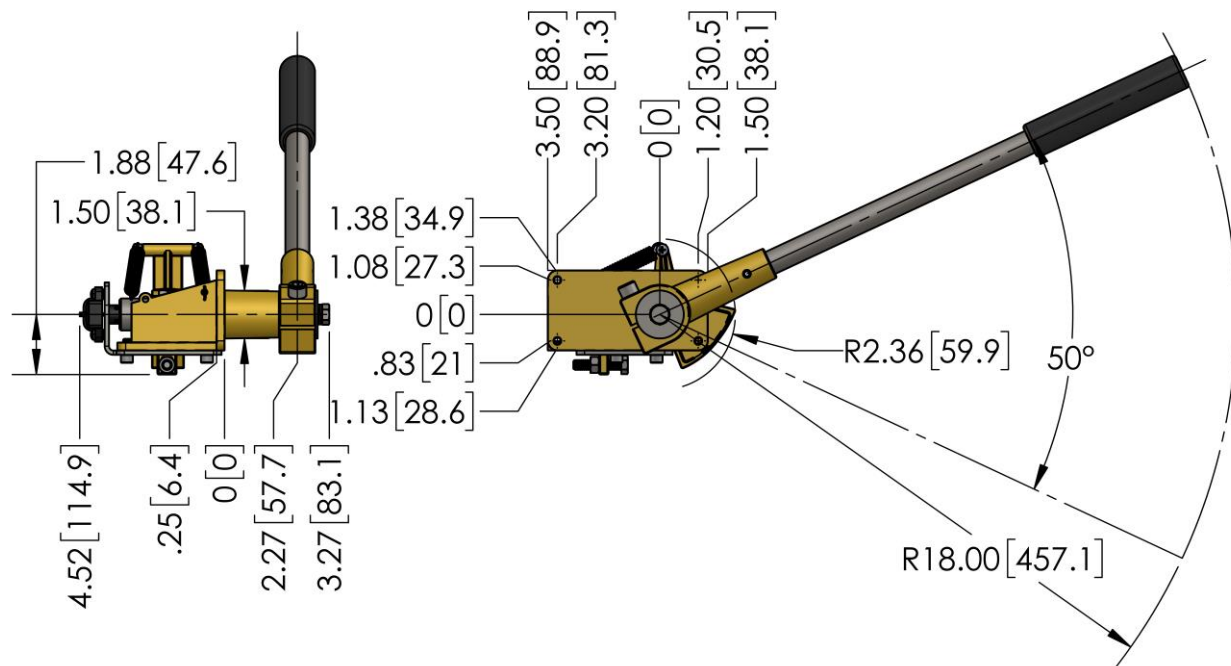
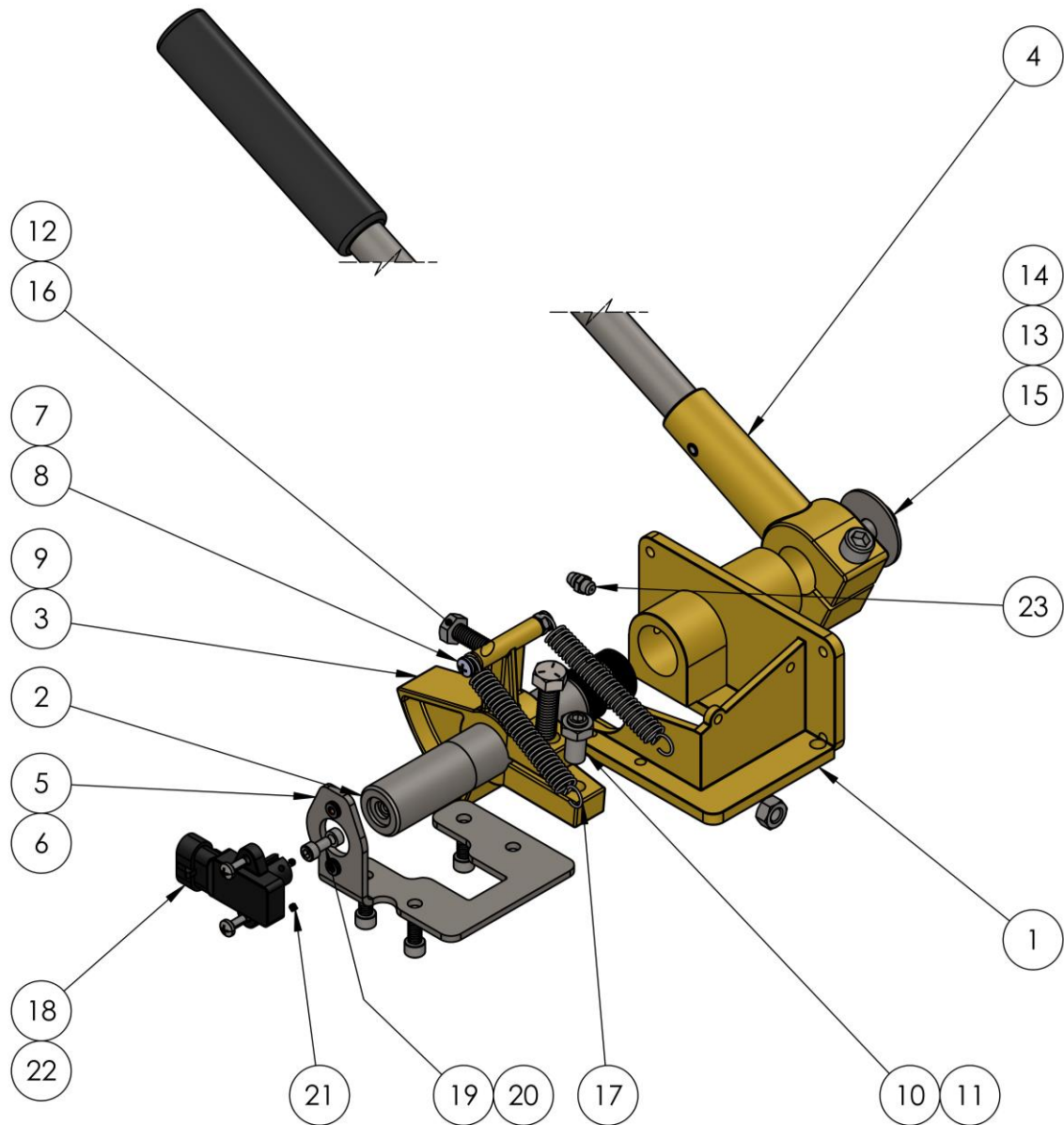


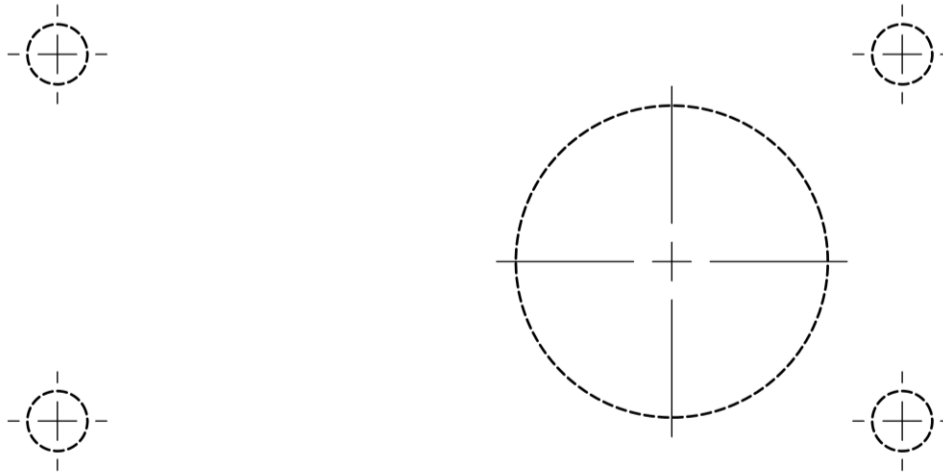
Figure 4: 2588-E Installation Dimensions

## 8 APPENDIX B: PARTS LIST



ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	2588-0101	BRACKET - DRILLER VALVE; MODIFIED
2	1	2588-3013	SHAFT; ELECTRO-PROPORTIONAL DRILLER LEVER
3	1	2583-0003	CAM; DRILLER LEVER
4	1	2588-0205	SUB-ASSEMBLY, HANDLE, DRILLERS VALVE
5	1	2588-0116	BRACKET ASSEMBLY; ELECTROPROPORTIONAL DRILLER LEVER
6	4	1002-1008	CAP SCREW - SKT HD; 1/4 UNC X 1/2 LG, 18-8
7	2	1022-0108	NUT, HEX, #10-24, 18-8 SS
8	2	1012-0812	SCREW, PAN HD, PHILLIPS, #10-24 UNC X 3/4, 18-8
9	1	1001-1220	HEX BOLT - 3/8-16 UNC x 1-1/4; GR. 18-8
10	1	1016-1216	SET SCREW, CUP POINT, 3/8-16X1, 18-8
11	1	1022-0212	NUT, HEX, JAM, 3/8-16, 18-8 SS, ASME B18.2.2
12	1	1022-0111	NUT, HEX, 5/16-18, 18-8 SS, ASTM F594
13	1	1023-0245	WASHER, FENDER, 3/8 X 1-1/2, 18-8 SS
14	1	1023-0312	LOCK WASHER DIA 5/8 IN 18-8
15	1	1001-1212	SCREW, HX HD, 3/8-16 UNC X 3/4, 18-8
16	1	1001-1124	SCREW, HX HD CAP, 5/16-18 X 1 1/2, SS
17	2	1202-0010N	TENSION SPRING; .53OD X .072WIRE X 22.5 COILS, AISI 302
18	1	6011-0012	ROTARY SENSOR; HALL EFFECT, 50 DEG, 0-5V
19	1	1002-0806	SCREW, SKT HEAD, 10-24 X 3/8, 18-8 SS, ASTM F837
20	1	1044-2508	SPACER - ROUND; #10 X 5/32, 18-8
21	2	1016-7303	SET SCREW - CP PT; M3 X 3, 18-8
22	2	1012-3410	SCREW, PAN HD PHIL, M4-0.7 X 10mm, A4
23	1	1501-0301	GREASE NIPPLE 1/4-28

## 9 APPENDIX C: INSTALLATION CUT-OUT TEMPLATE



*Figure 4: Installation Cut-out Template*

**NOTICE**

Scale may not be exactly 1:1 due to PDF and printer scaling. Verify primary dimension with a ruler after printing and before using to cut.

Reference [Appendix A: Installation Dimensions](#), for the cut-out dimensions.



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