

# ***KOBELT***

## ***7176 Walk About Controller***

### ***Owner's Operation, Installation & Maintenance Manual***



Kobel Manufacturing Co. Ltd.



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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 make 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

 <b>WARNING</b>	<b>Disconnect Power:</b> Turn off power at distribution panel before beginning installation to protect installer from electrical hazards.
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 <b>CAUTION</b>	<b>Voltage and Current Compatibility:</b> Confirm that the power source is compatible with the maximum voltage and current ratings of is product variant. Failure to do so could result in damage or fire.
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 <b>CAUTION</b>	<b>Automatic Start:</b> Equipment may start automatically without warning.
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## 2 PRODUCT DESCRIPTION

### 2.1 OVERVIEW

The 7176 Walkabout Controller is designed for docking operations and provides control over the engines, rudder or thrusters.

Propulsion commands are processed by the Kobelt engine controller connected to the 6505-2000 control panel and the steering commands must be hard-wired to the steering controller.

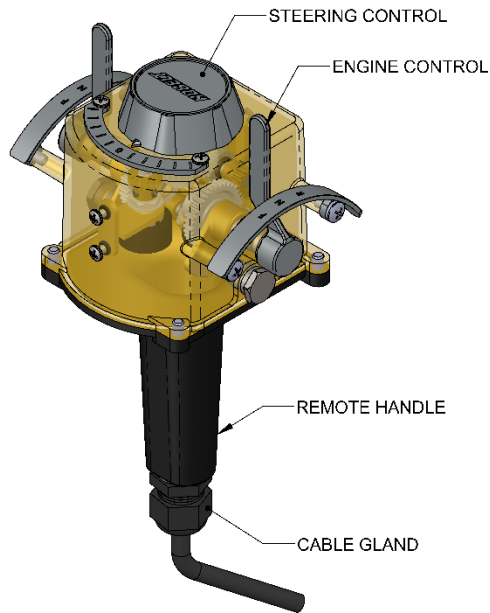


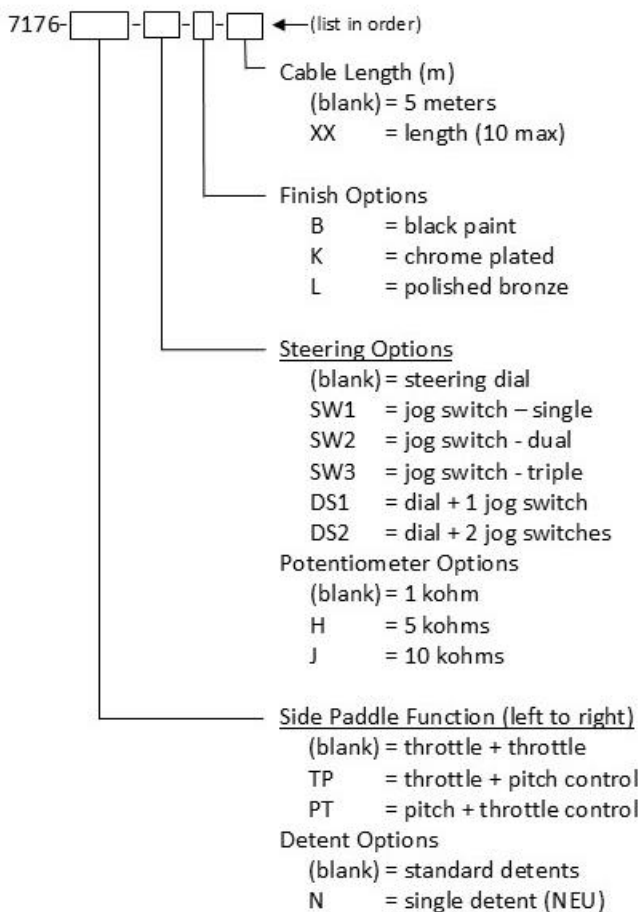
Figure 1: 7176 Overview Diagram

## 2.2 TECHNICAL DATA

Table 1: 7176 Technical Data

<b>MODEL</b>	<b>7176</b>
<b>KOBELT PART #</b>	7176-B
<b>SYSTEM COMPATIBILITY</b>	Mighty Mariner/6525 SYSTEM
<b>STEERING CONTROL</b>	POTENTIOMETER: 1000 OHMS
<b>ENGINE CONTROL</b>	POTENTIOMETER: 5000 OHMS
<b>CONNECTOR</b>	97 SERIES Amphenol - 7 POSITION
<b>FINISH TYPE</b>	BLACK EPOXY
<b>WEIGHT</b>	4.4 LBS

## 2.3 MODEL CONFIGURATION KEY



## 3 INSTALLATION

### 3.1 RECEIPT

Kobelt offers the 7176 walk about controller in numerous configurations (reference section 2.3). Upon receipt of the device ensure that the model number and serial number are noted on the table in page 2 of this manual. This model number will determine what spare parts are applicable.

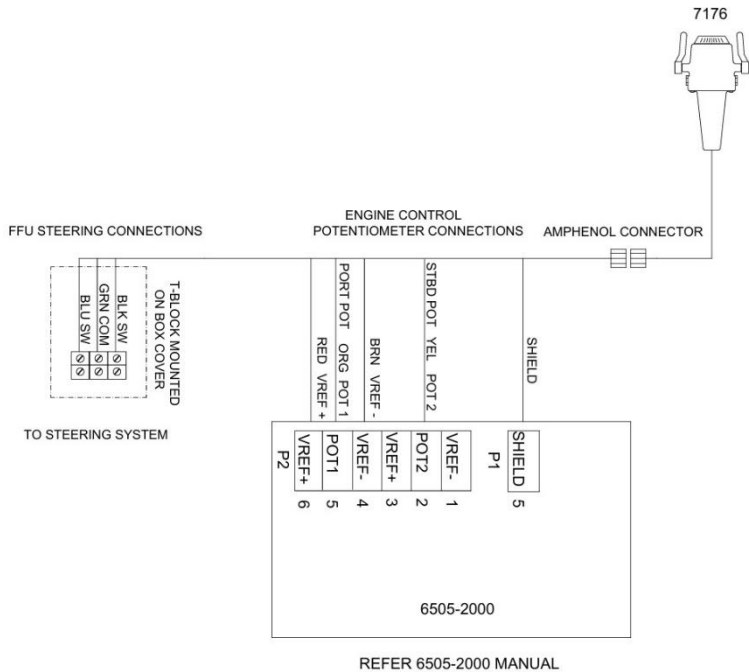
### 3.2 ELECTRICAL

The 7176 Walkabout Controller is equipped with a 5 m [16.4 ft] long connector cable for external electrical connections. The cable is fitted with a 97 Series, 7-position Amphenol connector that gets connected to 6505-2000 control panel via Amphenol connector. The controller cable consists of 22 AWG, 7-conductor shielded.

Table 2: 7176 Wire Connections

7176 - Connector				
SOCKET	SIGNAL	Colour	Gauge	Function
A	VREF+	Red	22AWG	PORT/STBD potentiometer reference positive
B	PORT WIPER	Orange	22AWG	PORT potentiometer wiper
C	VREF-	Brown	22AWG	PORT/STBD potentiometer reference negative
D	STBD WIPER	Yellow	22AWG	STBD potentiometer wiper
E	VREF-	Black	22AWG	Steering potentiometer reference negative
F	WIPER	Green	22AWG	Steering potentiometer wiper
G	VREF+	Blue	22AWG	Steering potentiometer reference positive
	-	Shield		

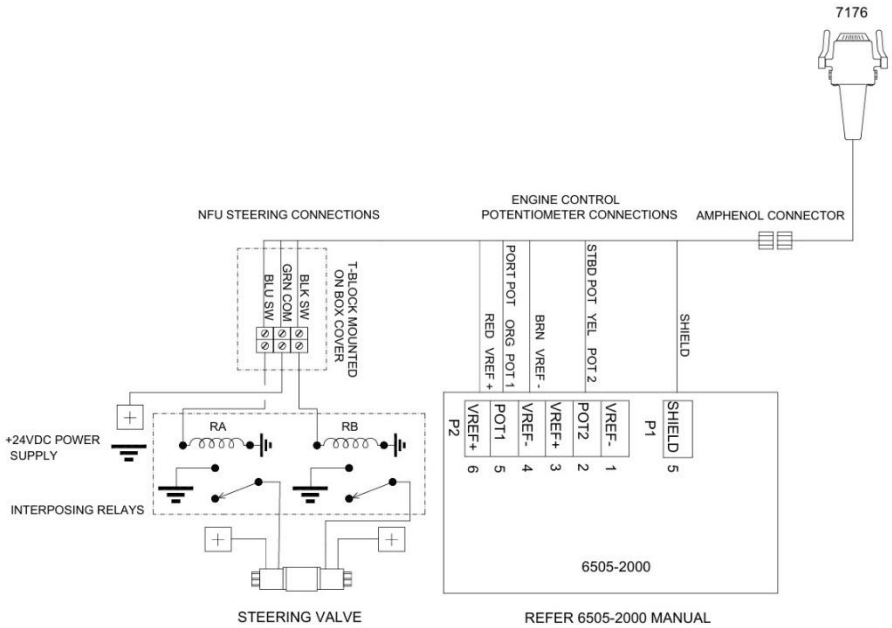
The internal wiring connections for the FFU steering system are shown in **Figure 2** and apply to versions 7176-DS1 and 7176-DS2. Please note that the wiring connections may vary depending on the configuration variant ordered. Refer to the 6505-2000 manual for detailed connection information.




**Figure 2: 7176 Wiring Connections with FFU Steering**

**NOTICE** Note that the potentiometer and switches may not be present on all configurations of this product. Refer to product code key for definition of internal components.

The internal wiring connections for the NFU jog steering system are shown in **Figure 3** and apply to versions 7176-SW1, 7176-SW2, and 7176-SW3. Please note that wiring connections may vary depending on the configuration variant ordered. Refer to the 6505-2000 manual for detailed connection information.



**Figure 3: 7176 Wiring Connections with NFU Jog Steering**

 <b>WARNING</b>	<p>When using jog-type steering heads, the user must operate the steering valves through relays. The switch and its cabling are not rated to carry the full valve current.</p>
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## 4 COMMISSIONING

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### 4.1 ELECTRICAL CHECK



Amphenol mounting receptacle is tied to DC COM and might cause a leak to ground if mounted on a metal hull.

- Confirm that the electrical connections to the 7176 have been made correctly and correspond to the requirements of your system installation.
- Verify that the 7176 Walkabout Controller connector cable is securely connected to the 6505-2000 control panel.
- Verify cable shielding is intact and properly terminated.
- Ensure no moisture is present at the connector or cable entry points.

### 4.2 FUNCTIONAL TEST




The Functional Test should be carried out while the vessel is still at dock and before it is taken out to sea after installation has been completed.


- Verify the 7176-walkabout controller becomes active when station is selected.
- Verify correct response of port engine control, if equipped.
- Verify correct response of starboard engine control, if equipped.
- Rudder needs to go hard over to hard over.
- Rudder must be at midship when the 7176 walk-about dial is at center position.

## 5 OPERATION

The 6505-2000 control panel is equipped with four membrane buttons that enable the following functions:

- |                   |   |
|-------------------|---|
| STATION SELECT    | Permits the transfer of engine control to another station. On power-up, station control is automatically assigned to station 1 (main station).  |
| STATION LOCK      | Allows the operator to lock out the other control stations.   |
| THROTTLE OVERRIDE | <p>Disables the clutch function so that the engine can be operated to full throttle without turning the propellers. This feature is useful for engine warm-up or testing.</p> <p>To return to the normal operating mode, return the handle positions back to neutral and press the button again.</p>  |
| SYNCHRONIZER      | <p>Pressing this button enables the propellor speed synchronization feature, which uses external speed sensors to measure the speed and permit the controller to match the engine speeds. The operator only needs to move one or the other throttle handle to control both engine speeds.</p> <p>When pressing the button, the light will flash until the engine speeds are synchronized. As long as the engine speeds are within the controller dead-band, the light remains solid on. The synchronizer function is not available when the propulsion controls are in trolling mode.</p> |

 <b>CAUTION</b>	Amphenol connector from the walk about controller should be connected to the Amphenol connector of the 6505-2000 control panel before transferring control; otherwise, clutch/throttle will default to neutral/idle.
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 <b>CAUTION</b>	Standard 7176 cable length is 5 meters. Max allowed cable length is 10 meters that can be requested at the time of ordering.
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## 6 MAINTENANCE

### 6.1 PREVENTATIVE MAINTENANCE

- Quarterly (4 times per year)
  - Lubricate the detent track.
  - Ensure that the friction drag is adequate.
- Every 2 years
  - Inspect detent plate. Replace it if necessary.
  - Replace shaft seal
- Every 5 years
  - Replace potentiometers

### NOTICE

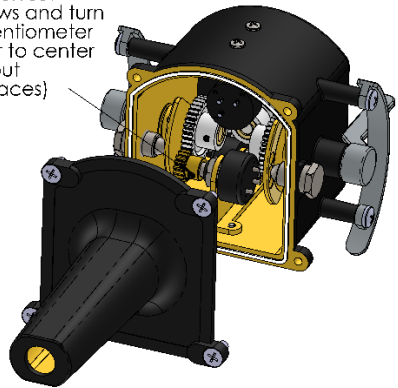
It is recommended that any required service work on a Kobelt unit be performed by a factory authorized service representative. Please contact the nearest Kobelt authorized distributor for assistance.

### 6.2 CALIBRATION

When replacing the potentiometer or if the setting has become disturbed, follow these steps to center the output:

1. Position the handle in the center (neutral) position.
2. Remove the walk about controller bottom cover.
3. Locate the potentiometer in need of centering.
4. Connect a multimeter to the Pot – and the Pot Wiper. Set the meter to read resistance.
5. Loosen the two locking set screws on the pinion gear with a 1/16-inch Allen key.
6. Using a short flat head screwdriver, rotate the potentiometer shaft until the meter reads half of the rated output (2500 ohms for a 5K potentiometer and 500 ohms for a 1K potentiometer).
  - a. Note: compare the output between the wiper and Vref+ to wiper and Vref-. Adjust the shaft to balance.

Loosen set screws and turn potentiometer shaft to center output (3 Places)



7. Tighten the two locking set screws and replace the cover.

### 6.3 LUBRICATION

The track the detent runs along on the detent plate must be lubricated to prevent premature wear. Use a grease with MoS<sub>2</sub> additives for best results. The following greases are approved:

*Table 3: Approved Lubricants*

EP Grease Brand
CHEVRON DELO MOLY 5% EP2
MOBIL XHP-322
SHELL S3 V460

### 6.4 RECOMMENDED SPARE PARTS

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

*Table 4: Recommended Spare Parts*

Part Number	Description	Qty
2012-0007	Detent Plug	2
YPB-3236	Spur Gear	3

When purchasing spare parts refer to [Appendix B](#) at the back of this manual for Kobelt component Part Numbers.

The table below itemizes which spare part numbers change with the various configuration options. Please reference this table to ensure you receive the correct parts.

*Table 5: Configuration Part Numbers*

Configuration Part Numbers		
Potentiometer Code	Potentiometer	Resistance
(blank)	POT-1	1 kohm
-H	POT-5	5 kohm
-J	POT-10	10 kohm

## 7 TROUBLESHOOTING

If you encounter problems with the operation of your product, please refer to the trouble-shooting suggestions before contacting Kobelt for assistance. If the steps below do not resolve your issue, please reach out either Kobelt directly or our Dealers in your area.

*Table 6: Common Solutions*

<b>Problem (Issue encountered)</b>	<b>Cause (What it means)</b>	<b>Corrective Action (What to do)</b>
<b>Control action is reversed.</b>	Wiring is backwards.	Swap the POT+ and POT- output wires to their respective potentiometer and system connections.
<b>FFU Control dial does not move rudder at all.</b>	The rest of the system isn't hooked up correctly.	Check system wiring.
	Broken potentiometer or contact.	Use a multi-meter to monitor the resistance of the wiring between potentiometer contacts. Check potentiometer directions. Replace any damaged potentiometers.
	Wiring is wrong.	Check wiring. Refer to system design drawing for proper wiring.

## 8 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.

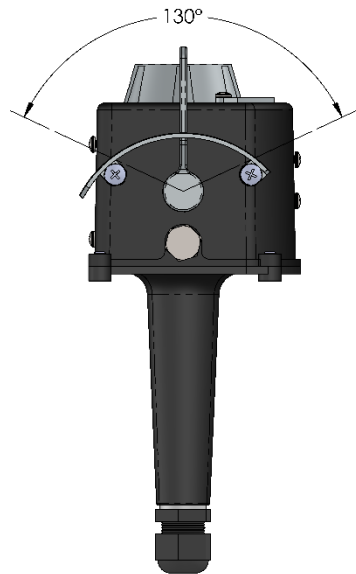
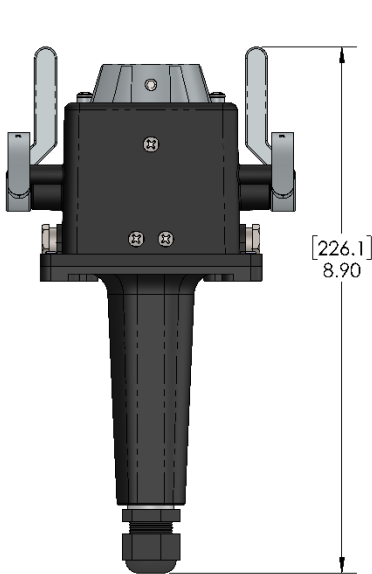
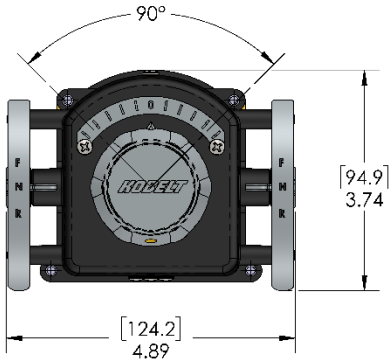
Kobelt will be responsible for all Products or Parts sold by Kobelt but manufactured by 3<sup>rd</sup> party manufacturing companies. However, these products and parts are subject to applicable 3<sup>rd</sup> party warranties and may not be the same as the Kobelt warranty.

## 9 REVISIONS HISTORY

Table 7: Table of revision changes

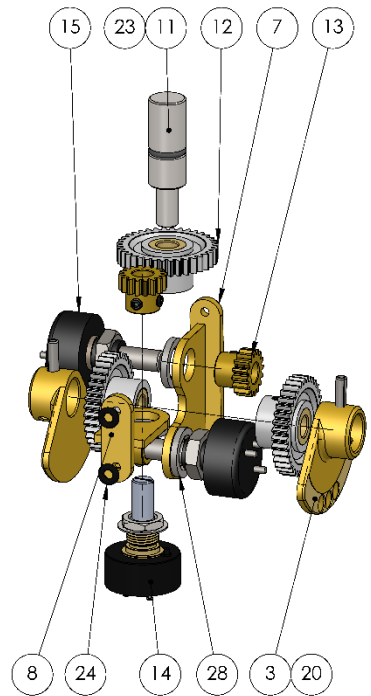
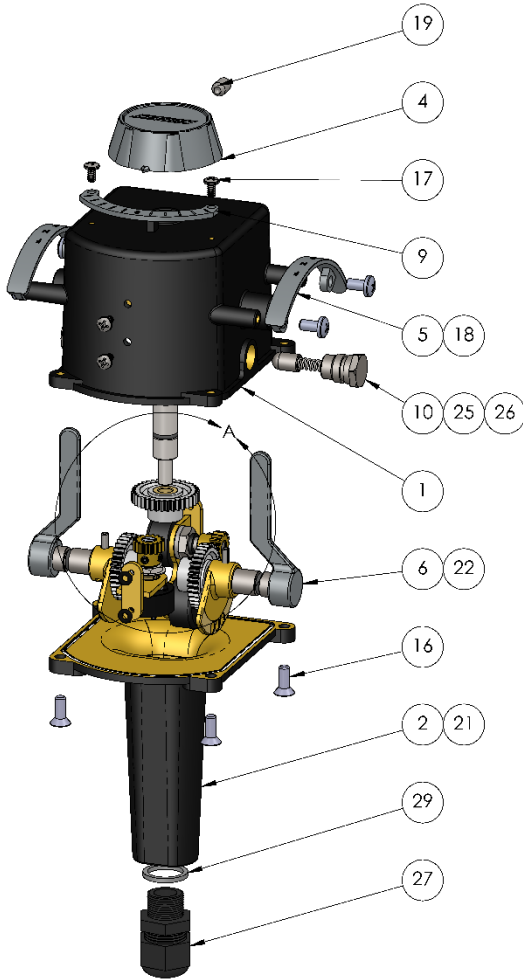
Document Revision	Release Date	ECN	Author	Revision Summary
A	2026-02-10	n/a	MW	<ul style="list-style-type: none"><li>Initial release</li></ul>
B	2026-03-30	01432	MW	<ul style="list-style-type: none"><li>Added wiring details for NFU jog steering (pg. 11)</li></ul>

# 10 APPENDIX A: INSTALLATION DIMENSIONS



# 11 APPENDIX B: PARTS LIST

## 7176-B



DETAIL A  
SCALE 1 : 1

Table 8: 7176-B Bill of Materials

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	7176-0001-B	HOUSING; TEXTURE BLACK FINISH
2	1	7176-0002-B	REMOTE HANDLE, TEXTURE BLACK
3	2	7176-1003	CAM; DETENT, 7176, 3 DETENTS
4	1	7176-0004-K	DIAL, CHROMED
5	2	7176-0005-K	SIDE SCALE, CHROMED
6	2	7176-0006-K	7176 LEVER, CHROME FINISH
7	1	7176-0007	POT BRACKET; WALK-ABOUT CONTROLS
8	1	7176-0008	UPPER POT BRACKET
9	1	7176-0009-K	SCALE, TOP
10	2	7176-0010	DETENT HOUSING
11	1	7176-0012	SHAFT TOP
12	3	YPB-3236	SPUR GEAR - DELRIN; 36T / 32DP / 20DEG / B STYLE - 1/4 BRASS INSERT
13	3	Y-3216	GEAR 16T, 32DP, 1/4 BORE, 2 SET SCREW
14	1	POT-1	POTENTIOMETER, 1K, 1TURN, 340 DEG, 22MM DIA
15	2	POT-5	POTENTIOMETER; 5K / 340DEG / 22MM / SLOTTED SHAFT
16	4	1009-0808	SCREW, FLAT HD, PHILLIPS, 10-24 X 1/2, 18-8
17	7	1012-0604	MACHINE SCREW - PAN HD PHIL, 6-32 X 1/4, 18-8
18	4	1012-0806	SCREW, PAN HEAD PHILIPS, #10-24 X 3/8, GR. 8
19	1	1016-1006	SCREW; SET; SKT HEAD; CUP PT; 1/4-20 x 3/8; 18-8
20	2	1024-0510	SPRING PIN, 1/8 D X 5/8 L, 18-8
21	1	1101-3071	O RING CORD; 1/16 CS, NBR70
22	2	1101-0010	O-RING, 1/4 x 1/16, NBR70
23	1	1101-0011	O-RING; 5/16ID X 1/16CS / N70D
24	2	1101-0006	O RING 2-006 1/8 ID X 1/16 N70D BLK
25	2	1201-0001	SUCTION SPRING
26	2	2012-0007	DETENT PLUG
27	1	6001-0248	CABLE GLAND: M16 X 1.5, .197-.394 CABLE, PA6, BLACK
28	3	6639-0001	SHIM WASHER, 10MM X 2MM, AISI 304
29	1	6001-0248-W-M16	WASHER, SEALING, M16, POLYETHYLENE

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