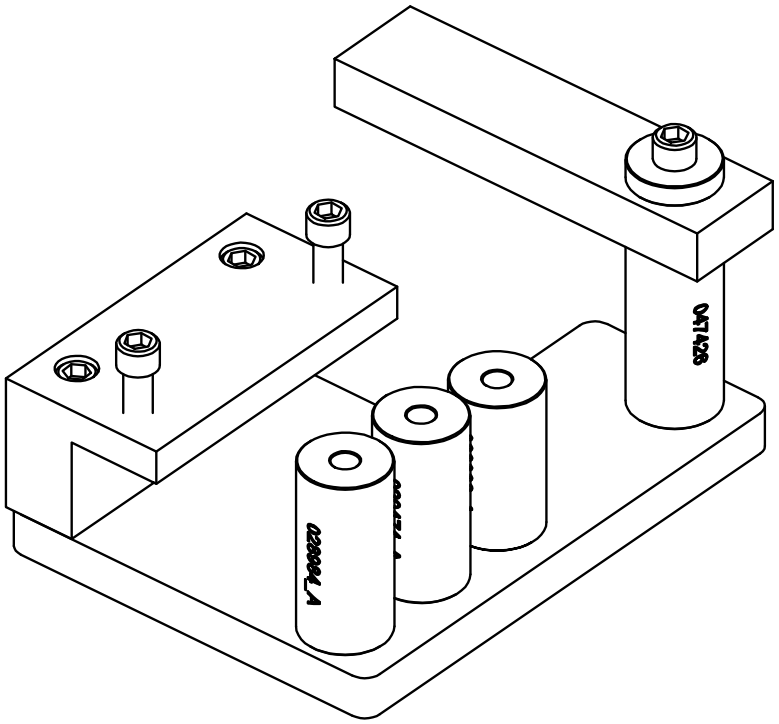
Trowel Arm Alignment Jig



OPERATIONS & PARTS MANUAL

Manual Part #: 047427 | Revision: B
Language: English | Original Instructions

Trowel Accessory

Operations & Parts Manual

This manual covers the model listed below:

Part No.	Description
016863	Trowel Arm Alignment Jig

First Issue: Revision: X; April 2006

AEC Manual Part No.: 047427
Printed in U.S.A.

Table of Contents

GENERAL INFORMATION

GENERAL INFORMATION

Limited Warranty & Limitation of Liability

Allen Engineering Corporation warrants its products to be free of defects in material or workmanship for the following period:

A. All New Accessories 6 Months (From date of purchase)

Warranty period begins on first day of use by End User. This first day of use is established by a completed warranty card or a Bill of Sale to the end user. All warranty is based on the following limited warranty terms and conditions.

1. Allen Engineering Corporation (AEC) obligation and liability under this warranty is limited to repairing or replacing parts if, after AEC's inspection, it is determined to be a defect in material or workmanship. AEC reserves the choice to repair or replace.
2. If AEC chooses to replace the part, it will be at no cost to the customer and will be made available to the Dealer from whom the customer purchased the product.
3. Replacement or repair parts, installed in the product, are warranted only for the remainder of warranty period of the product as though they were the original parts.
4. AEC warranty will be void if it is determined that the defect resulted from operator abuse, failure to perform normal maintenance on the product, modification to product, alterations or repairs made to the product without the written approval of AEC.
5. AEC will pay shop labor repair on warranty at the AEC Shop Labor Rate in existence on the date of the warranty claim. An AEC Labor Chart will determine the time allowed to complete a repair and will govern the shop labor hours that will be allowed.
6. AEC will pay freight on warranty replacement parts at Worldwide standard ground rates. No warranty replacement parts will be shipped air freight at the expense of AEC. AEC only pays outbound freight charges when sending warranty replacement parts to the customer VIA ground service. AEC does not pay any inbound freight, however, if AEC determines this to be warranty defect only then will AEC reimburse the customer for inbound freight at standard ground rates.
7. AEC warranty policy WILL NOT COVER the following; taxes, shop supplies, environmental surcharges, air freight, travel time, loss of rental revenue, or any other charges whatsoever or any liabilities for direct, incidental, or consequential damage or delay.
8. AEC makes no other warranty, expressed or implied. This limited warranty is in lieu of the warranty of merchantability and fitness. There are no other warranties that extend beyond the description on this document.

No AEC employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Allen Engineering Corporation.

Information Contained in this Manual

GENERAL INFORMATION

This manual provides information and procedures to safely operate and maintain the Trowel Arm Alignment Jig Accessory.

For your own safety and protection from personal injury, carefully read, understand, and observe the safety instructions described in this manual.

Always operate this accessory in accordance with the instructions described in this manual. A well maintained piece of equipment will provide many years of trouble free operation.

This manual is divided into the following sections:

SECTION 1 OPERATIONS

SECTION 2 PARTS

NOTE

This machine is built with user safety in mind. However, it can present hazards if improperly operated and serviced. Follow operating instructions carefully.

If you have any questions about operating or servicing this equipment, please contact your Allen Engineering Dealer or AEC Customer Service at 800-643-0095 or 870-236-7751.

GENERAL INFORMATION

Dealer Information & Ordering Parts

Your Dealer has Allen Engineering Corporation trained mechanics and original Allen replacement parts. Always contact the Allen Dealer who sold you this machine for Allen Certified repairs and replacement parts.

Place Allen Dealer information below for future reference:

Dealer Name: _____

Phone #: (____) -____- _____

Address: _____

City:_____ State:_____ Zip:_____

Salesman:_____ Mobile Phone:_____

Additional Comments:_____

_____

_____

_____

The “PARTS” section contain illustrated parts lists for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the “PARTS” section.
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. **DO NOT** return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC dealer nearest you.

NOTE

ALL INFORMATION, SPECIFICATIONS, AND ILLUSTRATIONS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE AND ARE BASED ON THE LATEST INFORMATION AT THE TIME OF PUBLICATION.

SECTION 1: OPERATIONS

Manual Tag Safety Detail

Safety-Alert Signs

This manual contains Safety-Alert Signs, as defined below, which must be followed to reduce the possibility of improper service damage to the equipment or personal injury. Read and follow all Safety-Alert Signs included in this manual.

NOTE defines an operating procedure, condition, etc. which is essential to highlight that contains useful or important information.

EMERGENCY is used for the identification of safety equipment, first aid, or emergency egress locations.

NOTICE used to convey safety information on labels and signs.

CAUTION is indicative of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

WARNING Indicative of a potentially hazardous situations that could result in death or serious injury

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury

Operating Safety Precautions

SECTION 1
OPERATIONS

Operating Safety

Familiarity and proper training are required for the safe operation of this accessory!
Accessories operated improperly or by untrained personnel can be hazardous! Read the operating instructions contained in this manual and familiarize yourself with the use of all procedures.

Safety Precautions

1. Read operating and safety instructions before using this accessory. Work with this accessory in accordance with the manufacturer's instructions.
2. Inspect your accessory for damage or tampering that can sometimes occur during shipping.
3. **If damage is found, file a claim with your carrier immediately! Mark freight bill of lading as damaged shipment.**
4. Secure accessory to a stable, level work surface.
5. Only trained personnel should be allowed to work with this accessory.
6. Never attempt to work with this accessory on steep inclined surfaces or unstable work surfaces.
7. Do not use over-the-counter hardware to replace manufacturer's hardware.
8. Always wear safety goggles when working with this accessory.

Lift Lever Adjustment

Procedure

Damage to and/or replacement of a trowel arm can change the adjustment of the lift lever. This can unbalance the trowel arms and cause the trowel to wobble during operation. To operate smoothly the lift lever on all trowel arms must be adjusted the same to ensure that the trowel is balanced correctly. Adjust trowel arms using this Trowel Arm Alignment Jig as described below.

Refer to Figure 1.3 to locate and identify components described in the following procedures.

NOTE

Make sure that there is no pitch in the blades before attempting to remove a trowel arm.

Lift Lever Adjustment Instructions

Step 1: Secure trowel arm alignment jig [1] onto a flat and stable work surface.

Step 2: Ensure that the applicable height adjustment spacer [3] is selected for the appropriate size trowel arm to be adjusted. Refer to Table 1 to select the correct spacer.

Step 3: After selecting correct spacer, insert trowel arm [2] into jig block clamp [6] as shown in Figure 1.3-2.

Step 4: Tighten clamp block lock down bolts [7] down onto the trowel arm.

⚠ CAUTION

If carriage bolt [9] is too high when you tighten lock down bolt [10] you might bend the jig arm [5].
Make sure jam nut [14] is loose and carriage bolt [9] is down so as not to be too high and strike jig arm [5].

Step 5: Move jig arm [5] over carriage bolt [9] on trowel arm as shown in Figure 1.3-2 and secure in place by tighten jig arm lock down bolt [10] on top of washer [11] on jig arm.

Step 6: Before making adjustments, verify that lift lever [8] is still in factory lock down position. Refer to Figure 1.3-3 for correct orientation of lift lever.

Step 7: Loosen the jam nut [14] on carriage bolt and adjust the carriage bolt so that the top of the carriage bolt is touching the bottom of the jig arm. See Figure 1.3-4.

Step 8: Re-tighten the jam nut [14] to lock down carriage bolt in place after required height adjustment has been completed.

Table 1
Height Adjustment Spacer Selection Matrix

Part Number	New Description	Old Description	Used On
028986	Spacer, 2.243”	Small	**Walk-Behind Trowels** 424, 436E, 463, 436DF, 436TC, 446 **Riding Trowels** MP 215, 235, 245
029474	Spacer, 2.500”	Medium	**Walk-Behind Trowels** 446TC **Riding Trowels** MSP 445, 455, 465, 475
028984	Spacer, 2.600”	Large	**Riding Trowels** HP205 HDX 600, 605, 615, 705, 760
047426	Spacer, 2.725”	(None)	**Riding Trowels** HDX 780
All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.			

Lift Lever Adjustment Continued

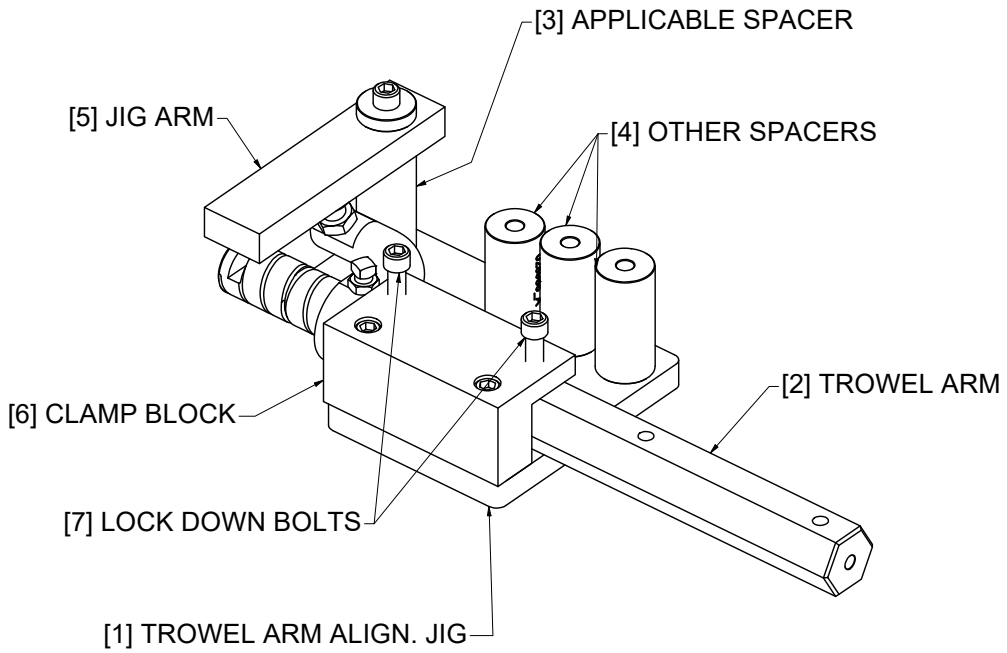


Figure 1.3-1

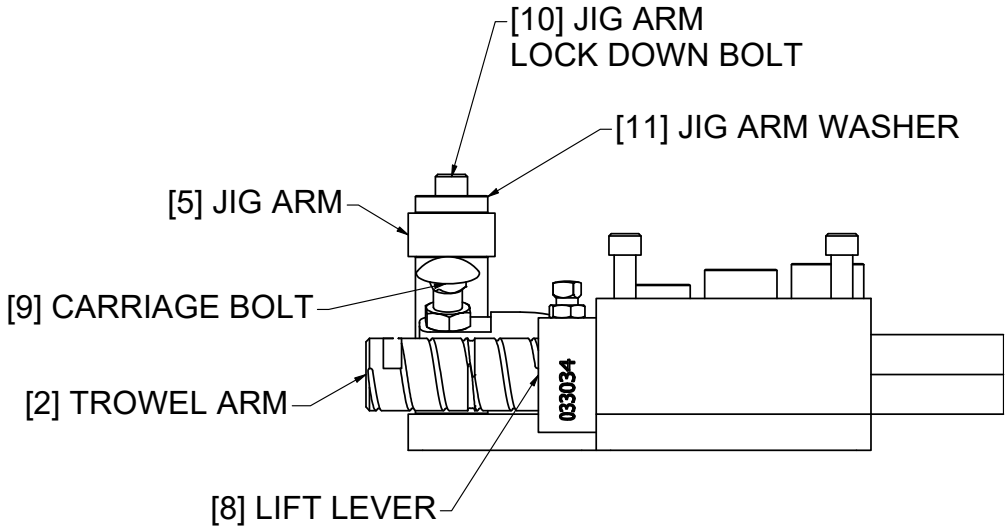


Figure 1.3-2

Lift Lever Adjustment Continued

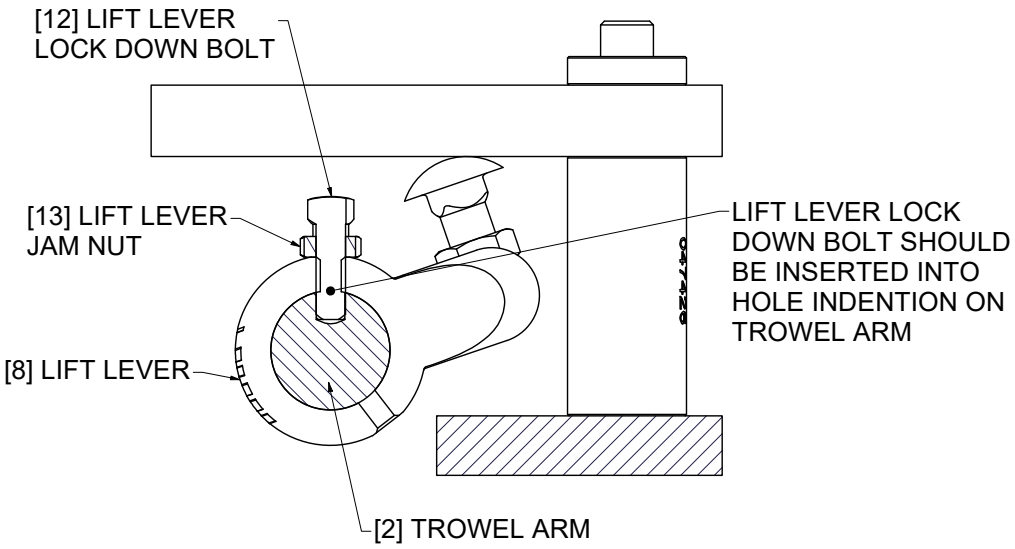


Figure 1.3-3

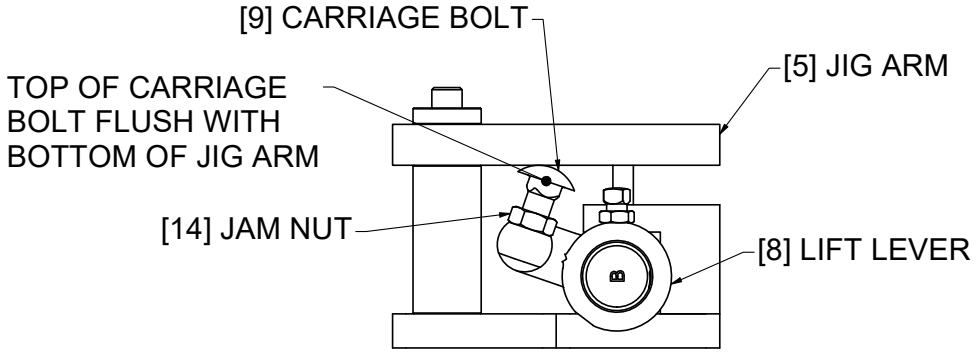


Figure 1.3-4

Towel Arm Flatness and Circularity Check

Procedure

A trowel arm that is out of flatness or circularity can change the adjustment of the lift lever. This can unbalance the trowel arms and cause the trowel unit to wobble during operation. To operate smoothly the trowel arms must be checked at regular intervals for flatness and circularity profiles. If the trowel arm is bent, due to damage and/or not horizontally flat, due to normal service in use, it will need to be replaced.

Refer to Figure 1.4-1 (for Flatness Check) and Figure 1.4-4 (for Circularity Check) to locate and identify components described in the following procedures.

Trowel Arm Flatness (Blade Face) Check

Step 1: Remove the lift lever [2] and it's associated hardware from the trowel arm [1].

Step 2: Place the trowel arm onto a extremely flat and stable surface. It is highly recommended that a granite surface plate be used to perform this procedure accurately. Refer to Figure 1.4-2.

Step 3: Make visual inspection for any signs of linear defects that might affect the flatness feature of the trowel arm blade face. Check for any abnormal bowing, bent, or crooked defects. Refer to Figure 1.4-3.

Step 4: Repeat Step 3 two more times by rotating trowel arm to check the remaining parallel flats of trowel arm.

Step 5: After completing flatness check, if it passed, re-assemble the lift lever and it's associated hardware back onto trowel arm.

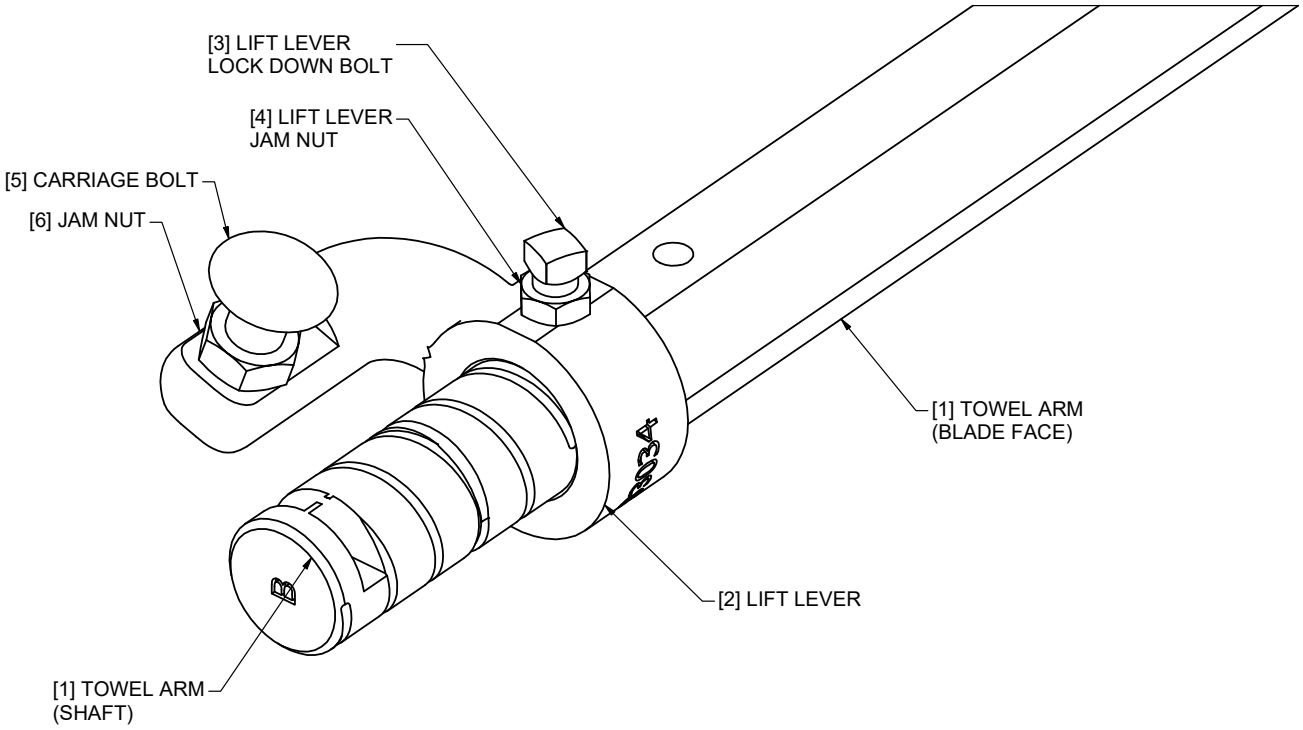


Figure 1.4-1

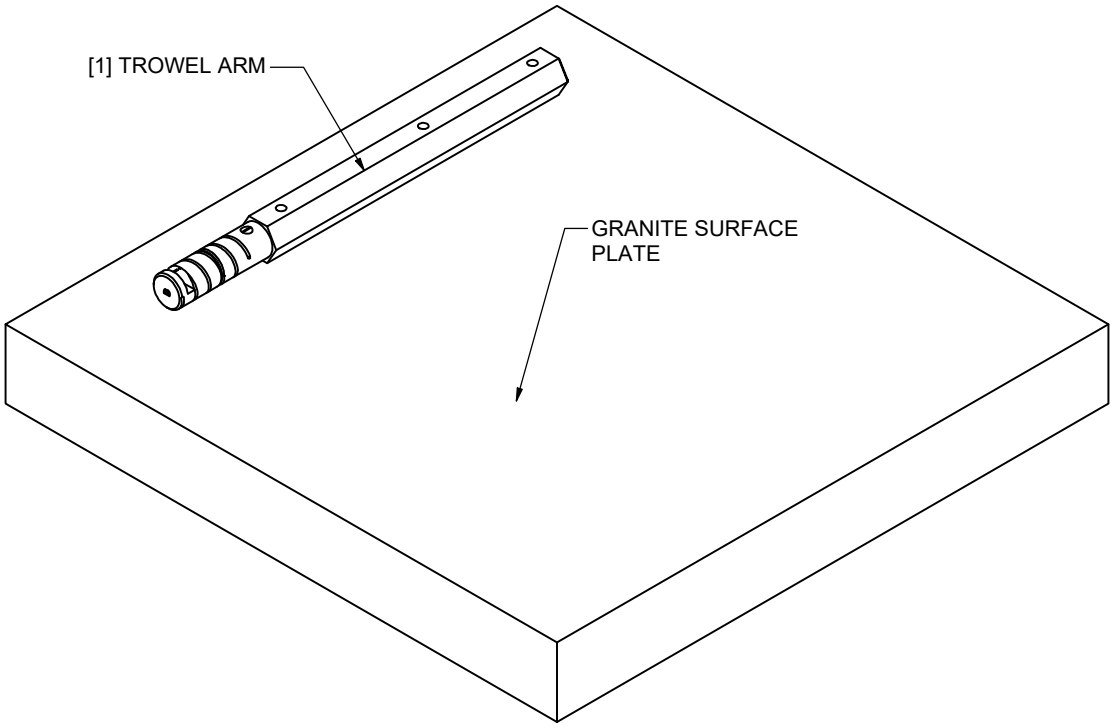


Figure 1.4-2

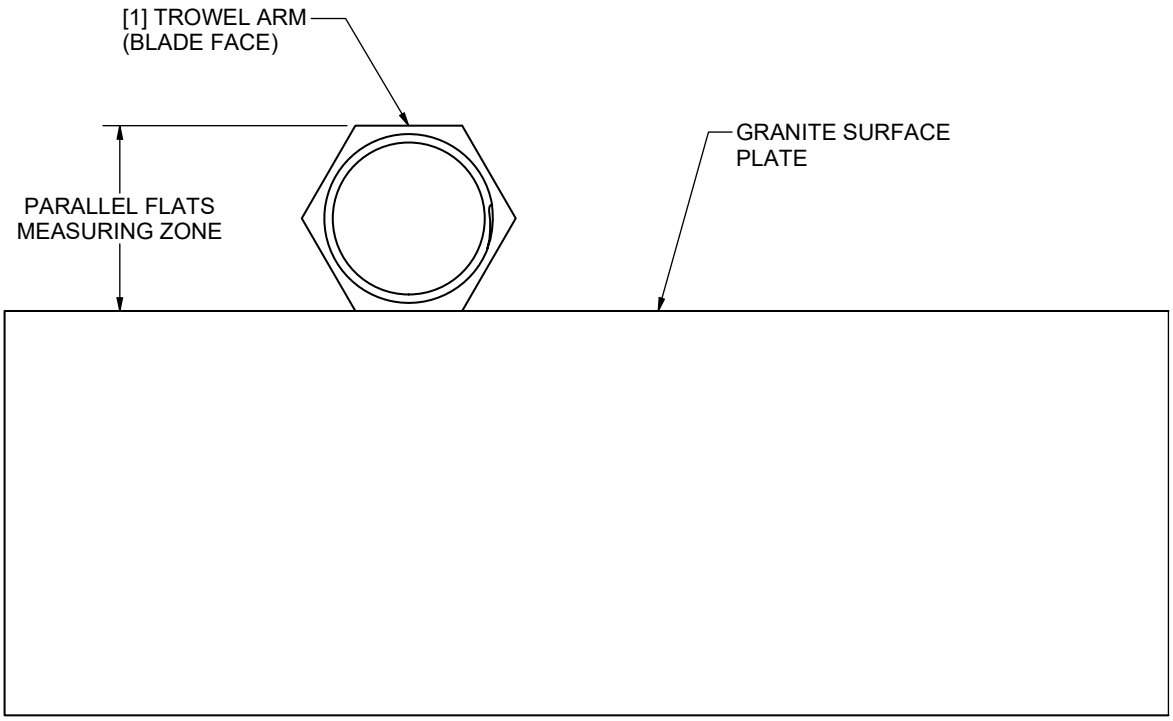


Figure 1.4-3

Towel Arm Flatness and Circularity Check

Trowel Arm Circularity (Shaft) Check

Step 1: If not already, remove the lift lever [2] and it's associated hardware from the trowel arm [1].

Step 2: Place the trowel arm onto a extremely flat and stable surface. It is highly recommended that a granite surface plate be used to perform this procedure accurately. Refer to Figure 1.4-4.

Step 3: Using a dial indicator or applicable feeler thickness gage, inspect for any signs of circularity defects that might affect the diameter feature of the trowel arm shaft. Check for any abnormal out-of-roundness, bent axis, or oblong defectives. Refer to Figure 1.4-5.

Step 4: Repeat Step 3 one more time by rotating trowel arm 180 degrees to check the opposite side of trowel arm shaft. The Total Indicator Reading (TIR) should be no more that ±0.020 inches from first measurement and the second measurement.

Step 5: After completing circularity check, if it passed, re-assemble the lift lever and it's associated hardware back onto trowel arm.

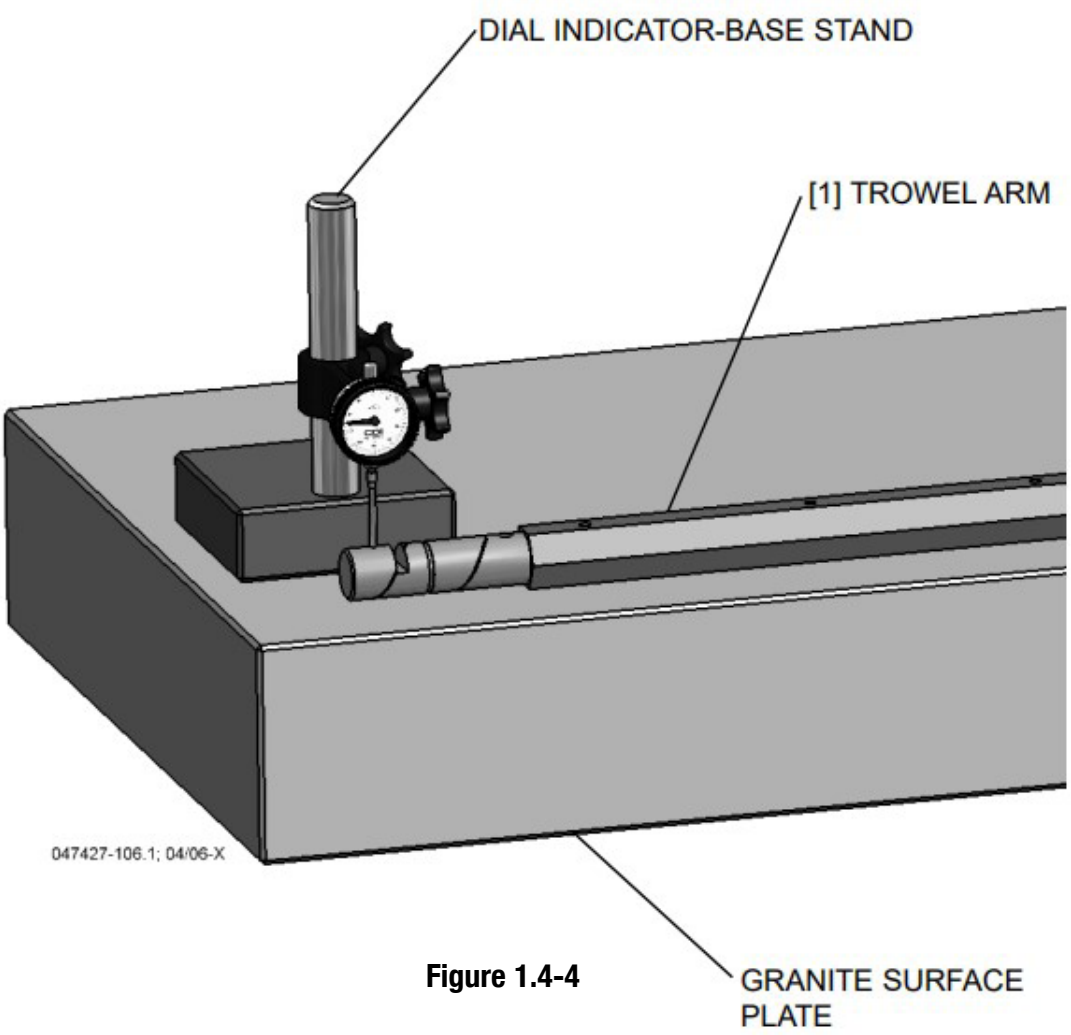


Figure 1.4-4

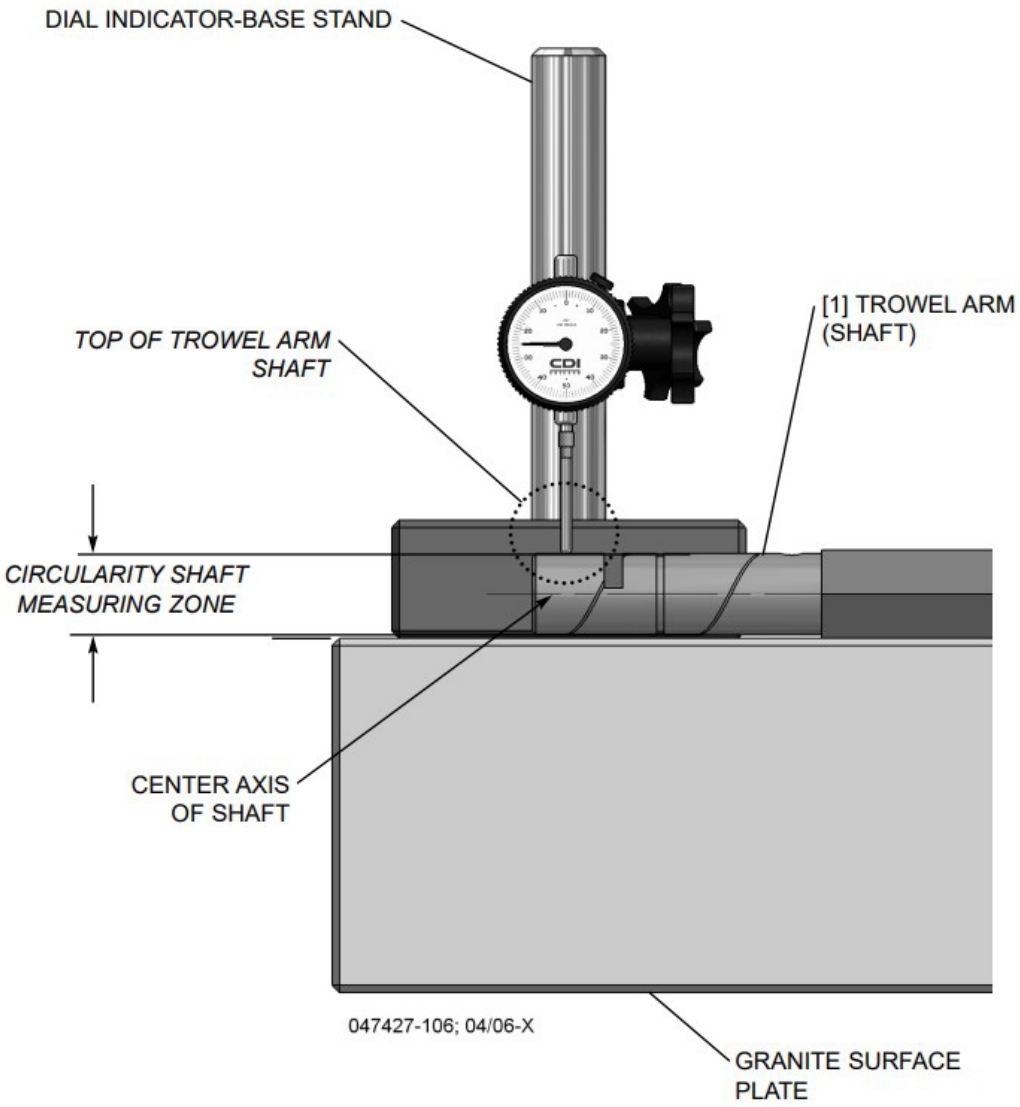

DIAL INDICATOR-BASE STAND
[1] TROWEL ARM (SHAFT)
TOP OF TROWEL ARM SHAFT
CIRCULARITY SHAFT MEASURING ZONE
CENTER AXIS OF SHAFT
047427-106; 04/06-X
GRANITE SURFACE PLATE

Figure 1.4-5

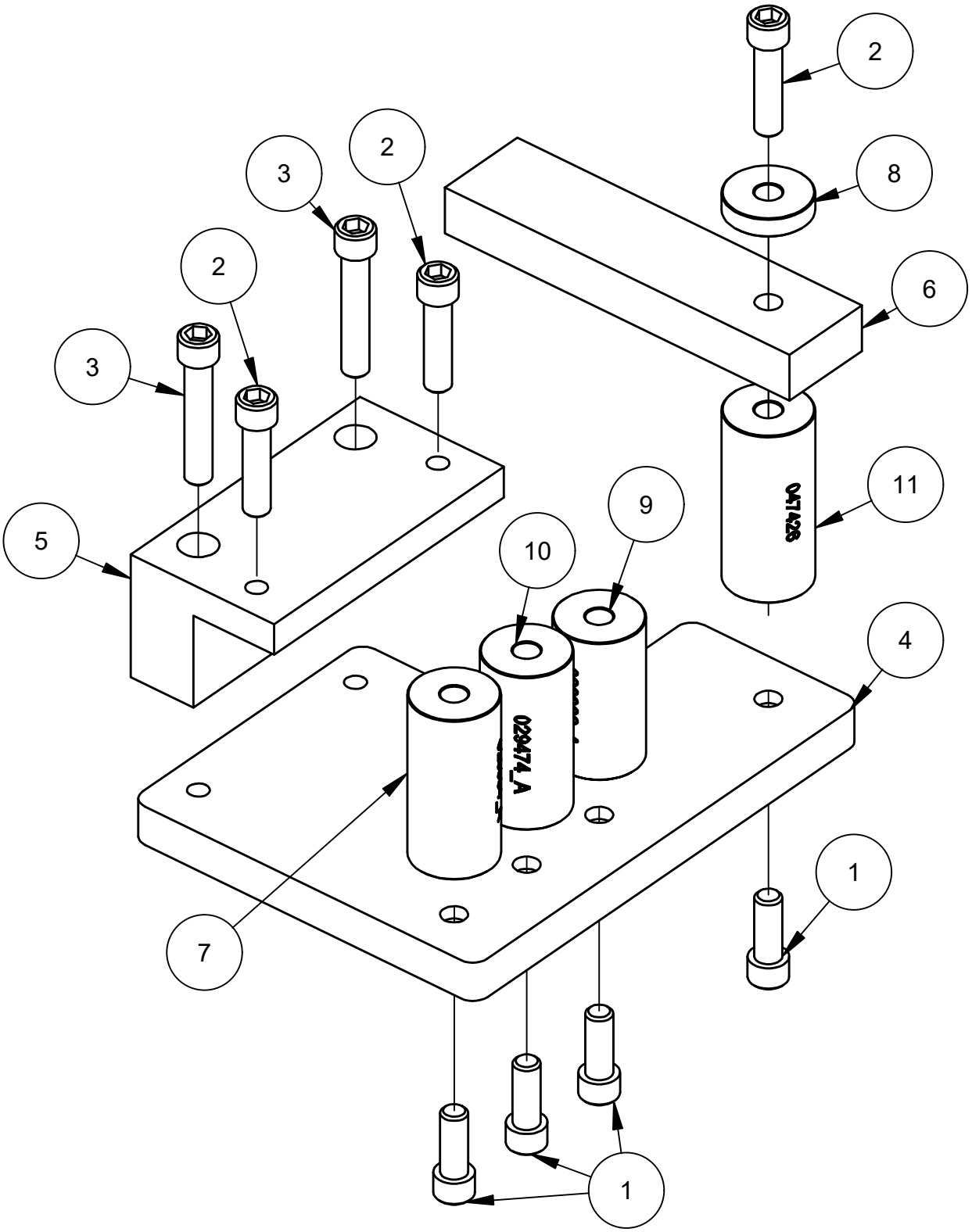
SECTION 2: PARTS

SECTION 2
SERVICE

This section contains the illustrated drawings and parts list for help in identifying and/or ordering replacement parts for your accessory. Follow the instructions in the front section of this manual "Ordering Parts" when ordering replacement parts to insure prompt and accurate delivery.

All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.

Towel Arm Jig



Towel Arm Jig Parts List

ITEM	PART #	DESCRIPTION	QTY
-	016863	TROWEL ARM ALIGNMENT JIG	-
1	015884	FASTENER SHCS, 3/8”-16 X 1”	4
2	016877	FASTENER SHCS, 3/8”-16 X 1-1/2”	3
3	028076	FASTENER SHCS, 3/8”-16 X 2”	2
4	028981	BASE	1
5	028982	CLAMP BLOCK	1
6	029983	ARM	1
7	028984	SPACER, 2.600 HEIGHT ADJUSTING	1
8	028985	WASHER	1
9	028986	SPACER, 2.243 HEIGHT ADJUSTING	1
10	029474	SPACER, 2.500 HEIGHT ADJUSTING	1
11	047426	SPACER, 2.725 HEIGHT ADJUSTING	1
-	047427	MANUAL, OPERATIONS/PARTS	1

NOTE: **DO NOT** use over the counter hardware to replace manufacturer’s hardware.

ADDENDUM A

Table 1 Old Version

ADDENDUM A

Table 1
Height Adjustment Spacer Selection Matrix

Part Number	New Description	Old Description	Used On
028986	Spacer, 2.243”	Small	**Walk-Behind Trowels** 430, 430Edger, 436, 436Edger, 442, 446,446-SFC **Riding Trowels** PRO900, PRO900Edger, PRO1050, PRO1200C-SFC
029474	Spacer, 2.500”	Medium	**Walk-Behind Trowels** 446SD, 446SHD **Riding Trowels** HP100, HP100B, HP200, HP200B, PRO1200C, PRO1200SD, SP400, SP400B, SP400C, SP450, SP500A, SP500B, HD530, HD530A
028984	Spacer, 2.600”	Large	**Riding Trowels** HD550 (OLD with Electra Gearbox),
047426	Spacer, 2.725”	(None)	**Riding Trowels** HD550 (NEW)
All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.			

Note: Table 1 old version is pre Revision A.

Revision Details

MANUAL REVISION DETAIL			
REVISION #	**REVISION DATE**	**REVISION REFERENCE #**	**REVISION BY**
	2006	Initial Release	-
A	02/2025	Updated Table 1, pg. 11	MK
B	08/25	Corrected height adj desc., Trowel Arm Jig Parts list	MK

AEC FACTORY & HEADQUARTERS

819 S. 5TH STREET
PARAGOULD, ARKANSAS 72450
870.236.7751
800.643.0095 (TOLL FREE (USA ONLY)

MAILING

PO BOX 819
PARAGOULD, ARKANSAS 72451

ALLENENG.COM

CONNECT WITH US ON SOCIAL