

WALK-BEHIND TROWELS

PRO424E-B



PARTS & DECALS MANUAL

Manual Part #: 080749P | Revision: C
Language: English | Original Instructions



Walk-Behind Trowel

PARTS & DECALS MANUAL

This manual covers the Trowel Parts listed below

<u>Part No.</u>	<u>Description</u>
078060	PR0424E-B, VANGUARD Si1.5 - Walk-behind Trowel, 24”

Copyright © 2024 Allen Engineering Corporation
All rights reserved

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. No part of this manual may be reproduced or transmitted in any form or by any means, electronics or mechanical, for any purpose, without the express written permission of Allen Engineering Corporation (AEC). AEC assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual.

Allen Products are covered under one or more of the following patent numbers:
10,100,537B1; 9,068,301; 8,360,680B2; 7,690,864B2; 7,316,523B1; 7,114,876B1; 7,108,449B1; 6,955,404B1 6,857,815B2;
6,582,153
With other Patents Pending.

Printed in U.S.A.

Sect No.	Title	Page
	Table of Contents.....	3
	Factory Service Information	4
	Replacement Part Procedures.....	5
1	Parts - Vanguard	6
	Assembly, PRO424E-B Vanguard.....	7
	Spider Assembly (064958)	8
	Gearbox Assembly (064959).....	10
	Power Unit Base Assembly (064961).....	12
	Handle Assembly (064962).....	14
	Battery and Cage Assembly (077853).....	16
	Drive Line Assembly - Vanguard.....	18
2	Decals	19
	Decals	20
	Revision Notes.....	21

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

 NOTE

All set screws have blue (LOC-TITE™) applied at the factory. If set screw is removed or loosened for any reason re-apply blue (LOC-TITE™).

 NOTE

All grease fittings are capped with CAP PLUG GC-5 (AEC PN 015692) to protect the fitting. If cap becomes missing or damaged replace it as soon as possible.

 NOTE

Anti-Seize is applied at the factory to all drive line coupling, gear box main and counter shafts and pitch control threaded rod assemblies. If these parts are disassembled re-apply a light coat of a graphite based anti-seize.

We recommend AEC quality replacement parts, available from the AEC Customer Service Department or your nearest AEC Dealer.

Part numbers are subject to change without notice. Part numbers might be different outside of the United States of America. Use part numbers listed in the applicable parts list table when you place your order. If a part number changes, the AEC Customer Service Department or your nearest AEC dealer will have the latest part number for the replacement part.

Remember when you order replacement parts, you will need your model number and serial number. These are the numbers that you have recorded in the UNIT ID section of this manual. Please order replacement parts by the appropriate part number, not the key number.

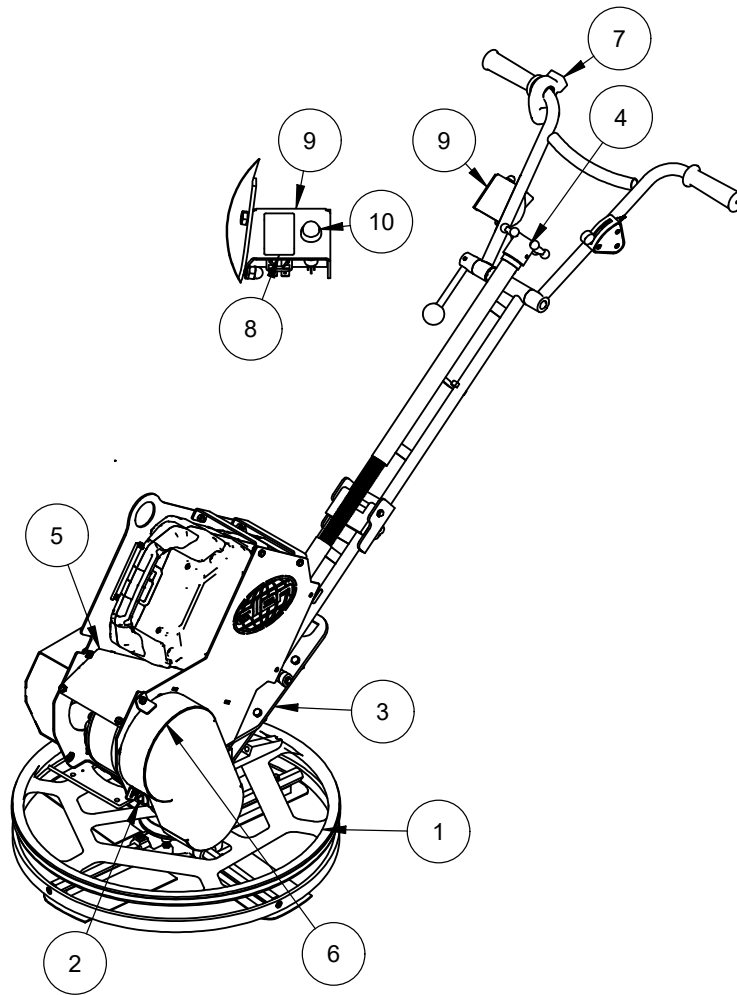
This manual contains an illustrated parts list for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

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 1.
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.



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.

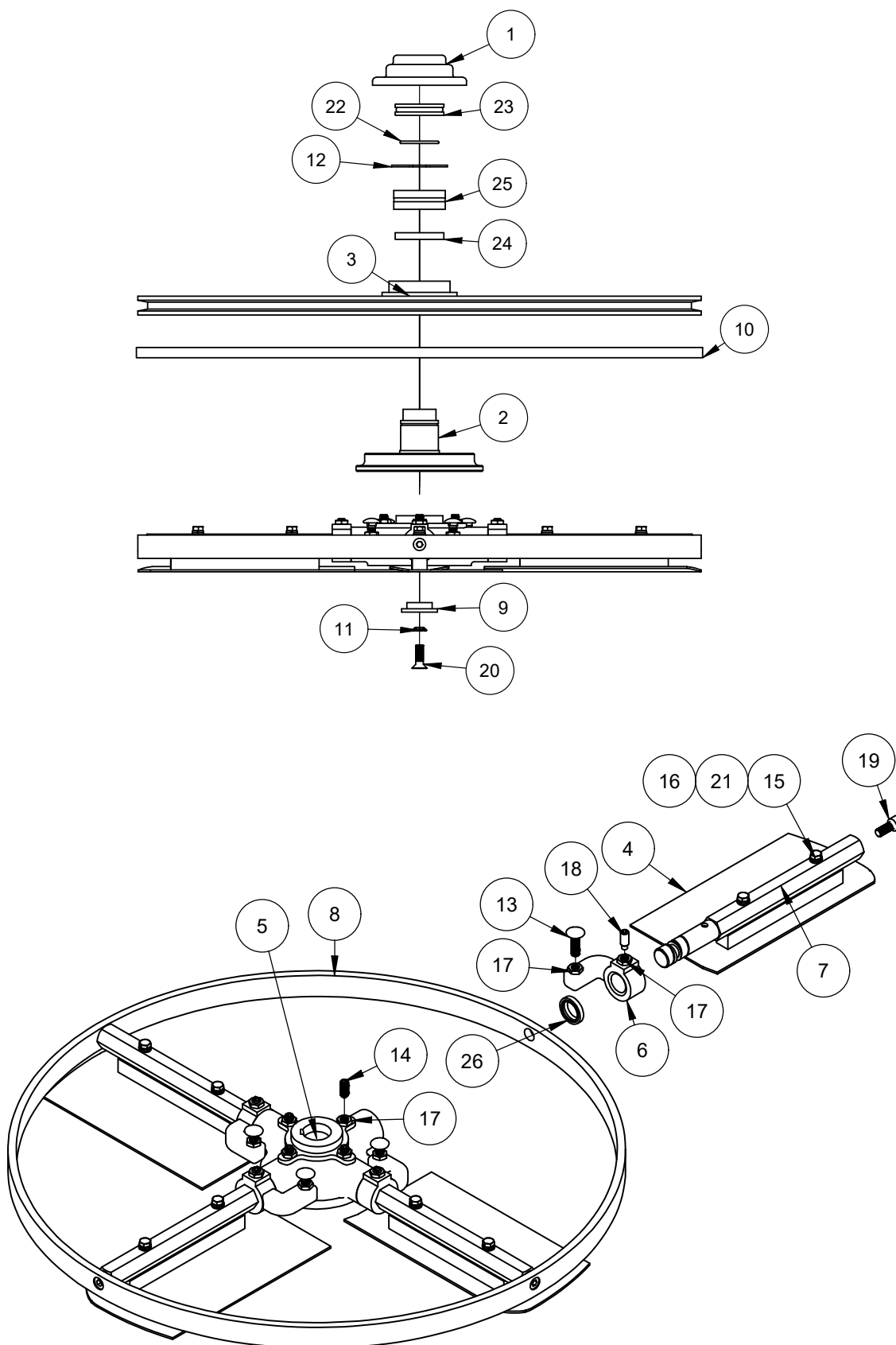
Section 1: Parts - Vanguard



ITEM	PART NO.	DESCRIPTION	QTY
-	078060	PR0424E-B VG BATTERY	-
1	064958	SPIDER, FOR TROWEL WALK EDGER	1
2	064959	GEARBOX, FOR TROWEL WALK EDGER	1
3	064961	ENGINE (POWER UNIT) BASE AND CLUTCH, EDGER	1
4	064962	HANDLE, FOR EDGER	1
5	077853	ASSEMBLY, BATTERY AND CAGE	1
6	077867	COVER FOR BELT	1
7	078047	THROTTLE LEVER	1
8	078604	SWITCH, ROCKER FOR POWER	1
9	078641	BRACKET, SWITCH MOUNT	1
-	079381	COVER, FOR ROCKER SWITCH	1
10	079146	INDICATOR, LED GREEN 48V	1
11	079350	HARNESS, WIRING 424E-B (VANGUARD)	1
-	078349	HARNESS, WIRING FOR BAC4000 CONTROLLER	1
-	077627	KIT, DECAL 424E-B VANGUARD	1

Note: Wire harness schematic available on the Allen Engineering website

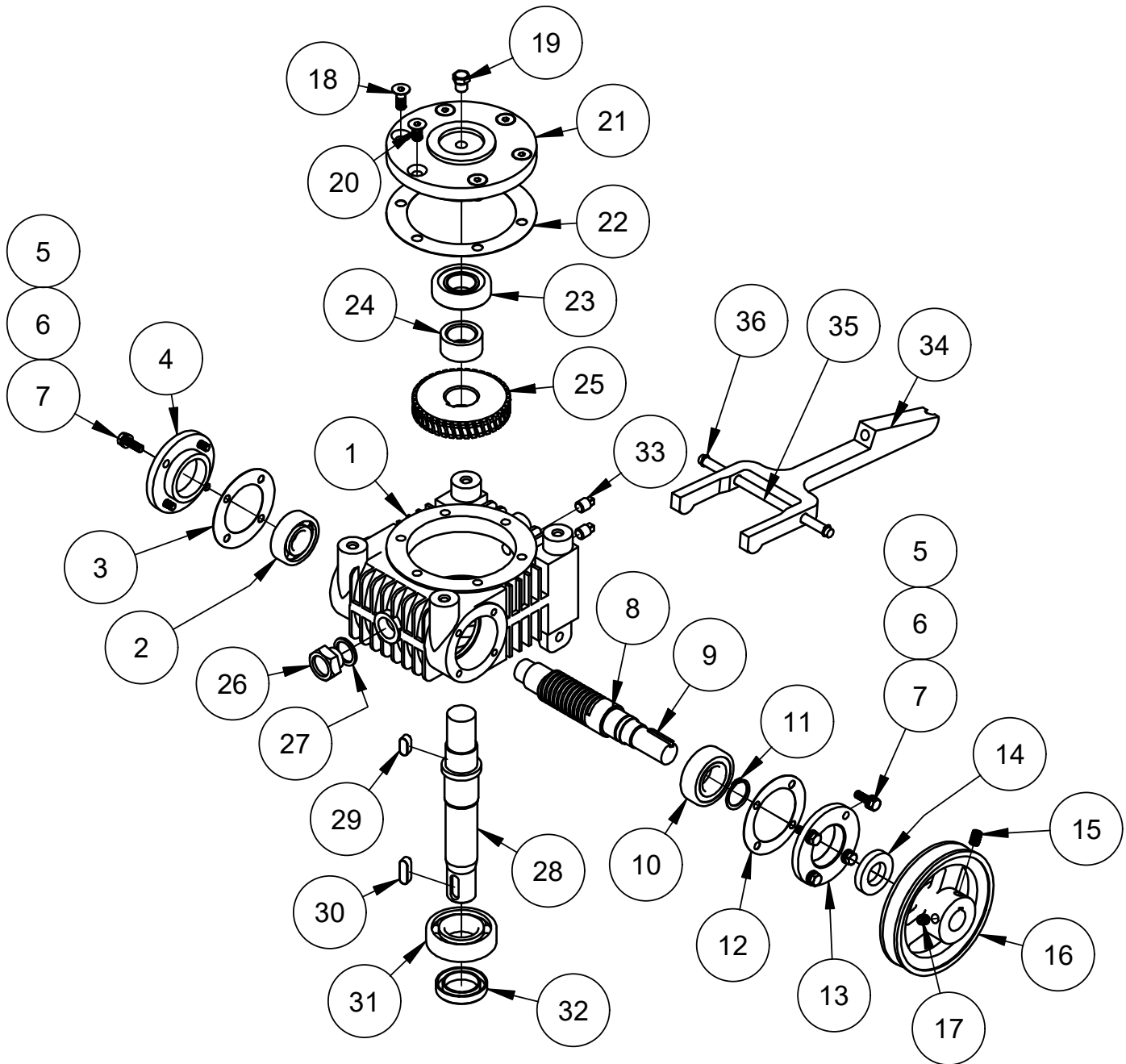
Spider Assembly (064958)



Spider Assembly (064958), Parts list

SECTION 1 PARTS - VANGUARD

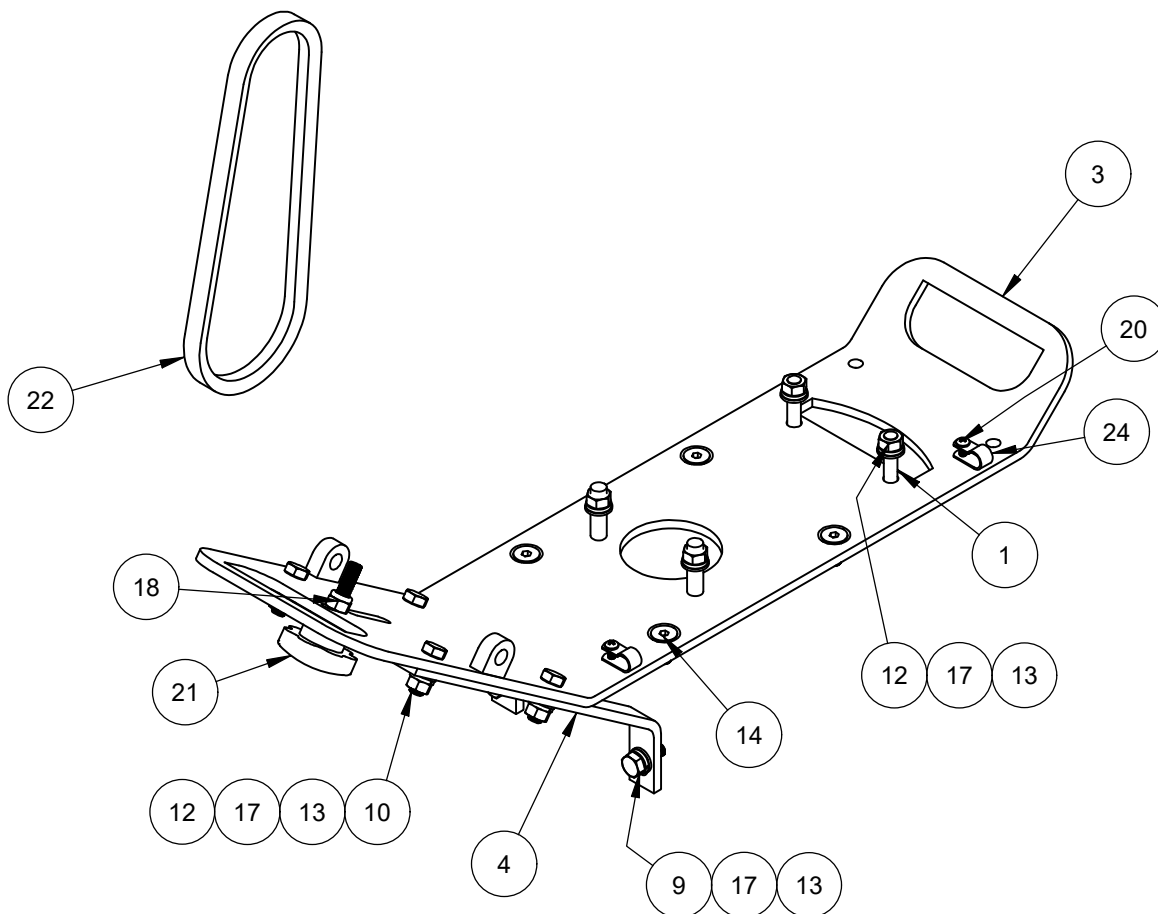
ITEM	PART NO.	DESCRIPTION	QTY
-	064958	SPIDER, FOR TROWEL WALK EDGER	1
1	059022	BEARING COVER	1
2	059014	PRESSURE PLATE	1
3	059016	GUARD PLATE	1
4	059008V	BLADE, COMBO SILVER 4.75IN X 9IN	4
5	059001	SPIDER, 4 BOSS	1
6	059153	LIFT LEVER	4
7	059009	TROWEL ARM	4
8	059026	GUARD RING	1
9	059023	END CAP	1
10	059015	RUBBER RING	1
11	059024	LOCK WASHER, EXT. TOOTH COUNTER SUNK	1
12	059019	INTERNAL CIRCLIP	1
13	059004	BOLT, LIFT LEVER M8 X 25MM	4
14	059003	SET SCREW, CONE HEAD M8 X 20MM	4
15	059013	BOLT, M6 X 35MM	8
16	059011	FLAT WASHER, M6	8
17	059002	HEX NUT, M8	12
18	059005	SET SCREW, DOG POINT M8 X 20MM	4
19	059010	BOLT, HEX SOCKET HEAD M8 X 20MM	4
20	059025	BOLT, HEX SOCKET HEAD COUNTER SUNK M8 X 25MM	1
21	059012	LOCK WASHER, M6	8
22	059020	EXTERNAL CIRCLIP	1
23	059021	BEARING FOR CAP	1
24	059017	THRUST BEARING	1
25	059018	BEARING FOR GUARD RING	1
26	059006	OIL SEAL FOR TROWEL ARM	4



Gearbox Assembly (064959), Parts list

SECTION 1 PARTS - VANGUARD

ITEM	PART NO.	DESCRIPTION	QTY
-	064959	GEARBOX, FOR TROWEL WALK EDGER	1
1	059501	GEARBOX HOUSING	1
2	073562	BEARING FOR WORM GEAR	1
3	073563	SEAL, FOR SIDE COVER	1
4	-	SIDE COVER	1
5	059011	FLAT WASHER, M6	8
6	059012	LOCK WASHER, M6	8
7	-	BOLT, M6 X 20MM GR 8.8	8
8	073564	WORM	1
9	073565	KEY, 5 X 5 X 28 MM	1
10	073566	BEARING FOR WORM GEAR KEY SIDE	1
11	-	EXTERNAL CIRCLIP, CS.RG25	1
12	073567	SEAL, FOR SIDE COVER PULLEY SIDE	1
13	-	SIDE COVER, PULLEY SIDE	1
14	073568	OIL SEAL	1
15	-	HEX HEAD SET SCREW, M8 X 12MM	1
16	059137	PULLEY	1
17	059031	HEX HEAD SET SCREW, CONE HEAD M8 X 1.75 X 12MM	2
18	-	HEX SOCKET HEAD, COUNTER SUNK M8 X 20MM	5
19	-	VENT SCREW	1
20	-	HEX SOCKET HEAD, COUNTER SUNK M8 X 16MM	1
21	-	TOP COVER	1
22	073569	SEAL, FOR TOP COVER	1
23	073570	BEARING	1
24	-	BUSHING	1
25	073571	WORM GEAR	1
26	-	SIGHT GAUGE	1
27	-	SEAL , FOR SIGHT GAUGE	1
28	073573	KEY, 8 X 7 X 18 MM	1
29	073572	SHAFT FOR WORM GEAR	1
30	073574	KEY, 8 X 7 X 25MM	1
31	073575	BEARING	1
32	073576	OIL SEAL	1
33	068593	PLUG	2
34	059033	YOKE ARM	1
35	059034	PIN	1
36	059035	EXTERNAL CIRCLIP	2



NOTE: See "Drive Line Assembly - Vanguard" on page 18 for additional power unit components.

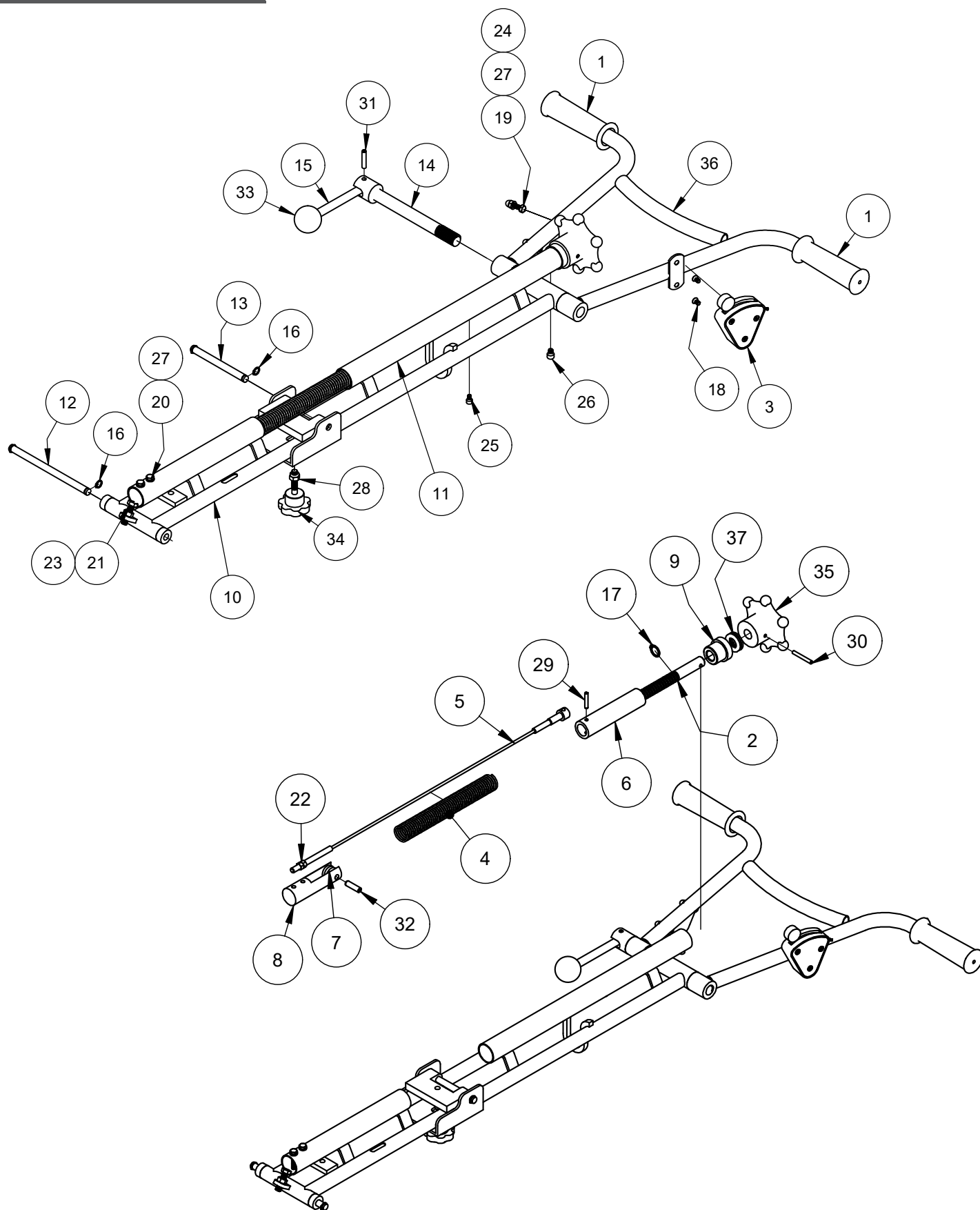
Power Unit Base Assembly (064961), Parts list

SECTION 1 PARTS - VANGUARD

ITEM	PART NO.	DESCRIPTION	QTY
-	064961	POWER UNIT BASE, FOR TROWEL WALK EDGER	1
1	059049	BOLT BRACKET	1
3	059036	BASE PLATE	1
4	059048	BRACKET, GEARBOX MOUNT	2
9	059047	BOLT, M8 X 20MM	2
10	059040	BOLT, M8 X 25MM	4
12	059037	HEX NUT, M8	10
13	059045	FLAT WASHER, M8	11
14	059039	HEX SOCKET HEAD, COUNTER SUNK M8 X 20MM	4
17	059045	LOCK WASHER, M8	11
18	059043	HEX NUT NYLOCK, M8	1
20	059042	PAN HEAD SCREW, M4 X 10MM	2
21	059044	KNOB, STAR M8 X 35MM	1
22	076168	BELT, A25	1
24	059041	CLIP	2

NOTE: See "Drive Line Assembly - Vanguard" on page 18 for additional power unit components.

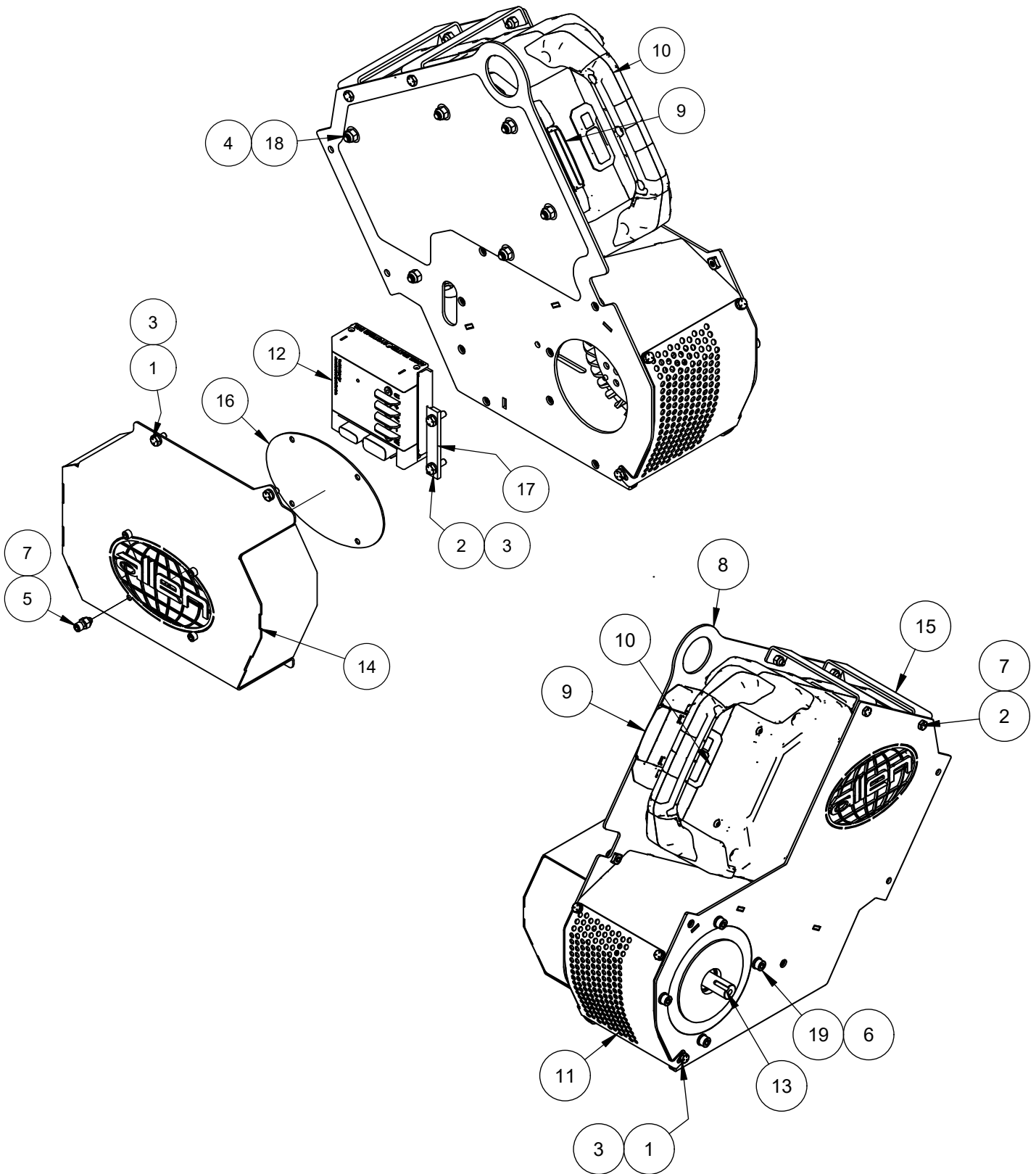
Handle Assembly (064962)



Handle Assembly (064962), Parts List

SECTION 1 PARTS - VANGUARD

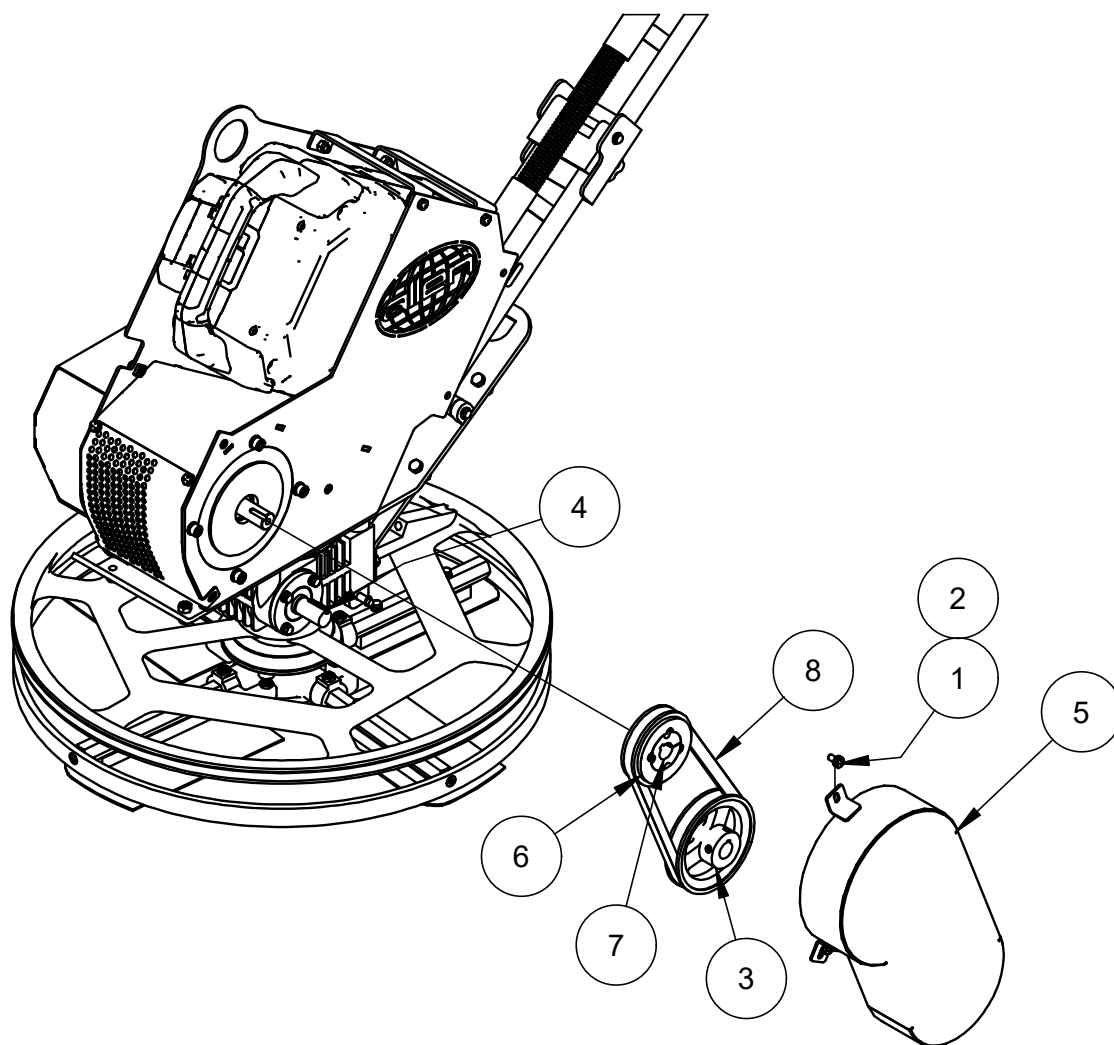
ITEM	PART NO.	DESCRIPTION	QTY
-	064962	HANDLE, FOR TROWEL WALK EDGER	1
1	059098	HANDLE GRIP	2
2	059083	ADJUSTING SCREW	1
3	065106	CENTRIFUGAL KILL SWITCH	1
4	059071	SPRING	1
5	059078	PITCH CABLE	1
6	059081	SLIDE BUSHING	1
7	059062	WHEEL FOR CABLE	1
8	059061	WHEEL BRACKET	1
9	059085	BEARING COVER	1
10	059067	HANDLE BOTTOM	1
11	059072	HANDLE TOP	1
12	059065	PIN, LONG	1
13	059070	PIN, SHORT	1
14	059076	SCREW, TOMMY BAR	1
15	059074	HANDLE STICK	1
16	059064	EXTERNAL CIRCLIP, 10MM	4
17	059082	EXTERNAL CIRCLIP, 16MM	1
18	-	SCREW, M5 X 10MM COUNTER SUNK	2
19	059101	BOLT, M6 X 20MM	2
20	059069	BOLT, M6 X 30MM	2
21	059068	BOLT, M8 X 30MM	1
22	059077	HEX NUT, M6	2
23	059037	HEX NUT, M8	1
24	059103	CAP NUT, M6	2
25	059080	HEX SOCKET HEAD SCREW, M5 X 8MM	1
26	059084	HEX SOCKET HEAD SCREW, M6 X 8MM	1
27	059012	LOCK WASHER	4
28	059043	HEX NUT NYLOC, M8	1
29	059079	PIN, 5 X 28 MM	1
30	059087	PIN, 5 X 40 MM	1
31	059075	PIN, 6 X 30 MM	1
32	059063	PIN, 8 X 28 MM	1
33	059073	GRIP BALL	1
34	059044	STAR HANDLE, M12 X 40 MM	1
35	059088	PITCH CONTROL KNOB	1
36	059099	HANDLE	1
37	059086	BEARING	1



ITEM	PART NO.	DESCRIPTION	QTY
-	077853	ASSEMBLY, BATTERY AND CAGE	1
1	010001	FASTENER, HHCS 1/4"-20 X 1/2"	8
2	010002	FASTENER, HHCS 1/4"-20 X 3/4"	8
3	010089	FASTENER, LOCK WASHER 1/4"	12
4	010109	FASTENER, HEX NUT NYLOC 5/16"-18	6
5	017314	FASTENER, SHCS 1/4"-20 X 5/8"	4
6	029032	FASTENER, LOCK WASHER 8MM	4
7	029671	FASTENER, HEX NUT NYLOC 1/4"-20	8
8	077851	CAGE, BATTERY MOUNT	1
9	077859	DOCK, VANGUARD 1.5KW SWAPPABLE	1
10	077861	BATTERY, 1.5KW SWAPPABLE	1
11	077865	COVER, END FOR CAGE	1
12	077866	CONTROLLER, BAC4000	1
13	078048	MOTOR	1
14	078049	COVER FOR CONTROLS	1
15	078053	BRACKET, SUPPORT	2
16	078054	BACKING PLATE FOR CONTROLLER COVER	1
17	078055	CLAMP, FOR CONTROLLER	2
18	078058	FASTENER, SHCS 5/16"-18 X 1"	6
19	078059	FASTENER, SHCS M8 X 1.25 X 16 MM	4

SECTION 1 PARTS - VANGUARD

Drive Line Assembly - Vanguard



ITEM	PART NO.	DESCRIPTION	QTY
1	010001	FASTENER, HHCS 1/4" - 20 X 1/2"	2
2	010089	FASTENER, LOCK WASHER 1/4"	2
3	059137	PULLEY, DRIVEN	1
4	073565	KEY, 5 X 5 X 28 MM FOR DRIVEN PULLEY	1
5	077867	COVER FOR BELT	1
6	078363	PULLEY, DRIVER SPA85X1 - 1210	1
7	078364	BUSHING, 1210-20	1
8*	081521	BELT, 4L270	1
	082450	BELT, A27	1

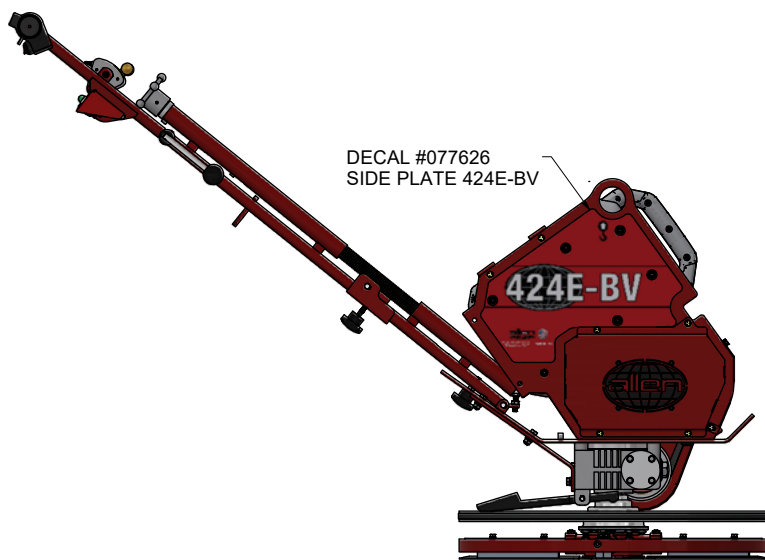
NOTE

*Due to design adjustments, some machines use a longer V-belt to improve clearance and adjustment travel.

- Verify belt size before replacement.

Section 2: Decals

PRO424E-B Vanguard Decal Kit 077627



Note: Decals not shown

- Decal #056341, Allen Globe
- Decal #067306, VP Handle
- Decal #067308, VP AEC Info / Warranty
- Decal #067323, Gearbox Oil / Spider Grease

MANUAL REVISION DETAIL

REVISION #	REVISION DATE	REVISION REFERENCE #	REVISION BY
-	10/24	Initial Release	MK
A	03/25	25-198, Belt Change A26 to A25	MK
B	06/26	Updated V-Belt PNs, added note.	MK
C	07/26	26-323, Updated PN & QTY for GB Pulley set screw 059031	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

