



PARTS MANUAL

524 Haul Unit System

Haul Unit S/N: F10325F, F16900F, F25865F

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SERVICE • RELIABILITY • INNOVATION

Introduction

This parts manual contains assembly illustrations of the Akkerman 524 Haul Unit System. The illustrations in this manual are intended to show typical construction of various parts. In some instances, the details of parts illustrated may not exactly represent their actual appearance, but will help to identify parts performing the same functions. Additional copies of this manual may be purchased from the Akkerman Aftermarket Support Department, or downloaded from the Akkerman web site at www.akkerman.com.

The 524 Haul Unit System transports the spoils from the Tunnel Boring Machine back to the launch shaft. The typical Akkerman system is comprised of a haul unit, track and dirt bucket. The 524 haul unit is electrically powered with a removable battery pack. Dirt buckets are designed for maximum capacity based on the size of pipe or tunnel being installed. They are self-dumping when using a two-line crane or by attaching a stationary line. The track sections are lightweight, yet sturdy. The tracks are quick to connect with a single bolt and wing nut. Storage racks are available for convenient shipping and handling.

LOCATING PARTS

This parts manual is organized into 13 sections to help you locate parts information quickly. The first page of each section lists the assemblies within the section.

An Alphabetical Index, Section 12, is provided to determine the page number of the assembly a part is used. If the part number is known, the Numerical Index, Section 13, can also be utilized to find the page number of the assembly.

USE GENUINE AKKERMAN PARTS

The use of second-rate parts could affect the efficient performance of the Haul Unit. ALWAYS use genuine Akkerman parts.

PARTS ORDERING

To order fast, accurate, and reliable parts service, call (800) 533-0386, (507) 567-2261, or fax (507) 567-2605, and provide the following information.

1. Model Number
2. Serial Number
3. Part Number, Description, and Quantity
4. Shipping Preference

MEASUREMENTS

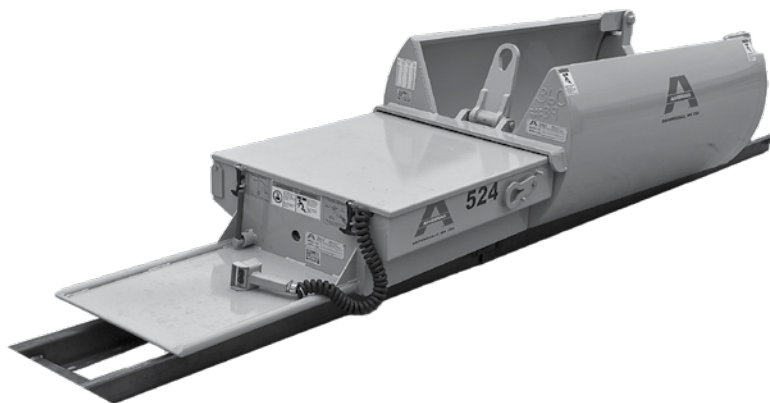
The unit of measure in this manual is in inches unless indicated otherwise.

HARDWARE SPECIFICATION

All Akkerman products are assembled with SAE Grade 8 bolts, nuts, and washers. ALWAYS use matched fastener hardware when replacing or repairing the unit.

If you find any errors in this manual or have suggestions for improvement, please let us know. Email your comments via the Akkerman web site (Contact Us web page), or mail your suggestions to: Akkerman Inc., ATTN: Technical Publications, 58256 266th Street, Brownsdale, MN, 55918.

Akkerman Inc. reserves the right to improve its product without notice or obligation.



524 Haul Unit with Dirt Bucket

NOTES



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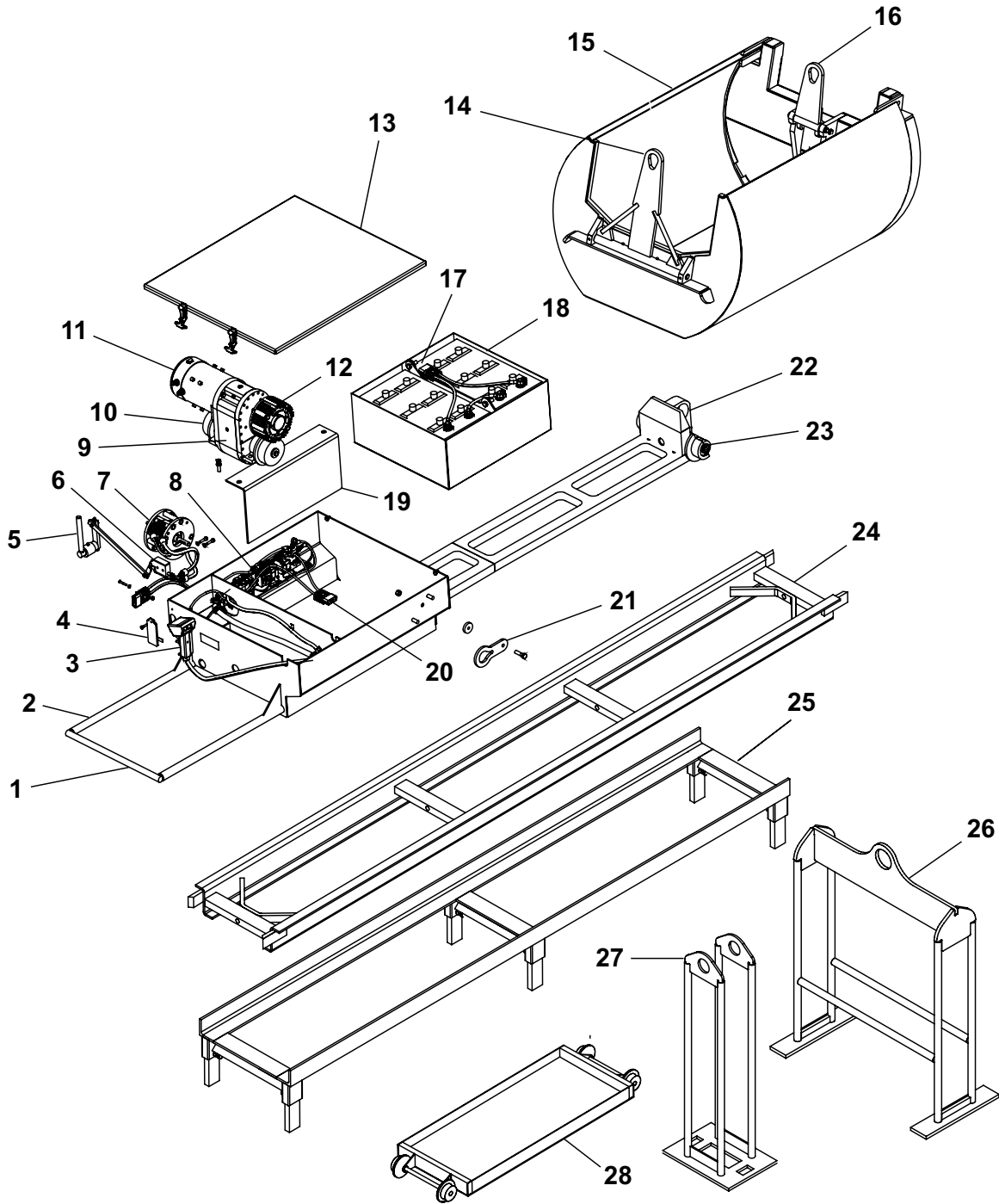
NOTES



General Information

Terminology 2

TERMINOLOGY



- | | | |
|--------------------------------|-------------------------------|-----------------------|
| 1. Main Frame | 10. Wheel | 20. Contactor Harness |
| 2. Operator Platform | 11. Electric Motor | 21. Lifting Eye |
| 3. Controller | 12. Electric Brake | 22. Idler Assembly |
| 4. Charger Plate/Charger Plug | 13. Battery Compartment Cover | 23. Idler Wheel |
| 5. *Hand Brake Control | 14. Bucket Lift Eye | 24. Z Track |
| 6. *Hand Brake Master Cylinder | 15. Dirt Bucket | 25. Track Riser |
| 7. *Hydraulic Brake Assembly | 16. Door Lift Eye | 26. Track Holder |
| 8. Electrical Assembly | 17. Battery Harness | 27. Riser Holder |
| 9. Gear Reducer Assembly | 18. Battery Pack, 24 Volt DC | 28. Inspection Cart |
| | 19. Contactor Shield | |

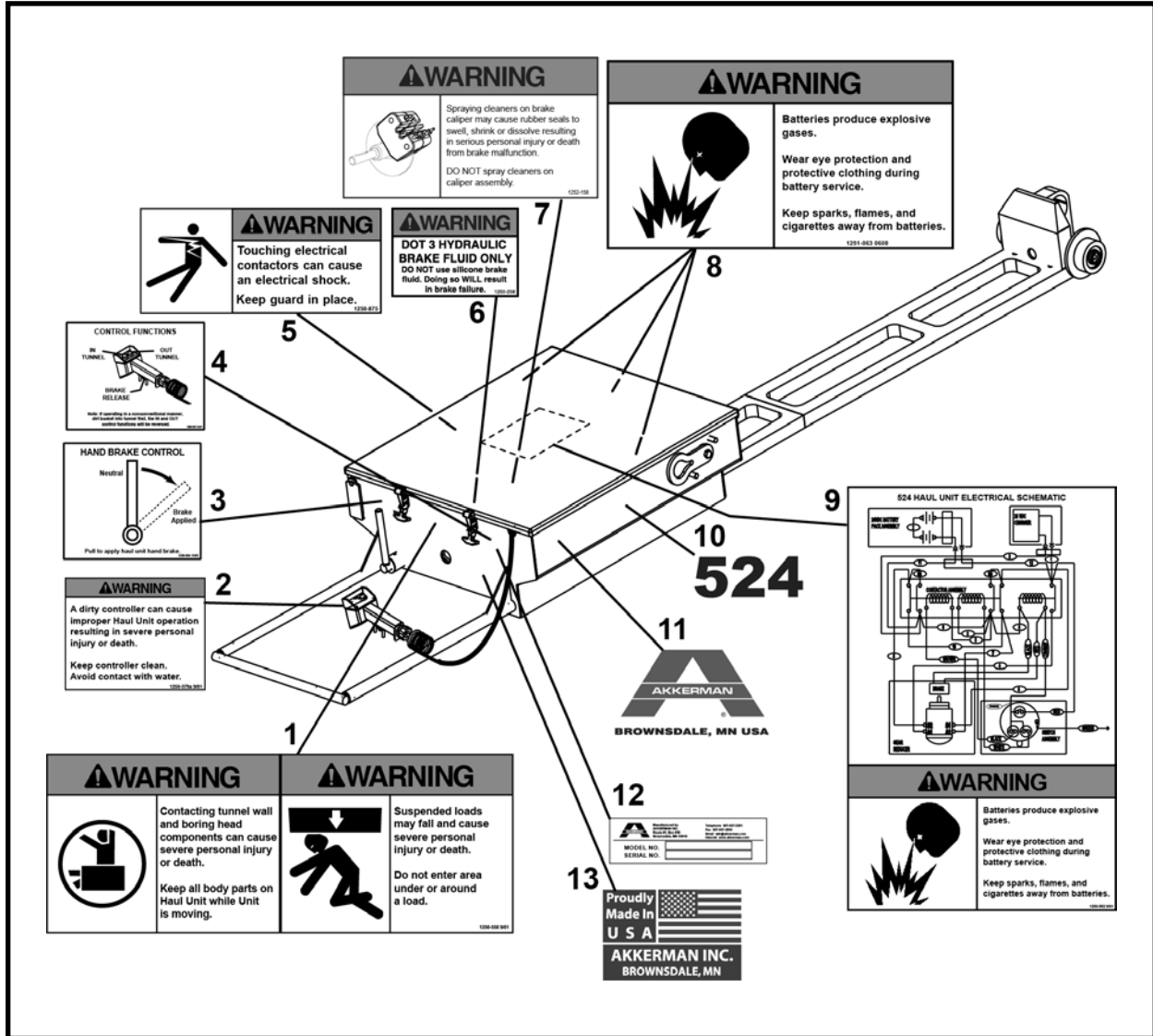
* SN F10325F-86 & After



Decals

524 Haul Unit	2
Dirt Bucket	3

524 HAUL UNIT, 1255-000

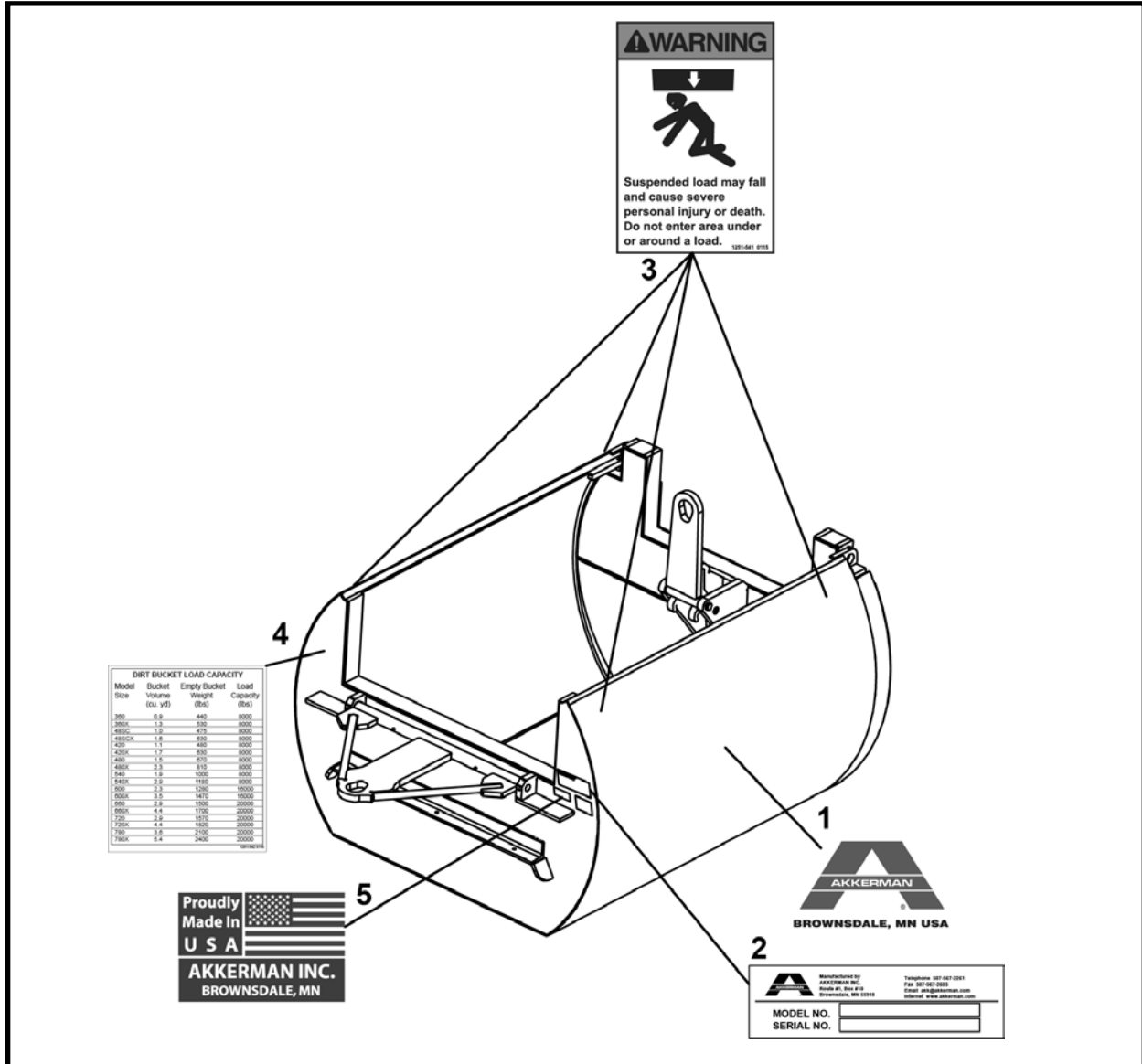


ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-000	KIT, Decal 524
1	1	1250-550	DECAL, Warning, Tunnel Contact, Suspended Loads
2	1	1250-379	DECAL, Warning, Dirty Controller
3*	1	1250-864	DECAL, Hand Brake Control
4	1	1250-551	DECAL, Control Functions
5	1	1250-875	DECAL, Warning, Touching Electrical Cause Shock
6	1	1250-258	DECAL, Warning, DOT 3
7	1	1252-158	DECAL, Warning, No Spray Cleaners on Brake Caliper
8	3	1251-063	DECAL, Warning, Battery Gases
9	1	1250-552	DECAL, Warning, Battery, Schematic
10	1	1252-060	DECAL, 524 Model
11	2	1251-246	DECAL, Akkerman, Large
12	1	REF	PLATE, Serial Number
13	1	1250-544	DECAL, Made in USA

* (SN F10325F-86 & After, F16900F-10 & After, and F25865F). A retrofit hand brake assembly kit, 010830A is available for haul units: SN F10325F-85 & Before and F16900F-09 & Before.

Free replacement safety decals are available. Contact your Akkerman Aftermarket Support representative.

DIRT BUCKET, 1255-001



ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-001	KIT, Decal Dirt Bucket
1	2	1251-245	DECAL, Akkerman, XLarge
2	1	REF	PLATE, Serial Number
3	4	1251-541	DECAL, Warning, Suspended Loads
4	1	1251-542	DECAL, Load Capacity Decal
5	1	1250-544	DECAL, Made in USA

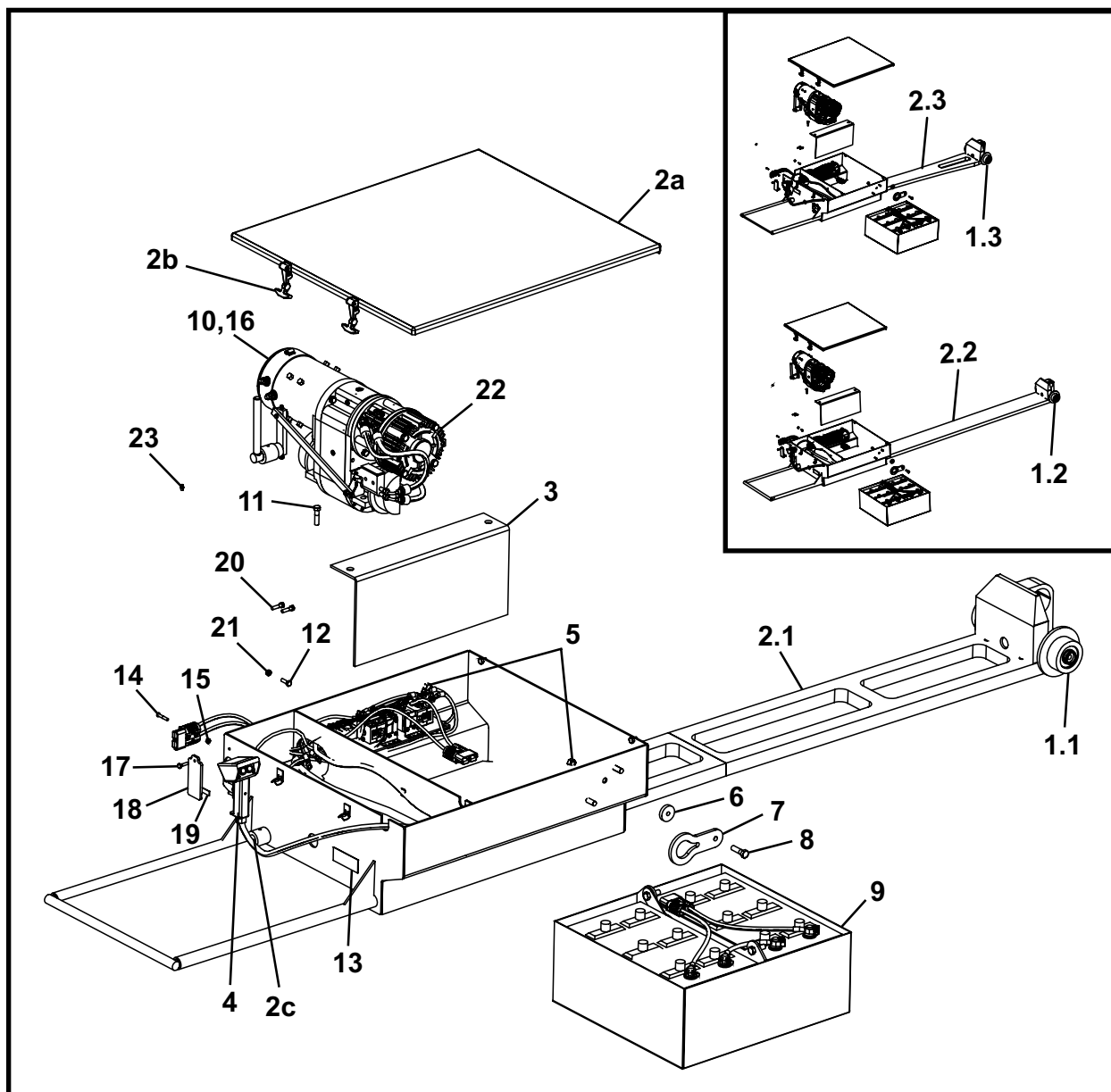
NOTES



Structurals

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Track	18
Track Risers	19
Track & Riser Holders	20

524 HAUL UNIT ASSEMBLY



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F10325F00	524 HAUL UNIT ASSEMBLY
0.2	1	F16900F00	524X HAUL UNIT ASSEMBLY
0.3	1	F25865F	524 STEERING HAUL UNIT ASSEMBLY
1.1*	1	008358A02	IDLER AXLE ASSEMBLY
1.2*	1	008358A02	IDLER AXLE ASSEMBLY
1.3*	1	025867A	IDLER AXLE ASSEMBLY
2.1	1	010344A00	FRAME, 524 (Includes items 2a - 2c)
2.2	1	010388A	FRAME, 524X (Includes items 2a - 2c)
2.3	1	025866A	FRAME, 524 (Includes items 2a - 2c)
2a	1	010332A02	COVER, Battery Compartment
2b	2	P0059-031	FASTENER, Rubber Hood
2c	1	P0066-014	BUSHING, Hand Brake Sleeve
3	1	006259P00	CONTACTOR SHIELD
4**	1	010327A01	ASSEMBLY, Electrical

(continued on next page)

524 HAUL UNIT ASSEMBLY

ITEM	QTY	PART NO.	DESCRIPTION
5	2	P0003-08-000	NUT, 1/2 UNC
6	2	001075P00	LIFTING EYE MOUNTING BLOCK
7	2	001235P00	LIFTING EYE
8	2	P0001-08-007	BOLT, Hex, 1/2-13 UNC x 1-3/4
9**	0	F10329F00	BATTERY PACK
10***	1	021965A	ASSEMBLY, Gear Box
11	4	P0001-07-007	BOLT, 7/16 UNC x 1.75
12	1	P0001-05-004	BOLT, 5/16 UNC x 1
13	1	-	PLATE, Serial Number
14	2	P0031-04-006	SCREW, Socket Head 1/4 x 1.5
15	3	P0003-04-000	NUT, 1/4
16	1.8 QT	P0126-014	LUBE, Mobilgear 630 Gear
17	1	P0001-04-004	BOLT, 1/4 UNC x 1
18	1	009026P00	PLATE
19	2 LI	P0107-002	TAPE
20	2	P0001-05-005	BOLT, 5/16 UNC x 1.25
21	1	P0003-05-000	NUT, 5/16
22****	1	010825A	ASSEMBLY, Handbrake
23	1	P0063-001	FITTING, Grease
24**	-	010331A02	ELECTRICAL SCHEMATIC

LI - Linear Inch

QT - Quart

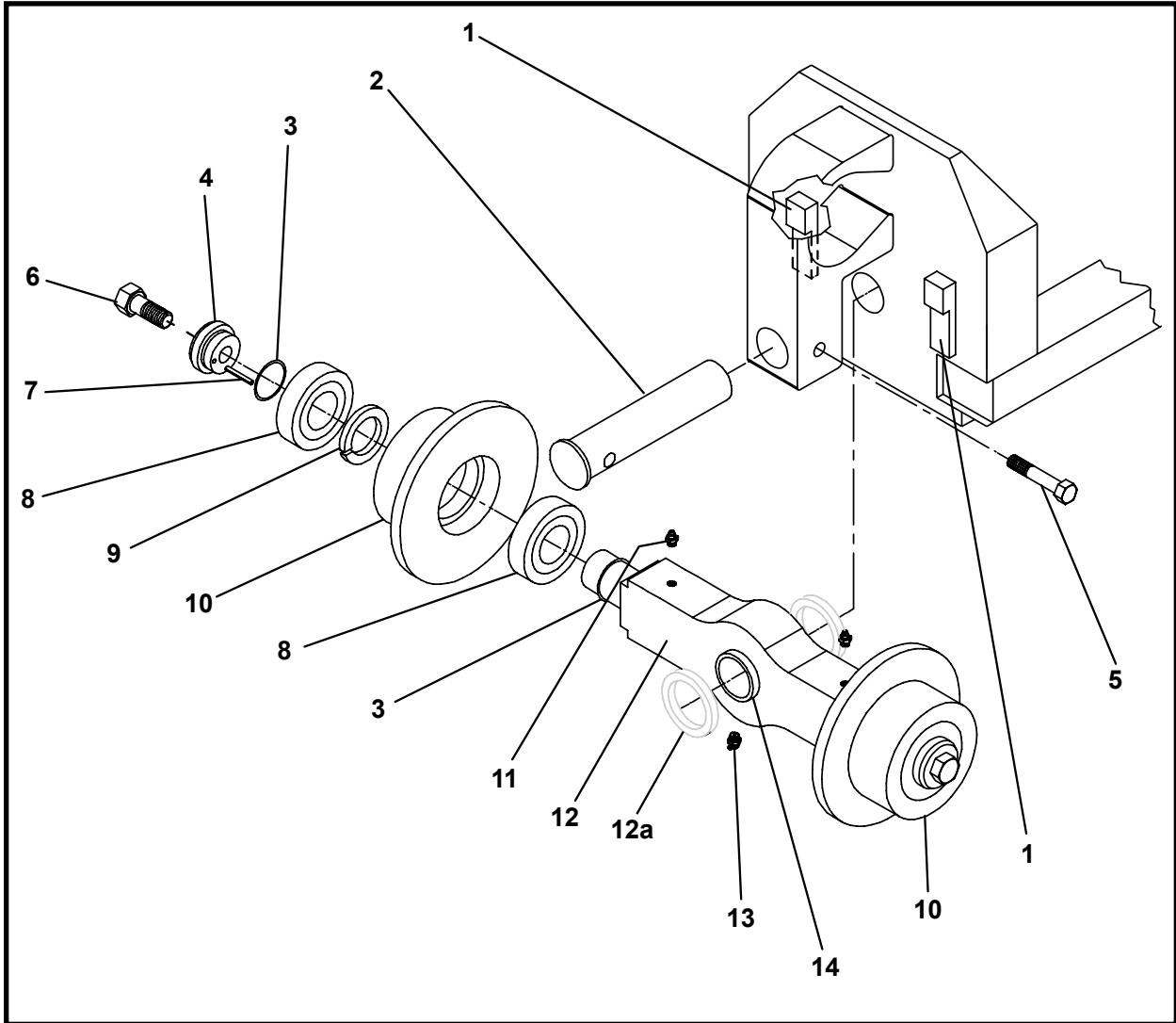
* Refer to this section for parts breakdown.

** Refer to Section 5, Electrical for parts breakdown.

*** Refer to Section 8, Motors for parts breakdown.

**** (SN F10325F-86 & After, F16900F-10 & After, and F25865F). A retrofit hand brake assembly kit, 010830A is available for haul units: SN F10325F-85 & Before and F16900F-09 & Before.

IDLER AXLE ASSEMBLY, 008358A02
(SN F10325F & F16900F)

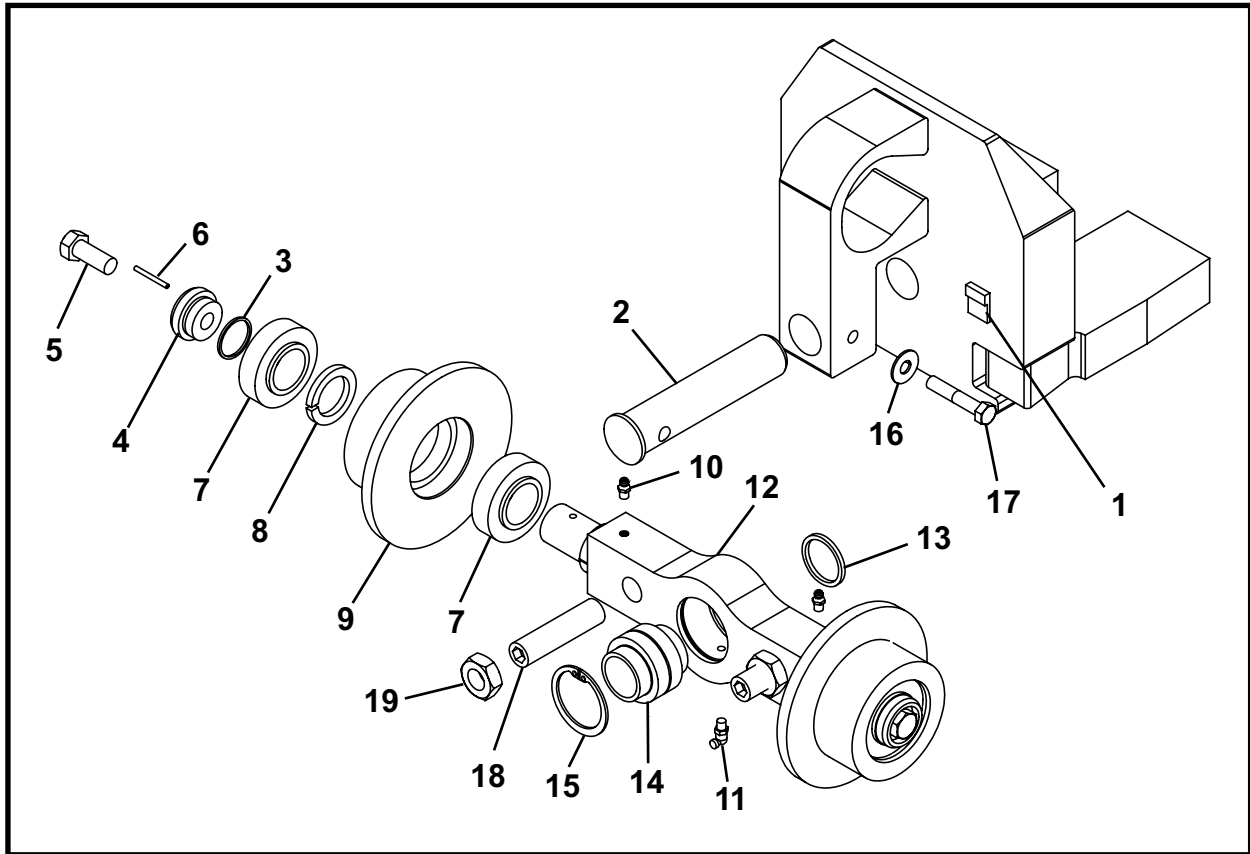


ITEM	QTY	PART NO.	DESCRIPTION
0	1	008358A02	IDLER AXLE ASSEMBLY
1	2	009449P00	BAR
2	1	008355P00	PIN
3	4	P0085-024	O-RING
4	2	008357P01	WASHER, Idler
5	1	P0001-06-008	BOLT, Hex 3/8-16 UNC x 2
6*	2	P0001-08-005	BOLT, 1/2-13 UNC x 1-1/4
7	2	P0049-044	PIN, Roll
8	4	P0065-056	BEARING
9	2	008922P00	SPACER, Bearing
10	2	008353P01	WHEEL
11	2	P0063-001	FITTING, Grease 1/4 UNF
12**	1	008350P01	SUPPORT, Idler
12a	2	008354P00	SPACER
13	1	P0063-003	FITTING, Grease 90 Deg
14	2	P0066-002	BUSHING, Brass

* Add Blue LocTite® to item 6, Bolt. DO NOT USE ANTI-SEIZE.

** Earlier version equipped with spacers not needed in newer version.

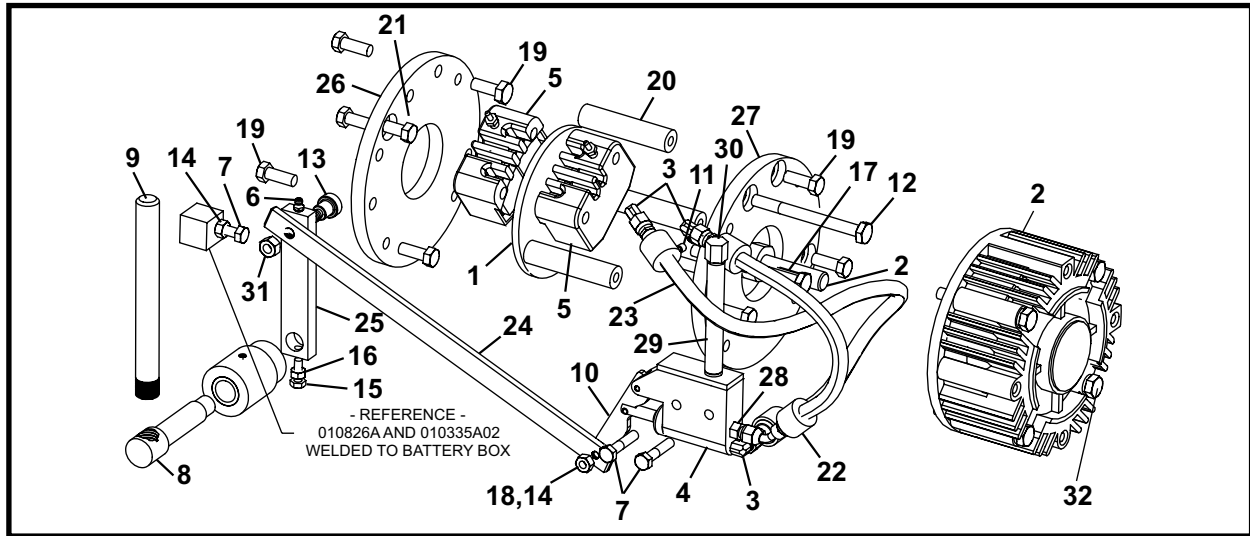
**IDLER AXLE ASSEMBLY, 025867A
(SN F25865F)**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	008358A02	IDLER AXLE ASSEMBLY
1	2	009449P00	BAR
2	1	008355P00	PIN
3	2	P0085-024	O-RING
4	2	008357P01	WASHER, Idler
5*	2	P0001-08-005	BOLT, 1/2-13 UNC x 1-1/4
6	2	P0049-044	PIN, Roll
7	4	P0065-056	BEARING
8	2	008922P00	SPACER, Bearing
9	2	008353P01	WHEEL
10	2	P0063-001	FITTING, Grease 1/4 UNF
11	1	P0063-003	FITTING, Grease 90 Deg
12	1	025868P	SUPPORT, Idler
13	1	025869P	SPACER
14	1	P0065-285	BEARING, Spherical
15	1	P0076-024	SNAP RING
16	1	P0040-006	WASHER, 3/8 Hardened Flat
17	1	P0001-06-008	BOLT, 3/8 UNC x 2

* Add Blue LocTite® to item 6, Bolt. DO NOT USE ANTI-SEIZE.

HAND BRAKE ASSEMBLY, 010825A
(SN F10325F-86 & AFTER, F16900F-10 & AFTER, F25865F)

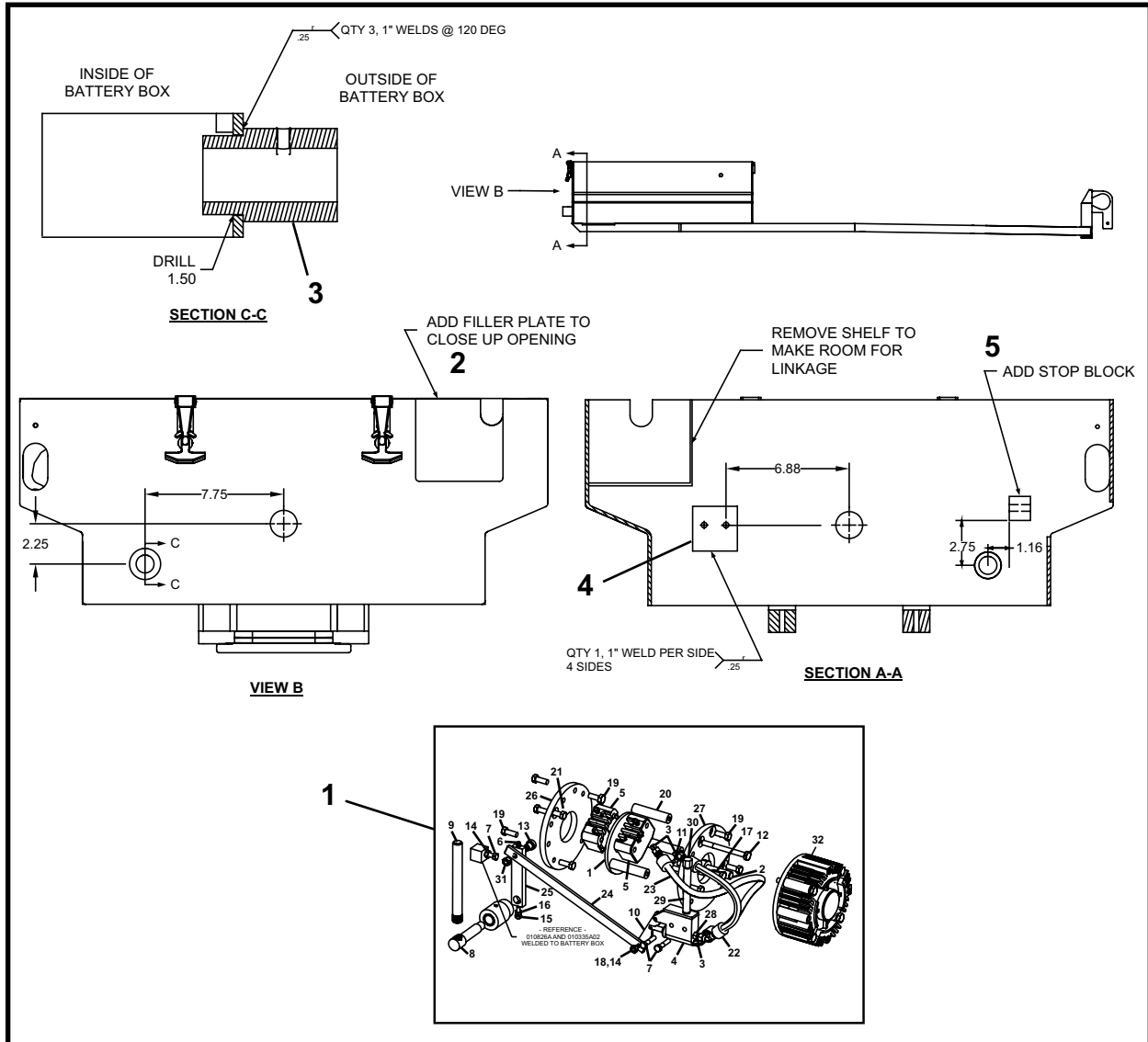


ITEM	QTY	PART NO.	DESCRIPTION
0	1	010825A	HAND BRAKE ASSEMBLY
1	1	010815P	BRAKE ROTOR
2	1	P0097-003G	BRAKE
3	3	P0300-418	FITTING, 04MJ-02MP90-FGD
4*	1	P0115-010	ASSEMBLY, Master Cylinder
5	1	P0115-011	ASSEMBLY, Caliper (includes items 5a - 5c)
5a	1	P0115-011A	PAD, Caliper
5b	1	P0115-011B	ASSEMBLY, Caliper Bleeder
5c	1	P0115-011C	SCREW, Caliper Bleeder
6	1	P0063-001	FITTING, Grease
7	3	P0001-05-005	BOLT, 5/16 UNC x 1.25
8	1	010819P	ROD
9	1	010816P	LEVER
10	1	010822P	ARM, Lever
11	1	P0033-04-004	SCREW, Socket Set 1/4 UNC x .25
12	2	P0001-06-016	BOLT, 3/8 UNC x 4
13	1	P0030S-08-004	BOLT, Shoulder Socket 1/2 x .5
14	1	P0003-05-000	NUT, 5/16
15	1	P0001-04-003	BOLT, 1/4 UNC x .75
16	1	P0003-04-000	NUT, 1/4
17	1	P0047-002	KEYSTOCK (3/16 Square Key)
18	1	P0001-05-003	BOLT, 5/16 x .75
19	9	P0001-06-004	BOLT, 3/8 UNC x 1
20	3	010812P	SPACER
21	1	P0001-06-003	BOLT, 3/8 UNC x .75
22	1	A10404A-012	ASSEMBLY, Hose 1/4 x 12
23	1	A10317A-028	ASSEMBLY, Hose 1/4 x 28
24	1	010817P	BAR
25	1	010820P	BAR
26	1	010811P	FACEPLATE
27	1	010810P	FACEPLATE
28	1	P0300-363	FITTING, 04MJ-02MP
29	1	P0403-009	NIPPLE, 1/4 x 5
30	1	P0417-001	CAP, Pipe
31	1	P0003-06-000	NUT, 3/8 UNC
32	4	P0001-06-010	BOLT, 3/8 x 2.5 NC GRD 8 Hex

* Use DOT 3 Brake Fluid, P0126-051

NOTE: A hand brake assembly retrofit kit, 010830A is available for haul units: SN F10325F-85 & Before and F16900F-09 & Before.

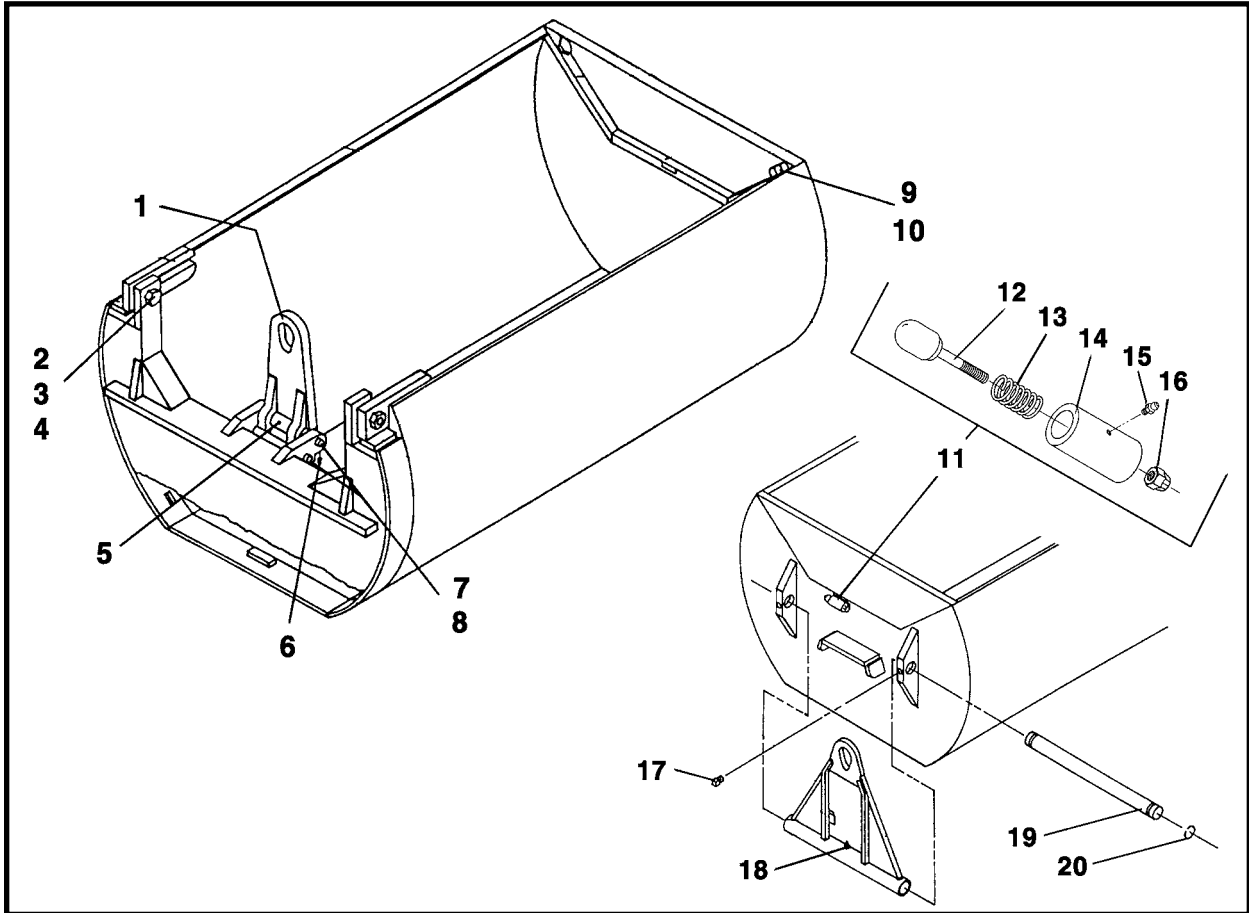
HAND BRAKE RETROFIT KIT, 010830A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	010830A	HAND BRAKE RETROFIT KIT
1*	1	010825A	ASSEMBLY, Hand Brake
2	1	010827P	PLATE
3	1	010826A	SLEEVE, Handbrake (Includes items 3a - 3b)
3a	1	010821P	SLEEVE
3b	1	P0066-014	BUSHING
4	1	010823P	BRACKET
5	1	010831P	BLOCK, Stop

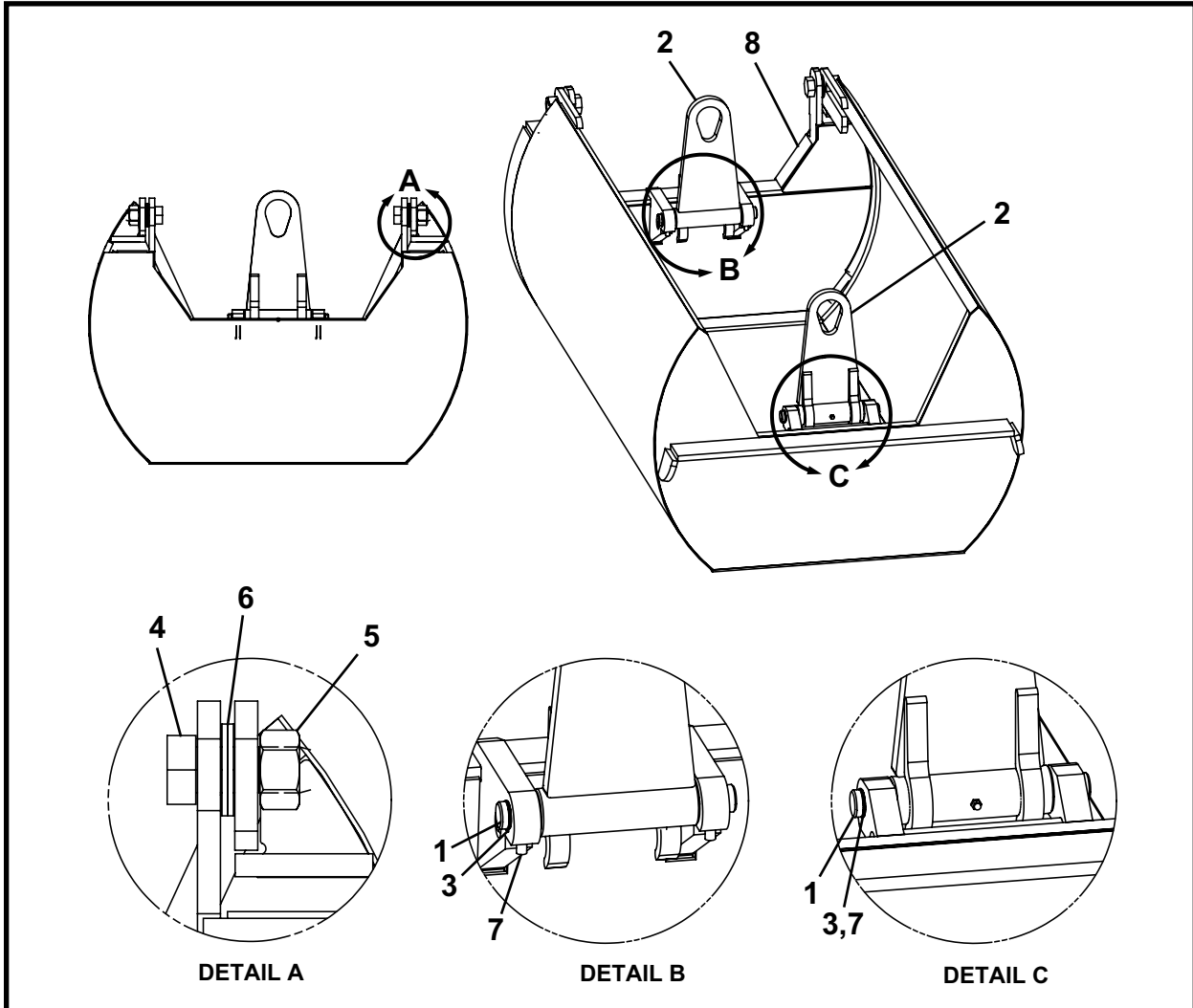
* Refer to this section for parts breakdown.

DIRT BUCKET
360/360X (Earlier Models)



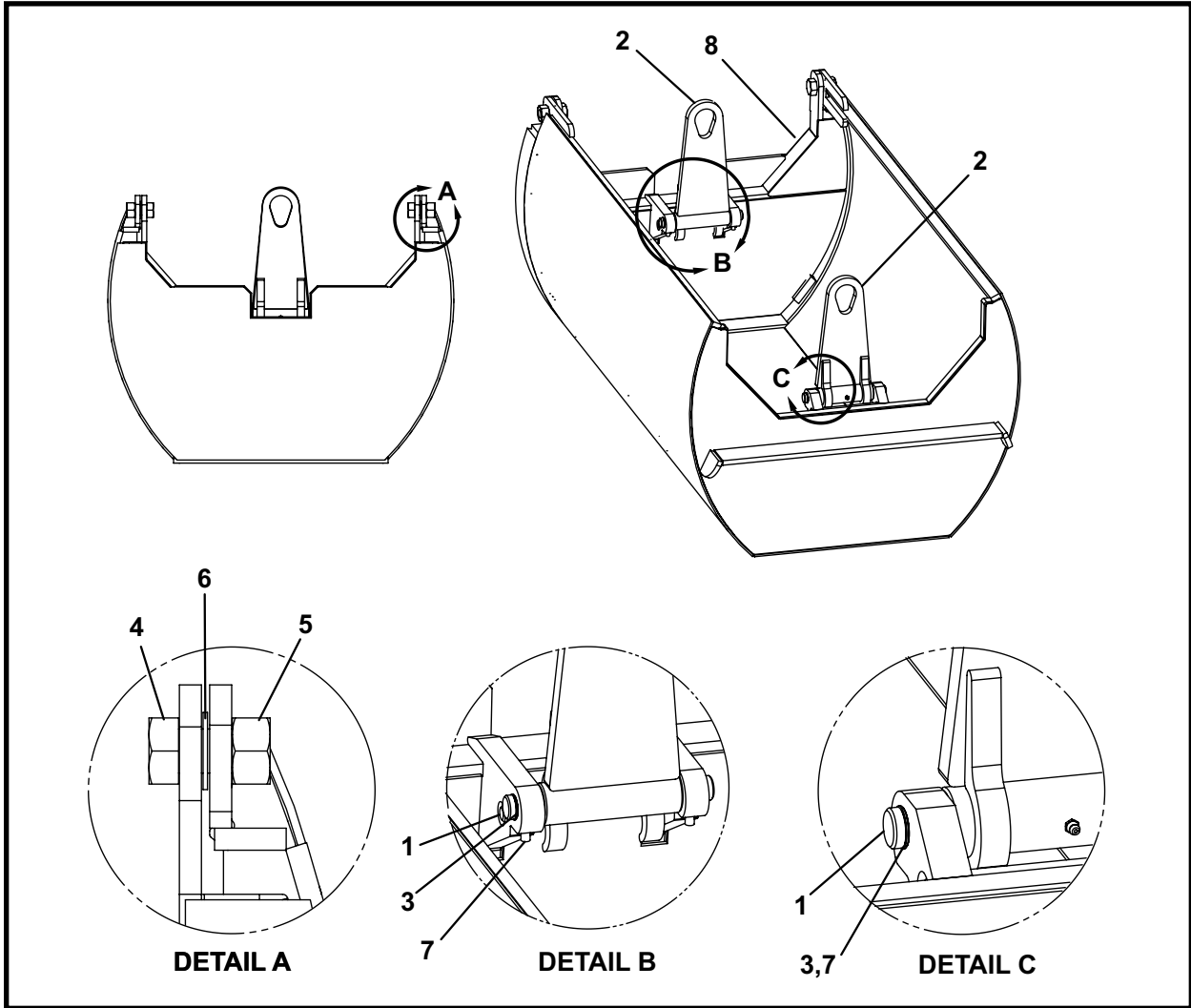
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F09604F00	DIRT BUCKET, 360
0.2	1	F19210F00	DIRT BUCKET, 360X
1	1	009218A01	LIFT EYE (includes item 5)
2	2	P0001-16-008	BOLT, Hex 1-8 UNC x 2
3	2	P0040-016	WASHER, Flat 1 SAE
4	2	P0003-16-000	NUT, Hex 1 UNC
5	1	P0063-001	FITTING, Grease
6	2	P0032-003	SET SCREW, 3/8-16 UNC
7	2	009237P00	ROD
8	4	P0077-012	SNAP RING
9	2	P0001-05-006	BOLT, Hex 5/16-18 UNC x 1-1/2
10	2	P0003-05-000	NUT, Hex 5/16 UNC
11	1	002961A00	LOCK PIN (includes items 12 - 16)
12	1	002963P01	PIN, Lock
13	1	P0070-006	SPRING
14	1	002962P00	HOUSING, Pin
15	1	P0063-001	FITTING, Grease 1/4 UNF
16	1	P0013-08-000	NUT, Lock 1/2 UNC
17	2	P0032-003	SET SCREW, 3/8-16 UNC
18	1	P0063-001	FITTING, Grease 1/4 UNF
19	1	002968P01	LIFT BAR HINGE PIN
20	2	P0077-012	SNAP RING
21	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

DIRT BUCKET
360/360X (Later Models)



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F09604F00	DIRT BUCKET, 360
0.2	1	F19210F00	DIRT BUCKET, 360X
1	2	009237P00	ROD
2	2	009218A01	LIFT EYE (includes item 2a)
2a	2	P0063-001	FITTING, Grease 1/4
3	4	P0077-012	SNAP RING
4	2	P0001-16-016	BOLT, 1 UNC x 4
5	2	P0003-16-000	NUT, 1
6	4	P0040-016	WASHER, Hardened Flat 1
7	4	P0032-003	SET SCREW, 3/8 UNC x .375
8	1	009607A00	DOOR
9	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

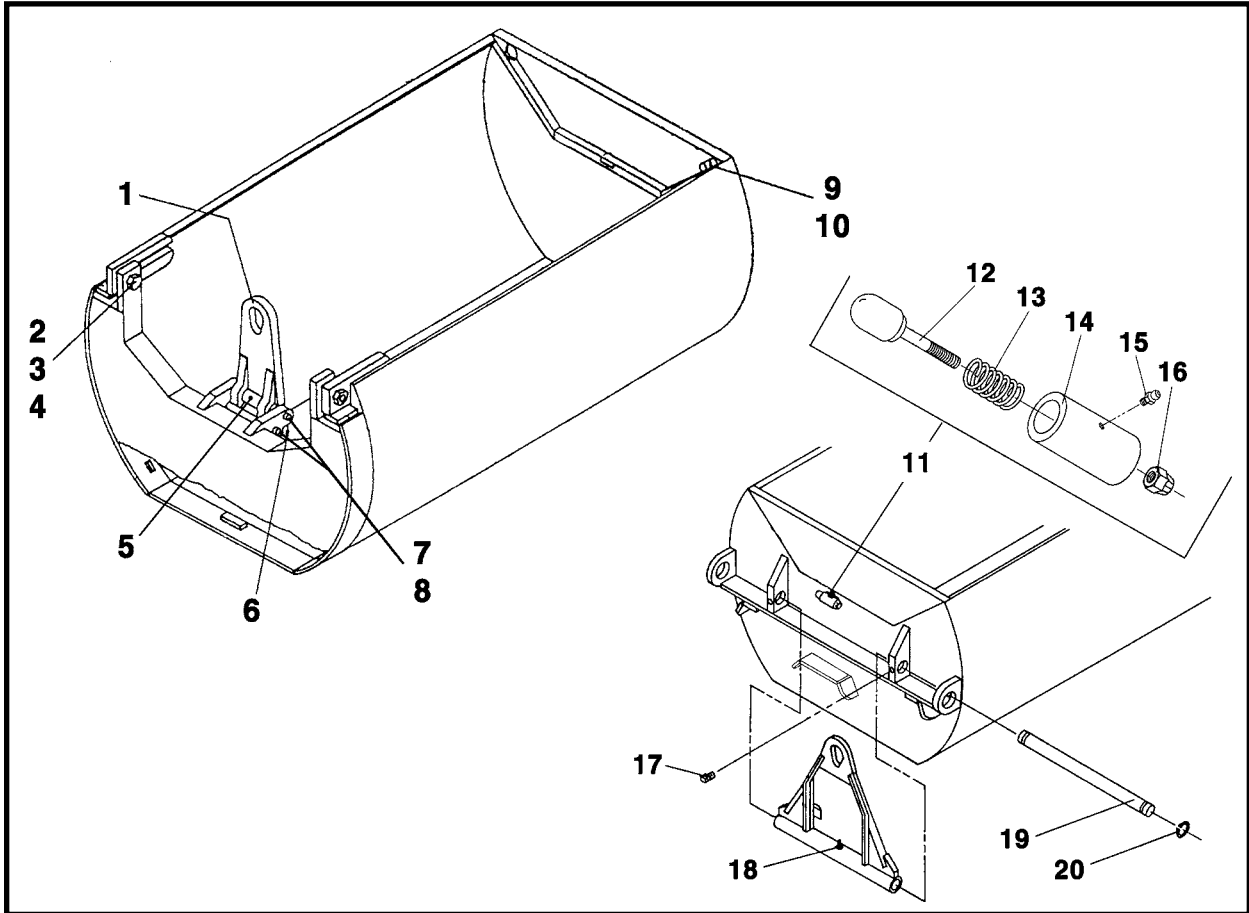
**DIRT BUCKET
48SC/48SCX**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F61720F00	DIRT BUCKET, 48SC
0.2	1	F61736F00	DIRT BUCKET, 48SCX
1	2	009237P00	ROD
2	2	009627A00	LIFT EYE (includes item 2a)
2a	2	P0063-001	FITTING, Grease 1/4
3	4	P0077-012	SNAP RING
4	2	P0001-16-014	BOLT, Hex 1 UNC x 3.5
5	2	P0003-16-000	NUT, 1
6	4	P0040-016	WASHER, Hardened Flat 1
7	4	P0032-003	SET SCREW, 3/8 UNC x .375
8	1	061722A	DOOR
9	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

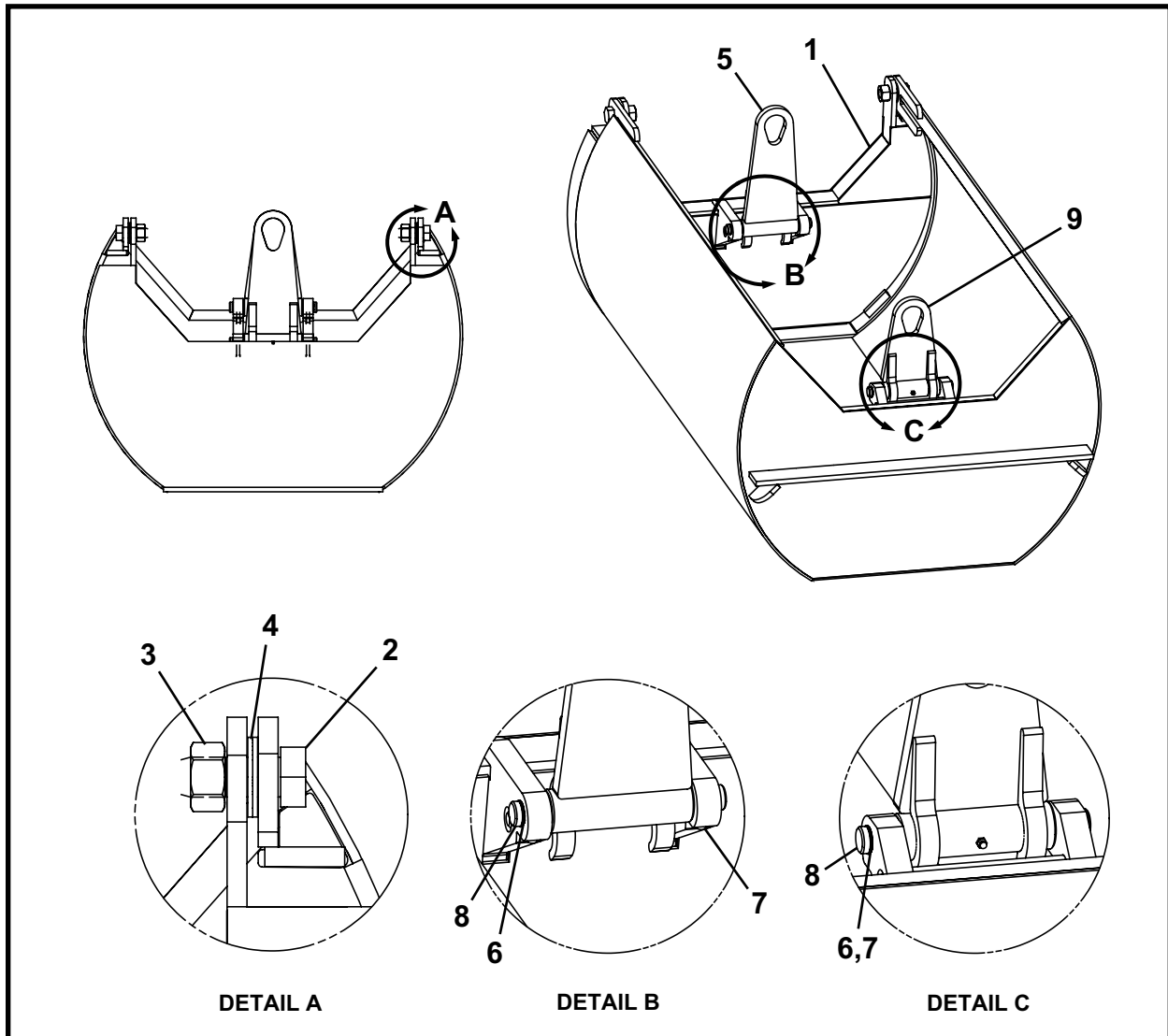
NOTES

DIRT BUCKET
420/420X (Earlier Models)



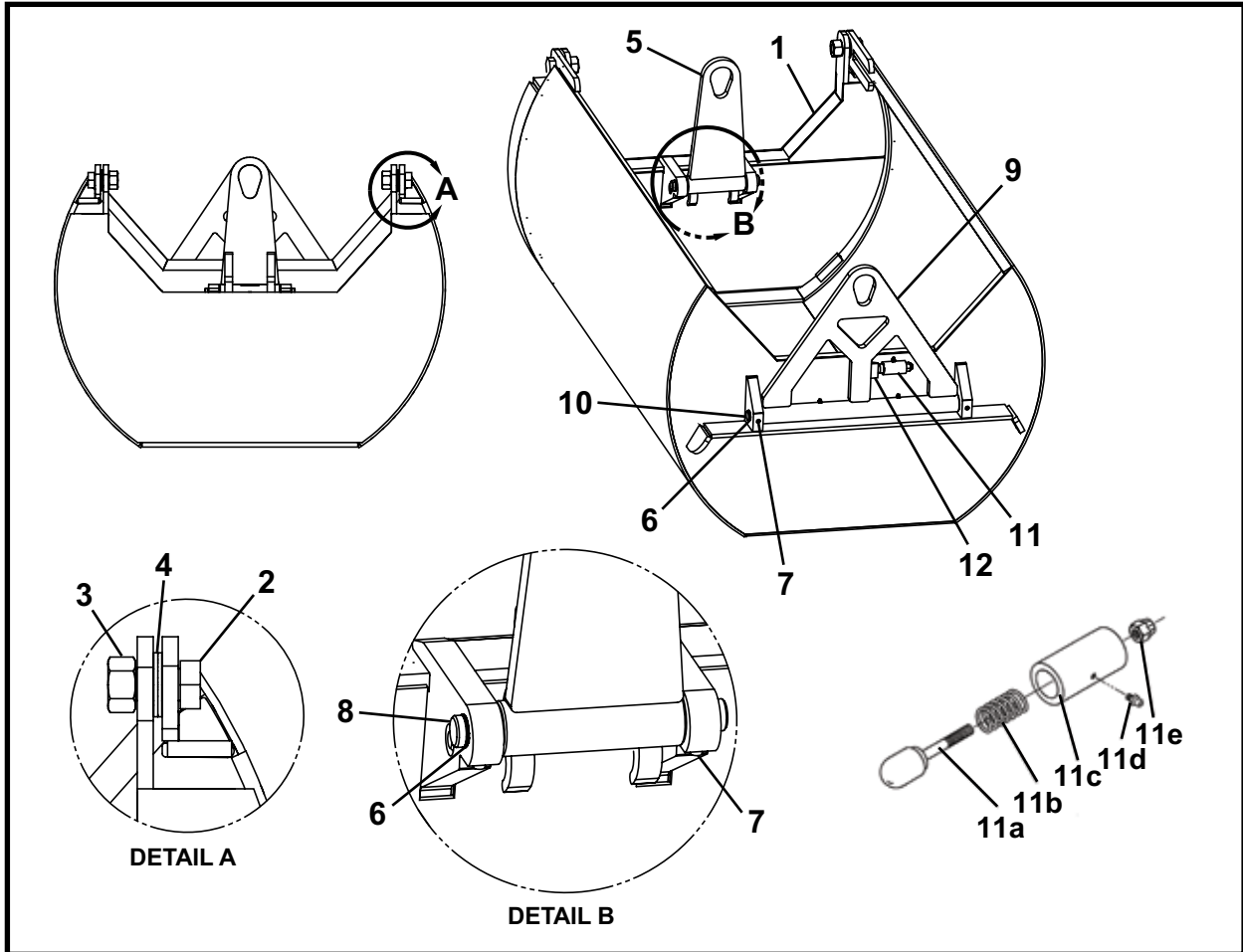
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F09625F00	DIRT BUCKET, 420
0.2	1	F19200F00	DIRT BUCKET, 420X
1	1	009627A00	LIFT EYE (includes item 5)
2	2	P0001-16-008	BOLT, Hex 1-8 UNC x 2
3	2	P0040-016	WASHER, Flat 1 SAE
4	2	P0003-16-000	NUT, Hex 1 UNC
5	1	P0063-001	FITTING, Grease 1/4
6	2	P0032-003	SET SCREW, 3/8-16 UNC
7	2	009237P00	ROD
8	4	P0077-012	SNAP RING
9	2	P0001-05-006	BOLT, Hex 5/16-18 UNC x 1-1/2
10	2	P0003-05-000	NUT, Hex 5/16 UNC
11	1	002961A00	LOCK PIN (includes items 12 - 16)
12	1	002963P01	PIN, Lock
13	1	P0070-006	SPRING
14	1	002962P00	HOUSING, Pin
15	1	P0063-001	FITTING, Grease 1/4 UNF
16	1	P0013-08-000	NUT, Lock 1/2 UNC
17	2	P0032-003	SET SCREW, 3/8-16 UNC
18	1	P0063-001	FITTING, Grease, 1/4 UNF
19	1	002968P01	LIFT BAR HINGE PIN
20	2	P0077-012	SNAP RING
21	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

DIRT BUCKET
420/420X (Later Models)



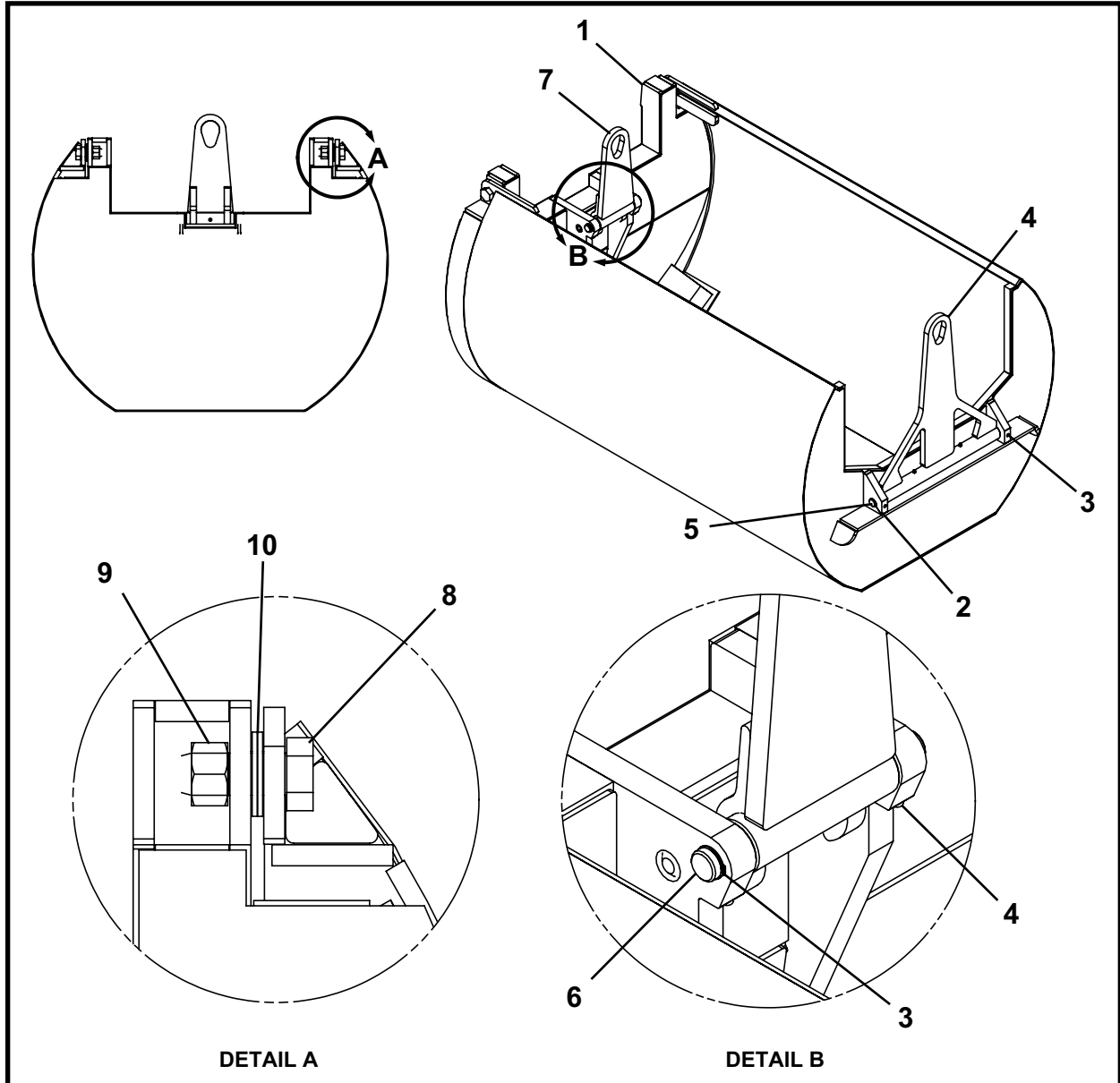
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F09625F00	DIRT BUCKET, 420
0.2	1	F19200F00	DIRT BUCKET, 420X
1	1	009624A00	DOOR
2	2	P0001-16-016	BOLT, 1 UNC x 4
3	2	P0003-16-000	NUT, 1
4	4	P0040-016	WASHER, Hardened Flat 1
5	2	009627A00	LIFT EYE (includes item 5a)
5a	2	P0063-001	FITTING, Grease
6	4	P0077-012	SNAP RING
7	4	P0032-003	SET SCREW, 3/8 UNC x .375
8	2	009237P00	ROD
9.1	1	009658A	LIFT EYE, SN 1 thru 49 (Includes item 9a)
9.2	1	031680A	LIFT EYE, SN 50 and after (Includes item 9a)
9a	2	P0063-001	FITTING, Grease 1/4
10	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

DIRT BUCKET 420 C Wall



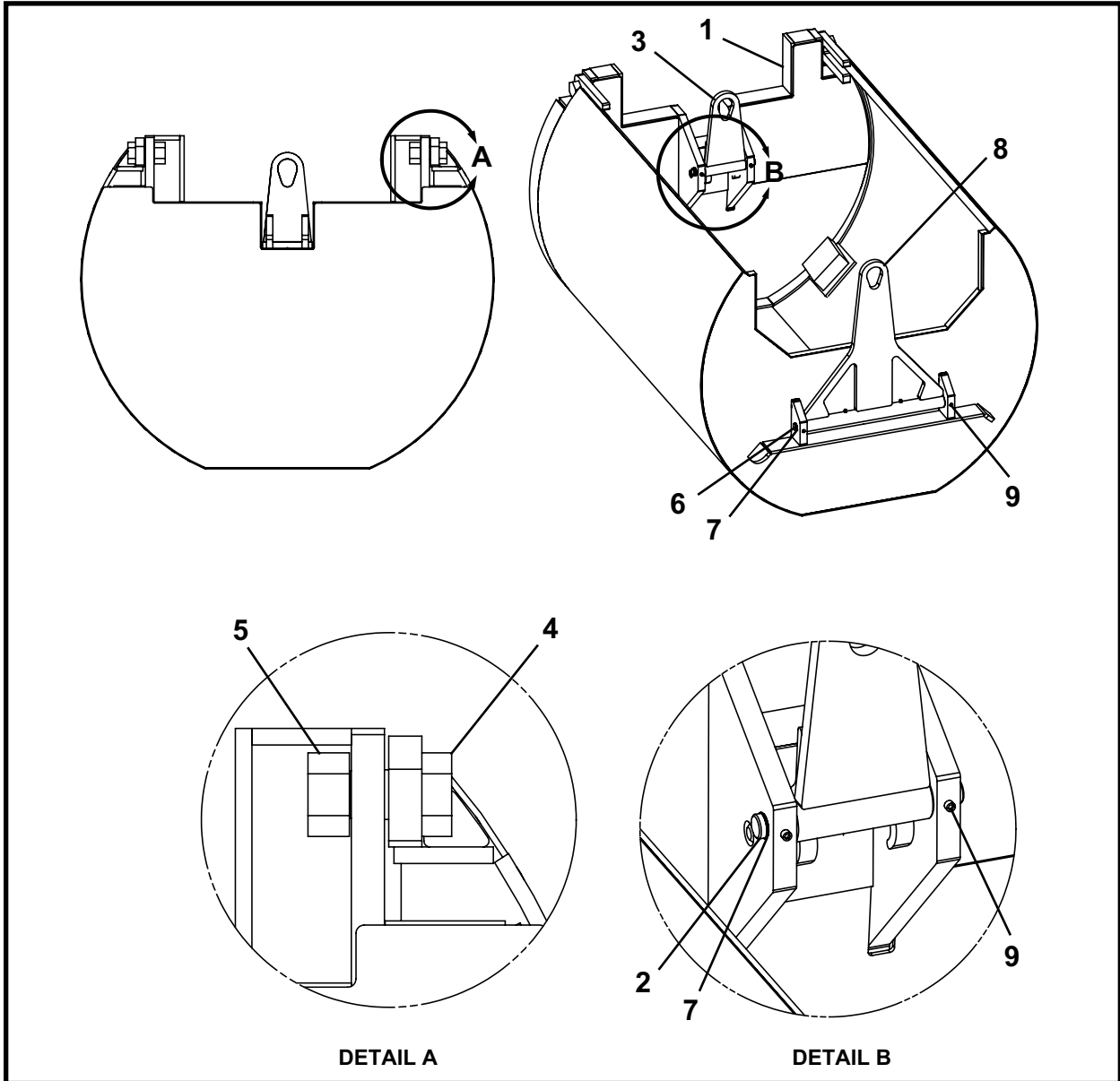
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F21180F	DIRT BUCKET, 420 C Wall
1	1	009624A00	DOOR
2	2	P0001-16-016	BOLT, 1 UNC x 4
3	2	P0003-16-000	NUT, 1
4	4	P0040-016	WASHER, Hardened Flat 1
5	2	009627A00	LIFT EYE (includes item 5a)
5a	2	P0063-001	FITTING, Grease
6	4	P0077-012	SNAP RING
7	4	P0032-003	SET SCREW, 3/8 UNC x .375
8	2	009237P00	ROD
9	1	021182A	LIFT EYE (Includes item 9a)
9a	2	P0063-001	FITTING, Grease
10	1	002968P01	ROD
11	1	002961A00	PIN, Lock
11a	1	002963P01	PIN, Lock
11b	1	P0070-006	SPRING
11c	1	002962P00	HOUSING, Pin
11d	1	P0063-001	FITTING, Grease 1/4 UNF
11e	1	P0013-08-000	NUT, Lock 1/2 UNC
12	1	002966P00	CATCH, Lifting Bar
13	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

**DIRT BUCKET
480/480X**



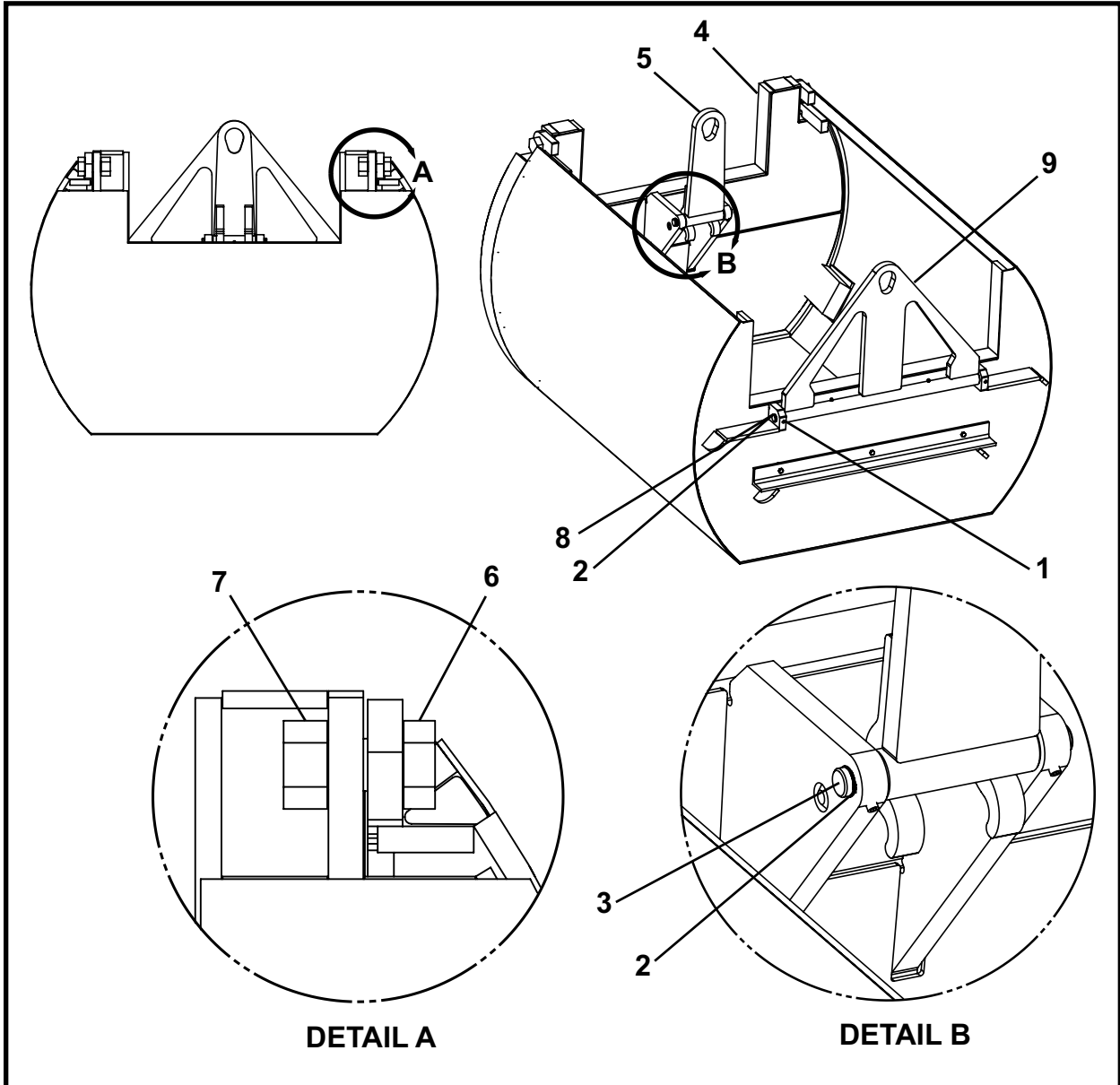
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F14539F00	DIRT BUCKET, 480
0.2	1	F14595F00	DIRT BUCKET, 480X
1	1	014541A00	DOOR
2	4	P0077-012	SNAP RING
3	2	P0032-003	SET SCREW, 3/8 UNC x .375
4	1	009217A00	LIFT EYE, Bucket (includes item 4a)
4a	2	P0063-001	FITTING, Grease
5	1	002968P01	ROD
6	2	009237P00	ROD
7	1	014542A00	LIFT EYE, Door (includes item 7a)
7a	1	P0063-001	FITTING, Grease
8	2	P0001-16-016	BOLT, 1 UNC x 4
9	2	P0003-16-000	NUT, 1
10	4	P0040-016	WASHER, Hardened Flat 1
11	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

**DIRT BUCKET
540/540X**



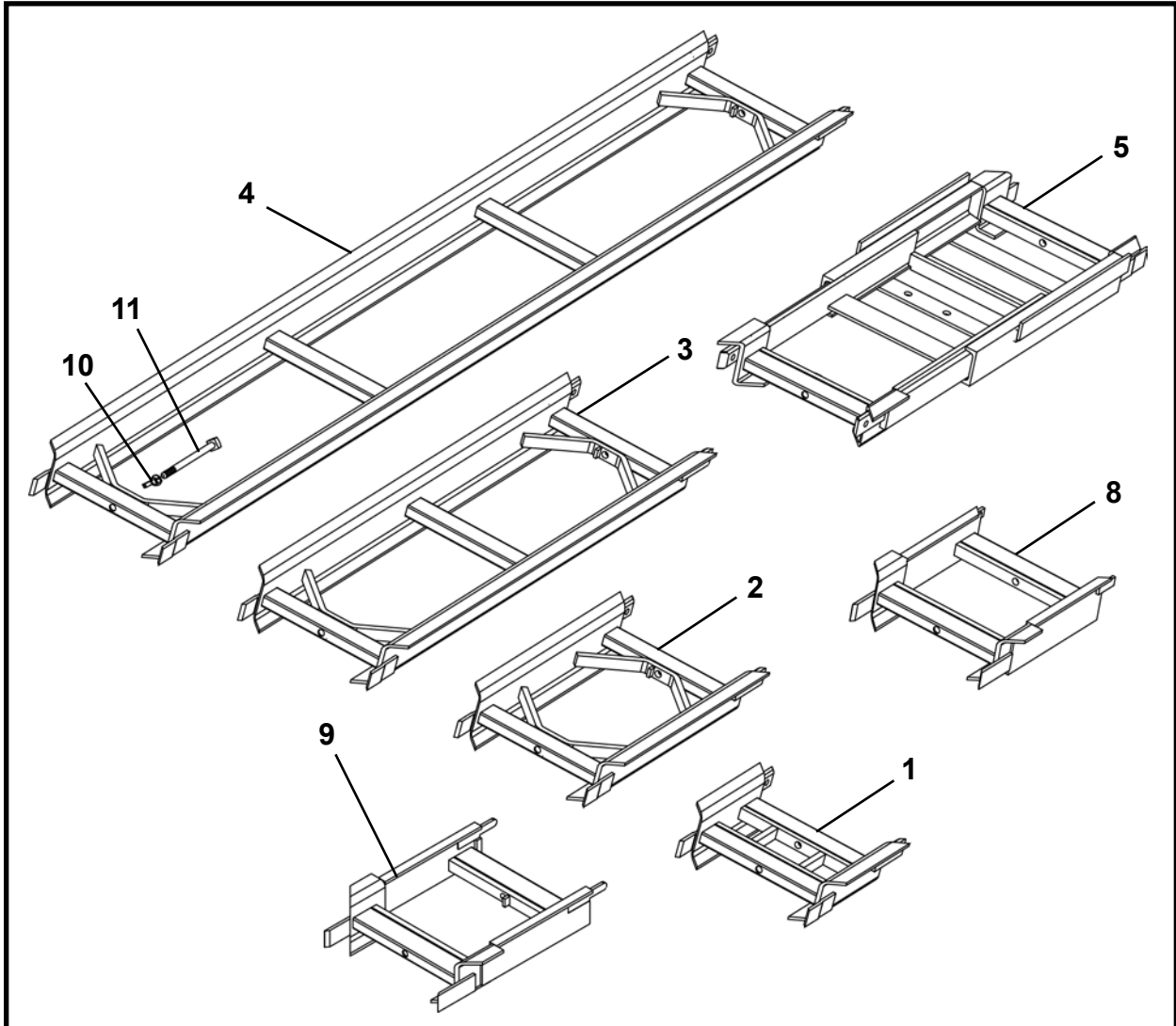
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F08655F00	DIRT BUCKET, 540
0.2	1	F14590F00	DIRT BUCKET, 540X
1	1	014500A00	DOOR
2	1	009237P00	ROD
3	1	009218A01	LIFT EYE, Door (Includes item 3a)
3a	1	P0063-001	FITTING, Grease
4	2	P0001-20-022	BOLT, 1-1/2 UNC x 5.5
5	2	P0003-24-000	NUT, 1-1/2
6	1	002968P01	ROD
7	4	P0077-012	SNAP RING
8	1	009250A00	LIFT EYE (Includes item 8a)
8a	1	P0063-001	FITTING, Grease
9	4	P0032-003	SET SCREW, 3/8 UNC x .375
10	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

**DIRT BUCKET
600/600X**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F20750F00	DIRT BUCKET, 600
0.2	1	F20700F00	DIRT BUCKET, 600X
1	2	P0032-003	SET SCREW, 3/8 UNC x .375
2	4	P0077-012	SNAP RING
3	1	009237P00	ROD
4	1	020701A00	DOOR
5	1	010708A00	LIFT EYE, Bucket (includes item 5a)
5a	2	P0063-001	FITTING, Grease 1/4
6	2	P0001-20-022	BOLT, Hex 1 1/2 UNC x 5.5
7	2	P0003-24-000	NUT, Hex 1 1/2
8	1	007889P00	PIN, Hinge
9	1	020703A00	LIFT, Front
10	1	1255-001	KIT, Decal, Dirt Bucket (not shown)

TRACK

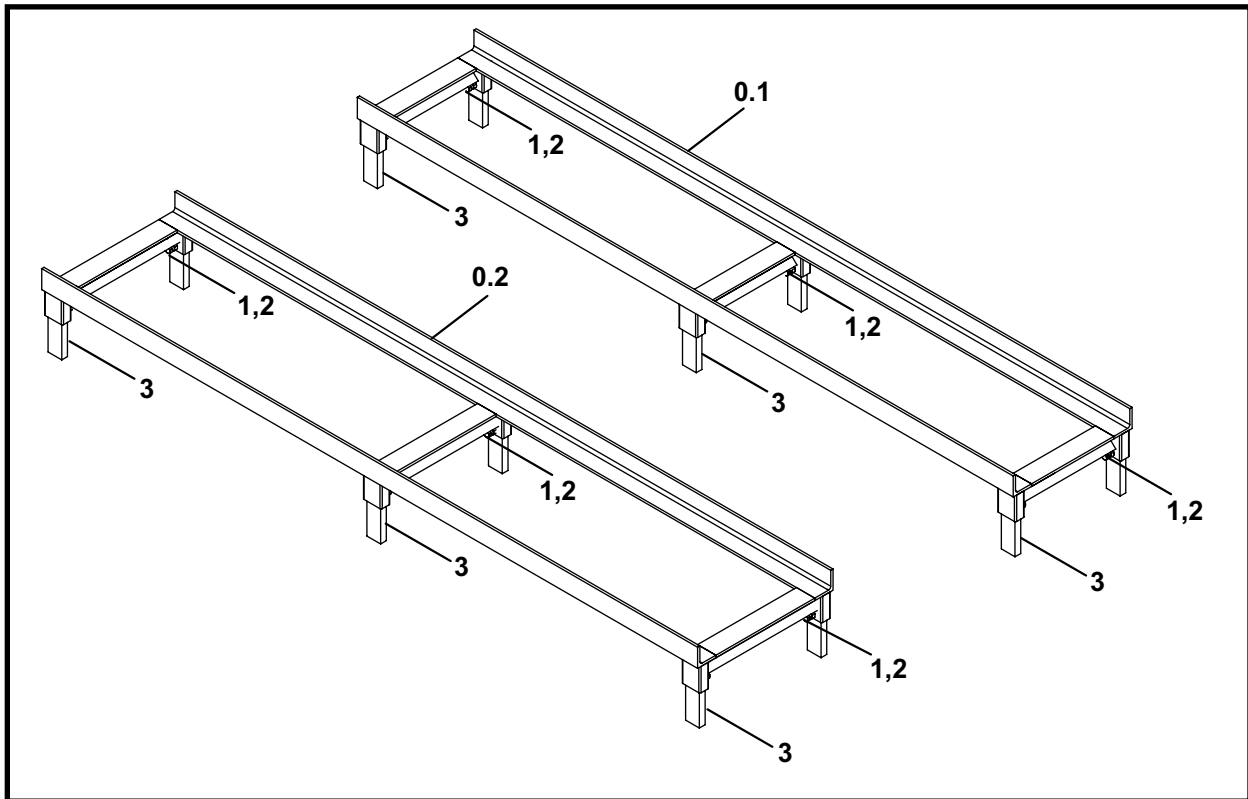


ITEM	QTY	PART NO.	DESCRIPTION
1	1	F14760F00	STARTER TRACK, Z, 1 Foot
2	1	F14763F00	STARTER TRACK, Z, 2 Foot
3	1	F14766F00	STARTER TRACK, Z, 4 Foot
4	1	F14750F00	TRACK, Z, 8 Foot
5	1	F14810F00	TRACK, Slider 13 in.
6	1	F14790F00	TRACK, Slider 38 in. (not shown)
7*	1	F14816F00	FRONT ADAPTER (not shown)
8*	1	F14817F00	REAR ADAPTER
9	1	030560A	TRACK ADAPTER, TBM (TBM 360 - 480)
10	A/N	007242A00	BOLT, Track
11	A/N	P0012-08-000	NUT, Wing 1/2 UNC

A/N - As Needed

* Adapters are used when connecting the Z track to the old style track.

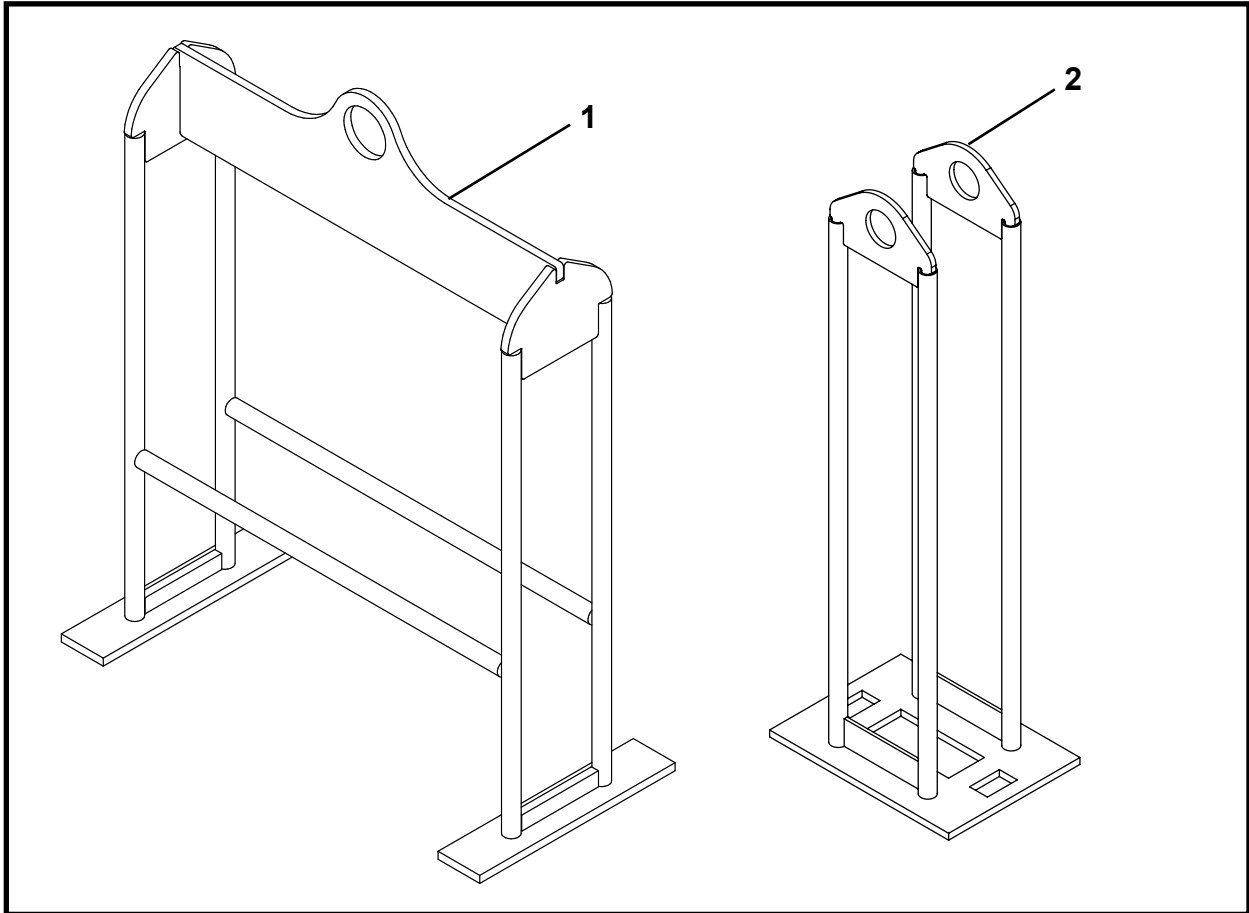
TRACK RISERS



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	F07556F01	TRACK RISER (for Standard Track)
0.2	1	F30205F	TRACK RISER (for Slider Track)
1	6	P0001-06-003	BOLT, 3/8 UNC x 3/4
2	6	P0003-06-000	NUT, 3/8 UNC
3*	6	009901P01	BAR

* The bar length is variable depending upon job setup.

TRACK & RISER HOLDERS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	F14771F00	TRACK HOLDER, Z Track
2	1	F08150F00	RISER HOLDER

NOTES

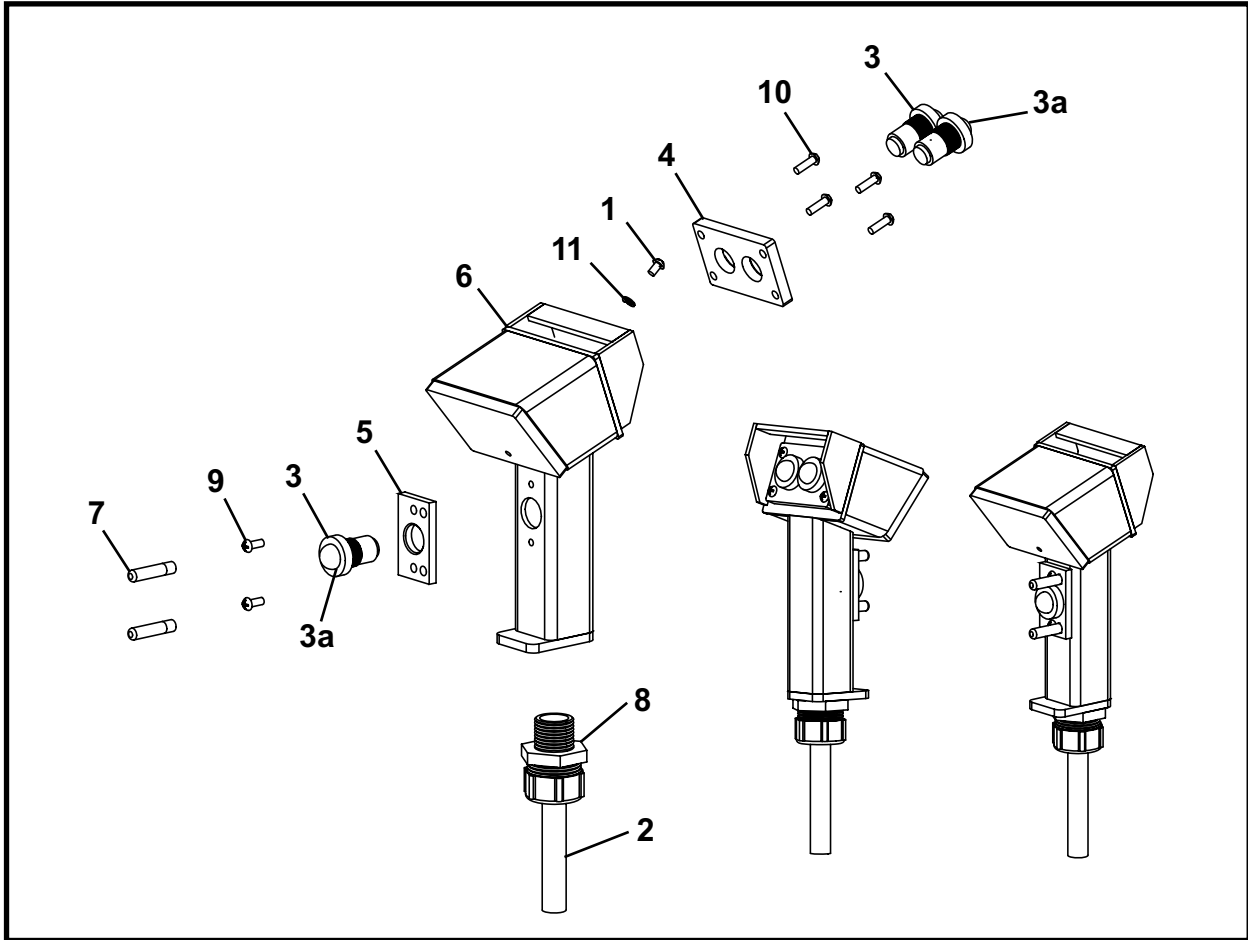
NOTES



Operator Controls

Controller Assembly, 010555A01	2
Controller Assembly, 001239A02	3

CONTROLLER ASSEMBLY, 010555A01

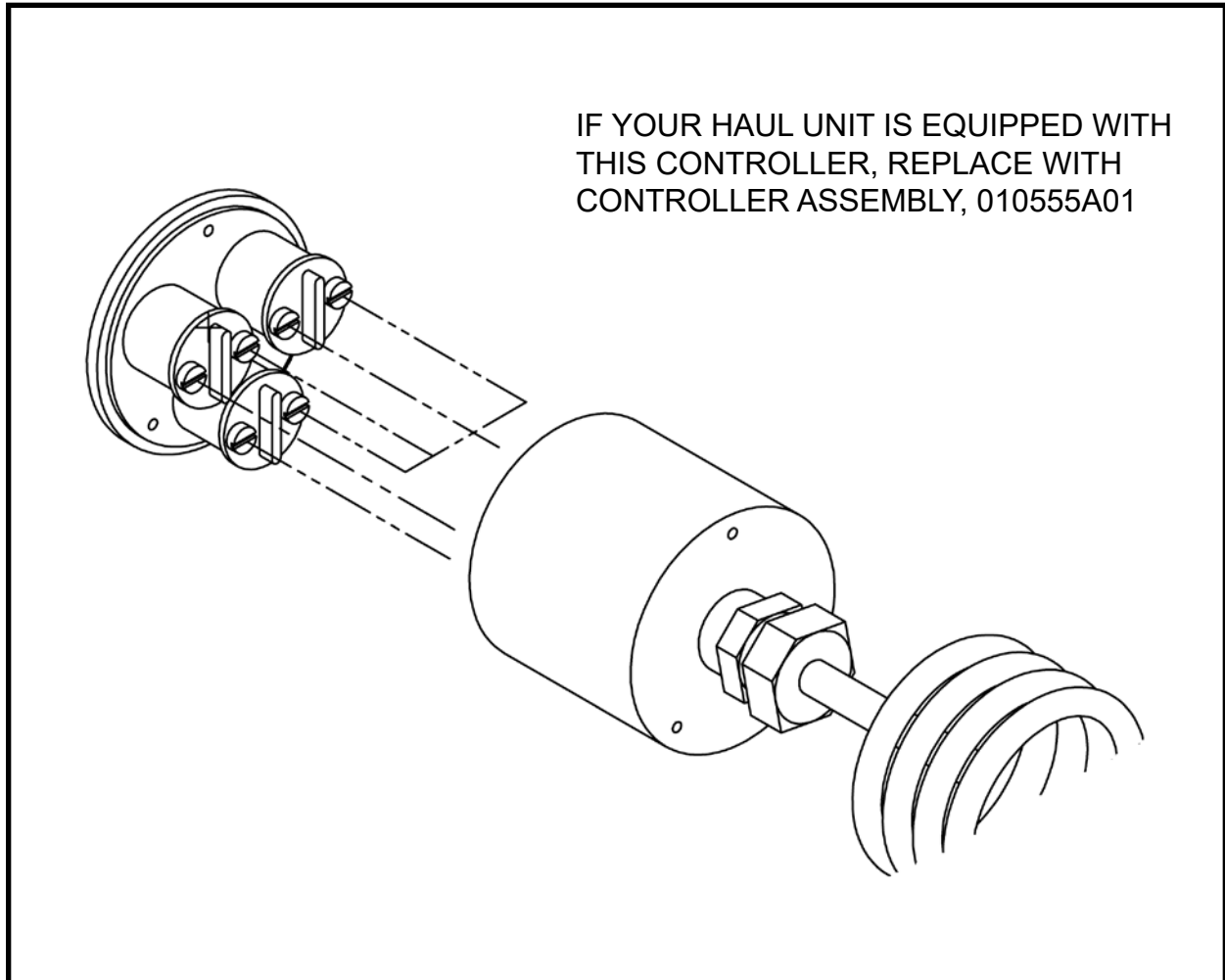


ITEM	QTY	PART NO.	DESCRIPTION
0	1	010555A01	CONTROLLER ASSEMBLY
1	1	P0017-08-321	SCREW, Round Head Machine #8-32 x 1/4 (Ground Screw)
2	1	P0082-004	CORD, Coiled
3**	3	P0056-137	SWITCH, Momentary (Includes items 3a)
3a	3	P0056-137A	BOOT
3b	1	P0056-137C	WIRE TERMINATOR
4*	1	010560P00	SWITCH PLATE, Double
5*	1	010558P00	SWITCH PLATE, Single
6*	1	010556A00	CONTROLLER HANDLE
7	2	010566P00	PEG, Finger Guide
8	1	P0311-051	CONNECTOR, Relief
9	2	P0017-08-322	SCREW, Round Head Machine #8-32 x 3/8
10	4	P0017-08-323	SCREW, Round Head Machine #8-32 x .5
11	1	P0040-001	WASHER #8
12	3	P0056-137B	TERMINAL & SCREW KIT

* Apply silicone sealant between switch plates (items 4 and 5) and control handle (item 6).

** Tighten switches (item 3) to switch plates (items 4 and 5) until they bottom out. Then back off one revolution and apply Loctite® or equivalent prior to installing switch/switch plate assembly to controller handle. Check for delay of switch “click” PRIOR to installation. **If switch “click” delay is present, switch will malfunction and MUST be reinstalled or replaced with new before using controller.**

CONTROLLER ASSEMBLY, 001239A02



ITEM	QTY	PART NO.	DESCRIPTION
0	REF	-	CONTROLLER ASSEMBLY

Note: No replacement parts available for this controller. Replace with Controller Assembly, 010555A01.

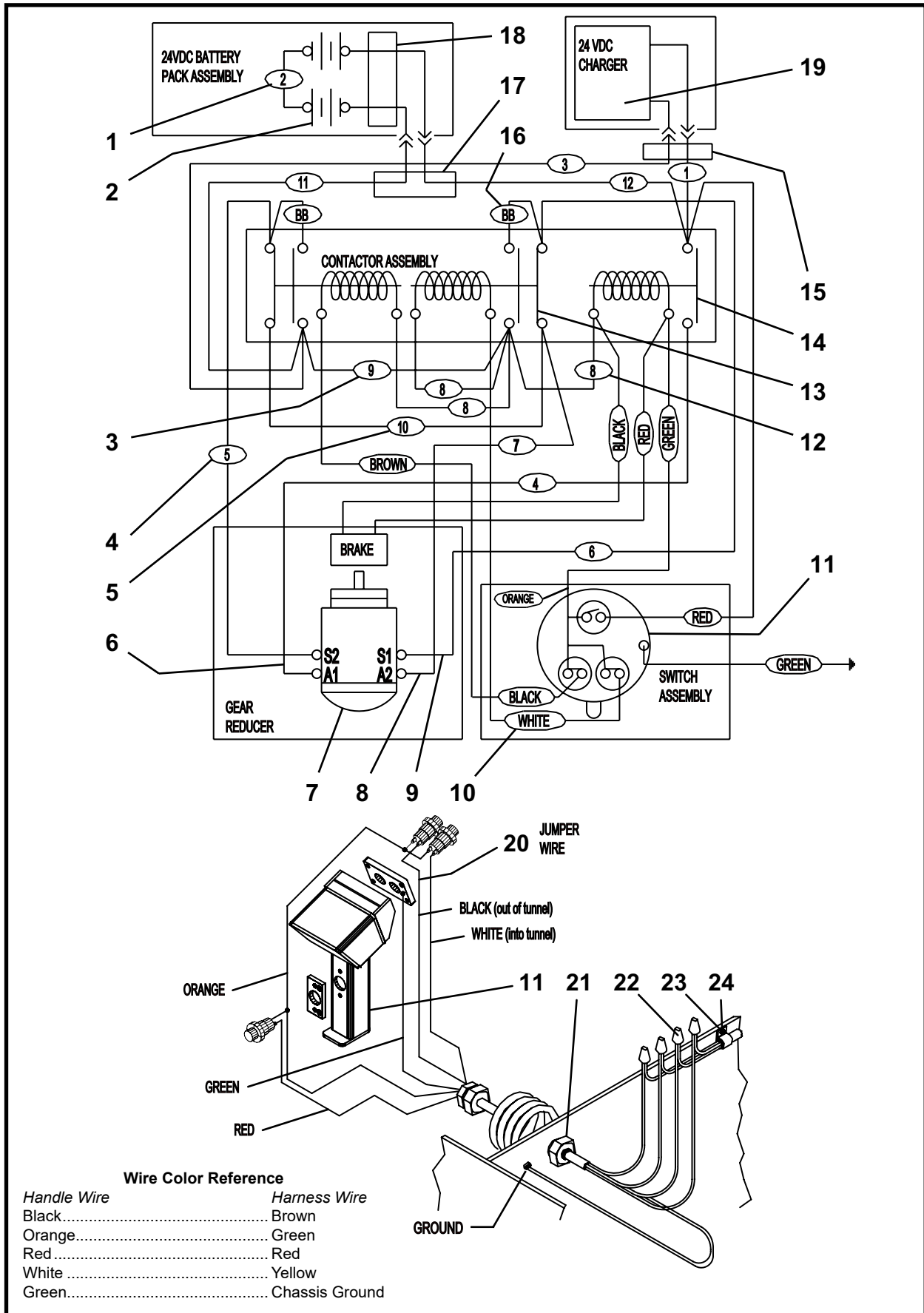
NOTES



Electrical

Electrical Schematic, 010331A02	2
Electrical Assembly, 010327A01	4
Contactator - Reverser Assembly, 005084A01	5
Battery Pack, 24 VDC, F10329F00	6
Battery Charger, 24 VDC, F0310-214	8
Battery Charger, 24V, F0310-1002.....	9

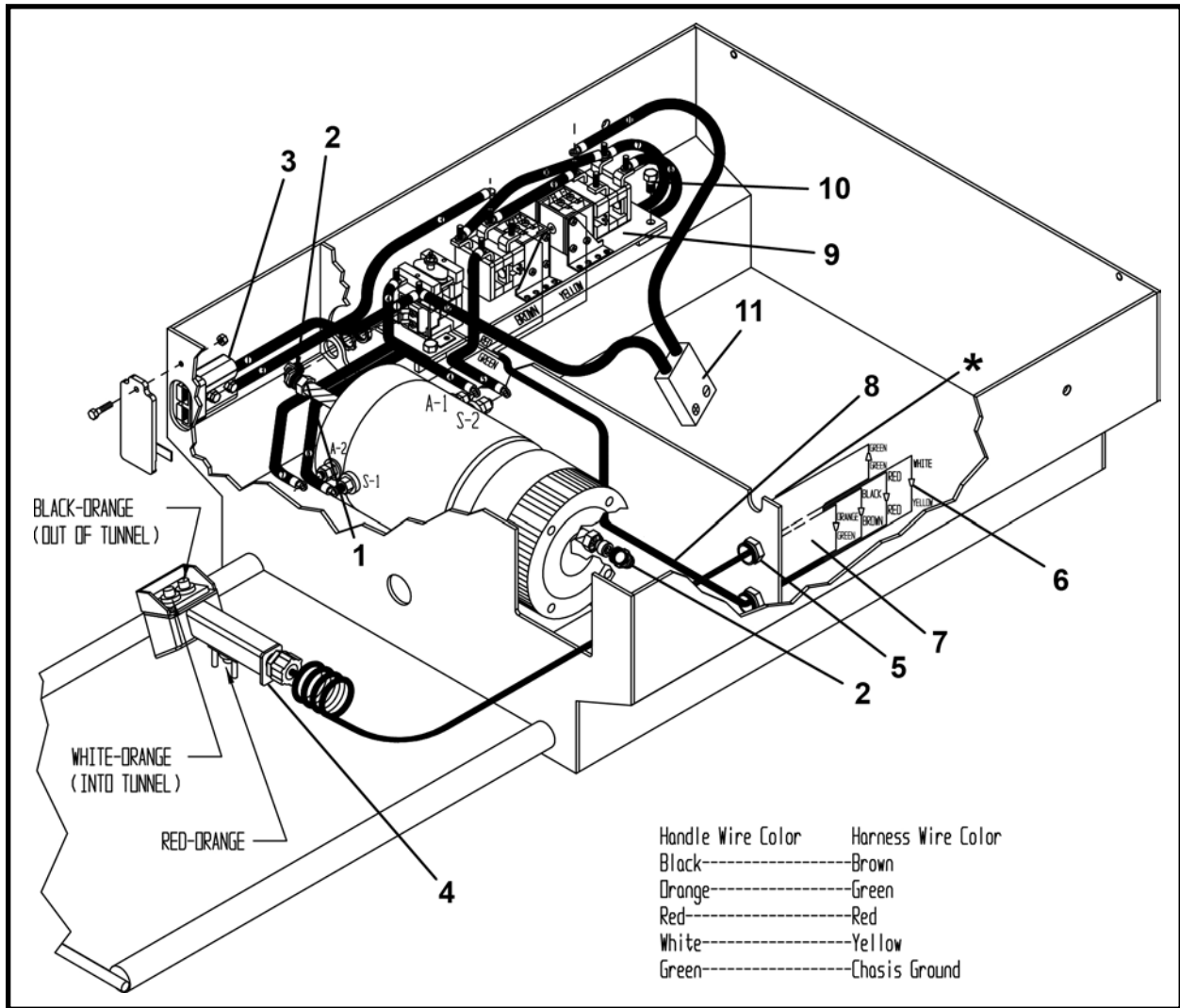
524 ELECTRICAL SCHEMATIC, 010331A02



524 ELECTRICAL SCHEMATIC, 010331A02

ITEM	QTY	PART NO.	DESCRIPTION
0	-	010331A02	SCHEMATIC, 524 Electrical
1	-	004517A00	WIRE ASSEMBLY, No. 2
2	-	P0064-001	BATTERY, 12 Volt DC
3	-	005131A00	WIRE ASSEMBLY, No. 9
4	-	004520A01	WIRE ASSEMBLY, No. 5
5	-	005132A00	WIRE ASSEMBLY, No. 10
6	-	004519A01	WIRE ASSEMBLY, No. 4
7	-	021965A	MOTOR & GEAR BOX ASSEMBLY, 24 Volt
8	-	004522A01	WIRE ASSEMBLY, No. 7
9	-	004521A00	WIRE ASSEMBLY, No. 6
10	-	004524A01	WIRE ASSEMBLY, Color Coded
11	-	010555A01	CONTROLLER ASSEMBLY
12	-	004523A01	WIRE ASSEMBLY, No. 8
13	-	P0056-031	CONTACTOR, Double, 24 Volt DC
14	-	P0056-029	CONTACTOR, Single, 24 Volt DC
15	-	010553A00	CHARGER HARNESS
16	-	010534P00	BUS BAR
17	-	010326A00	CONTACTOR HARNESS
18	-	010330A00	BATTERY HARNESS
19	-	F0301-214	BATTERY CHARGER, 24 Volt DC
20	-	007119A00	WIRE ASSEMBLY, No. 11
21	-	P0311-051	CONNECTOR, Strain Relief
22	-	P0055-085	NUT, Wire (Yellow)
23	-	P0055-119	CLIP, Frame Wire
24	-	P0017-08-322	SCREW, Round Head #8-32 x 3/8

ELECTRICAL ASSEMBLY, 010327A01

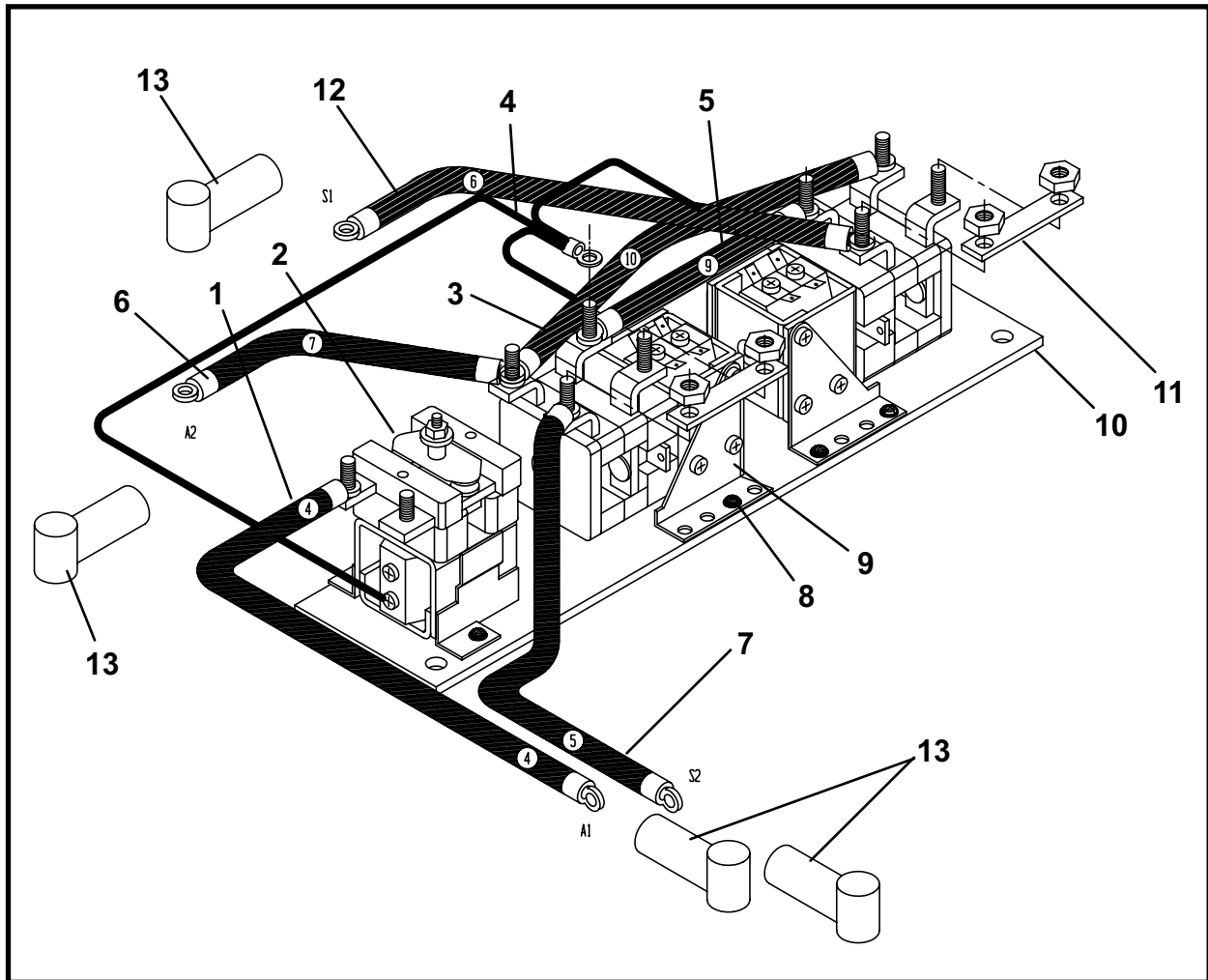


ITEM	QTY	PART NO.	DESCRIPTION
0	1	010327A01	ELECTRICAL ASSEMBLY
1	22 LI	P0312-008	CONDUIT 1/2 x 22
2	2	P0311-009	ELBOW, Conduit 1/2
3	1	010553A00	CHARGING HARNESS ASSEMBLY
4	1	010555A01	CONTROLLER ASSEMBLY
5	2	P0311-040	CONNECTOR, Strain Relief
6	5	P0055-085	NUT, Wire (Yellow)
7	3	P0311-032	BUSHING, Insulating
8	1	004524A00	WIRE ASSEMBLY, Color Coded
9	1	005084A01	CONTACTOR - REVERSER ASSEMBLY
10	2	P0001-06-003	BOLT, Hex 3/8-16 UNC x 3/4
11	1	010326A00	CONTACTOR HARNESS ASSEMBLY

LI - Linear Inch

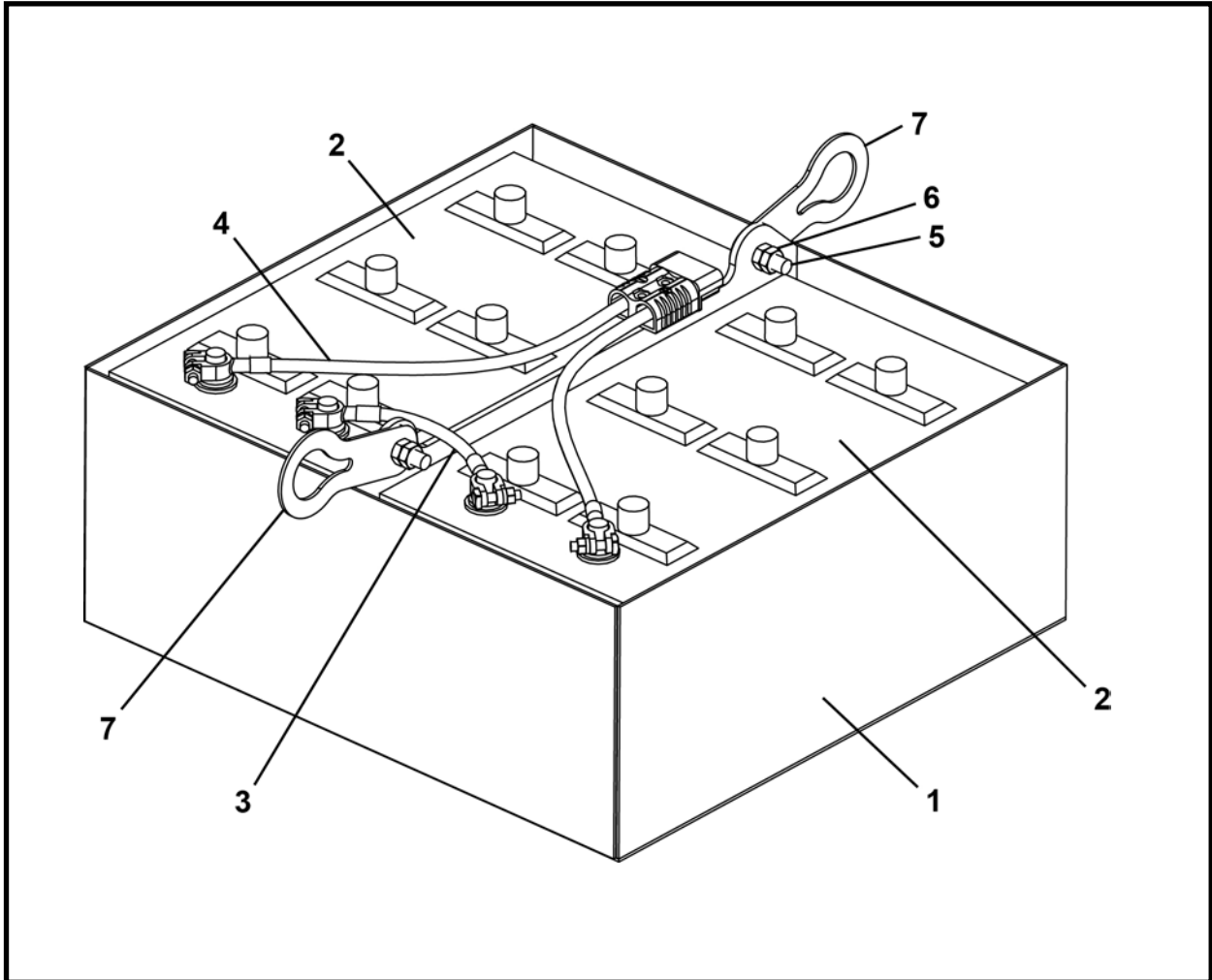
* Ground green wire from switch to battery box.

CONTACTOR - REVERSER ASSEMBLY, 005084A01



ITEM	QTY	PART NO.	DESCRIPTION
0	1	005084A01	CONTACTOR - REVERSER ASSEMBLY
1	1	004519A01	WIRE ASSEMBLY, No. 4
2	1	P0056-029	CONTACTOR, Single, 200 AMP (includes 2a and 2b)
2a	1	P0056-029A	KIT, Insulator Single
2b	1	P0056-033	KIT, Contactor, Single
3	1	005132A00	WIRE ASSEMBLY, No. 10
4	1	004523A01	WIRE ASSEMBLY, No. 8
5	1	005131A00	WIRE ASSEMBLY, No. 9
6	1	004522A01	WIRE ASSEMBLY, No. 7
7	1	004520A00	WIRE ASSEMBLY, No. 5
8	8	P0017-10-243	SCREW, Machine, #10-24 x 1/2
9	2	P0056-031	CONTACTOR, Double, 200 AMP (includes 9a and 9b)
9a	1	P0056-031A	KIT, Insulator Double
9b	1	P0056-034	KIT, Contactor Double
10	1	005085P00	BAR
11	2	010534P00	BAR
12	1	004521A01	WIRE ASSEMBLY, No. 6
13	4	P0055-236	COVER, Lug, Red

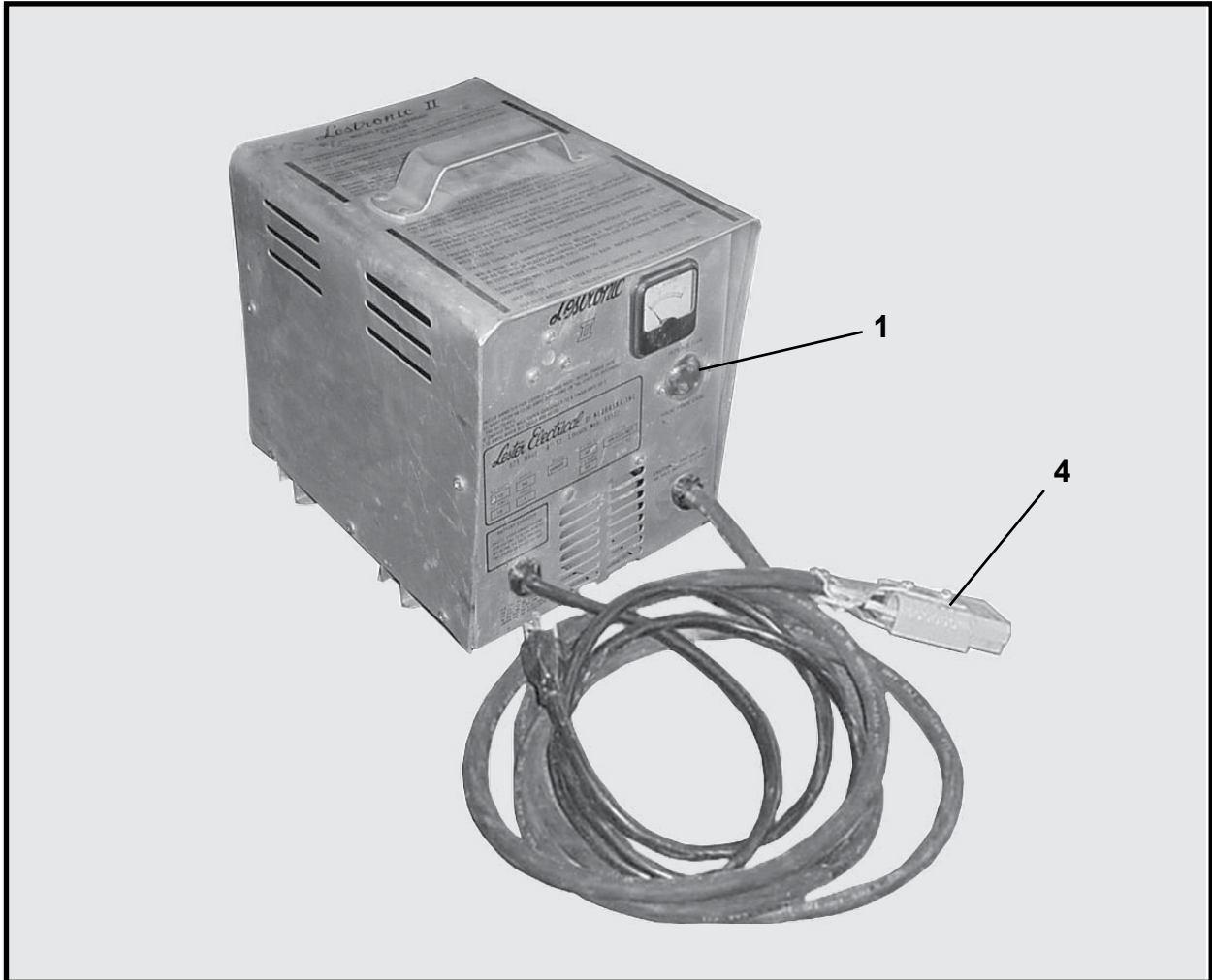
BATTERY PACK, 24 VDC, F10329F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F10329F00	BATTERY PACK, 24 VDC
1	1	010310A00	BATTERY BUCKET
2	2	P0064-001	BATTERY 12V
3	1	004517A00	CABLE ASSEMBLY
4	1	010330A00	CHARGER HARNESS
5	2	P0001-08-006	BOLT, 1/2 UNC x 1.5
6	4	P0007-08-000	NUT, Jam 1/2 UNC
7	2	010317A01	LIFT EYE ASSEMBLY

NOTES

**BATTERY CHARGER, 24 VDC, F0310-214
(Earlier Model)**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F0310-214	BATTERY CHARGER, 24 VDC
1	1	P0310-214A	FUSE ASSEMBLY
2	1	P0310-299	AMP METER (not shown)
3	1	P0310-300	KIT, Timer (not shown)
4	1	P0055-118	CONNECTOR

BATTERY CHARGER, 24V, F0310-1002



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F0310-1002	BATTERY CHARGER, 24 VDC

NOTES



Hydraulics

Does not apply to this system

NOTES



Valves

Does not apply to this system

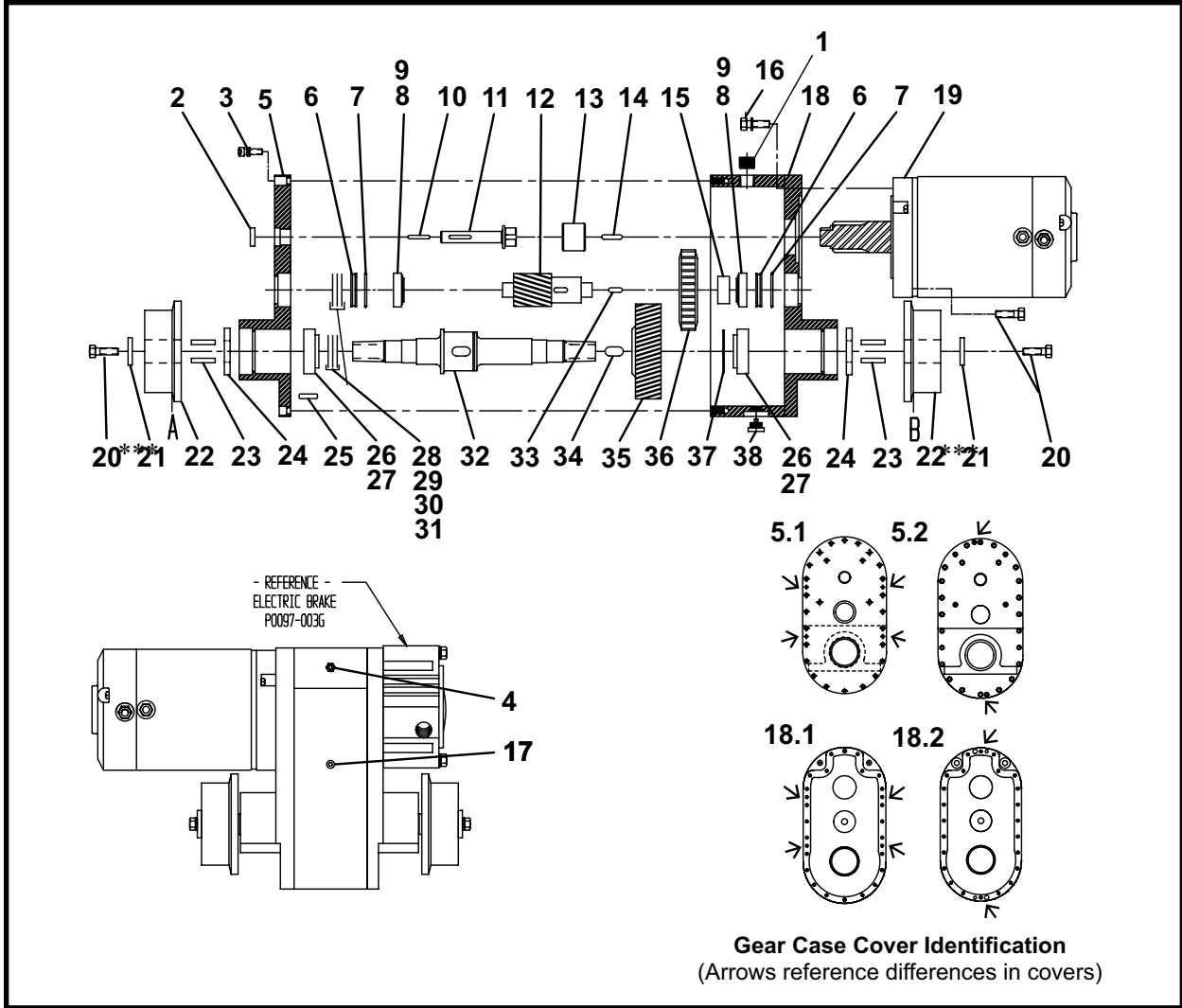
NOTES



Motors

Gear Box Assembly, 021965A	2
Motor, 24 Volt, P0310-278AA	4

GEAR BOX ASSEMBLY, 021965A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	021965A	GEAR REDUCER ASSEMBLY
1	1	P0300-079	PLUG, 08MP-HHP
2	1	P0080-025	SEAL, BRAKE SHAFT
3	24	P0031-04-003	BOLT, Socket Head 1/4 UNC x .75
4	1	P0063-012	RELIEF, Pressure
5.1	1	021902A00	COVER, Gear Case (refer to illustration to identify cover)
5.2	1	022041A	COVER, Gear Case (refer to illustration to identify cover)
6	2	021960P00	RETAINER, Bearing
7	2	P0085-128	O-RING
8	2	P0065-124	CONE, Bearing
9	2	P0065-125	CUP, Bearing
10	1 LI	P0047-002	KEY, Square 3/16 x 1
11	1	021954P00	SHAFT, Brake
12	1	021961P00	PINION, Output
13	1	021955P00	COUPLING, Brake Shaft
14	1 LI	P0047-003	KEY, Square, 1/4 x 1

(continued on next page)

GEAR BOX ASSEMBLY, 021965A

ITEM	QTY	PART NO.	DESCRIPTION
15	1	021952P00	SPACER, Intermediate Shaft
16	2	P0001-06-006	BOLT, 3/8 UNC x 1.5
17	1	P0300-026	PLUG, 04MP-HHP
18.1**	1	021901A00	ASSEMBLY, Gear Case (refer to illustration to identify cover)
18.2**	1	022040A	ASSEMBLY, Gear Case (refer to illustration to identify cover)
19	1	P0310-278AA	MOTOR, 24 Volt
20****	4	P0001-06-005	BOLT, 3/8 UNC x 1.25
21*****	2	001574P00	WASHER
22	2	002556P02	WHEEL
23	4 LI	P0047-003	KEY, Square 1/4 x 1
24	2	P0080-023	SEAL, Axle Shaft
25	2	P0037-025	PIN, Dowel, 1/4 x 1
26	2	P0065-123	CONE, Bearing
27	2	P0065-122	CUP, Bearing
28*	4	P0065-136	SHIM, Bearing, .002
29*	4	P0065-137	SHIM, Bearing, .001
30*	4	P0065-138	SHIM, Bearing, .006
31*	4	P0065-139	SHIM, Bearing, .020
32*****	1	021957P01	SHAFT, Axle
33	1 LI	P0047-003	KEY, Square 1/4 x 3/4
34	1 LI	P0047-014	KEY, 1/2 x 7/16 x 1
35	1	021962P00	GEAR, Output
36	1	021963P00	GEAR
37	1	P0077-031	SNAP RING
38	1	P0300-163	PLUG, Drain with Gasket

LI - Linear Inch

* Use shim kit (items 28 - 31) to obtain .002 shaft end play.

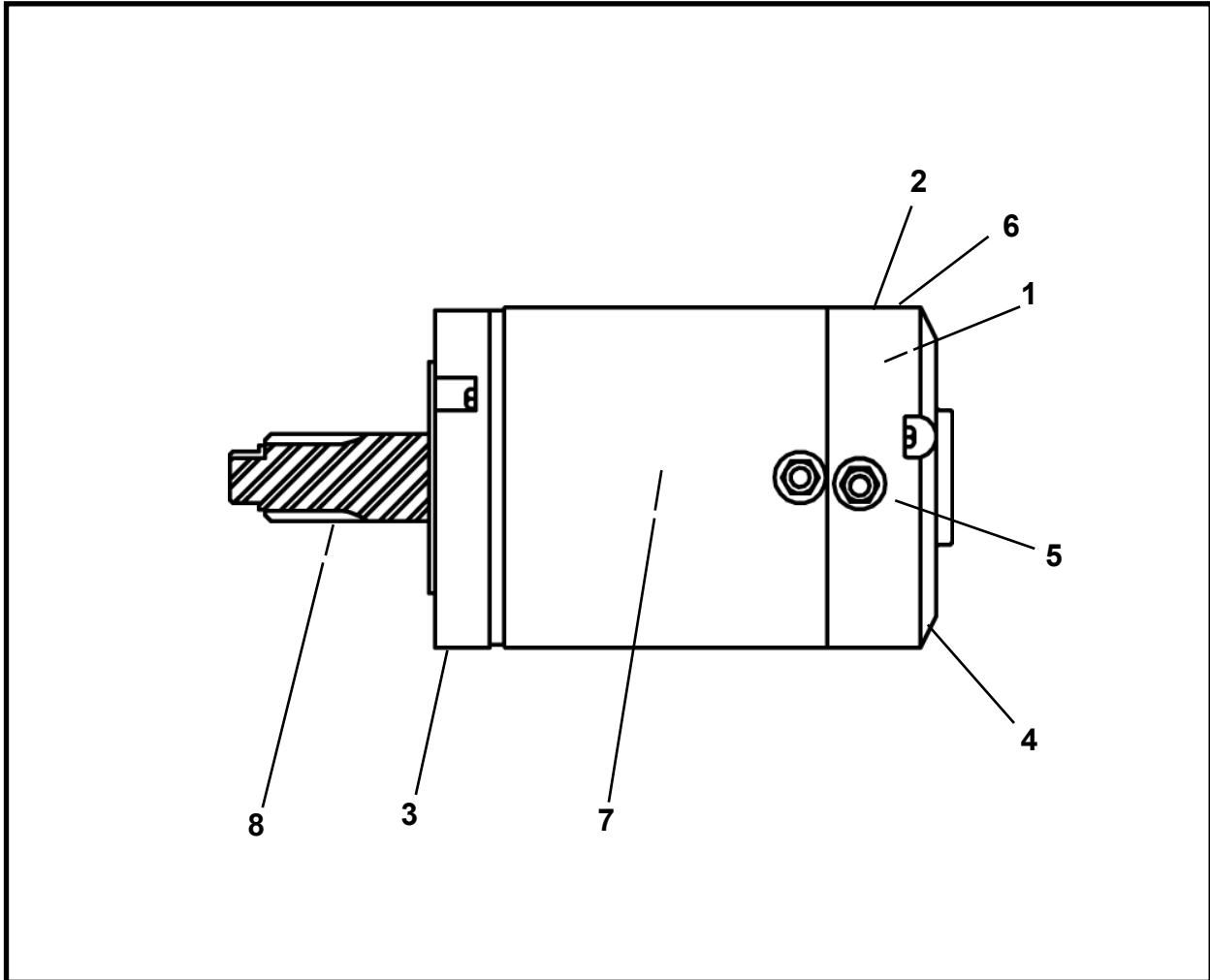
** After bearing shims are selected, seal gear case with RTV silicone.

*** Width between point A and B in drawing, must be 11 - 11.25 in. after assembly.

**** Add blue LocTite® to bolts for haul unit wheels. DO NOT USE ANTI-SIEZE.

***** Washer (item 21) and axle shaft (32) should not bottom out.

MOTOR, 24 VOLT, P0310-278AA



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0310-278AA	MOTOR, 24 Volt
1	1	P0310-278F	BRUSHES
2	1	P0310-278AA4	BAND, Dustcover
3	1	P0310-278AA1	COVER, Drive End
4	1	P0310-278AA2	END CAP
5	1	P0310-278AA3	INSULATOR
6	1	P0310-278AA5	CLAMP, Dust Cover
7	1	P0310-278CC	ASSEMBLY, Armature
8	1	P0310-278DD	SHAFT, Armature



Pumps

Does not apply to this system

NOTES



Cylinders

Does not apply to this system

Cylinders

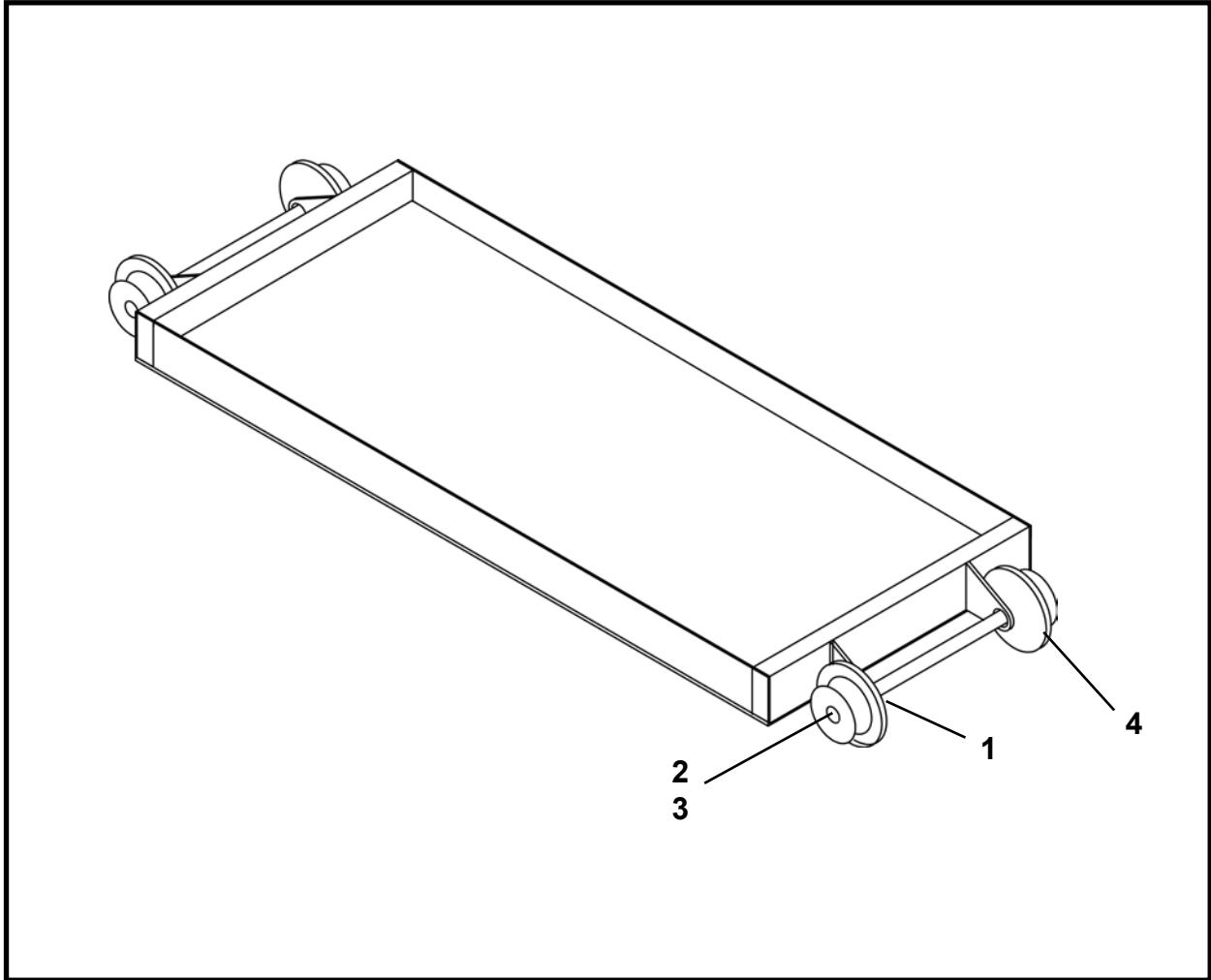
NOTES



Miscellaneous

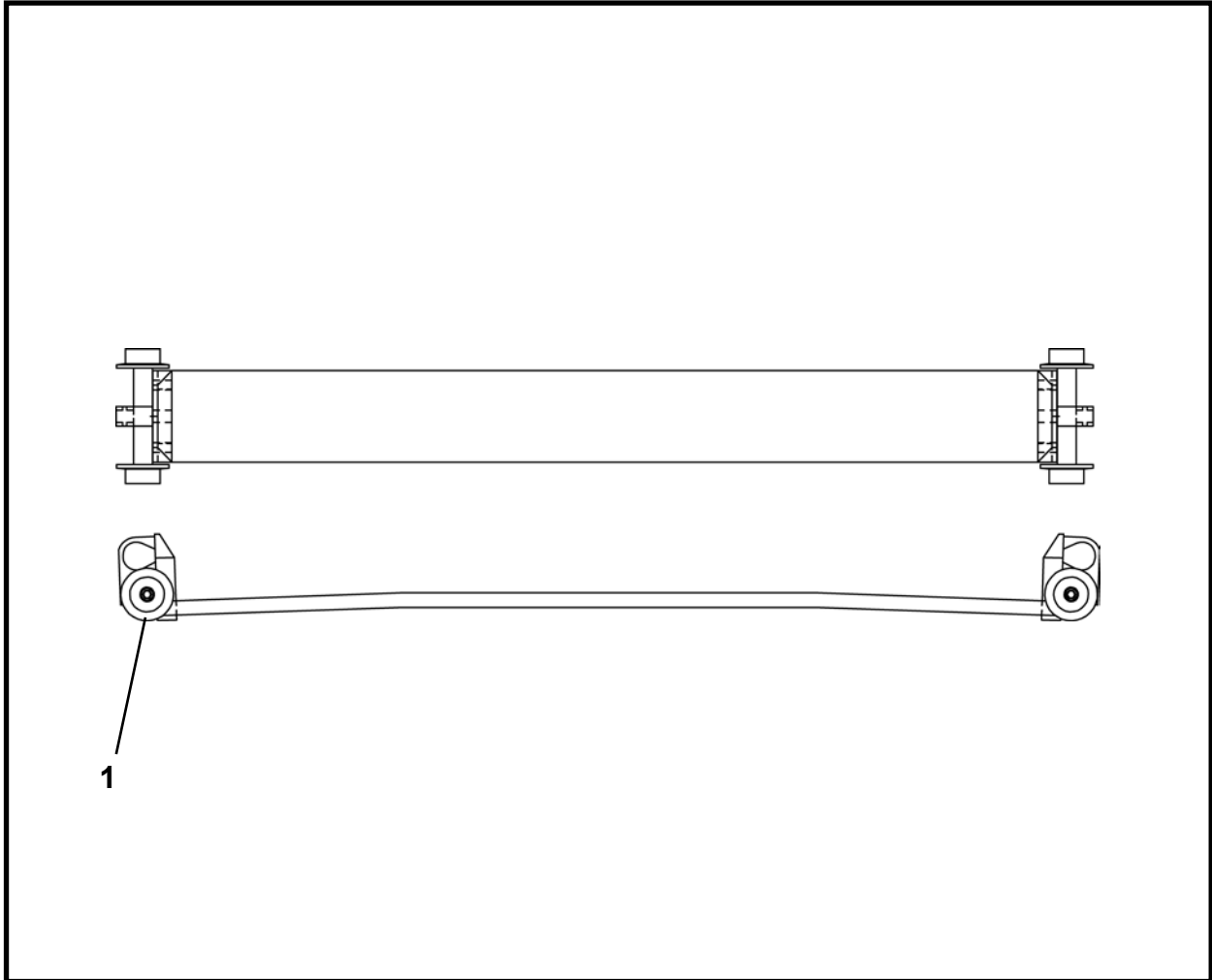
Inspection Cart, F02073F00	2
524X Haul Cart, F11440F00	3

INSPECTION CART, F02073F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F02073F00	INSPECTION CART
1	4	P0065-002	BEARING, Wheel
2	4	P0076-024	SNAP RING, Internal
3	4	P0077-008	SNAP RING, External
4	4	002070P01	WHEEL

524X HAUL CART, F11440F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F11440F00	524X HAUL CART
1*	2	008358A02	ASSEMBLY, Haul Unit Idler

* Refer to Section 3, Structural for parts breakdown.

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