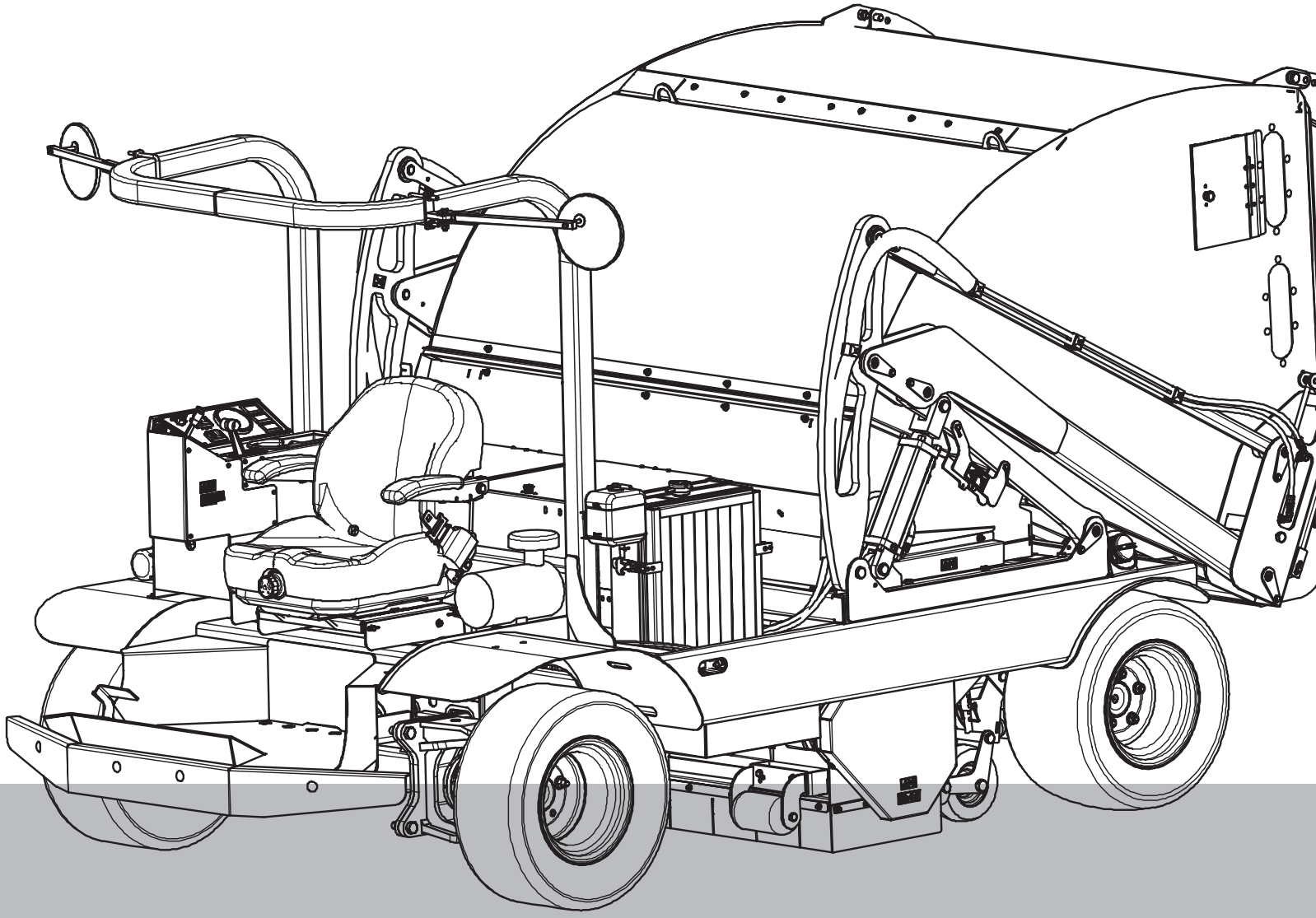
HK 4400

Serial Number: 20A05 & Below
Part # 301011



HARPER HAWK
PARTS
MANUAL

10-2020

HARPER INDUSTRIES INC

Thank you for purchasing a Harper Hawk.

As with all Harper products, the Harper Hawk has been developed through tough design and testing procedures to produce a top-quality machine. This manual gives assembly, operating, and service information for the model HK4400 Sweeper. Please read and understand all instructional material included with the Sweeper or its components before assembling and operating the equipment.

A Sweeper can present hazards to an operator who follows unsafe procedures in either the operation or maintenance of the unit. Therefore, **SAFETY WARNINGS** are presented at certain locations in the text.

THIS SYMBOL: **SAFETY WARNING!**

MEANING: Failure to understand and obey this warning may result in injury to you or others. Whenever this symbol is used, please pay very close attention to the information presented, and make sure you fully understand. If you do not, contact your dealer or Harper Industries, Inc. for clarification.

SAFETY WARNING!

ALL SHIELDS AND GUARDS MUST BE IN PLACE FOR PROPER AND SAFE OPERATION OF THIS EQUIPMENT. WHERE THEY ARE SHOWN REMOVED IN THIS MANUAL, IT IS FOR PURPOSES OF ILLUSTRATION AND INSTRUCTION ONLY. DO NOT OPERATE THIS EQUIPMENT UNLESS ALL SHIELDS AND GUARDS ARE IN PLACE.

WARNING: Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel

Harper Industries, Inc. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

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The Harper name is a registered trademark of Harper Industries, Inc. All other brand and product names are trademarks or registered trademarks of their respective companies.

LIMITED WARRANTY

Harper Industries, Inc. (HII) warrants to each purchaser of a new Harper Hawk from an authorized dealer or representative, that such equipment is free of manufacturer's defects in workmanship and materials which appear while in normal service for a period of ONE YEAR commencing with delivery to the original user.

The obligation of HII under this warranty is expressly limited, at our option, to replacement or repair at a service facility designated by Harper Industries or at the manufacturing plant in Harper, KS. A part will be replaced after inspection discloses it to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance, or by performing functions without genuine Harper Turf Sweeper accessories) while in the possession of the consumer.

Warranty is limited to parts, labor and ground freight delivery of replacement parts. HII shall not be liable for the consequential damages of any kind, including but not limited to consequential labor costs or transportation charges in connection with replacement or repair of defective parts.

This warranty does not apply to parts subjected to misuse, abuse, alteration, improper or inadequate maintenance, or normal wear (including belts, battery, chains, filters, knives, brush and broom).

Engines are not covered under this warranty. Refer to manufacturer's warranty for specific warranty information. Harper Industries, its agents or representatives, make or imply no other warranties.

Harper Industries makes no warranty with respect to trade accessories. They are subject to the warranties of their respective manufacturers.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. HII makes no other express warranty, nor is anyone authorized to make any on behalf of HII.

For further information please contact your nearest Harper Turf Sweeper dealer.

RECORDS

Date of Purchase _____ / _____ / _____

Dealer's Name _____

Dealer's Phone _____

Serial Number Machine _____

Serial Number Engine _____

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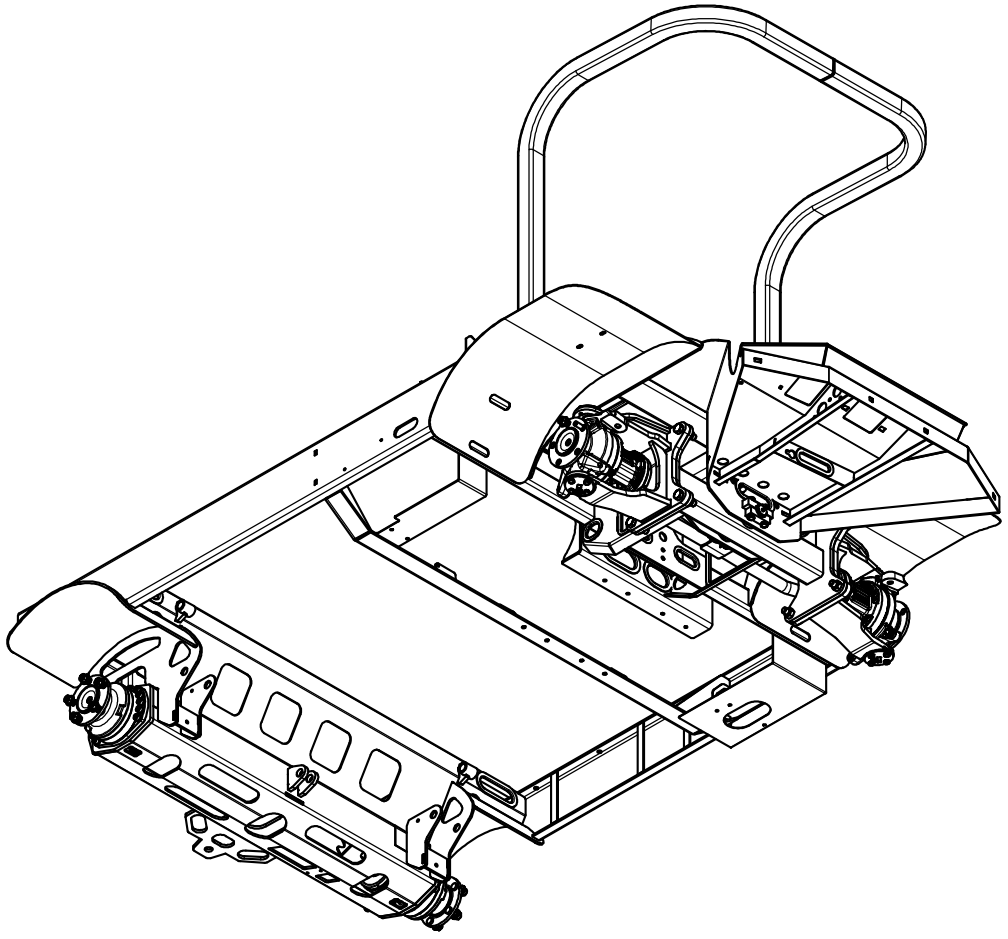
WHEEL MOTOR & AXLE INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	10'	100365	MOLDING - EDGE GUARD, 5/32
2	1	102136	Clevis Pin, 5/8 x 1.5
3	2	110053	Hex Nut M12 X 1.75 Thd
4	4	110129	BOLT, 1/2-13 X 2.75 HEX
5	20	110244	BOLT, 1/2-13 X 1.5 SHCS
6	2	110347	BOLT, M12x1.75 x 25 Gr 10.9
7	8	110454	BOLT, 3/4-10 X 2.5
8	4	110610	NUT, 1/2-13
9	8	110625	NUT, 3/4-10, UNITORQUE LOCK
10	24	110666	WASHER, 1/2" LOCK
11	1	110862	WASHER - THRUST, IGUS MTI-24
12	2	110888	SNAP RING - EXT, 1-1/2
13	13'	112084	Rubber Seal, .625 X .25
14	1	112135	Clevis Pin, 3/8" x 2", Zinc-Plated Steel
15	2	120235	ADAPTER, 4MJ-4MB90
16	10	120249	ADAPTER, 4MJ-6MB
17	8	120446	ADAPTER, 8MJ-10MB
18	2	120732	ADAPTER, 4MJ-6MB 45
19	2	200029	COTTER PIN, 5/32 X 1
20	2	302129	NUT, 7/8-18 HEX JAM GR 2
21	2	311459	KEEPER - AXLE PIVOT, LOWER
22	2	312032	Tie Rod End, RH
23	1	315338	WELDMENT, FRONT AXLE
24	1	315350	FRAME WELDMENT, SWEEPER
25	1	315367	WELDMENT, ROUND STEERING LINK
26	1	317174	PIN, FRONT AXLE
27	1	323010	CYLINDER - STEERING, 1-3/4 X 6
28	1	323055	MOTOR, LH FRONT WHEEL, 24.3 CI, 2-SPD
29	1	323056	MOTOR, RH FRONT WHEEL, 24.3 CI, 2-SPD
30	1	323057	MOTOR, LH REAR WHEEL, 24.3 CI, 2-SPD
31	1	323058	MOTOR, RH REAR WHEEL, 24.3 CI, 2-SPD
32	2	500230	GREASE ZERK, 1/4-28 90deg
33	1	510174	GREASE ZERK, 1/4-28 ST



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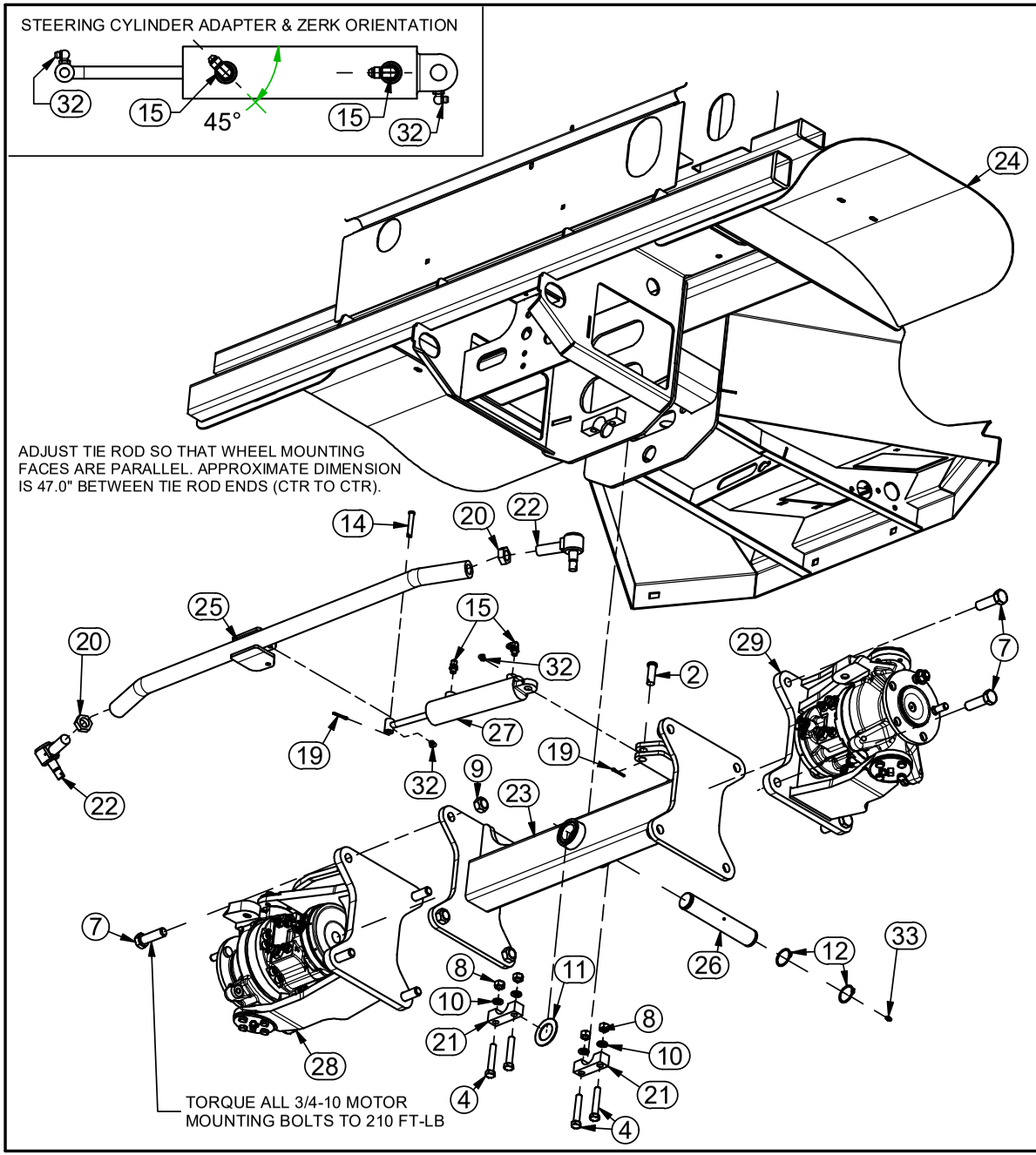
FRONT AXLE INSTALLATION



Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	1	102136	Clevis Pin, 5/8 x 1.5
3	2	110053	Hex Nut M12 X 1.75 Thd
4	4	110129	BOLT, 1/2-13 X 2.75 HEX
6	2	110347	BOLT, M12x1.75 x 25 Gr 10.9
7	8	110454	BOLT, 3/4-10 X 2.5
8	4	110610	NUT, 1/2-13
9	8	110625	NUT, 3/4-10, UNITORQUE LOCK
10	24	110666	WASHER, 1/2" LOCK
11	1	110862	WASHER - THRUST, IGUS MTI-24
12	2	110888	SNAP RING - EXT, 1-1/2
14	1	112135	Clevis Pin, 3/8" x 2", Zinc-Plated Steel
15	2	120235	ADAPTER, 4MJ-4MB90
16	10	120249	ADAPTER, 4MJ-6MB
17	8	120446	ADAPTER, 8MJ-10MB
18	2	120732	ADAPTER, 4MJ-6MB 45
19	2	200029	COTTER PIN, 5/32 X 1
20	2	302129	NUT, 7/8-18 HEX JAM GR 2
21	2	311459	KEEPER - AXLE PIVOT, LOWER
22	2	312032	Tie Rod End, RH
23	1	315338	WELDMENT, FRONT AXLE
24	1	315350	FRAME WELDMENT, SWEEPER
25	1	315367	WELDMENT, ROUND STEERING LINK
26	1	317174	PIN, FRONT AXLE
27	1	323010	CYLINDER - STEERING, 1-3/4 X 6
28	1	323055	MOTOR, LH FRONT WHEEL, 24.3 CI, 2-SPD
29	1	323056	MOTOR, RH FRONT WHEEL, 24.3 CI, 2-SPD
32	2	500230	GREASE ZERK, 1/4-28 90deg
33	1	510174	GREASE ZERK, 1/4-28 ST

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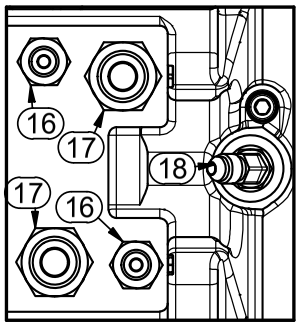
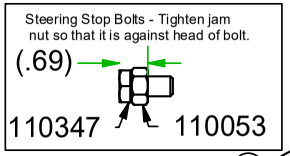
Front Left Wheel Motor:

Model Code:
MGE02-2-***G***1A-W10-A121-Y8JM

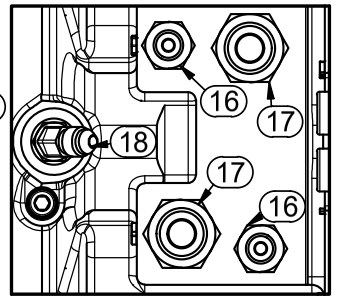


Steering Stop Bolts - Tighten jam nut so that it is against head of bolt.

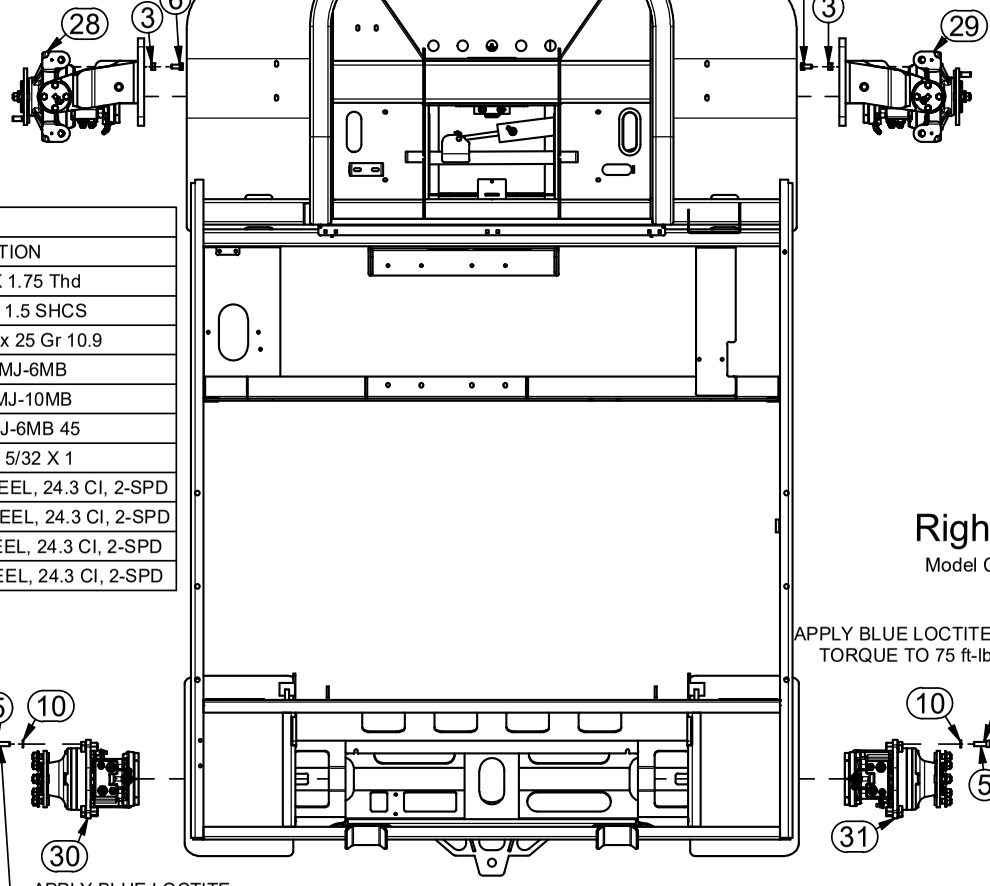


Front Right Wheel Motor:

Model Code: MGE02-2-***D***1A-W20-C121-Y8JM



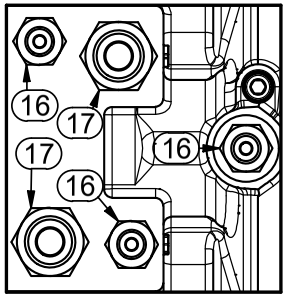
Steering Stop



Parts List			
ITEM	QTY	PART #	DESCRIPTION
3	2	110053	Hex Nut M12 X 1.75 Thd
5	20	110244	BOLT, 1/2-13 X 1.5 SHCS
6	2	110347	BOLT, M12x1.75 x 25 Gr 10.9
16	10	120249	ADAPTER, 4MJ-6MB
17	8	120446	ADAPTER, 8MJ-10MB
18	2	120732	ADAPTER, 4MJ-6MB 45
19	2	200029	COTTER PIN, 5/32 X 1
28	1	323055	MOTOR, LH FRONT WHEEL, 24.3 CI, 2-SPD
29	1	323056	MOTOR, RH FRONT WHEEL, 24.3 CI, 2-SPD
30	1	323057	MOTOR, LH REAR WHEEL, 24.3 CI, 2-SPD
31	1	323058	MOTOR, RH REAR WHEEL, 24.3 CI, 2-SPD

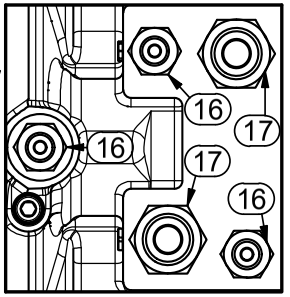
Left Rear Wheel Motor:

Model Code: MSE02-2-***G***2A-F03-1120-Y8JM



Right Rear Wheel Motor:

Model Code: MSE02-2-***D***2A-F03-1120-Y8JM



WHEEL MOTOR INSTALLATION

7-23-2020

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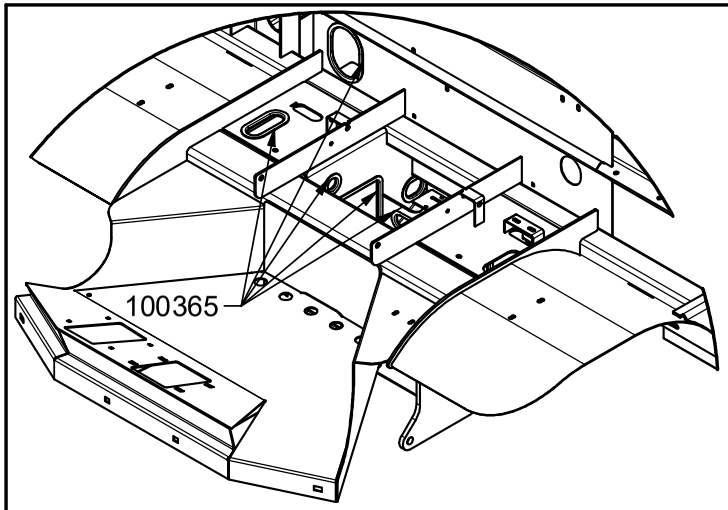
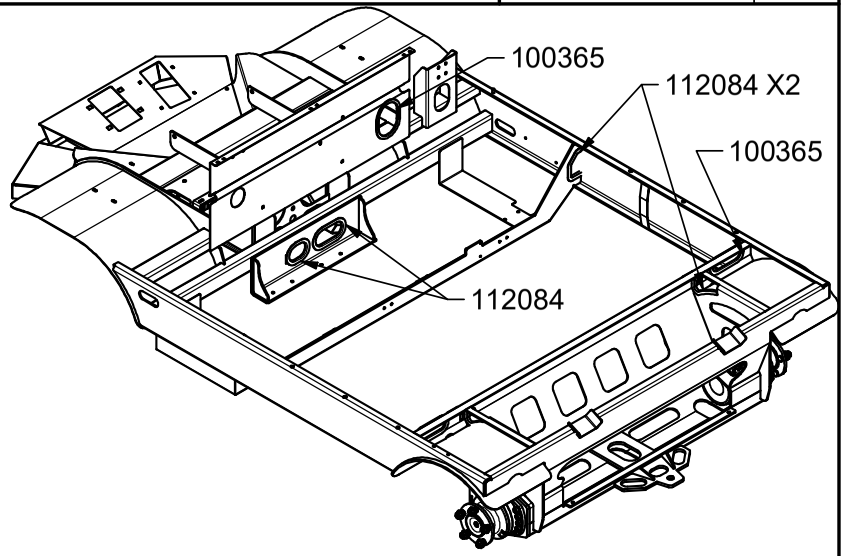
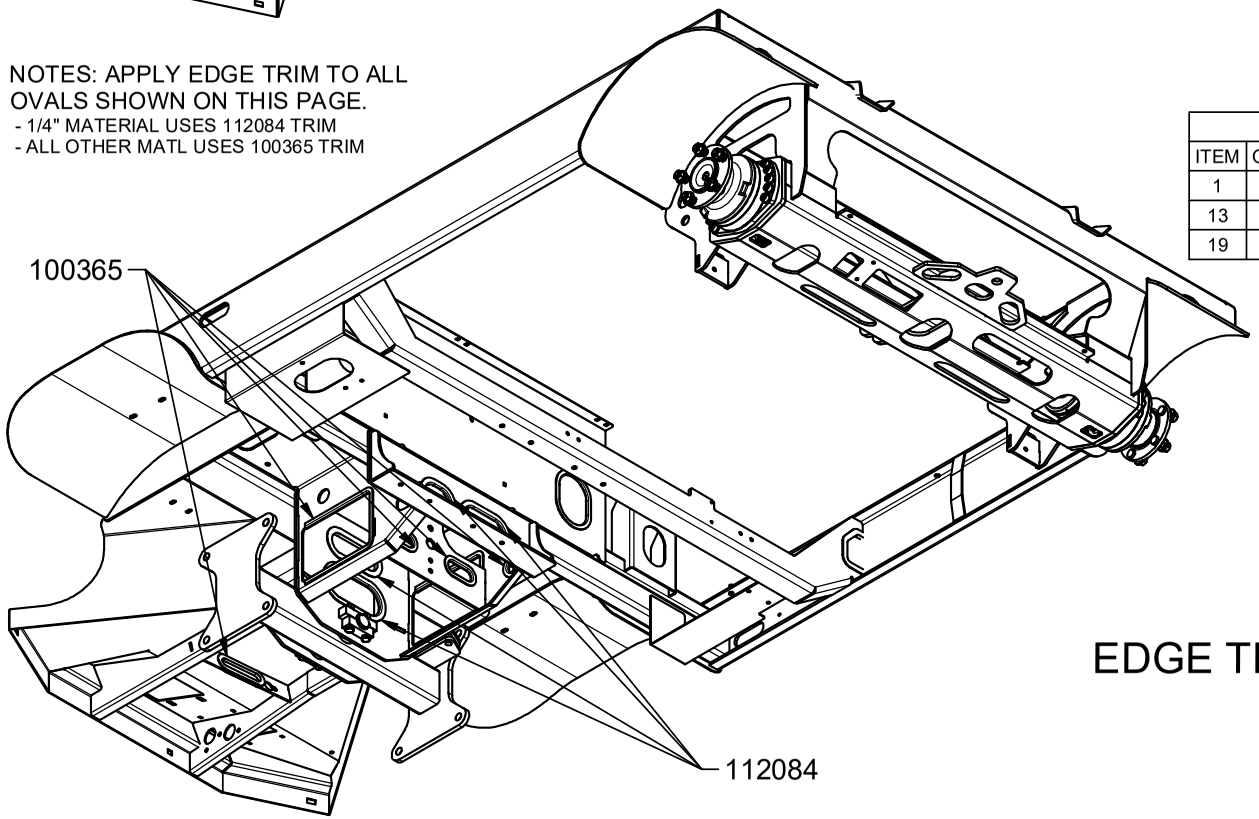




NOTES: APPLY EDGE TRIM TO ALL OVALS SHOWN ON THIS PAGE.
- 1/4" MATERIAL USES 112084 TRIM
- ALL OTHER MATL USES 100365 TRIM



Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	10'	100365	MOLDING - EDGE GUARD, 5/32
13	13'	112084	Rubber Seal, .625 X .25
19	2	200029	COTTER PIN, 5/32 X 1

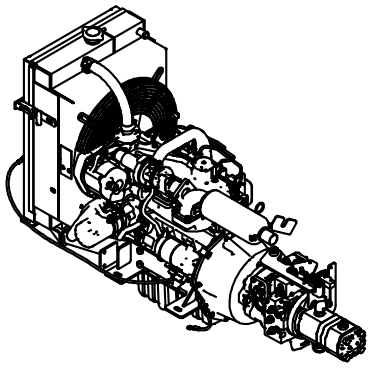
EDGE TRIM PLACEMENT

7-23-2020

305072	REV: C

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	102074	Clamp, Adel .75w x 1.25id x .406 Hole
2	4	110001	BOLT, 1/2-13 X 1.25, WIZ FLANGE
3	2	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	6	110069	WASHER, 5/16" FLAT SAE
5	3	110074	Hex Nut M6 X 1.0 Thd
6	1	110141	NUT, M8 X 1.25 WIZFLANGE
7	2	110155	WASHER, 3/8" FLAT SAE
8	2	110176	BOLT, M10x1.5 x 35 SHCS
9	4	110220	BOLT, 1/2-13 X 1, WIZ FLANGE
10	2	110419	BOLT, 1/2-13 X 1.75
11	2	110422	BOLT, 5/16-18 X .75
12	1	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
13	5	110469	BOLT, M8x1.25 x 20 Gr 10.9
14	9	110560	BOLT, M10-1.25 X 20 HHCS 8.8 PLAIN
15	4	110588	NUT, 1/2-13 WIZ FLANGE
16	3	110606	NUT, 5/16-18 WIZ FLANGE
17	2	110666	WASHER, 1/2" LOCK
18	7	110674	WASHER, 5/16" LOCK
19	11	110689	Washer, M10, Lock
20	2	110692	WASHER, 6mm LOCK
21	1	110728	CLAMP, ADEL DOUBLE .75WX.5IDX.406HOLE
22	2	110931	BOLT, M6x1 x 25 Gr 8.8
23	4	112101	CLAMP, 1.50", T-BOLT
24	1	120144	ADAPTER, 6MJ-10MB
25	1	120224	ADAPTER, 10MJ-10MB90
26	2	120249	ADAPTER, 4MJ-6MB
27	1	120254	ADAPTER, 12MJ-12MB
28	2	120256	ADAPTER, 12MJ-16MB
29	1	120319	ADAPTER, 6MJ-6MB
30	1	120546	ADAPTER, 20BH-16MB90
31	1	120740	Adapter, 20mj-12mb
32	2	132014	INSULATOR CAP, (ALTERNATOR)
33	1	132092	FUSE COVER, BUSS CFCOVER-1R
34	1	132093	FUSE HOLDER, BUSS CFBAR1-M8XSP
35	1	132150	FUSE, 50 AMP

Parts List			
ITEM	QTY	PART #	DESCRIPTION
36	1	302138	Extension Spring, .730 x .0915 x 4.00
37	1	305073	ASSY, RADIATOR SCREEN
38	1	315186	Weldment, Kubota Throttle Mnt
39	1	315379	WELDMENT, RADIATOR MOUNT
40	1	315380	WELDMENT, NEUTRAL CENTERING
41	2	317301	CATCH, LATCH
42	1	317302	BRKT, NEUTRAL SPRING
43	1	317303	BRKT, NEUTRAL SAFETY SW
44	1	317304	LEVER, PROPULSION PUMP
45	1	317305	BRKT, PUSH/PULL CABLE
46	1	317316	BOLT, NEUTRAL CENTERING PIVOT
47	1	323054	Pump, PM30 Propulsion, 1.53 CI / .49 CI Charge
48	1	323063	PUMP, DOUBLE GEAR 1.16 / .24 CI
49	1	332004	Sender, Water, 3/8 Npt
50	1	332066	SWITCH, 221 F TEMP, 6MP, N.O. RISING
51	1	342011	ADAPTER - PUMP, KUBOTA 1505, KIT
52	1	342067	MANIFOLD, TOP OUTLET EXHAUST
53	2	540079	BEARING, BALL, 1620RS
54	1	801002	HOSE, UPPER RADIATOR
55	1	801003	HOSE, LOWER RADIATOR
56	1	815097	WELDMENT, LH ENG/RAD MOUNT
57	1	815098	WELDMENT, RH ENG/RAD MOUNT
58	1	820247	O'RING 2-042 1/16" BUNA
59	1	830063	CABLE, POSITIVE BATTERY
60	1	832001	CABLE, GROUND
61	1	832002	SWITCH ROLLER PLUNGER
62	1	832072	HARNESS, 72LC ENGINE
63	1	832076	Switch, 190 F Temp, 8MB, N.C. Rising
64	1	843005	ENGINE, KUBOTA V1505 TIER 4F (25HP)
65	1	843006	COOLING PACKAGE, RADIATOR & OIL



ENGINE ASSEMBLY

8-19-2020

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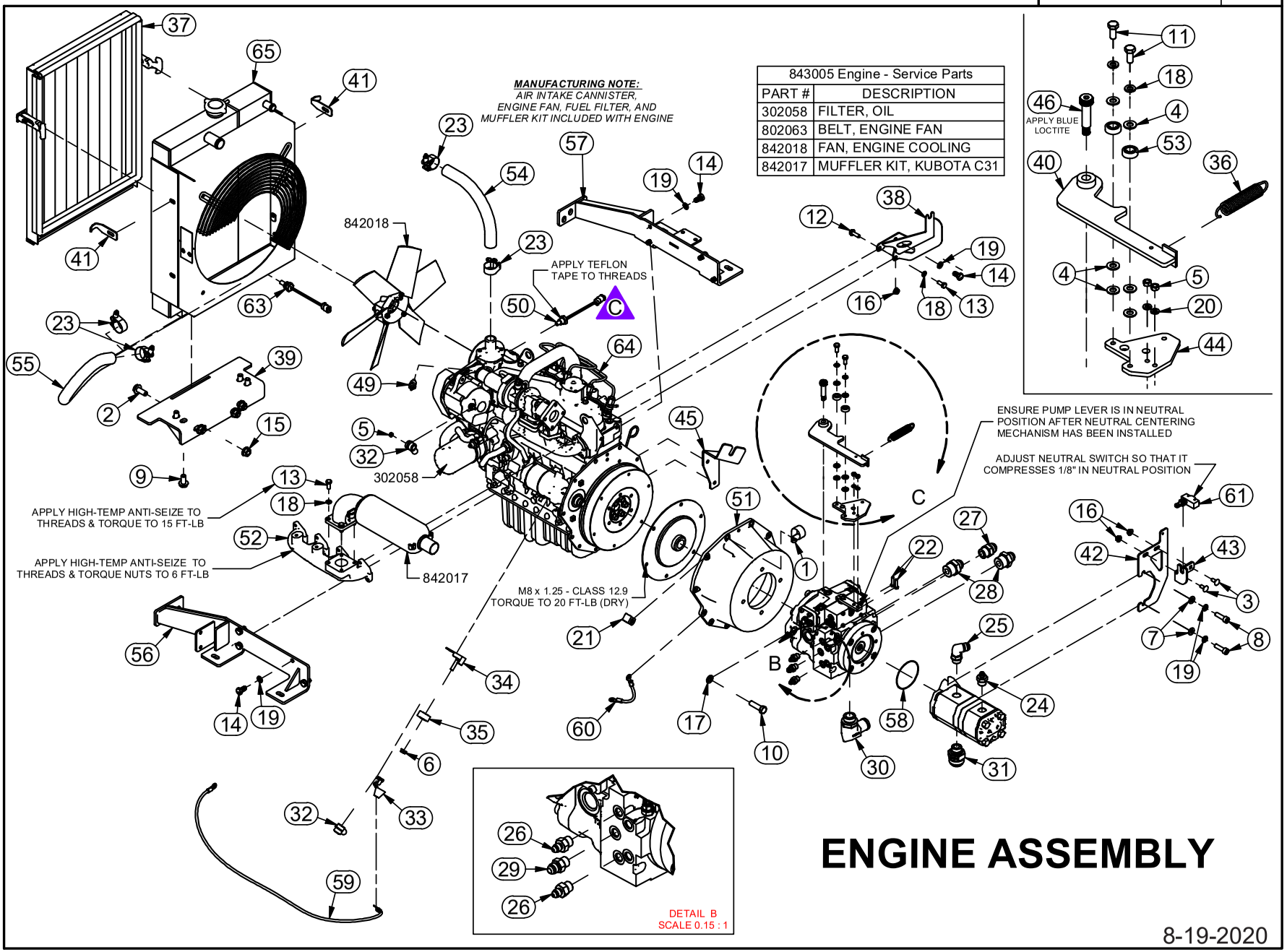
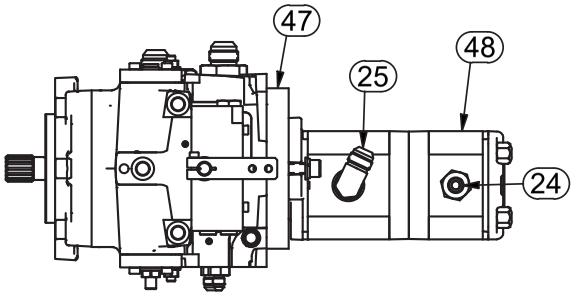


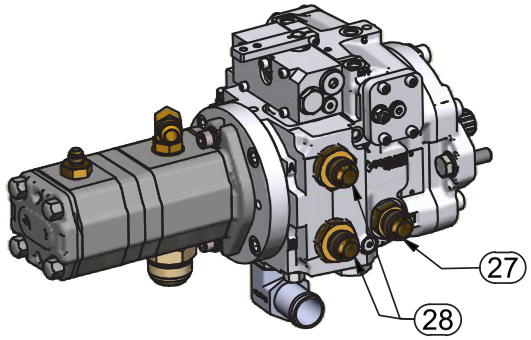
843005 Engine - Service Parts	
PART #	DESCRIPTION
302058	FILTER, OIL
802063	BELT, ENGINE FAN
842018	FAN, ENGINE COOLING
842017	MUFFLER KIT, KUBOTA C31

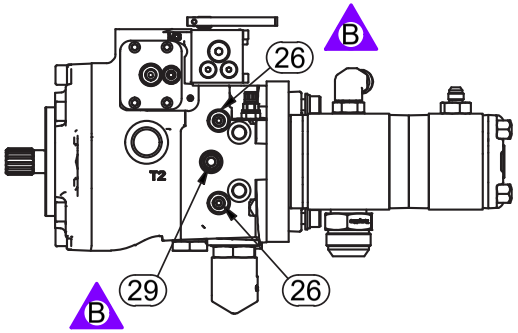
ENGINE ASSEMBLY

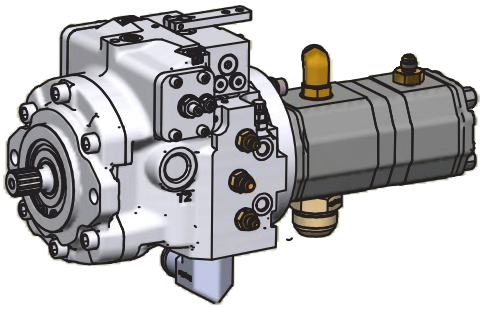
8-19-2020

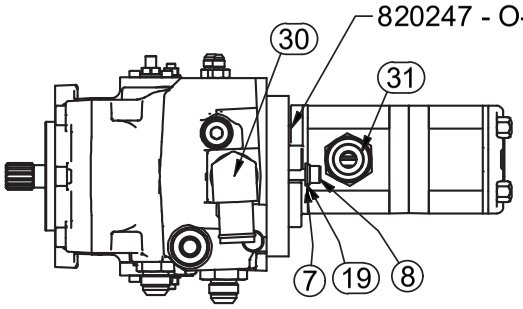
HYDRAULIC PUMP ASSEMBLY







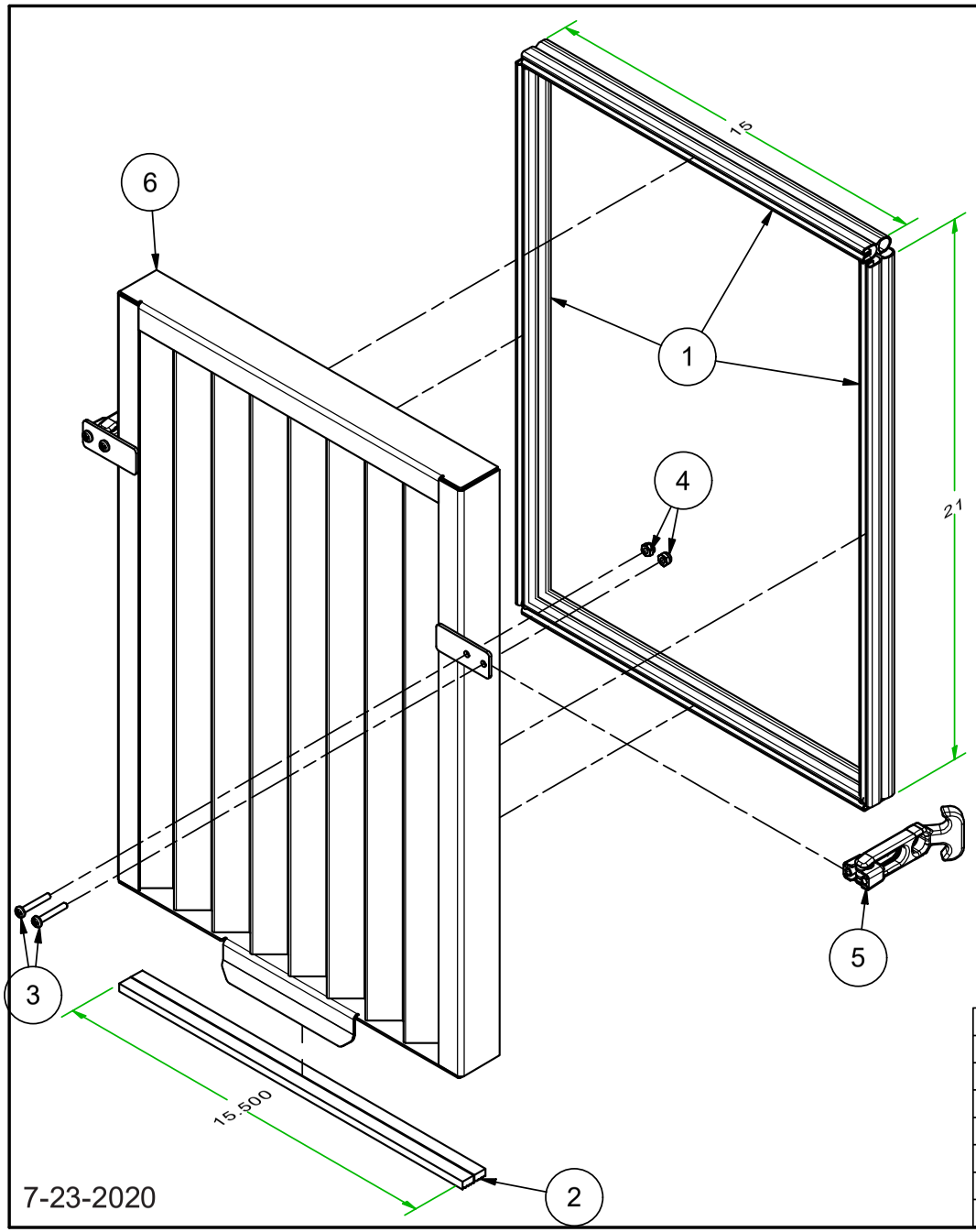


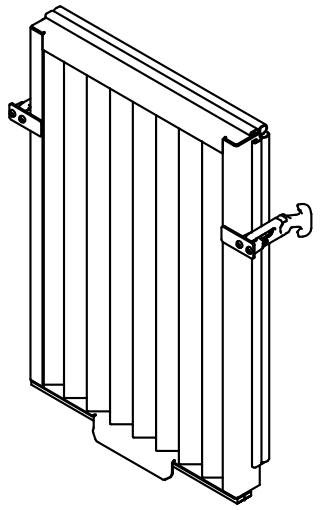


Parts List				Parts List			
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
7	2	110155	WASHER, 3/8" FLAT SAE	29	1	120319	ADAPTER, 6MJ-6MB
8	2	110176	BOLT, M10x1.5 x 35 SHCS	30	1	120546	ADAPTER, 20BH-16MB90
19	11	110689	Washer, M10, Lock	31	1	120740	Adapter, 20mj-12mb
24	1	120144	ADAPTER, 6MJ-10MB	47	1	323054	Pump, PM30 Propulsion,
25	1	120224	ADAPTER, 10MJ-10MB90				1.53 CI / .49 CI Charge
26	2	120249	ADAPTER, 4MJ-6MB	48	1	323063	PUMP, DOUBLE GEAR
27	1	120254	ADAPTER, 12MJ-12MB				1.16 / .24 CI
28	2	120256	ADAPTER, 12MJ-16MB	58	1	820247	O'RING 2-042 1/16" BUNA

8-19-2020

305073





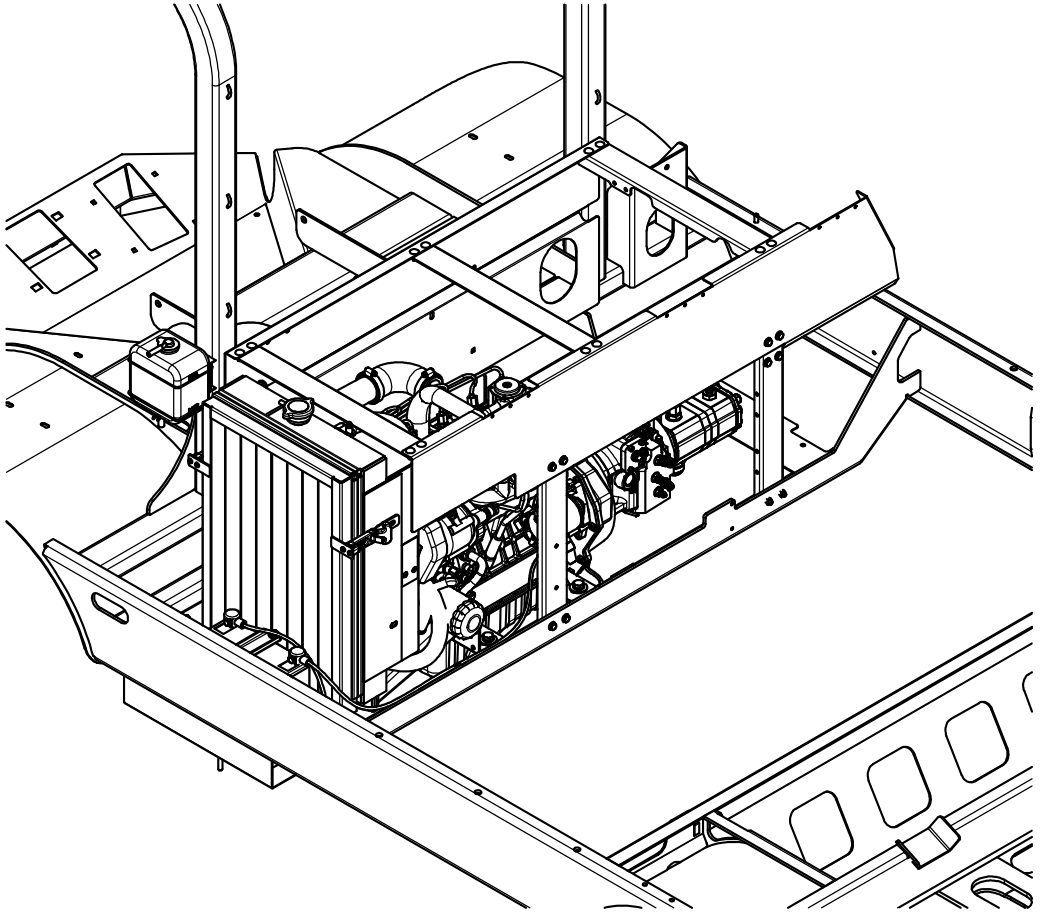
Radiator Screen Assembly

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	72"	100360	MOULDING, EDGE, AIR INLET
2	15"	102055	SEAL, RUBBER .5 x .3 X2897HT
3	4	110339	SCREW, 10-24X1.25 PAN HEAD PHPS
4	4	110631	NUT, 10-24 LOCK NYLON INSERT
5	2	112105	LATCH, RUBBER T-HANDLE DRAW
6	1	315360	WELDMENT, RADIATOR SCREEN

7-23-2020

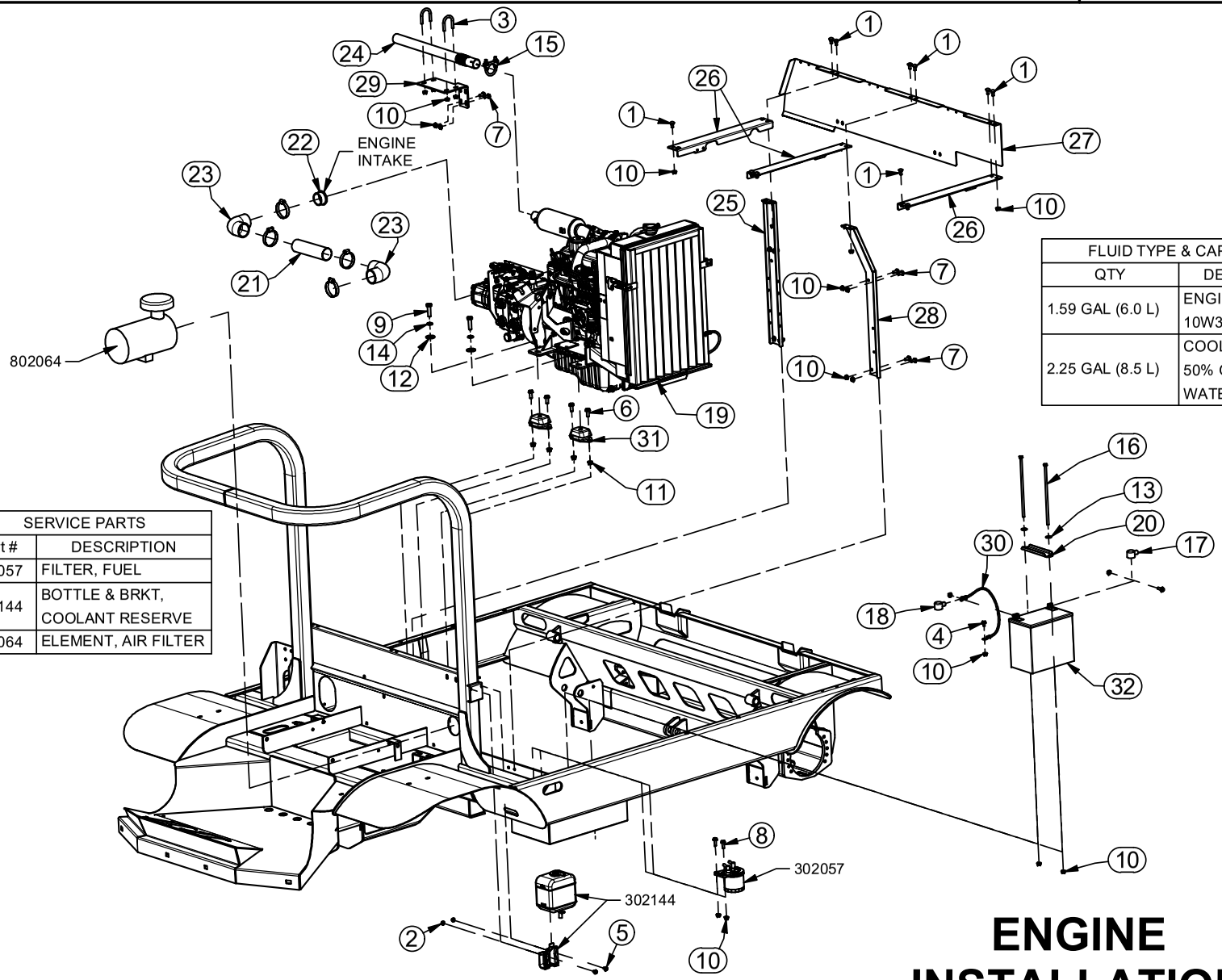
ENGINE INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	12	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	2	110290	NUT, 1/4-20 WIZ FLANGE
3	2	110362	U-BOLT, 5/16
4	1	110426	BOLT, 5/16-18 X 0.5, WIZ FLANGE
5	2	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE
6	8	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
7	10	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
8	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
9	4	110577	BOLT, M12x1.75 x 45 Gr 10.9
10	31	110606	NUT, 5/16-18 WIZ FLANGE
11	8	110645	NUT, 3/8-16 WIZ FLANGE
12	4	110658	WASHER, 1/2" FLAT STANDARD
13	2	110665	WASHER, 5/16" FLAT STANDARD
14	4	110666	WASHER, 1/2" LOCK
15	1	110779	CLAMP, 1 1/2" EXHAUST
16	2	111187	BOLT, 5/16-18 X 10.0, Zinc
17	1	132069	BATTERY TERMINAL COVER, POSITIVE
18	1	132070	BATTERY TERMINAL COVER, NEGATIVE
19	1	305072	ASSY, ENGINE
20	1	311603	BRACKET - HOLD DOWN, BATTERY
21	1	311941	TUBE, AIR INTAKE
22	1	312036	REDUCER, 2.0" TO 1.75"
23	2	312037	ELBOW, 2.0" 90 DEG
24	1	315389	WELDMENT, HAWK EXHAUST
25	1	317205	SUPPORT, REAR SHIELD
26	3	317206	SUPPORT, UPPER SHIELD
27	1	317235	SHIELD, REAR ENGINE
28	1	317236	SUPPORT, VERTICAL REAR SHIELD
29	1	317248	BRKT, EXHAUST SUPPORT
30	1	530051	CABLE, BATTERY/GND 16" BLACK
31	4	800021	MOTOR MOUNT
32	1	832011	BATTERY, SEALED GEL W/ L TERMINAL



7-23-2020

305082	REV: A



SERVICE PARTS	
Part #	DESCRIPTION
302057	FILTER, FUEL
302144	BOTTLE & BRKT, COOLANT RESERVE
802064	ELEMENT, AIR FILTER

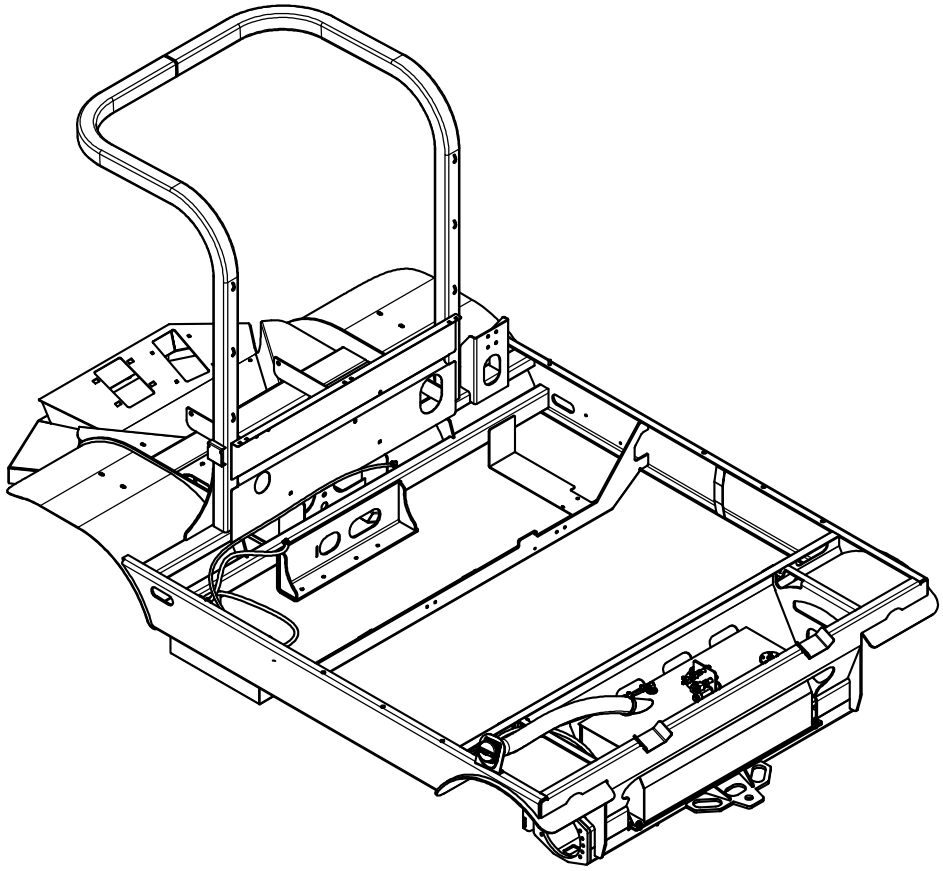
FLUID TYPE & CAPACITIES	
QTY	DESCRIPTION
1.59 GAL (6.0 L)	ENGINE OIL - SAE 10W30 or 15W-40
2.25 GAL (8.5 L)	COOLANT - 50% GLYCOL / 50% WATER MIX

ENGINE INSTALLATION

7-23-2020

FUEL TANK INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	10	100361	CLAMP, HOSE #4 .25 MINI
2	128"	100708	Hose, 3/16 High Pressure Fuel
3	132"	100756	Hose, 5/16 High Pressure Fuel
4	1	110090	WASHER, #10 FLAT STANDARD
5	4	110290	NUT, 1/4-20 WIZ FLANGE
6	4	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
7	4	110468	BOLT, 1/4-20 X 0.75, WIZ FLANGE
8	4	110631	NUT, 10-24 LOCK NYLON INSERT
9	4	110645	NUT, 3/8-16 WIZ FLANGE
10	4	110709	SCREW, 10-24 X 0.75, RHMS
11	5	112053	SCREW, 10-32 X 1/2 MACH SEAL
12	1	120040	ADAPTER, 4MJ-6MP90
13	1	120102	ADAPTER, BULKHEAD, 6MJ-6MJ
14	2	120126	ADAPTER, BULKHEAD, 4MJ-4MJ
15	2	120215	ADAPTER, 4MJ-4FJX-4MJ
16	1	120216	ADAPTER, 6MJ-6FJX-6MJ
17	1	120378	ADAPTER, 5HB-6FBX
18	1	120487	ADAPTER, 12MJ-12MJ-12MJ BULKHEAD
19	1	120495	Nut, Lock, Bulkhead, -12
20	1	120516	Adapter, 12fjx-12mj90tube
21	1	120655	Adapter, 3hb-4fj
22	1	301010	HOSE, FUEL FILL
23	1	302137	FUEL CAP, 2" DIESEL, GREEN
24	1	315301	WELDMENT, DIESEL FILLER NECK
25	1	315342	WELDMENT, FUEL TANK
26	1	317175	BRKT, FUEL FILL
27	1	332058	Fuel Level Sender, 9.5" Depth
28	1	500172	GASKET, FUEL SENDER
29	1	500209	FITTING, REDUCER 3/8 X 1/4 NPT
30	2	511003	CLAMP, HOSE #36 2.25"
31	1	802023	VALVE, FUEL SHUT OFF 6MB-4MP

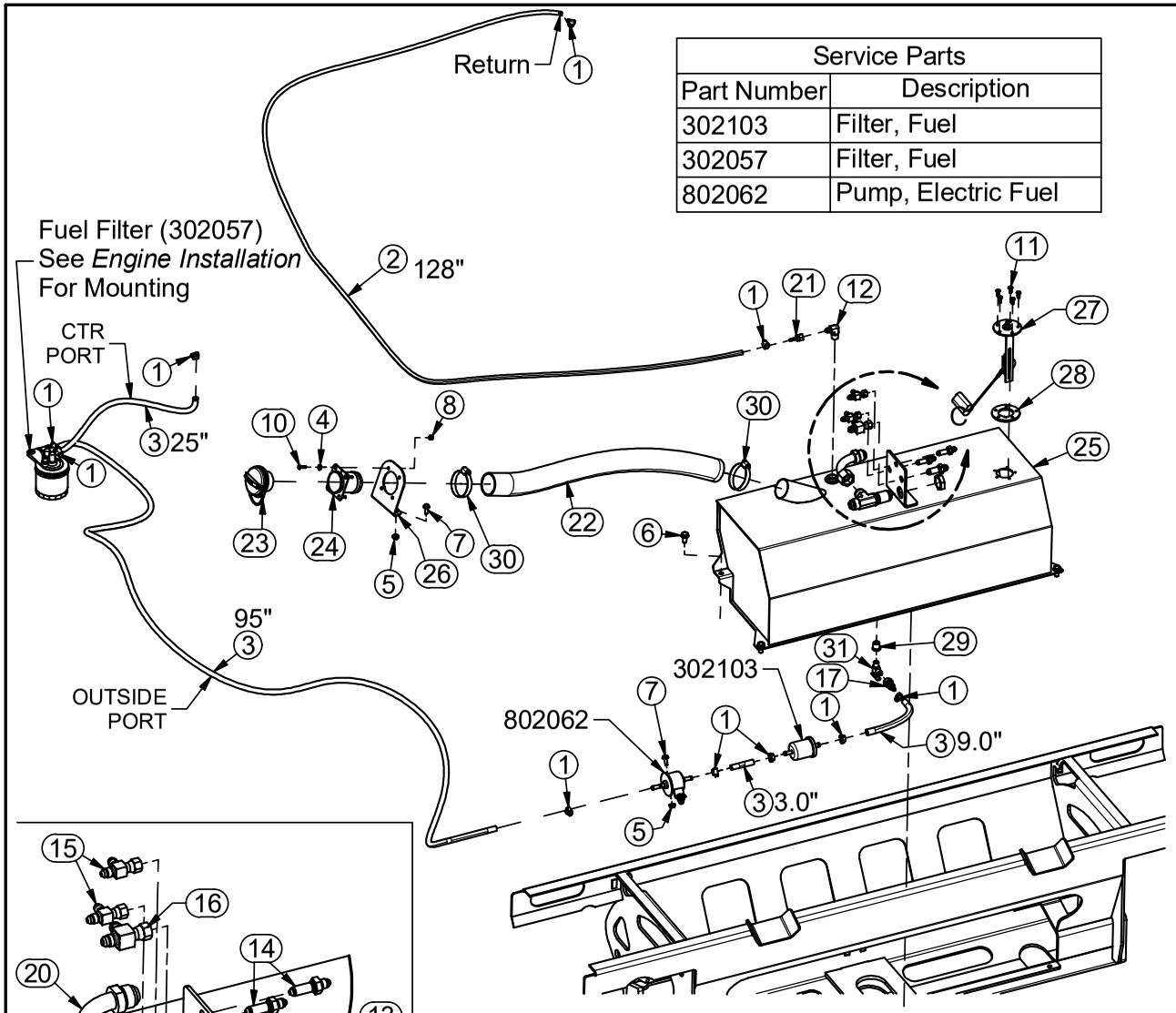


7-23-2020

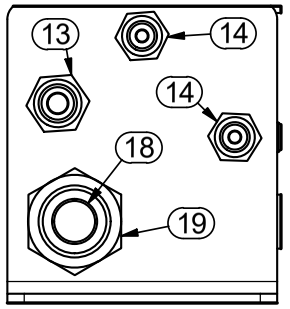
305088	REV: A

FUEL TANK INSTALLATION

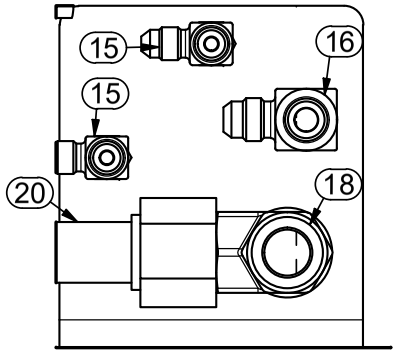
Service Parts	
Part Number	Description
302103	Filter, Fuel
302057	Filter, Fuel
802062	Pump, Electric Fuel



Right Side Plumbing



Left Side Plumbing



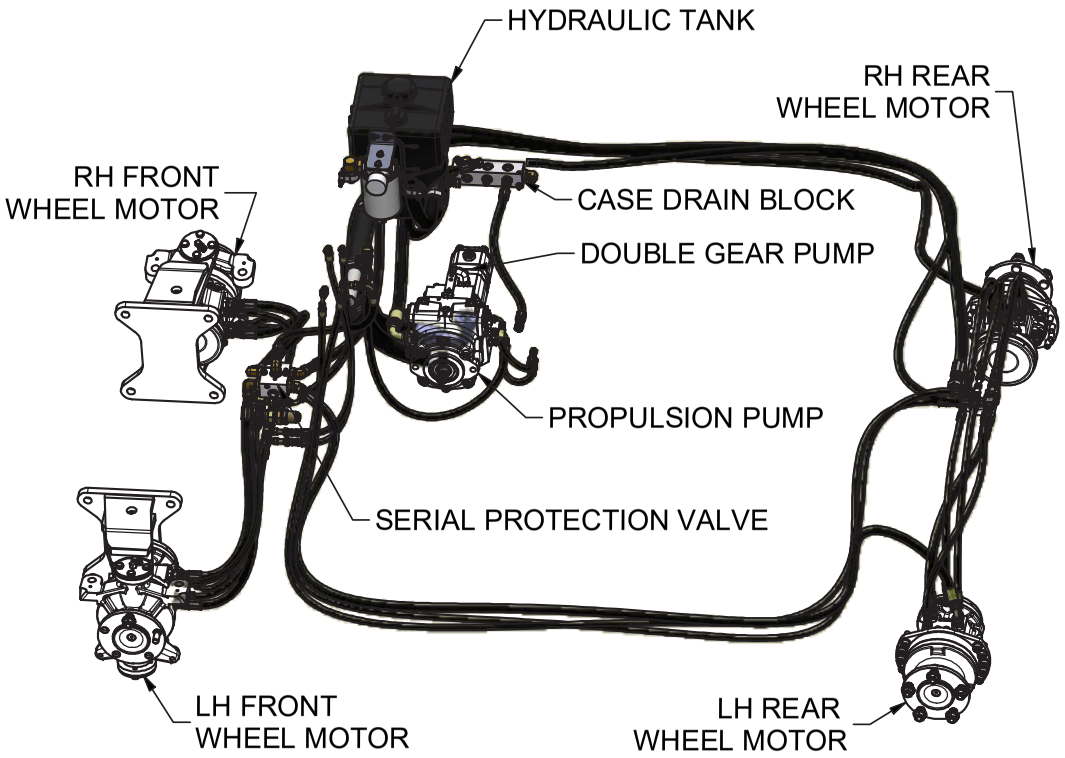
7-23-2020

PROPULSION HYDRAULIC INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	6	110290	NUT, 1/4-20 WIZ FLANGE
2	4	110410	BOLT, 1/4-20 X 2.5
3	4	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE
4	4	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
5	2	110529	BOLT, 5/16-18 X 4.5
6	2	110606	NUT, 5/16-18 WIZ FLANGE
7	2	111011	Bolt, M5-.80 X 55, SHCS, Stainless
8	2	111012	STEP AP203
9	2	111013	WASHER, M5, Flat, Stainless
10	3	112007	CLAMP, 1.75", T-BOLT

Parts List			
ITEM	QTY	PART #	DESCRIPTION
11	6	112008	CLAMP, 1.25", T-BOLT
12	2	112101	CLAMP, 1.50", T-BOLT
13	2	112137	CLAMP, 2.00", T-BOLT
14	1	120057	ADAPTER, 6MJ-6MJ-6FJX
15	1	120102	ADAPTER, BULKHEAD, 6MJ-6MJ
16	2	120126	ADAPTER, BULKHEAD, 4MJ-4MJ
17	3	120134	ADAPTER, 6MJ-8MB90
18	2	120139	ADAPTER, 8MJ-10MB 45
19	1	120187	ADAPTER, 12BH-8MB90
20	1	120216	ADAPTER, 6MJ-6FJX-6MJ

Parts List			
ITEM	QTY	PART #	DESCRIPTION
21	5	120222	ADAPTER, 6MJ-6MB90
22	2	120226	ADAPTER, 12BH-12MB90
23	2	120245	ADAPTER, 8MJ-10MB90
24	4	120249	ADAPTER, 4MJ-6MB
25	1	120292	NUT, BULKHEAD LOCKNUT, -6
26	1	120303	ADAPTER, 12MB-16HB
27	3	120319	ADAPTER, 6MJ-6MB
28	1	120495	Nut, Lock, Bulkhead, -12
29	1	120516	Adapter, 12fjx-12mj90tube
30	1	120663	ADAPTER, BULKHEAD, 12MJ-12MJ
31	2	120739	ADAPTER, 4MJ-8MB
32	2	120741	ADAPTER, 4MJ-4MJ-4FJX
33	1	120742	ADAPTER, 12MB-12FB-12FB
34	1	122016	ADAPTER, 12MJ-12MJ-12FJX
35	1	122034	HEAD, SPIN-ON FILTER, -12SAE
36	1	260265	MOUNTING BRACKET, FILTER
37	1	305087	Assy, Hydraulic Tank, ISO
38	1	322095	BLOCK, CASE DRAIN
39	1	322096	TEE, 1.5 x 1.25 x 1.25 BH
40	1	322098	GAUGE, PRESSURE, 600 PSI, 4MB
41	1	323059	VALVE, SERIAL PROTECTION
42	1	323060	VALVE, LOOP FLUSH
43	1	323064	HOSE KIT, 4WD HAWK GROUND DRIVE
44	1	323067	VALVE, BRAKE RELEASE & HI GEAR
45	1	822044	FILTER, 3 MICRON
46	1	822045	GAUGE, OIL FILTER

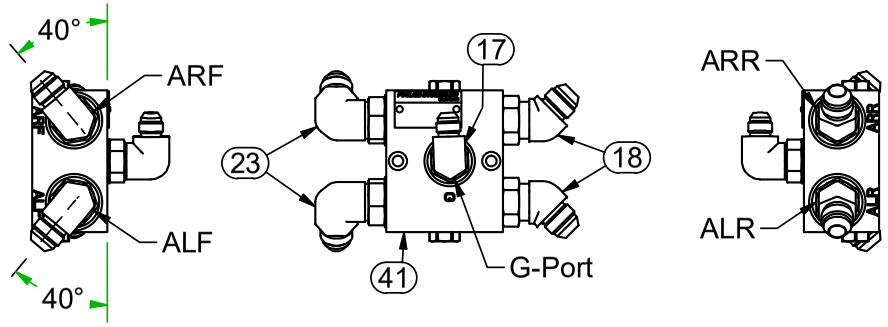


7-23-2020

305097	REV: A

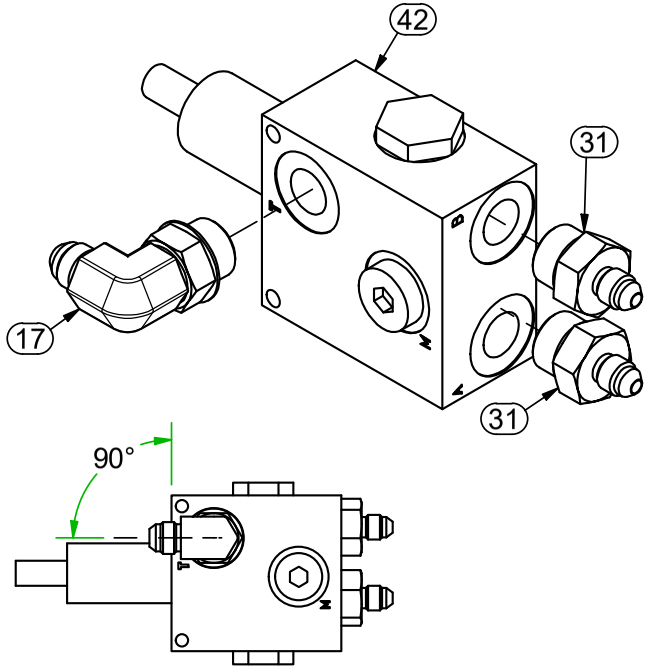
Serial Protection Valve

Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
18	2	120139	ADAPTER, 8MJ-10MB 45
23	2	120245	ADAPTER, 8MJ-10MB90
41	1	323059	VALVE, SERIAL PROTECTION

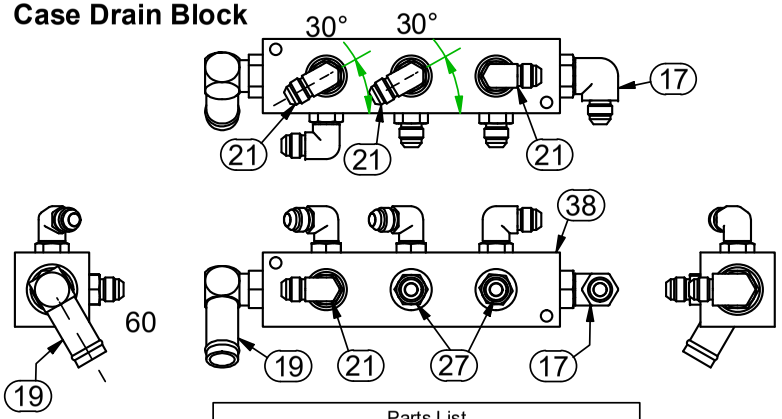


Loop Flush Valve

Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
31	2	120739	ADAPTER, 4MJ-8MB
42	1	323060	VALVE, LOOP FLUSH



Case Drain Block



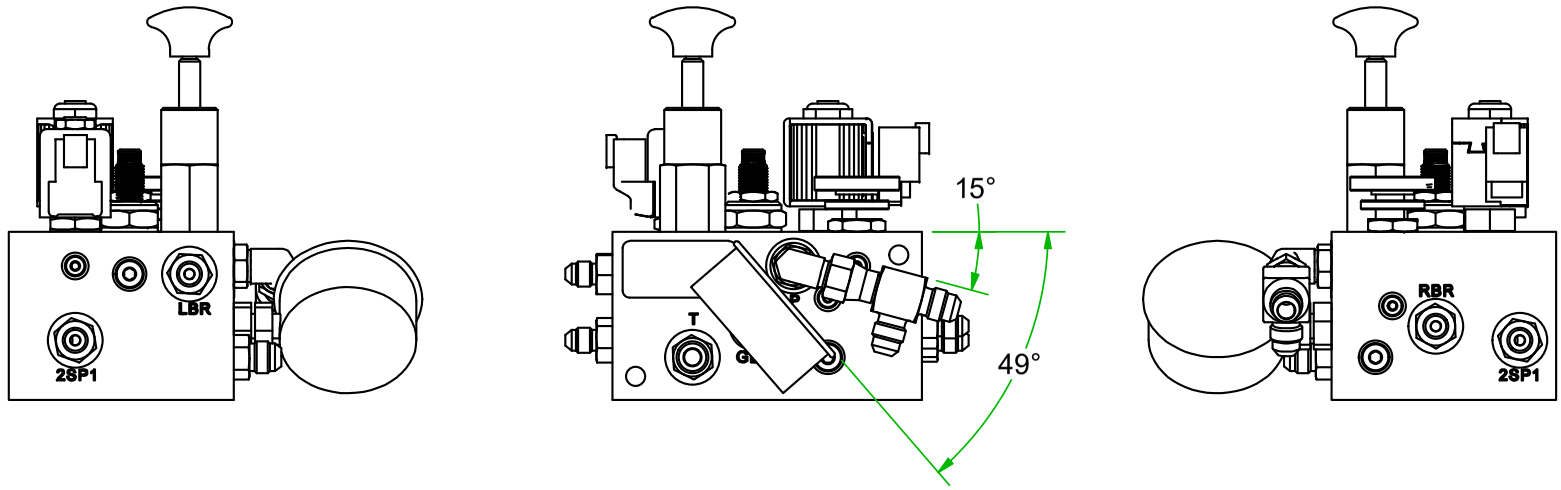
Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
19	1	120187	ADAPTER, 12BH-8MB90
21	4	120222	ADAPTER, 6MJ-6MB90
27	2	120319	ADAPTER, 6MJ-6MB
38	1	322095	BLOCK, CASE DRAIN

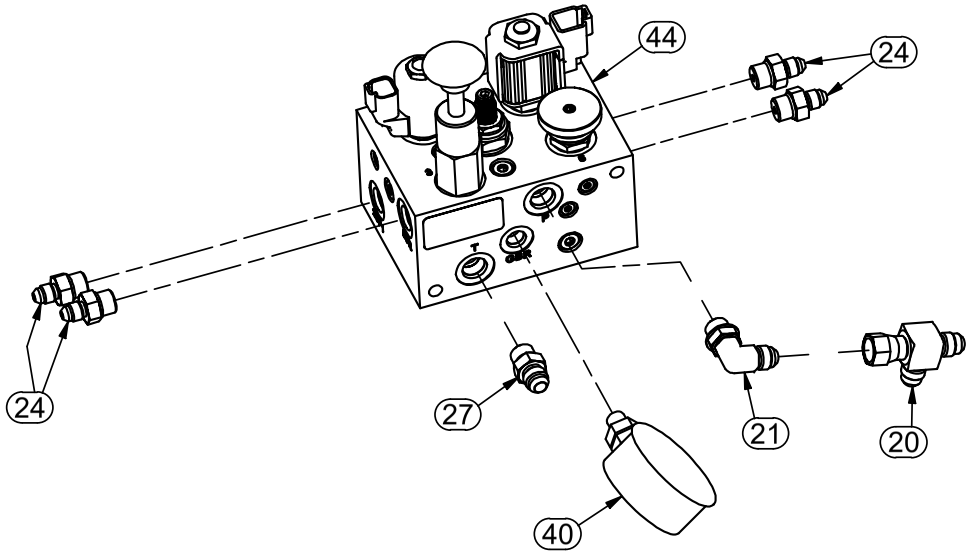
VALVE ASSEMBLIES

7-23-2020

305097	REV: A

BRAKE RELEASE / HI GEAR VALVE ASSEMBLY



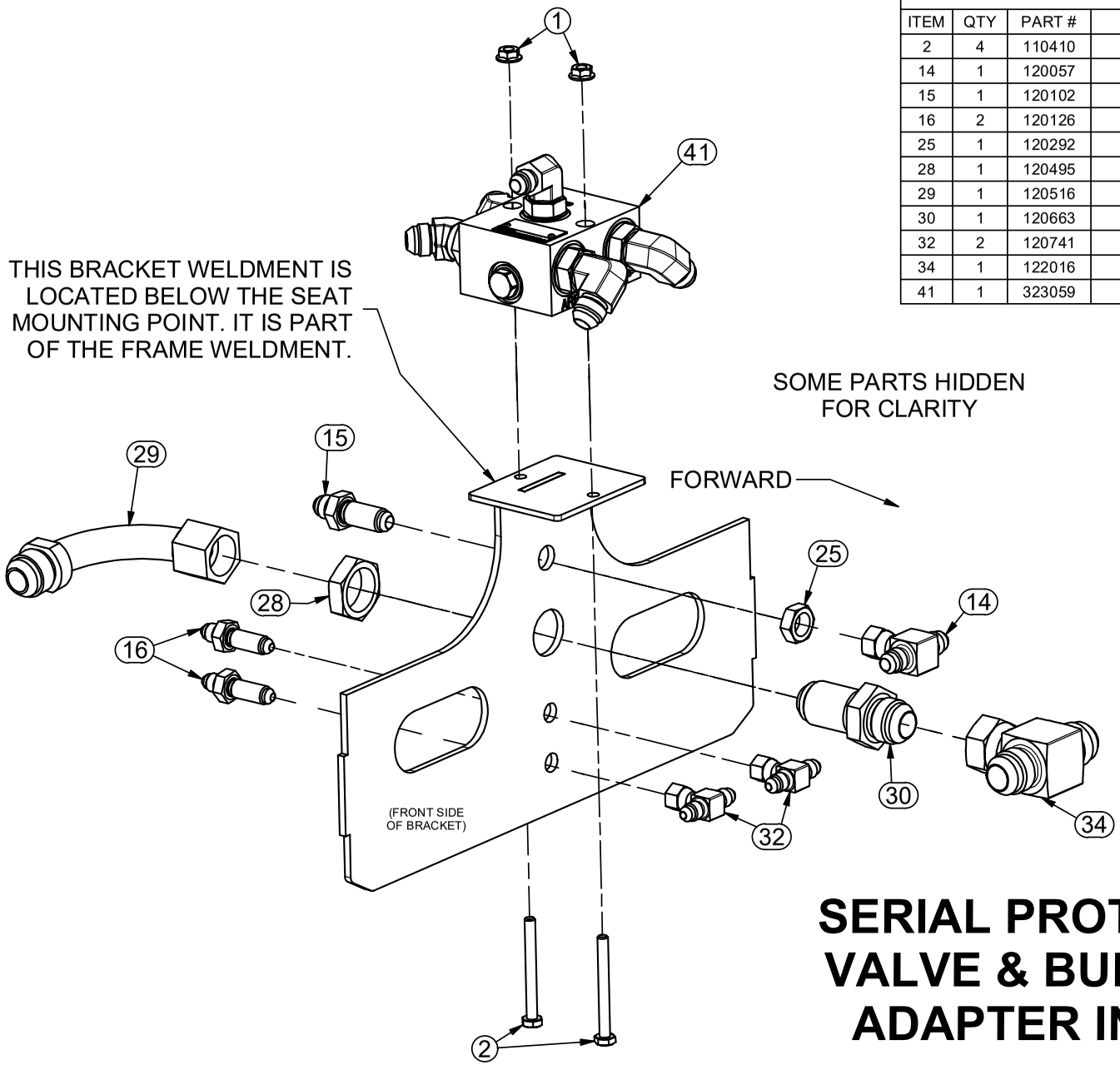


Parts List			
ITEM	QTY	PART #	DESCRIPTION
20	1	120216	ADAPTER, 6MJ-6FJX-6MJ
21	5	120222	ADAPTER, 6MJ-6MB90
24	4	120249	ADAPTER, 4MJ-6MB
27	3	120319	ADAPTER, 6MJ-6MB
40	1	322098	GAUGE, PRESSURE, 600 PSI, 4MB
44	1	323067	VALVE, BRAKE RELEASE & HI GEAR

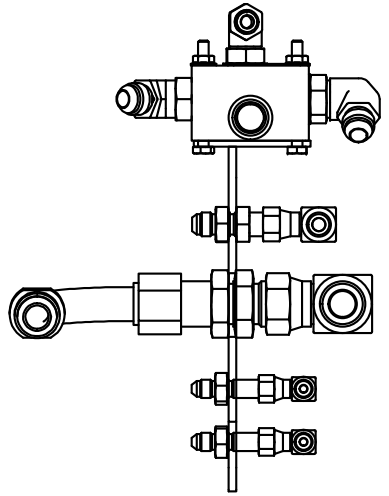
7-23-2020

305097	REV: A

Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	4	110410	BOLT, 1/4-20 X 2.5
14	1	120057	ADAPTER, 6MJ-6MJ-6FJX
15	1	120102	ADAPTER, BULKHEAD, 6MJ-6MJ
16	2	120126	ADAPTER, BULKHEAD, 4MJ-4MJ
25	1	120292	NUT, BULKHEAD LOCKNUT, -6
28	1	120495	Nut, Lock, Bulkhead, -12
29	1	120516	Adapter, 12fjx-12mj90tube
30	1	120663	ADAPTER, BULKHEAD, 12MJ-12MJ
32	2	120741	ADAPTER, 4MJ-4MJ-4FJX
34	1	122016	ADAPTER, 12MJ-12MJ-12FJX
41	1	323059	VALVE, SERIAL PROTECTION



ADAPTER ORIENTATION VIEW

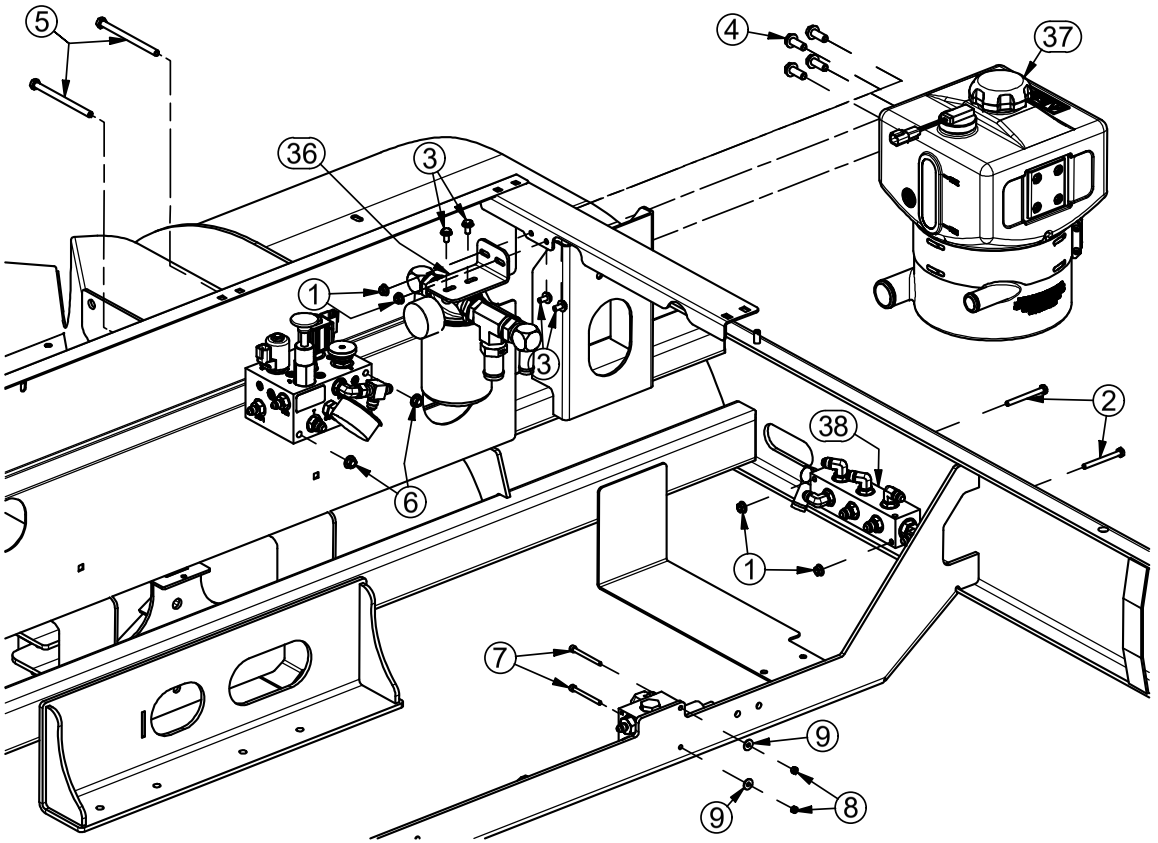


SERIAL PROTECTION VALVE & BULKHEAD ADAPTER INSTALL

7-23-2020

305097	REV: A

TANK, FILTER, & VALVE INSTALLATION

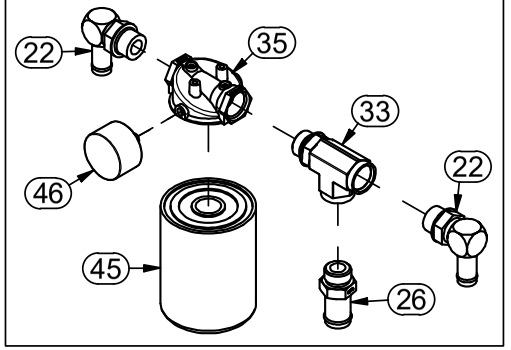


SOME PARTS HIDDEN FOR CLARITY

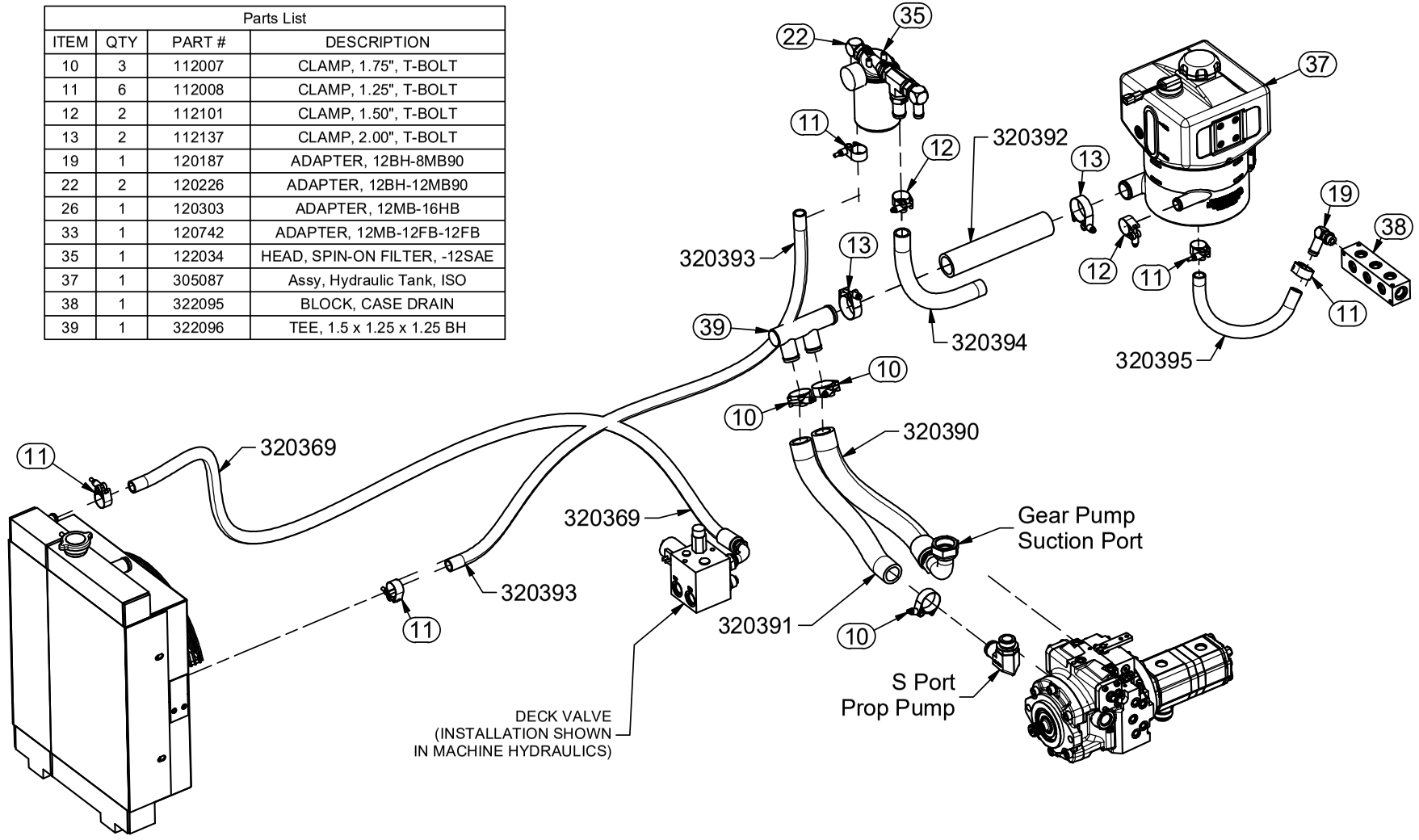
7-23-2020

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	6	110290	NUT, 1/4-20 WIZ FLANGE
2	4	110410	BOLT, 1/4-20 X 2.5
3	4	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE
4	4	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
5	2	110529	BOLT, 5/16-18 X 4.5
6	2	110606	NUT, 5/16-18 WIZ FLANGE
7	2	111011	Bolt, M5-.80 X 55, SHCS, Stainless
8	2	111012	STEP AP203
9	2	111013	Washer, M5, Flat, Stainless
22	2	120226	ADAPTER, 12BH-12MB90
26	1	120303	ADAPTER, 12MB-16HB
31	2	120739	ADAPTER, 4MJ-8MB
33	1	120742	ADAPTER, 12MB-12FB-12FB
35	1	122034	HEAD, SPIN-ON FILTER, -12SAE
36	1	260265	MOUNTING BRACKET, FILTER
37	1	305087	Assy, Hydraulic Tank, ISO
38	1	322095	BLOCK, CASE DRAIN
40	1	322098	GAUGE, PRESSURE, 600 PSI, 4MB
42	1	323060	VALVE, LOOP FLUSH
44	1	323067	VALVE, BRAKE RELEASE & HI GEAR
45	1	822044	FILTER, 3 MICRON
46	1	822045	GAUGE, OIL FILTER

OIL FILTER ASSEMBLY

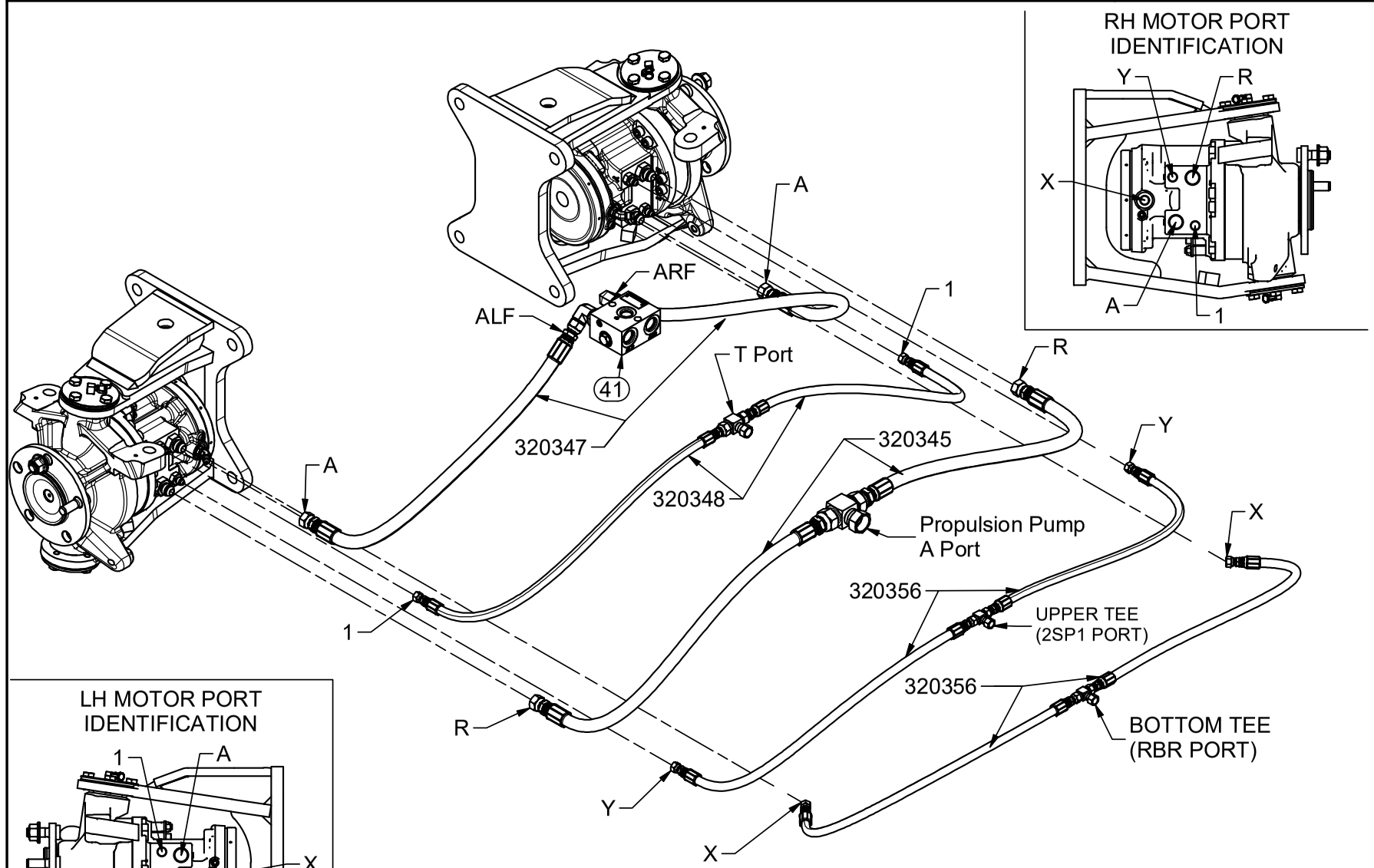


Parts List			
ITEM	QTY	PART #	DESCRIPTION
10	3	112007	CLAMP, 1.75", T-BOLT
11	6	112008	CLAMP, 1.25", T-BOLT
12	2	112101	CLAMP, 1.50", T-BOLT
13	2	112137	CLAMP, 2.00", T-BOLT
19	1	120187	ADAPTER, 12BH-8MB90
22	2	120226	ADAPTER, 12BH-12MB90
26	1	120303	ADAPTER, 12MB-16HB
33	1	120742	ADAPTER, 12MB-12FB-12FB
35	1	122034	HEAD, SPIN-ON FILTER, -12SAE
37	1	305087	Assy, Hydraulic Tank, ISO
38	1	322095	BLOCK, CASE DRAIN
39	1	322096	TEE, 1.5 x 1.25 x 1.25 BH



PROPULSION SUCTION & DRAIN PLUMBING

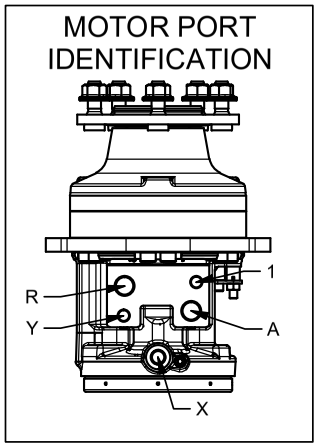
9-28-2020

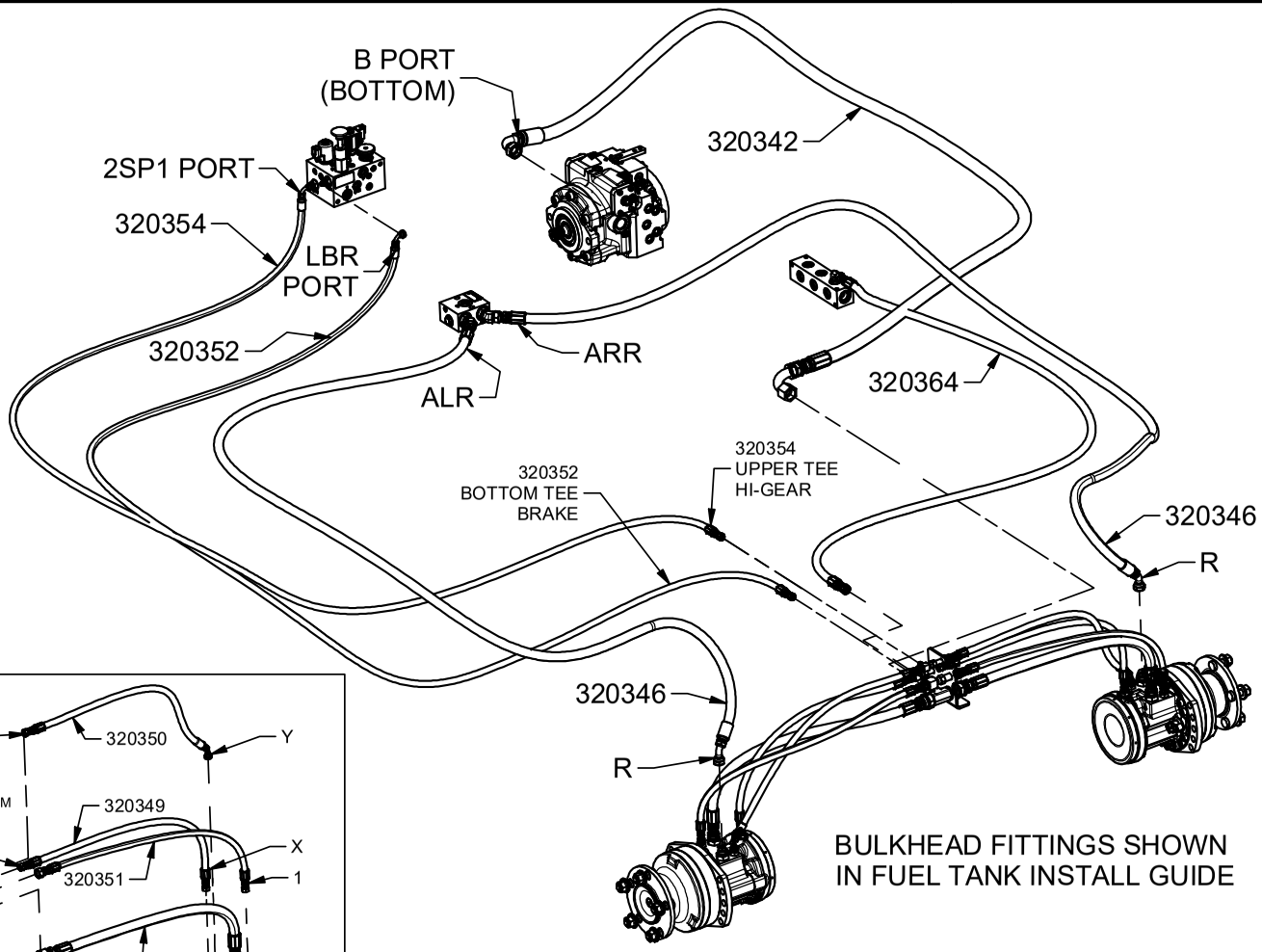


FRONT WHEEL MOTOR PLUMBING

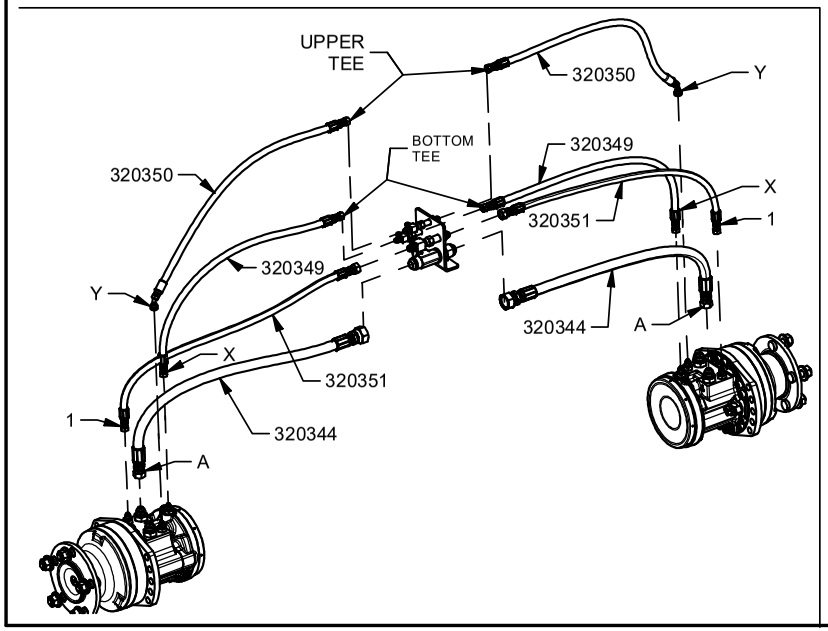
7-23-2020

305097	REV: A





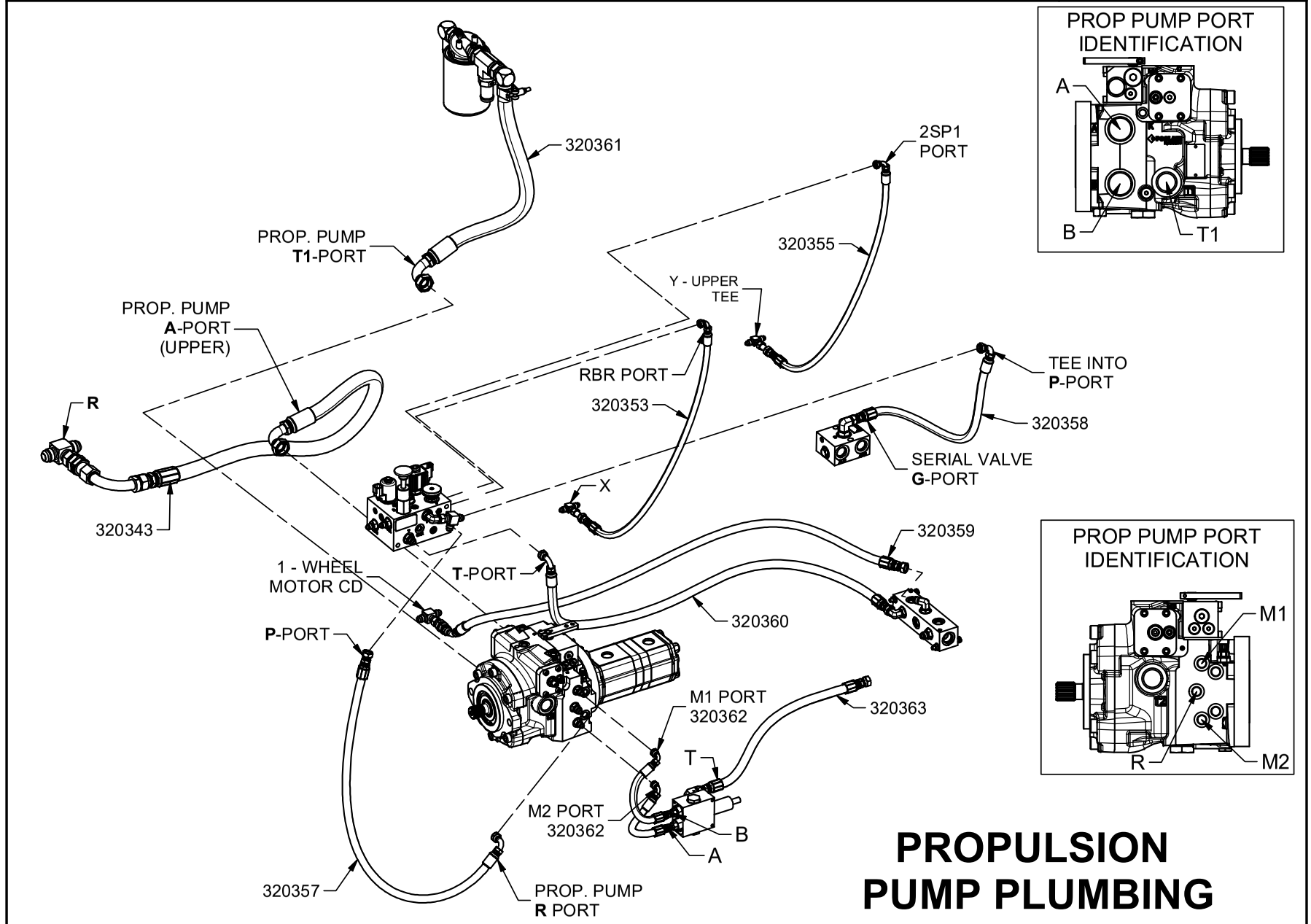
BULKHEAD FITTINGS SHOWN
IN FUEL TANK INSTALL GUIDE



REAR WHEEL MOTOR PLUMBING

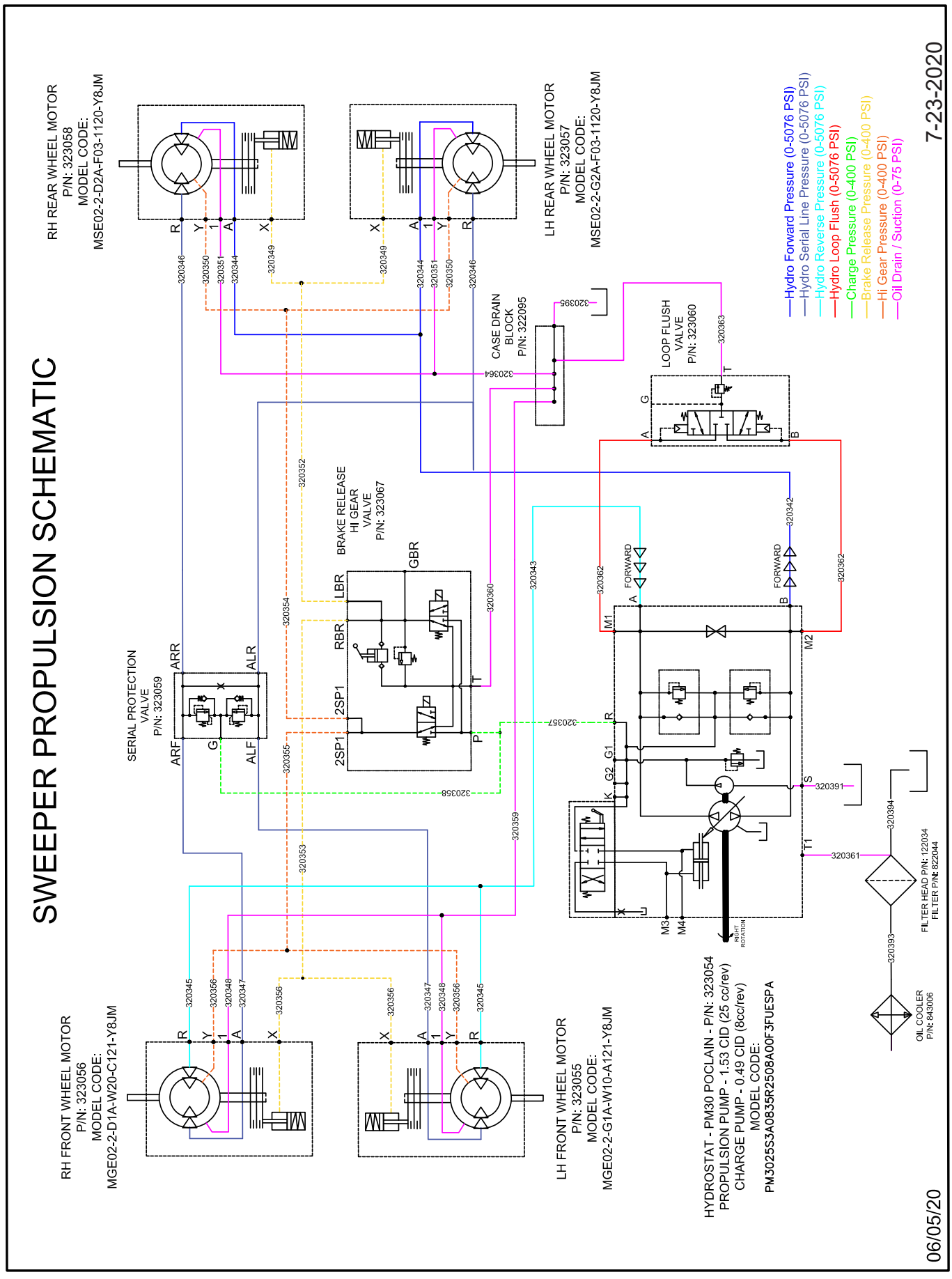
7-23-2020

305097	REV: A



PROPULSION PUMP PLUMBING

7-23-2020

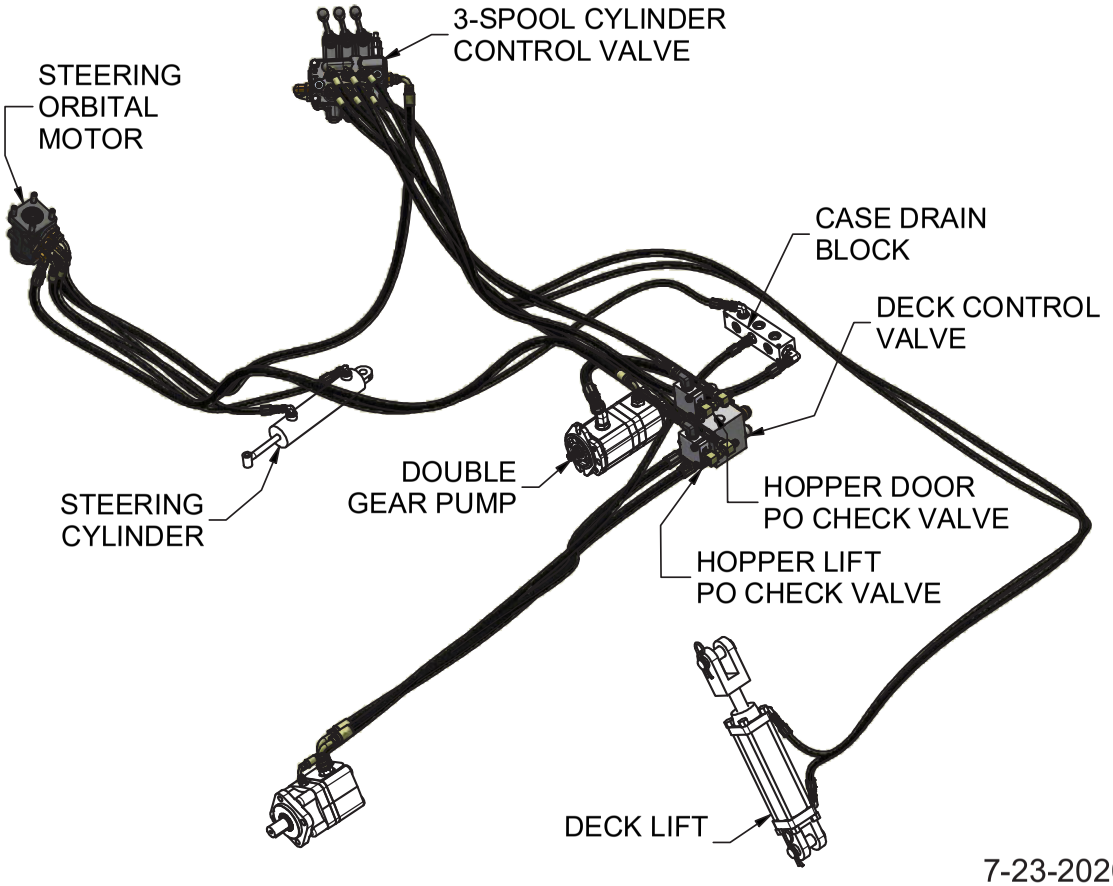

SWEEPER PROPULSION SCHEMATIC
7-23-2020
06/05/20
RH REAR WHEEL MOTOR
P/N: 323058
MODEL CODE:
MSE02-2-D2A-F03-1120-Y8JM
LH REAR WHEEL MOTOR
P/N: 323057
MODEL CODE:
MSE02-2-G2A-F03-1120-Y8JM
RH FRONT WHEEL MOTOR
P/N: 323056
MODEL CODE:
MGE02-2-D1A-W20-C121-Y8JM
LH FRONT WHEEL MOTOR
P/N: 323055
MODEL CODE:
MGE02-2-G1A-W10-A121-Y8JM
HYDROSTAT - PM30 POCLAIN - P/N: 323054
PROPULSION PUMP - 1.53 CID (25 cc/rev)
CHARGE PUMP - 0.49 CID (8cc/rev)
MODEL CODE:
PM3025S3A0835R2508A00F3FUESPA
CASE DRAIN
BLOCK
P/N: 322095
LOOP FLUSH
VALVE
P/N: 323060
BRAKE RELEASE
HI GEAR
VALVE
P/N: 323067
SERIAL PROTECTION
VALVE
P/N: 323059
FORWARD
OIL COOLER
P/N: 843006
FILTER HEAD P/N: 122034
FILTER P/N: 822044
Hydro Forward Pressure (0-5076 PSI)
Hydro Serial Line Pressure (0-5076 PSI)
Hydro Reverse Pressure (0-5076 PSI)
Hydro Loop Flush (0-5076 PSI)
Charge Pressure (0-400 PSI)
Brake Release Pressure (0-400 PSI)
Hi Gear Pressure (0-400 PSI)
Oil Drain / Suction (0-75 PSI)

305098	REV: A

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	8	110264	BOLT, 10-24 X .5 STAINLESS, PHILLIPS
2	6	110290	NUT, 1/4-20 WIZ FLANGE
3	2	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE
4	4	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
5	4	110474	BOLT, 1/4-20 X 1-1/2
6	2	110529	BOLT, 5/16-18 X 4.5
7	4	110588	NUT, 1/2-13 WIZ FLANGE
8	5	110606	NUT, 5/16-18 WIZ FLANGE
9	4	110640	Hex Nut M10
10	4	110645	NUT, 3/8-16 WIZ FLANGE
11	4	110689	WASHER, 10mm LOCK
12	8	110999	Nut, 10-24 U-Type, .025"-.125" panel
13	4	111055	STUD, M10 X 1.5 X 42 GRADE 8.8
14	3	111151	Hex Cap 5-16x2_1-4 UNC
15	4	112070	Bolt, 1/2-13 X 1.25 in Carriage
16	4	120092	ADAPTER, 6MJ-6MJ-6MB
17	1	120134	ADAPTER, 6MJ-8MB90
18	1	120143	ADAPTER, 12MJ-10MB
19	2	120216	ADAPTER, 6MJ-6FJX-6MJ
20	2	120222	ADAPTER, 6MJ-6MB90
21	1	120239	ADAPTER, 6MJ-8MB
22	2	120249	ADAPTER, 4MJ-6MB
23	1	120251	ADAPTER, 10MJ-10MB
24	1	120319	ADAPTER, 6MJ-6MB
25	2	120398	ADAPTER, REST 6MJ-6MB, .047
26	2	120446	ADAPTER, 8MJ-10MB
27	2	120689	Adapter, 6MB90-6FB
28	6	120739	ADAPTER, 4MJ-8MB
29	2	130012	CLAMP, ADEL AC28 .265 HOLE
30	1	302079	COLUMN ASSY, TILT STEERING
31	1	311726	MOUNT, STEERING COLUMN
32	2	311737	PLATE, ORBITAL COVER
33	1	315353	WELDMENT, OPERATOR CONSOLE
34	2	322074	VALVE, PO CHECK
35	2	322075	VALVE BODY, 3-WAY SAE-6
36	1	322097	VALVE ASSY, THREE SPOOL
37	1	323046	MOTOR, STEERING ORBITAL
38	1	323062	HOSE KIT, HAWK MACHINE HYDRAULIC

Parts List			
ITEM	QTY	PART #	DESCRIPTION
39	1	502087	Cap, Center Steering
40	1	502088	Nut, Steering Wheel, 13/16-20 UNEF
41	1	552002	STEERING WHEEL
42	1	820158	DECK VALVE

MACHINE HYDRAULIC INSTALLATION

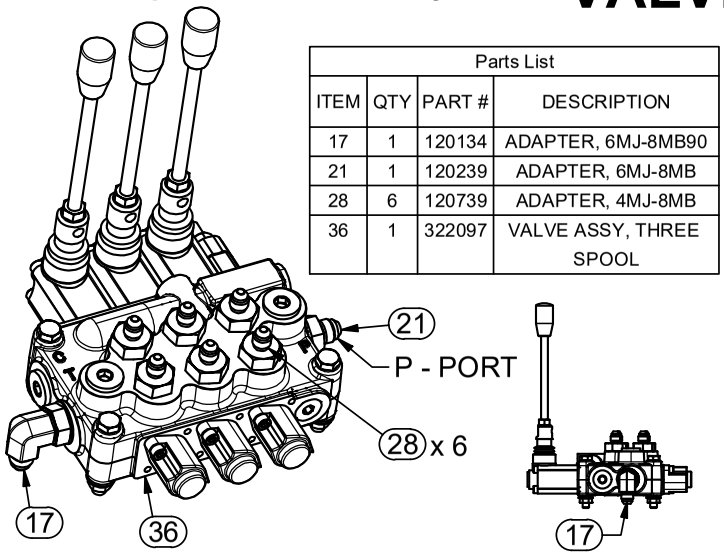


HYDRAULIC SCHEMATIC SHOWN ON PAGE 10

7-23-2020

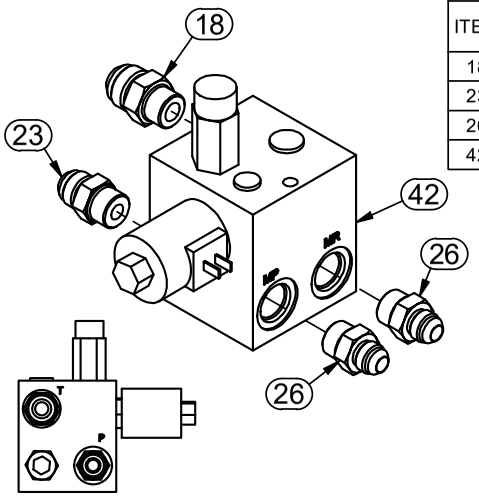
VALVE ASSEMBLIES

Three Spool Valve Assembly



Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
21	1	120239	ADAPTER, 6MJ-8MB
28	6	120739	ADAPTER, 4MJ-8MB
36	1	322097	VALVE ASSY, THREE SPOOL

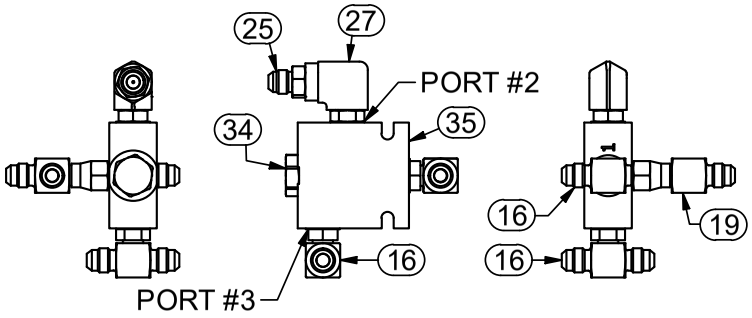
Deck Valve Assembly



Parts List			
ITEM	QTY	PART #	DESCRIPTION
18	1	120143	ADAPTER, 12MJ-10MB
23	1	120251	ADAPTER, 10MJ-10MB
26	2	120446	ADAPTER, 8MJ-10MB
42	1	820158	DECK VALVE

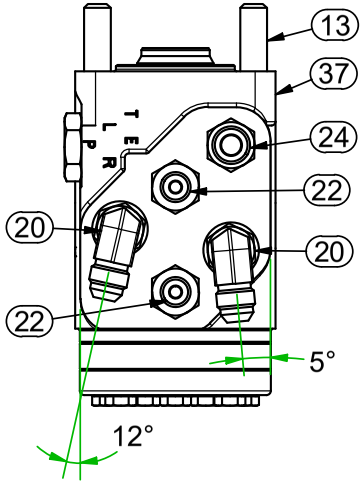
820158 - SERVICE PARTS	
PART #	DESCRIPTION
522163	COIL, 12VDC DEUTSCH
820230	VALVE, COUNTER BALANCE
820231	RELIEF, 3000 PSI PRESSURE
820232	VALVE, N.O. SOLENOID CARTRIDGE

P.O. Check Valve Assembly X 2



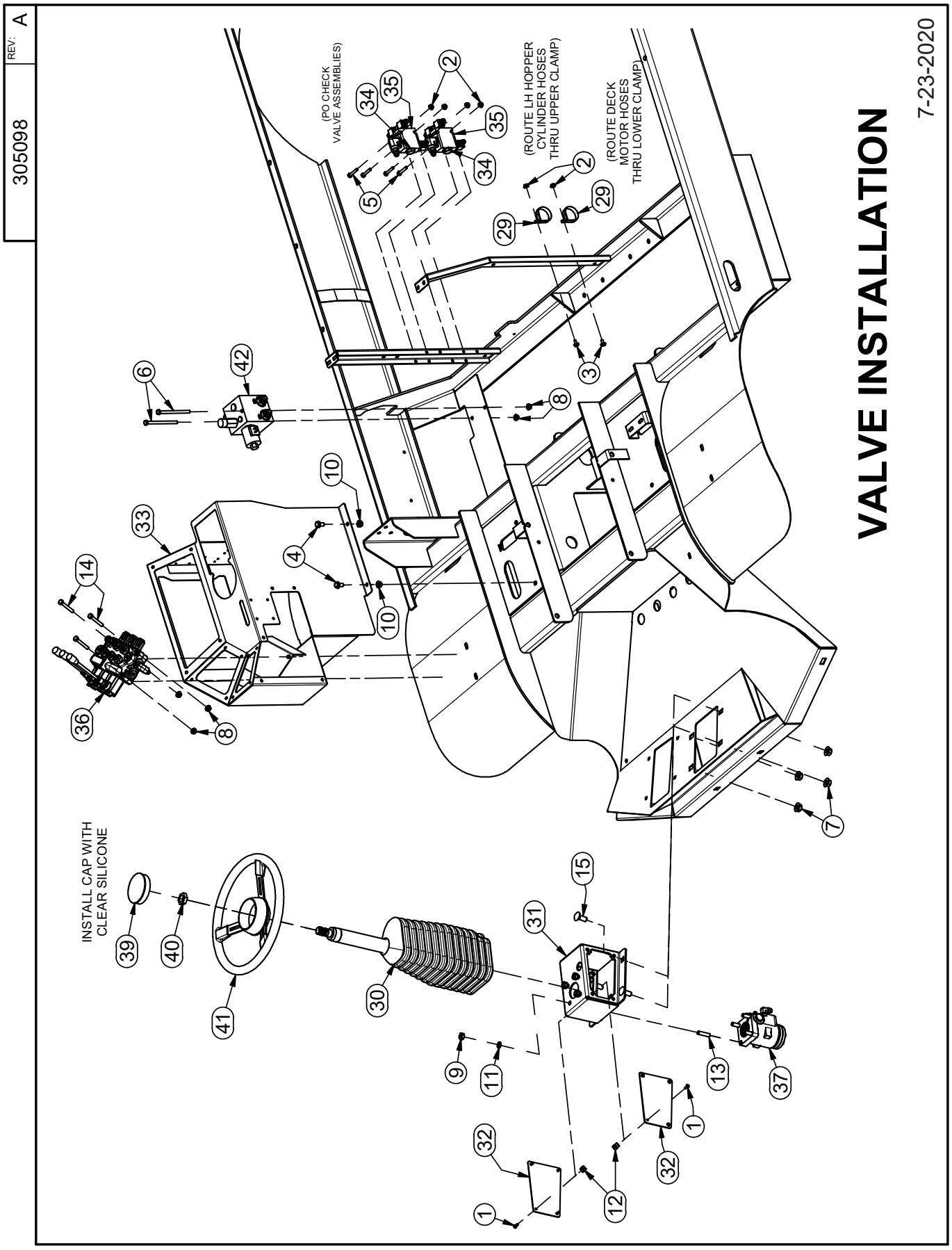
Parts List			
ITEM	QTY	PART #	DESCRIPTION
16	4	120092	ADAPTER, 6MJ-6MJ-6MB
19	2	120216	ADAPTER, 6MJ-6FJX-6MJ
25	2	120398	ADAPTER, REST 6MJ-6MB, .047
27	2	120689	Adapter, 6MB90-6FB
34	2	322074	VALVE, PO CHECK
35	2	322075	VALVE BODY, 3-WAY SAE-6

Steering Orbital Assembly

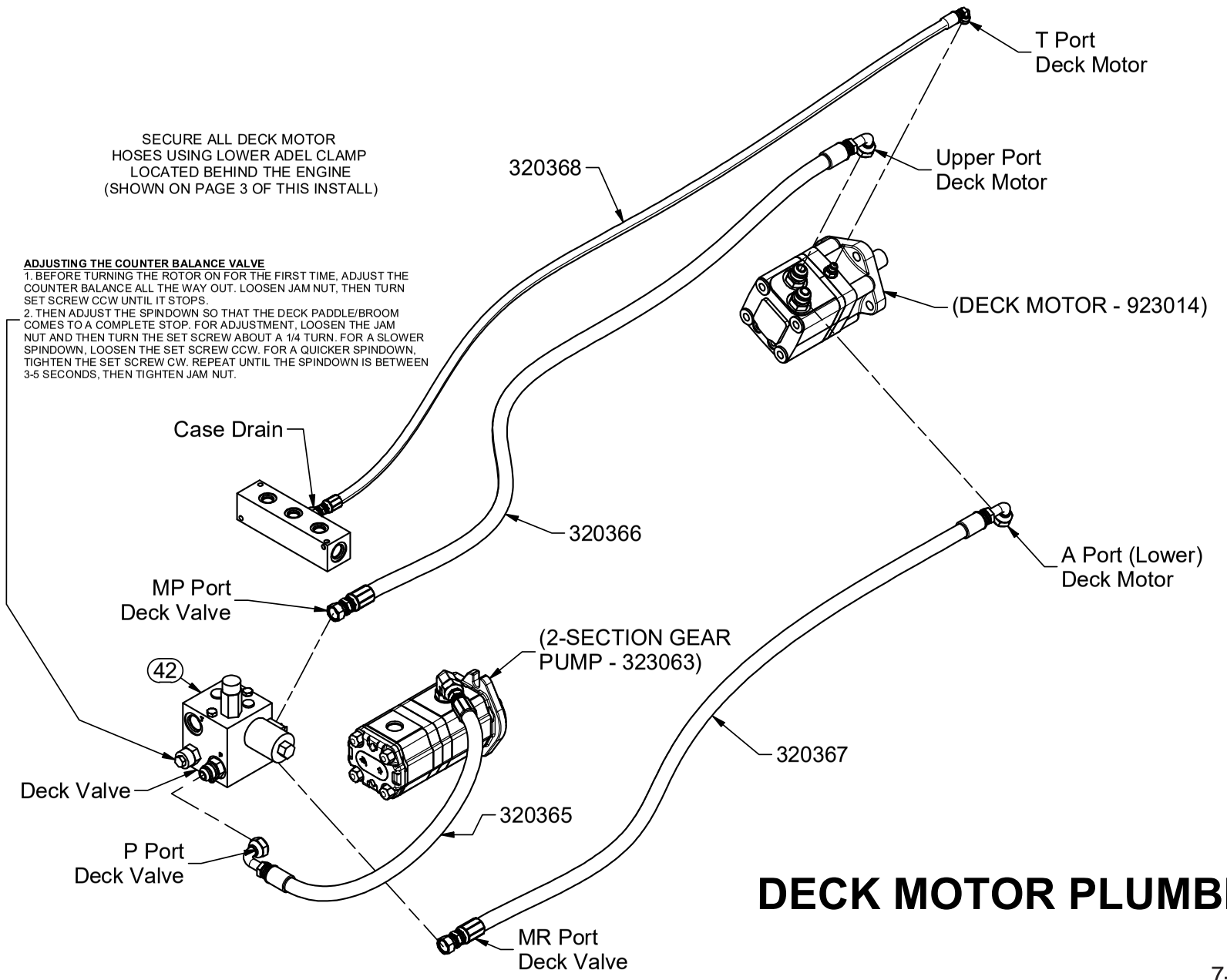


Parts List			
ITEM	QTY	PART #	DESCRIPTION
13	4	111055	STUD, M10 X 1.5 X 42 GRADE 8.8
20	2	120222	ADAPTER, 6MJ-6MB90
22	2	120249	ADAPTER, 4MJ-6MB
24	1	120319	ADAPTER, 6MJ-6MB
37	1	323046	MOTOR, STEERING ORBITAL

7-23-2020


305098
REV: A
VALVE INSTALLATION
7-23-2020
(PO CHECK VALVE ASSEMBLIES)
(ROUTE LH HOPPER CYLINDER HOSES THRU UPPER CLAMP)
(ROUTE DECK MOTOR HOSES THRU LOWER CLAMP)
INSTALL CAP WITH CLEAR SILICONE

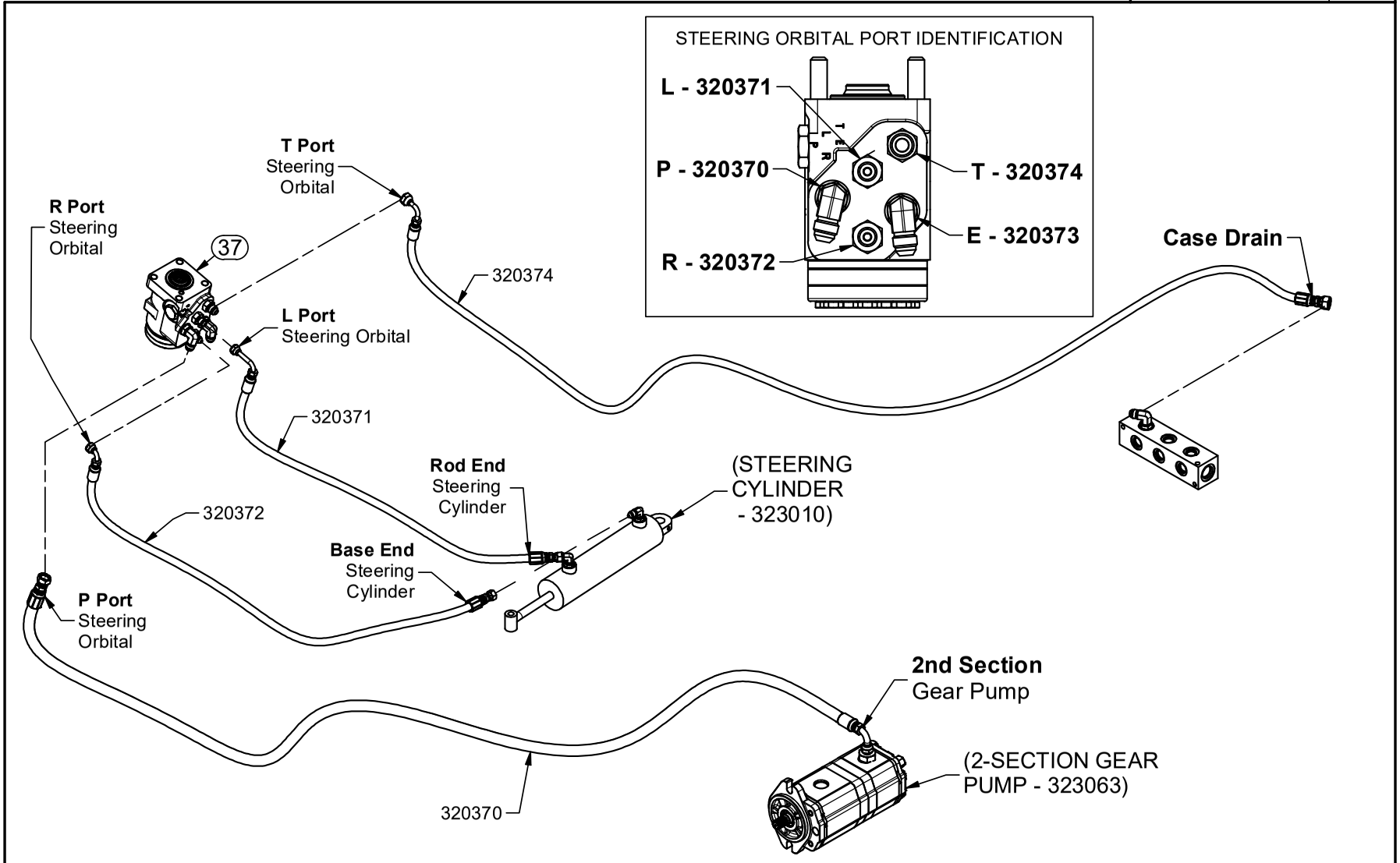
305098	REV: A



DECK MOTOR PLUMBING

7-23-2020

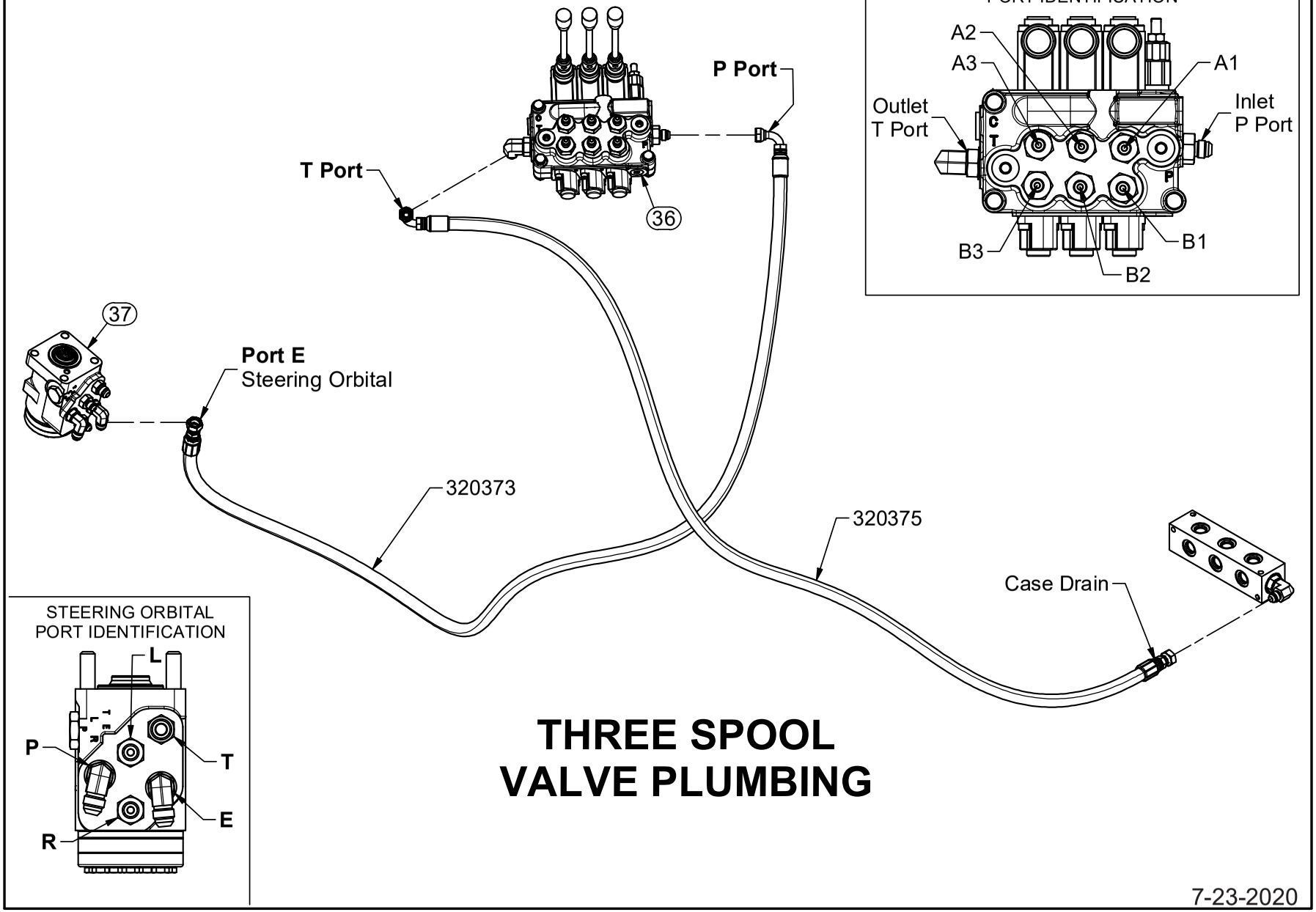
305098	REV: A



STEERING PLUMBING

7-23-2020

305098	REV: A

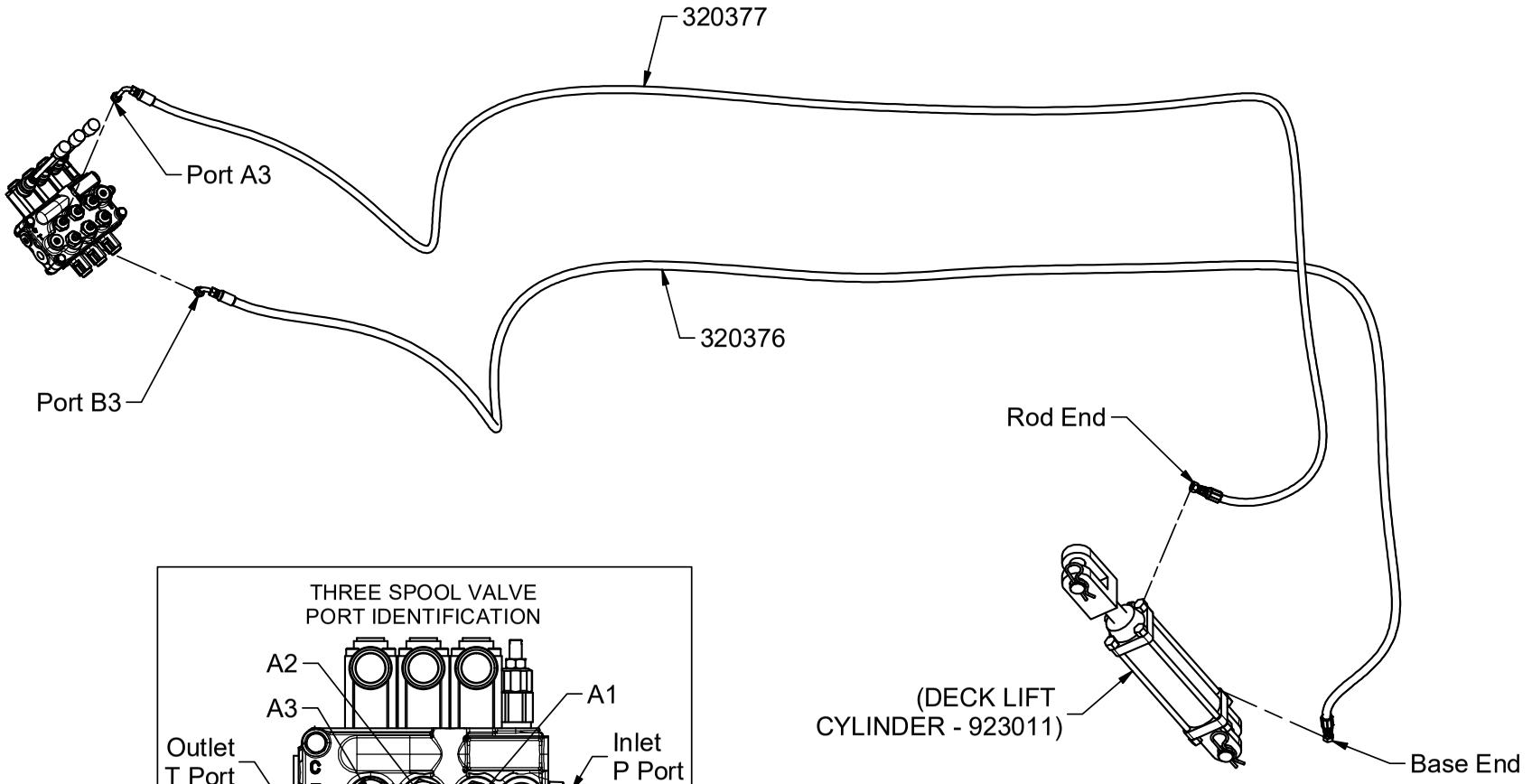


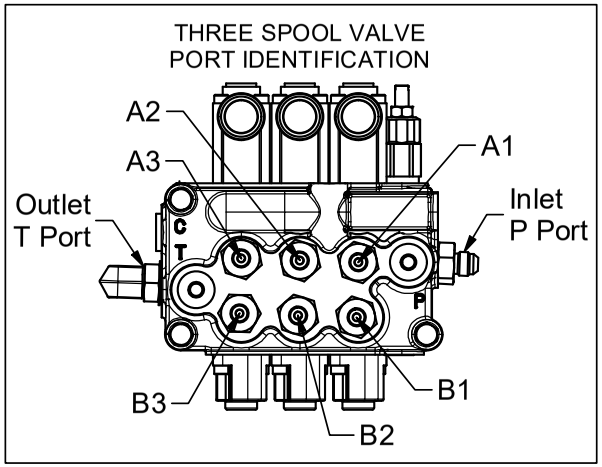
THREE SPOOL VALVE PLUMBING

7-23-2020

305098	REV: A

DECK LIFT PLUMBING



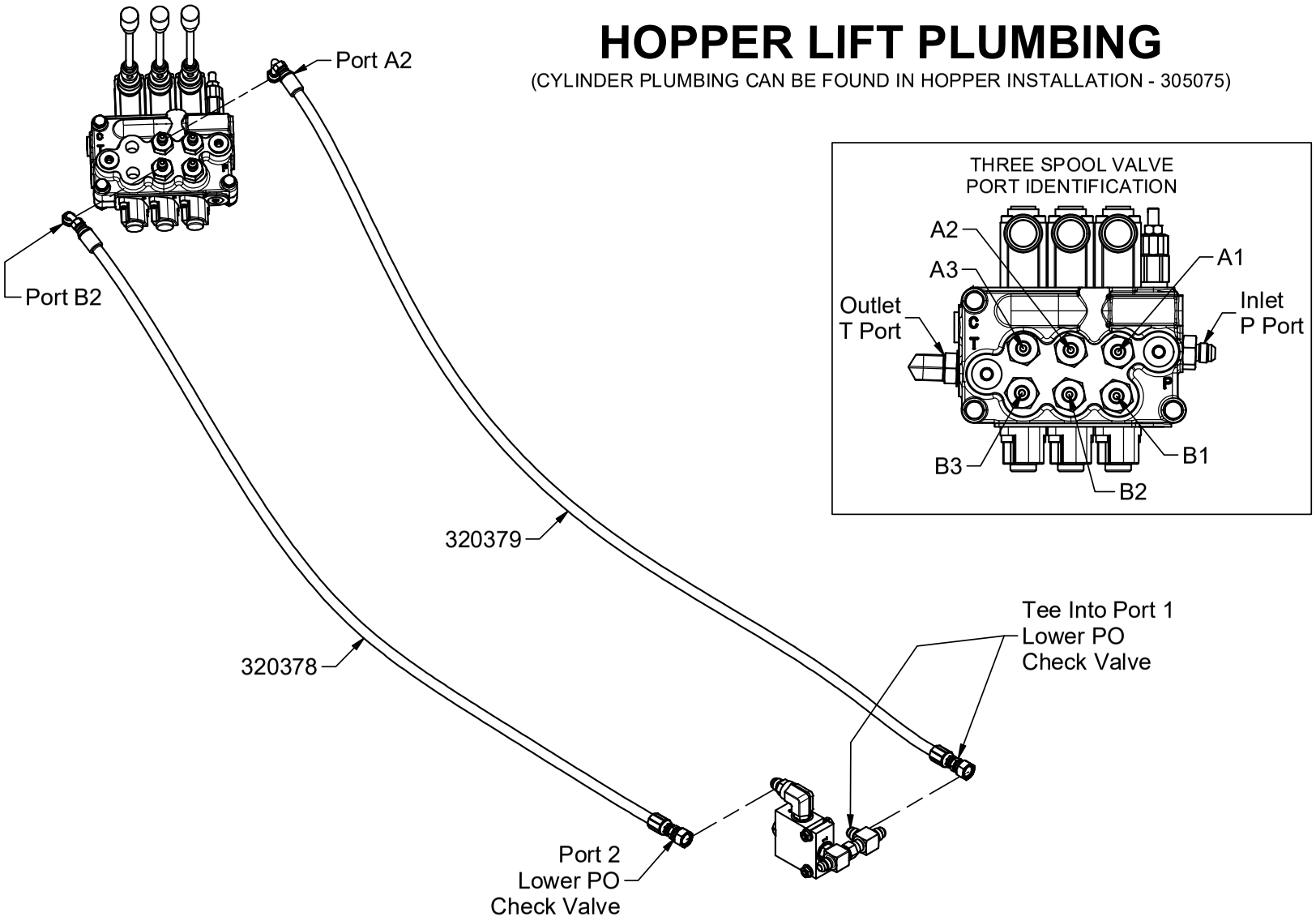


7-23-2020

305098	REV: A

HOPPER LIFT PLUMBING

(CYLINDER PLUMBING CAN BE FOUND IN HOPPER INSTALLATION - 305075)



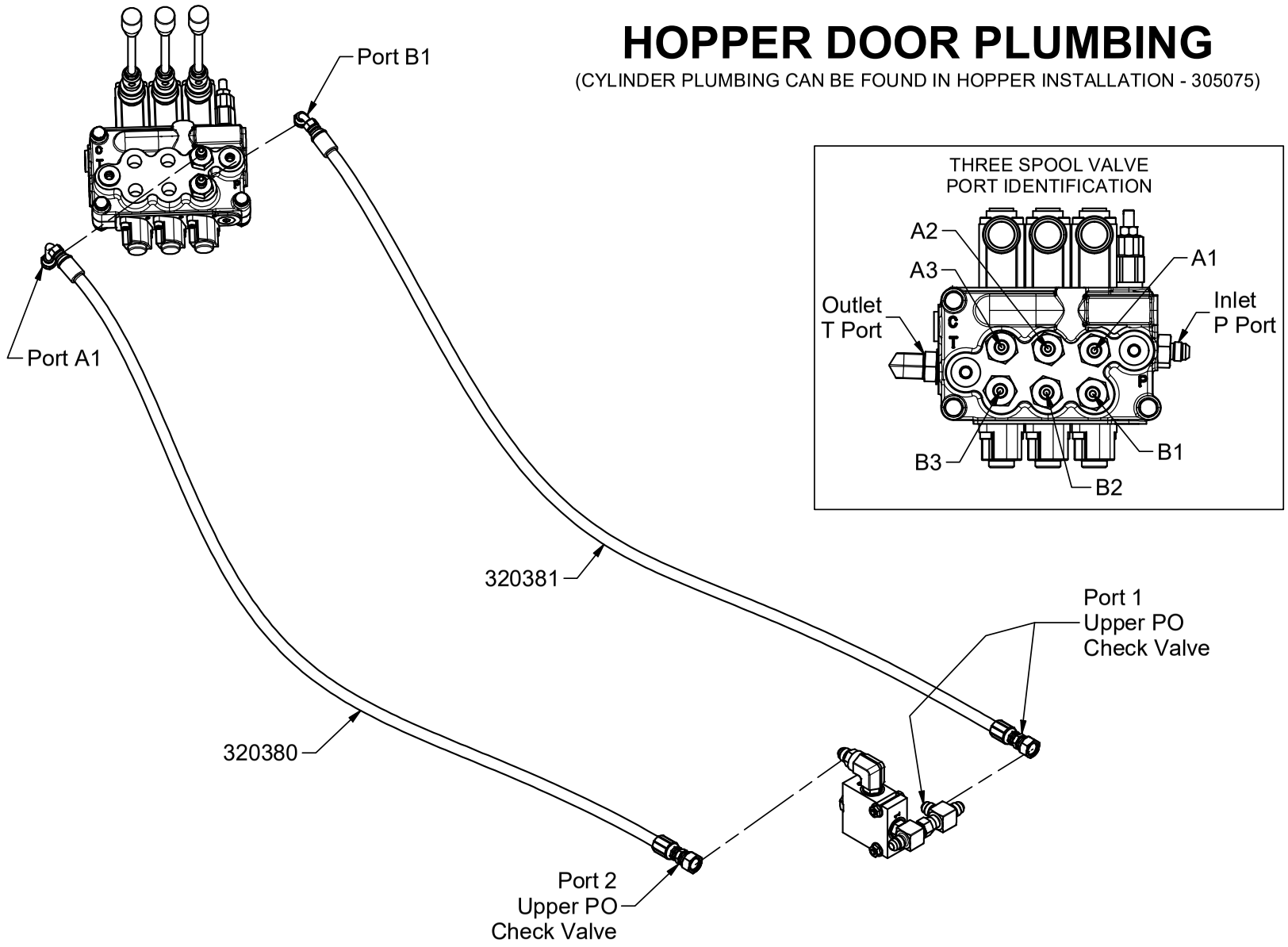
7-23-2020

HARPER TURF EQUIPMENT

305098	REV: A

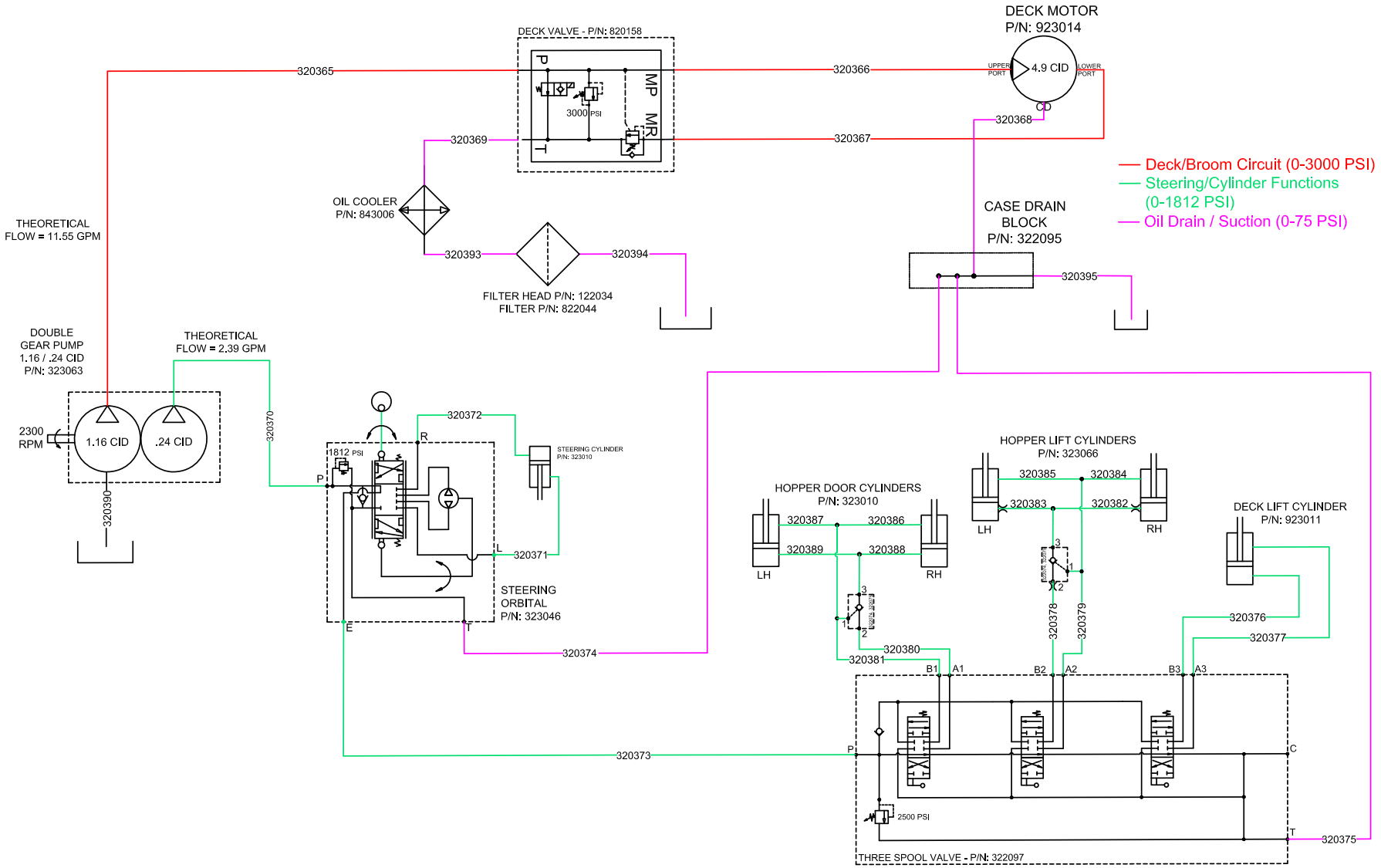
HOPPER DOOR PLUMBING

(CYLINDER PLUMBING CAN BE FOUND IN HOPPER INSTALLATION - 305075)



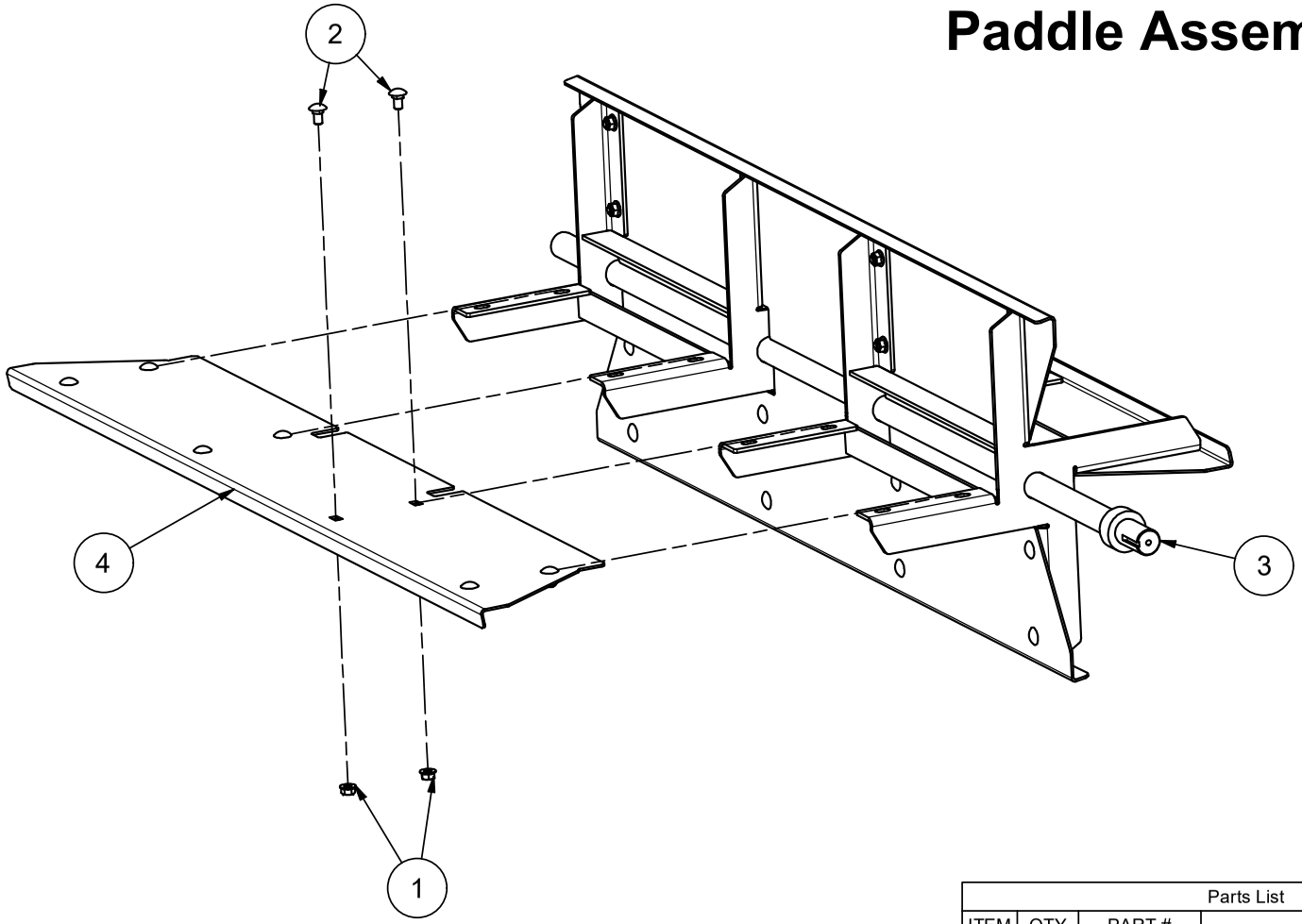
7-23-2020

SWEEPER MACHINE HYDRAULIC SCHEMATIC



HARPER TURF EQUIPMENT

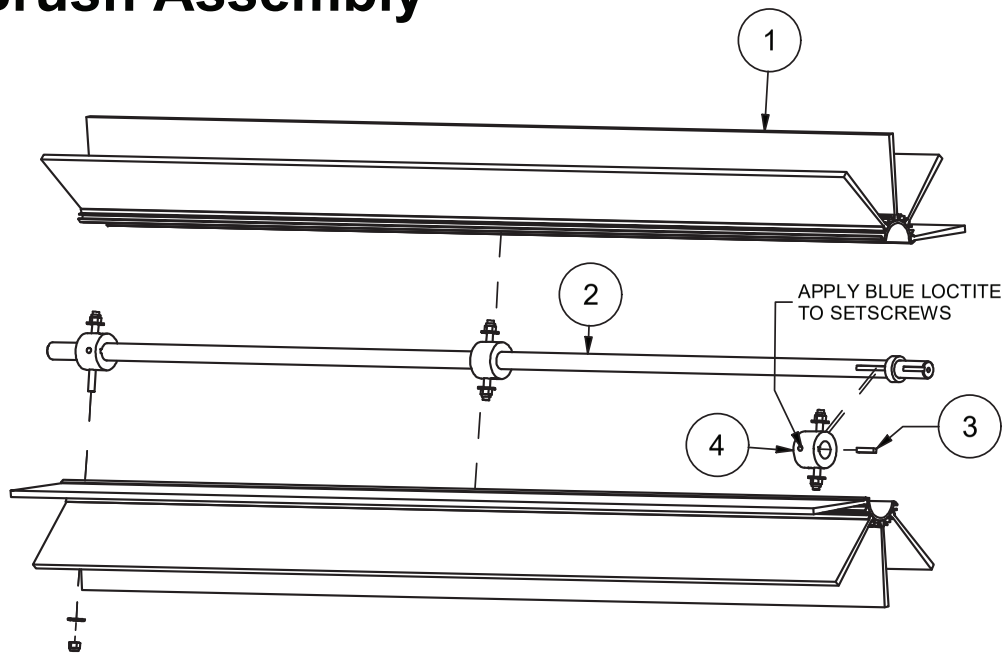
Paddle Assembly



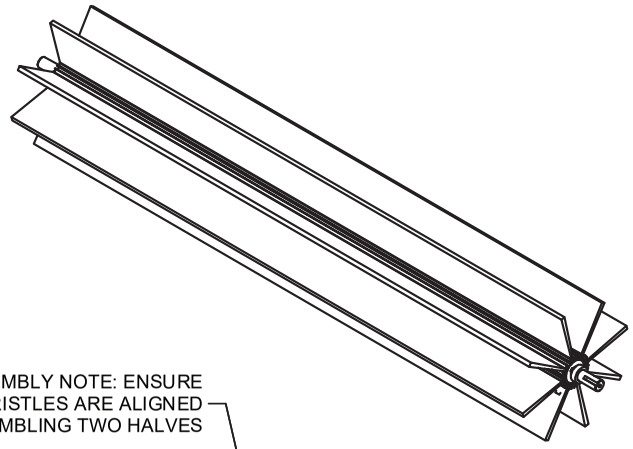
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	32	110645	NUT, 3/8-16 WIZ FLANGE
2	32	110894	Bolt, 3/8-16 X 0.75 in Carriage
3	1	315345	WELDMENT, PADDLE FRAME
4	4	317180	PADDLE, SWEEPER

7-23-2020

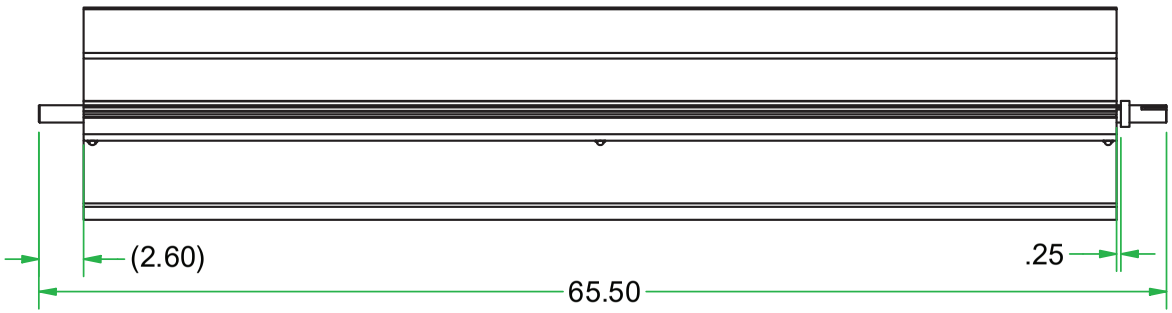
Brush Assembly

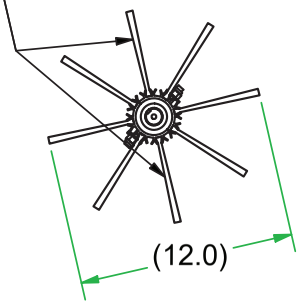


Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	302003	BRUSH, 60 in
2	1	315368	WELDMENT, BROOM SHAFT
3	1	510089	Key, 1/4 X 1/4 X 1.25, Under
4	3	973002	FLANGE, 2 1/8 X 1, TJ-16



ASSEMBLY NOTE: ENSURE
BRISTLES ARE ALIGNED
WHEN ASSEMBLING TWO HALVES





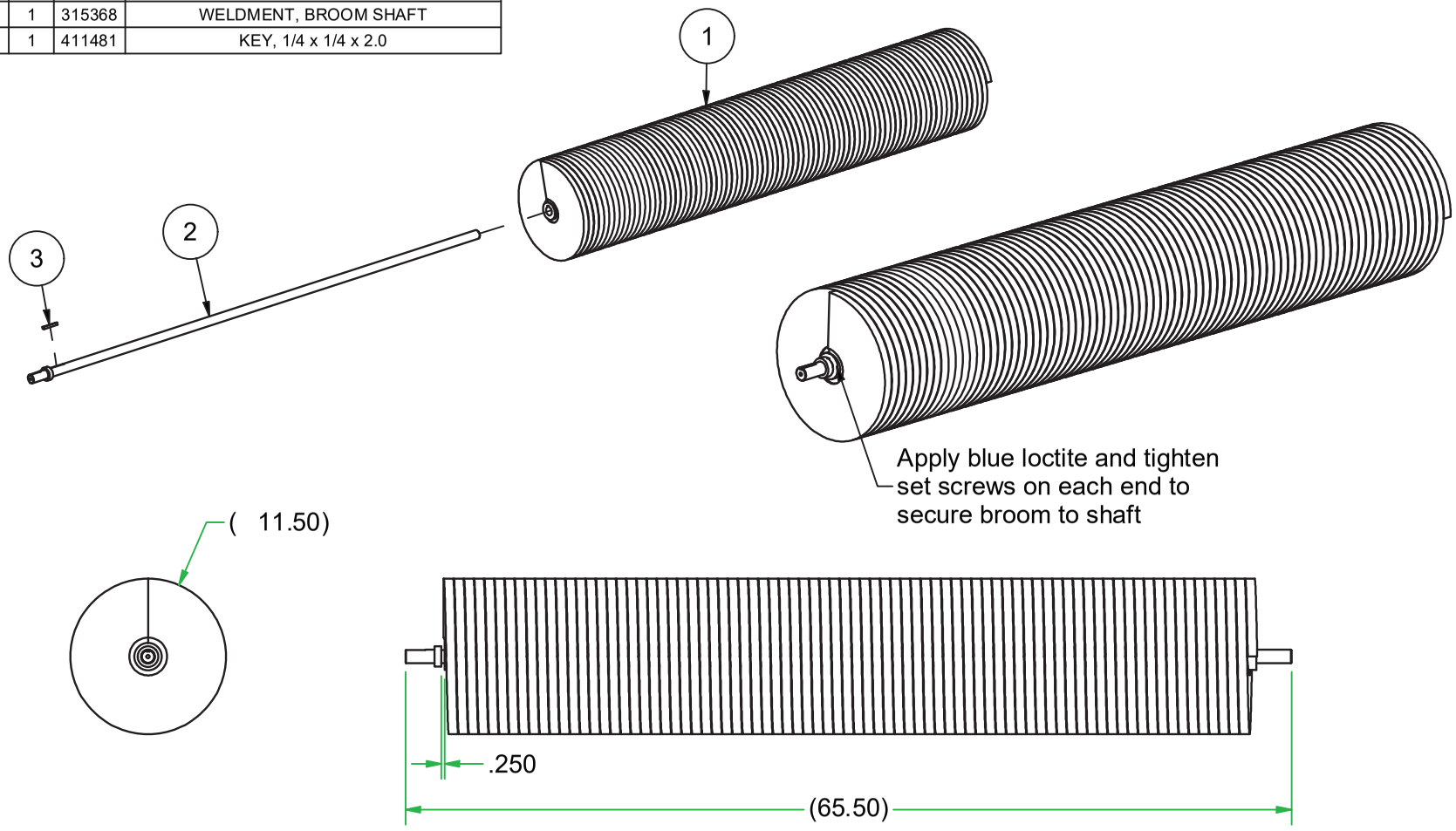
302003 has been replaced by 302170 & 411481.
See the following page for replacement information.

7-23-2020

305134	REV: NC

Brush Assembly

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	302170	Brush, Spiral Wound, 60 x 11.50 OD, .030 Poly
2	1	315368	WELDMENT, BROOM SHAFT
3	1	411481	KEY, 1/4 x 1/4 x 2.0



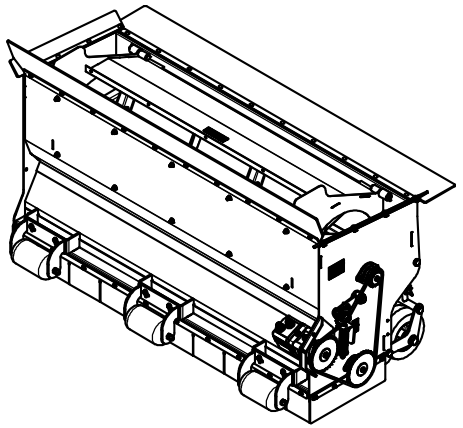
305066 REV: B

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	102133	Decal, ISO, FOOT CRUSH
2	3	110010	BOLT, 1/2-13 X 9.0
3	14	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	2	110023	BOLT, 5/8-11 X 6.5
5	4	110024	BOLT, 5/8-11 X 8.0
6	56	110154	Bolt, 1/4-20 X 0.75 in Carriage
7	2	110272	BOLT, 3/4-10 X 6.75, Hhcs Gr 5 Zinc
8	56	110290	NUT, 1/4-20 WIZ FLANGE
9	2	110304	PIN, LOCK 3/8 X 2.5 SQ
10	1	110335	WASHER, 1" FLAT MACHINE
11	1	110403	BOLT, 1/2-13 X 2.5
12	4	110419	BOLT, 1/2-13 X 1.75
13	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
14	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
15	1	110513	BOLT, 5/8-11 X 2.5
16	4	110556	Bolt, 3/8-16 X 1 in Carriage
17	1	110597	NUT, 5/8-11 HEX
18	14	110606	NUT, 5/16-18 WIZ FLANGE
19	4	110610	NUT, 1/2-13
20	4	110615	NUT, 1/2-13, UNITORQUE LOCK
21	2	110625	NUT, 3/4-10, UNITORQUE LOCK
22	6	110639	NUT, 5/8-11, UNITORQUE LOCK
23	10	110645	NUT, 3/8-16 WIZ FLANGE
24	1	110655	WASHER, 5/8" LOCK
25	8	110658	WASHER, 1/2" FLAT STANDARD
26	1	110663	WASHER, 5/8" FLAT SAE
27	4	110666	WASHER, 1/2" LOCK
28	4	110678	WASHER, 3/4 FLAT SAE
29	2	110826	NUT, 3/8-16 GR 5
30	1	110929	BOLT, M8-1.25 X 20 WIZ FLNG
31	1	111186	WASHER, 1.50 x .406 x .125, FLAT
32	1	111188	WASHER, 1.25 x 1.875 x .047, FLAT
33	2	112119	ROLL PIN, 5/32 X 2 ZP
34	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045
35	1	112130	Clevis Pin, 3/8" x 3/4", ZINC
36	1	120233	ADAPTER, 4MJ-4MB
37	2	120251	ADAPTER, 10MJ-10MB

Parts List			
ITEM	QTY	PART #	DESCRIPTION
38	1	142002	SPRING, COMP 1 1/4 x 4 x .148
39	1	142013	Sprocket, 4017 Idler, 5/8
40	4	142019	Flange, 52mm, 2 Bolt
41	2	142023	SPROCKET, 40BS35 X 1.0
42	1	142024	SPORCKET, 40BS17 X 1.25
43	2	142025	Bearing, 52mm Spherical O.D., 1.0 ID
44	2	142026	Bearing, 62mm Spherical O.D., 1.25 ID
45	4	142027	Flange, 62mm, 2 Bolt
46	2	200029	COTTER PIN, 5/32 X 1
47	1	302112	SKIRT, FRONT DECK
48	1	302113	SKIRT, REAR DECK
49	2	302114	SKIRT, SIDE DECK
50	1	302115	SEAL, FRONT DECK
51	1	302116	SEAL, REAR TRANSITION
52	2	302117	SEAL, SIDE DECK
53	1	302146	Decal, Tension Adjustment
54	1	305067	ASSY, PADDLE
55	1	305068	ASSY, BRUSH
56	1	305102	Assy, Transition Shield, ISO
57	2	312015	PIN, 5/8" x 3.5"
58	1	315312	WELDMENT, SWEEPER DECK
59	2	315339	WELDMENT, UPPER WHEEL ADJUST
60	2	315340	WELDMENT, LOWER WHEEL ADJUST
61	2	315341	WELDMENT, GAUGE WHEEL BRKT
62	1	315377	WELDMENT, SWEEPER DRIVE IDLER
63	1	315378	WELDMENT, IDLER ADJUSTMENT
64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
65	2	317249	PIN, QUICK RELEASE
66	4	317252	RETAINER, FRONT DECK
67	2	317253	RETAINER, SIDE DECK
68	1	317256	SPACER, KEYWAY, 1.625 X .5 X .909
69	3	317258	WASHER, 2.0 X .344 X .12
70	1	317261	TENSIONER, GEAR MOUNT

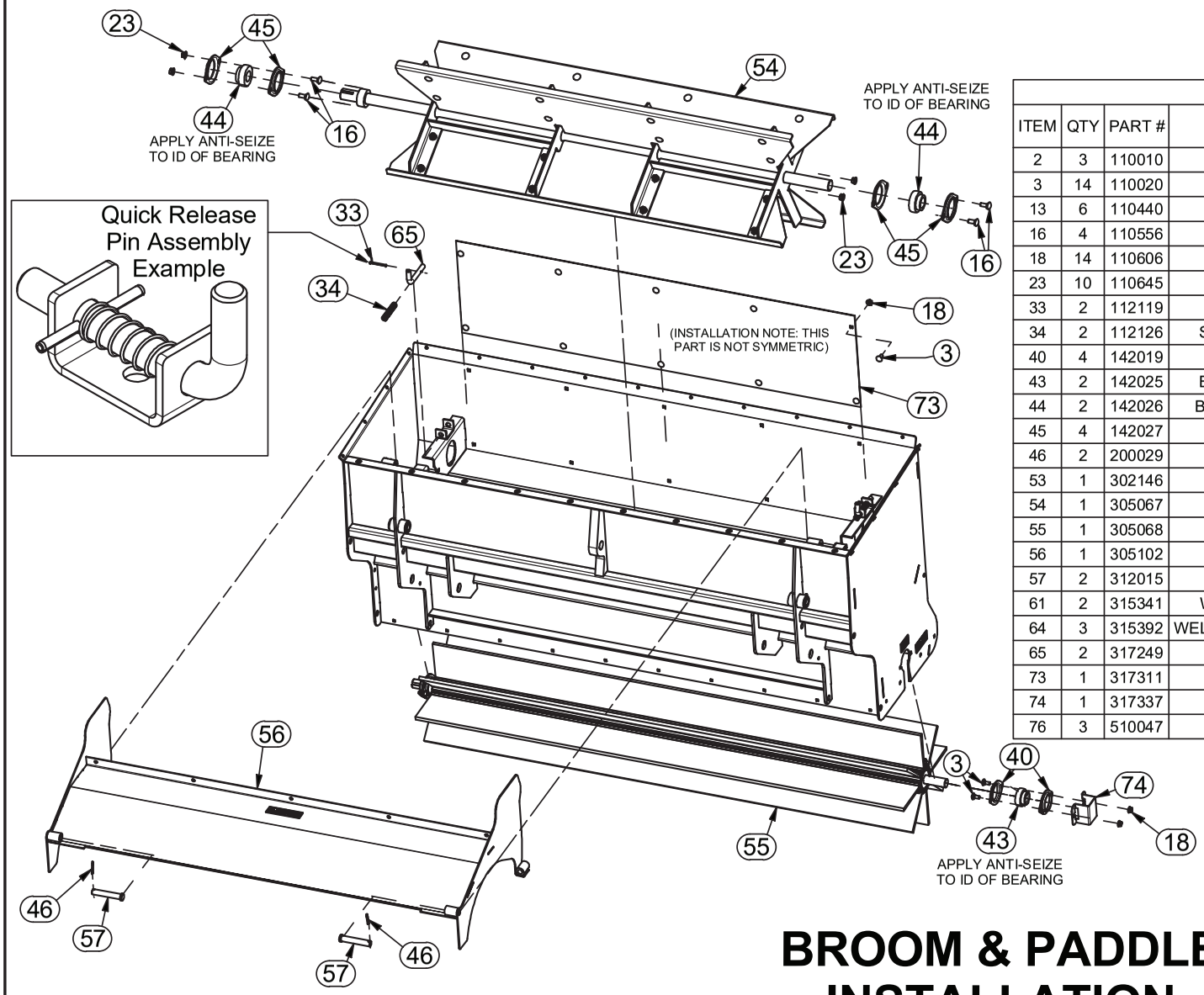
Parts List			
ITEM	QTY	PART #	DESCRIPTION
71	2	317289	RETAINER, UPPER SIDE SEAL
72	1	317295	COLLAR, SPRING TENSIONER
73	1	317311	LINER, DECK
74	1	317337	Shield, Broom Bearing
75	1	340013	ROLLER CHAIN, #40 DECK (53")
76	3	510047	Roller, Anti-Scalp
77	2	510228	KEY, 1/4 X 1/4 X 1.0 UNDER
78	2	510237	CASTER WHEEL ASSY, 9 X 3.5-4
79	1	510249	COTTER PIN, 1/8 X 0.75
80	4	800128	BUSHING, IGUS, FOOT PEDAL
81	1	902228	Decal, Do Not Remove Shield
82	1	902230	Decal, Shaft Hazard
83	1	902232	Decal, High Pressure Injection
84	4	910865	SPACER, 1.125 X .812 X .9375
85	1	923014	MOTOR, 4.9 CID

DECK ASSEMBLY



8-3-2020

305066	REV: B



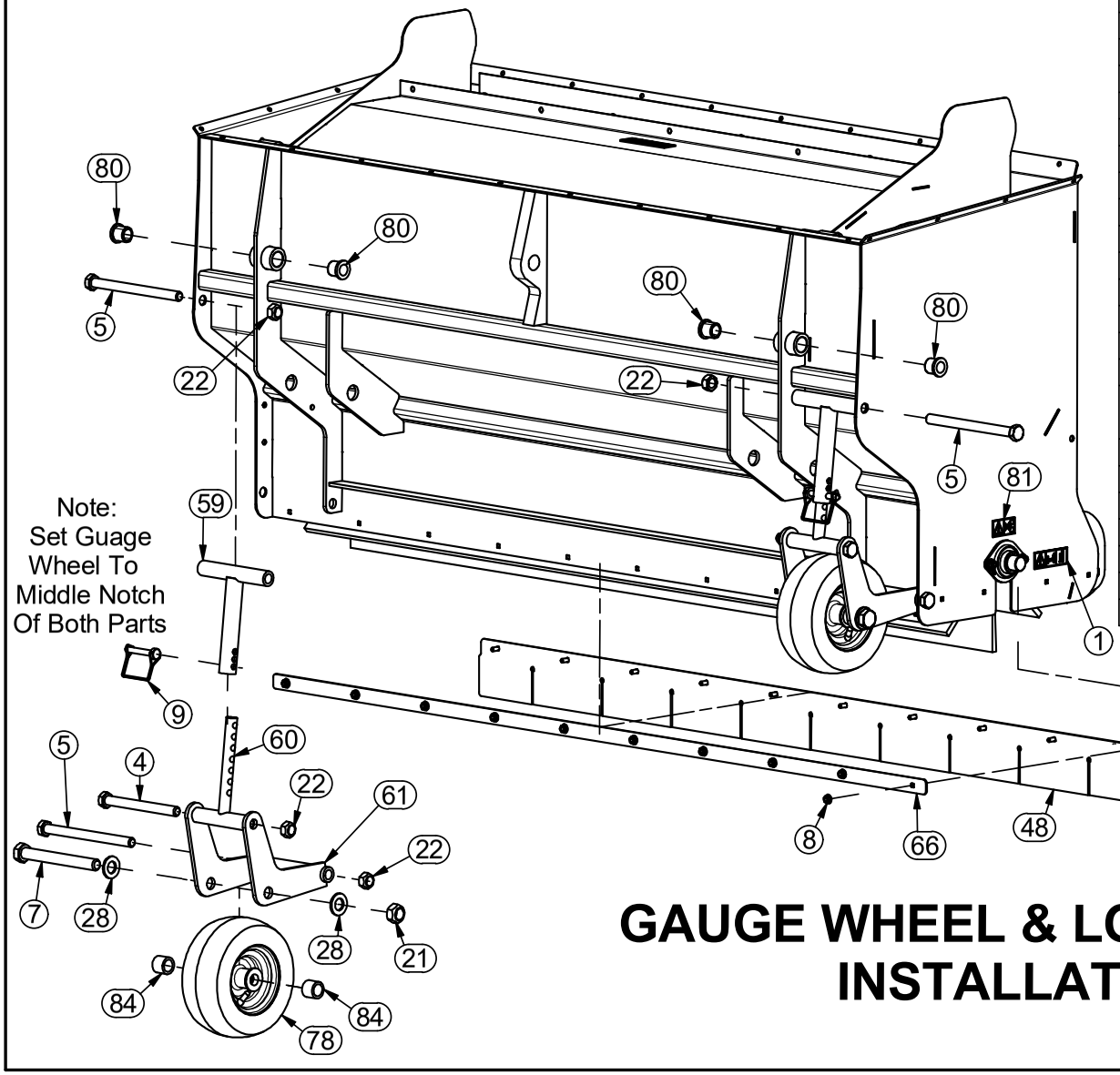
Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	3	110010	BOLT, 1/2-13 X 9.0
3	14	110020	Bolt, 5/16-18 X 0.75 in Carriage
13	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
16	4	110556	Bolt, 3/8-16 X 1 in Carriage
18	14	110606	NUT, 5/16-18 WIZ FLANGE
23	10	110645	NUT, 3/8-16 WIZ FLANGE
33	2	112119	ROLL PIN, 5/32 X 2 ZP
34	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045
40	4	142019	Flange, 52mm, 2 Bolt
43	2	142025	Bearing, 52mm Spherical O.D., 1.0 ID
44	2	142026	Bearing, 62mm Spherical O.D., 1.25 ID
45	4	142027	Flange, 62mm, 2 Bolt
46	2	200029	COTTER PIN, 5/32 X 1
53	1	302146	Decal, Tension Adjustment
54	1	305067	ASSY, PADDLE
55	1	305068	ASSY, BRUSH
56	1	305102	Assy, Transition Shield, ISO
57	2	312015	PIN, 5/8" x 3.5"
61	2	315341	WELDMENT, GAUGE WHEEL BRKT
64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
65	2	317249	PIN, QUICK RELEASE
73	1	317311	LINER, DECK
74	1	317337	Shield, Broom Bearing
76	3	510047	Roller, Anti-Scalp

BROOM & PADDLE INSTALLATION

305068 has been replaced by 305134.
See “Brush Assembly” for reference.

8-3-2020

305066	REV: B



Parts List

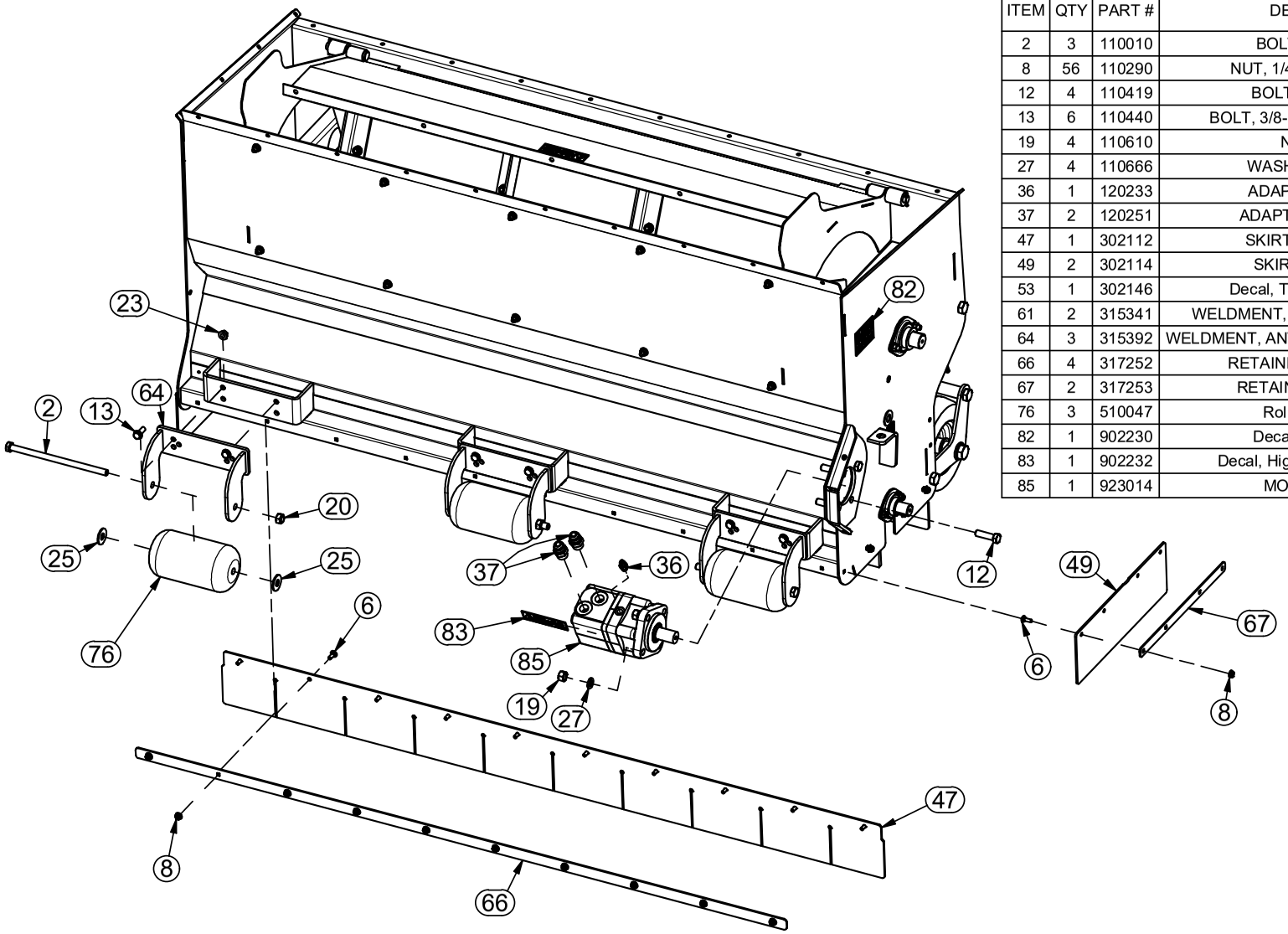
ITEM	QTY	PART #	DESCRIPTION
1	1	102133	Decal, ISO, FOOT CRUSH
2	3	110010	BOLT, 1/2-13 X 9.0
4	2	110023	BOLT, 5/8-11 X 6.5
5	4	110024	BOLT, 5/8-11 X 8.0
7	2	110272	BOLT, 3/4-10 X 6.75, Hhcs Gr 5 Zinc
8	56	110290	NUT, 1/4-20 WIZ FLANGE
9	2	110304	PIN, LOCK 3/8 X 2.5 SQ
13	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
21	2	110625	NUT, 3/4-10, UNITORQUE LOCK
22	6	110639	NUT, 5/8-11, UNITORQUE LOCK
28	4	110678	WASHER, 3/4 FLAT SAE
48	1	302113	SKIRT, REAR DECK
49	2	302114	SKIRT, SIDE DECK
53	1	302146	Decal, Tension Adjustment
59	2	315339	WELDMENT, UPPER WHEEL ADJUST
60	2	315340	WELDMENT, LOWER WHEEL ADJUST
61	2	315341	WELDMENT, GAUGE WHEEL BRKT
64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
66	4	317252	RETAINER, FRONT DECK
67	2	317253	RETAINER, SIDE DECK
76	3	510047	Roller, Anti-Scalp
78	2	510237	CASTER WHEEL ASSY, 9 X 3.5-4
80	4	800128	BUSHING, IGUS, FOOT PEDAL
81	1	902228	Decal, Do Not Remove Shield
84	4	910865	SPACER, 1.125 X .812 X .9375

GAUGE WHEEL & LOWER SKIRT INSTALLATION

8-3-2020

305066	REV: B

HYDRAULIC MOTOR, SCALP WHEELS & LOWER SKIRT INSTALLATION

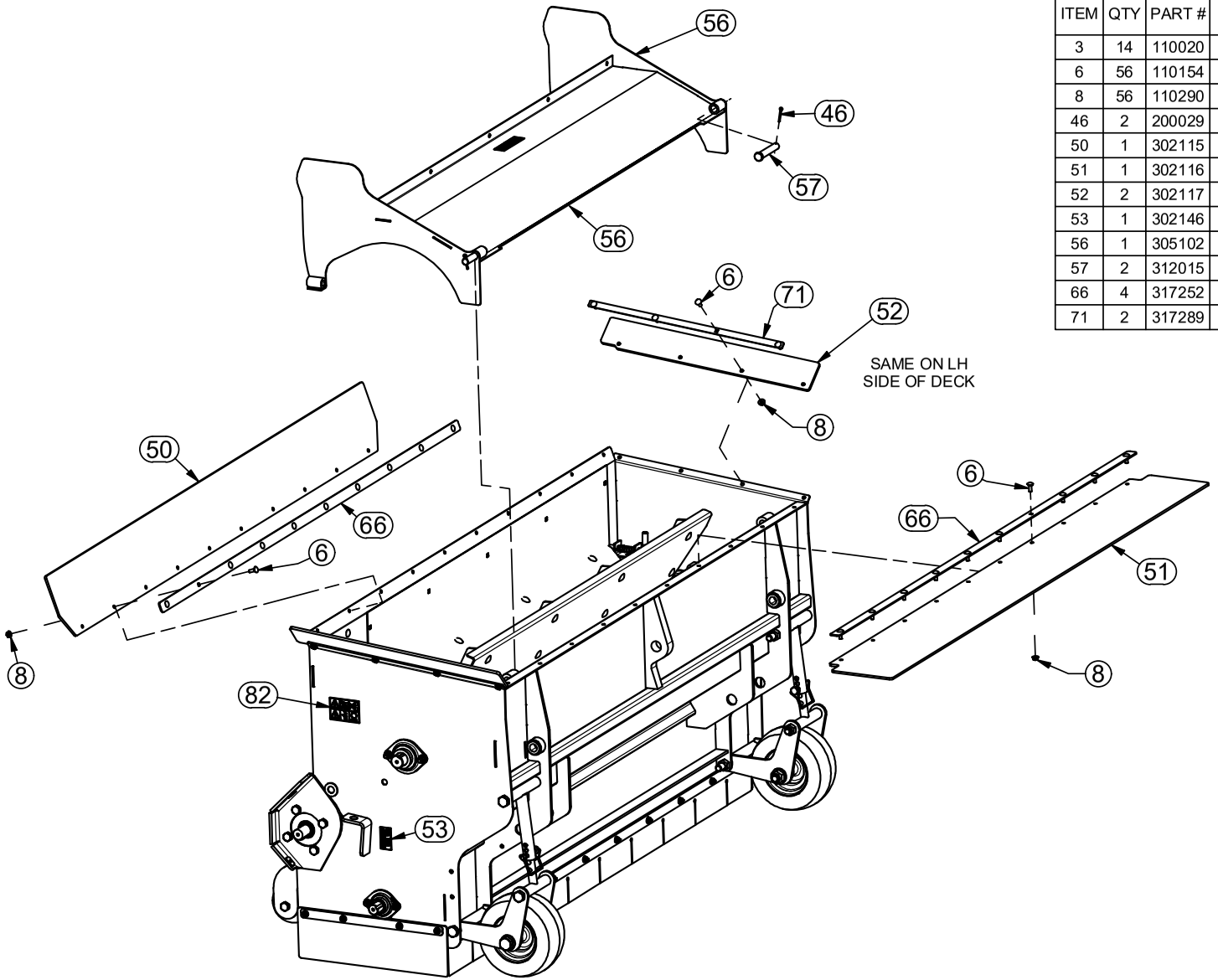


Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	3	110010	BOLT, 1/2-13 X 9.0
8	56	110290	NUT, 1/4-20 WIZ FLANGE
12	4	110419	BOLT, 1/2-13 X 1.75
13	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
19	4	110610	NUT, 1/2-13
27	4	110666	WASHER, 1/2" LOCK
36	1	120233	ADAPTER, 4MJ-4MB
37	2	120251	ADAPTER, 10MJ-10MB
47	1	302112	SKIRT, FRONT DECK
49	2	302114	SKIRT, SIDE DECK
53	1	302146	Decal, Tension Adjustment
61	2	315341	WELDMENT, GAUGE WHEEL BRKT
64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
66	4	317252	RETAINER, FRONT DECK
67	2	317253	RETAINER, SIDE DECK
76	3	510047	Roller, Anti-Scalp
82	1	902230	Decal, Shaft Hazard
83	1	902232	Decal, High Pressure Injection
85	1	923014	MOTOR, 4.9 CID

8-3-2020

305066	REV: B

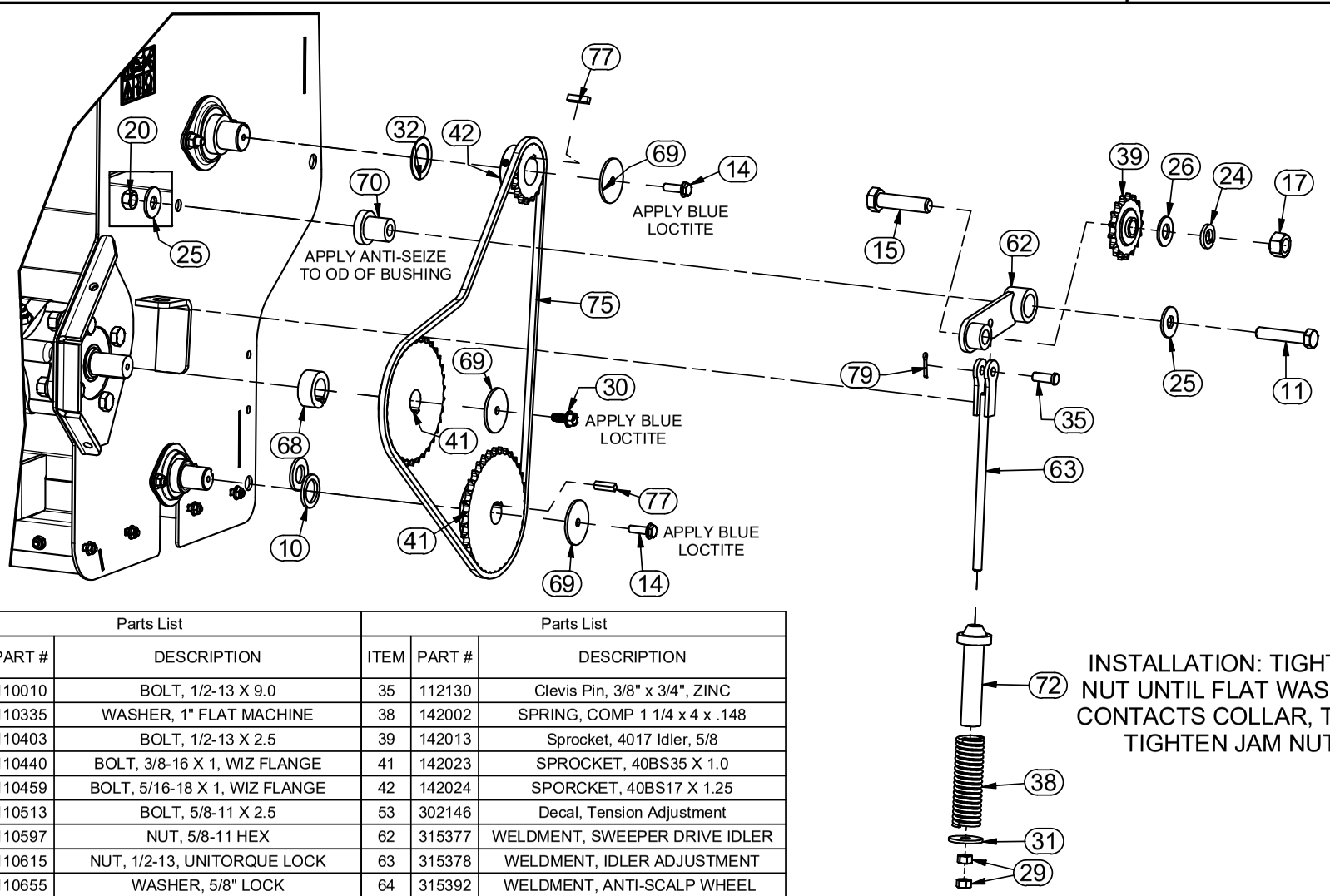
UPPER DECK SEAL & PADDLE SHIELD INSTALLATION



Parts List			
ITEM	QTY	PART #	DESCRIPTION
3	14	110020	Bolt, 5/16-18 X 0.75 in Carriage
6	56	110154	Bolt, 1/4-20 X 0.75 in Carriage
8	56	110290	NUT, 1/4-20 WIZ FLANGE
46	2	200029	COTTER PIN, 5/32 X 1
50	1	302115	SEAL, FRONT DECK
51	1	302116	SEAL, REAR TRANSITION
52	2	302117	SEAL, SIDE DECK
53	1	302146	Decal, Tension Adjustment
56	1	305102	Assy, Transition Shield, ISO
57	2	312015	PIN, 5/8" x 3.5"
66	4	317252	RETAINER, FRONT DECK
71	2	317289	RETAINER, UPPER SIDE SEAL

8-3-2020

305066	REV: B



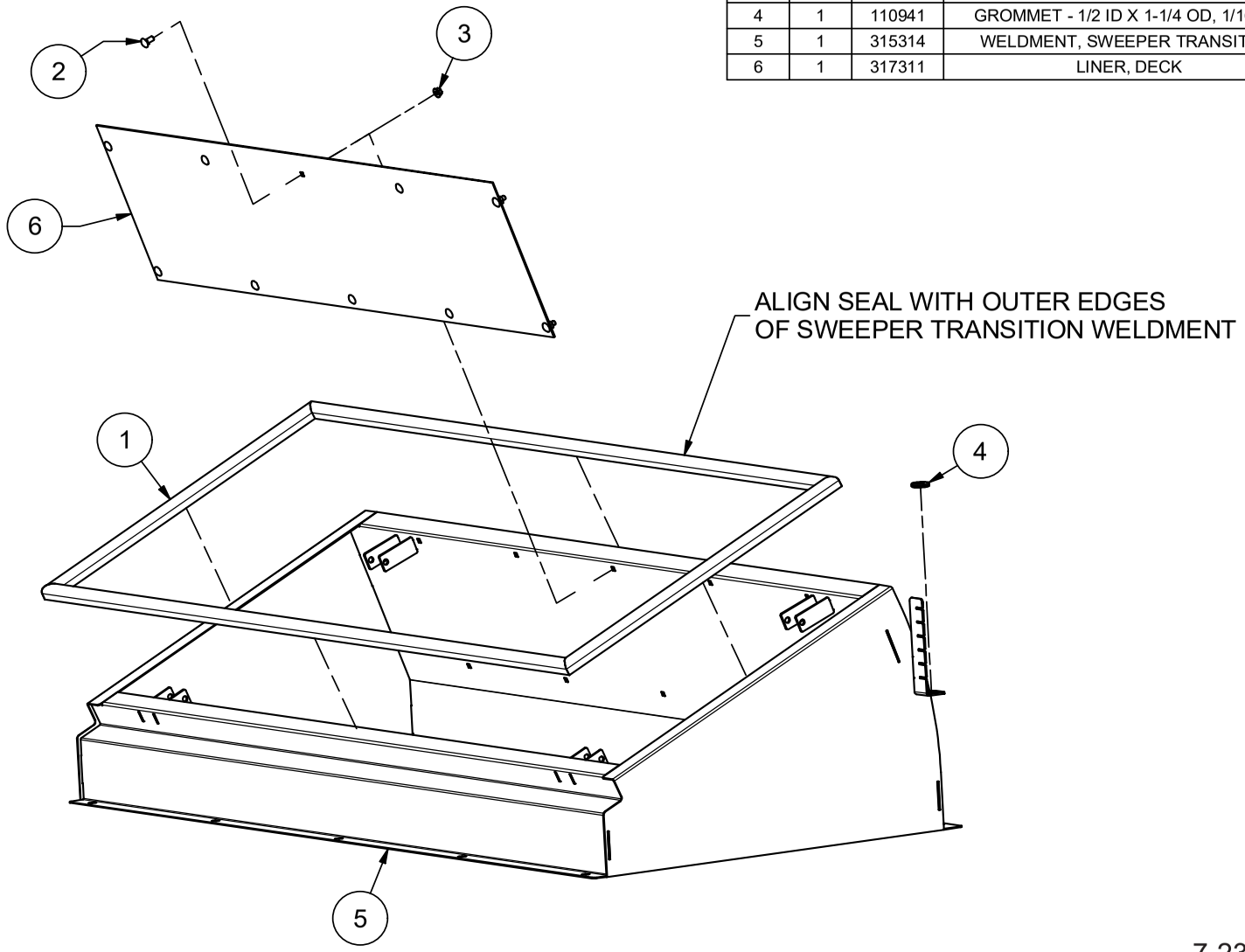
Parts List			Parts List		
ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
2	110010	BOLT, 1/2-13 X 9.0	35	112130	Clevis Pin, 3/8" x 3/4", ZINC
10	110335	WASHER, 1" FLAT MACHINE	38	142002	SPRING, COMP 1 1/4 x 4 x .148
11	110403	BOLT, 1/2-13 X 2.5	39	142013	Sprocket, 4017 Idler, 5/8
13	110440	BOLT, 3/8-16 X 1, WIZ FLANGE	41	142023	SPROCKET, 40BS35 X 1.0
14	110459	BOLT, 5/16-18 X 1, WIZ FLANGE	42	142024	SPORCKET, 40BS17 X 1.25
15	110513	BOLT, 5/8-11 X 2.5	53	302146	Decal, Tension Adjustment
17	110597	NUT, 5/8-11 HEX	62	315377	WELDMENT, SWEEPER DRIVE IDLER
20	110615	NUT, 1/2-13, UNITORQUE LOCK	63	315378	WELDMENT, IDLER ADJUSTMENT
24	110655	WASHER, 5/8" LOCK	64	315392	WELDMENT, ANTI-SCALP WHEEL
25	110658	WASHER, 1/2" FLAT STANDARD			MOUNT
26	110663	WASHER, 5/8" FLAT SAE	69	317258	WASHER, 2.0 X .344 X .12
28	110678	WASHER, 3/4 FLAT SAE	70	317261	TENSIONER, GEAR MOUNT
29	110826	NUT, 3/8-16 GR 5	72	317295	COLLAR, SPRING TENSIONER
30	110929	BOLT, M8-1.25 X 20 WIZ FLNG	75	340013	ROLLER CHAIN, #40 DECK (53")
31	111186	WASHER, 1.50 x .406 x .125, FLAT	76	510047	Roller, Anti-Scalp
32	111188	WASHER, 1.25 x 1.875 x .047, FLAT	77	510228	KEY, 1/4 X 1/4 X 1.0 UNDER
			79	510249	COTTER PIN, 1/8 X 0.75

CHAIN DRIVE ASSEMBLY

8-3-2020

DECK TRANSITION ASSEMBLY

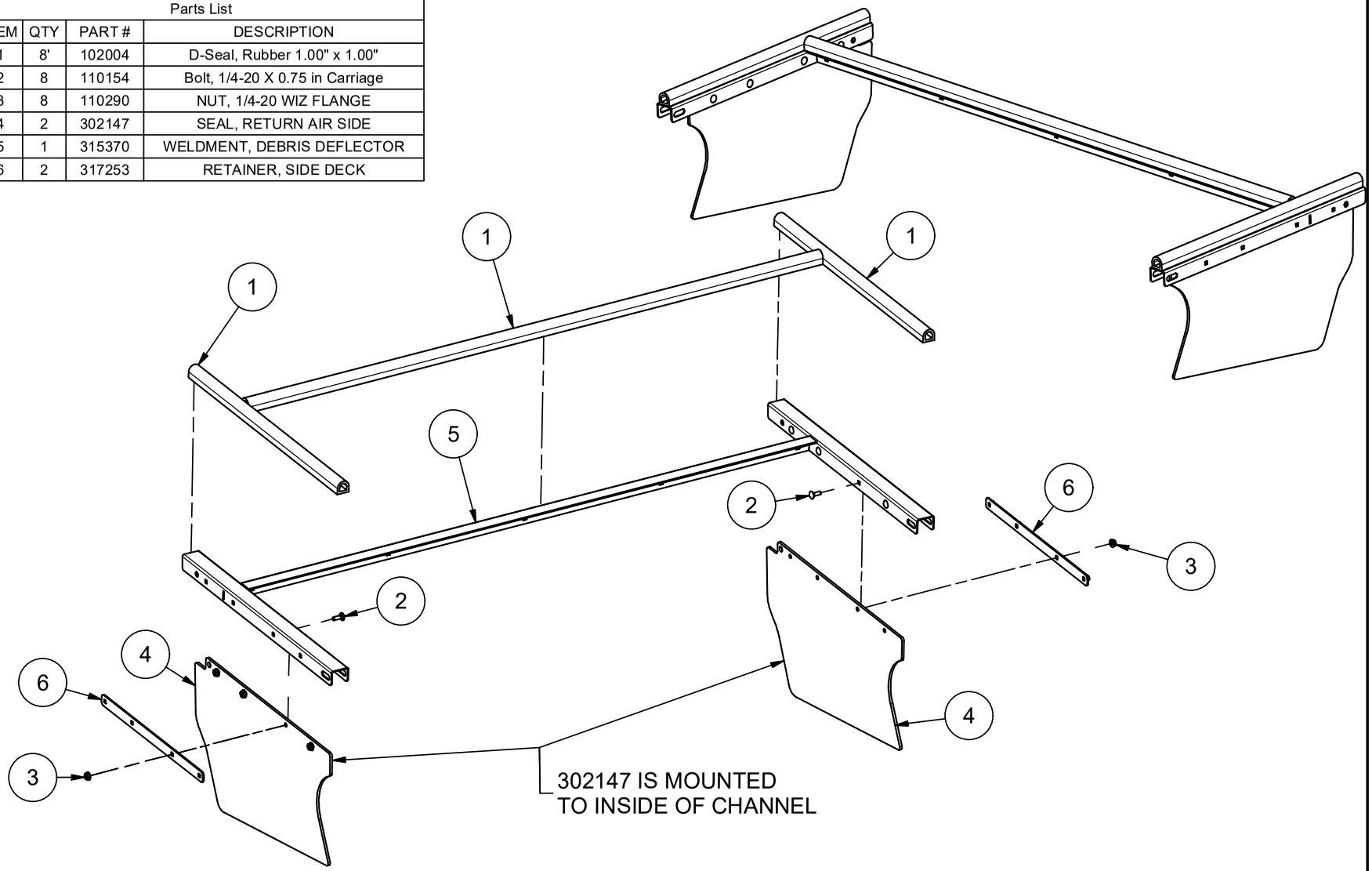
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	15'	102004	D-Seal, Rubber 1.00" x 1.00"
2	10	110020	Bolt, 5/16-18 X 0.75 in Carriage
3	10	110606	NUT, 5/16-18 WIZ FLANGE
4	1	110941	GROMMET - 1/2 ID X 1-1/4 OD, 1/16 X 1
5	1	315314	WELDMENT, SWEEPER TRANSITION
6	1	317311	LINER, DECK



7-23-2020

305070	REV: B

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	8'	102004	D-Seal, Rubber 1.00" x 1.00"
2	8	110154	Bolt, 1/4-20 X 0.75 in Carriage
3	8	110290	NUT, 1/4-20 WIZ FLANGE
4	2	302147	SEAL, RETURN AIR SIDE
5	1	315370	WELDMENT, DEBRIS DEFLECTOR
6	2	317253	RETAINER, SIDE DECK

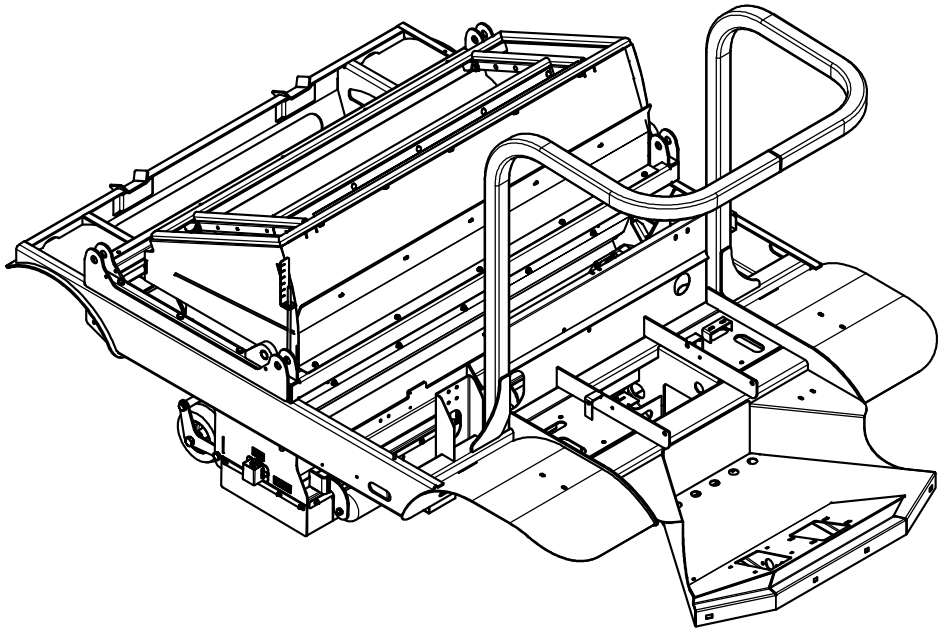


CHUTE ASSEMBLY

10-2-2020

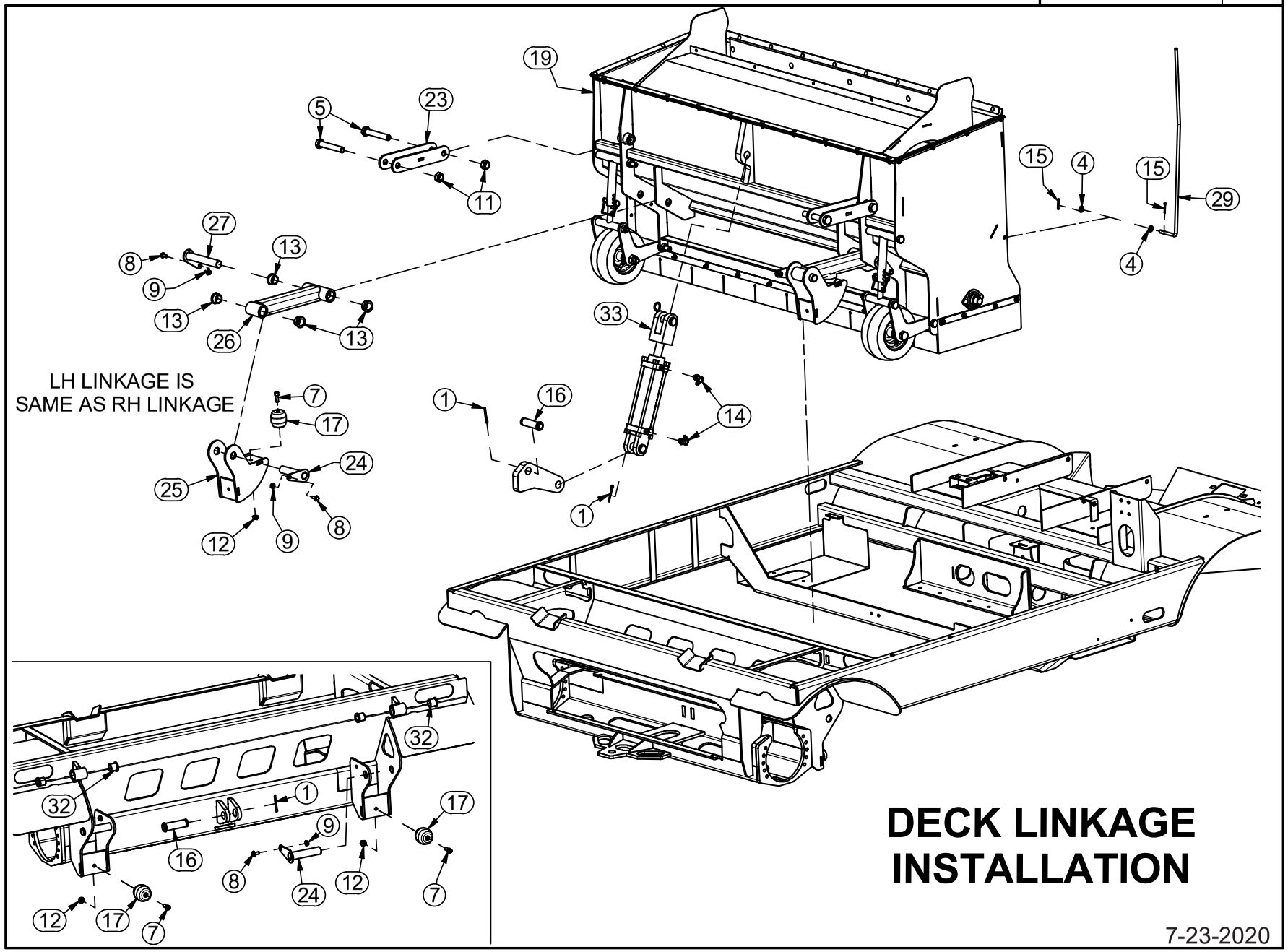
DECK INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	100465	COTTER PIN, 3/16 X 1.75
2	6	110003	BOLT, 1/2-13 X 4.0
3	10	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	2	110155	WASHER, 3/8" FLAT SAE
5	4	110170	BOLT, 3/4-10 X 4.5
6	4	110304	PIN, LOCK 3/8 X 2.5 SQ
7	4	110395	BOLT, 3/8-16 X 1.0 SHCS
8	14	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
9	14	110606	NUT, 5/16-18 WIZ FLANGE
10	6	110615	NUT, 1/2-13, UNITORQUE LOCK
11	4	110625	NUT, 3/4-10, UNITORQUE LOCK
12	4	110645	NUT, 3/8-16 WIZ FLANGE
13	8	110851	BUSHING - IGUS, 1-1/4 x 1 x 3/4 fng
14	2	120220	ADAPTER, 4MJ-6MB90
15	2	200029	COTTER PIN, 5/32 X 1
16	1	220480	PIN
17	4	302130	Spring, 300lb Rubber
18	1	302148	Seal, Loop
19	1	305066	ASSY, DECK
20	1	305069	ASSY, DECK TRANSITION
21	1	305070	ASSY, DECK CHUTE
22	1	315315	WELDMENT, HOPPER MOUNT
23	2	315346	WELDMENT, UPPER DECK LINK
24	2	315373	WELDMENT, LOWER DECK PIN, 4.50
25	2	315374	WELDMENT, RUBBER SPRING
26	2	315375	WELDMENT, LOWER DECK LINK
27	2	315376	WELDMENT, LOWER DECK PIN, 6.25
28	1	317179	CUTOFF, AIR FLOW
29	1	317267	ROD, DECK HEIGHT INDICATOR
30	1	317282	LINK, DECK LIFT
31	1	317357	Guide, Loop Seal
32	4	800128	BUSHING, IGUS, FOOT PEDAL
33	1	923011	Cylinder, 2 X 6, -6 SAE Cross



7-23-2020

305085	REV: B



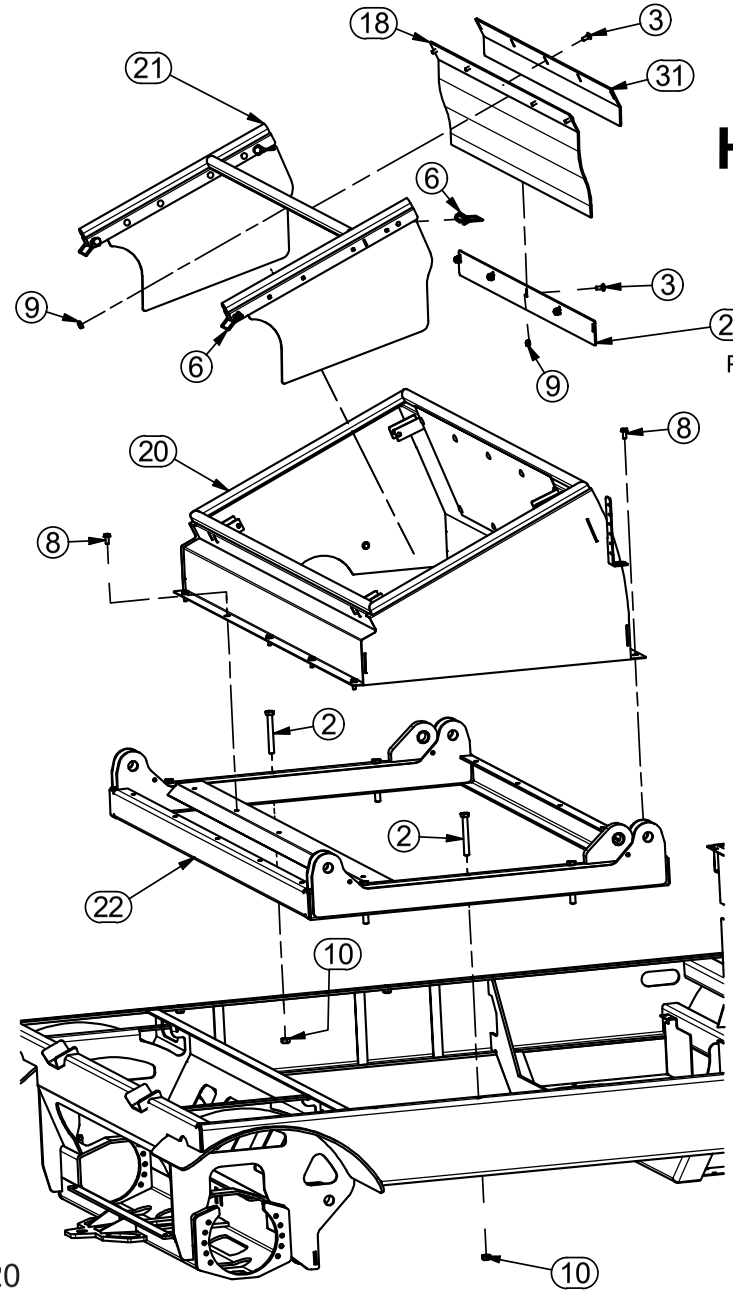
DECK LINKAGE INSTALLATION

7-23-2020

HARPER TURF EQUIPMENT

305085	REV: B

HOPPER TRANSITION & HOPPER MOUNT INSTALLATION



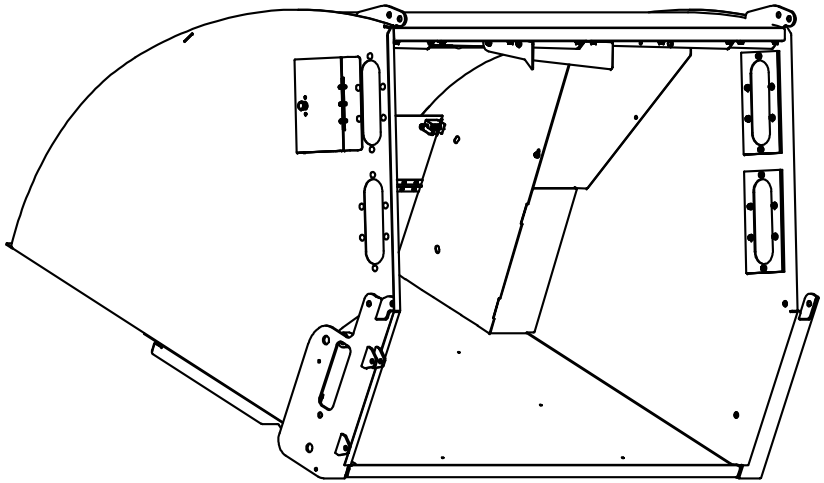
NOTE: 28 MOUNTS TO PADDLE SHIELD
POSITION CUTOFF POINT $\frac{1}{4}$" ABOVE PADDLES

Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	6	110003	BOLT, 1/2-13 X 4.0
3	10	110020	Bolt, 5/16-18 X 0.75 in Carriage
6	4	110304	PIN, LOCK 3/8 X 2.5 SQ
8	14	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
9	14	110606	NUT, 5/16-18 WIZ FLANGE
10	6	110615	NUT, 1/2-13, UNITORQUE LOCK
18	1	302148	Seal, Loop
20	1	305069	ASSY, DECK TRANSITION
21	1	305070	ASSY, DECK CHUTE
22	1	315315	WELDMENT, HOPPER MOUNT
28	1	317179	CUTOFF, AIR FLOW
31	1	317357	Guide, Loop Seal

7-23-2020

305074	REV: A

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	3' 2"	102004	D-Seal, Rubber 1.00" x 1.00"
2	2' 8"	102075	SEAL
3	27	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	6	110119	NUT, 10-24 LOCK
5	26	110319	NUT, 5/16-18 U-TYPE .75L
6	8	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
7	22	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
8	43	110606	NUT, 5/16-18 WIZ FLANGE
9	6	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
10	12	110871	Bolt, 5/16-18 X 1 in Carriage
11	2	112051	POP RIVET, 1/8 X .275
12	1	302121	LINER, SWEEPER HOPPER
13	1	302131	LATCH, SPRING
14	1	305065	ASSY, SHIELD, HOPPER
15	4	311691	SIGHT GLASS, HOPPER
16	4	311692	Backing Plate, Sight Glass
17	1	311729	HINGE, 6" ALUMINUM W/ HOLES
18	1	315320	WELDMENT, HOPPER
19	2	317212	SCREEN, OUTER RETURN AIR
20	2	317213	SCREEN, INNER RETURN AIR
21	1	317214	SCREEN, RH RETURN AIR
22	1	317215	SCREEN, LH RETURN AIR
23	1	317217	DOOR, HOPPER DEBRIS
24	1	317218	BRKT, HOPPER DEBRIS DOOR
25	2	317245	RETAINER, LINER
26	1	317350	DEFLECTOR, RH HOPPER
27	1	317351	DEFLECTOR, LH HOPPER

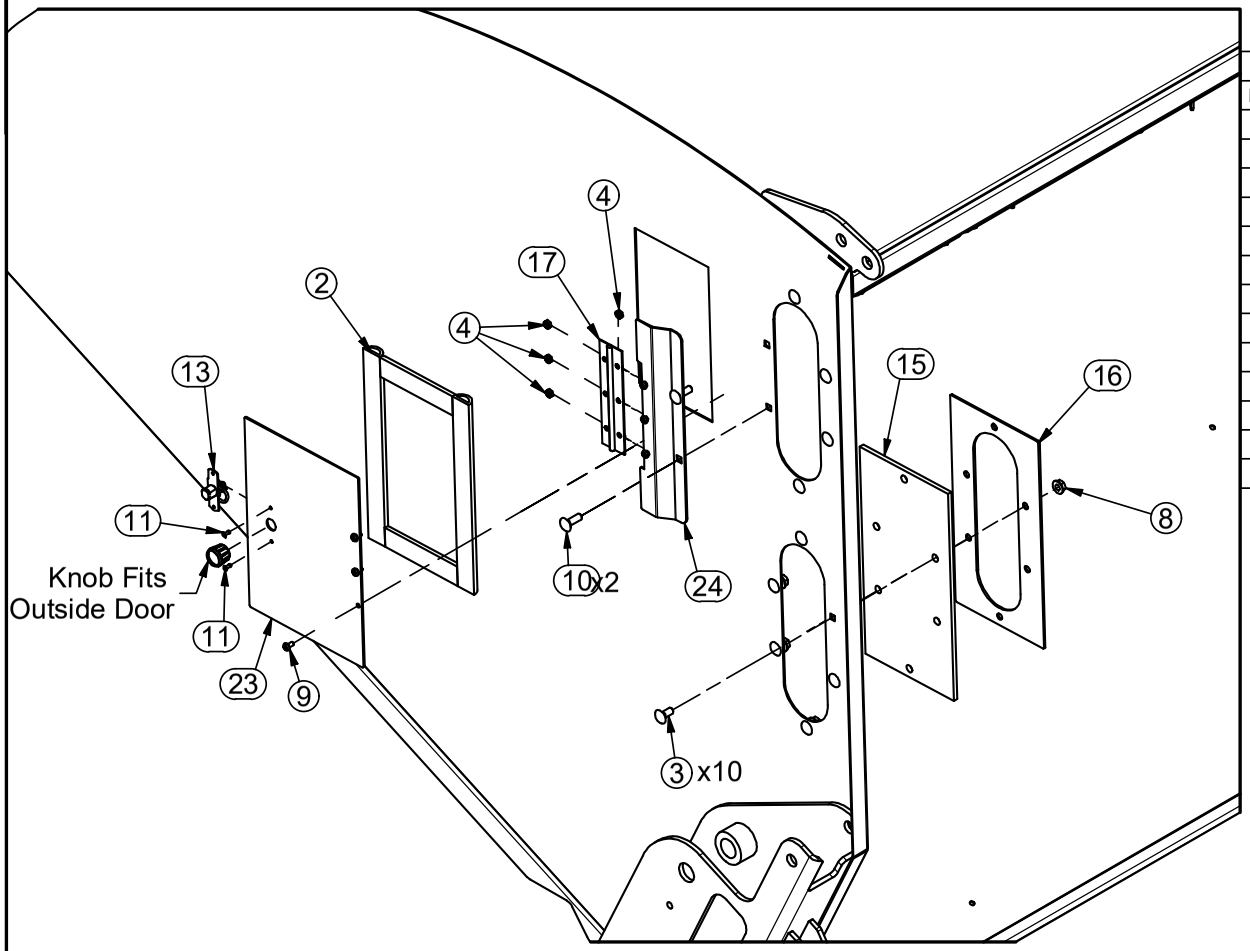


HOPPER ASSEMBLY

7-23-2020

305074	REV: A

WINDOW AND DOOR INSTALL

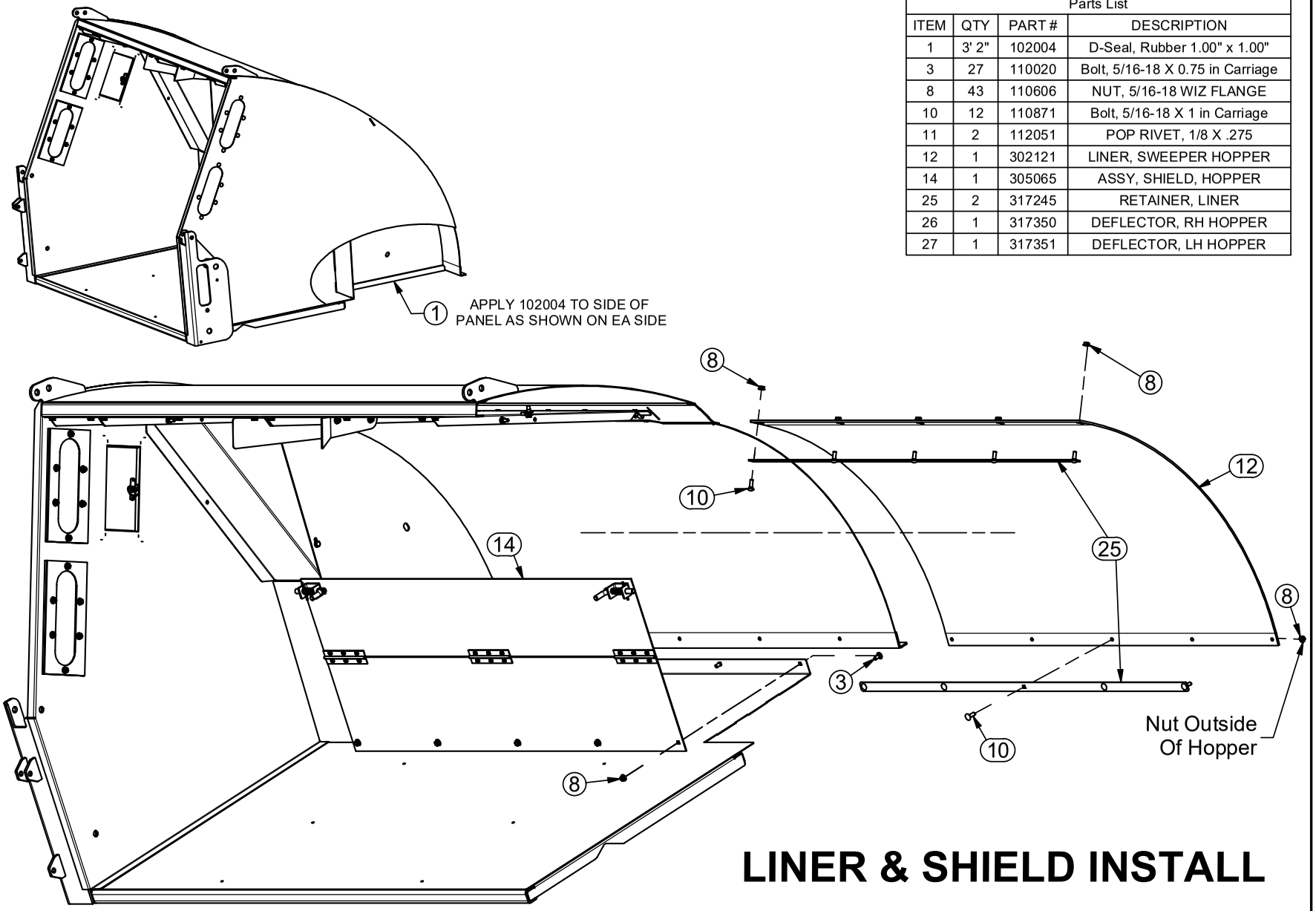


Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	2' 8"	102075	SEAL
3	27	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	6	110119	NUT, 10-24 LOCK
13	1	302131	LATCH, SPRING
15	4	311691	SIGHT GLASS, HOPPER
16	4	311692	Backing Plate, Sight Glass
17	1	311729	HINGE, 6" ALUMINUM W/ HOLES
23	1	317217	DOOR, HOPPER DEBRIS
24	1	317218	BRKT, HOPPER DEBRIS DOOR
11	2	112051	POP RIVET, 1/8 X .275
26	1	317350	DEFLECTOR, RH HOPPER
27	1	317351	DEFLECTOR, LH HOPPER
1	3' 2"	102004	D-Seal, Rubber 1.00" x 1.00"

7-23-2020

305074	REV: A

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	3' 2"	102004	D-Seal, Rubber 1.00" x 1.00"
3	27	110020	Bolt, 5/16-18 X 0.75 in Carriage
8	43	110606	NUT, 5/16-18 WIZ FLANGE
10	12	110871	Bolt, 5/16-18 X 1 in Carriage
11	2	112051	POP RIVET, 1/8 X .275
12	1	302121	LINER, SWEEPER HOPPER
14	1	305065	ASSY, SHIELD, HOPPER
25	2	317245	RETAINER, LINER
26	1	317350	DEFLECTOR, RH HOPPER
27	1	317351	DEFLECTOR, LH HOPPER

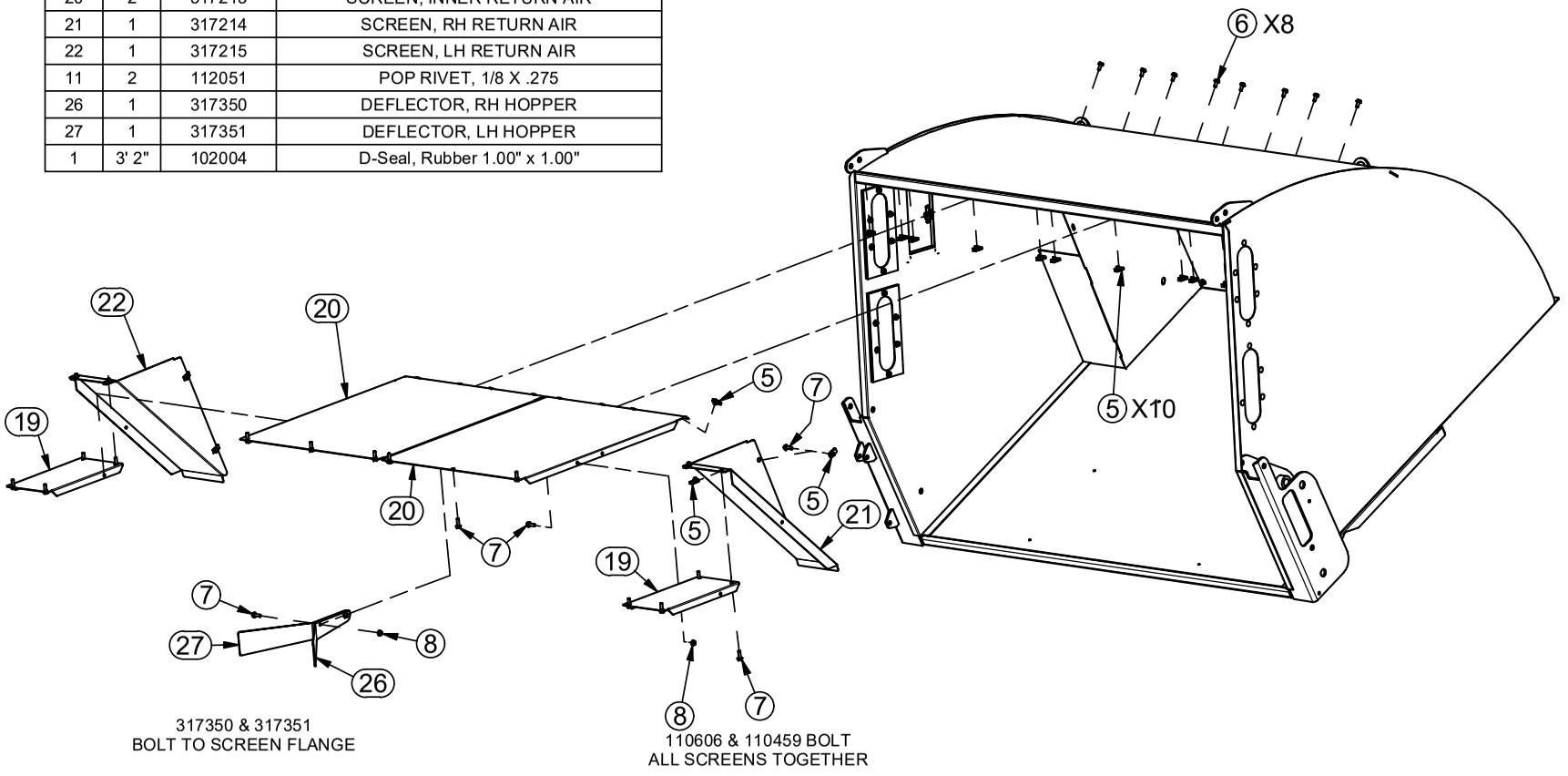


LINER & SHIELD INSTALL

7-23-2020

SCREEN ASSEMBLY AND INSTALL

Parts List			
ITEM	QTY	PART #	DESCRIPTION
5	26	110319	NUT, 5/16-18 U-TYPE .75L
6	8	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
7	22	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
8	43	110606	NUT, 5/16-18 WIZ FLANGE
19	2	317212	SCREEN, OUTER RETURN AIR
20	2	317213	SCREEN, INNER RETURN AIR
21	1	317214	SCREEN, RH RETURN AIR
22	1	317215	SCREEN, LH RETURN AIR
11	2	112051	POP RIVET, 1/8 X .275
26	1	317350	DEFLECTOR, RH HOPPER
27	1	317351	DEFLECTOR, LH HOPPER
1	3' 2"	102004	D-Seal, Rubber 1.00" x 1.00"



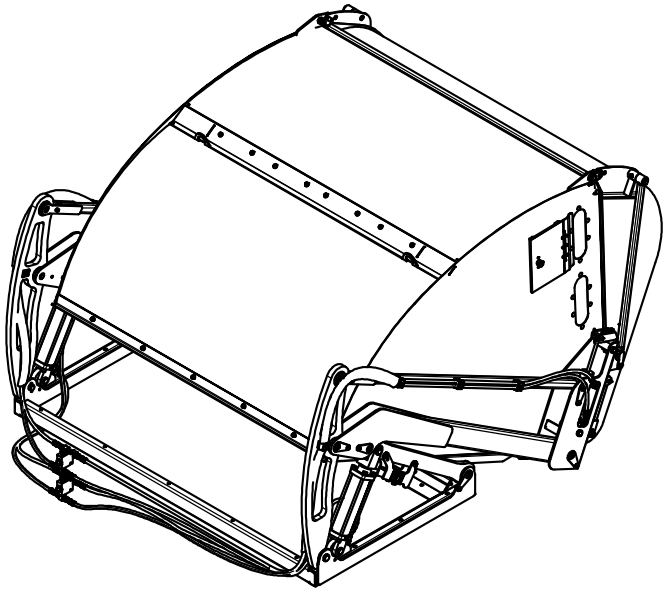
7-23-2020

305075	REV: C

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	8.75'	100354	WEBBING, NYLON 1.50ID, SHEATH
2	2	102137	CLEVIS PIN, 1/2 X 1.75
3	4	110025	BOLT, 5/8-11 X 5.5
4	4	110378	BOLT, 5/16-18 X 2.0
5	2	110396	BOLT, 5/16-18 X 2.5
6	8	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
7	8	110474	BOLT, 1/4-20 X 1-1/2
8	2	110536	BOLT, 5/16-18 X 3.25
9	2	110576	BOLT, 5/8-11 X 1.5 GR 5
10	8	110600	NUT, 5/16-18, UNITORQUE LOCK
11	8	110606	NUT, 5/16-18 WIZ FLANGE
12	6	110639	NUT, 5/8-11, UNITORQUE LOCK
13	8	110667	WASHER, 1/4" LOCK
14	2	112131	Clevis Pin, 1/2" x 1-1/2", ZINC-PLATED STEEL
15	2	112133	Clevis Pin, 1" x 2-3/16", ZINC-PLATED STEEL
16	2	112135	Clevis Pin, 3/8" x 2", Zinc-Plated Steel
17	2	120222	ADAPTER, 6MJ-6MB90
18	4	120233	ADAPTER, 4MJ-4MB
19	4	120266	ADAPTER, 4MJ-4FJX90
20	2	120398	ADAPTER, REST 6MJ-6MB, .047
21	2	140016	PIN, LOCK, 1/4 X 2-1/4, SQ WIRE
22	6	200029	COTTER PIN, 5/32 X 1
23	1	305063	Assy, Hopper Door, ISO
24	1	305074	ASSY, HOPPER
25	2	305103	Assy, Safety Latch, ISO
26	1	312022	CLIP, HAIRPIN 3/32 x 1.625
27	2	315257	PIN WELDMENT, HOPPER DOOR
28	2	315316	WELDMENT, VERTICAL LIFT LINK
29	2	315317	WELDMENT, CYLINDER LIFT LINK
30	2	315318	WELDMENT, LOWER LIFT LINK
31	2	315319	WELDMENT, UPPER LIFT LINK
32	2	315322	WELDMENT, DOOR LIFT LINK
33	2	315327	WELDMENT, DOOR LIFT PIVOT LINK
34	4	315331	WELDMENT, HOPPER LIFT - 4.00"
35	4	315332	WELDMENT, LIFT LINK PIN - 2.87"
36	4	315333	WELDMENT, LIFT LINK PIN - 2.12"
37	2	315383	Weldment, Door Arm End

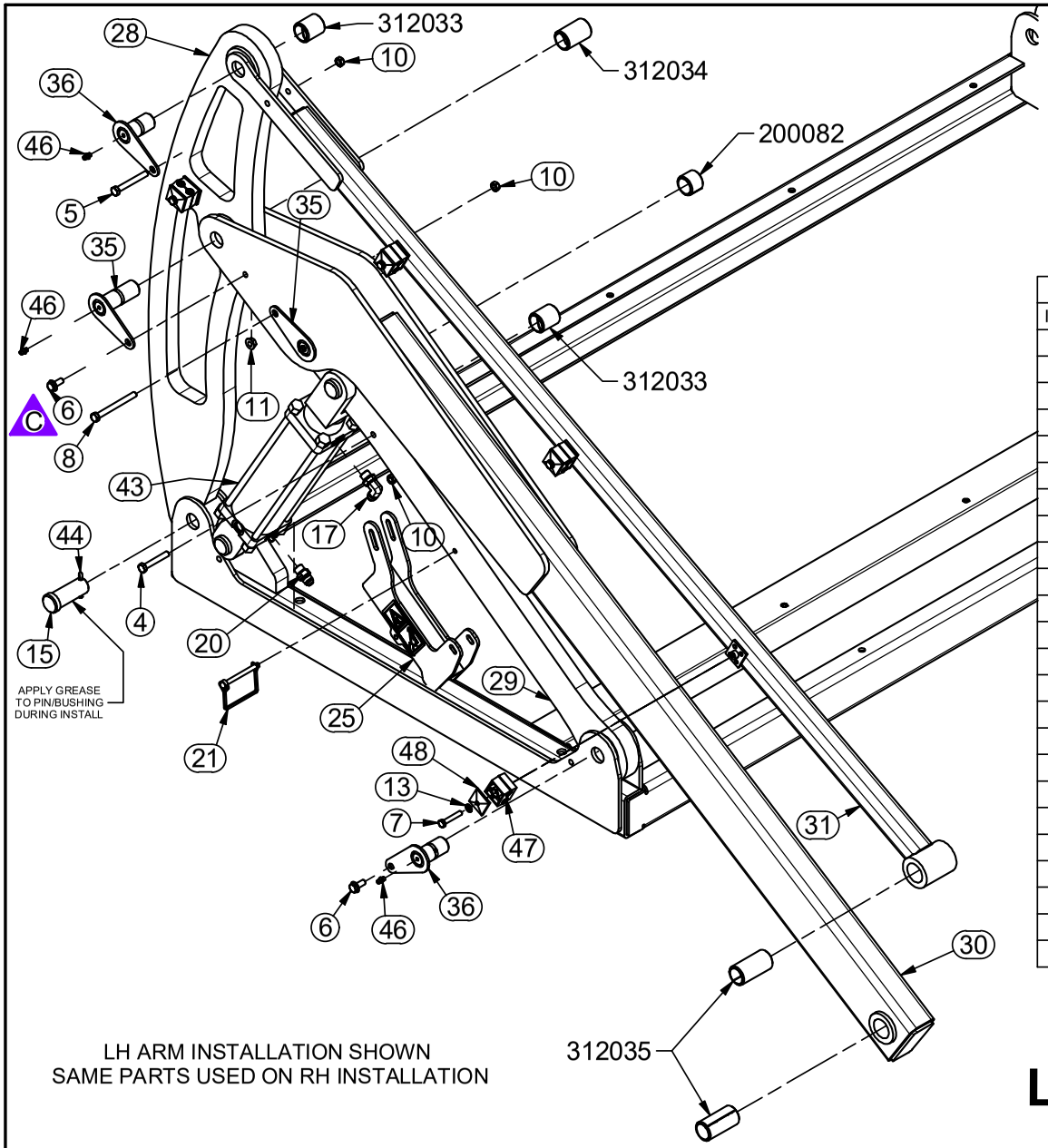
Parts List			
ITEM	QTY	PART #	DESCRIPTION
38	1	315393	WELDMENT, DOOR STOP
39	2	317216	CLEVIS PIN, 3/4 X 3.75, W/ HOLE
40	4	317320	SPACER, CYLINDER
41	2	323010	CYLINDER - STEERING, 1-3/4 X 6
42	1	323065	HOSE KIT, HAWK HOPPER HYDRAULIC
43	2	323066	Cylinder, 2.5 X 8, -6 SAE, Hopper
44	2	500184	COTTER PIN, 3/16 X 1.25
45	2	500230	GREASE ZERK, 1/4-28 90deg
46	14	510174	GREASE ZERK, 1/4-28 ST
47	8	522104	DOUBLE HOSE CLAMP
48	8	522105	DOUBLE COVERPLATE

HOPPER INSTALLATION



10-20-2020

305075	REV: C



LH ARM INSTALLATION SHOWN
SAME PARTS USED ON RH INSTALLATION

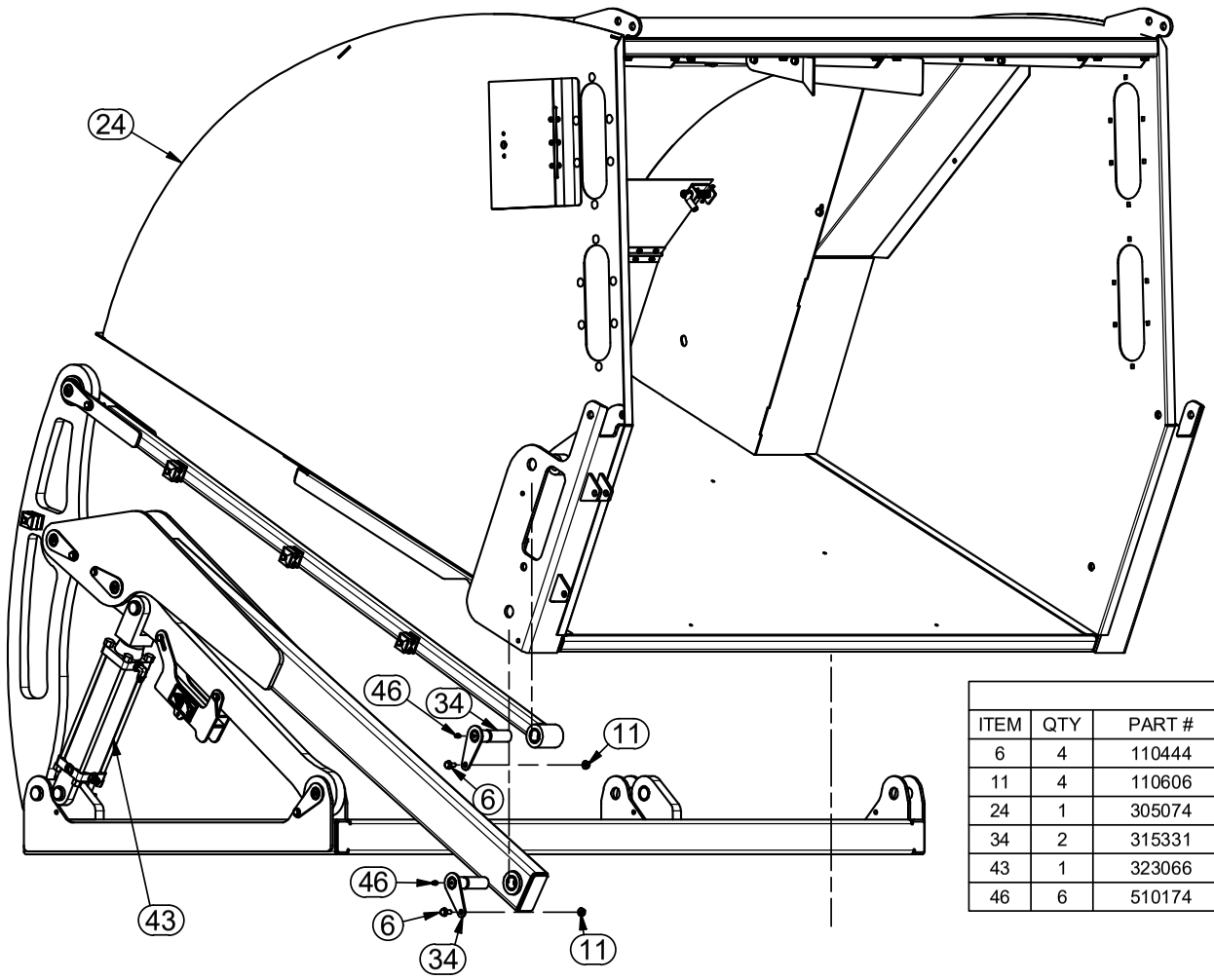
10-26-2020

Service Parts		
QTY	PART #	DESCRIPTION
1	200082	Bushing, 1.25 X 1 X 1, Split Steel
2	312033	Bushing, 1.25 X 1 X 1.438, Split, w/
1	312034	Bushing, 1.25 X 1 X 1.938, Split, w/
2	312035	Bushing, 1.25 X 1 X 2.5, Split, w/

Parts List			
ITEM	QTY	PART #	DESCRIPTION
4	1	110378	BOLT, 5/16-18 X 2.0
5	1	110396	BOLT, 5/16-18 X 2.5
6	2	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
7	4	110474	BOLT, 1/4-20 X 1-1/2
8	1	110536	BOLT, 5/16-18 X 3.25
10	3	110600	NUT, 5/16-18, UNITORQUE LOCK
11	2	110606	NUT, 5/16-18 WIZ FLANGE
13	4	110667	WASHER, 1/4" LOCK
15	1	112133	Clevis Pin, 1" x 2-3/16", ZINC-PLATED STEEL
17	1	120222	ADAPTER, 6MJ-6MB90
20	1	120398	ADAPTER, REST 6MJ-6MB, .047
21	1	140016	PIN, LOCK, 1/4 X 2-1/4, SQ WIRE
25	1	305103	Assy, Safety Latch, ISO
28	1	315316	WELDMENT, VERTICAL LIFT LINK
29	1	315317	WELDMENT, CYLINDER LIFT LINK
30	1	315318	WELDMENT, LOWER LIFT LINK
31	1	315319	WELDMENT, UPPER LIFT LINK
35	2	315332	WELDMENT, LIFT LINK PIN - 2.87"
36	2	315333	WELDMENT, LIFT LINK PIN - 2.12"
43	1	323066	Cylinder, 2.5 X 8, -6 SAE, Hopper
44	1	500184	COTTER PIN, 3/16 X 1.25
46	4	510174	GREASE ZERK, 1/4-28 ST
47	4	522104	DOUBLE HOSE CLAMP
48	4	522105	DOUBLE COVERPLATE

LIFT ARM ASSEMBLY

305075	REV: C



LH INSTALLATION SHOWN
SAME PARTS USED ON RH INSTALLATION

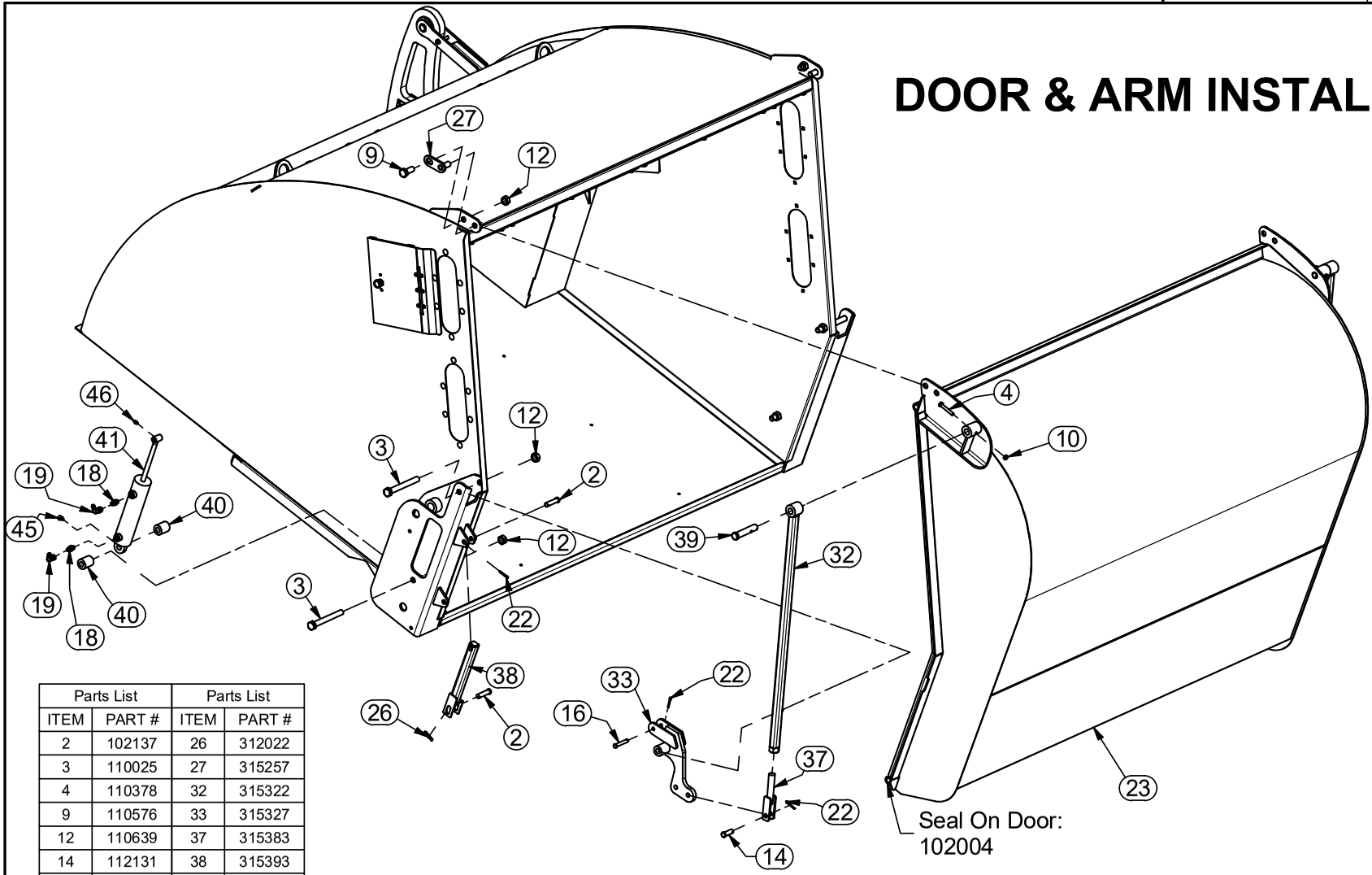
Parts List			
ITEM	QTY	PART #	DESCRIPTION
6	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
11	4	110606	NUT, 5/16-18 WIZ FLANGE
24	1	305074	ASSY, HOPPER
34	2	315331	WELDMENT, HOPPER LIFT - 4.00"
43	1	323066	Cylinder, 2.5 X 8, -6 SAE, Hopper
46	6	510174	GREASE ZERK, 1/4-28 ST

HOPPER INSTALL

10-20-2020

305075	REV: C

DOOR & ARM INSTALL



Parts List		Parts List	
ITEM	PART #	ITEM	PART #
2	102137	26	312022
3	110025	27	315257
4	110378	32	315322
9	110576	33	315327
12	110639	37	315383
14	112131	38	315393
16	112135	39	317216
18	120233	40	317320
19	120266	41	323010
22	200029	45	500230
23	305063	46	510174

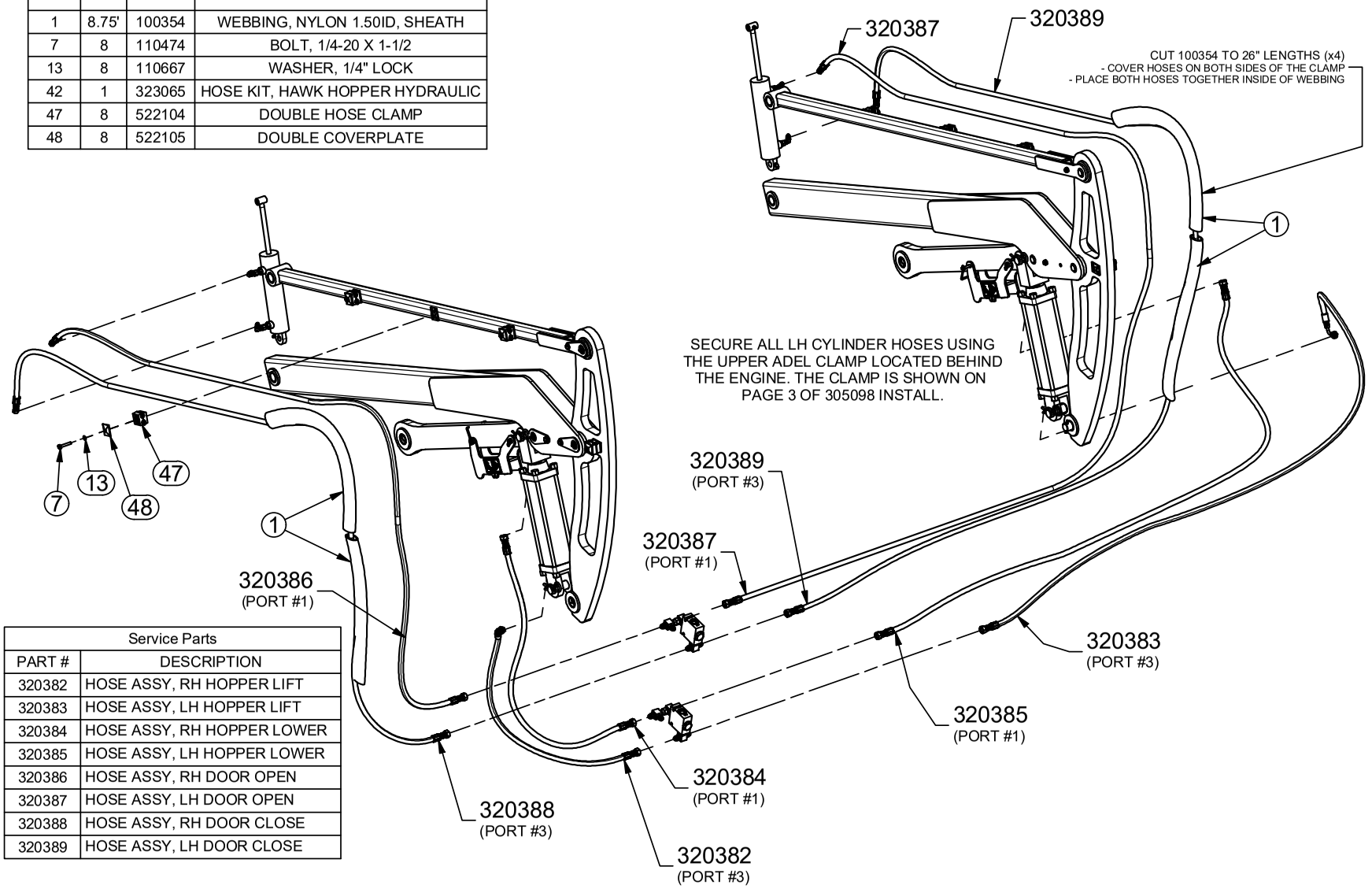
1. INITIALLY SET THE HOPPER DOOR LIFT LINK TO 36.5" (CTR TO CTR)
2. ADJUST AS NEEDED TO COMPRESS THE DOOR SEAL TO 0.5" AT THE BOTTOM OF THE DOOR

10-20-2020

305075	REV: C

HOPPER CYLINDER PLUMBING

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	8.75'	100354	WEBBING, NYLON 1.50ID, SHEATH
7	8	110474	BOLT, 1/4-20 X 1-1/2
13	8	110667	WASHER, 1/4" LOCK
42	1	323065	HOSE KIT, HAWK HOPPER HYDRAULIC
47	8	522104	DOUBLE HOSE CLAMP
48	8	522105	DOUBLE COVERPLATE



Service Parts	
PART #	DESCRIPTION
320382	HOSE ASSY, RH HOPPER LIFT
320383	HOSE ASSY, LH HOPPER LIFT
320384	HOSE ASSY, RH HOPPER LOWER
320385	HOSE ASSY, LH HOPPER LOWER
320386	HOSE ASSY, RH DOOR OPEN
320387	HOSE ASSY, LH DOOR OPEN
320388	HOSE ASSY, RH DOOR CLOSE
320389	HOSE ASSY, LH DOOR CLOSE

10-20-2020

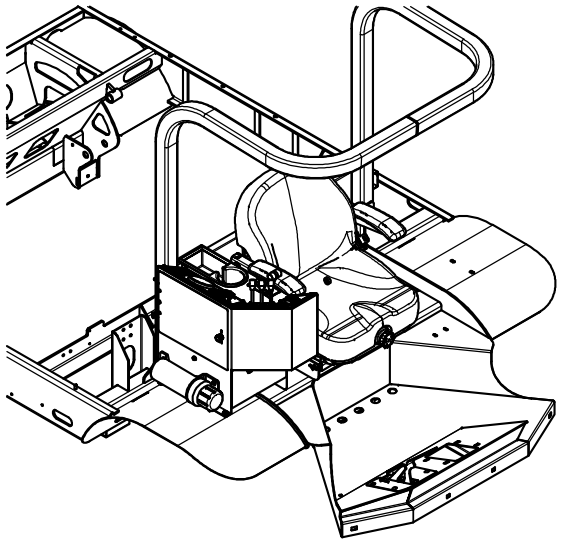
305090 REV: B

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	4'	100613	SEAL, RUBBER .50 X .187
2	2.5'	102072	TAPE, DOUBLE-SIDED AUTO, 1/2"x.045
3	4	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	12	110103	WASHER, #10 LOCK
5	6	110119	NUT, 10-24 LOCK
6	17	110264	BOLT, 10-24 X .5 STAINLESS, PHILLIPS
7	2	110404	BOLT, 3/8-16 X 1.75
8	3	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
9	4	110468	BOLT, 1/4-20 X 0.75, WIZ FLANGE
10	10	110606	NUT, 5/16-18 WIZ FLANGE
11	2	110621	NUT, 3/8-16, UNITORQUE LOCK
12	4	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
13	10	110631	NUT, 10-24 LOCK NYLON INSERT
14	2	110632	NUT, 1/4-28, UNITORQUE LOCK
15	3	110645	NUT, 3/8-16 WIZ FLANGE
16	6	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
17	10	110834	SCREW, 10-24 X 3/4 SS PAN HEAD
18	17	110835	NUT, 10-24 RIVET ALUMINUM
19	2	110971	BOLT, 5/16-18 X .50 SHCS
20	2	112051	POP RIVET, 1/8 X .275
21	2	112119	ROLL PIN, 5/32 X 2 ZP
22	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045
23	1	152004	HOLDER, MANUAL
24	1	200020	CLAMP, ADEL AC22 .265 HOLE
25	1	302015	HOLDER - CUP, MOLDED
26	3	302017	CLEVIS - THROTTLE
27	1	302078	SEAT, I3M SUSPENSION
28	1	302124	CABLE, THROTTLE 60"
29	1	302131	LATCH, SPRING
30	1	302132	DECAL, MAIN CONSOLE
31	1	302133	Decal, Hydraulics Panel
32	1	302134	DECAL, BROOM PANEL
33	1	302135	Decal, Throttle Panel
34	1	302141	CABLE, PUSH/PULL 60"
35	1	305061	Assy, Forward Foot Pedal
36	1	305062	Assy, Reverse Foot Pedal

Parts List			
ITEM	QTY	PART #	DESCRIPTION
37	1	305064	Assy, Console Panel, ISO
38	1	311729	HINGE, 6" ALUMINUM W/ HOLES
39	1	315349	WELDMENT, FOOT PEDAL MOUNT
40	1	315355	WELDMENT, FOOT PEDAL PIVOT
41	1	317102	PANEL, LEVER
42	1	317103	PANEL, DECK SWITCH
43	1	317172	BASE, SEAT MOUNT
44	1	317173	PIN, SEAT MOUNTING
45	1	317186	COVER, FOOT PEDAL
46	1	317193	DOOR, CONSOLE ACCESS
47	1	317195	PANEL, GAUGE & SWITCH
48	2	317249	PIN, QUICK RELEASE
49	1	332031	SWITCH, IGNITION
50	1	332059	DISPLAY, MACHINE
51	1	332060	HARNESS, MASTER

Parts List			
ITEM	QTY	PART #	DESCRIPTION
52	1	332063	HARNESS, INSTRUMENT PANEL
53	1	332064	HARNESS, RELAY
54	2	510112	COTTER PIN, 3/16 X 1
55	2	540075	BEARING, ROD END 1/4-28 W/STUD
56	4	800128	BUSHING, IGUS, FOOT PEDAL
57	1	810886	LINKAGE, 1/4-28 FOOT PEDAL
58	1	815094	WELDMENT, REV FOOT PEDAL PIVOT
59	2	832005	SWITCH, PADDLE, CARLING (29253)
60	1	832018	SWITCH, SPDT, ON-ON
61	6	832024	MOUNT, SWITCH (VMS)
62	3	832033	HOLE PLUG (VHP)
63	1	832068	MODULE, TIME DELAY, 1.75 SEC, 1804
64	2	832082	ALARM, PANEL MOUNT, CONTINUOUS TONE

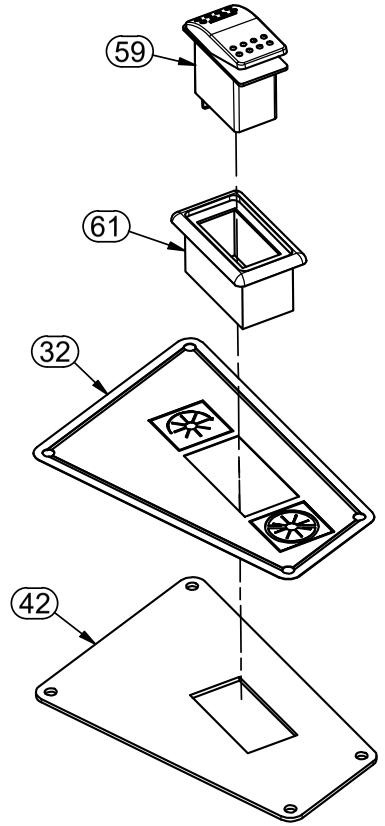
OPERATOR STATION & ELECTRICAL ASSEMBLY



8-19-2020

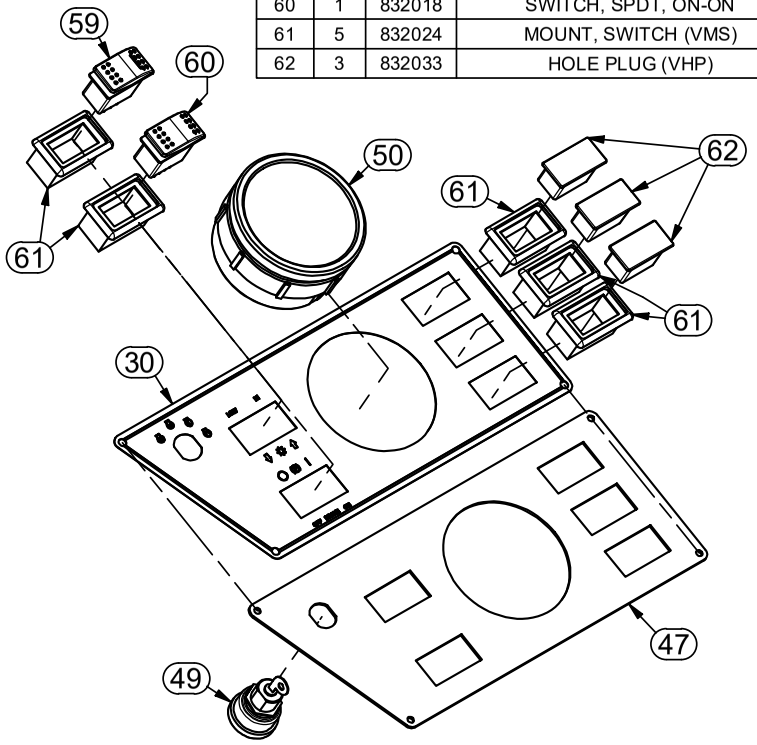
DECK SWITCH PANEL ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
32	1	302134	DECAL, BROOM PANEL
42	1	317103	PANEL, DECK SWITCH
59	1	832005	SWITCH, PADDLE, CARLING (29253)
61	1	832024	MOUNT, SWITCH (VMS)



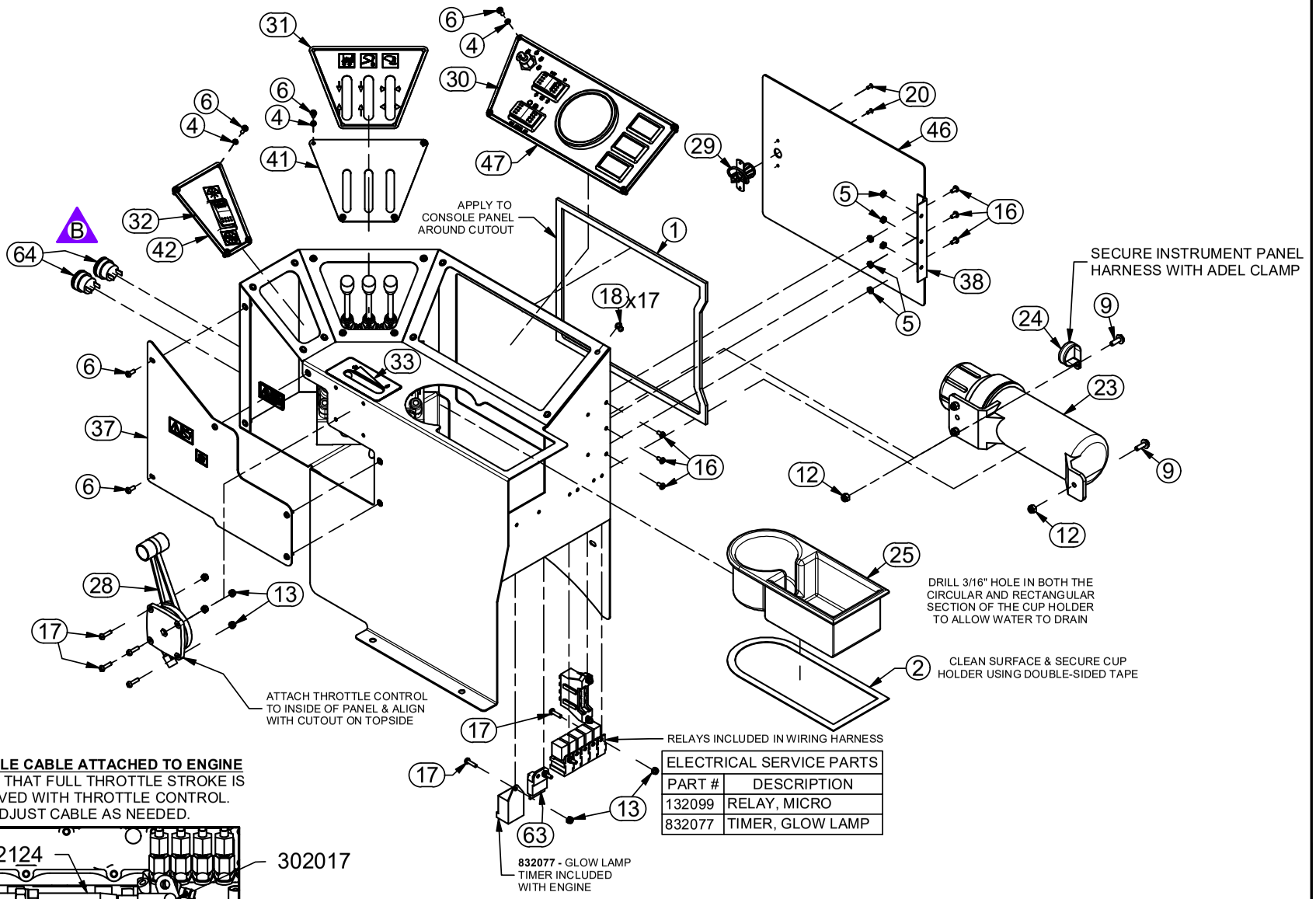
INSTRUMENT PANEL ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
30	1	302132	DECAL, MAIN CONSOLE
47	1	317195	PANEL, GAUGE & SWITCH
49	1	332031	SWITCH, IGNITION
50	1	332059	DISPLAY, MACHINE
59	1	832005	SWITCH, PADDLE, CARLING (29253)
60	1	832018	SWITCH, SPDT, ON-ON
61	5	832024	MOUNT, SWITCH (VMS)
62	3	832033	HOLE PLUG (VHP)

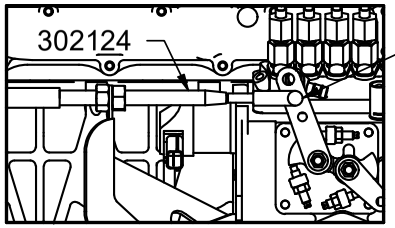


8-19-2020

305090	REV: B



THROTTLE CABLE ATTACHED TO ENGINE
ENSURE THAT FULL THROTTLE STROKE IS ACHIEVED WITH THROTTLE CONTROL. ADJUST CABLE AS NEEDED.



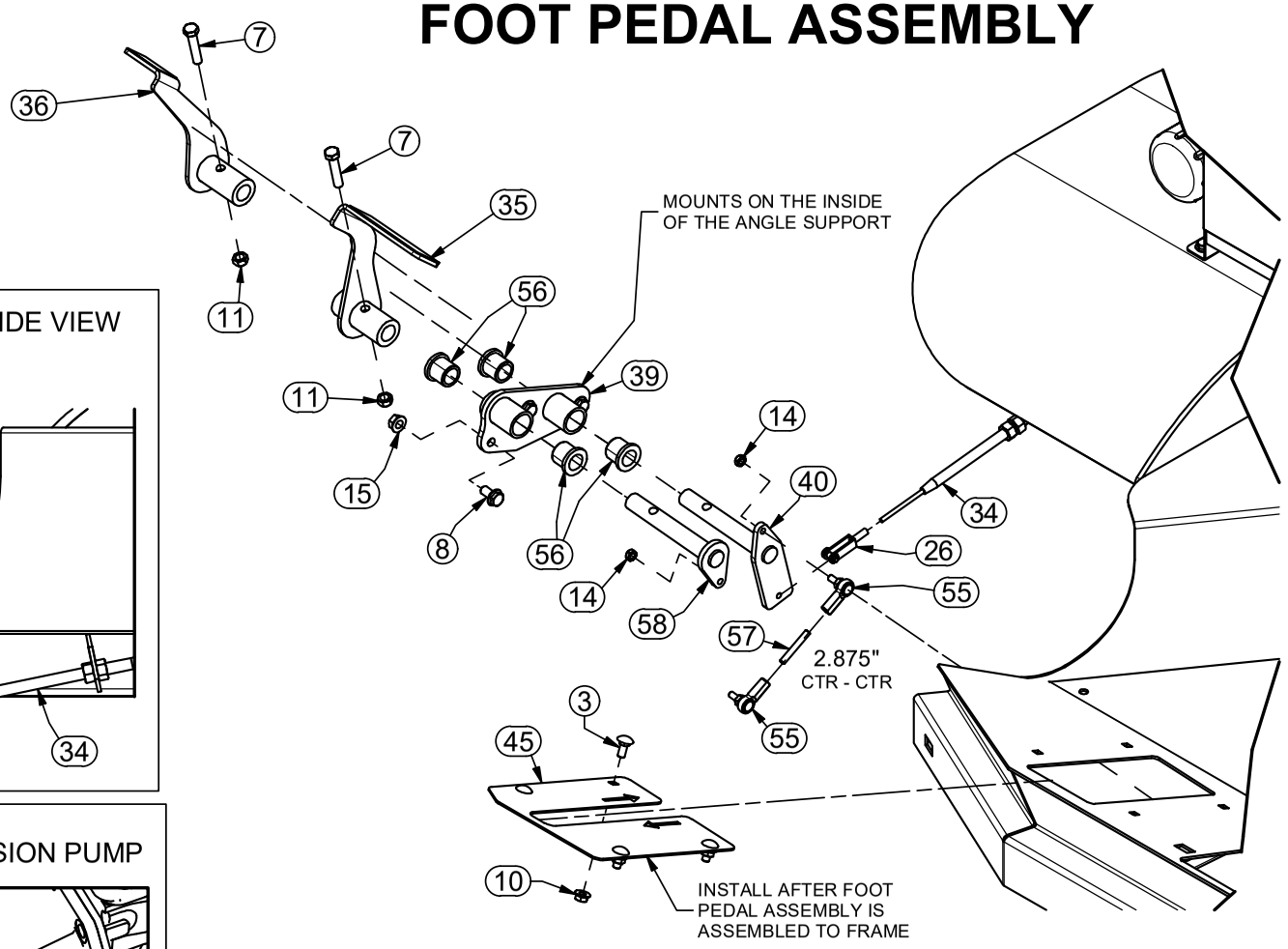
ELECTRICAL SERVICE PARTS	
PART #	DESCRIPTION
132099	RELAY, MICRO
832077	TIMER, GLOW LAMP

CONSOLE ASSEMBLY

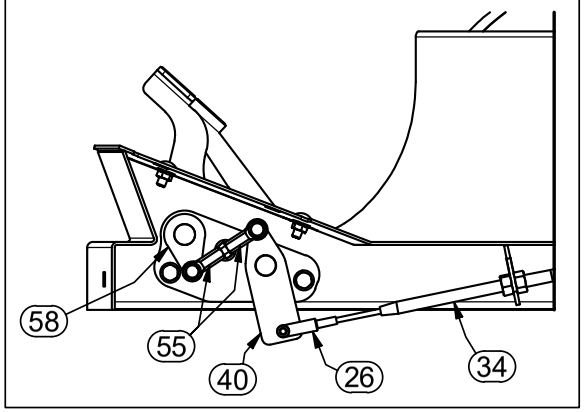
8-19-2020

305090	REV: B

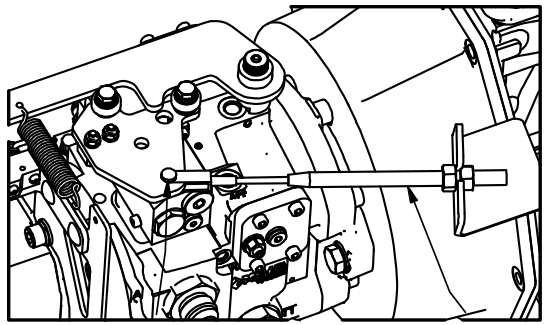
FOOT PEDAL ASSEMBLY



FOOT PEDAL ASSEMBLY SIDE VIEW



PEDAL CABLE TO PROPULSION PUMP



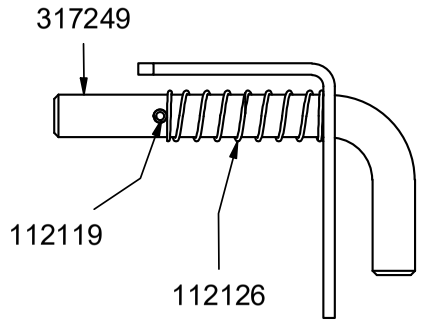
302017 302141

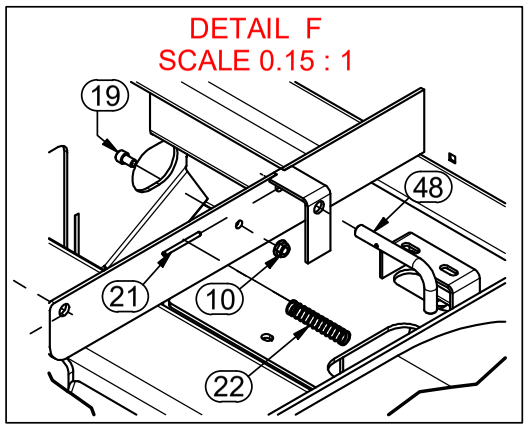
8-19-2020

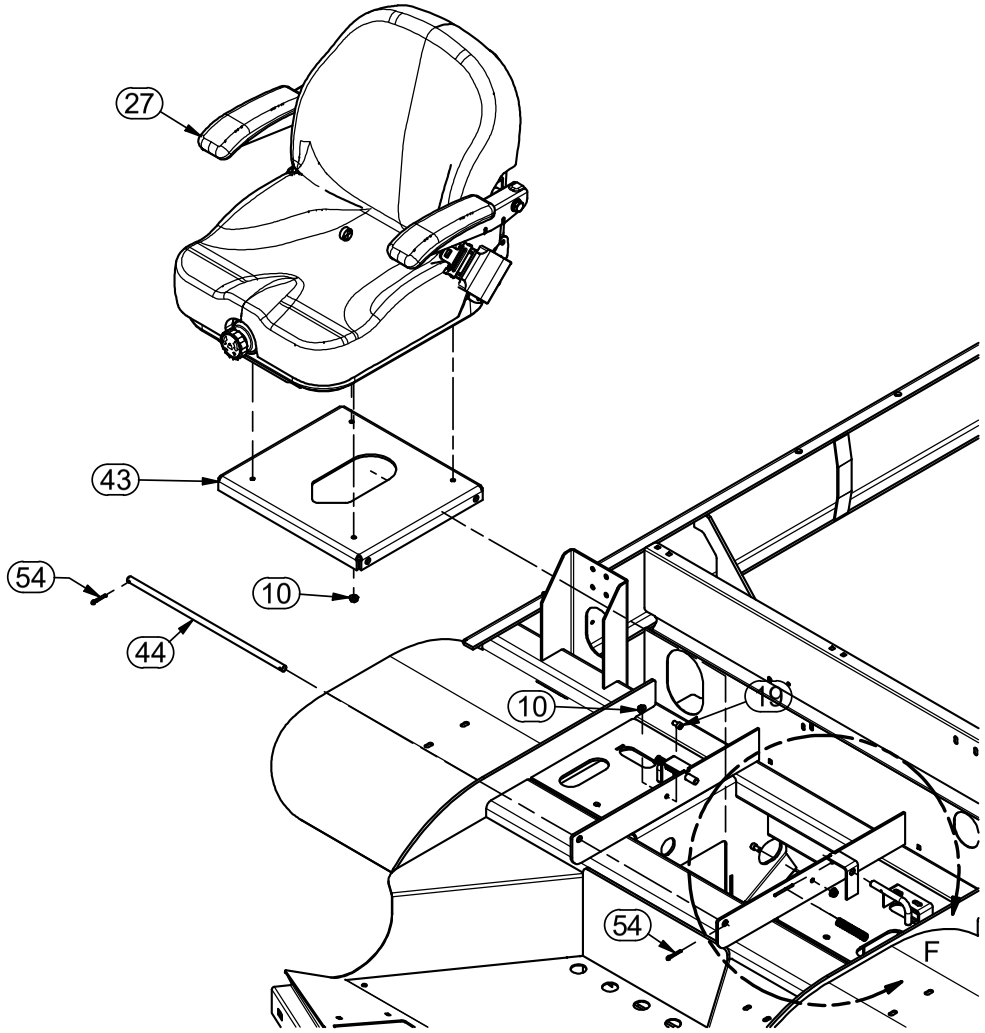
SEAT ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
10	6	110606	NUT, 5/16-18 WIZ FLANGE
19	2	110971	BOLT, 5/16-18 X .50 SHCS
21	2	112119	ROLL PIN, 5/32 X 2 ZP
22	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045
27	1	302078	SEAT, I3M SUSPENSION
43	1	317172	BASE, SEAT MOUNT
44	1	317173	PIN, SEAT MOUNTING
48	2	317249	PIN, QUICK RELEASE
54	2	510112	COTTER PIN, 3/16 X 1

SEAT PIN SIDE VIEW





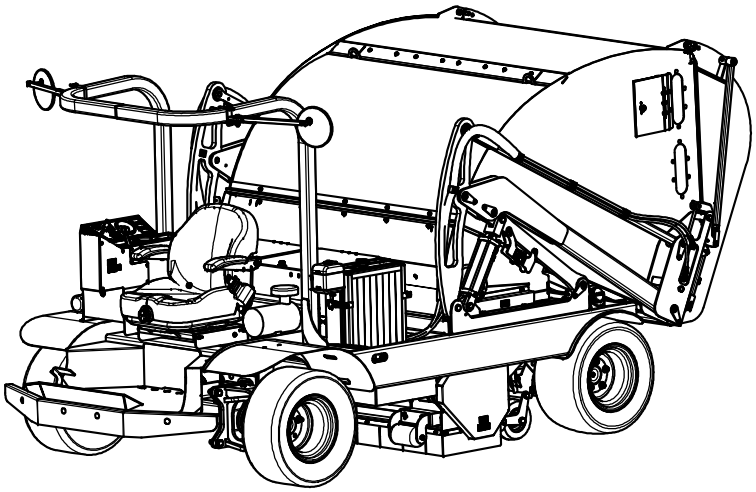


8-19-2020

Insert 11 x 17 Electrical Page HERE

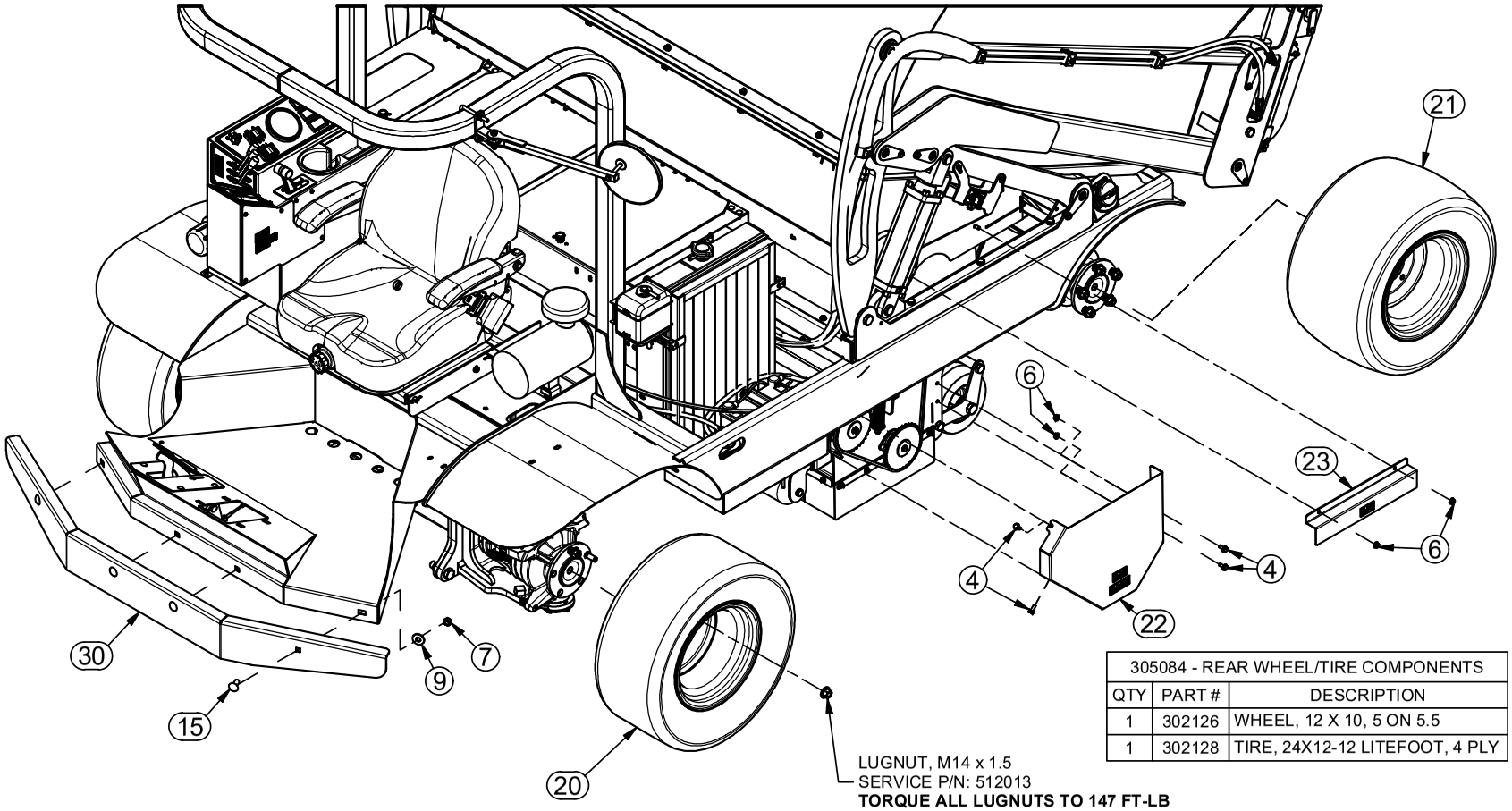
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	15 FT	100613	SEAL, RUBBER .50 X .187
2	18	110119	NUT, 10-24 LOCK
3	2	110400	BOLT, 3/8-16 X 2.0
4	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
5	2	110474	BOLT, 1/4-20 X 1-1/2
6	4	110606	NUT, 5/16-18 WIZ FLANGE
7	4	110615	NUT, 1/2-13, UNITORQUE LOCK
8	4	110645	NUT, 3/8-16 WIZ FLANGE
9	4	110658	WASHER, 1/2" FLAT STANDARD
10	2	110667	WASHER, 1/4" LOCK
11	18	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
12	4	110826	NUT, 3/8-16 GR 5
13	2	111185	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0
14	6	112051	POP RIVET, 1/8 X .275
15	4	112070	Bolt, 1/2-13 X 1.25 in Carriage
16	4	211747	FRICTION WASHER 1.5"
17	3	302131	LATCH, SPRING
18	2	302139	Convex Mirror, 8" Round, Offset Ball-Stud
19	4	302140	Plug, Snap-In Square, 3/4"
20	2	305083	ASSY, FRONT TIRE
21	2	305084	ASSY, REAR TIRE
22	1	305099	ASSY, LOWER DECK SHIELD
23	1	305100	ASSY, UPPER DECK SHIELD
24	1	305101	ASSY, RH ENGINE SHIELD
25	3	311729	HINGE, 6" ALUMINUM W/ HOLES
26	1	312022	CLIP, HAIRPIN 3/32 x 1.625
27	2	315385	WELDMENT, SWINGING MIRROR
28	2	315391	WELDMENT, MIRROR UBOLT MOUNT
29	2	317237	SHIELD, UPPER ENGINE
30	1	317244	BUMPER, FRONT

MIRROR, TIRE, & SHIELD INSTALLATION



305095	REV: A

BUMPER, DECK SHIELDS, & WHEEL/TIRE ASSEMBLY



305084 - REAR WHEEL/TIRE COMPONENTS		
QTY	PART #	DESCRIPTION
1	302126	WHEEL, 12 X 10, 5 ON 5.5
1	302128	TIRE, 24X12-12 LITEFOOT, 4 PLY

305083 - FRONT WHEEL/TIRE COMPONENTS		
QTY	PART #	DESCRIPTION
1	302125	WHEEL, 12 X 7, 5 ON 5.5 W/ -3.25 OFFSET
1	302127	TIRE, 24X9.5-12 LITEFOOT, 4PLY

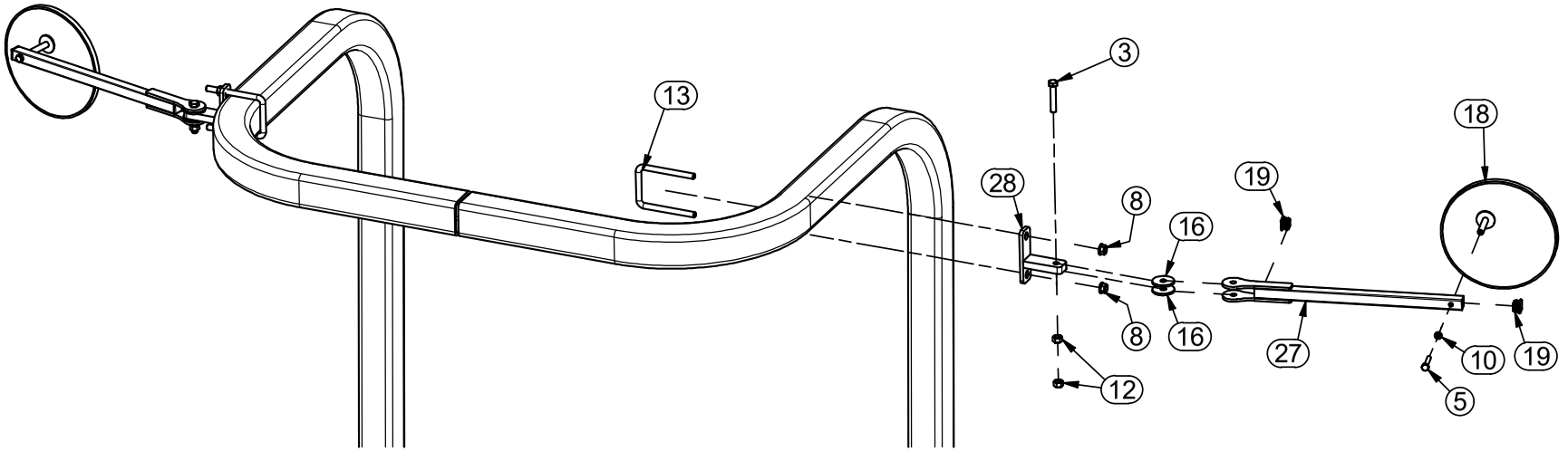
7-23-2020

305095	REV: A

MIRROR ASSEMBLY

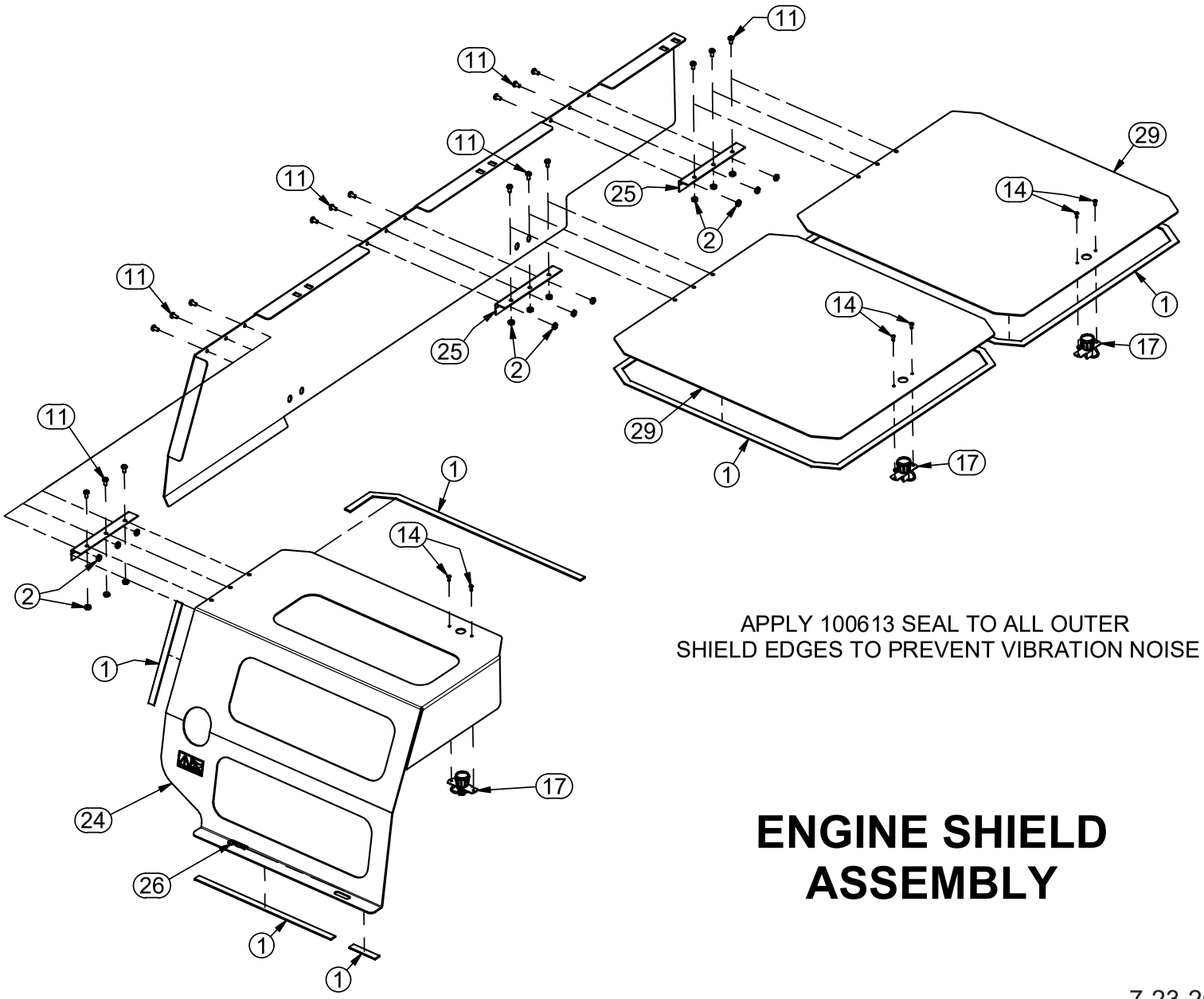
Parts List			
ITEM	QTY	PART #	DESCRIPTION
3	2	110400	BOLT, 3/8-16 X 2.0
5	2	110474	BOLT, 1/4-20 X 1-1/2
8	4	110645	NUT, 3/8-16 WIZ FLANGE
10	2	110667	WASHER, 1/4" LOCK
12	4	110826	NUT, 3/8-16 GR 5
13	2	111185	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0
16	4	211747	FRICTION WASHER 1.5"
18	2	302139	Convex Mirror, 8" Round, Offset Ball-Stud
19	4	302140	Plug, Snap-In Square, 3/4"
27	2	315385	WELDMENT, SWINGING MIRROR
28	2	315391	WELDMENT, MIRROR UBOLT MOUNT

SAME PARTS USED ON OPPOSITE SIDE



7-23-2020

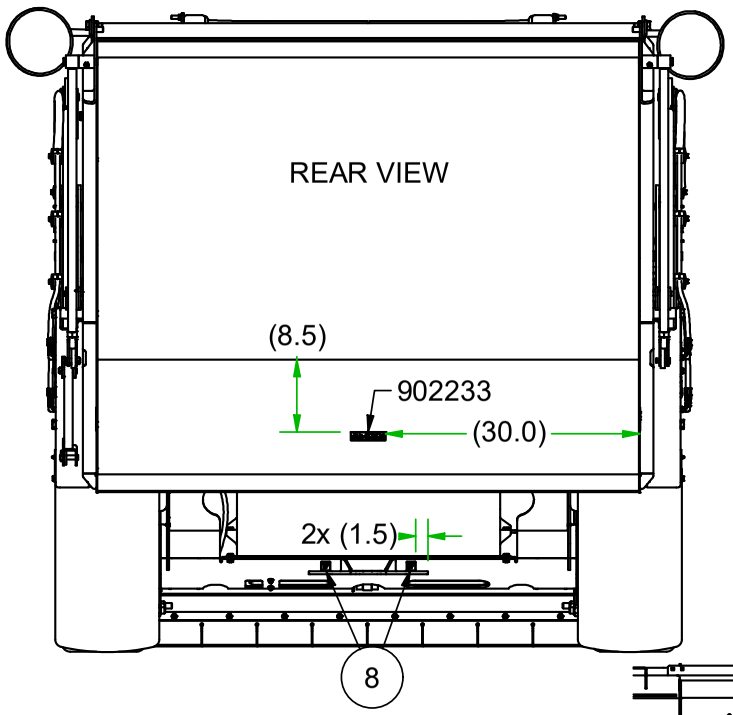
305095	REV: A

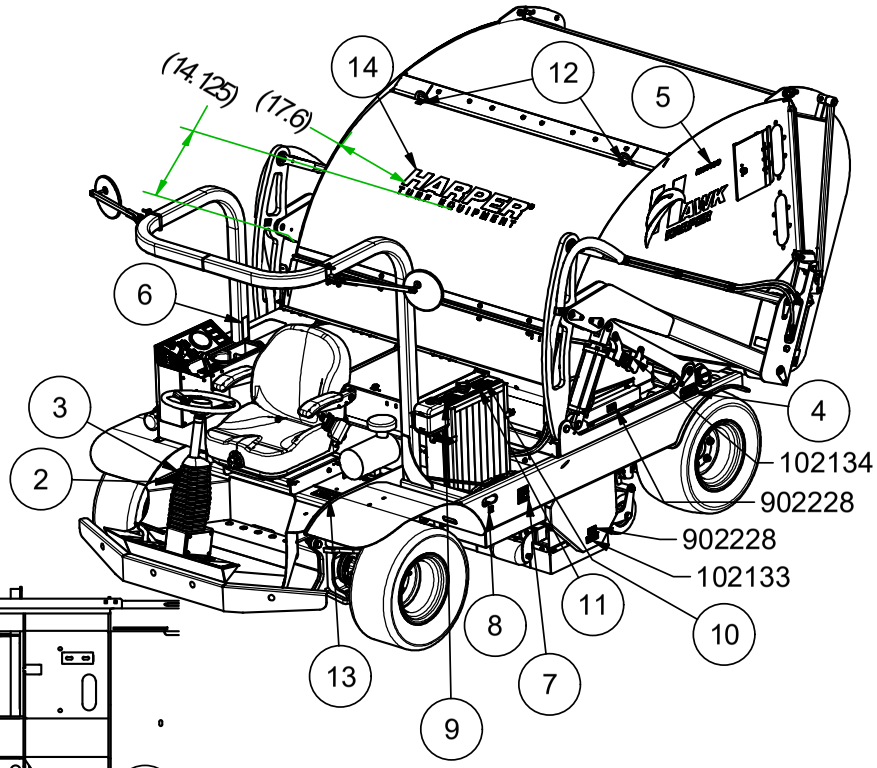


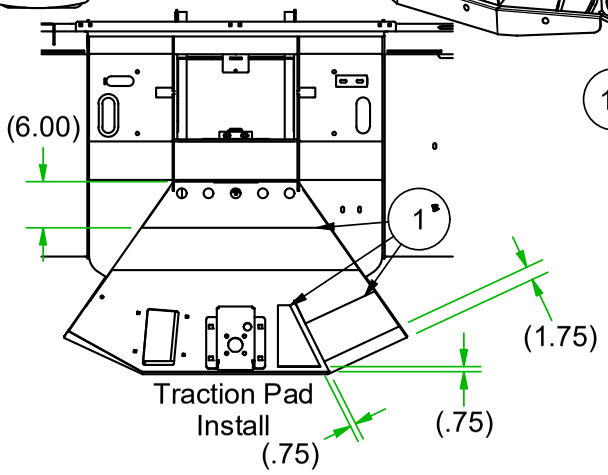
APPLY 100613 SEAL TO ALL OUTER
SHIELD EDGES TO PREVENT VIBRATION NOISE

ENGINE SHIELD ASSEMBLY

7-23-2020



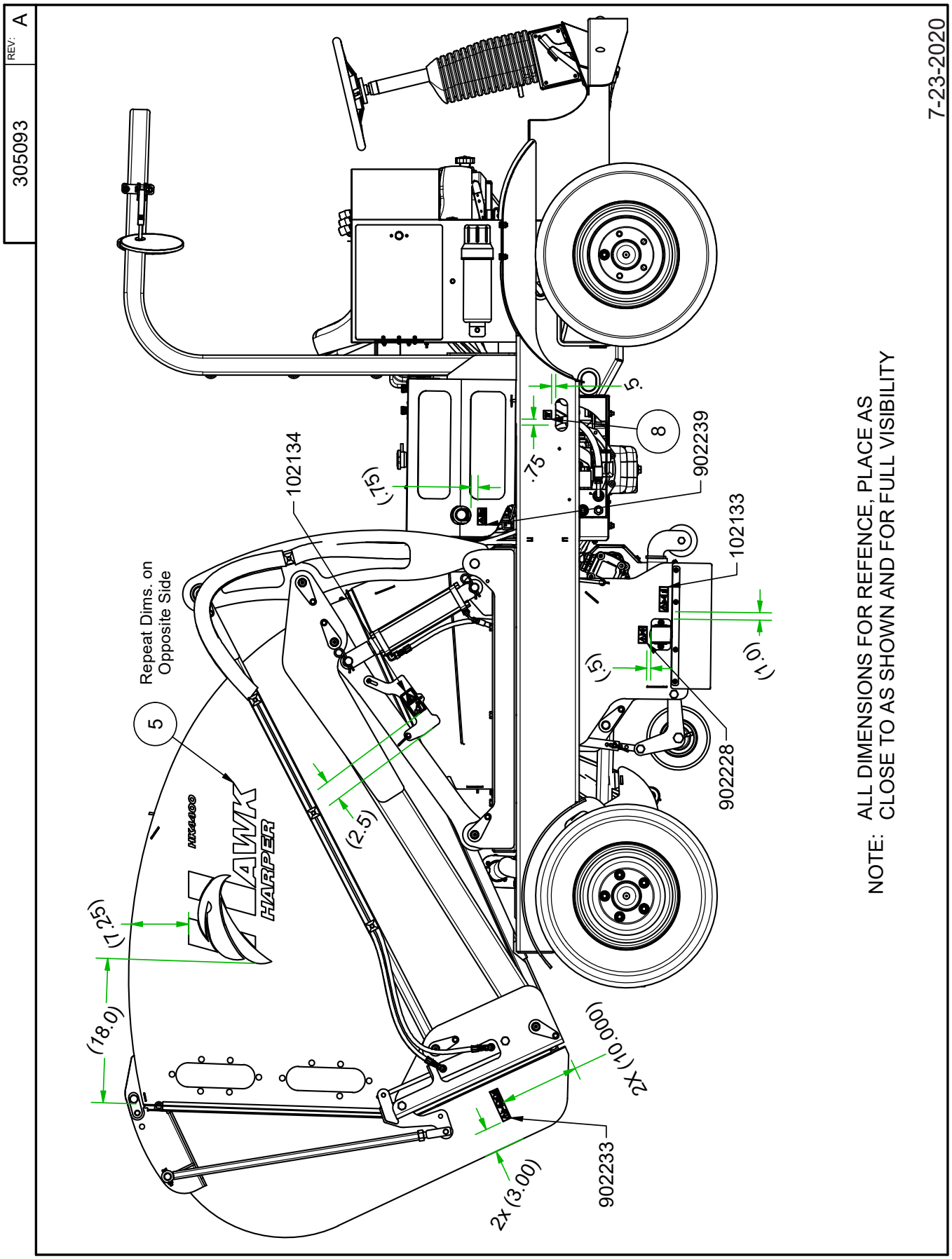




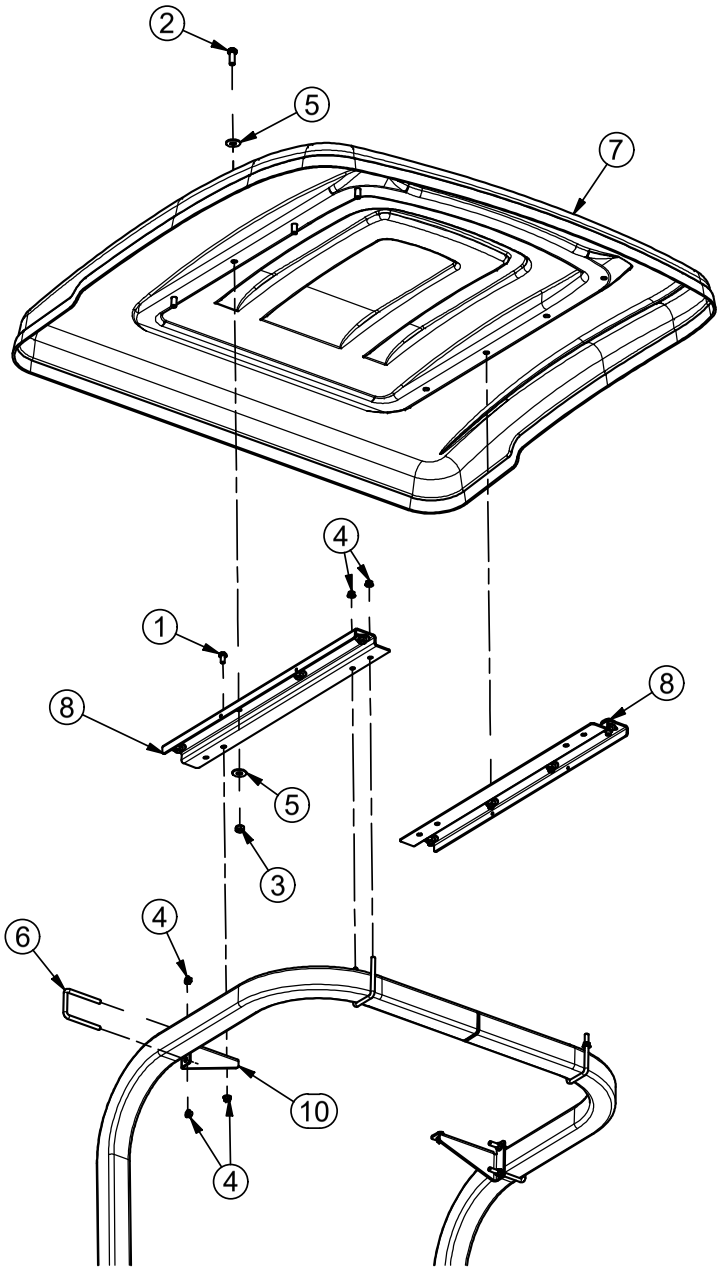
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	46"	100373	Traction Pad, Flex-tread, 5.5
2	1	202133	Decal, Prop 65, Diesel
3	1	202134	Decal, Prop 65, Short Form
4	1	302106	DECAL, DIESEL FUEL
5	2	302136	Decal, Hawk
6	1	302150	Decal, Hk Rops Certification
7	1	800195	DECAL, RECYCLE BATTERY
8	4	802067	Decal, Tie Down Point
9	1	902186	DECAL, EPA STANDARDS
10	1	902231	Decal, Hot Surface, Oil Cooler
11	1	902232	Decal, High Pressure Injection
12	2	902234	Decal, No Lift
13	1	902240	Plate, Serial Number, Harper Turf, Blue
14	1	902242	Decal, Harper Turf Equipment, 30"

DECAL INSTALLATION

7-23-2020


305093
REV: A
7-23-2020
NOTE: ALL DIMENSIONS FOR REFENCE, PLACE AS CLOSE TO AS SHOWN AND FOR FULL VISIBILITY
Repeat Dims. on Opposite Side
5
8
102134
902239
102133
902228
902233
(1.75)
.75
.5
(.5)
(1.0)
(2.5)
(1.25)
(18.0)
2x (10.000)
2x (3.00)
HK4400
HAWK
HARPER

300082	REV: NC



CANOPY

FACTORY INSTALL P/N: 300083
CUSTOMER INSTALL P/N: 300082

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
2	8	110442	BOLT, 1/2-13 X 1.25
3	8	110615	NUT, 1/2-13, UNITORQUE LOCK
4	10	110645	NUT, 3/8-16 WIZ FLANGE
5	16	110658	WASHER, 1/2" FLAT STANDARD
6	4	111185	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0
7	1	302142	CANOPY, BLACK ABS PLASTIC
8	2	317332	BRKT, CANOPY SUPPORT
9	1	317333	BRKT, LH CANOPY MOUNT
10	1	317334	BRKT, RH CANOPY MOUNT

7-23-2020

NOTES

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