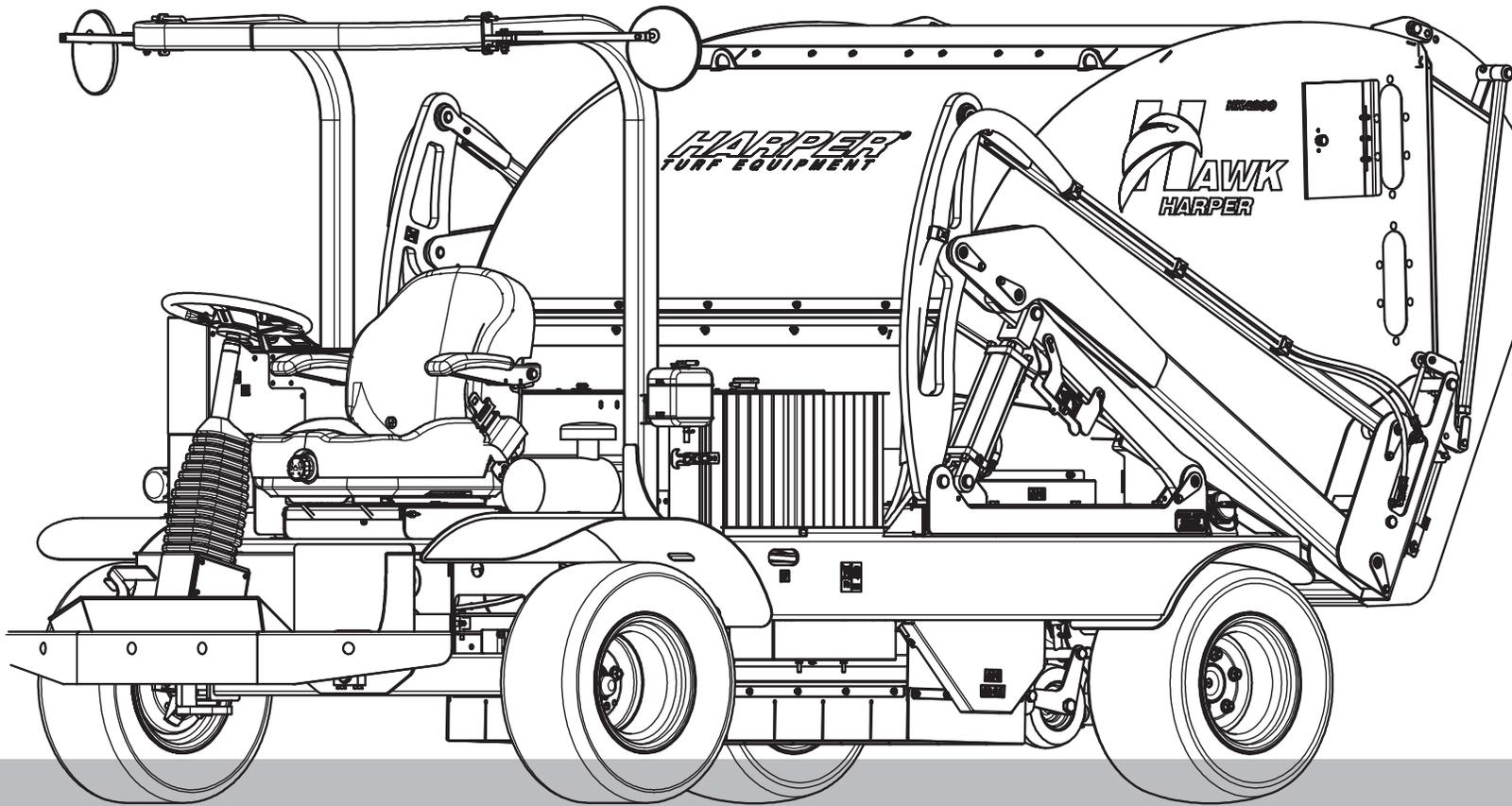


HK 4200

Serial Number: 22A10-22A12
Part # 301015



HARPER HAWK *PARTS* *MANUAL*

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 HK4200 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.

© 2022 Harper Industries, Inc.

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 _____

Table of Contents

PARTS SECTION

Table of Contents

Wheel, Motor, and Axle Installation

Wheel Motor & Axle Installation.....	1.1
Front Axle Installation.....	1.2
Wheel Motor Installation.....	1.3
Edge Trim Placement.....	1.4

Engine Assembly & Installation

Engine Assembly.....	2.1
Hydraulic Pump Assembly.....	2.2
Radiator Screen Assembly.....	2.3
Engine Installation.....	2.4

Fuel Tank Installation

Fuel Tank Installation.....	3.1
-----------------------------	-----

Propulsion Hydraulics

Propulsion Hydraulic Installation.....	4.1
Valve Assemblies.....	4.2
Tank, Filter, & Valve Installation.....	4.3
Propulsion Suction & Drain Plumbing.....	4.4
Rear Wheel Motor Plumbing.....	4.5
Propulsion Pump Plumbing.....	4.6
Sweeper Propulsion Schematic.....	4.7

Machine Hydraulics

Machine Hydraulic Installation.....	5.1
Valve Assemblies.....	5.2
Valve Installation.....	5.3
Deck Motor Plumbing.....	5.4
Steering Plumbing.....	5.5
Three Spool Valve Plumbing.....	5.6
Deck Lift Plumbing.....	5.7
Hopper Lift Plumbing.....	5.8
Hopper Door Plumbing.....	5.9
Sweeper Machine Hydraulic Schematic.....	5.10

Deck Installation

Paddle Assembly.....	6.1
Brush Assembly.....	6.2
Deck Assembly.....	6.3
Broom & Paddle Installation.....	6.4
Gauge Wheel & Lower Skirt Installation.....	6.5
Hyd. Motor, Scalp Wheels, L Skirt Install.....	6.6
Upper Deck Seal & Paddle Shield Install.....	6.7
Chain Drive Assembly.....	6.8
Optional Paddle Speed Increaser Kit.....	6.9
Deck Transition Assembly.....	6.10
Chute Assembly.....	6.11
Deck Linkage Installation.....	6.12
Hopper Transition & Hopper Mount Install.....	6.13

Hopper Installation

Hopper Shield Assembly.....	7.1
Hopper Assembly.....	7.2
Window & Door Installation.....	7.3
Line & Shield Installation.....	7.4
Screen Assembly & Install.....	7.5
Hopper Installation.....	7.6
Lift Arm Assembly.....	7.7
Hopper Install.....	7.8
Door & Arm Install.....	7.9
Hopper Cylinder Plumbing.....	7.10

Operator Station and Electrical Assemblies

Operator Station & Electrical Assembly.....	8.1
Deck Switch Assembly.....	8.2
Instrument Panel Assembly.....	8.2
Console Assembly.....	8.3
Foot Pedal Assembly.....	8.4
Seat Assembly.....	8.5
Electrical Harnesses.....	8.6

Mirror, Tire, and Shield Assemblies

Mirror, Tire, & Shield Installation.....	9.1
Bumper, Deck Shields, & Wheel/Tire Assy.....	9.2
Mirror Assembly.....	9.3
Engine Shield Assembly.....	9.4

Finishing and Decals

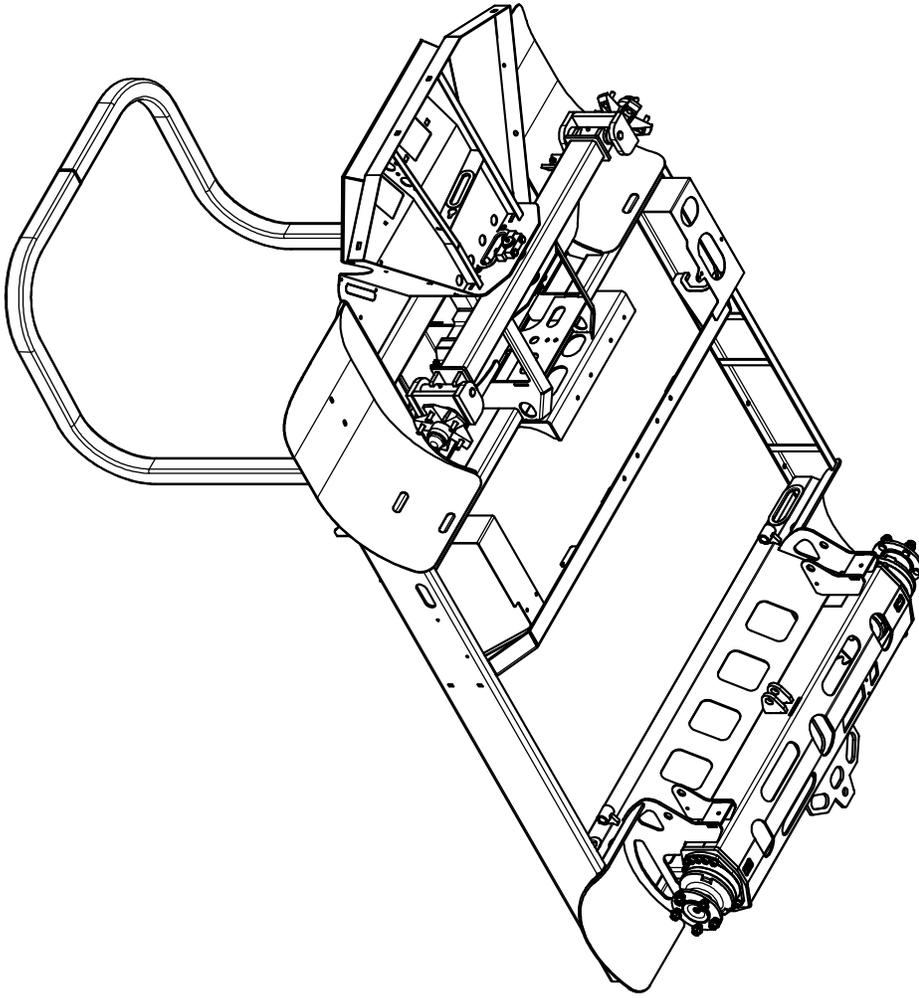
Decal Installation.....	10.1
RH Decal Installation.....	10.2
LH Decal Installation.....	10.3
Hopper Decal Installation.....	10.4

Options

Canopy.....	11.1
Work Light.....	11.2
Beacon.....	11.3
Right Curb Brush.....	11.4
Left Curb Brush.....	11.5
Dual Curb Brush.....	11.6

WHEEL MOTOR & AXLE INSTALLATION

Parts List		DESCRIPTION
ITEM	QTY	PART #
1	7'	100365
		MOLDING - EDGE GUARD, 5/32
2	2	102043
		BEARING - THRUST, 1.0 ID X 5/8 T
3	1	102136
		Clevis Pin, 5/8 x 1.5
4	4	110129
		BOLT, 1/2-13 X 2.75 HEX
5	20	110244
		BOLT, 1/2-13 X 1.5 SHCS
6	2	110425
		BOLT, 3/8-16 X 1.25
7	2	110444
		BOLT, 5/16-18 X 0.75, WIZ FLANGE
8	1	110600
		NUT, 5/16-18, UNITORQUE LOCK
9	4	110610
		NUT, 1/2-13
10	1	110665
		WASHER, 5/16" FLAT STANDARD
11	24	110666
		WASHER, 1/2" LOCK
12	4	110826
		NUT, 3/8-16 GR 5
13	1	110862
		WASHER - THRUST, IGUS MTI-24
14	2	110888
		SNAP RING - EXT, 1-1/2
15	1	111190
		BOLT, 3/8 X 2.0 SHOULDER SHCS
16	11'	112084
		Rubber Seal, .625 X .25
17	2	120027
		ADAPTER, 4MJ-4MJ 45
18	6	120249
		ADAPTER, 4MJ-6MB
19	4	120446
		ADAPTER, 8MJ-10MB
20	1	200029
		COTTER PIN, 5/32 X 1
21	2	302129
		NUT, 7/8-18 HEX JAM GR 2
22	1	305109
		ASSY, LH SPINDLE & HUB
23	1	305110
		ASSY, RH SPINDLE & HUB
24	2	311459
		KEEPER - AXLE PIVOT, LOWER
25	2	312032
		Tie Rod End, RH
26	1	315350
		FRAME WELDMENT, SWEEPER
27	1	315394
		WELDMENT, FRONT AXLE, 2WD
28	2	315397
		WELDMENT, 2WD KINGPIN
29	1	315398
		WELDMENT, ROUND STEERING LINK
30	1	317174
		PIN, FRONT AXLE
31	1	323010
		CYLINDER - STEERING, 1-3/4 X 6
32	1	323057
		MOTOR, LH REAR WHEEL, 24.3 CI, 2-SPD
33	1	323058
		MOTOR, RH REAR WHEEL, 24.3 CI, 2-SPD
34	2	500230
		GREASE ZERK, 1/4-28 90deg
35	3	510174
		GREASE ZERK, 1/4-28 ST

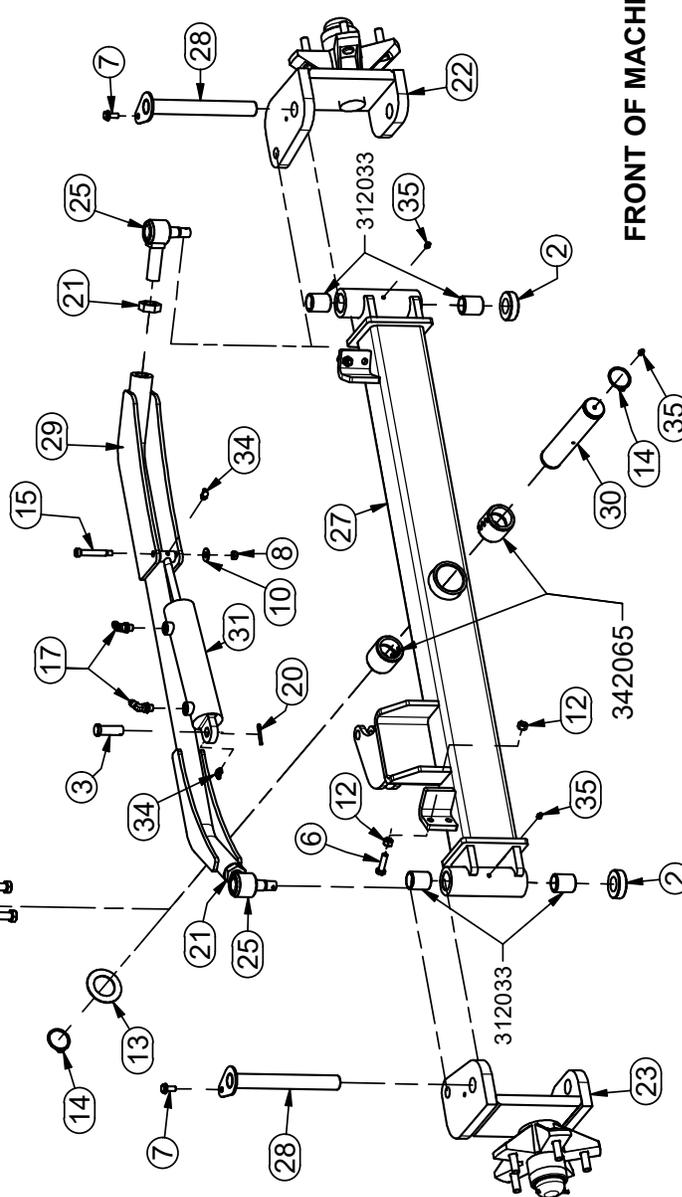


10-27-2021

FRONT AXLE INSTALLATION

SAME RETAINER AND HARDWARE USED TO SECURE REAR SIDE OF AXLE PIN

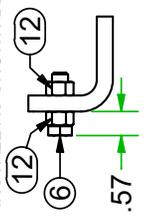
ADJUSTING TIE ROD ENDS & SETTING ALIGNMENT
 1. START BY ADJUSTING THE TIE ROD LOCATED ON THE RH SIDE OF THE MACHINE. EXTEND STEERING CYLINDER COMPLETELY AND ADJUST THE RH TIE ROD SO THAT THE SPINDLE CONTACTS THE STEERING STOP WHEN THE CYLINDER IS FULLY EXTENDED.
 2. THEN ADJUST THE TIE ROD END LOCATED ON THE LH SIDE OF THE MACHINE SO THAT THE WHEEL HUB FACES ARE PARRALLEL. AS A STARTING POINT, THE APPROXIMATE DIMENSION IS 42.0" BETWEEN TIE ROD ENDS (CTR TO CTR).



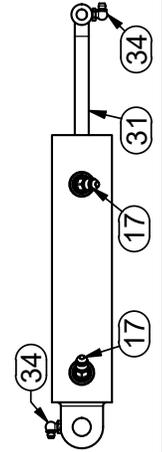
FRONT OF MACHINE

Hub Service Parts	
PART #	DESCRIPTION
342068	HUB KIT (INCLUDES BEARINGS)
312001	GREASE CAP
312002	GREASE SEAL
312003	STUD, 1/2 - 20 NF
312005	OUTER RACE, OD 1.980
312006	OUTER BEARING, ID 1.063
312007	INNER RACE, OD 2.362
312008	INNER BEARING, ID 1.378
312038	HUB (ONLY), 5 ON 5-1/2
310261	NUT, CASTLE 1-14
312009	WASHER, FLAT 1.0"
510993	COTTER PIN, 5/32 X 2

STEERING STOP INSTALLATION
 - INSTALL AS SHOWN BELOW



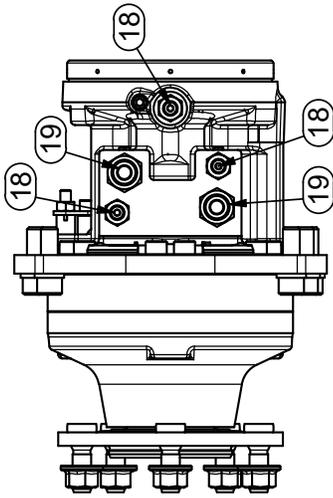
STEERING CYLINDER ADAPTER & ZERK ORIENTATION



WHEEL MOTOR INSTALLATION

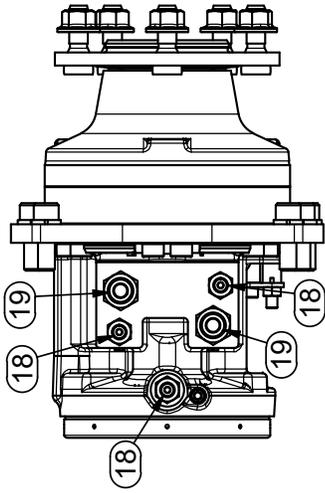
LH Wheel Motor:

Model Code: MSE02-2-G2A-F03-1120-Y&JM

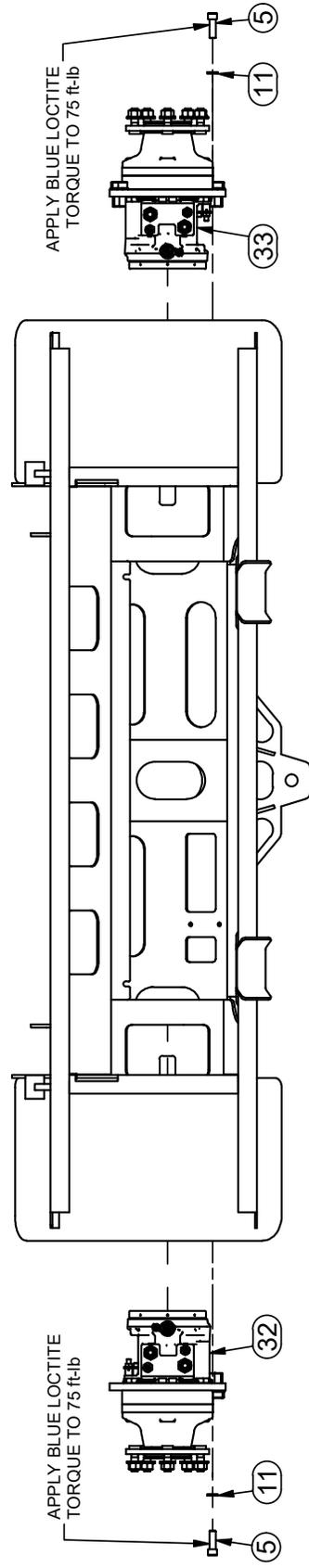


RH Wheel Motor:

Model Code: MSE02-2-D2A-F03-1120-Y&JM

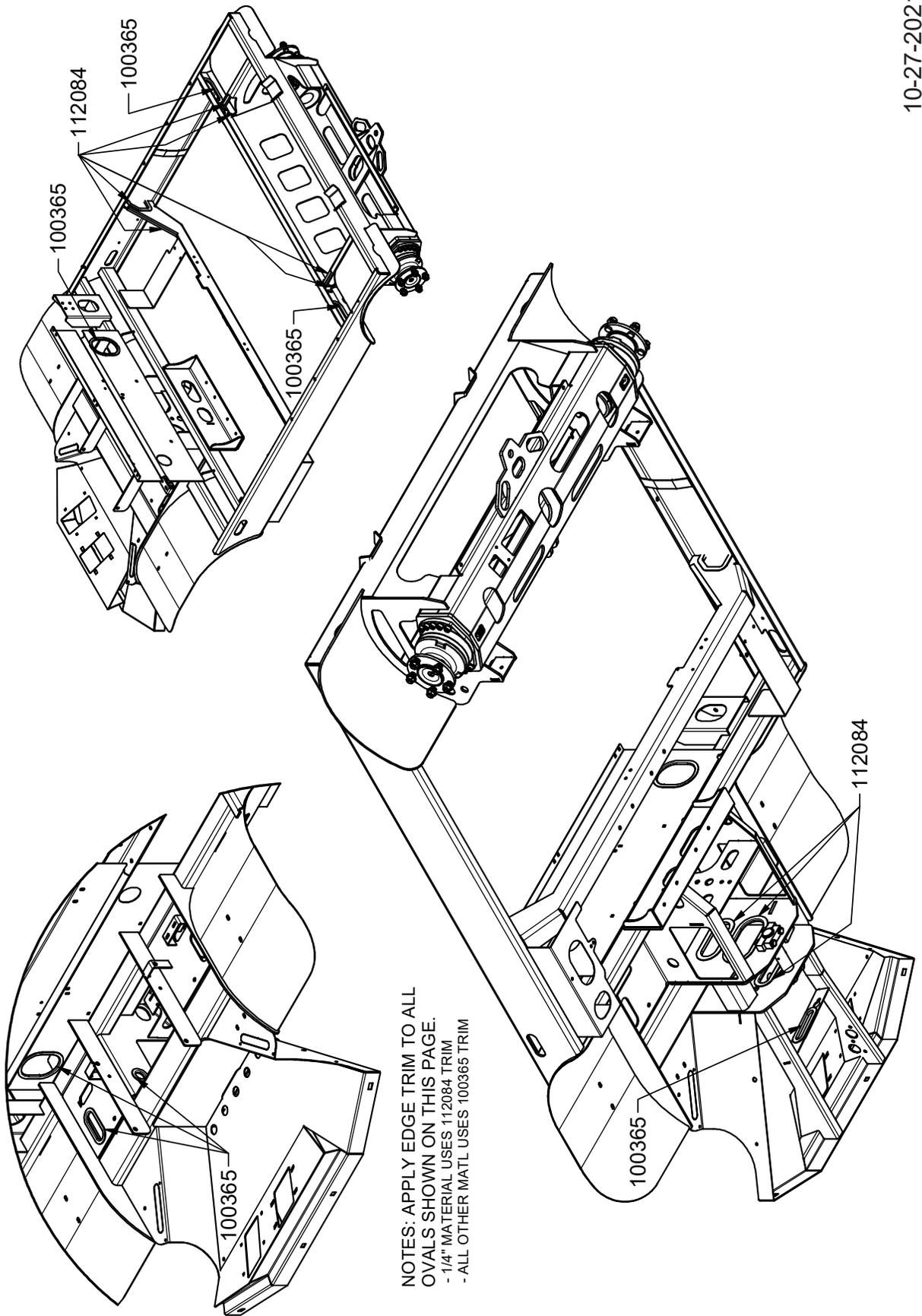


ITEM		PART #		DESCRIPTION
5	20	110244		BOLT, 1/2-13 X 1.5 SHCS
11	24	110666		WASHER, 1/2" LOCK
18	6	120249		ADAPTER, 4MJ-6MB
19	4	120446		ADAPTER, 8MJ-10MB
32	1	323057		MOTOR, LH REAR WHEEL, 24.3 CI, 2-SPD
33	1	323058		MOTOR, RH REAR WHEEL, 24.3 CI, 2-SPD
22	1	305109		ASSY, LH SPINDLE & HUB
23	1	305110		ASSY, RH SPINDLE & HUB



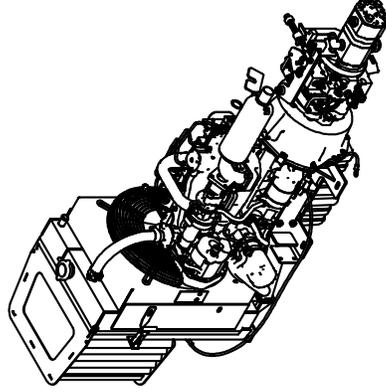
10-27-2021

EDGE TRIM PLACEMENT



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		Parts List		Parts List		Parts List	
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	102074	Clamp, Adel .75w x 1.25id x .406 Hole	33	1	120319	ADAPTER, 6MJ-6MB
2	4	110001	BOLT, 1/2-13 X 1.25, WIZ FLANGE	34	1	120546	ADAPTER, 20BH-16MB90
3	2	110020	Bolt, 5/16-18 X 0.75 in Carriage	35	1	120705	STEP AP203
4	6	110069	WASHER, 5/16" FLAT SAE	36	1	120740	Adapter, 20mj-12mb
5	3	110074	Hex Nut M6 X 1.0 Thd	37	1	120754	Adapter, 6fjx-6mj, -4fb Gage Port
6	1	110141	NUT, M8 X 1.25 WIZFLANGE	38	2	132014	INSULATOR CAP, (ALTERNATOR)
7	2	110155	WASHER, 3/8" FLAT SAE	39	1	132092	FUSE COVER, BUSS CFCOVER-1R
8	2	110176	BOLT, M10x1.5 x 35 SHCS	40	1	132093	FUSE HOLDER, BUSS CFBAR1-1M8XSP
9	4	110220	BOLT, 1/2-13 X 1, WIZ FLANGE	41	1	132150	FUSE, 50 AMP
10	1	110300	COTTER PIN, 3/32 X 0.75	42	1	302161	COLLAR, TAPERED SPRING TENSIONER
11	2	110419	BOLT, 1/2-13 X 1.75	43	1	302162	COLLAR, SPRING TENSIONER
12	2	110422	BOLT, 5/16-18 X .75	44	1	305112	ASSY, RADIATOR SCREEN
13	1	110459	BOLT, 5/16-18 X 1, WIZ FLANGE	45	1	315186	Weldment, Kubota Throttle Mt
14	5	110469	BOLT, M8x1.25 x 20 Gr 10.9	46	1	315379	WELDMENT, RADIATOR MOUNT
15	9	110560	BOLT, M10-1.25 X 20 HHCS 8.8 PLAIN	47	1	315417	WELDMENT, NEUTRAL CENTERING
16	4	110588	NUT, 1/2-13 WIZ FLANGE	48	2	317301	CATCH, LATCH
17	3	110606	NUT, 5/16-18 WIZ FLANGE	49	1	317303	BRKT, NEUTRAL SAFETY SW
18	3	110623	NUT, 5/16-24	50	1	317304	LEVER, PROPULSION PUMP
19	2	110666	WASHER, 1/2" LOCK	51	1	317305	BRKT, PUSH/PULL CABLE
20	7	110674	WASHER, 5/16" LOCK	52	1	317316	BOLT, NEUTRAL CENTERING PIVOT
21	11	110689	Washer, M10, Lock	53	1	317421	BRKT, NEUTRAL SPRING
22	2	110692	WASHER, 6mm LOCK	54	1	323054	Pump, PM30 Propulsion, 1.53 Ci / 49 Ci Charge
23	1	110728	CLAMP, ADEL DOUBLE .75WX.5IDX.406HOLE	55	1	323063	PUMP, DOUBLE GEAR 1.16 / 24 Ci
24	2	110931	BOLT, M6x1 x 25 Gr 8.8	56	1	332004	Sender, Water, 3/8 Npt
25	1	111196	Connecting Rod, 5/16-24 X 5/16-24 X 6.0, ZINC	57	1	332066	SWITCH, 221 F TEMP, 6MP, N.O. RISING
26	1	111197	Spring, Compression 5.12 L X .54 OD X .049 Wire	58	1	342011	ADAPTER - PUMP, KUBOTA 1505, KIT
27	4	112101	CLAMP, 1.50", T-BOLT	59	1	342067	MANIFOLD, TOP OUTLET EXHAUST
28	1	120144	ADAPTER, 6MJ-10MB	60	2	540079	BEARING, BALL, 1620RS
29	1	120224	ADAPTER, 10MJ-10MB90	61	1	550046	CLEVIS, 5/16-24 X 1.5
30	2	120249	ADAPTER, 4MJ-6MB	62	1	550048	CLEVIS PIN, 5/16"
31	1	120254	ADAPTER, 12MJ-12MB	63	1	801002	HOSE, UPPER RADIATOR
32	2	120256	ADAPTER, 12MJ-16MB	64	1	801003	HOSE, LOWER RADIATOR

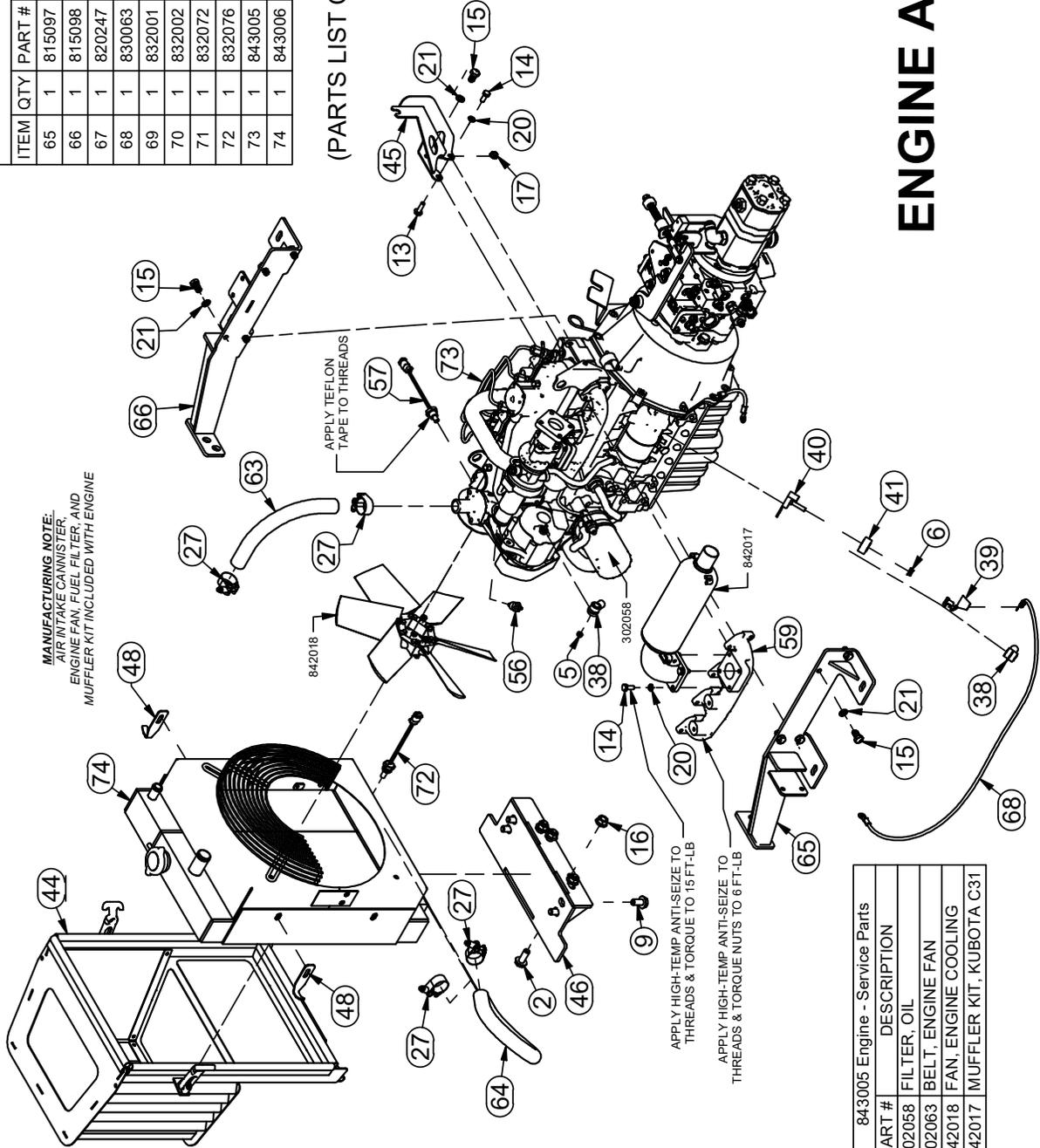


ENGINE ASSEMBLY

(PARTS LIST CONTINUED ON PAGE 2)

Parts List		DESCRIPTION
ITEM	QTY	PART #
65	1	815097
66	1	815098
67	1	820247
68	1	830063
69	1	832001
70	1	832002
71	1	832072
72	1	832076
73	1	843005
74	1	843006

(PARTS LIST CONTINUED FROM PAGE 1)



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

ENGINE ASSEMBLY

ENGINE ASSEMBLY

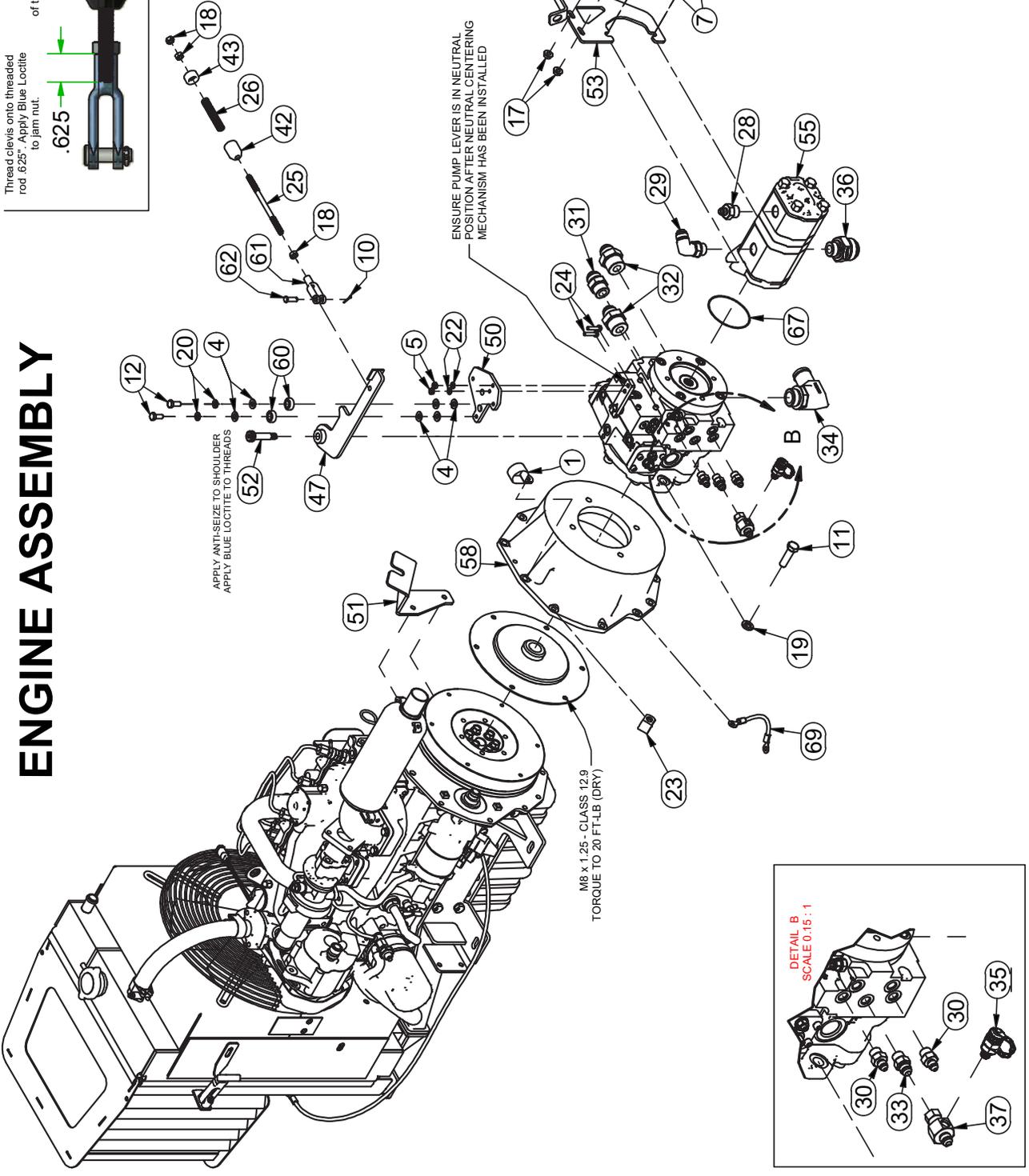
Thread clevis onto threaded rod .625". Apply Blue Loctite to jam nut.

.625"

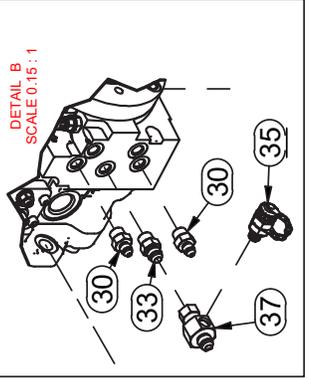


Spring adjustment should be tightened so that there is .200" between the face of the plastic collars. Apply blue loctite to jam nut.

2.00"

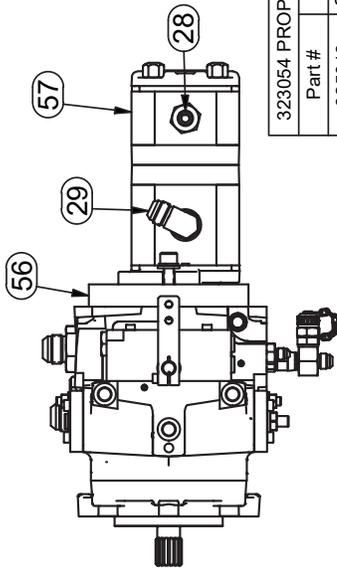
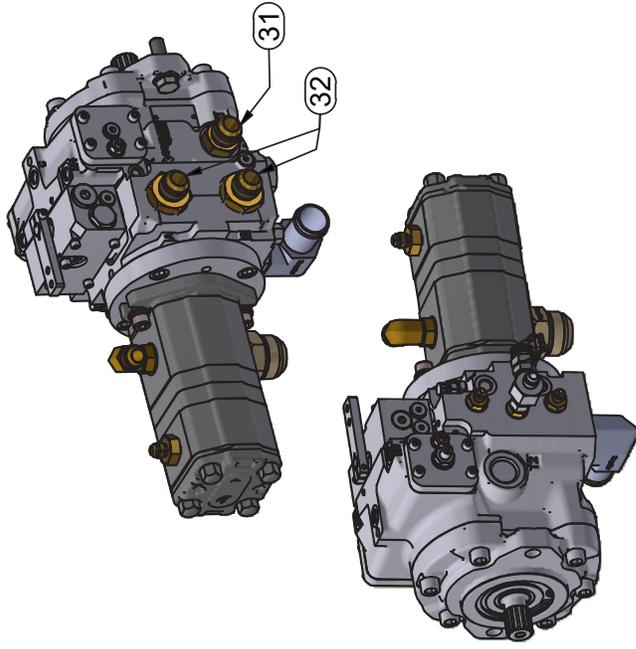


M8 x 1.25 - CLASS 12.9
TORQUE TO 20 FT-LB (DRY)

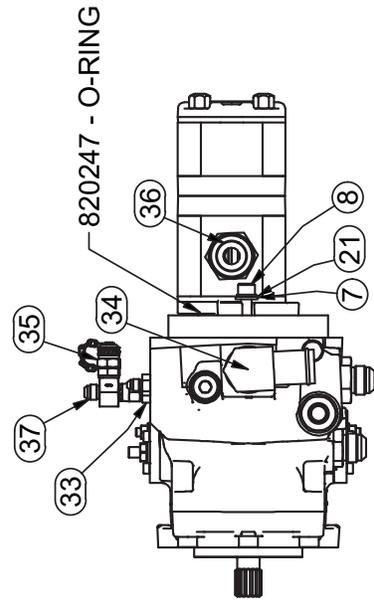
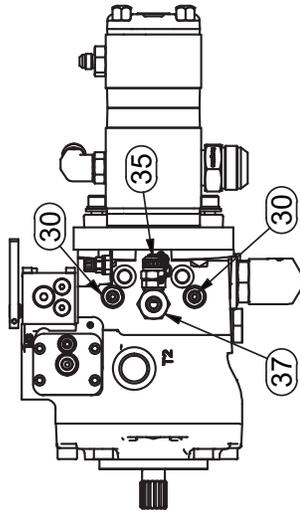


305072 REV: G

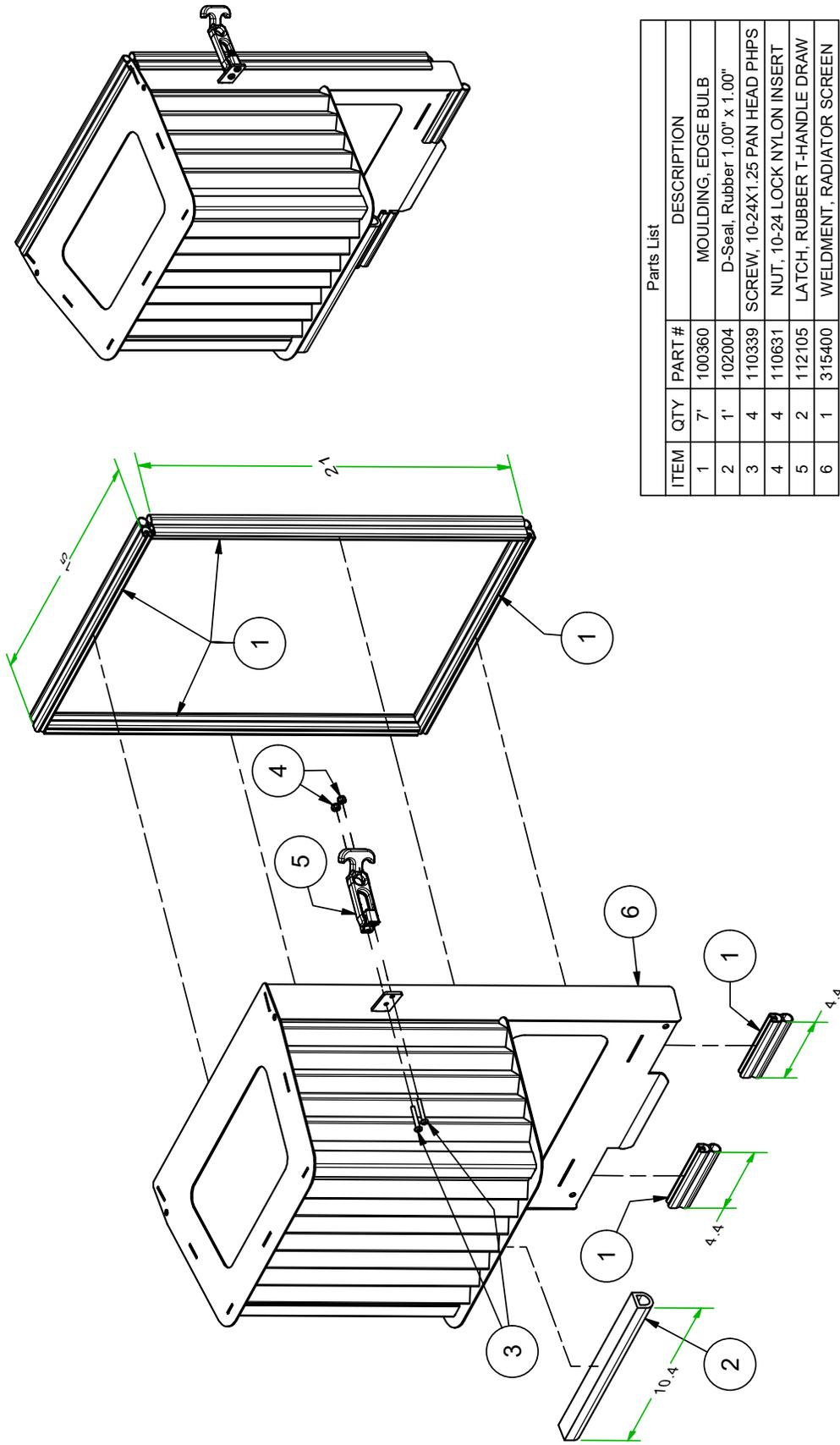
HYDRAULIC PUMP ASSEMBLY



323054 PROPULSION PUMP - SERVICE PARTS	
Part #	DESCRIPTION
325013	SEAL KIT, PM30 SERVO CONTROL



Parts List		Parts List		Parts List			
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
7	2	110155	WASHER, 3/8" FLAT SAE	34	1	120546	ADAPTER, 20BH-16MB90
8	2	110176	BOLT, M10x1.5 x 35 SHCS	35	1	120705	Test Port, M16, 4MB
21	11	110689	Washer, M10, Lock	36	1	120740	Adapter, 20mj-12mb
28	1	120144	ADAPTER, 6MJ-10MB	37	1	120754	Adapter, 6fx-6mj, -4fb Gage Port
29	1	120224	ADAPTER, 10MJ-10MB90	56	1	323054	Pump, PM30 Propulsion, 1.53 CI / .49 CI Charge
30	2	120249	ADAPTER, 4MJ-6MB	57	1	323063	PUMP, DOUBLE GEAR 1.16 / .24 CI
31	1	120254	ADAPTER, 12MJ-12MB	67	1	820247	O'RING 2-042 1/16" BUNA
32	2	120256	ADAPTER, 12MJ-16MB				
33	1	120319	ADAPTER, 6MJ-6MB				



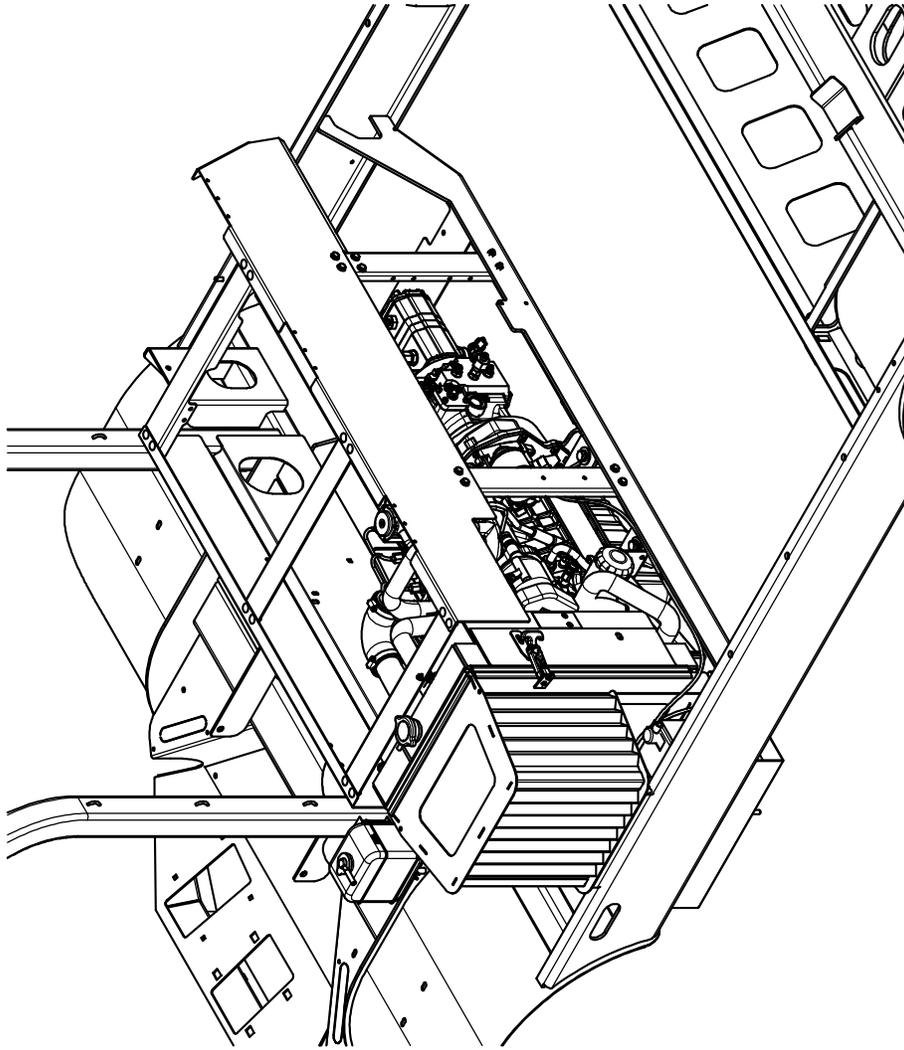
Parts List		ITEM	QTY	PART #	DESCRIPTION
1	7'	100360			MOULDING, EDGE BULB
2	1'	102004			D-Seal, Rubber 1.00" x 1.00"
3	4	110339			SCREW, 10-24X1.25 PAN HEAD PHPS
4	4	110631			NUT, 10-24 LOCK NYLON INSERT
5	2	112105			LATCH, RUBBER T-HANDLE DRAW
6	1	315400			WELDMENT, RADIATOR SCREEN

REPLACES 305073

RADIATOR SCREEN ASSEMBLY

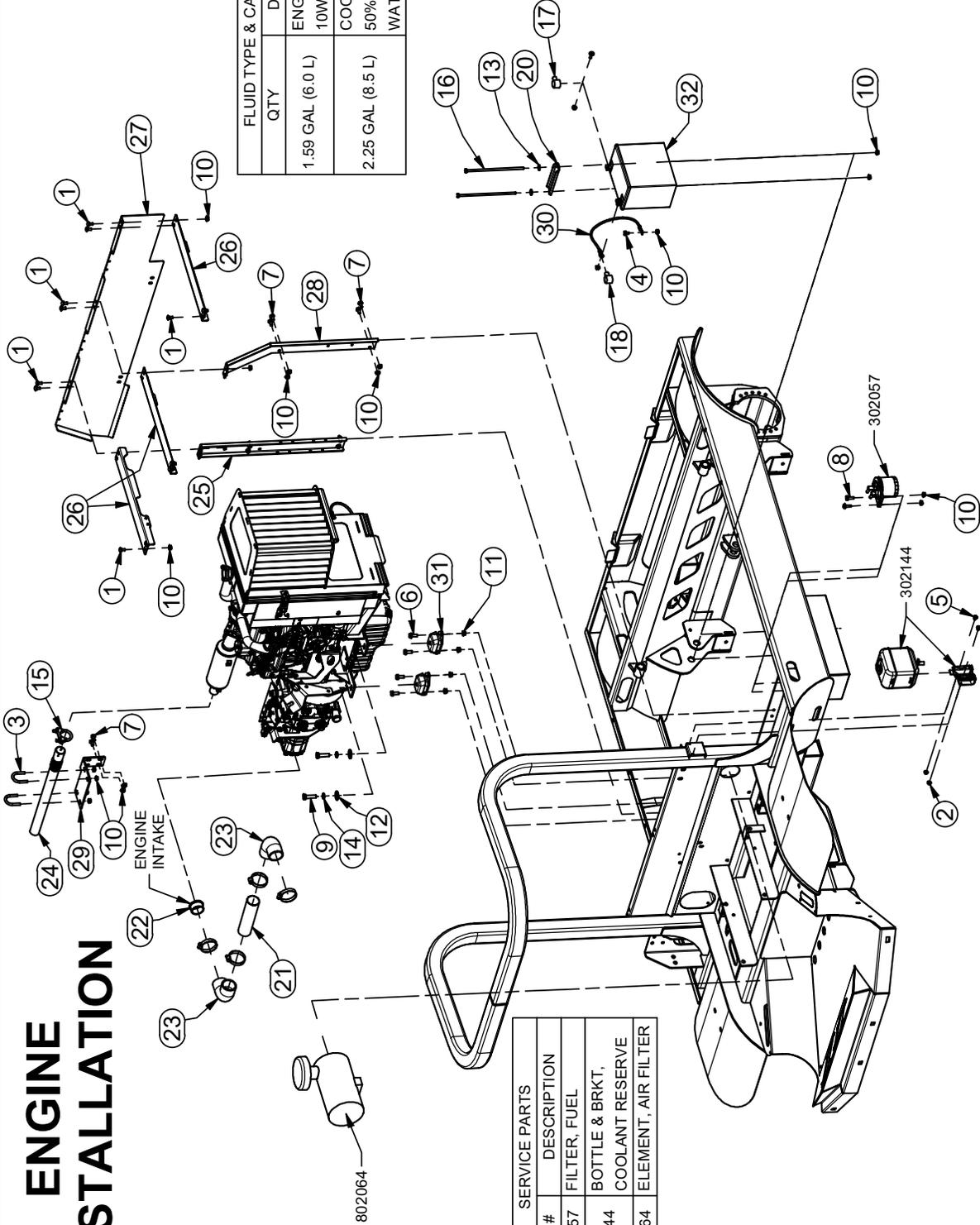
3-16-2021

ENGINE INSTALLATION



Parts List			DESCRIPTION
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	111198	BOLT, 5/16-18 X 9.5 Zinc Full Thread
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

ENGINE INSTALLATION

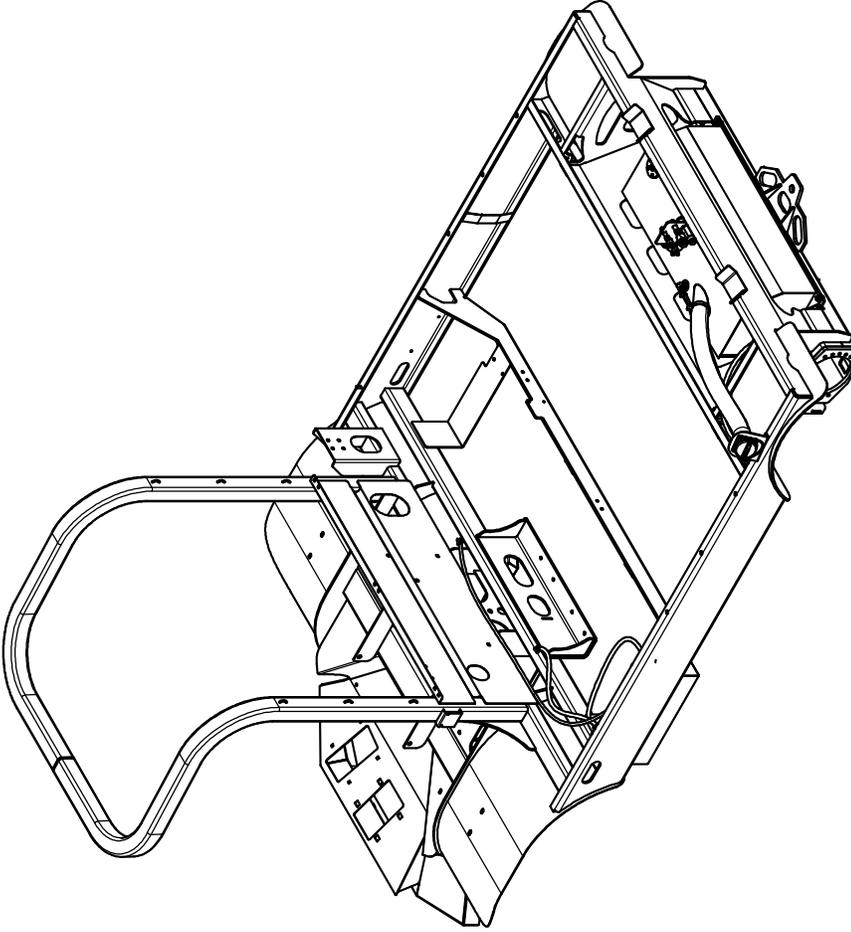


FLUID TYPE & CAPACITIES	
QTY	DESCRIPTION
1.59 GAL (6.0 L)	ENGINE OIL - SAE 10W30 or 15W-40
2.25 GAL (8.5 L)	COOLANT - 50% GLYCOL / 50% WATER MIX

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

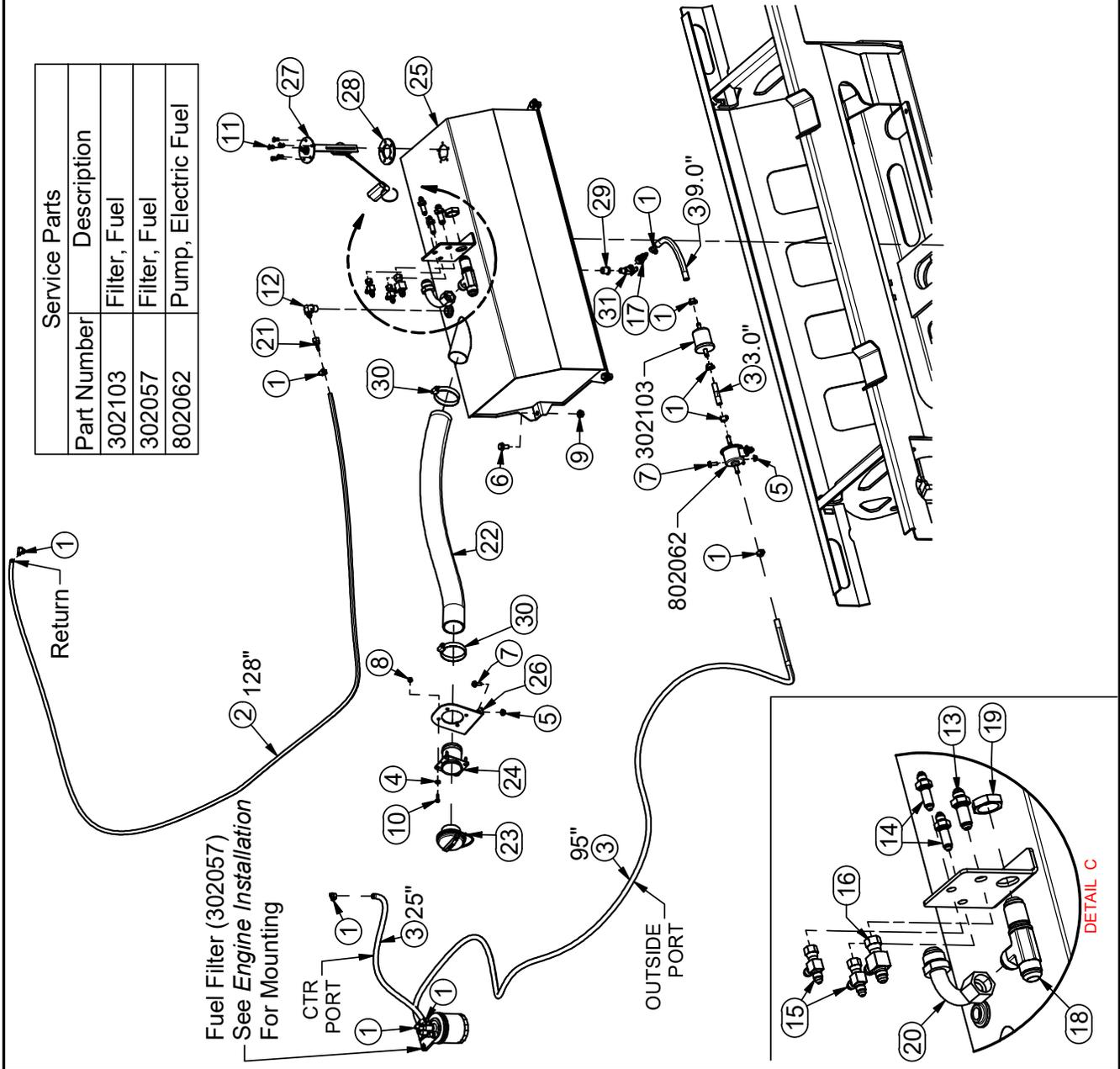
FUEL TANK INSTALLATION

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

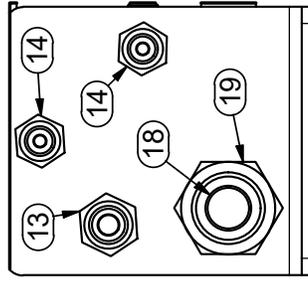


FUEL TANK INSTALLATION

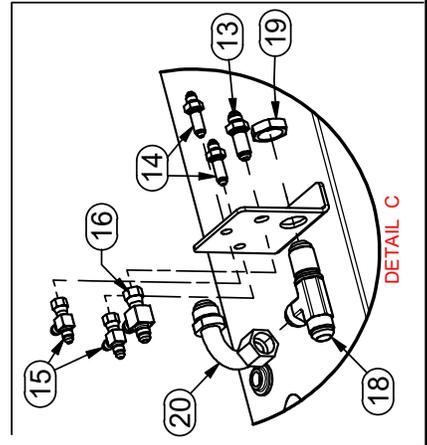
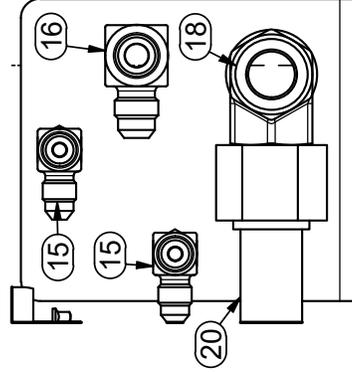
Service Parts	
Part Number	Description
302103	Filter, Fuel
302057	Filter, Fuel
802062	Pump, Electric Fuel



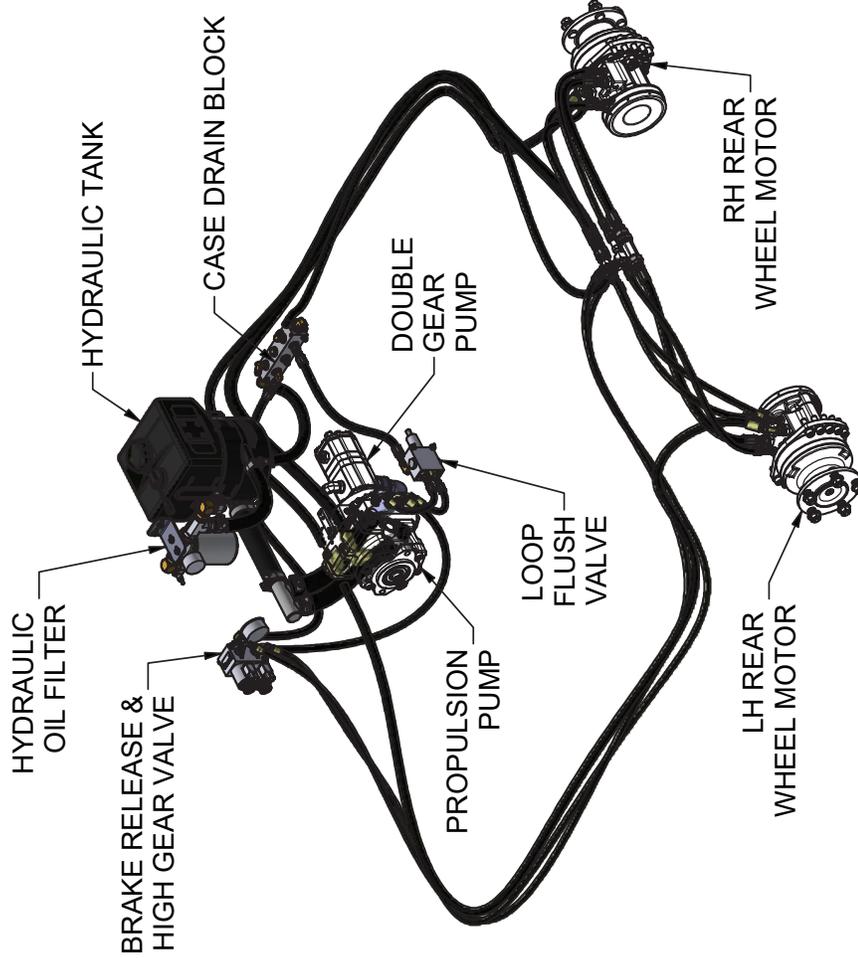
Right Side Plumbing



Left Side Plumbing



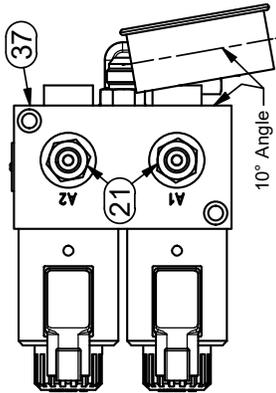
PROPULSION HYDRAULIC INSTALLATION



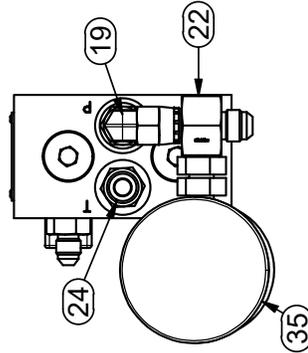
Parts List		ITEM	QTY	PART #	DESCRIPTION
1	2	110845	BOLT, M12x1.75 x 60 Gr 10.9		
2	6	110290	NUT, 1/4-20 WIZ FLANGE		
3	2	110410	BOLT, 1/4-20 X 2.5		
4	4	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE		
5	4	110440	BOLT, 3/8-16 X 1, WIZ FLANGE		
6	1	120728	PLUG, 6MB HEX		
7	1	120291	CAP, 6FJ		
8	2	111011	Bolt, M5-.80 X 55, SHCS, Stainless		
9	2	111012	STEP AP203		
10	2	111013	WASHER, M5, Flat, Stainless		
11	2	570483	TOOL, BRAKE RELEASE		
12	3	112007	CLAMP, 1.75", T-BOLT		
13	6	112008	CLAMP, 1.25", T-BOLT		
14	2	112101	CLAMP, 1.50", T-BOLT		
15	2	112137	CLAMP, 2.00", T-BOLT		
16	2	120134	ADAPTER, 6MJ-8MB90		
17	1	120187	ADAPTER, 12BH-8MB90		
18	1	120216	ADAPTER, 6MJ-6FJX-6MJ		
19	4	120222	ADAPTER, 6MJ-6MB90		
20	2	120226	ADAPTER, 12BH-12MB90		
21	2	120249	ADAPTER, 4MJ-6MB		
22	1	120754	Adapter, 6fx-6mj, -4fb Gage Port		
23	1	120303	ADAPTER, 12MB-16HB		
24	3	120319	ADAPTER, 6MJ-6MB		
25	2	111101	STEP AP203		
26	2	120739	ADAPTER, 4MJ-8MB		
27	1	120742	ADAPTER, 12MB-12FB-12FB		
28	2	110844	BOLT, 1/4-20 X 3		
29	1	122016	ADAPTER, 12MJ-12MJ-12FJX		
30	1	122034	HEAD, SPIN-ON FILTER, -12SAE		
31	1	260265	MOUNTING BRACKET, FILTER		
32	1	305087	Assy, Hydraulic Tank, ISO		
33	1	322095	BLOCK, CASE DRAIN		
34	1	322096	TEE, 1.5 x 1.25 x 1.25 BH		
35	1	322098	GAUGE, PRESSURE, 600 PSI, 4MB		
36	1	323060	VALVE, LOOP FLUSH		
37	1	323061	VALVE, BRK RELEASE & HI GEAR		
38	1	323068	HOSE KIT, 2WD HAWK GROUND DRIVE		
39	2	110053	Hex Nut M12 X 1.75 Thd		
40	1	822044	FILTER, 3 MICRON		
41	1	822045	GAUGE, OIL FILTER		

VALVE ASSEMBLIES

Parts List	
ITEM QTY	PART # DESCRIPTION
19 1	120222 ADAPTER, 6MJ-6MB90
21 2	120249 ADAPTER, 4MJ-6MB
24 1	120319 ADAPTER, 6MJ-6MB
35 1	322098 GAUGE, PRESSURE, 600 PSI, 4MB
37 1	323061 VALVE, BRK RELEASE & HI GEAR
22 1	120754 Adapter, 6fjx-6mj, -4fb Gage Port

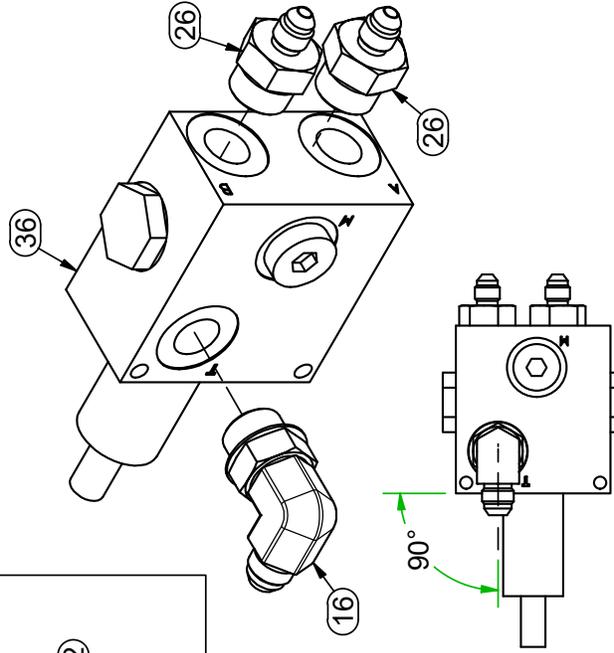


Brake Release & High Gear Valve

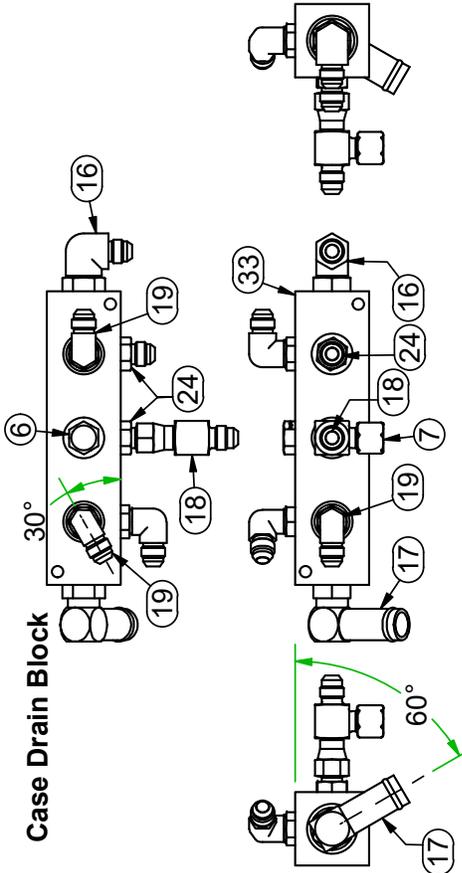


Loop Flush Valve

Parts List	
ITEM QTY	PART # DESCRIPTION
16 1	120134 ADAPTER, 6MJ-8MB90
26 2	120739 ADAPTER, 4MJ-8MB
36 1	323060 VALVE, LOOP FLUSH

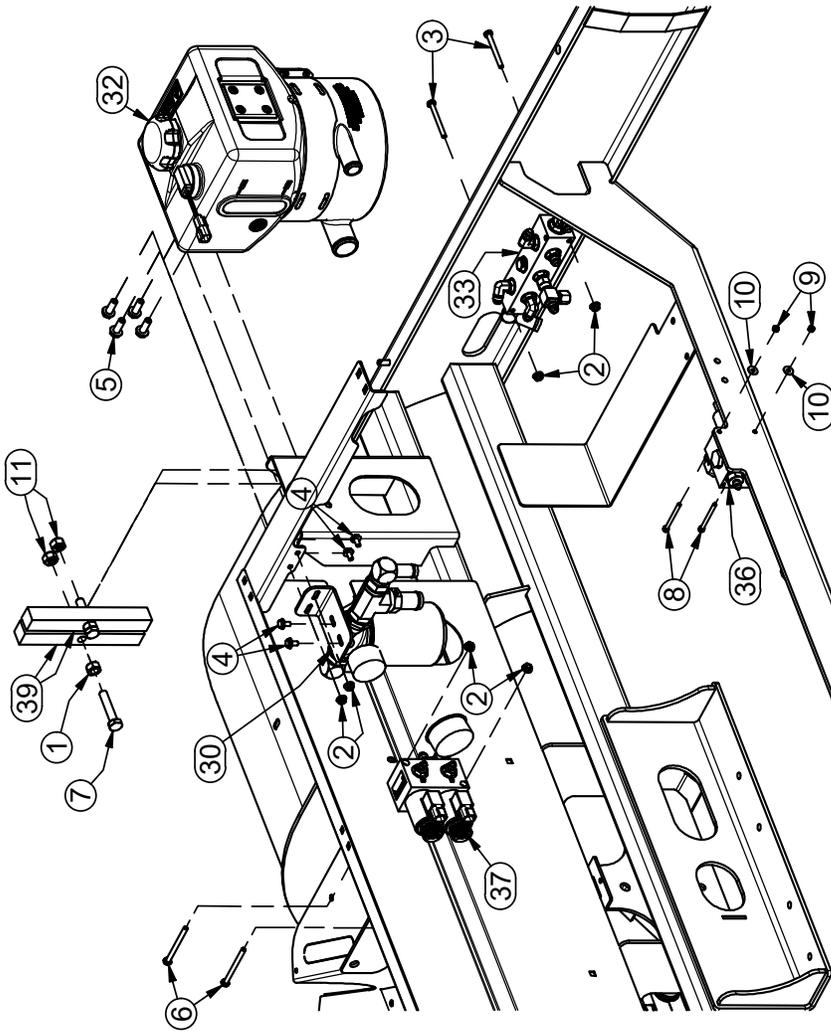


Case Drain Block

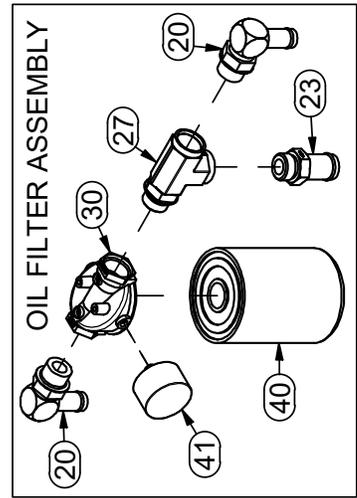


Parts List		Parts List	
ITEM QTY	PART # DESCRIPTION	ITEM QTY	PART # DESCRIPTION
6 1	120728 PLUG, 6MB HEX	18 1	120216 ADAPTER, 6MJ-6FJX-6MJ
7 1	120291 CAP, 6FJ	19 3	120222 ADAPTER, 6MJ-6MB90
16 1	120134 ADAPTER, 6MJ-8MB90	24 2	120319 ADAPTER, 6MJ-6MB
17 1	120187 ADAPTER, 12BH-8MB90	33 1	322095 BLOCK, CASE DRAIN

TANK, FILTER, & VALVE INSTALLATION



SOME PARTS HIDDEN FOR CLARITY

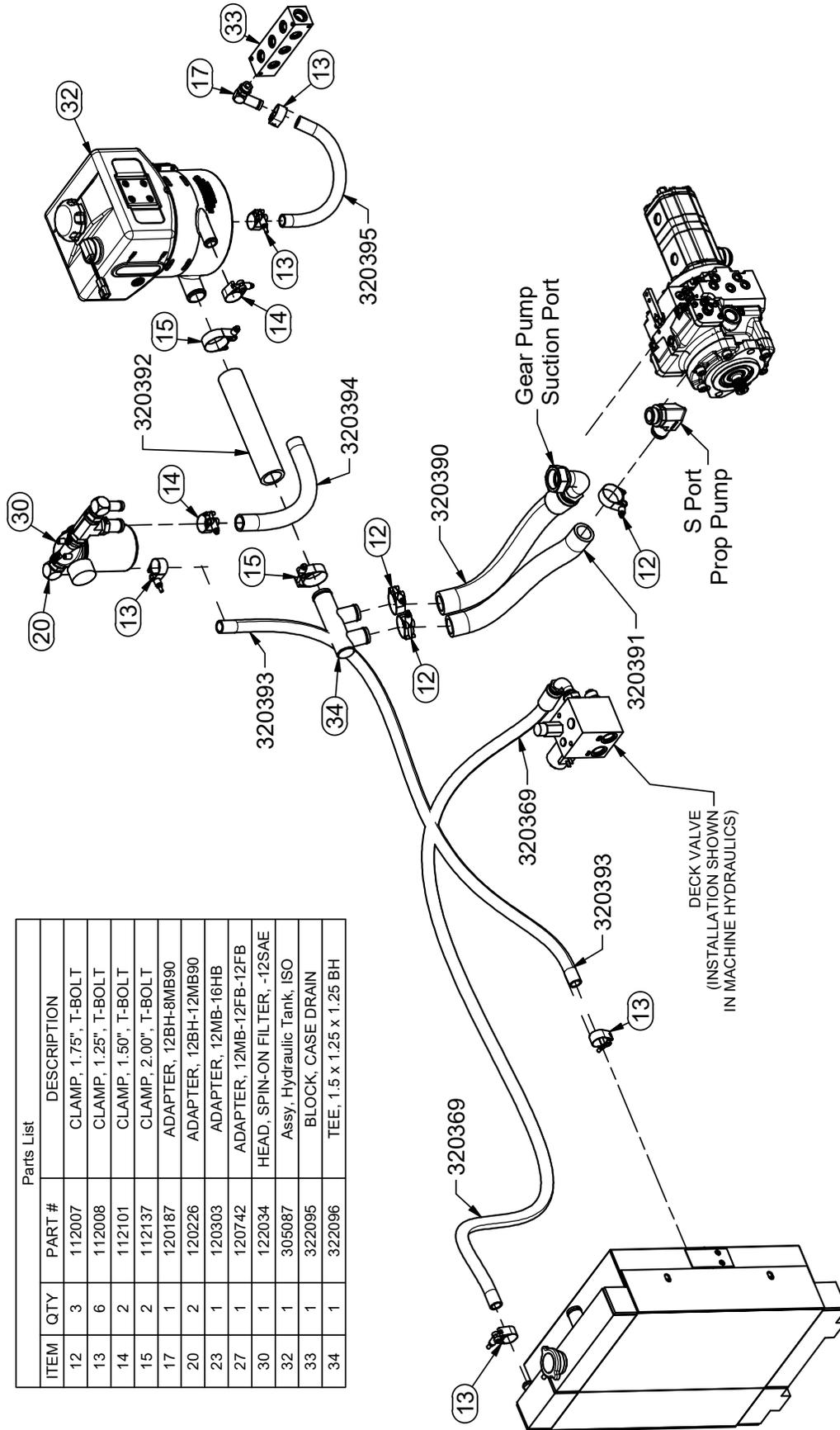


ITEM		QTY		PART #		DESCRIPTION	
1	2	110053	Hex Nut M12 X 1.75 Thd	2	110290	NUT, 1/4-20 WIZ FLANGE	
3	2	110410	BOLT, 1/4-20 X 2.5	4	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE	
5	4	110440	BOLT, 3/8-16 X 1, WIZ FLANGE	6	110844	BOLT, 1/4-20 X 3	
7	2	110845	BOLT, M12x1.75 x 60 Gr 10.9	8	111011	Bot, M5-.80 X 55, SHCS, Stainless	
9	2	111012	STEP AP203	10	111013	Washer, M5, Flat, Stainless	
11	2	111101	STEP AP203	20	120226	ADAPTER, 12BH-12MB90	
23	1	120303	ADAPTER, 12MB-16HB	25	120728	PLUG, 6MB HEX	
26	2	120739	ADAPTER, 4M+8MB	27	120742	ADAPTER, 12MB-12FB-12FB	
28	1	120744	ADAPTER, 6FJX-6MJ-4FB, GAGE PORT	30	122034	HEAD, SPIN-ON FILTER, -12SAE	
32	1	305087	Assy, Hydraulic Tank, ISO	33	322095	BLOCK, CASE DRAIN	
35	1	322098	GAUGE, PRESSURE, 600 PSI, 4MB	36	323060	VALVE, LOOP FLUSH	
37	1	323061	VALVE, BRK RELEASE & HI GEAR	39	570483	TOOL, BRAKE RELEASE	
40	1	822044	FILTER, 3 MICRON	41	822045	GAUGE, OIL FILTER	

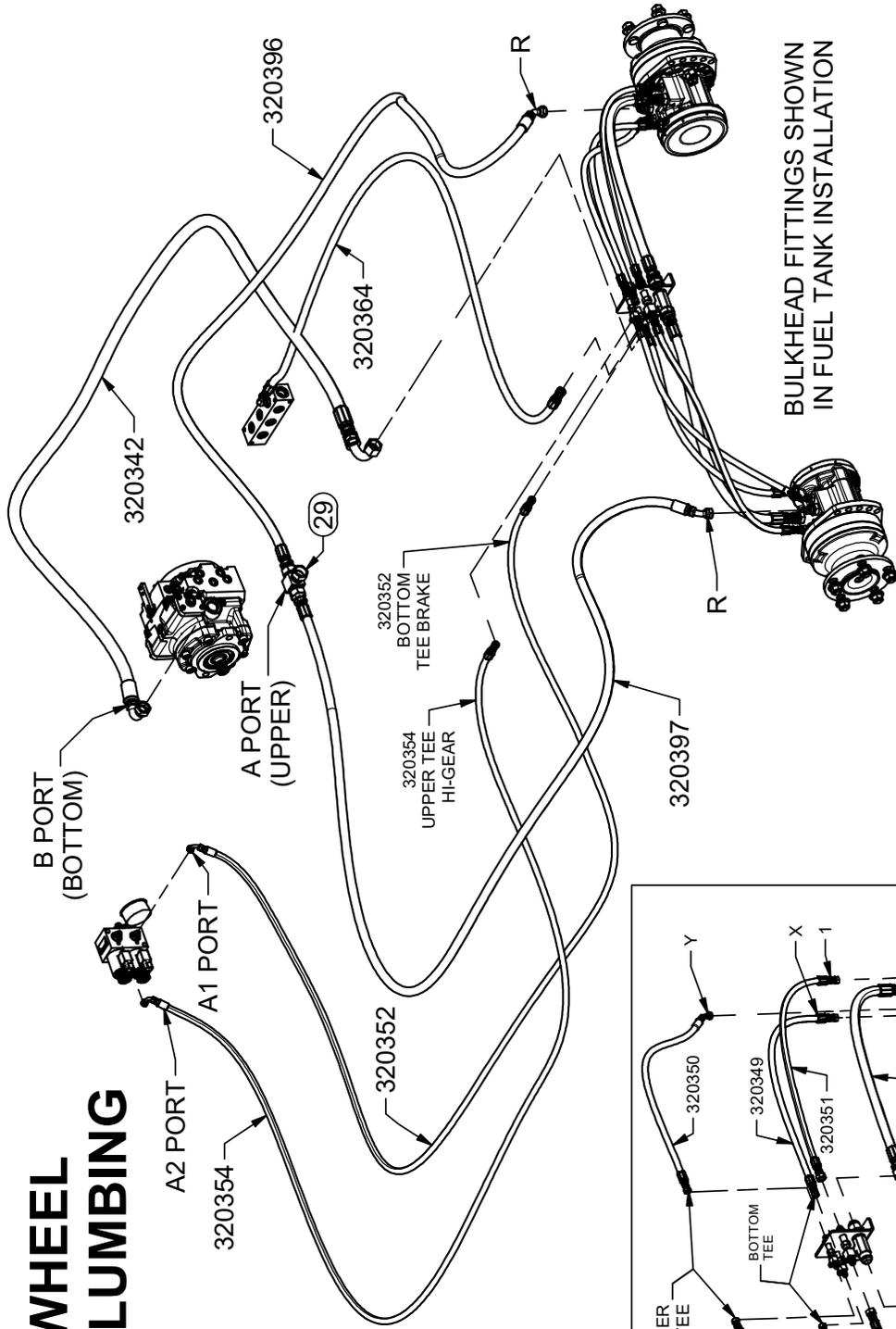
PROPULSION SUCTION & DRAIN PLUMBING

Parts List

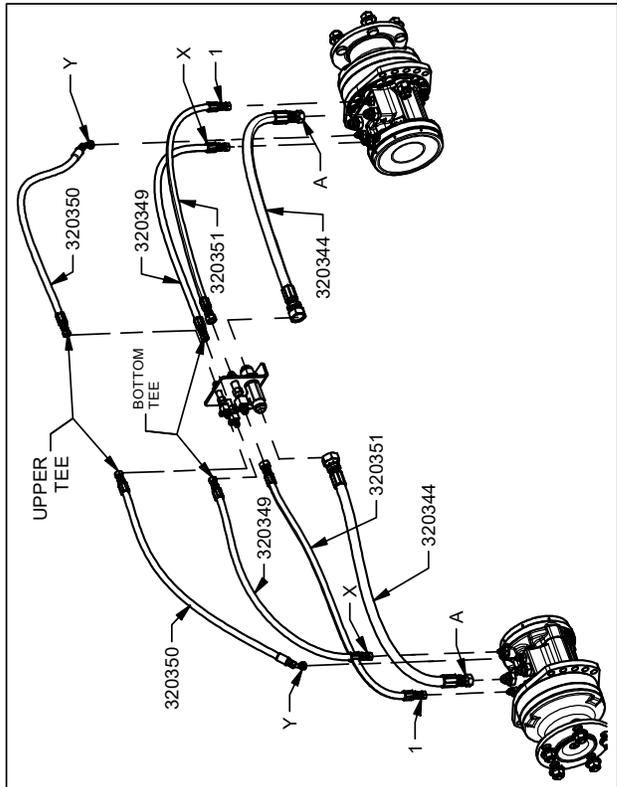
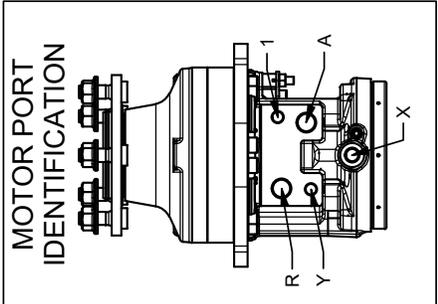
ITEM	QTY	PART #	DESCRIPTION
12	3	112007	CLAMP, 1.75", T-BOLT
13	6	112008	CLAMP, 1.25", T-BOLT
14	2	112101	CLAMP, 1.50", T-BOLT
15	2	112137	CLAMP, 2.00", T-BOLT
17	1	120187	ADAPTER, 12BH-8MB90
20	2	120226	ADAPTER, 12BH-12MB90
23	1	120303	ADAPTER, 12MB-16HB
27	1	120742	ADAPTER, 12MB-12FB-12FB
30	1	122034	HEAD, SPIN-ON FILTER, -12SAE
32	1	305087	Assy, Hydraulic Tank, ISO
33	1	322095	BLOCK, CASE DRAIN
34	1	322096	TEE, 1.5 x 1.25 x 1.25 BH



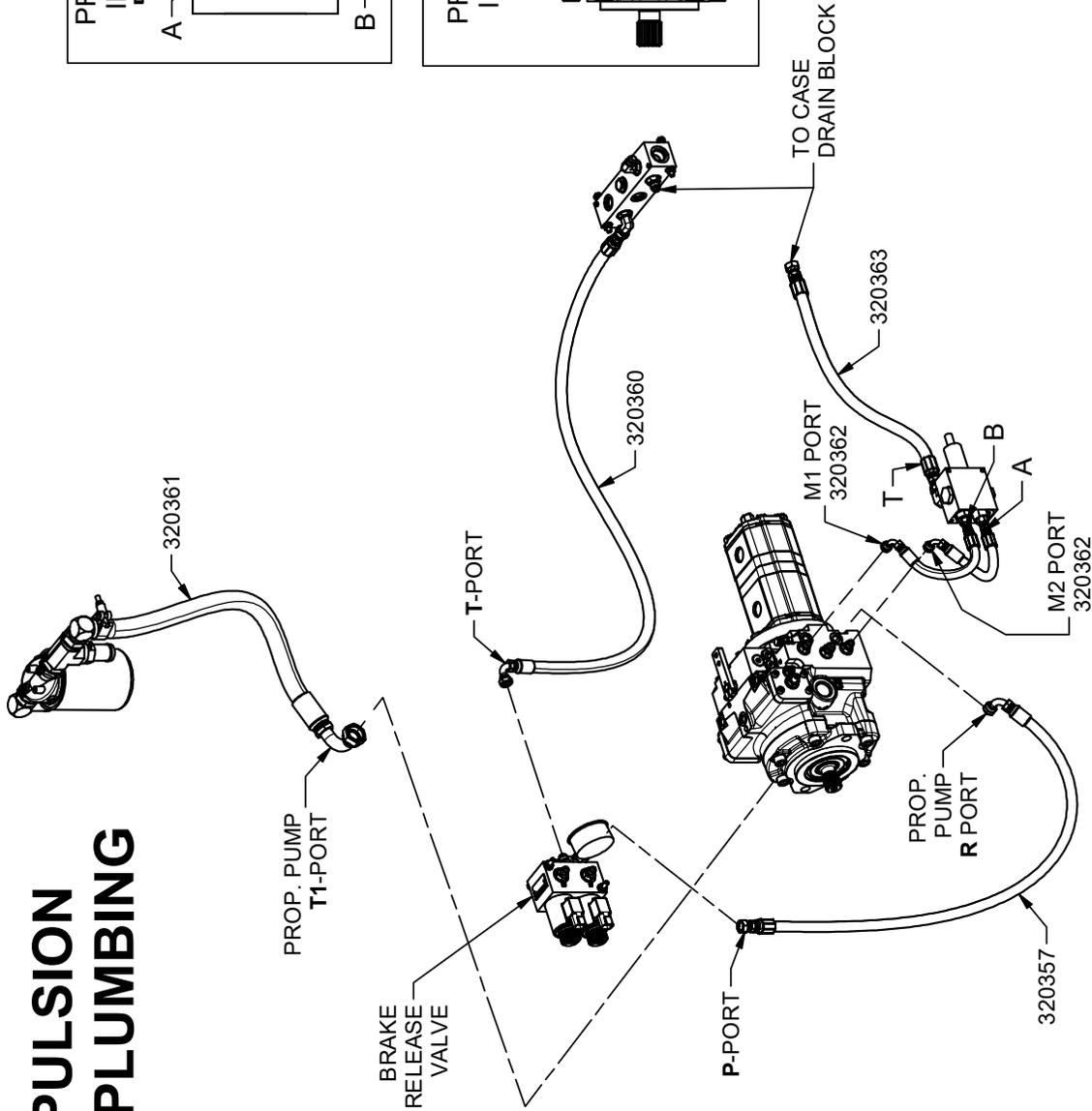
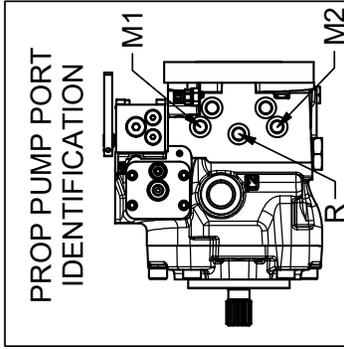
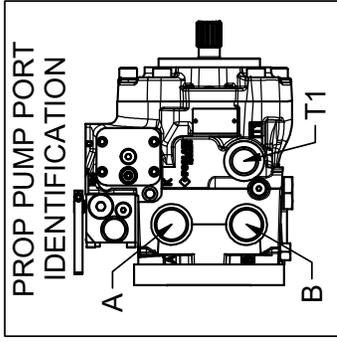
REAR WHEEL MOTOR PLUMBING



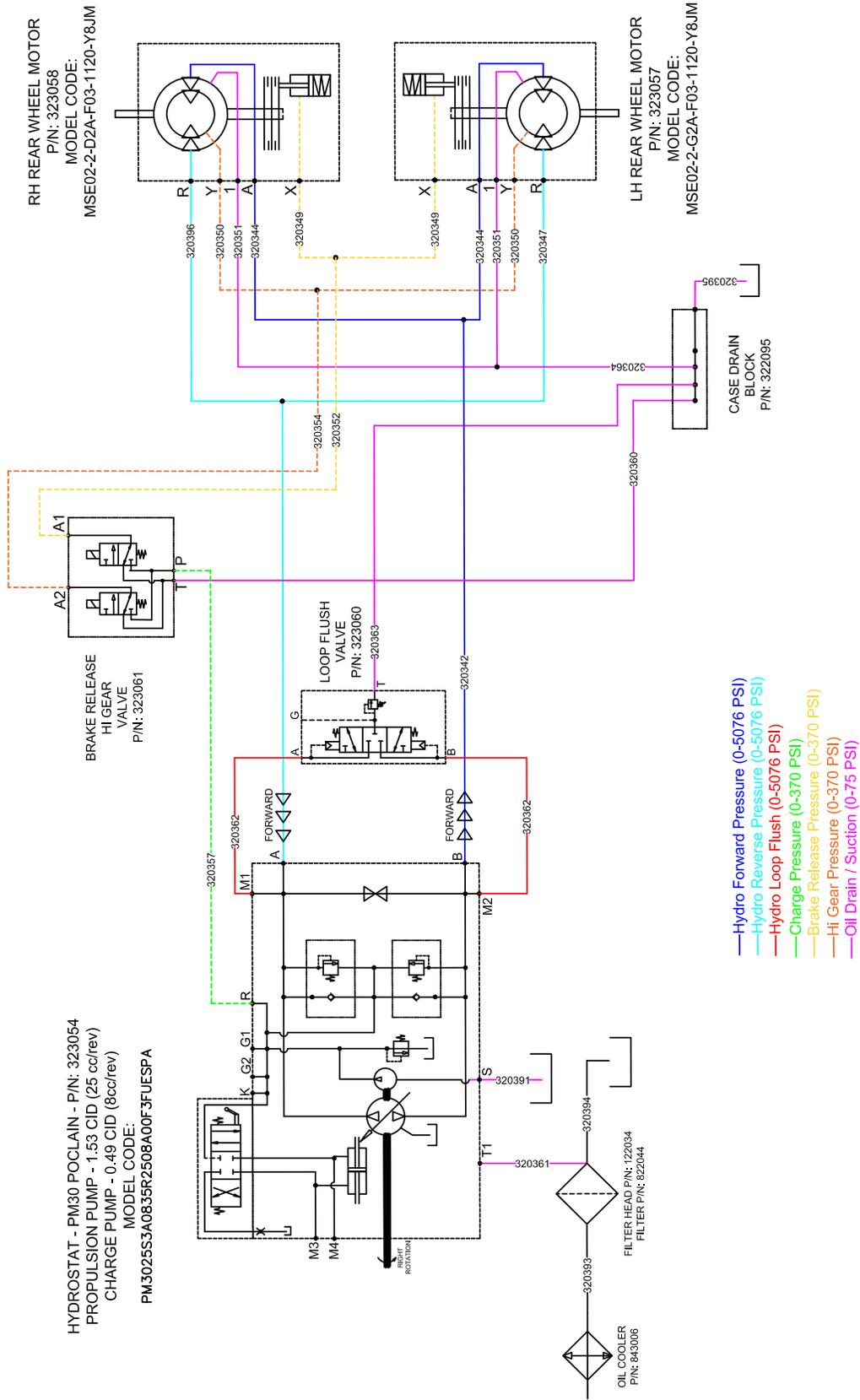
BULKHEAD FITTINGS SHOWN IN FUEL TANK INSTALLATION



PROPULSION PUMP PLUMBING

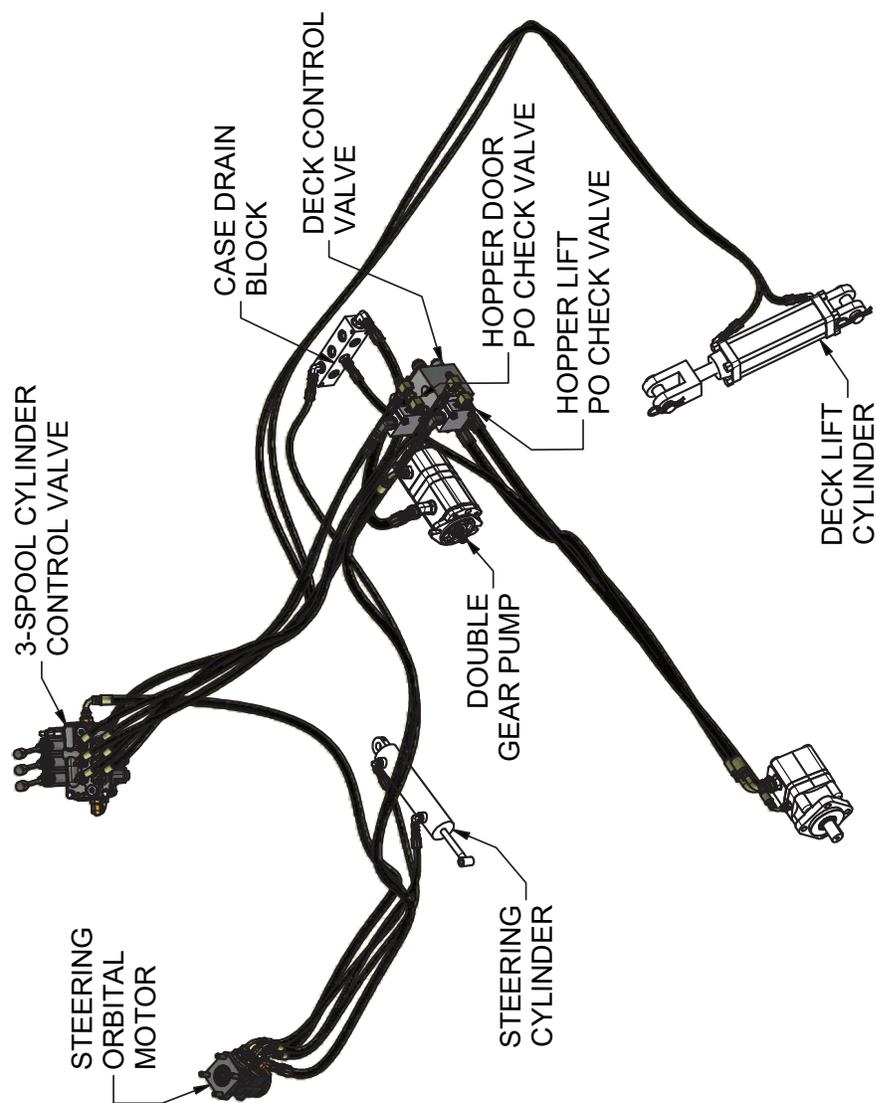


SWEEPER PROPULSION SCHEMATIC - 2WD



Parts List		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-6F JX-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	315363	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

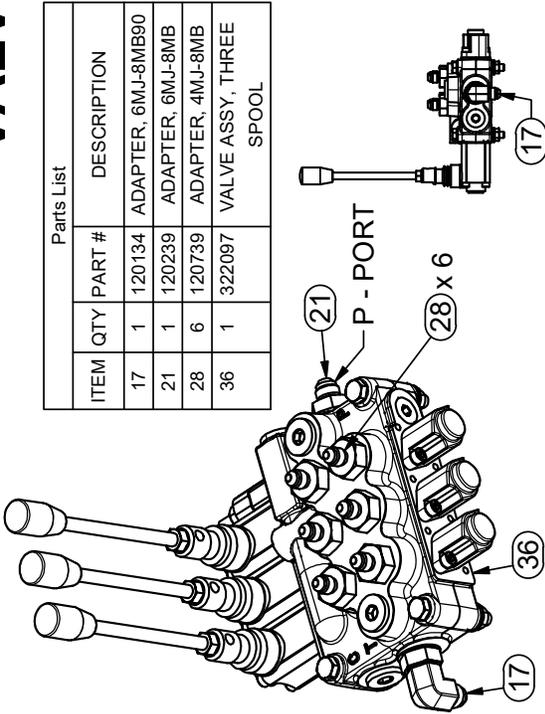
HYDRAULIC SCHEMATIC SHOWN ON PAGE 5.10



MACHINE HYDRAULIC INSTALLATION

VALVE ASSEMBLIES

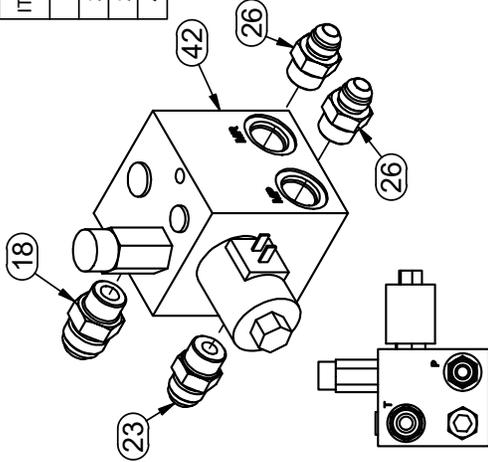
Three Spool Valve Assembly



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

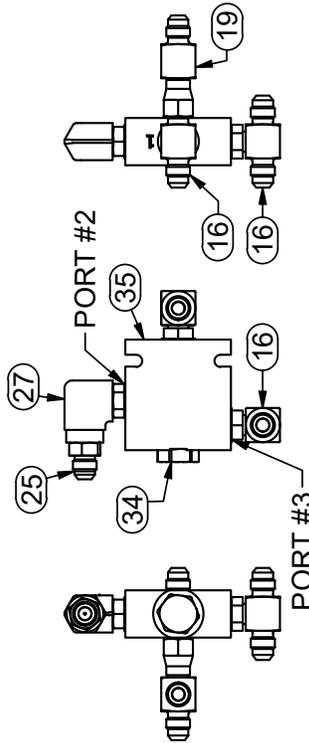
Deck Valve Assembly

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



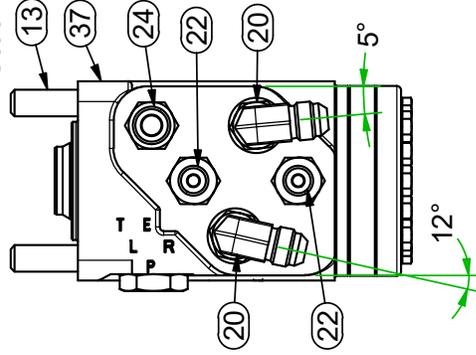
820158 - SERVICE PARTS	
PART #	DESCRIPTION
522163	COIL, 12VDC DEUTSCH
820230	VALVE, COUNTER BALANCE
820231	RELIEF, 3000 PSI PRESSURE
820232	VALVE, N.O. SOLENOID CARTRIDGE

P.O. Check Valve Assembly X 2



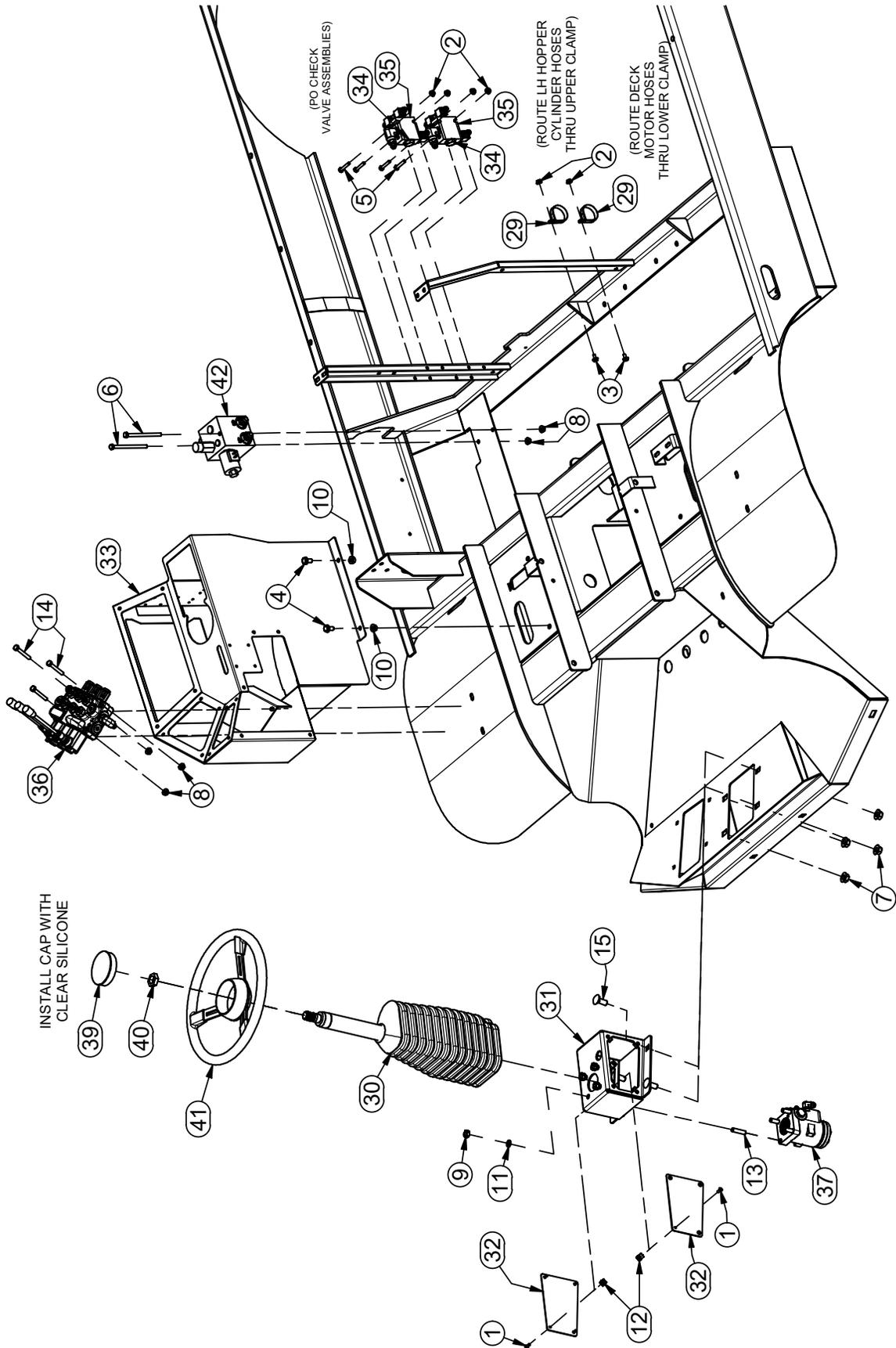
Parts List	
ITEM QTY	PART # DESCRIPTION
16 4	120092 ADAPTER, 6MJ-6MJ-6MB
19 2	120216 ADAPTER, 6MJ-6FJX-6MJ
25 2	120398 ADAPTER, REST 6MJ-6MB, .047
27 2	120689 Adapter, 6MB90-6FB
34 2	322074 VALVE, PO CHECK
35 2	322075 VALVE BODY, 3-WAY SAE-6

Steering Orbital Assembly



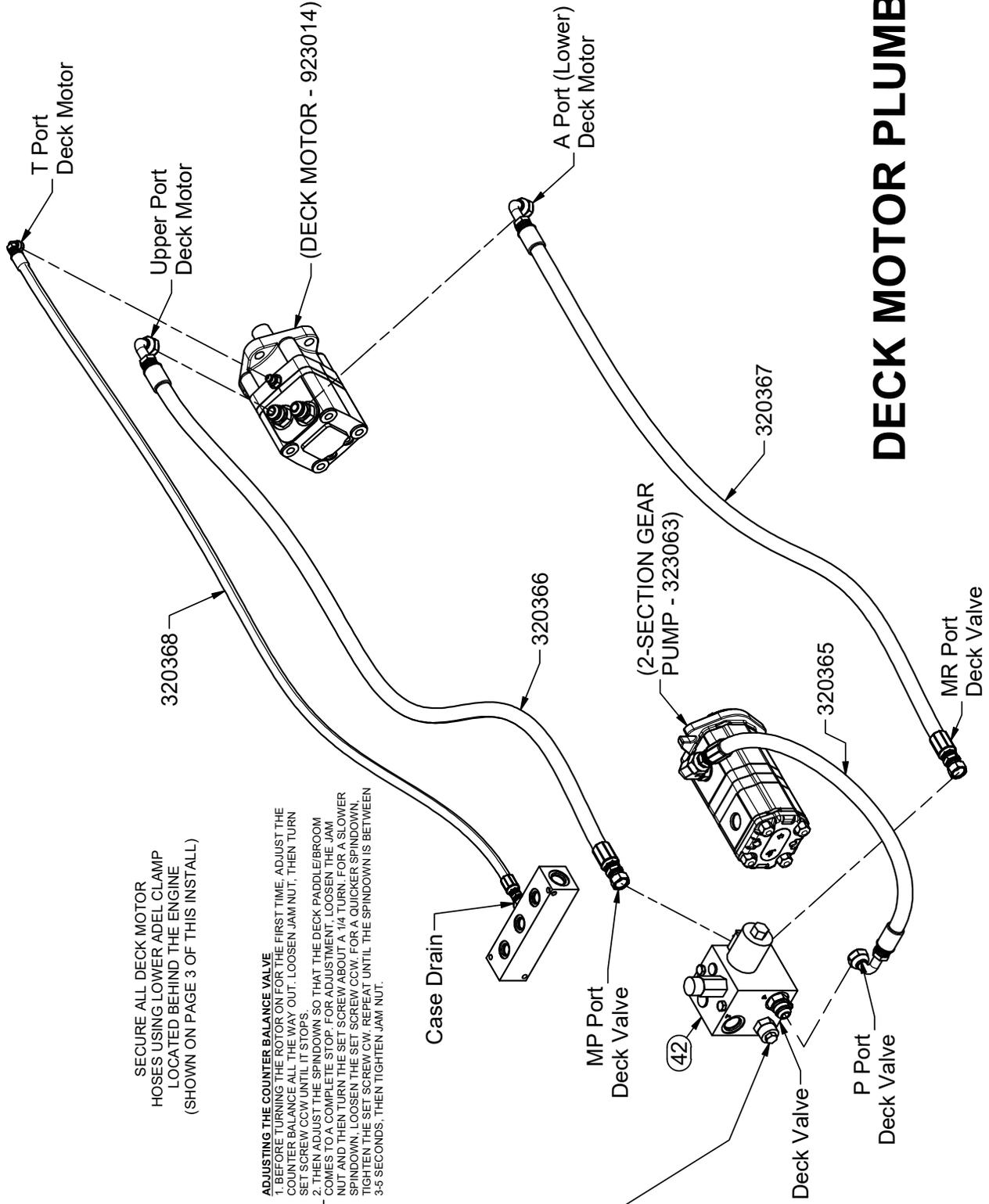
Parts List	
ITEM QTY	PART # DESCRIPTION
13 4	111055 STUD, M10 X 1.5 X 42 GRADE 8.8
20 2	120222 ADAPTER, 6MJ-6MB90
22 2	120249 ADAPTER, 4MJ-6MB
24 1	120319 ADAPTER, 6MJ-6MB
37 1	323046 MOTOR, STEERING ORBITAL

5-17-2021



VALVE INSTALLATION

5-17-2021

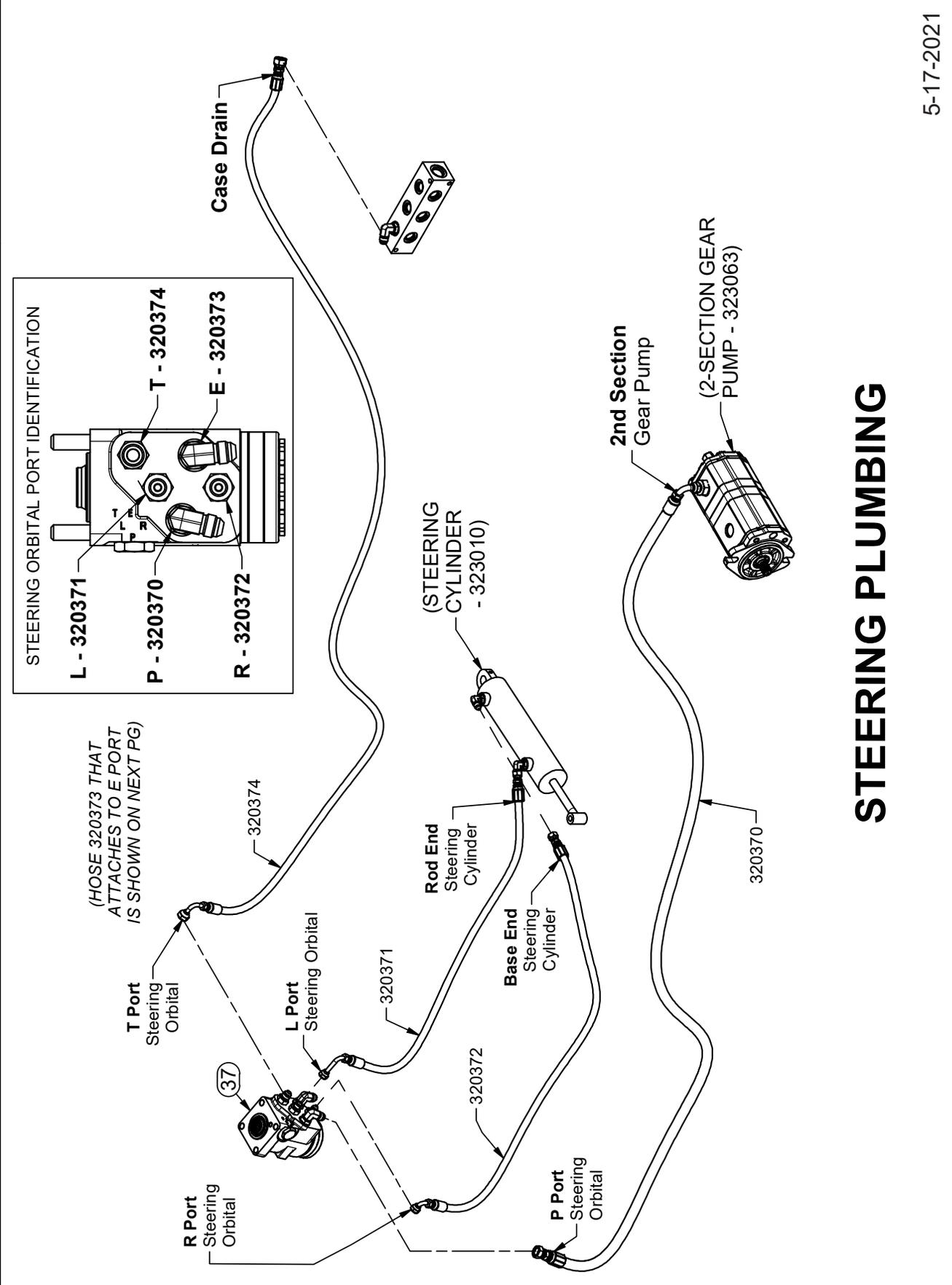


SECURE ALL DECK MOTOR HOSES USING LOWER ADEL CLAMP LOCATED BEHIND THE ENGINE (SHOWN ON PAGE 3 OF THIS INSTALL)

ADJUSTING THE COUNTER BALANCE VALVE
 1. BEFORE TURNING THE ROTOR ON FOR THE FIRST TIME, ADJUST THE COUNTER BALANCE ALL THE WAY OUT. LOOSEN JAM NUT, THEN TURN SET SCREW CCW UNTIL IT STOPS.
 2. THEN ADJUST THE SPINDOWN SO THAT THE DECK PADDLE/BROOM COMES TO A COMPLETE STOP. FOR ADJUSTMENT, LOOSEN THE JAM NUT AND THEN TURN THE SET SCREW ABOUT A 1/4 TURN. FOR A SLOWER SPINDOWN, LOOSEN THE SET SCREW CCW. FOR A QUICKER SPINDOWN, TIGHTEN THE SET SCREW CW. REPEAT UNTIL THE SPINDOWN IS BETWEEN 3-5 SECONDS, THEN TIGHTEN JAM NUT.

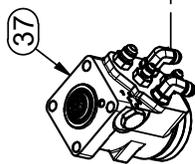
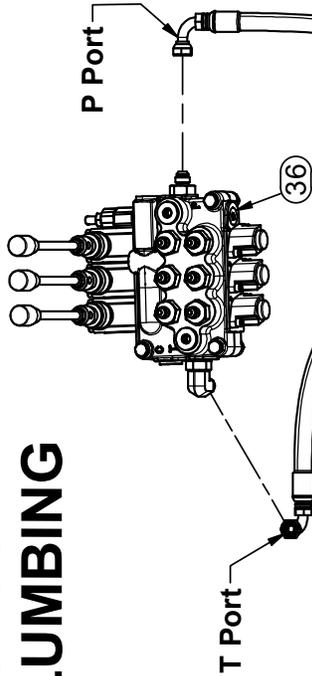
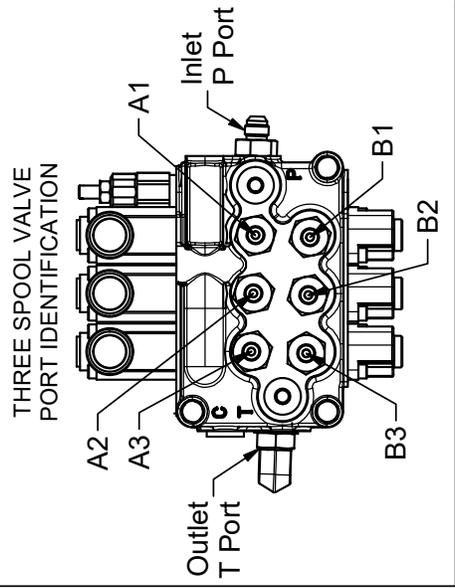
DECK MOTOR PLUMBING

5-17-2021



STEERING PLUMBING

THREE SPOOL VALVE VALVE PLUMBING

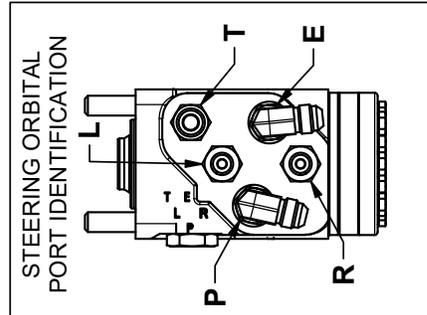


Port E
Steering Orbital

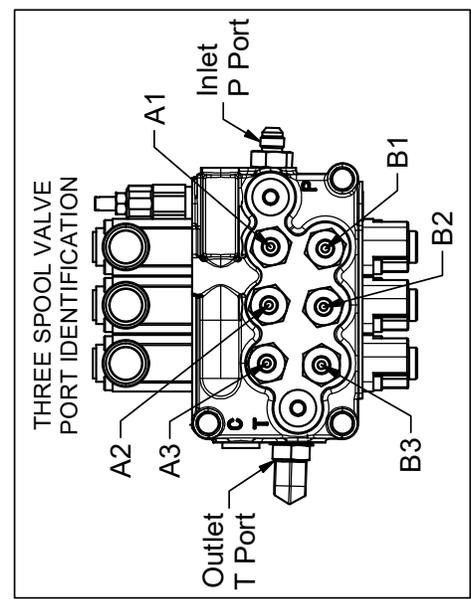
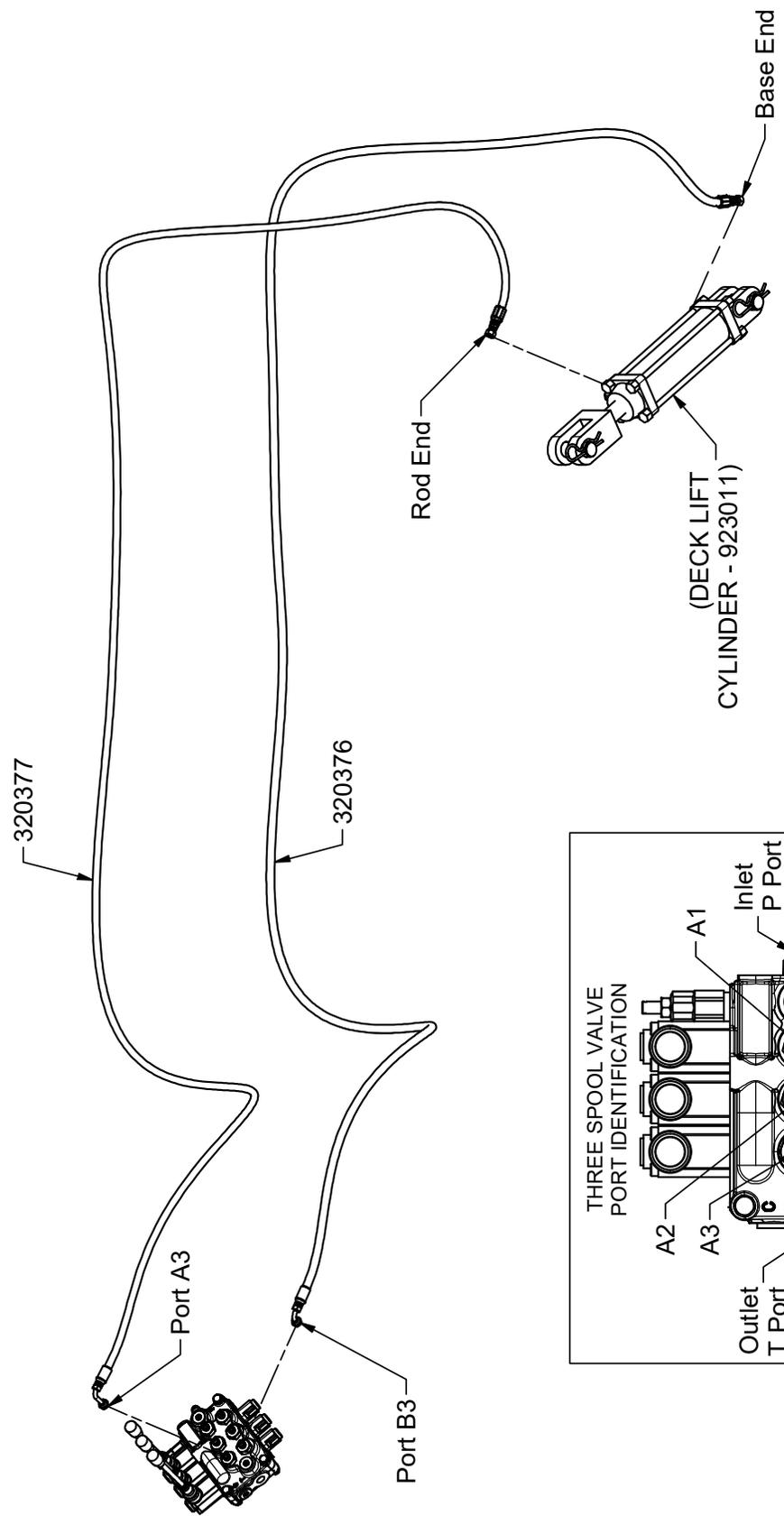
320373

320375

Case Drain

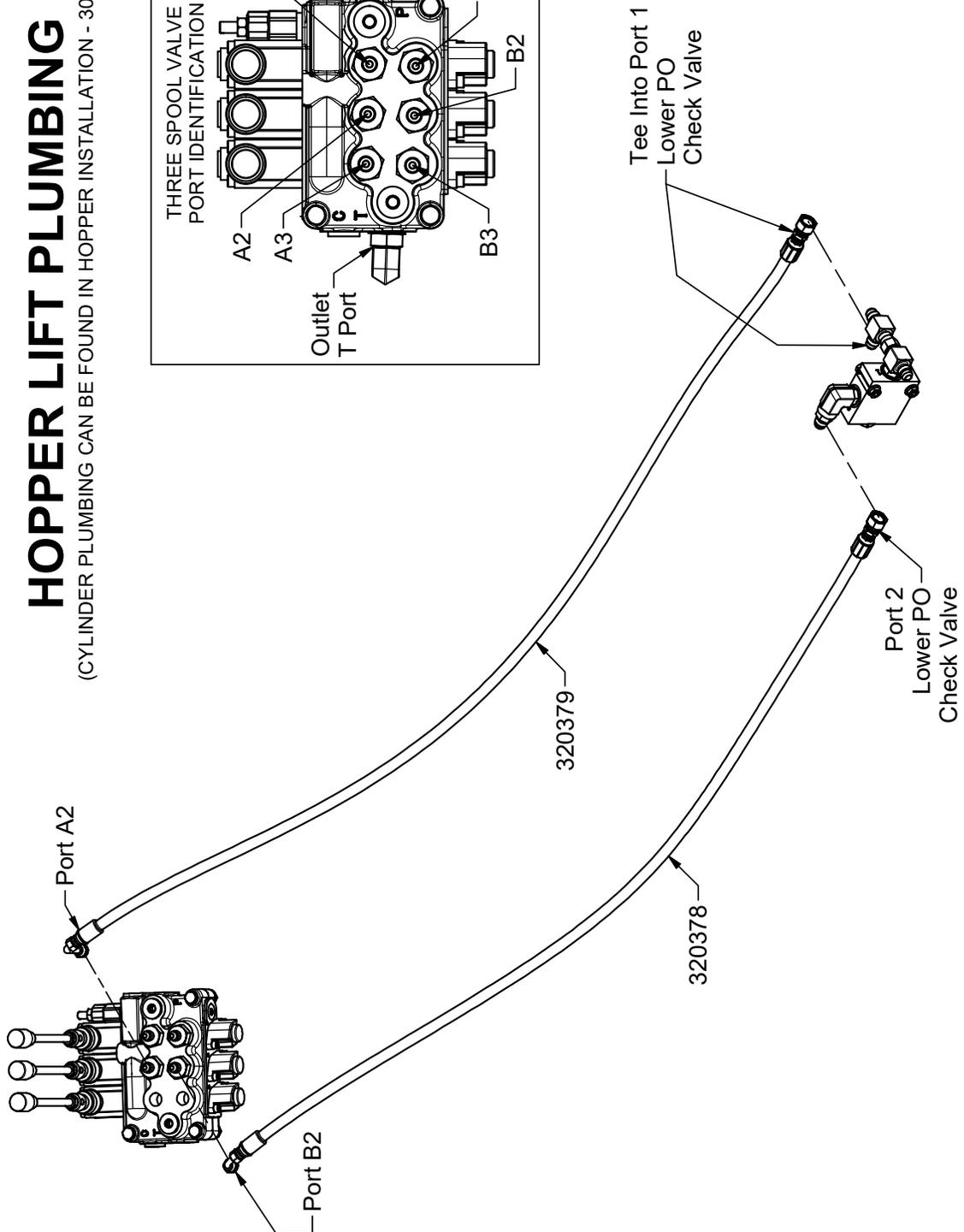
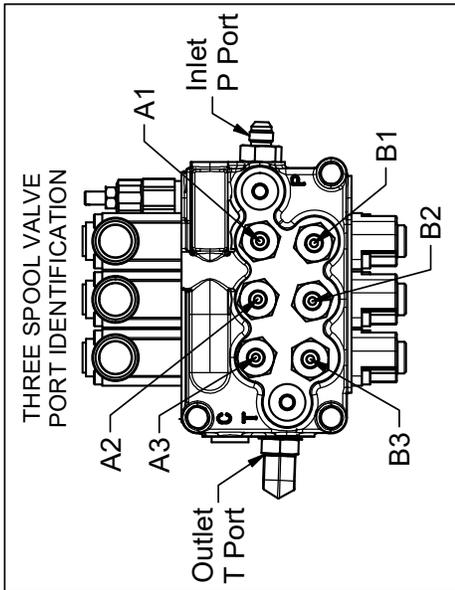


DECK LIFT PLUMBING



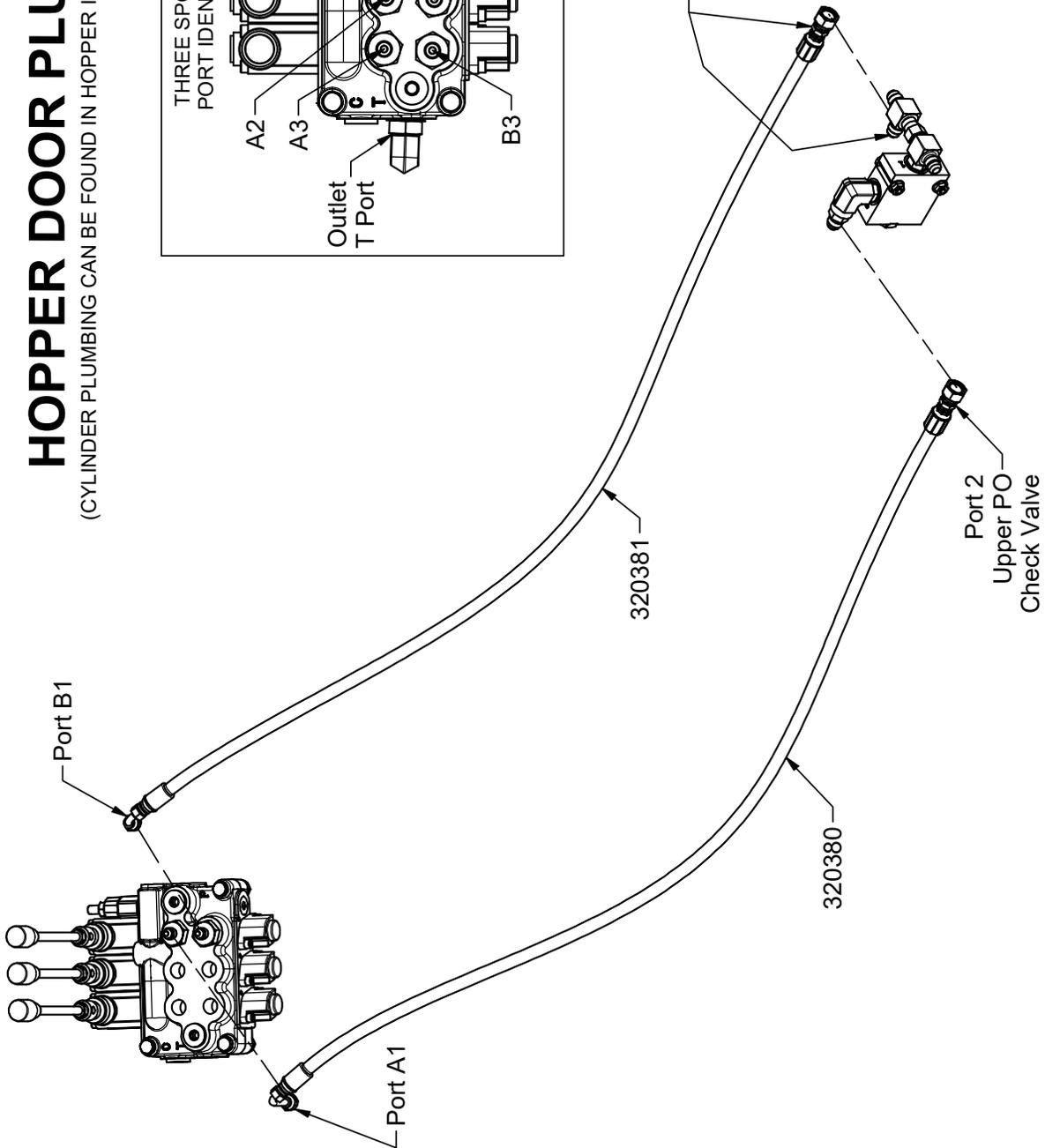
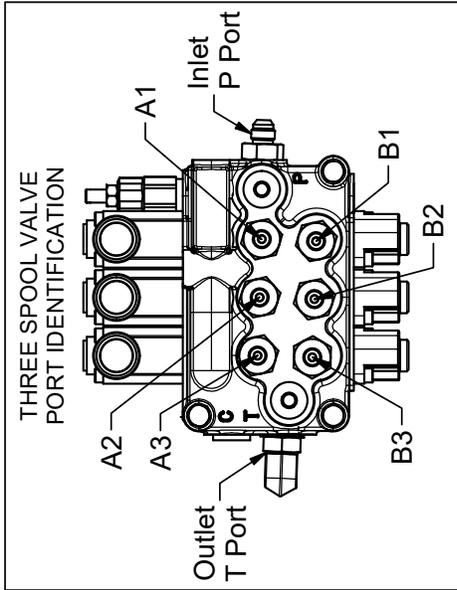
HOPPER LIFT PLUMBING

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

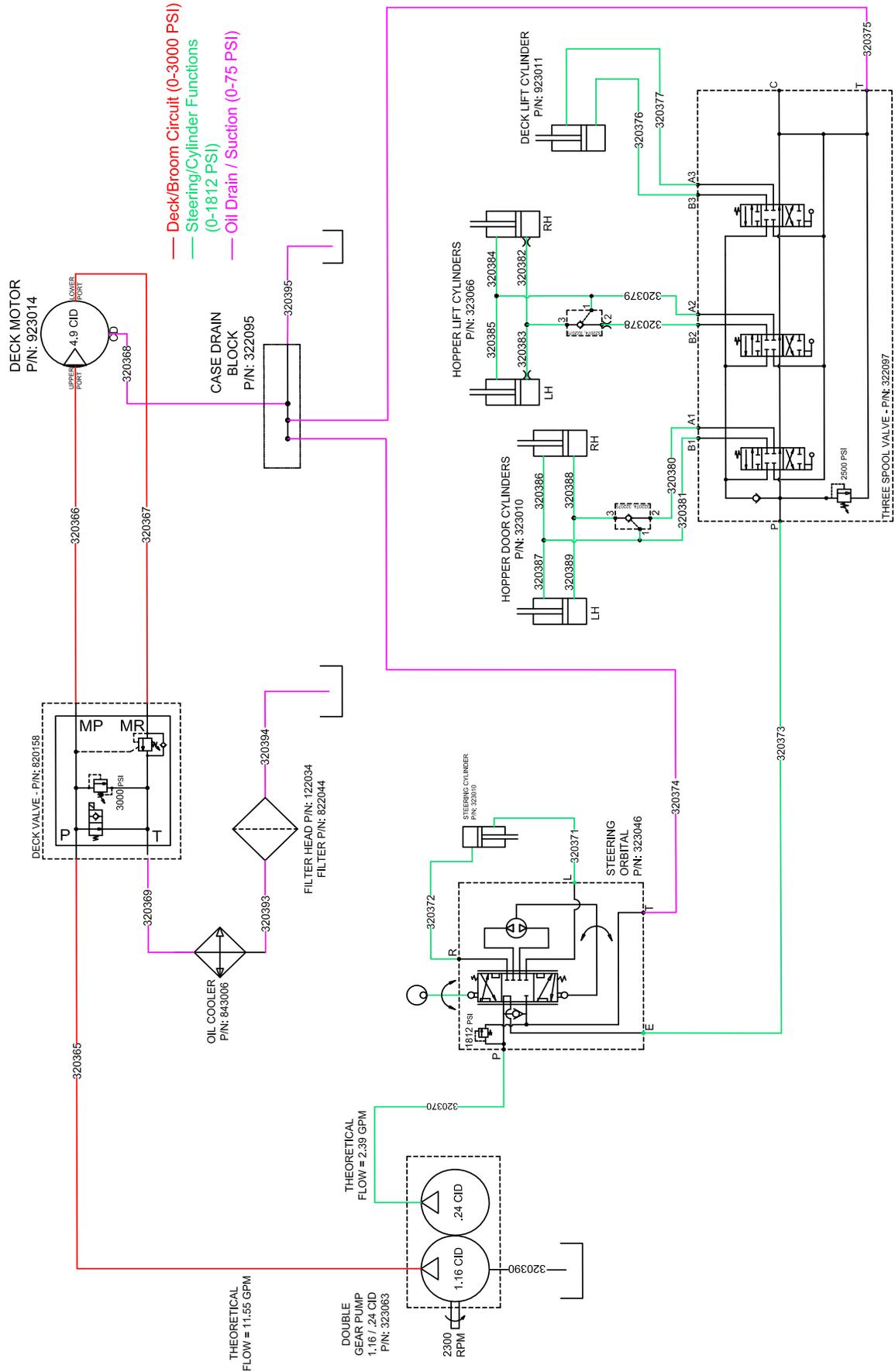


HOPPER DOOR PLUMBING

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



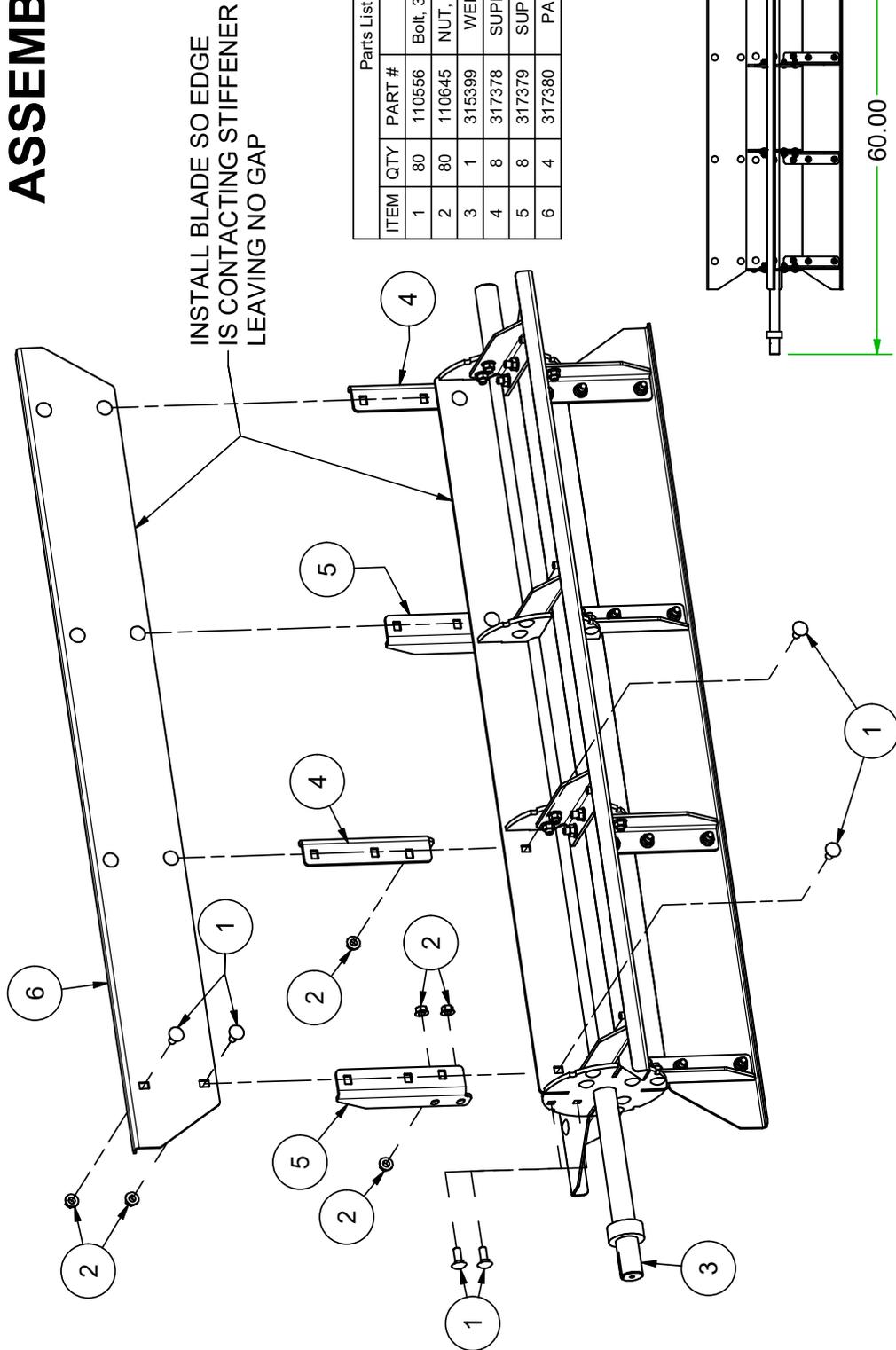
SWEEPER MACHINE HYDRAULIC SCHEMATIC



06/03/20

5-17-2021

PADDLE ASSEMBLY

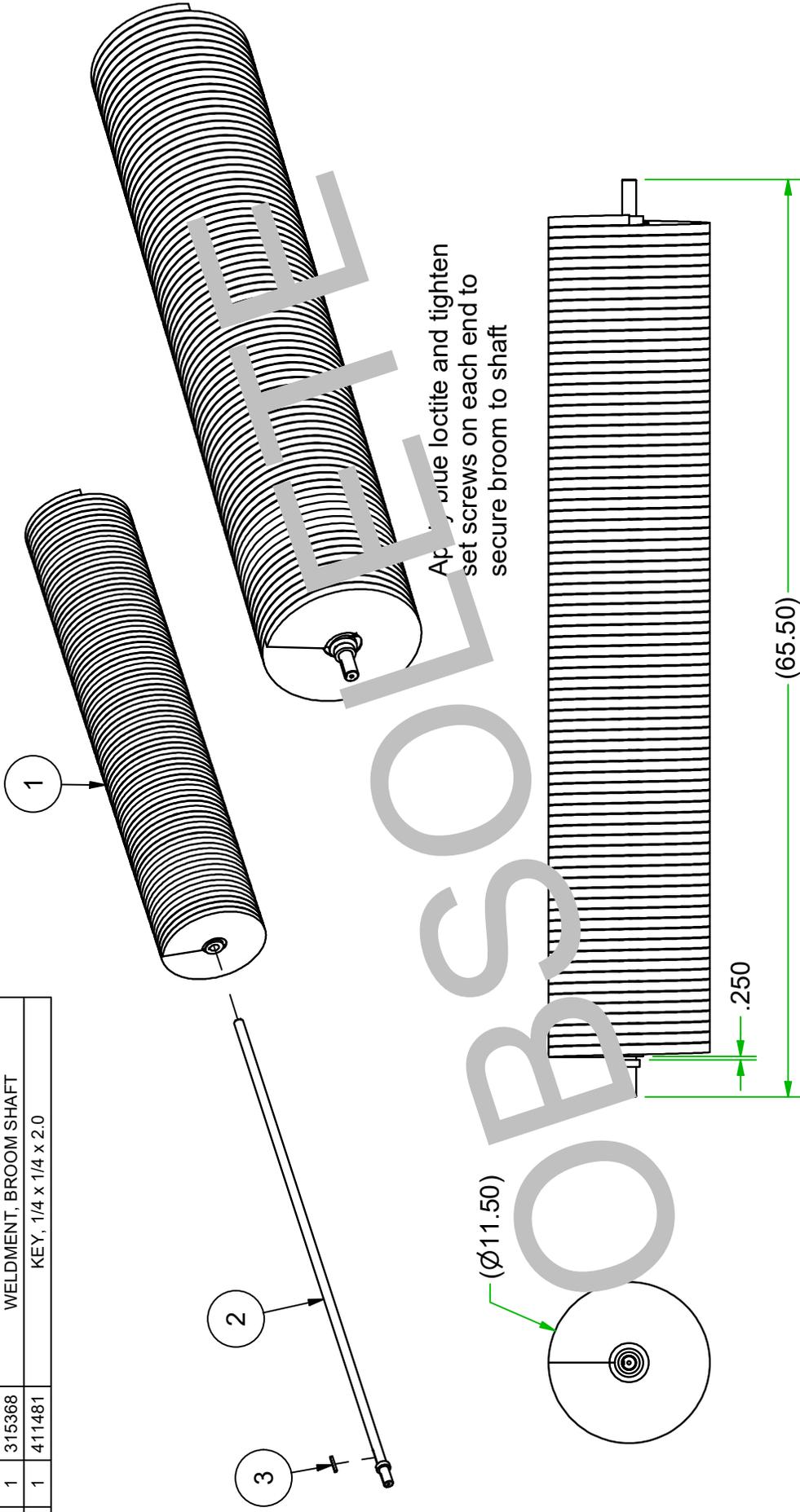


Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	80	110556	Bolt, 3/8-16 X 1 in Carriage
2	80	110645	NUT, 3/8-16 W/IZ FLANGE
3	1	315399	WELDMENT, PADDLE
4	8	317378	SUPPORT, RH PADDLE
5	8	317379	SUPPORT, LH PADDLE
6	4	317380	PADDLE, SWEEPER

12-22-2020

Brush Assembly

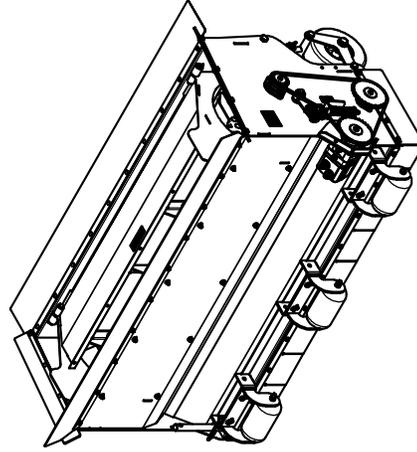
Parts List		DESCRIPTION
ITEM	QTY	PART #
1	1	302170
Brush, Spiral Wound, 60 x 11.50 OD, .030 Poly		
2	1	315368
WELDMENT, BROOM SHAFT		
3	1	411481
KEY, 1/4 x 1/4 x 2.0		



INSTALLED ON THE FOLLOWING
 PRODUCTION MACHINES
 - HK4200 - S/N: 22A05 TO 22A99
 - HK4400 - S/N: 22A04 TO 22A99

305114 REV: A

Parts List			Parts List			Parts List					
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	102133	Decal, ISO, FOOT CRUSH	36	1	112130	Clevis Pin, 3/8" x 3/4", ZINC	70	3	317258	WASHER, 2.0 X .344 X .12
2	3	110010	BOLT, 1/2-13 X 9.0	37	1	120233	ADAPTER, 4MJ-4MB	71	1	317261	TENSIONER, GEAR MOUNT
3	14	110020	Bolt, 5/16-18 X 0.75 in Carriage	38	2	120251	ADAPTER, 10MJ-10MB	72	2	317289	RETAINER, UPPER SIDE SEAL
4	2	110023	BOLT, 5/8-11 X 6.5	39	1	142002	SPRING, COMP 1 1/4 x 4 x .148	73	1	317295	COLLAR, SPRING TENSIONER
5	4	110024	BOLT, 5/8-11 X 8.0	40	1	142013	Sprocket, 4017 Idler, 5/8	74	1	317311	LINER, DECK
6	56	110154	Bolt, 1/4-20 X 0.75 in Carriage	41	4	142019	Flange, 52mm, 2 Bolt	75	1	317337	Shield, Broom Bearing
7	2	110272	BOLT, 3/4-10 X 6.75, Hhcs Gr 5 Zinc	42	2	142023	SPROCKET, 40BS35 X 1.0	76	1	317365	ROD, DECK PROP
8	56	110290	NUT, 1/4-20 WIZ FLANGE	43	1	142024	SPORCKET, 40BS17 X 1.25	77	1	340013	ROLLER CHAIN, #40 DECK (53")
9	2	110304	PIN, LOCK 3/8 X 2.5 SQ	44	2	142025	Bearing, 52mm Spherical O.D., 1.0 ID	78	3	510047	Roller, Anti-Scalp
10	1	110335	WASHER, 1" FLAT MACHINE	45	2	142026	Bearing, 62mm Spherical O.D., 1.25 ID	79	2	510228	KEY, 1/4 X 1/4 X 1.0 UNDER
11	1	110403	BOLT, 1/2-13 X 2.5	46	4	142027	Flange, 62mm, 2 Bolt	80	2	510237	CASTER WHEEL ASSY, 9 X 3.5-4
12	4	110419	BOLT, 1/2-13 X 1.75	47	2	200029	COTTER PIN, 5/32 X 1	81	1	510249	COTTER PIN, 1/8 X 0.75
13	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE	48	1	302112	SKIRT, FRONT DECK	82	4	800128	BUSHING, IGUS, FOOT PEDAL
14	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE	49	1	302113	SKIRT, REAR DECK	83	1	902228	Decal, Do Not Remove Shield
15	1	110513	BOLT, 5/8-11 X 2.5	50	2	302114	SKIRT, SIDE DECK	84	1	902230	Decal, Shaft Hazard
16	4	110556	Bolt, 3/8-16 X 1 in Carriage	51	1	302115	SEAL, FRONT DECK	85	1	902232	Decal, High Pressure Injection
17	1	110597	NUT, 5/8-11 HEX	52	1	302116	SEAL, REAR TRANSITION	86	4	910865	SPACER, 1.125 X .812 X .9375
18	14	110606	NUT, 5/16-18 WIZ FLANGE	53	2	302117	SEAL, SIDE DECK	87	1	923014	MOTOR, 4.9 CID
19	4	110610	NUT, 1/2-13	54	1	302146	Decal, Tension Adjustment				
20	4	110615	NUT, 1/2-13, UNITORQUE LOCK	55	1	305102	Assy, Transition Shield, ISO				
21	2	110625	NUT, 3/4-10, UNITORQUE LOCK	56	1	305111	ASSY, PADDLE				
22	6	110639	NUT, 5/8-11, UNITORQUE LOCK	57	1	305134	ASSY, FULL BRUSH, SPIRAL WOUND				
23	10	110645	NUT, 3/8-16 WIZ FLANGE	58	2	312015	PIN, 5/8" x 3.5"				
24	1	110655	WASHER, 5/8" LOCK	59	2	315339	WELDMENT, UPPER WHEEL ADJUST				
25	8	110658	WASHER, 1/2" FLAT STANDARD	60	2	315340	WELDMENT, LOWER WHEEL ADJUST				
26	1	110663	WASHER, 5/8" FLAT SAE	61	2	315341	WELDMENT, GAUGE WHEEL BRKT				
27	4	110666	WASHER, 1/2" LOCK	62	1	315377	WELDMENT, SWEEPER DRIVE IDLER				
28	4	110678	WASHER, 3/4 FLAT SAE	63	1	315378	WELDMENT, IDLER ADJUSTMENT				
29	2	110826	NUT, 3/8-16 GR 5	64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT				
30	1	110929	BOLT, M8-1.25 X 20 WIZ FLNG	65	1	315408	WELDMENT, SWEEPER DECK, US				
31	1	110987	Pin, Square Retainer, .50 X 3.00 Pin Dia	66	2	317249	PIN, QUICK RELEASE				
32	1	111186	WASHER, 1.50 x .406 x .125, FLAT	67	4	317252	RETAINER, FRONT DECK				
33	1	111188	WASHER, 1.25 x 1.875 x .047, FLAT	68	2	317253	RETAINER, SIDE DECK				
34	2	112119	ROLL PIN, 5/32 X 2 ZP	69	1	317256	SPACER, KEYWAY, 1.625 X .5 X .909				
35	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045								



SIMILAR TO 305066

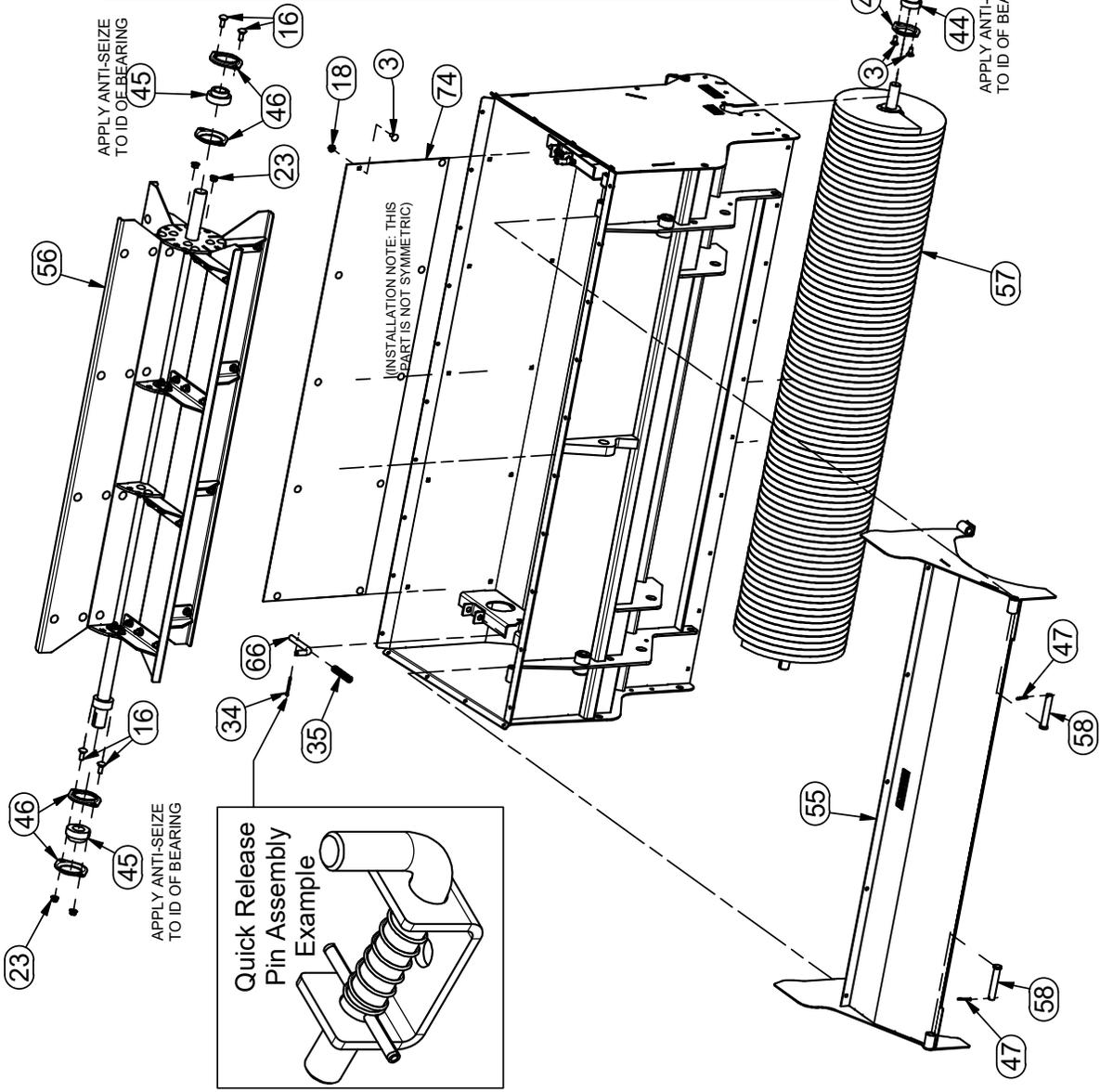
DECK ASSEMBLY

3-9-2022

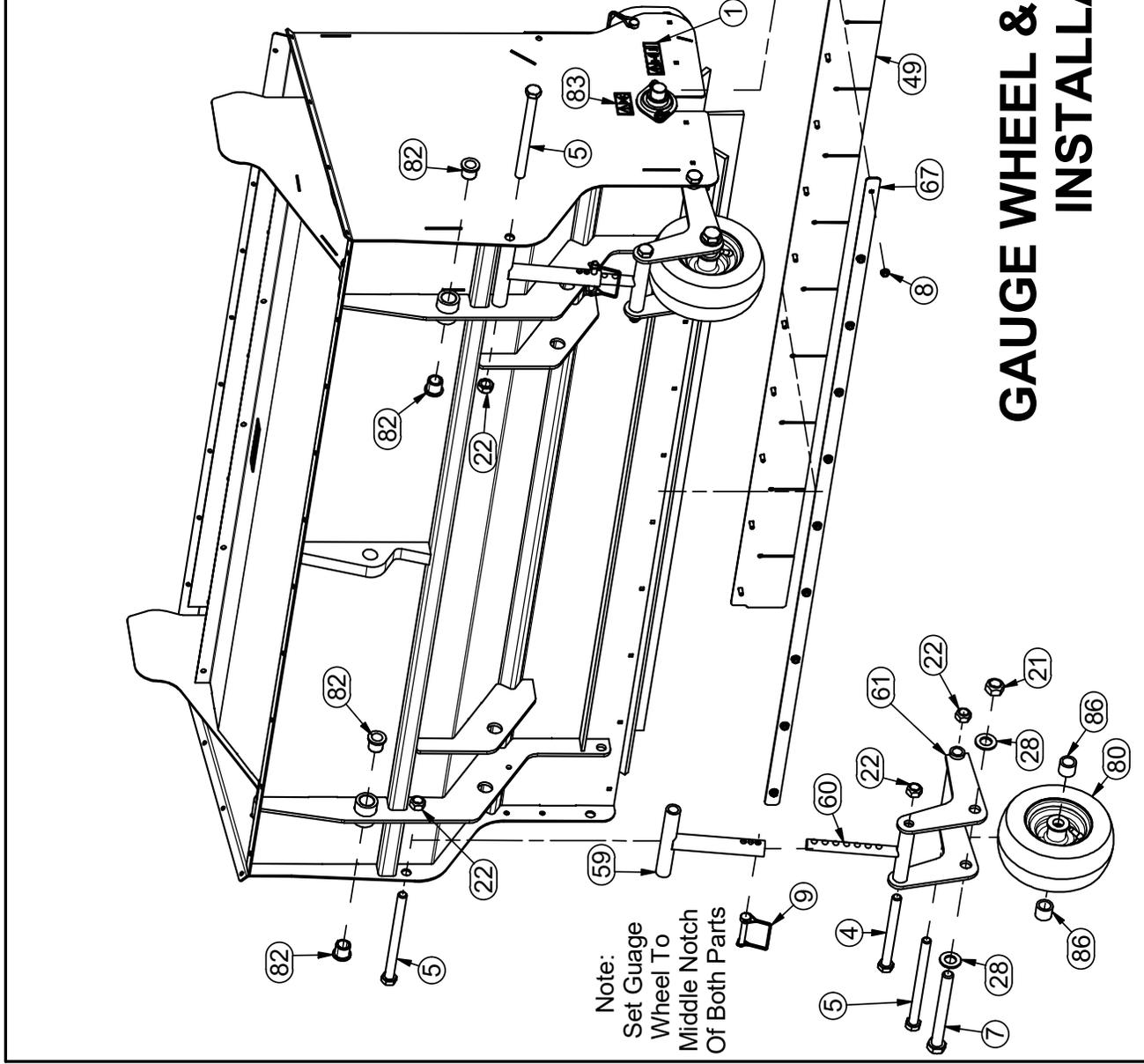
BROOM & PADDLE INSTALLATION

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
34	2	112119	ROLL PIN, 5/32 X 2 ZP
35	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045
41	4	142019	Flange, 52mm, 2 Bolt
44	2	142025	Bearing, 52mm Spherical O.D., 1.0 ID
45	2	142026	Bearing, 62mm Spherical O.D., 1.25 ID
46	4	142027	Flange, 62mm, 2 Bolt
47	2	200029	COTTER PIN, 5/32 X 1
54	1	302146	Decal, Tension Adjustment
55	1	305102	Assy, Transition Shield, ISO
56	1	305111	ASSY, PADDLE
57	1	305134	ASSY, FULL BRUSH, SPIRAL WOUND
58	2	312015	PIN, 5/8" x 3.5"
61	2	315341	WELDMENT, GAUGE WHEEL BRKT
64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
66	2	317249	PIN, QUICK RELEASE
74	1	317311	LINER, DECK
75	1	317337	Shield, Broom Bearing
78	3	510047	Roller, Anti-Scalp



Parts List	
ITEM QTY	PART # DESCRIPTION
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
49	1 302113 SKIRT, REAR DECK
50	2 302114 SKIRT, SIDE DECK
54	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
67	4 317252 RETAINER, FRONT DECK
68	2 317253 RETAINER, SIDE DECK
78	3 510047 Roller, Anti-Scalp
80	2 510237 CASTER WHEEL ASSY, 9 X 3.5-4
82	4 800128 BUSHING, IGUS, FOOT PEDAL
83	1 902228 Decal, Do Not Remove Shield
86	4 910865 SPACER, 1.125 X .812 X .9375

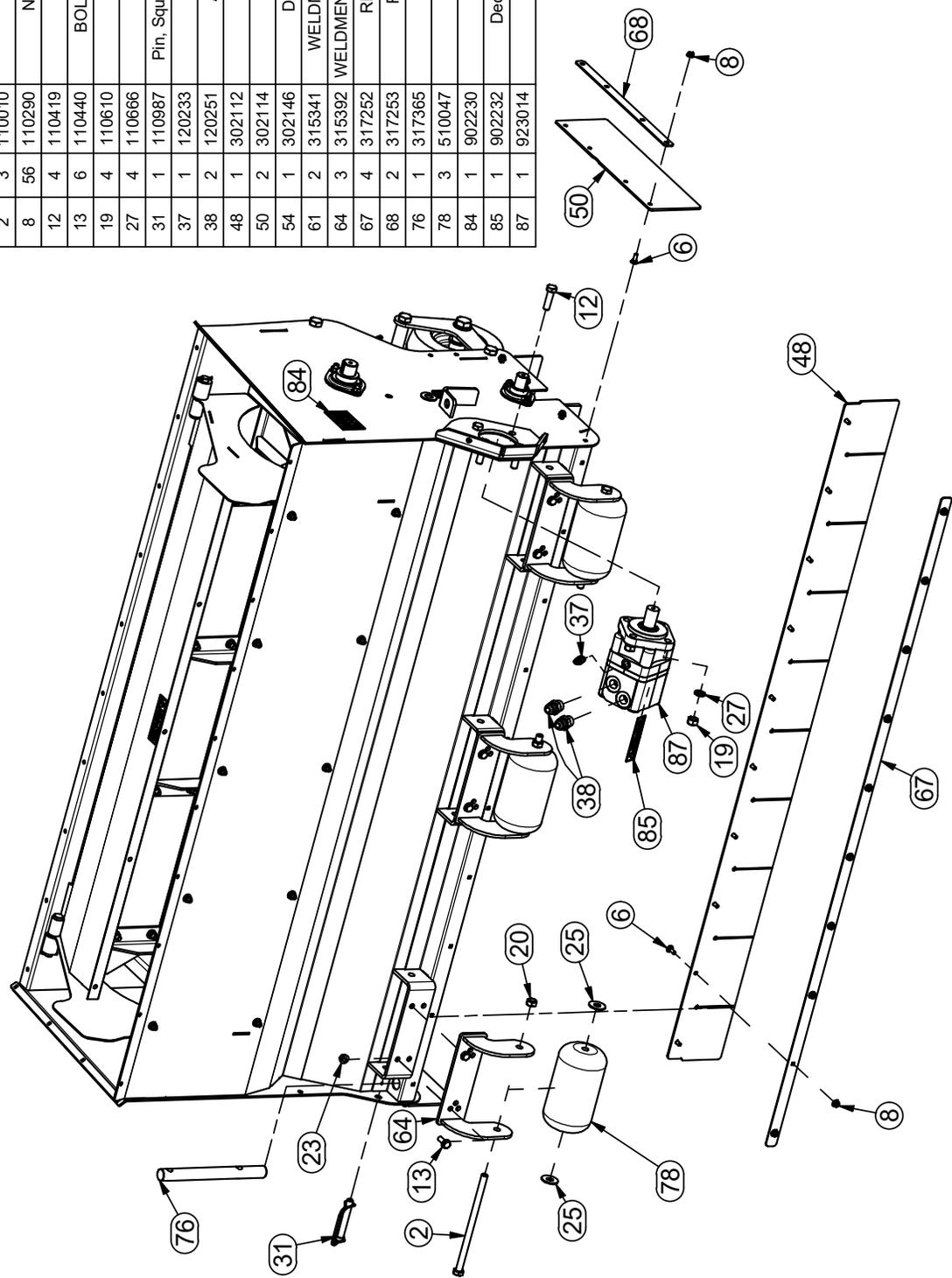


GAUGE WHEEL & LOWER SKIRT INSTALLATION

HYDRAULIC MOTOR, SCALP WHEELS & LOWER SKIRT INSTALLATION

Parts List

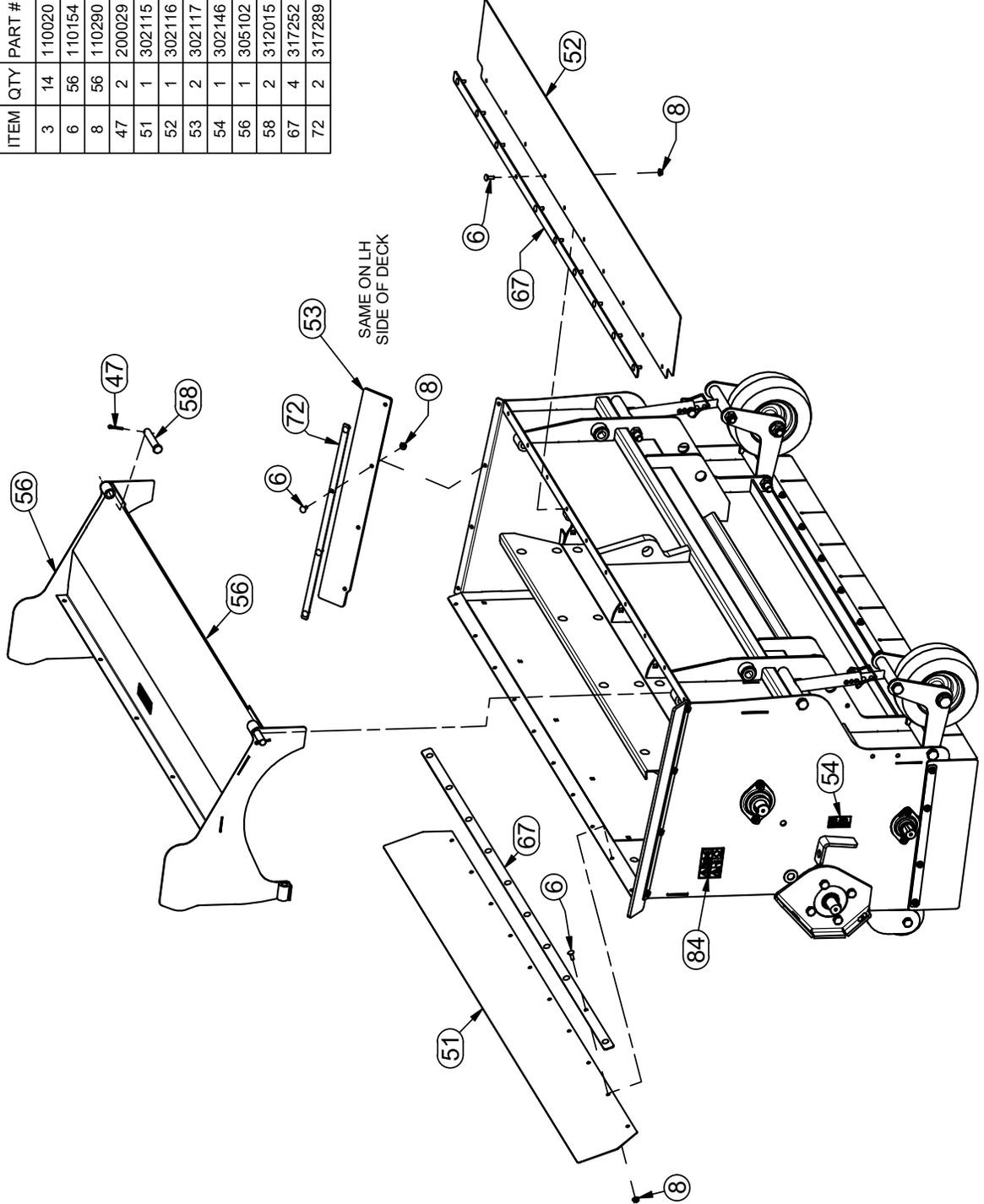
ITEM	QTY	PART #	DESCRIPTION
2	3	110010	BOLT, 1/2-13 X 9.0
8	56	110290	NUT, 1/4-20 WIZ FLANGE
12	4	110419	BOLT, 1/2-13 X 1.75
13	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
19	4	110610	NUT, 1/2-13
27	4	110666	WASHER, 1/2" LOCK
31	1	110987	Pin, Square Retainer, .50 X 3.00 Pin Dia
37	1	120233	ADAPTER, 4MJ-4MB
38	2	120251	ADAPTER, 10MJ-10MB
48	1	302112	SKIRT, FRONT DECK
50	2	302114	SKIRT, SIDE DECK
54	1	302146	Decal, Tension Adjustment
61	2	315341	WELDMENT, GAUGE WHEEL BRKT
64	3	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
67	4	317252	RETAINER, FRONT DECK
68	2	317253	RETAINER, SIDE DECK
76	1	317365	ROD, DECK PROP
78	3	510047	Roller, Anti-Scalp
84	1	902230	Decal, Shaft Hazard
85	1	902232	Decal, High Pressure Injection
87	1	923014	MOTOR, 4.9 CID



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
47	2	200029	COTTER PIN, 5/32 X 1
51	1	302115	SEAL, FRONT DECK
52	1	302116	SEAL, REAR TRANSITION
53	2	302117	SEAL, SIDE DECK
54	1	302146	Decal, Tension Adjustment
56	1	305102	Assy, Transition Shield, ISO
58	2	312015	PIN, 5/8" x 3.5"
67	4	317252	RETAINER, FRONT DECK
72	2	317289	RETAINER, UPPER SIDE SEAL

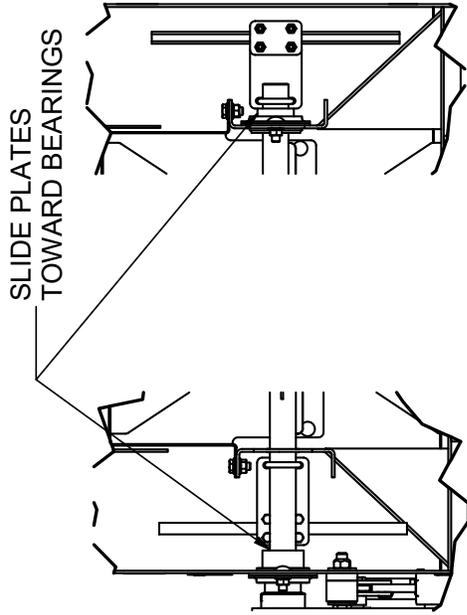
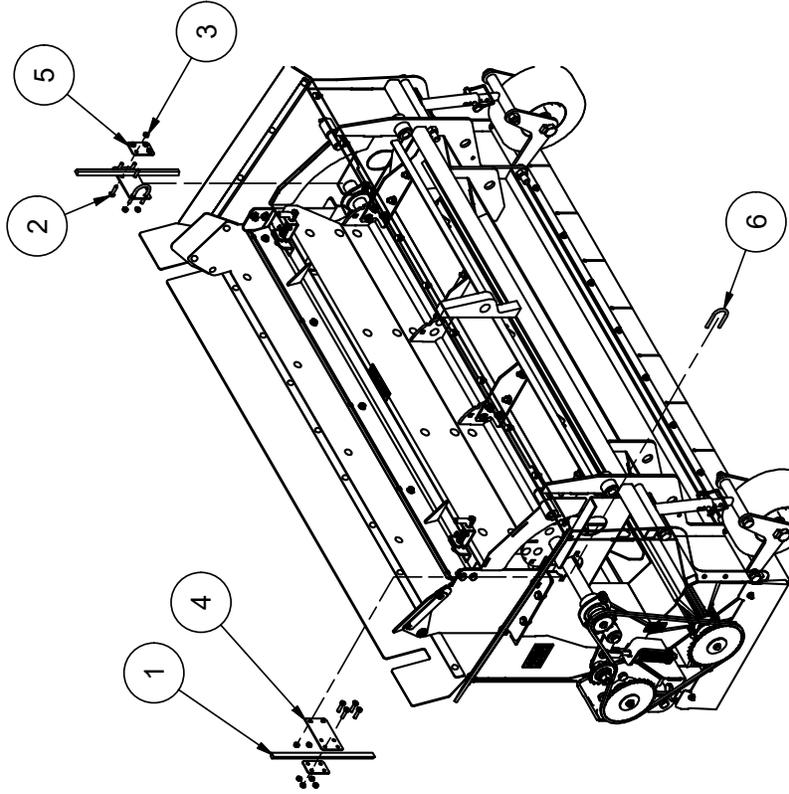


305164

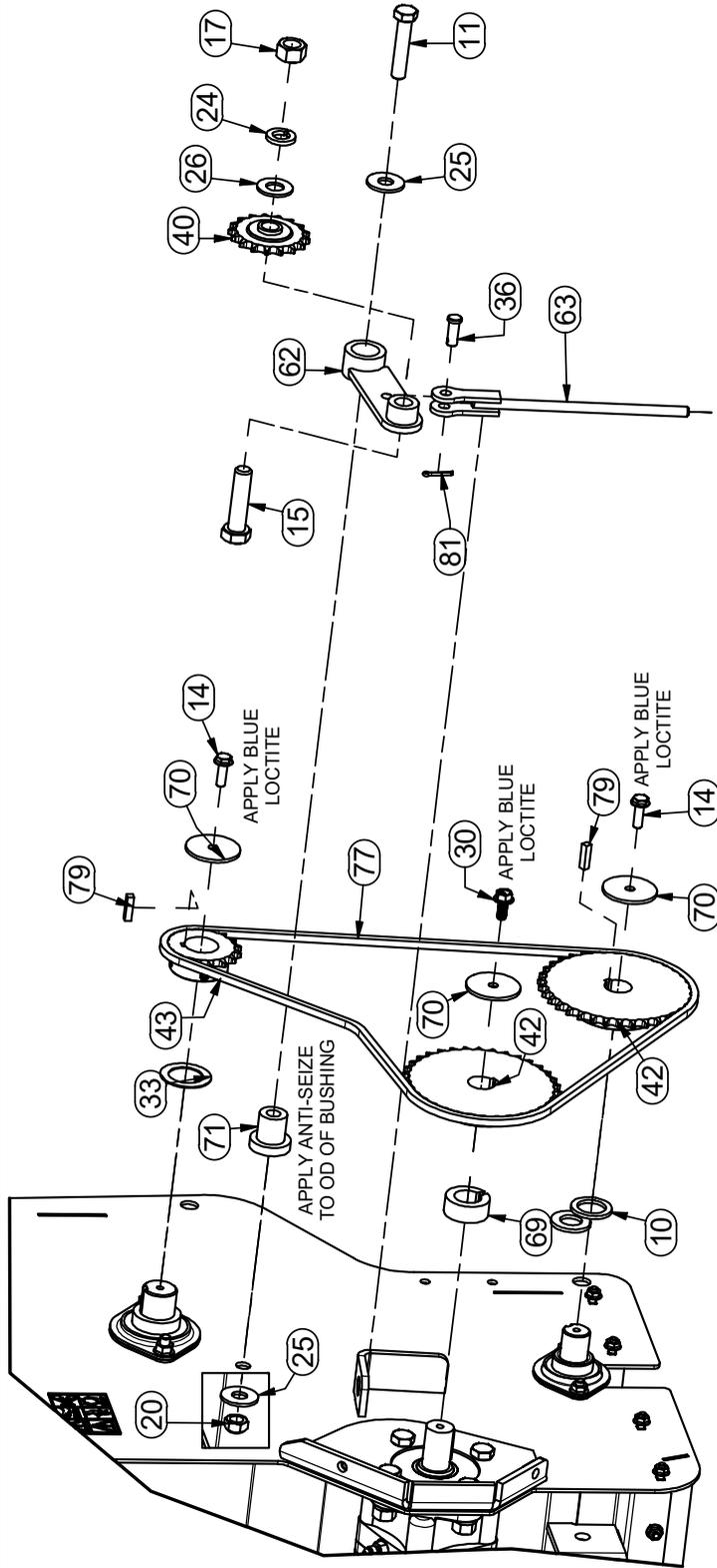
REV: NC

Parts List

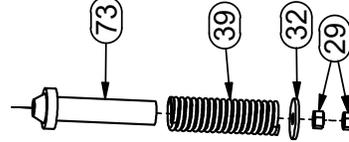
ITEM	QTY	PART #	DESCRIPTION
1	2	311608	FINGER, 12" RUBBER
2	8	110464	BOLT, 1/4-20 X 1.0
3	12	110174	NUT, 1/4-20, UNITORQUE LOCK
4	2	317621	Plate, Debris Spinner Mnt
5	2	317622	PLATE, DEBRIS SPINNER RETAINER
6	2	112147	U-BOLT, 1/4-20 X 1.25, ZINC PLATED



OPTIONAL RETURN AIR DEBRIS CLEANER KIT



INSTALLATION: TIGHTEN NUT UNTIL FLAT WASHER CONTACTS COLLAR, THEN TIGHTEN JAM NUT



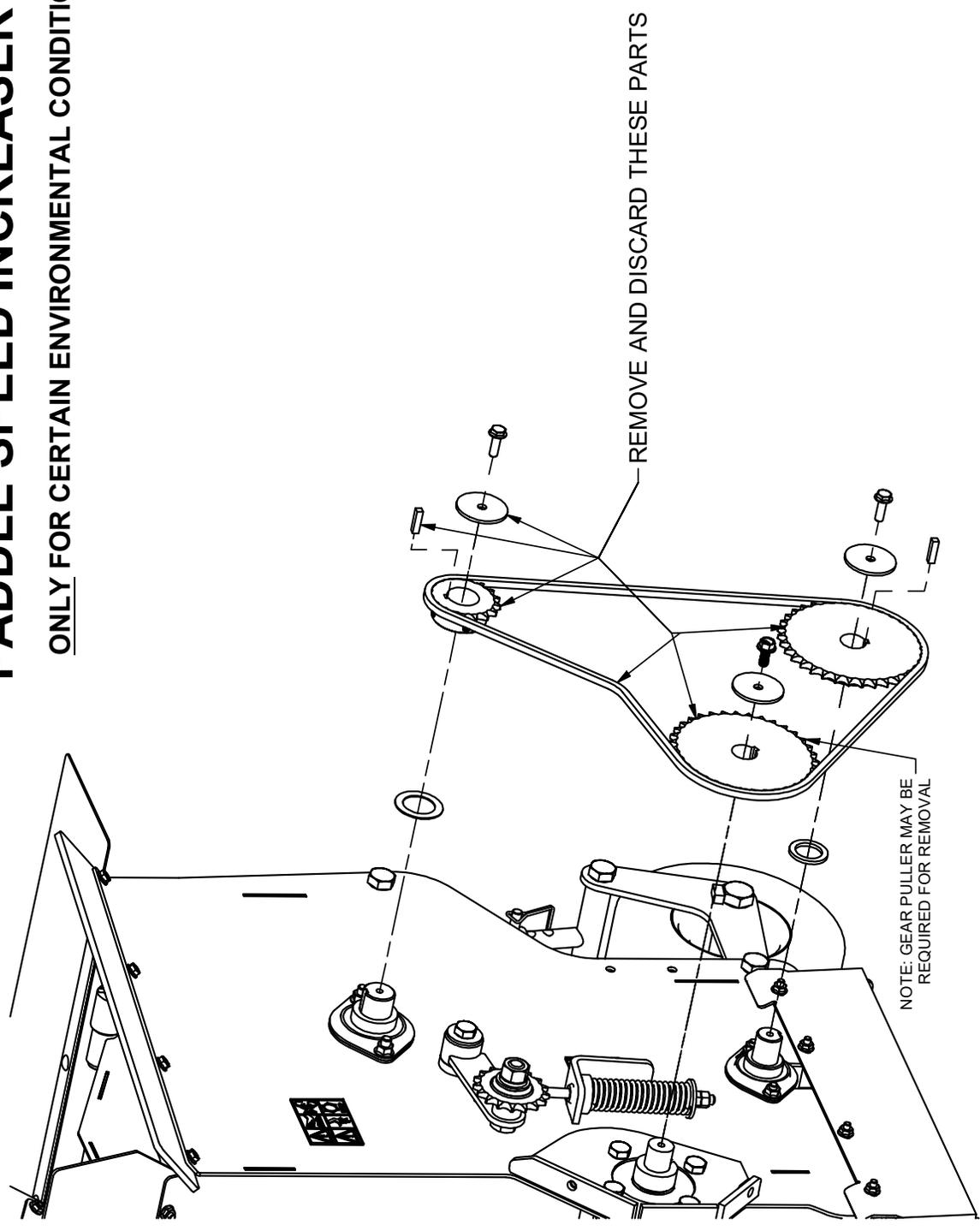
Parts List		Parts List			
ITEM	PART #	DESCRIPTION	DESCRIPTION		
1	102133	Decal, ISO, FOOT CRUSH	36	112130	Clevis Pin, 3/8" x 3/4", ZINC
2	110010	BOLT, 1/2-13 X 9.0	39	142002	SPRING, COMP 1 1/4 x 4 x .148
10	110335	WASHER, 1" FLAT MACHINE	40	142013	Sprocket, 4017 Idler, 5/8
11	110403	BOLT, 1/2-13 X 2.5	42	142023	SPROCKET, 40BS35 X 1.0
13	110440	BOLT, 3/8-16 X 1, WIZ FLANGE	43	142024	SPROCKET, 40BS17 X 1.25
14	110459	BOLT, 5/16-18 X 1, WIZ FLANGE	54	302146	Decal, Tension Adjustment
15	110513	BOLT, 5/8-11 X 2.5	62	315377	WELDMENT, SWEEPER DRIVE IDLER
17	110597	NUT, 5/8-11 HEX	63	315378	WELDMENT, IDLER ADJUSTMENT
20	110615	NUT, 1/2-13, UNITORQUE LOCK	64	315392	WELDMENT, ANTI-SCALP WHEEL MOUNT
24	110655	WASHER, 5/8" LOCK	70	317258	WASHER, 2.0 X .344 X .12
25	110658	WASHER, 1/2" FLAT STANDARD	71	317261	TENSIONER, GEAR MOUNT
26	110663	WASHER, 5/8" FLAT SAE	73	317295	COLLAR, SPRING TENSIONER
28	110678	WASHER, 3/4 FLAT SAE	77	340013	ROLLER CHAIN, #40 DECK (53")
29	110826	NUT, 3/8-16 GR 5	78	510047	Roller, Anti-Scalp
30	110929	BOLT, M8-1.25 X 20 WIZ FLNG	79	510228	KEY, 1/4 X 1/4 X 1.0 UNDER
32	111186	WASHER, 1.50 x .406 x .125, FLAT	81	510249	COTTER PIN, 1/8 X 0.75
33	111188	WASHER, 1.25 x 1.875 x .047, FLAT			

CHAIN DRIVE ASSEMBLY

3-16-2021

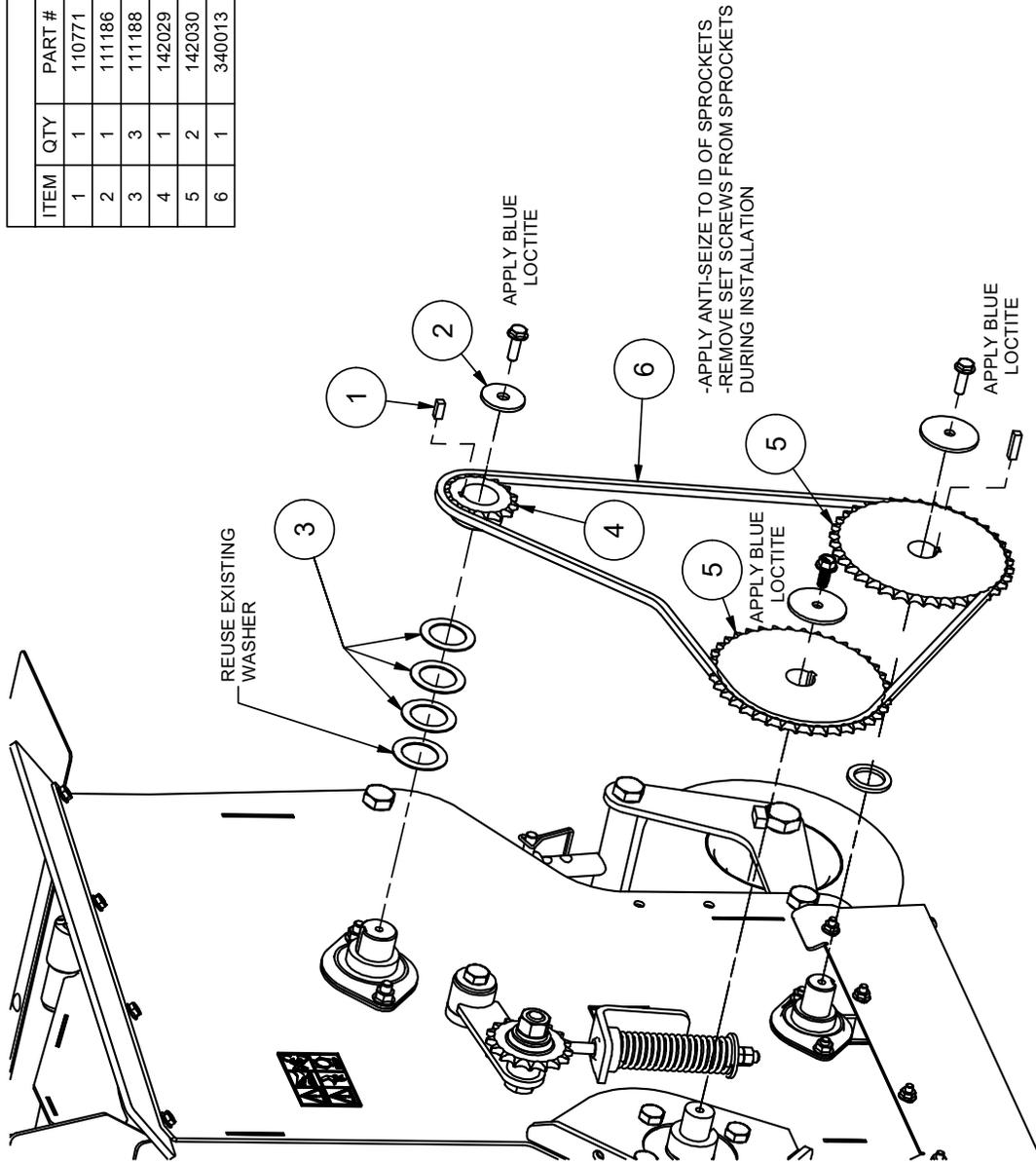
PADDLE SPEED INCREASER KIT

ONLY FOR CERTAIN ENVIRONMENTAL CONDITIONS

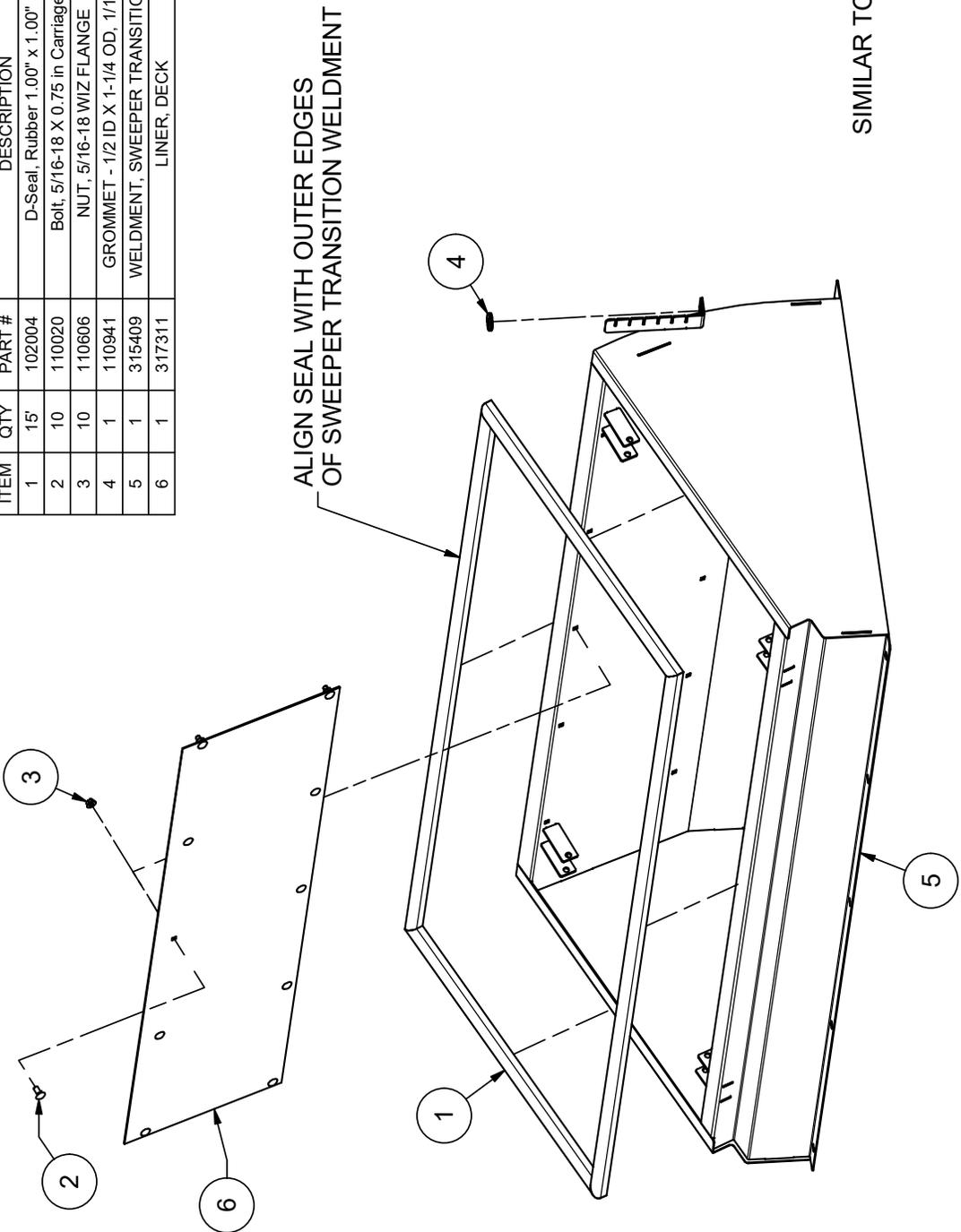


UPDATED COMPONENT INSTALL

Parts List		
ITEM	QTY	PART # DESCRIPTION
1	1	110771 KEY, 1/4 X 1/4 X .625 in
2	1	111186 WASHER, 1.50 x .406 x .125, FLAT
3	3	111188 WASHER, 1.25 x 1.875 x .047, FLAT
4	1	142029 SPROCKET, 40BS15 X 1.25
5	2	142030 SPROCKET, 40BS38 X 1.0
6	1	340013 ROLLER CHAIN, #40 DECK DRIVE



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 W/IZ FLANGE
4	1	110941	GROMMET - 1/2 ID X 1-1/4 OD, 1/16 X 1
5	1	315409	WELDMET, SWEEPER TRANSITION, US
6	1	317311	LINER, DECK

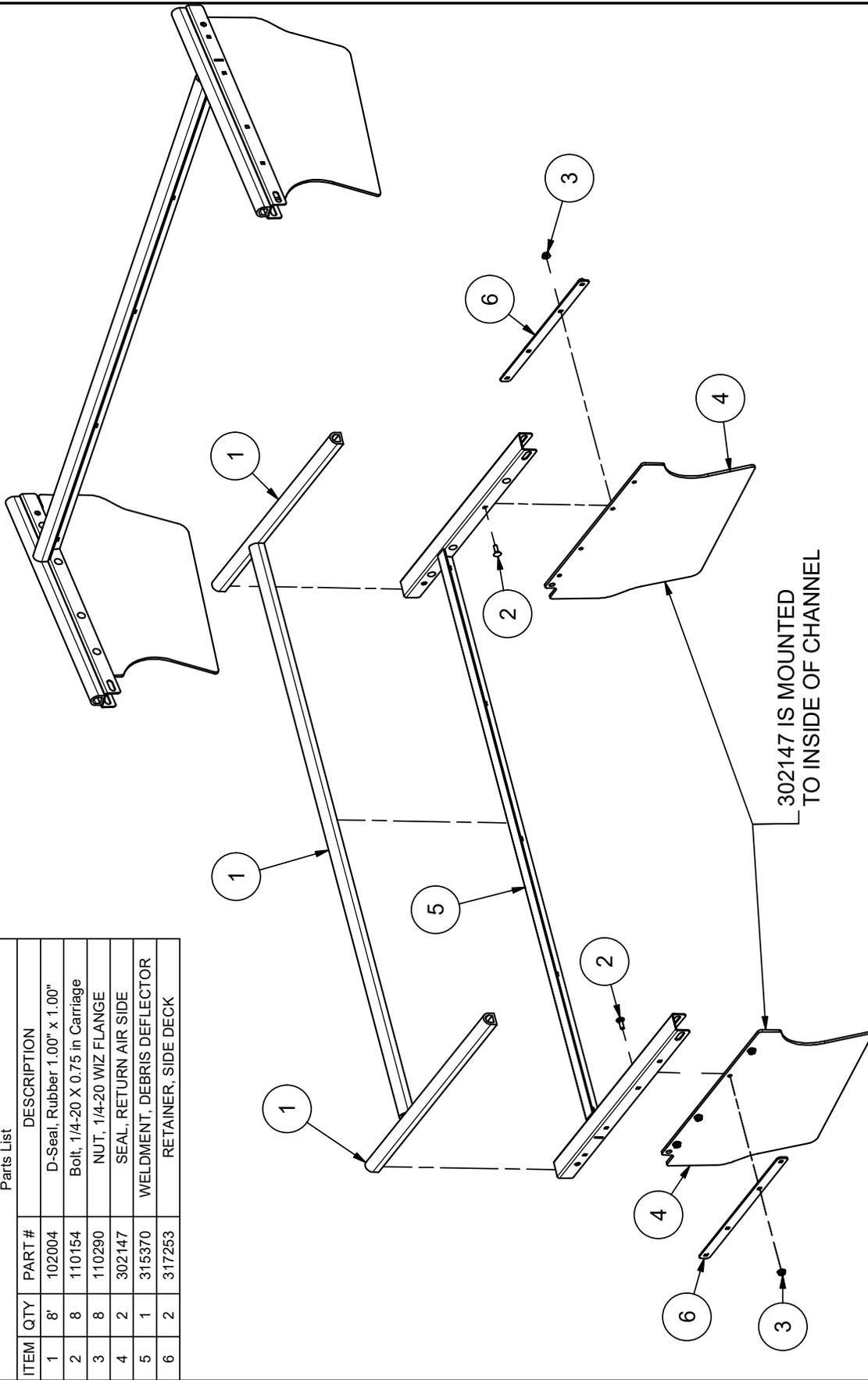


SIMILAR TO 305069

DECK TRANSITION ASSEMBLY

3-16-2021

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

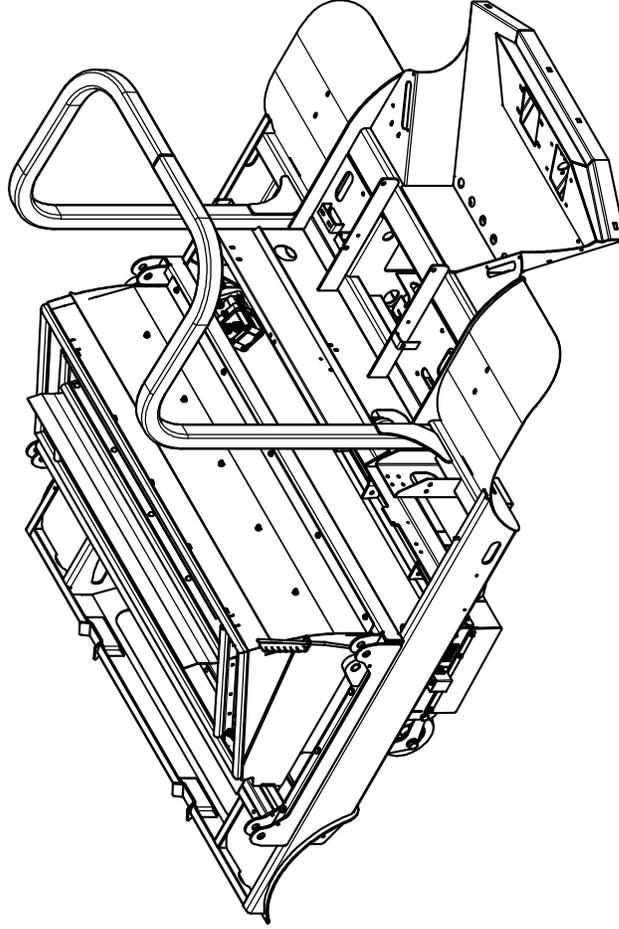


CHUTE ASSEMBLY

10-2-2020

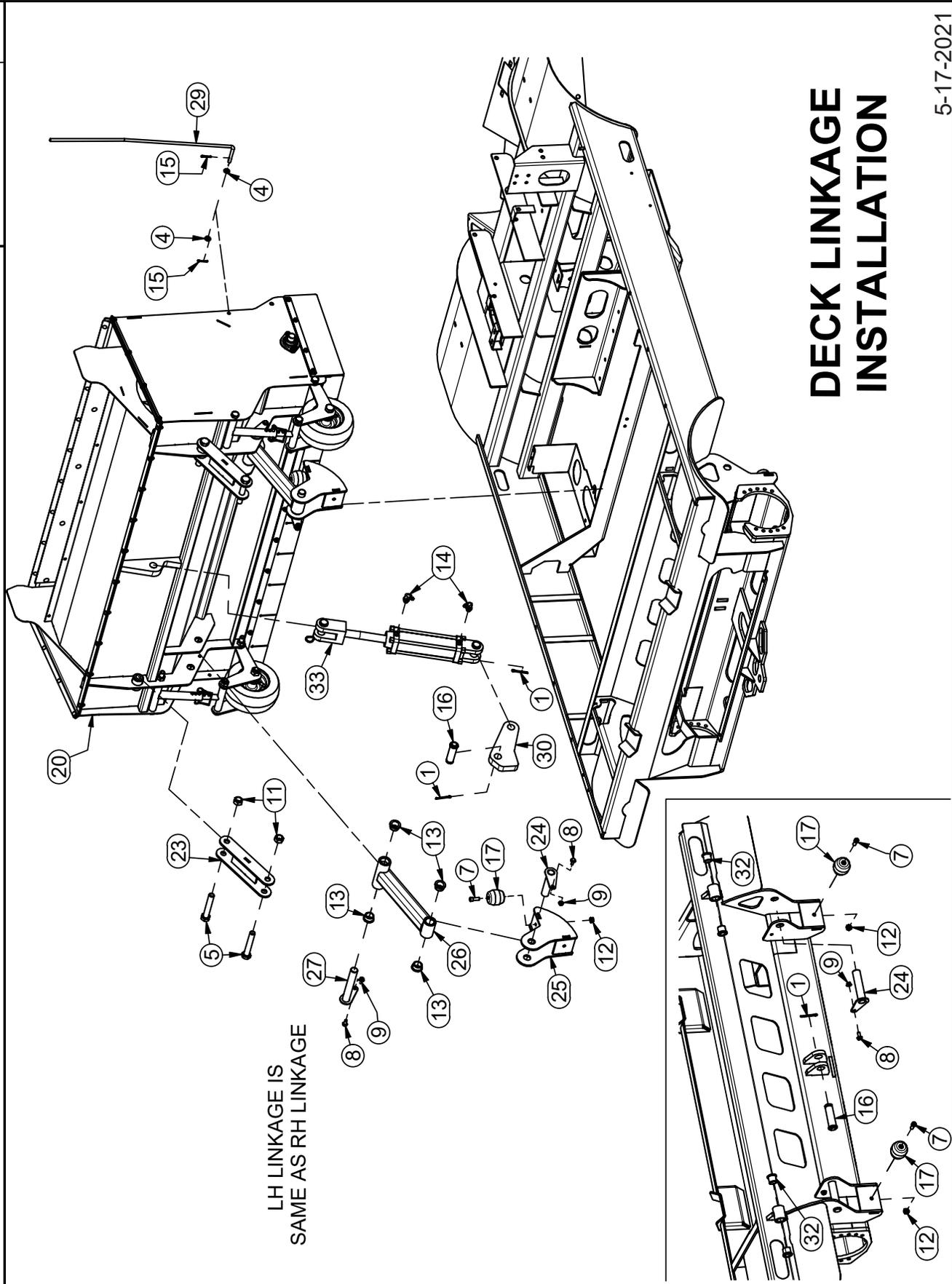
DECK INSTALLATION

Parts List		DESCRIPTION
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	305070 ASSY, DECK CHUTE
20	1	305114 ASSY, DECK, US
21	1	305115 ASSY, DECK TRANSITION, US
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



SIMILAR TO 305085

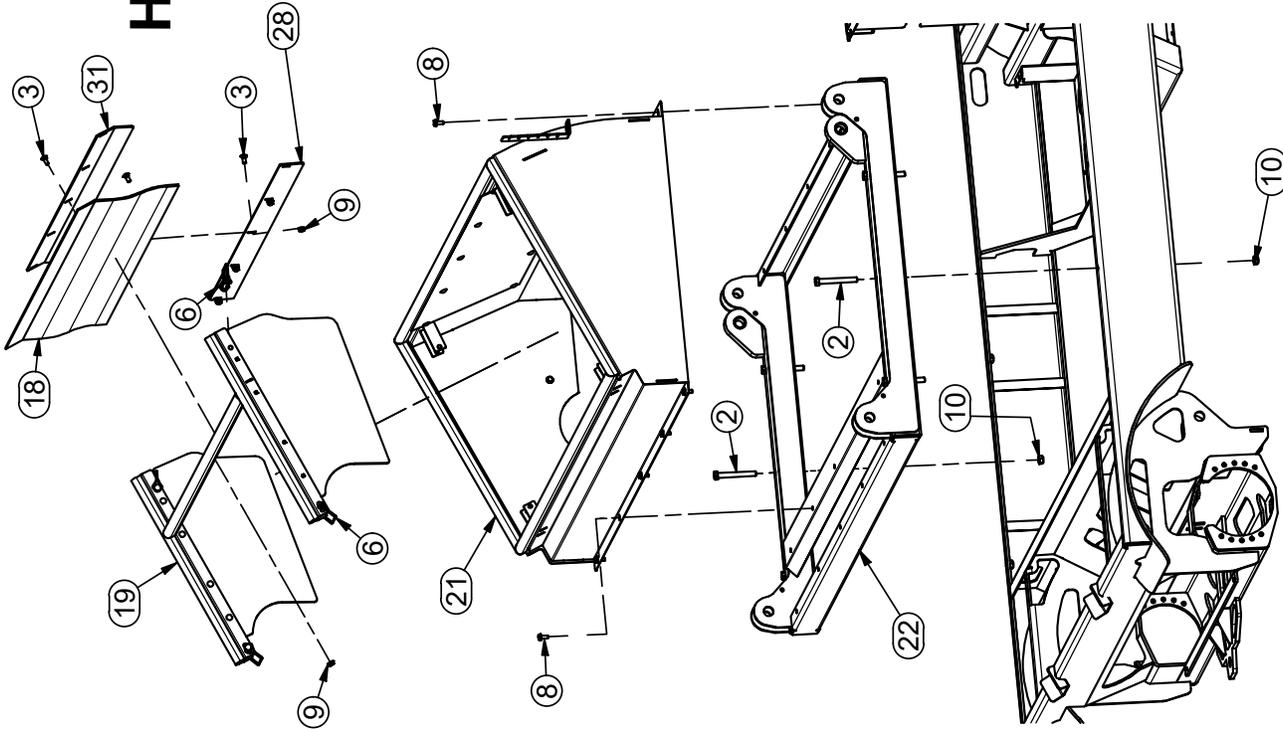
5-17-2021



DECK LINKAGE INSTALLATION

5-17-2021

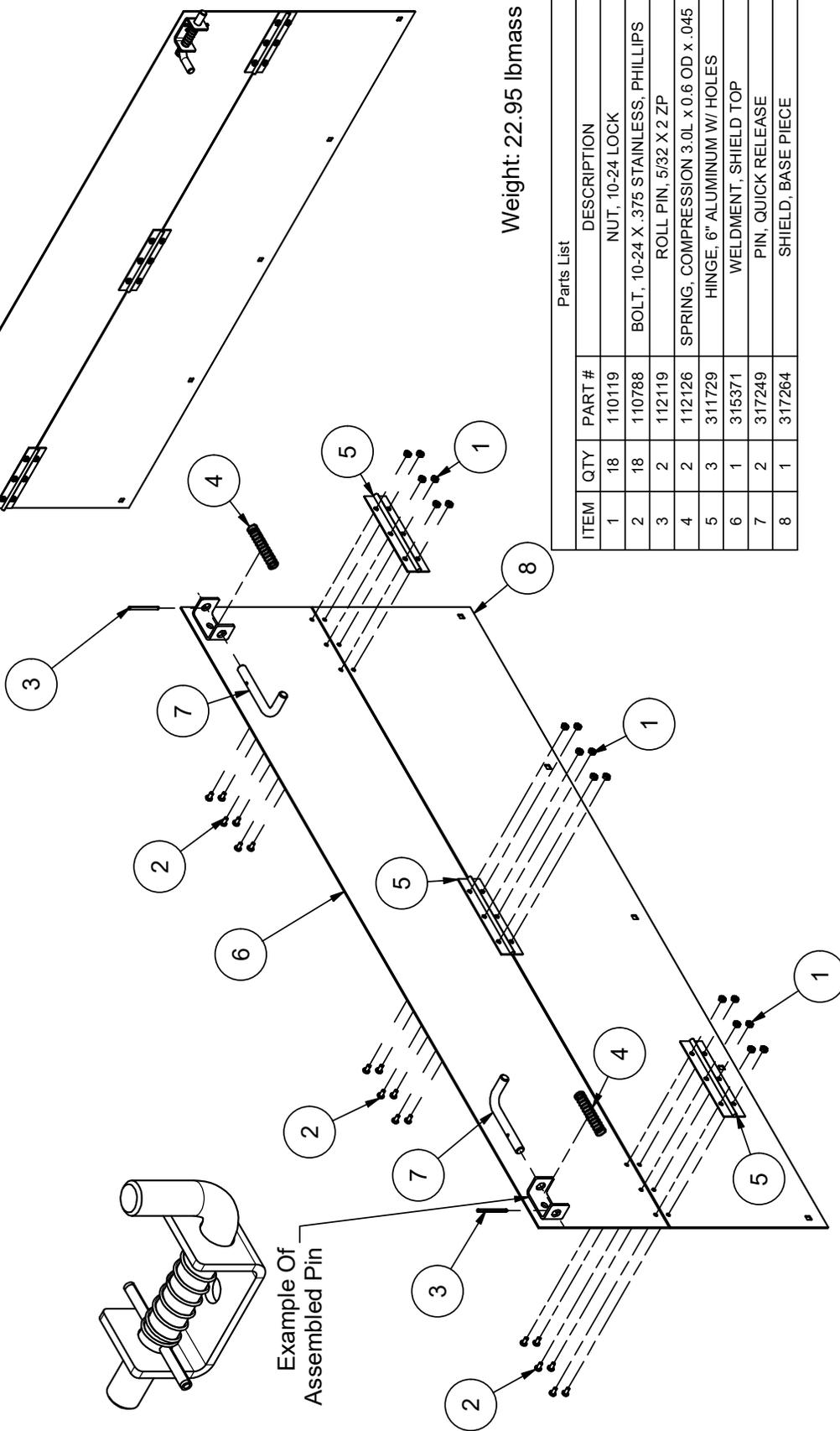
HOPPER TRANSITION & HOPPER MOUNT INSTALLATION



**NOTE: 28 MOUNTS TO PADDLE SHIELD
POSITION CUTOFF POINT ¼" 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
21	1	305115	ASSY, DECK TRANSITION, US
19	1	305070	ASSY, DECK CHUTE
22	1	315315	WELDMENT, HOPPER MOUNT
28	1	317179	CUTOFF, AIR FLOW
31	1	317357	Guide, Loop Seal

HOPPER SHIELD ASSEMBLY

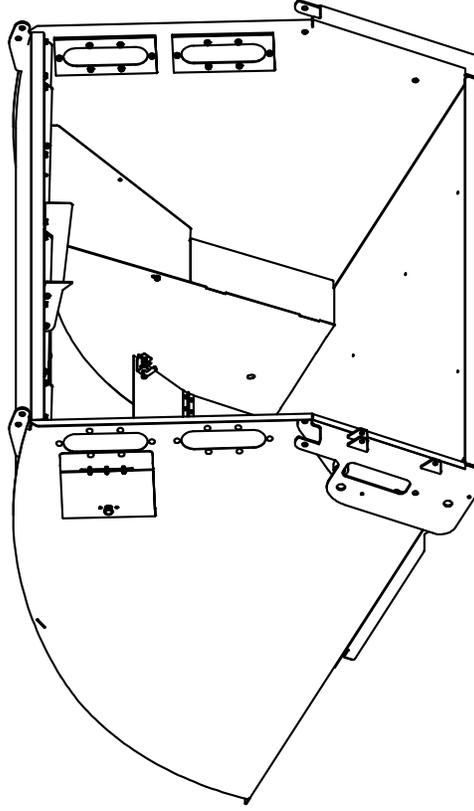


Weight: 22.95 lbmass

Parts List		ITEM	QTY	PART #	DESCRIPTION
1	18	110119	NUT, 10-24 LOCK		
2	18	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS		
3	2	112119	ROLL PIN, 5/32 X 2 ZP		
4	2	112126	SPRING, COMPRESSION 3.0L x 0.6 OD x .045		
5	3	311729	HINGE, 6" ALUMINUM W/ HOLES		
6	1	315371	WELDMENT, SHIELD TOP		
7	2	317249	PIN, QUICK RELEASE		
8	1	317264	SHIELD, BASE PIECE		

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	315414	WELDMENT, HOPPER, US
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	2	317245	RETAINER, LINER
24	1	317350	DEFLECTOR, RH HOPPER
25	1	317351	DEFLECTOR, LH HOPPER
26	1	317413	DOOR, HOPPER DEBRIS, US
27	1	317414	BRKT, HOPPER DEBRIS DOOR, US



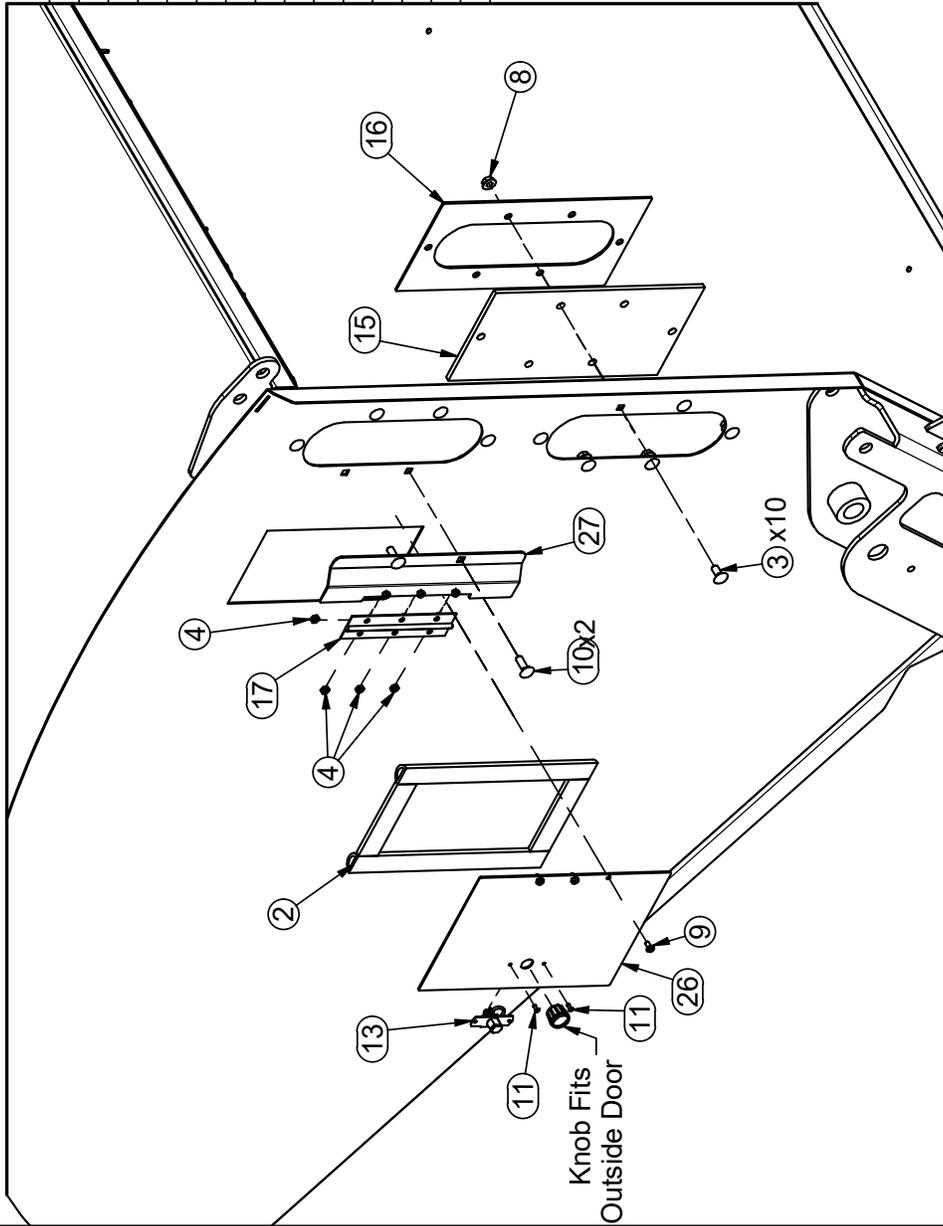
SIMILAR TO 305074

HOPPER ASSEMBLY

3-16-2021

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
26	1	317413	DOOR, HOPPER DEBRIS, US
27	1	317414	BRKT, HOPPER DEBRIS DOOR, US
11	2	112051	POP RIVET, 1/8 X .275
24	1	317350	DEFLECTOR, RH HOPPER
25	1	317351	DEFLECTOR, LH HOPPER
1	3' 2"	102004	D-Seal, Rubber 1.00" x 1.00"

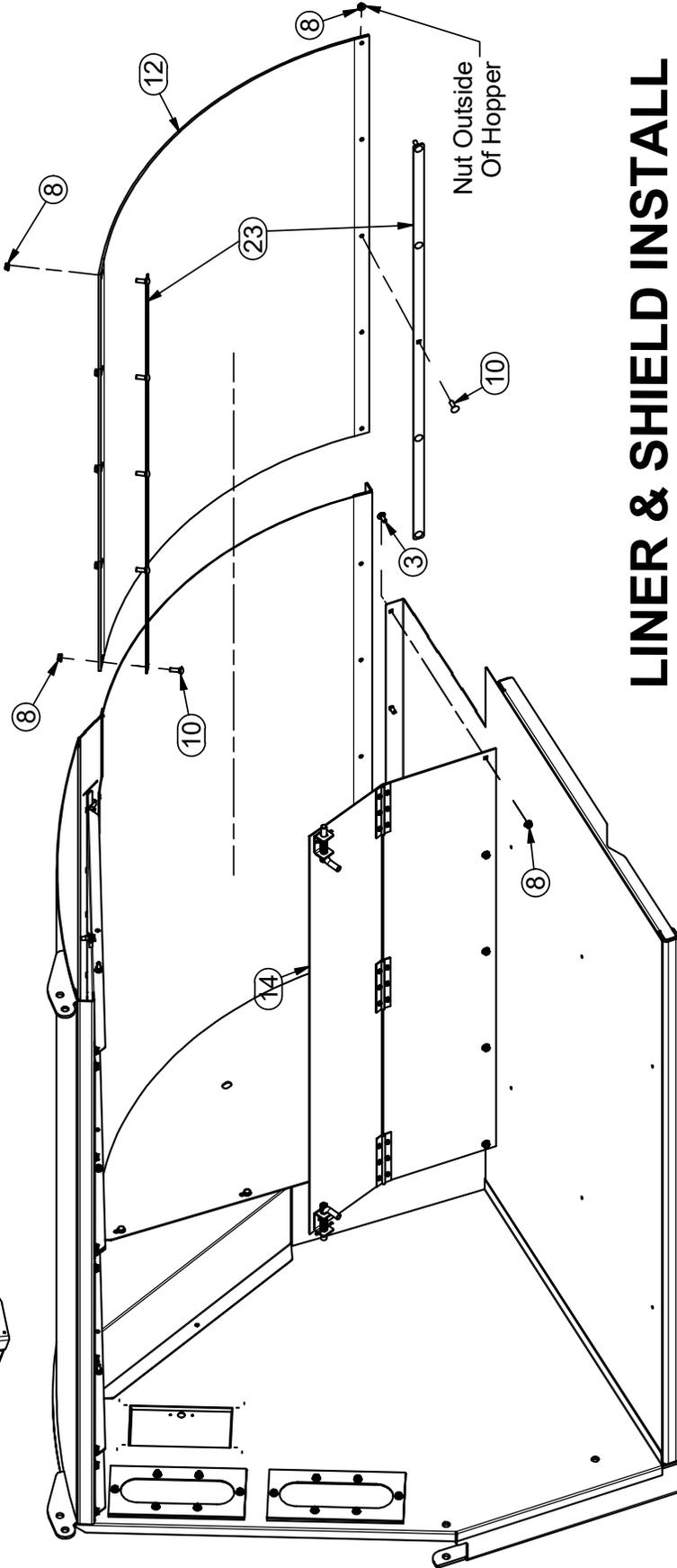
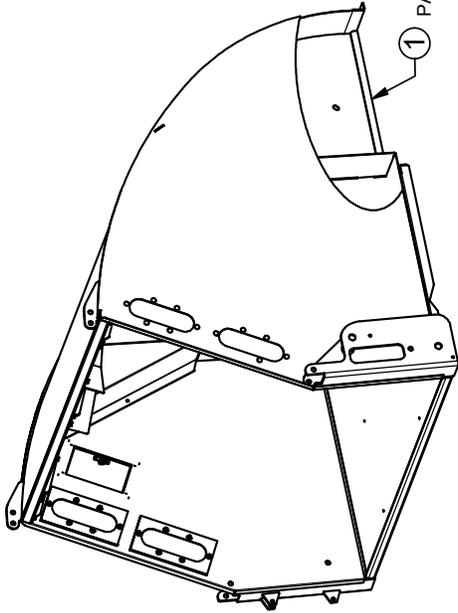


WINDOW AND DOOR INSTALL

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
23	2	317245	RETAINER, LINER
24	1	317350	DEFLECTOR, RH HOPPER
25	1	317351	DEFLECTOR, LH HOPPER

APPLY 102004 TO SIDE OF
PANEL AS SHOWN ON EA SIDE

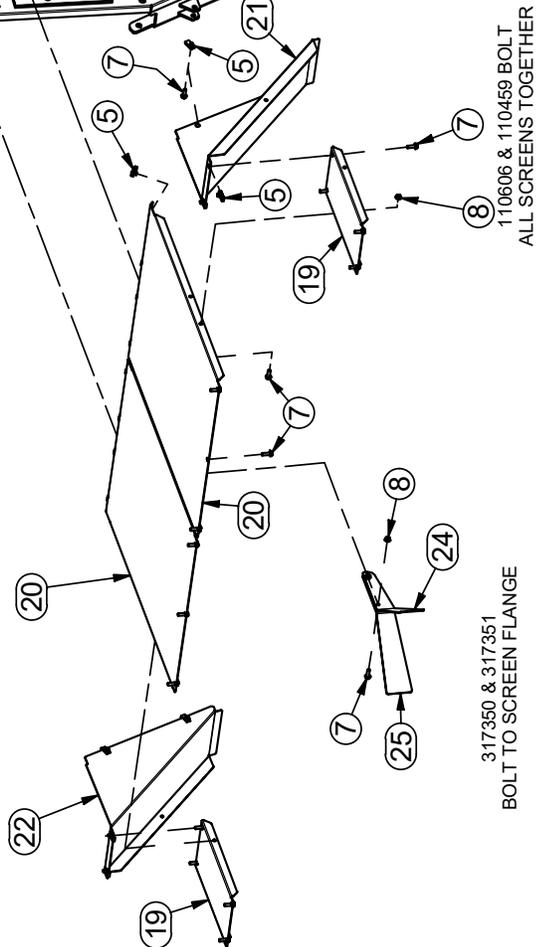
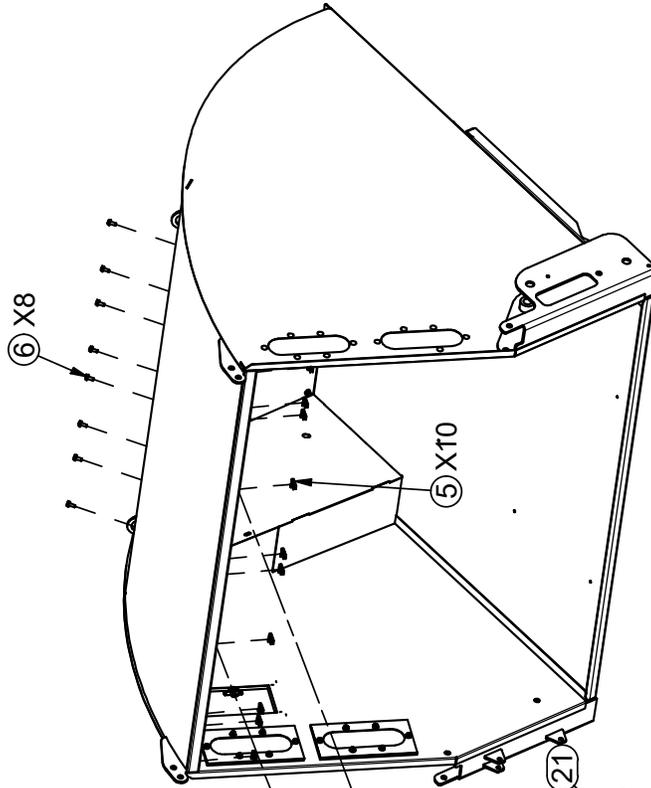


LINER & SHIELD INSTALL

3-16-2021

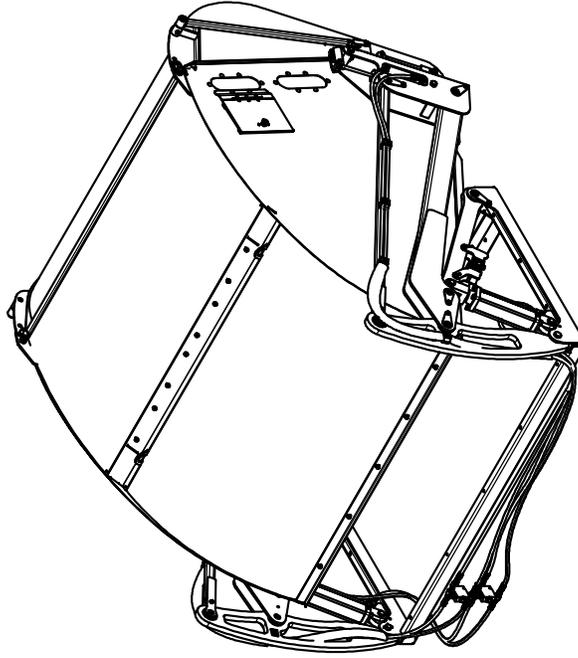
Parts List

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
24	1	317350	DEFLECTOR, RH HOPPER
25	1	317351	DEFLECTOR, LH HOPPER
1	3' 2"	102004	D-Seal, Rubber 1.00" x 1.00"



SCREEN ASSEMBLY AND INSTALL

Parts List				Parts List			
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	8.75'	100354	WEBBING, NYLON 1.50ID, SHEATH	37	2	315412	WELDMENT, LOWER LIFT LINK, US
2	2	102137	CLEVIS PIN, 1/2 X 1.75	38	2	315413	WELDMENT, UPPER LIFT LINK, US
3	4	110025	BOLT, 5/8-11 X 5.5	39	2	315416	WELDMENT, DOOR LIFT LINK, US
4	4	110378	BOLT, 5/16-18 X 2.0	40	2	317216	CLEVIS PIN, 3/4 X 3.75, W/ HOLE
5	2	110396	BOLT, 5/16-18 X 2.5	41	4	317320	SPACER, CYLINDER
6	8	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE	42	2	323010	CYLINDER - STEERING, 1-3/4 X 6
7	8	110474	BOLT, 1/4-20 X 1-1/2	43	1	323065	HOSE KIT, HAWK HOPPER HYDRAULIC
8	2	110536	BOLT, 5/16-18 X 3.25	44	2	323066	Cylinder, 2.5 X 8, -6 SAE, Hopper
9	2	110576	BOLT, 5/8-11 X 1.5 GR 5	45	2	500184	COTTER PIN, 3/16 X 1.25
10	10	110600	NUT, 5/16-18, UNITORQUE LOCK	46	2	500230	GREASE ZERK, 1/4-28 90deg
11	8	110606	NUT, 5/16-18 WIZ FLANGE	47	14	510174	GREASE ZERK, 1/4-28 ST
12	6	110639	NUT, 5/8-11, UNITORQUE LOCK	48	8	522104	DOUBLE HOSE CLAMP
13	2	110665	WASHER, 5/16" FLAT STANDARD	49	8	522105	DOUBLE COVERPLATE
14	8	110667	WASHER, 1/4" LOCK				
15	2	111190	Bolt, 3/8 x 2 Shoulder				
16	2	112131	Clevis Pin, 1/2" x 1-1/2", ZINC-PLATED STEEL				
17	2	112133	Clevis Pin, 1" x 2-3/16", ZINC-PLATED STEEL				
18	2	120222	ADAPTER, 6MJ-6MB90				
19	4	120233	ADAPTER, 4MJ-4MB				
20	4	120266	ADAPTER, 4MJ-4FJX90				
21	2	120398	ADAPTER, REST 6MJ-6MB, .047				
22	2	140016	PIN, LOCK, 1/4 X 2-1/4, SQ WIRE				
23	4	200029	COTTER PIN, 5/32 X 1				
24	2	305103	Assy, Safety Latch, ISO				
25	1	305113	Assy, Hopper Door, ISO, US				
26	1	305116	ASSY, HOPPER, US				
27	1	312022	CLIP, HAIRPIN 3/32 x 1.625				
28	2	315257	PIN WELDMENT, HOPPER DOOR				
29	2	315327	WELDMENT, DOOR LIFT PIVOT LINK				
30	4	315331	WELDMENT, HOPPER LIFT - 4.00"				
31	4	315332	WELDMENT, LIFT LINK PIN - 2.87"				
32	4	315333	WELDMENT, LIFT LINK PIN - 2.12"				
33	2	315383	Weldment, Door Arm End				
34	1	315393	WELDMENT, DOOR STOP				
35	2	315410	WELDMENT, VERTICAL LIFT LINK, US				
36	2	315411	WELDMENT, CYLINDER LIFT LINK, US				

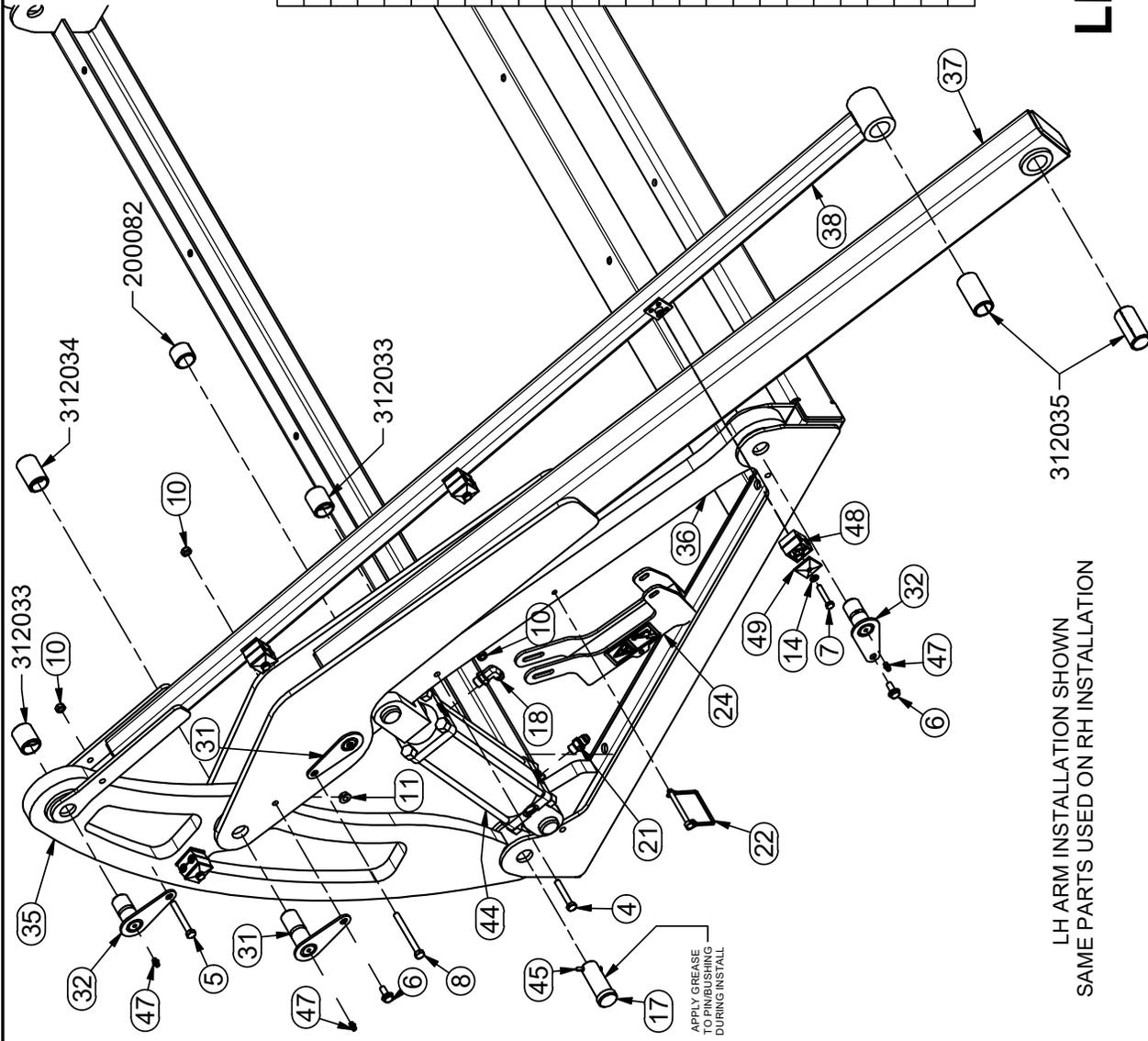


SIMILAR TO 305075

HOPPER INSTALLATION

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/

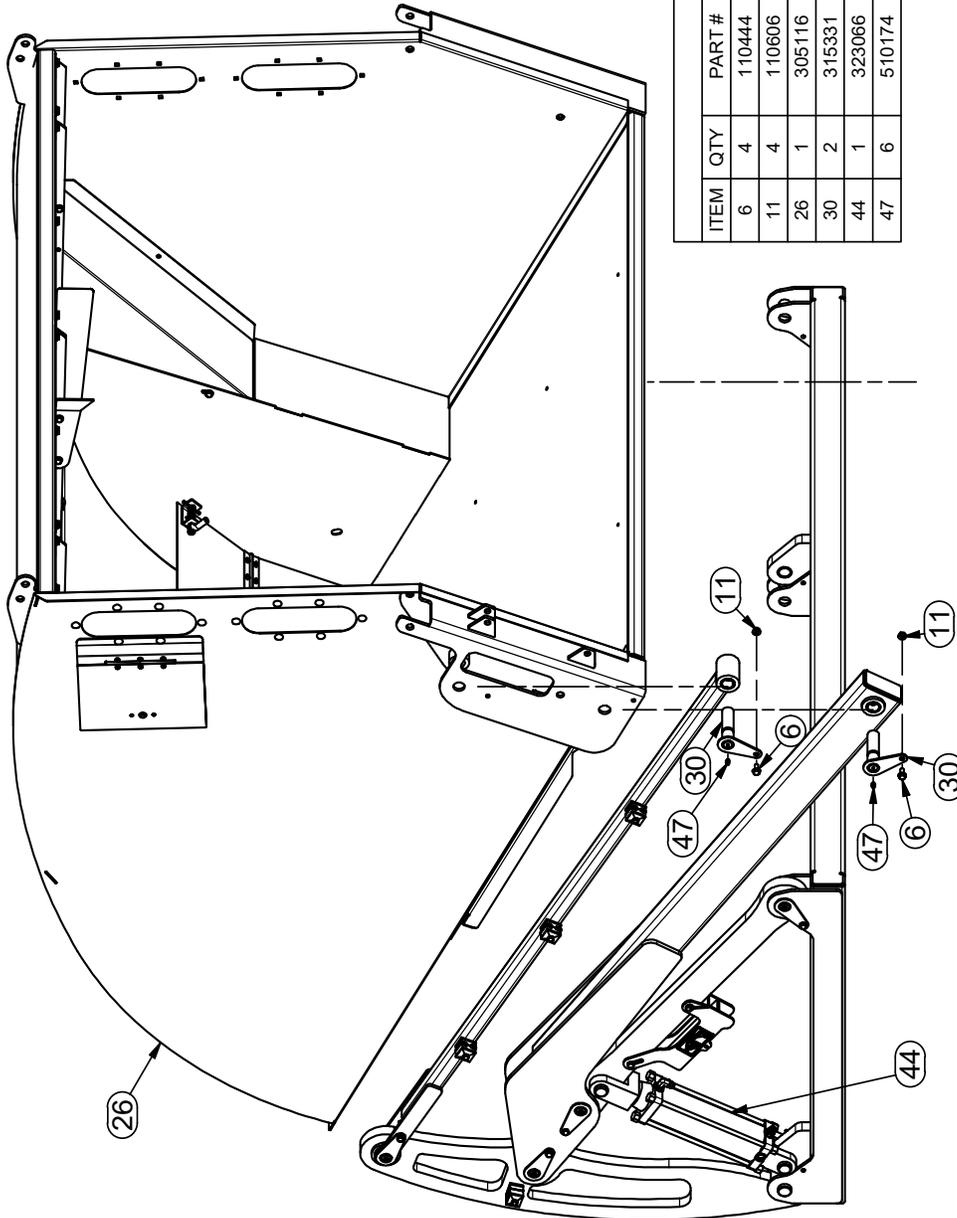
Parts List		
ITEM	QTY	DESCRIPTION
4	1	BOLT, 5/16-18 X 2.0
5	1	BOLT, 5/16-18 X 2.5
6	2	BOLT, 5/16-18 X 0.75, WIZ FLANGE
7	4	BOLT, 1/4-20 X 1-1/2
8	1	BOLT, 5/16-18 X 3.25
10	3	NUT, 5/16-18, UNITORQUE LOCK
11	2	NUT, 5/16-18 WIZ FLANGE
14	4	WASHER, 1/4" LOCK
17	1	Clevis Pin, 1" x 2-3/16", ZINC-PLATED STEEL
18	1	ADAPTER, 6MJ-6MB90
21	1	ADAPTER, REST 6MJ-6MB, .047
22	1	PIN, LOCK, 1/4 X 2-1/4, SQ WIRE
24	1	Assy, Safety Latch, ISO
31	2	WELDMENT, LIFT LINK PIN - 2.87"
32	2	WELDMENT, LIFT LINK PIN - 2.12"
35	1	WELDMENT, VERTICAL LIFT LINK, US
36	1	WELDMENT, CYLINDER LIFT LINK, US
37	1	WELDMENT, LOWER LIFT LINK, US
38	1	WELDMENT, UPPER LIFT LINK, US
44	1	Cylinder, 2.5 X 8, -6 SAE, Hopper
45	1	COTTER PIN, 3/16 X 1.25
47	4	GREASE ZERK, 1/4-28 ST
48	4	DOUBLE HOSE CLAMP
49	4	DOUBLE COVERPLATE



LH ARM INSTALLATION SHOWN
SAME PARTS USED ON RH INSTALLATION

LIFT ARM ASSEMBLY

5-17-2021

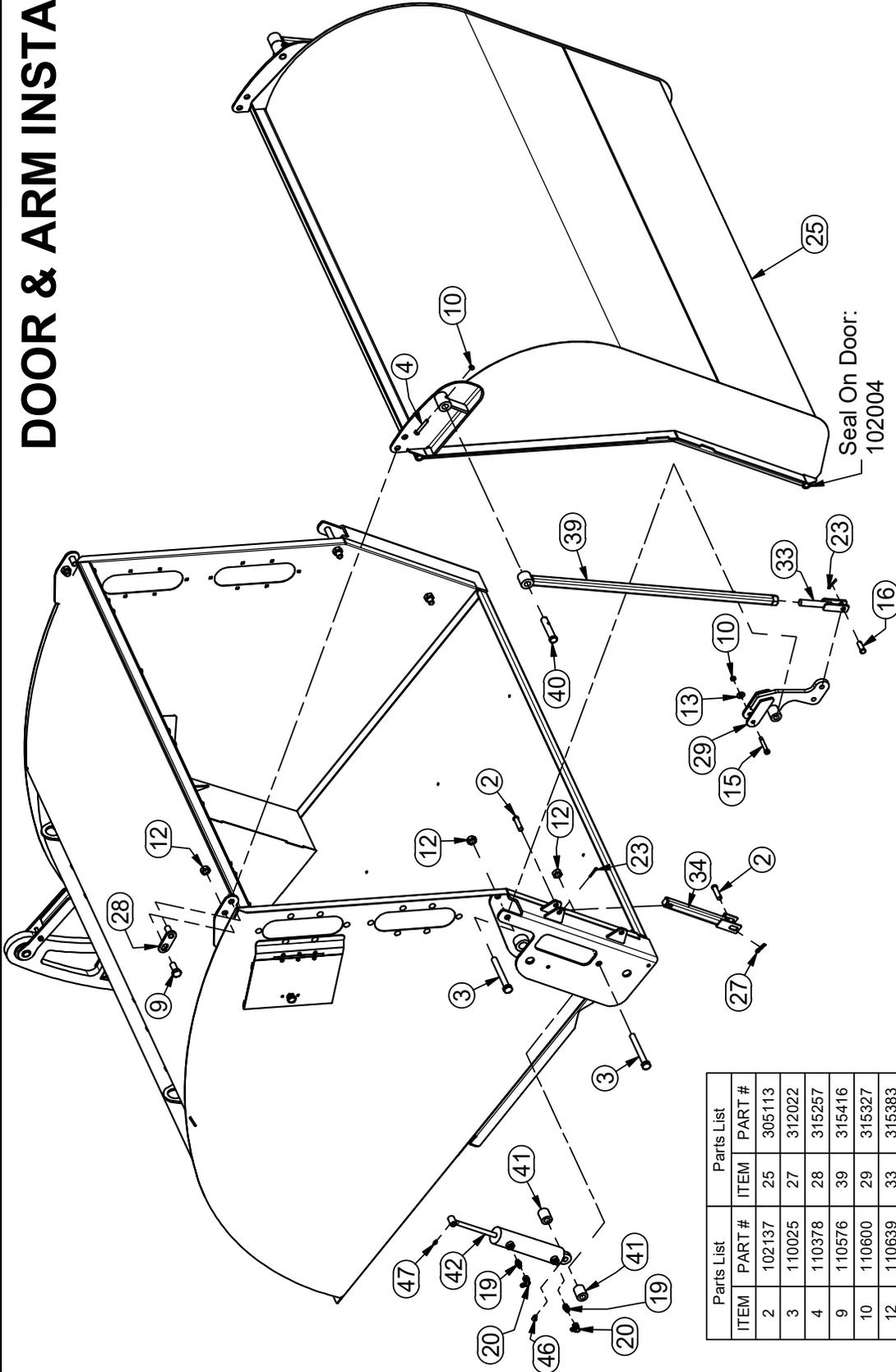


Parts List			
ITEM	QTY	PART #	DESCRIPTION
6	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
11	4	110606	NUT, 5/16-18 WIZ FLANGE
26	1	305116	ASSY, HOPPER, US
30	2	315331	WELDMNT, HOPPER LIFT - 4.00"
44	1	323066	Cylinder, 2.5 X 8, -6 SAE, Hopper
47	6	510174	GREASE ZERK, 1/4-28 ST

HOPPER INSTALL

LH INSTALLATION SHOWN
SAME PARTS USED ON RH INSTALLATION

DOOR & ARM INSTALL



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

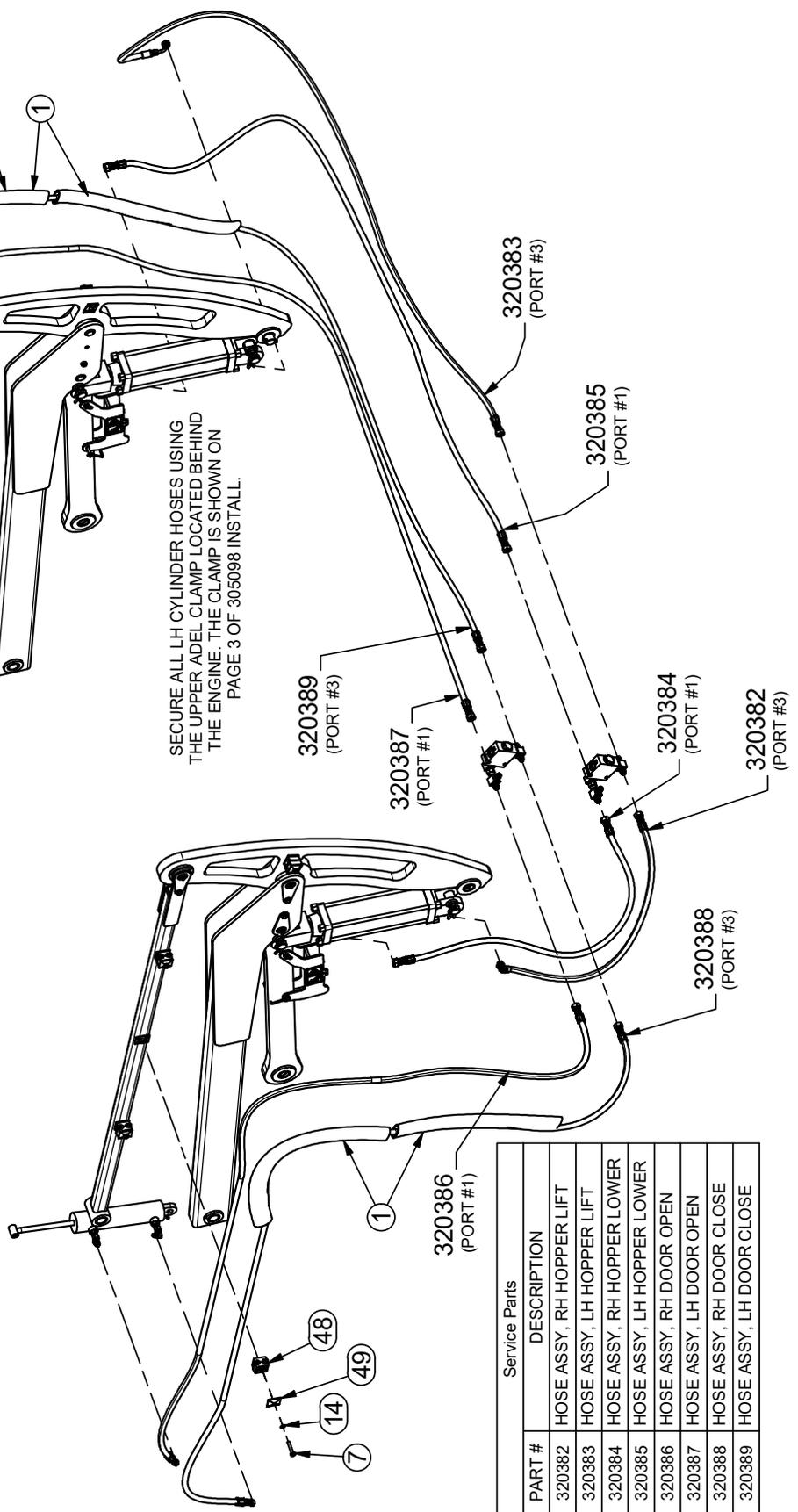
Parts List		Parts List	
ITEM	PART #	ITEM	PART #
2	102137	25	305113
3	110025	27	312022
4	110378	28	315257
9	110576	39	315416
10	110600	29	315327
12	110639	33	315383
13	110665	34	315393
15	111190	40	317216
16	112131	41	317320
19	120233	42	323010
20	120266	46	500230
23	200029	47	510174

10-27-2021

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
14	8	110667	WASHER, 1/4" LOCK
43	1	323065	HOSE KIT, HAWK HOPPER HYDRAULIC
48	8	522104	DOUBLE HOSE CLAMP
49	8	522105	DOUBLE COVERPLATE



Service Parts

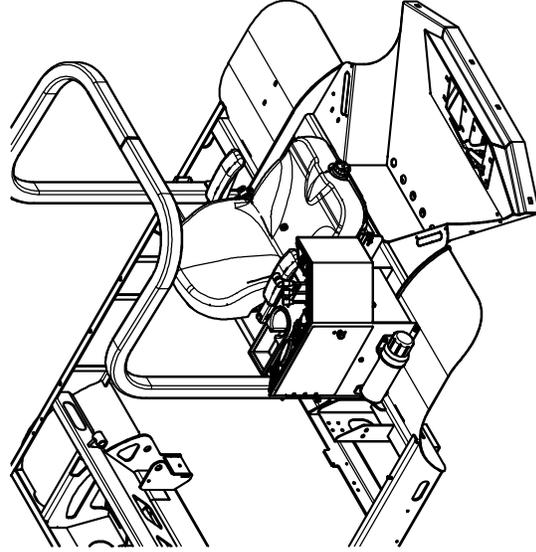
PART #	DESCRIPTION
320382	HOSE ASSY, RH HOPPER LIFT
320383	HOSE ASSY, LH HOPPER LIFT
320384	HOSE ASSY, RH HOPPER LOWER
320385	HOSE ASSY, LH HOPPER LOWER
320386	HOSE ASSY, RH DOOR OPEN
320387	HOSE ASSY, LH DOOR OPEN
320388	HOSE ASSY, RH DOOR CLOSE
320389	HOSE ASSY, LH DOOR CLOSE

305090	REV: D
--------	--------

Parts List			Parts List			Parts List					
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	4	100613	SEAL, RUBBER .50 X .187	37	1	305064	Assy, Console Panel, ISO	52	1	332063	HARNESS, INSTRUMENT PANEL
2	2.5	102072	TAPE, DOUBLE-SIDED AUTO, 1/2"x.045	38	1	311729	HINGE, 6" ALUMINUM W/ HOLES	53	1	332064	HARNESS, RELAY
3	4	110020	Bolt, 5/16-18 X 0.75 in Carriage	39	1	315349	WELDMENT, FOOT PEDAL MOUNT	54	2	510112	COTTER PIN, 3/16 X 1
4	12	110103	WASHER, #10 LOCK	40	1	315355	WELDMENT, FOOT PEDAL PIVOT	55	2	540075	BEARING, ROD END 1/4-28 W/STUD
5	6	110119	NUT, 10-24 LOCK	41	1	317102	PANEL, LEVER	56	4	800128	BUSHING, IGUS, FOOT PEDAL
6	17	110264	BOLT, 10-24 X .5 STAINLESS, PHILLIPS	42	1	317103	PANEL, DECK SWITCH	57	1	810886	LINKAGE, 1/4-28 FOOT PEDAL
7	2	110404	BOLT, 3/8-16 X 1.75	43	1	317172	BASE, SEAT MOUNT	58	1	815094	WELDMENT, REV FOOT PEDAL PIVOT
8	3	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE	44	1	317173	PIN, SEAT MOUNTING	59	2	832005	SWITCH, PADDLE, CARLING (29253)
9	4	110488	BOLT, 1/4-20 X 0.75, WIZ FLANGE	45	1	317186	COVER, FOOT PEDAL	60	1	832018	SWITCH, SPDT, ON-ON
10	10	110606	NUT, 5/16-18 WIZ FLANGE	46	1	317193	DOOR, CONSOLE ACCESS	61	6	832024	MOUNT, SWITCH (VMS)
11	2	110621	NUT, 3/8-16, UNITORQUE LOCK	47	1	317195	PANEL, GAUGE & SWITCH	62	3	832033	HOLE PLUG (VHP)
12	4	110630	NUT, 1/4-20 LOCK (NYLON INSERT)	48	2	317249	PIN, QUICK RELEASE	63	1	832068	MODULE, TIME DELAY, 1.75 SEC, 1804
13	10	110631	NUT, 10-24 LOCK NYLON INSERT	49	1	332031	SWITCH, IGNITION	64	2	832082	ALARM, PANEL MOUNT, CONTINUOUS TONE
14	2	110632	NUT, 1/4-28, UNITORQUE LOCK	50	1	332059	DISPLAY, MACHINE				
15	3	110645	NUT, 3/8-16 WIZ FLANGE	51	1	332060	HARNESS, MASTER				

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	302164	CABLE, PUSH/PULL 60"
35	1	305061	Assy, Forward Foot Pedal
36	1	305062	Assy, Reverse Foot Pedal

OPERATOR STATION & ELECTRICAL ASSEMBLY



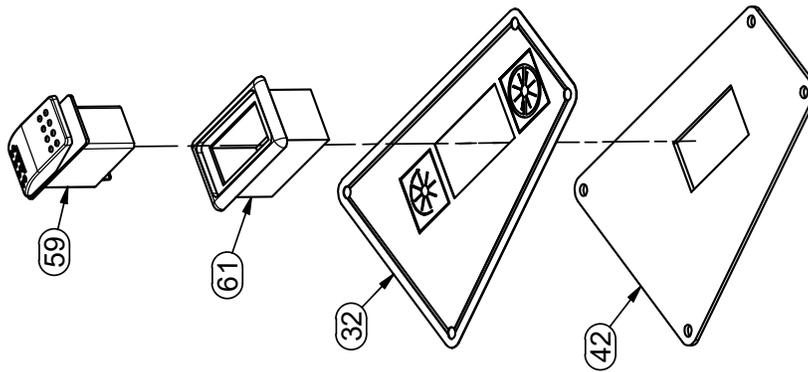
10-27-2021

305090

REV: D

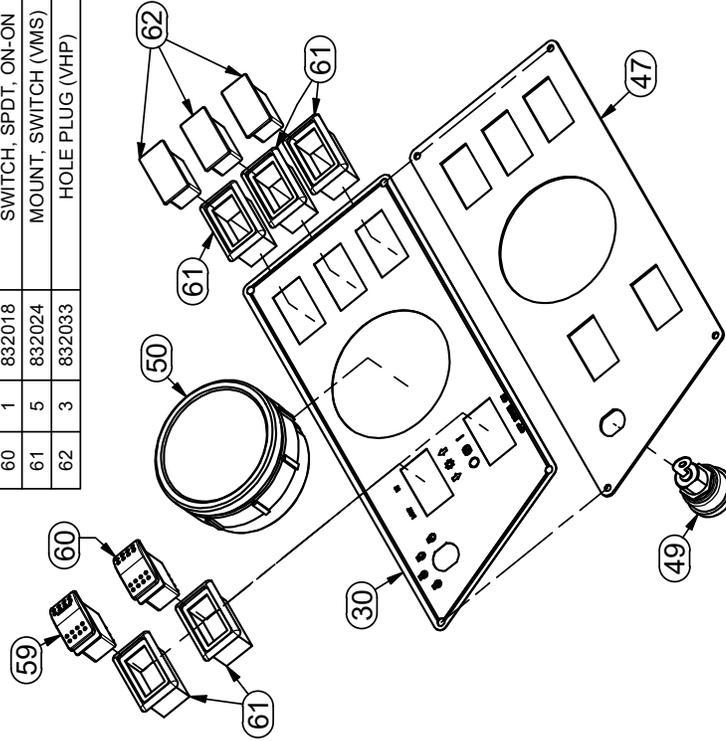
DECK SWITCH PANEL ASSEMBLY

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)



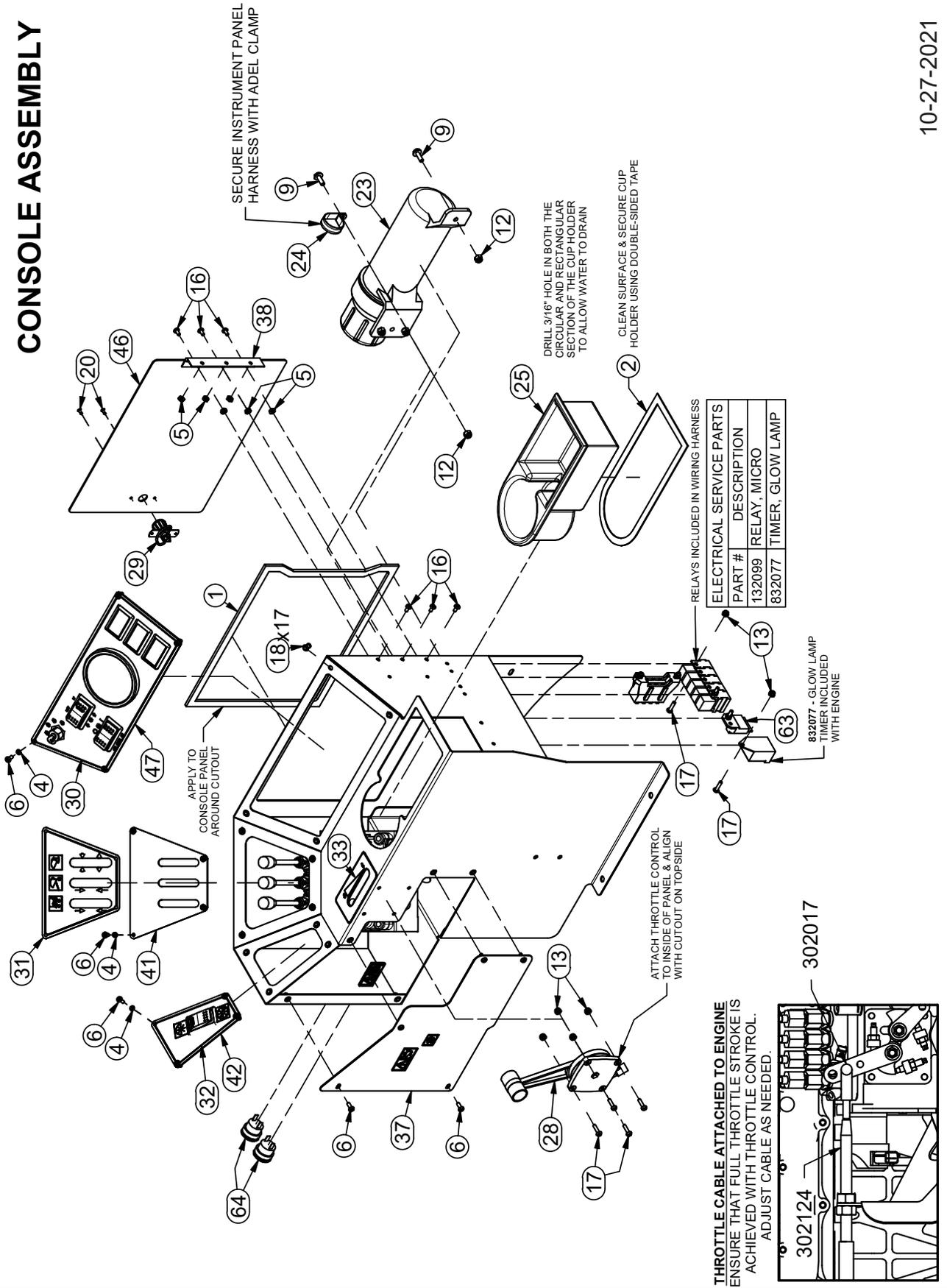
INSTRUMENT PANEL ASSEMBLY

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)

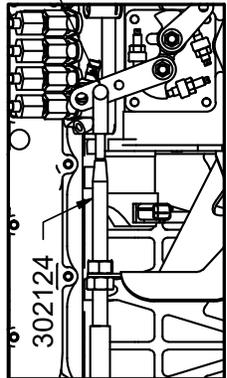


10-27-2021

CONSOLE ASSEMBLY



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



RELAYS INCLUDED IN WIRING HARNESS

PART #	DESCRIPTION
132099	RELAY, MICRO
832077	TIMER, GLOW LAMP

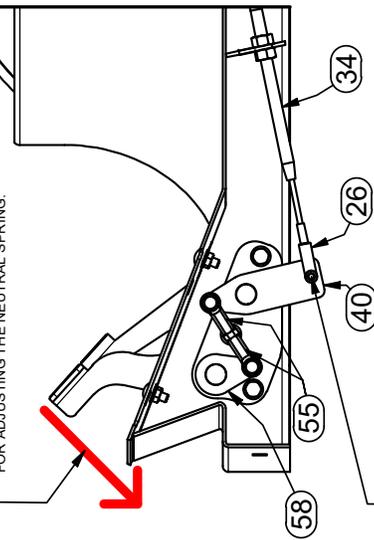
302017

302124

FOOT PEDAL ASSEMBLY

FOOT PEDAL ASSEMBLY SIDE VIEW

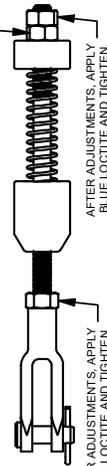
MEASURE FORWARD FOOT PEDAL FORCE USING A FISH SCALE OR SPRING SCALE. ENSURE THAT THE FORCE IS BETWEEN 20 - 35 LBS WHEN MACHINE IS OFF. SEE INSTRUCTIONS BELOW FOR ADJUSTING THE NEUTRAL SPRING.



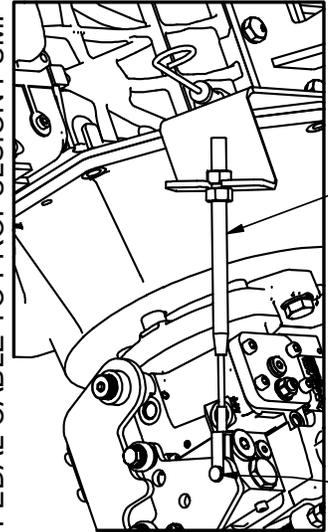
PAY CAREFUL ATTENTION WHEN INSTALLING THE PUSH/PULL CABLE. ROUTE CABLE SO THAT IT DOES NOT GET PINCHED & ROUTE SO THAT IT DOES NOT HAVE ANY TIGHT BENDS. MAKE SURE THAT THE CABLE IS NOT TWISTED WHEN SECURING THE CLEVIS TO THE END.

NEUTRAL RETURN SPRING ON PUMP

TIGHTEN TO INCREASE FOOT PEDAL FORCE.
LOOSEN TO DECREASE FOOT PEDAL FORCE.
ENSURE THAT CABLE ALWAYS RETURNS TO NEUTRAL AFTER ADJUSTMENTS ARE MADE.

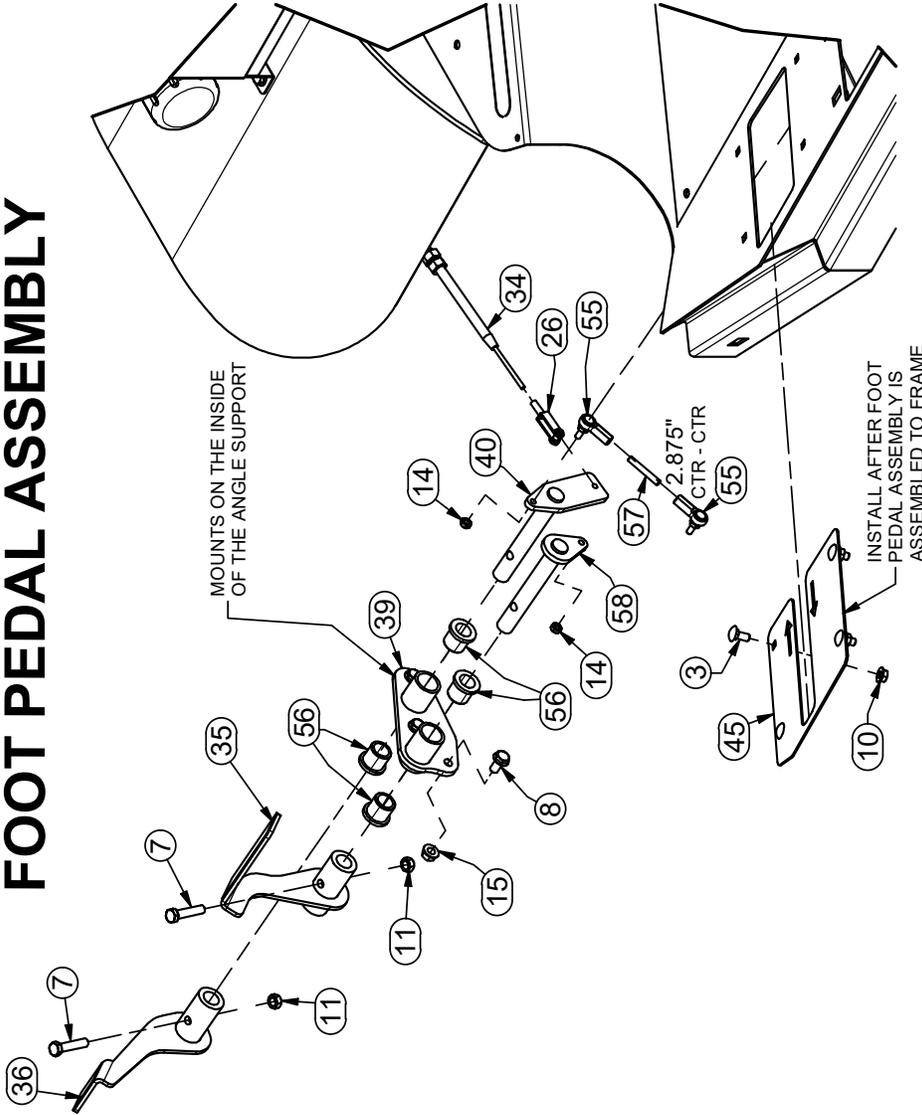


PEDAL CABLE TO PROPULSION PUMP

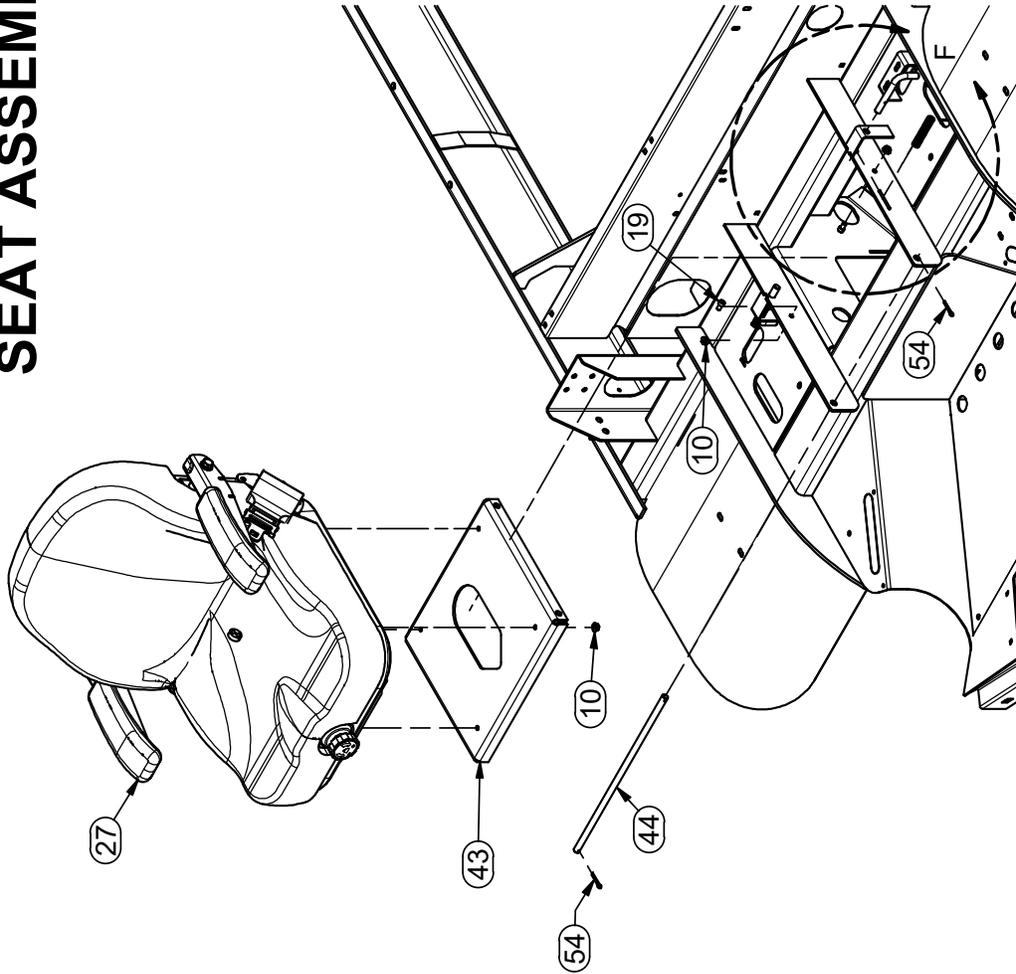


302017

302164

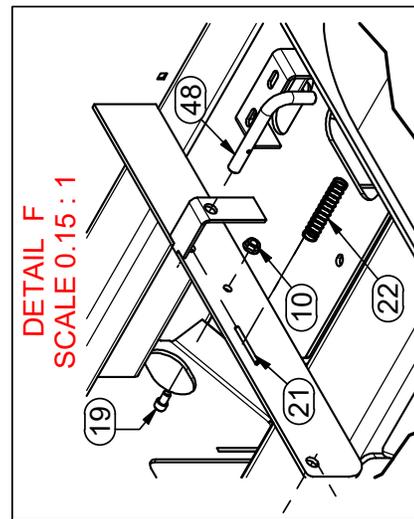
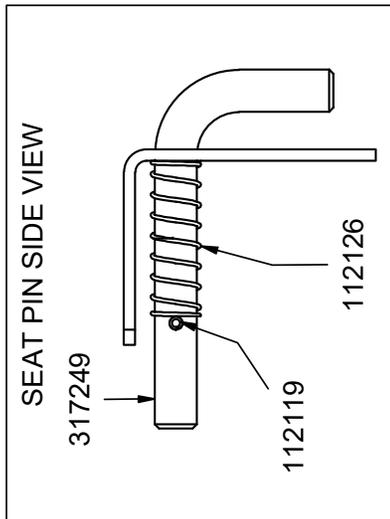


SEAT ASSEMBLY

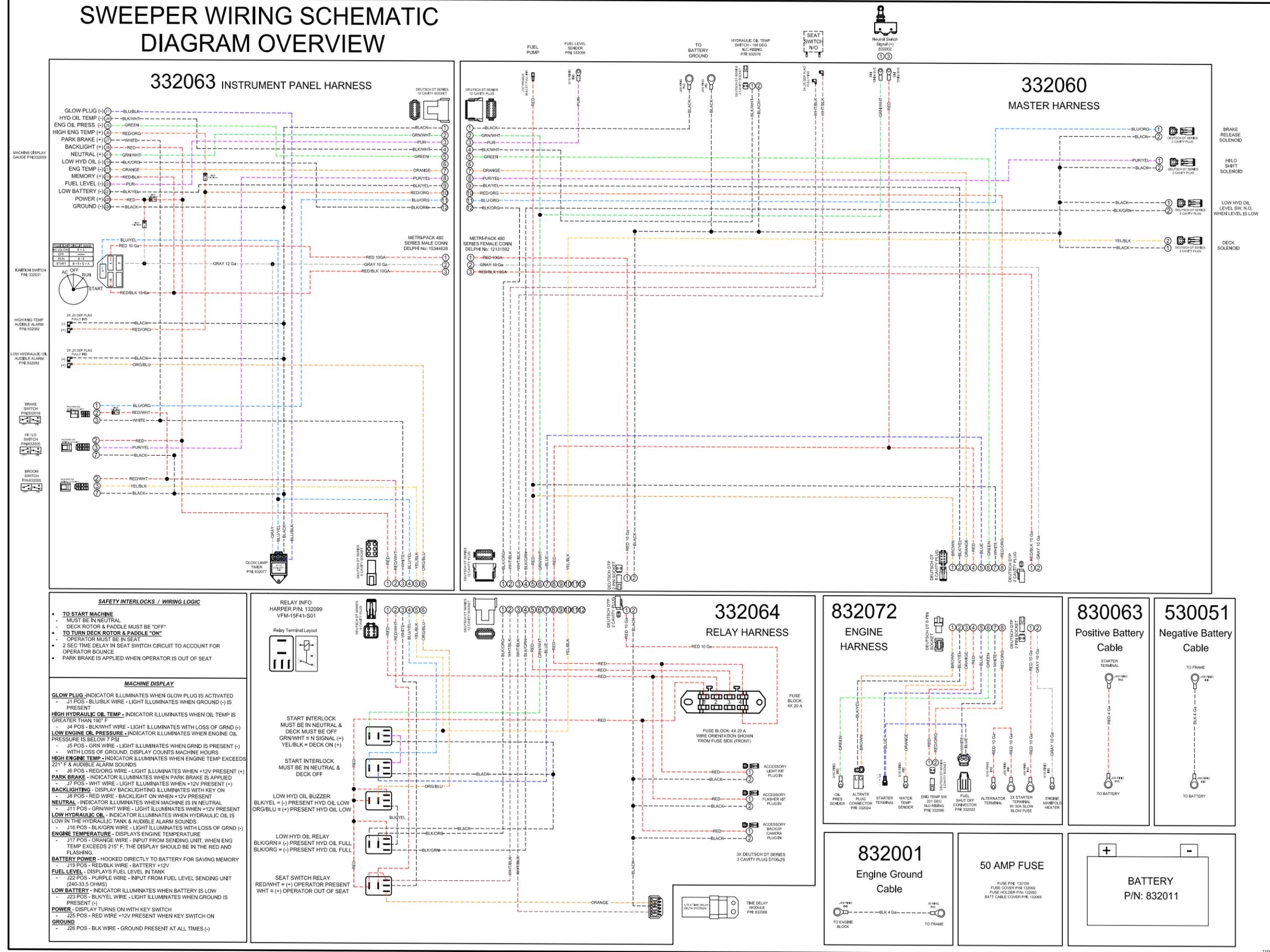


Parts List

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, 13M 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

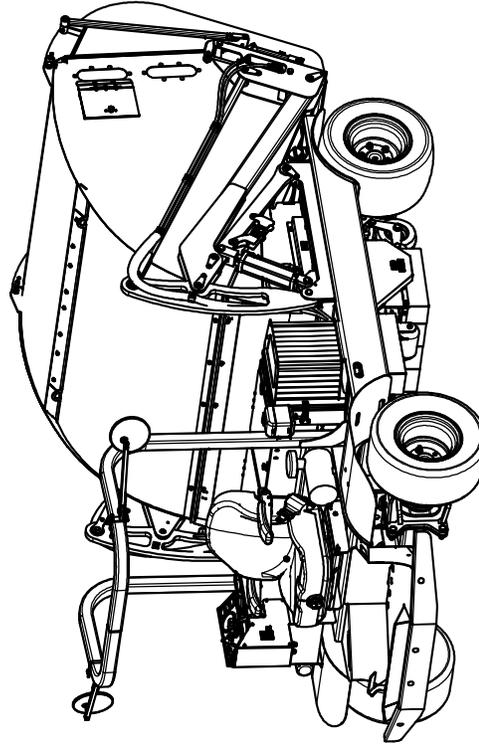


SWEEPER WIRING SCHEMATIC DIAGRAM OVERVIEW



Parts List		
ITEM	QTY	DESCRIPTION
1	15 FT	SEAL, RUBBER .50 X .187
2	18	NUT, 10-24 LOCK
3	2	BOLT, 3/8-16 X 2.0
4	4	BOLT, 5/16-18 X 0.75, WIZ FLANGE
5	2	BOLT, 1/4-20 X 1-1/2
6	4	NUT, 5/16-18 WIZ FLANGE
7	4	NUT, 1/2-13, UNITORQUE LOCK
8	4	NUT, 3/8-16 WIZ FLANGE
9	4	WASHER, 1/2" FLAT STANDARD
10	2	WASHER, 1/4" LOCK
11	18	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
12	4	NUT, 3/8-16 GR 5
13	2	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0
14	6	POP RIVET, 1/8 X .275
15	4	Bolt, 1/2-13 X 1.25 in Carriage
16	4	FRICTION WASHER 1.5"
17	3	LATCH, SPRING
18	2	Convex Mirror, 8" Round, Offset Ball-Stud
19	4	Plug, Snap-In Square, 3/4"
20	2	ASSY, FRONT TIRE
21	2	ASSY, REAR TIRE
22	1	ASSY, RH ENGINE SHIELD
23	1	ASSY, LOWER DECK SHIELD, US
24	1	ASSY, UPPER DECK SHIELD, US
25	3	HINGE, 6" ALUMINUM W/ HOLES
26	1	CLIP, HAIRPIN 3/32 x 1.625
27	2	WELDMENT, SWINGING MIRROR
28	2	WELDMENT, MIRROR UBOLT MOUNT
29	2	SHIELD, UPPER ENGINE
30	1	BUMPER, FRONT

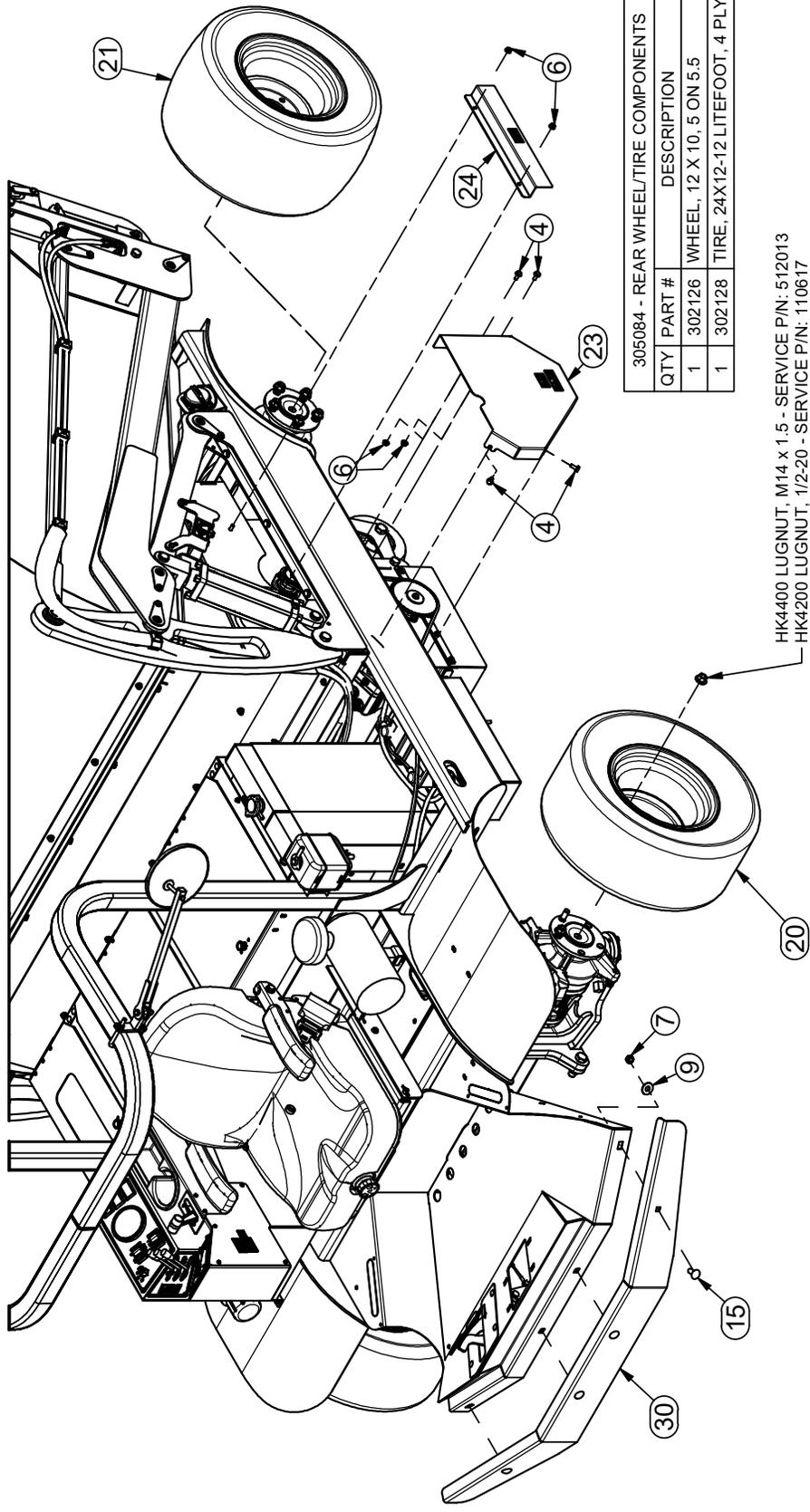
MIRROR, TIRE, & SHIELD INSTALLATION



SIMILAR TO 305095

5-17-2021

BUMPER, DECK SHIELDS, & WHEEL/TIRE ASSEMBLY



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

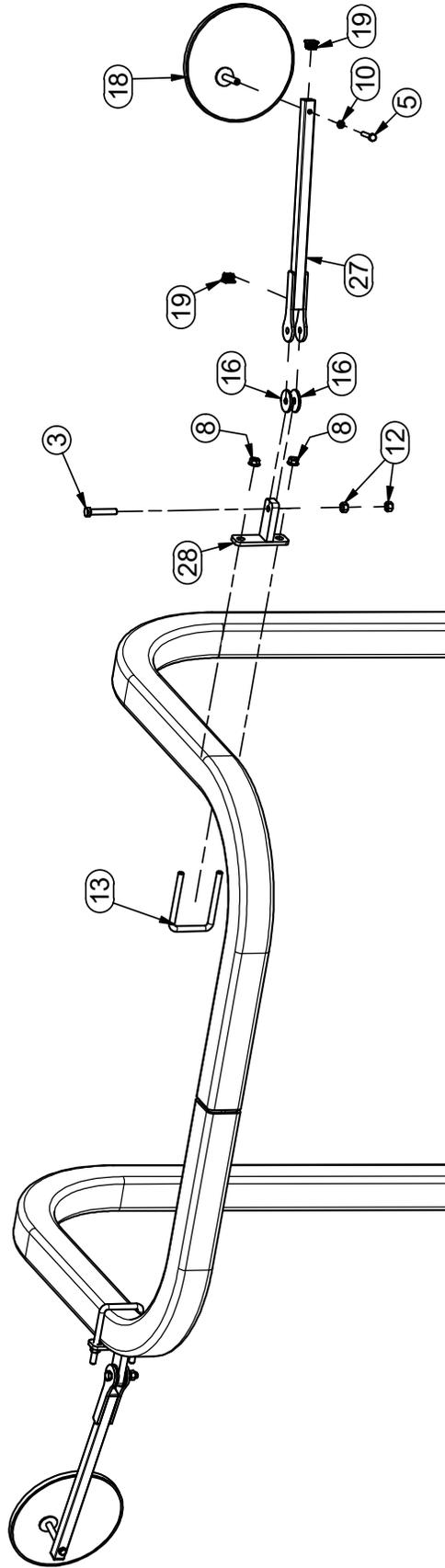
HK4400 LUGNUT, M14 x 1.5 - SERVICE P/N: 512013
 HK4200 LUGNUT, 1/2-20 - SERVICE P/N: 110617
TORQUE ALL LUGNUTS TO 147 FT-LB

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

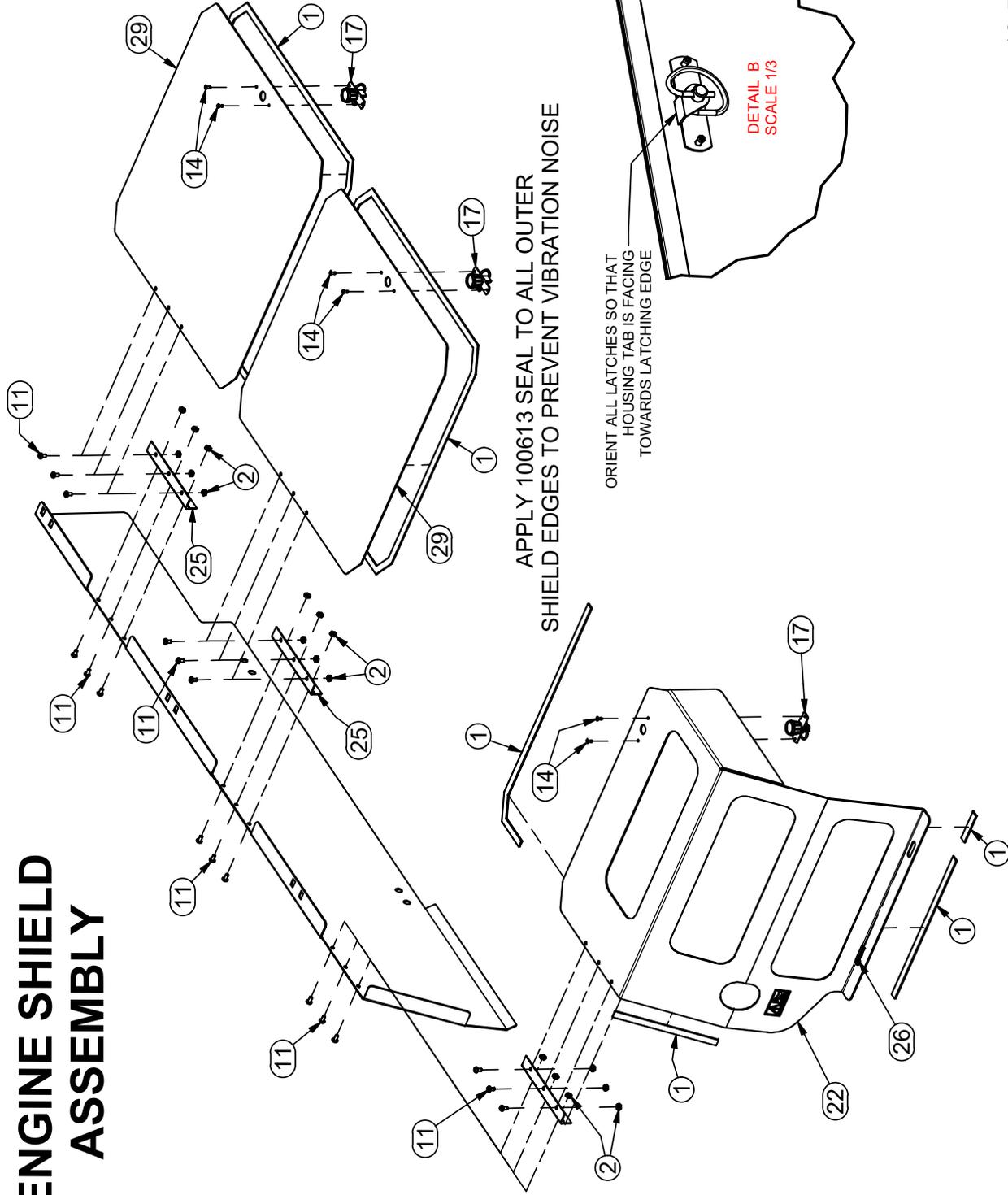
MIRROR ASSEMBLY

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 W/IZ 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

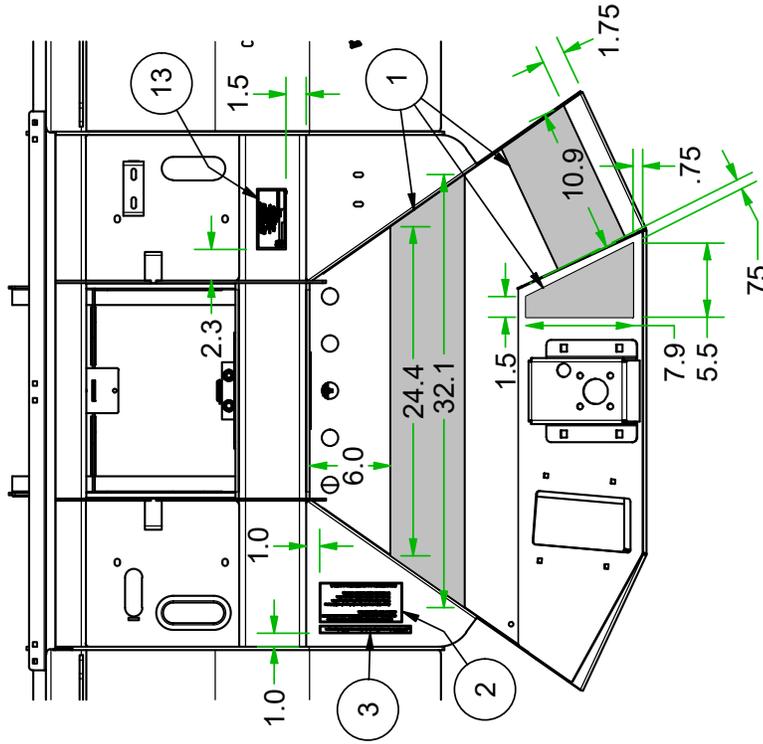
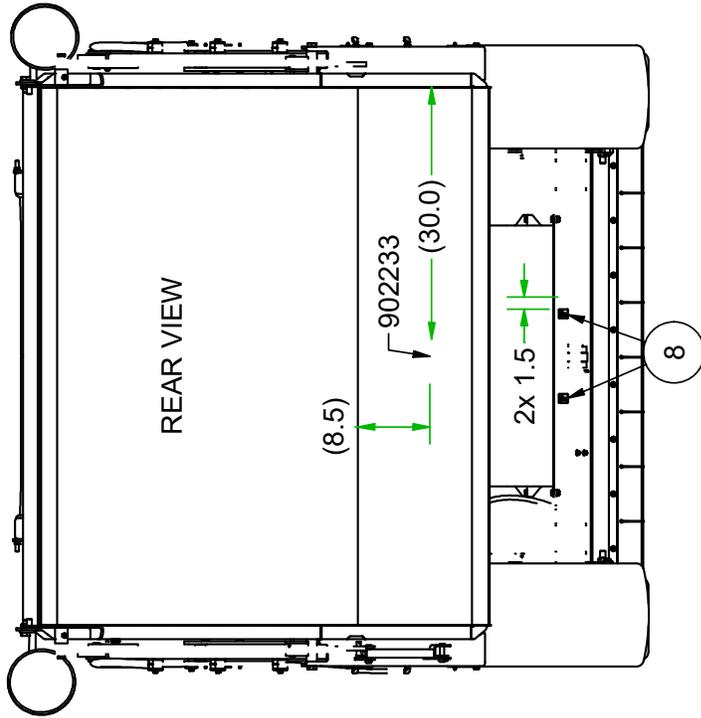


ENGINE SHIELD ASSEMBLY



5-17-2021

10-5-2021

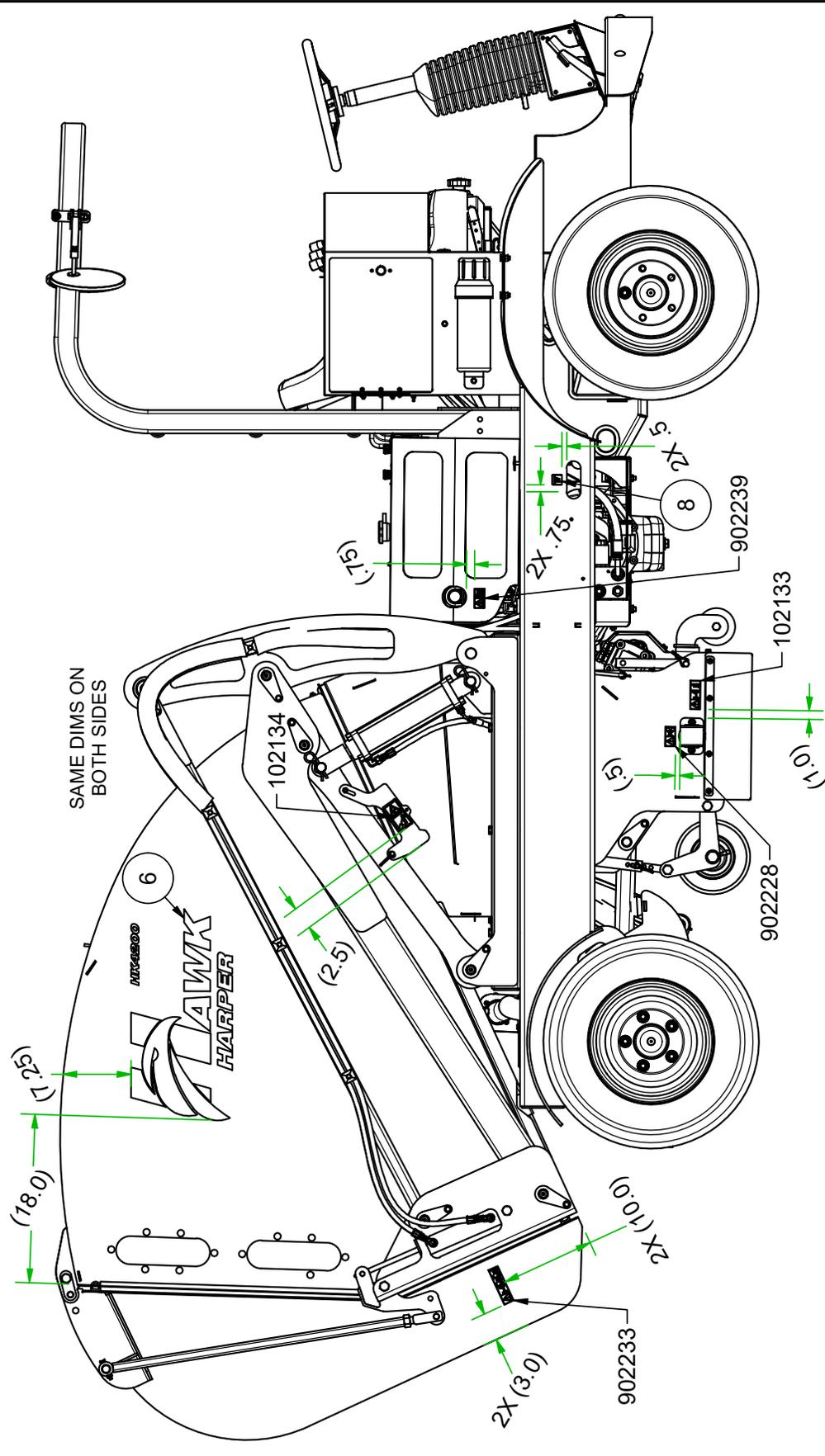


Parts List

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	1	302150	Decal, Hk Rops Certification
6	2	302155	Decal, Hawk
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

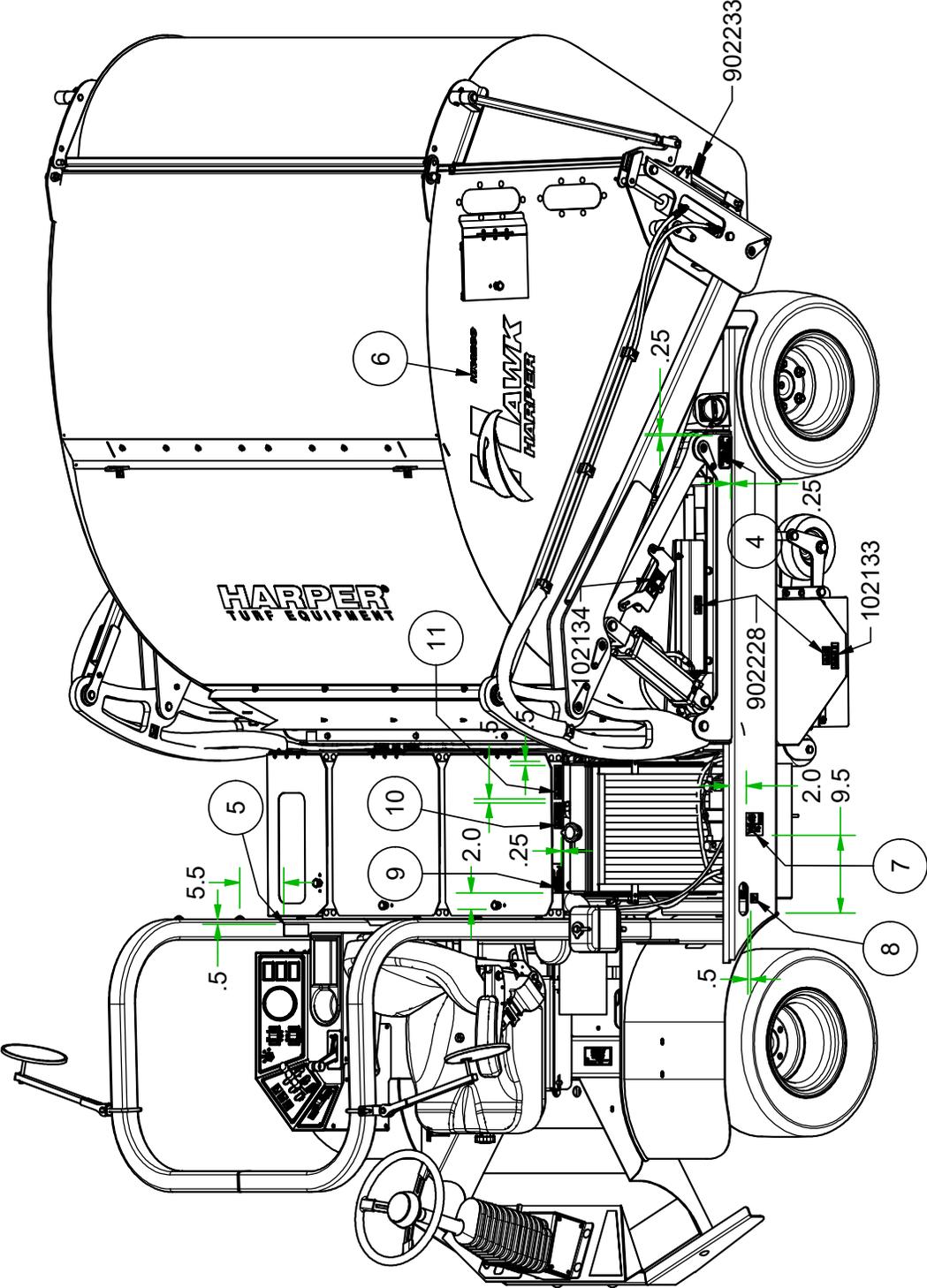
RH VIEW DECAL INSTALLATION



SAME DIMS ON BOTH SIDES

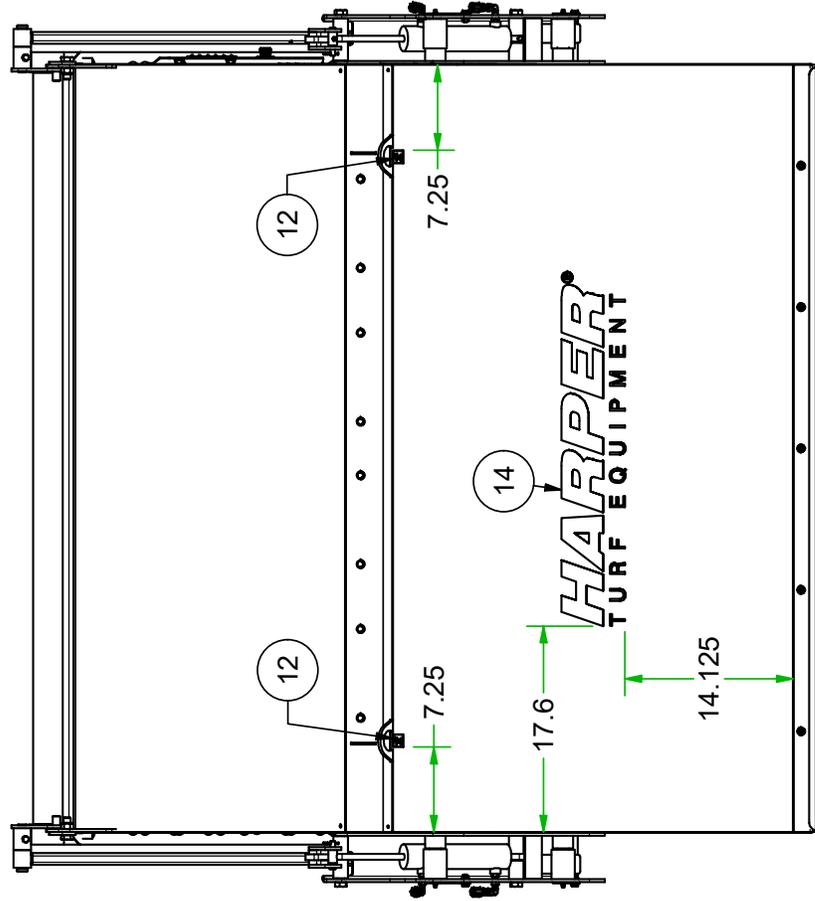
NOTE: ALL DIMENSIONS FOR REFERENCE. PLACE AS CLOSE TO AS SHOWN AND FOR FULL VISIBILITY

LH VIEW DECAL INSTALLATION



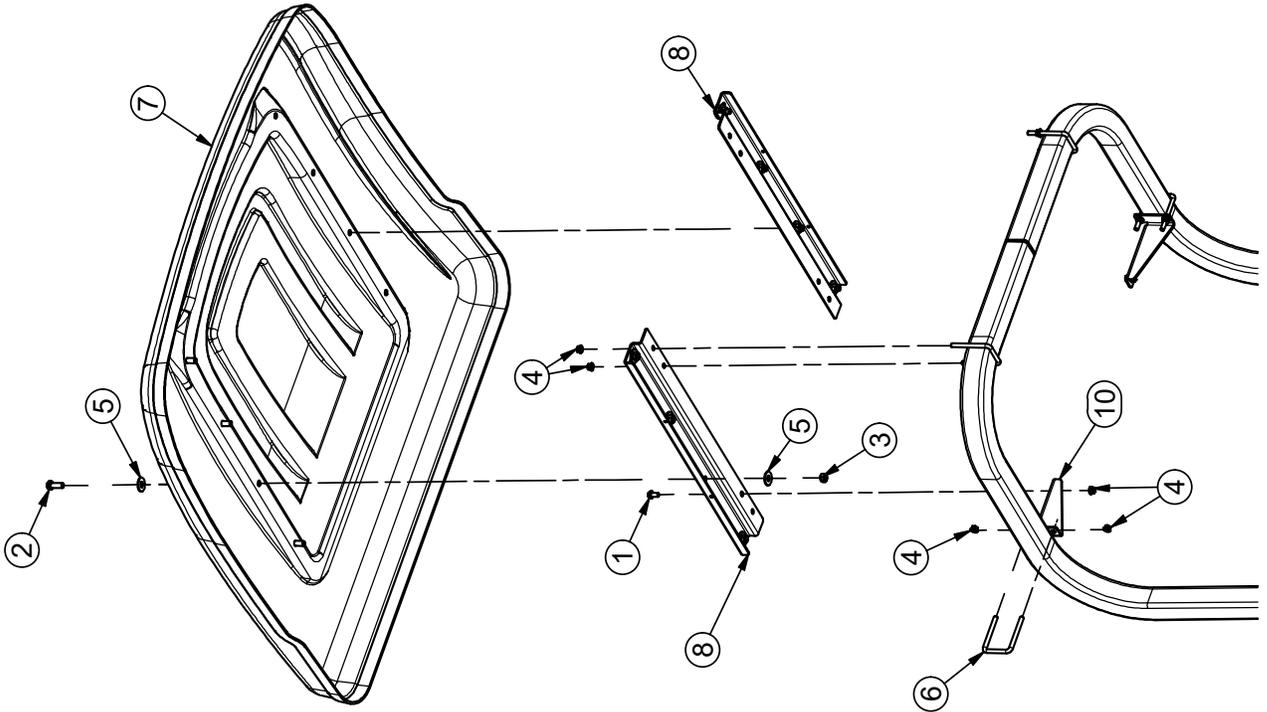
NOTE: ALL DIMENSIONS FOR REFERENCE, PLACE AS CLOSE TO AS SHOWN AND FOR FULL VISIBILITY

HOPPER DECAL INSTALLATION



CANOPY

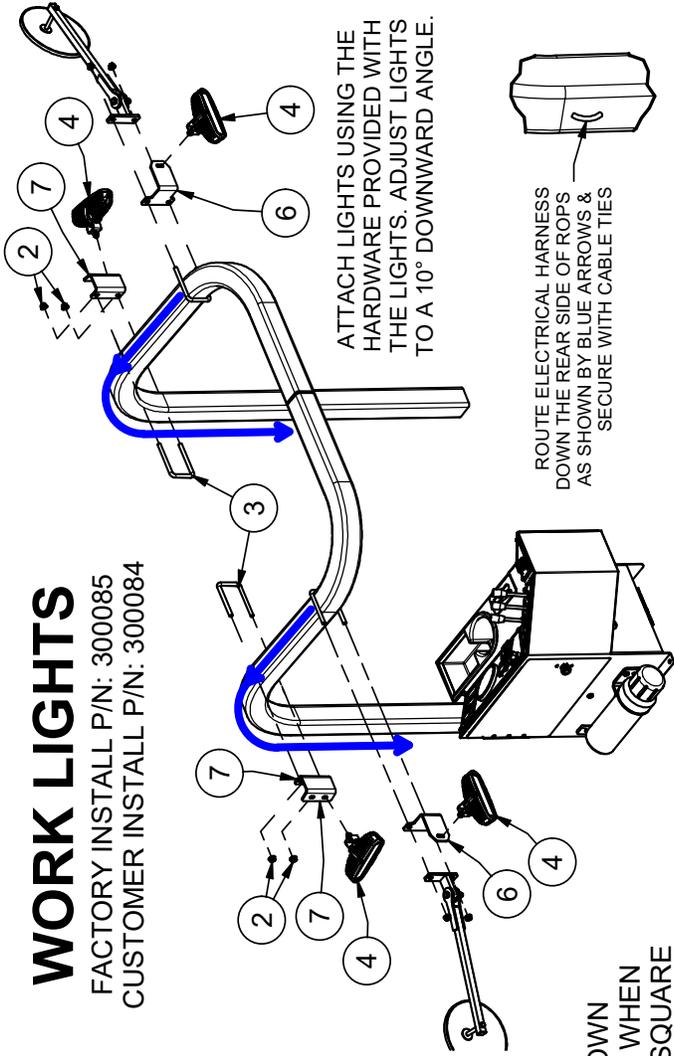
FACTORY INSTALL P/N: 300083
 CUSTOMER INSTALL P/N: 300082



Parts List		
ITEM	QTY	DESCRIPTION
1	2	BOLT, 3/8-16 X 0.75, WIZ FLANGE
2	8	BOLT, 1/2-13 X 1.25
3	8	NUT, 1/2-13, UNITORQUE LOCK
4	10	NUT, 3/8-16 WIZ FLANGE
5	16	WASHER, 1/2" FLAT STANDARD
6	4	BOLT, SQUARE U, 3/8-16 X 2.50 X 4.0
7	1	CANOPY, BLACK ABS PLASTIC
8	2	BRKT, CANOPY SUPPORT
9	1	BRKT, LH CANOPY MOUNT
10	1	BRKT, RH CANOPY MOUNT

WORK LIGHTS

FACTORY INSTALL P/N: 300085
CUSTOMER INSTALL P/N: 300084



ATTACH LIGHTS USING THE HARDWARE PROVIDED WITH THE LIGHTS. ADJUST LIGHTS TO A 10° DOWNWARD ANGLE.

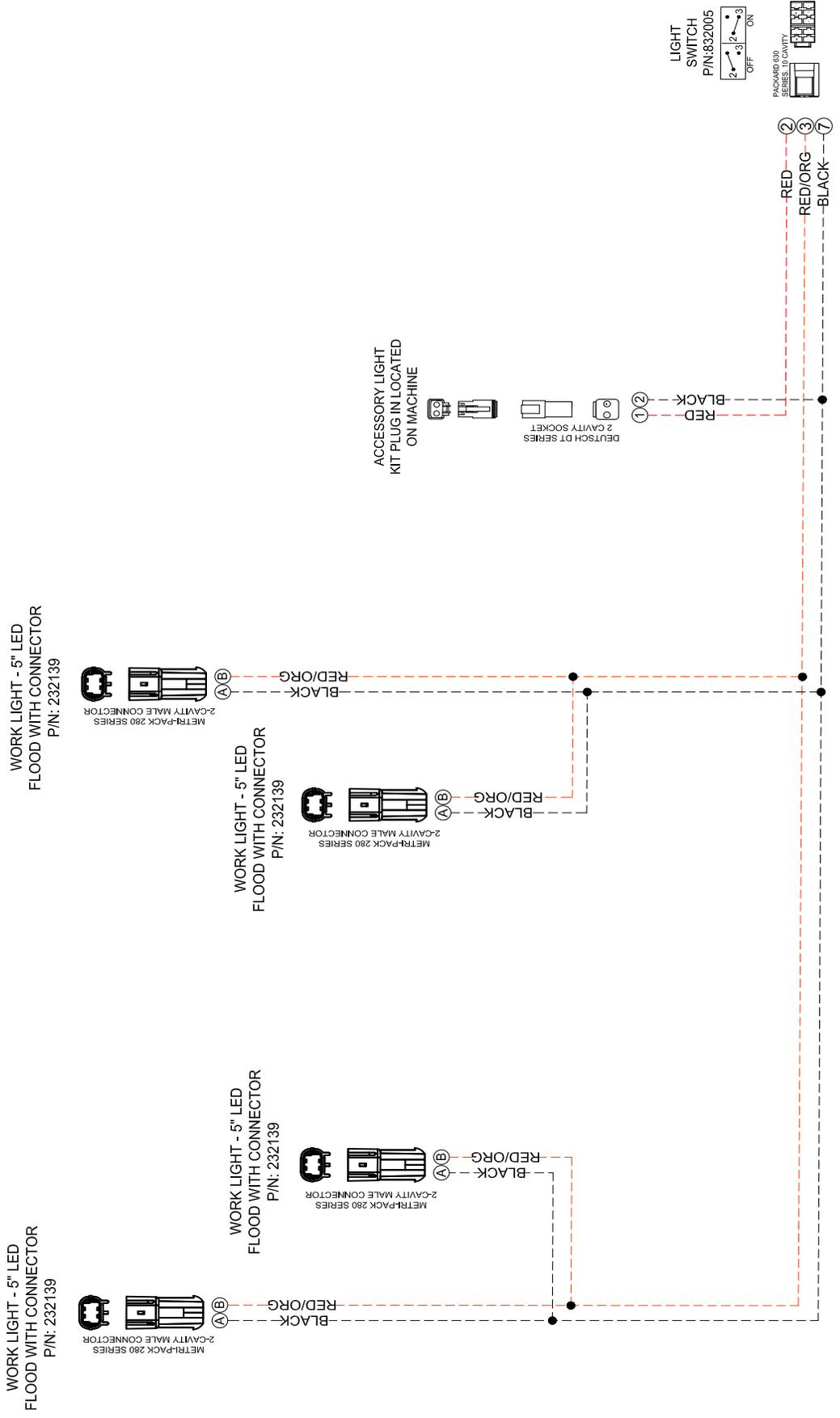
ROUTE ELECTRICAL HARNESS DOWN THE REAR SIDE OF ROPS AS SHOWN BY BLUE ARROWS & SECURE WITH CABLE TIES

INSTALLATION

- MOUNT WORK LIGHTS TO ROPS AS SHOWN IN THE EXPLODED DIAGRAM TO THE RIGHT. WHEN MOUNTING FRONT LIGHTS, USE THE SAME SQUARE U-BOLT THAT IS USED TO ATTACH THE MIRROR BRACKETS. POSITION WORK LIGHTS AND MIRRORS SO THERE IS NO INTERFERENCE. IF A CANOPY IS INSTALLED, MOUNT THE WORK LIGHTS TO THE REAR SIDE OF THE REAR CANOPY BRACKETS.
- THE CONSOLE CONTAINS 3 OPEN POSITIONS TO INSTALL THE ROCKER SWITCH. REMOVE 1 OF THE PLUGS TO INSTALL THE SWITCH.
- THE MACHINE IS ALSO EQUIPPED WITH 3 EXTRA CONNECTORS BELOW THE CONSOLE THAT PROVIDE +12V POWER / GROUND FOR THIS KIT. SEE ELECTRICAL SCHEMATIC ON PAGE 2.
- ROUTE THE WIRING HARNESS DOWN THE BACKSIDE OF THE ROPS AND SECURE USING THE CABLE TIES. ROUTE THE HARNESS FROM THE LH ROPS TO THE CONSOLE BY ROUTING THROUGH THE ENGINE COMPARTMENT.

Parts List		ITEM	QTY	PART #	DESCRIPTION
1	12	100578	CABLE TIE 14" BLACK 50 Lb Tens		
2	4	110645	NUT, 3/8-16 WIZ FLANGE		
3	2	111185	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0		
4	4	232139	Light, 5" Rectangle, Flood w/Connector		
5	1	302158	DECAL, WORK LIGHT SWITCH		
6	2	317395	BRKT, FRONT WORK LIGHT		
7	2	317412	BRKT, REAR WORK LIGHT		
8	1	332069	HARNES, WORK LIGHT		
9	1	832005	SWITCH, PADDLE, CARLING (29253)		

SWEEPER WORK LIGHT WIRING SCHEMATIC



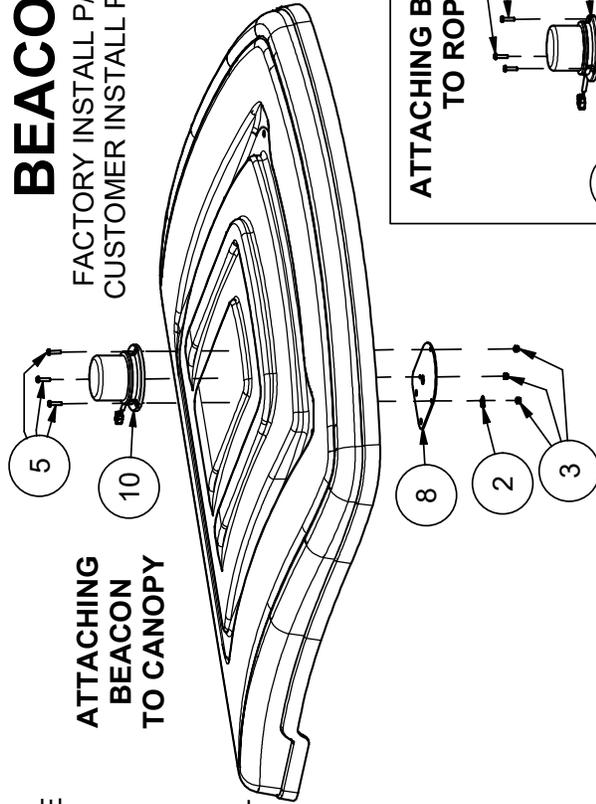
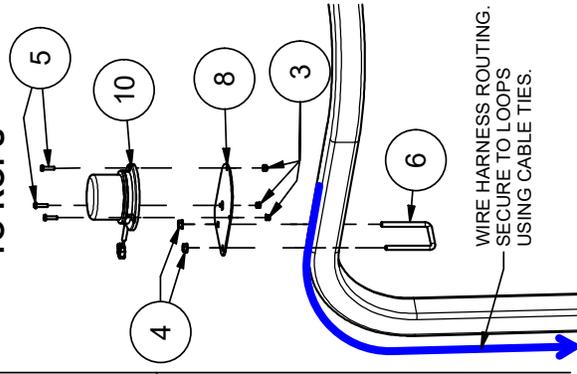
2-25-2021

INSTALLATION

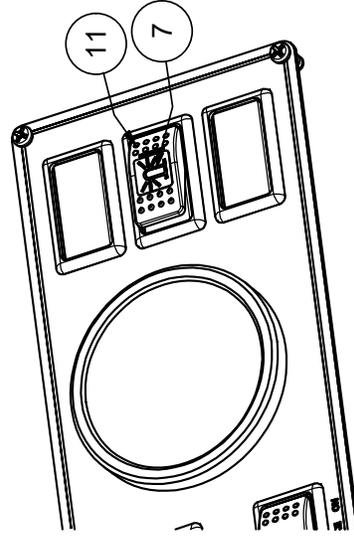
- FOR MOUNTING THE BEACON, USE THE HARDWARE INCLUDED IN THIS KIT (NOT THE HARDWARE INCLUDED WITH THE BEACON)
- IF THE CANOPY OPTION IS INSTALLED, THEN MOUNT THE BEACON TO THE TOP OF THE CANOPY AS SHOWN IN THE EXPLODED VIEW. POSITION THE BEACON IN THE CENTER OF THE CANOPY & THEN DRILL 3 - 9/32" HOLES IN THE PLASTIC CANOPY. DRILL A 3/4" HOLE TO ROUTE THE WIRE THROUGH (USE THE 317394 BRACKET TO LOCATE THE 3/4" HOLE).
- IF A CANOPY IS NOT INSTALLED, THEN MOUNT THE BEACON TO THE ROPS USING THE U-BOLT AS SHOWN IN THE EXPLODED VIEW.
- THE CONSOLE CONTAINS 3 OPEN POSITIONS TO INSTALL THE ROCKER SWITCH. REMOVE ONE OF THE PLUGS TO INSTALL THE SWITCH.
- THE MACHINE IS ALSO EQUIPPED WITH 3 EXTRA CONNECTORS BELOW THE CONSOLE THAT PROVIDE +12V POWER / GROUND FOR THIS KIT. SEE ELECTRICAL SCHEMATIC ON PAGE 2.
- ROUTE THE WIRING HARNESS ALONG THE BACKSIDE OF THE ROPS AND SECURE USING THE CABLE TIES.

BEACON

FACTORY INSTALL P/N: 300089
CUSTOMER INSTALL P/N: 300088

**ATTACHING BEACON TO CANOPY****ATTACHING BEACON TO ROPS**

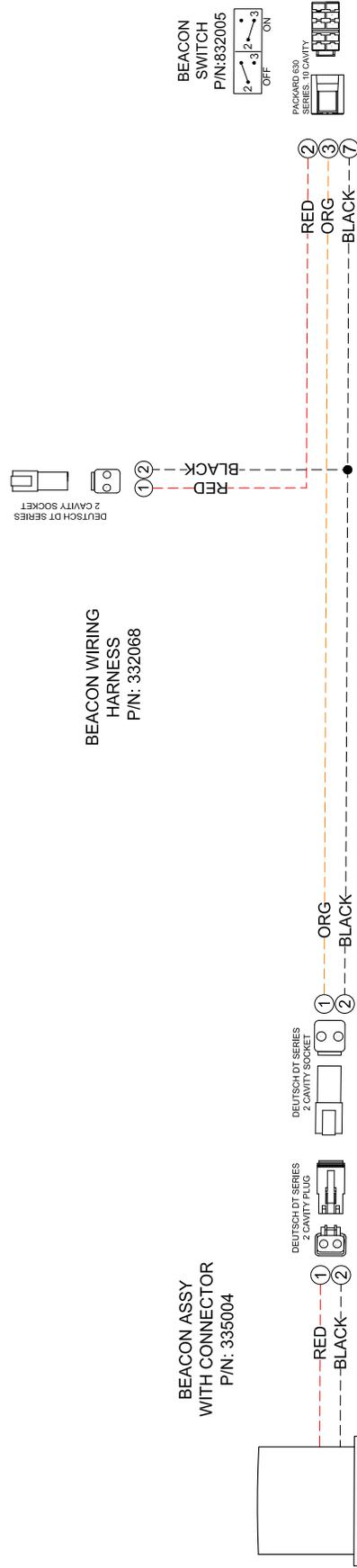
WIRE HARNESS ROUTING.
SECURE TO LOOPS
USING CABLE TIES.



ITEM QTY		PART #	DESCRIPTION
1	5	100578	CABLE TIE 14" BLACK 50 Lb Tens
2	1	110117	CLAMP, ADEL AC4 .265 HOLE
3	3	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
4	2	110645	NUT, 3/8-16 W/IZ FLANGE
5	3	110973	SCREW, 1/4-20 X 1 SS PHILLIPS PAN HEAD
6	1	111185	BOLT, SQUARE U, 3/8-16 X 2.50 X 4.0
7	1	302157	DECAL, BEACON
8	1	317394	BRKT, BEACON MOUNTING
9	1	332068	HARNESS, BEACON
10	1	335004	BEACON ASSY, LED
11	1	832005	SWITCH, PADDLE, CARLING (29253)

Parts List

SWEEPER BEACON WIRING SCHEMATIC



4-9-2021

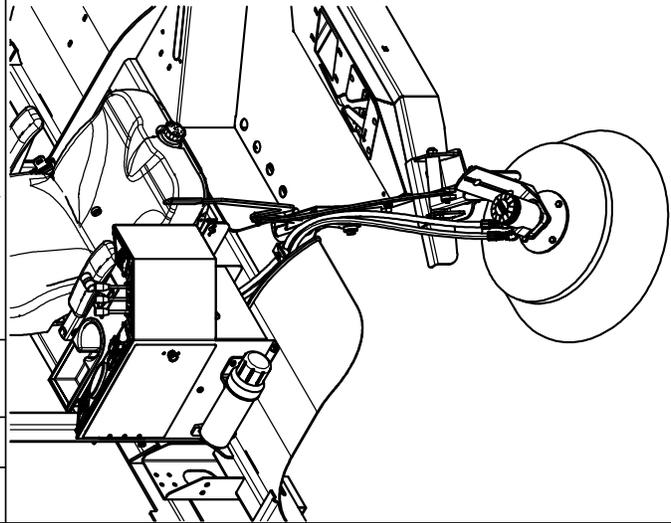
11/19/20

300090

REV: A

HAWK RIGHT CURB BRUSH INSTALL

Parts List			Parts List			Parts List					
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	110125	BOLT, 1/2-13 X 2.25 GR 5 ZINC PLATE	17	2	110665	WASHER, 5/16" FLAT STANDARD	36	1	315403	WELDMENT, CURB BRUSH ARM, SWPR
2	4	110290	NUT, 1/4-20 WIZ FLANGE	18	4	110672	WASHER, 3/8" LOCK	37	1	315404	WLDMT, CURB BRUSH BASE RIGHT, SWPR
3	2	110358	Bolt, 1/4-20 X 0.625 in Carriage	19	1	110674	WASHER, 5/16" LOCK	38	1	315406	WELDMENT, CURB BRUSH MOUNT, SWPR
4	2	110392	Bolt, 3/8-16 X 2 in Carriage	20	6	110676	WASHER, 3/8" FLAT STANDARD	39	1	315407	WELDMENT, BRUSH ADAPTER, SWPR
5	1	110396	BOLT, 5/16-18 X 2.5	21	1	110895	Bolt, 5/8-11 X 3 in Carriage	40	1	317258	WASHER, 2.0 X .344 X .12
6	4	110400	BOLT, 3/8-16 X 2.0	22	1	111189	Bolt, 5/8-11 X 7.5, HHCS Gr 5 Zinc	41	1	317261	TENSIONER, GEAR MOUNT, BUSHING
7	4	110420	BOLT, 3/8-16 X 1.0	23	1	111199	BOLT, 3/8 X .625 SHOULDER SHCS, ZINC	42	1	317398	LINK, CURB BRUSH LIFT
8	1	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE	24	1	120216	ADAPTER, 6MJ-6FJX-6MJ	43	1	317411	PLATE, CURB BRUSH NOTCH
9	2	110474	BOLT, 1/4-20 X 1-1/2	25	1	120239	ADAPTER, 6MJ-8MB	44	2	320400	HOSE ASSY, RH CURB BRUSH
10	2	110597	NUT, 5/8-11 HEX	26	4	120319	ADAPTER, 6MJ-6MB	45	1	320402	HOSE ASSY, CURB BRUSH INLET
11	3	110600	NUT, 5/16-18, UNITORQUE LOCK	27	2	120753	Jic(-6), to Male O-ring (-10), 45 degrees	46	1	320403	HOSE ASSY, CURB BRUSH RETURN
12	1	110606	NUT, 5/16-18 WIZ FLANGE	28	1	211747	FRICITION WASHER 1.5"	47	1	322099	HIGH PRESSURE CARRYOVER PLUG
13	1	110615	NUT, 1/2-13, UNITORQUE LOCK	29	2	302063	KNOB, ALUMINIUM 3/8-16	48	1	323069	VALVE ASSEMBLY, 2-WAY/4 POSITION
14	4	110621	NUT, 3/8-16, UNITORQUE LOCK	30	1	302064	BRUSH, 24" x 6" x 40 DEG	49	1	332070	HARNES, CURB BRUSH
15	1	110639	NUT, 5/8-11, UNITORQUE LOCK	31	1	302160	DECAL, CURB BRUSH	50	1	820097	CLAMP BODY
16	2	110658	WASHER, 1/2" FLAT STANDARD	32	1	312022	CLIP, HAIRPIN 3/32 x 1.625	51	1	820098	COVER PLATE
				33	1	312039	GAS SPRING, 4" STROKE, 120LBS	52	1	832005	SWITCH, PADDLE, CARLING (29253)
				34	1	312041	CLEVIS PIN, 3/8 X 1.5, ZINC	53	1	832024	MOUNT, SWITCH (VMS)
				35	1	315401	WLDMT, CURB BRUSH HANDLE RIGHT	54	1	910044	COVER, VINYL .25 X 1.5 X 4 GRIP
								55	1	922004	MOTOR, EATON 101-1009

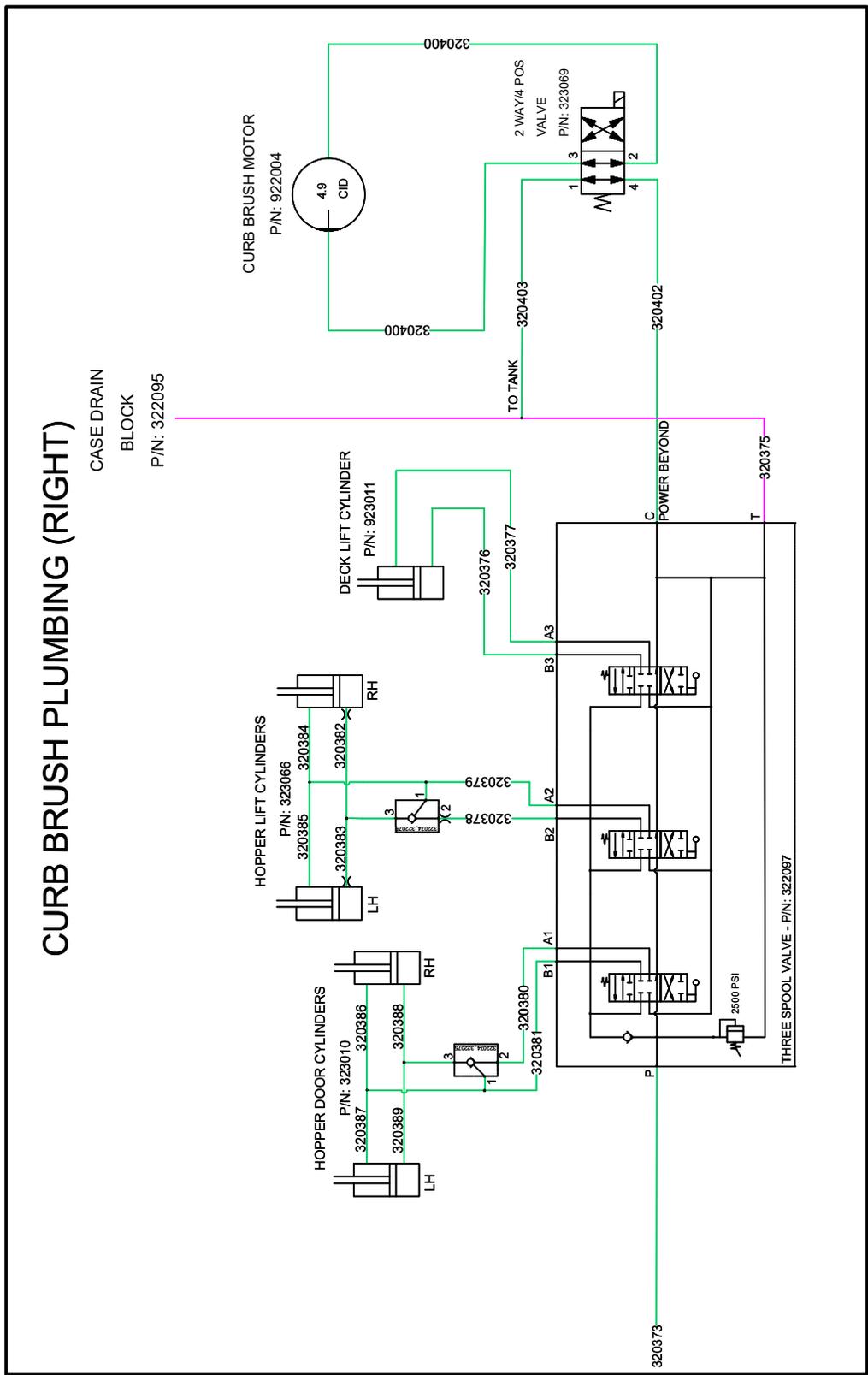


**FOR SERIAL NUMBERS 21A11 AND PRIOR,
SEE PAGES 8-9 FOR DETAILS ON
UPDATES NEEDED FOR CURB BRUSH
INSTALLATION**

CUSTOMER INSTALL: 300090
FACTORY INSTALL: 300091

9-17-2021

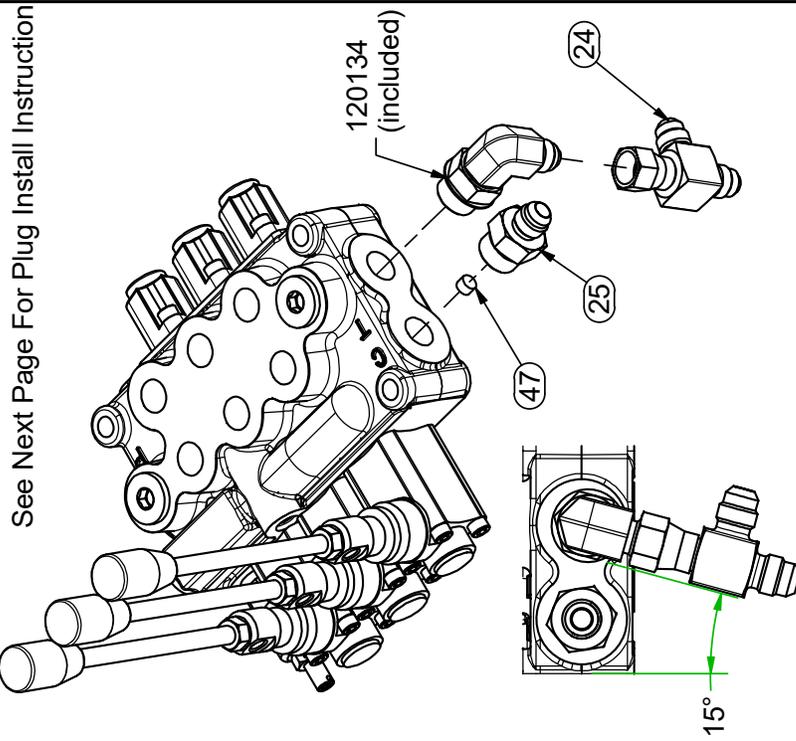
CURB BRUSH PLUMBING (RIGHT)



300090 REV: A

VALVE ASSEMBLIES

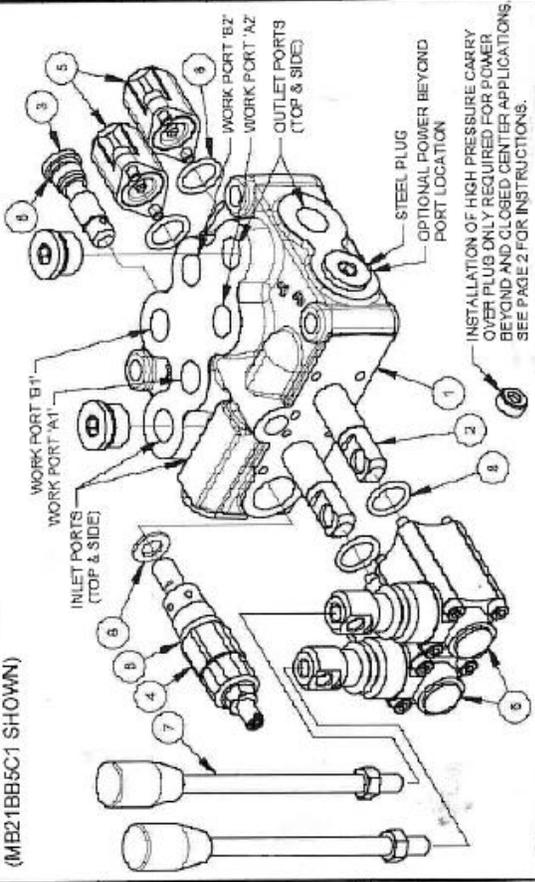
Parts List		Parts List		Parts List			
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
26	4	120319	ADAPTER, 6MJ-6MB	24	1	120216	ADAPTER, 6MJ-6FJX-6MJ
48	1	323069	VALVE ASSEMBLY, 2-WAY/4 POSITION	25	1	120239	ADAPTER, 6MJ-8MB
49.1	1	222052	Valve, #8 Spool, 4-Way 2-Position	47	1	322099	HIGH PRESSURE CARRYOVER PLUG
49.2	1	322100	BODY, 8 SIZE, 4 WAY, SAE-6				
49.3	1	322101	COIL, 12V ERZ				



See Next Page For Plug Install Instruction

9-17-2021

PRINCE 'MB' MODELS
(MB21BB5C1 SHOWN)

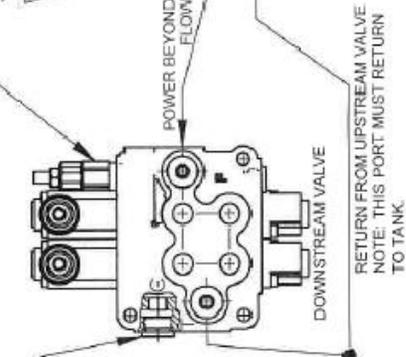


NOTE: INTERNAL H.P. CARRY OVER PLUG IS NOT INSTALLED. EXTERNAL STEEL PORT PLUG IS REQUIRED. DISCARD H.P. CARRY OVER PLUG.

OPTIONAL POWER BEYOND OPERATION: INSTALL THE HIGH PRESSURE CARRY OVER PLUG (1/4-18 BSPT) INTO THE INTERNAL THREADS TO THE INSIDE OF THE "C" PORT. CONNECT A HYDRAULIC LINE FROM THE "C" PORT TO A DOWNSTREAM FUNCTION AND THE "T" PORT TO TANK. WITH ALL SPOOLS CENTERED, OIL FLOW IS DIRECTED TO THE POWER BEYOND PORT "C" FOR USE BY THE DOWNSTREAM FUNCTION. WHEN A SPOOL IS SHIFTED, OIL WILL BE DIRECTED TO A WORK PORT AND THE RETURN FLOW TO TANK.

RETURN LINE (OUTLET) NOTE: THIS PORT MUST RETURN TO TANK.

NOTE: INTERNAL H.P. CARRY OVER PLUG IS NOT INSTALLED. EXTERNAL STEEL PORT PLUG IS REQUIRED. DISCARD H.P. CARRY OVER PLUG.



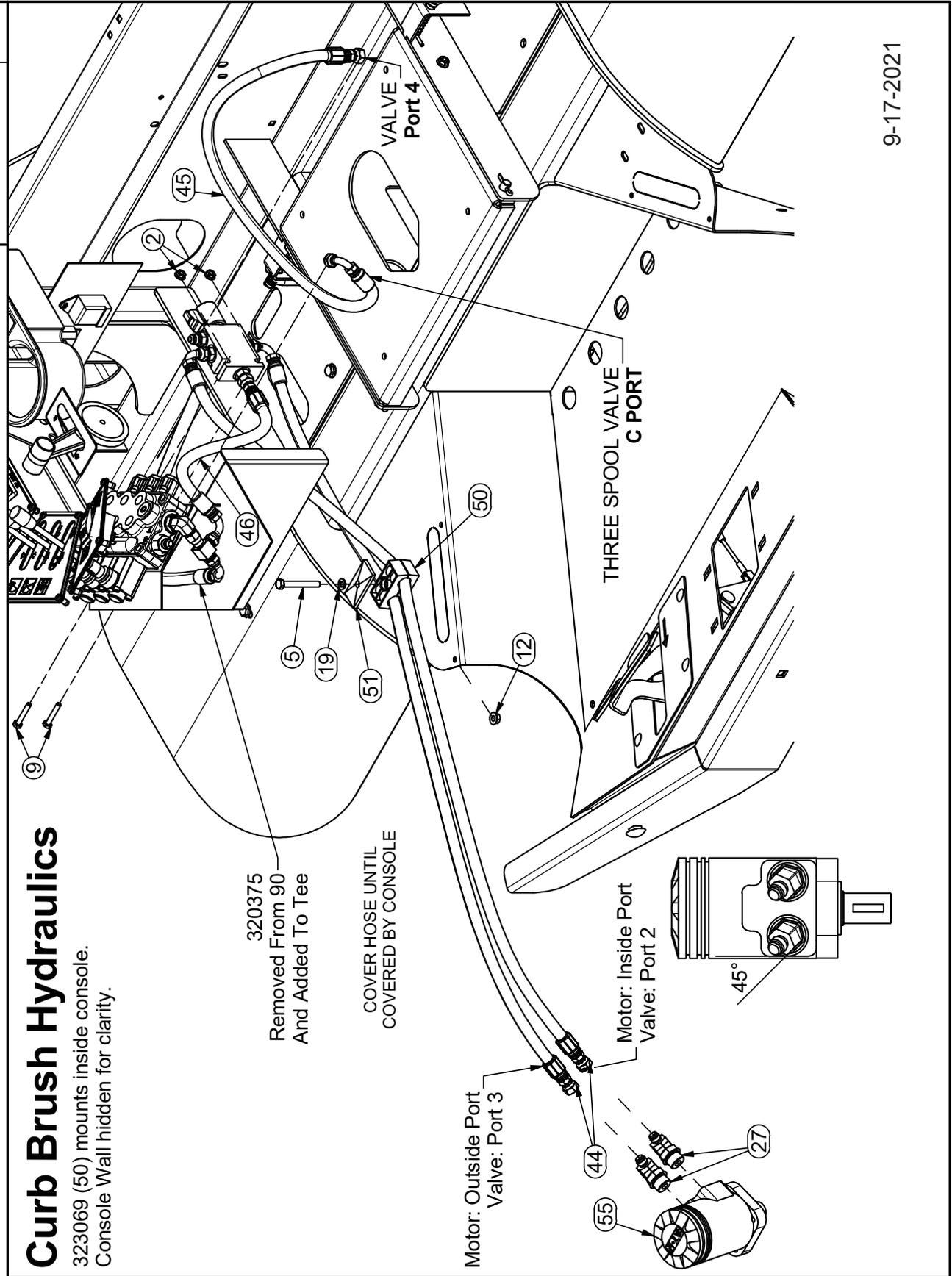
NOTE: INTERNAL H.P. CARRYOVER PLUG MUST BE INSTALLED IN THIS VALVE FOR POWER BEYOND OPERATION.

NOTE: THIS RELIEF VALVE CANNOT BE SET HIGHER THAN THE FIRST VALVE'S RELIEF, BUT MAY BE SET LOWER.

NOTE: THIS RELIEF LIMITS THE MAX. PUMP PRESSURE IN THE CIRCUIT.

Curb Brush Hydraulics

323069 (50) mounts inside console.
Console Wall hidden for clarity.



CURB BRUSH HANDLE AND BRUSH INSTALL

To Install Wiring Harness (332070):

Disconnect Harness 332064 & 332063 At The 6 Cavity Deutsch Connector. This Plug Is Located Inside Operator's Console. It Is The Only 6 Cavity Deutsch Connector In The Console. Connect Harness 332064 and 332063 To The Harness Included With This Kit (332070)

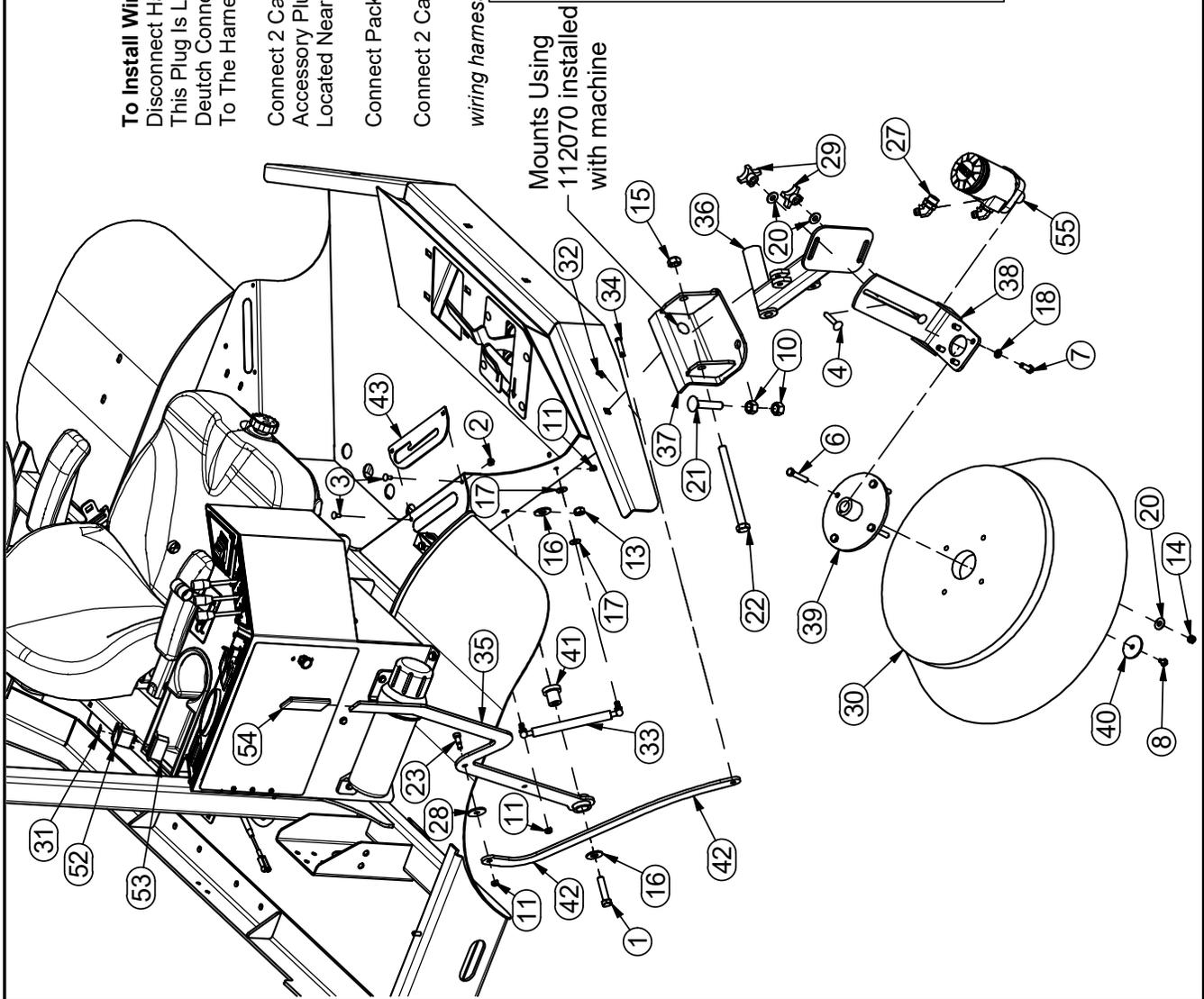
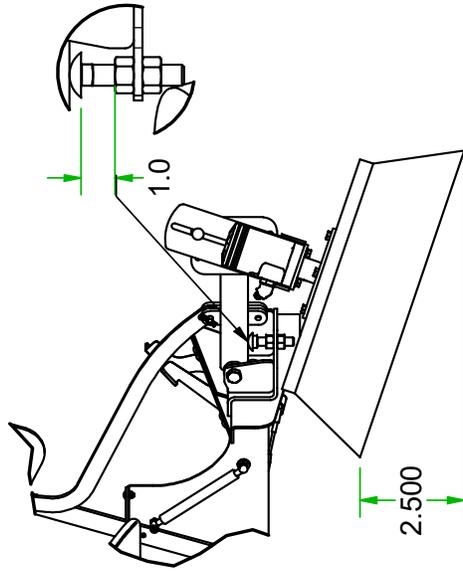
Connect 2 Cavity Deutsch, Black Wire Only, To One Of The 3 Available Accessory Plugs (Harness 332064). These 2 Cavity Plugs Should Be Located Near The Fuse Block Inside The Console.

Connect Packard 10 Cavity Switch To 832005 (P# 52 Shown To The Left).

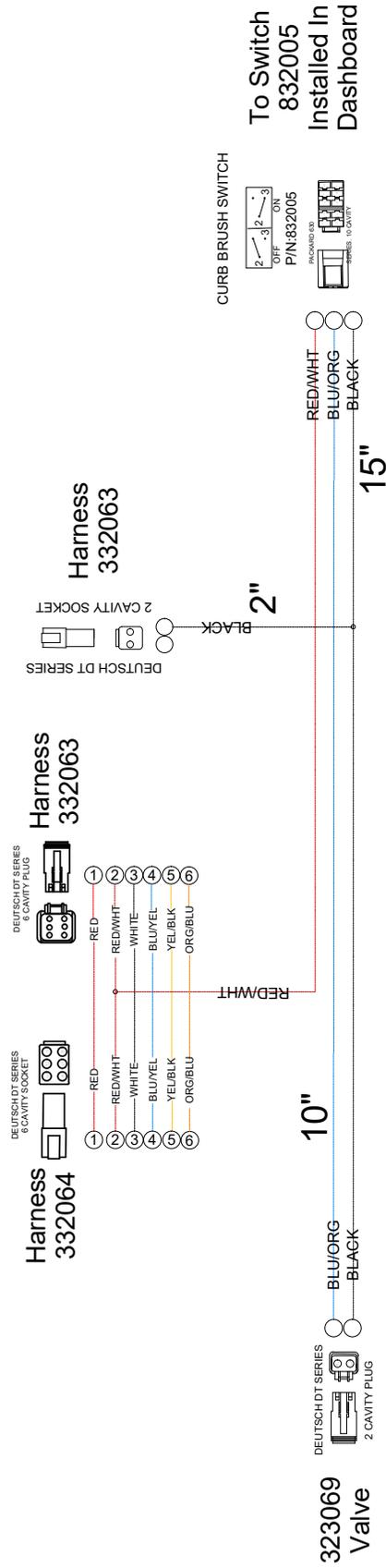
Connect 2 Cavity Deutsch, Blu/Org & Blk, To 323069 Valve.

wiring harness on next page for reference

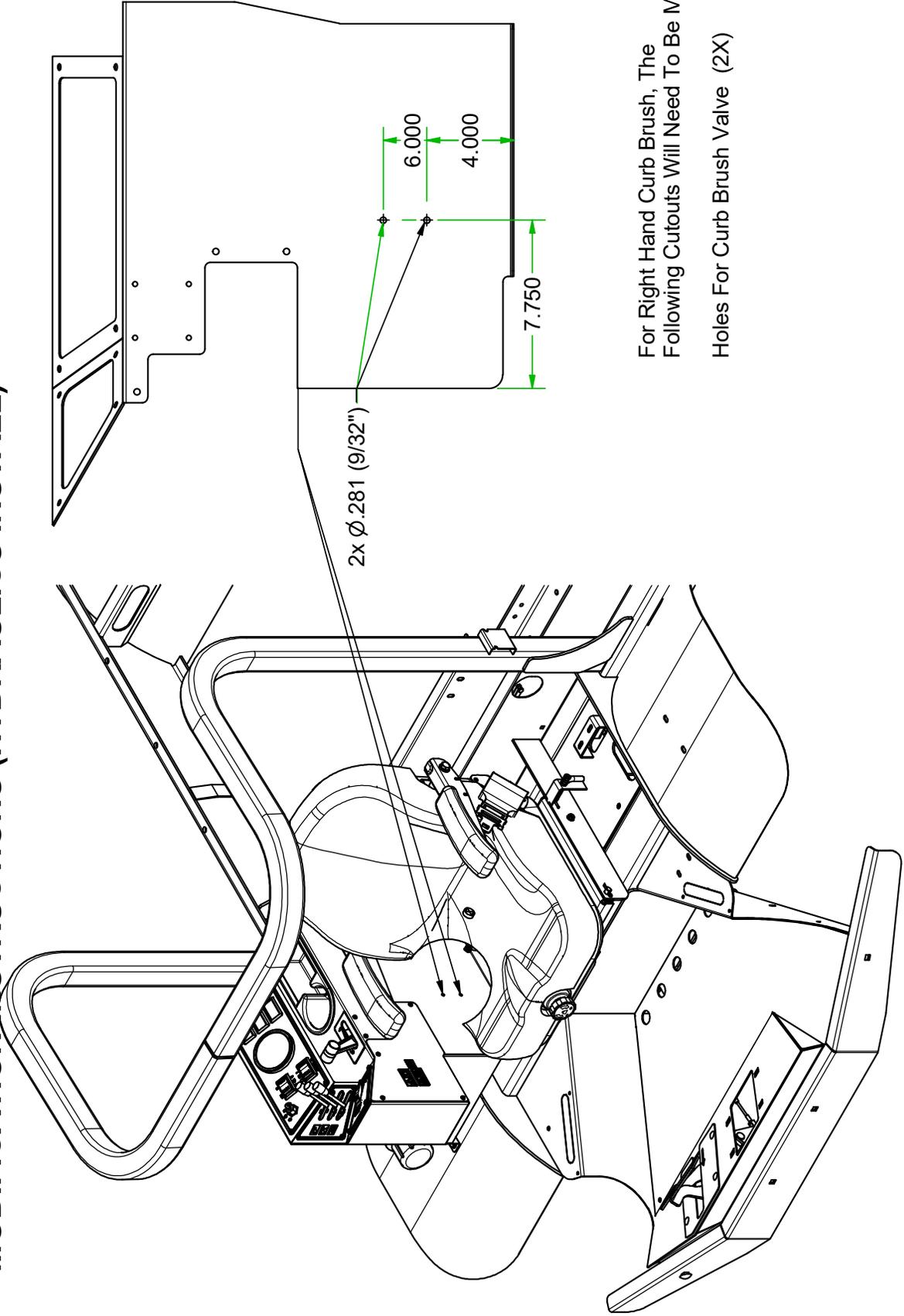
FACTORY SUGGESTED SETTINGS



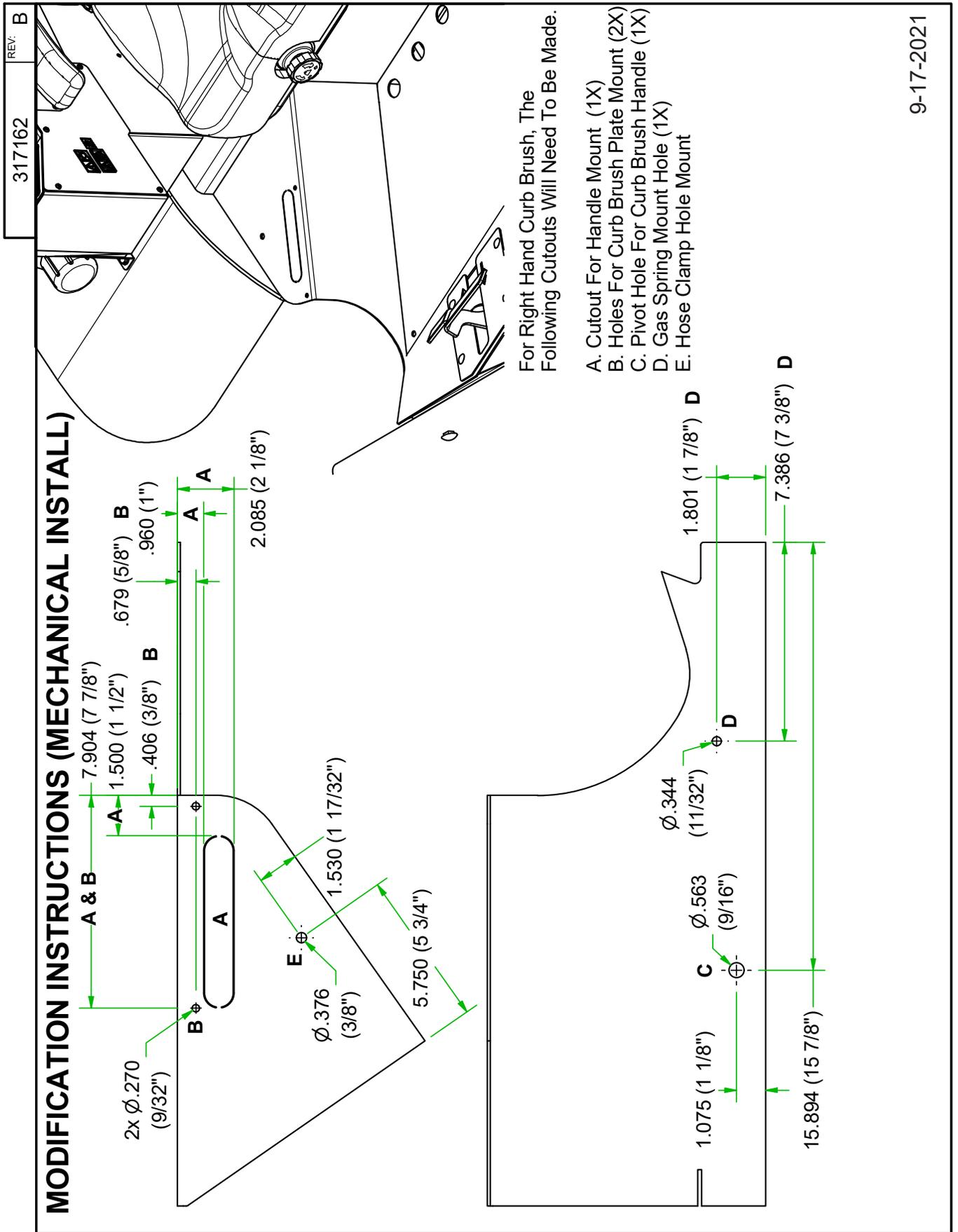
SWEeper CURB BRUSH WIRING SCHEMATIC

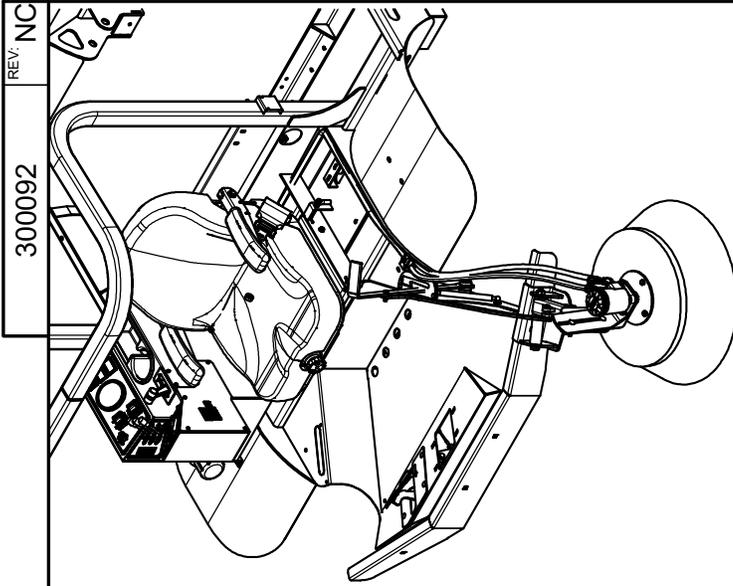


MODIFICATION INSTRUCTIONS (HYDRAULICS INSTALL)



For Right Hand Curb Brush, The Following Cutouts Will Need To Be Made:
Holes For Curb Brush Valve (2X)





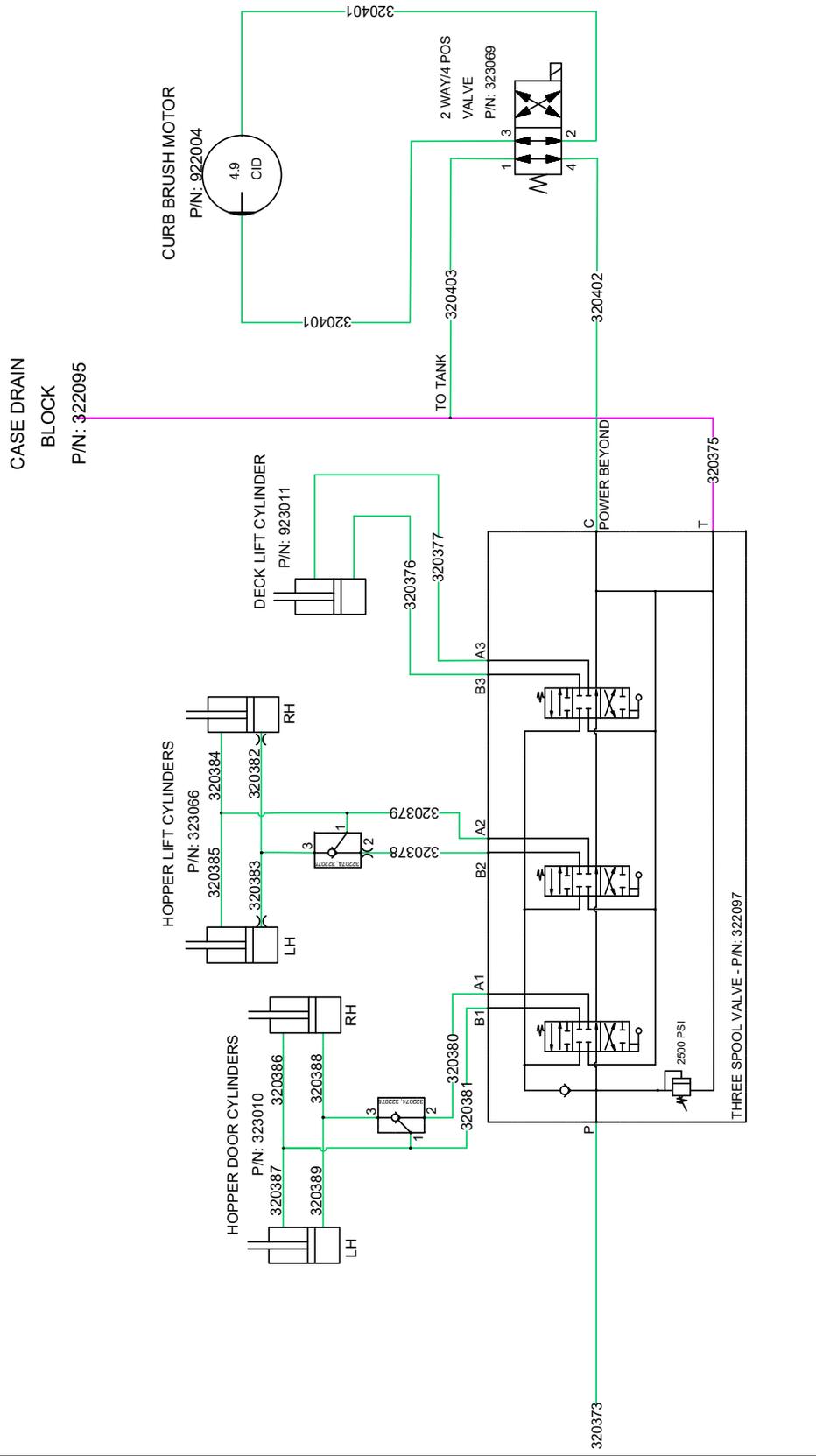
FOR SERIAL NUMBERS **21A11** AND PRIOR
SEE PAGES **8-9** FOR DETAILS ON
UPDATES NEEDED FOR CURB BRUSH
INSTALLATION

9-17-2021

Parts List			Parts List				
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	1	110125	BOLT, 1/2-13 X 2.25 GR 5 ZINC PLATE	31	1	302160	DECAL, CURB BRUSH
2	4	110290	NUT, 1/4-20 WIZ FLANGE	32	1	312022	CLIP, HAIRPIN 3/32 x 1.625
3	2	110358	Bolt, 1/4-20 X 0.625 in Carriage	33	1	312039	GAS SPRING, 4" STROKE, 120LBS
4	2	110392	Bolt, 3/8-16 X 2 in Carriage	34	1	312041	CLEVIS PIN, 3/8 X 1.5, ZINC
5	1	110396	BOLT, 5/16-18 X 2.5	35	1	315402	WLDMNT, CURB BRUSH HANDLE LEFT, SWPR
6	4	110400	BOLT, 3/8-16 X 2.0				
7	4	110420	BOLT, 3/8-16 X 1.0	36	1	315403	WELDMENT, CURB BRUSH ARM, SWPR
8	1	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE	37	1	315405	WELDMENT, CURB BRUSH BASE LEFT, SWPR
9	2	110474	BOLT, 1/4-20 X 1-1/2				
10	2	110597	NUT, 5/8-11 HEX	38	1	315406	WELDMENT, CURB BRUSH MOUNT, SWPR
11	3	110600	NUT, 5/16-18, UNITORQUE LOCK	39	1	315407	WELDMENT, BRUSH ADAPTER, SWPR
12	1	110606	NUT, 5/16-18 WIZ FLANGE	40	1	317258	WASHER, 2.0 X .344 X .12
13	1	110615	NUT, 1/2-13, UNITORQUE LOCK	41	1	317261	TENSIONER, GEAR MOUNT, BUSHING
14	4	110621	NUT, 3/8-16, UNITORQUE LOCK	42	1	317398	LINK, CURB BRUSH LIFT
15	1	110639	NUT, 5/8-11, UNITORQUE LOCK	43	1	317411	PLATE, CURB BRUSH NOTCH
16	2	110658	WASHER, 1/2" FLAT STANDARD	44	2	320401	HOSE ASSY, LH CURB BRUSH
17	2	110665	WASHER, 5/16" FLAT STANDARD	45	1	320402	HOSE ASSY, CURB BRUSH INLET
18	4	110672	WASHER, 3/8" LOCK	46	1	320403	HOSE ASSY, CURB BRUSH RETURN
19	1	110674	WASHER, 5/16" LOCK	47	1	322099	HIGH PRESSURE CARRYOVER PLUG
20	6	110676	WASHER, 3/8" FLAT STANDARD	48	1	323069	VALVE ASSEMBLY, 2-WAY/4 POSITION
21	1	110895	Bolt, 5/8-11 X 3 in Carriage	49	1	332070	HARNES, CURB BRUSH
22	1	111189	Bolt, 5/8-11 X 7.5, HHCS Gr 5 Zinc	50	1	820097	CLAMP BODY
23	1	111199	BOLT, 3/8 X .625 SHOULDER SHCS	51	1	820098	COVER PLATE
24	1	120216	ADAPTER, 6MJ-6FJX-6MJ	52	1	832005	SWITCH, PADDLE, CARLING (29253)
25	1	120239	ADAPTER, 6MJ-8MB	53	1	832024	MOUNT, SWITCH (VMS)
26	4	120319	ADAPTER, 6MJ-6MB	54	1	910044	COVER, VINYL .25 X 1.5 X 4 GRIP
27	2	120753	Jic(-6) to Male O-ring (-10), 45 degrees	55	1	922004	MOTOR, EATON 101-1009
28	1	211747	FRICION WASHER 1.5"				
29	2	302063	KNOB, ALUMINUM 3/8-16				
30	1	302064	BRUSH, 24" x 6" x 40 DEG				

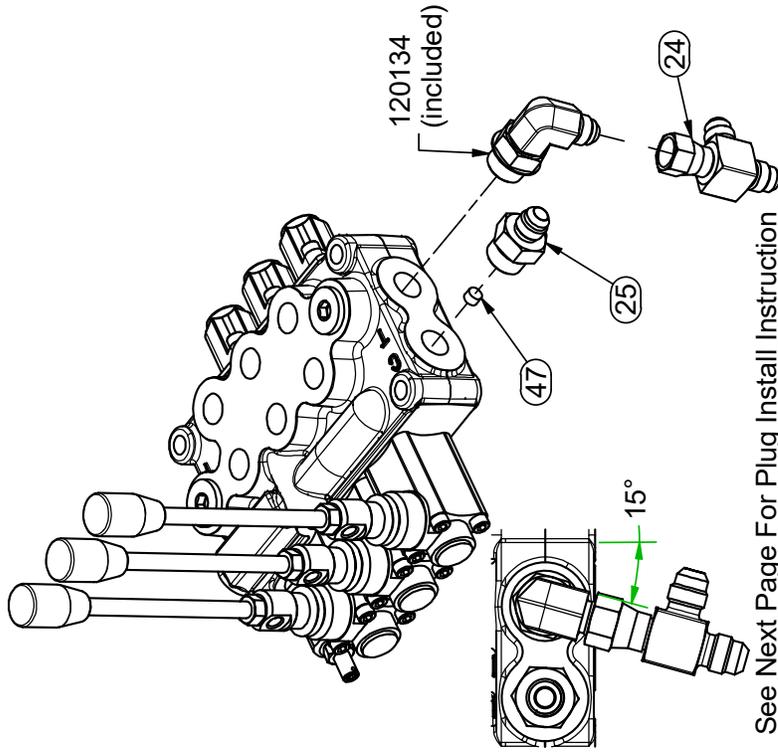
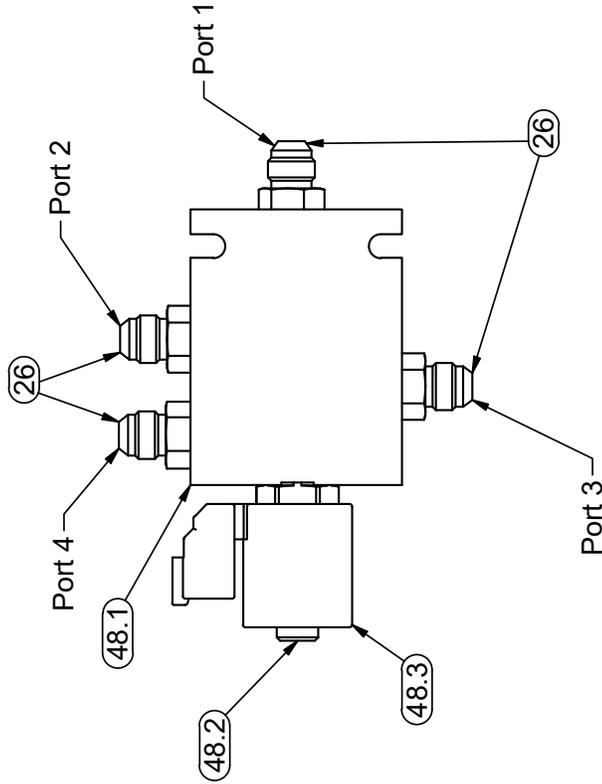
HAWK LEFT CURB BRUSH INSTALL
CUSTOMER INSTALL: 300092
FACTORY INSTALL: 300093

CURB BRUSH PLUMBING (LEFT)



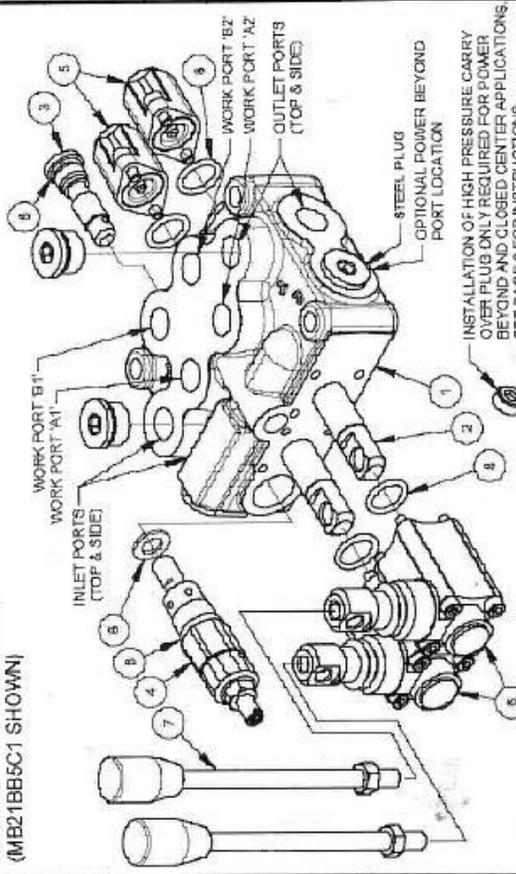
VALVE ASSEMBLIES

Parts List		Parts List	
ITEM	QTY	PART #	DESCRIPTION
26	4	120319	ADAPTER, 6MJ-6MB
48	1	323069	VALVE ASSEMBLY, 2-WAY/4 POSITION
48.1	1	322100	BODY, 8 SIZE, 4 WAY, SAE-6
48.2	1	222052	Valve, #8 Spool, 4-Way 2-Position
48.3	1	322101	COIL, 12V ERZ
24	1	120216	ADAPTER, 6MJ-6FJX-6MJ
25	1	120239	ADAPTER, 6MJ-8MB
47	1	322099	HIGH PRESSURE CARRYOVER PLUG



See Next Page For Plug Install Instruction

PRINCE 'MB' MODELS
(MB21BB5C1 SHOWN)

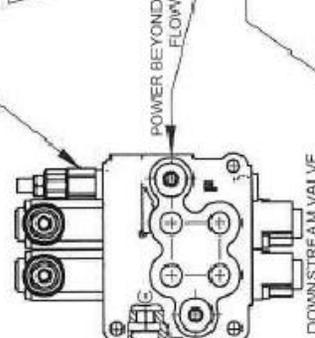


INSTALLATION OF HIGH PRESSURE CARRY OVER PLUG ONLY REQUIRED FOR POWER BEYOND AND CLOSED CENTER APPLICATIONS. SEE PART 9 FOR INSTRUCTIONS.

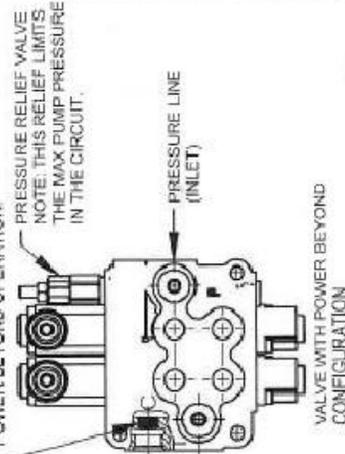
NOTE: INTERNAL H.P. CARRY OVER PLUG IS NOT INSTALLED. EXTERNAL STEEL PORT PLUG IS REQUIRED. DISCARD H.P. CARRY OVER PLUG.

OPTIONAL POWER BEYOND OPERATION: INSTALL THE HIGH PRESSURE CARRY OVER PLUG (1/4-18 BSPT) INTO THE INTERNAL THREADS TO THE INSIDE OF THE "C" PORT. CONNECT A HYDRAULIC LINE FROM THE "C" PORT TO A DOWN STREAM FUNCTION AND THE "T" PORT TO TANK. WITH ALL SPOOLS CENTERED, OIL FLOW IS DIRECTED TO THE POWER BEYOND PORT "C" FOR USE BY THE DOWNSTREAM FUNCTION. WHEN A SPOOL IS SHIFTED, OIL WILL BE DIRECTED TO A WORK PORT AND THE RETURN FLOW TO TANK.

RETURN LINE (OUTLET)
NOTE: THIS PORT MUST RETURN TO TANK.



RETURN FROM UPSTREAM VALVE
NOTE: THIS PORT MUST RETURN TO TANK.

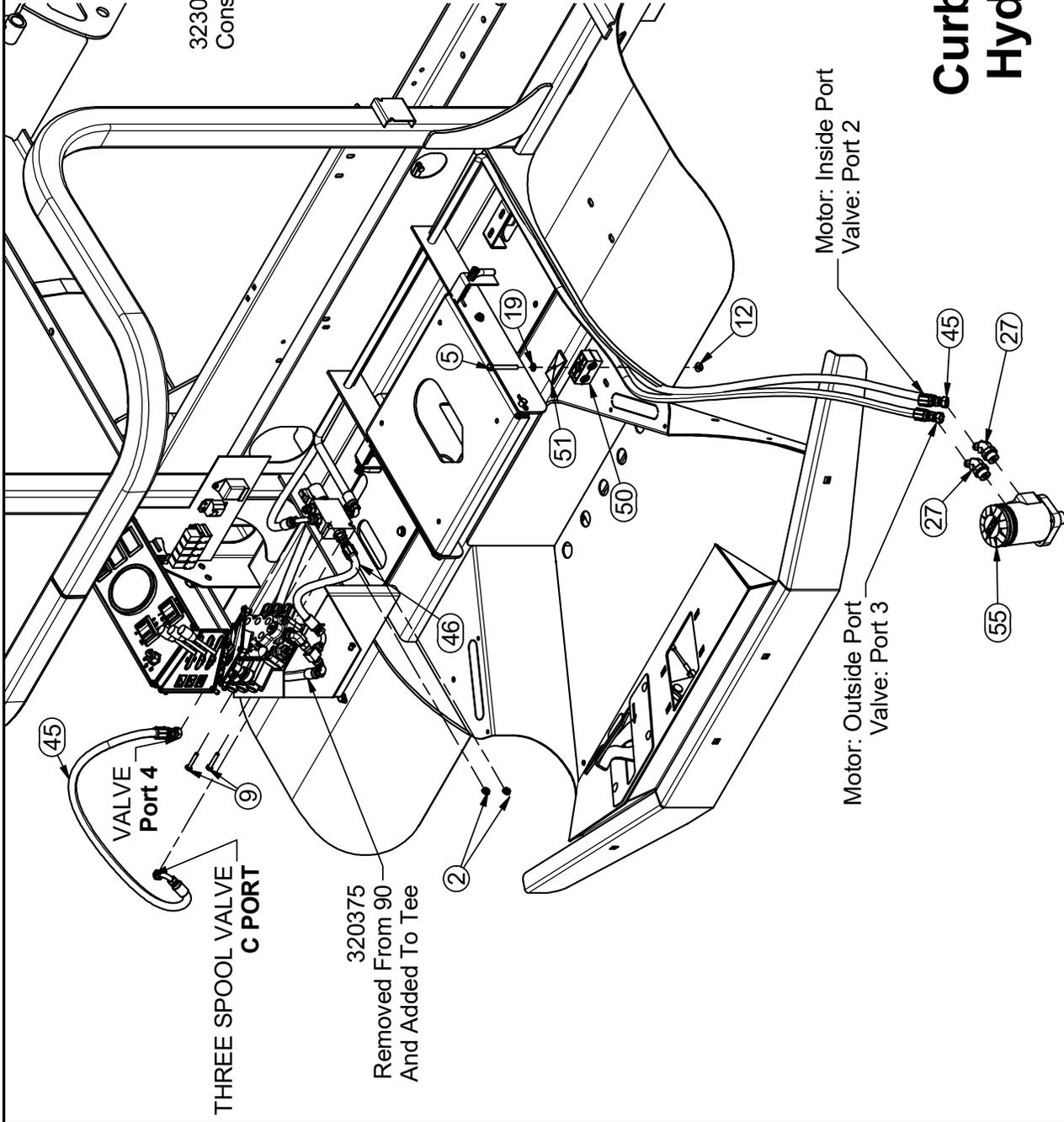


THE INTERNAL H.P. CARRYOVER PLUG MUST BE INSTALLED IN THIS VALVE FOR POWER BEYOND OPERATION.

PRESSURE RELIEF VALVE
NOTE: THIS RELIEF LIMITS THE MAX PUMP PRESSURE IN THE CIRCUIT.

VALVE WITH POWER BEYOND CONFIGURATION

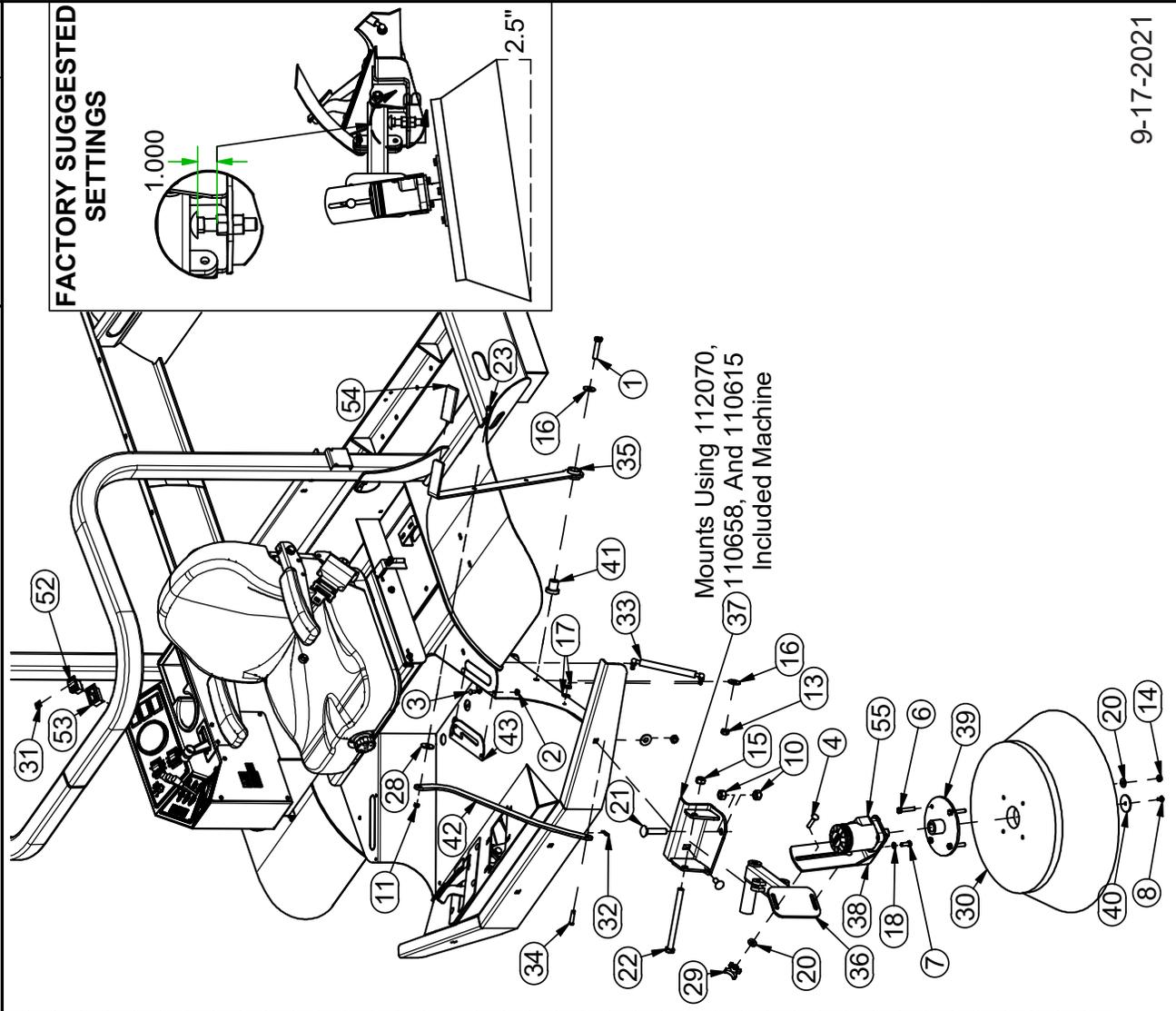
323069 (48) mounts inside console.
Console Wall hidden for clarity.



Curb Brush Hydraulics

300092 REV: NC

Parts List		DESCRIPTION
ITEM	QTY	PART # DESCRIPTION
1	1	110125 BOLT, 1/2-13 X 2.25 GR 5 ZINC PLATE
2	2	110290 NUT, 1/4-20 WIZ FLANGE
3	2	110358 Bolt, 1/4-20 X 0.625 in Carriage
4	2	110392 Bolt, 3/8-16 X 2 in Carriage
6	4	110400 BOLT, 3/8-16 X 2.0
7	4	110420 BOLT, 3/8-16 X 1.0
8	1	110434 BOLT, 1/4-20 X 0.5, WIZ FLANGE
10	2	110597 NUT, 5/8-11 HEX
11	3	110600 NUT, 5/16-18, UNITORQUE LOCK
13	1	110615 NUT, 1/2-13, UNITORQUE LOCK
14	4	110621 NUT, 3/8-16, UNITORQUE LOCK
15	1	110639 NUT, 5/8-11, UNITORQUE LOCK
16	2	110658 WASHER, 1/2" FLAT STANDARD
17	2	110665 WASHER, 5/16" FLAT STANDARD
18	4	110672 WASHER, 3/8" LOCK
20	6	110676 WASHER, 3/8" FLAT STANDARD
21	1	110895 Bolt, 5/8-11 X 3 in Carriage
22	1	111189 Bolt, 5/8-11 X 7.5, HHCS Gr 5 Zinc
23	1	111199 BOLT, 3/8 X .625 SHOULDER SHCS
28	1	211747 FRICTION WASHER 1.5"
29	2	302063 KNOB, ALUMINUM 3/8-16
30	1	302064 BRUSH, 24" x 6" x 40 DEG
31	1	302160 DECAL, CURB BRUSH
32	1	312022 CLIP, HAIRPIN 3/32 x 1.625
33	1	312039 GAS SPRING, 4" STROKE, 120LBS
34	1	312041 CLEVIS PIN, 3/8 X 1.5, ZINC
35	1	315402 WLDMNT, CURB BRUSH HANDLE LEFT, SWPR
36	1	315403 WELDMENT, CURB BRUSH ARM, SWPR
37	1	315405 WELDMENT, CURB BRUSH BASE LEFT, SWPR
38	1	315406 WELDMENT, CURB BRUSH MOUNT, SWPR
39	1	315407 WELDMENT, BRUSH ADAPTER, SWPR
40	1	317258 WASHER, 2.0 X .344 X .12
41	1	317261 TENSIONER, GEAR MOUNT, BUSHING
42	1	317398 LINK, CURB BRUSH LIFT
43	1	317411 PLATE, CURB BRUSH NOTCH
49	1	332070 HARNESS, CURB BRUSH
52	1	832005 SWITCH, PADDLE, CARLING (29253)
53	1	832024 MOUNT, SWITCH (VMS)
54	1	910044 COVER, VINYL .25 X 1.5 X 4 GRIP
55	1	922004 MOTOR, EATON 101-1009



9-17-2021

To Install Wiring Harness (332070):

Disconnect Harness 332064 & 332063 At The 6 Cavity Deutsch Connector. This Plug Is Located Inside Operator's Console. It Is The Only 6 Cavity Deutsch Connector In The Console. Connect Harness 332064 and 332063 To The Harness Included With This Kit (332070)

Connect 2 Cavity Deutsch, Black Wire Only, To One Of The 3 Available Accessory Plugs (Harness 332064). These 2 Cavity Plugs Should Be Located Near The Fuse Block Inside The Console.

Connect Packard 10 Cavity Switch To 832005 (P# 52 Shown To The Left).

Connect 2 Cavity Deutsch, Blu/Org & Blk, To 323069 Valve.

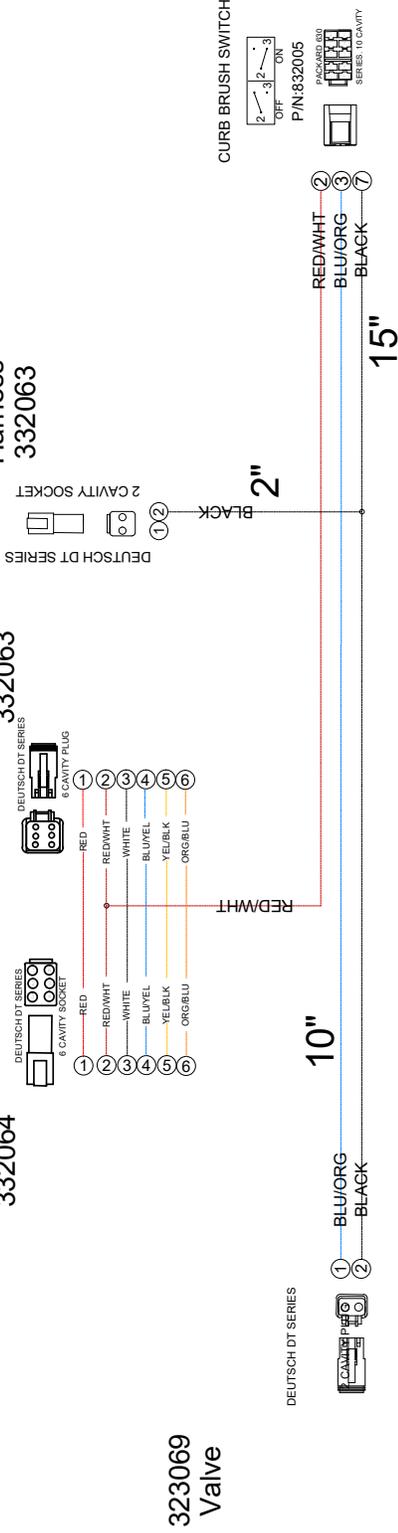
wiring harness below for reference

SWEeper CURB BRUSH WIRING SCHEMATIC

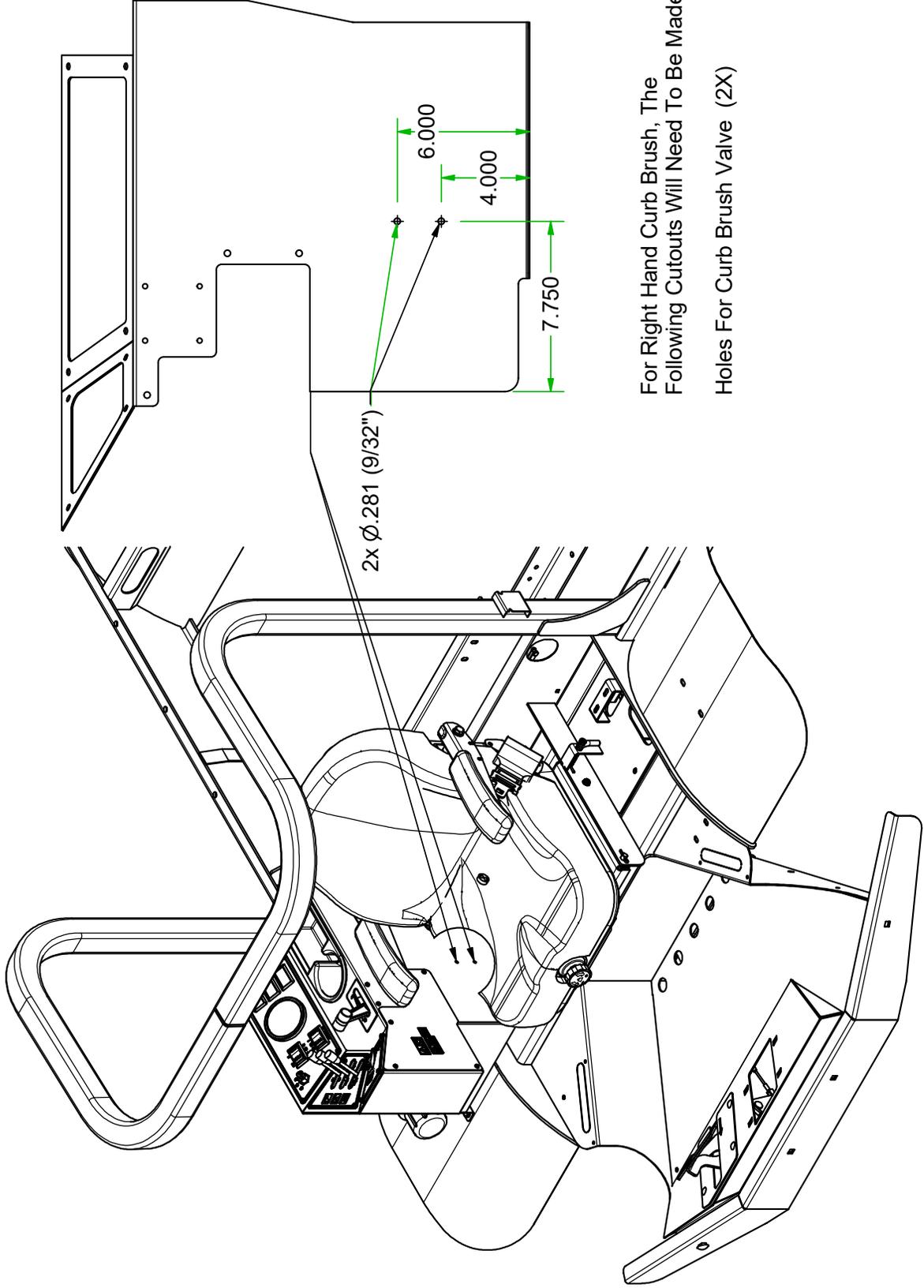
Harness
332064

Harness
332063

To Switch
832005
Installed In
Dashboard

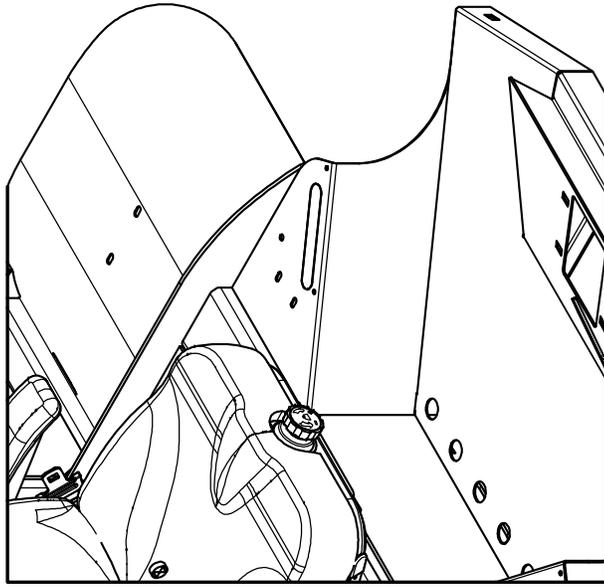
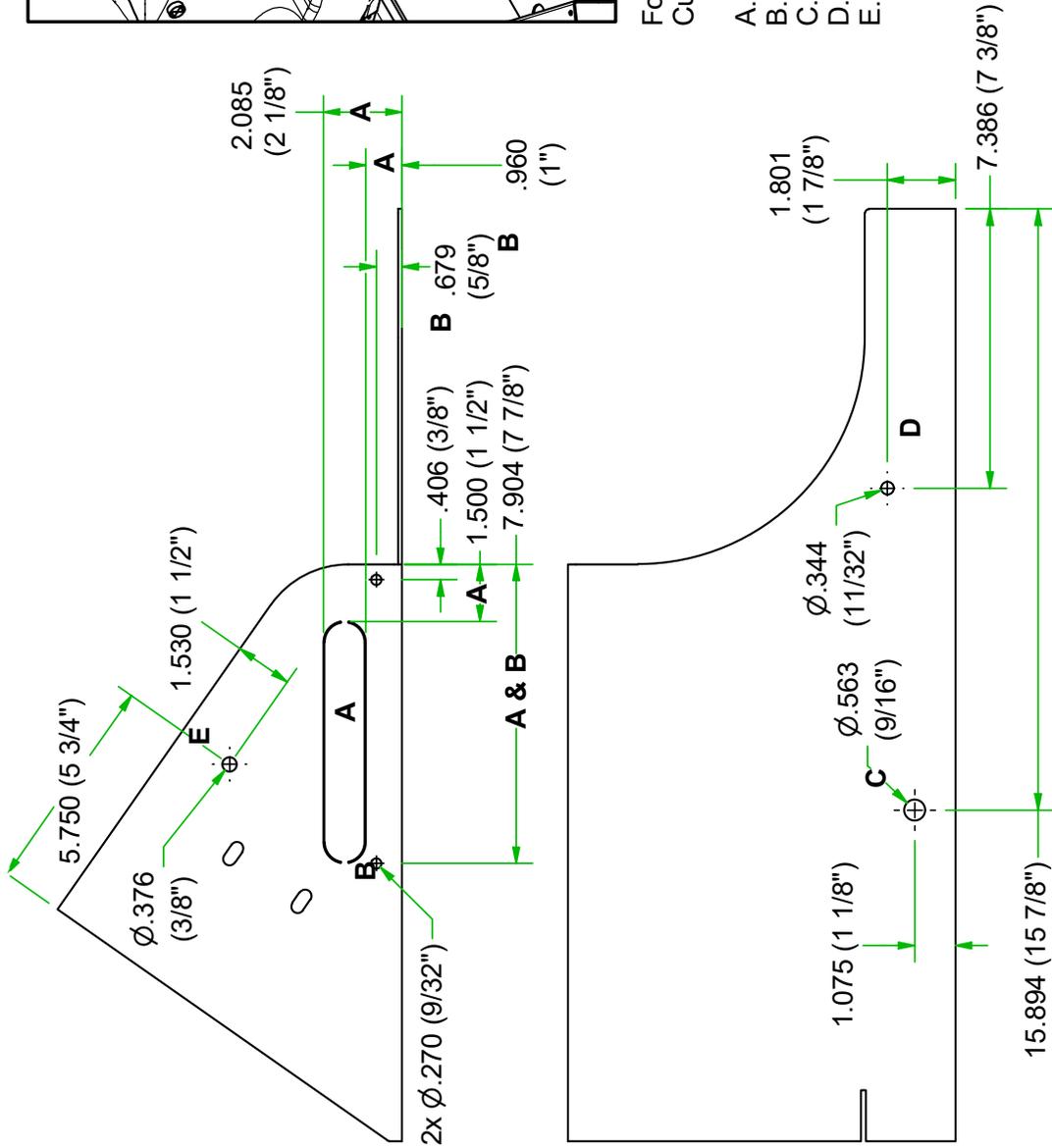


MODIFICATION INSTRUCTIONS (HYDRAULICS INSTALL)



For Right Hand Curb Brush, The Following Cutouts Will Need To Be Made:
Holes For Curb Brush Valve (2X)

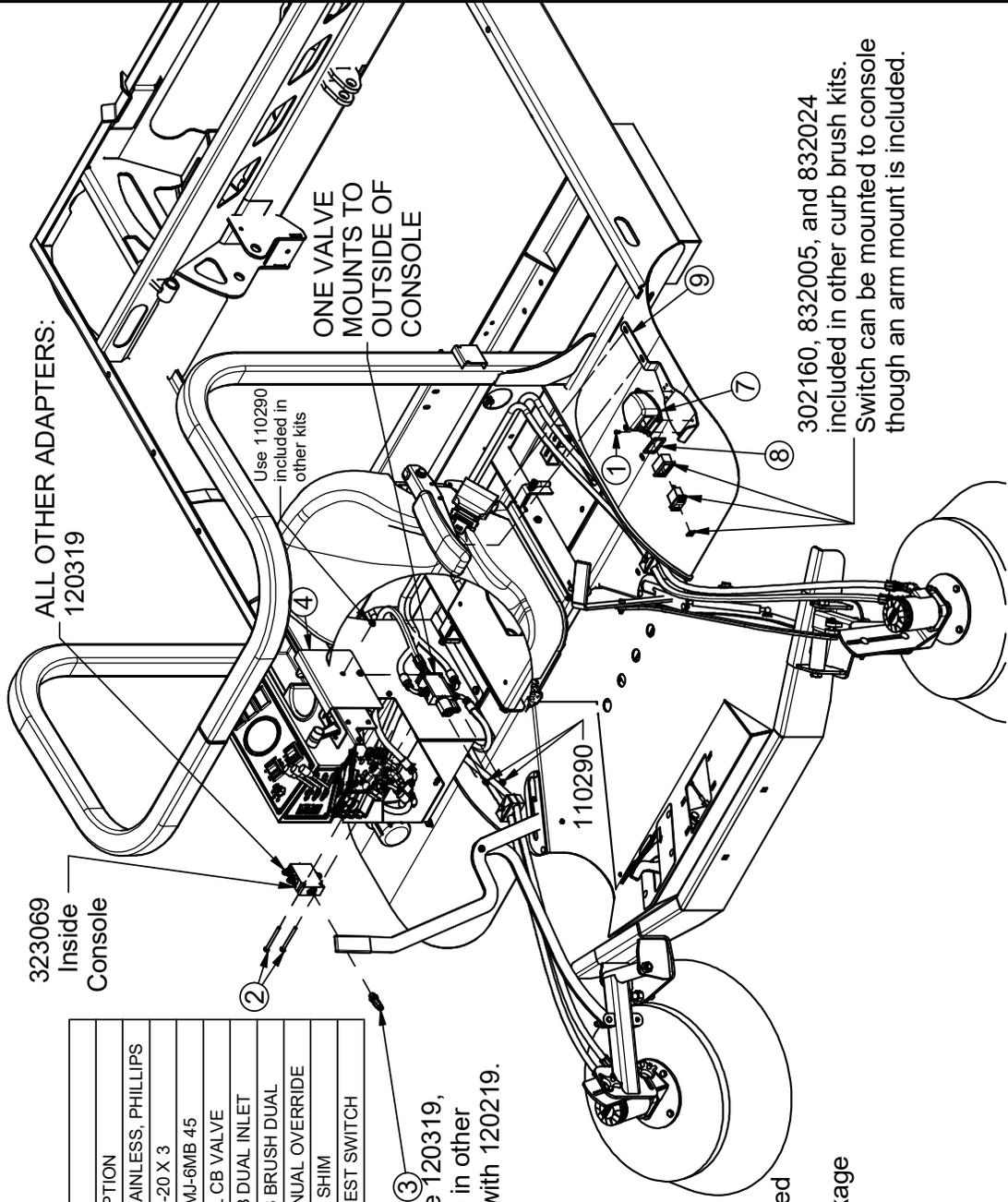
MODIFICATION INSTRUCTIONS (MECHANICAL INSTALL)



For Left Hand Curb Brush, The Following Cutouts Will Need To Be Made.

- A. Cutout For Handle Mount (1X)
- B. Holes For Curb Brush Plate Mount (2X)
- C. Pivot Hole For Curb Brush Handle (1X)
- D. Gas Spring Mount Hole (1X)
- E. Hose Clamp Hole Mount

HAWK DUAL CURB BRUSH INSTALL



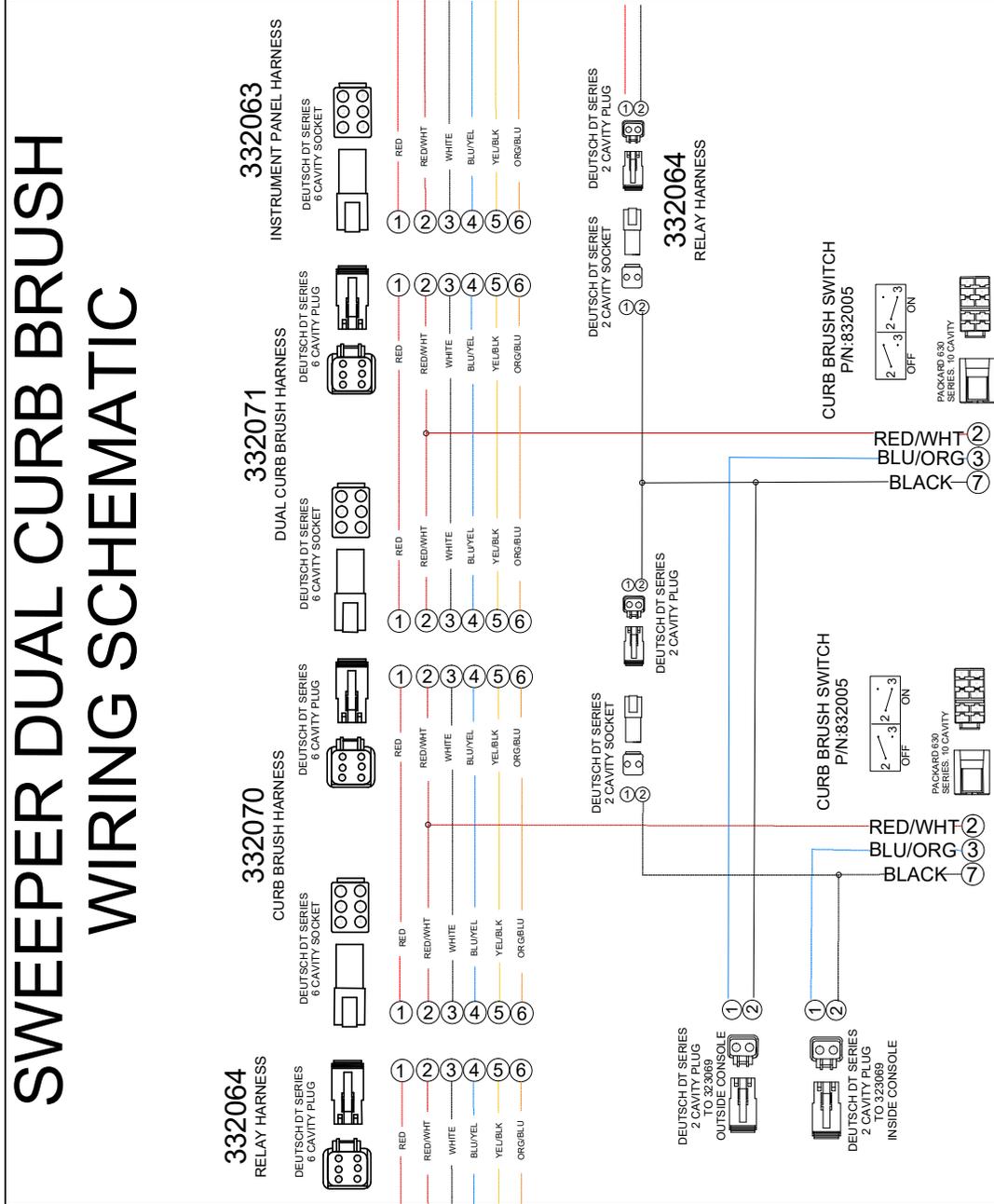
Parts List

ITEM	QTY	PART #	DESCRIPTION
1	4	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
2	2	110844	BOLT, 1/4-20 X 3
3	1	120219	ADAPTER, 6MJ-6MB 45
4	1	317423	SHIELD, DUAL CB VALVE
5	1	320404	HOSE ASSY, CB DUAL INLET
6	1	332071	HARNES, CURB BRUSH DUAL
7	1	802035	BOX, PLASTIC, MANUAL OVERRIDE
8	1	810747	SWITCH SHIM
9	1	810818	MOUNT, ARM REST SWITCH

③ Replace 120319, shown in other manuals, with 120219.

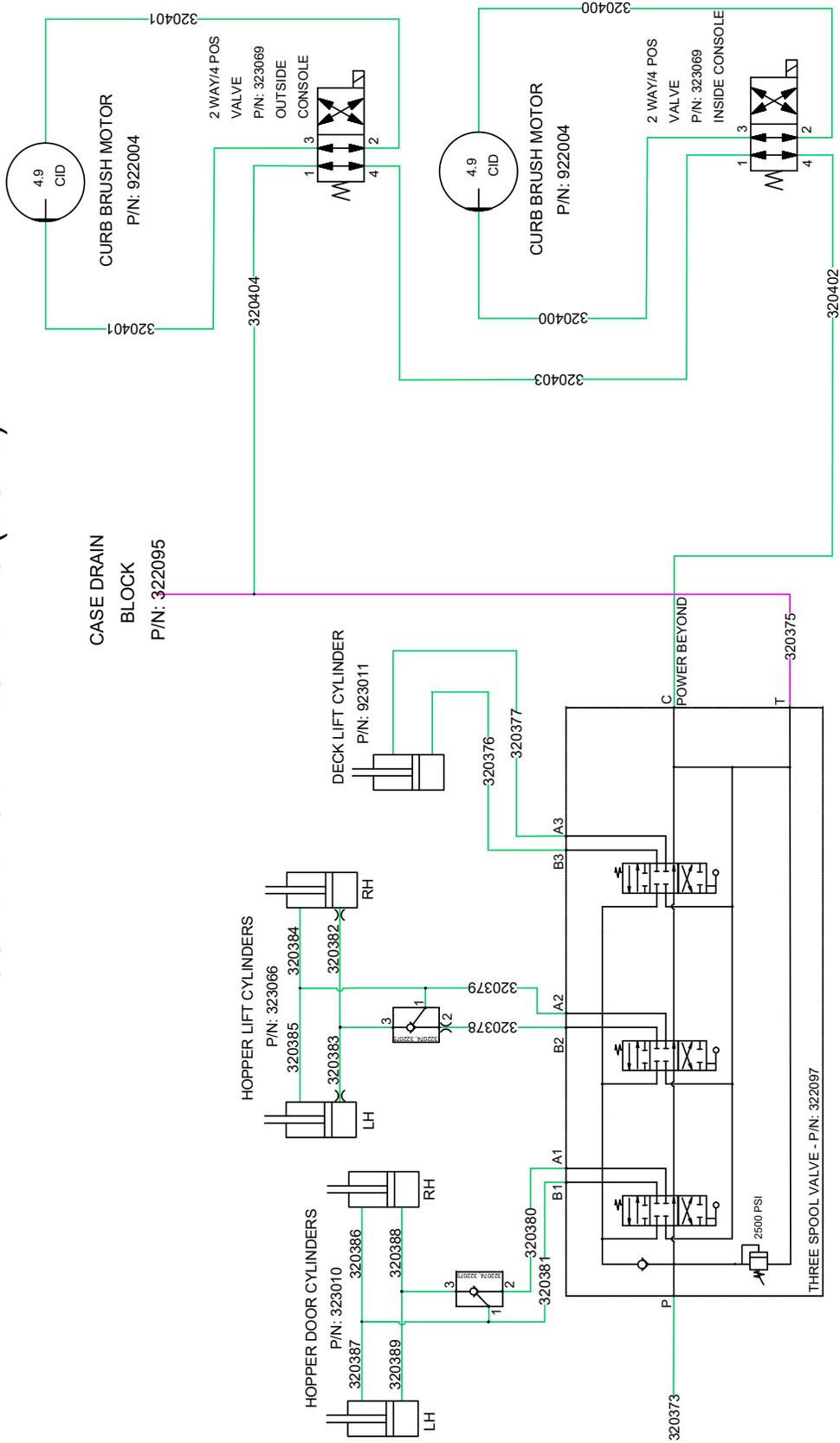
Use Assembly Instructions Included With 300090 And 300092 For Assembling Brush Mounts And Linkage

SWEEPER DUAL CURB BRUSH WIRING SCHEMATIC



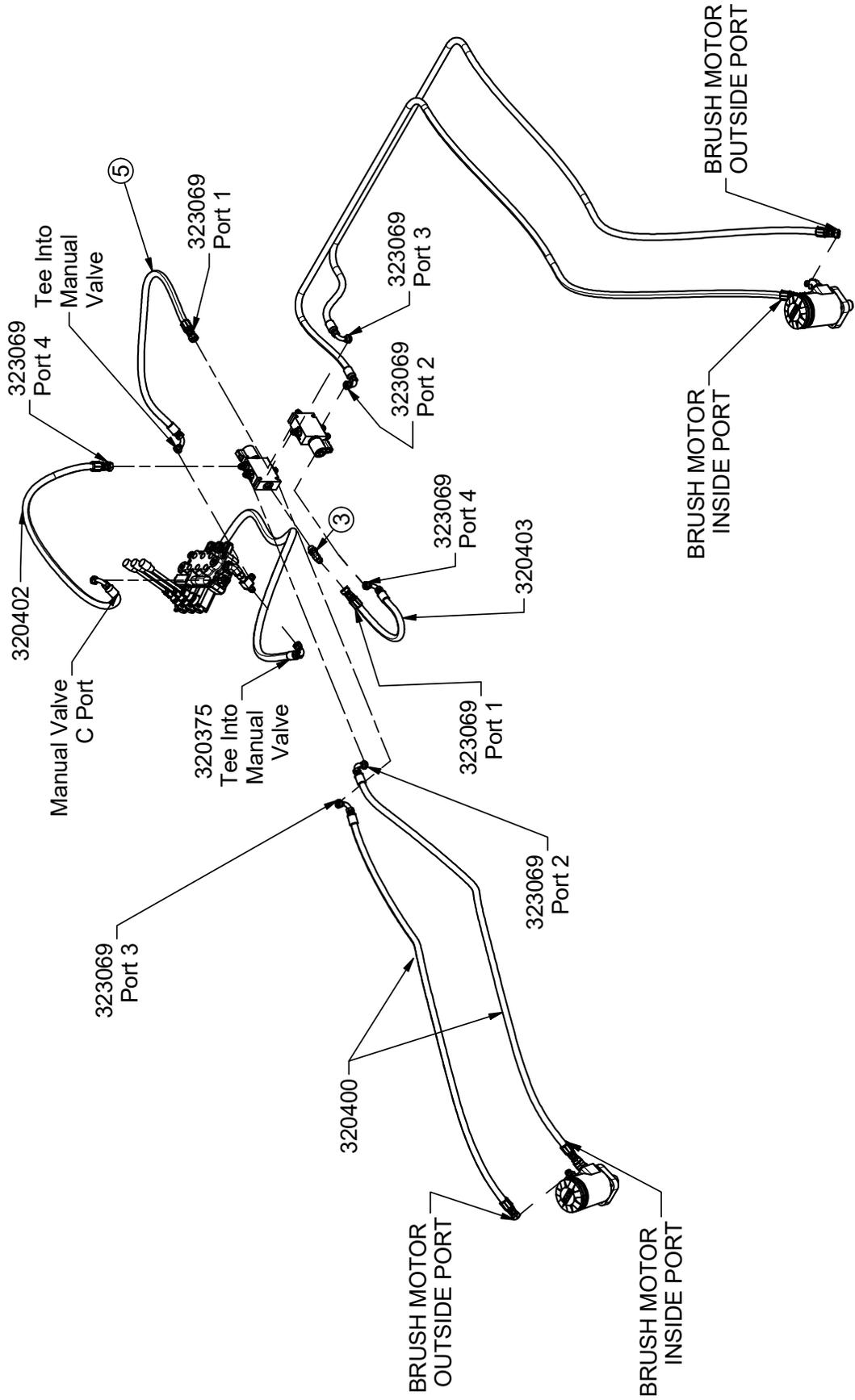
300094 REV: NC

CURB BRUSH PLUMBING (DUAL)



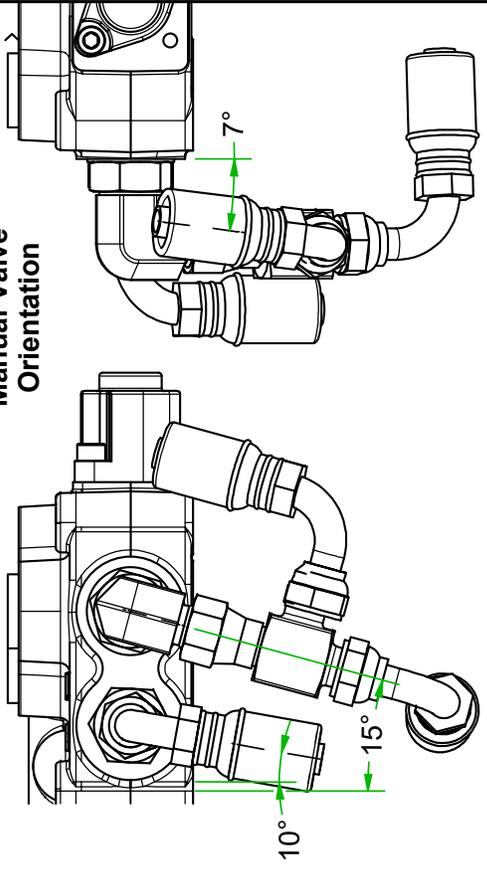
9-17-2021

See Page 5. For Fitting Orientation

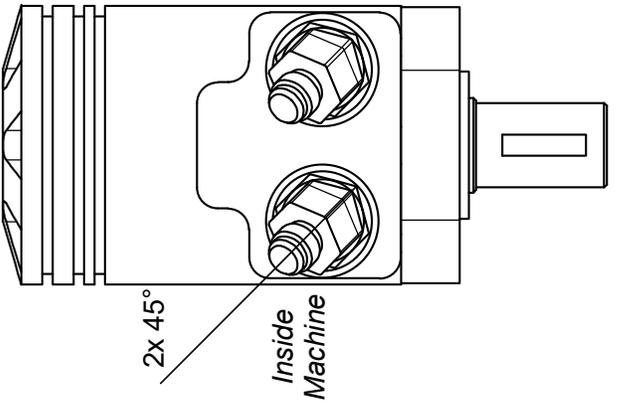


300094 REV: NC

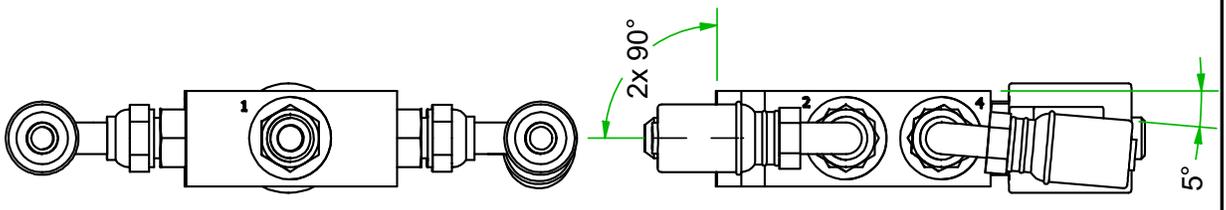
Manual Valve Orientation



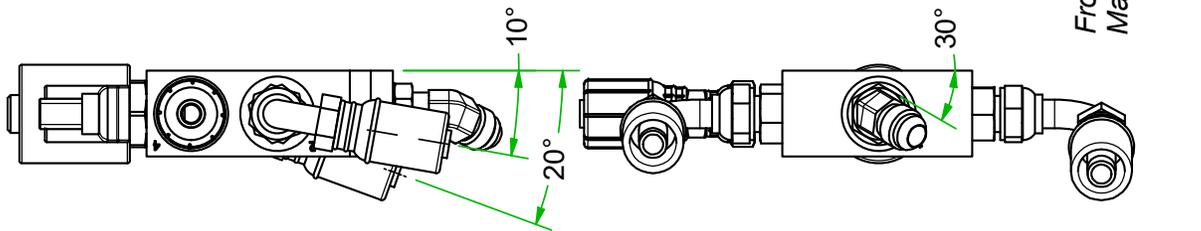
Motor Orientation
(Right Shown, Left)
(Mirrors shown below)



Outside Valve Orientation



Inside Valve Orientation



9-17-2021

NOTES

Harper Industries, Inc.
151 E. Highway 160
Harper, KS 67058

Telephone: 620-896-7381
Toll-Free: 800-835-1042
Fax: 620-896-7129

Website: www.harperindustries.com

E-mail: info@harperindustries.com