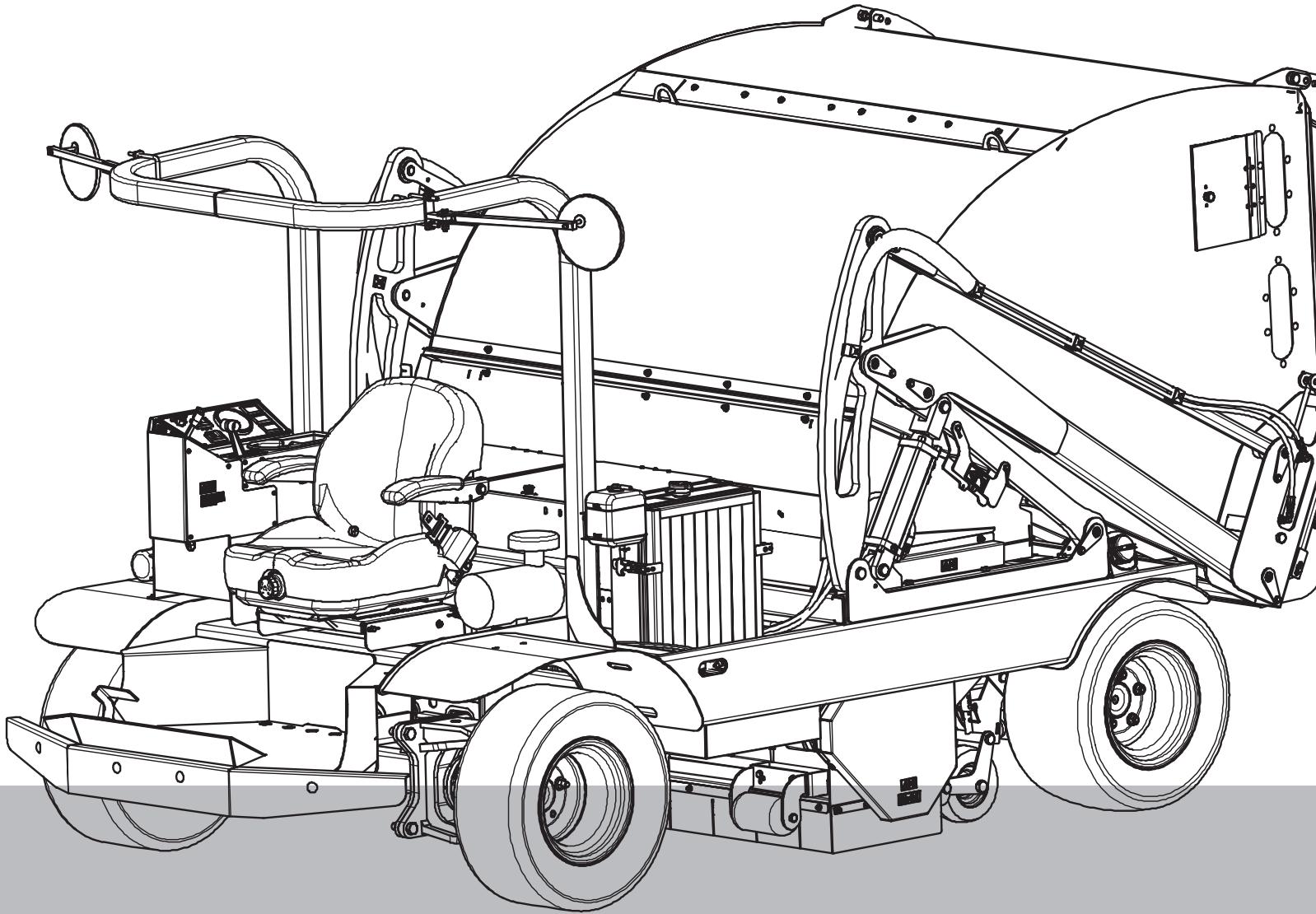


HK 4400

Serial Number: 23A01+
Part # 301011



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 HK4400 Sweeper. Please read and understand all instructional material included with the Sweeper or its components before assembling and operating the equipment.

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

THIS SYMBOL:



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.



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



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

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

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

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

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

HK4400

HARPER
TURF EQUIPMENT

LIMITED WARRANTY

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

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

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

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

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

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

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

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

RECORDS

Date of Purchase _____ / _____ / _____

Dealer's Name _____

Dealer's Phone _____

Serial Number Machine _____

Serial Number Engine _____

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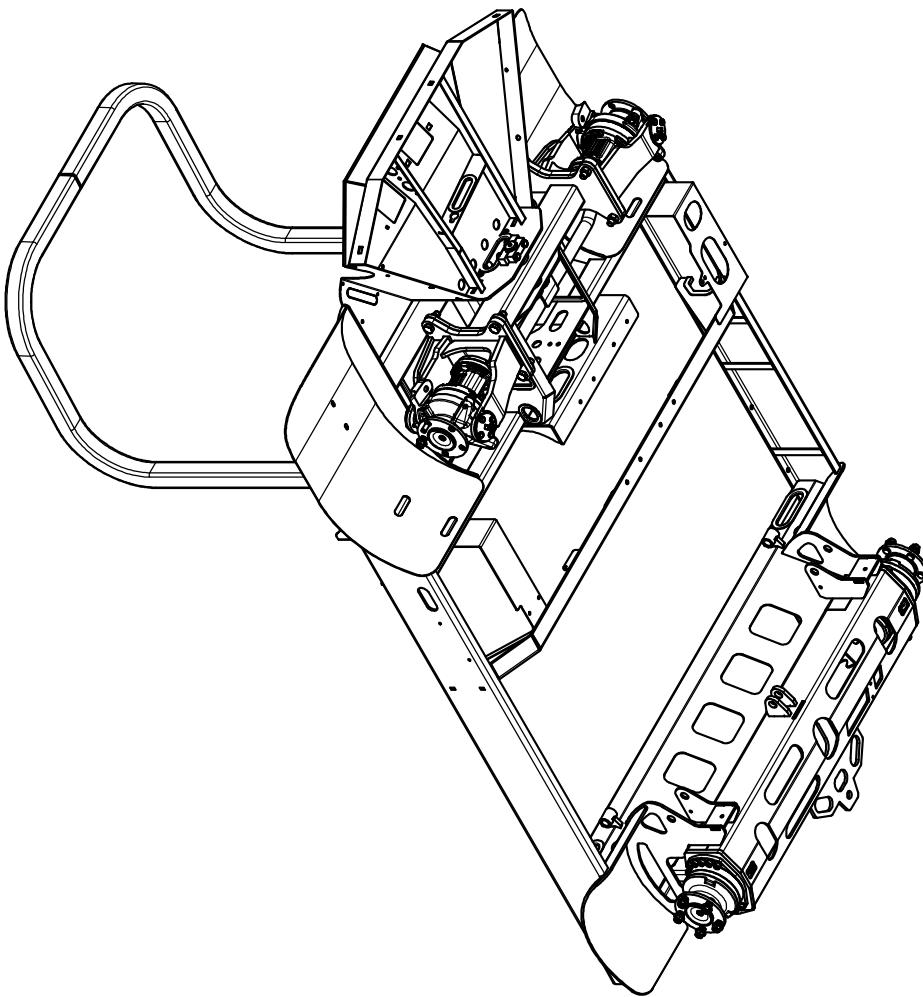
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WHEEL MOTOR & AXLE INSTALLATION



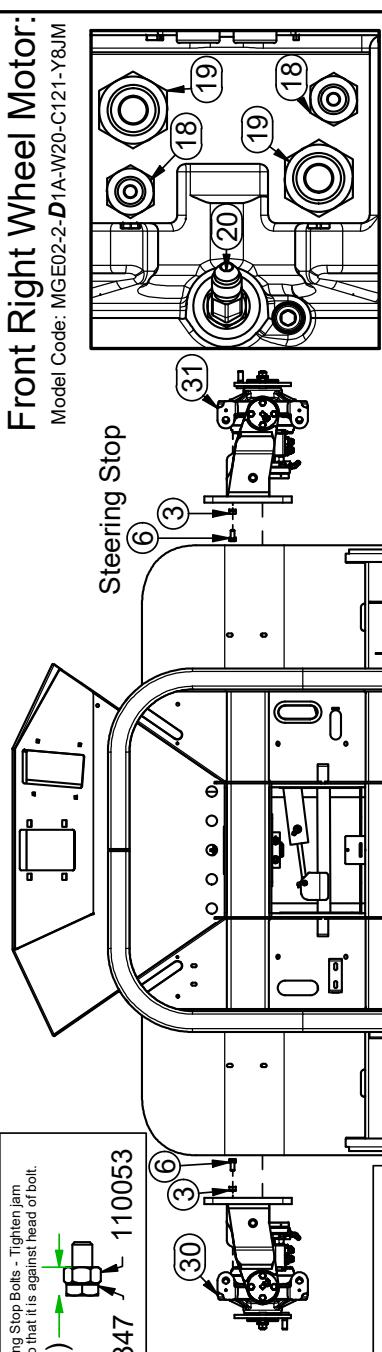
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	10'	100365	MOLDING - EDGE GUARD, 5/32"
2	1	102136	Clevis Pin, 5/8 x 1.5
3	2	110053	Hex Nut M12 X 1.75 Thd
4	4	110129	BOLT, 1/2-13 X 2.75 HEX
5	20	110244	BOLT, 1/2-13 X 1.5 SHCS
6	2	110347	BOLT, M12X1.75 X 25 Gr 10.9
7	8	110454	BOLT, 3/4-10 X 2.5
8	1	110600	NUT, 5/16-18, UNITORQUE LOCK
9	4	110610	NUT, 1/2-13
10	8	110625	NUT, 3/4-10, UNITORQUE LOCK
11	1	110665	WASHER, 5/16" FLAT STANDARD
12	24	110666	WASHER, 1/2" LOCK
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	13'	112084	Rubber Seal, .625 X .25
17	2	120235	ADAPTER, 4MJ-4MB90
18	10	120249	ADAPTER, 4MJ-6MB
19	8	120446	ADAPTER, 8MJ-10MB
20	2	120732	ADAPTER, 4MJ-6MB 45
21	1	200029	COTTER PIN, 5/32 X 1
22	2	302129	NUT, 7/18 HEX JAM GR 2
23	2	311459	KEEPER - AXLE PIVOT, LOWER
24	2	312032	Tie Rod End, RH
25	1	315338	WELDMENT, FRONT AXLE
26	1	315350	FRAME WELDMENT, SWEEPER
27	1	315367	WELDMENT, ROUND STEERING LINK
28	1	317174	PIN, FRONT AXLE
29	1	323010	CYLINDER - STEERING, 1-3/4 X 6
30	1	323055	MOTOR, LH FRONT WHEEL, 24.3 CI, 2-SPD
31	1	323056	MOTOR, RH FRONT WHEEL, 24.3 CI, 2-SPD
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	1	510174	GREASE ZERK, 1/4-28 ST

Front Left Wheel Motor: WHEEL MOTOR INSTALLATION

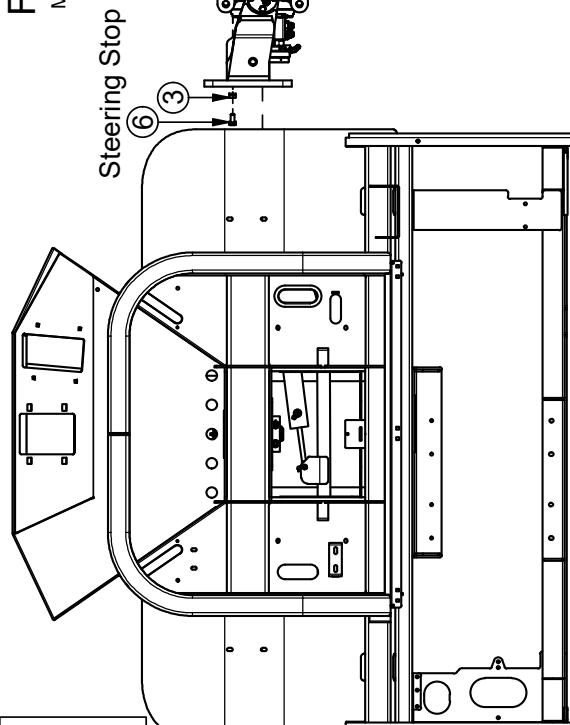
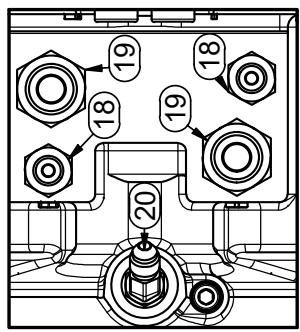
Model Code: MGE02-2-G1A-W10-A121-Y8-JM

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

(.69)
110347
110053



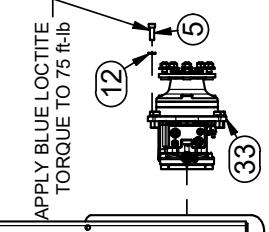
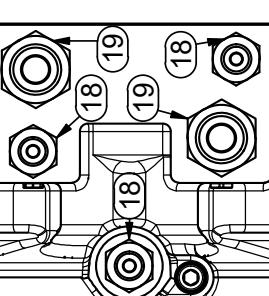
Front Right Wheel Motor:
Model Code: MGE02-2-D1A-W20-C121-Y8-JM



Parts List

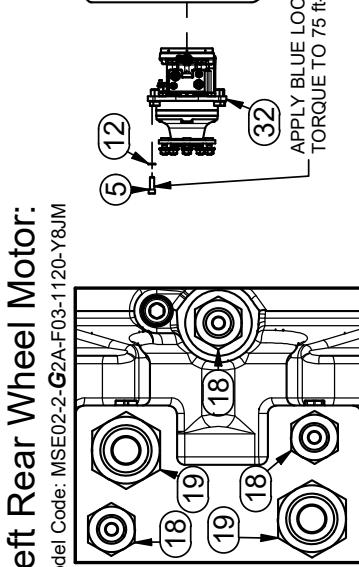
ITEM	QTY	PART #	DESCRIPTION
3	2	110053	Hex Nut M12 X 1.75 Thd
5	20	110244	BOLT, 1/2-13 X 1.5 SHCS
6	2	110347	BOLT, M12x1.75x25 Gr-10.9
18	10	120249	ADAPTER, 4M1-6MB
19	8	120446	ADAPTER, 8M1J-10MB
20	2	120732	ADAPTER, 4M1-6MB 45
21	1	200029	COTTER PIN, 5/32 X 1
30	1	323055	MOTOR, LH FRONT WHEEL, 24.3 CI, 2-SPD
31	1	323056	MOTOR, RH FRONT WHEEL, 24.3 CI, 2-SPD
32	1	323057	MOTOR, LH REAR WHEEL, 24.3 CI, 2-SPD
33	1	323058	MOTOR, RH REAR WHEEL, 24.3 CI, 2-SPD

Right Rear Wheel Motor:
Model Code: MSE02-2-D2A-F03-1120-Y8-JM



APPLY BLUE LOCTITE TORQUE TO 75 ft-lb

ITEM	QTY	PART #	DESCRIPTION
5	1	12	STEERING STOP BOLT
12	1	33	JAM NUT

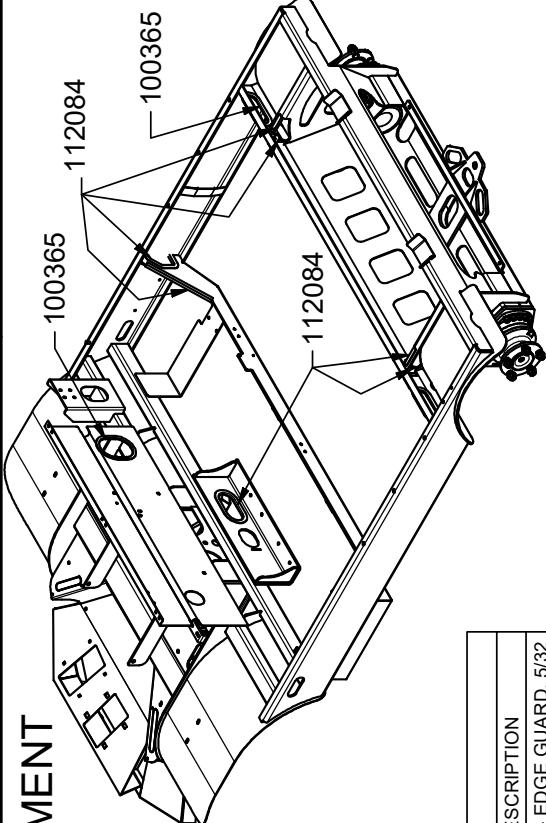
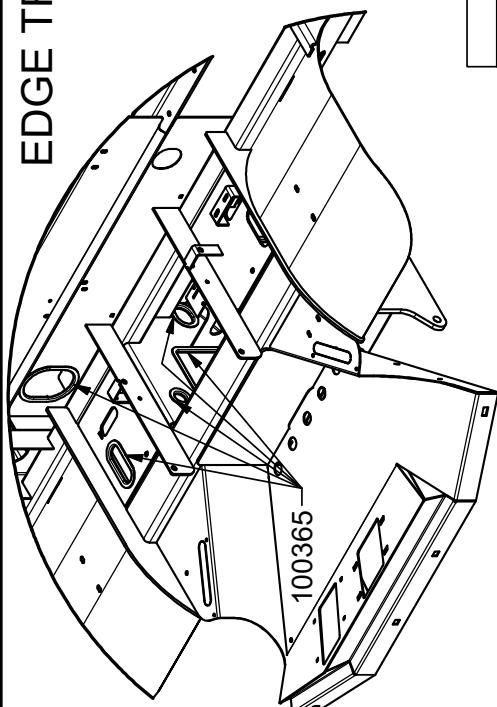


ITEM	QTY	PART #	DESCRIPTION
5	1	12	STEERING STOP BOLT
12	1	32	JAM NUT

ITEM	QTY	PART #	DESCRIPTION
5	1	12	STEERING STOP BOLT
12	1	32	JAM NUT

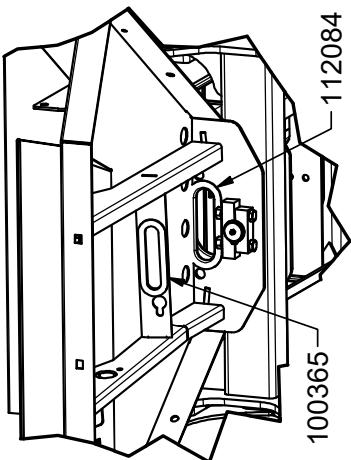
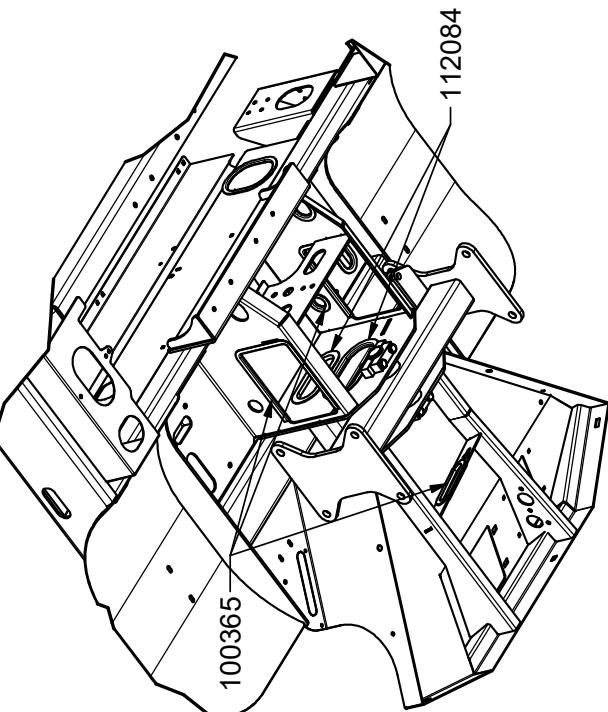
ITEM	QTY	PART #	DESCRIPTION
5	1	12	STEERING STOP BOLT
12	1	32	JAM NUT

EDGE TRIM PLACEMENT

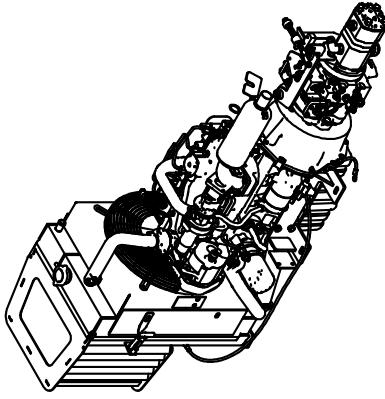


Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	10'	100365	MOLDING - EDGE GUARD, 5/32
16	13'	112084	Rubber Seal, .625 X .25

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



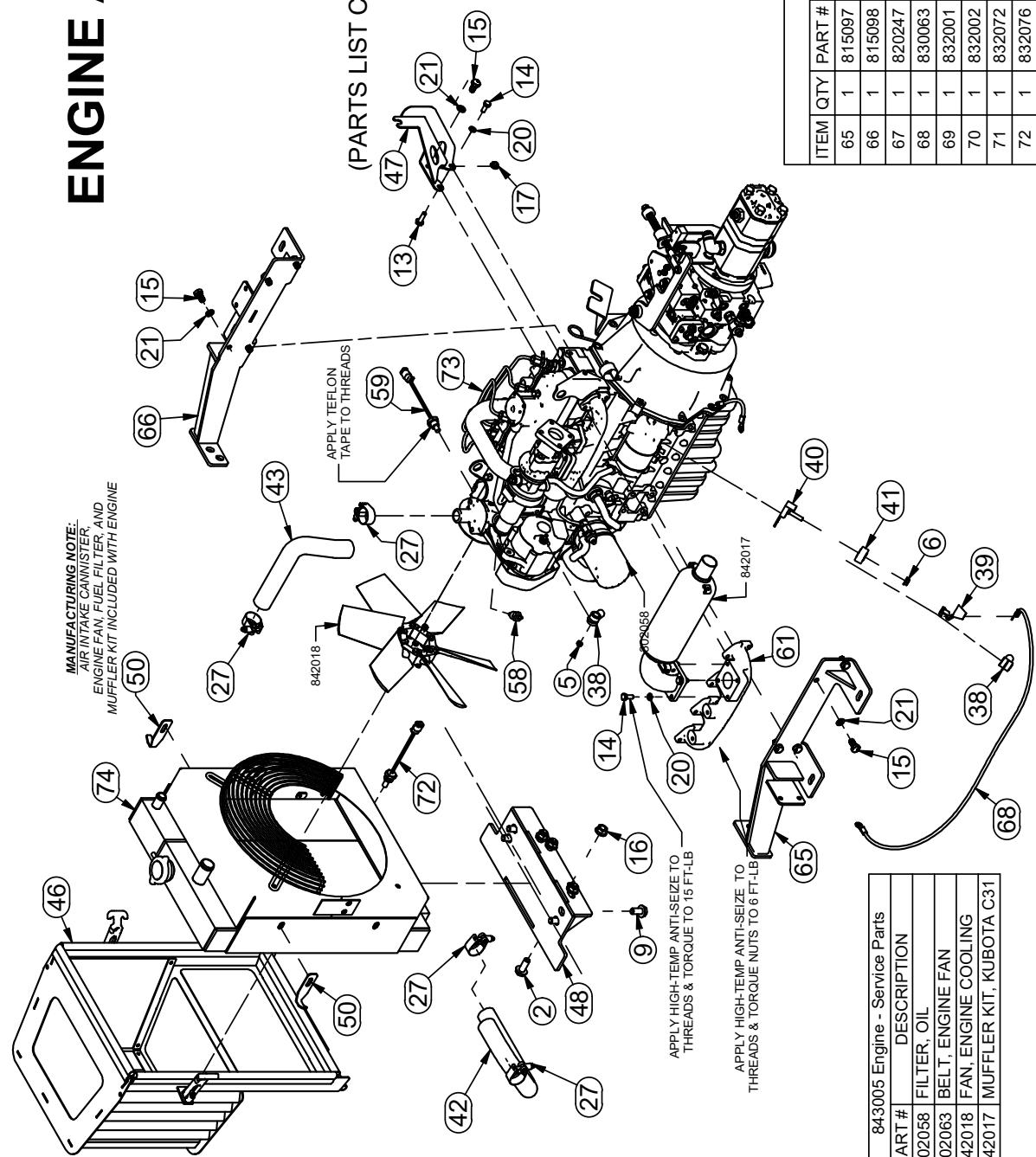
ENGINE ASSEMBLY



(PARTS LIST CONTINUED
ON PAGE 2)

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	102074	Clamp, Adel .75w x 1.25id x 406 Hole
2	4	110001	BOLT, 1/2-13 X 1.25, WIZ FLANGE
3	2	110020	Bolt, 5/16-18 X 0.75 in Carriage
4	6	110069	WASHER, 5/16" FLAT SAE
5	3	110074	Hex Nut M6 X 1.0 Thd
6	1	110141	NUT, M8 X 1.25 WIZFLANGE
7	2	110155	WASHER, 3/8" FLAT SAE
8	2	110176	BOLT, M10x1.5 x 35 SHCS
9	4	110220	BOLT, 1/2-13 X 1, WIZ FLANGE
10	1	110300	COTTER PIN, 3/32 X 0.75
11	2	110419	BOLT, 1/2-13 X 1.75
12	2	110422	BOLT, 5/16-18 X .75
13	1	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
14	5	110469	BOLT, M8x1.25 x 20 Gr 10.9
15	9	110560	BOLT, M10-1.25 X 20 HHCS 8.8 PLAIN
16	4	110588	NUT, 1/2-13 WIZ FLANGE
17	3	110606	NUT, 5/16-18 WIZ FLANGE
18	3	110623	NUT, 5/16-24
19	2	110666	WASHER, 1/2" LOCK
20	7	110674	WASHER, 5/16" LOCK
21	11	110689	Washer, M10, Lock
22	2	110692	WASHER, 6mm LOCK
23	1	110728	CLAMP, ADEL DOUBLE .75WX.5IDX 406HOLE
24	2	110931	BOLT, M6x1 x 25 Gr 8.8
25	1	111196	Connecting Rod, 5/16-24 X 5/16-24 X 6.0, ZINC
26	1	111197	Spring, Compression 5.12 L X .54 OD X .049 Wire
27	4	112101	CLAMP, 1.50", T-BOLT
28	1	120144	ADAPTER, 6MJ-10MB
29	1	120224	ADAPTER, 10MJ-10MB90
30	2	120249	ADAPTER, 4MJ-6MB
31	1	120254	ADAPTER, 12MJ-12MB
32	2	120256	ADAPTER, 12MJ-16MB

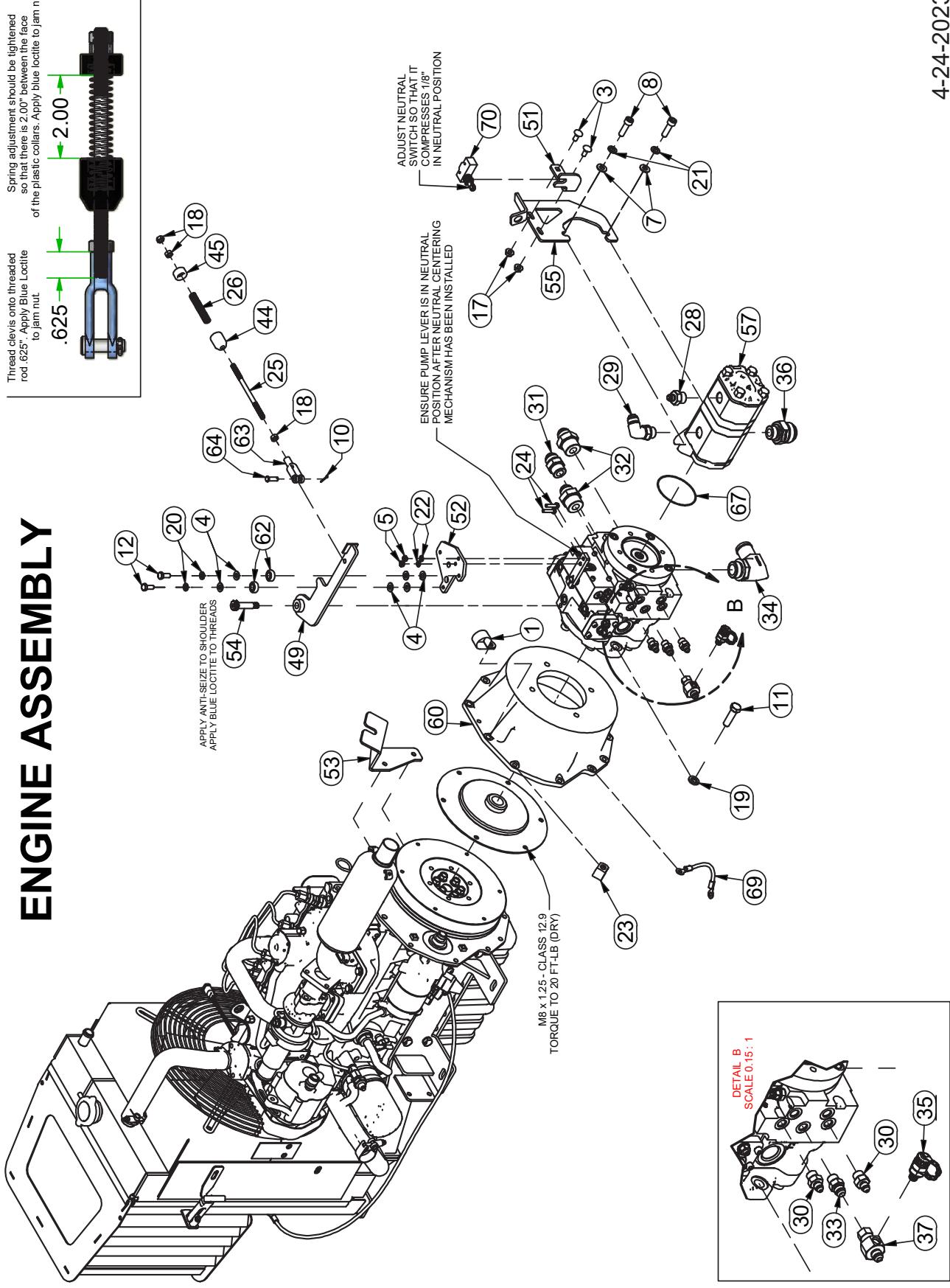
ENGINE ASSEMBLY



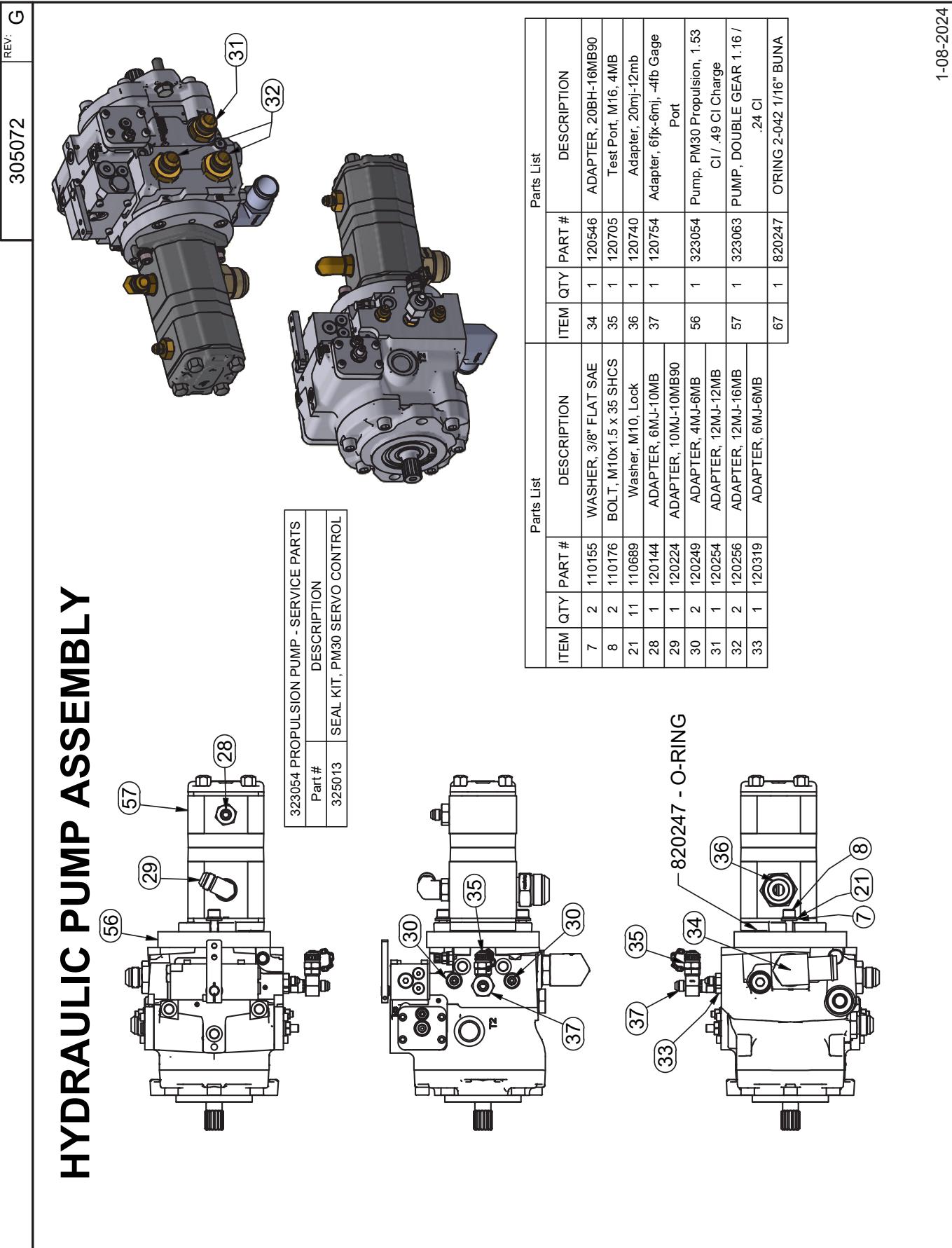
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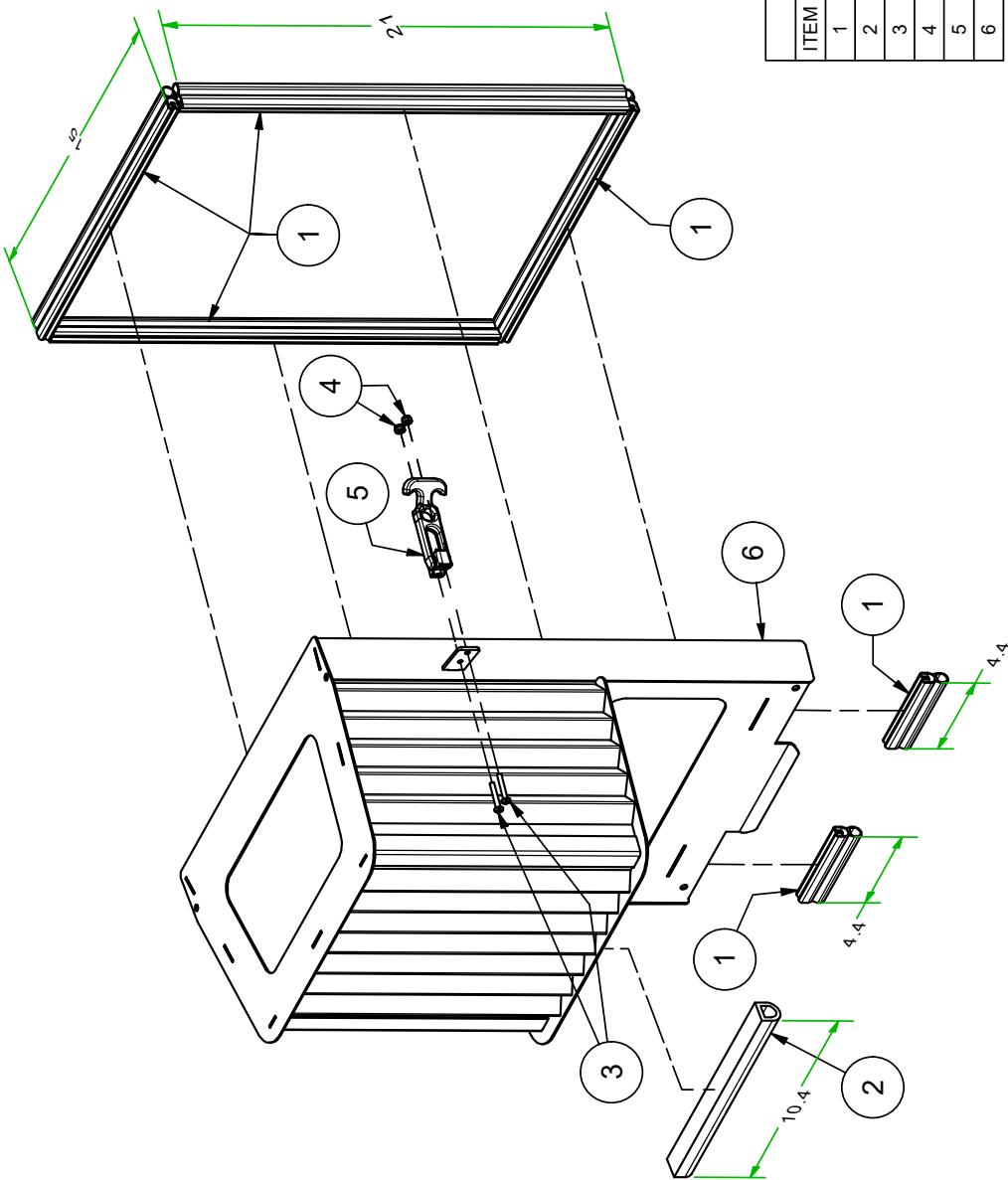
ENGINE ASSEMBLY



HYDRAULIC PUMP ASSEMBLY



305112 REV: NC



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 Phillips
4	4	110631	NUT, 10-24 LOCK NYLON INSERT
5	2	112105	LATCH, RUBBER T-HANDLE DRAW
6	1	315400	WELDMENT, RADIATOR SCREEN

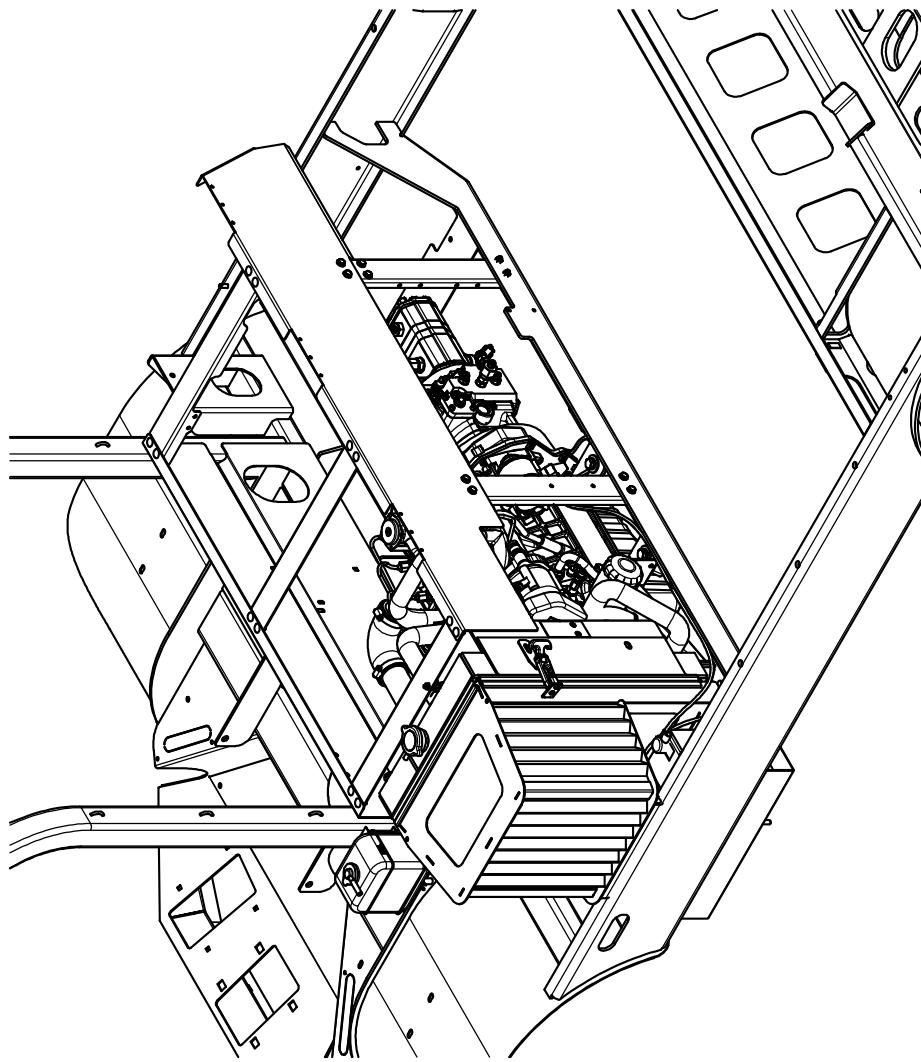
REPLACES 305073

RADIATOR SCREEN ASSEMBLY

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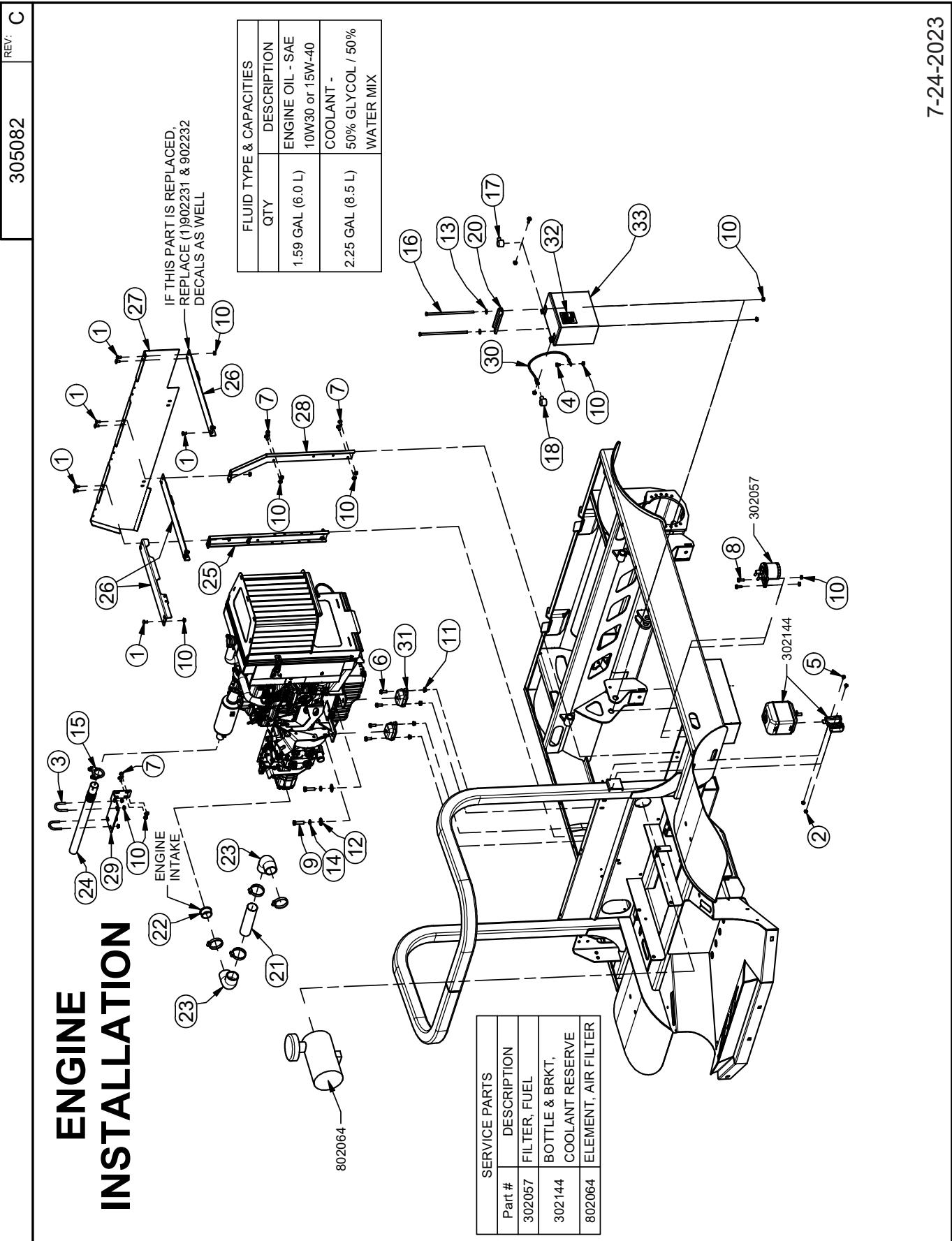
ENGINE INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	12	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	2	110290	NUT, 1/4-20 WIZ FLANGE
3	2	110362	U-BOLT, 5/16
4	1	110426	BOLT, 5/16-18 X 0.5, WIZ FLANGE
5	2	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE
6	8	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
7	10	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
8	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
9	4	110577	BOLT, M12x1.75 x 45 Gr 10.9
10	31	110606	NUT, 5/16-18 WIZ FLANGE
11	8	110645	NUT, 3/8-16 WIZ FLANGE
12	4	110658	WASHER, 1/2" FLAT STANDARD
13	2	110665	WASHER, 5/16" FLAT STANDARD
14	4	110666	WASHER, 1/2" LOCK
15	1	110779	CLAMP, 1 1/2" EXHAUST
16	2	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	3111603	BRACKET - HOLD DOWN BATTERY
21	1	3111941	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	800195	DECAL, RECYCLE BATTERY
33	1	832011	BATTERY, SEALED GEL W/L TERMINAL



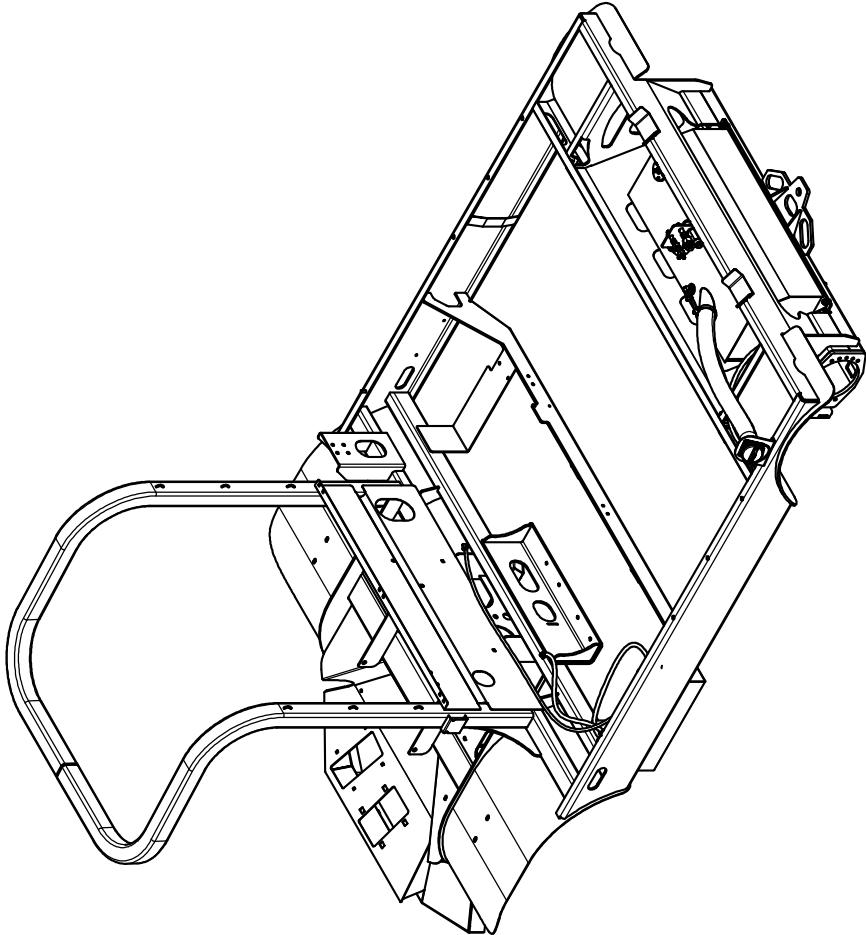
7-24-2023

ENGINE INSTALLATION



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, 5H-6FBX
18	1	120487	ADAPTER, 12MJ-12MJ-12MJ BULKHEAD
19	1	120495	Nut, Lock, Bulkhead, -12
20	1	120516	Adapter, 12FJ-12mj90tube
21	1	120655	Adapter, 3hb-4fj
22	1	301010	HOSE, FUEL FILL
23	1	302137	FUEL CAP, 2" DIESEL, GREEN
24	1	315301	WELDMENT, DIESEL FILLER NECK
25	1	315342	WELDMENT, FUEL TANK
26	1	317175	BRKT, FUEL FILL
27	1	332058	Fuel Level Sender, 9.5" Depth
28	1	500172	GASKET, FUEL SENDER
29	1	500209	FITTING, REDUCER 3/8 X 1/4 NPT
30	2	511003	CLAMP, HOSE #36 2.25"
31	1	802023	VALVE, FUEL SHUT OFF 6MB-4MP

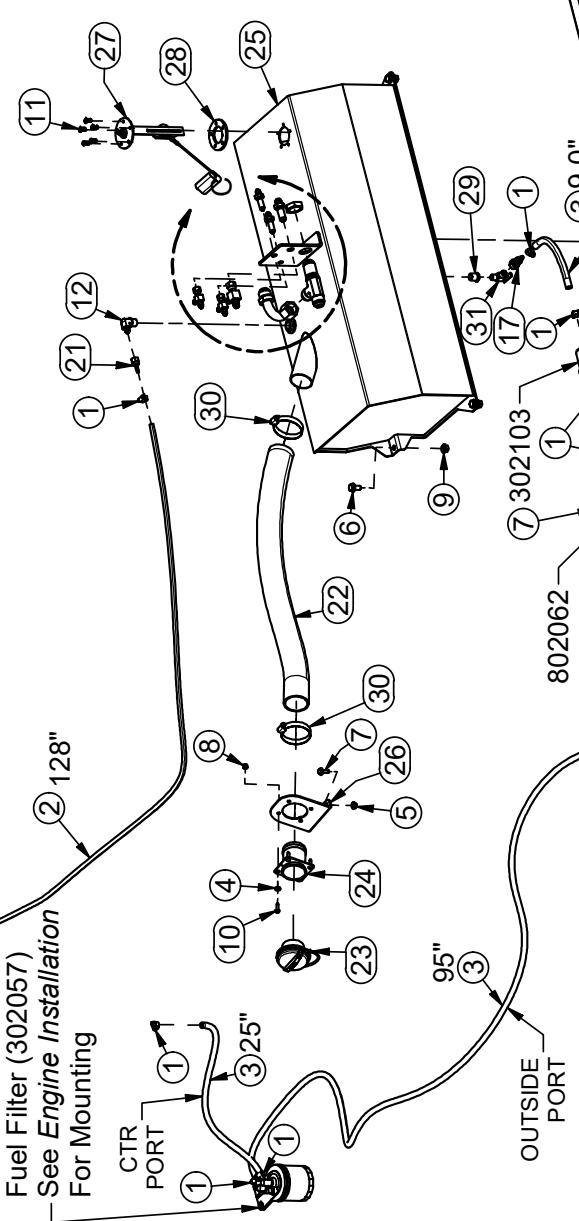


7-23-2020

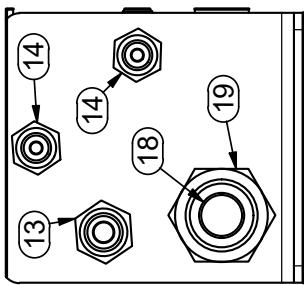
FUEL TANK INSTALLATION

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

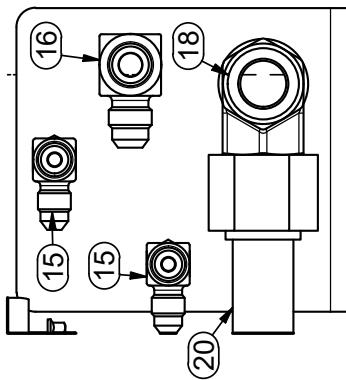
Fuel Filter (302057)
See Engine Installation
For Mounting



Right Side Plumbing



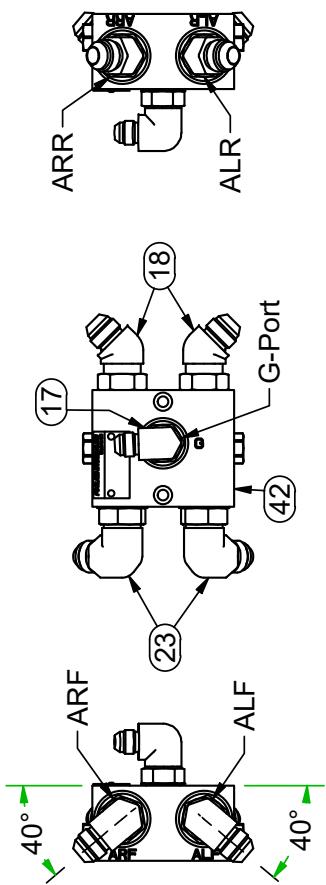
Left Side Plumbing



VALVE ASSEMBLIES

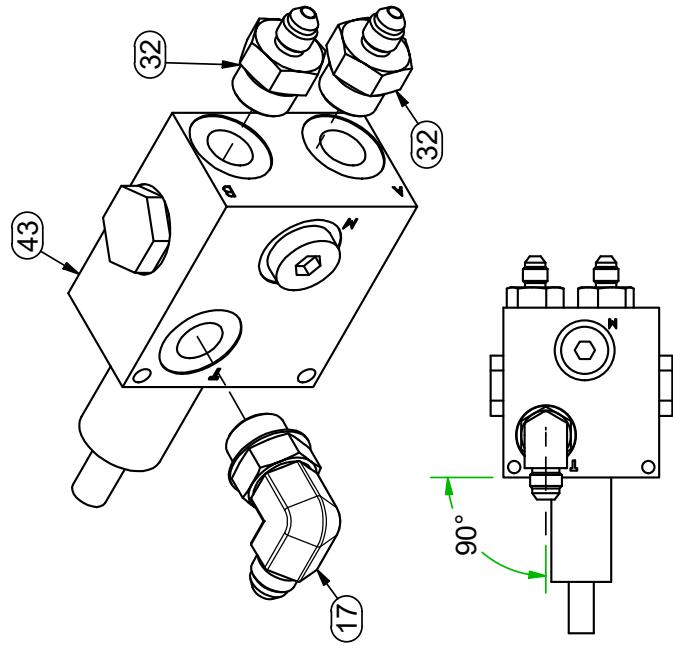
Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
18	2	120139	ADAPTER, 8MJ-10MB 45
23	2	120245	ADAPTER, 8MJ-10MB90
42	1	322059	VALVE, SERIAL PROTECTION

Serial Protection Valve

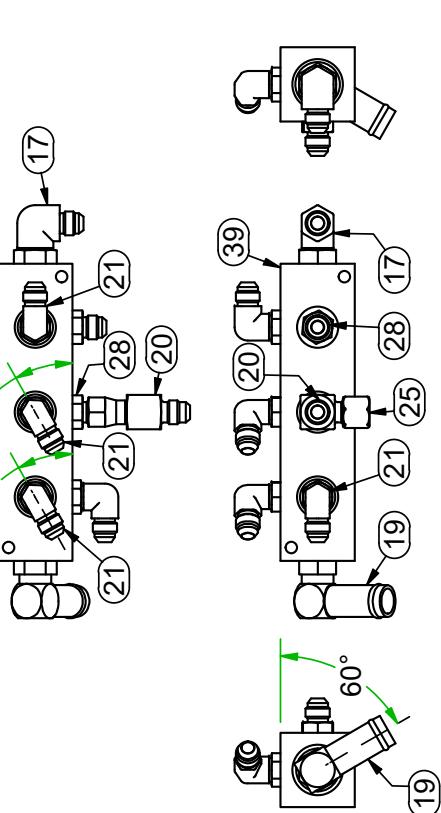


Loop Flush Valve

Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
32	2	120739	ADAPTER, 4MJ-8MB
43	1	323060	VALVE, LOOP FLUSH

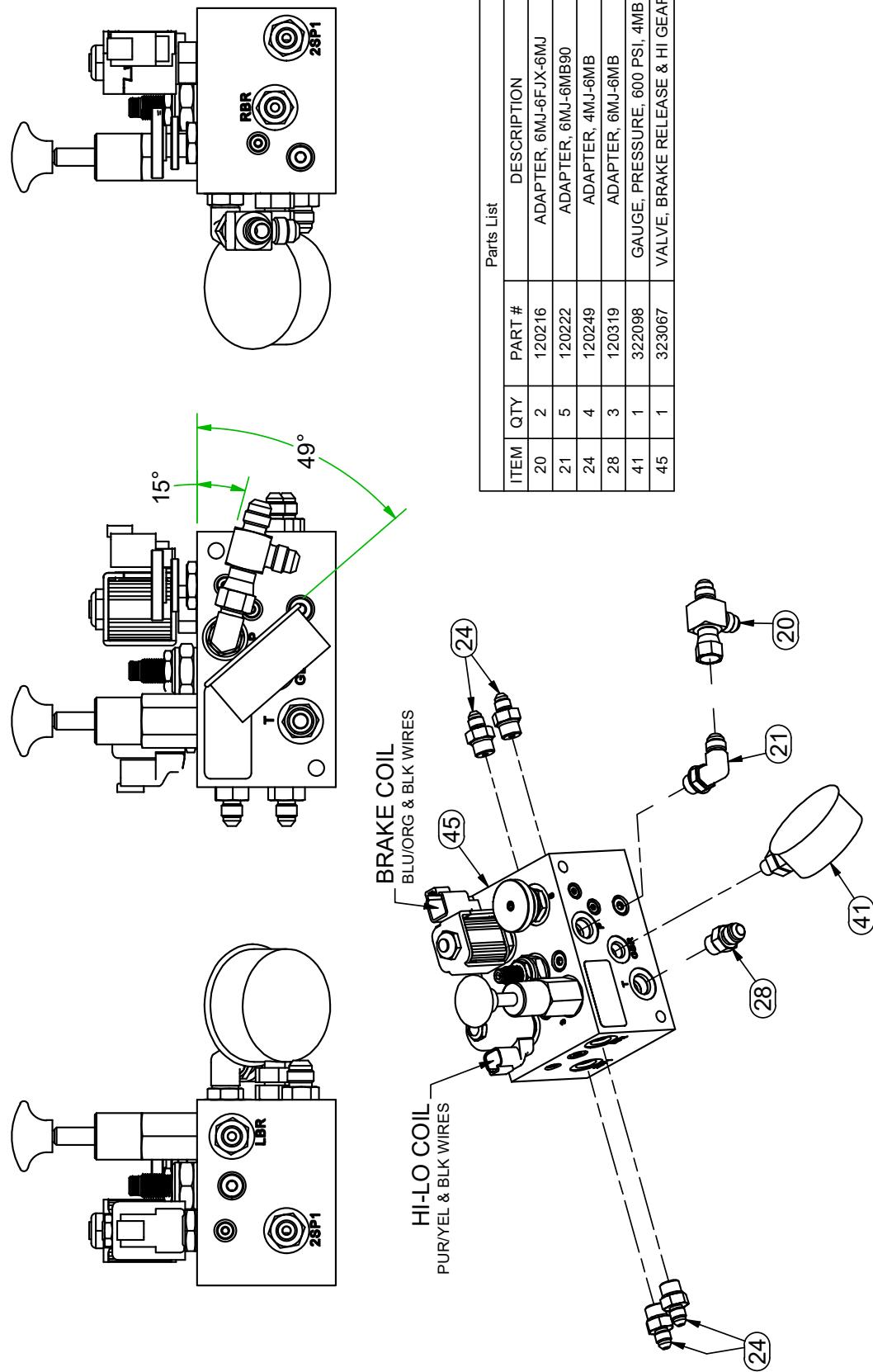


Case Drain Block



Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
19	1	120187	ADAPTER, 12BH-8MB90
20	1	120216	ADAPTER, 6MJ-6F JX-6MJ
21	4	120222	ADAPTER, 6MJ-6MB90

BRAKE RELEASE / HI GEAR VALVE ASSEMBLY

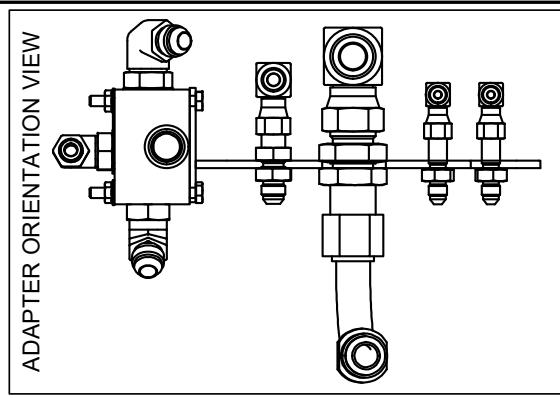
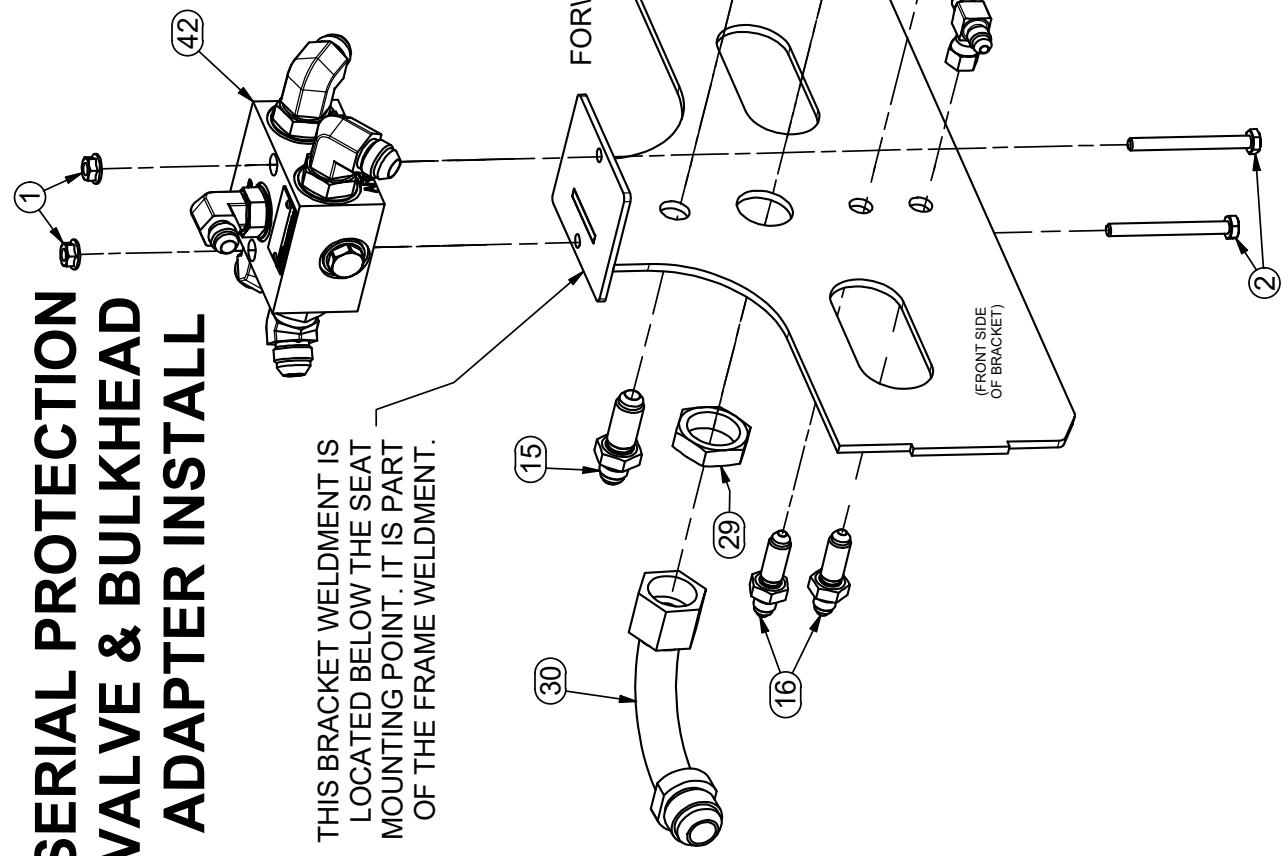


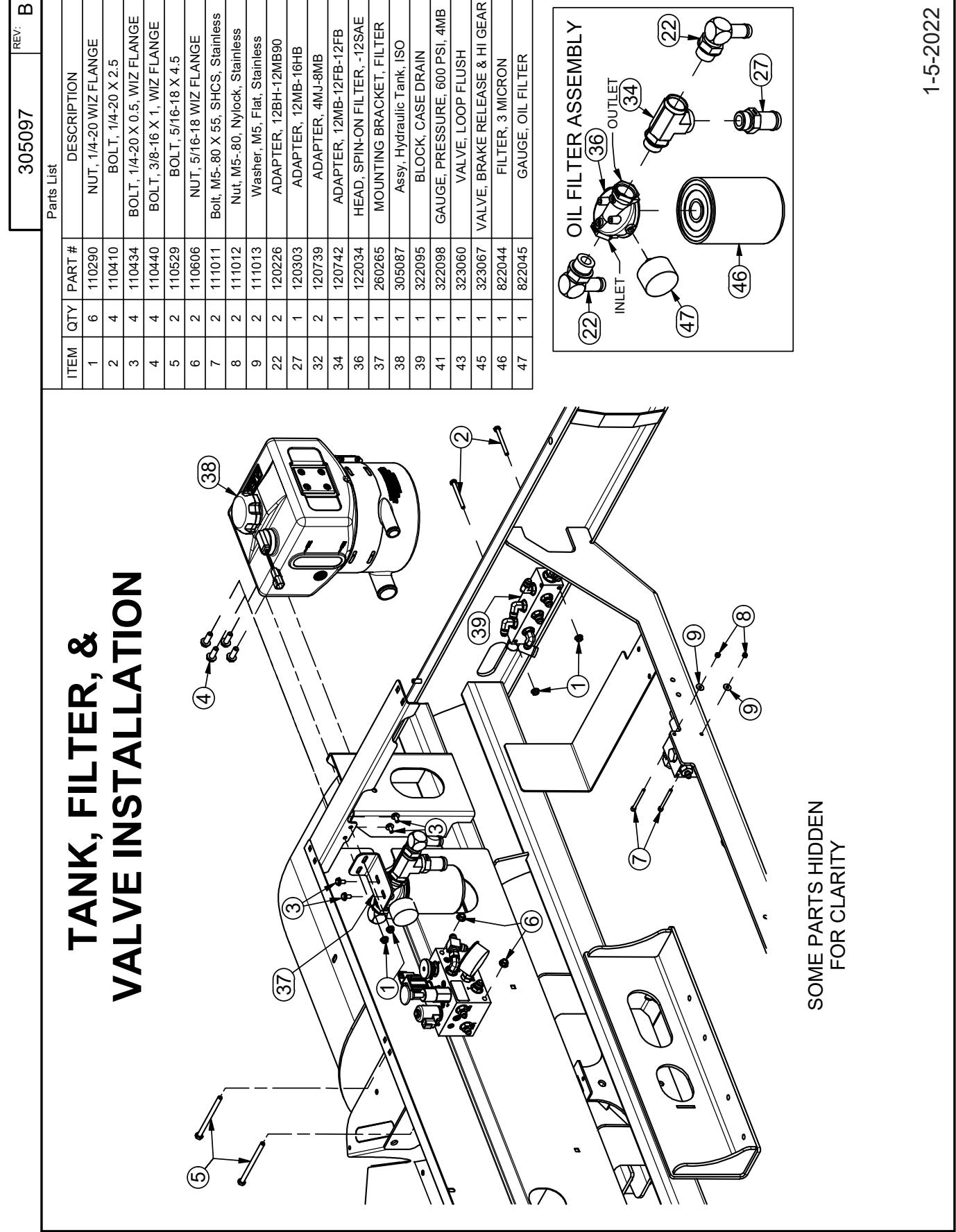
305097

REV: B

SERIAL PROTECTION VALVE & BULKHEAD ADAPTER INSTALL

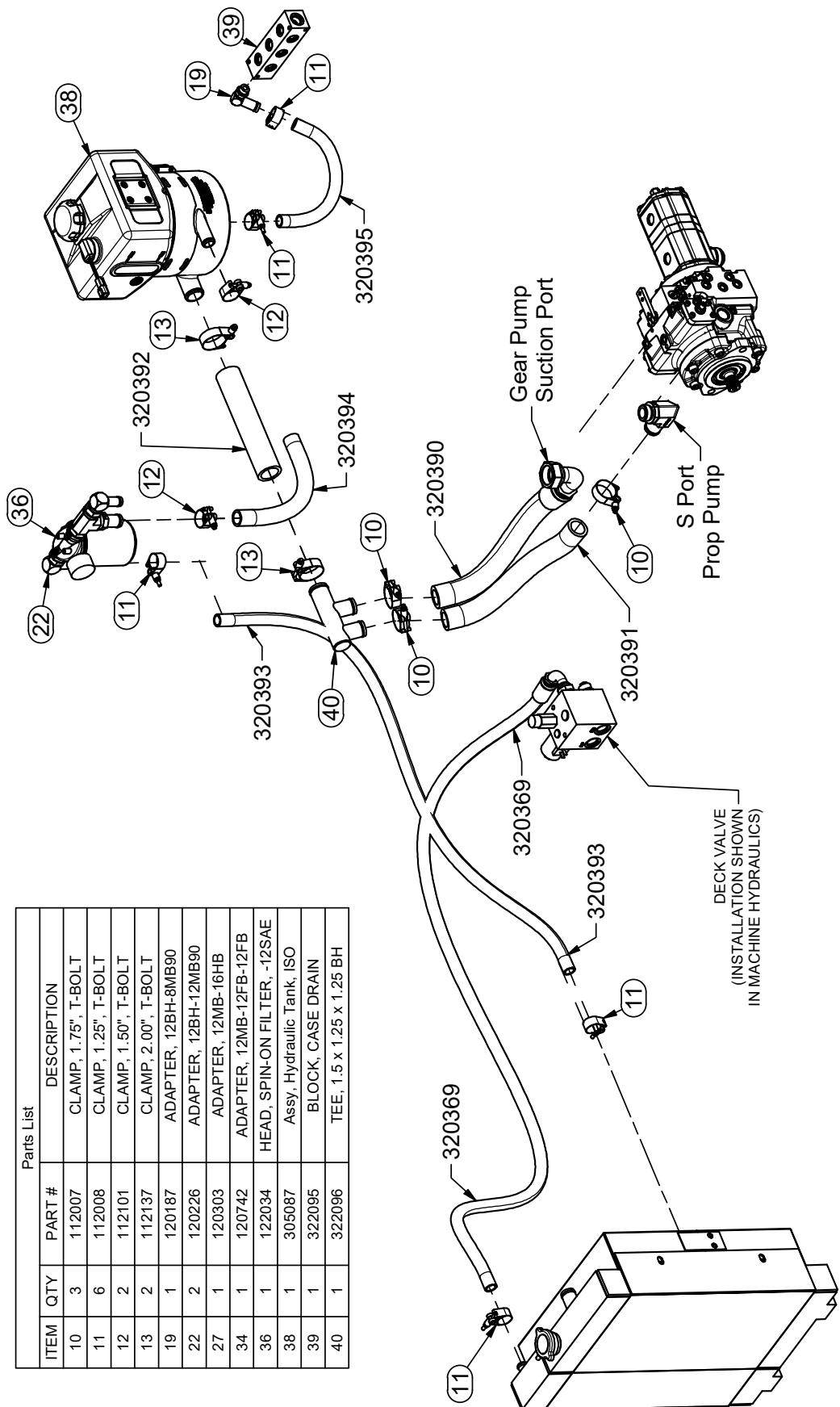
THIS BRACKET WELDMENT IS LOCATED BELOW THE SEAT MOUNTING POINT. IT IS PART OF THE FRAME WELDMENT.



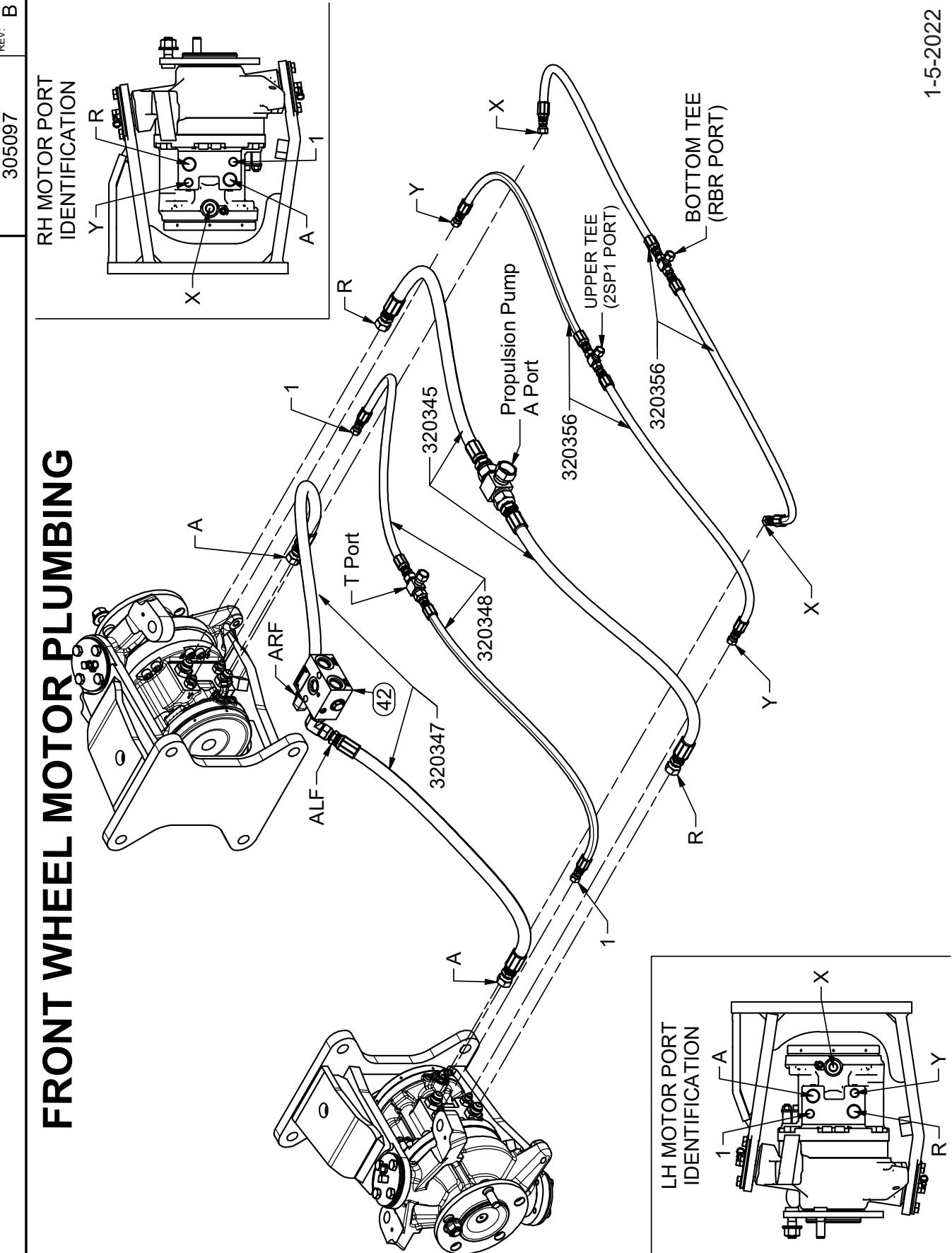


PROPELLION SUCTION & DRAIN PLUMBING

Parts List			
ITEM	QTY	PART #	DESCRIPTION
10	3	112007	CLAMP, 1.75", T-BOLT
11	6	112008	CLAMP, 1.25", T-BOLT
12	2	112101	CLAMP, 1.50", T-BOLT
13	2	112137	CLAMP, 2.00", T-BOLT
19	1	120187	ADAPTER, 12BH-8MB90
22	2	120226	ADAPTER, 12BH-12MB90
27	1	120303	ADAPTER, 12MB-16HB
34	1	120742	ADAPTER, 12MB-12FB-12FB
36	1	122034	HEAD, SPIN-ON FILTER, -12SAE
38	1	305087	Assy, Hydraulic Tank, ISO
39	1	322095	BLOCK, CASE DRAIN
40	1	322096	TEE, 1.5 x 1.25 x 1.25 BH



FRONT WHEEL MOTOR PLUMBING



305097

REV: B

REAR WHEEL MOTOR PLUMBING

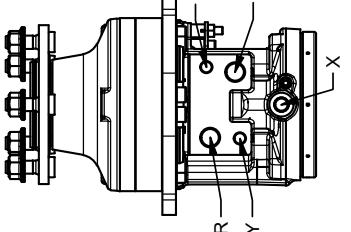
B PORT
(BOTTOM)

2

S P 1

P O R T

MOTOR PORT
IDENTIFICATION



LBR PORT
320354

320352

ARR
ALR

320364

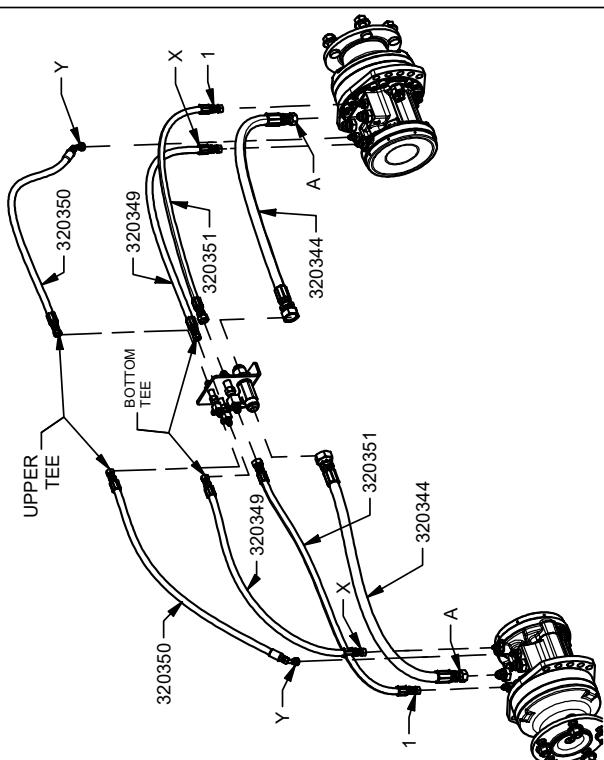
320354
UPPER TEE
HI-GEAR

320352
BOTTOM TEE
BRAKE

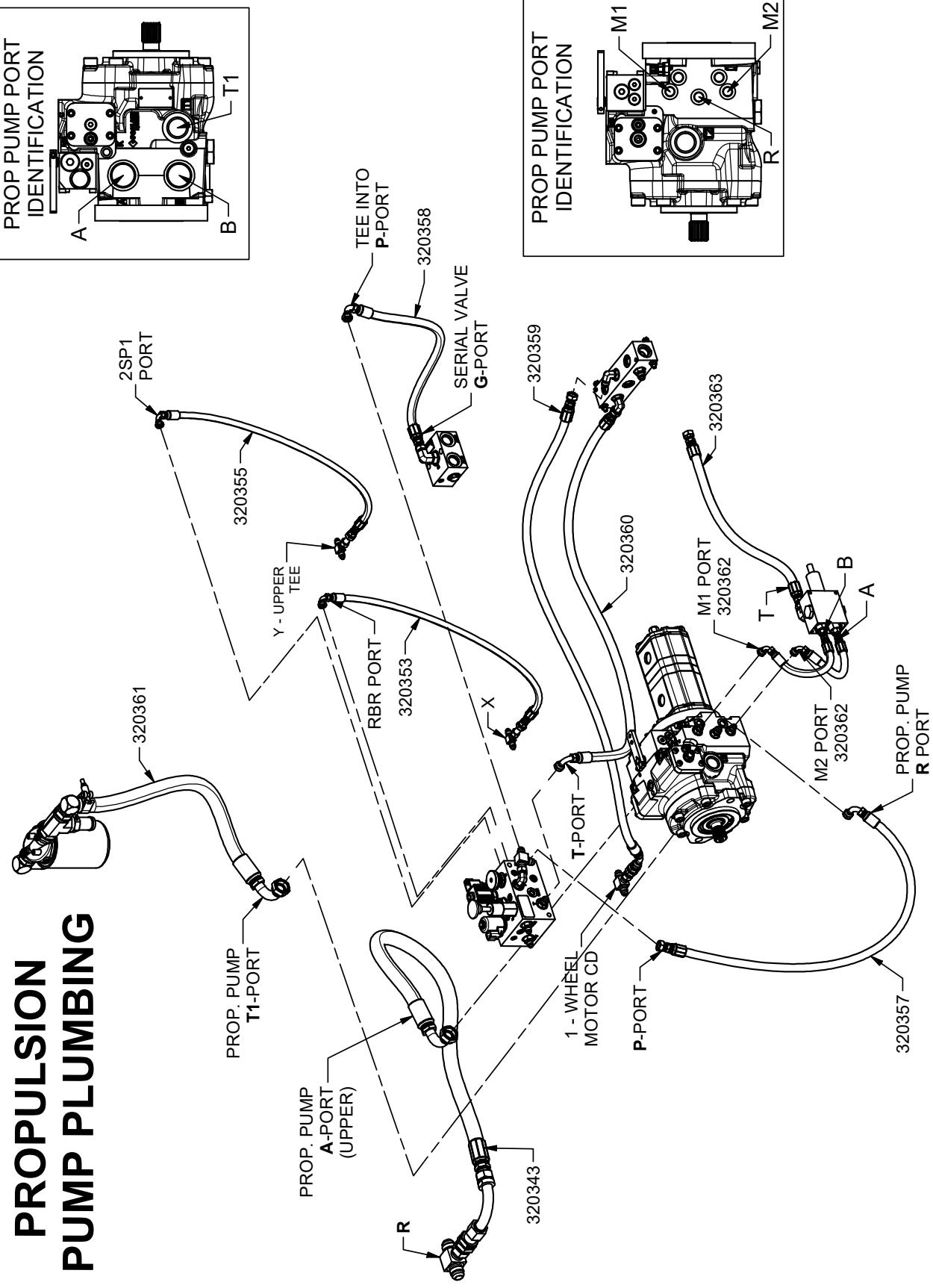
320346

R

BULKHEAD FITTINGS SHOWN
IN FUEL TANK INSTALL GUIDE

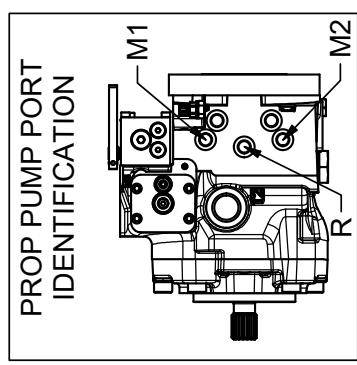
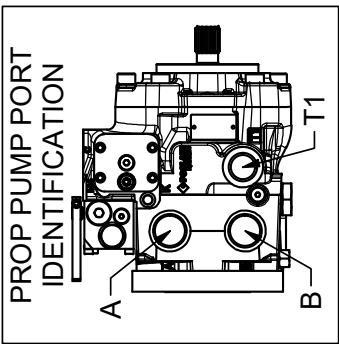


PROPELLION PUMP PLUMBING



305097

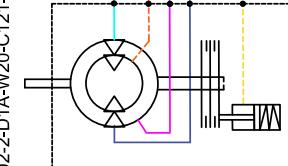
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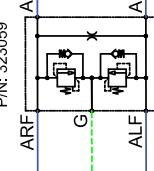
1-5-2022

SWEeper PROPULSION SCHEMATIC - 4WD

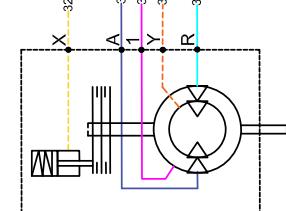
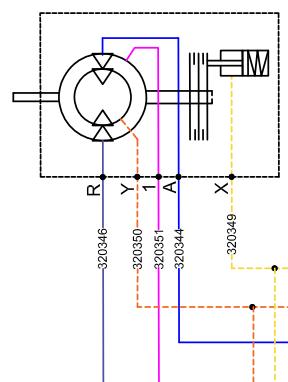
RH FRONT WHEEL MOTOR
PIN: 323056
MODEL CODE:
MGE02-2-D1A-W20-C121-Y8JM



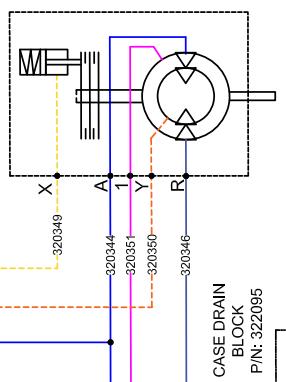
SERIAL PROTECTION
VALVE
PIN: 323059



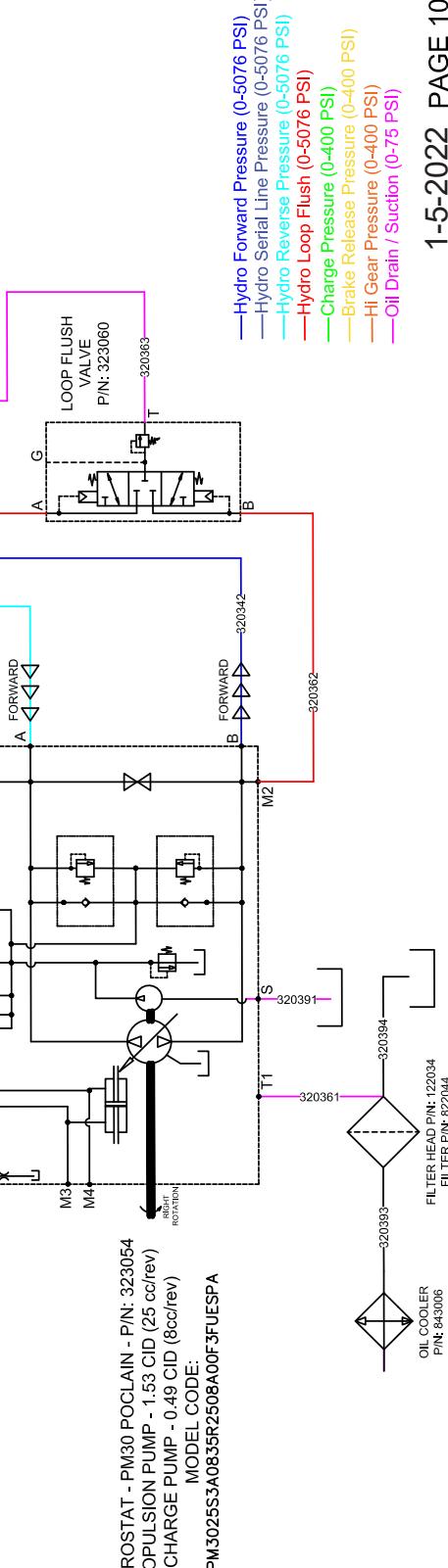
RH REAR WHEEL MOTOR
PIN: 323058
MODEL CODE:
MSE02-2-D2A-F03-1120-Y8JM



LH FRONT WHEEL MOTOR
PIN: 323055
MODEL CODE:
MGE02-2-G1A-W10-A121-Y8JM

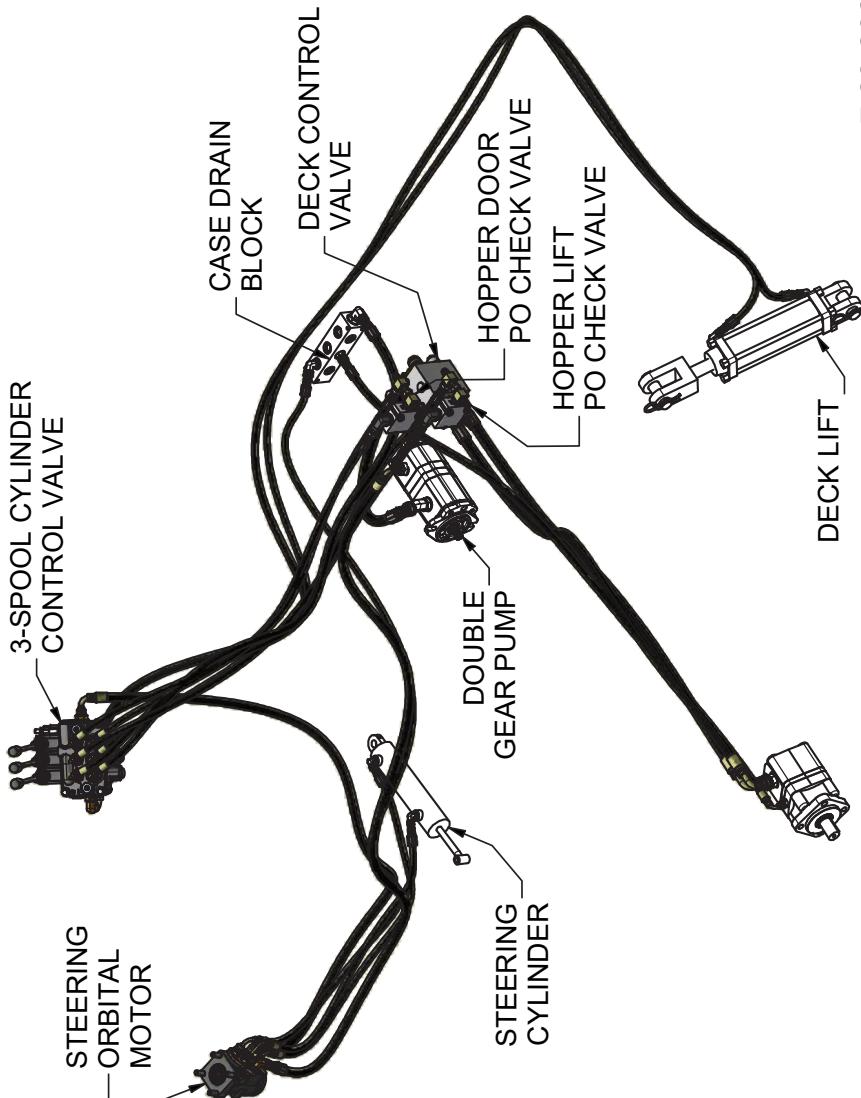


LH REAR WHEEL MOTOR
PIN: 323057
MODEL CODE:
MSE02-2-G2A-F03-1120-Y8JM



MACHINE HYDRAULIC INSTALLATION

Parts List				Parts List			
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	8	110264	BOLT, 10-24 X .5 STAINLESS, PHILLIPS	39	1	502087	Cap, Center Steering
2	6	110290	NUT, 1/4-20 WIZ FLANGE	40	1	502088	Nut, Steering Wheel, 13/16-20 UNEF
3	2	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE	41	1	552002	STEERING WHEEL
4	4	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE	42	1	820158	DECK VALVE
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 UL-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	315353	WELDMENT, OPERATOR CONSOLE				
34	2	322074	VALVE, PO CHECK				
35	2	322075	VALVE BODY, 3-WAY SAE-6				
36	1	322097	VALVE ASSY, THREE SPOOL				
37	1	323046	MOTOR, STEERING ORBITAL				
38	1	323062	HOSE KIT, HAWK MACHINE HYDRAULIC				

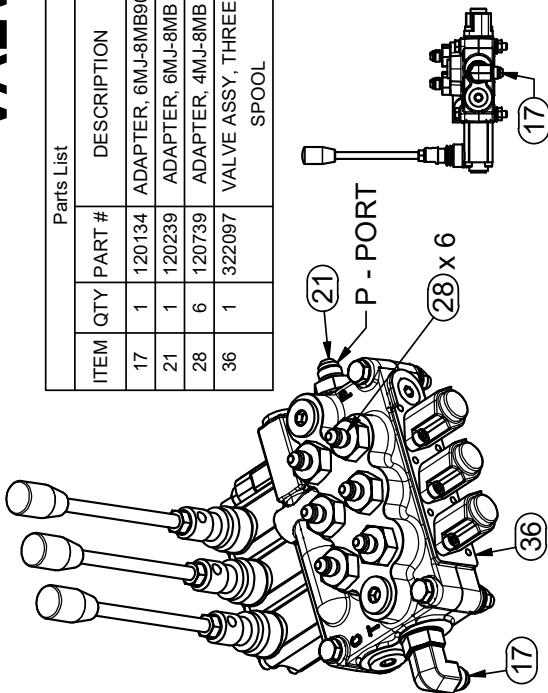


HYDRAULIC SCHEMATIC
SHOWN ON PAGE 10

7-23-2020

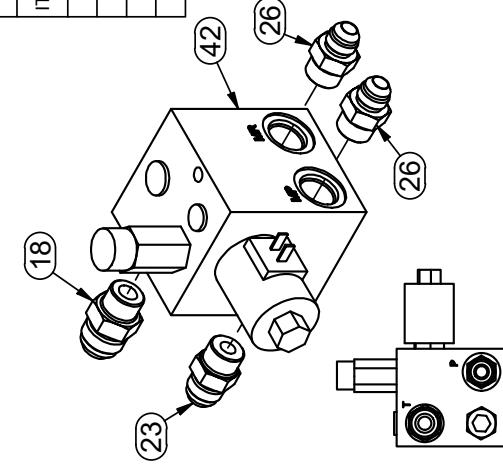
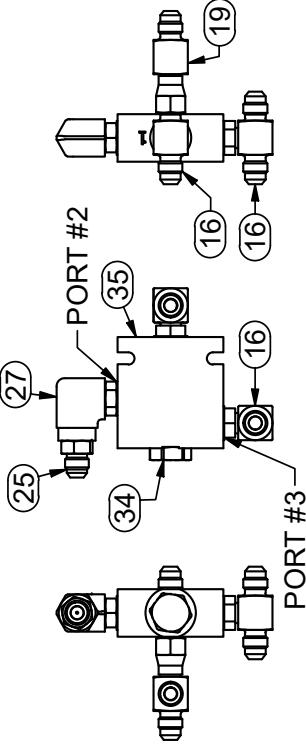
Three Spool Valve Assembly**VALVE ASSEMBLIES**

Parts List			
ITEM	QTY	PART #	DESCRIPTION
17	1	120134	ADAPTER, 6MJ-8MB90
21	1	120239	ADAPTER, 6MJ-8MB
28	6	120739	ADAPTER, 4MJ-8MB
36	1	3222097	VALVE ASSY, THREE SPOOL

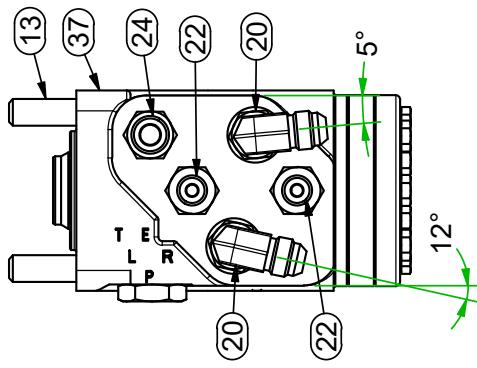
**Deck Valve Assembly**

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

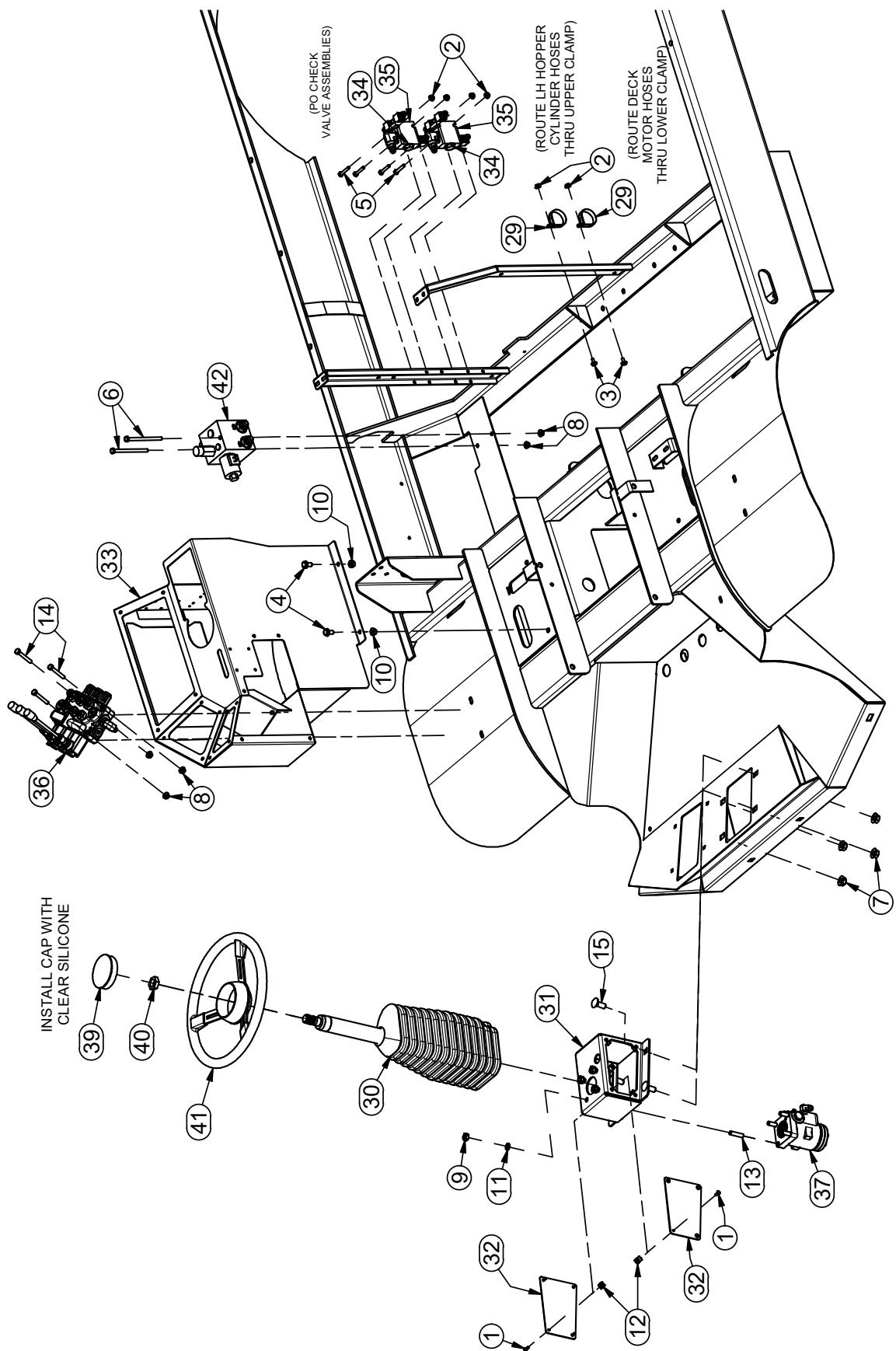
**P.O. Check Valve Assembly X 2**

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	3222074	VALVE, PO CHECK
35	2	3222075	VALVE BODY, 3-WAY SAE-6

Steering Orbital Assembly

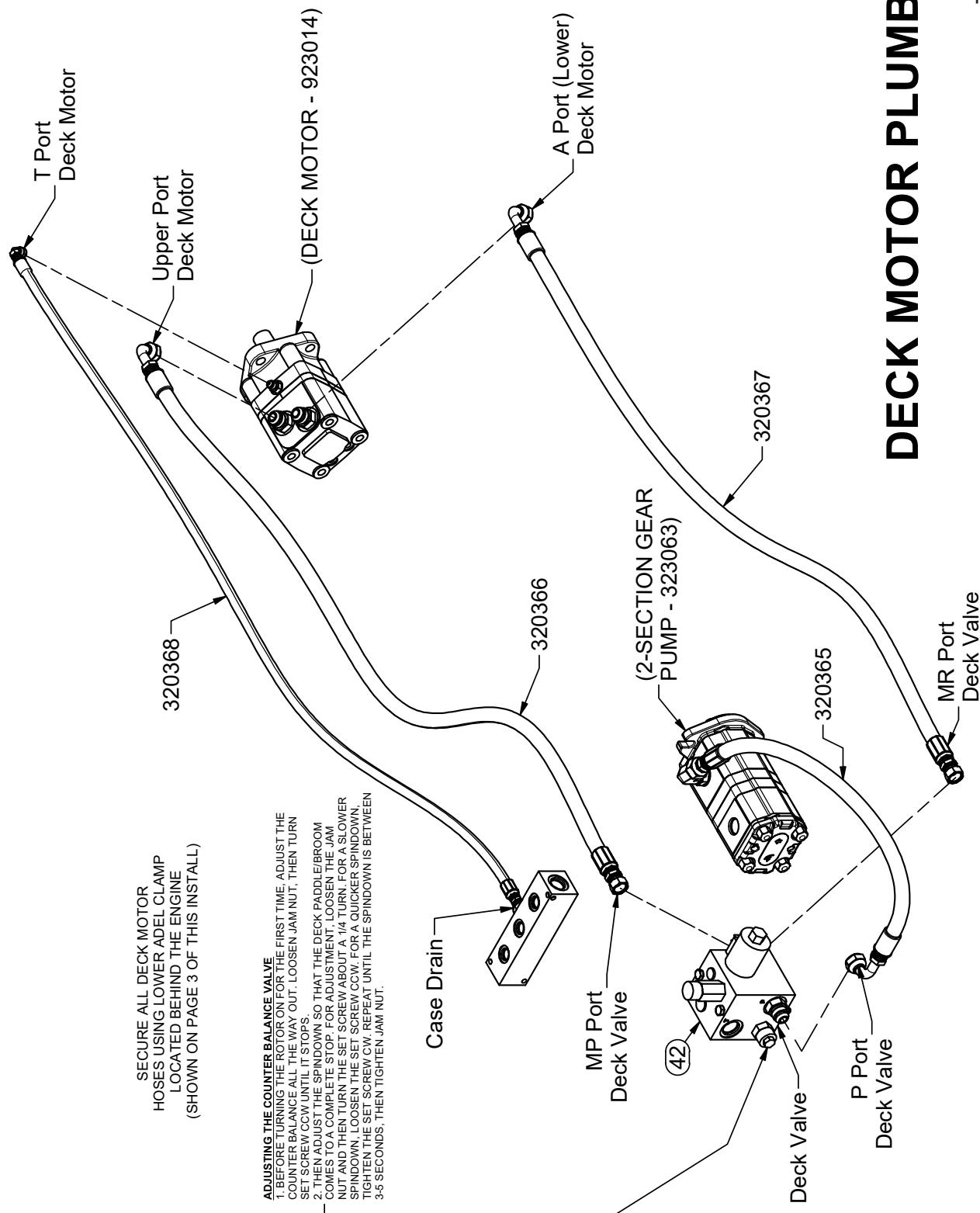
Parts List			
ITEM	QTY	PART #	DESCRIPTION
13	4	111055	STUD, M10 X 1.5 X 42 GRADE 8.8
20	2	120222	ADAPTER, 6MJ-6MB90
22	2	120249	ADAPTER, 4MJ-6MB
24	1	120319	ADAPTER, 6MJ-6MB
37	1	323046	MOTOR, STEERING ORBITAL

7-23-2020



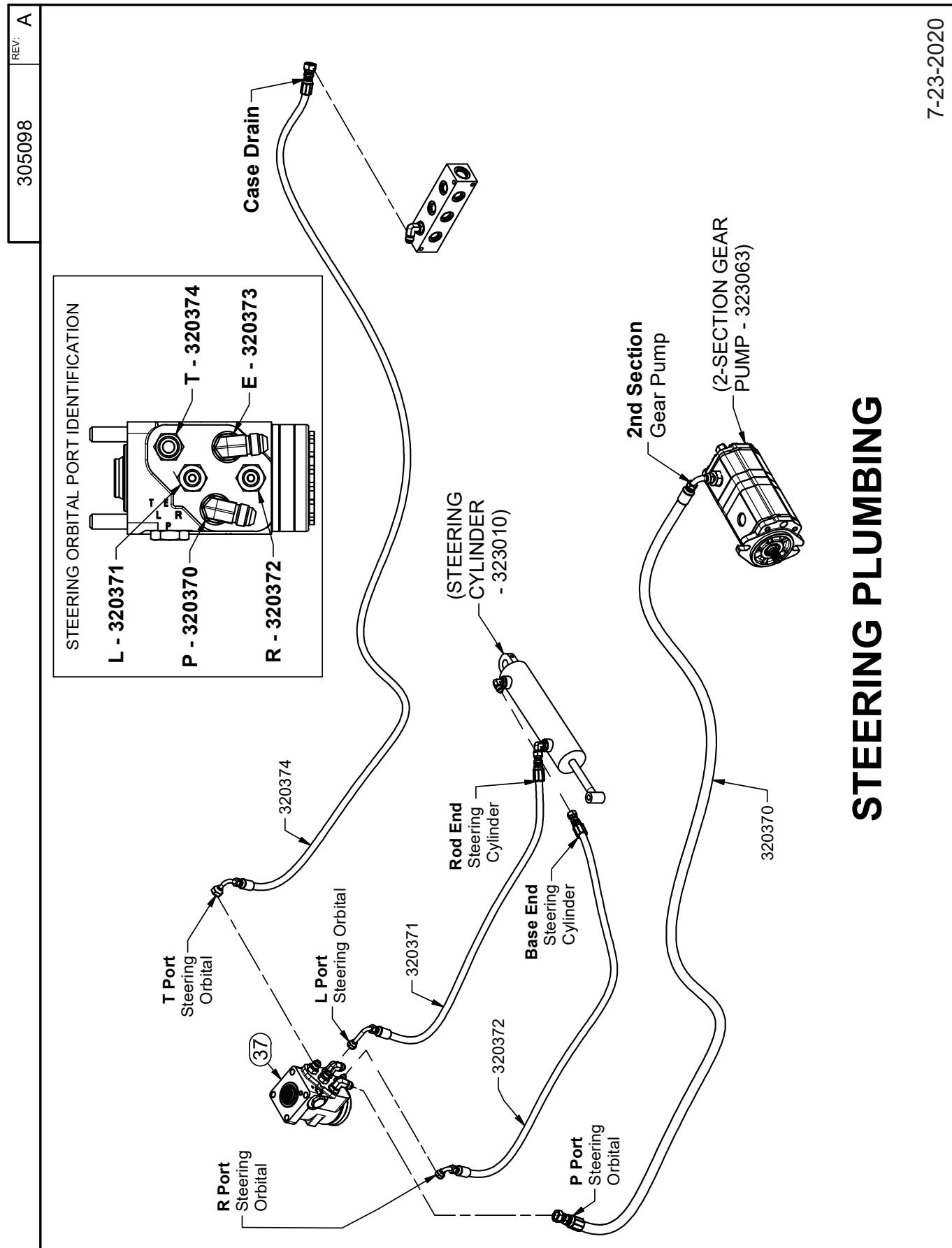
VALVE INSTALLATION

7-23-2020



DECK MOTOR PLUMBING

7-23-2020

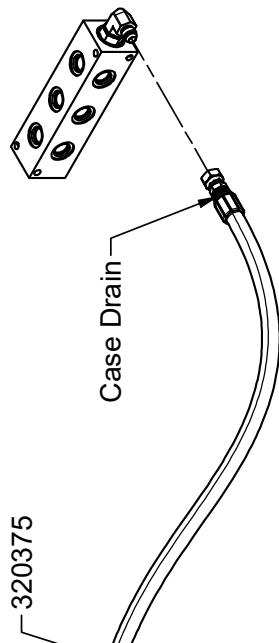
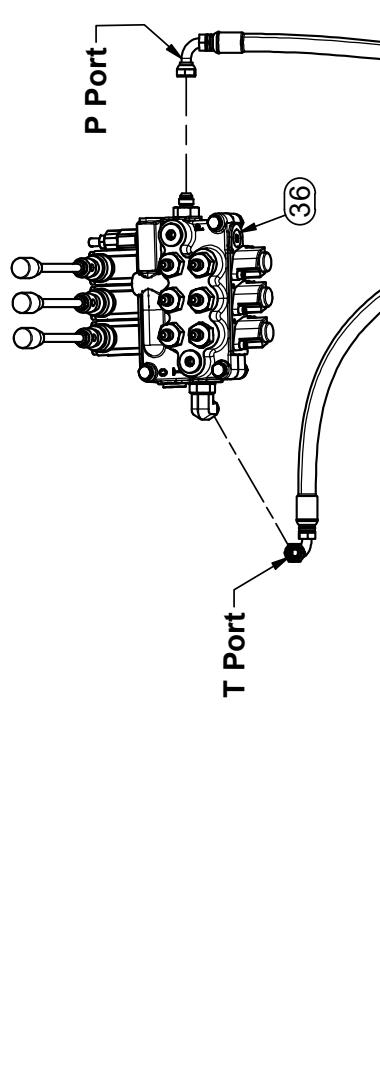
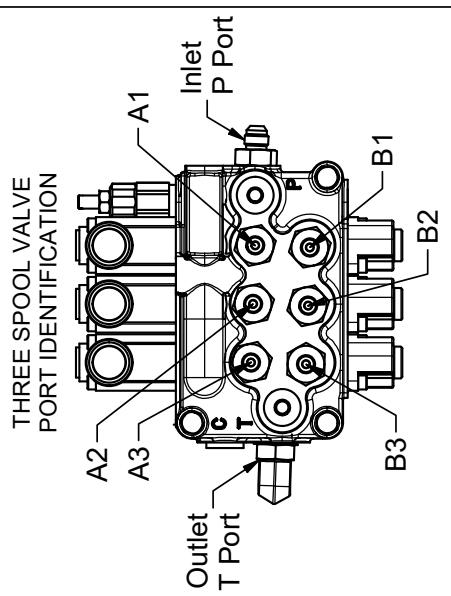


STEERING PLUMBING

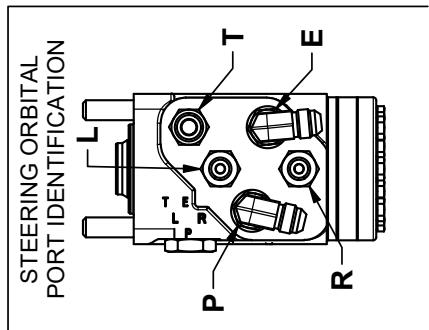
7-23-2020

305098

REV: A



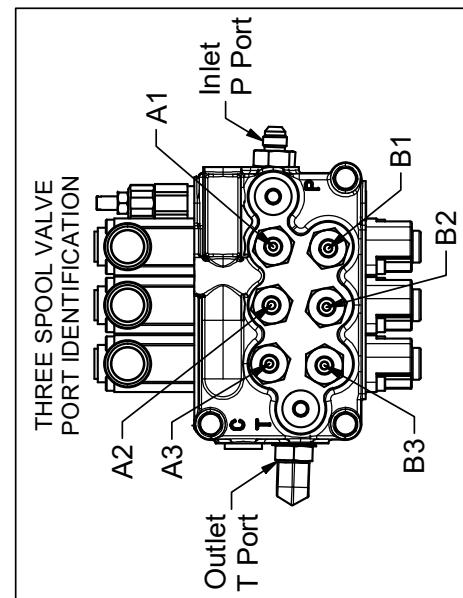
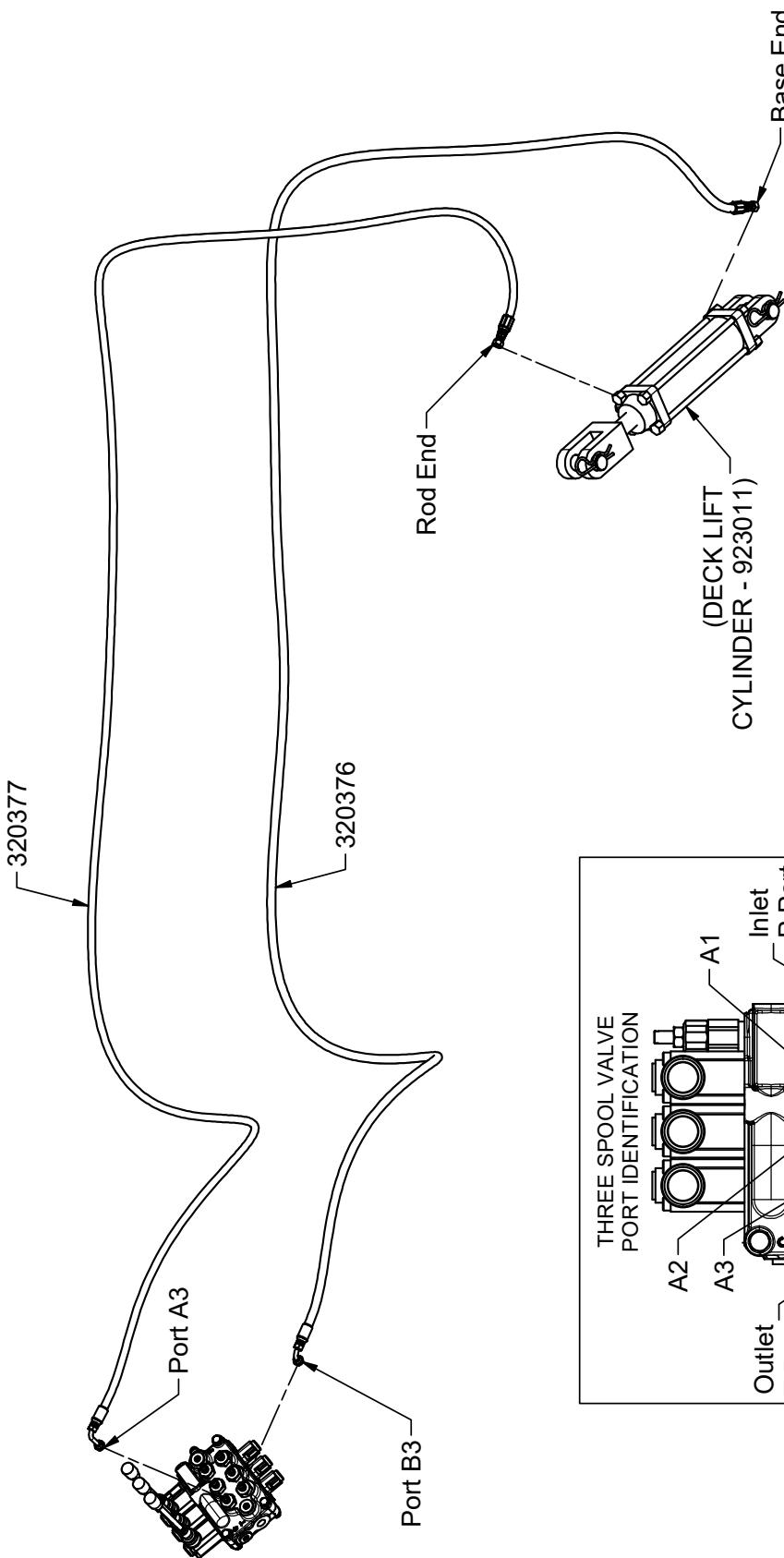
THREE SPOOL VALVE PLUMBING



DECK LIFT PLUMBING

305098

REV: A

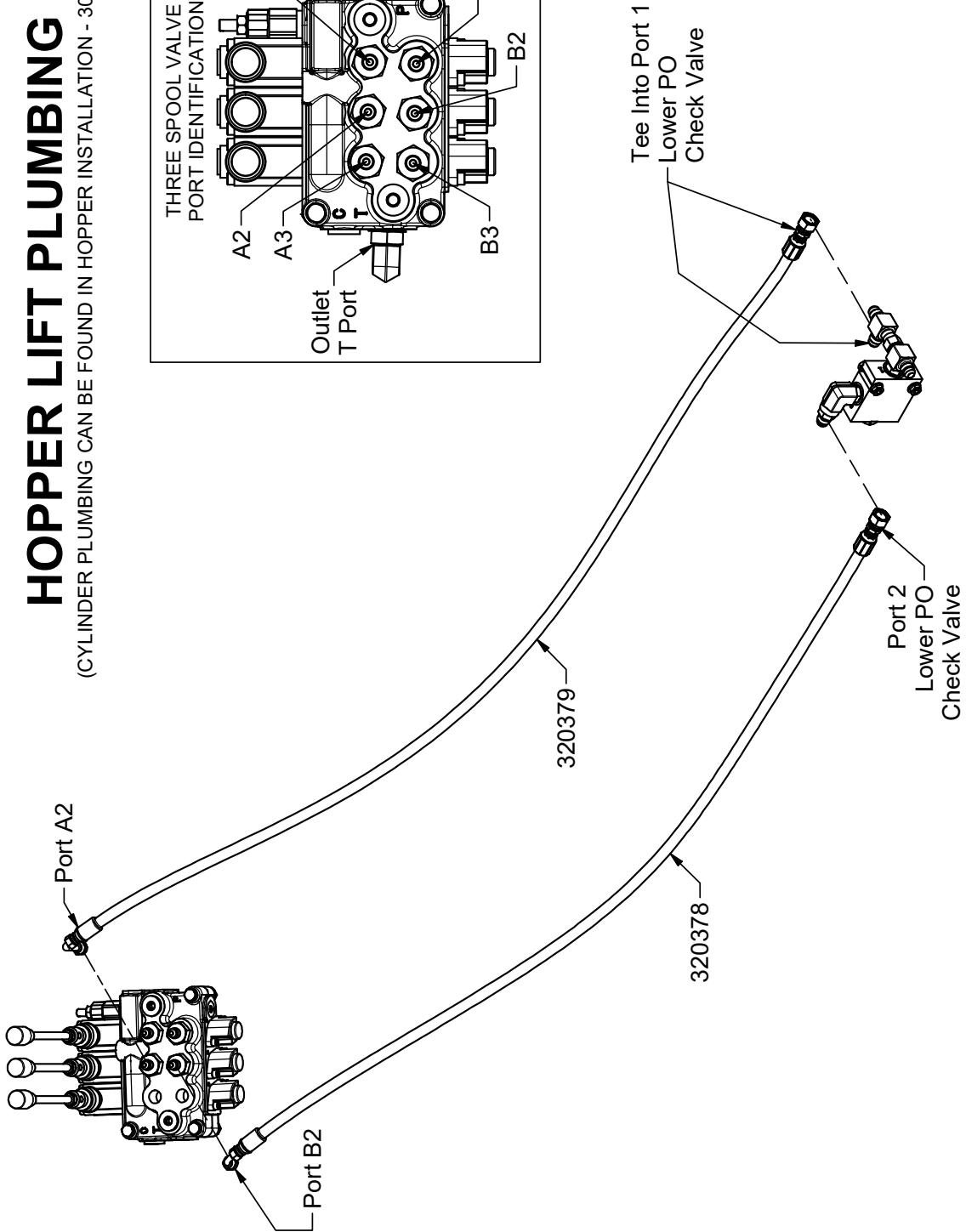
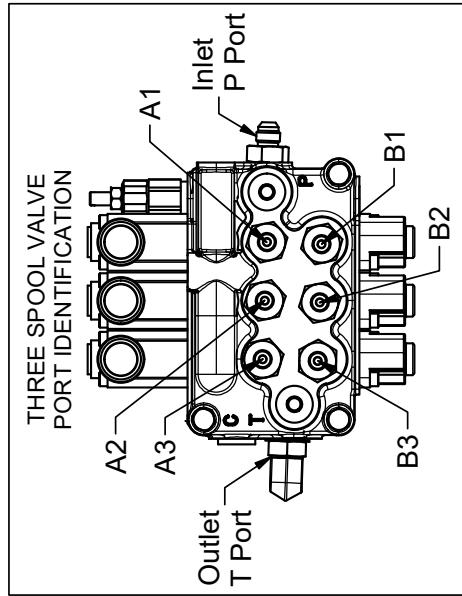


7-23-2020

305098 | REV: A

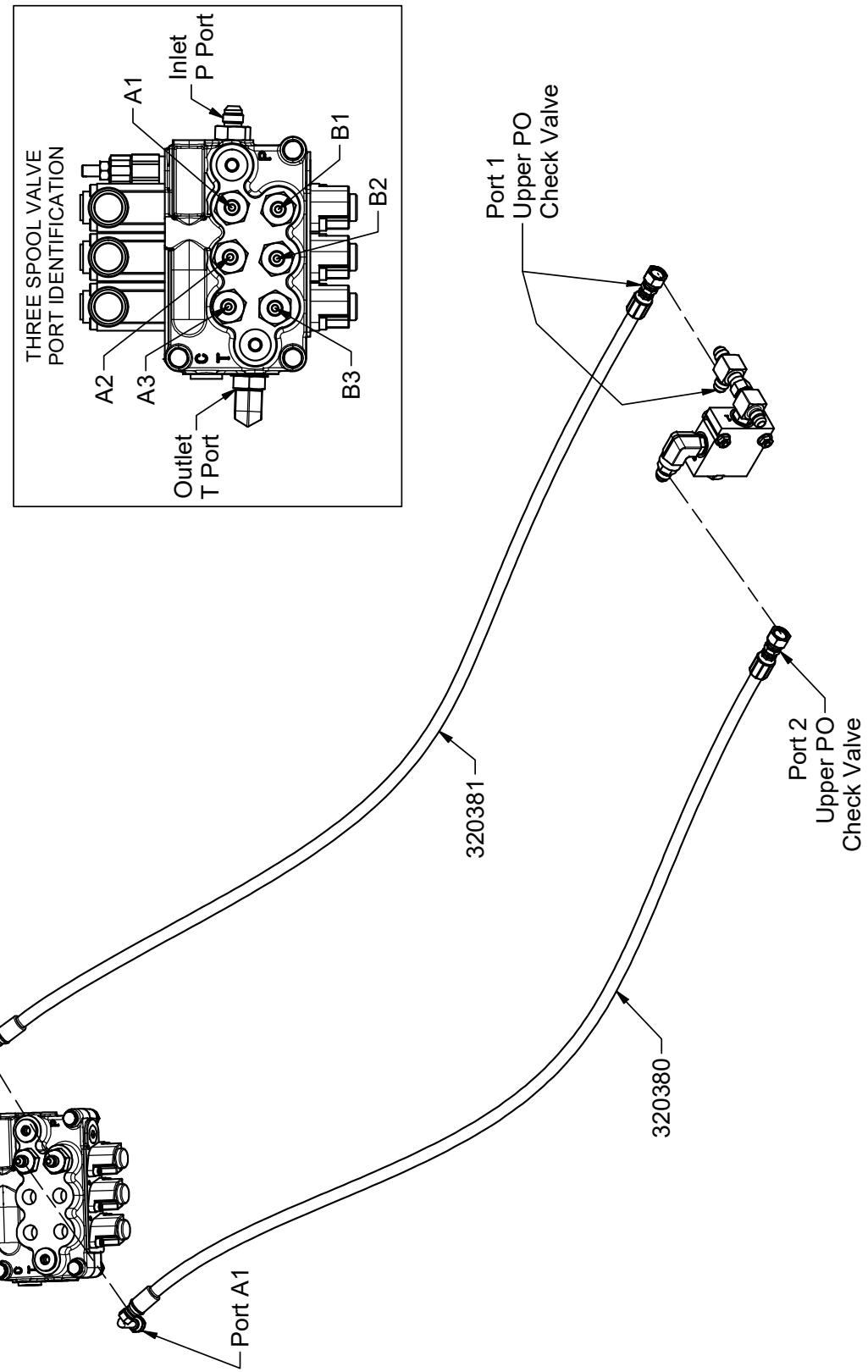
HOPPER LIFT PLUMBING

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



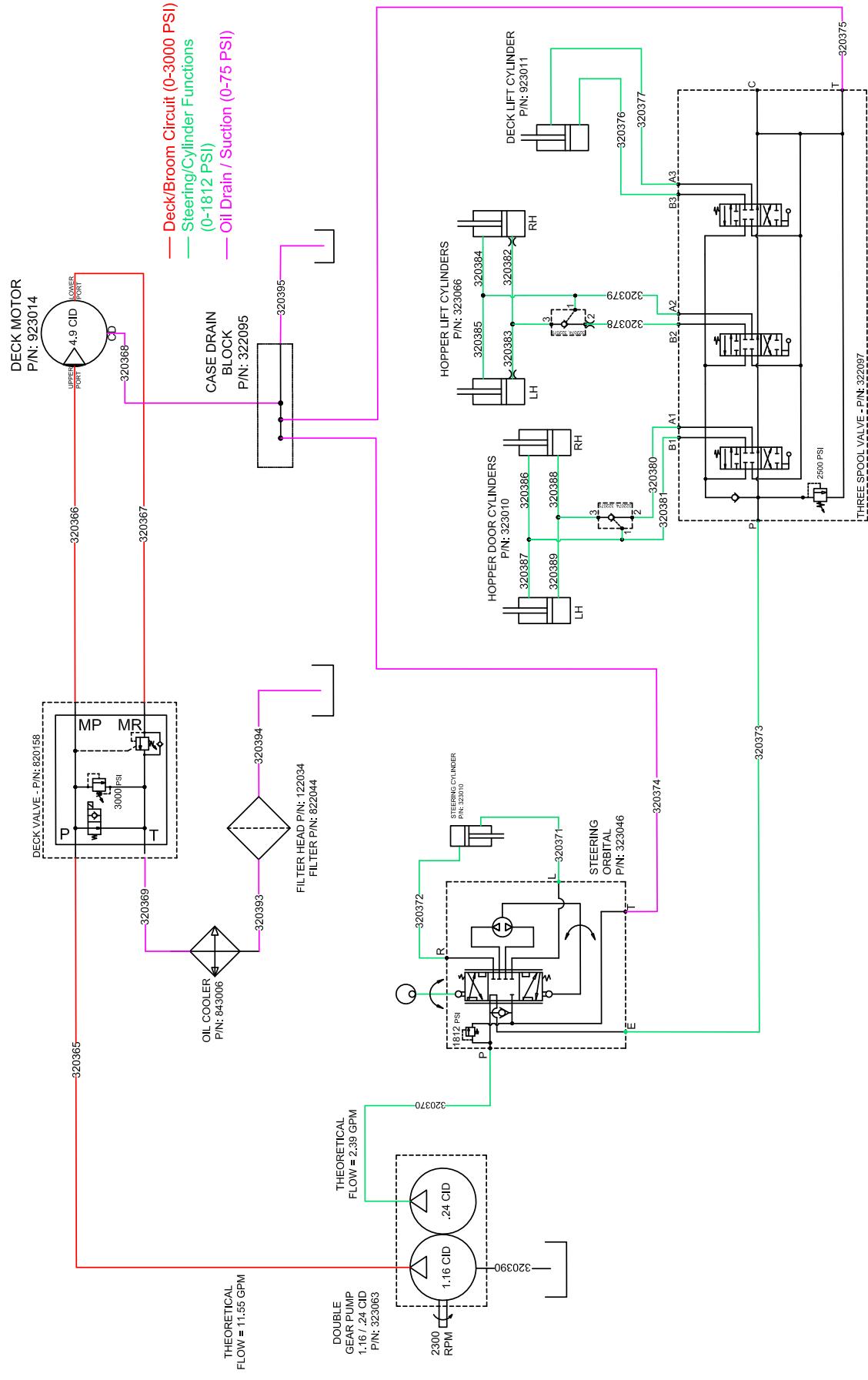
HOPPER DOOR PLUMBING

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



7-23-2020

SWEEPER MACHINE HYDRAULIC SCHEMATIC



06/03/20

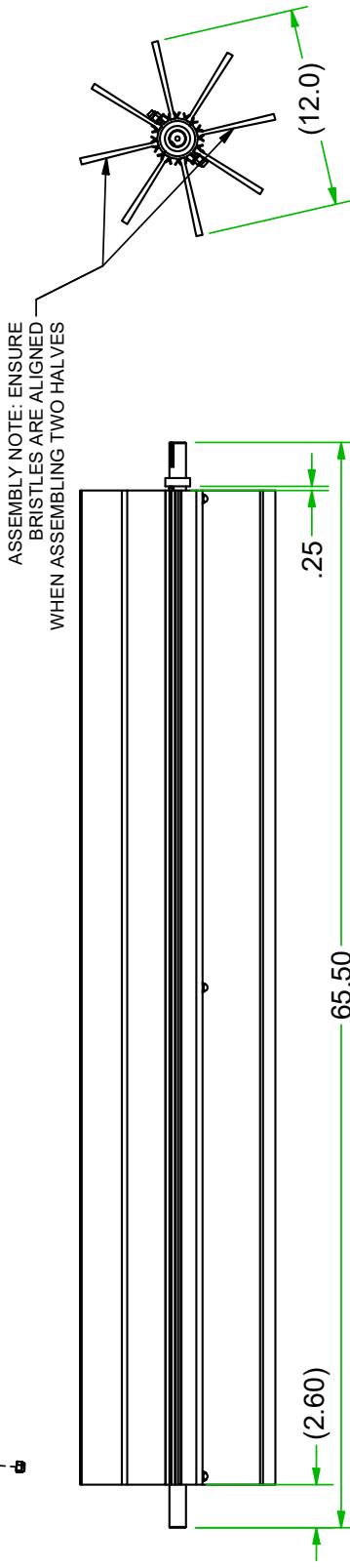
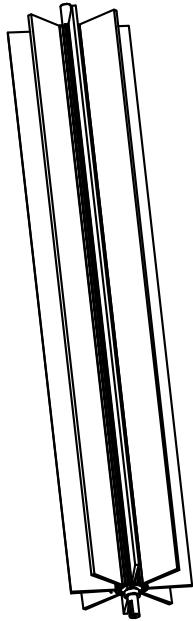
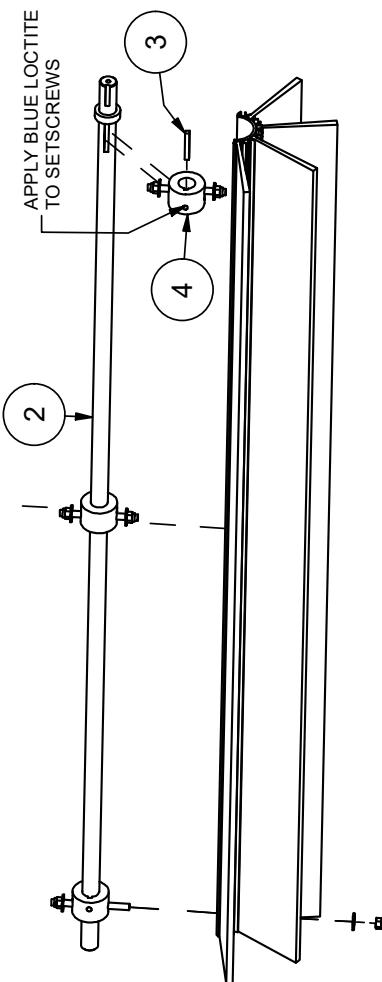
PAGE 10 OF 10

INSTALLED ON THE FOLLOWING
PRODUCTION MACHINES.

- HK4200 - S/N 22A04 & BELOW; S/N: 23A01 & ABOVE
- HK4400 - S/N 22A03 & BELOW; S/N: 23A01 & ABOVE

Brush Assembly

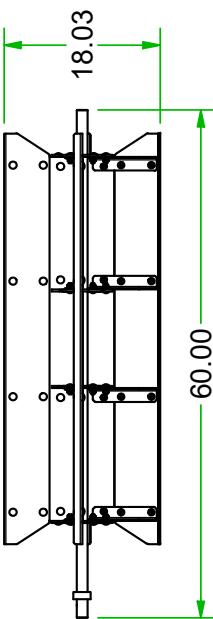
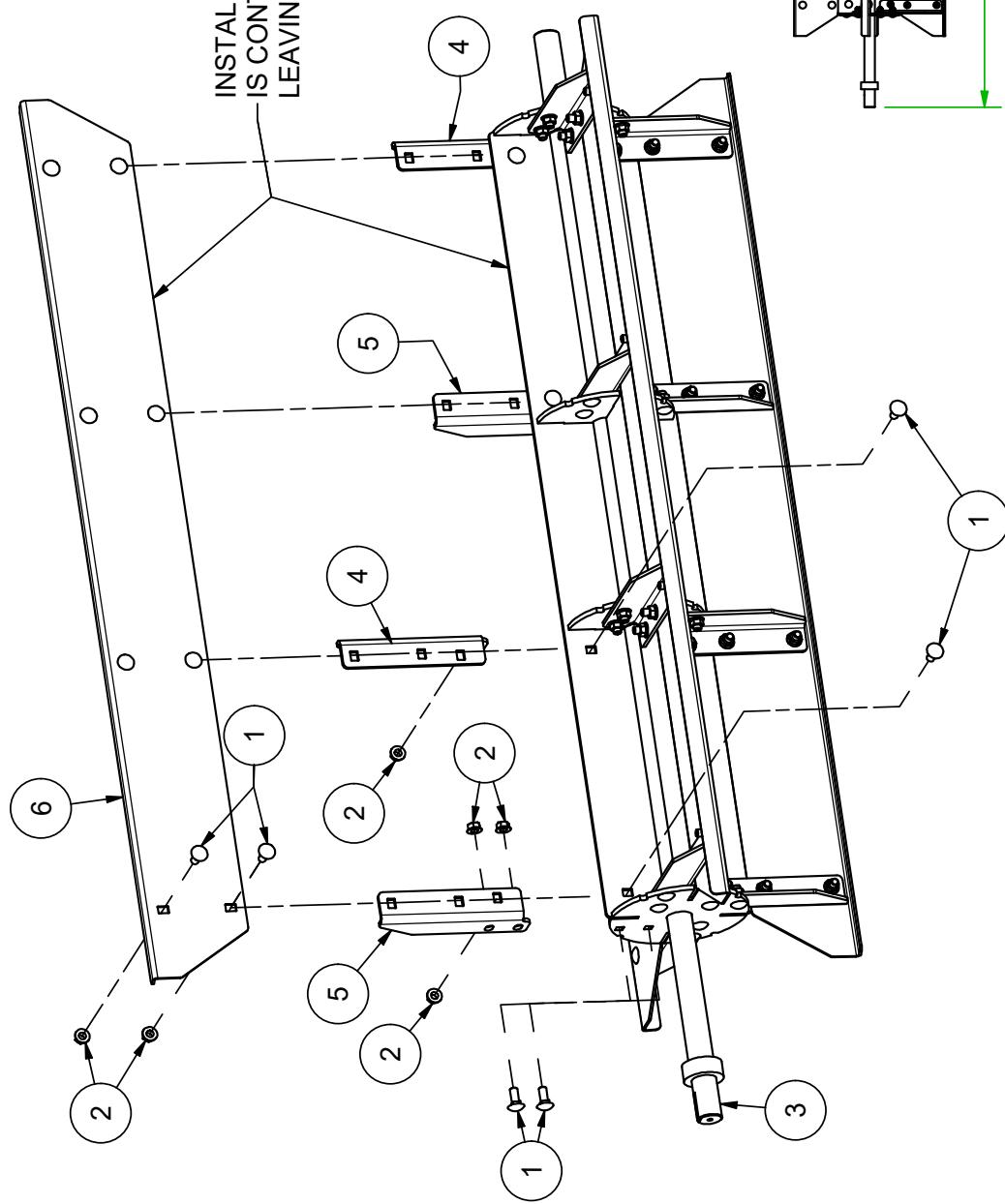
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	302003	BRUSH, 60 in
2	1	315368	WELDMENT, BROOM SHAFT
3	1	411481	KEY, 1/4 x 1/4 x 2.0
4	3	973002	FLANGE, 2 1/8 X 1, TJ-16



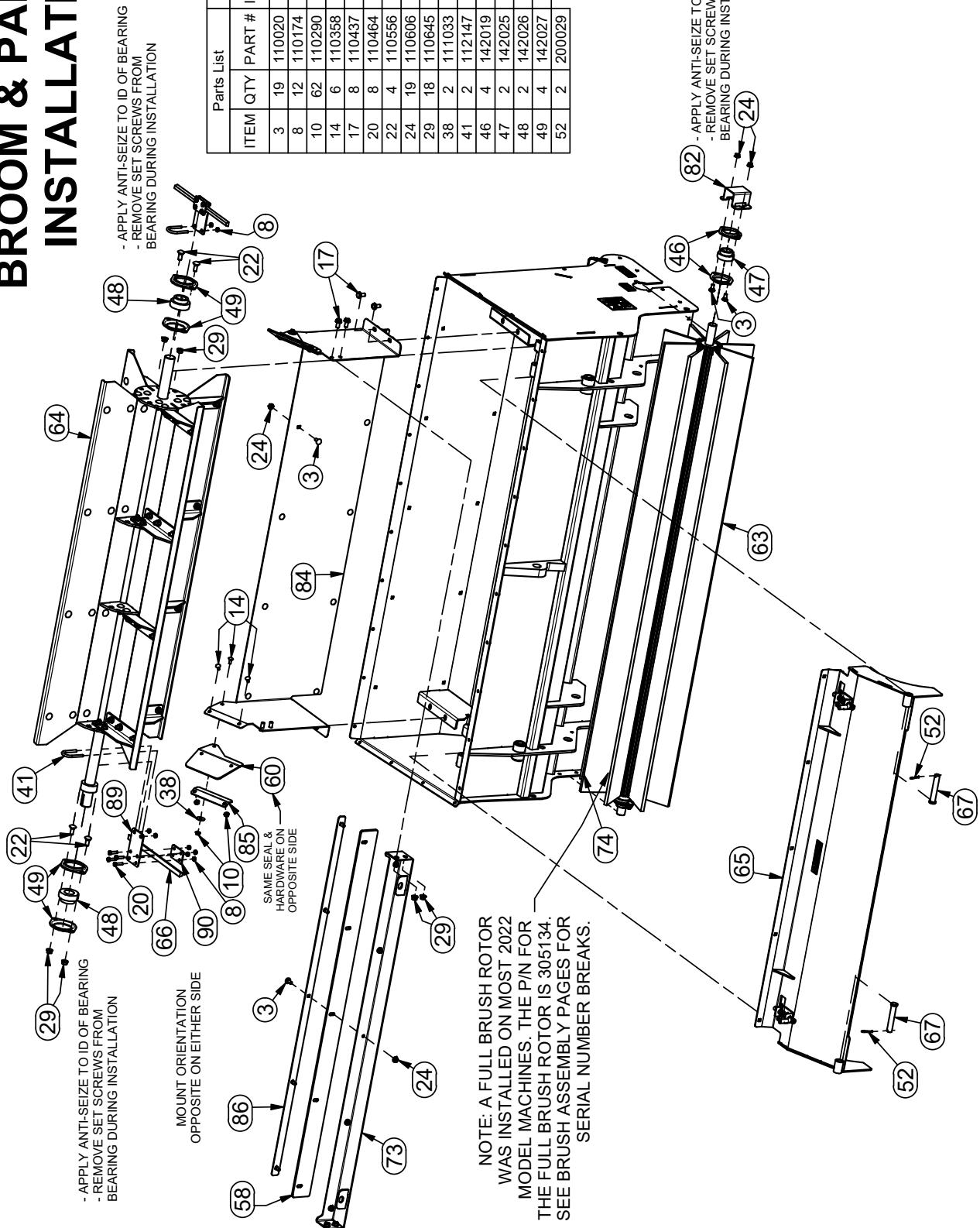
PADDLE ASSEMBLY

INSTALL BLADE SO EDGE
IS CONTACTING STIFFENER
LEAVING NO GAP

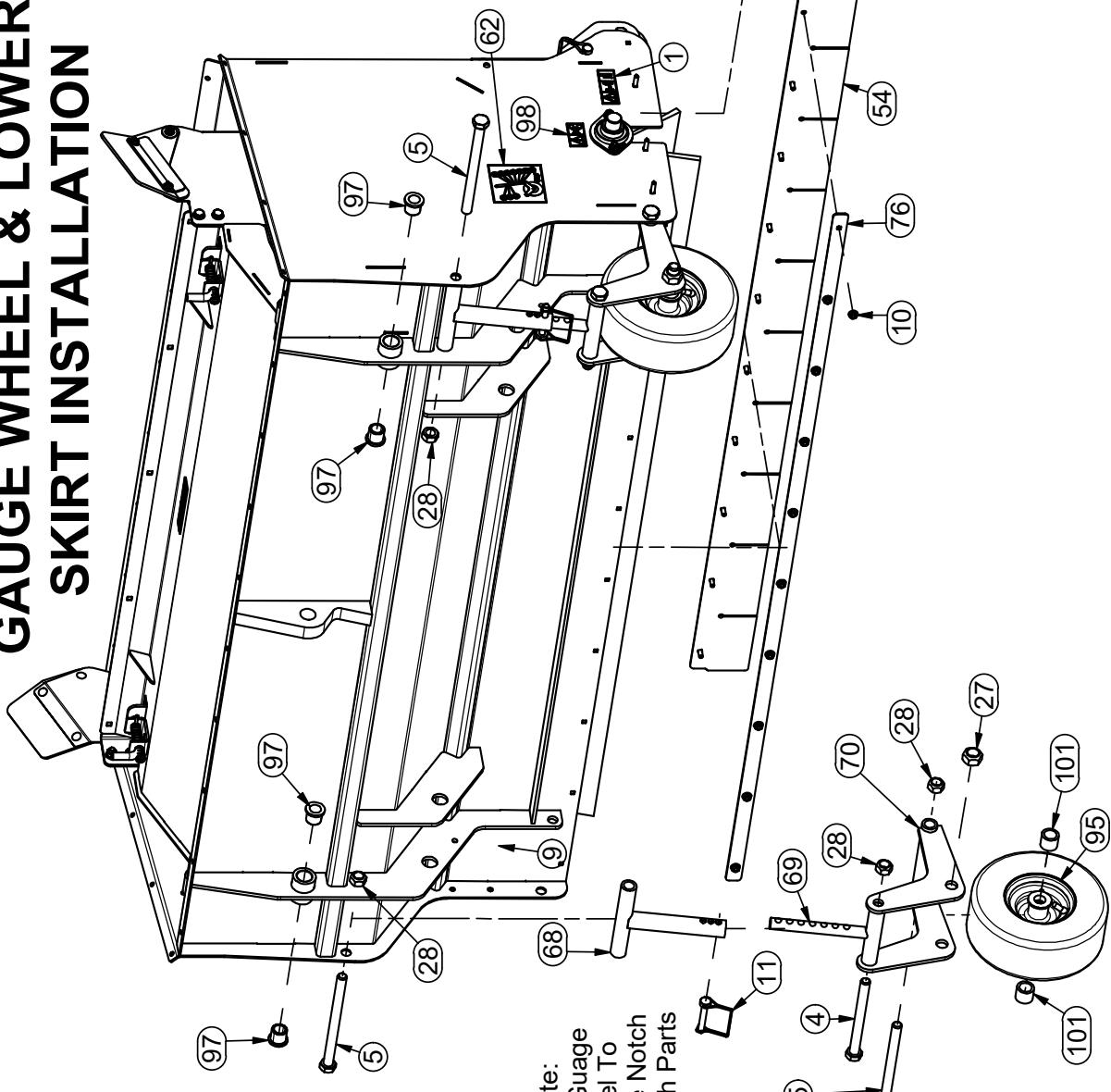
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	80	110556	Bolt, 3/8-16 X 1 in Carriage
2	80	110645	NUT, 3/8-16 WIZ FLANGE
3	1	315399	WELDMENT, PADDLE
4	8	317378	SUPPORT, RH PADDLE
5	8	317379	SUPPORT, LH PADDLE
6	4	317380	PADDLE, SWEEPER



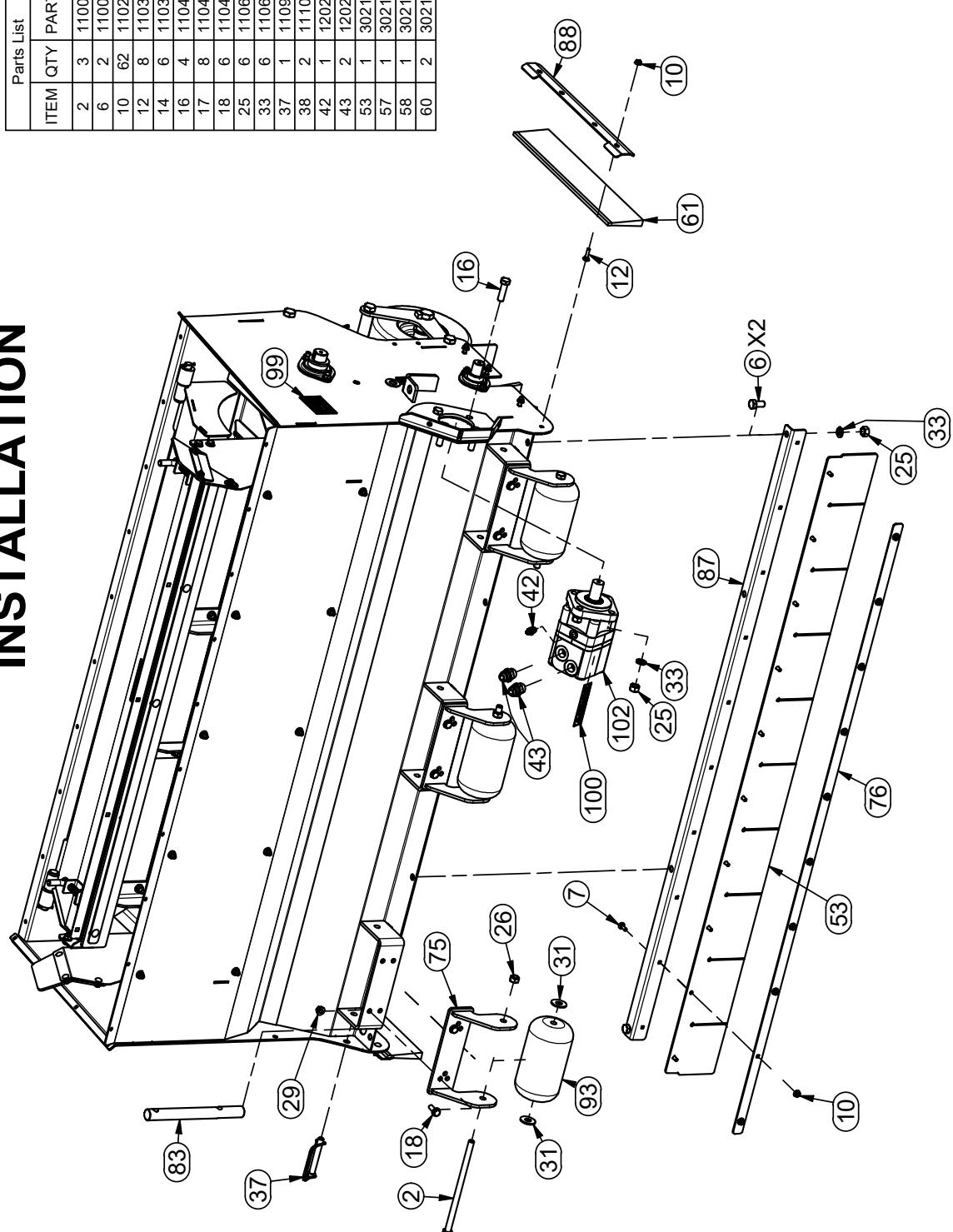
BROOM & PADDLE INSTALLATION



GAUGE WHEEL & LOWER SKIRT INSTALLATION



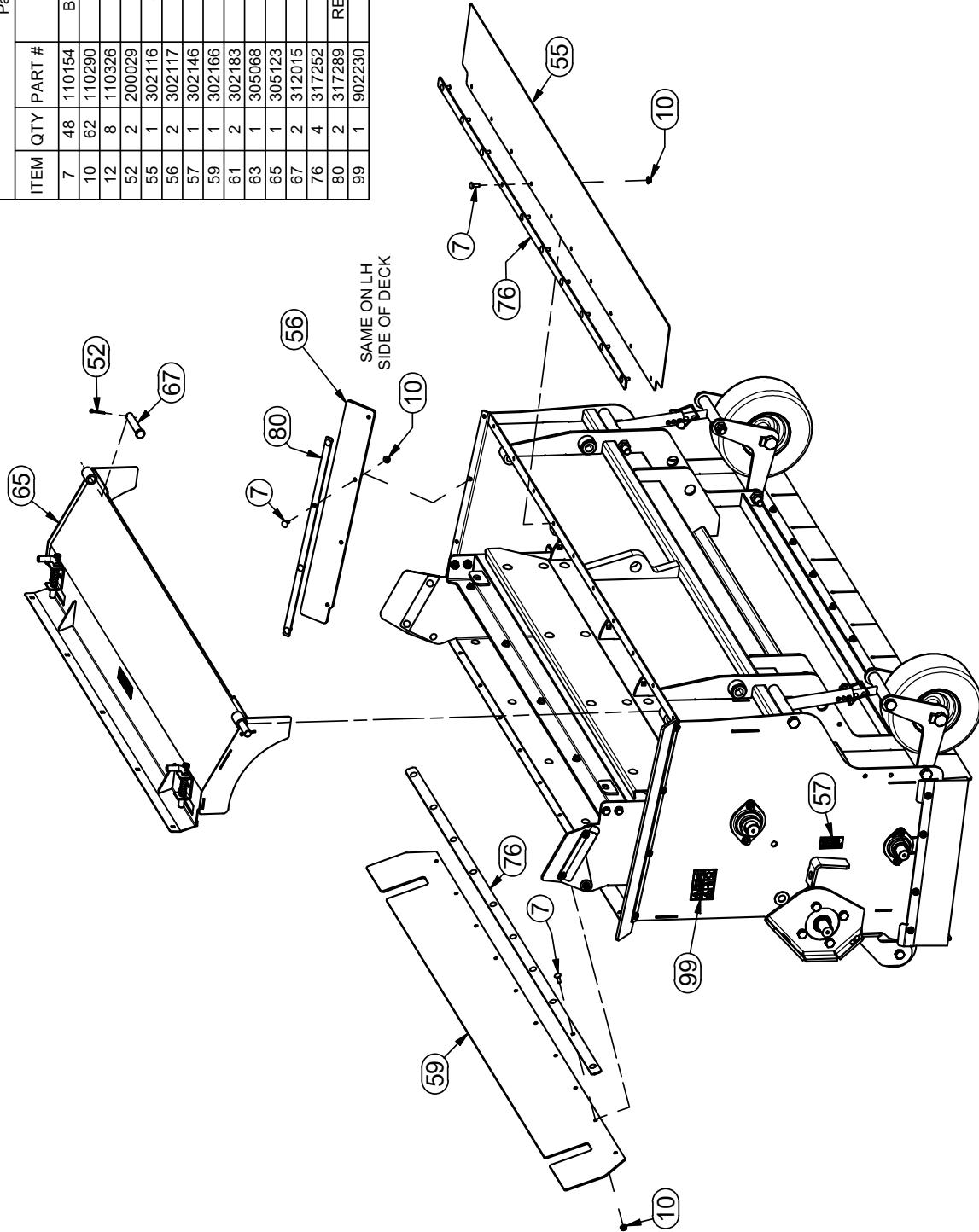
HYDRAULIC MOTOR, SCALP WHEELS & LOWER SKIRT INSTALLATION



Parts List		Parts List		
ITEM	QTY	PART #	ITEM	QTY
2	3	110010	61	2
6	2	110086	63	1
10	62	110290	66	2
12	8	110326	70	2
14	6	110358	73	1
16	4	110419	74	1
17	8	110437	75	3
18	6	110440	76	4
25	6	110610	83	1
33	6	110666	85	2
37	1	110987	86	1
38	2	111033	87	1
42	1	120233	91	1
43	2	120251	93	3
53	1	302112	99	1
57	1	302146	100	1
58	1	302165	102	1
60	2	302168		

UPPER DECK SEAL & PADDLE SHIELD INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
7	48	110154	Bolt, 1/4-20 X 0.75 in Carriage
10	62	110290	NUT, 1/4-20 WIZ FLANGE
12	8	110326	Bolt, 1/4-20 X 1 in Carriage
52	2	200029	COTTER PIN, 5/32 X 1
55	1	302116	SEAL, REAR TRANSITION
56	2	302117	SEAL, SIDE DECK
57	1	302146	Decal, Tension Adjustment
59	1	302166	SEAL, FRONT DECK
61	2	302183	Brush, Side Skirt
63	1	305168	ASSY, BRUSH
65	1	305123	ASSY, PADDLE SHIELD
67	2	312015	PIN, 5/8" x 3.5"
76	4	317252	RETAINER, FRONT DECK
80	2	317289	RETAINER, UPPER SIDE SEAL
99	1	902230	Decal, Shaft Hazard

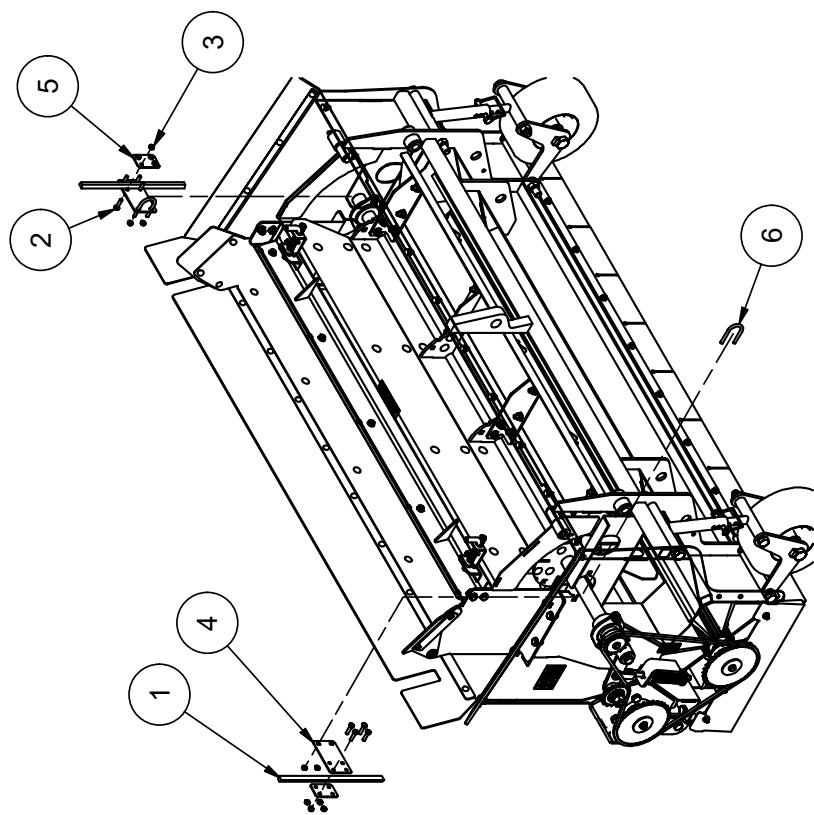


305164 REV. NC

Parts List

DESCRIPTION

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



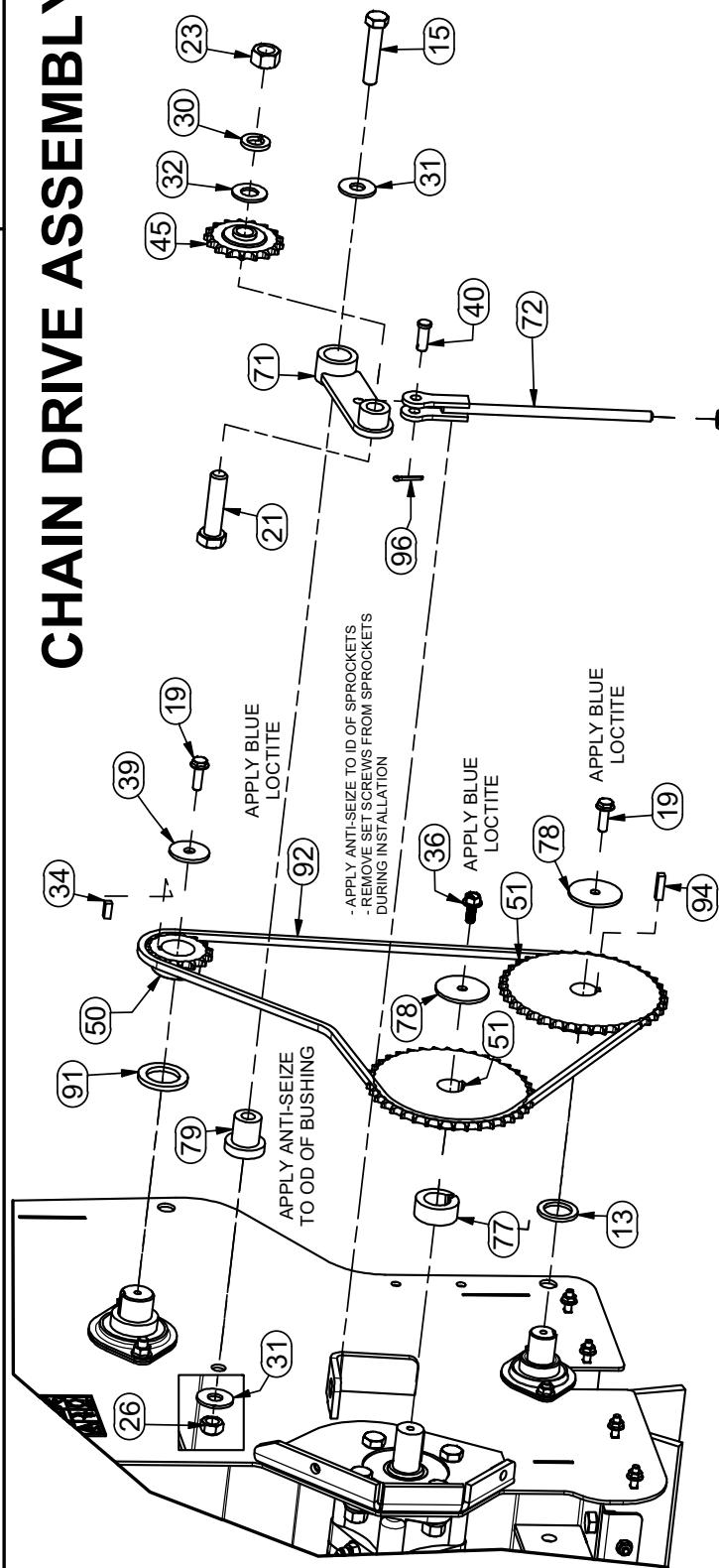
RETURN AIR DEBRIS CLEANER KIT

Standard on S/N: 24A07+ Optional for S/N: 24A06-

Right side detail

Left side detail

CHAIN DRIVE ASSEMBLY



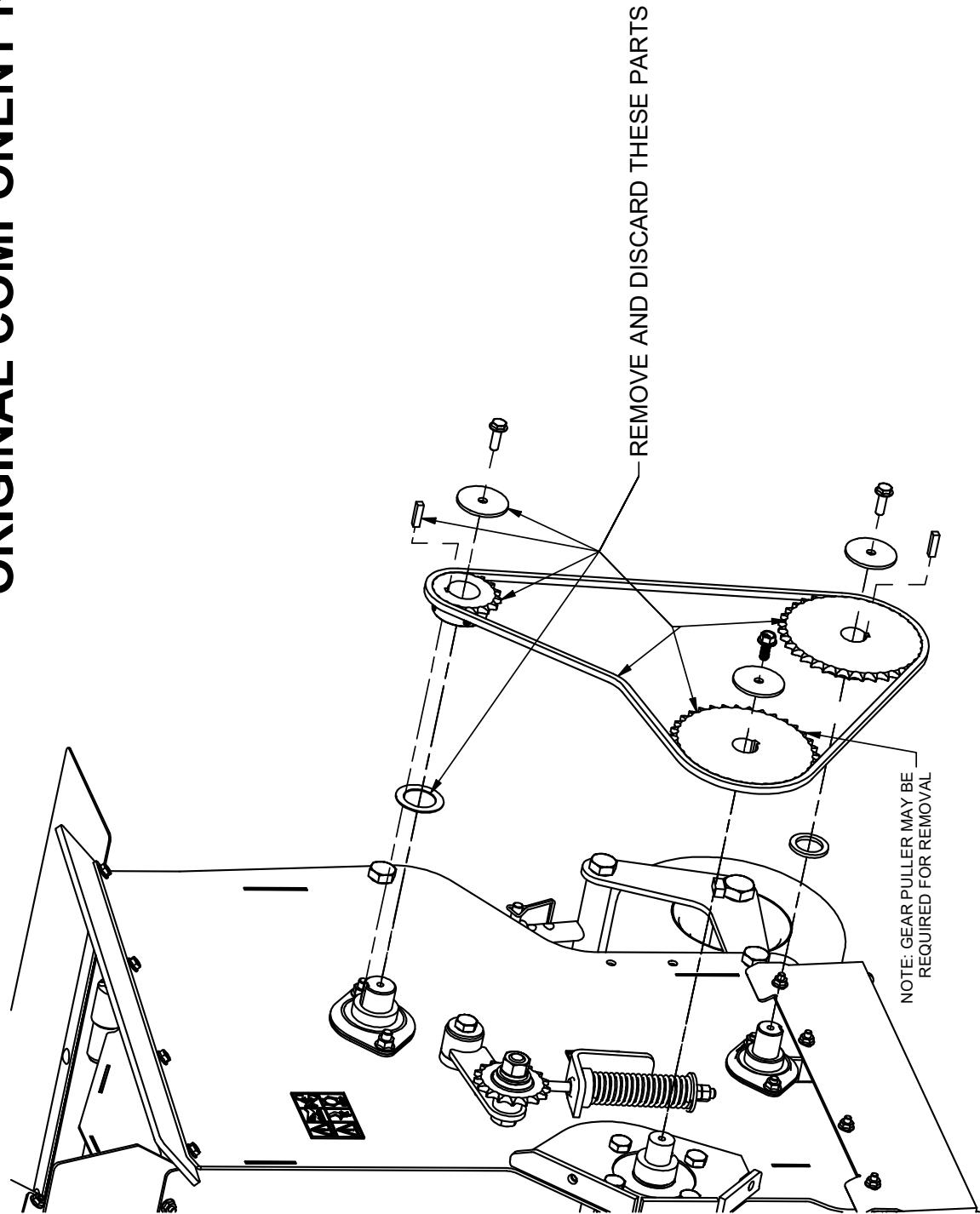
INSTALLATION: TIGHTEN NUT UNTIL FLAT WASHER CONTRACTS COLLAR, THEN TIGHTEN JAM NUT

Parts List					
ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
13	110335	WASHER, 1" FLAT MACHINE	45	142013	SPROCKET, 4017 Idler, 5/8
15	110403	BOLT, 1/2-13 X 2.5	50	142029	SPROCKET, 40BS15 X 1.25
19	110459	BOLT, 5/16-18 X 1.1/2 FLANGE	51	142030	SPROCKET, 40BS38 X 1.0
21	110513	BOLT, 5/8-11 X 2.5	61	302183	Brush, Side Skirt
23	110597	NUT, 5/8-11	63	305068	ASSY, BRUSH
26	110615	NUT, 1/2-13, UNITORQUE LOCK	71	315377	WEEDMENT, SWEEPER DRIVE IDLER
30	110655	WASHER, 5/8" LOCK	72	315378	WEEDMENT, IDLER ADJUSTMENT
31	110658	WASHER, 1/2" FLAT STANDARD	77	317256	SPACER, KEYWAY, 1.625 X .5 X .909
32	110663	WASHER, 5/8" FLAT SAE	78	317258	WASHER, 2.0 X .344 X .12
34	110771	KEY, 1/4 X 1/4 X .625 in	79	317261	TENSIONER, GEAR MOUNT
35	110826	NUT, 3/8-16 GR 5	81	317295	COLLAR, SPRING TENSIONER
36	110929	BOLT, M8-1.25 X 20 WIZ FLNG	91	317639	SPACER, 1.25 X 1.875 X .179
39	111186	WASHER, 1.50 X .406 X .125, FLAT	92	340013	ROLLER CHAIN, #40 DECK (53")
40	112130	Clevis Pin, 3/8" x 3/4", ZINC	94	510228	KEY, 1/4 X 1/4 X 1.0 UNDER
44	142002	SPRING, COMP 1/4 x 4 x .148	96	510249	COTTER PIN, 1/8 X 0.75

305162

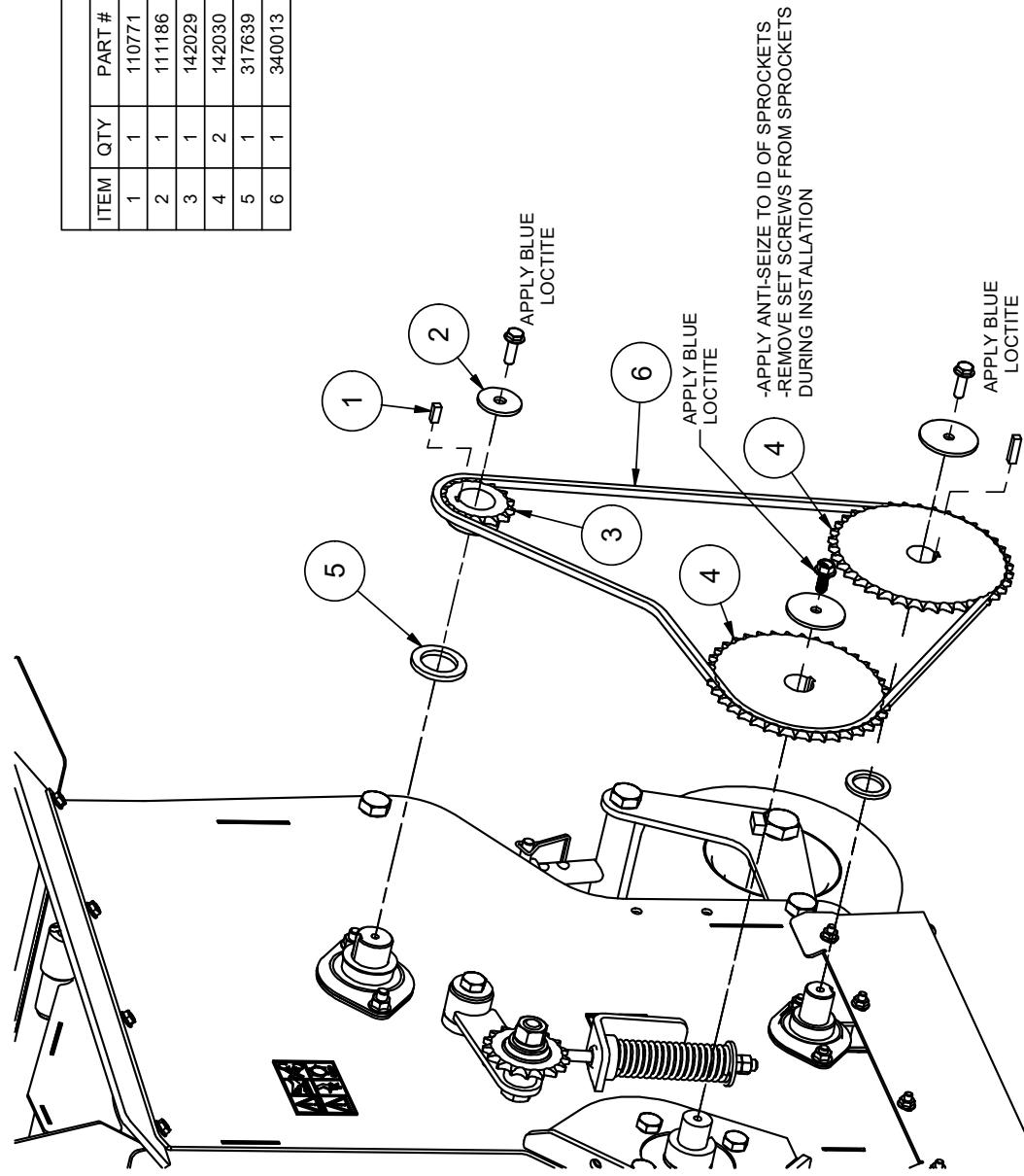
REV. A

ORIGINAL COMPONENT REMOVAL



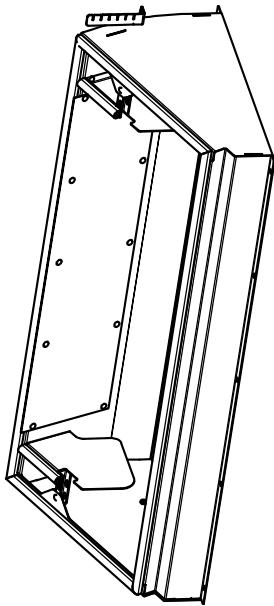
UPDATED COMPONENT INSTALL

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	1	142029	SPROCKET, 40BS15 X 1.25
4	2	142030	SPROCKET, 40BS38 X 1.0
5	1	317639	SPACER, 1.25 X 1.875 X .179
6	1	340013	ROLLER CHAIN, #40 DECK DRIVE



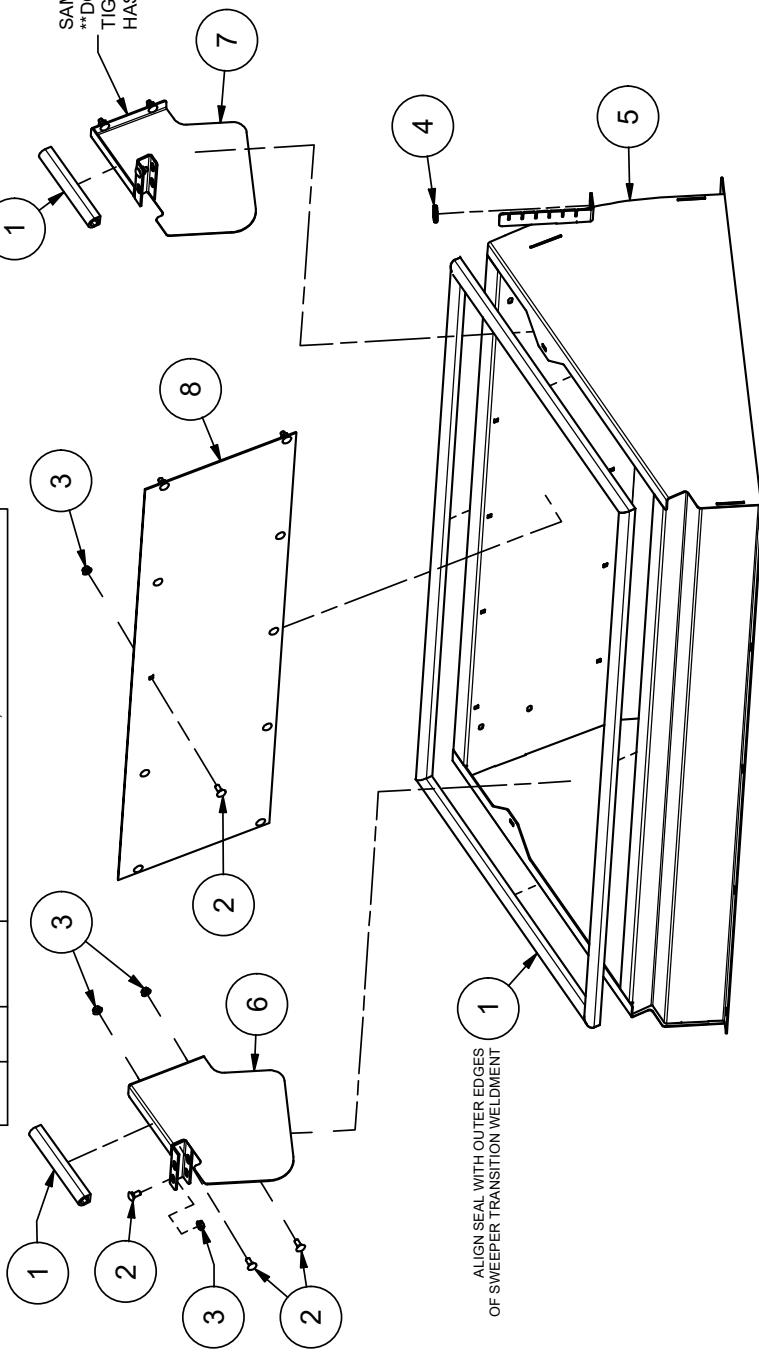
305124

REV. NC



SAME HARDWARE USED ON BOTH SIDES.
**DO NOT TIGHTEN HARDWARE NOW.
TIGHTEN HARDWARE AFTER THIS ASSEMBLY
HAS BEEN INSTALLED ON MAIN FRAME.

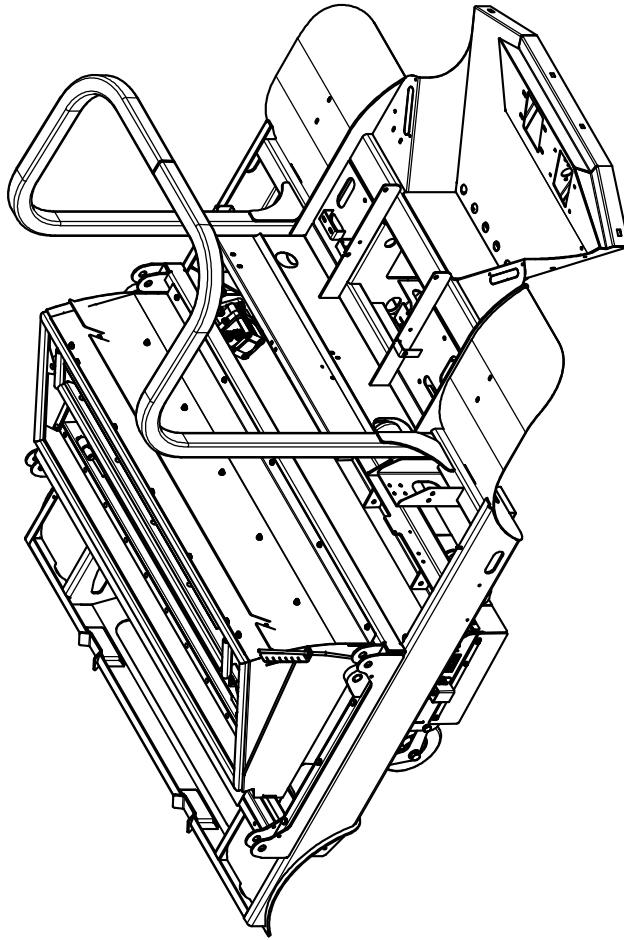
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	17	102004	D-Seal, Rubber 1.00" x 1.00"
2	16	110020	Bolt, 5/16-18 X 0.75 in Carriage
3	16	110606	NUT, 5/16-18 WIZ FLANGE
4	1	110941	GROMMET - 1/2 ID X 1-1/4 OD, 1/16 X 1
5	1	315420	WELDMENT, SWEEPER TRANSITION, US
6	1	315421	WELDMENT, LH CHUTE
7	1	315422	WELDMENT, RH CHUTE
8	1	317311	LINER, DECK



DECK TRANSITION ASSEMBLY

DECK INSTALLATION

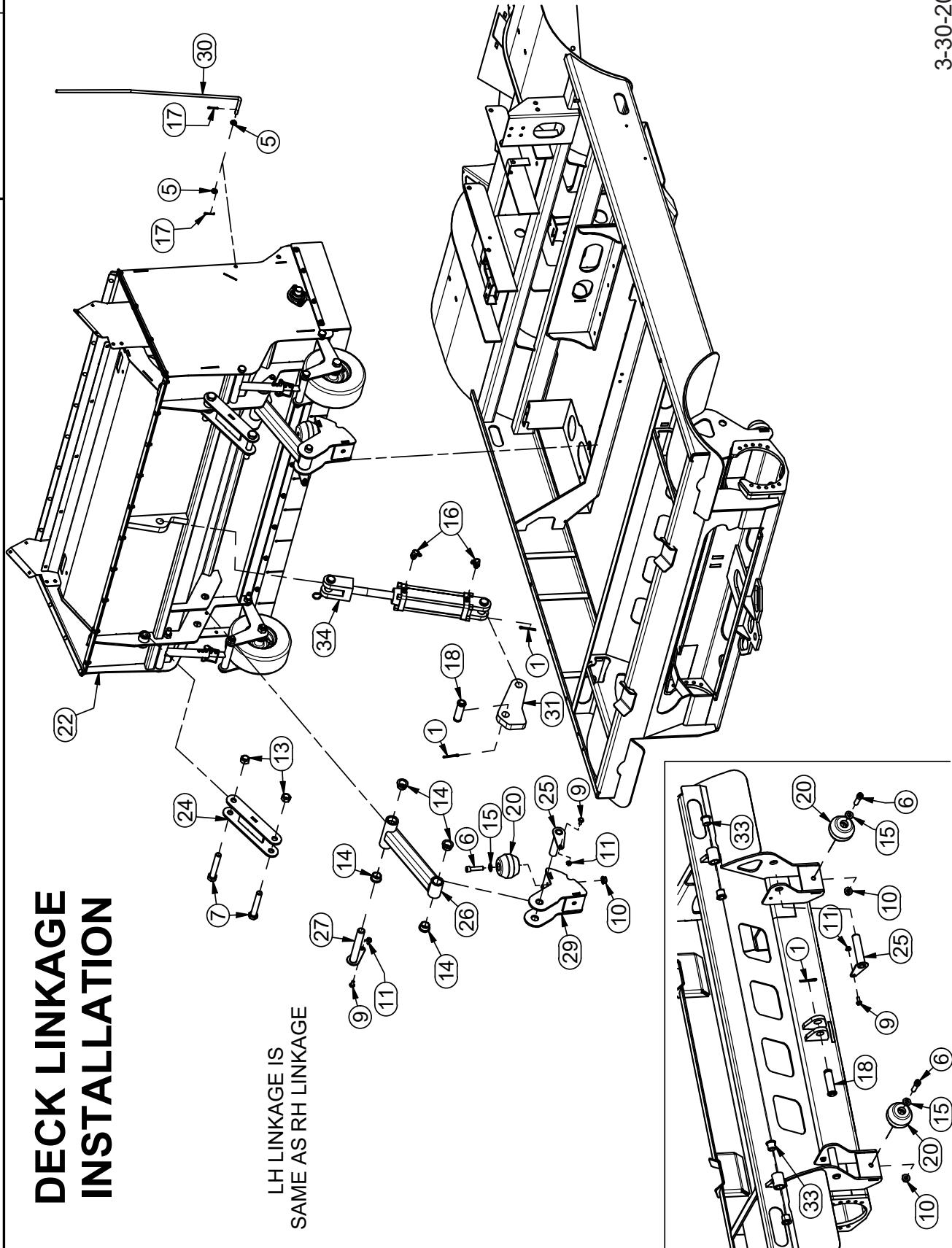
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	100465	COTTER PIN, 3/16 X 1.75"
2	4.4 FT	102004	D-Seal, Rubber 1.00" x 1.00"
3	6	110003	BOLT, 1/2-13 X 4.0
4	10	110020	Bolt, 5/16-18 X 0.75 in Carriage
5	2	110155	WASHER, 3/8" FLAT SAE
6	4	110166	BOLT, 1/2-13 X 2.0 SHCS
7	4	110170	BOLT, 3/4-10 X 4.5
8	2	110304	PIN, LOCK 3/8 X 2.5 SQ
9	14	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
10	4	110588	NUT, 1/2-13 WIZ FLANGE
11	14	110606	NUT, 5/16-18 WIZ FLANGE
12	6	110815	NUT, 1/2-13, UNITORQUE LOCK
13	4	110825	NUT, 3/4-10, UNITORQUE LOCK
14	8	110851	BUSHING - IGUS, 1-1/4 x 1 x 3/4 fng
15	4	111119	WASHER, 1/2" FLAT SAE
16	2	120220	ADAPTER, 4MJ-6MB90
17	2	200029	COTTER PIN, 5/32 X 1
18	1	220480	PIN
19	1	302167	SEAL, REAR CHUTE
20	4	302171	Spring, 500lb Rubber
21	1	305124	ASSY, DECK TRANSITION, U.S.
22	1	305125	ASSY, DECK, US
23	1	315315	WELDMENT, HOPPER MOUNT
24	2	315346	WELDMENT, UPPER DECK LINK
25	2	315373	WELDMENT, LOWER DECK PIN, 4.50
26	2	315375	WELDMENT, LOWER DECK LINK
27	2	315376	WELDMENT, LOWER DECK PIN, 6.25
28	1	315423	WELDMENT, UPPER CHUTE RETAINER
29	2	315430	WELDMENT, RUBBER SPRING
30	1	317267	ROD, DECK HEIGHT INDICATOR
31	1	317282	LINK, DECK LIFT
32	2	317441	RETAINER, FRONT DECK
33	4	800128	BUSHING, IGUS, FOOT PEDAL
34	1	923011	Cylinder, 2 X 6, -6 SAE Cross



SIMILAR TO 305131

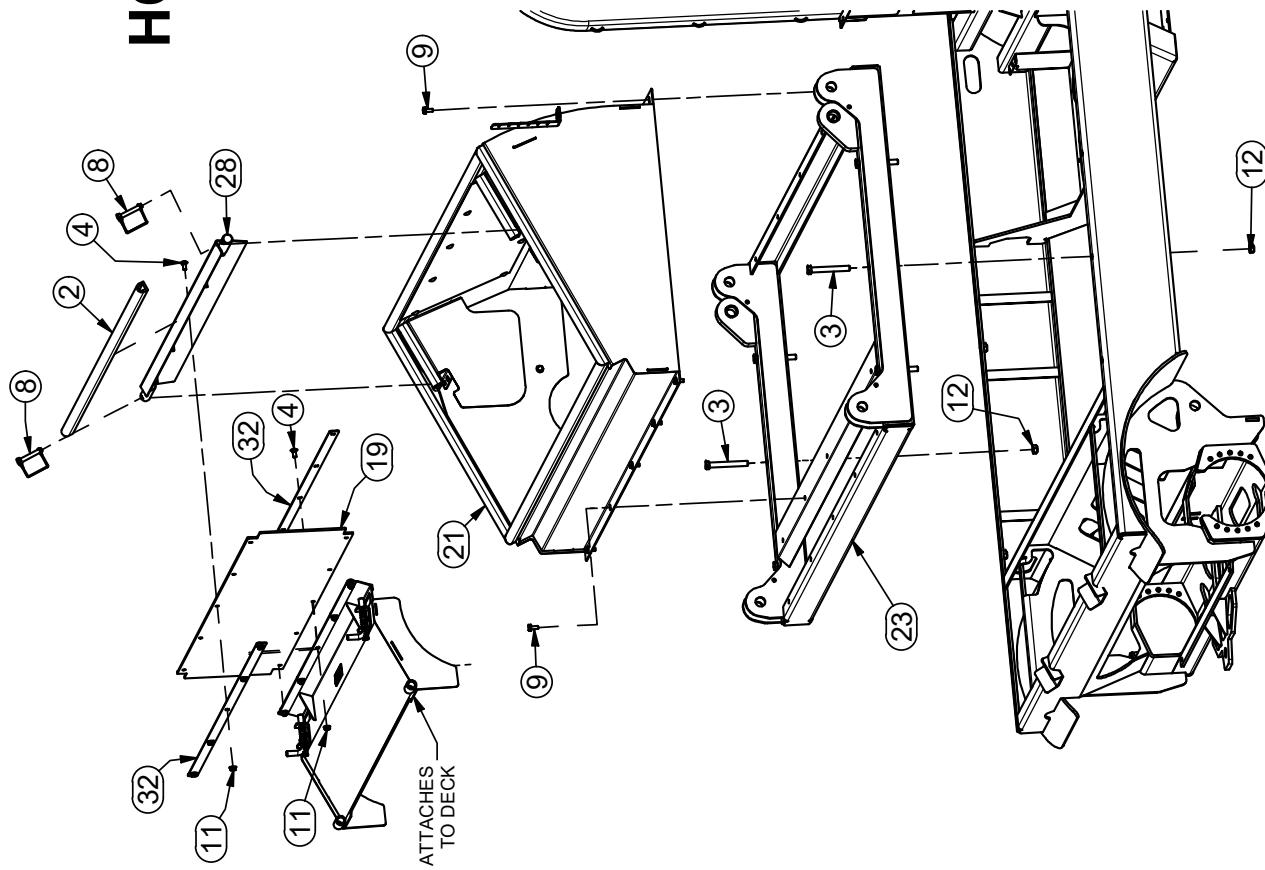
DECK LINKAGE INSTALLATION

LH LINKAGE IS
SAME AS RH LINKAGE



HOPPER TRANSITION & HOPPER MOUNT INSTALLATION

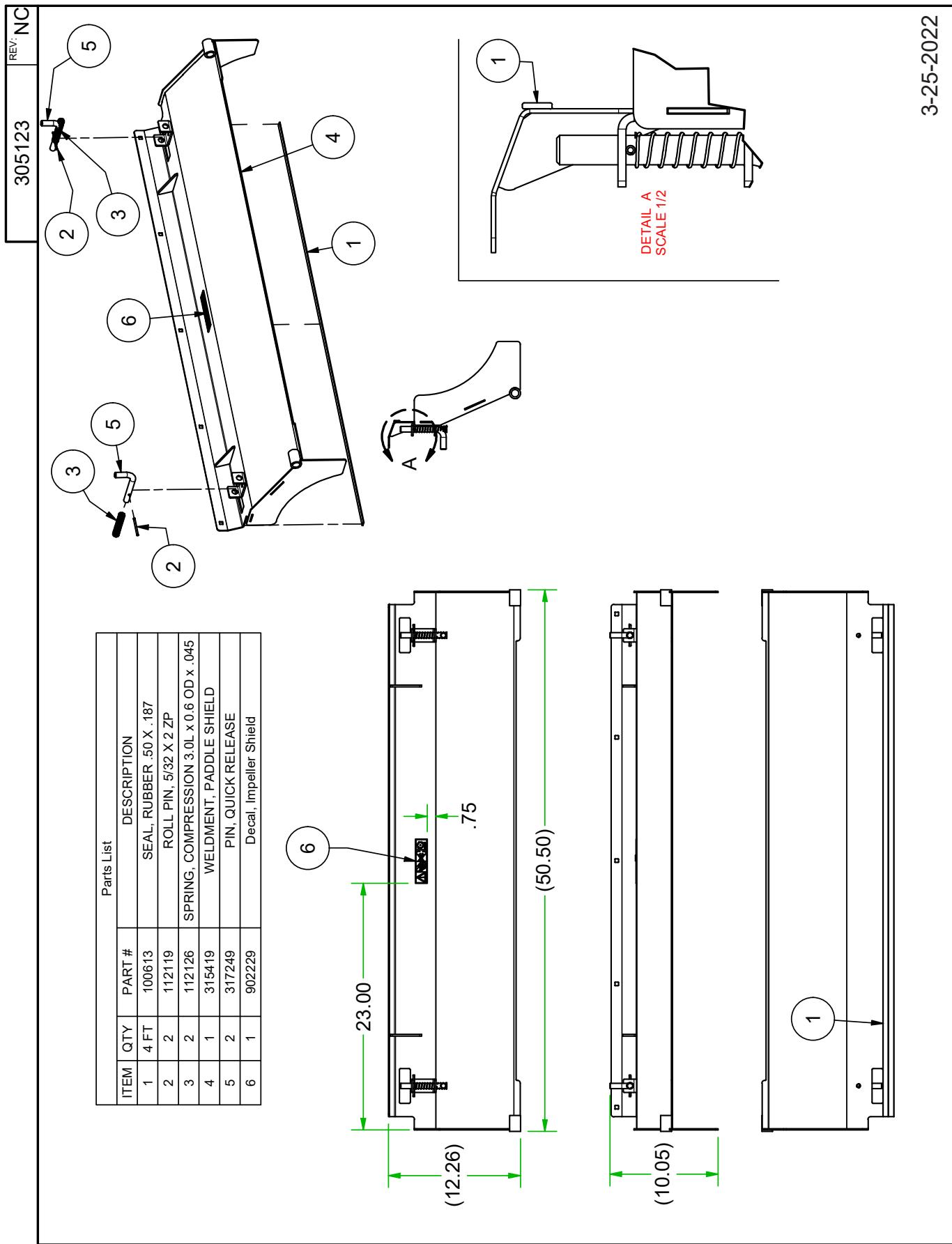
Parts List			
ITEM	QTY	PART #	DESCRIPTION
2	4.4 FT	102004	D-Seal, Rubber 1.00" x 1.00"
3	6	110003	BOLT, 1/2-13 X 4.0
4	10	110020	Bolt, 5/16-18 X 0.75 in Carriage
8	2	110304	PIN, LOCK 3/8 X 2.5 SQ
9	14	110444	BOL T 5/16-18 X 0.75, WIZ FLANGE
11	14	110606	NUT, 5/16-18 WIZ FLANGE
12	6	110615	NUT, 1/2-13, UNITORQUE LOCK
19	1	302167	SEAL, REAR CHUTE
21	1	305124	ASSY, DECK TRANSITION, U.S.
23	1	315315	WELDMENT, HOPPER MOUNT
28	1	315423	WELDMENT, UPPER CHUTE RETAINER
32	2	317441	RETAINER, FRONT DECK



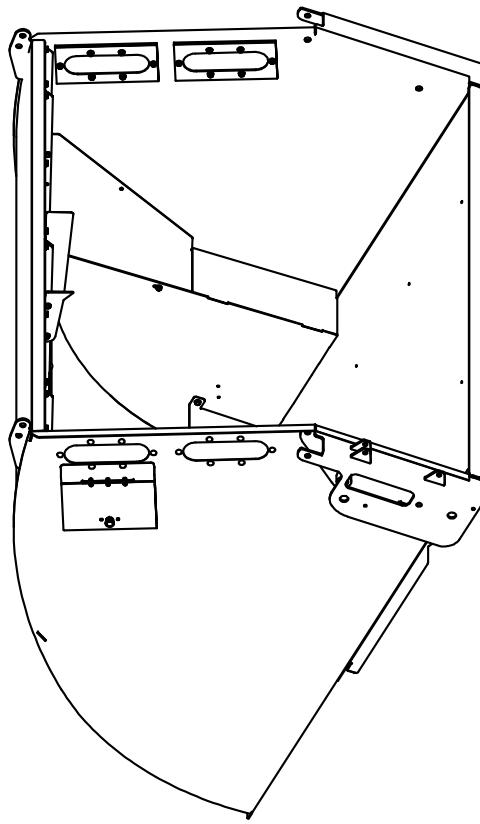
3-30-2022

HK4400

HARPER®
TURF EQUIPMENT



HOPPER ASSEMBLY

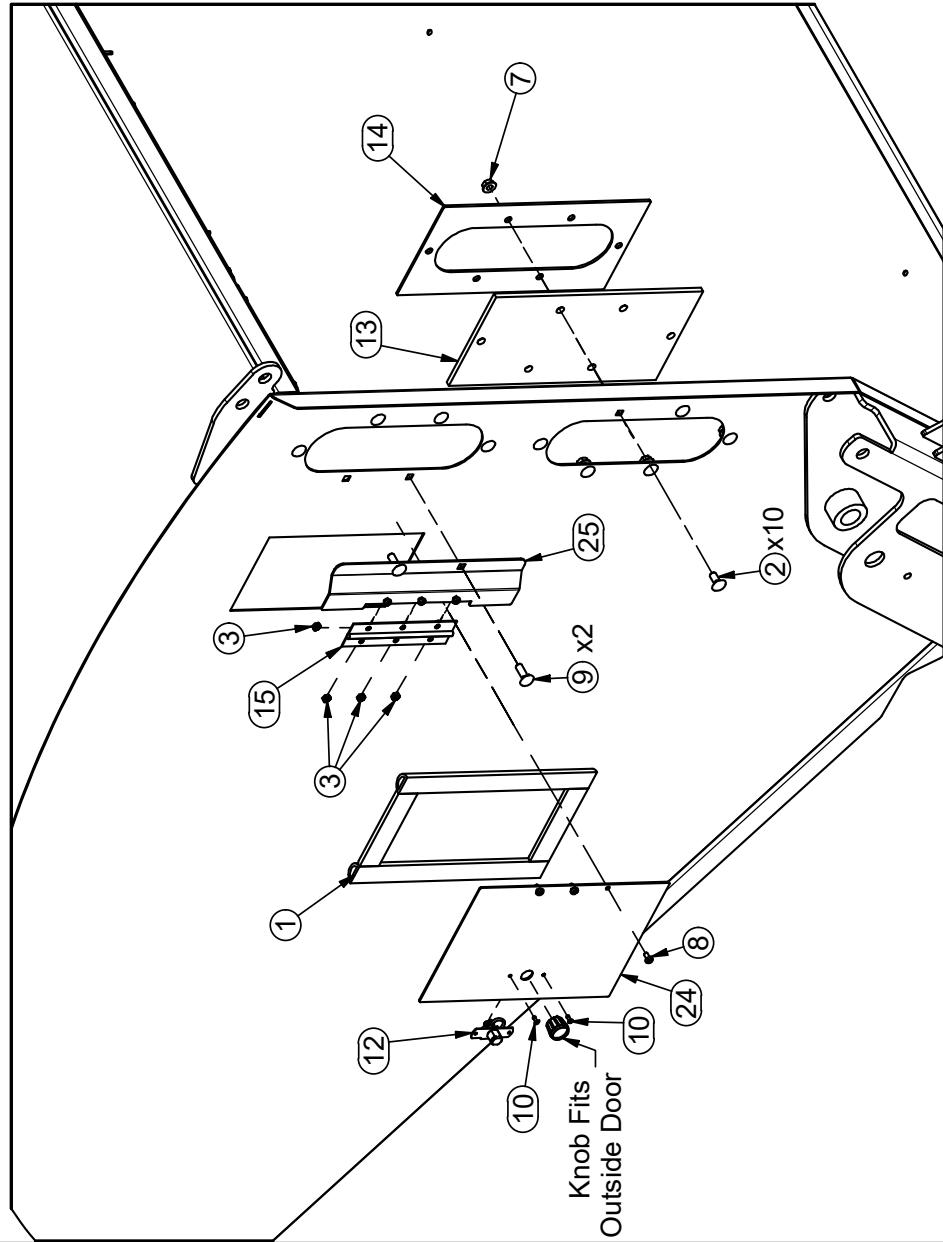


SIMILAR TO 305132

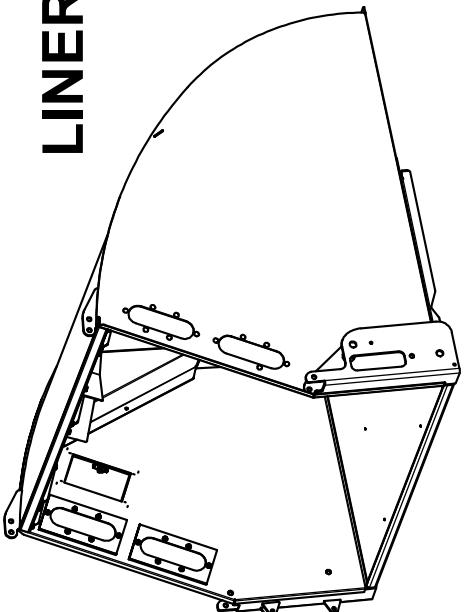
Parts List		
ITEM	QTY	PART #
		DESCRIPTION
1	2 ^{1/8"}	102075
		SEAL
2	32	110020
		Bolt, 5/16-18 X 0.75 in Carriage
3	6	110119
		NUT, 10-24 LOCK
4	26	110319
		NUT, 5/16-18 U-TYPE .75L
5	8	110444
		BOLT, 5/16-18 X 0.75, WIZ FLANGE
6	24	110459
		BOLT, 5/16-18 X 1, WIZ FLANGE
7	45	110606
		NUT, 5/16-18 WIZ FLANGE
8	6	110788
		BOLT, 10-24 X .375 STAINLESS, PHILLIPS
9	7	110871
		Bolt, 5/16-18 X 1 in Carriage
10	2	112051
		POP RIVET, 1/8 X .275
11	1	302121
		LINER, SWEeper HOPPER
12	1	302131
		LATCH, SPRING
13	4	311691
		SIGHT GLASS, HOPPER
14	4	311692
		Backing Plate, Sight Glass
15	1	311729
		HINGE, 6" ALUMINUM W/ HOLES
16	1	315428
		WELDMENT, HOPPER, U.S.
17	2	317212
		SCREEN, OUTER RETURN AIR
18	2	317213
		SCREEN, INNER RETURN AIR
19	1	317214
		SCREEN, RH RETURN AIR
20	1	317215
		SCREEN, LH RETURN AIR
21	2	317245
		RETAINER, LINER
22	1	317350
		DEFLECTOR, RH HOPPER
23	1	317351
		DEFLECTOR, LH HOPPER
24	1	317413
		DOOR, HOPPER DEBRIS, US
25	1	317414
		BRKT, HOPPER DEBRIS DOOR, US
26	1	317450
		SHIELD, HOPPER DEBRIS

WINDOW AND DOOR INSTALL

Parts List		
ITEM	QTY	PART #
1	2' 8"	102075 SEAL
2	32	110020 Bolt, 5/16-18 X 0.75 in Carriage
3	6	110119 NUT, 10-24 LOCK
12	1	302131 LATCH SPRING
13	4	311691 SIGHT GLASS, HOPPER
14	4	311692 Backing Plate, Sight Glass
15	1	311729 HINGE, 6" ALUMINUM W/ HOLES
24	1	317413 DOOR, HOPPER DEBRIS, US
25	1	317414 BRKT, HOPPER DEBRIS DOOR, US
10	2	112051 POP RIVET, 1/8 X .275
22	1	317350 DEFLECTOR, RH HOPPER
23	1	317351 DEFLECTOR, LH HOPPER
26	1	317450 SHIELD, HOPPER DEBRIS



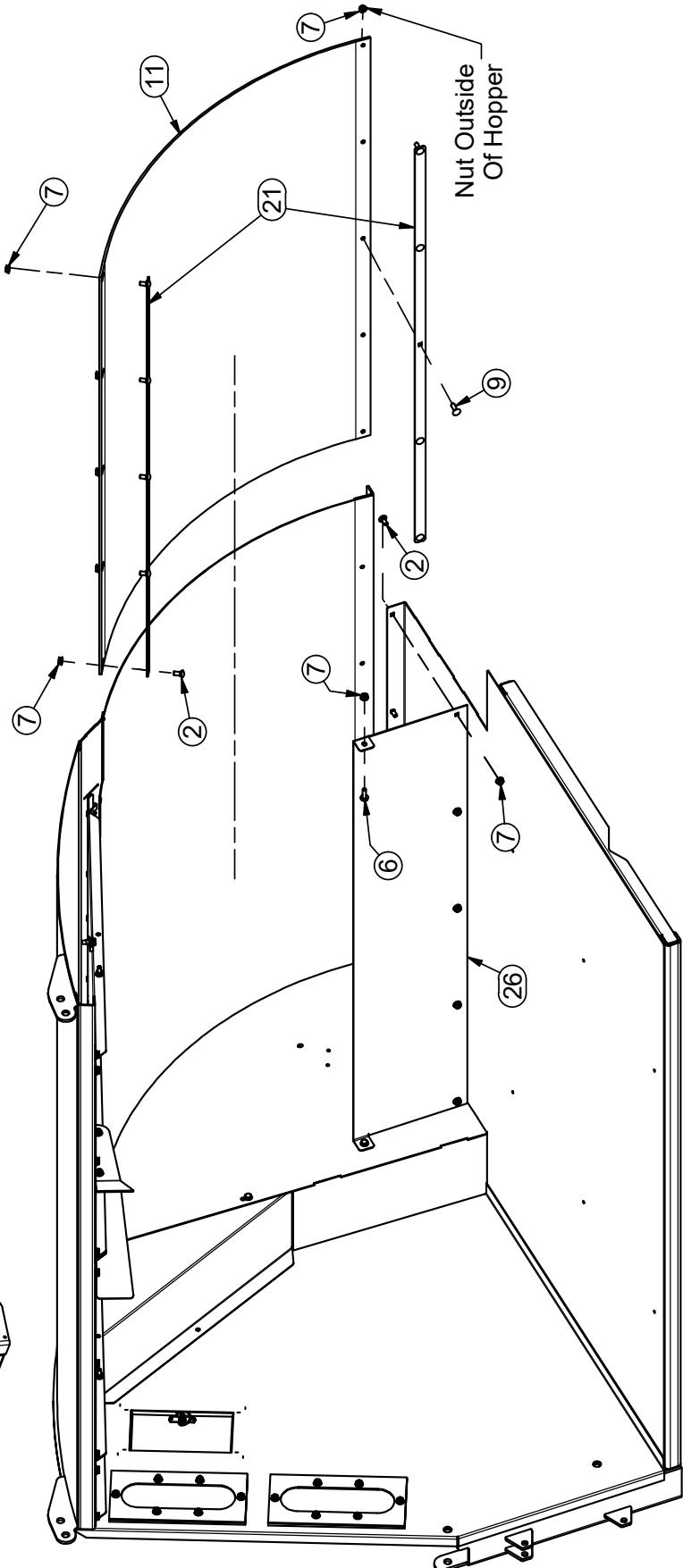
LINER & SHIELD INSTALL



Parts List		
ITEM	QTY	PART #
2	32	110020
6	24	110459
7	45	110606
9	7	110871
10	2	112051
11	1	302121
21	2	317245
22	1	317350
23	1	317351
26	1	317450

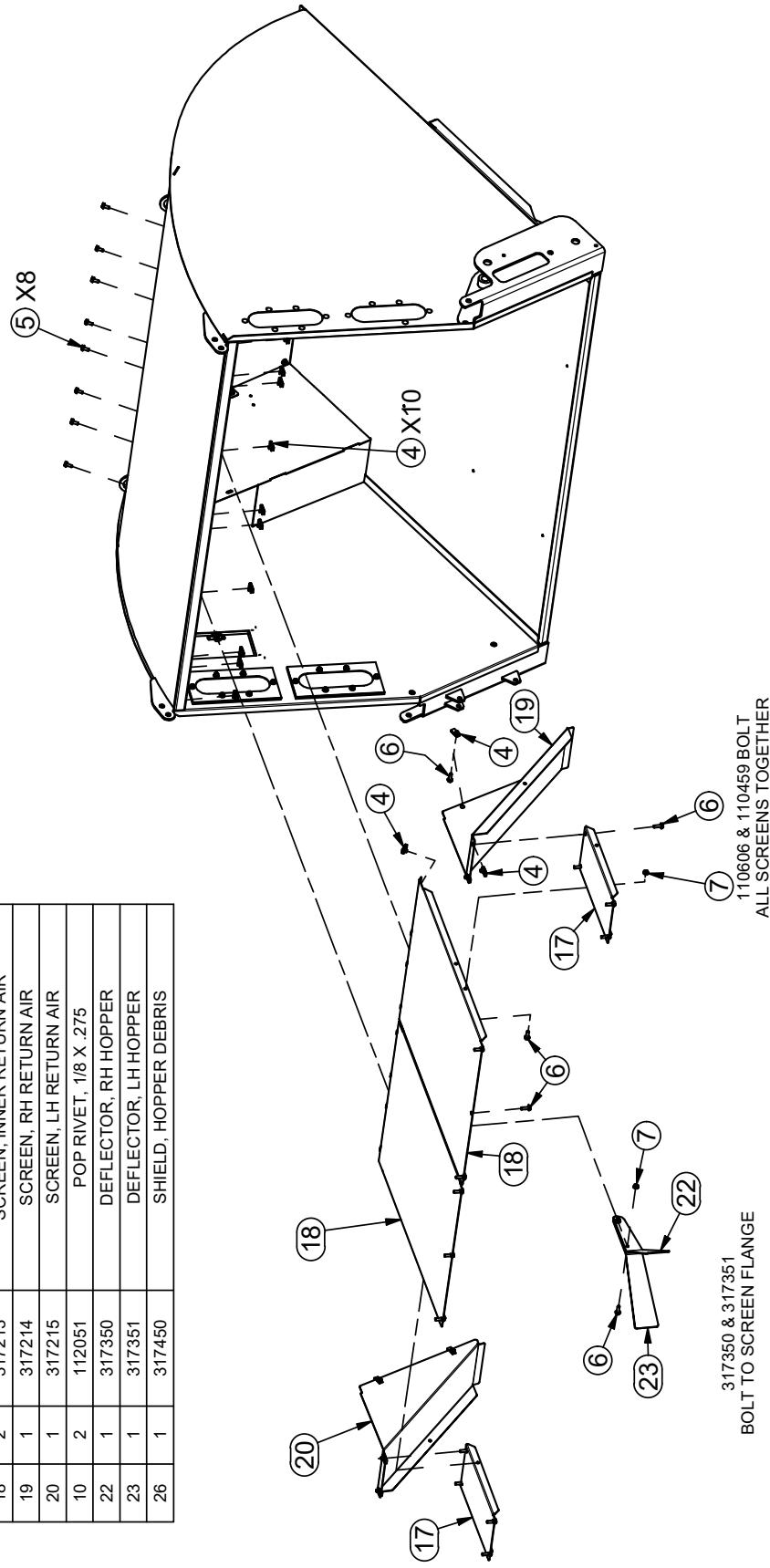
DESCRIPTION

Bolt, 5/16-18 X 0.75 in Carriage Bolt, 5/16-18 X 1, WIZ FLANGE NUT, 5/16-18 WIZ FLANGE Bolt, 5/16-18 X 1 in Carriage POP RIVET, 1/8 X .275 LINER, SWEEPER HOPPER RETAINER, LINER DEFLECTOR, RH HOPPER DEFLECTOR, LH HOPPER SHIELD, HOPPER DEBRIS

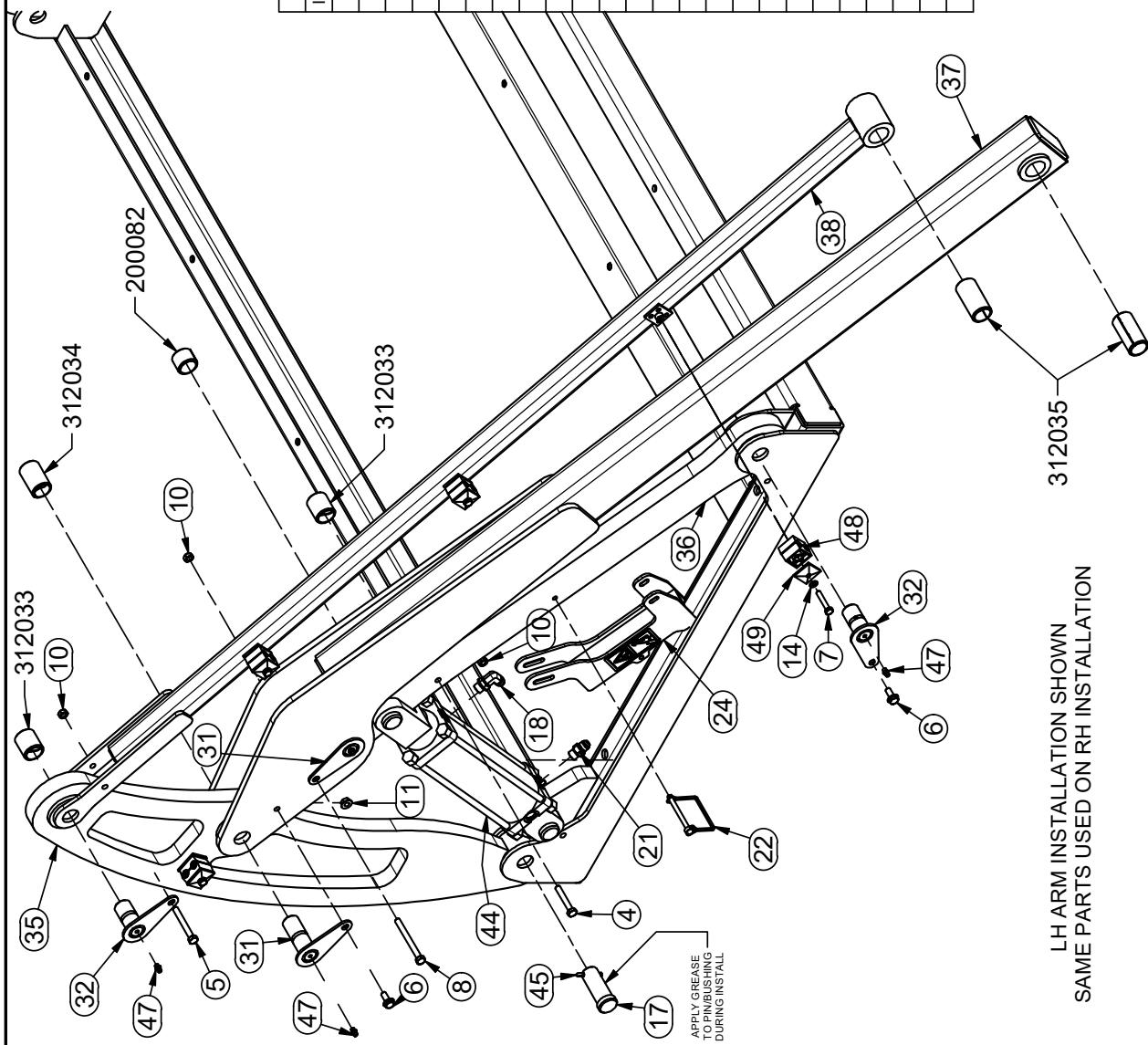


SCREEN ASSEMBLY AND INSTALL

Parts List		
ITEM	QTY	PART #
4	26	110319
		NUT, 5/16-18 U-TYPE .75L
5	8	110444
		BOLT, 5/16-18 X 0.75, WIZ FLANGE
6	24	110459
		BOLT, 5/16-18 X 1, WIZ FLANGE
7	45	110606
		NUT, 5/16-18 WIZ FLANGE
17	2	317212
		SCREEN, OUTER RETURN AIR
18	2	317213
		SCREEN, INNER RETURN AIR
19	1	317214
		SCREEN, RH RETURN AIR
20	1	317215
		SCREEN, LH RETURN AIR
10	2	112051
		POP RIVET, 1/8 X .275
22	1	317350
		DEFLECTOR, RH HOPPER
23	1	317351
		DEFLECTOR, LH HOPPER
26	1	317450
		SHIELD, HOPPER DEBRIS

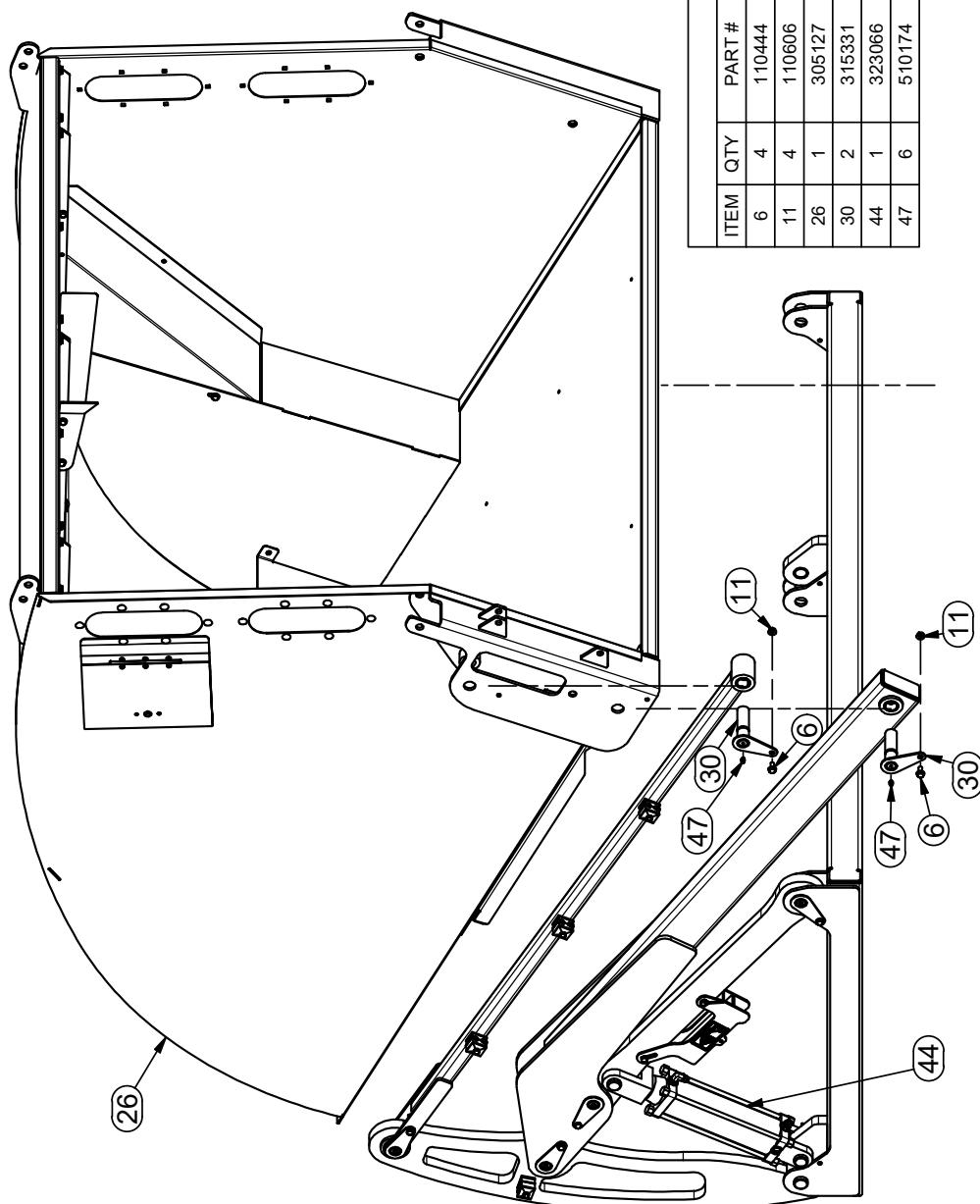


LIFT ARM ASSEMBLY



3-25-2022

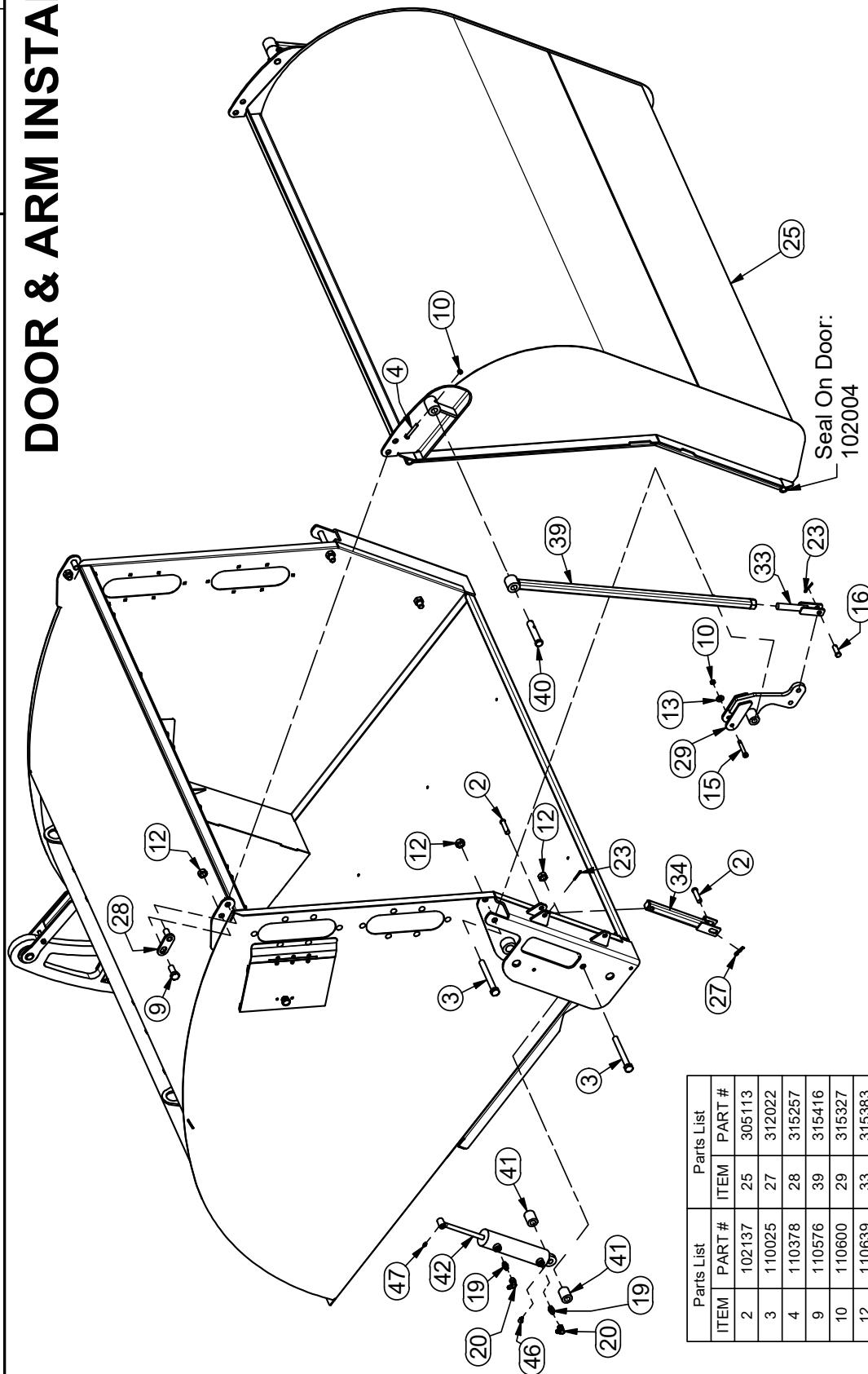
HOPPER INSTALL



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	305127	ASSY, HOPPER, U.S.
30	2	315331	WELDMENT, HOPPER LIFT - 4.00"
44	1	323066	Cylinder, 2.5 X 8, -6 SAE, Hopper
47	6	510174	GREASE ZERK, 1/4-28 ST

LH INSTALLATION SHOWN
SAME PARTS USED ON RH INSTALLATION

DOOR & ARM INSTALL

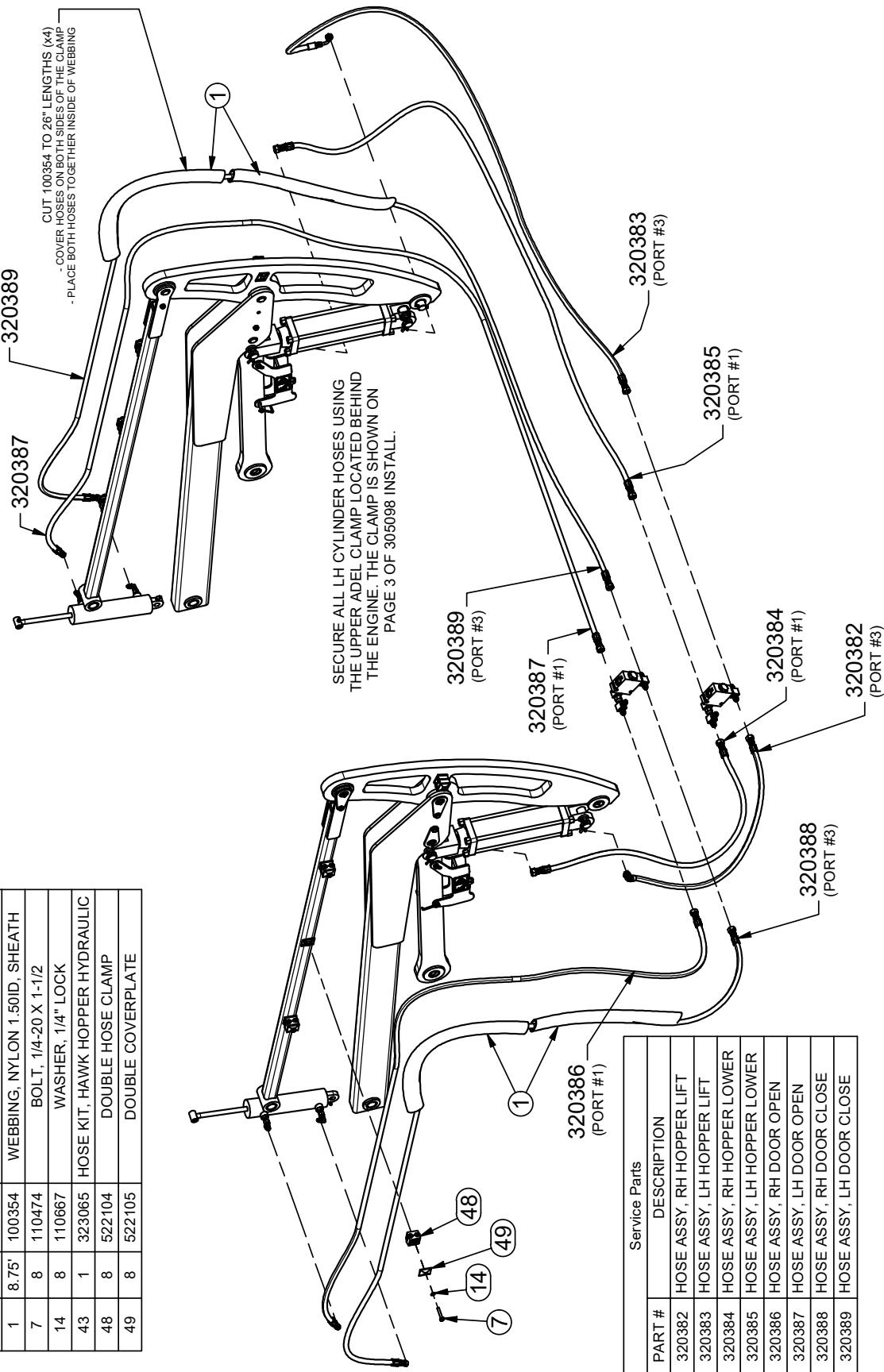


1. INITIALLY SET THE HOPPER DOOR LIFT LINK TO 36.5" (CTR TO CTR)
2. ADJUST AS NEEDED TO COMPRESS THE DOOR SEAL TO 0.5" AT THE BOTTOM OF THE DOOR

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

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	110687	WASHER, 1/4" LOCK
43	1	323065	HOSE KIT, HAWK HOPPER HYDRAULIC
48	8	522104	DOUBLE HOSE CLAMP
49	8	522105	DOUBLE COVERPLATE

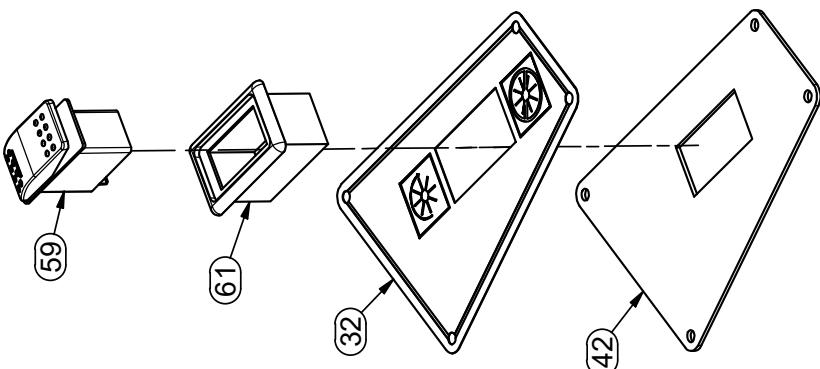


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REV: D

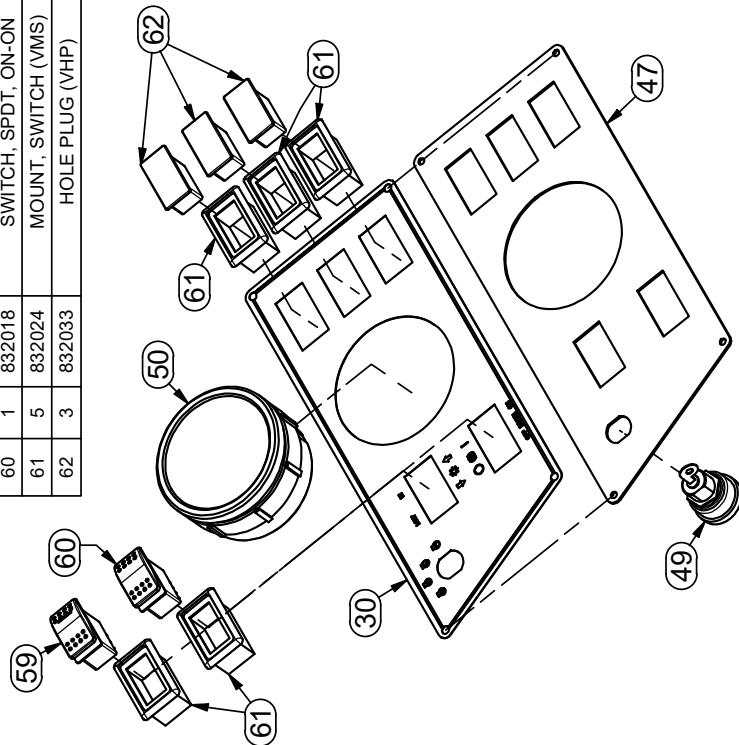
DECK SWITCH PANEL ASSEMBLY

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

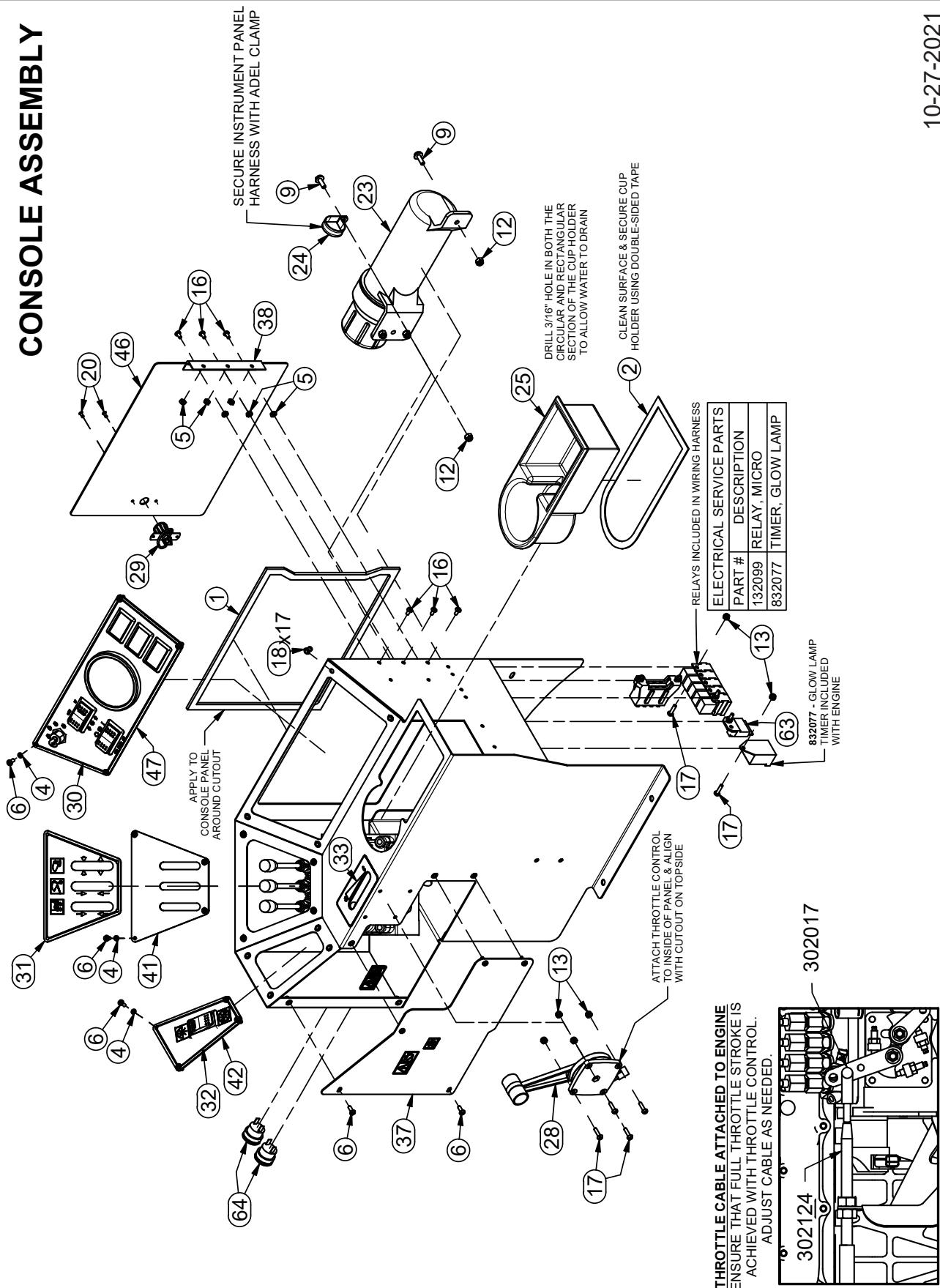


INSTRUMENT PANEL ASSEMBLY

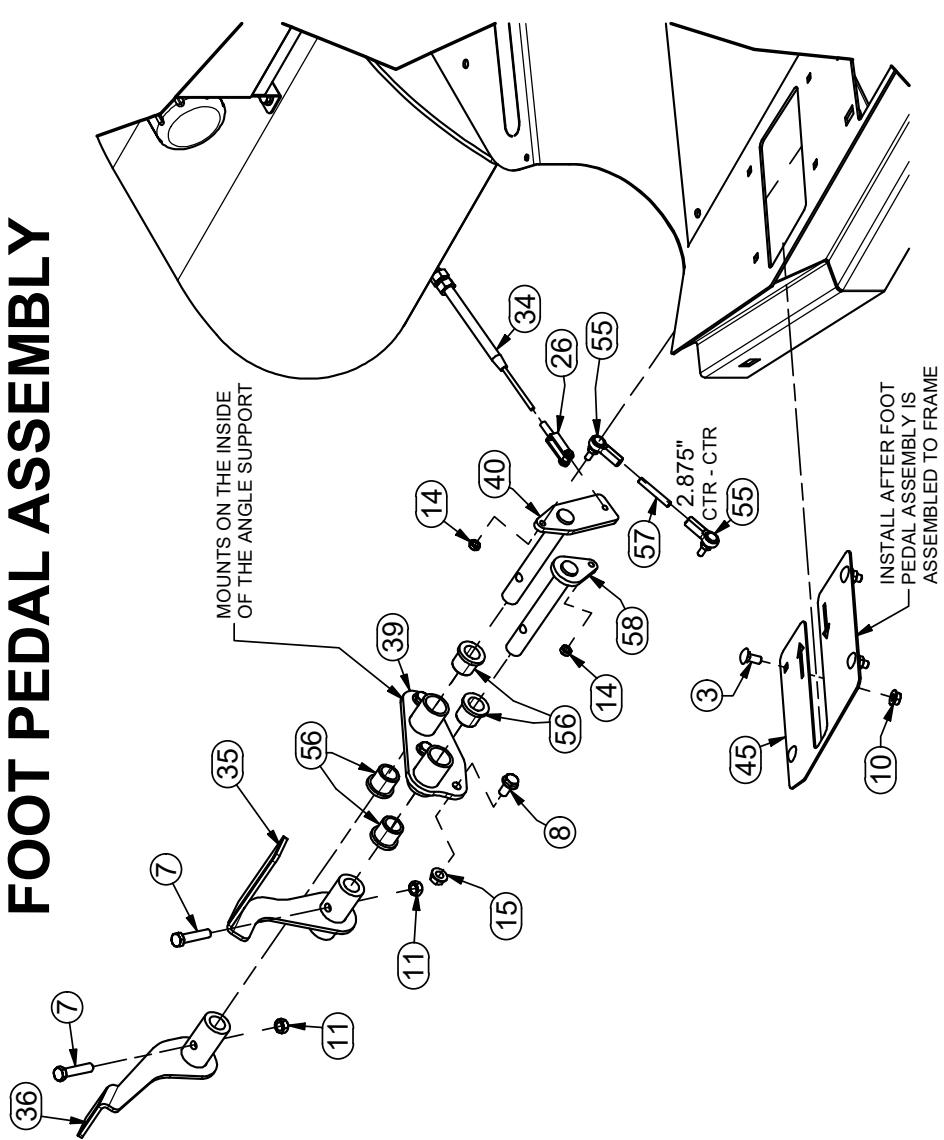
Parts List		
ITEM	QTY	PART #
DESCRIPTION		
30	1	302132
		DECAL, MAIN CONSOLE
47	1	317195
		PANEL, GAUGE & SWITCH
49	1	332031
		SWITCH, IGNITION
50	1	332059
		DISPLAY, MACHINE
59	1	832005
		SWITCH, PADDLE, CARLING (29253)
60	1	832018
		SWITCH, SPDT, ON-ON
61	5	832024
		MOUNT, SWITCH (VMS)
62	3	832033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



CONSOLE ASSEMBLY

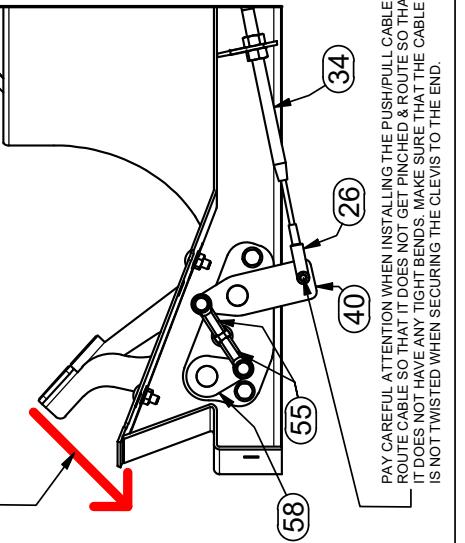


FOOT PEDAL ASSEMBLY

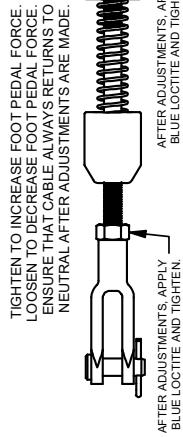


FOOT PEDAL ASSEMBLY SIDE VIEW

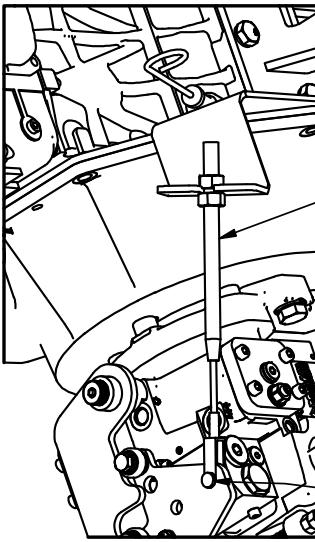
MEASURE FORWARD FOOT PEDAL FORCE USING A FISH SCALE OR SPRING SCALE. ENSURE THAT THE FORCE IS BETWEEN 20 - 35 LBS WHEN MACHINE IS OFF. SEE INSTRUCTIONS BELOW FOR ADJUSTING THE NEUTRAL SPRING.



NEUTRAL RETURN SPRING ON PUMP



PEDAL CABLE TO PROPULSION PUMP

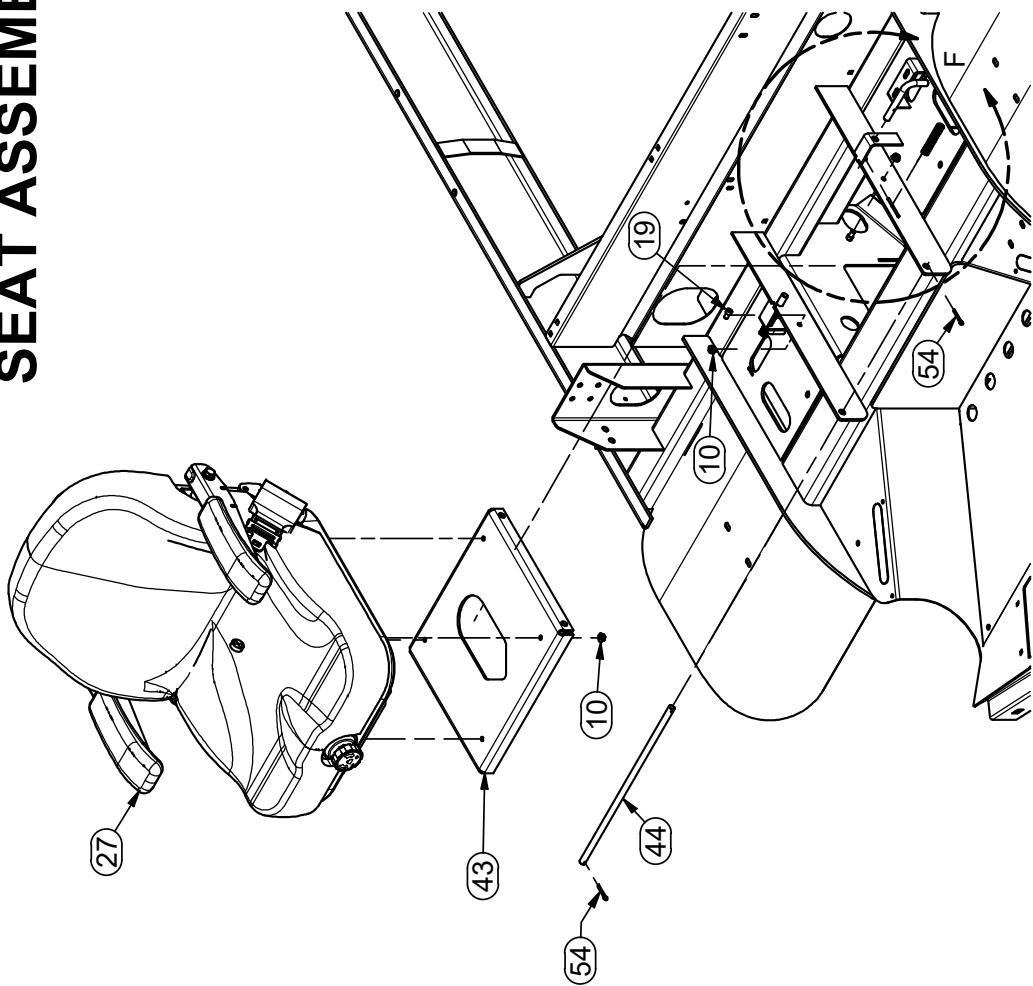


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10-27-2021

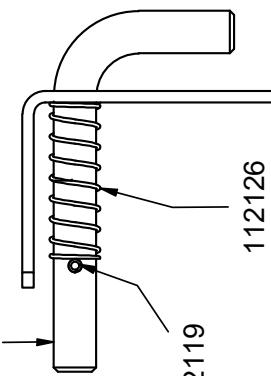
SEAT ASSEMBLY



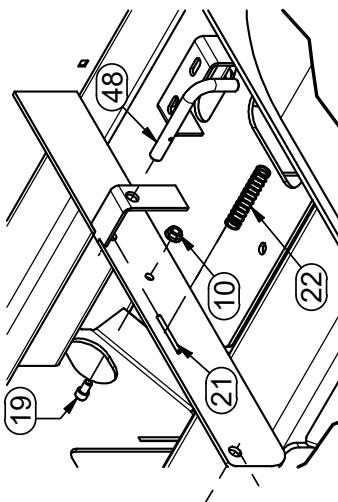
ITEM	QTY	PART #	DESCRIPTION
10	6	110606	NUT, 5/16-18 WIZ FLANGE
19	2	110971	BOLT, 5/16-18 X .50 SHCS
21	2	112119	ROLL PIN, 5/32 X 2 ZP
22	2	112126	SPRING, COMP 3.0L x 0.6 OD x .045
27	1	302078	SEAT, 13M SUSPENSION
43	1	317172	BASE, SEAT MOUNT
44	1	317173	PIN, SEAT MOUNTING
48	2	317249	PIN, QUICK RELEASE
54	2	510112	COTTER PIN, 3/16 X 1

SEAT PIN SIDE VIEW

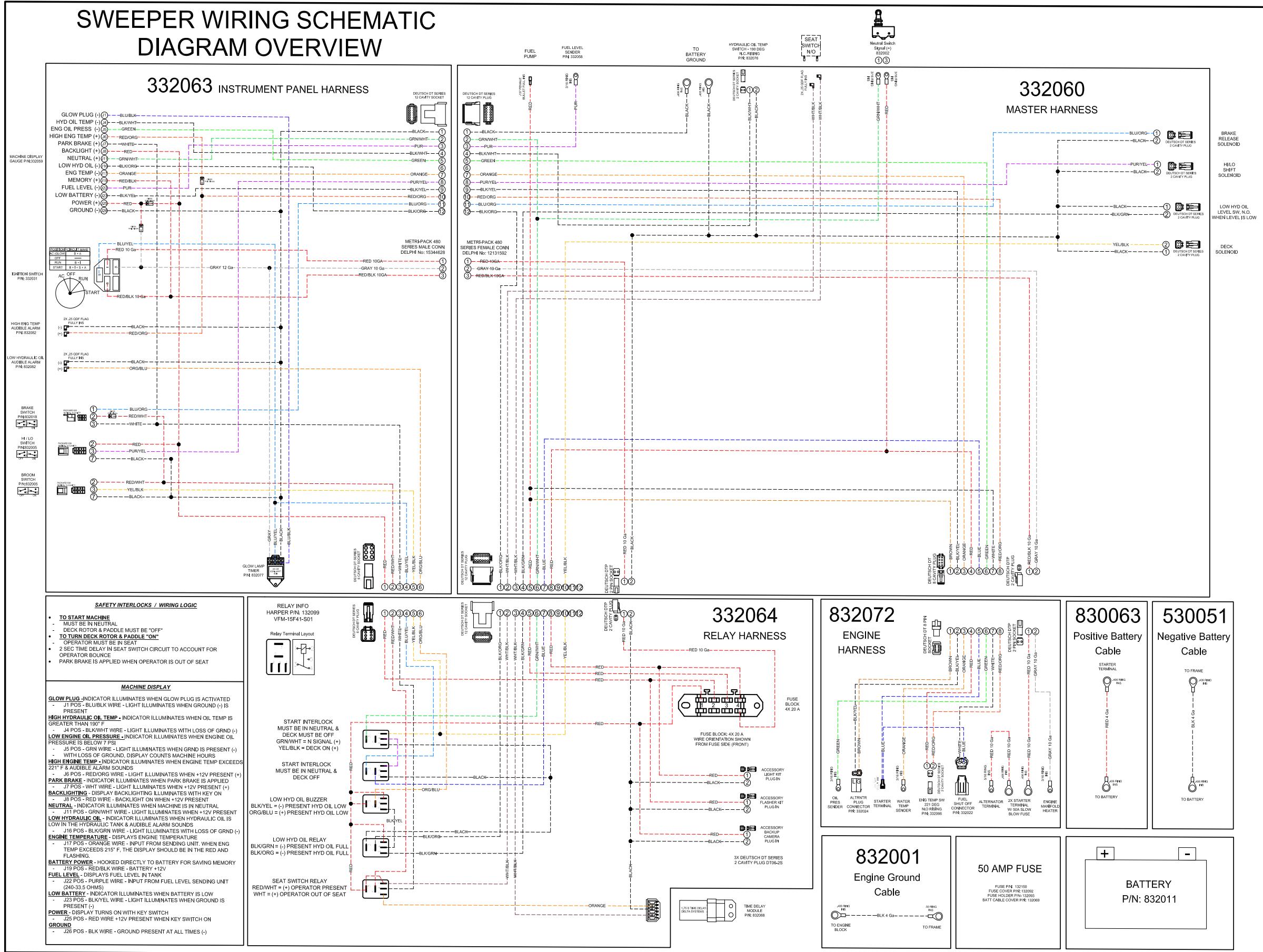
317249



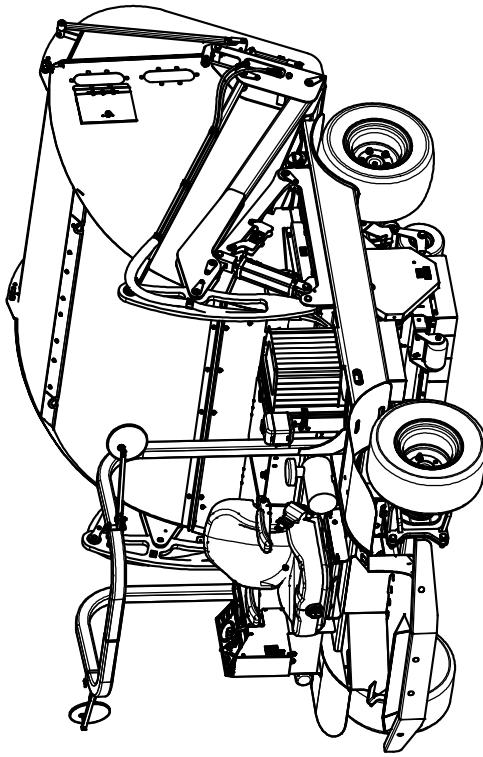
DETAIL F
SCALE 0.15 : 1



SWEeper WIRING SCHEMATIC DIAGRAM OVERVIEW



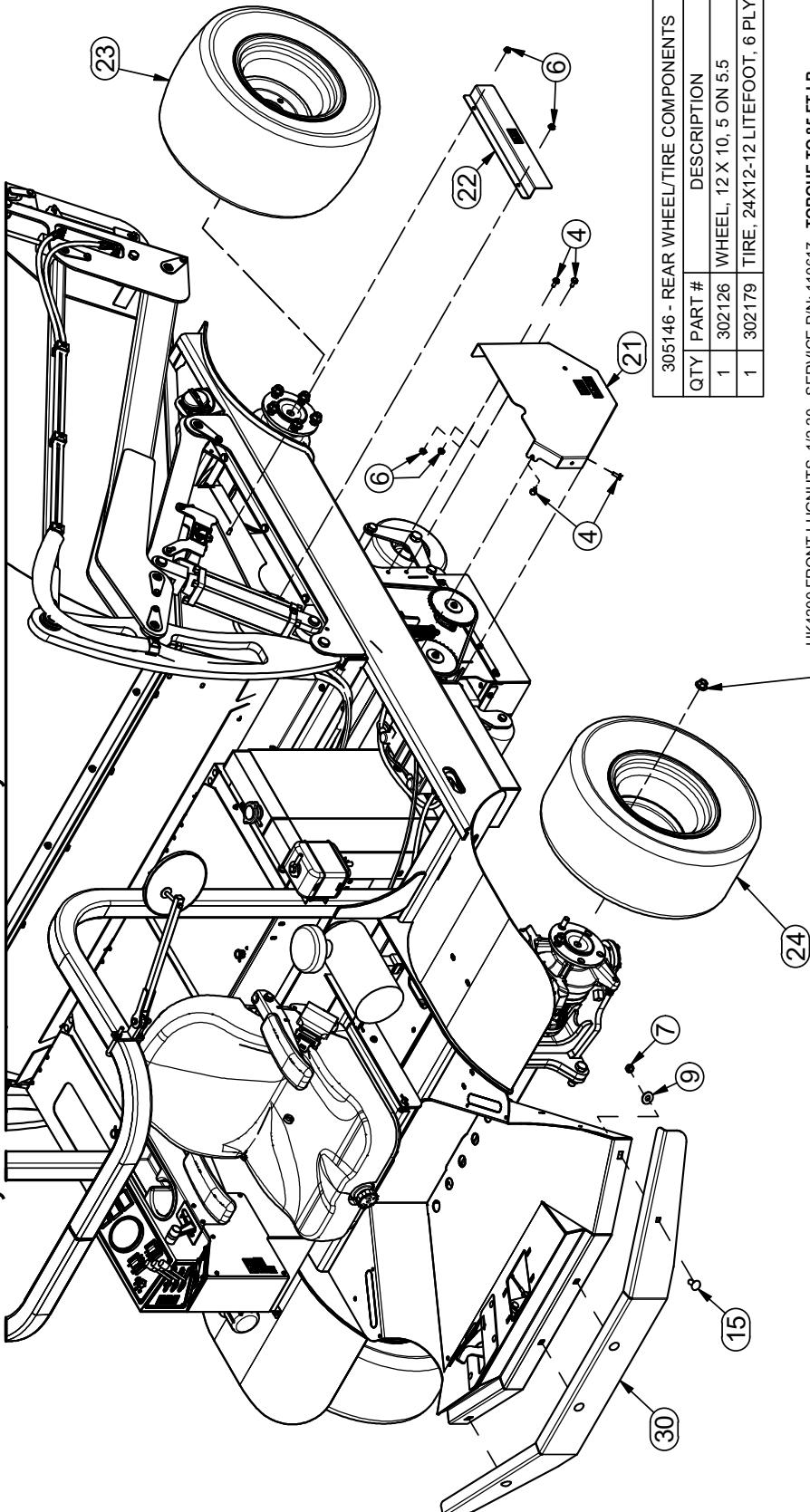
MIRROR, TIRE, & SHIELD INSTALLATION



Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	15 FT	100613	SEAL, RUBBER .50 X .187
2	18	110119	NUT, 10-24 LOCK
3	2	110400	BOLT, 3/8-16 X 2.0
4	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
5	2	110474	BOLT, 1/4-20 X 1-1/2
6	4	110606	NUT, 5/16-18 WIZ FLANGE
7	4	110615	NUT, 1/2-13, UNITORQUE LOCK
8	4	110645	NUT, 3/8-16 WIZ FLANGE
9	4	110658	WASHER, 1/2" FLAT STANDARD
10	2	110667	WASHER, 1/4" LOCK
11	18	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
12	4	110826	NUT, 3/8-16 GR 5
13	2	111185	BOLT, SQUARE U, 3/8-16 X 2.50 X 4.0
14	6	112051	POP RIVET, 1/8 X .275
15	4	112070	Bolt, 1/2-13 X 1.25 in Carriage
16	4	211747	FRiction WASHER 1.5"
17	3	302131	LATCH, SPRING
18	2	302139	Convex Mirror, 8" Round, Offset Ball Stud
19	4	302140	Plug, Snap-In Square, 3/4"
20	1	305101	ASSY, RH ENGINE SHIELD
21	1	305119	ASSY, LOWER DECK SHIELD, US
22	1	305120	ASSY, UPPER DECK SHIELD, US
23	2	305146	ASSY, REAR TIRE, 6 PLY
24	2	305147	ASSY, FRONT TIRE, 6 PLY
25	3	311729	Hinge, 6" ALUMINUM W/ HOLES
26	1	312022	CLIP, HAIRPIN 3/32 x 1.625
27	2	315385	WELDMENT, SWINGING MIRROR
28	2	315391	WELDMENT, MIRROR U BOLT MOUNT
29	2	317237	SHIELD, UPPER ENGINE
30	1	317244	BUMPER, FRONT

SIMILAR TO 305095

BUMPER, DECK SHIELDS, & WHEEL/TIRE ASSEMBLY



305146 - REAR WHEEL/TIRE COMPONENTS		
QTY	PART #	DESCRIPTION
1	302126	WHEEL, 12 X 10, 5 ON 5.5
1	302179	TIRE, 24X12-12 LITEFOOT, 6 PLY

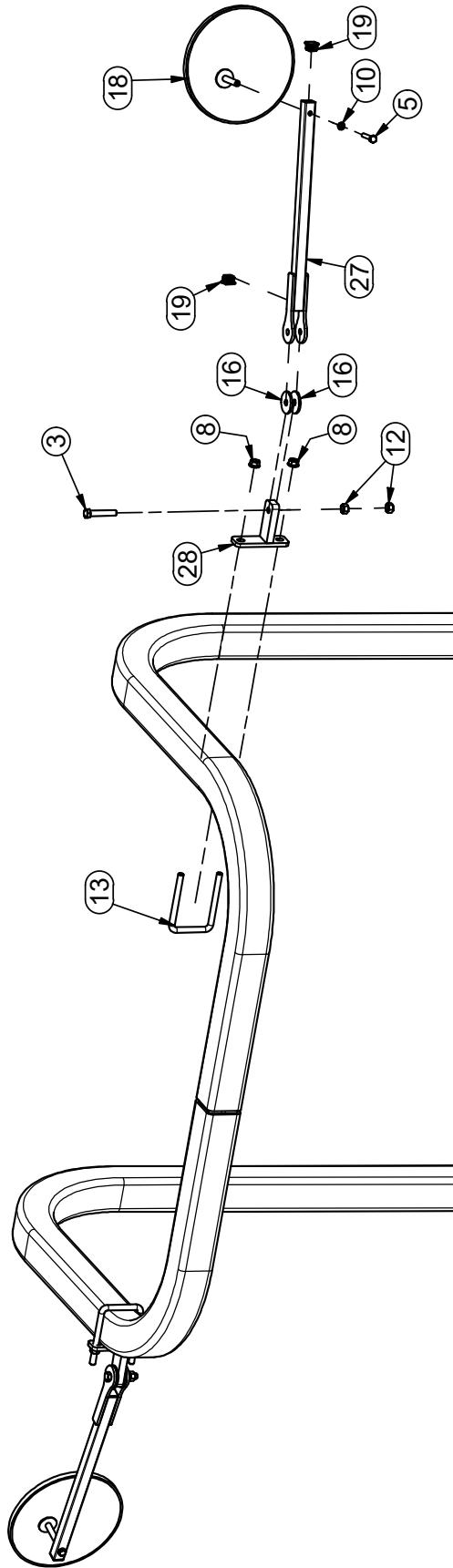
- HK4200 FRONT LUGNUTS, 1/2-20 - SERVICE P/N: 110617 - TORQUE TO .85 FT-LB
 - HK4400 FRONT LUGNUTS, M14 x 1.5 - SERVICE P/N: 512013 - TORQUE TO 147 FT-LB
 - HK4200 & HK4400 REAR LUGNUTS, M14 x 1.5 - SERVICE P/N: 512013 - TORQUE TO 147 FT-LB

305147 - FRONT WHEEL/TIRE COMPONENTS		
QTY	PART #	DESCRIPTION
1	302125	WHEEL, 12 X 7, 5 ON 5.5 W/ -3.25 OFFSET
1	302178	TIRE, 24X9.5-12 LITEFOOT, 6 PLY

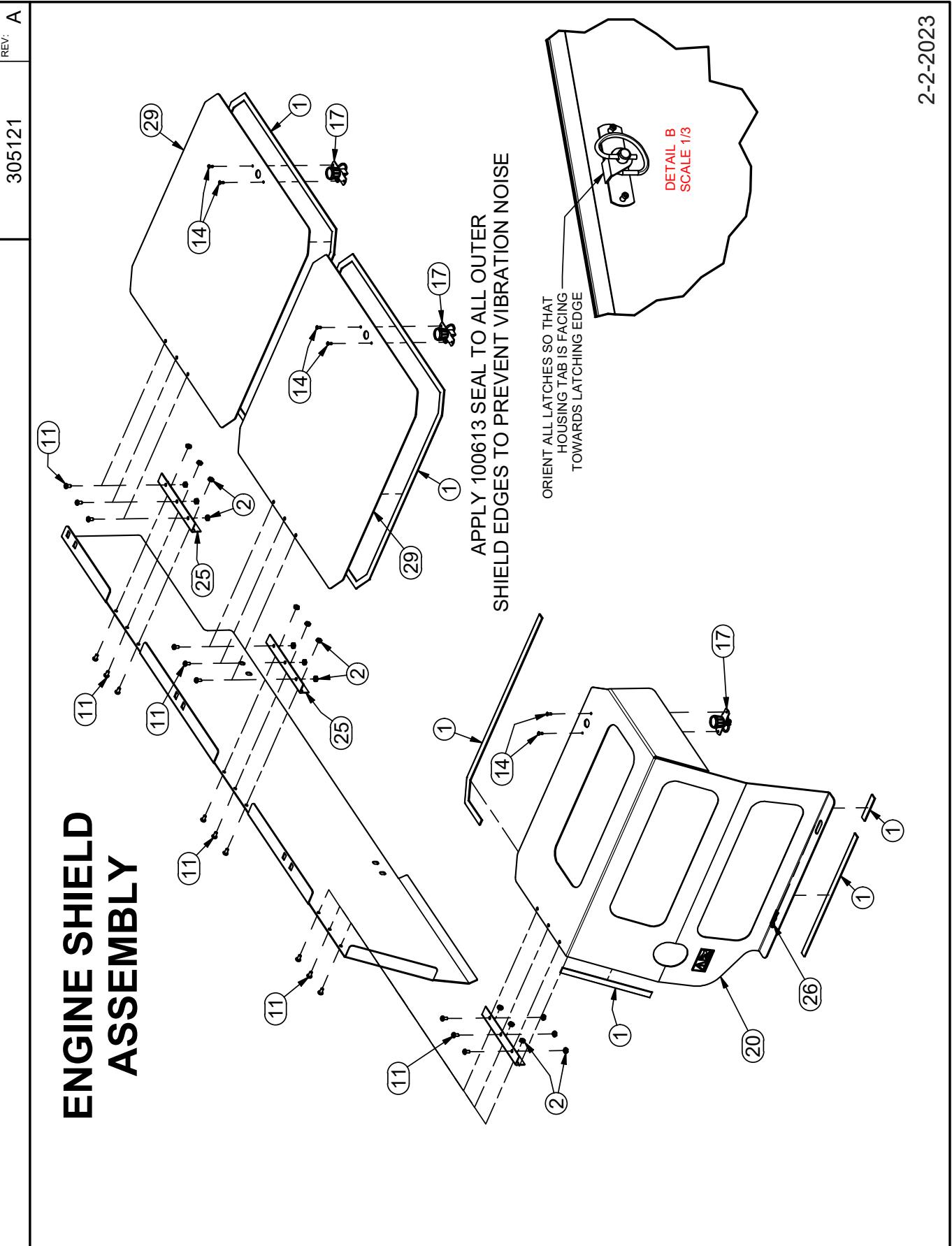
MIRROR ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
3	2	110400	BOLT, 3/8-16 X 2.00
5	2	110474	BOLT, 1/4-20 X 1-1/2"
8	4	110645	NUT, 3/8-16 WIZ FLANGE
10	2	110667	WASHER, 1/4" LOCK
12	4	110826	NUT, 3/8-16 GR 5
13	2	111185	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0
16	4	211747	FRiction WASHER 1.5"
18	2	302139	Convex Mirror, 8" Round, Offset Ball-Stud
19	4	302140	Plug, Snap-In Square, 3/4"
27	2	315385	WELDMENT, SWINGING MIRROR
28	2	315391	WELDMENT, MIRROR U-BOLT MOUNT

SAME PARTS USED ON OPPOSITE SIDE



ENGINE SHIELD ASSEMBLY



DECAL INSTALLATION

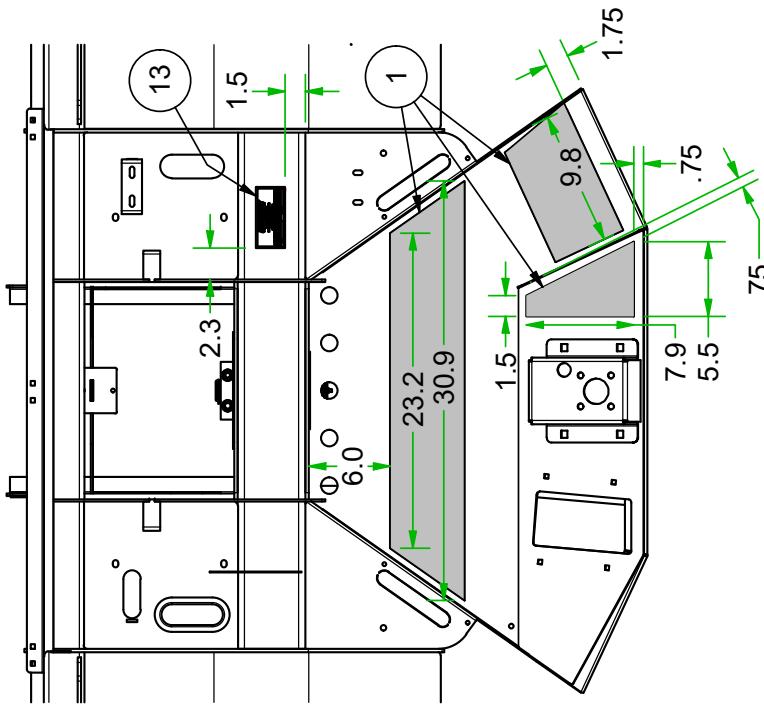
REAR VIEW

(8.5)

902233
(30.0)

2x 1.5

8

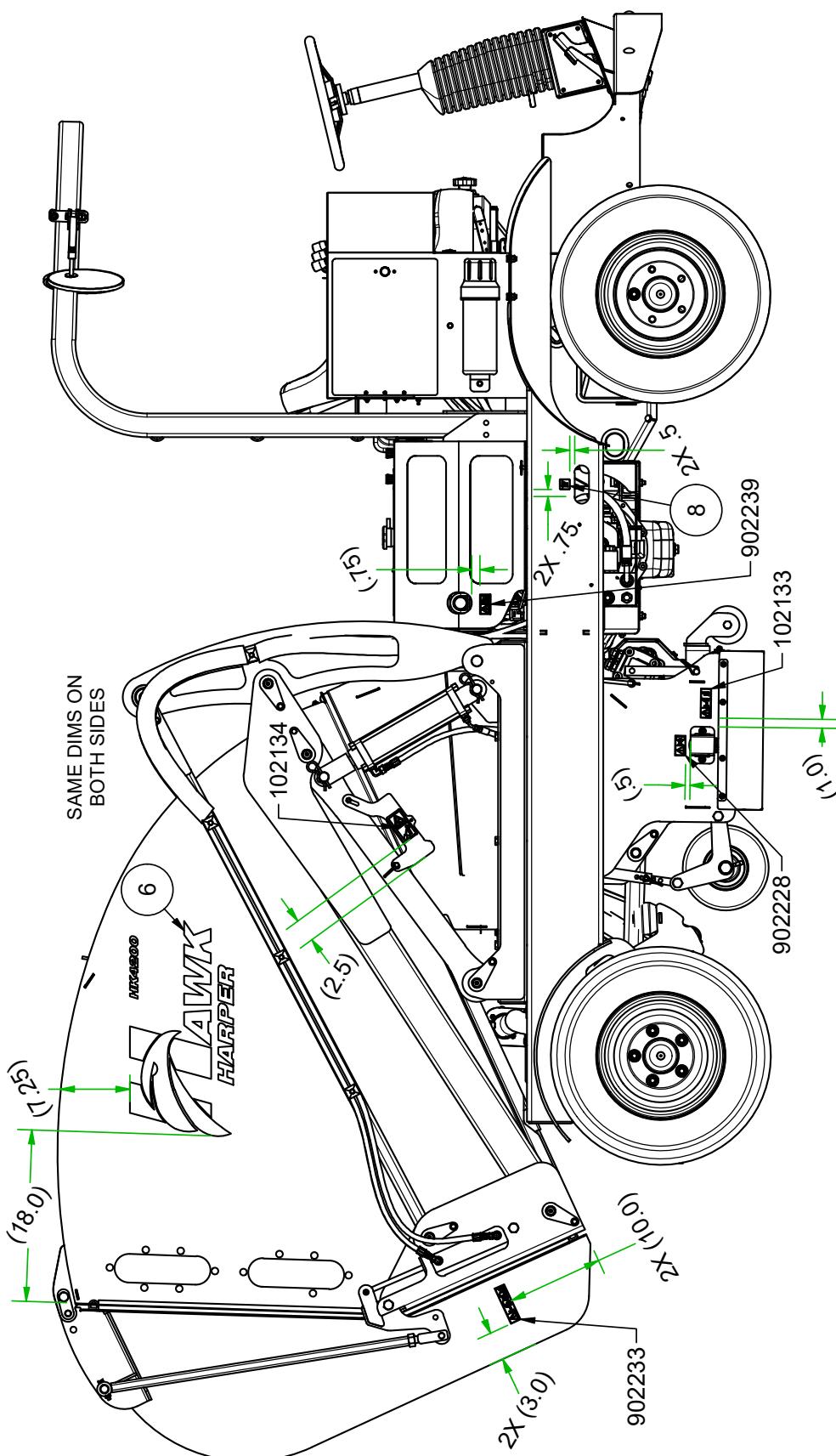


TRACTION PAD INSTALLATION

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	302172	Decal, QR Code, Hawk Tutorial
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"

RH VIEW DECAL INSTALLATION

305108 REV: B

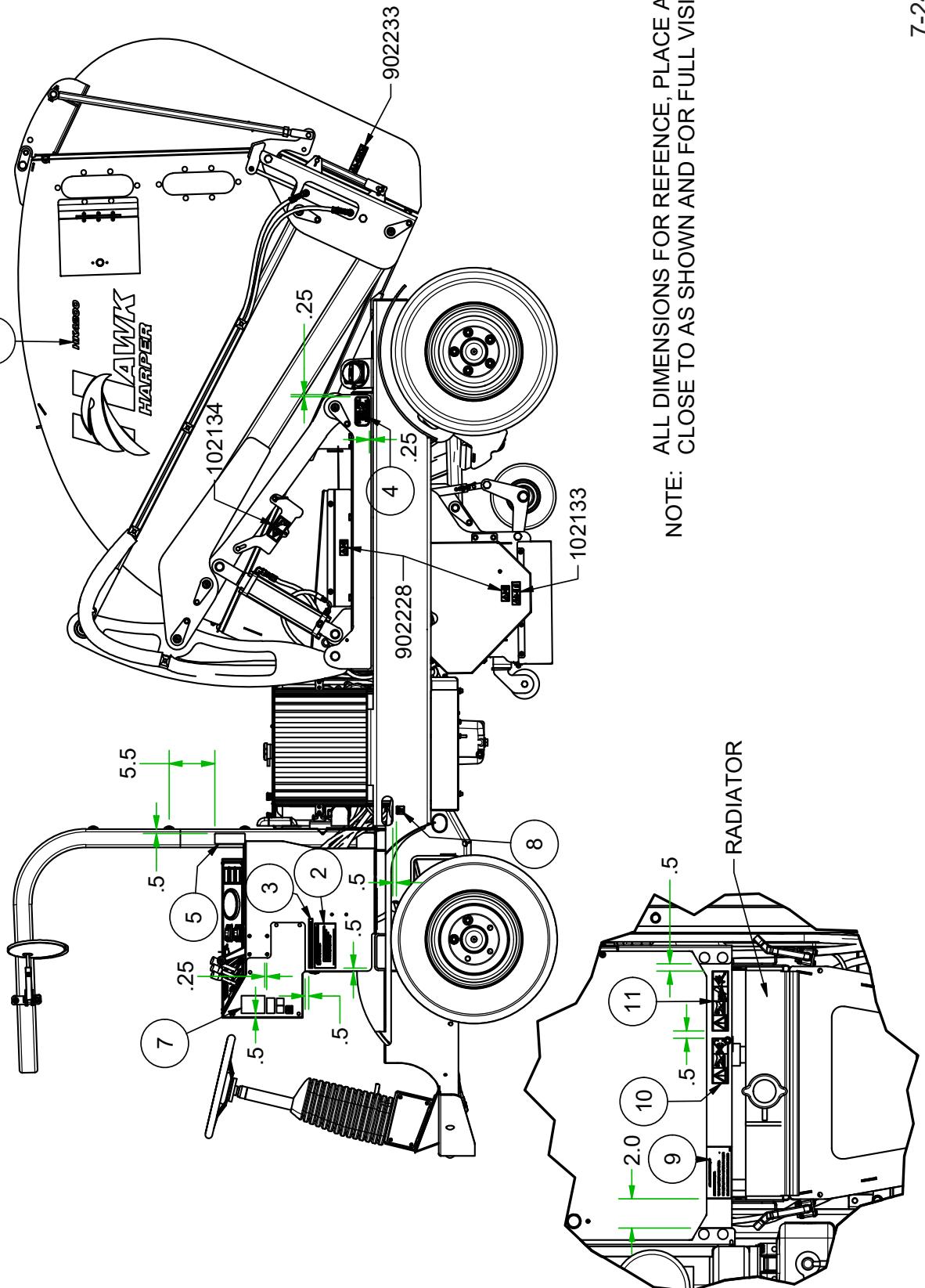


NOTE: ALL DIMENSIONS FOR REFERENCE, PLACE AS CLOSE TO AS SHOWN AND FOR FULL VISIBILITY

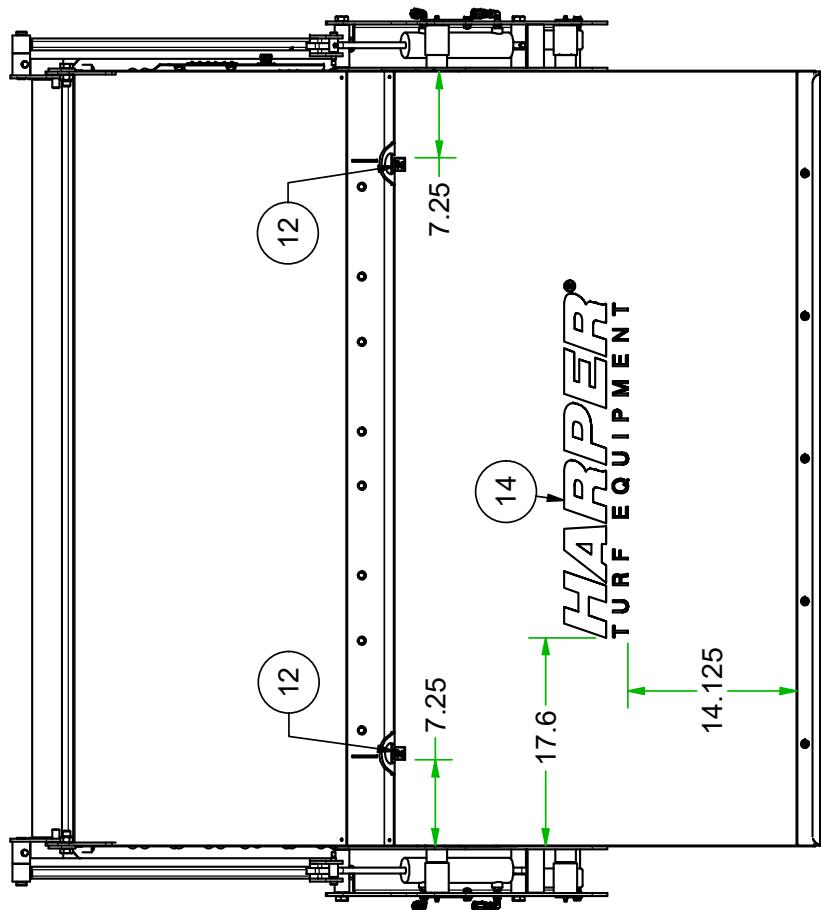
7-24-2023

LH VIEW DECAL INSTALLATION

305108 REV: B



HOPPER DECAL INSTALLATION

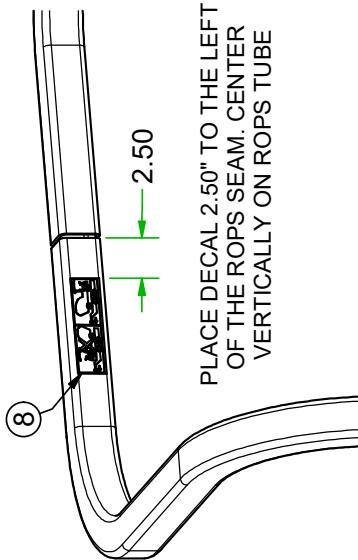


7-24-2023

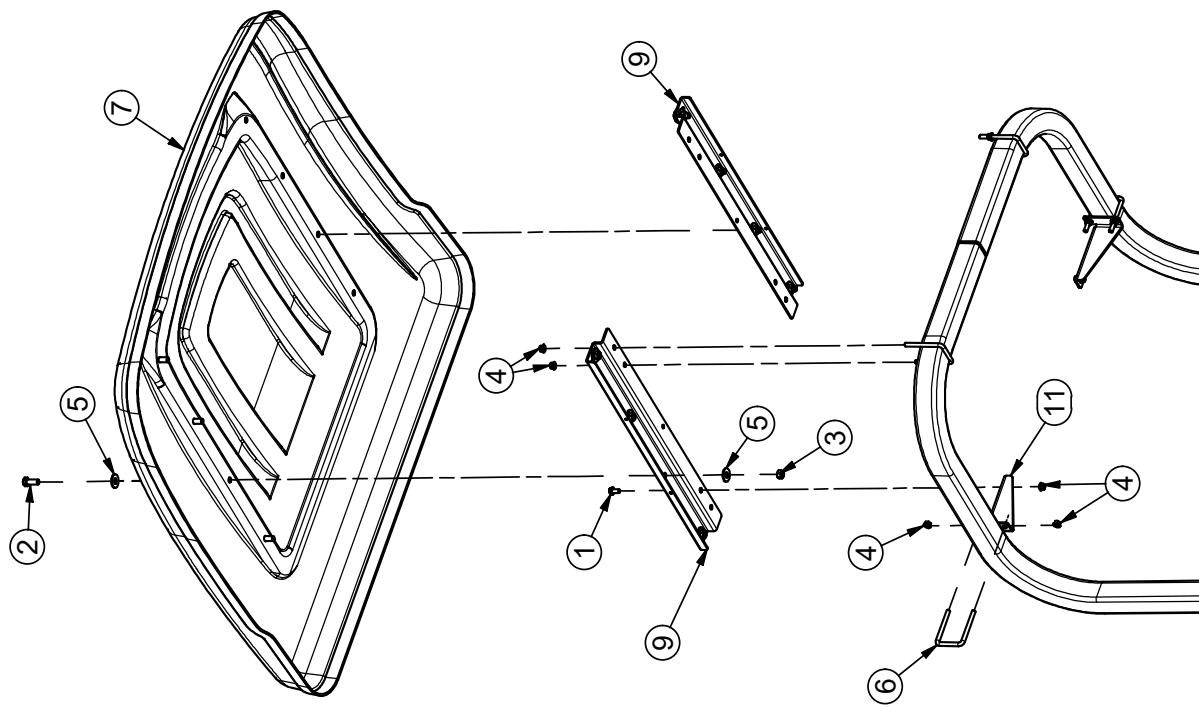
CANOPY

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

Parts List		
ITEM	QTY	PART #
1	2	110437
2	8	110442
3	8	110615
4	10	110645
5	16	110658
6	4	111185
7	1	302142
8	1	302173
9	2	317332
10	1	317333
11	1	317334

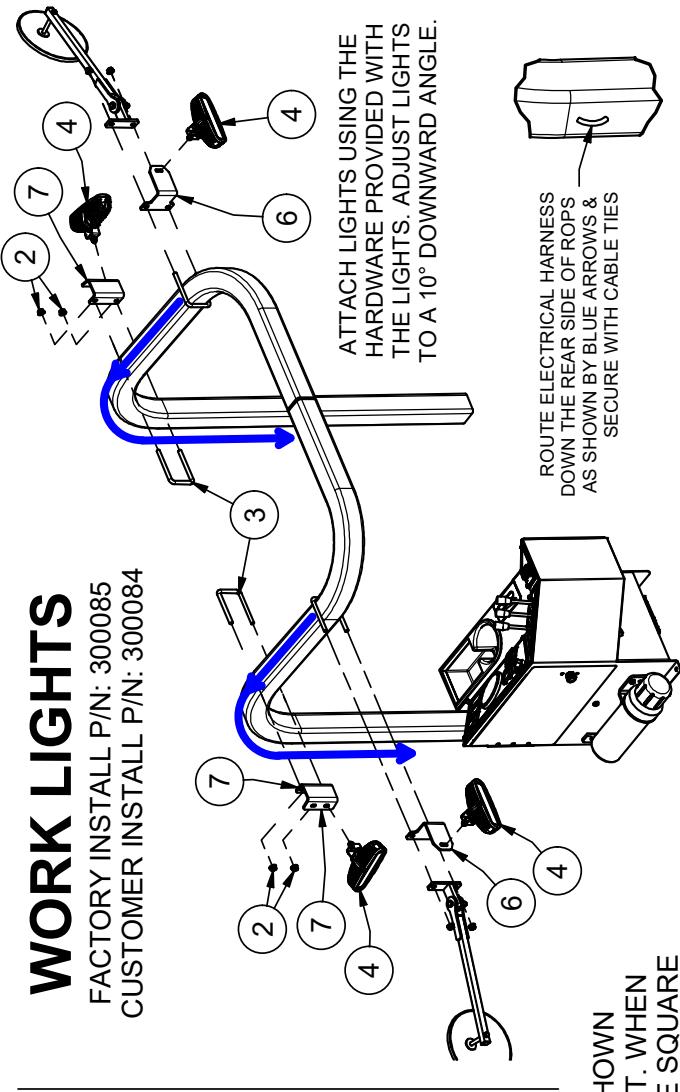
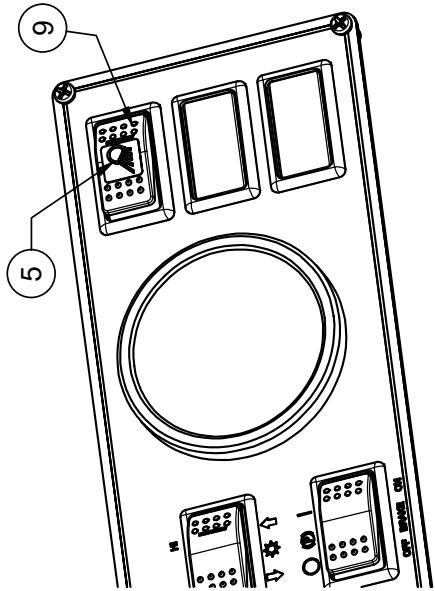


PLACE DECAL 2.50" TO THE LEFT
OF THE ROPS SEAM. CENTER
VERTICALLY ON ROPS TUBE



WORK LIGHTS

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



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	Harness, WORK LIGHT
9	1	832005	SWITCH, PADDLE, CARLING (29253)

SWEEPER WORK LIGHT WIRING SCHEMATIC

WORK LIGHT - 5" LED
FLOOD WITH CONNECTOR
P/N: 232139

WORK LIGHT - 5" LED
FLOOD WITH CONNECTOR
P/N: 232139

WORK LIGHT - 5" LED
FLOOD WITH CONNECTOR
P/N: 232139



WORK LIGHT - 5" LED
FLOOD WITH CONNECTOR
P/N: 232139

WORK LIGHT - 5" LED
FLOOD WITH CONNECTOR
P/N: 232139

WORK LIGHT - 5" LED
FLOOD WITH CONNECTOR
P/N: 232139



ACCESSORY LIGHT
KIT PLUG IN LOCATED
ON MACHINE



LIGHT
SWITCH
P/N: 1432005

PACKARD 630
SERIES 10 CAVITY

2 CAVITY
OFF - 2 - RED - 2 - RED/ORG - 3 - BLACK - 7

INSTALLATION

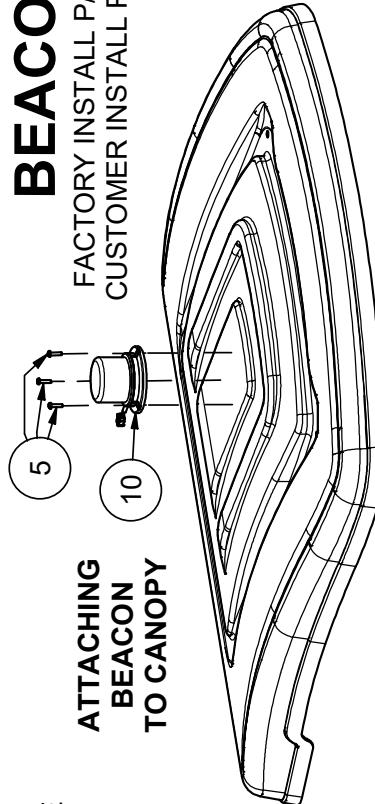
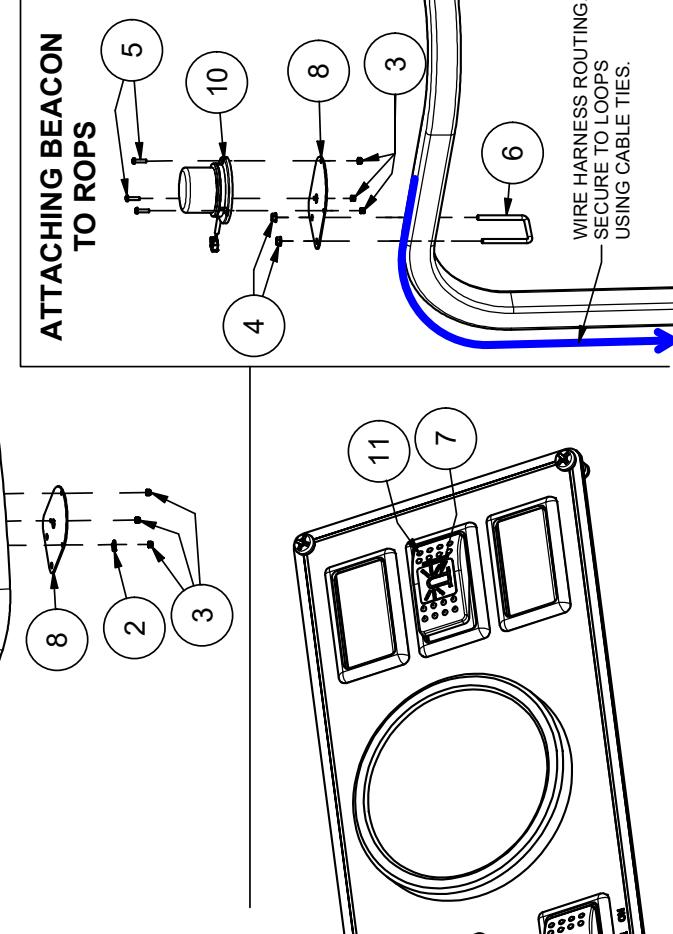
- FOR MOUNTING THE BEACON, USE THE HARDWARE INCLUDED IN THIS KIT (NOT THE HARDWARE INCLUDED WITH THE BEACON)
- IF THE CANOPY OPTION IS INSTALLED, THEN MOUNT THE BEACON TO THE TOP OF THE CANOPY AS SHOWN IN THE EXPLODED VIEW. POSITION THE BEACON IN THE CENTER OF THE CANOPY & THEN DRILL 3 - 9/32" HOLES 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.

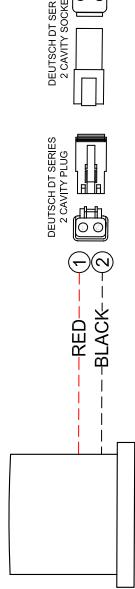
ROUTE THE WIRING HARNESS ALONG THE BACKSIDE OF THE ROPS AND SECURE USING THE CABLE TIES.

ATTACHING BEACON TO CANOPY**ATTACHING BEACON TO ROPS****FACTORY INSTALL P/N: 300089
CUSTOMER INSTALL P/N: 300088**

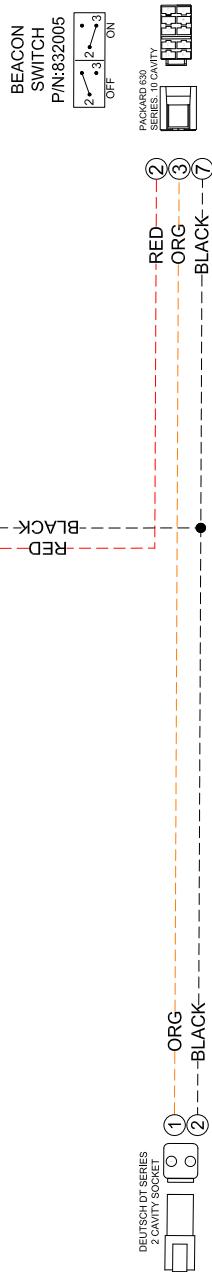
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	5	100578	CABLE TIE 14" BLACK 50 lb Tens
2	1	110117	CLAMP, ADEL AC4 265 HOLE
3	3	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
4	2	110645	NUT, 3/8-16 WIZ FLANGE
5	3	110973	SCREW, 1/4-20 X 1 SS PHILLIPS PAN HEAD
6	1	111185	BOLT, SQUARE U, 3/8-16 x 2.50 x 4.0
7	1	302157	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)

SWEEPER BEACON WIRING SCHEMATIC

BEACON ASSY
WITH CONNECTOR
P/N: 335004



BEACON WIRING
HARNESS
P/N: 332068



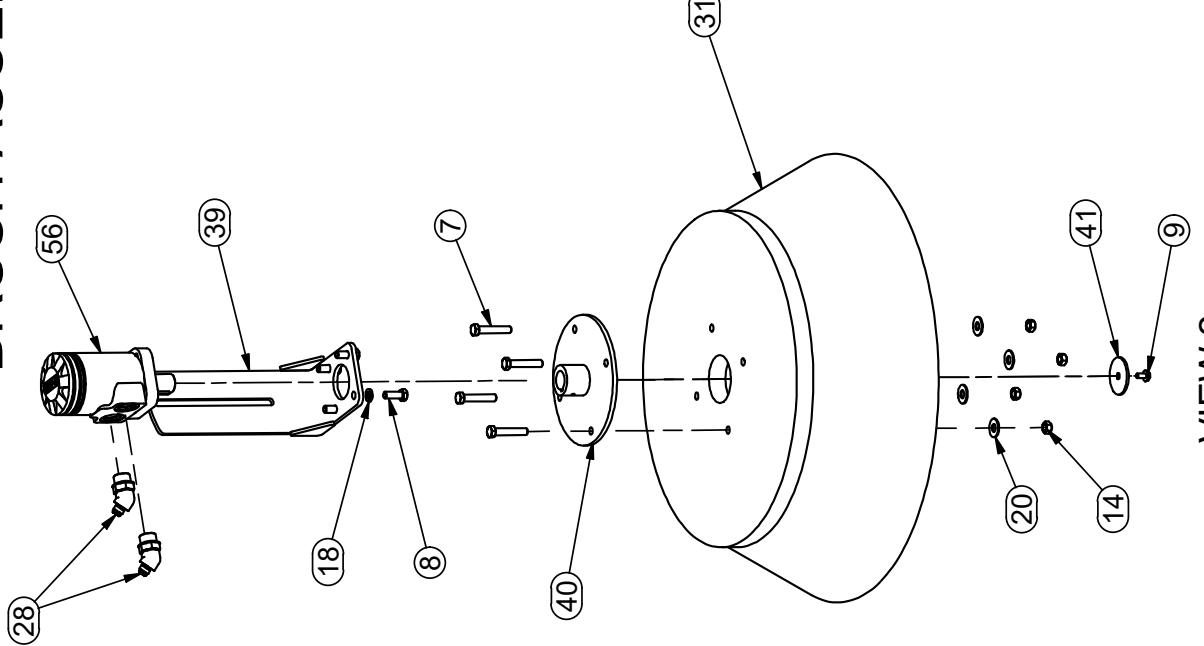
4-9-2021

11/19/20

BRUSH ASSEMBLY

300090

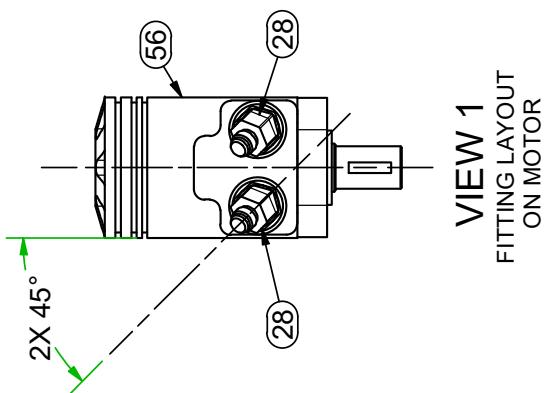
REV: D



1) ASSEMBLE MOTOR AND FITTINGS PER
VIEW 1.

2) ASSEMBLE BRUSH AS SHOWN IN VIEW 2.

3) ATTACH ASSEMBLED BRUSH & MOTOR TO
BRACKET USING 3/8 X 1 BOLTS, INTO THREADED HOLE
IN MOTOR. (SEE VIEW 2)



VIEW 1
FITTING LAYOUT
ON MOTOR

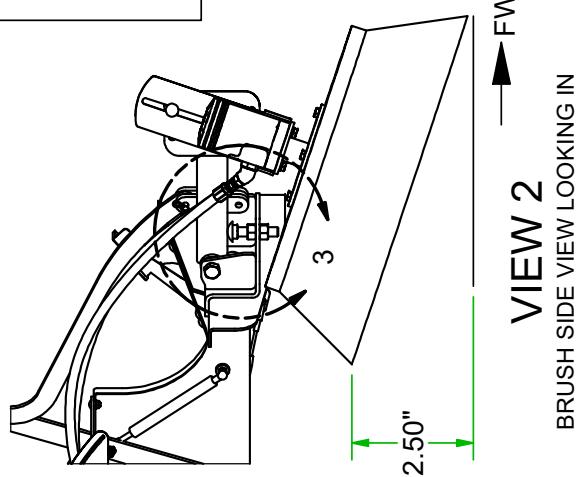
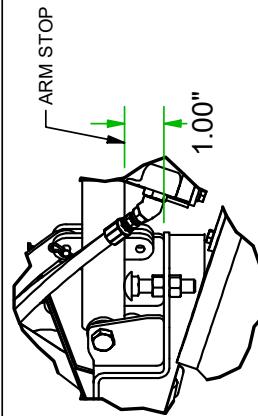
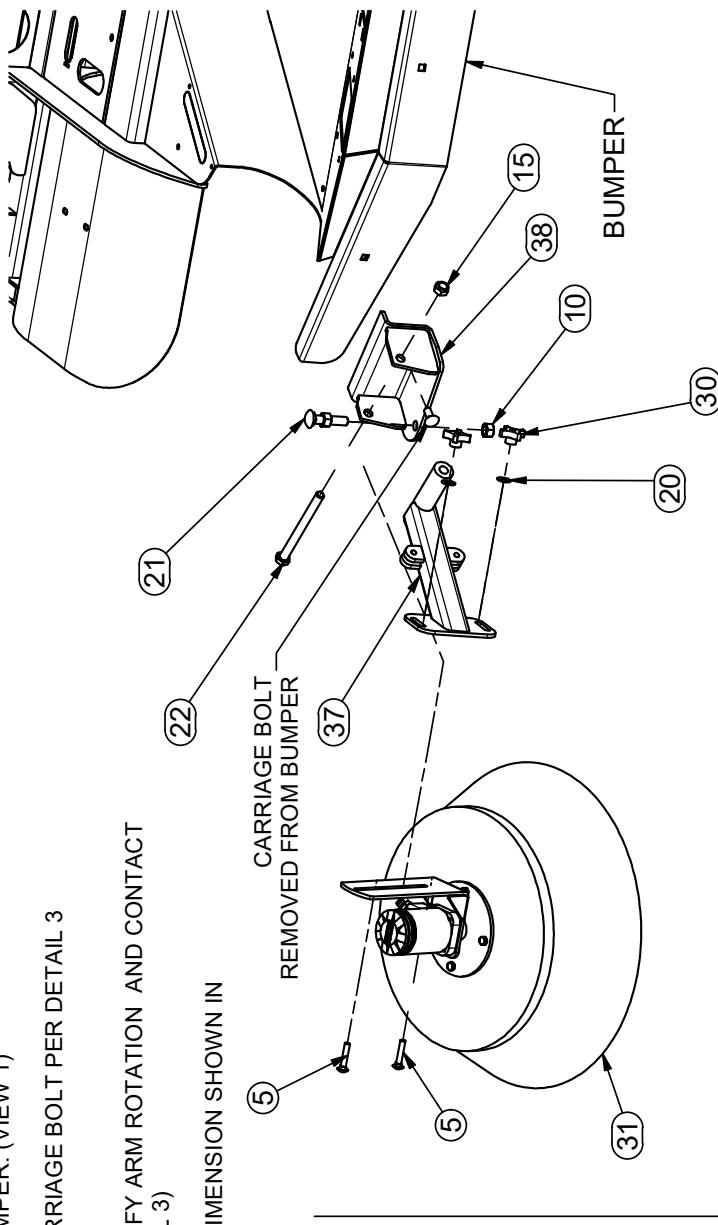
2-20-2023

BRUSH & ARM ASSEMBLY

- 1) ATTACH MOUNT BRACKET TO BUMPER USING (112070) CARRIAGE BOLT, ALREADY INSTALLED IN BUMPER. (VIEW 1)
- 2) INSTALL & ADJUST ARM STOP CARRIAGE BOLT PER DETAIL 3 BELOW

- 3) ATTACH ARM TO BRACKET & VERIFY ARM ROTATION AND CONTACT WITH ARM STOP. (VIEW 1 & DETAIL 3)

- 4) INSTALL BRUSH ON ARM AT 2.5" DIMENSION SHOWN IN VIEW 2 BELOW.



2-20-2023

CURB BRUSH LIFT HANDLE INSTALLATION

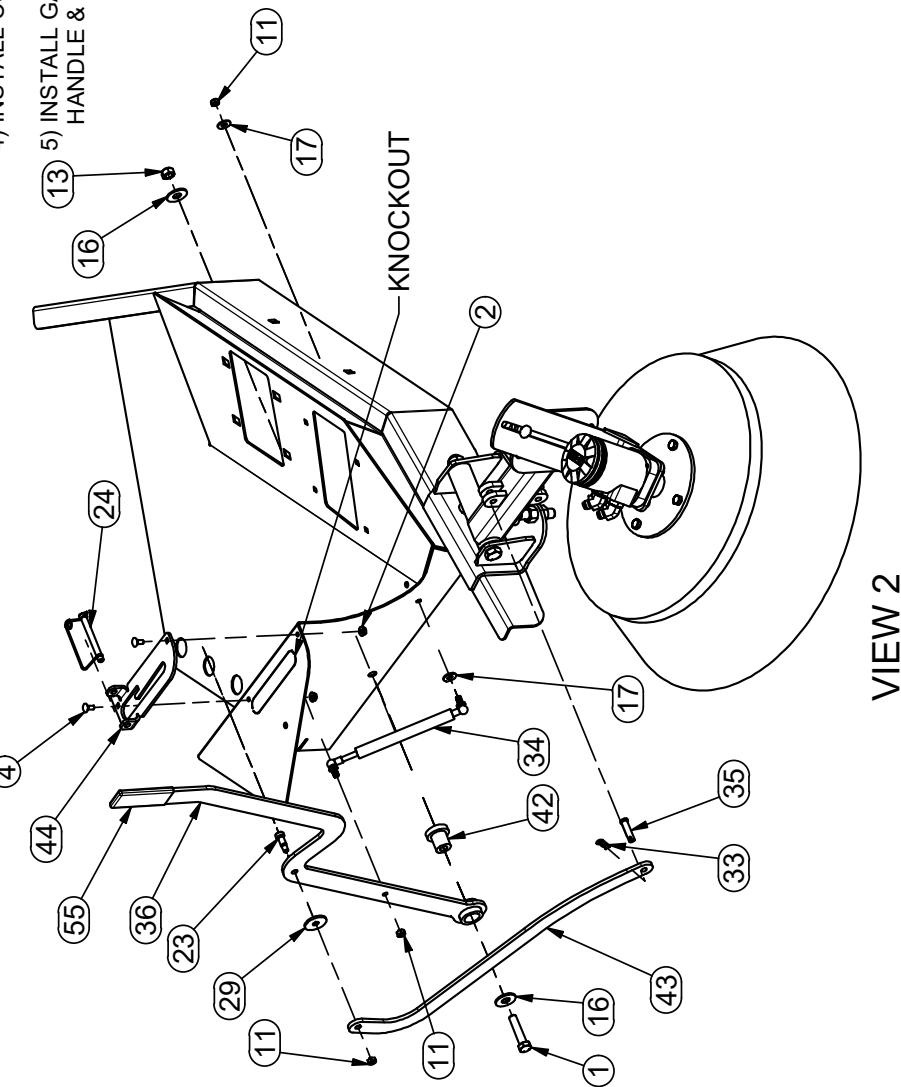
1) REMOVE BRUSHHANDLE SLOT KNOCKOUT (VIEW 2)
(IF MODEL SIN PRIOR TO 21A11, MAKE CUTOUT &
DRILL HOLES PER SHT 11)

2) INSTALL HANDLE THRU SLOT, ATTACH TO FRAME. (VIEW 2)

3) ATTACH CURB BRUSH PLATE USING (2) 1/4 X 5/8
CARRIAGE BOLTS.(VIEW 2)

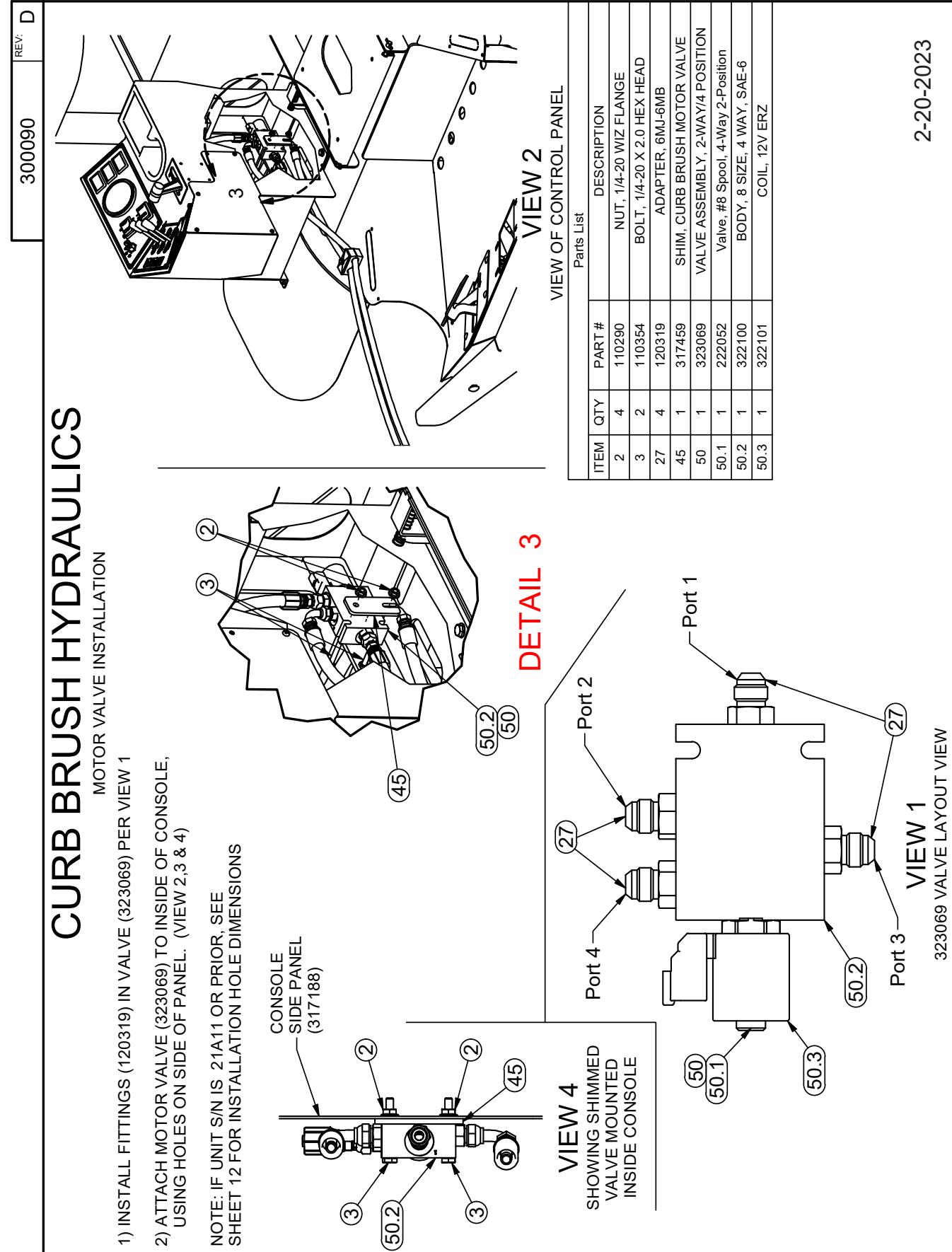
4) INSTALL CURB BRUSH LIFT LINK TO HANDLE & BRUSH ARM (VIEW 2)

(13) 5) INSTALL GAS SPRING TO LOWER HOLE IN LIFT
HANDLE & FRAME. (VIEW 2)



VIEW 1
CURB BRUSH
HANDLE INSTALLED

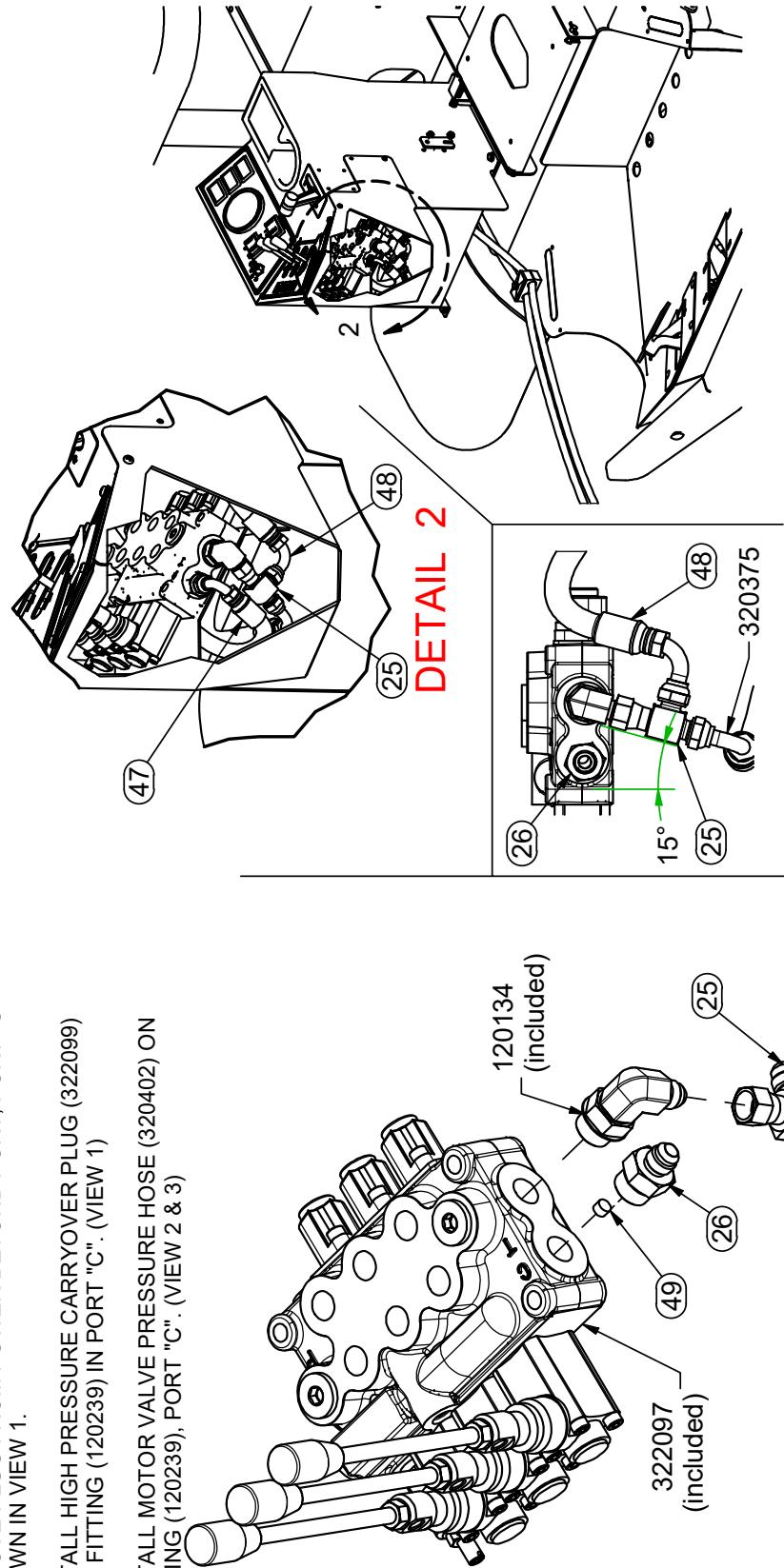
VIEW 2



CURB BRUSH HYDRAULICS

CONTROL VALVE CONFIGURATION

- 1) REMOVE PLUG FROM POWER BEYOND PORT, PORT "C"
SHOWN IN VIEW 1.
- 2) INSTALL HIGH PRESSURE CARRYOVER PLUG (3222099)
AND FITTING (120239) IN PORT "C". (VIEW 1)
- 3) INSTALL MOTOR VALVE PRESSURE HOSE (320402) ON
FITTING (120239), PORT "C". (VIEW 2 & 3)



VIEW 1

- 4) REMOVE HOSE ASSY (320375) FROM ELBOW (120134) ON
PORT "T"

- 5) ADD TEE (120216) TO ELBOW (120134) ALREADY INSTALLED
ON CONTROL VALVE (322087), THEN RE-INSTALL HOSE (320375)
TO OPEN END OF TEE. (VIEW 1,2 & 3)

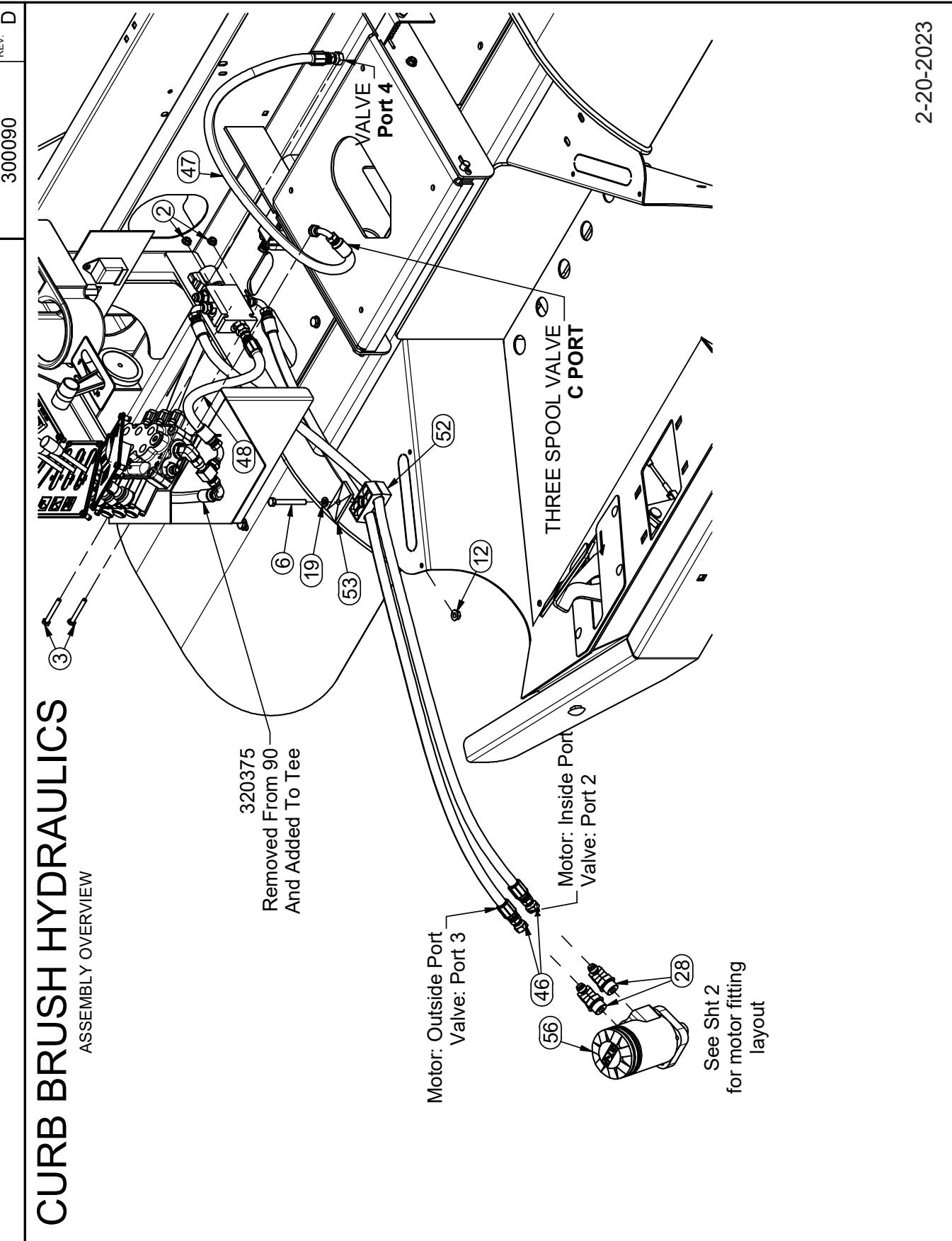
- 6) ATTACH CURB BRUSH MOTOR VALVE HOSE (320403) TO
OPEN SIDE PORT OF TEE (120216). (VIEW 2 & 3)

VIEW 4
VIEW OF CONTROL PANEL

2-20-2023

CURB BRUSH HYDRAULICS

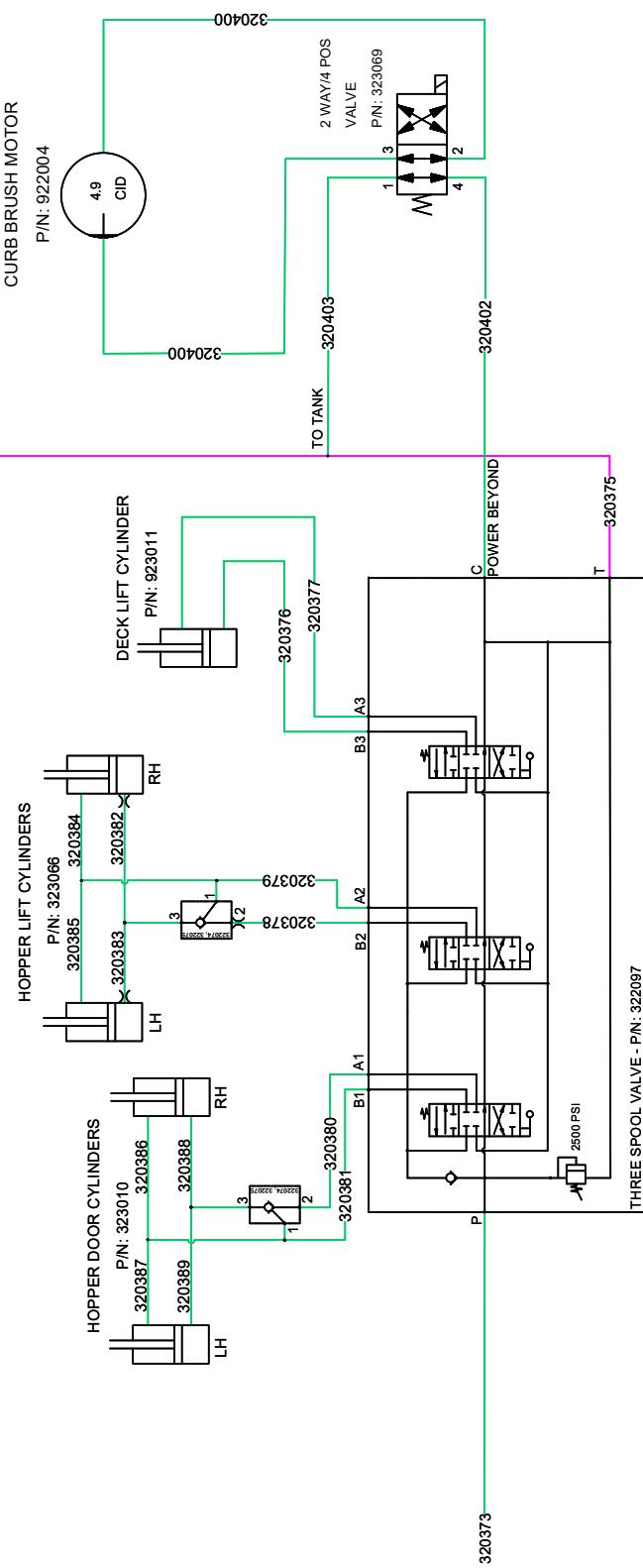
ASSEMBLY OVERVIEW



CURB BRUSH HYDRAULICS

CURB BRUSH PLUMBING (RIGHT)

CASE DRAIN
BLOCK
P/N: 3222095

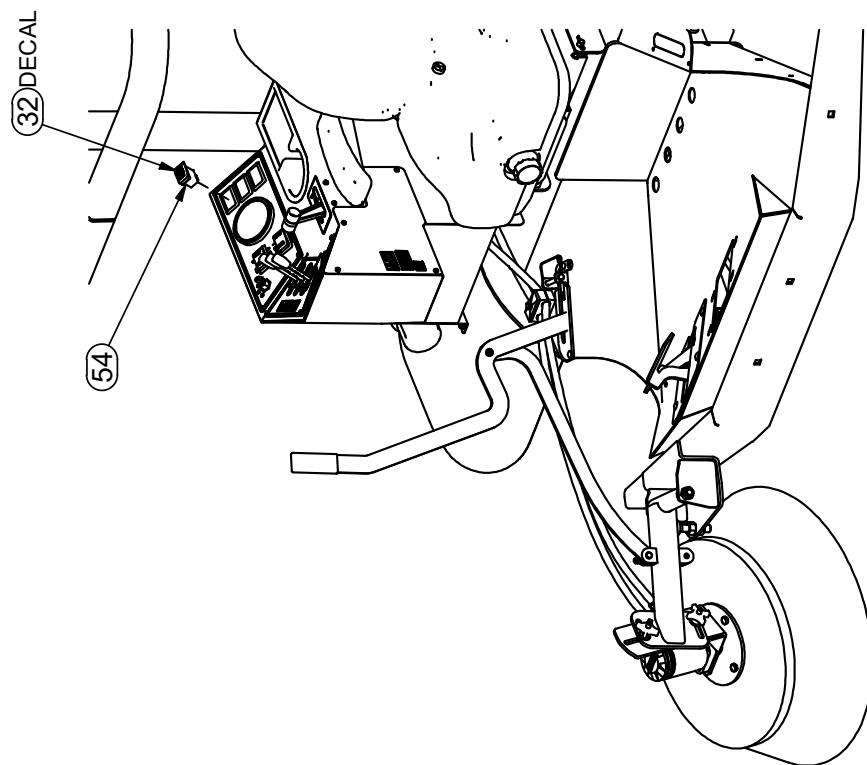


CURB BRUSH SWITCH & ELECTRICAL INSTALLATION

300090

REV: D

2-20-2023

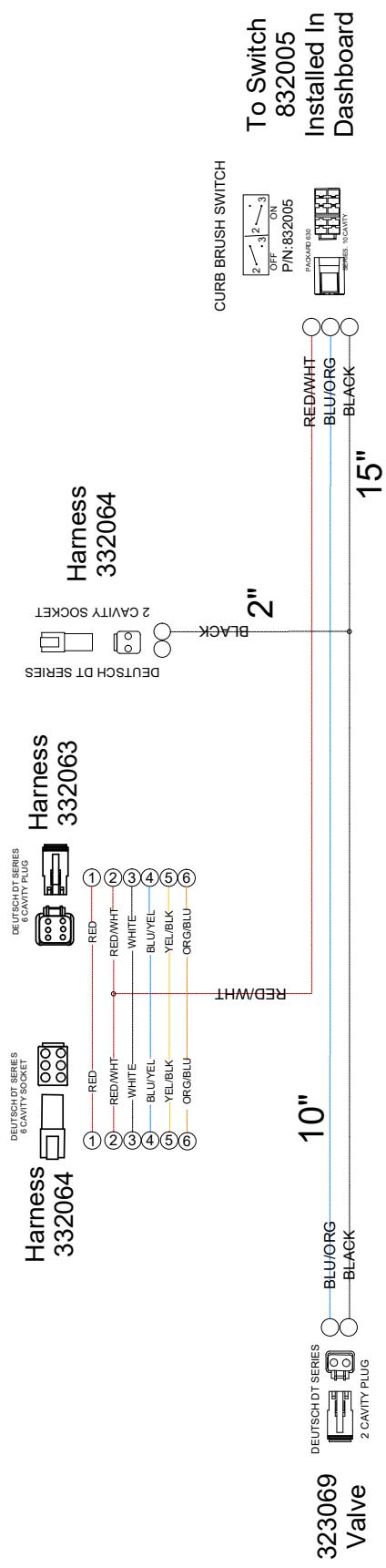


VIEW 1

300090

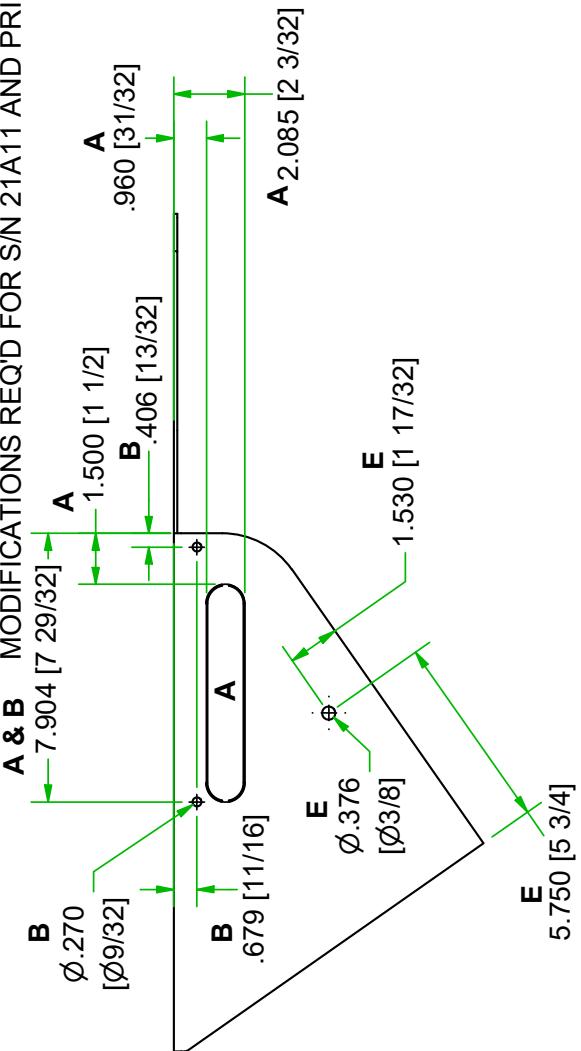
REV: D

SWEeper CURB BRUSH WIRING SCHEMATIC



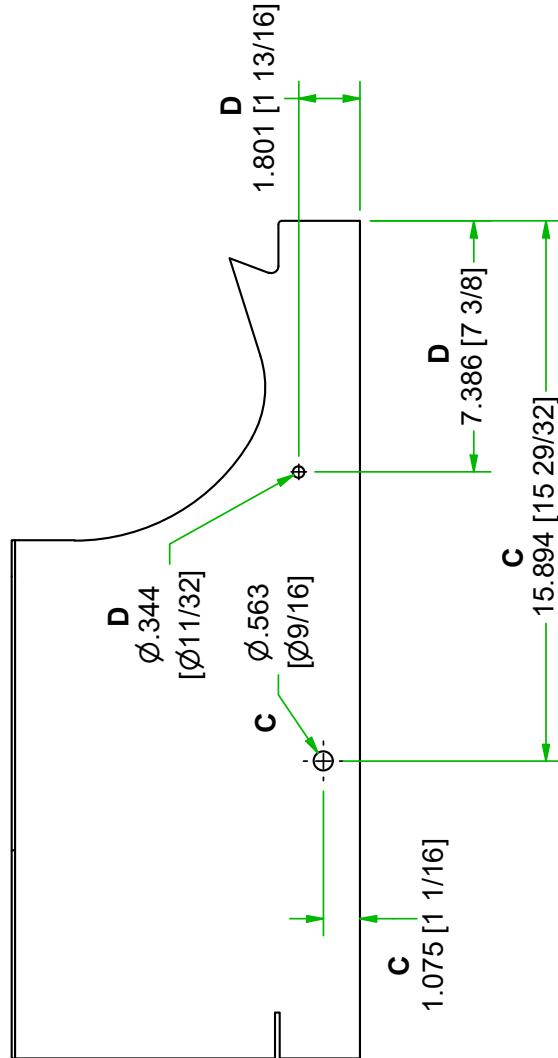
CURB BRUSH ASSEMBLY

A & B MODIFICATIONS REQ'D FOR S/N 21A11 AND PRIOR



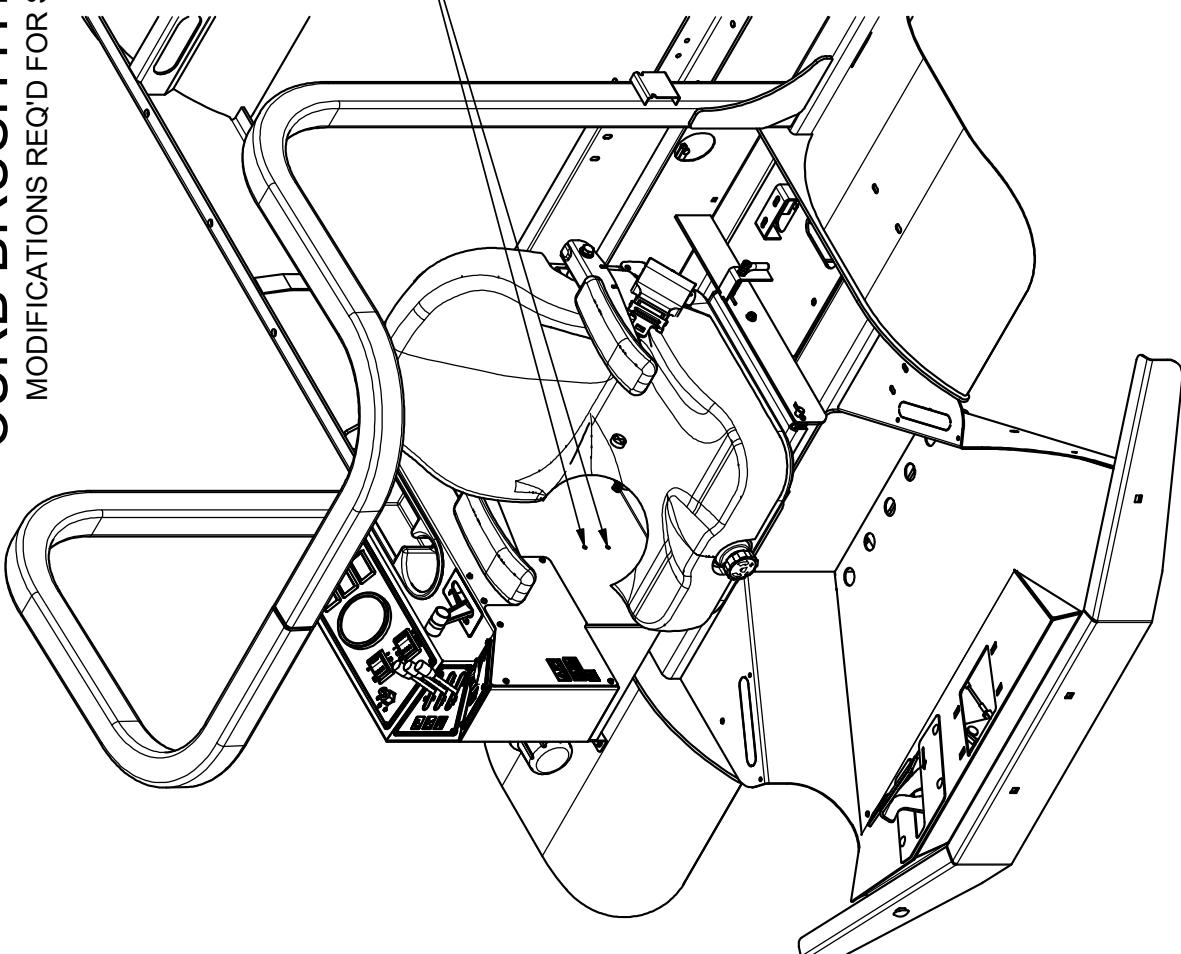
FOR S/N 21A11 AND PRIOR
For Right Hand Curb Brush, The Following Cutouts
Will Need To Be Made.

- 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



CURB BRUSH HYDRAULICS

MODIFICATIONS REQ'D FOR S/N 21A11 & PRIOR



300090

REV: D

FOR S/N 21A11 AND PRIOR
For Right Hand Curb Brush, The
Following Cutouts Will Need To Be Made:

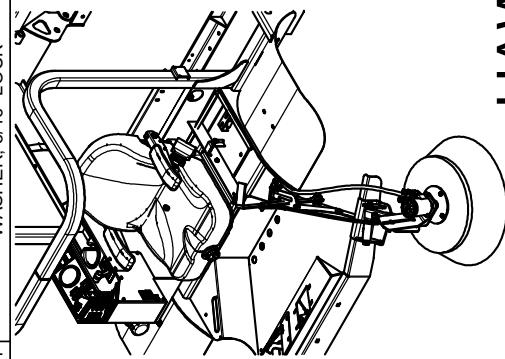
Holes For Curb Brush Valve (2X)

2-20-2023

Parts List						
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #
1	1	110125	BOLT, 1/2-13 X 2.25 GR 5 ZINC PLATE	20	6	110676
2	4	110290	NUT, 1/4-20 WIZ FLANGE	21	1	110895
3	2	110354	BOLT, 1/4-20 X 2.0 HEX HEAD	22	1	111189
4	2	110358	Bolt, 1/4-20 X 0.625 in Carriage	23	1	111199
5	2	110392	Bolt, 3/8-16 X 2 in Carriage	24	1	111208
6	1	110396	BOLT, 5/16-18 X 2.5	25	1	120216
7	4	110400	BOLT, 3/8-16 X 2.0	26	1	120239
8	4	110420	BOLT, 3/8-16 X 1.0	27	4	120319
9	1	110434	BOLT, 1/4-20 X 0.5, WIZ FLANGE	28	2	120753
10	2	110597	NUT, 5/8-11 HEX	29	1	211747
11	3	110600	NUT, 5/16-18, UNITORQUE LOCK	30	2	302063
12	1	110606	NUT, 5/16-18 WIZ FLANGE	31	1	302064
13	1	110615	NUT, 1/2-13, UNITORQUE LOCK	32	1	302160
14	4	110621	NUT, 3/8-16, UNITORQUE LOCK	33	1	312022
15	1	110639	NUT, 5/8-11, UNITORQUE LOCK	34	1	312039
16	2	110658	WASHER, 1/2" FLAT STANDARD	35	1	312041
17	2	110665	WASHER, 5/16" FLAT STANDARD	36	1	315402
18	4	110672	WASHER, 3/8" LOCK	37	1	315403
19	1	110674	WASHER, 5/16" LOCK			

FOR SERIAL NUMBERS **21A11** AND PRIOR,
SEE PAGES **11-12** FOR DETAILS ON
UPDATES NEEDED FOR CURB BRUSH
INSTALLATION

CUSTOMER INSTALL: 300092
FACTORY INSTALL: 300093

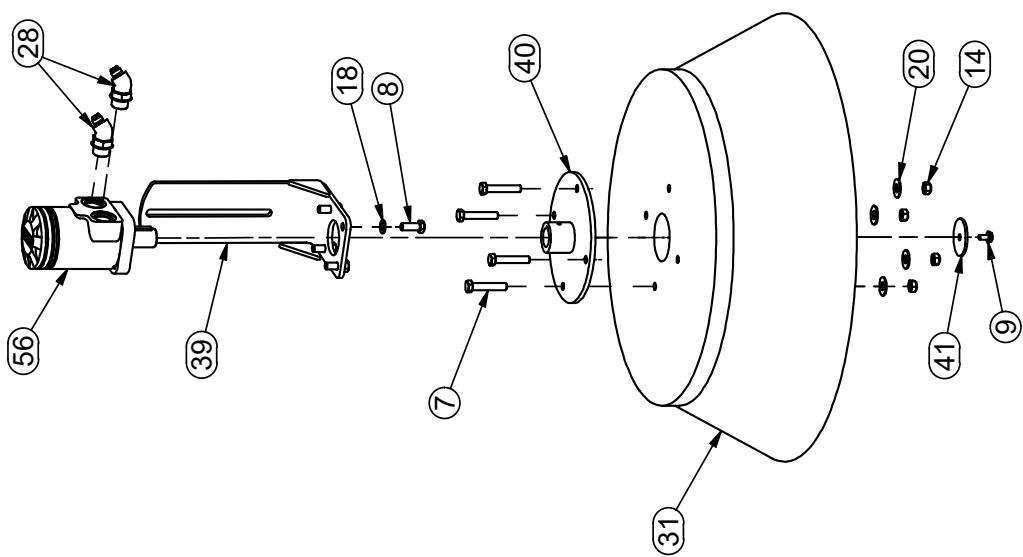


HAWK LEFT CURB BRUSH INSTALL

300092 REV: C

BRUSH ASSEMBLY

- 1) ASSEMBLE MOTOR AND FITTINGS PER
VIEW 1.
- 2) ASSEMBLE BRUSH AS SHOWN IN VIEW 2.
- 3) ATTACH ASSEMBLED BRUSH & MOTOR TO
BRACKET USING 3/8 X 1 BOLTS, INTO THREADED HOLE
IN MOTOR. (SEE VIEW 2)



VIEW 1
FITTING LAYOUT
ON MOTOR

VIEW 2

2-20-2023

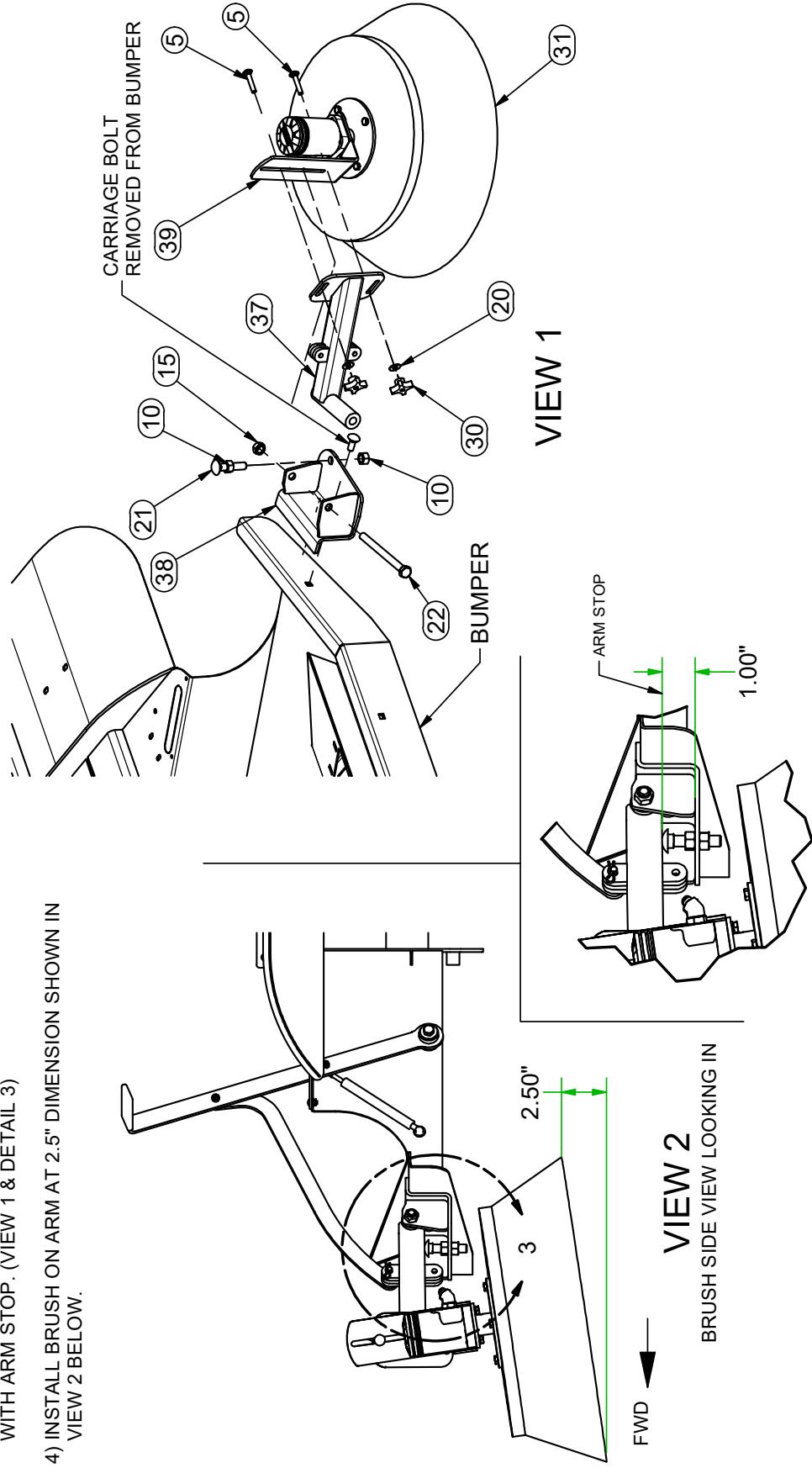
BRUSH & ARM ASSEMBLY

1) ATTACH MOUNT BRACKET TO BUMPER USING (112070) CARRIAGE BOLT, ALREADY INSTALLED IN BUMPER. (VIEW 1)

2) INSTALL & ADJUST ARM STOP CARRIAGE BOLT PER DETAIL 3 BELOW

3) ATTACH ARM TO BRACKET & VERIFY ARM ROTATION AND CONTACT WITH ARM STOP. (VIEW 1 & DETAIL 3)

4) INSTALL BRUSH ON ARM AT 2.5" DIMENSION SHOWN IN VIEW 2 BELOW.



CURB BRUSH LIFT HANDLE INSTALLATION

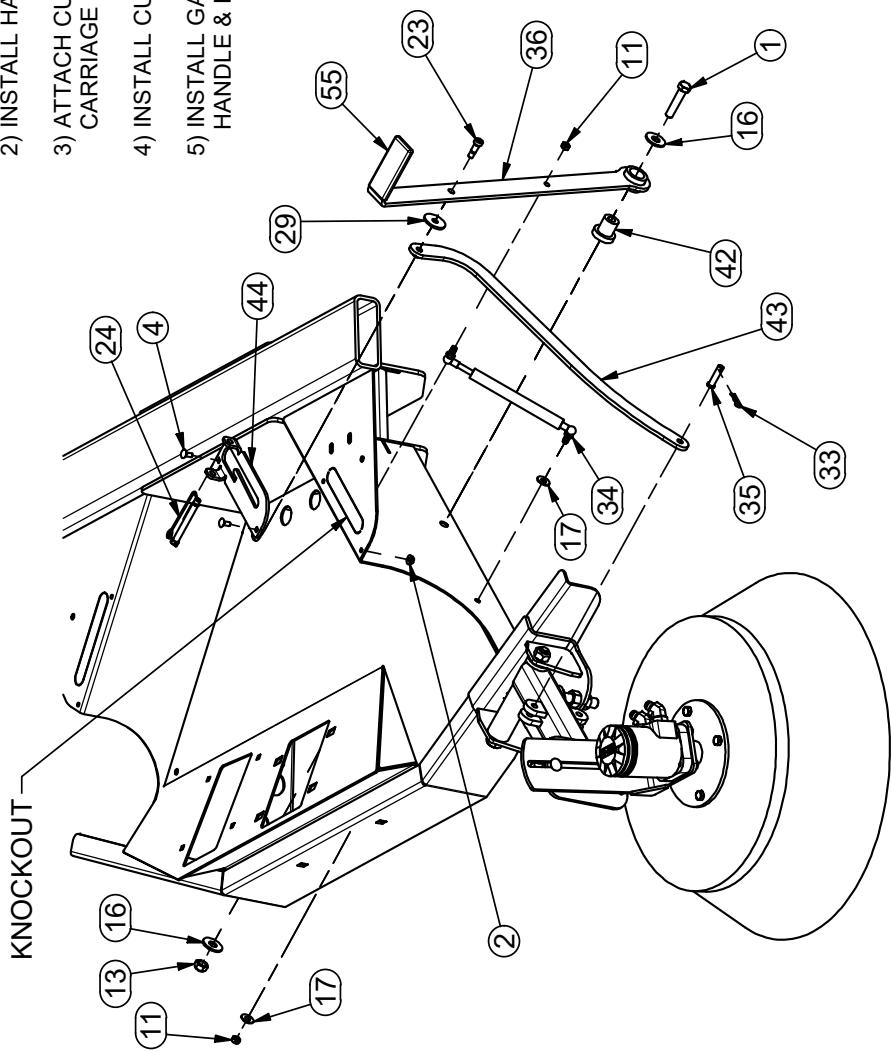
1) REMOVE BRUSH HANDLE SLOT KNOCKOUT (VIEW 2)
 (IF MODEL S/N PRIOR TO 21A11, MAKE CUTOUT &
 DRILL HOLES PER SHT 11)

2) INSTALL HANDLE THRU SLOT, ATTACH TO FRAME. (VIEW 2)

3) ATTACH CURB BRUSH PLATE USING (2) 1/4 X 5/8
 CARRIAGE BOLTS.(VIEW 2)

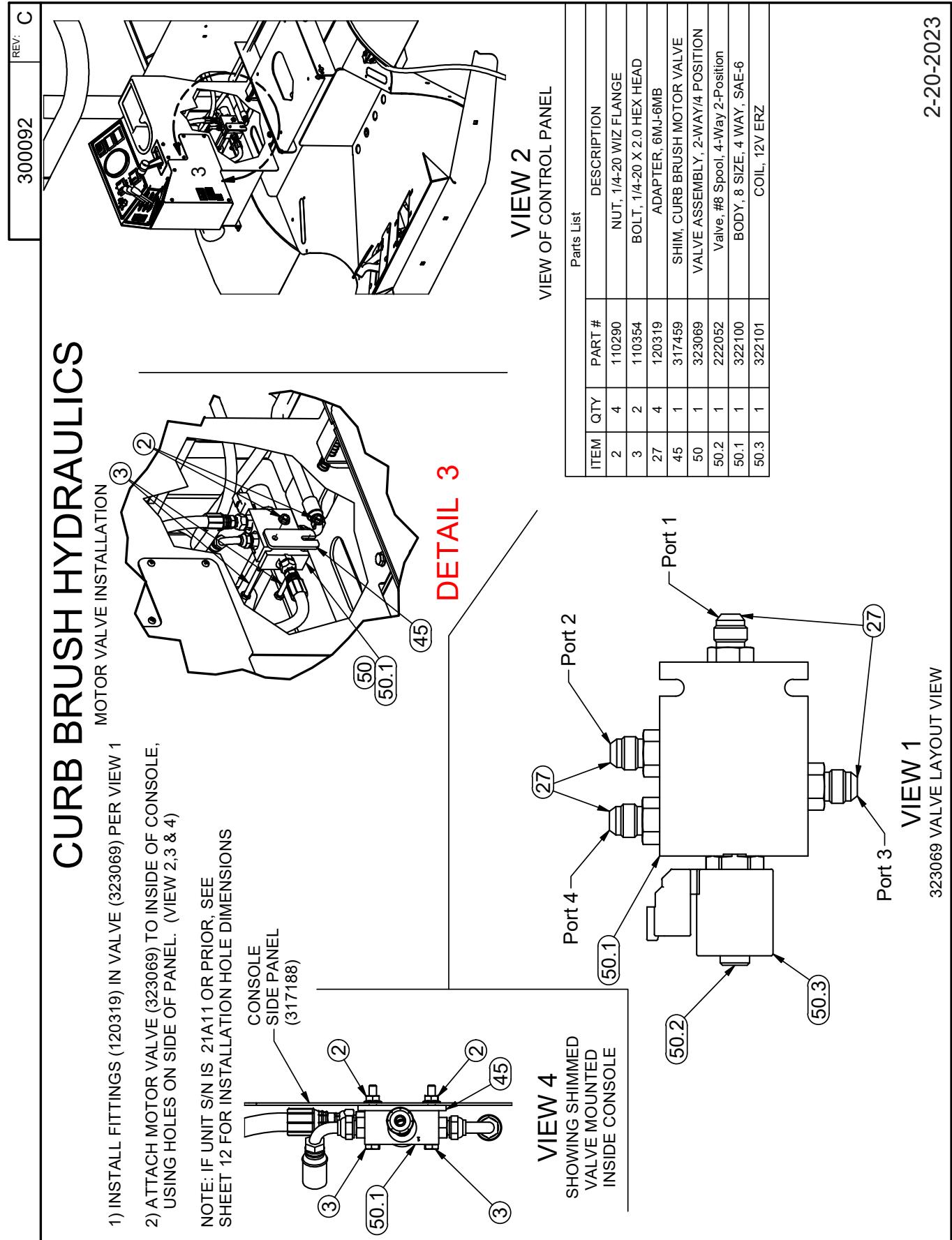
4) INSTALL CURB BRUSH LIFT LINK TO HANDLE & BRUSH ARM (VIEW 2)

5) INSTALL GAS SPRING TO LOWER HOLE IN LIFT
 HANDLE & FRAME. (VIEW 2)



VIEW 1
CURB BRUSH
HANDLE INSTALLED

VIEW 2



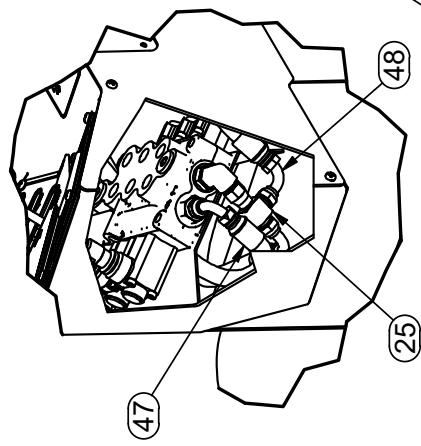
CURB BRUSH HYDRAULICS

CONTROL VALVE CONFIGURATION

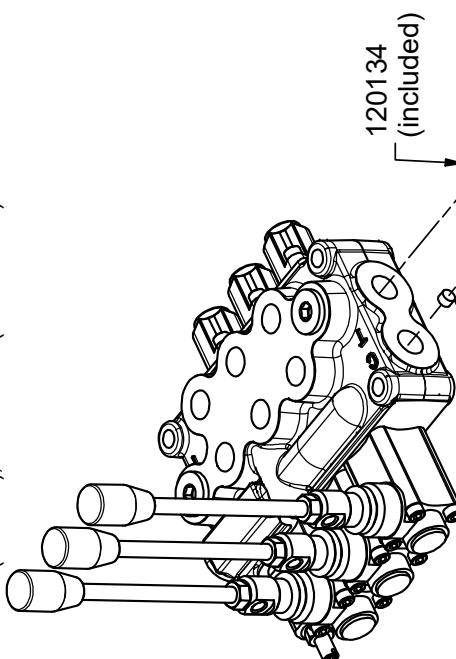
1) REMOVE PLUG FROM POWER BEYOND PORT, PORT "C"
SHOWN IN VIEW 1.

2) INSTALL HIGH PRESSURE CARRYOVER PLUG (322099)
AND FITTING (120239) IN PORT "C". (VIEW 1)

3) INSTALL MOTOR VALVE PRESSURE HOSE (320402) ON
FITTING (120239), PORT "C". (VIEW 2 & 3)



DETAIL 2



VIEW 1



VIEW 3
TEE LAYOUT VIEW



VIEW 4
VIEW OF CONTROL PANEL

300092

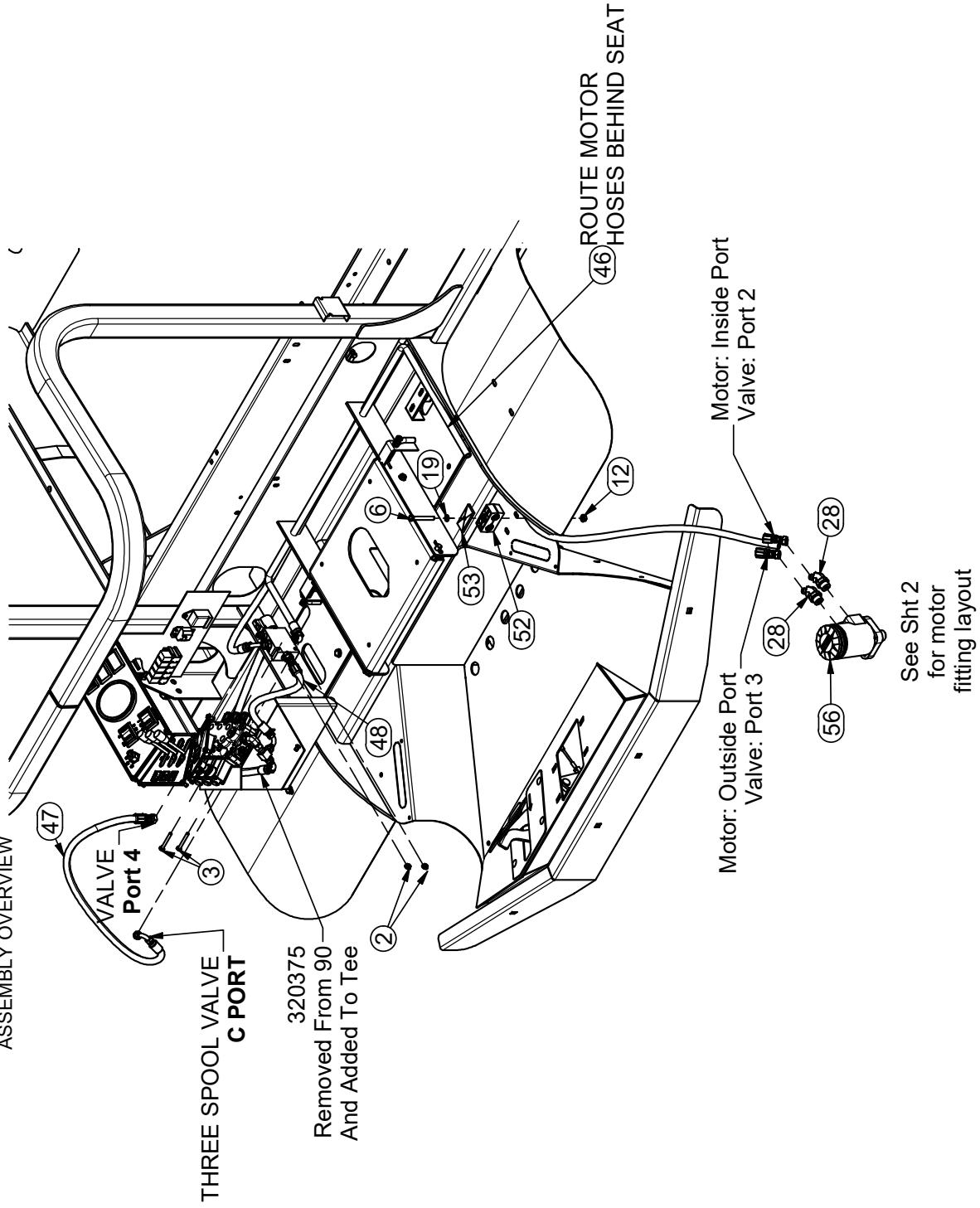
REV: C

- 4) REMOVE HOSE ASSY (320375) FROM ELBOW (120134) ON PORT "T"
- 5) ADD TEE (120216) TO ELBOW (120134) ALREADY INSTALLED ON CONTROL VALVE (322087), THEN RE-INSTALL HOSE (320375) TO OPEN END OF TEE. (VIEW 1,2 & 3)
- 6) ATTACH CURB BRUSH MOTOR VALVE HOSE (320403) TO OPEN SIDE PORT OF TEE (120216). (VIEW 2 & 3)

2-20-2023

CURB BRUSH HYDRAULICS

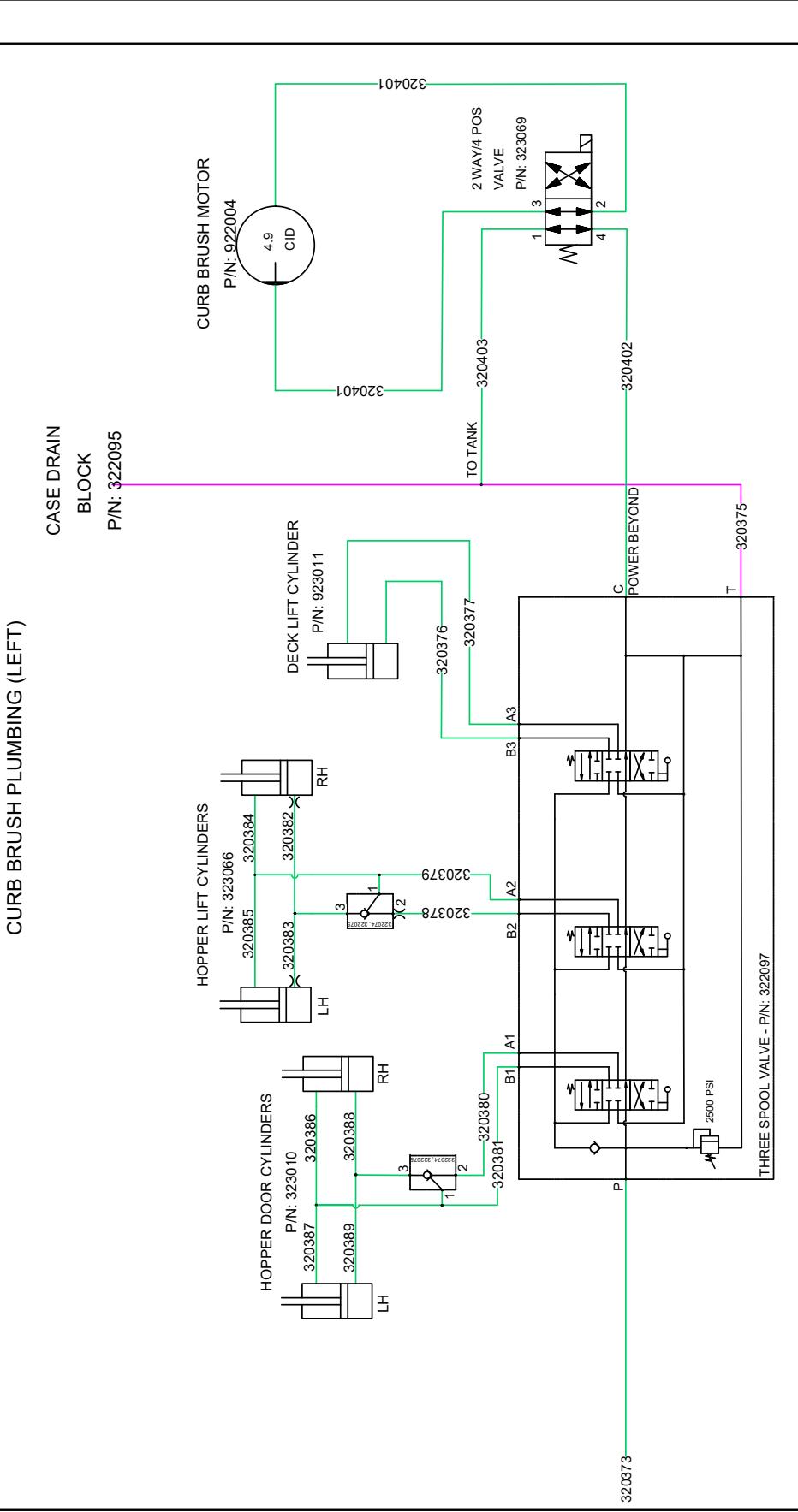
ASSEMBLY OVERVIEW



300092

REV: C

CURB BRUSH HYDRAULICS



2-20-2023

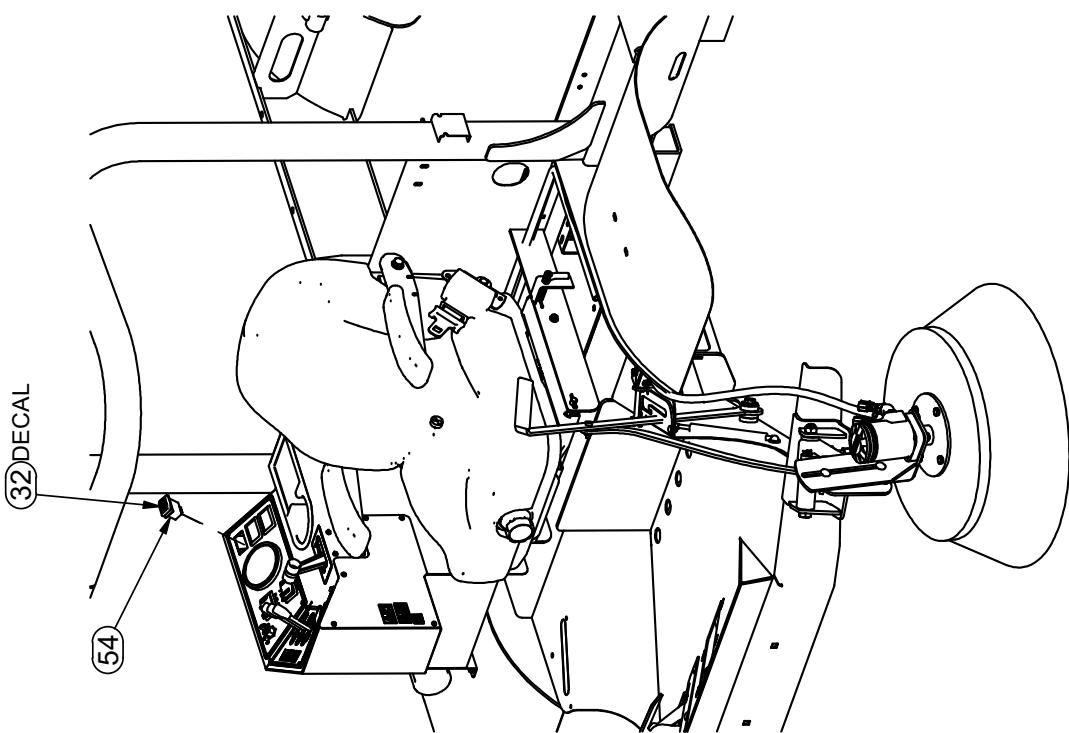
CURB BRUSH SWITCH & ELECTRICAL INSTALLATION

300092 REV: C

To Install Wiring Harness (332070):

- 1) 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)
- 2) 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.
- 3) Remove the plastic plug located on the console, insert the Packard 10 cavity switch (832005) into this cavity and attach the wiring harness on the back side (VIEW 1)
- 4) Connect 2 cavity Deutsch, Blu/Org & Blk, to 323069 valve.

wiring harness on next page for reference

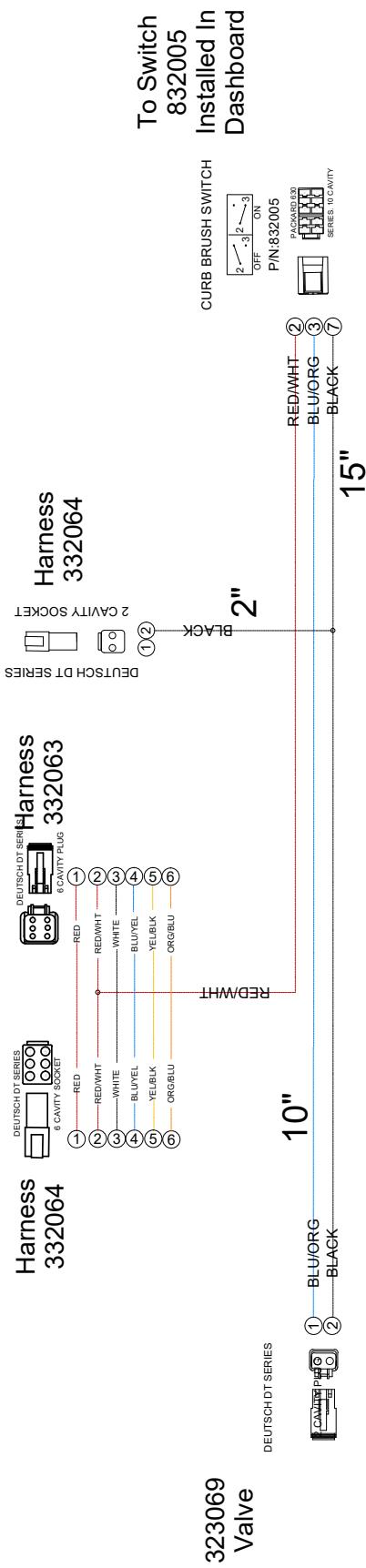


2-20-2023

300092

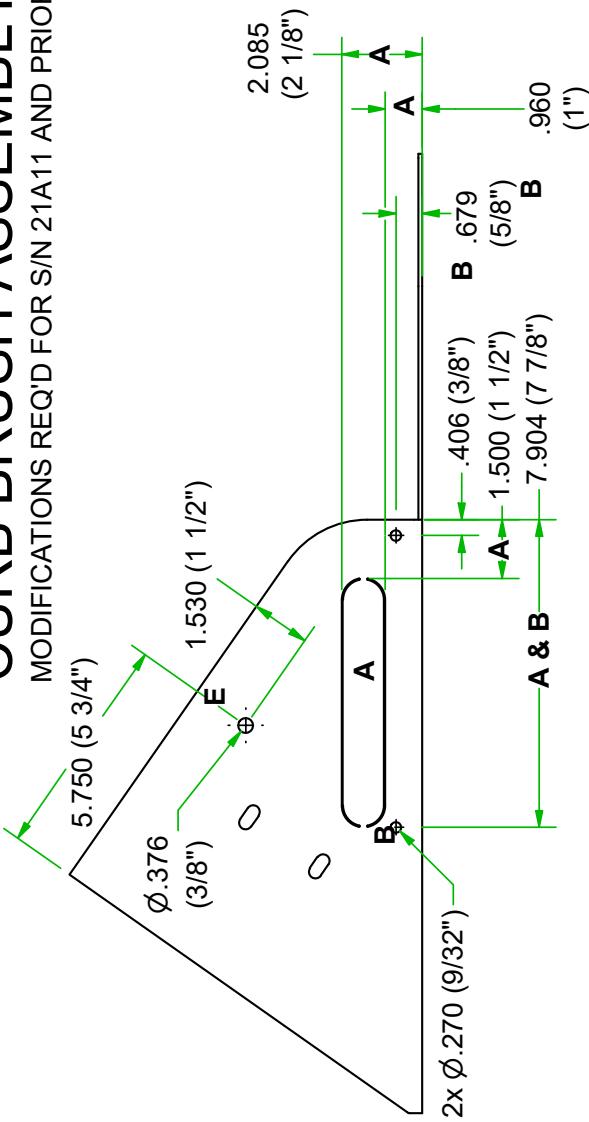
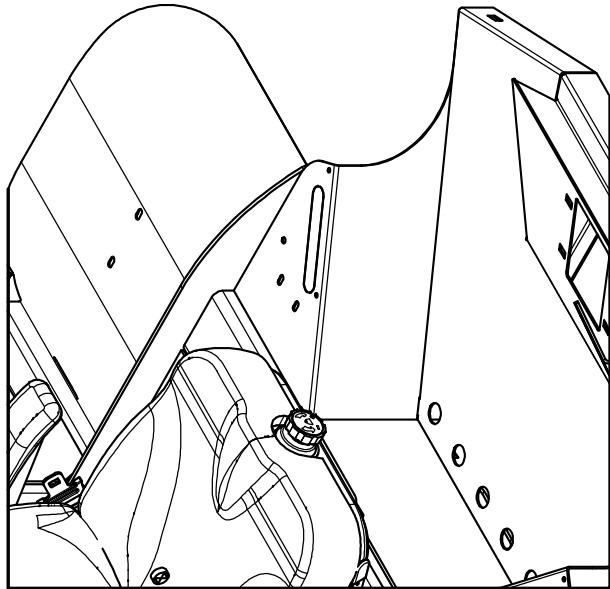
REV: C

SWEeper CURB BRUSH WIRING SCHEMATIC



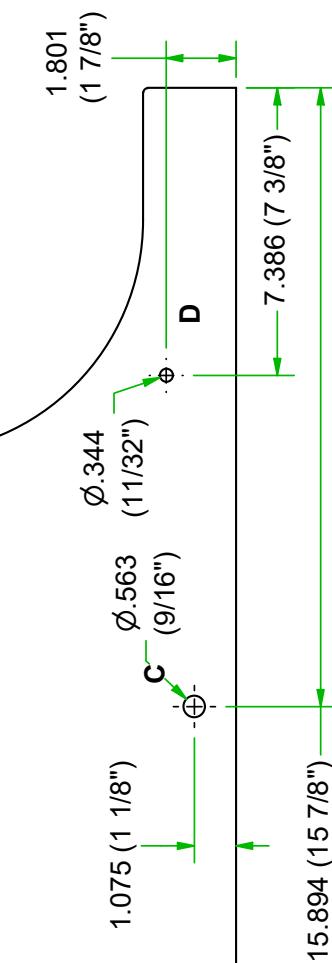
CURB BRUSH ASSEMBLY

MODIFICATIONS REQ'D FOR S/N 21A11 AND PRIOR



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

- Cutout For Handle Mount (1X)
- Holes For Curb Brush Plate Mount (2X)
- Pivot Hole For Curb Brush Handle (1X)
- Gas Spring Mount Hole (1X)
- Hose Clamp Hole Mount

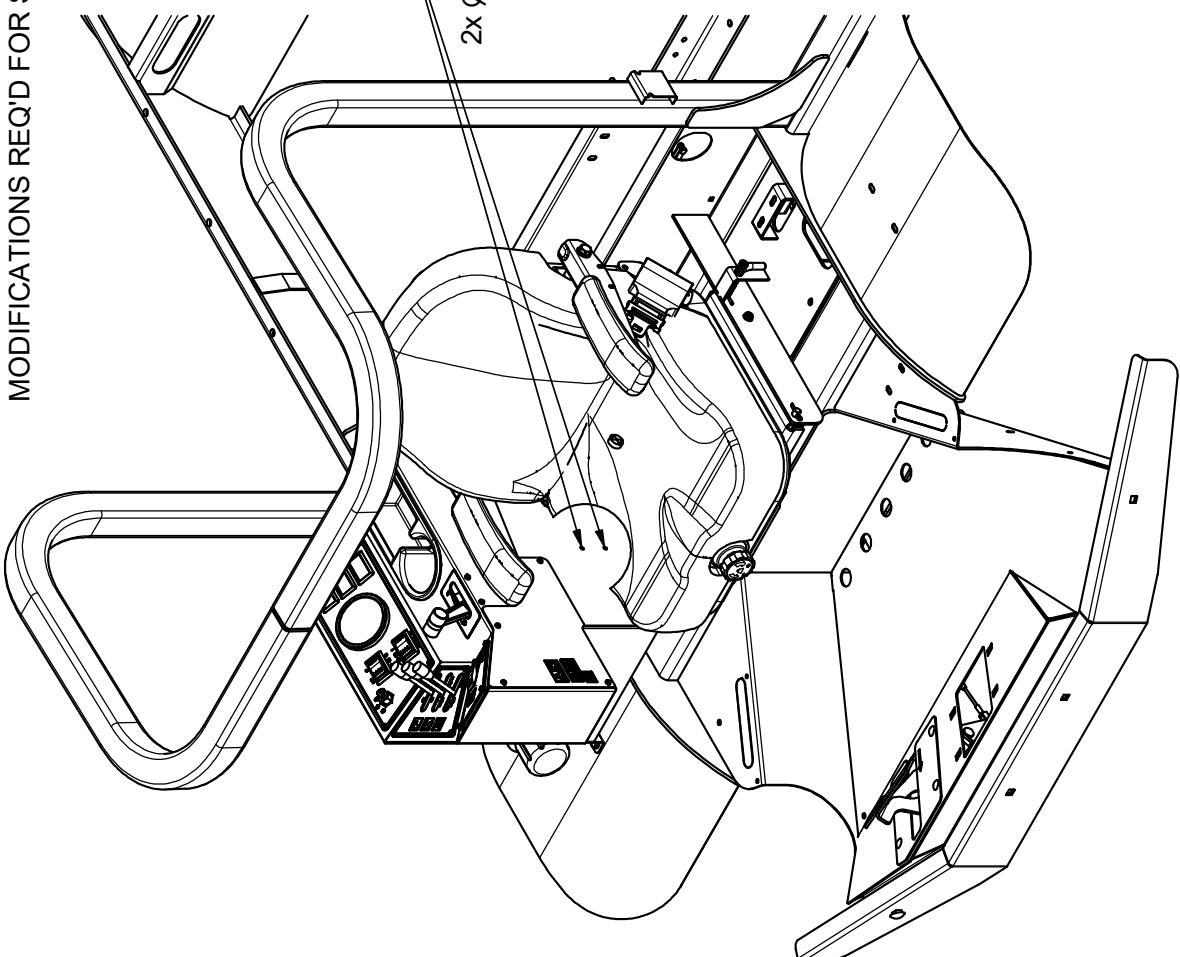


CURB BRUSH HYDRAULICS

MODIFICATIONS REQ'D FOR S/N 21A11 & PRIOR

300092

REV: C



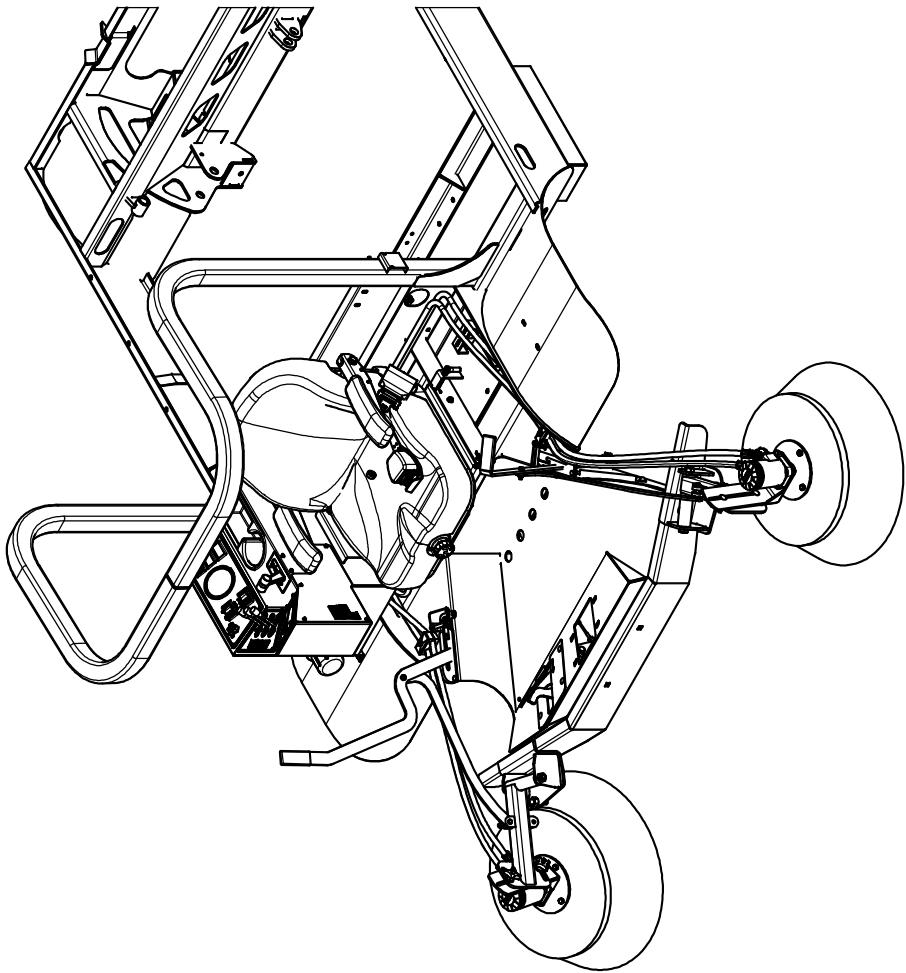
For Right Hand Curb Brush, The
Following Cutouts Will Need To Be Made:
Holes For Curb Brush Valve (2X)

HAWK DUAL CURB BRUSH INSTALL

USE ASSEMBLY INSTRUCTIONS INCLUDED
WITH 300090 AND 300092 FOR ASSEMBLING
BRUSH MOUNTS AND LINKAGE.

Parts List

ITEM	QTY	PART #	DESCRIPTION
1	4	110290	NUT, 1/4-20 WIZ FLANGE
2	2	110412	BOLT, 1/4-20 X 3.5
3	4	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
4	1	120219	ADAPTER, 6MJ-6MB 45
5	1	317423	SHIELD, DUAL CB VALVE
6	1	320404	HOSE ASSY, CB DUAL INLET
7	1	332071	HARNESS, CURB BRUSH DUAL
8	1	802035	BOX, PLASTIC, MANUAL OVERRIDE
9	1	810747	SWITCH SHIM
10	1	810818	MOUNT, ARM REST SWITCH



CURB BRUSH HYDRAULICS

MOTOR VALVE INSTALLATION

1) INSTALL FITTINGS PER 3000090 & 3000092, EXCEPT INSTALL 120219 IN PLACE OF (1) 120319, IN RH VALVE, AS SHOWN IN VIEW 1

2) ATTACH RH VALVE (323069) TO INSIDE OF CONSOLE, AND LH VALVE TO OUTSIDE OF CONSOLE. SEE VIEW 3 & 4

3) INSTALL SHIELD (317423). SEE VIEW 3 & 4

CONSOLE PANEL

317423

320403

320403

320403

320403

320403

320403

320403

320403

320403

320403

320403

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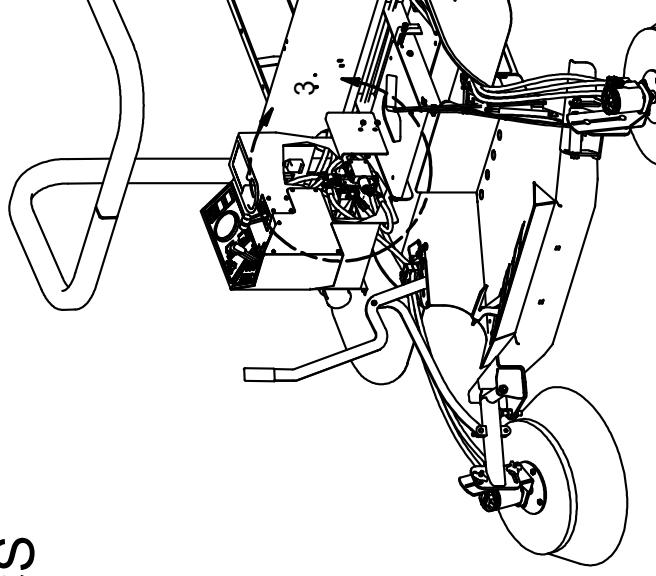
320403

320403

320403

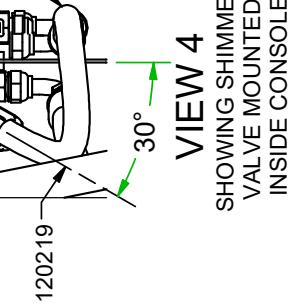
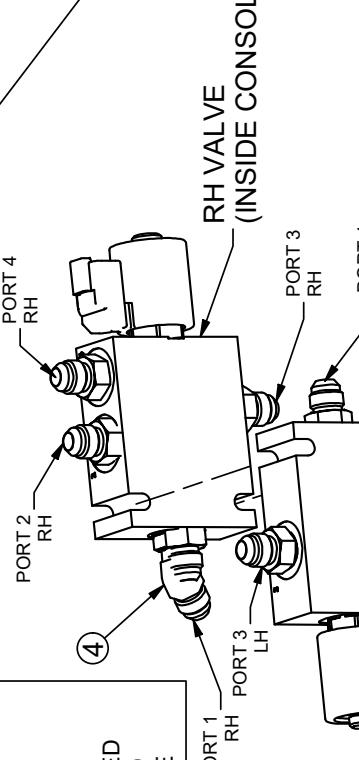
300094

REV: A



VIEW 2
VIEW OF CONTROL PANEL

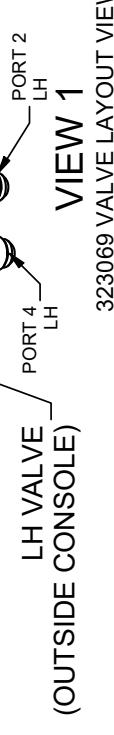
DETAIL 3



VIEW 4

SHOWING SHIMMED
VALVE MOUNTED
INSIDE CONSOLE

FWD →



VIEW 1

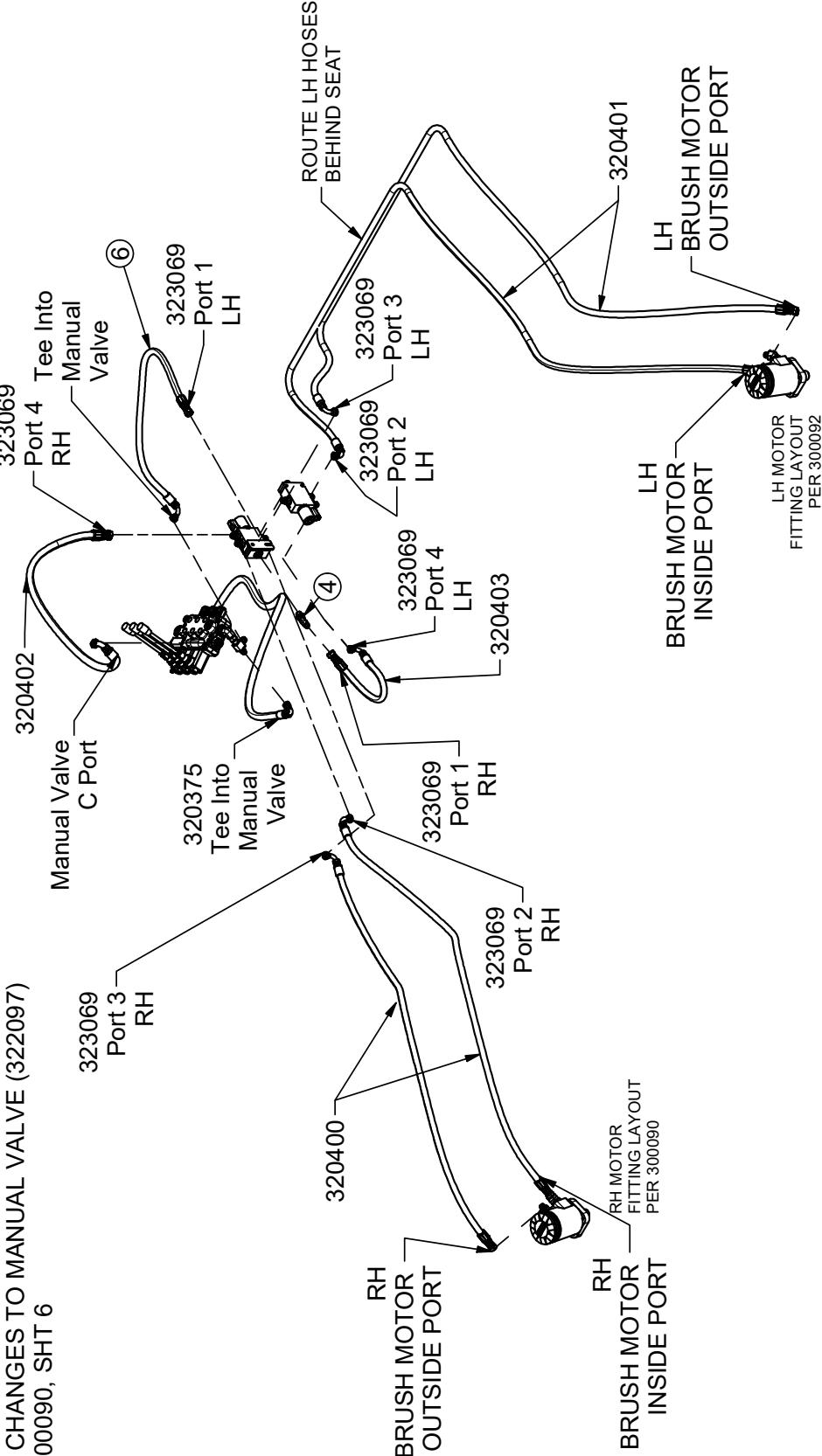
323069 VALVE LAYOUT VIEW

300094 REV: A

CURB BRUSH HYDRAULICS

MAKE CHANGES TO MANUAL VALVE (322097)
PER 300090, SHT 6

ASSEMBLY OVERVIEW



8-11-2022

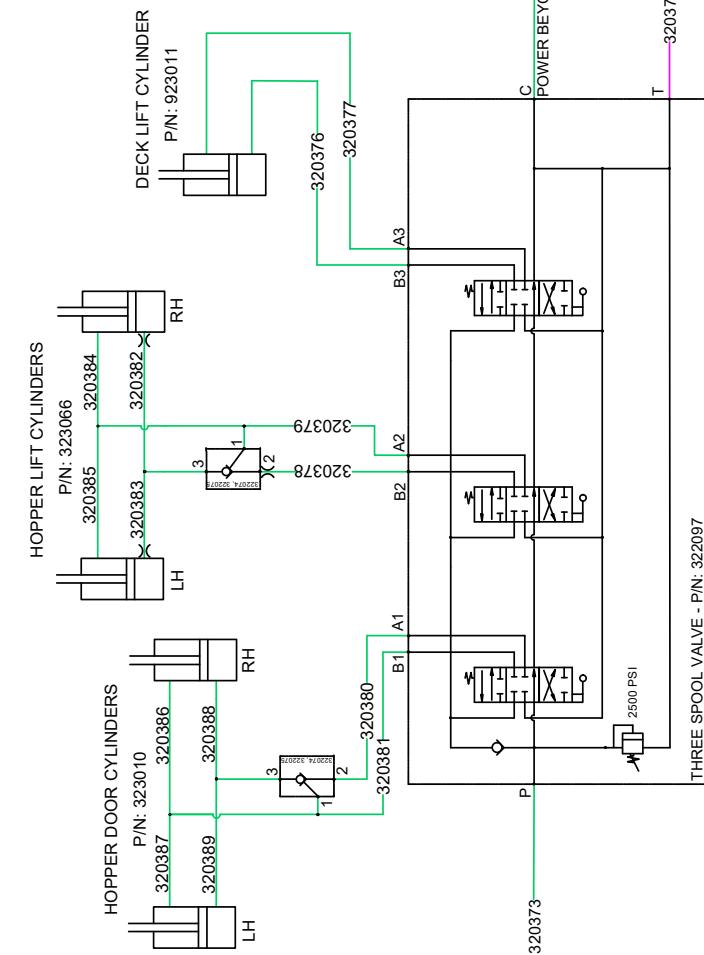
300094

REV: A

CURB BRUSH PLUMBING (DUAL)

11.6

CASE DRAIN
BLOCK
P/N: 322095



CURB BRUSH SWITCH & ELECTRICAL INSTALLATION

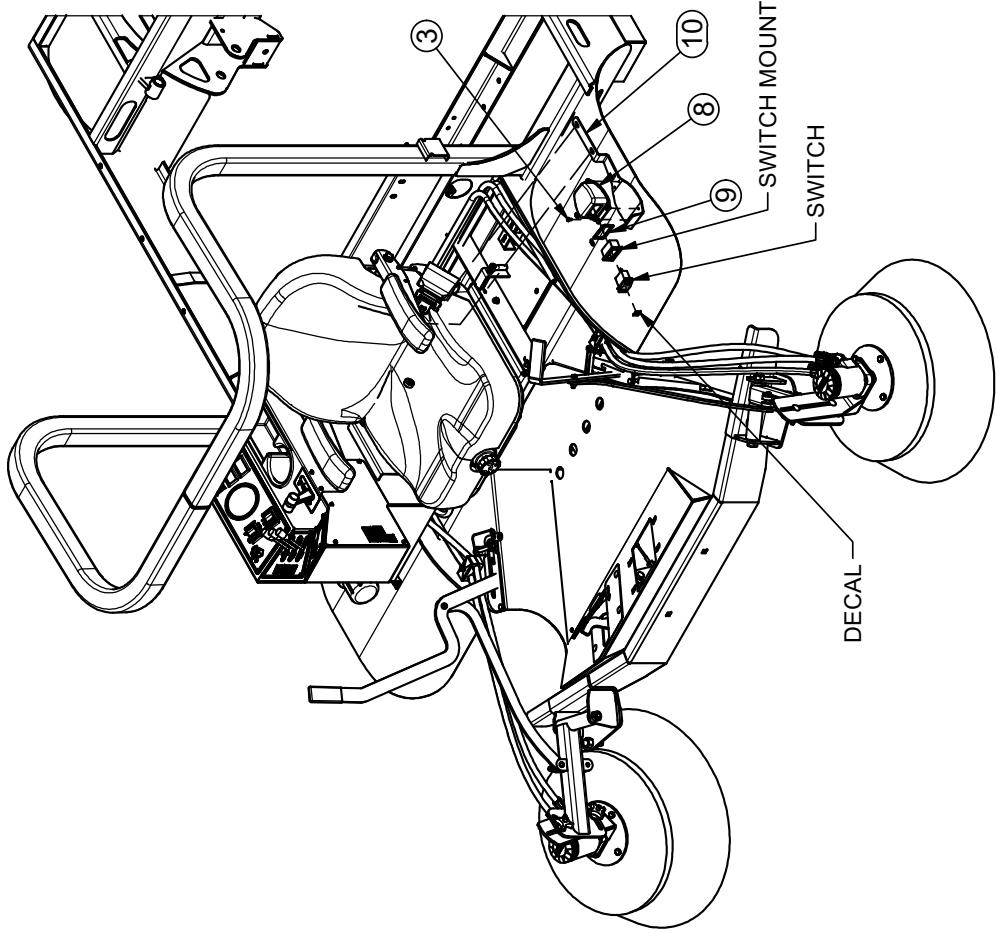
To Install Wiring Harnesses (332070 & 332071):

- 1) 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 harnesses included with this kit (332070 & 332071)
- 2) Connect two, 2 cavity Deutsch, (Black Wire Only) to 2 of the 3 available accessory plugs (Harness 332064). These 2 cavity plugs should be located near the fuse block inside the console.
- 3) Remove the plastic plug(s) located on the console, insert the Packard 10 cavity switch (832005) into this cavity(s) and attach the wiring harness on the back side. 332070 to RH brush switch and 332071 to LH brush switch. (VIEW 1)
If no open socket is available for the LH switch, use the arm switch mount provided with Kit, to install LH switch on LH arm of operator's seat, as shown in VIEW 1.

Note: route LH switch harness through seat back cover, to ensure harness is secure during seat movement

- 4) Connect 2 cavity Deutsch, Blu/Org & Blk, on 332070 harness to 323069 valve installed inside of console. Connect 2 cavity Deutsch, Blu/Org & Blk, on 332071 harness to 323069 valve installed outside of console.

wiring harness on next page for reference

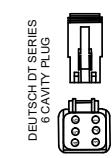


VIEW 1

SWEeper DUAL CURB BRUSH WIRING SCHEMATIC

332064

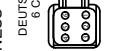
RELAY HARNESS



- | | |
|---|---------|
| 1 | RED |
| 2 | RED/WHT |
| 3 | WHITE |
| 4 | BLU/EL |
| 5 | YEL/BK |
| 6 | ORG/BLU |

332070

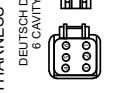
CURB BRUSH HARNESS



- | | |
|---|---------|
| 1 | RED |
| 2 | RED/WHT |
| 3 | WHITE |
| 4 | BLU/EL |
| 5 | YEL/BK |
| 6 | ORG/BLU |

332071

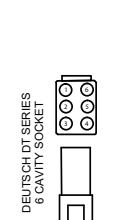
DUAL CURB BRUSH HARNESS



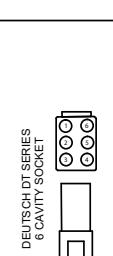
- | | |
|---|---------|
| 1 | RED |
| 2 | RED/WHT |
| 3 | WHITE |
| 4 | BLU/EL |
| 5 | YEL/BK |
| 6 | ORG/BLU |

332063

INSTRUMENT PANEL HARNESS



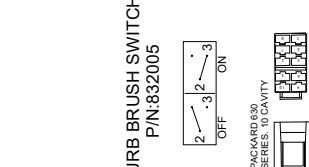
- | | |
|---|---------|
| 1 | RED |
| 2 | RED/WHT |
| 3 | WHITE |
| 4 | BLU/EL |
| 5 | YEL/BK |
| 6 | ORG/BLU |

332071DEUTSCH DT SERIES
6 CAVITY PLUG

- | | |
|---|---------|
| 1 | RED |
| 2 | RED/WHT |
| 3 | WHITE |
| 4 | BLU/EL |
| 5 | YEL/BK |
| 6 | ORG/BLU |

332064

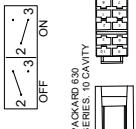
RELAY HARNESS



- | | |
|---|---------|
| 1 | RED/WHT |
| 2 | BLU/ORG |
| 3 | BLACK |

CURB BRUSH SWITCH

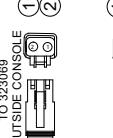
P/N:832005



- | | |
|---|---------|
| 1 | RED/WHT |
| 2 | BLU/ORG |
| 3 | BLACK |

332065

CURB BRUSH SWITCH

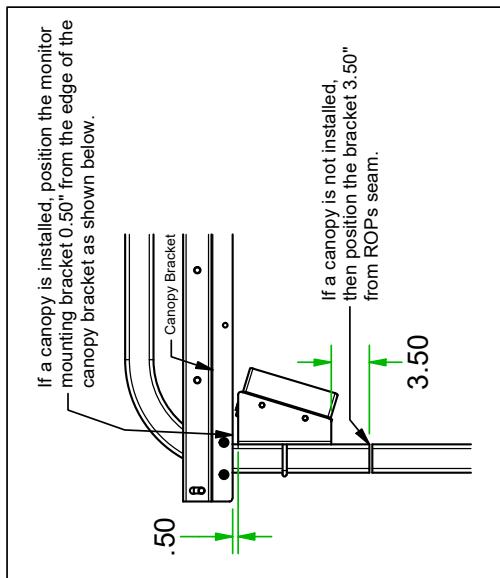
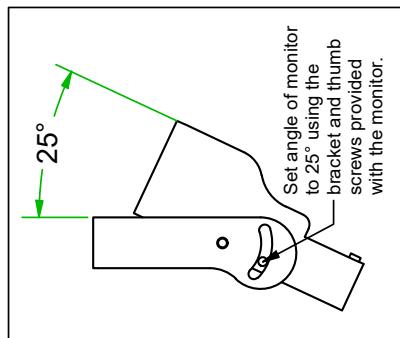
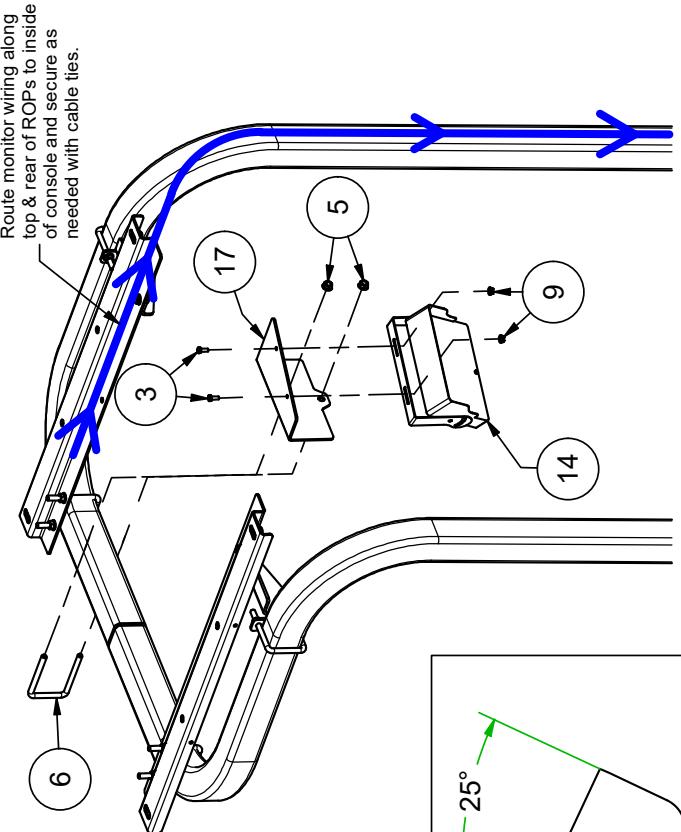


- TO 32308
OUTSIDE CONSOLE
1
2
- INSIDE CONSOLE

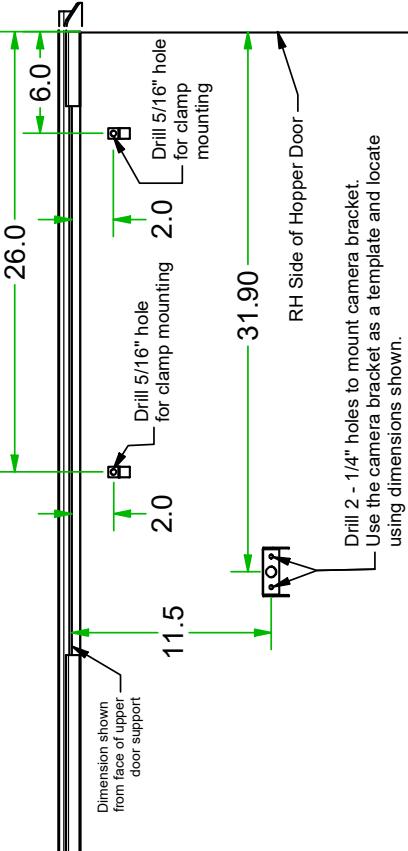
BACKUP CAMERA

FACTORY INSTALL P/N: 300096
CUSTOMER INSTALL: 300095

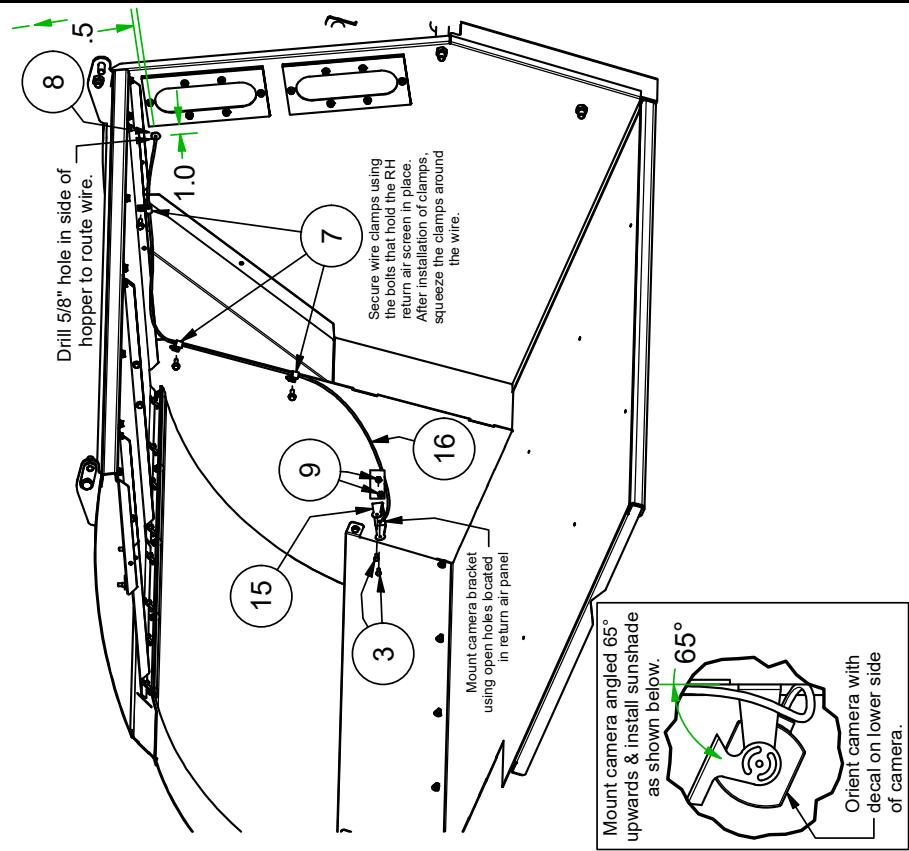
1. Attach the monitor to the ROPS and route the monitor wiring as shown in the images below.



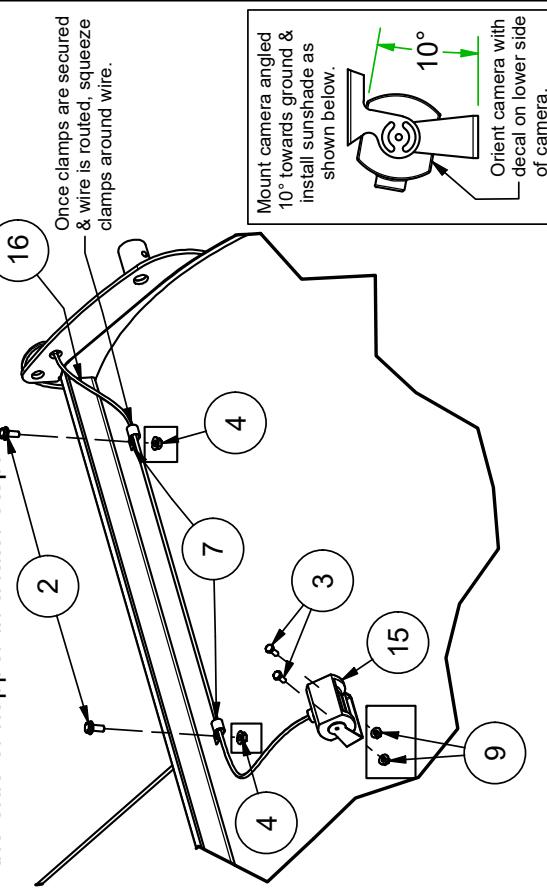
2. Drill holes into the top of the hopper door to mount the backup camera and the clamps to secure the wiring. See diagram below for hole locations and sizes.



4a. Next, install the second camera on the inside of the hopper. This camera is used to show when the hopper is full. If the machine serial number is 22A10 or greater, then install as shown in the diagram below. If serial number is prior to 22A10, proceed to 4b for camera mounting.

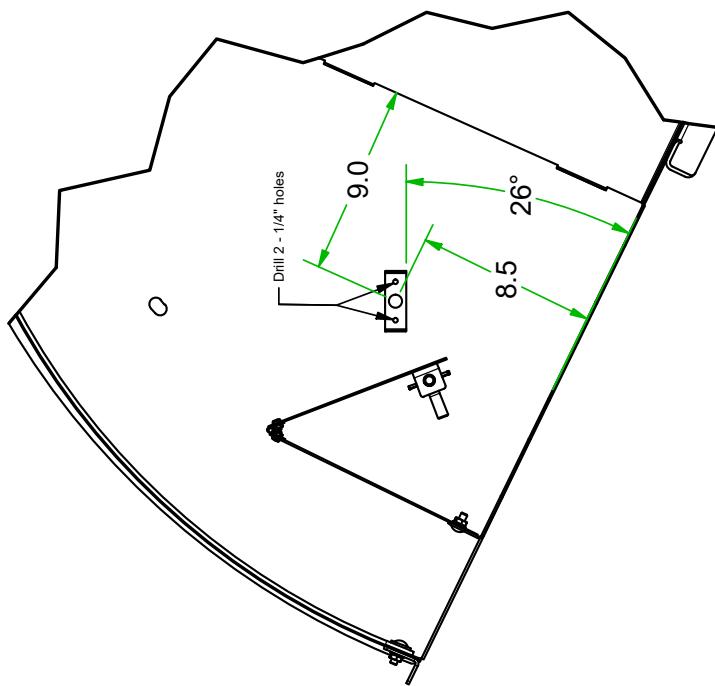
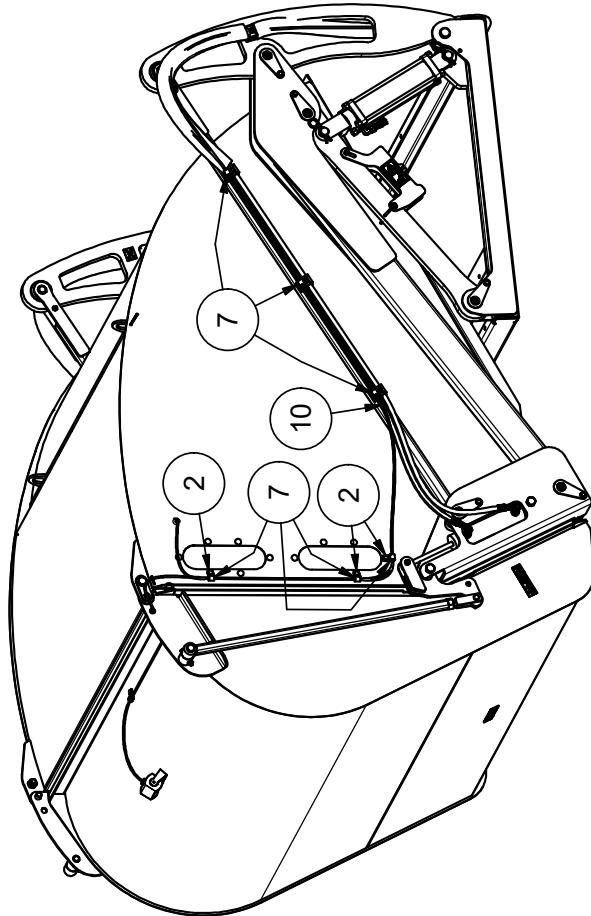


3. Attach camera to hopper door, route wire, and secure wire using the hardware shown in the diagram. Route wire through hole on RH side of hopper door. The wire will be secured on the side of hopper in a later step.

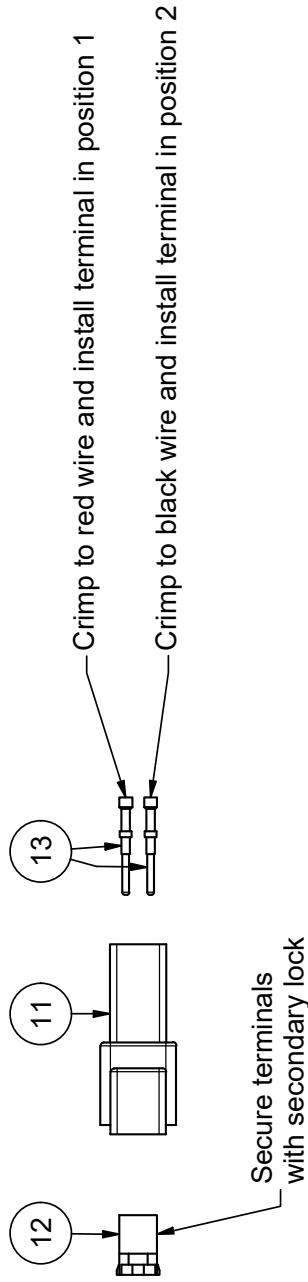


4b. For machines with serial number prior to 22A10, place the debris door in the down position. The door will be remain in the down position after the installation of the camera. It is unnecessary for it to be in the up position. Place the camera mounting bracket at the following location and mark the two bolt holes. Then drill 2 - 1/4" holes for mounting bracket. Refer to 4a for attaching camera and routing wire.

5. Install remaining wire clamps at the locations identified below. Remove carriage bolts on side of hopper and replace with the 110444 bolts. To attach the clamps on the upper arm, use the hardware installed. Route the two camera wires at the clamp locations and then through the engine compartment to below the console. Combine the two camera wires and place into 130014 corrugated loom where routed together. Secure wires in clamps located on the hopper by squeezing the clamps around the wires. Then raise the hopper to ensure that enough slack is left in the wires for the rotation of the hopper when in the UP position. When in the UP position, secure the camera wires to the hopper arm by squeezing the clamps and using cable ties as needed. Also secure the wires through the engine compartment using cable ties.



6. Now that all wires are routed below the console, the wires can be connected. Connect the camera wire installed on the hopper door to the monitor harness connector labeled "CAM1." Then, connect the camera wire installed inside the hopper to the monitor harness labeled "CAM2." Next, install the connector and terminals to the red (power) and black (ground) wires on the monitor harness. This connector can then be plugged into 1 of the 3 open mating connectors located below the console. This will power up the backup camera system when the key is turned on. Secure all wires using the remaining cable ties.
***If 3 attachments are already installed on the machine, then an additional harness can be added to the machine to add additional connectors to supply power. The part number for this harness is 332072.



7. Turn ON monitor to verify that both cameras are working properly. Adjust camera angles as needed for the best view.

NOTES

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Harper, KS 67058

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

E-mail: info@harperindustries.com

HK4400

HARPER
TURF EQUIPMENT