HARPER®

TURBO VAC

Turf Sweeper

Parts Manual

TURBO VAC 30

TV30D

HARPER INDUSTRIES, INC.

11/12

Thank you for purchasing a Harper Turf Vac.

As with all Harper products, the Turf Vac 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 TV30 Turf Vac. Please read and understand all instructional material included with the Turf Vac or its components before assembling and operating the equipment.

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

THIS SYMBOL: **SAFETY WARNING!**

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

SAFETY WARNING!

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

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

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

LIMITED WARRANTY

The Harper TV30 Turf Vac is warranted against defects in workmanship and materials for a period of TWELVE MONTHS from the original date of retail purchase to the original purchaser.

Harper Industries will repair or replace, at our option, any part which our examination shows to be defective. Warranty is limited to parts, labor and ground freight delivery of replacement parts. The user will pay freight charges for parts submitted under this warranty.

No product or part may be returned for warranty consideration without prior approval from Harper Industries.

This warranty does not apply to parts subjected to misuse, abuse, alteration, improper or inadequate maintenance, or normal wear (including belts 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.

RECORDS

Date of Purchase _____ / _____ / _____

Dealer's Name _____

Dealer's Phone _____

Serial Number Machine _____

Serial Number Engine _____

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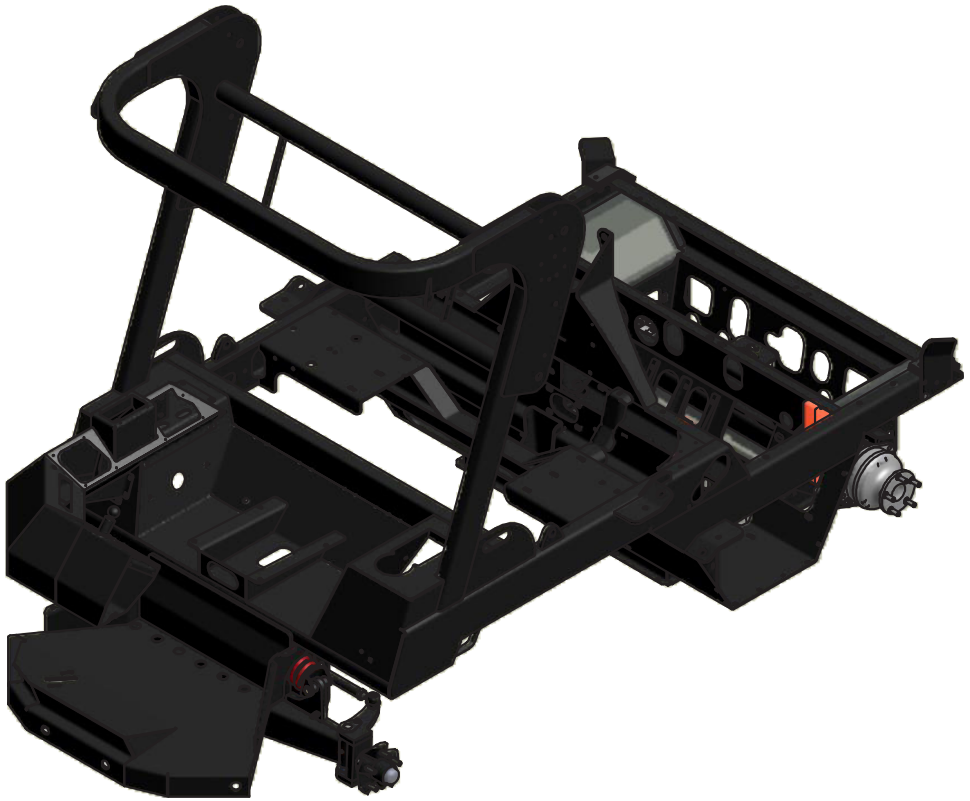
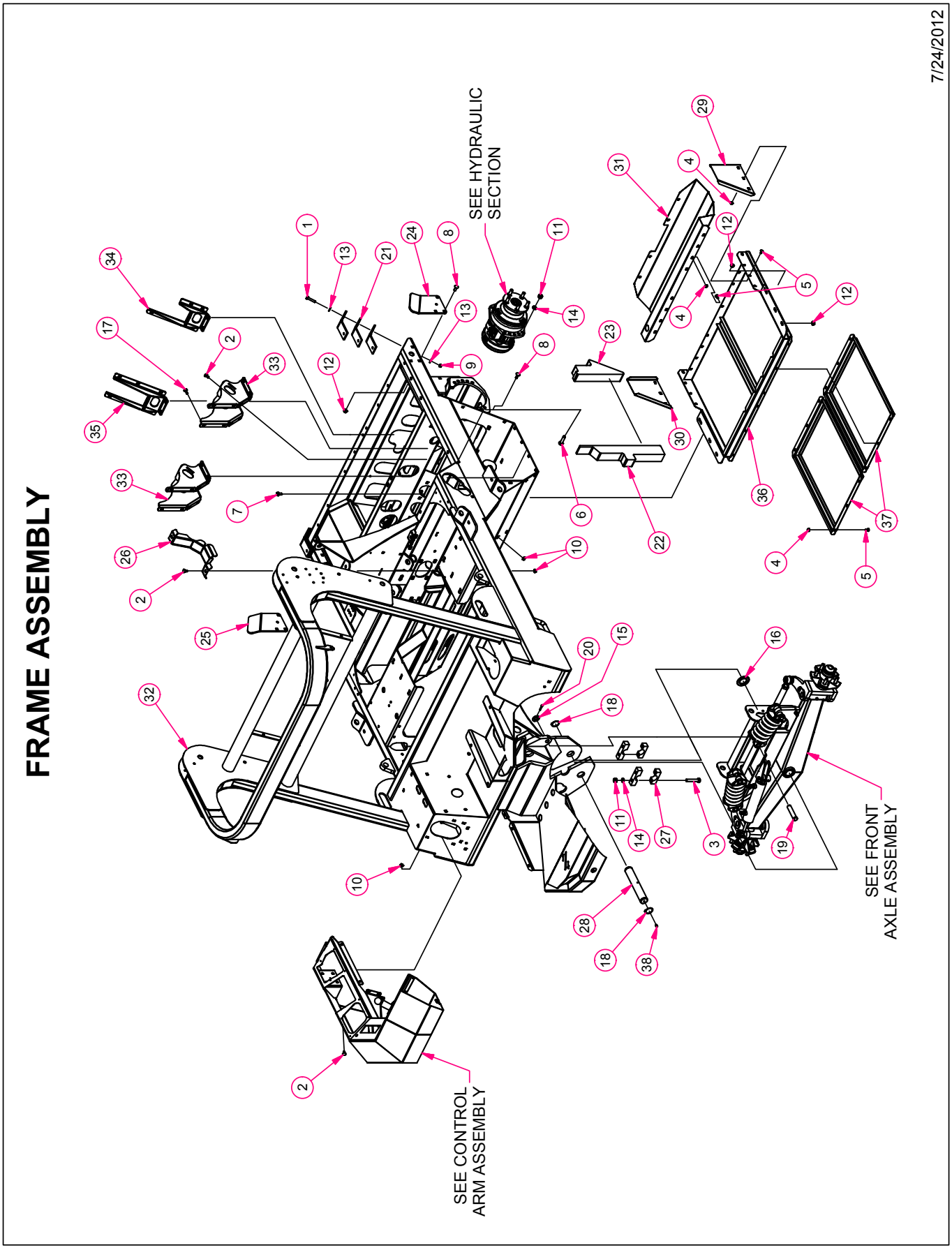
STRUCTURE SECTION

TURBO VAC 30

FRAME ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	4	110017	BOLT, 5/16-18 X 1.75
2	53	110020	Bolt, 5/16-18 X 0.75 in Carriage
3	4	110129	BOLT, 1/2-13 X 2.75 HEX
4	16	110290	NUT, 1/4-20 WIZ FLANGE
5	16	110358	Bolt, 1/4-20 X 0.625 in Carriage
6	20	110419	BOLT, 1/2-13 X 1.75
7	2	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
8	8	110556	Bolt, 3/8-16 X 1 in Carriage
9	4	110603	NUT, 5/16-18 LOCK (NYLON)
10	78	110606	NUT, 5/16-18 WIZ FLANGE
11	24	110610	NUT, 1/2-13
12	10	110645	NUT, 3/8-16 WIZ FLANGE
13	8	110665	WASHER, 5/16" FLAT STANDARD
14	24	110666	WASHER, 1/2" LOCK
15	2	110678	WASHER, 3/4" FLAT SAE
16	1	110862	WASHER - THRUST, IGUS MTI-24
17	1	110871	Bolt, 5/16-18 X 1 in Carriage
18	2	110888	SNAP RING - EXT, 1-1/2
19	2	110889	CLEVIS PIN - 3/4 X 3.5
20	2	200029	COTTER PIN, 5/32 X 1
21	6	302019	PAD - LIFT ARM
22	1	302053	FILLER - FRONT RADIATOR
23	1	302054	FILLER - REAR RADIATOR
24	1	311189	GUIDE - LINKAGE, HOPPER, LH
25	1	311190	GUIDE - LINKAGE, HOPPER, RH
26	1	311363	BRACKET - SUPPORT, RETURN AIR
27	2	311459	KEEPER - AXLE PIVOT, LOWER
28	1	311462	PIN - FRONT AXLE, TV30
29	1	311521	SCREEN - SIDE, REAR BELLY, LH
30	1	311522	SCREEN - SIDE, REAR BELLY, RH
31	1	311569	SCREEN - REAR AXLE
32	1	315106	FRAME - WELDED, TV30
33	2	315180	MOUNT - ENGINE, FRONT, WELDMENT
34	1	315181	MOUNT - ENGINE, REAR, LH, WELDMENT
35	1	315182	MOUNT - ENGINE, REAR, RH, WELDMENT
36	1	315209	FRAME - BELLY INTAKE SCREEN, WLDMNT
37	2	315210	SCREEN - BELLY, INTAKE, WELDMENT
38	1	510174	GREASE ZERK, 1/4-28 ST



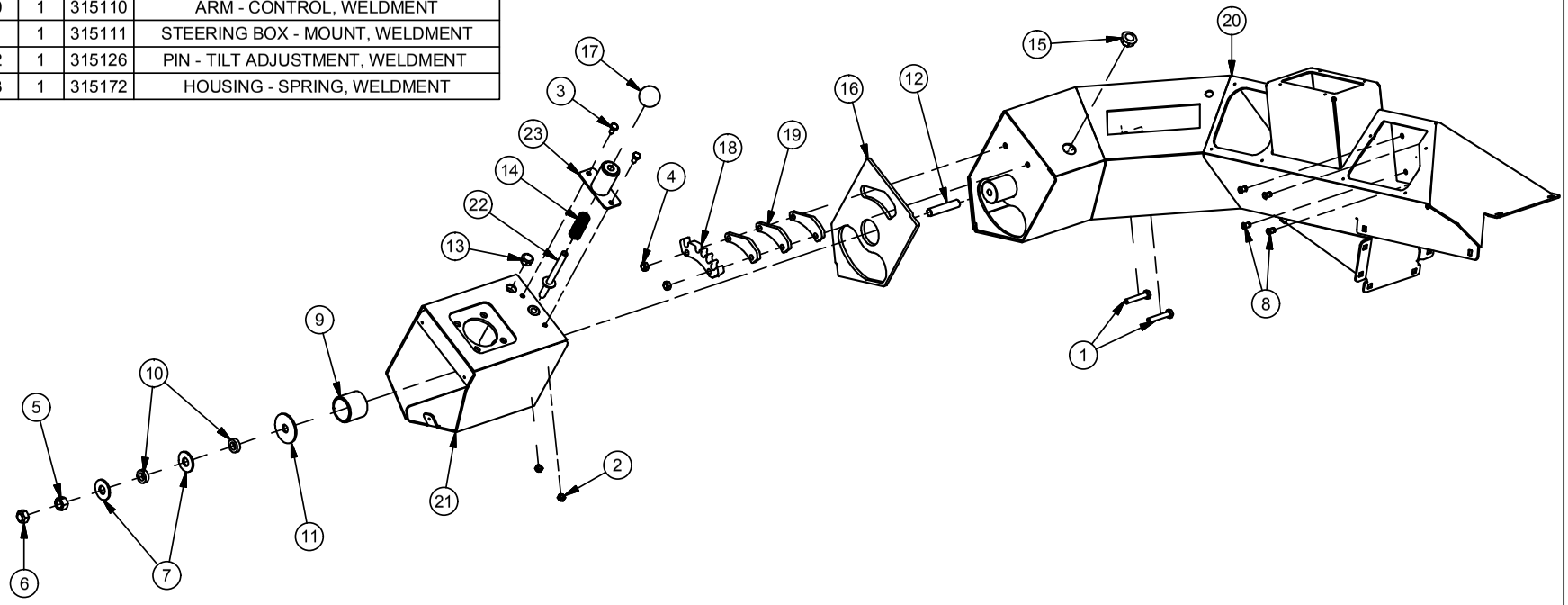

FRAME ASSEMBLY
7/24/2012
SEE HYDRAULIC SECTION
SEE CONTROL ARM ASSEMBLY
SEE FRONT AXLE ASSEMBLY

CONTROL ARM ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110017	BOLT, 5/16-18 X 1.75
2	2	110174	NUT, 1/4-20, UNITORQUE LOCK
3	2	110515	BOLT, 1/4-20 X .50
4	2	110600	NUT, 5/16-18, UNITORQUE LOCK
5	1	110610	NUT, 1/2-13
6	1	110615	NUT, 1/2-13, UNITORQUE LOCK
7	2	110658	WASHER, 1/2" FLAT STANDARD
8	4	110835	NUT, 10-24 RIVET ALUMINUM
9	1	110852	BUSHING - IGUS, 1 3/4 x 1 1/2 x 1 1/2
10	2	110855	SPRING - POLYURETHANE DISC, 1/2" FLAT
11	1	110856	WASHER - .531 X 2.0, FENDER, CS HRD
12	1	110860	STUD - 1/2-13 X 2-1/2
13	1	110884	PLUG - 11/16", NON-VENTED
14	1	110886	SPRING - COMPRESSION, 3/4 X 2.0
15	1	110922	PLUG - 7/8", LOCKING, NON-VENTED
16	1	302004	PLATE - THRUST, PIVOT, STEERING BOX
17	1	302014	KNOB - TILT ADJUSTMENT
18	1	311357	PLATE - NOTCHED, TILT ADJUSTMENT
19	3	311358	SPACER - TILT ADJUSTMENT
20	1	315110	ARM - CONTROL, WELDMENT
21	1	315111	STEERING BOX - MOUNT, WELDMENT
22	1	315126	PIN - TILT ADJUSTMENT, WELDMENT
23	1	315172	HOUSING - SPRING, WELDMENT

ASSEMBLY NOTES:

- SECURE ITEM No. 12, HARPER PRT No. 110860
  1) WITH LOCTITE RED
  2) LEAVE 1-5/8" to 1-3/4" PROTRUDING
- TIGHTEN ITEM No. 5, HARPER PRT No. 110610
  1) UNTIL THE STEERING BOX IS SNUG
  2) CAN ROTATE BOX ASSY WITH EASE
- SECURE ITEM No. 6, HARPER PRT No. 110615
  1) AGAINST ITEM No. 5, HARPER PRT No. 110610
  2) WITH LOCTITE BLUE



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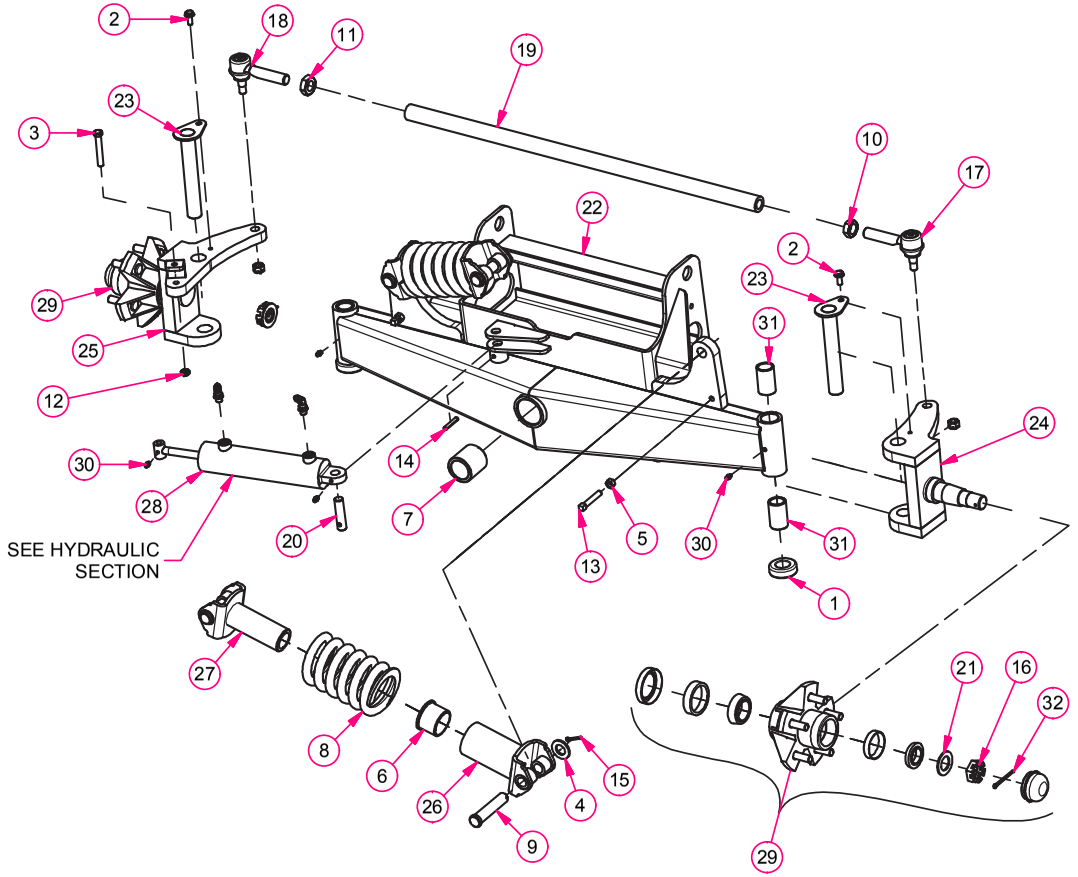
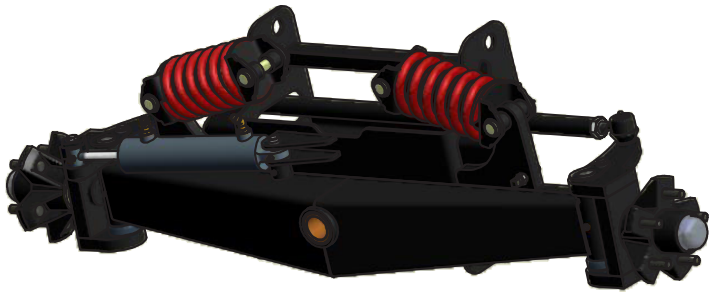
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	102043	BEARING - THRUST, 1.0 ID X 5/8 T
2	2	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
3	1	110497	BOLT, 3/8-24 X 2.5
4	4	110678	WASHER, 3/4" FLAT SAE
5	2	110826	NUT, 3/8-16 GR 5
6	2	110853	BUSHING - IGUS MFI2832-24
7	2	110857	BUSHING - 2.0 OD X 1.5 ID x 2.0, 660 BRNZ
8	2	110858	SPRING - COMPRESSION, 6 X 4 X .625
9	4	110889	CLEVIS PIN - 3/4 X 3.5
10	1	110891	NUT - JAM, 3/4-16 UNF, LH
11	1	110892	NUT - JAM, 3/4-16 UNF, RH
12	1	110897	NUT - JAM, 3/8-24 UNF
13	2	110921	SET SCREW - 3/8 X 2, SQU HD
14	1	200028	ROLL PIN, 1/4 X 1.5
15	4	200029	COTTER PIN, 5/32 X 1
16	2	310261	NUT - CROWN, 1-14
17	1	311011	TIE ROD END - LH
18	1	311012	TIE ROD END - RH
19	1	311254	TIE ROD - TV30
20	1	311406	PIN - STEERING CYLINDER
21	2	312009	WASHER, 1" PLAIN
22	1	315117	AXLE - FRONT, WELDMENT
23	2	315136	KINGPIN - TV30, WELDMENT
24	1	315137	SPINDLE - TV30, LH, WELDMENT
25	1	315138	SPINDLE - TV30, RH, WELDMENT
26	2	315139	MOUNT - SUSPENSION, LOWER, WELDMENT
27	2	315140	MOUNT - SUSPENSION, UPPER, WELDMENT
28	1	323010	CYLINDER - STEERING, 1-3/4 X 6
29	2	342004	HUB - 5 ON 4-1/2, 1750 Lbs
30	4	510174	GREASE ZERK, 1/4-28 ST
31	4	510821	BUSHING - 1-1/4 OD X 1.0 ID
32	2	510993	COTTER PIN, 5/32 X 2

FRONT AXLE ASSEMBLY



HUB ASSEMBLY SERVICE PARTS		
QTY	PART #	DESCRIPTION
1	312001	GREASE CAP
1	312002	GREASE SEAL
5	312003	STUD - WHEEL, 1/2 - 20 NF
1	312004	HUB - 5 ON 4-1/2, 1750 Lbs
1	312005	OUTTER RACE
1	312006	OUTER BEARING
1	312007	INNER RACE
1	312008	INNER BEARING



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ENGINE & TANK INSTALLATION

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	4	110082	SCREW, 10-24 X 0.75, HEX, FLG
2	1	110174	NUT, 1/4-20, UNITORQUE LOCK
3	21	110290	NUT, 1/4-20 WIZ FLANGE
4	4	110319	NUT, 5/16-18 U-TYPE .75L
5	21	110358	Bolt, 1/4-20 X 0.625 in Carriage
6	3	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
8	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
8	6	110493	BOLT, 3/8-16 X 2.25
9	5	110606	NUT, 5/16-18 WIZ FLANGE
10	1	110609	NUT, 1/4-20
11	6	110618	NUT, 3/8-16 LOCK NYLON INSERT
12	1	110673	WASHER, 1/4" FLAT STANDARD
13	6	110676	WASHER, 3/8" FLAT STANDARD
14	2	110939	GROMMET - 1.0 ID X 1-3/4 OD, 1/16 X 1-3/8
15	1	110942	GROMMET - 3/8 ID X 1-1/4 OD, 1/16 X 1
16	2	110986	SCREW, 5/16-18 UNCX1 FH
17	2	112033	GROMMET - 1/2 ID X 1-1/4 OD, 1/16 X 1
18	1	112035	CLAMP, HOSE #40 2.375"
19	1	302019	PAD - LIFT ARM
20	1	302040	INTAKE TUBE ASSEMBLY
21	1	311319	STOP - SCREEN, FRONT, LH
22	1	311320	STOP - SCREEN, FRONT, RH
23	2	311325	STOP - SCREEN, LOWER
24	1	311476	MOUNT - AIR CLEANER
25	2	311533	ESCUTCHEON - RETURN OIL
26	1	311558	MOUNT - ESCUTCHEON
27	1	311584	FILLER - HYDRAULIC TANK REAR
28	1	311585	FILLER - REAR FUEL TANK
29	1	311586	FILLER - TANK SIDE
30	1	311619	HOSE SHIELD, FAN MOTOR
31	1	315165	STOP - SCREEN, REAR, LH
32	1	315166	STOP - SCREEN, REAR, RH WELDMENT
33	1	315218	BOLT - THROTTLE PIVOT, WELDMENT
34	1	315220	ENCLOSURE - FRONT ENGINE, RH
35	1	315221	ENCLOSURE - FRONT ENGINE, LH
36	1	315225	WELDMENT, TANK BRACKET
37	1	342036	REDUCER - SILICONE, 2-1/2 x 2
38	1	343008	FILTER - FUEL
39	1	343009	AIR CLEANER - 2-1/2", ENGINAIRE
40	1	353001	CONTROL - PUSH, LEVER, THROTTLE
41	1	500107	CLAMP, HOSE #32 2.00"

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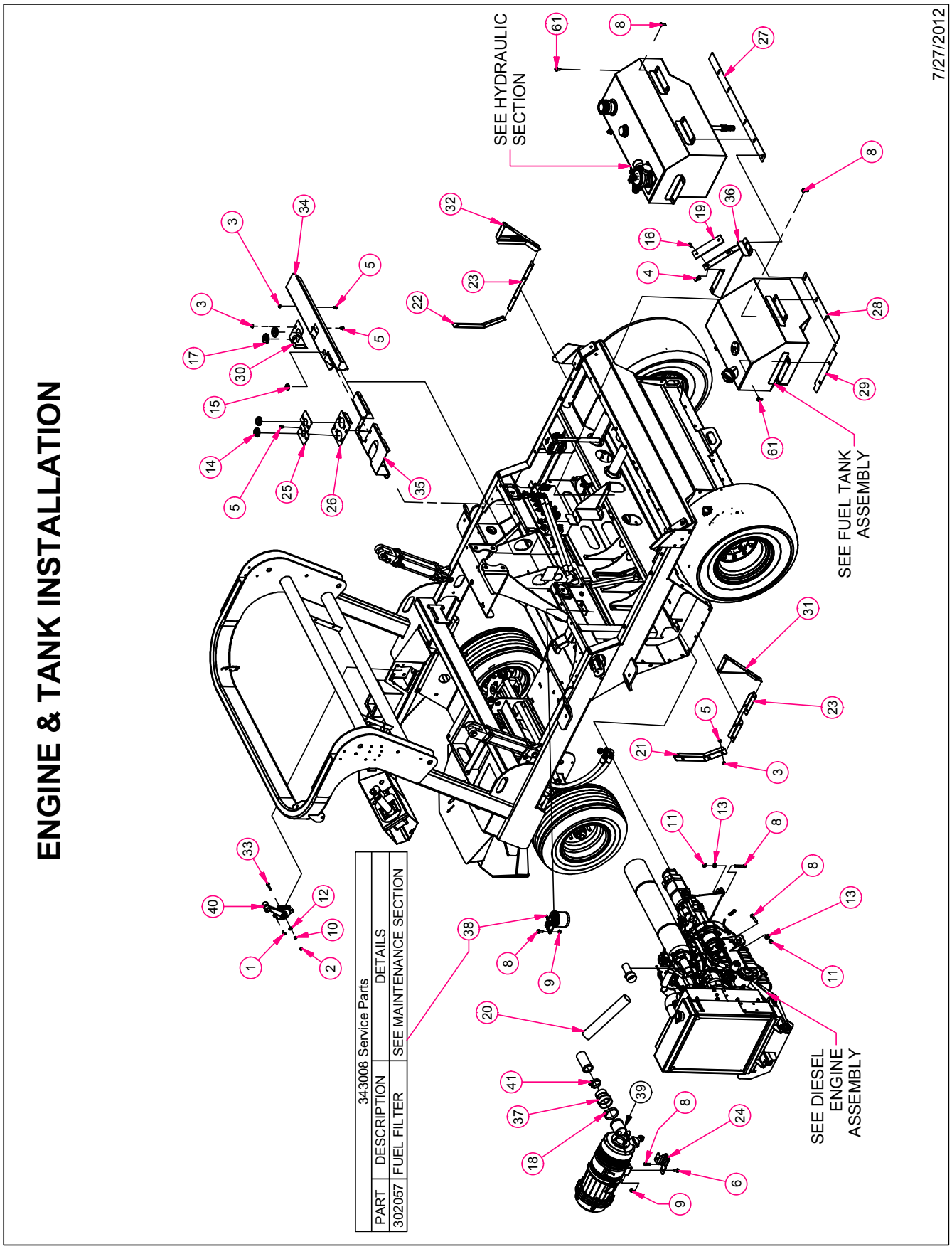
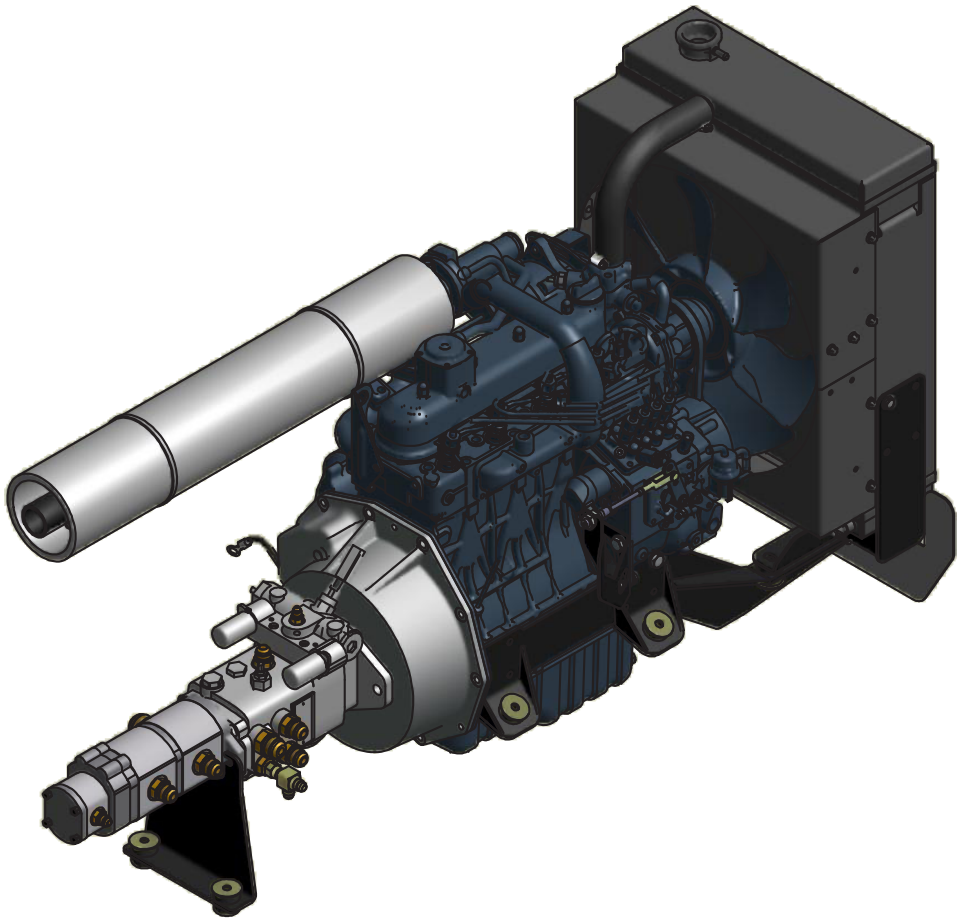
ENGINE & TANK INSTALLATION



DIESEL ENGINE ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110155	WASHER, 3/8" FLAT SAE
2	2	110178	BOLT, 3/8-16 X 1.5 SHCS
3	2	110419	BOLT, 1/2-13 X 1.75
4	8	110426	BOLT, 5/16-18 X 0.5, WIZ FLANGE
5	1	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
6	1	110469	BOLT, M8x1.25 x 20 Gr 10.9
7	4	110493	BOLT, 3/8-16 X 2.25
8	17	110560	BOLT, M10x1.25 x 20 Gr 10.9
9	1	110606	NUT, 5/16-18 WIZ FLANGE
10	4	110618	NUT, 3/8-16 LOCK NYLON INSERT
11	2	110658	WASHER, 1/2" FLAT STANDARD
12	2	110666	WASHER, 1/2" LOCK
13	2	110672	WASHER, 3/8" LOCK
14	1	110674	WASHER, 5/16" LOCK
15	4	110676	WASHER, 3/8" FLAT STANDARD
16	17	110689	WASHER, 10mm LOCK
17	4	110692	WASHER, 6 mm LOCK
18	4	110932	BOLT, M6x1 x 30 Gr 10.9
19	1	120128	ADAPTER, 2MBSPP-2FP
20	1	302017	CLEVIS - THROTTLE
21	10	302041	ISOLATOR - MOUNT
22	1	302052	SLEEVE - EXHAUST, TV30
23	2	302056	TIE, STAINLESS STEEL ZIP
24	1	311376	SUPPORT - PUMP, HYDRAULIC
25	1	311474	BAFFLE - LOWER RADIATOR
26	1	315183	MOUNT - MOTOR, LH, WELDMENT
27	1	315184	MOUNT - MOTOR, RH, WELDMENT
28	1	315185	MOUNT - RADIATOR, WELDMENT
29	1	315186	MOUNT - KUBOTA THROTTLE, WELDMENT
30	1	332004	SENDER-WATER TEMP,3/8 NPT,HGH RNG
31	1	342011	ADAPTER - PUMP, KUBOTA 1505, KIT
32	1	342012	MUFFLER - KUBOTA 1505
33	1	342034	HOSE - RADIATOR, LOWER, TV30
34	1	342035	HOSE - RADIATOR, UPPER, TV30
35	1	343002	ENGINE - DIESEL, KUBOTA, 1505
36	1	343005	RADIATOR - TV30 DIESEL
37	1	343034	FAN, RADIATOR PUSHER
38	1	353001	CABLE - THROTLE
39	1	530068	OIL PRESSURE SENDER
40	4	720107	CLAMP, HOSE #20 1.25"
41	1	832001	STARTER GROUND



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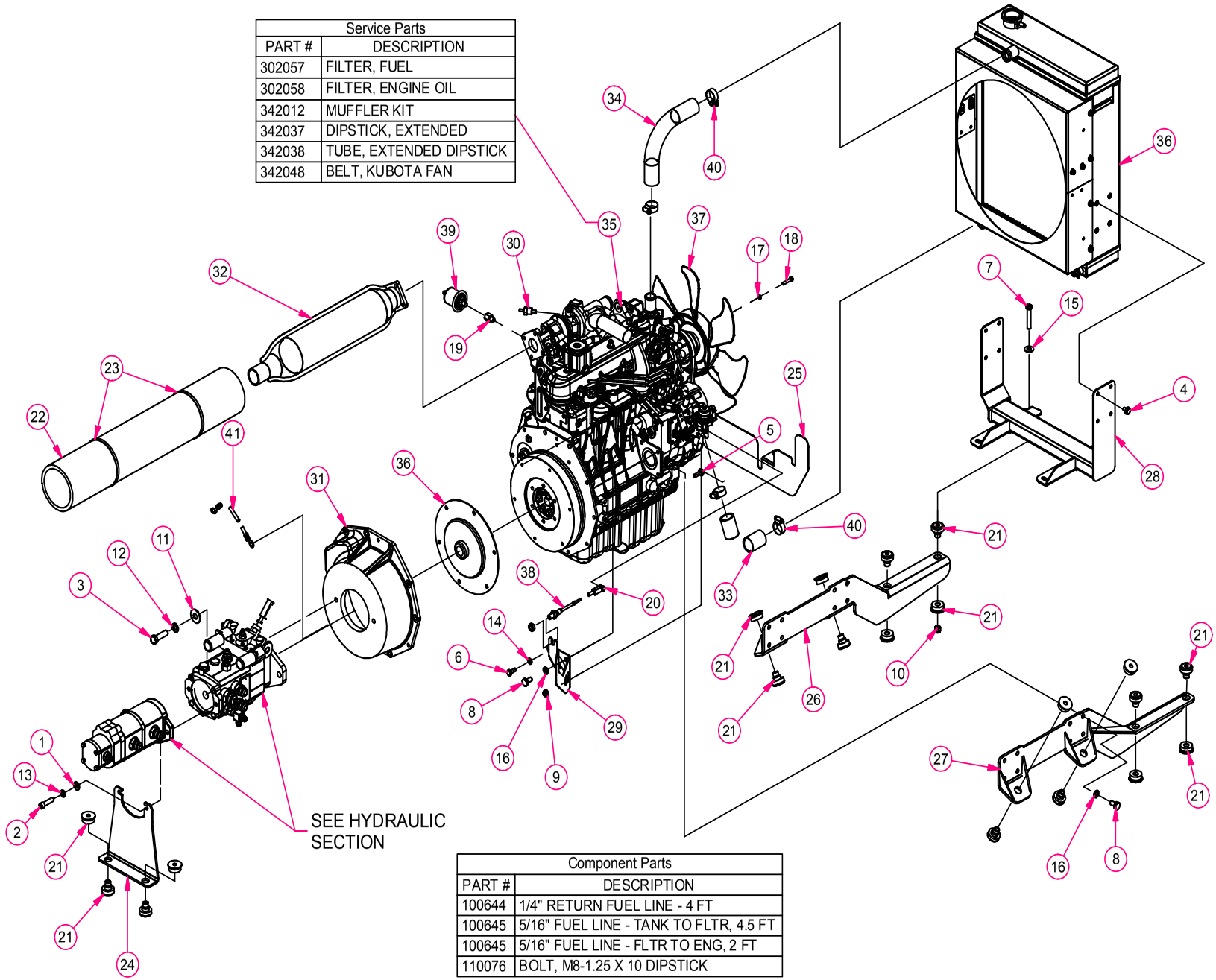
DIESEL ENGINE ASSEMBLY

Service Parts	
PART #	DESCRIPTION
302057	FILTER, FUEL
302058	FILTER, ENGINE OIL
342012	MUFFLER KIT
342037	DIPSTICK, EXTENDED
342038	TUBE, EXTENDED DIPSTICK
342048	BELT, KUBOTA FAN

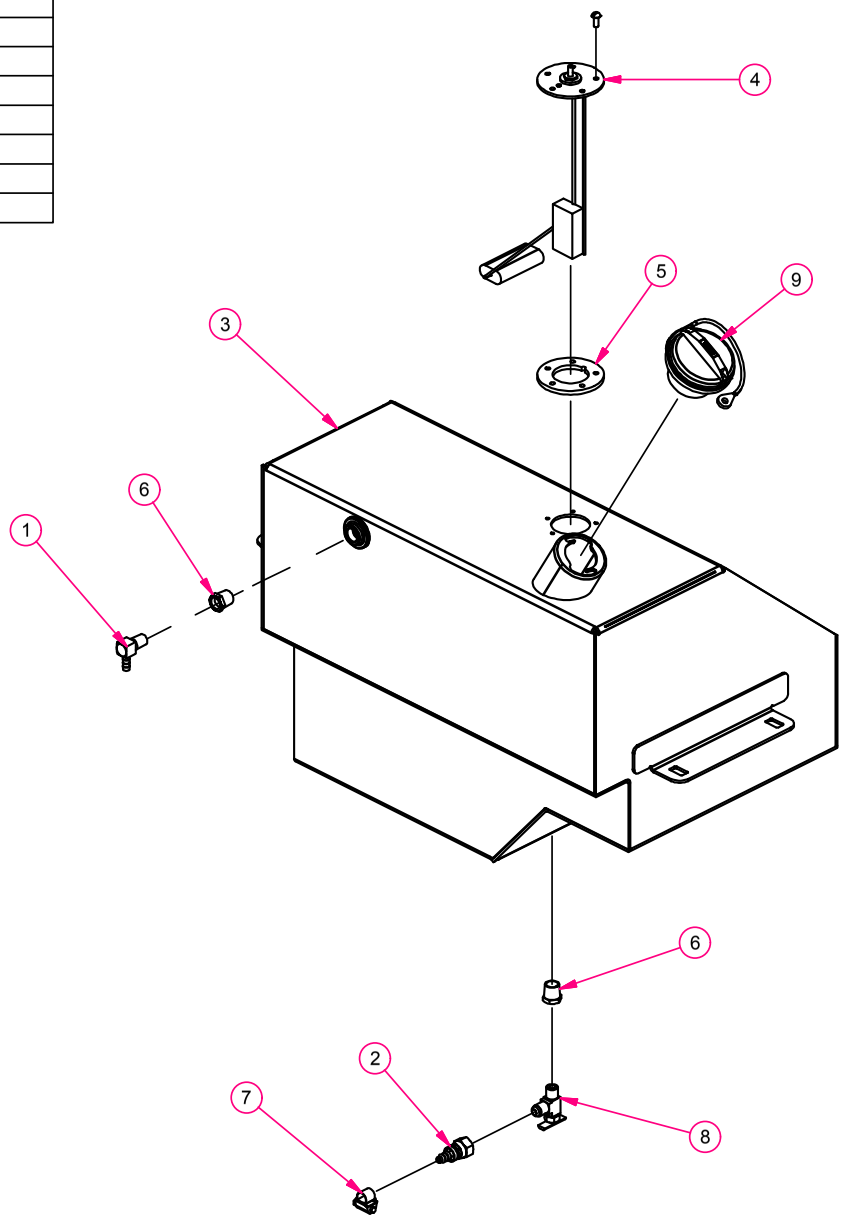


Component Parts	
PART #	DESCRIPTION
100644	1/4" RETURN FUEL LINE - 4 FT
100645	5/16" FUEL LINE - TANK TO FLTR, 4.5 FT
100645	5/16" FUEL LINE - FLTR TO ENG, 2 FT
110076	BOLT, M8-1.25 X 10 DIPSTICK

7/27/2012

FUEL TANK ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	120205	ADAPTER, 4BH-4MP90
2	1	120378	ADAPTER, 5HB-6FBX
3	1	315141	TANK - FUEL, WELDMENT
4	1	332005	SENDER - FUEL LEVEL, ELECTRIC
5	1	500172	GASKET, FUEL SENDER
6	2	500209	FITTING, REDUCER 3/8 X 1/4 NPT
7	1	520098	CLAMP, HOSE #10 .50"
8	1	802023	VALVE, FUEL SHUT OFF 6MB-4MP
9	1	970788	FUEL CAP, 2"



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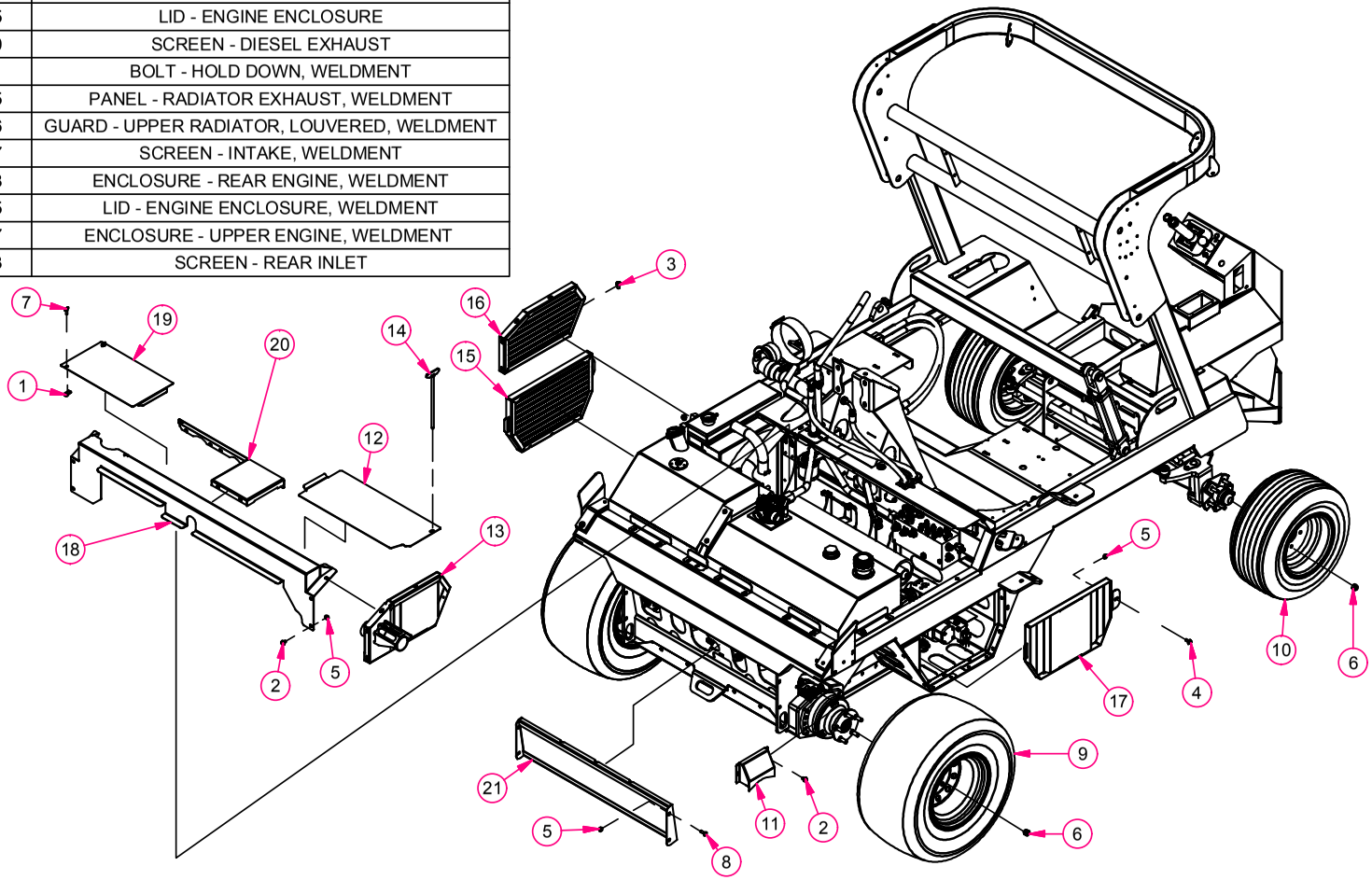
ENGINE SHIELD ASSEMBLIES

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110071	1/4-20 U-TYPE TAPPED HOLE
2	10	110426	BOLT, 5/16-18 X 0.5, WIZ FLANGE
3	1	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
4	2	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
5	12	110606	NUT, 5/16-18 WIZ FLANGE
6	20	110617	NUT - LUG 1/2-20
7	2	110842	Screw, 1/4-20 X 3/4 Wing Head
8	4	110871	Bolt, 5/16-18 X 1 in Carriage
9	2	302008	26" MULTI-TRACK TIRE & WHEEL
10	2	302011	10x20 TIRE & WHEEL ASSEM - FRONT
11	2	311561	COVER - WHEEL MOTOR
12	1	311565	LID - ENGINE ENCLOSURE
13	1	315190	SCREEN - DIESEL EXHAUST
14	1	315191	BOLT - HOLD DOWN, WELDMENT
15	1	315205	PANEL - RADIATOR EXHAUST, WELDMENT
16	1	315206	GUARD - UPPER RADIATOR, LOUVERED, WELDMENT
17	1	315207	SCREEN - INTAKE, WELDMENT
18	1	315208	ENCLOSURE - REAR ENGINE, WELDMENT
19	1	315215	LID - ENGINE ENCLOSURE, WELDMENT
20	1	315217	ENCLOSURE - UPPER ENGINE, WELDMENT
21	1	315223	SCREEN - REAR INLET



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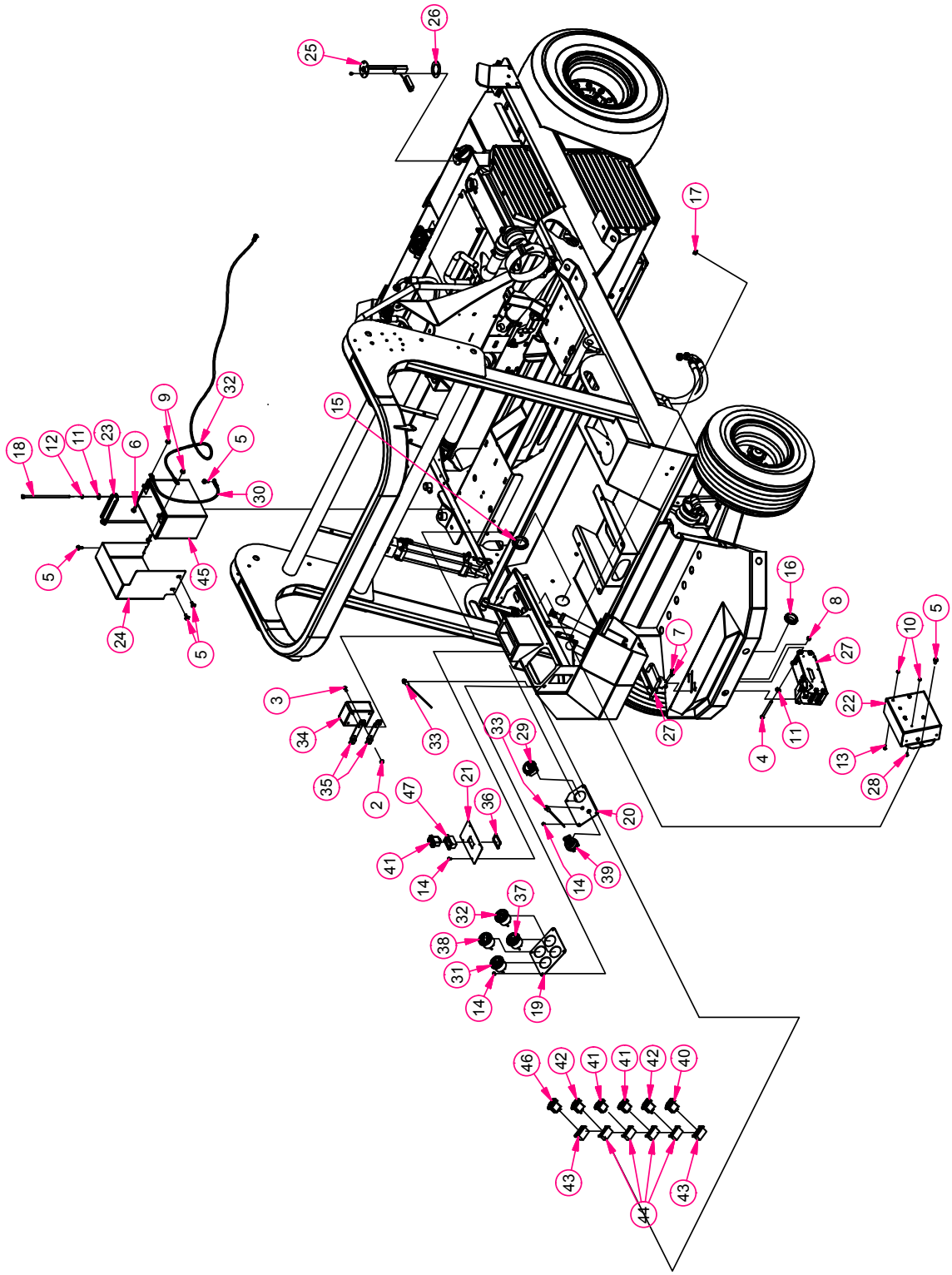
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	4	110290	NUT, 1/4-20 WIZ FLANGE
3	4	110299	BOLT, 1/4-20 X .625 HEX GR 5
4	4	110441	BOLT, 5/16-18 X 4.0
5	2	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
6	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
7	2	110515	BOLT, 1/4-20 X .50
8	4	110603	NUT, 5/16-18 LOCK (NYLON)
9	3	110606	NUT, 5/16-18 WIZ FLANGE
10	6	110631	NUT, 10-24 LOCK NYLON INSERT
11	5	110665	WASHER, 5/16" FLAT STANDARD
12	2	110674	WASHER, 5/16" LOCK
13	2	110709	SCREW, 10-24 X 0.75, RHMS
14	14	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
15	1	110867	GROMMET - 2 ID X 1/8 X 2-5/8
16	2	110896	GROMMET - 1-1/2 ID X 1/4 X 2-1/8 OD
17	1	110922	PLUG - 7/8", LOCKING, NON-VENTED
18	2	111016	BOLT, 5/16-18 X 9.0
19	1	311395	PLATE - MOUNT, GAUGE
20	1	311396	PLATE - MOUNT, SWITCH AND HOUR MTR
21	1	311397	PAD - SWITCH
22	1	311454	COVER - RELAY, TV30
23	1	311603	BRACKET - HOLD DOWN, BATTERY
24	1	311604	BATTERY ENCLOSURE
25	1	332005	SENDER - FUEL LEVEL, ELECTRIC
26	1	332005	GASKET
27	1	333002	CONTROLLER - FOOT PEDAL, OEM
28	4	510960	SCREW, 10-24 X 0.5, RHMS
29	1	530009	HOUR METER
30	1	530051	CABLE - BATTERY,
31	1	530064	OIL PRESSURE GAUGE
32	1	530065	GAUGE, FUEL
33	2	730006	INDICATOR LIGHT
34	1	800117	ENCLOSURE, MERCURY SWITCH
35	2	810375	MOUNTING BRACKET
36	1	810747	SWITCH SHIM
37	1	830002	VOLT METER
38	1	830008	TEMPERATURE GAUGE
39	1	830018	IGNITION SWITCH
40	1	832003	SWITCH, PADDLE, CARLING (280063)
41	3	832004	SWITCH, PADDLE, CARLING (29261)
42	2	832005	SWITCH, PADDLE, CARLING (29253)
43	2	832007	SWITCH MOUNT, END

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
44	4	832008	SWITCH MOUNT, MIDDLE
45	1	832011	BATTERY
46	1	832018	SWITCH, SPDT, ON-ON
47	1	832024	MOUNT, SWITCH (VMS)

ELECTRICAL ASSEMBLIES

8/8/2012

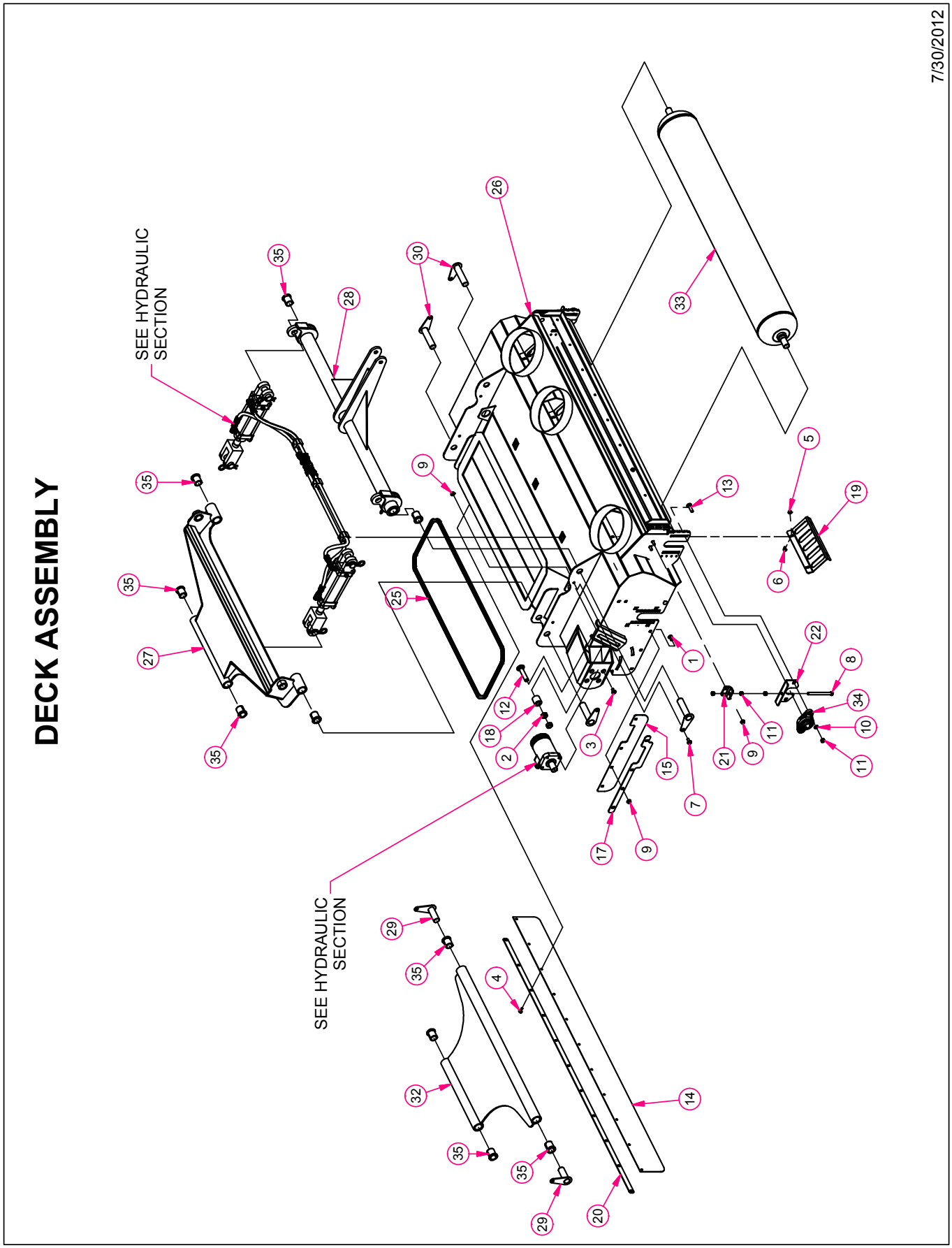
ELECTRICAL ASSEMBLIES



DECK ASSEMBLY

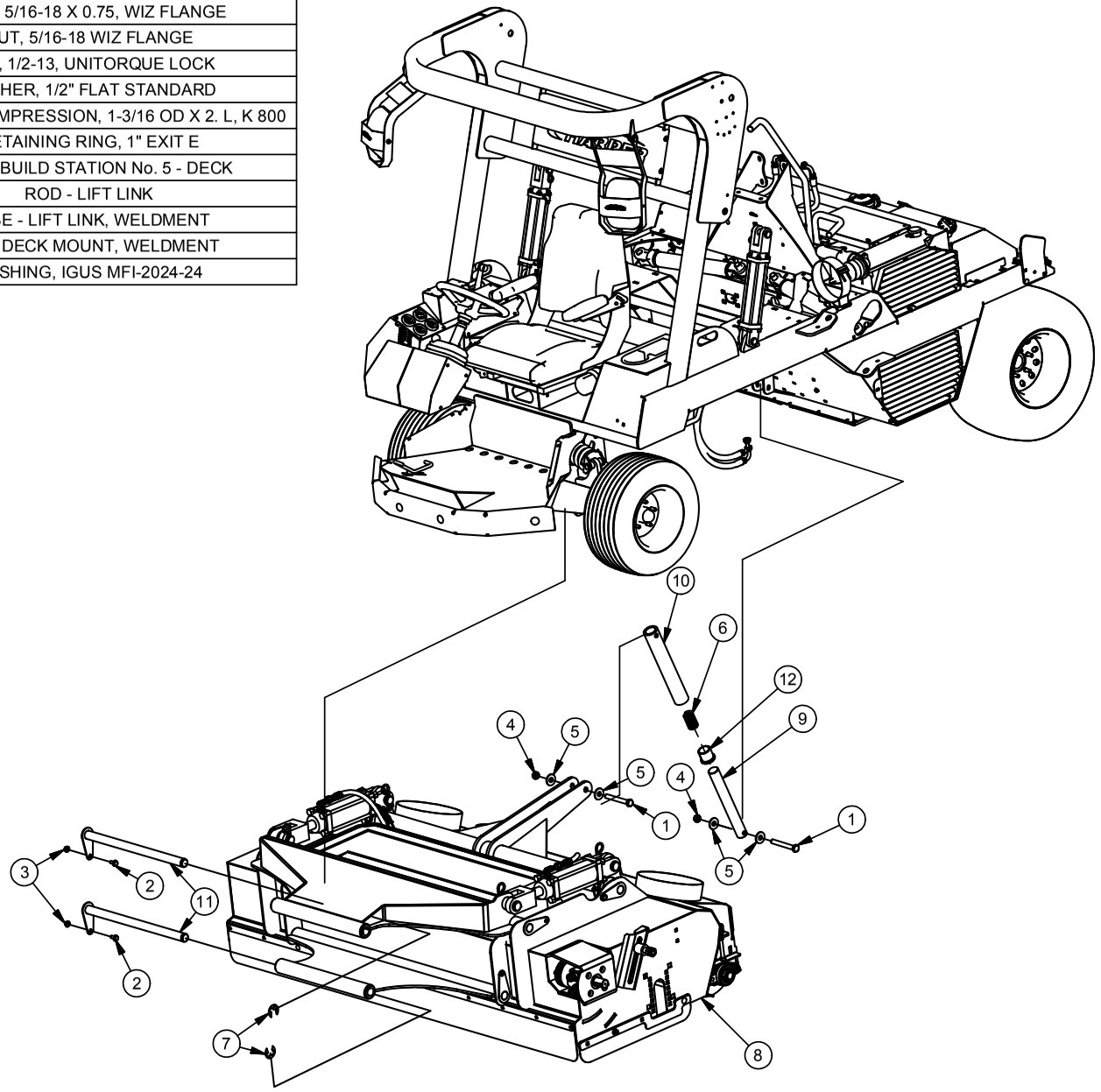
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	8	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	2	110039	NUT, 5/8-11 JAM
3	4	110126	BOLT, 3/8-16 X .75 FLT HD SKT HD
4	23	110154	Bolt, 1/4-20 X 0.75 in Carriage
5	23	110290	NUT, 1/4-20 WIZ FLANGE
6	12	110358	Bolt, 1/4-20 X 0.625 in Carriage
7	6	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
8	2	110581	BOLT, 3/8-16 X 4.5 TAP
9	14	110606	NUT, 5/16-18 WIZ FLANGE
10	4	110672	WASHER, 3/8" LOCK
11	10	110826	NUT, 3/8-16 GR 5
12	1	110895	Bolt, 5/8-11 X 3 in Carriage
13	4	110916	Bolt, 3/8-16 X 1.5 in Carriage
14	1	302018	SKIRT - DECK, RUBBER, FRONT
15	2	302034	SKIRT - DECK, RUBBER, SIDE
16	1	302049	SCRAPPER - DECK ROLLER, RUBBER
17	2	311335	RETAINER - DECK SKIRT
18	1	311370	SPACER - IDLER
19	3	311382	BAFFLE - DECK, RETURN AIR
20	1	311383	RETAINER - DECK SKIRT, FRONT
21	2	311389	BRACKET - ROLLER ADJUSTMENT, DECK
22	2	311391	BRACKET - ROLLER ADJUSTMENT, BEARING
23	1	311505	BRACKET - ROLLER ADJUSTMENT, DECK
24	1	311528	RETAINER - SCRAPPER, DECK ROLLER
25	1	311587	CANVAS RING - EDGE GUARD, 5/32
26	1	315100	DECK WELDMENT
27	1	315108	LINKAGE - DECK MOUNT, UPPER, WELDMENT
28	1	315112	LIFT - DECK, REAR, WELDMENT
29	2	315160	PIN - DECK, LOWER, WELDMENT
30	4	315161	PIN - DECK, WELDMENT
31	1	315177	MOUNT - SCRAPPER, DECK ROLLER, WELDMENT
32	1	315193	LINKAGE - DECK MOUNT, LOWER, WELDMENT
33	1	315197	ROLLER - TV30 DECK, WELDMENT
34	2	342008	BEARING - 1", 2 - BOLT FLNG, MED DUTY
35	10	800124	BUSHING, MFI-1620-24

7/30/2012


DECK ASSEMBLY
7/30/2012
SEE HYDRAULIC SECTION
SEE HYDRAULIC SECTION

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110003	BOLT, 1/2-13 X 4.0
2	2	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
3	2	110606	NUT, 5/16-18 WIZ FLANGE
4	2	110615	NUT, 1/2-13, UNITORQUE LOCK
5	4	110658	WASHER, 1/2" FLAT STANDARD
6	1	110861	SPRING - COMPRESSION, 1-3/16 OD X 2. L, K 800
7	2	110913	RETAINING RING, 1" EXIT E
8	1	305045	TV30 - BUILD STATION No. 5 - DECK
9	1	311133	ROD - LIFT LINK
10	1	315113	TUBE - LIFT LINK, WELDMENT
11	2	315162	PIN - DECK MOUNT, WELDMENT
12	1	800129	BUSHING, IGUS MFI-2024-24

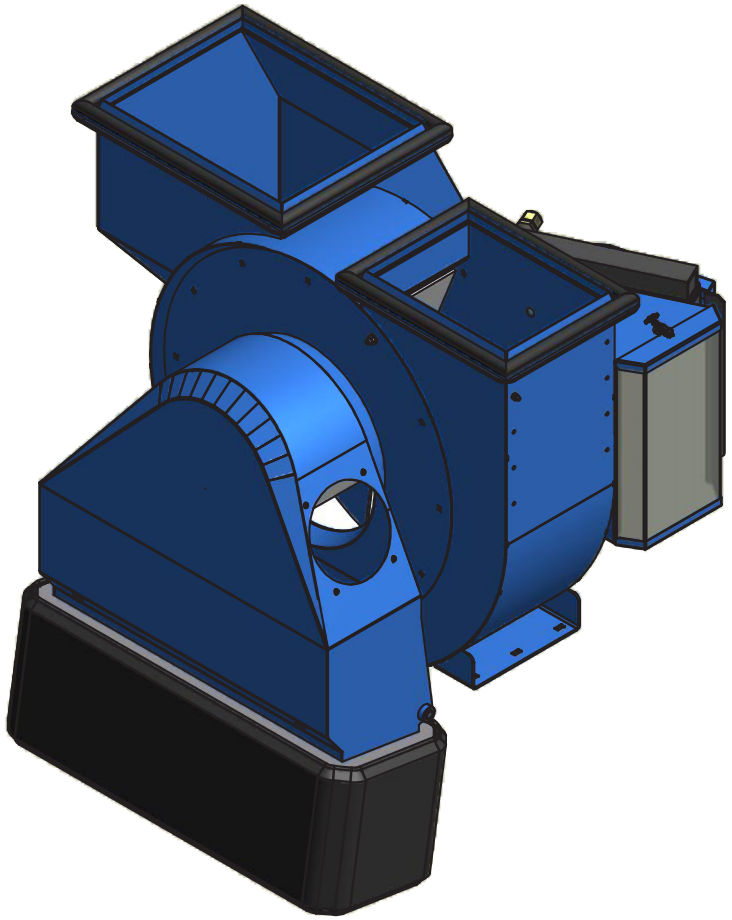
DECK INSTALLATION



12/2/2011

FAN HOUSING & HYDRAULIC COOLER ASSEMBLY

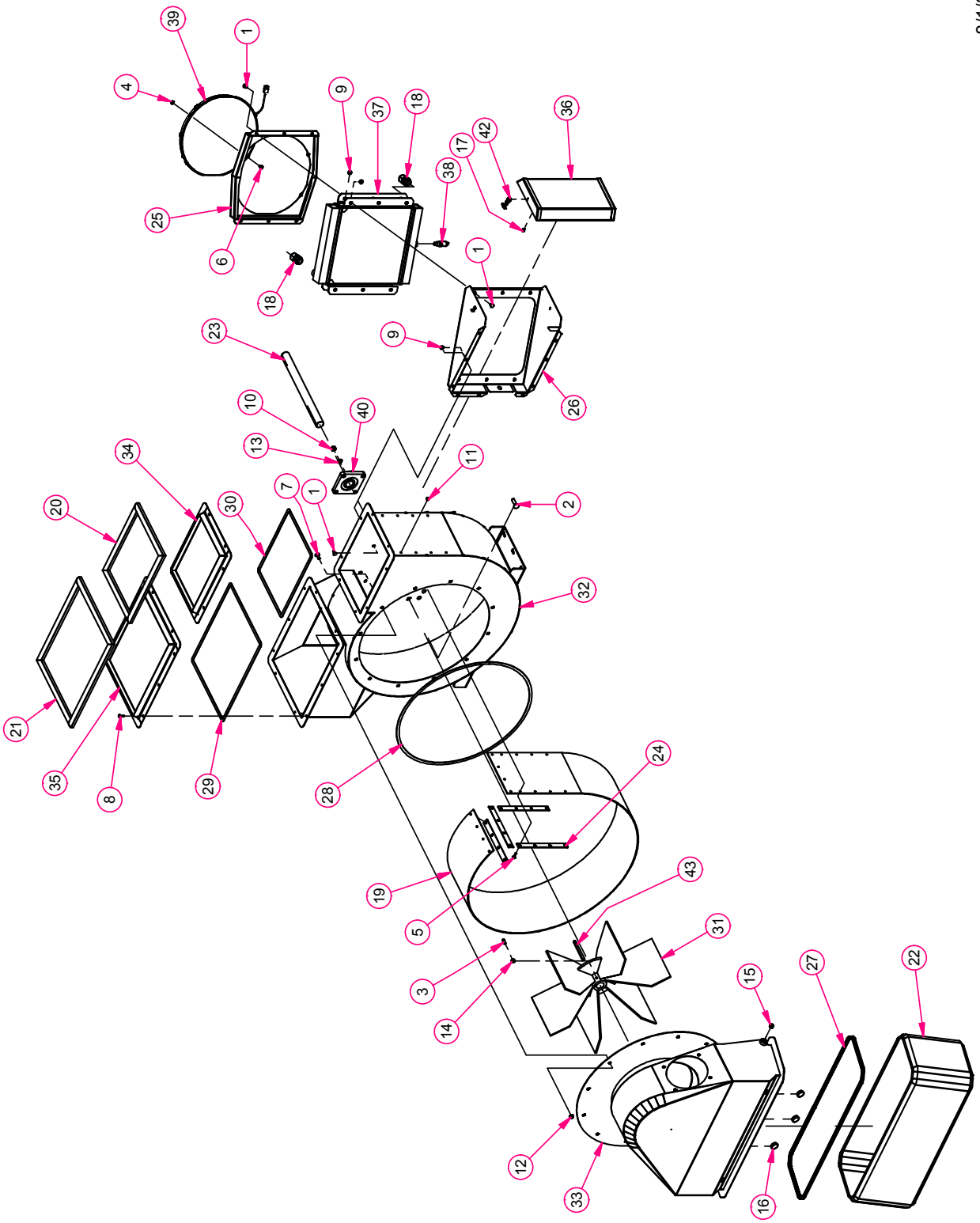
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	17	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	4	110042	Bolt, 1/2-13 X 1.75 in Carriage
3	4	110093	SetScrew, 3/8-16 X 1.25
4	4	110290	NUT, 1/4-20 WIZ FLANGE
5	16	110326	Bolt, 1/4-20 X 1 in Carriage
6	4	110468	BOLT, 1/4-20 X 0.75, WIZ FLANGE
7	12	110556	Bolt, 3/8-16 X 1 in Carriage
8	18	110561	BOLT, 1/4-20 X .75
9	21	110606	NUT, 5/16-18 WIZ FLANGE
10	4	110610	NUT, 1/2-13
11	34	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
12	12	110645	NUT, 3/8-16 WIZ FLANGE
13	4	110666	WASHER, 1/2" LOCK
14	4	110826	NUT, 3/8-16 GR 5
15	2	110884	PLUG - 11/16", NON-VENTED
16	3	110890	PLUG - 1-1/4", FINISHING
17	4	112051	POP RIVET, 1/8 X .275
18	2	120515	ADAPTER - TUBING CONNECTOR, 1", 16MB
19	1	302001	LINER - FAN, TV30
20	1	302021	GASKET - FAN EXHAUST
21	1	302022	GASKET - RETURN AIR
22	1	302023	RING - CANVAS, TV30
23	1	311188	SHAFT - IMPELLER, TV30
24	4	311380	STRAP - HOLD DOWN, LINER
25	1	311493	SHROUD - COOLER FAN
26	1	311494	MOUNT - CORE, HYDRAULIC COOLER
27	1	311587	CANVAS RING - EDGE GUARD, 5/32
28	1	311588	AIR FUNNEL FLANGE SEAL - RUBBER, TRIMLOK
29	1	311589	HOPPER INLET SEAL - RUBBER, TRIMLOK
30	1	311590	RETURN AIR SEAL - RUBBER, TRIMLOK
31	1	315114	IMPELLER WELDMENT
32	1	315115	FAN - HOUSING WELDMENT
33	1	315122	FUNNEL - WELDMENT
34	1	315158	ADAPTER - FAN EXHAUST, WELDMENT
35	1	315159	ADAPTER - RETURN AIR, WELDMENT
36	1	315198	BREATHER - HYDRAULIC COOLER, WELDMENT
37	1	322028	COOLER - HYDRAULIC, TV30
38	1	332019	SWITCH - TEMP, HYDRAULIC OIL
39	1	333003	FAN - 16", 12V, 20A, HYDRAULIC COOLER
40	1	342009	BEARING, 4FNG 1 1/2", HD
41	2	810126	LATCH, FEMALE
42	2	810127	LATCH - RUBBER
43	1	940113	KEY, 3/8 X 5



8/1/2012

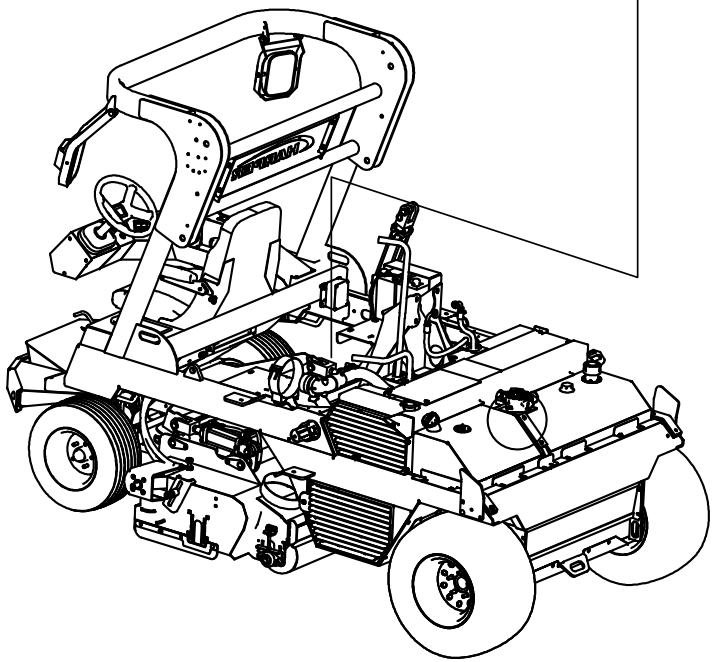
FAN HOUSING & HYDRAULIC COOLER ASSEMBLY

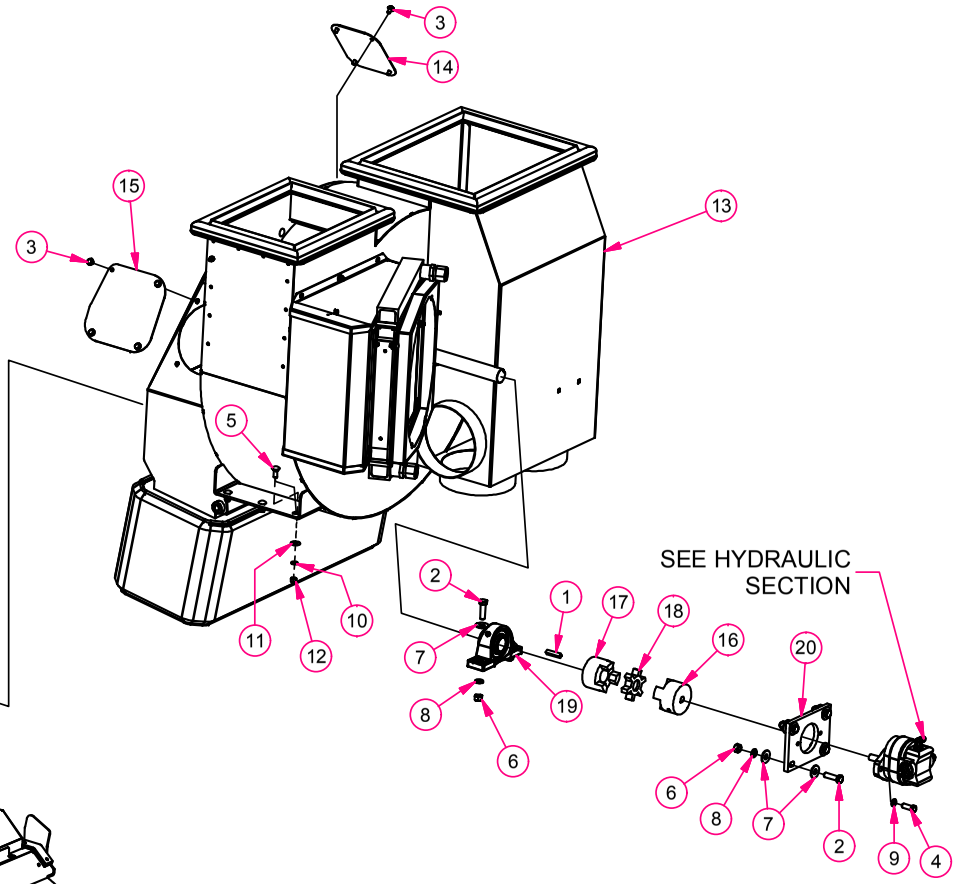
8/1/2012



FAN HOUSING INSTALLATION

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	100567	KEY, 3/8 X 3/8 X 1.75 in
2	6	110419	BOLT, 1/2-13 X 1.75
3	8	110426	BOLT, 5/16-18 X 0.5, WIZ FLANGE
4	2	110539	BOLT, 7/16-14 X 1.25
5	6	110556	Bolt, 3/8-16 X 1 in Carriage
6	6	110610	NUT, 1/2-13
7	10	110658	WASHER, 1/2" FLAT STANDARD
8	6	110666	WASHER, 1/2" LOCK
9	2	110671	WASHER, 7/16" LOCK
10	6	110672	WASHER, 3/8" LOCK
11	6	110676	WASHER, 3/8" FLAT STANDARD
12	6	110826	NUT, 3/8-16 GR 5
13	1	305044	TV30 - BUILD STATION No. 4 - FAN HOUSING
14	1	311211	COVER - ACCESS, FUNNEL
15	1	311212	COVER - HOSE PORT, FUNNEL
16	1	922067	COUPLING, 5/8" BORE
17	1	922068	HUB, COUPLING 1-1/2" BORE
18	1	922069	LOVEJOY COUPLER SPIDER
19	1	940103	PILLOW BLOCK BEARING, (1.5)
20	1	970291	ADAPTER PLATE

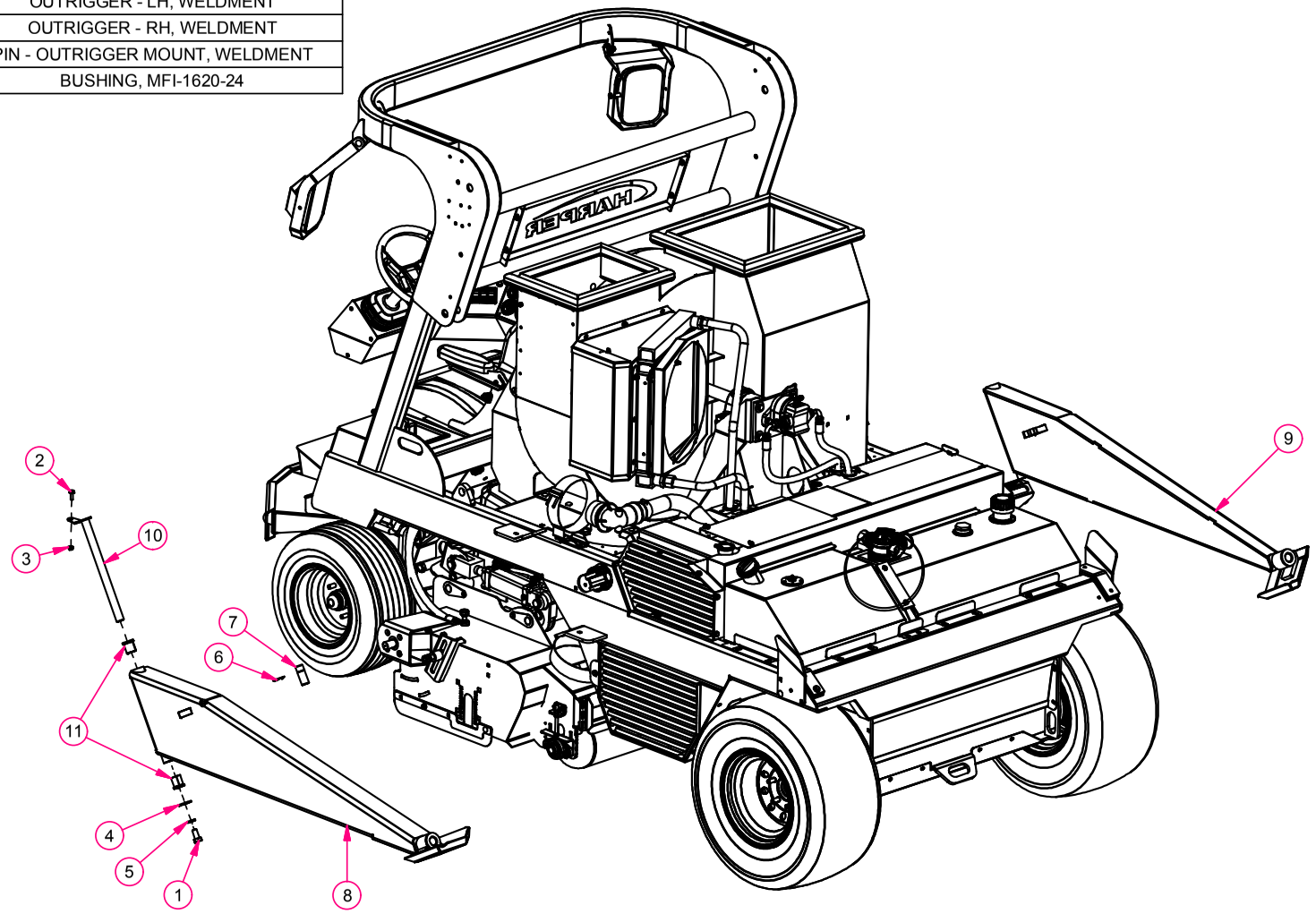




8/1/2012

OUTRIGGER INSTALLATION

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110026	BOLT, 5/8-11 X 1.25
2	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
3	2	110606	NUT, 5/16-18 WIZ FLANGE
4	2	110650	WASHER, 5/8" FLAT STANDARD
5	2	110655	WASHER, 5/8" LOCK
6	2	110913	RETAINING RING, 1" EXT E
7	2	311334	PIN - CYLINDER, OUTRIGGER
8	1	315119	OUTRIGGER - LH, WELDMENT
9	1	315120	OUTRIGGER - RH, WELDMENT
10	2	315163	PIN - OUTRIGGER MOUNT, WELDMENT
11	4	800124	BUSHING, MFI-1620-24

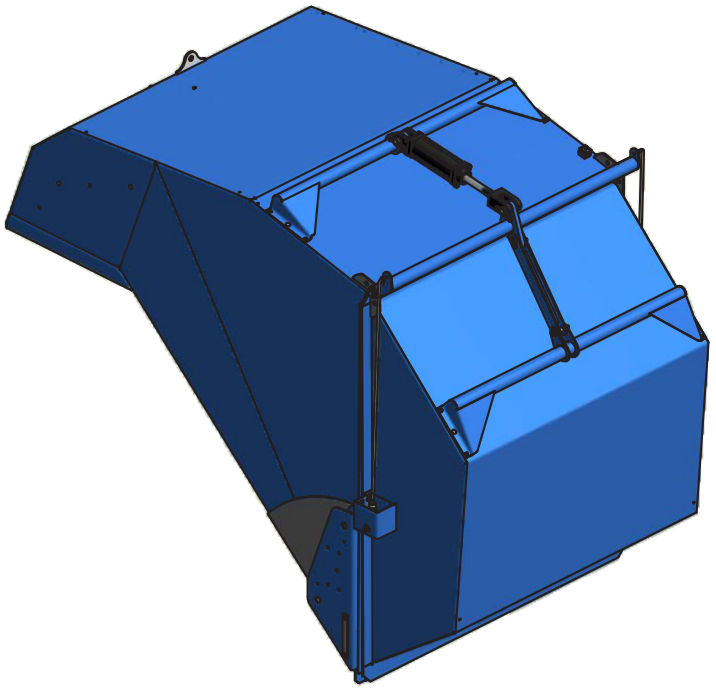


8/1/2012

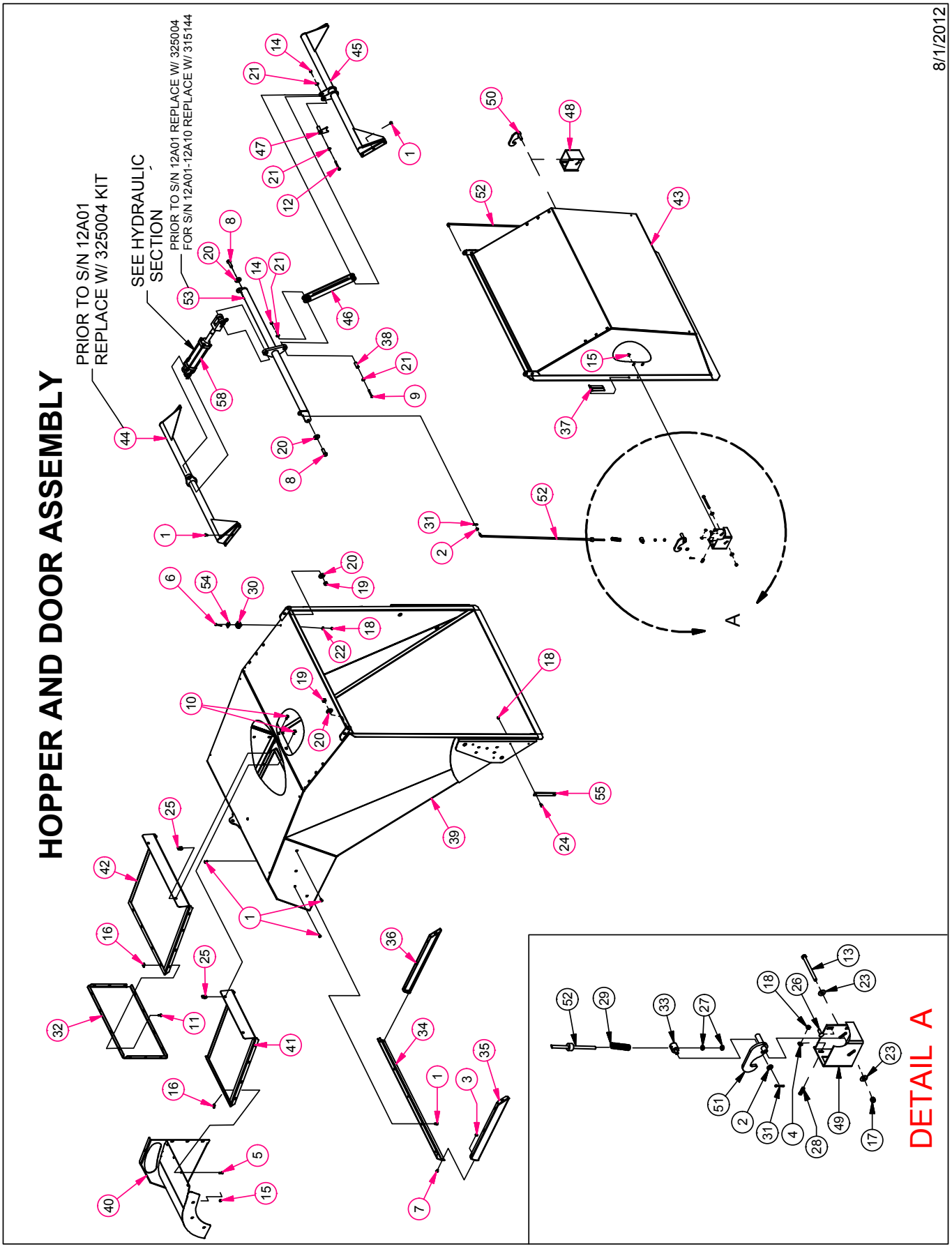
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	53	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	2	110155	WASHER, 3/8" FLAT SAE
3	17	110290	NUT, 1/4-20 WIZ FLANGE
4	4	110298	WASHER, 1/4" FLAT SAE
5	4	110328	BOLT, 5/16-18 X 1 FLT HD SKT
6	1	110354	BOLT, 1/4-20 X 2.0 HEX HEAD
7	2	110358	Bolt, 1/4-20 X 0.625 in Carriage
8	2	110382	BOLT, 5/8-11 X 2.0
9	1	110396	BOLT, 5/16-18 X 2.5
10	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
11	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
12	1	110538	BOLT, 5/16-18 X 3.0
13	2	110540	BOLT, 3/8-16 X 4.5
14	6	110603	NUT, 5/16-18 LOCK (NYLON)
15	49	110606	NUT, 5/16-18 WIZ FLANGE
16	8	110616	NUT, 5/16", J-TYPE, CAGE, .5C
17	3	110618	NUT, 3/8-16 LOCK NYLON INSERT
18	8	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
19	2	110639	NUT, 5/8-11, UNITORQUE LOCK
20	4	110650	WASHER, 5/8" FLAT STANDARD
21	12	110665	WASHER, 5/16" FLAT STANDARD
22	1	110673	WASHER, 1/4" FLAT STANDARD
23	2	110676	WASHER, 3/8" FLAT STANDARD
24	4	110766	SCREW, 1/4-20 X 1.0, FLAT HEAD TORX
25	4	110804	NUT, 3/8-16 U-TYPE .75L
26	1	110871	Bolt, 5/16-18 X 1 in Carriage
27	4	110897	JamHexNut 3_8-24 UNF
28	4	110984	SCREW, 1/4-20 X 1.25 FLAT HEAD TORX
29	2	111021	SPRING, COMPRESSION
30	1	122003	DOUBLE HOSE CLAMP
31	2	200029	COTTER PIN, 5/32 X 1
32	1	311248	BAFFLE - RETURN AIR, TV30
33	2	311285	MOUNT - LINKAGE, LATCH
34	1	311286	SKIRT - HOPPER, FRONT
35	1	311287	SKIRT - HOPPER, LH
36	1	311288	SKIRT - HOPPER, RH
37	1	311510	SHIM - TV30 DOOR LATCH
38	1	311602	PIN, BUSHING - 0.75"x0.375"x1.75"
39	1	315125	HOPPER WELDMENT
40	1	315131	DEFLECTOR - DEBRIS, HOPPER, WELDMENT
41	1	315132	SCREEN -PRIMARY, WELDMENT
42	1	315133	SCREEN -SECONDARY, WELDMENT
43	1	315134	DOOR - TV30, WELDMENT
44	1	315143	CROSS TUBE - HOPPER, WELDMENT

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
45	1	315145	CROSS TUBE - DOOR, WELDMENT
46	1	315146	LIFT LINK - WELDMENT
47	1	315152	PIN - CYLINDER, 3/4 IN, WELDMENT
48	1	315228	LATCH HOUSING, RH WELDMENT
49	1	315229	LATCH HOUSING, LH WELDMENT
50	1	315230	LATCH, RH WELDMENT
51	1	315231	LATCH, LH WELDMENT
52	2	315232	LATCH LINK, WELDMENT
53	1	315233	CROSS TUBE - PIVOT, WELDMENT
54	1	522105	DOUBLE COVERPLATE
55	2	810278	PLASTIC BUMPER, MOTOR GUARD

HOPPER AND DOOR ASSEMBLY

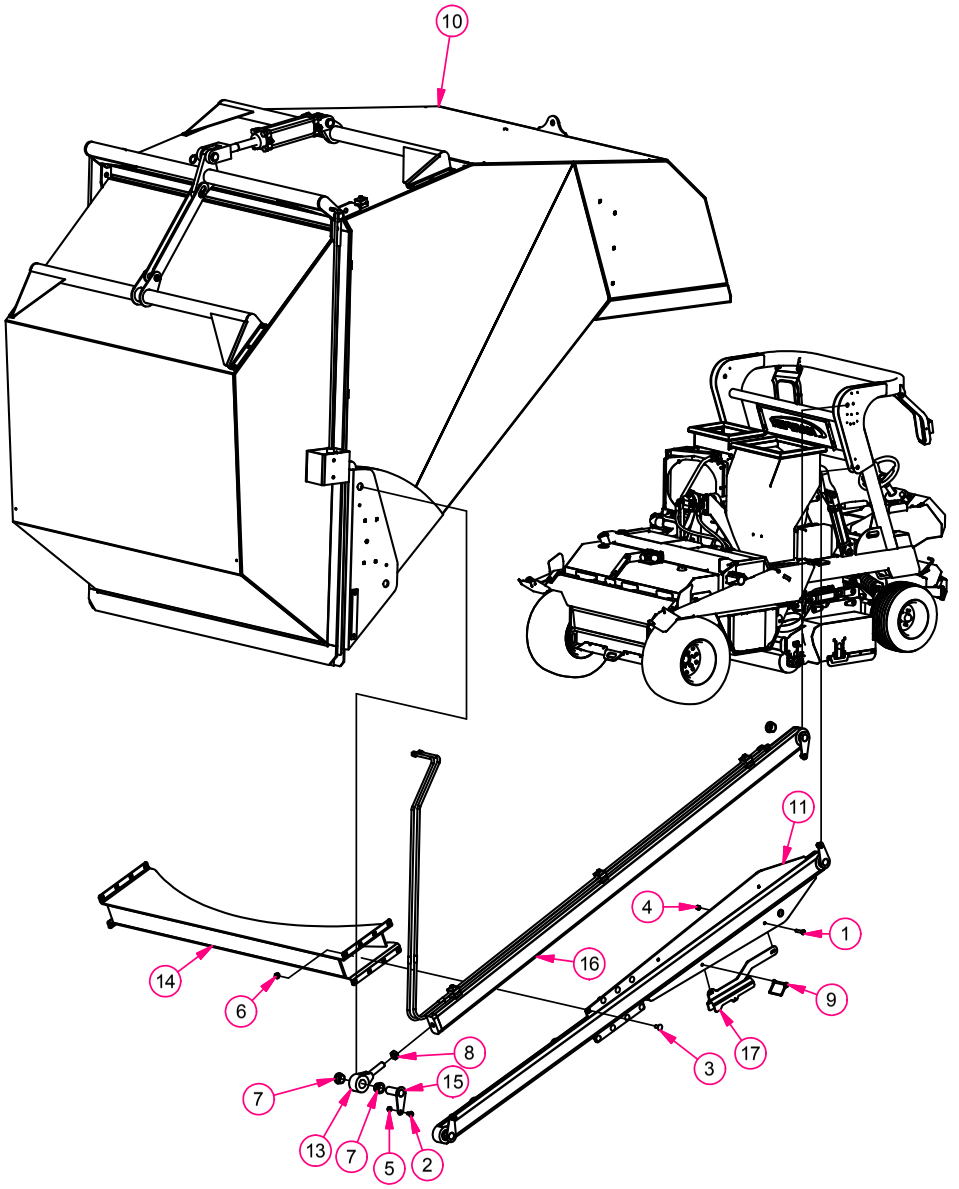


8/1/2012


HOPPER AND DOOR ASSEMBLY
PRIOR TO S/N 12A01
REPLACE W/ 325004 KIT
SEE HYDRAULIC SECTION
PRIOR TO S/N 12A01 REPLACE W/ 325004
FOR S/N 12A01-12A10 REPLACE W/ 315144
8/1/2012
DETAIL A

HOPPER INSTALLATION

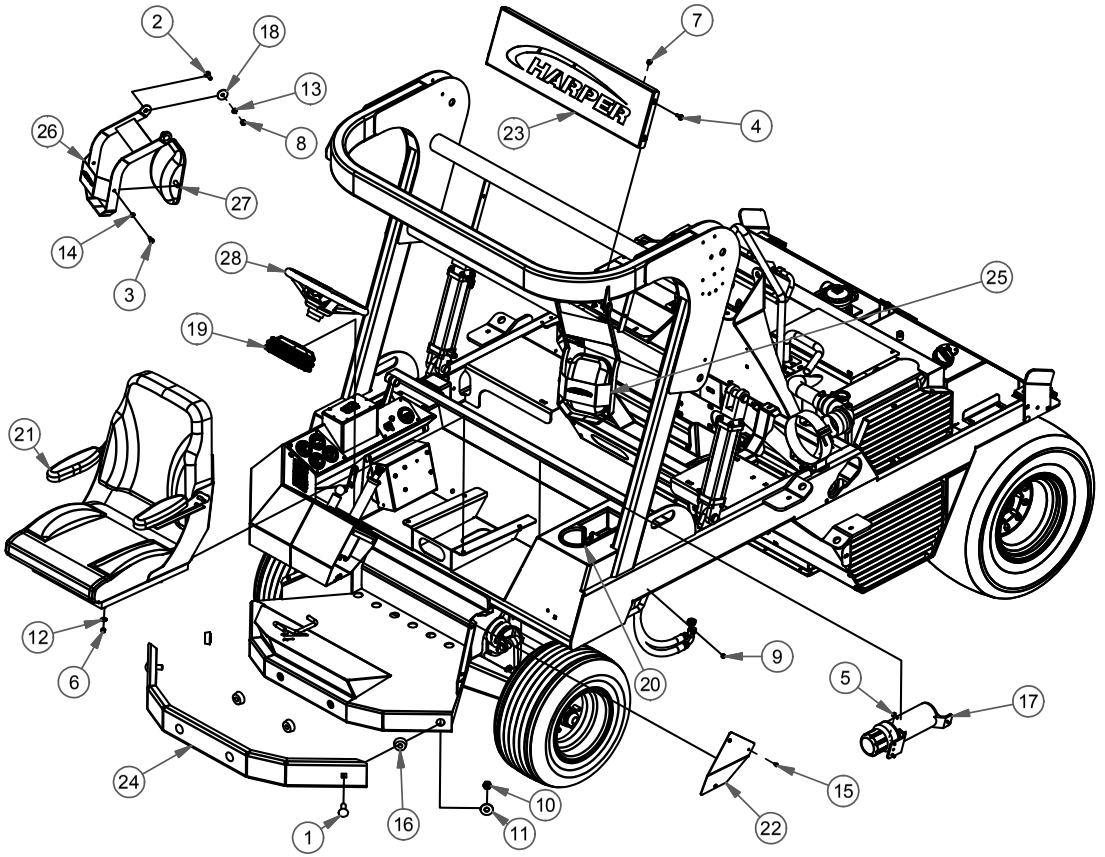
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110377	BOLT, 5/16-18 X 1-1/2
2	8	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
3	16	110556	Bolt, 3/8-16 X 1 in Carriage
4	2	110603	NUT, 5/16-18 LOCK (NYLON)
5	8	110606	NUT, 5/16-18 WIZ FLANGE
6	16	110645	NUT, 3/8-16 WIZ FLANGE
7	16	110851	BUSHING - IGUS, 1-1/4 x 1 x 3/4 fng (RFI-1620-12)
8	2	110892	JamHexNut 3_4-16 UNF
9	2	140016	PIN, LOCK, 1/4 X 2-1/4, SQ WIRE
10	1	314002	HOPPER ASSEMBLY
11	2	315154	LIFT ARM - HOPPER, LOWER, WELDMENT
12	1	315155	LIFT ARM - HOPPER, UPPER, WELDMENT
13	2	315156	END - LIFT ARM, HOPPER, WELDMENT
14	1	315157	BRACE - LIFT ARM, HOPPER, WELDMENT
15	8	315160	PIN - DECK, LOWER, WELDMENT
16	1	315176	LIFT ARM - HOPPER, UPPER, RH, WELDMENT
17	2	315196	STOP - HOPPER LIFT CLINDER, WELDMENT



7/15/2011

OPERATOR STATION

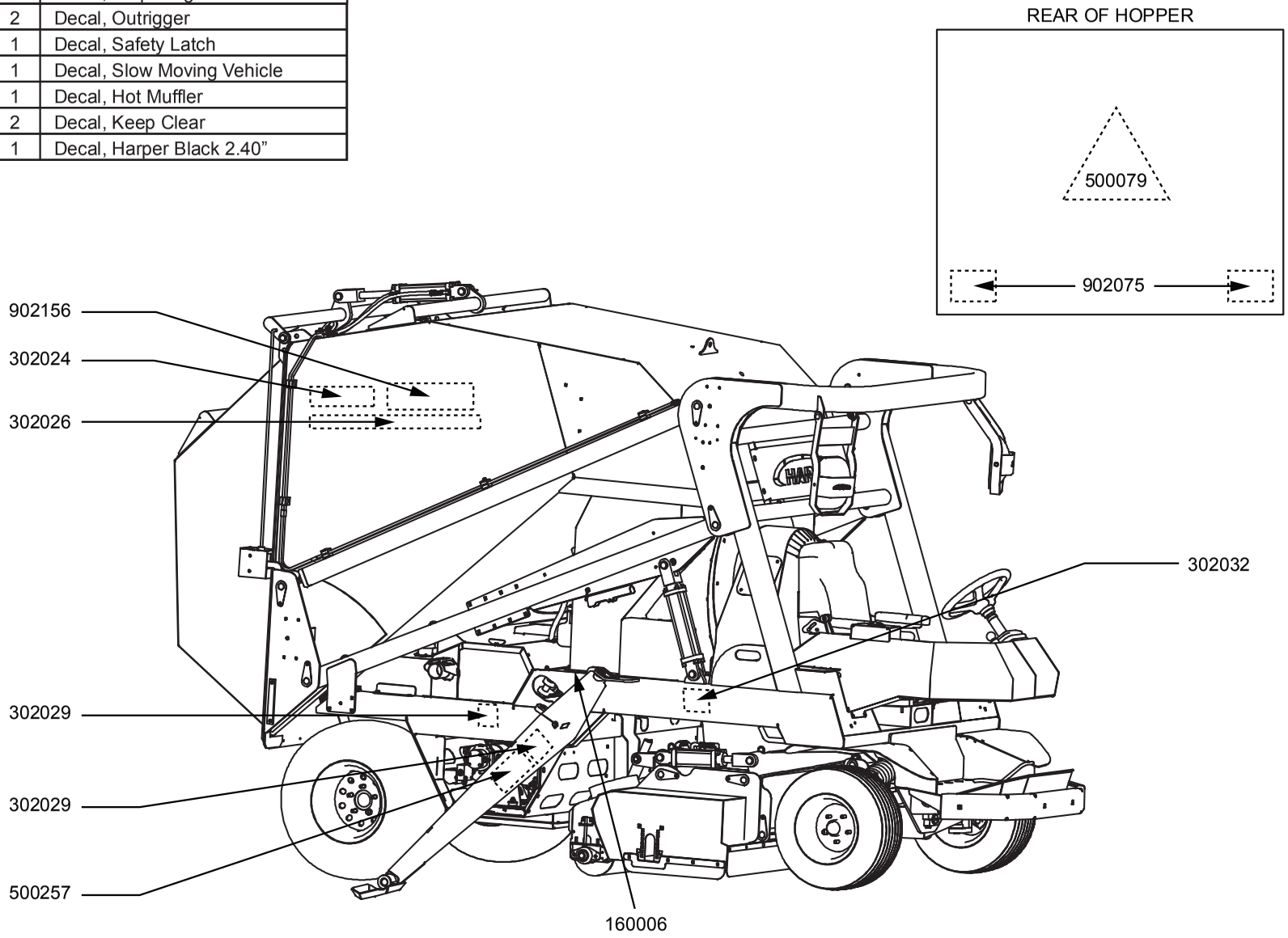
PART LIST			
ITEM	QTY	PART #	DESCRIPTION
1	4	110391	Bolt, 5/8-11 X 2 in Carriage
2	4	110402	Bolt, 3/8-16 X 1.25 in Carriage
3	2	110422	BOLT, 5/16-18 X .75
4	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
5	3	110468	BOLT, 1/4-20 X 0.75, WIZ FLANGE
6	4	110603	NUT, 5/16-18 LOCK (NYLON)
7	4	110606	NUT, 5/16-18 WIZ FLANGE
8	4	110618	NUT, 3/8-16 LOCK NYLON INSERT
9	3	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
10	4	110639	NUT, 5/8-11, UNITORQUE LOCK
11	4	110650	WASHER, 5/8" FLAT STANDARD
12	4	110665	WASHER, 5/16" FLAT STANDARD
13	4	110672	WASHER, 3/8" LOCK
14	2	110674	WASHER, 5/16" LOCK
15	3	110788	BOLT, 10-24 X .375 STAINLESS, PHILLIPS
16	4	110850	ISOLATOR - BUMPER, 64865K1, 250 LB
17	1	152004	HOLDER, MANUAL
18	4	211747	FRICTION WASHER 1.5"
19	1	302002	BOOT - STEERING, TV30
20	1	302015	HOLDER - CUP, MOLDED
21	1	302016	SEAT
22	1	311129	CAP - END, STEERING BOX
23	1	311195	SHIELD - ROPS, TV30
24	1	311372	BUMPER - TV30
25	1	315173	BASE -MIRROR, LH, WELDMENT
26	1	315174	BASE -MIRROR, RH, WELDMENT
27	2	502027	MIRROR
28	1	550004	STEERING WHEEL



7/18/2011

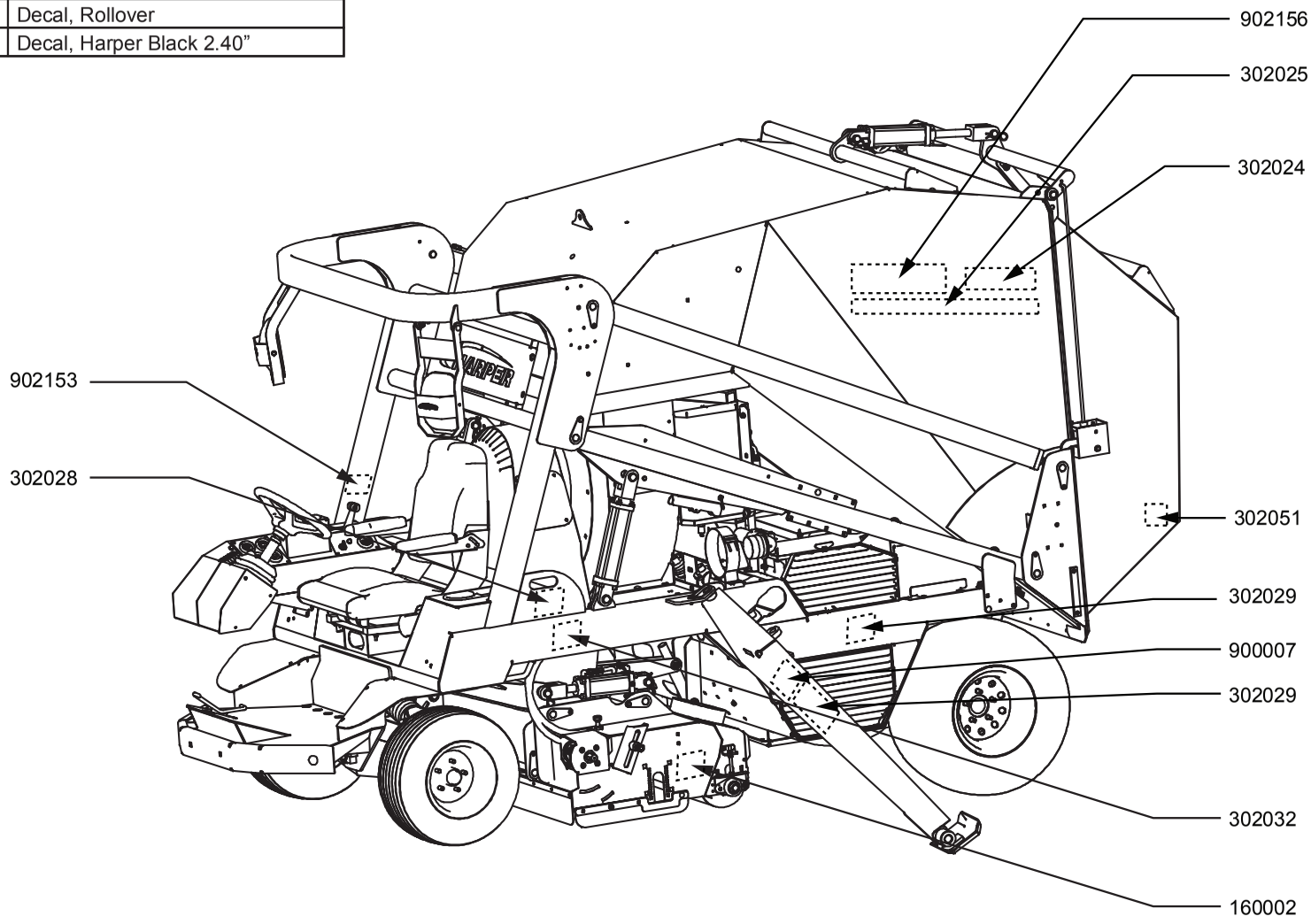
Parts List		
Part #	Qty	Description
160006	1	Decal
302024	1	Decal, Turf Vac High Dump
302026	1	Decal, Stripe Right TV30
302029	2	Decal, Outrigger
302032	1	Decal, Safety Latch
500079	1	Decal, Slow Moving Vehicle
500257	1	Decal, Hot Muffler
902075	2	Decal, Keep Clear
902156	1	Decal, Harper Black 2.40”

RH & REAR DECALS



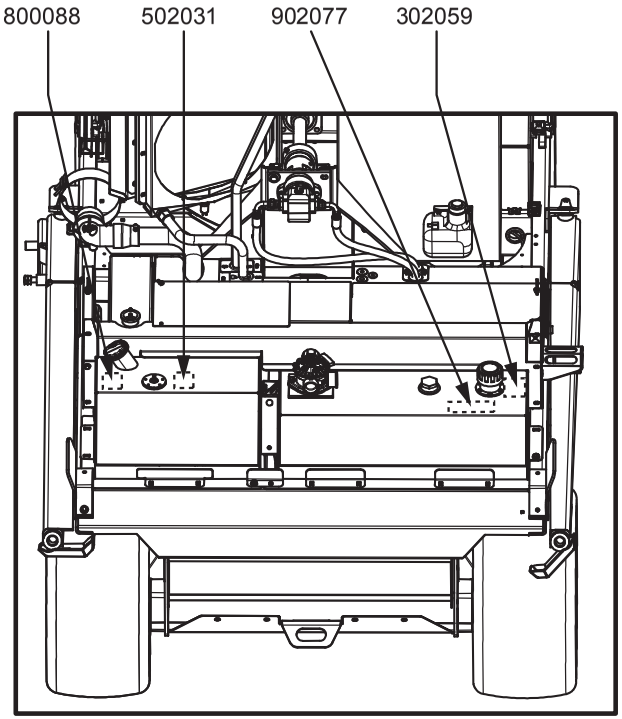
Parts List		
Part #	Qty	Description
160002	1	Decal, Guard Removed, Graphic
302024	1	Decal, Turf Vac High Dump
302025	1	Decal, Stripe Left TV30
302029	2	Decal, Outrigger
302032	1	Decal, Safety Latch
900007	1	Decal, Keep Area Clean
902151	1	Decal, Door Safety Lock
902153	1	Decal, Rollover
902156	1	Decal, Harper Black 2.40”

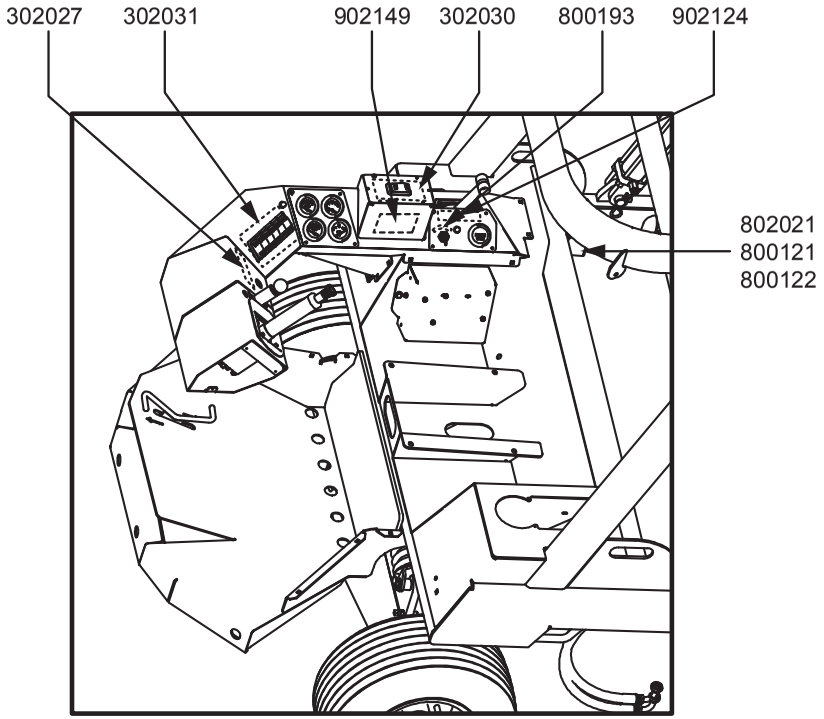
LH DECALS



Parts List		
Part #	Qty	Description
302027	1	Decal, Overhead Clearance
302030	1	Decal, Deck Lift
302031	1	Decal, Switches TV30
302059	1	Decal, Use only Envirologic
502031	1	Decal, EPA Fuel
800088	1	Decal, Diesel
800121	1	Decal, Mercury Switch
800122	1	Decal, Level Adjustment
800193	1	Decal, Ignition
802021	2	Decal, Sealed
902077	1	Decal, Biodegradable Oil
902124	1	Decal, Throttle, SB4000 & TV30
902149	1	Decal, Read Operators Manual

BACK & FRONT DECALS

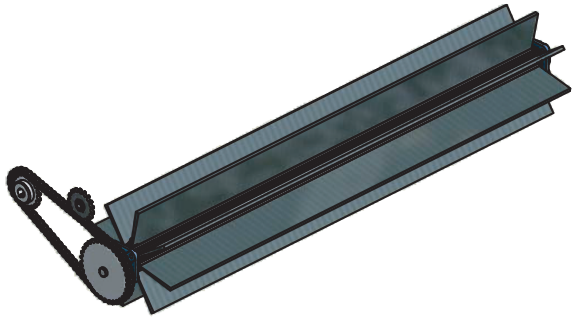


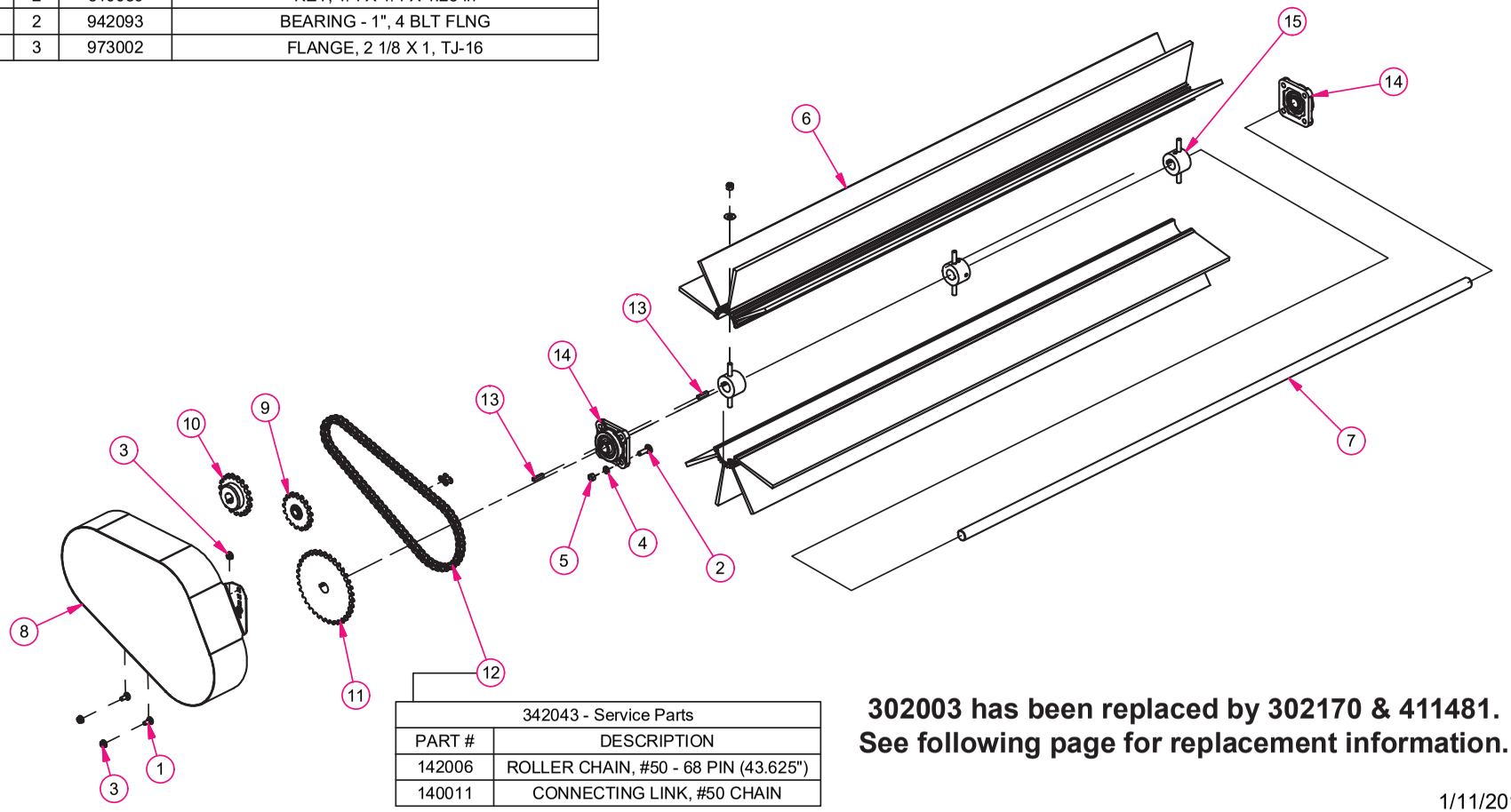


KIT - ROTOR, BROOM, TV30

HARPER PRT No. 300044

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	8	110402	Bolt, 3/8-16 X 1.25 in Carriage
3	4	110606	NUT, 5/16-18 WIZ FLANGE
4	8	110672	WASHER, 3/8" LOCK
5	1	110826	NUT, 3/8-16 GR 5
6	1	302003	BROOM, 60 in, TV30
7	1	311369	SHAFT - BROOM, DECK
8	1	315167	SHIELD - DECK BRUSH DRIVE, WELDMENT
9	1	342007	SPROCKET - IDLER, 5017
10	1	342016	SPROCKET - 50B19 X 1
11	1	342017	SPROCKET - 50B35 X 1
12	1	342043	CHAIN, #50 - 68 PIN W/ CONNECTOR (43.625")
13	2	510089	KEY, 1/4 X 1/4 X 1.25 in
14	2	942093	BEARING - 1", 4 BLT FLNG
15	3	973002	FLANGE, 2 1/8 X 1, TJ-16





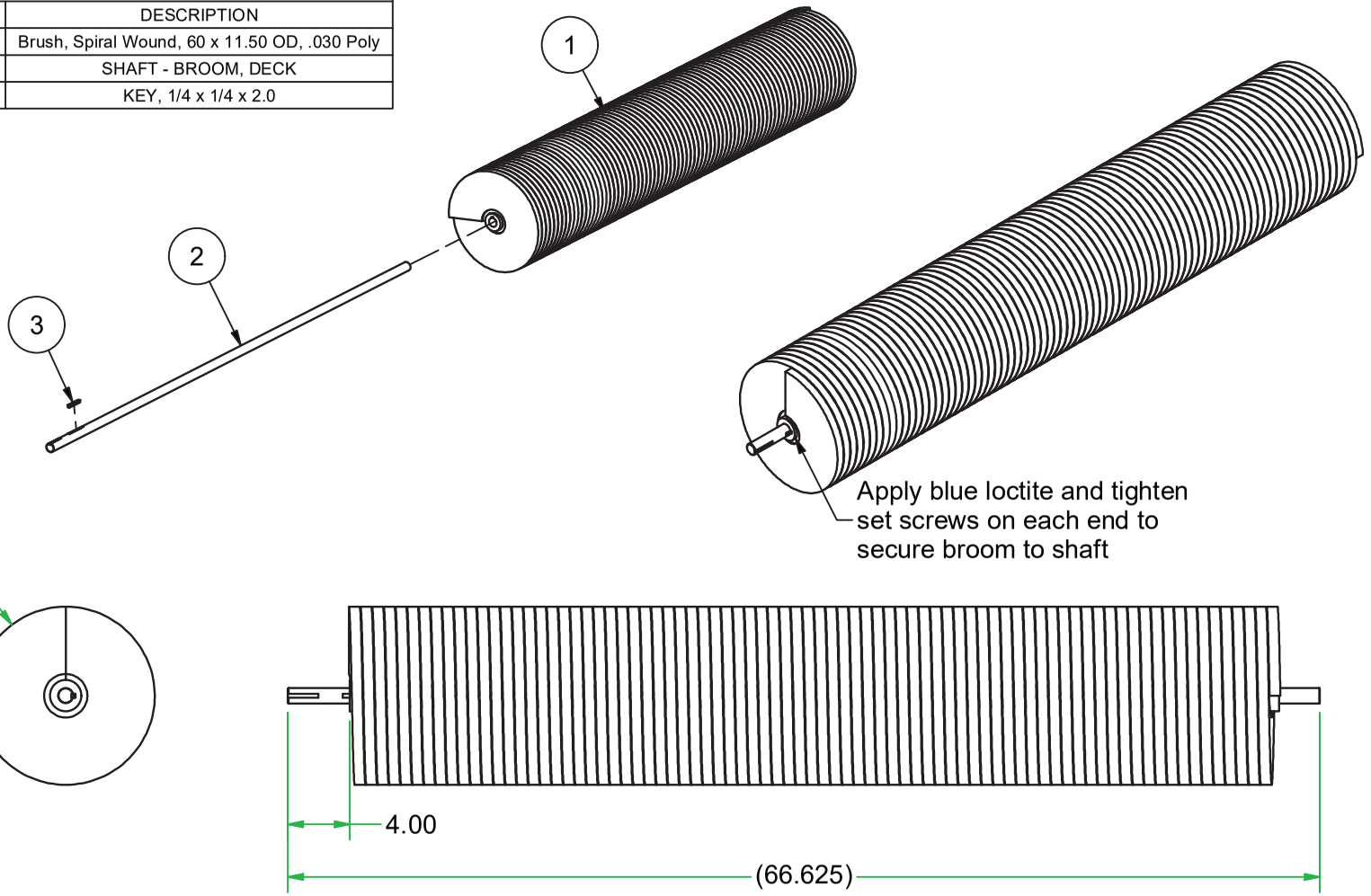
342043 - Service Parts	
PART #	DESCRIPTION
142006	ROLLER CHAIN, #50 - 68 PIN (43.625")
140011	CONNECTING LINK, #50 CHAIN

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

1/11/2012

305135	REV: NC

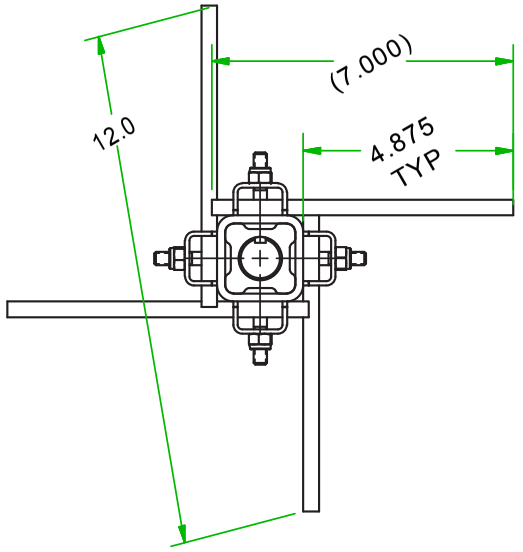
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	302170	Brush, Spiral Wound, 60 x 11.50 OD, .030 Poly
2	1	311369	SHAFT - BROOM, DECK
3	1	411481	KEY, 1/4 x 1/4 x 2.0

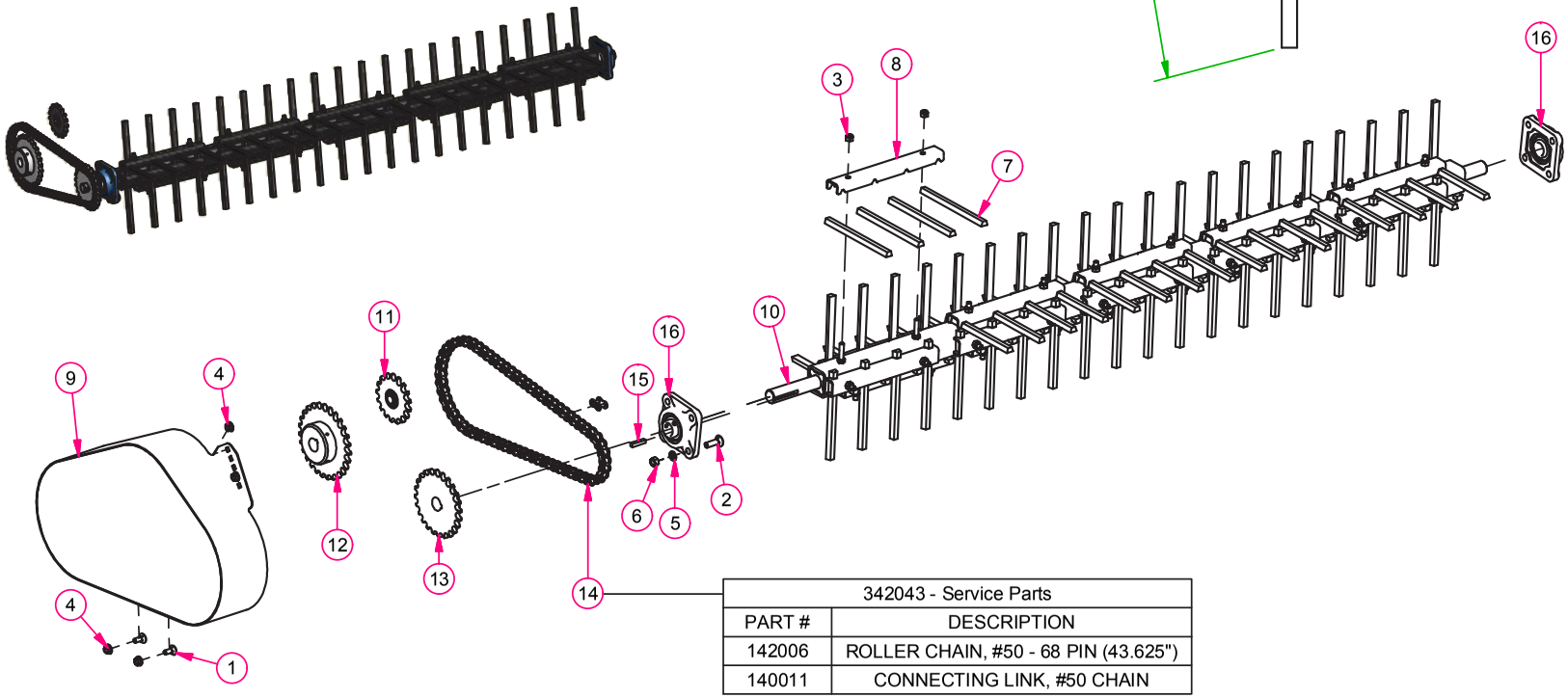


KIT - ROTOR, FINGER, TV30

HARPER PRT No. 300040

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	8	110402	Bolt, 3/8-16 X 1.25 in Carriage
3	40	110603	NUT, 5/16-18 LOCK (NYLON)
4	4	110606	NUT, 5/16-18 WIZ FLANGE
5	8	110672	WASHER, 3/8" LOCK
6	8	110826	NUT, 3/8-16 GR 5
7	80	302042	FINGER - RUBBER
8	20	311403	CLAMP - RUBBER FINGER
9	1	315167	SHIELD - DECK BRUSH DRIVE, WELDMENT
10	1	315179	SHAFT - FINGER ROTOR, WELDMENT
11	1	342007	SPROCKET - IDLER, 5017
12	1	342026	SPROCKET - 50B27 X 1
13	1	342030	SPROCKET - 50B24 X 1
14	1	342043	CHAIN, #50 - 68 PIN W/ CONNECTOR (43.625")
15	1	510089	1/4" KEYSTOCK
16	2	942093	BEARING - 1", 4 BLT FLNG





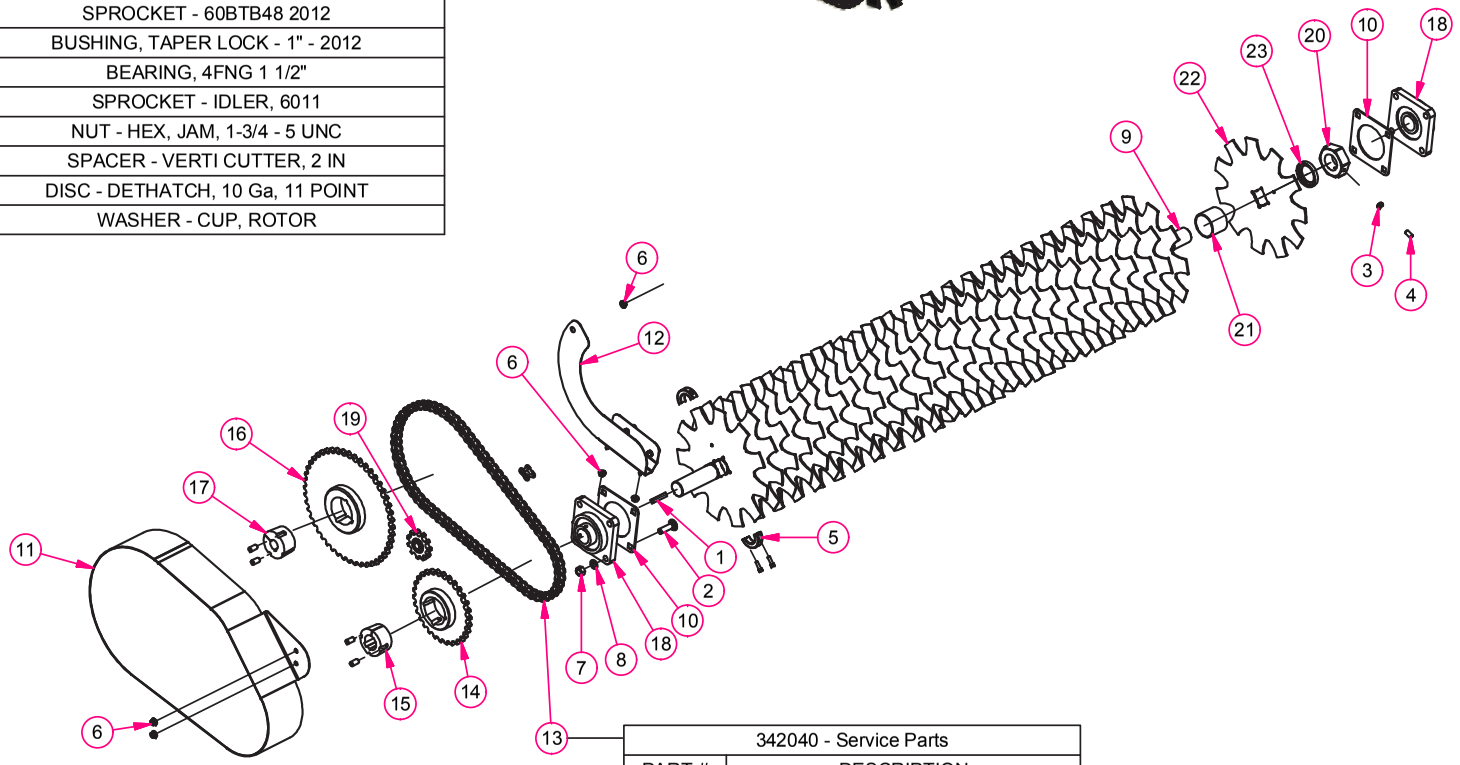
342043 - Service Parts	
PART #	DESCRIPTION
142006	ROLLER CHAIN, #50 - 68 PIN (43.625")
140011	CONNECTING LINK, #50 CHAIN

1/11/2012

KIT - ROTOR, VERTICUT/DETHATCH, TV30D

HARPER PRT No. 300033

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	100567	KEY, 3/8 X 3/8 X 1.75 in
2	8	110042	Bolt, 1/2-13 X 1.75 in Carriage
3	2	110107	NUT, 3/8-16 HEX JAM GR 2
4	2	110325	SetScrew, 3/8-16 X 0.75
5	1	110332	COLLAR - 1-1/2" SPLIT
6	7	110606	NUT, 5/16-18 WIZ FLANGE
7	8	110610	NUT, 1/2-13
8	8	110666	WASHER, 1/2" LOCK
9	1	311400	SHAFT - VERTICUTTER, TV30
10	2	311607	SPACER, TV30 VERTICUTTER BEARING
11	1	315194	SHIELD - DETHATCH ROTOR DRIVE
12	1	315195	GUARD - SHIELD SUPPORT, WELDMENT
13	1	342040	ROLLER CHAIN - #60, 72 PIN W/ CNCTR (55.375")
14	1	342044	SPROCKET - 60BTB30 2012
15	1	342045	BUSHING, TAPER LOCK - 1.5" - 2012
16	1	342046	SPROCKET - 60BTB48 2012
17	1	342047	BUSHING, TAPER LOCK - 1" - 2012
18	2	410851	BEARING, 4FNG 1 1/2"
19	1	942102	SPROCKET - IDLER, 6011
20	1	970475	NUT - HEX, JAM, 1-3/4 - 5 UNC
21	29	970803	SPACER - VERTI CUTTER, 2 IN
22	30	970804	DISC - DETHATCH, 10 Ga, 11 POINT
23	1	970805	WASHER - CUP, ROTOR



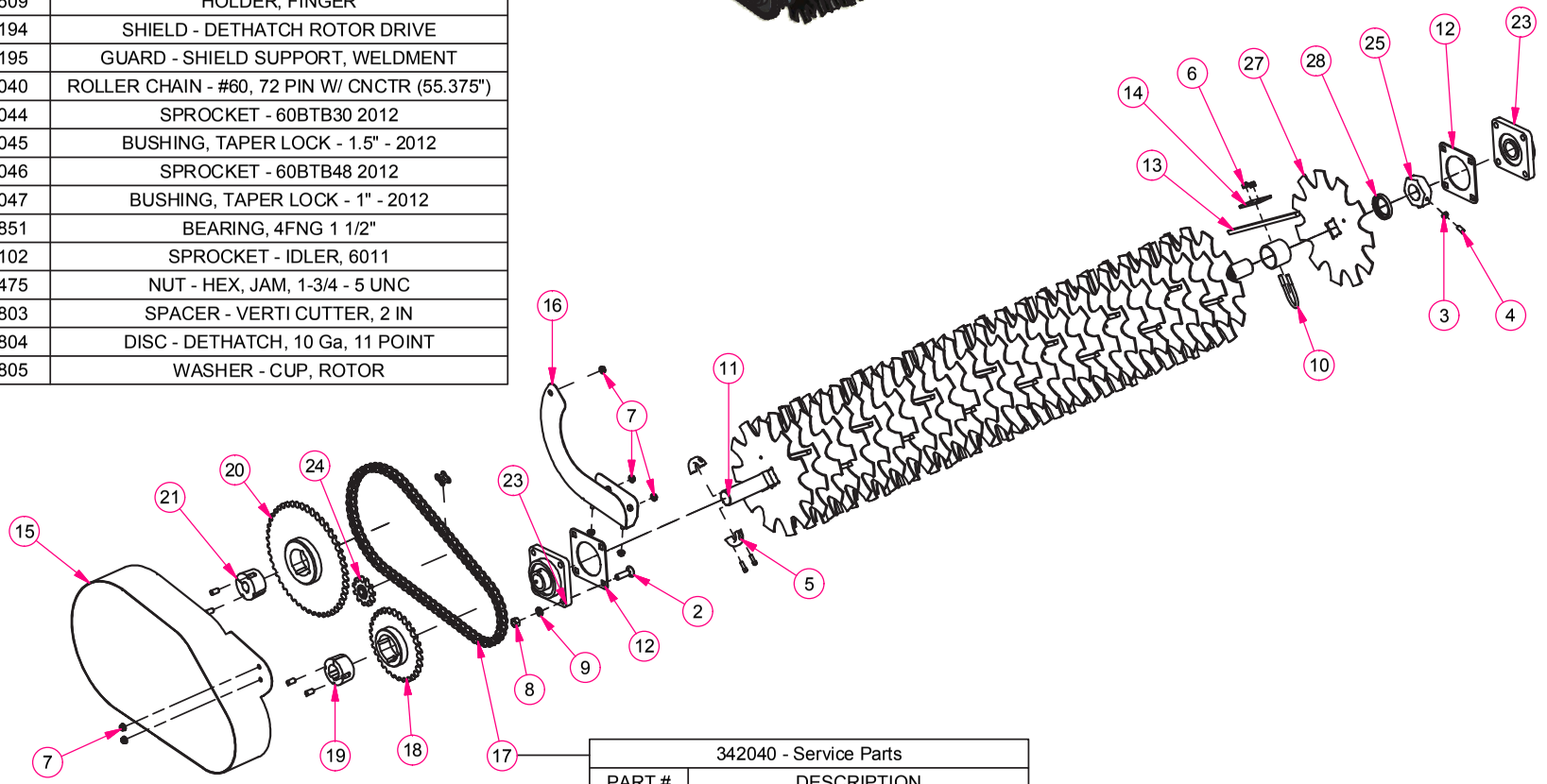
342040 - Service Parts	
PART #	DESCRIPTION
140002	ROLLER CHAIN - #60, 72 PIN (55.375")
410442	CONNECTING LINK, #60 CHAIN

1/20/2012

KIT - ROTOR, VERTICUT/DETHATCH W/ FINGERS, TV30

HARPER PRT No. 300046

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	100567	KEY, 3/8 X 3/8 X 1.75 in
2	8	110042	Bolt, 1/2-13 X 1.75 in Carriage
3	2	110107	NUT, 3/8-16 HEX JAM GR 2
4	2	110325	SetScrew, 3/8-16 X 0.75
5	1	110332	COLLAR - 1-1/2" SPLIT
6	58	110603	NUT, 5/16-18 LOCK (NYLON)
7	7	110606	NUT, 5/16-18 WIZ FLANGE
8	8	110610	NUT, 1/2-13
9	8	110666	WASHER, 1/2" LOCK
10	29	110824	BOLT, U-, 5/16-18 X 2-1/2 X 3-3/16
11	1	311400	SHAFT - VERTICUTTER, TV30
12	2	311607	SPACER, TV30 VERTICUTTER BEARING
13	29	311608	FINGER, 12" RUBBER
14	29	311609	HOLDER, FINGER
15	1	315194	SHIELD - DETHATCH ROTOR DRIVE
16	1	315195	GUARD - SHIELD SUPPORT, WELDMENT
17	1	342040	ROLLER CHAIN - #60, 72 PIN W/ CNCTR (55.375")
18	1	342044	SPROCKET - 60BTB30 2012
19	1	342045	BUSHING, TAPER LOCK - 1.5" - 2012
20	1	342046	SPROCKET - 60BTB48 2012
21	1	342047	BUSHING, TAPER LOCK - 1" - 2012
23	2	410851	BEARING, 4FNG 1 1/2"
24	1	942102	SPROCKET - IDLER, 6011
25	1	970475	NUT - HEX, JAM, 1-3/4 - 5 UNC
26	29	970803	SPACER - VERTI CUTTER, 2 IN
27	30	970804	DISC - DETHATCH, 10 Ga, 11 POINT
28	1	970805	WASHER - CUP, ROTOR



342040 - Service Parts	
PART #	DESCRIPTION
140002	ROLLER CHAIN - #60, 72 PIN (55.375")
410442	CONNECTING LINK, #60 CHAIN

1/27/2012

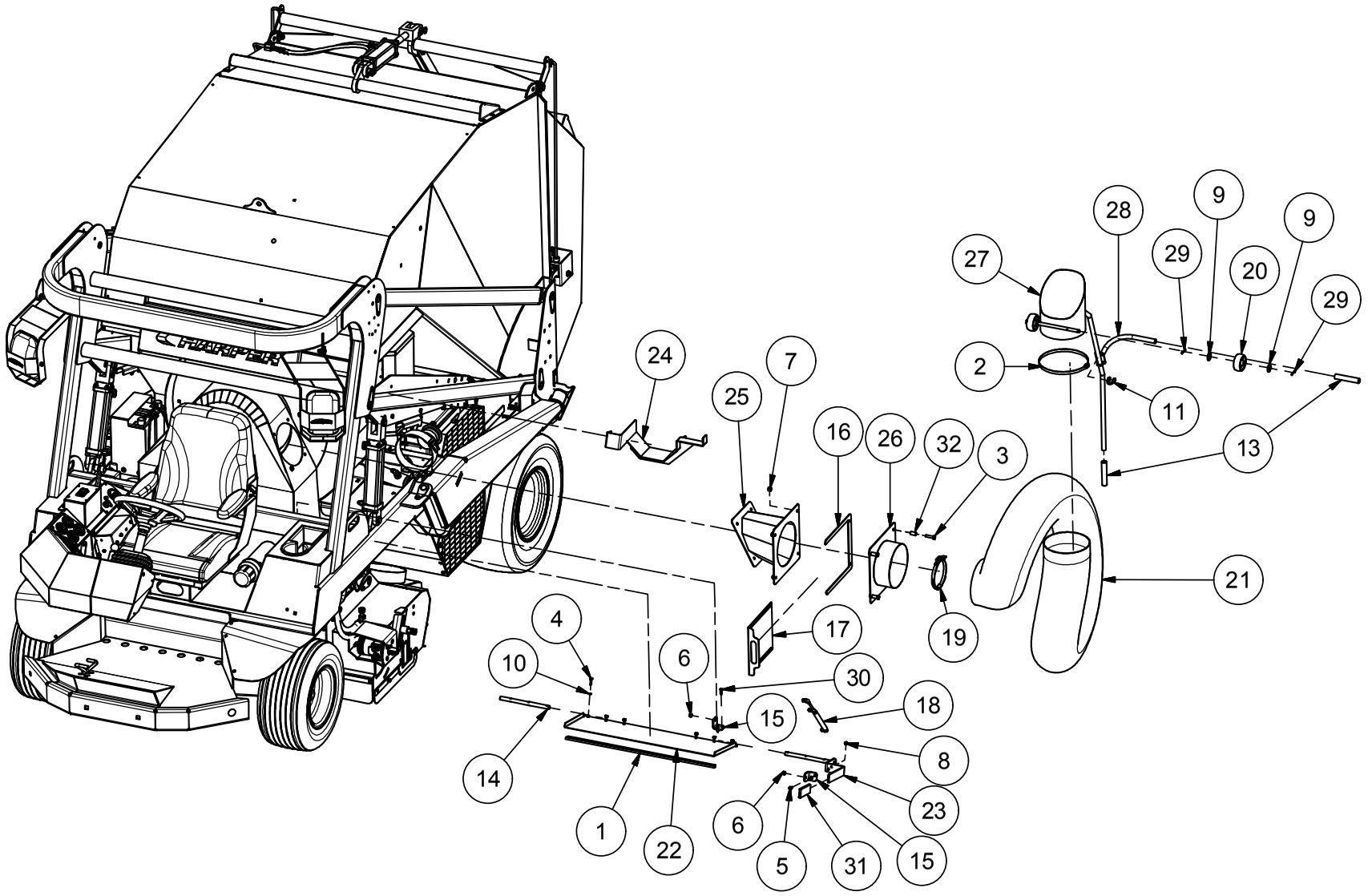
REMOTE HOSE OPTION

HARPER PRT NO. 300048 - FACTORY INSTALL
HARPER PRT NO. 300049 - CUSTOMER INSTALL

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2.5'	102055	SEAL, RUBBER .5 x .3 Double
2	1	110311	CLAMP, HOSE #912 8.00"
3	4	110435	BOLT, 3/8-16 X 1.5
4	6	110464	BOLT, 1/4-20 X 1.0
5	2	110561	BOLT, 1/4-20 X .75
6	2	110603	NUT, 5/16-18 LOCK (NYLON)
7	4	110618	NUT, 3/8-16 LOCK NYLON INSERT
8	2	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
9	4	110658	WASHER, 1/2" FLAT STANDARD
10	6	110667	WASHER, 1/4" LOCK
11	2	112057	U-BOLT, 1/4-20 X .75
12	1	132098	QUICK SPLICER, 18-14 GA
13	2	310029	HANDLE GRIP, RUBBER
14	1	311208	SHAFT - CONTROL, FUNNEL DOOR
15	2	311626	BRACKET, SPRING
16	1	311631	GUIDE, DOOR
17	1	311632	DOOR, SLIDING
18	1	312010	SHOCK, GAS 8.27"-12.2"
19	1	312011	CLAMP, 8" ADJUSTABLE HOSE
20	2	312012	ROLLER, 3"
21	12.5'	312013	HOSE, 8" REMOTE
22	1	315234	WELDMENT, FUNNEL DOOR
23	1	315235	LEVER, FUNNEL DOOR
24	1	315236	WELDMENT, REMOTE HOSE SUPPORT
25	1	315237	WELDMENT, REMOTE HOSE FUNNEL
26	1	315238	ADAPTER, REMOTE HOSE 8"
27	1	315239	WELDMENT, NOZZLE HANDLE
28	1	315240	WELDMENT, ADJUSTABLE HANDLE
29	4	510112	COTTER PIN, 3/16 X 1
30	2	710586	SCREW, 1/4 X 1 TEK SELF-TAP
31	1	910044	COVER, VINYL .25 X 1.5 X 4 GRIP
32	4	972018	SPRING, COMPRESSION

REMOTE HOSE OPTION

HARPER PRT NO. 300048 - FACTORY INSTALL
HARPER PRT NO. 300049 - CUSTOMER INSTALL

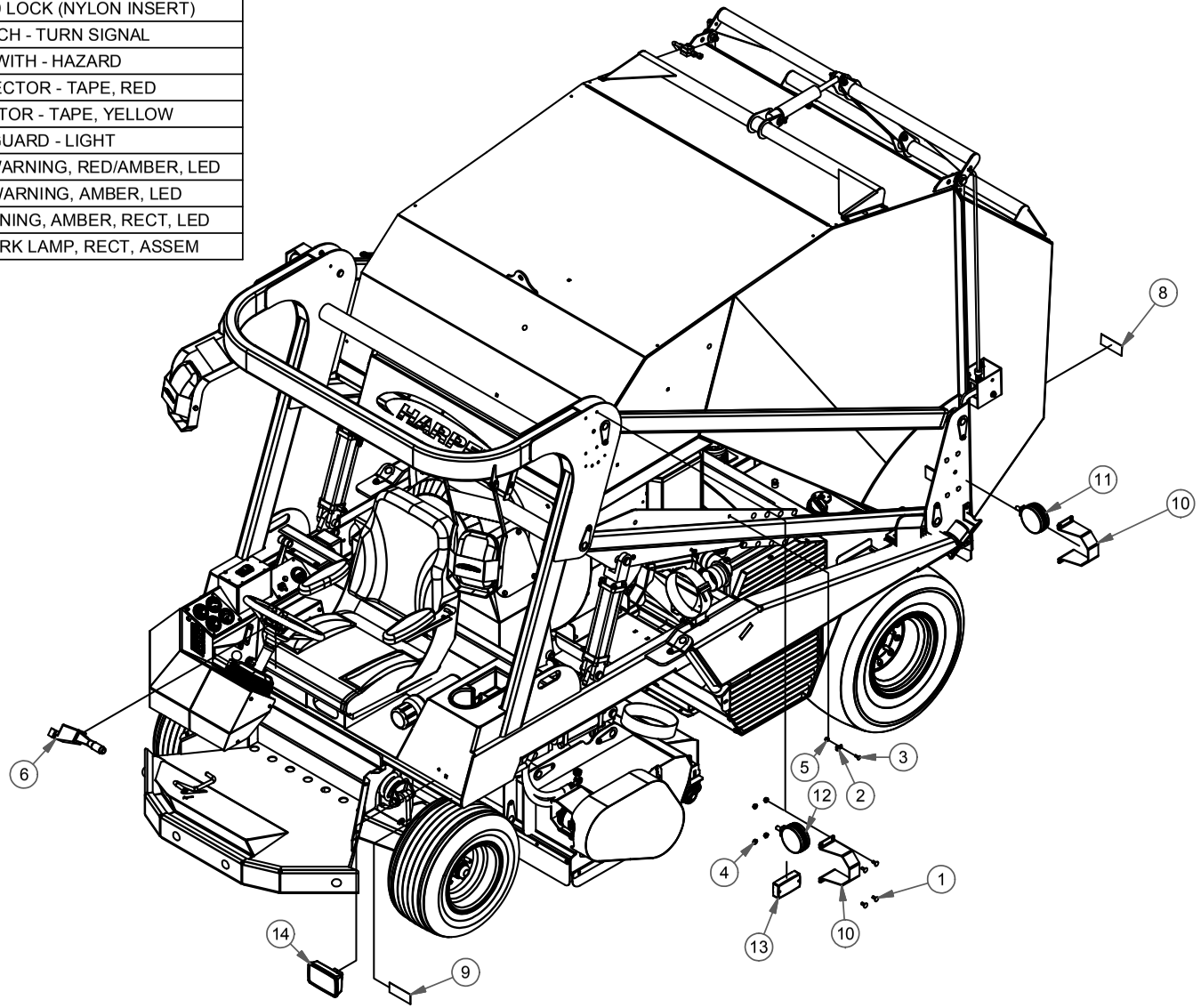


9/6/2012

HARPER

OPTIONAL - LIGHT PACKAGE INSTALLATION

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	16	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	4	110117	CLAMP, ADEL AC4 .265 HOLE
3	4	110154	Bolt, 1/4-20 X 0.75 in Carriage
4	8	110606	NUT, 5/16-18 WIZ FLANGE
5	4	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
6	1	132072	SWITCH - TURN SIGNAL
7	1	132073	SWITH - HAZARD
8	2	302037	REFLECTOR - TAPE, RED
9	2	302038	REFLECTOR - TAPE, YELLOW
10	4	311440	GUARD - LIGHT
11	2	332009	LIGHT - STT/WARNING, RED/AMBER, LED
12	2	332010	LIGHT - WARNING, AMBER, LED
13	2	332011	LIGHT - WARNING, AMBER, RECT, LED
14	2	332012	LIGHT - WORK LAMP, RECT, ASSEM

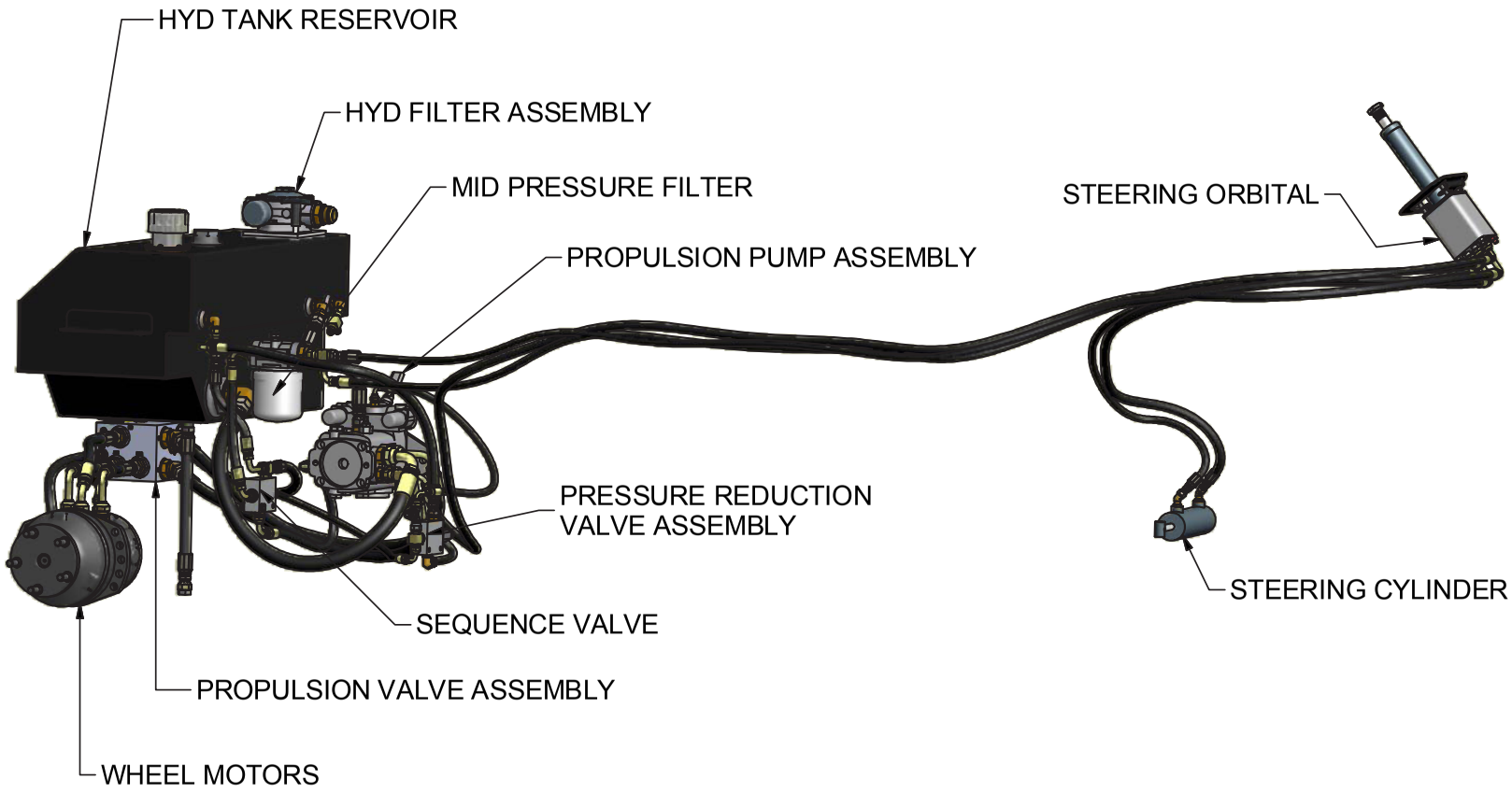


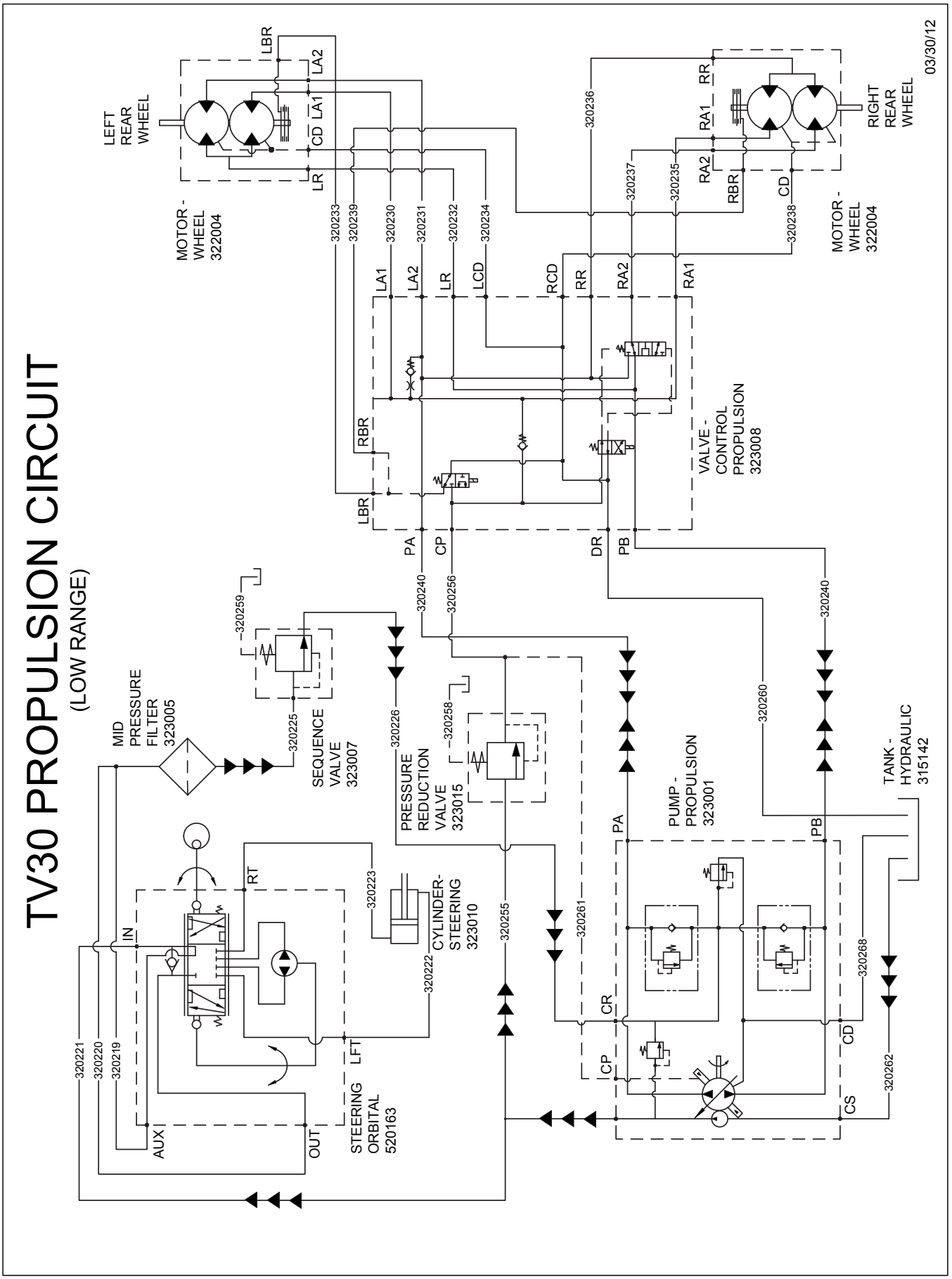
7/18/2011

HYDRAULIC SECTION

TURBO VAC 30

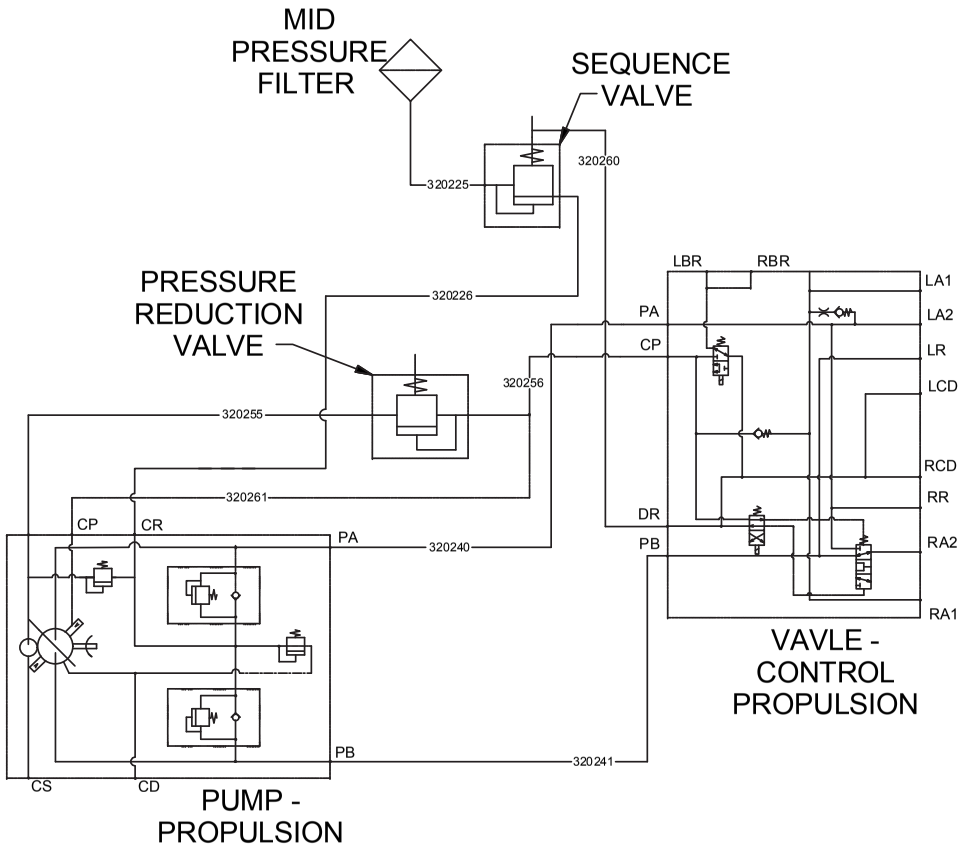
PROPULSION SYSTEM

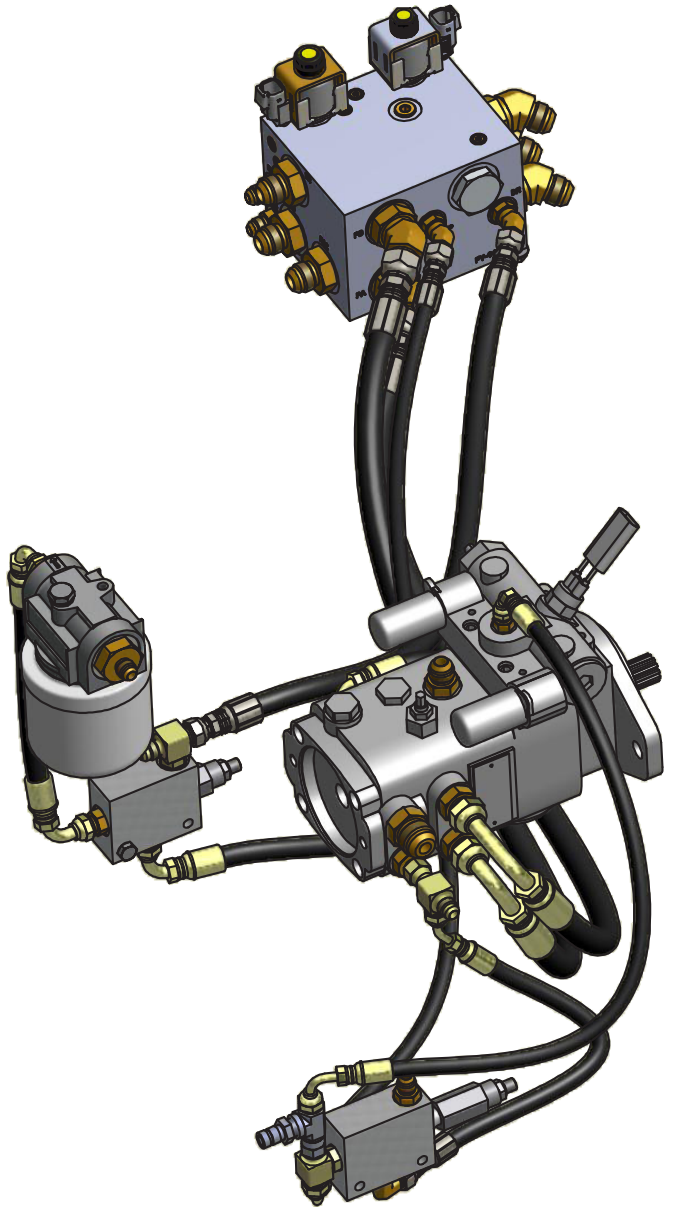



TV30 PROPULSION CIRCUIT
(LOW RANGE)
03/30/12
LEFT REAR WHEEL
MOTOR - WHEEL 322004
RIGHT REAR WHEEL
MOTOR - WHEEL 322004
VALVE - CONTROL PROPULSION 323008
MID PRESSURE FILTER 323005
SEQUENCE VALVE 323007
PRESSURE REDUCTION VALVE 323015
CYLINDER- STEERING 323010
STEERING ORBITAL 520163
PUMP - PROPULSION 323001
TANK - HYDRAULIC 315142
LBR
LA2
LA1
CD
LR
RA1
RR
RA2
RBR
LCD
RCD
PA
CP
DR
PB
CR
CS
IN
RT
LFT
AUX
OUT
320219
320220
320221
320222
320223
320225
320226
320230
320231
320232
320233
320234
320235
320236
320237
320238
320239
320240
320255
320256
320258
320259
320260
320261
320262
320268

PROPULSION PLUMBING

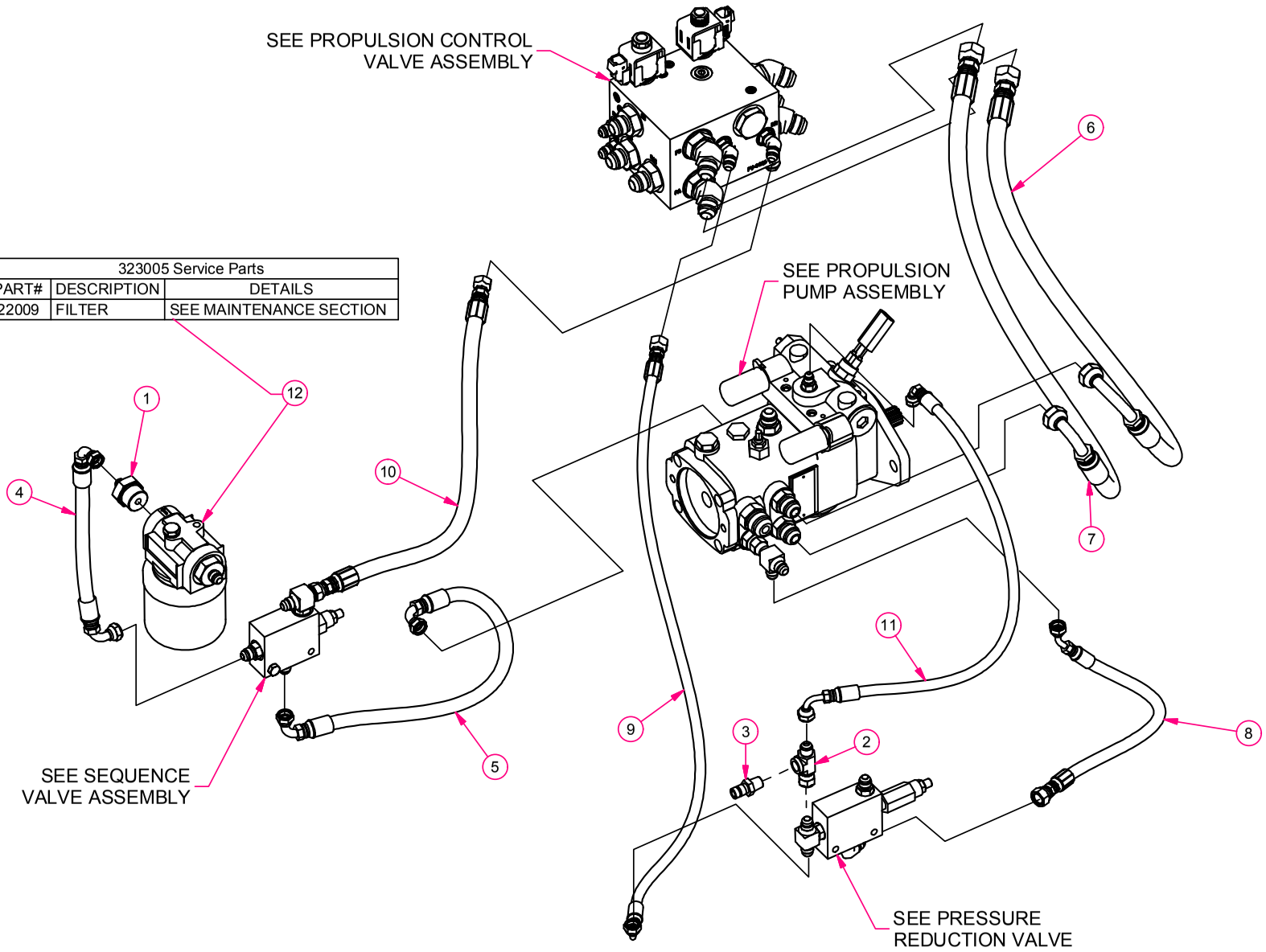
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	120364	ADAPTER, 6MJ-12MB
2	1	120483	FITTING, GAUGEPORT 6MJ-6FJX-4FP
3	1	120521	FITTING - TEST PORT
4	1	320225	HOSE - SEQUENCE VALVE INLET
5	1	320226	HOSE - SEQUENCE VALVE OUTLET
6	1	320240	HOSE - PROPULSION "A" PRESSURE
7	1	320241	HOSE - PROPULSION "B" PRESSURE
8	1	320255	HOSE - PRESSURE REDUCTION VALVE SUPPLY
9	1	320256	HOSE - PROPULSION VALVE CHG PRESSURE SUPLY
10	1	320260	HOSE - PROPULSION VALVE CASE DRAIN
11	1	320261	HOSE - PILOT CONTROL PRESSURE
12	1	323005	FILTER HEAD & HOUSING ASSY, MID PRESSURE
		322009	FILTER REPLACEMENT, MID PRESSURE





8/6/2012

PROPULSION PLUMBING



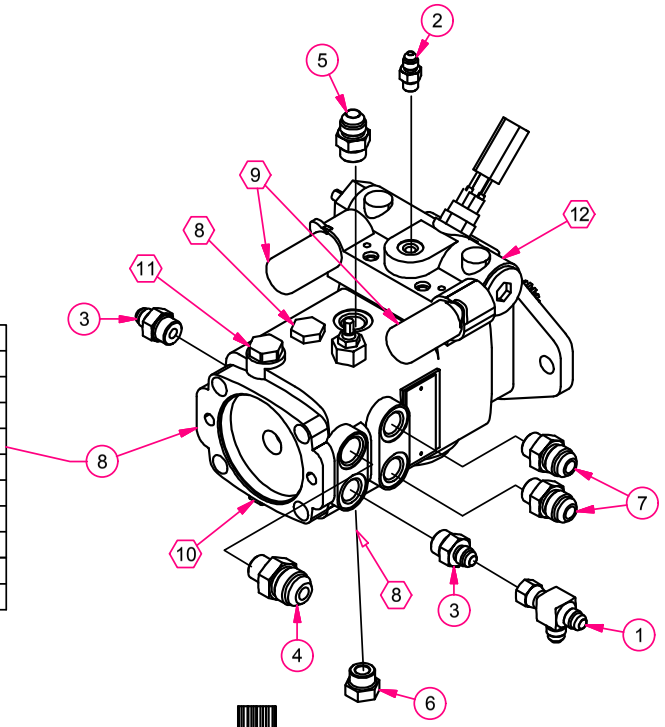
323005 Service Parts		
PART#	DESCRIPTION	DETAILS
322009	FILTER	SEE MAINTENANCE SECTION

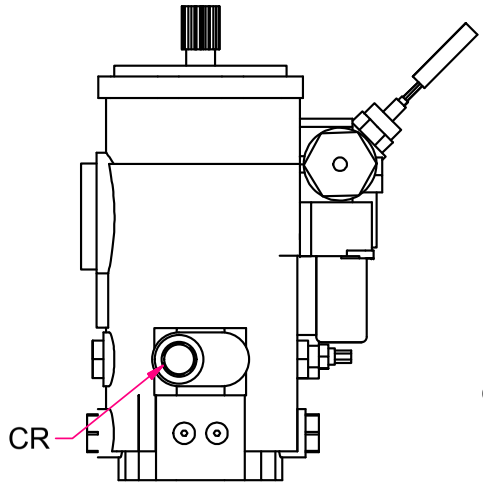
8/6/2012

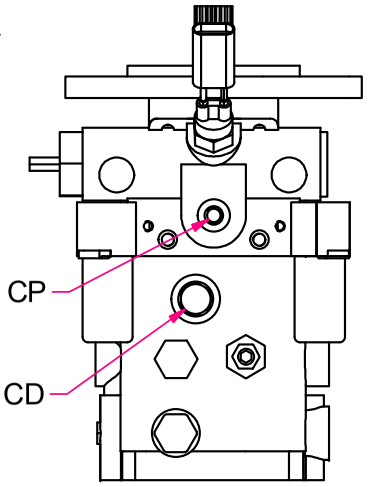
PROPULSION PUMP ASSEMBLY

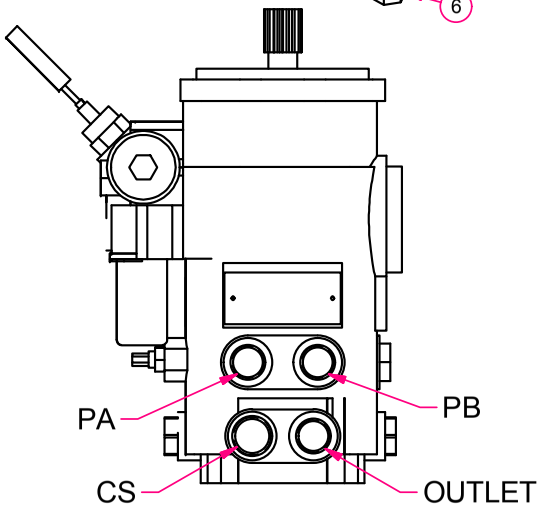
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	120216	ADAPTER, 6MJ-6FJX-6MJ
2	1	120233	ADAPTER, 4MJ-4MB
3	2	120239	ADAPTER, 6MJ-8MB
4	1	120250	ADAPTER, 12MJ-8MB
5	1	120277	ADAPTER, 8MJ-8MB
6	4	120372	PLUG, O-RING -8, EXTERNAL HEX
7	2	120493	ADAPTER, 10MJ-8MB
8	1	323001	PUMP, PROPULSION 1.35/.43 CHRG ELEC

323001 Service Parts		
ITEM	PART #	DESCRIPTION
-	822021	PROPULSION PUMP SEAL KIT
8	822038	VALVE, PROPULSION PRESS RELIEF
9	322044	SOLONOID, PROPULSION PUMP
10	322045	VALVE, IMPLEMENT PRESSURE RELIEF
11	322046	VALVE, CHARGE PRESSURE RELIEF
-	322063	SPRING, CHARGE PRESSURE RELIEF
12	333001	ELECTRICAL PROPULSION PUMP CONTROLER
	822034	HOUSING, CA PROPULSION PUMP O-RING
	822042	SEAL KIT, CA HOUSING, O-RING







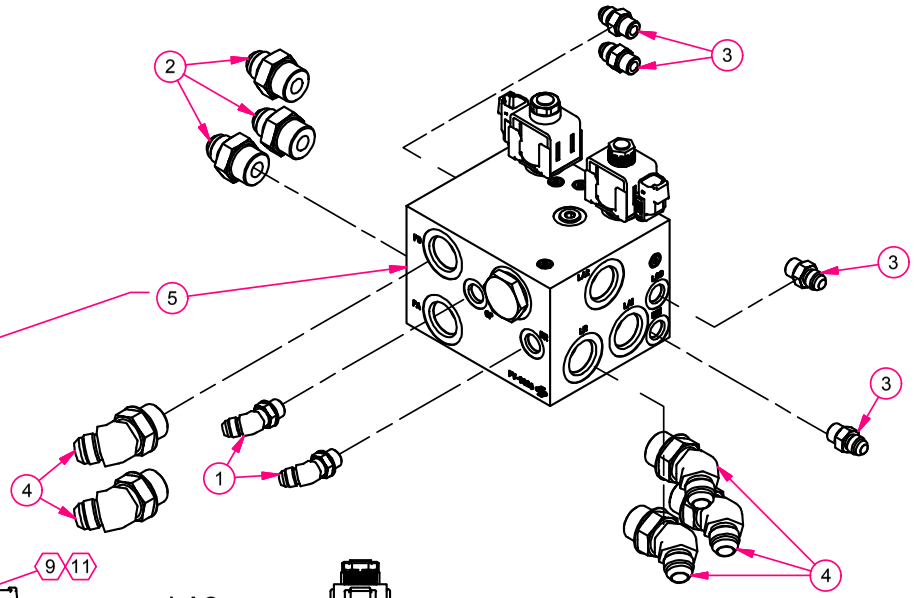


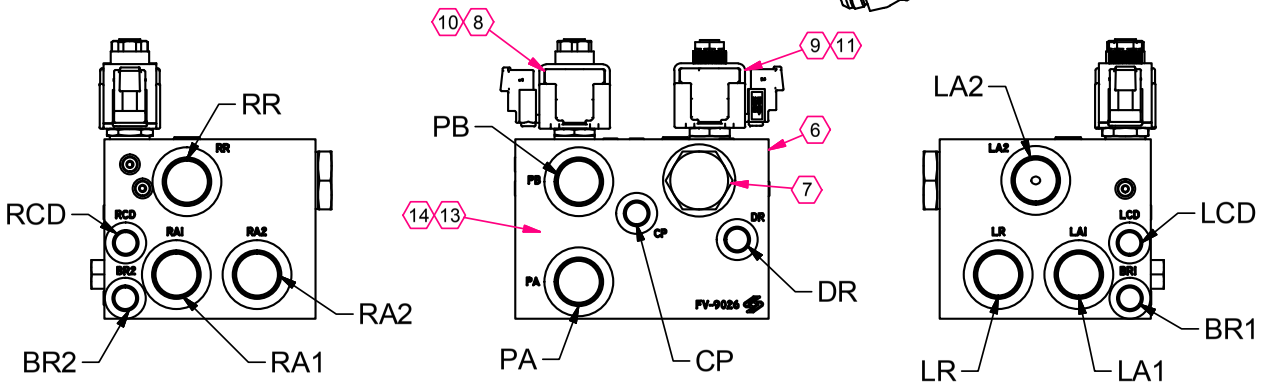
8/6/2012

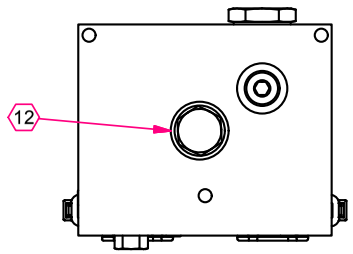
PROPULSION VALVE ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	120219	ADAPTER, 6MJ-6MB 45
2	3	120253	ADAPTER, 10MJ-12MB
3	4	120319	ADAPTER, 6MJ-6MB
4	5	120410	Jic(-10) to Male O-ring (-12), 45 degrees
5	1	323008	VALVE - CONTROL, PROPULSION, TV30

323008 Service Parts		
ITEM	PART #	DESCRIPTION
6	322049	MANIFOLD BODY
7	522157	DIVERTER VALVE, 100PSI SPRING
8	522119	3POS 4WAY SOLENOID VALVE
9	322052	12VDC DEUTSCH COIL
10	322053	12VDC DEUTSCH COIL S SERIES
11	322054	2POS 3WAY SOLENOID VALVE
12	322055	CHECK VALVE
13	322056	REMOVABLE ORIFICE
14	322057	CHECK VALVE 3PSI SPRING

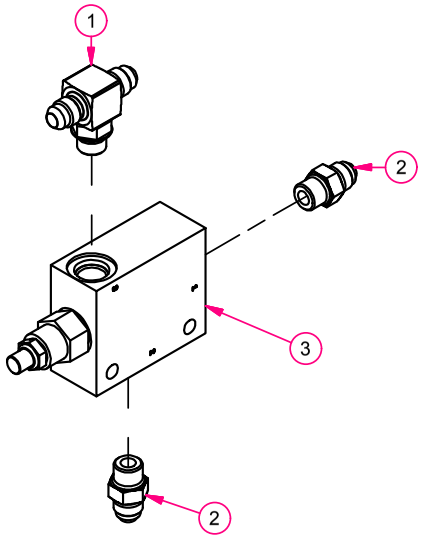






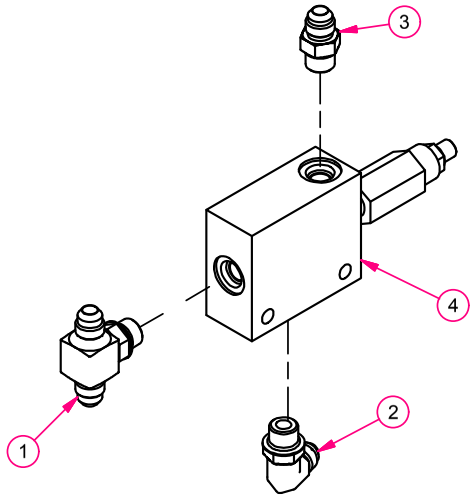
8/6/2012

SEQUENCE VALVE ASSEMBLY



PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	120092	ADAPTER, 6MJ-6MJ-6MB
2	2	120319	ADAPTER, 6MJ-6MB
3	1	323007	VALVE - SEQUENCE, PROPULSION, TV30

PRESSURE REDUCTION VALVE ASSEMBLY

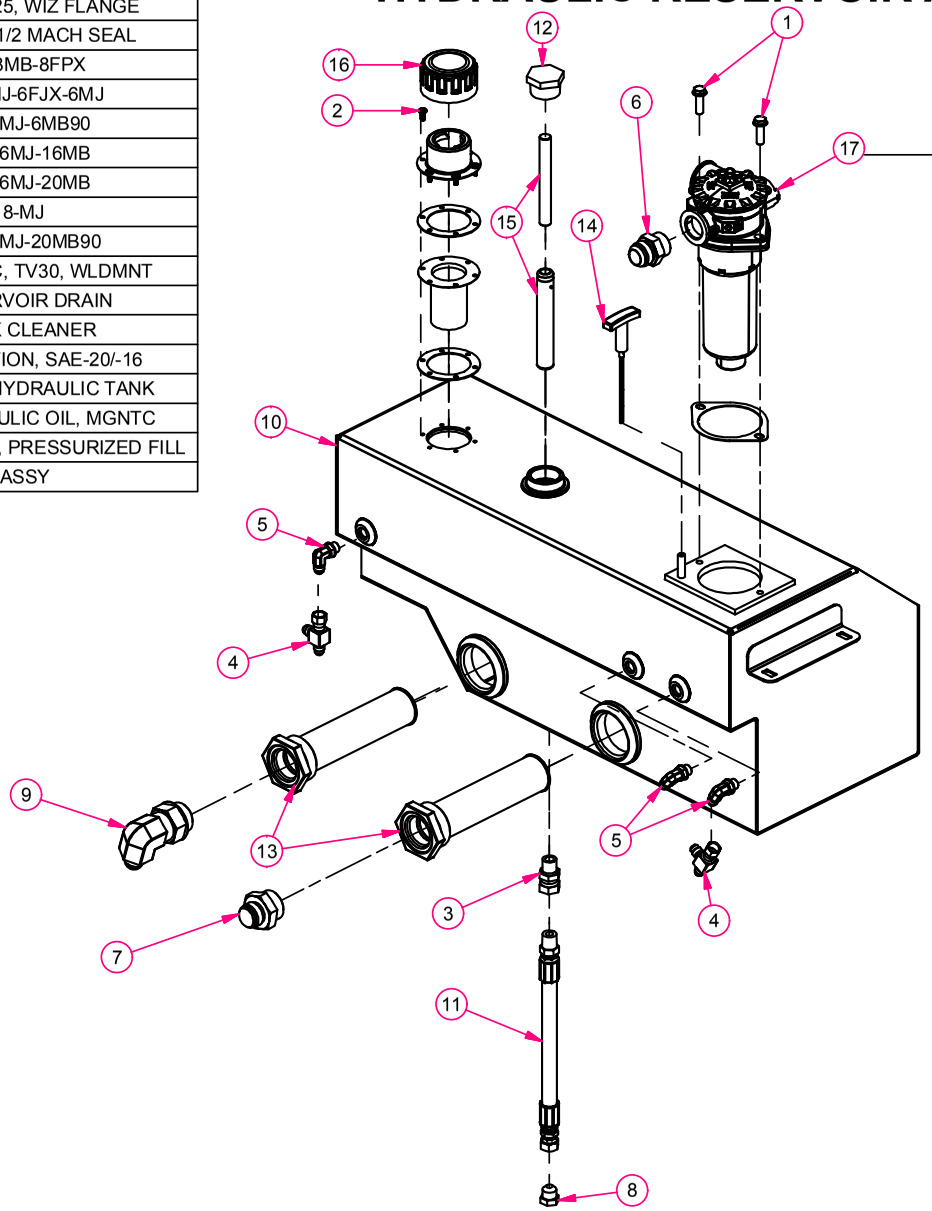


PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	120092	ADAPTER, 6MJ-6MJ-6MB
2	1	120222	ADAPTER, 6MJ-6MB90
3	1	120319	ADAPTER, 6MJ-6MB
4	1	323015	VALVE - PRESSURE REDUCING

8/6/2012

HYDRAULIC RESERVOIR ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110161	BOLT, 3/8-16 X 1.25, WIZ FLANGE
2	6	112053	SCREW, 10-32 X 1/2 MACH SEAL
3	1	120191	ADAPTER, 8MB-8FPX
4	2	120216	ADAPTER, 6MJ-6FJX-6MJ
5	3	120222	ADAPTER, 6MJ-6MB90
6	1	120355	ADAPTER, 16MJ-16MB
7	1	120361	ADAPTER, 16MJ-20MB
8	1	120549	PLUG - 8-MJ
9	1	120580	ADAPTER, 12MJ-20MB90
10	1	315142	TANK - HYDRAULIC, TV30, WLDMNT
11	1	320264	HOSE - RESERVOIR DRAIN
12	1	322010	PLUG - TANK CLEANER
13	2	322012	STRAINER - SUCTION, SAE-20/-16
14	1	322025	DIP STICK - TV30, HYDRAULIC TANK
15	1	323006	CLEANER - HYDRAULIC OIL, MGNTC
16	1	702092	BREATHER CAP ASSY, PRESSURIZED FILL
17	1	723014	FILTER ASSY

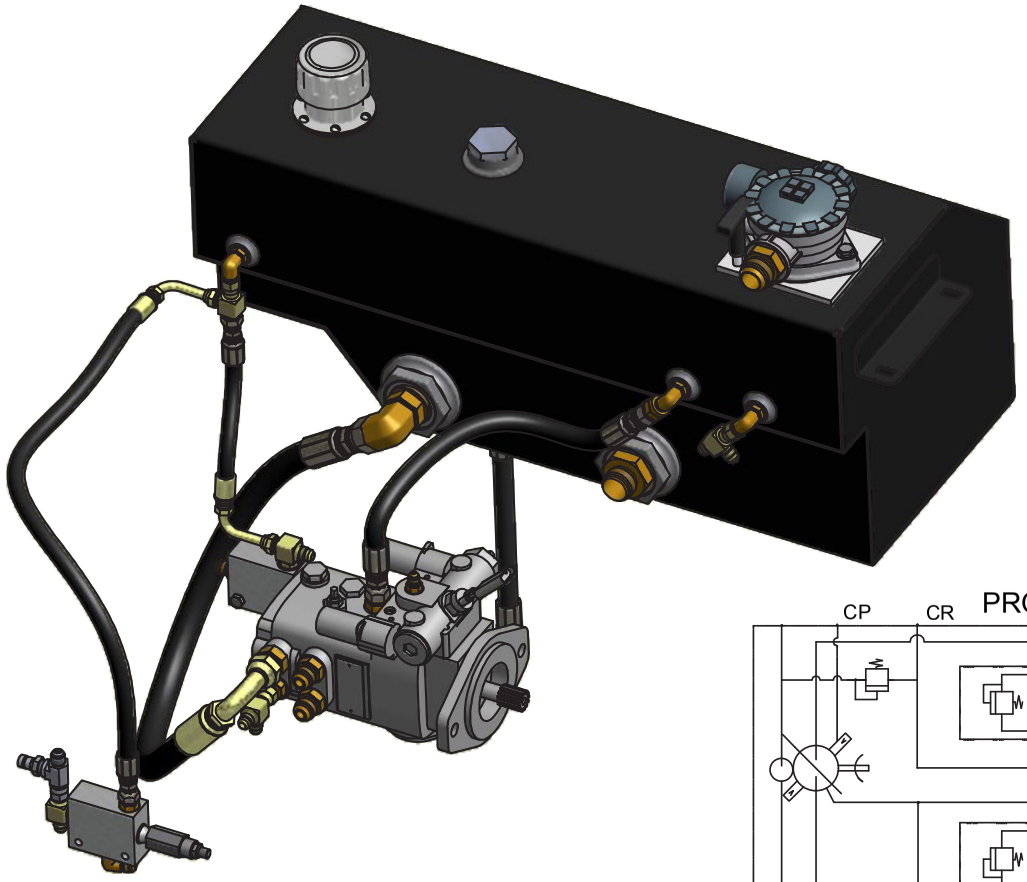


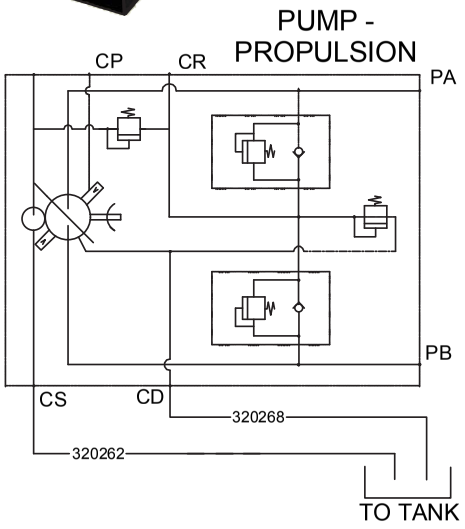
723014 Service Parts	
PART	DESCRIPTION
802041	O-RING, CAP
822002	FILTER REPLACEMENT
822017	GUAGE, OIL FILTER
822029	GASKET, RETURN OIL FILTER

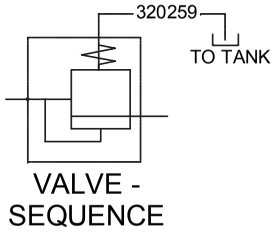
8/2/2012

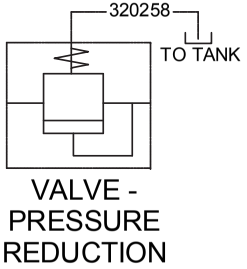
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	120142	ADAPTER, 8MJ-6FJ EXPANDER
2	1	320258	HOSE - PRESSURE REDUCTION VALVE DRAIN
3	1	320259	HOSE - SEQUENCE VALVE DRAIN
4	1	320262	HOSE - PROPULSION SUCTION HOSE
5	1	320268	HOSE, PROPULSION PUMP CASE DRAIN

PROPULSION SUCTION & DRAIN PLUMBING



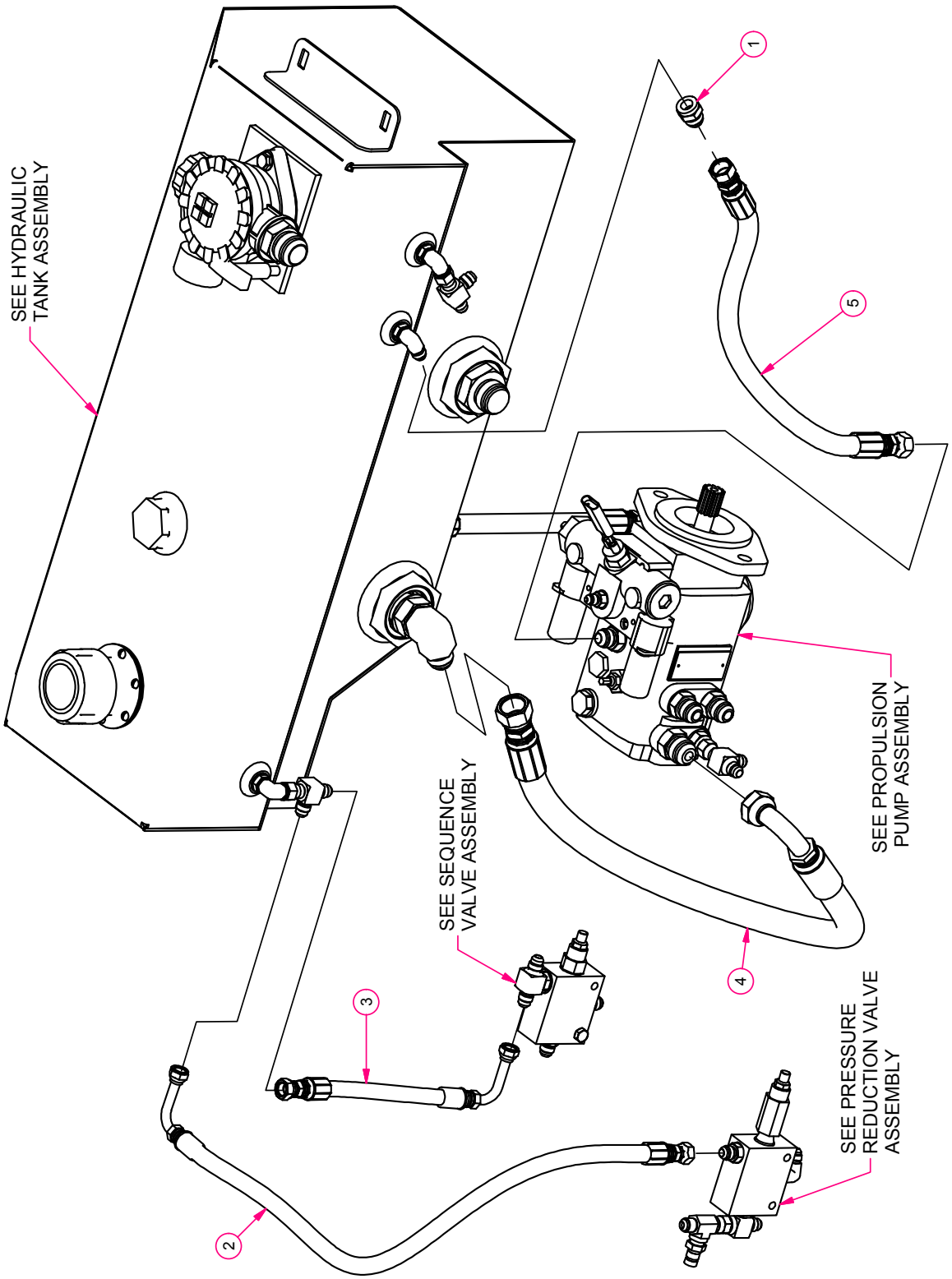






8/6/2012

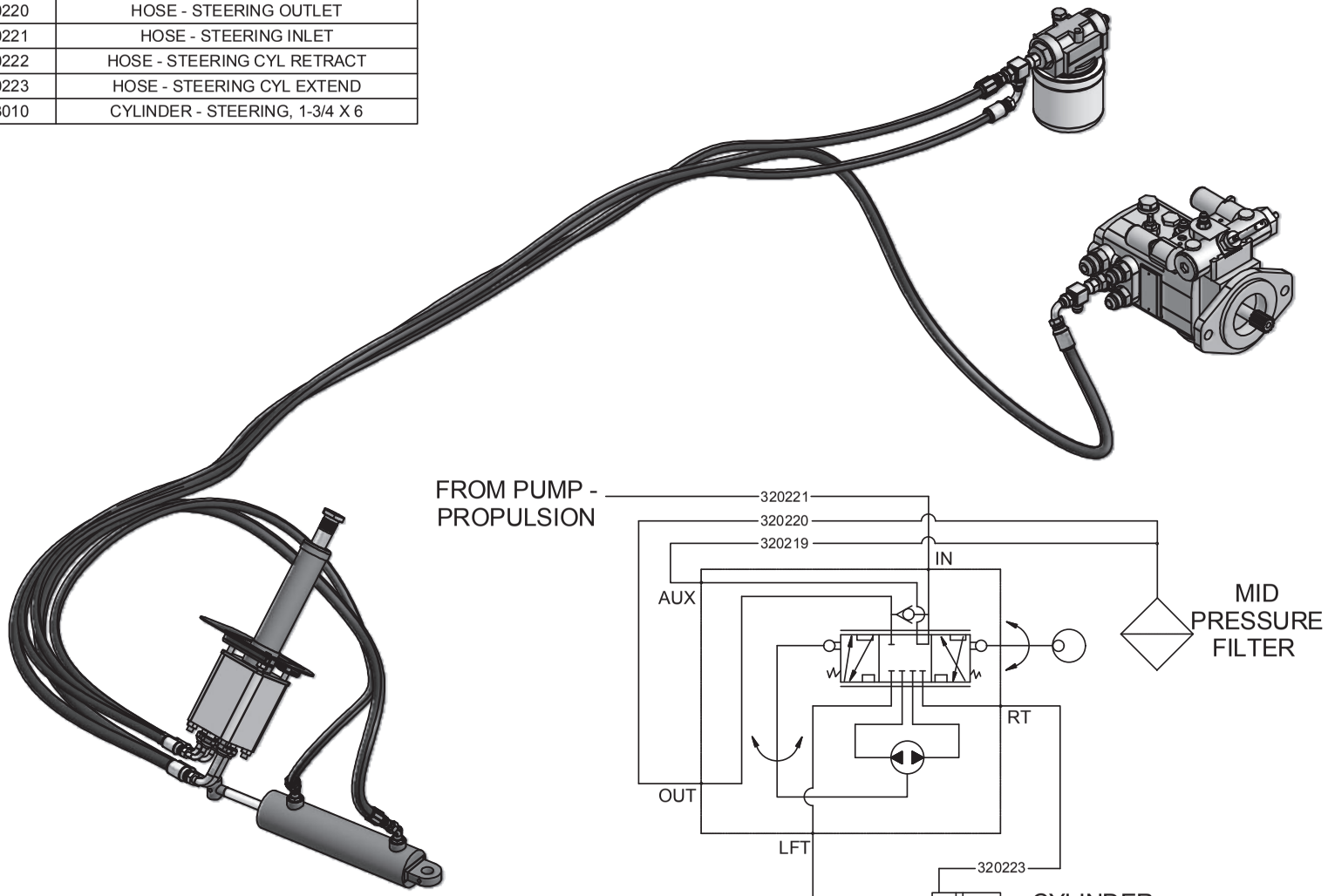
PROPULSION SUCTION & DRAIN PLUMBING



8/6/2012

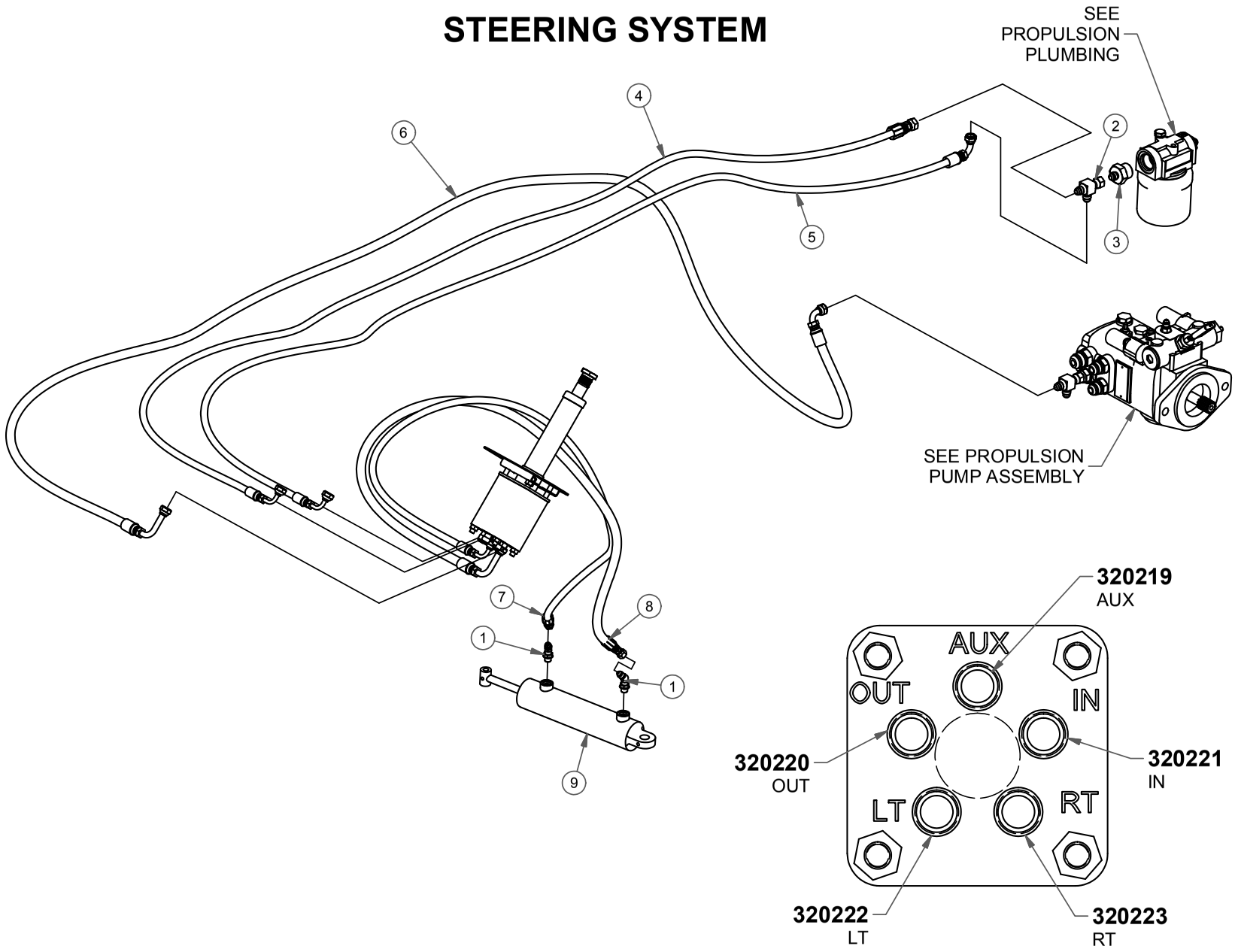
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	120027	ADAPTER, 4MB-4MJ 45
2	1	120216	ADAPTER, 6MJ-6FJX-6MJ
3	1	120364	ADAPTER, 6MJ-12MB
4	1	320219	HOSE - STEERING, AUX OUTLET
5	1	320220	HOSE - STEERING OUTLET
6	1	320221	HOSE - STEERING INLET
7	1	320222	HOSE - STEERING CYL RETRACT
8	1	320223	HOSE - STEERING CYL EXTEND
9	1	323010	CYLINDER - STEERING, 1-3/4 X 6

STEERING SYSTEM



7/1/2011

STEERING SYSTEM

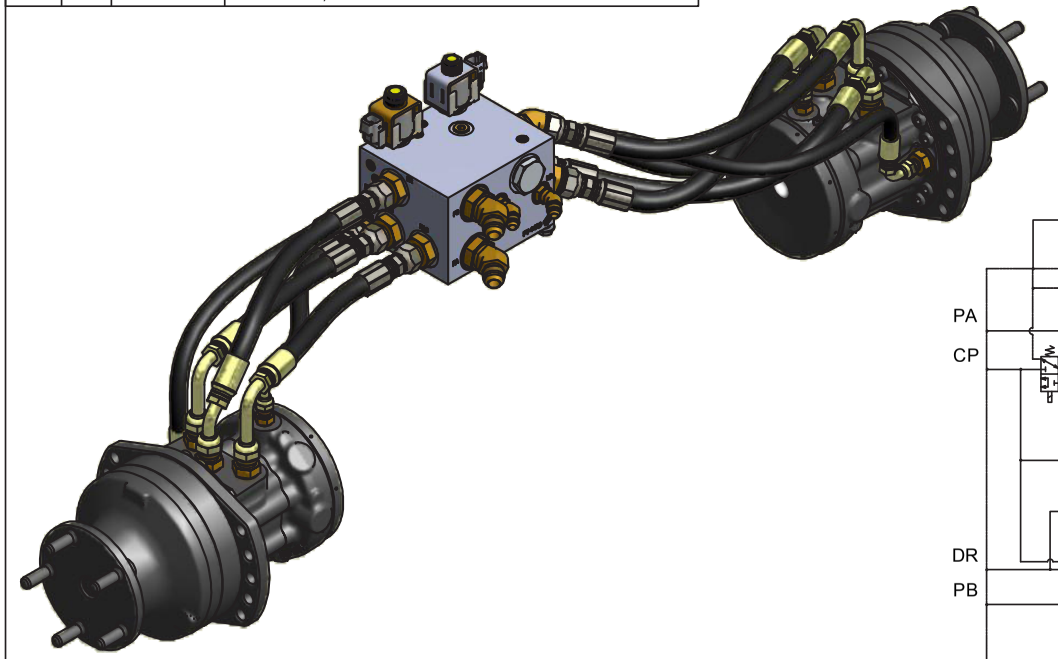


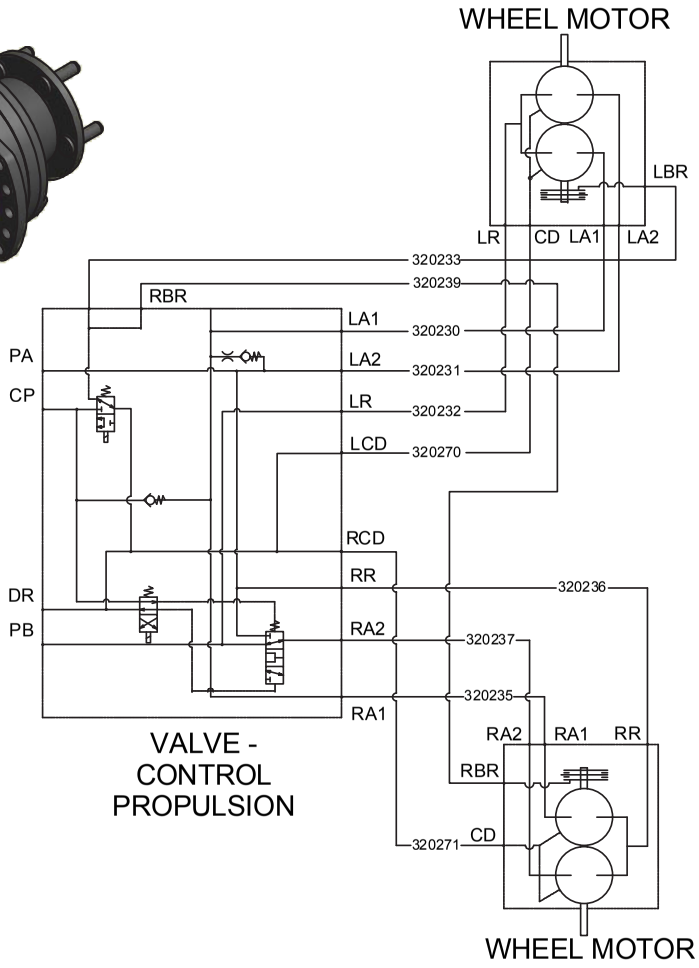
8/11/2011

HARPER

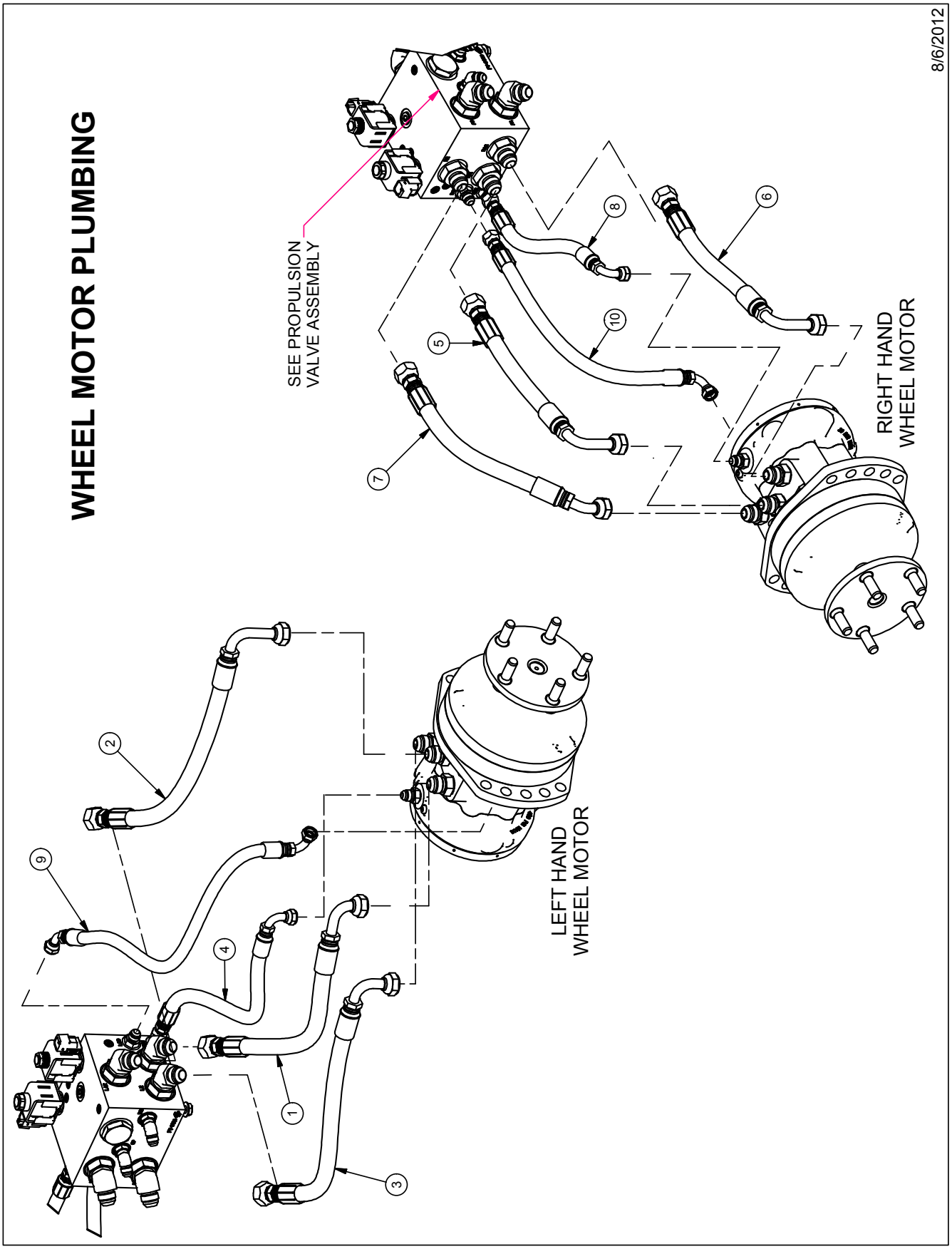
WHEEL MOTOR PLUMBING

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	320230	HOSE, LEFT WHEEL MOTOR A1 PRES
2	1	320231	HOSE, LEFT WHEEL MOTOR A2 PRES
3	1	320232	HOSE, LEFT WHEEL MOTOR RETURN
4	1	320233	HOSE, LEFT WHEE MOTOR BRAKE RELEASE
5	1	320235	HOSE, RIGHT WHEEL MOTOR A1 PRESS
6	1	320236	HOSE, RIGHT WHEEL MOTOR RETURN
7	1	320237	HOSE, RIGHT WHEEL MOTOR A2 PRES
8	1	320239	HOSE, RIGHT WHEEL MOTOR BRAKE RELEASE
9	1	320270	HOSE, LEFT WHEEL MOTOR CASE DRAIN
10	1	320271	HOSE, RIGHT WHEEL MOTOR CASE DRAIN



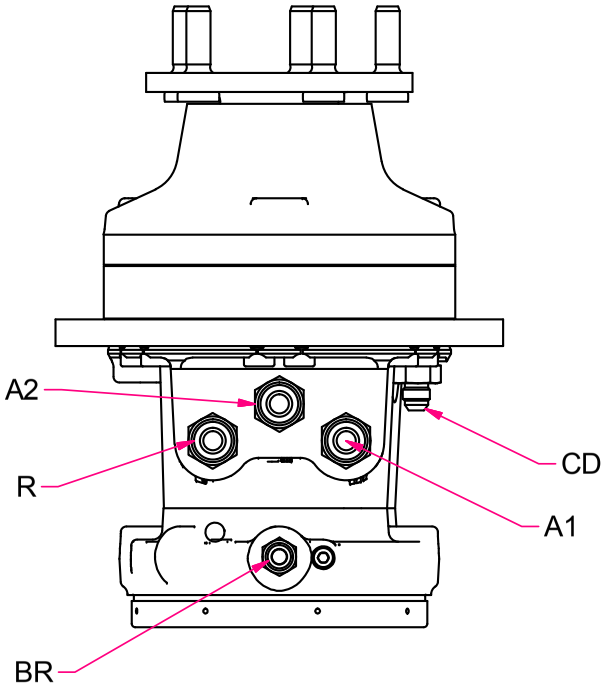


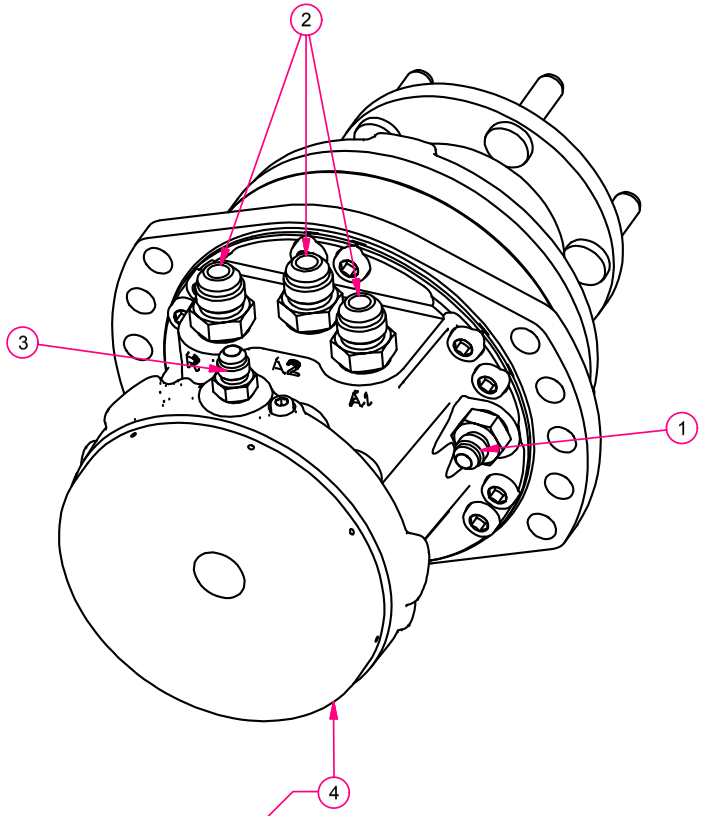
8/6/2012


WHEEL MOTOR PLUMBING
8/6/2012
SEE PROPULSION VALVE ASSEMBLY
RIGHT HAND WHEEL MOTOR
LEFT HAND WHEEL MOTOR
1
2
3
4
5
6
7
8
9
10

WHEEL MOTOR ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	120239	ADAPTER, 6MJ-8MB
2	3	120251	ADAPTER, 10MJ-10MB
3	1	120319	ADAPTER, 6MJ-6MB
4	1	323034	MOTOR, POCLAIN HYD WHEEL

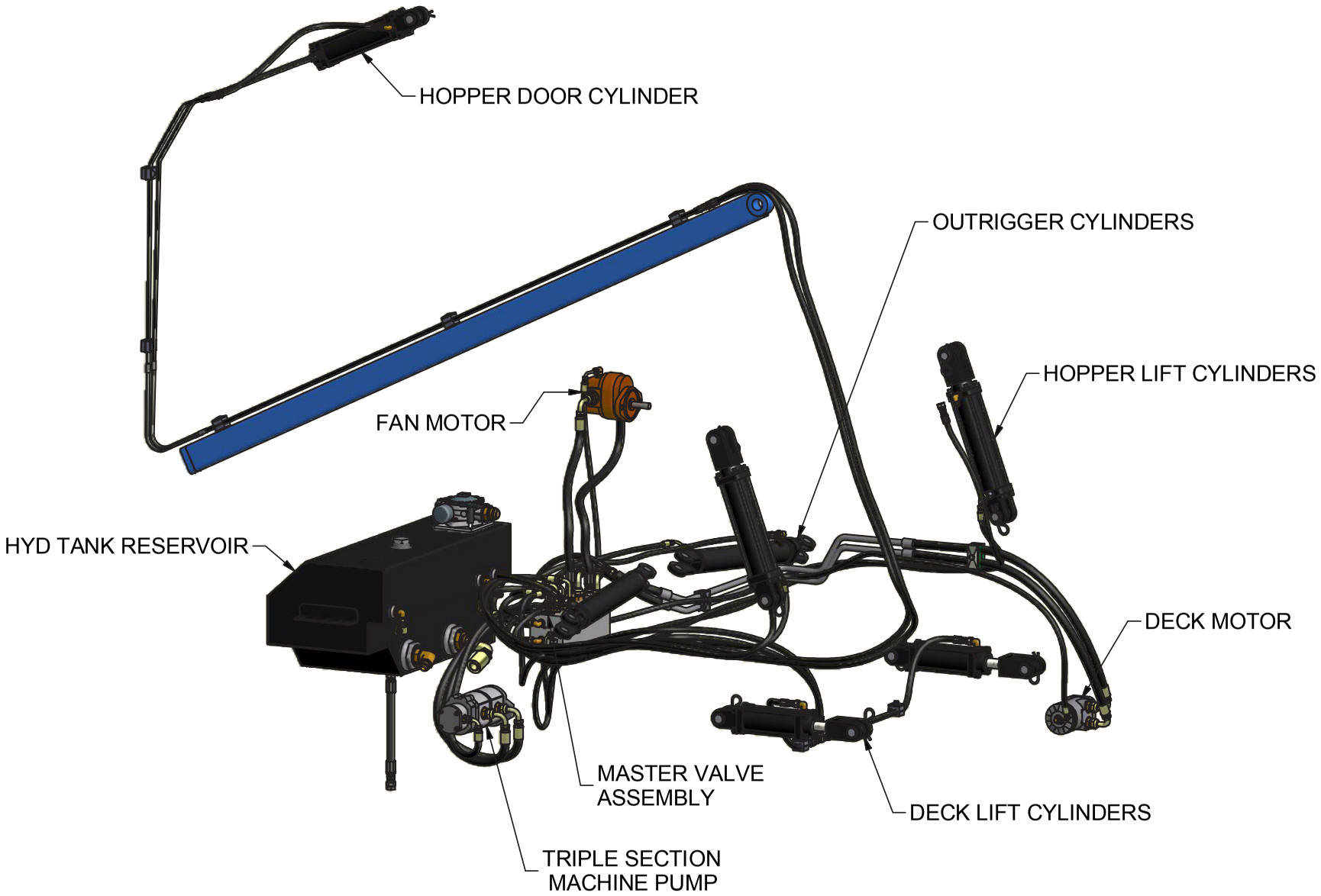




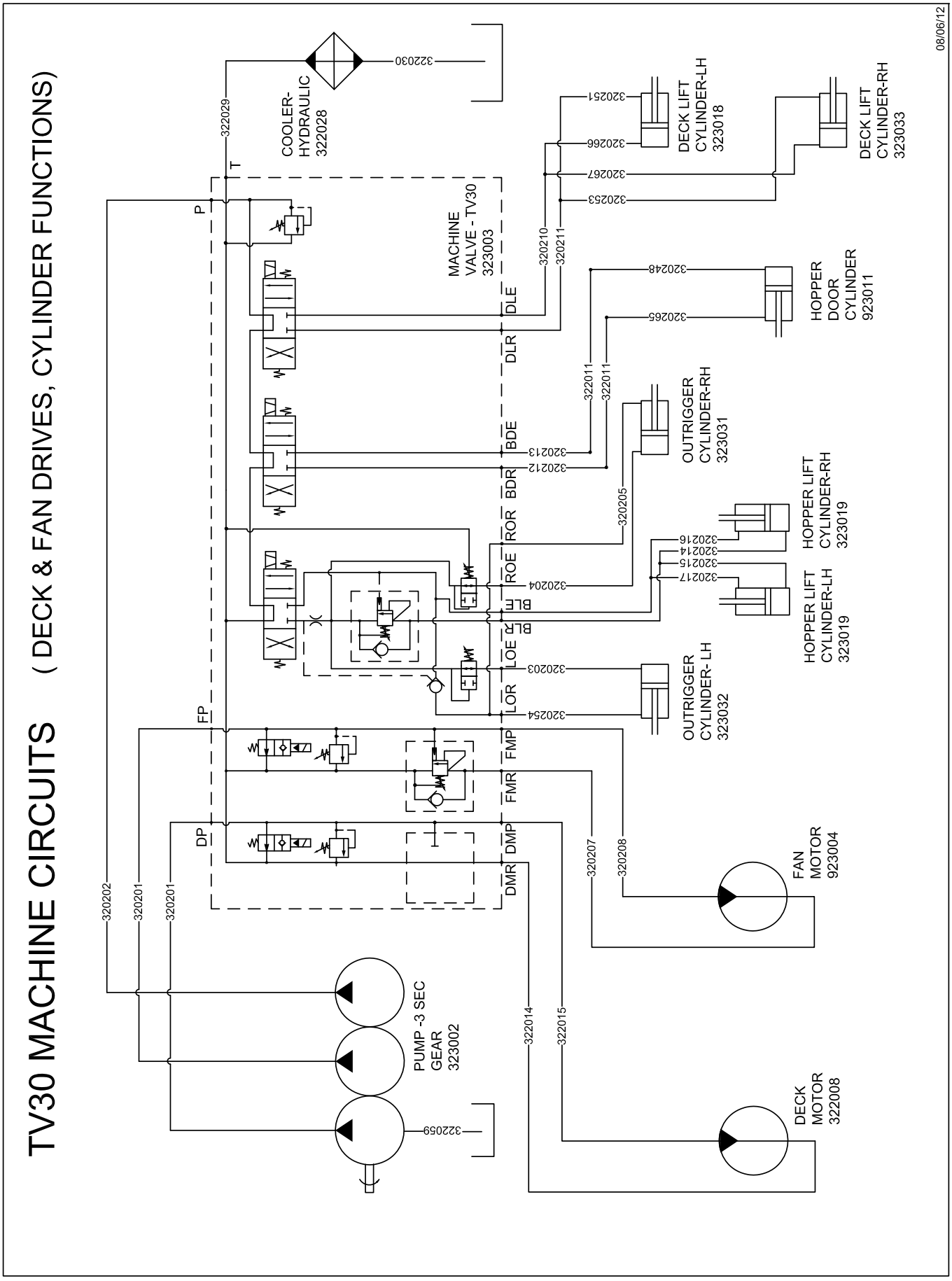
323034 Service Parts		
PART #	QTY	DISCRIPTION
311013	1	STUD KIT, WHEEL MOTOR

8/2/2012

MACHINE SYSTEM

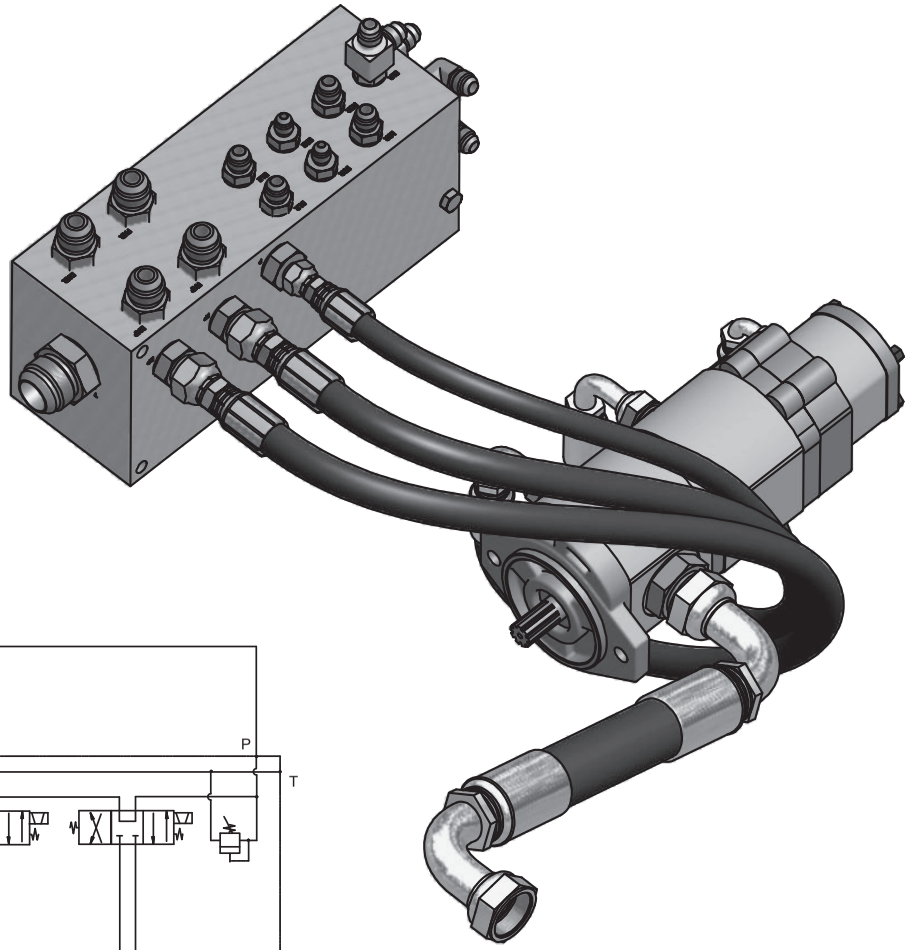


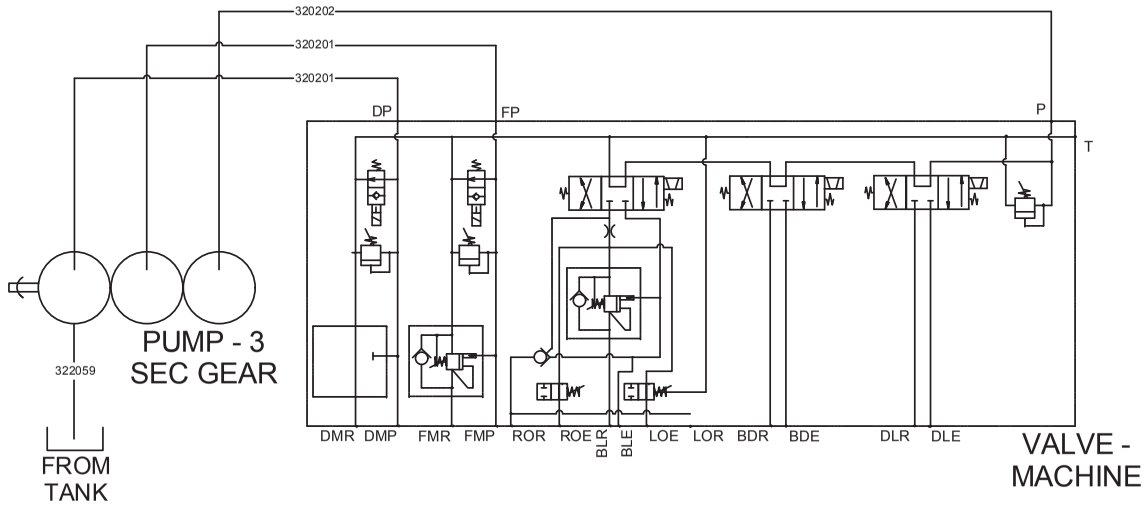
8/10/2012


TV30 MACHINE CIRCUITS (DECK & FAN DRIVES, CYLINDER FUNCTIONS)
08/06/12
COOLER-HYDRAULIC 322028
322030
322029
T
P
FP
DP
MACHINE VALVE - TV30 323003
DLE
DLR
BDE
BDR
ROR
ROE
BLF
BLR
LOE
LOR
FMP
FMR
DMP
DMR
320210
320211
322011
322011
320205
320204
320203
320254
320202
320201
320201
320207
320208
322014
322015
322059
320251
320266
320267
320253
320248
320265
320213
320212
320216
320214
320215
320217
DECK LIFT CYLINDER-LH 323018
DECK LIFT CYLINDER-RH 323033
HOPPER DOOR CYLINDER 923011
OUTRIGGER CYLINDER-RH 323031
HOPPER LIFT CYLINDER-RH 323019
HOPPER LIFT CYLINDER-LH 323019
OUTRIGGER CYLINDER- LH 323032
FAN MOTOR 923004
PUMP -3 SEC GEAR 323002
DECK MOTOR 322008

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	320201	HOSE - DECK & FAN PRESSURE SUPLY
2	1	320202	HOSE - CYLINDER FCN'S SUPPLY
3	1	322059	HOSE ASSY, 1.0X14.25" 16FJX60M - 16FJX90M

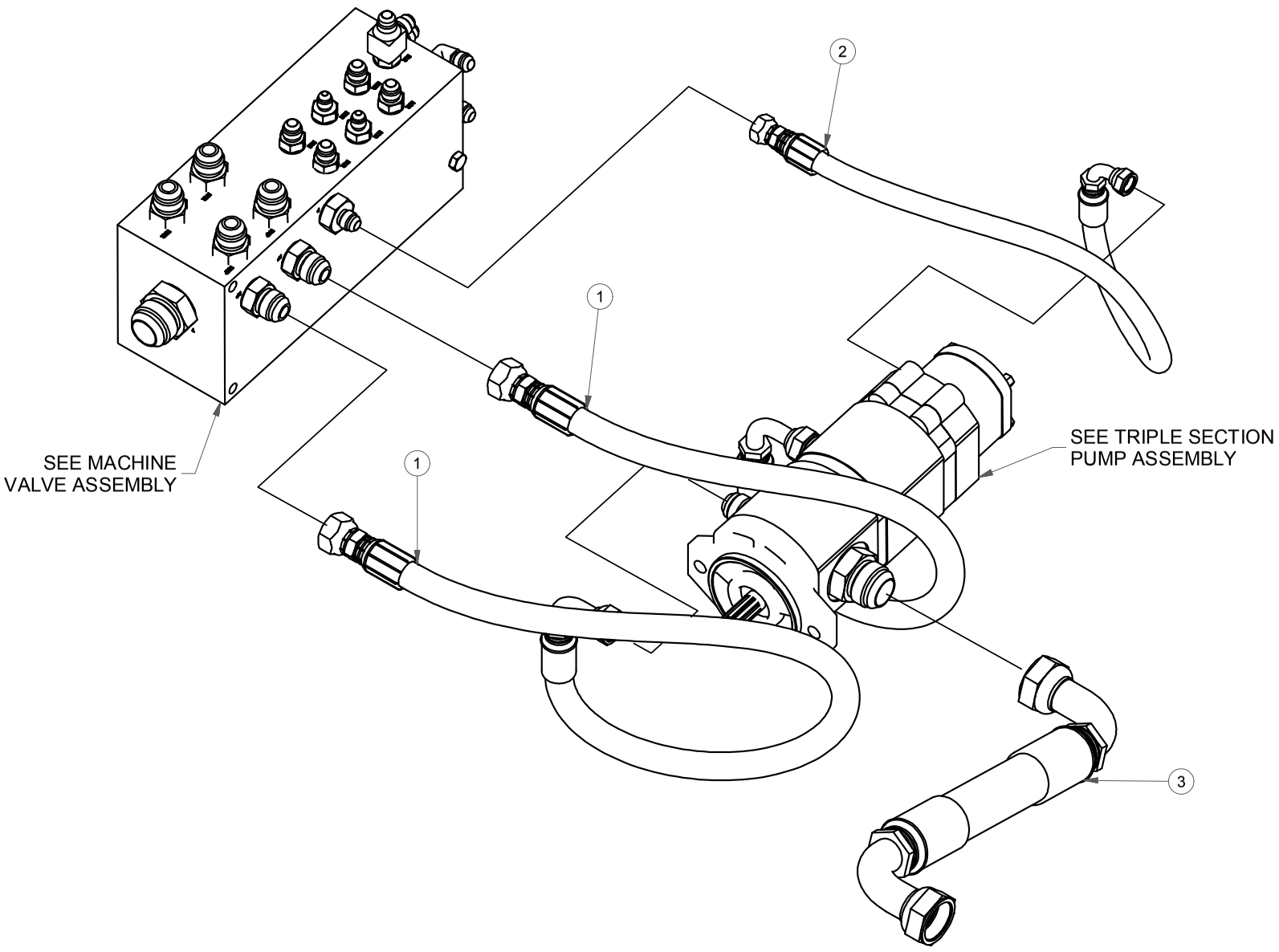
TRIPLE SECTION (MACHINE) PUMP PLUMBING





12/2/2011

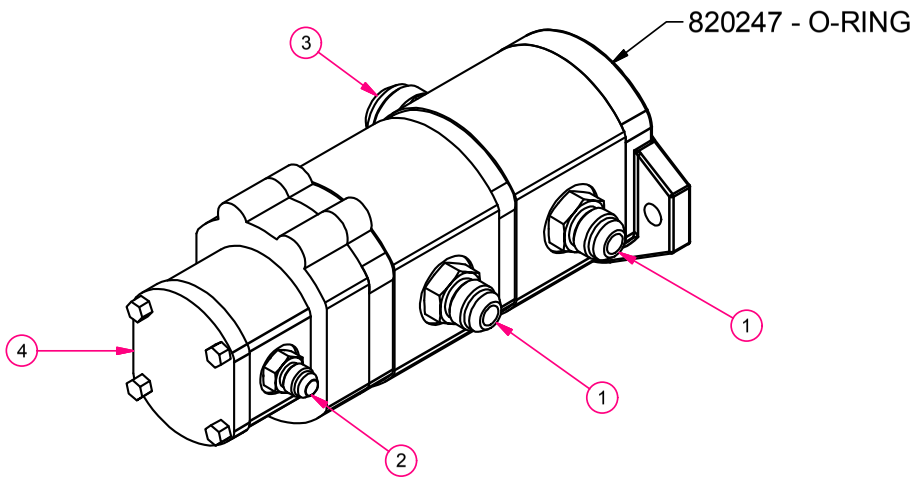
TRIPLE SECTION (MACHINE) PUMP PLUMBING

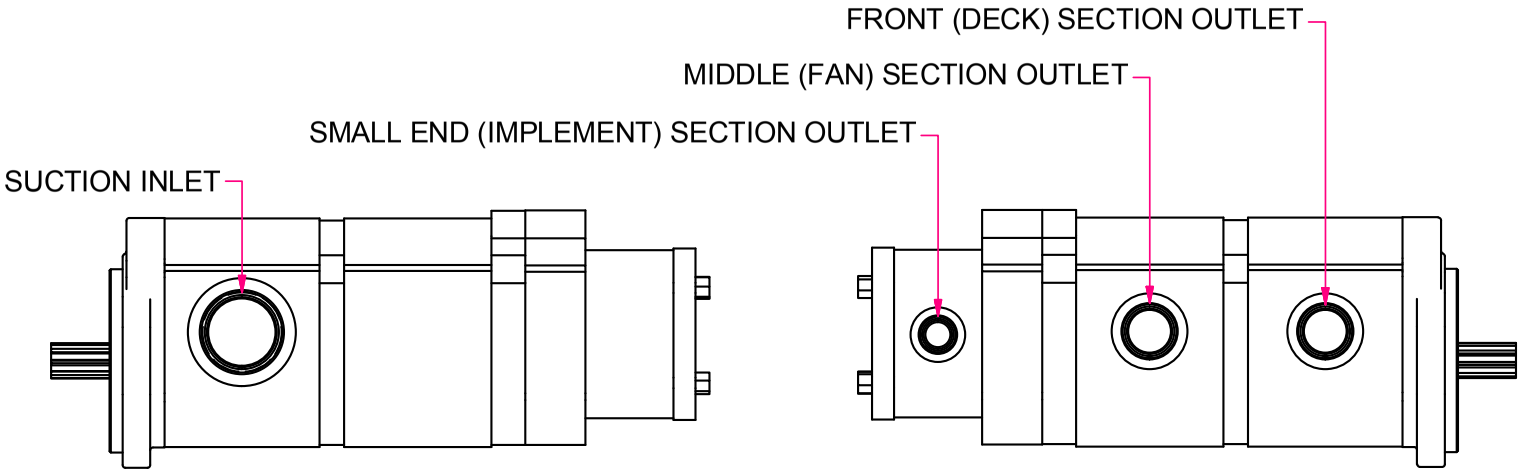


12/2/2011

TRIPLE SECTION PUMP ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	120251	ADAPTER, 10MJ-10MB
2	1	120319	ADAPTER, 6MJ-6MB
3	1	120355	ADAPTER, 16MJ-16MB
4	1	323002	PUMP - HYDRAULIC, 3 SEC

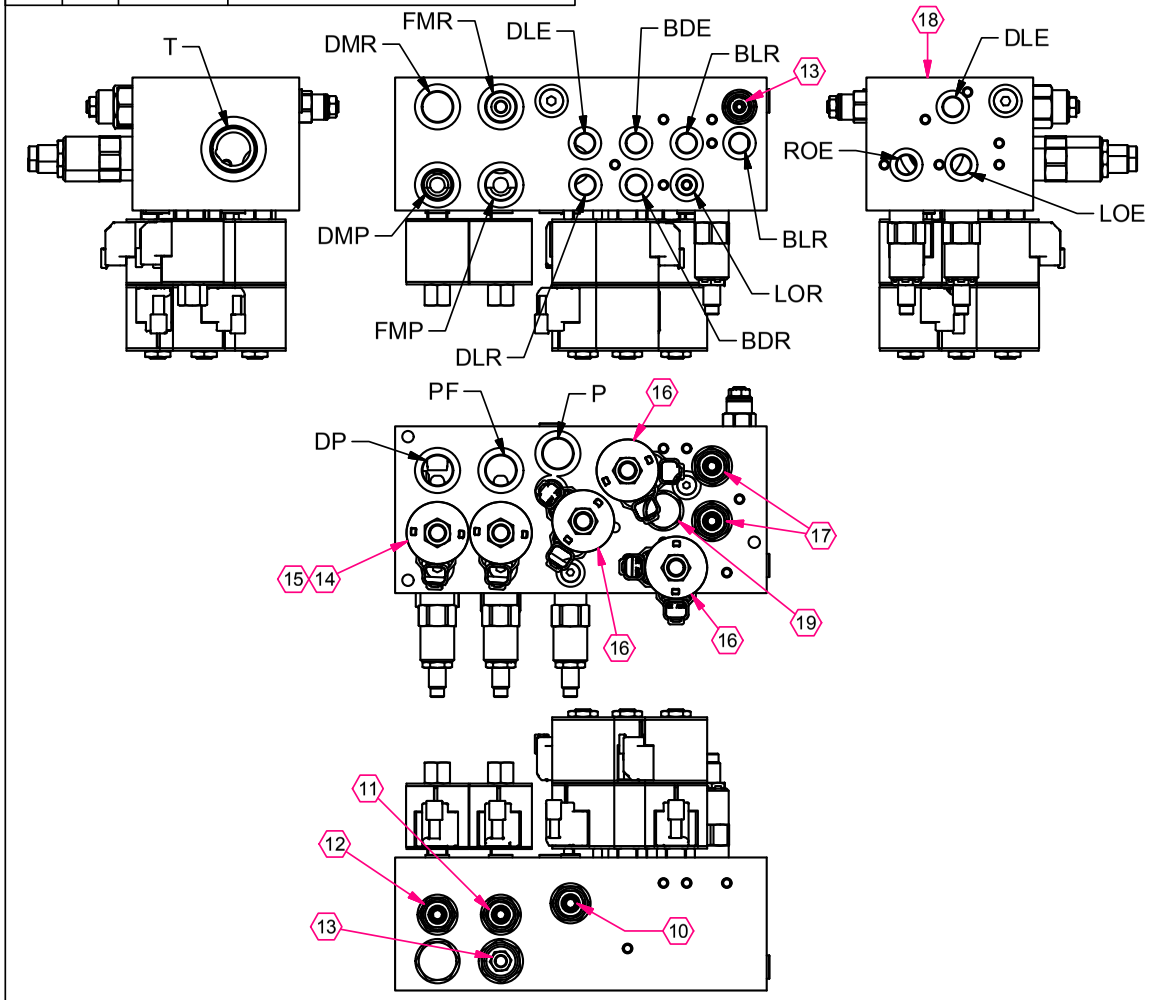


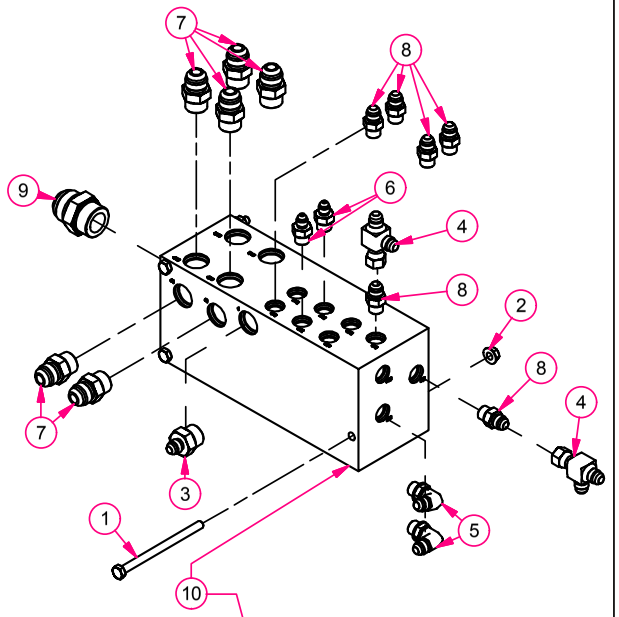


10/17/2012

MASTER VALVE ASSEMBLY

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	3	110529	BOLT, 5/16-18 X 4.5
2	3	110606	NUT, 5/16-18 WIZ FLANGE
3	1	120144	ADAPTER, 6MJ-10MB
4	2	120216	ADAPTER, 6MJ-6FJX-6MJ
5	2	120222	ADAPTER, 6MJ-6MB90
6	2	120249	ADAPTER, 4MJ-6MB
7	6	120251	ADAPTER, 10MJ-10MB
8	6	120319	ADAPTER, 6MJ-6MB
9	1	120355	ADAPTER, 16MJ-16MB
10	1	323003	VALVE BLOCK - TV30



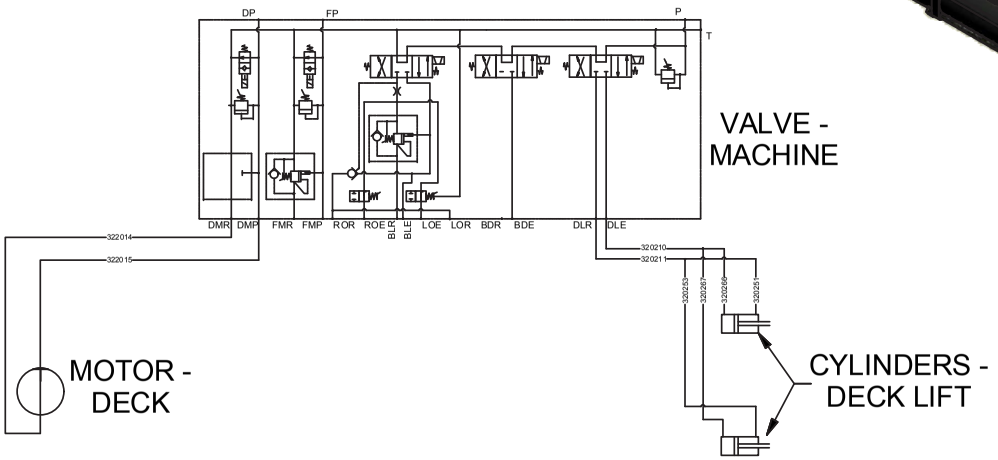


323003 Service Parts		
ITEM	PART #	DESCRIPTION
10	322032	25.0 RELIEF VALVE
11	322033	22.5 RELIEF VALVE
12	322034	27.0 RELIEF VALVE
13	322035	C'BALANCE VALVE
14	820232	N.O. SOL VALVE
15	522163	VDC ER COIL
16	322038	3P 4W SOL VALVE
17	322039	8.00 SEQ VALVE
18	322040	VALVE BODY
19	522160	PILOT CHECK VALVE

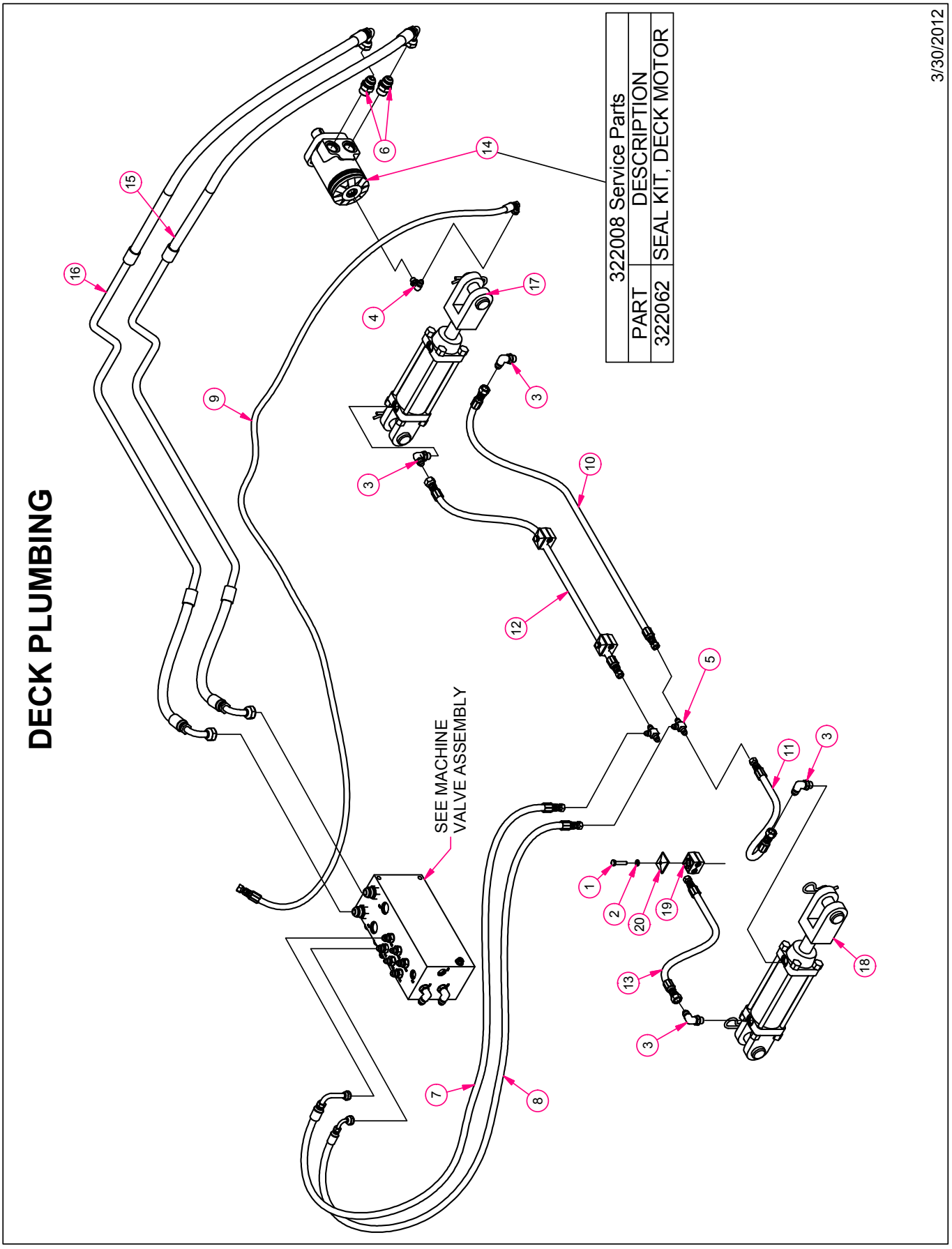
8/6/2012

DECK PLUMBING

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	3	110430	BOLT, 1/4-20 X 1-1/4
2	3	110667	WASHER, 1/4" LOCK
3	4	120222	ADAPTER, 6MJ-6MB90
4	1	120235	ADAPTER, 4MJ-4MB90
5	2	120241	ADAPTER, 4MJ-4MJ-4MJ
6	2	120251	ADAPTER, 10MJ-10MB
7	1	320210	HOSE - DECK LIFT EXTEND
8	1	320211	HOSE - DECK LIFT RETRACT
9	1	320247	HOSE - DECK MOTOR CASE DRAIN
10	1	320251	HOSE - DECK, LEFT FRONT
11	1	320253	HOSE - DECK, RIGHT FRONT
12	1	320266	HOSE - DECK, LEFT REAR
13	1	320267	HOSE DECK, RIGHT REAR
14	1	322008	MOTOR, 4.9 CID, 1" SHFT
15	1	322014	HOSE - DECK DRIVE, LOWER ASSEMBLY
16	1	322015	HOSE - DECK DRIVE, UPPER ASSEMBLY
17	1	323018	CYLINDER - 2 x 4, SAE-6, TIE ROD
18	1	323033	CYLINDER - 2 X 4, SAE-6, TIE ROD
19	3	522104	DOUBLE HOSE CLAMP
20	3	522105	DOUBLE COVERPLATE

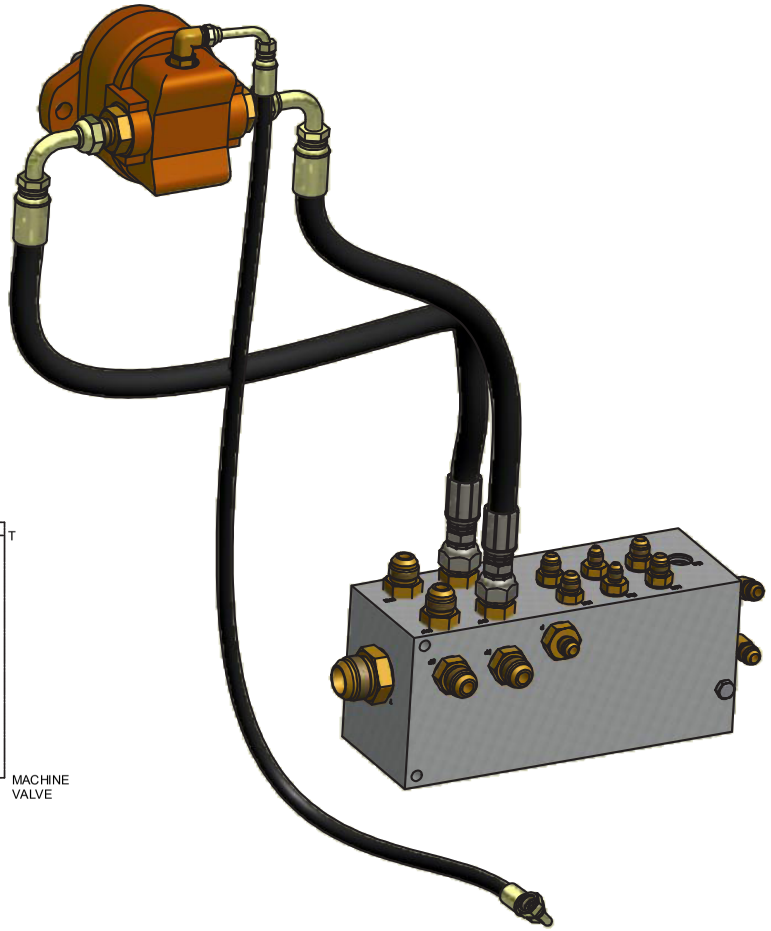


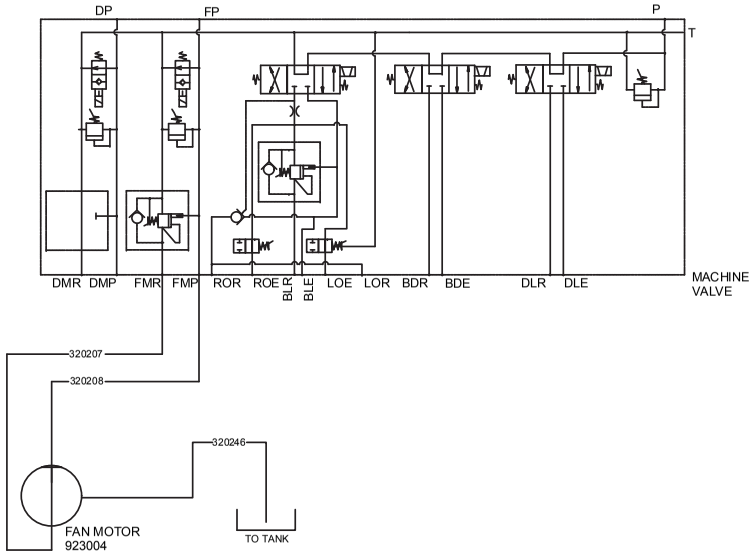
3/30/2012


DECK PLUMBING
3/30/2012
322008 Service Parts
PART
DESCRIPTION
322062
SEAL KIT, DECK MOTOR
SEE MACHINE
VALVE ASSEMBLY

FAN MOTOR PLUMBING

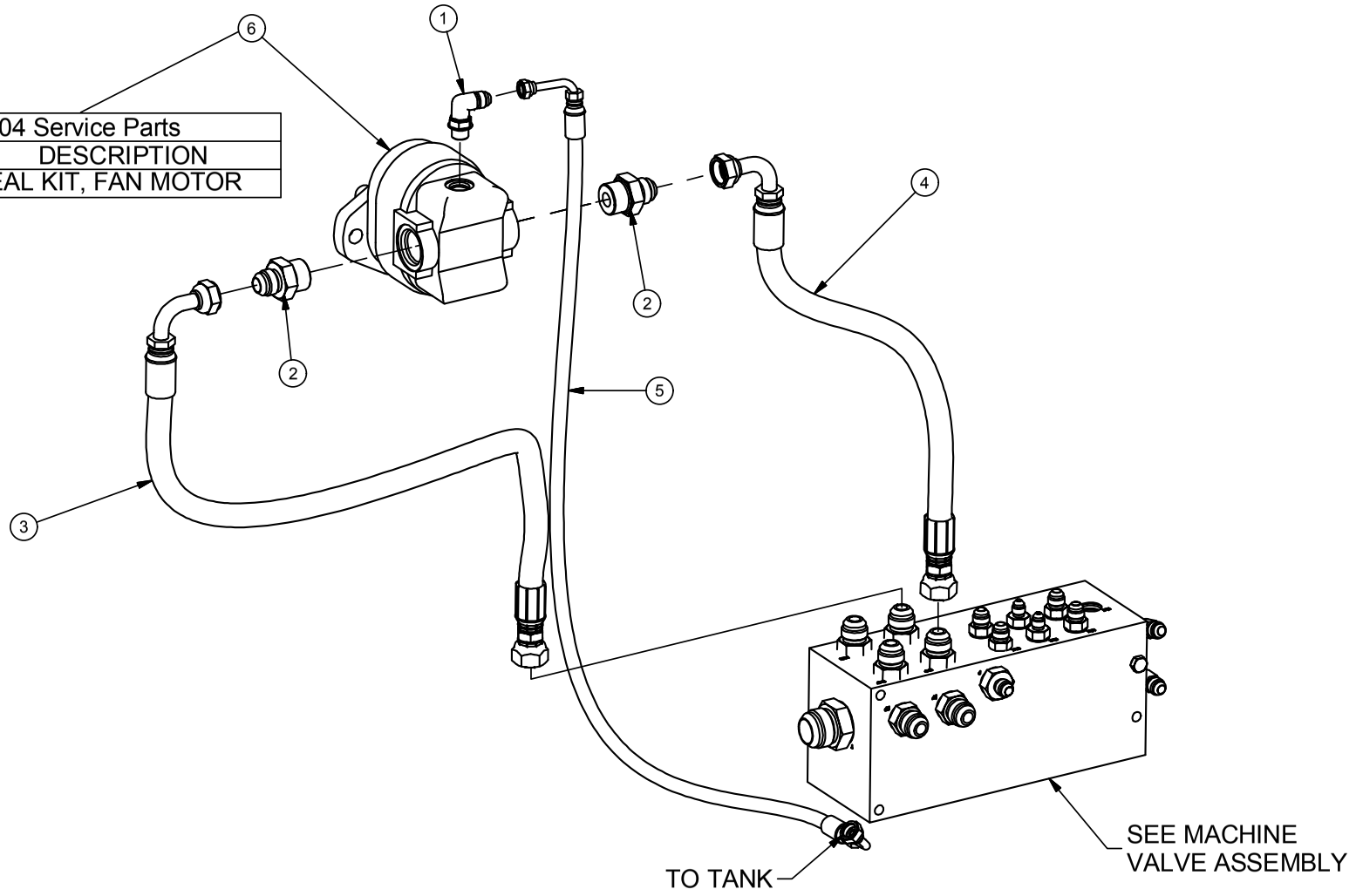
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	120222	ADAPTER, 6MJ-6MB90
2	2	120253	ADAPTER, 10MJ-12MB
3	1	320207	HOSE ASSY, FAN RETURN
4	1	320208	HOSE ASSY, FAN PRESSURE
5	1	320246	HOSE - FAN MOTOR CASE DRAIN
6	1	923004	MOTOR, 1.71 CI, FAN DRIVE





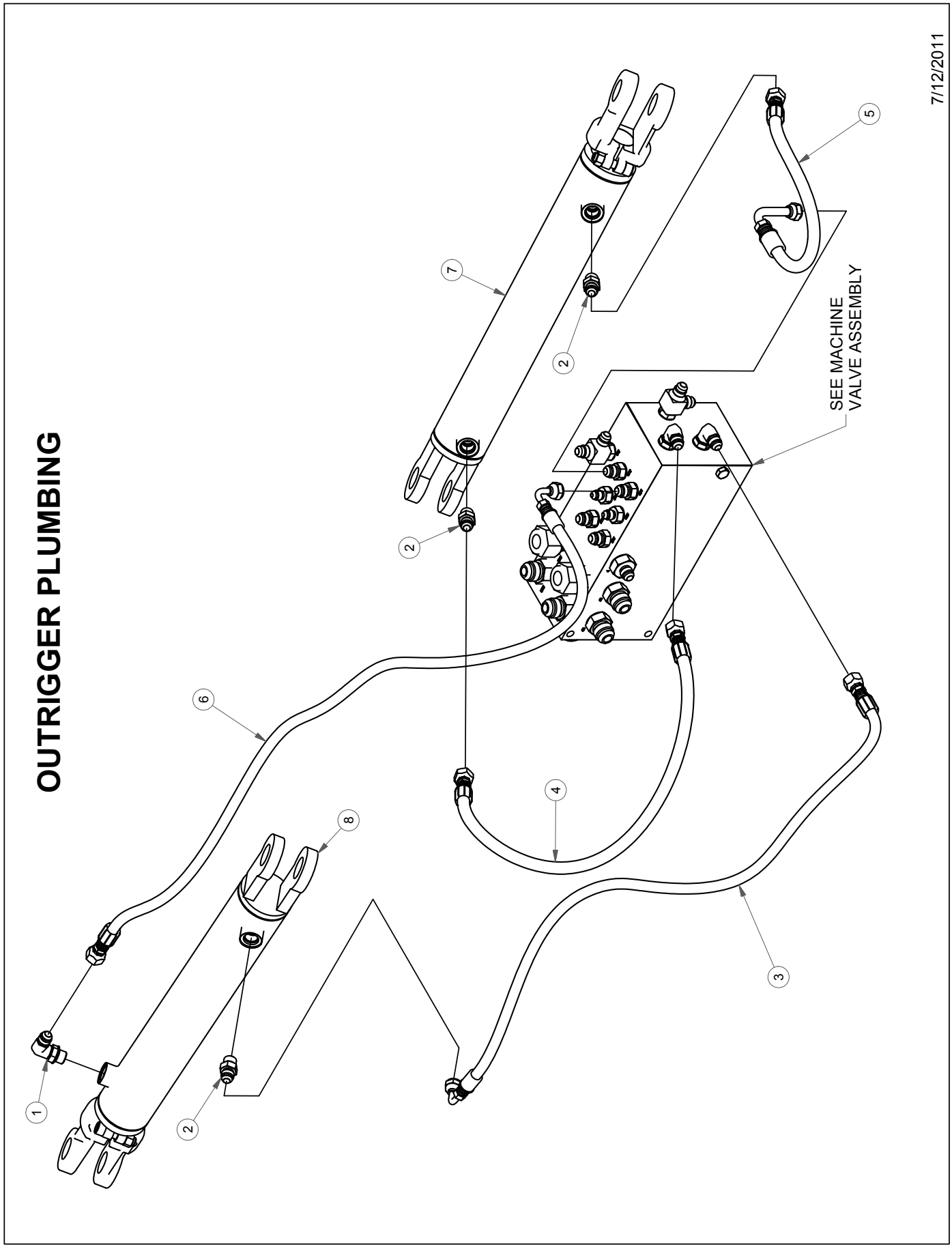
3/30/2012

FAN MOTOR PLUMBING

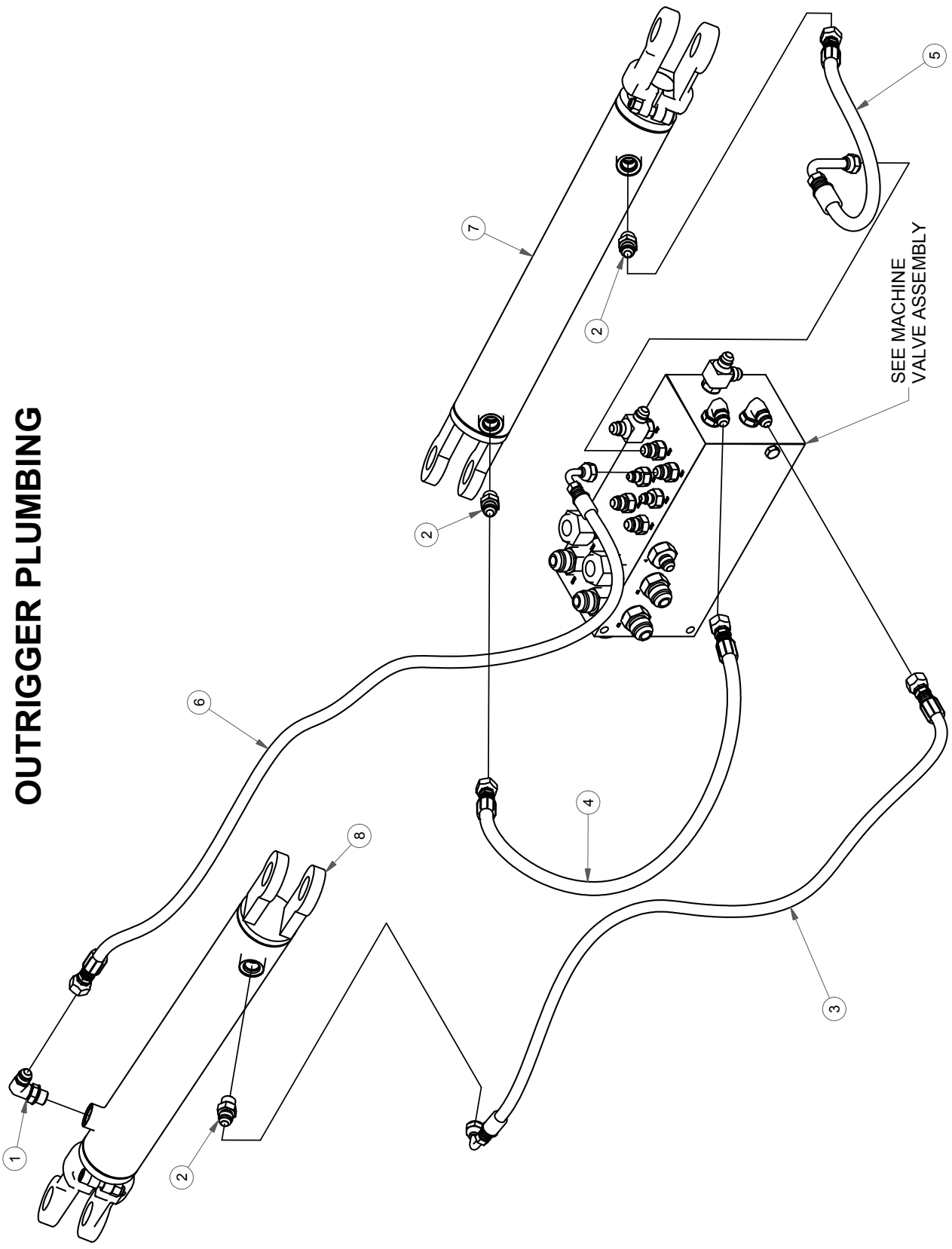


923004 Service Parts	
PART	DESCRIPTION
922078	SEAL KIT, FAN MOTOR

3/30/2012


OUTRIGGER PLUMBING
7/12/2011
SEE MACHINE
VALVE ASSEMBLY
1
2
2
2
3
4
5
6
7
8

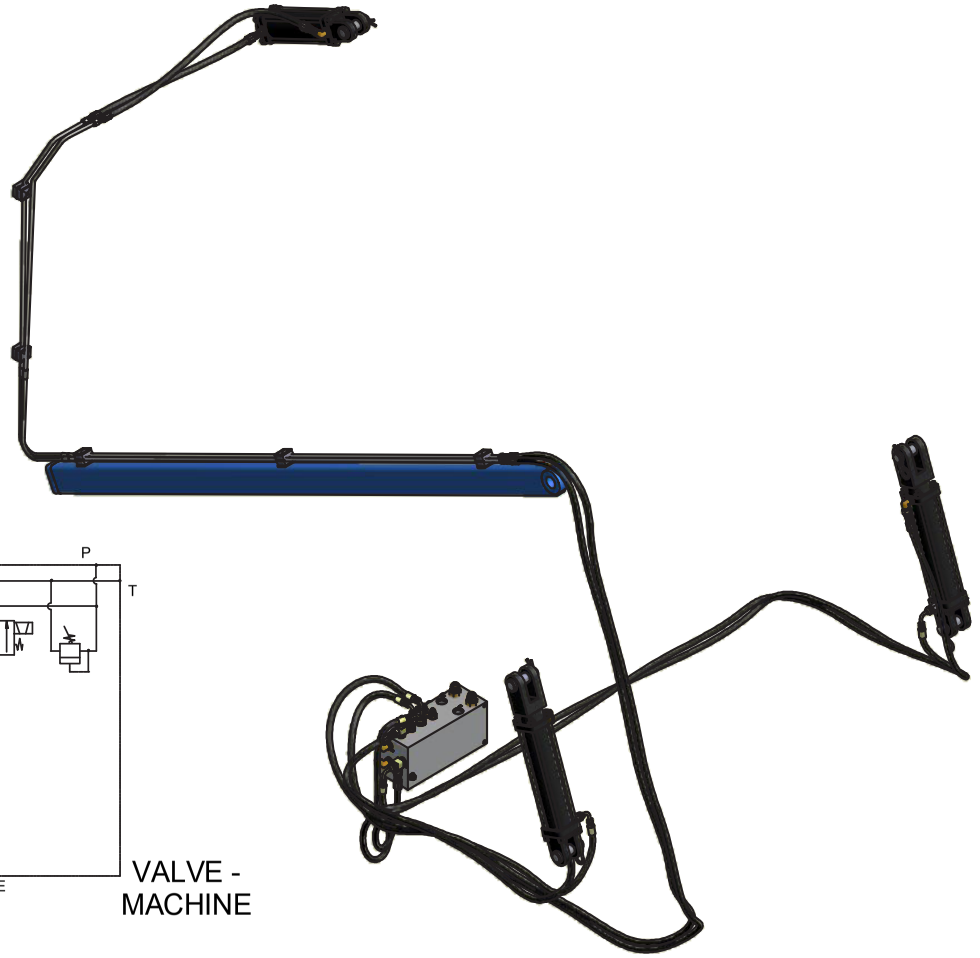
OUTRIGGER PLUMBING

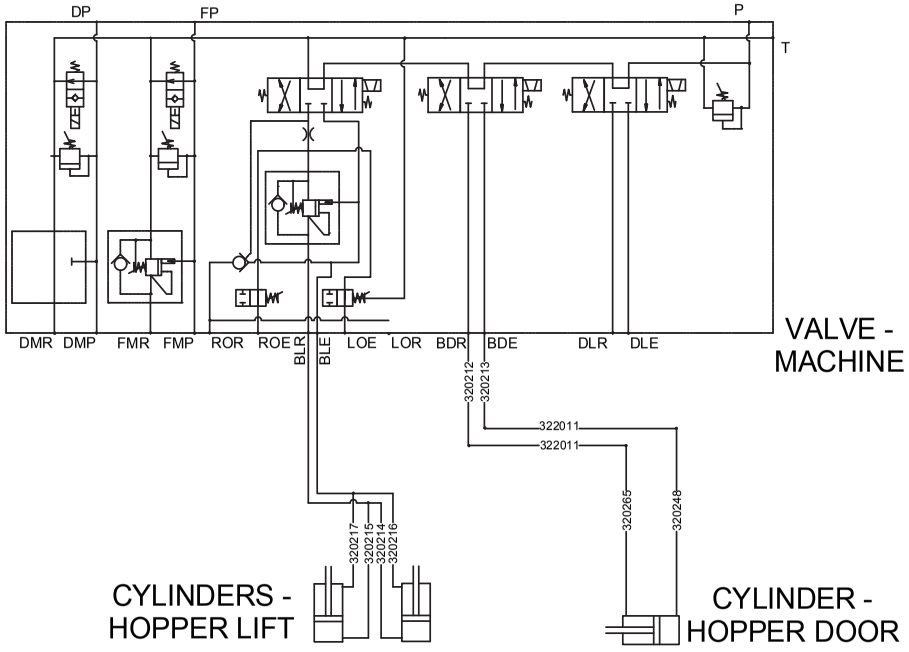


7/12/2011

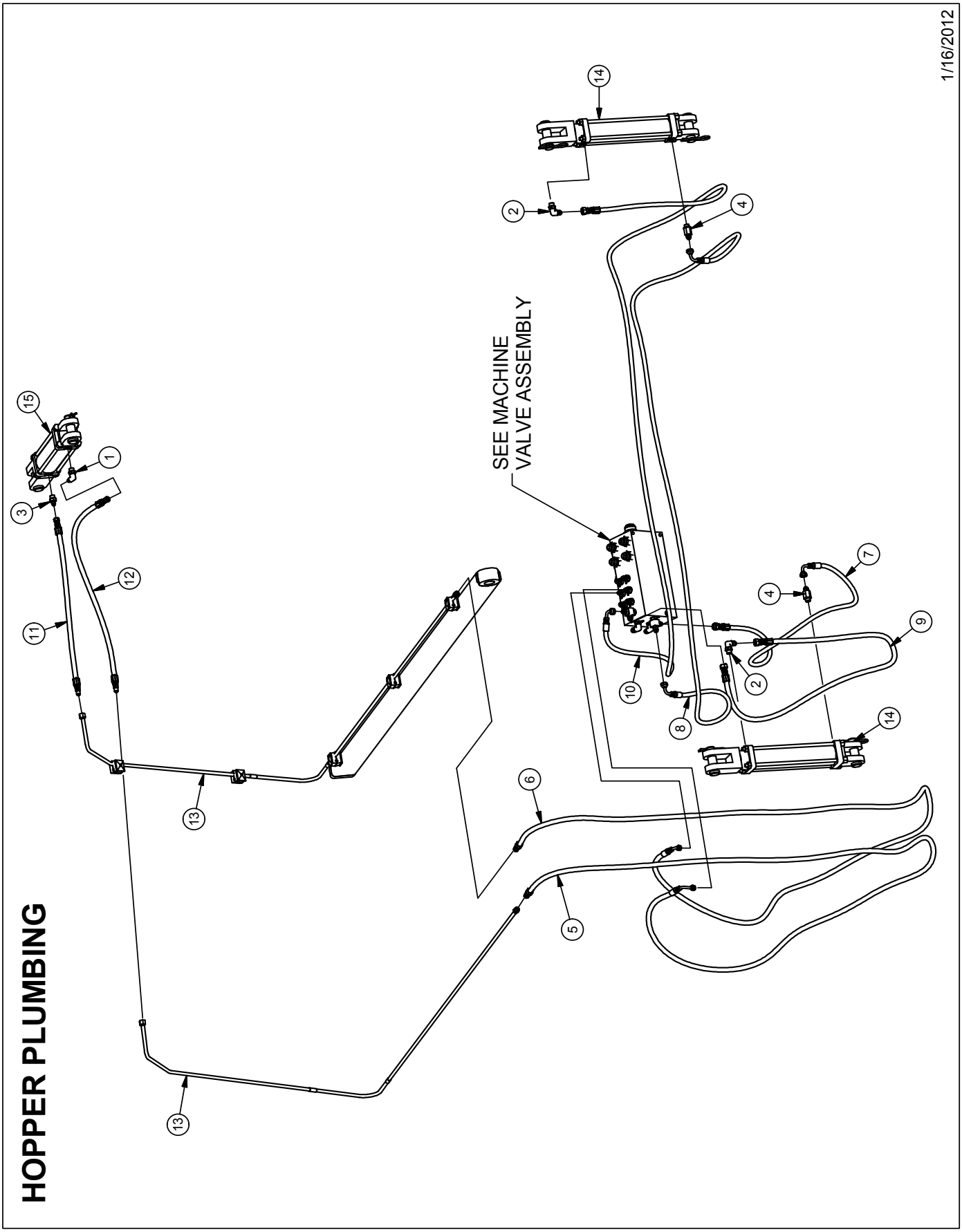
HOPPER PLUMBING

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	120220	ADAPTER, 4MJ-6MB90
2	2	120222	ADAPTER, 6MJ-6MB90
3	1	120249	ADAPTER, 4MJ-6MB
4	2	120538	ADAPTER - VELOCITY, 2 GPM, 6MP-6MJ
5	1	320212	HOSE - HOPPER DOOR EXTEND
6	1	320213	HOSE - HOPPER DOOR RETRACT
7	1	320214	HOSE - RH CYL HOPPER LIFT EXTEND
8	1	320215	HOSE - LH CYL HOPER LIFT EXTEND
9	1	320216	HOSE - RH CYL HOPPER LIFT RETRACT
10	1	320217	HOSE - LH CYL HOPPER LIFT RETRACT
11	1	320248	HOSE - HOPPER DOOR CYL - ROD END
12	1	320265	HOSE - HOPPER DOOR CYL - BASE END
13	2	322011	HOSE - TV30 HOPPER DOOR, ASSEM
14	2	323019	CYLINDER - 2 X 8, SAE-6
15	1	923011	CYLINDER, 2 X 6, -6 SAE CROSS





1/16/2012


HOPPER PLUMBING
1/16/2012
SEE MACHINE
VALVE ASSEMBLY
1
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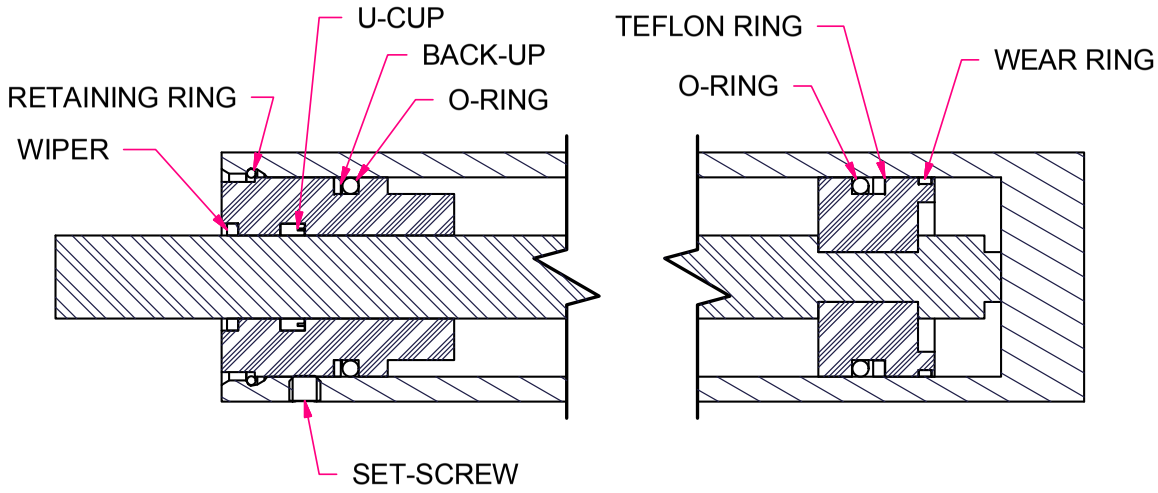
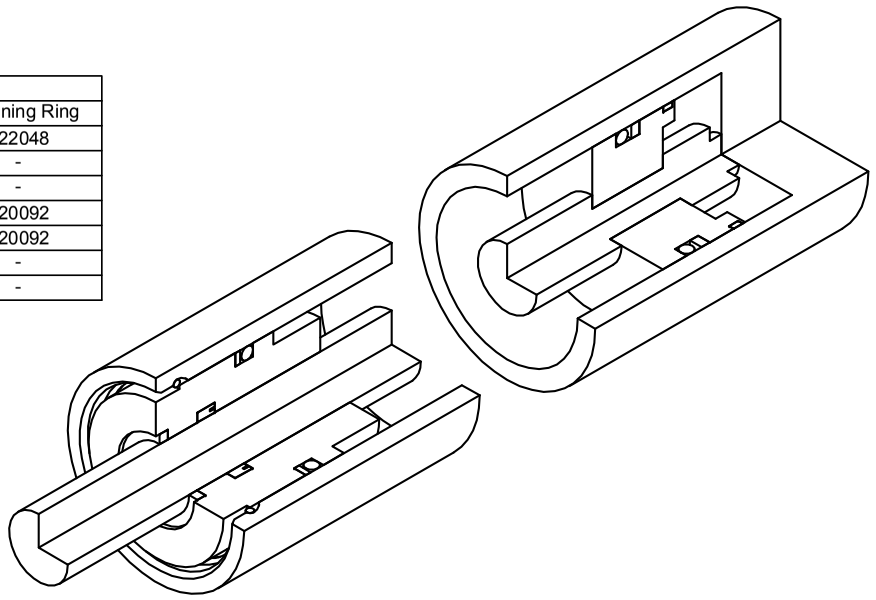
HYDRAULIC CYLINDER SERVICE PARTS



	Service Parts		
	Cylinder Part #	Seal Kit	Retaining Ring
Steering	323010	322047	322048
LH Deck Lift	323018	220387	-
RH Deck Lift	323033	220387	-
LH Outrigger	323032	220534	220092
RH Outrigger	323031	220534	220092
Hopper Lift	323019	220387	-
Hopper Door	923011	220387	-



3/28/2012

PORT LABEL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
AUX	AUXILIARY
BDE	BOX/HOPPER DOOR EXTEND (CLOSE)
BDR	BOX/HOPPER DOOR RETRACT (OPEN)
BLE	BOX/HOPPER LIFT EXTEND (UP)
BLR	BOX/HOPPER LIFT RETRACT (DOWN)
CD	CASE DRAIN
CP	CHARGE PRESSURE
CR	CHARGE RETURN
CS	CASE SUCTION
DLE	DECK LIFT EXTEND (DOWN)
DLR	DECK LIFT RETRACT (UP)
DMP	DECK MOTOR PRESSURE
DMR	DECK MOTOR RETURN
DP	DECK PRESSURE
DR	DRAIN
FMP	FAN MOTOR PRESSURE
FMR	FAN MOTOR RETURN
FP	FAN PRESSURE
IN	INLET
LA1	LEFT A1 PRESURE
LA2	LEFT A2 PRESSURE
LBR	LEFT BRAKE RELEASE
LCD	LEFT CASE DRAIN
LFT	LEFT TURN
LOE	LEFT OUTRIGGER EXTEND (OUT)
LOR	LEFT OUTRIGGER RETRACT (IN)
LR	LEFT RETURN
OUT	OUTLET
P	PRESSURE (IMPLEMENT)
PA	PRESSURE A
PB	PRESSURE B
RA1	RIGHT A1 PRESSURE
RA2	RIGHT A2 PRESSURE
RBR	RIGHT BRAKE RELEASE
RCD	RIGHT CASE DRAIN
ROE	RIGHT OUTRIGGER EXTEND (OUT)
ROR	RIGHT OUTRIGGER RETRACT (IN)
RR	RIGHT RETURN
RT	RIGHT TURN
T	TANK

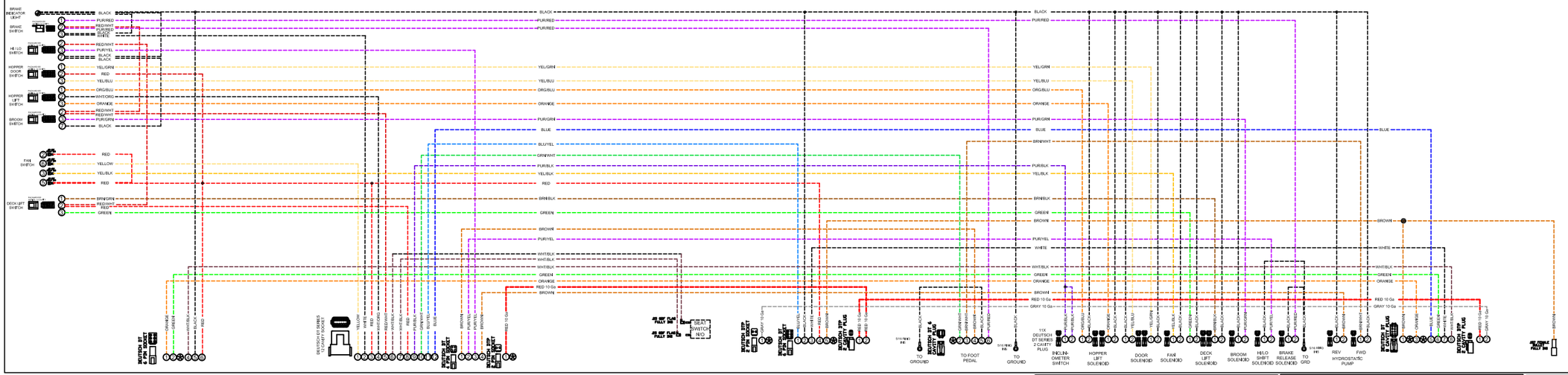
PARTS

ELECTRICAL SECTION

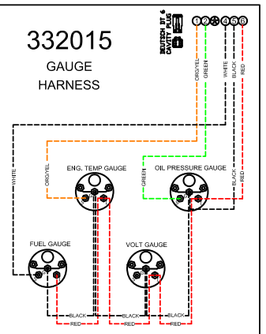
TURBO VAC 30

TV30 DIESEL WIRING SCHEMATIC DIAGRAM OVERVIEW

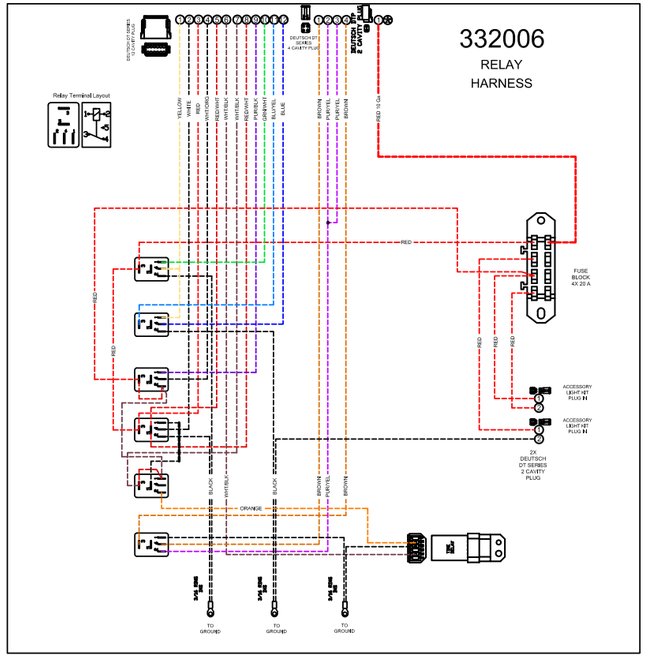
332017
MASTER HARNESS



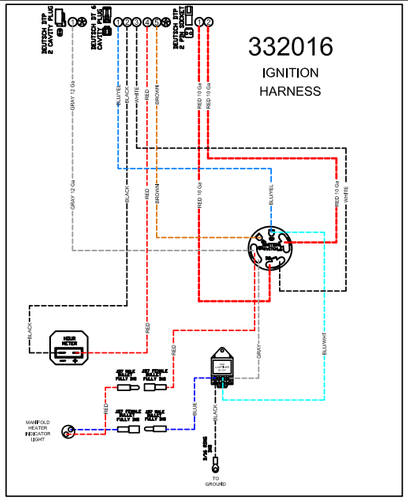
332015
GAUGE HARNESS



332006
RELAY HARNESS

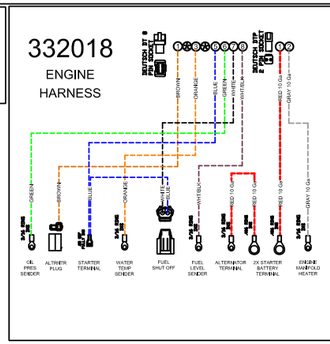


332016
IGNITION HARNESS

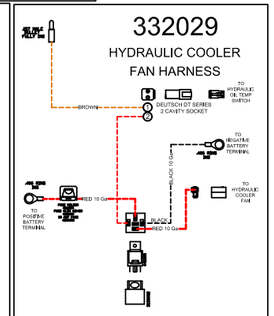


HYDRAULIC VALVES

332018
ENGINE HARNESS

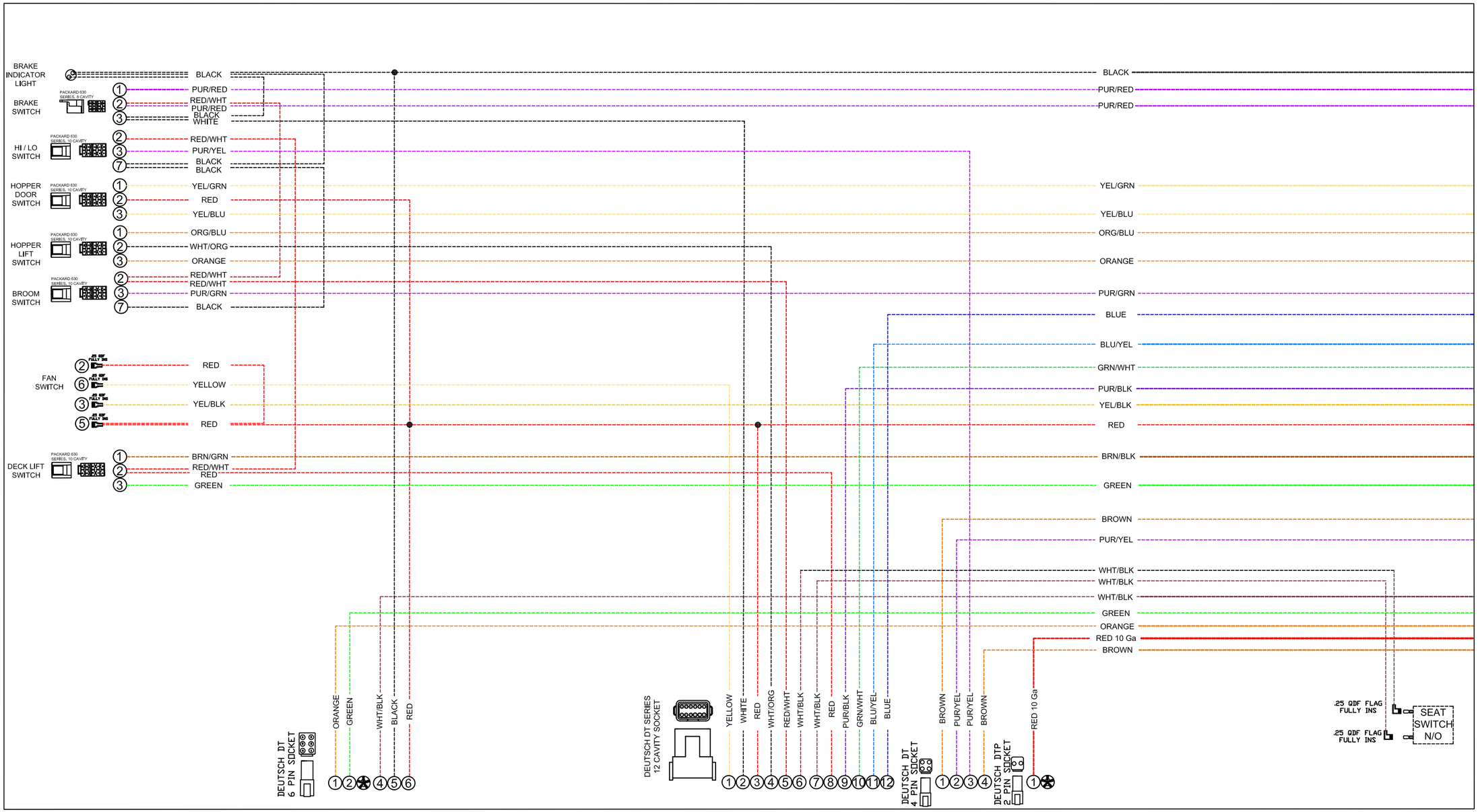


332029
HYDRAULIC COOLER FAN HARNESS



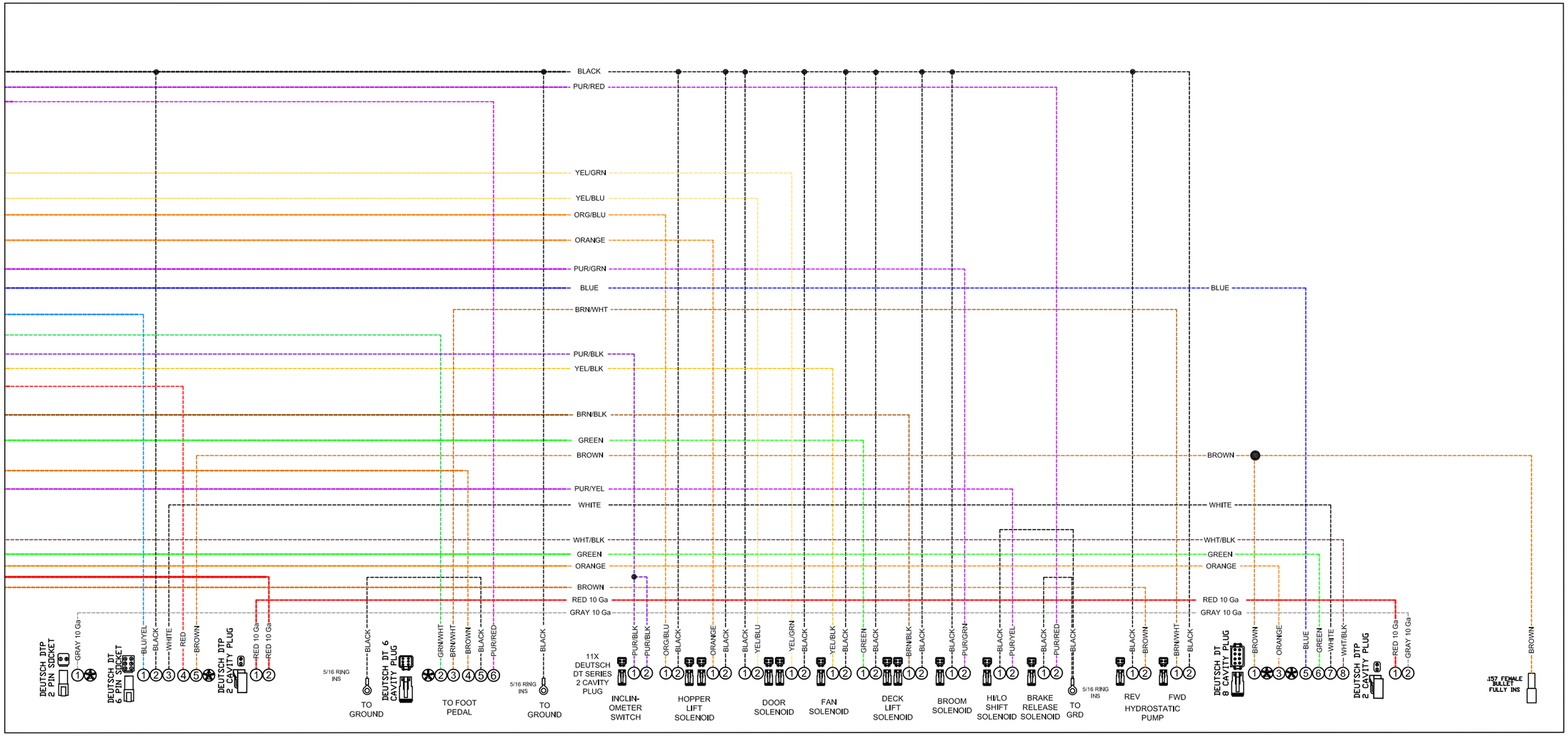
7/05/2012

MASTER HARNESS 332017 - PART 1



7/5/2012

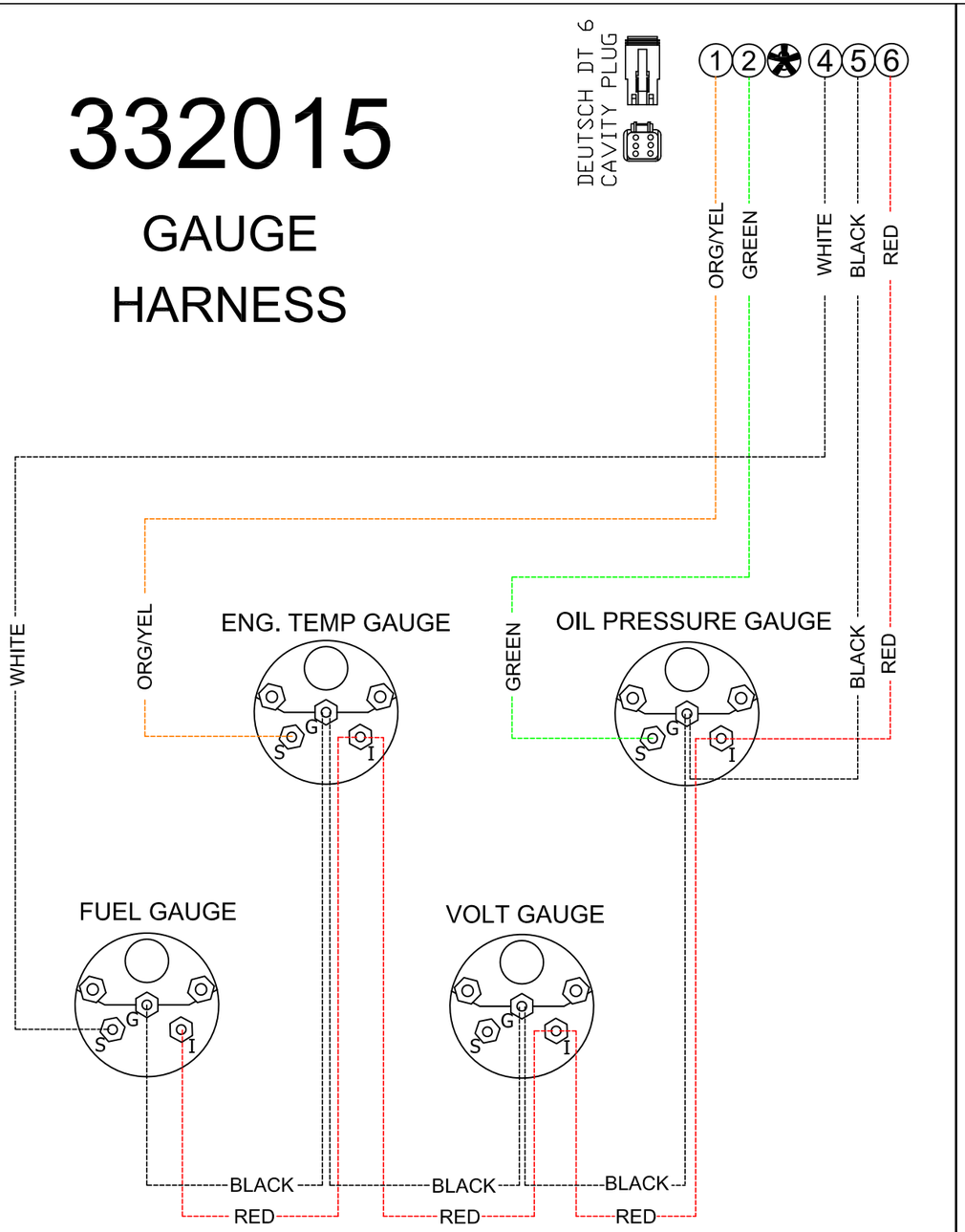
MASTER HARNESS 332017 - PART 2



7/5/2012

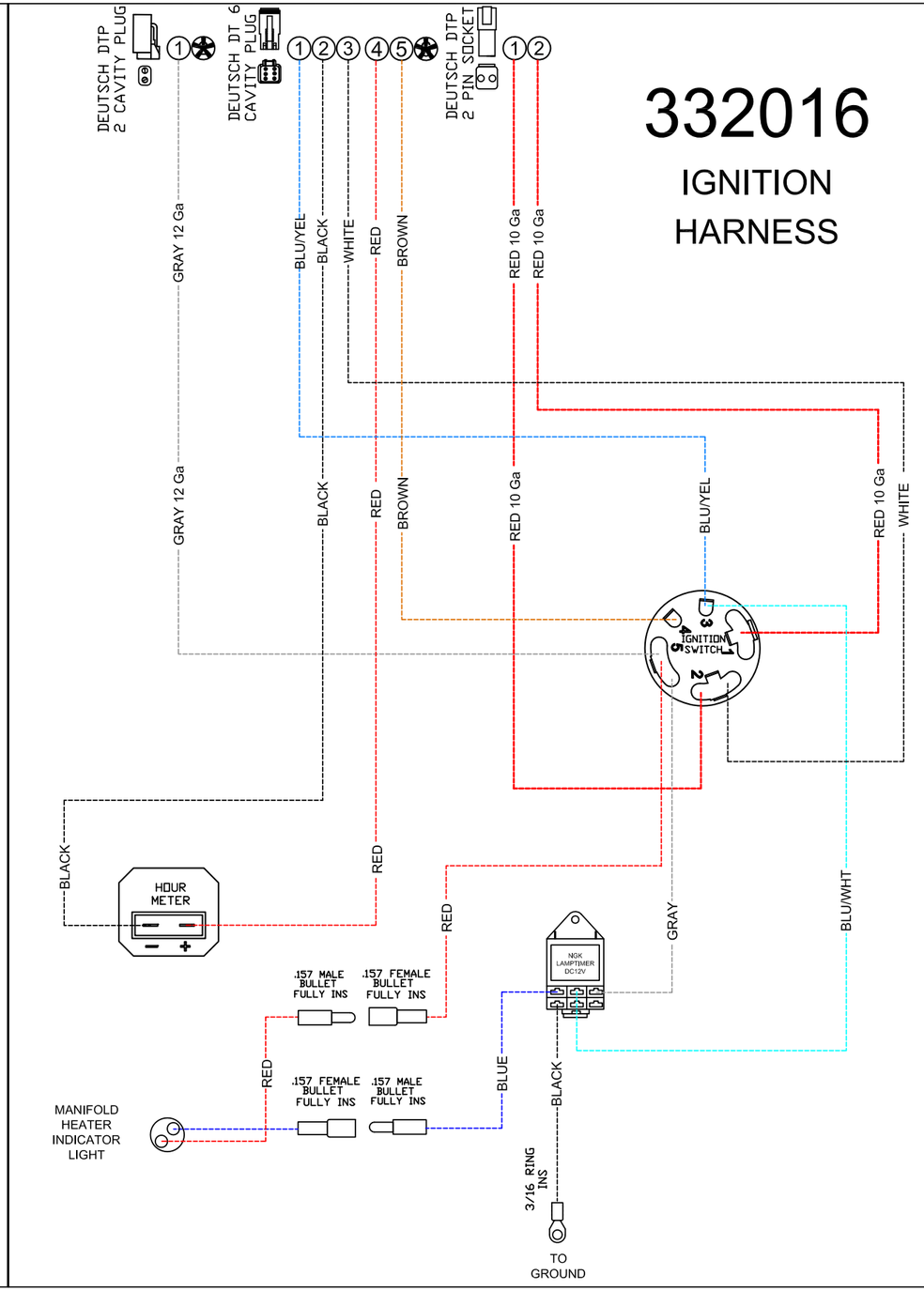
332015

GAUGE HARNESS

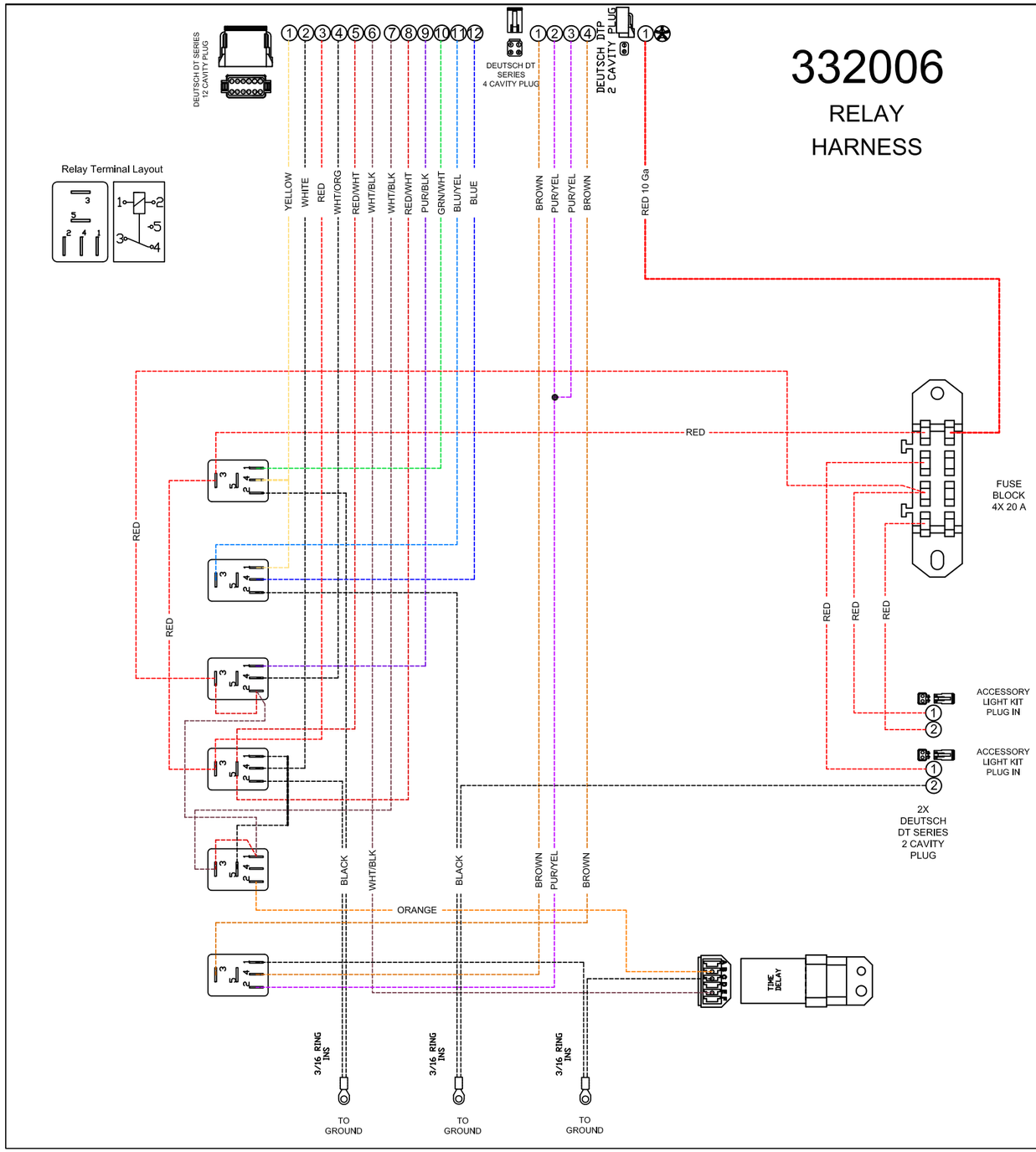


332016

IGNITION HARNESS



7/05/2012



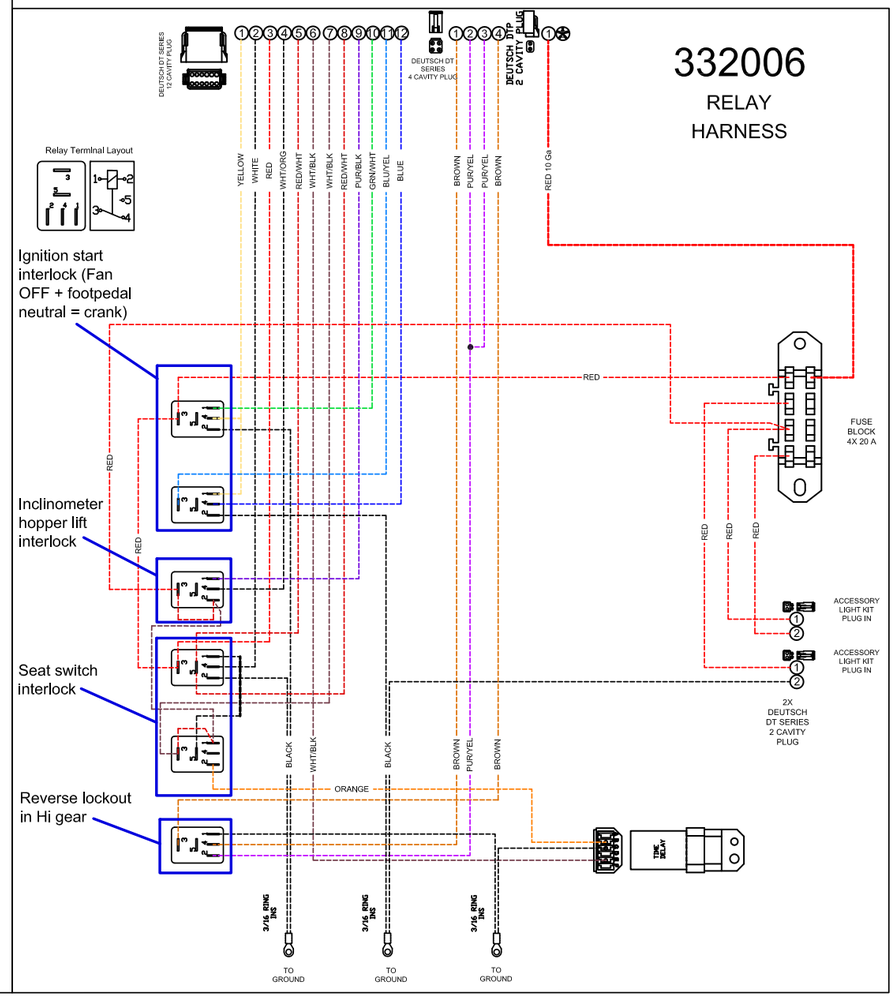
Electrical Safety Features

Ignition Start Interlock - The machine will not start if the foot pedal is not in the neutral position or if the fan/blower switch is in the “on” position.

Inclinometer Hopper Lift Interlock - This interlock prevents the hopper from lifting if the machine is on a slope greater than 5°.

Seat Switch Interlock - This function prevents the broom and deck lift from working if the operator is not present in the seat. This function also automatically sets the park brake when the operator is not present.

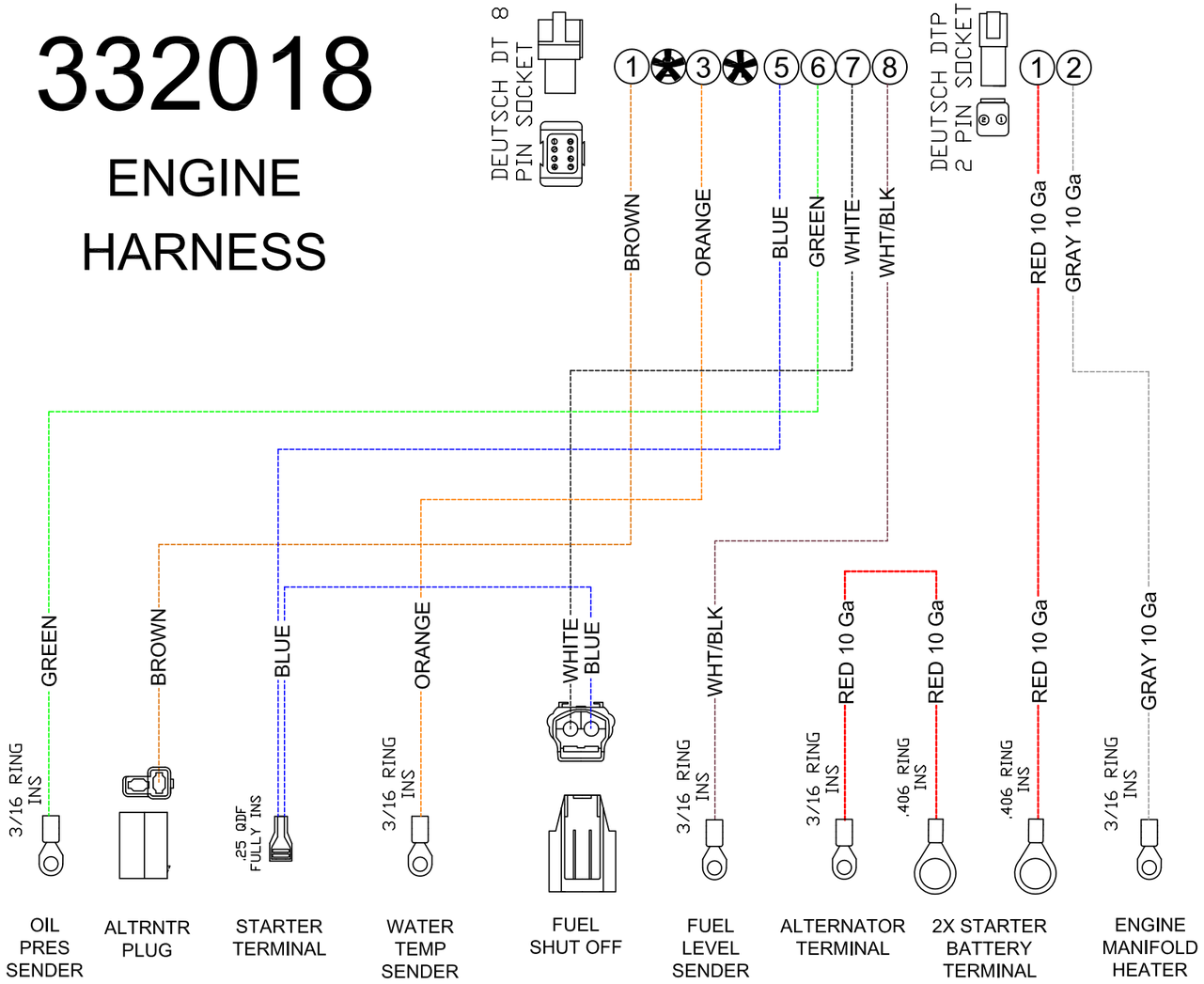
HI-Reverse Lockout - The machine will not reverse if it is in HI gear.



7/05/2012

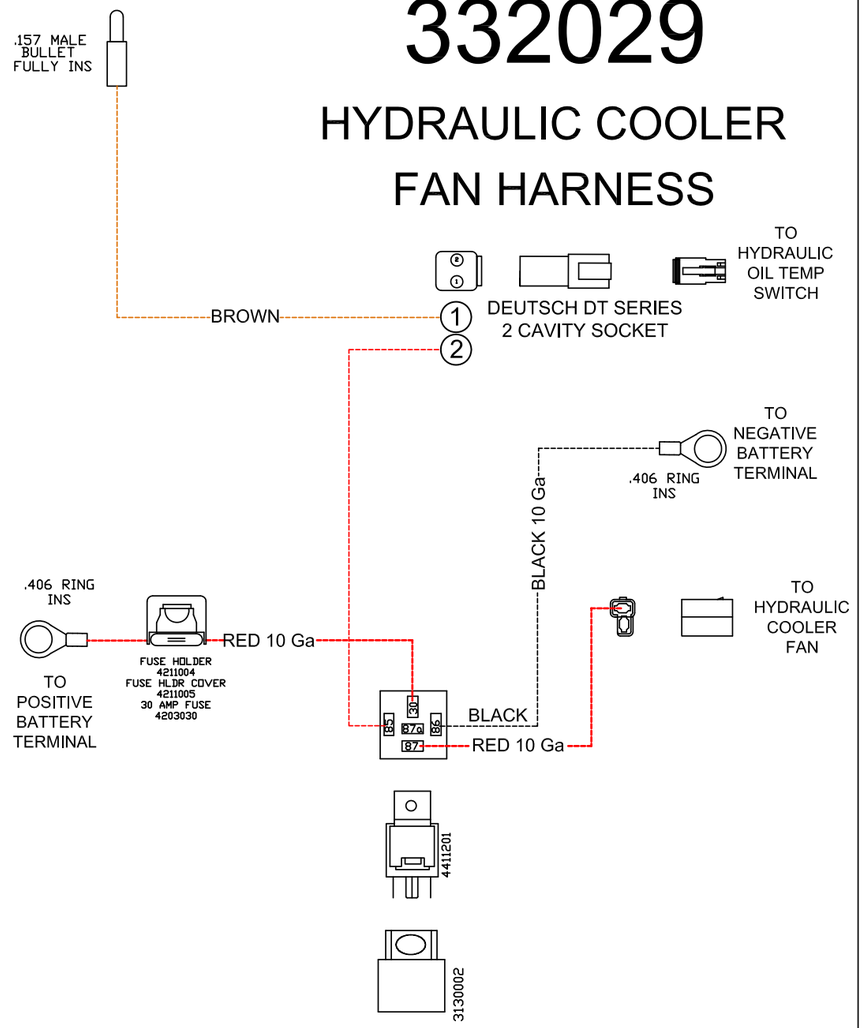
332018

ENGINE HARNESS



332029

HYDRAULIC COOLER FAN HARNESS



7/05/2012

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TURBO VAC 30