

HARPER[®]

TURBO VAC

Turf Sweeper

Operator's Manual



TURBO VAC 30

& Parts Manual

TV300

HARPER INDUSTRIES, INC.

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:



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.

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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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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Specifications

Power	Diesel - Kubota 44 hp 4-Cylinder (available Spring 2010)
Configuration	Self-contained, 4-wheel configuration with front steering, two rear drive wheels, and a rear mounted, high-lift, debris hopper with patented recirculating vacuum air technology
Sweeper	Head 60" single sweeping reel with nylon bristle brush, follows all terrain with two caster wheels mounted on sweeper head (vertical and horizontal float), rises to transport position, lowers to operating position by hydraulic cylinder
Fan	25" diameter with 6-blade radial fan, fan housing includes UHMW liner
Debris Hopper	Capacity – 3.5 cubic yards
Stabilizers	Two side stabilizers, auto-deploy
Lift	Rises 6'4" above the ground to dump debris into vehicle or container
Lift Safety	Slope sensor (7% grade) and lift capacity sensor
Drive	Hydrostatic pump directly coupled to engine drives two Poclain high-efficiency piston drive hydraulic motors on rear wheels with two speed operation and differential lock, foot operated pedal for forward and reverse drive
Speed	Infinitely variable, 0-8 mph low (operation), 0-14 mph high (transport), 0-7 mph reverse Braking Dynamic braking through the hydrostatic drive system, mechanically applied and hydraulically released parking brake on rear wheels
Main Frame	1/4" and 7 gauge steel frame
Tires/Wheels	Front (2) 20-10x10 4-ply premium turf tire, Rear (2) 26-12x12 6-ply premium turf tires
Compaction	11.2 psi in front, 7.8 psi in rear
Steering	Power steering with automotive type steering wheel, tilt steering
Controls/Gauges	Hydraulic lift/lower of debris hopper Hydraulic open/close of debris hopper tailgate Hydraulic raise/lower of sweeping mechanism head assembly Solid State max grade detection for dump circuit
Seat	Tethered, high back, adjustable position
Electrical	12 volt, electronic key start
Dimensions	Length – 144 in., Height – 89 in., Width – 65 in., Wheel Base – 84 in.
Weight	4260 lbs.
Liquid Capacities	Fuel – 11 Gallon; Hydraulic Fluid – 19 Gal
Safety &	Includes Certified ROPS and seatbelt, outriggers for safety during dumping and a
Conformance	solid state max grade detection system for dumping system
Hydraulic Oil	Terresolve EL 3068, bio-based, high-performance, ISO 68 – viscosity, severe service

NOTE: Following publication of this manual, certain changes in standard equipment and/or options may have occurred which would not be included in these pages. Your Harper dealer is the best source for up-to-date information.

Control Identification

ROPS – Roll-Over Protective Structure is certified and designed to protect operator in case of a roll-over. Always wear a safety belt.

Steering Wheel – steering is hydraulically controlled. Turning radius of the sweeper head is approximately 46 in. Steering wheel angle may be adjusted with tilt knob.

Control Panel – all functions of the turf vac may be controlled from the operator's seat.

Foot Pedal – hydrostatic pump is controlled by pushing foot pedal forward and backward.

Lift Mechanism – raises the bottom of the hopper to a height of 6'4" to dump into a vehicle or container. **Use extreme caution when raising the hopper as the top can reach approximately 13½ feet.**

Fan Housing – surrounds the impeller and is protected on the inside by a plastic liner.

Sweeper Deck – has a 60" rotating brush and is designed to keep the vacuum concentrated on the ground.

Engine – Diesel – 44 HP Kubota

Hopper – stores up to 3½ cubic yards of material. Always empty hopper at end of operation.



Hopper Door – opens, closes and locks when the switch is activated by the operator.

Stabilizer Arms (2) – extend automatically before hopper is raised and retract after hopper is lowered. **Make sure stabilizer arms are stowed completely before sweeping.**



Hopper Lift Height Decal – always keep the height of the turf vac in mind during operation and be alert for wires, branches, etc. **If this decal is damaged, replace it immediately.**

Fan ON/OFF – turn fan on while engine is from low (diesel) to mid-throttle (gasoline).

Broom ON/OFF – turn broom on while engine is from low (diesel) to mid-throttle (gasoline).

Hopper UP/DOWN – raise hopper with extreme caution. Stabilizer arms will extend before hopper raises and will retract after hopper is lowered. **Make sure stabilizer arms are stowed completely before sweeping.**

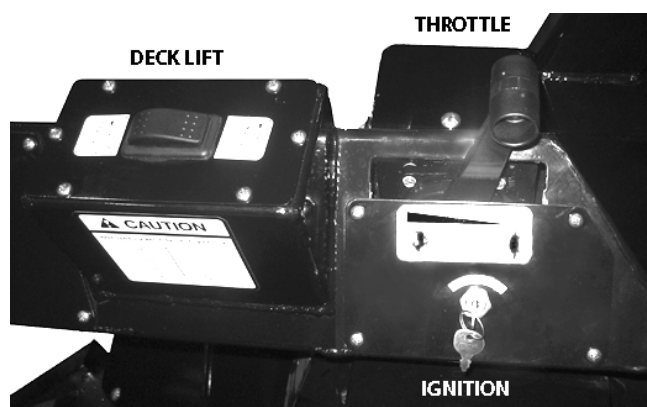
Door OPEN/CLOSE – hopper door is hydraulically opened and closed with switch.

Operation Speed HI/LO – ALWAYS SWEEP WITH TRANSMISSION IN LOW. Use high range when traveling between operations.

Park Brake ON/OFF – set park brake when unit is not in use or is parked on an incline. Make sure park brake is disengaged before operation.

Park Brake Indicator – light illuminates when key switch is on and park brake is set.

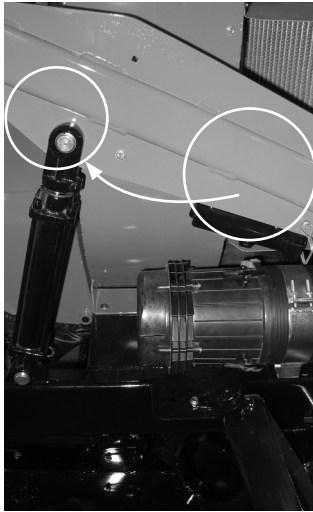
Engine Choke (diesel) – use engine choke when starting a cold engine. Choke may not be needed if engine is warm.



Deck Lift – sweeper deck height may be adjusted for conditions and performance.

Throttle – adjust engine speed with throttle. Start at low throttle, allow engine to warm up, then operate unit at full throttle.

Ignition – turn key to right to start unit. Remove key when unit is not in use. Never leave unit unattended with key in ignition.



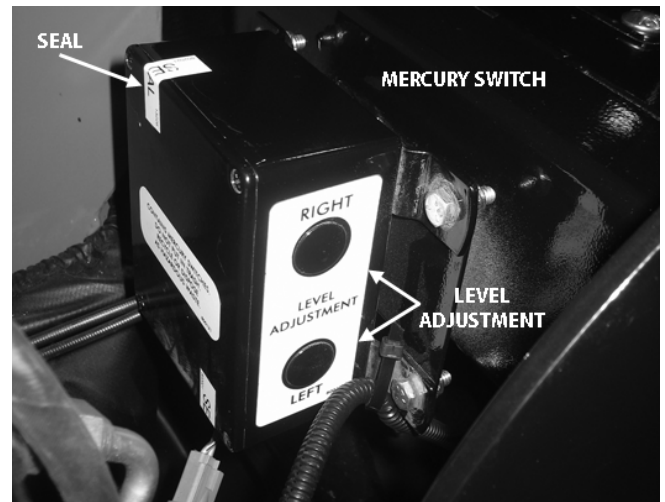
Hopper Lift Cylinder – hopper may be raised to empty debris into a vehicle or container.

Safety Lock – use safety lock whenever maintenance is performed. Make sure weight of raised hopper rests on safety lock by relieving pressure on cylinder with switch. Remove safety lock before lowering hopper.



Impeller – impeller is enclosed in fan housing. Make sure unit is turned off and key is removed from ignition before attempting any service.

Liner – inspect liner frequently for wear. Replace liner before it wears through to fan housing.



Mercury Switch – senses incline of unit. Level adjustment is set at factory and does not require adjustment. If seal is broken, warranty may be voided.

! SAFETY WARNING! !
DO NOT OPEN SEALED MERCURY SWITCH Mercury is highly toxic. If mercury switch container is replaced, return old container to Harper Industries for disposal.

! SAFETY WARNING! !
 Do not leave Turf Vac unattended, or attempt any service or inspection unless the machine has come to a complete stop and the engine has been shut off.

Safety Guidelines

Equipment & Controls

- **Read and understand this manual.**
- Altering this equipment in any manner which adversely affects its operation, performance, durability, or use will void the warranty and may cause hazardous conditions.
- Know the location and function of all controls and how to stop this equipment quickly in an emergency before you operate the equipment.
- Keep all nuts, bolts and screws tight to help ensure safe operation of this equipment.
- Use genuine factory parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or others.
- If hardware is not secure, or if some of the hardware is over-tightened, equipment failure may result, posing possible safety hazards.
- To prevent possible eye injury, always wear SAFETY GLASSES while operating equipment.

Safety Decals

- If safety related or instructional decals become illegible or are removed, replace them immediately. New decals may be obtained from your local Harper Dealer.
- If you replace parts that have such decals attached to them, make sure the decals are replaced with current versions, and are on the replacement parts before the machine is operated again.

Diesel Fuel

- Always use an approved container for transporting diesel fuel.
- Do not allow open flames or sparks while performing maintenance or refueling.
- Never remove fuel tank cap or add fuel when engine is running or while it is hot.
- Only use ultra low sulfur diesel.
- Never fill fuel tank indoors. Fumes are heavy and will sink to the lowest point, collect and become hazardous.
- Wipe up spilled fuel immediately.
- Do not store fuel in a room with an appliance that has a gas pilot or electrical switch that may cause sparks.
- Always store diesel outside in a safety can (a can with flame arrestor and pressure relief valve in pour spout).
- Never store the equipment with fuel in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- Be certain to provide adequate ventilation if an engine must be run indoors - exhaust fumes are dangerous.



SAFETY WARNING!



Diesel fuel is extremely flammable and can be highly explosive.

Guards & Shields

- Keep all safety devices in place.
- Replace all worn, damaged, unusable, missing or lost safety shields and guards before operating the equipment.
- Keep the equipment in good operating condition.

Battery



SAFETY WARNING!



Batteries can produce explosive gas. Use extreme caution when working on the battery.

- Ventilate when charging battery or using in an enclosed space.
- DO NOT produce sparks from cable clamps, tools, or other sources; and DO NOT allow flames or smoking in the vicinity of the battery.
- Shield eyes when working near battery.

Hydraulics



SAFETY WARNING!



Escaping fluid under pressure can penetrate skin causing serious injury. To prevent serious injury or death:

- Relieve pressure on system before repairing, adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks.
- Use wood or cardboard instead of hands when looking for leaks.
- Keep all components in good repair.
- Do not use any type of heat, (welding, soldering, cutting torch, etc) near pressurized lines.

Before Operation

- Before operating this equipment, read and understand the Owner's Manual.
- Do not allow children to operate this machine.
- Wear approved eye and ear protection and other appropriate safety equipment while operating the machine.
- Check tire pressure and fill to specifications.
- Engine settings are preset and should not be changed; any change can damage moving parts and void the warranty.

- Before starting the machine, visually inspect all nuts, bolts and other fasteners to see that they are properly secured. Nuts, bolts and other fasteners should be checked every 8 to 10 hours of operation for proper alignment and tightness.
- Replace damaged or missing safety decals.
- Use factory authorized parts or their equivalent.
- Make sure that all bearings or hinging parts are greased and or oiled properly.

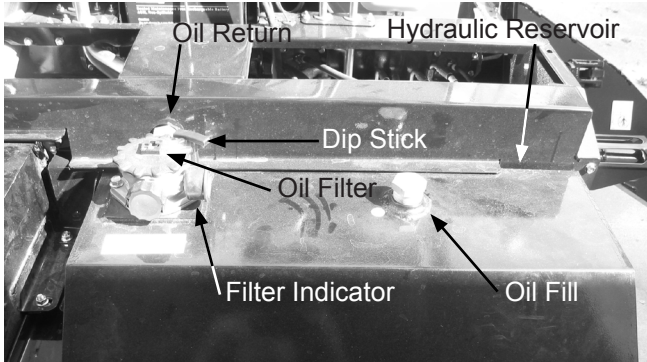
During Operation

- Always keep a fire extinguisher near the Turf Vac during operation.
- Keep clothing and all body parts away from rotating parts.
- When sweeping material into the machine, make certain there are no foreign materials such as rocks, cans, bottles or other hard materials included. Sweeping hard materials will reduce the life of the plastic liner in the blower housing.
- If a foreign object should strike the broom or blower mechanism and cause an unusual noise or vibration, shut the engine off immediately and allow it to come to a complete stop. Disconnect the spark plug wire from the spark plug and the power unit. **Do the following:**
 1. Inspect for damage.
 2. Repair or replace any damaged parts.
 3. Check for and tighten any loose bolts, nuts, fasteners or parts.
- Keep the engine area clean from debris and other accumulations to lessen the possibility of fire.

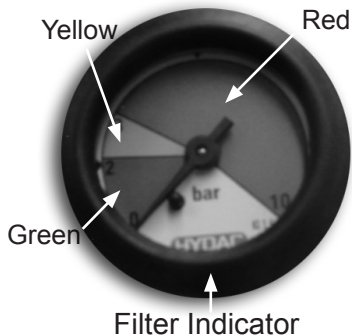
Maintenance

Hydraulic System

- The hydraulic system of the TV30D is filled at the factory with Terresolve EnviroLogic 3068 High Performance Biodegradable Hydraulic Fluid which has an ISO of 68.
- The TV30D has a 10 micron, beta rated hydraulic oil filter designed for long life.

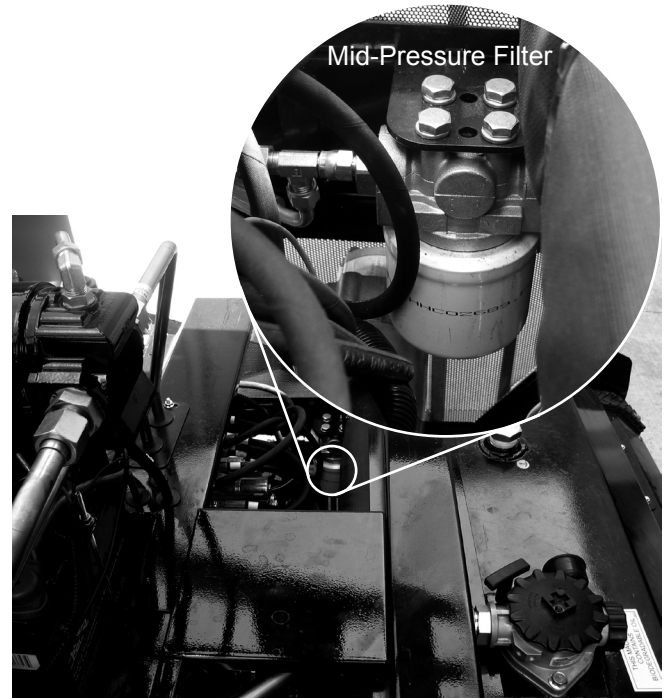


- On a daily basis, monitor the needle in the filter indicator while the fan is running to get an accurate reading.

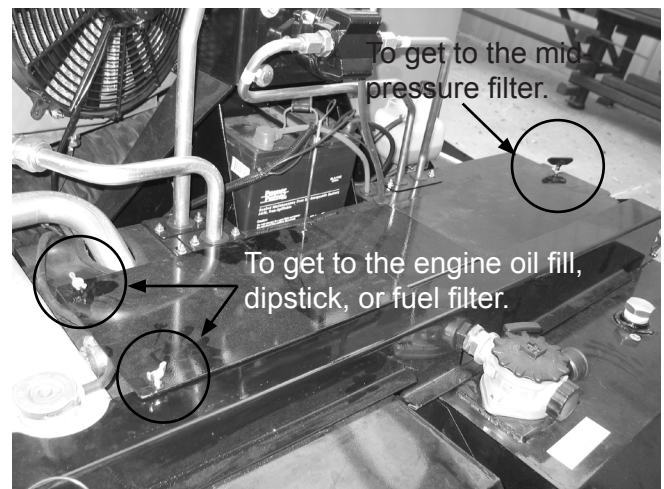


- The element (part no. 823004) does not need replaced until the needle is in the red portion of the gauge.
- To replace element, remove cap and twist element counter-clockwise. Insert new element, turn clockwise and replace cover.

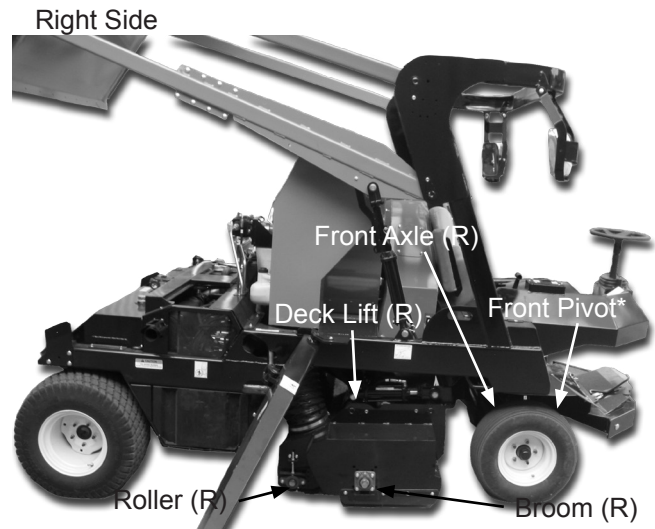
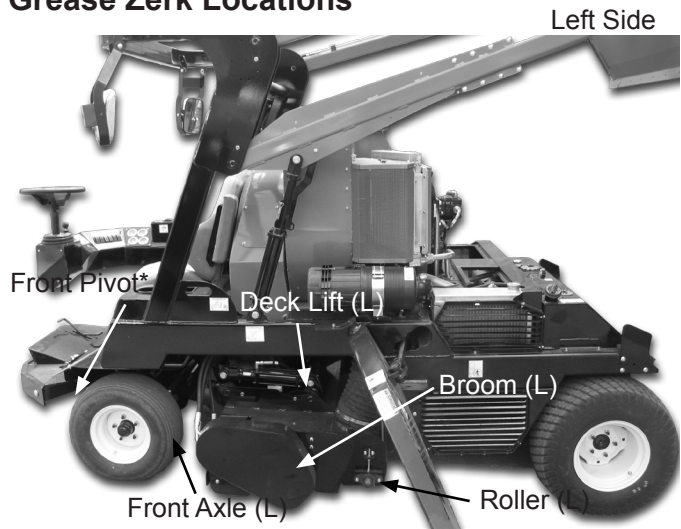
- The hydraulic oil level should be monitored daily with the oil dip stick located on the top of the hydraulic oil reservoir next to the filter indicator.
- Keep the hydraulic oil near the full mark at all times. Do not over fill.
- Fill reservoir through the fill location on top of the reservoir.
- For additional protection, there is also a mid-pressure filter (part no. 322009).



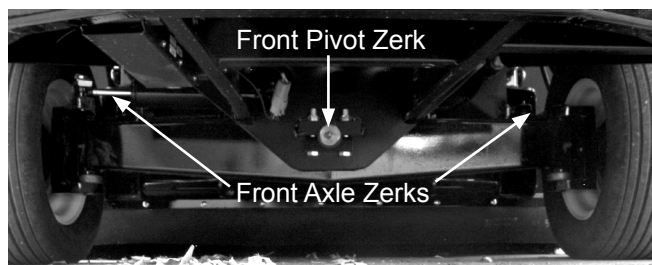
- To get to the mid pressure filter, the cover must first be taken off by removing the bolt on top of the cover.



Grease Zerk Locations



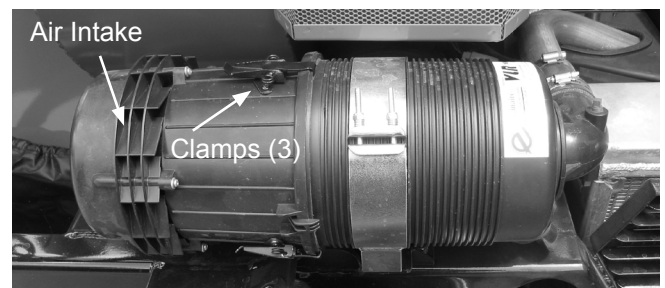
* same zerk



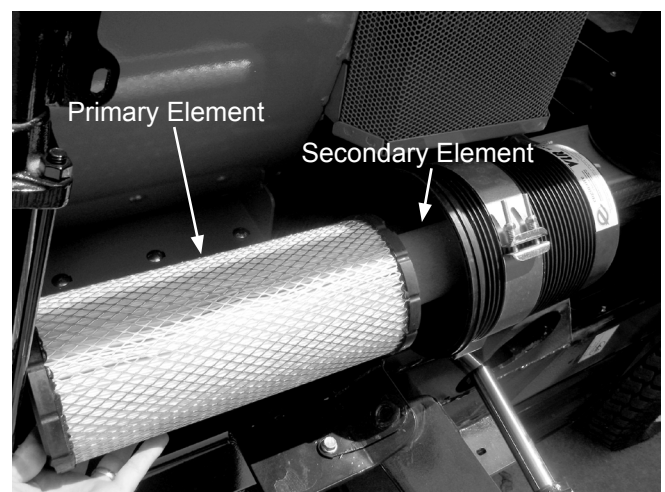
PROCEDURE

- 1) Park on level ground and set park brake.
- 2) Lower broom to the ground.
- 3) Turn off TurboVac.
- 4) Give 2 to 3 shots of grease after every 10 hours of use.

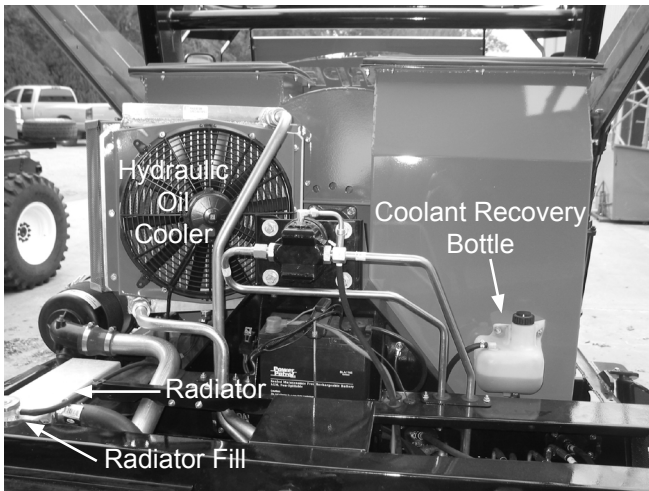
Air Cleaner



- Make sure intake is always free of debris.
- When engine is turned off, loosen clamps on air cleaner to access primary and secondary elements.
- Replace both elements according to the Maintenance Schedule.



Cooling System

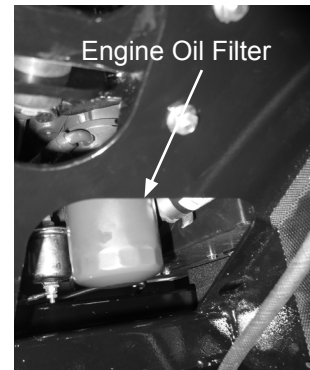
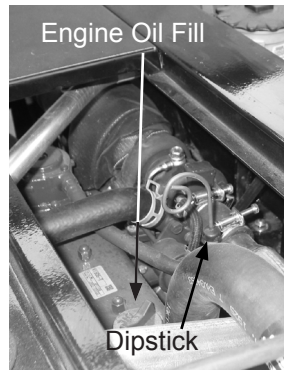


- Clear hydraulic oil cooler and radiator of debris with pressurized air daily or as needed.
- Remove screen on side of oil cooler to clean properly. It is released by pulling the tabs located on top and bottom of the screen.
- Remove vent in front of radiator if needed to clean.
- Check radiator level daily and only when engine is cool and not running.
- Remove cap (radiator fill) slowly to relieve any pressure that may be built up.
- Fill up radiator with coolant (50% water/ 50% antifreeze) until coolant is visible in neck of radiator.
- Make sure that the coolant recovery bottle has at least 1" of coolant in bottom. The presence of coolant in the recovery bottle does not mean radiator is full.



Hot Coolant and steam from the radiator can cause severe burns. Never open the radiator cap of a hot engine.

Engine Oil



- The dipstick and engine oil fill are located on the back left side of the engine.
- The engine oil filter is located at the back of the engine and it is obtainable from the bottom.
- To get to the engine oil fill or dipstick, the cover must first be taken off by removing the two wing bolt on the top of the cover (*see image on previous page spread*).

PROCEDURE

- Check engine oil level only when engine is turned off.
- Keep engine oil level between the FULL and ADD marks on dipstick at all times. DO NOT OVER-FILL.
- Add engine oil (S.A.E. 10W30) through the engine oil fill location.
- Replace the engine oil according to the Maintenance Schedule.
- Replace the engine oil filter according to the Maintenance Schedule.



Keep dipstick and oil fill cap secured tightly. Engine oil may escape through these orifices when engine is running causing severe burns.

Fuel Filter



- Fuel filter is located under the same cover as the engine oil fill and dipstick at the back left side of the engine.
- The Fuel Shut-off valve is located directly under the fuel tank itself, and to get to it, the rear shield must first be removed (see fuel tank schematic in parts section for details on placement of fuel shut-off).

Relay Panel



- Refer to the parts section for relay and corresponding functions.

Standard Torque Chart

⚠ SAFETY WARNING! ⚠
Refer to the Standard Torque Chart when-ever bolts, nuts or screws are tightened.

U.S. BOLT TORQUE SPECIFICATIONS

Torque in foot-pounds

					
Diameter	Thread per inch	SAE 2	SAE 5	SAE 8	SHCS
1/4	20	4	8	12	14
1/4	28	6	10	14	16
5/16	18	9	17	25	29
5/16	24	12	19	29	33
3/8	16	16	30	45	49
3/8	24	22	35	50	54
7/16	14	24	50	70	76
7/16	20	34	55	80	85
1/2	13	38	75	110	113
1/2	20	52	90	120	126
9/16	12	52	110	150	163
9/16	18	71	120	170	181
5/8	11	98	150	220	230
5/8	18	115	180	240	255
3/4	10	157	260	380	400
3/4	16	180	300	420	440
7/8	9	210	430	600	640
7/8	14	230	470	660	700
1	8	320	640	900	980
1	12	350	710	990	1060

Baseline torque is calculated for a non-lubricated, un-plated bolt.

BOLT TORQUE FACTORS

LUBRICANT OR PLATING	TORQUE CHANGES
Oil	Reduce torque 15% to 25%
Chrome plating	No change
Cadmium plating	Reduce torque 25%
Zinc plating	Reduce torque 15%

PRECAUTIONS

- When tightening two or more fasteners on the same part, DO NOT tighten the fasteners completely one at a time. To avoid distortion, first tighten all fasteners in sequence to one-third of torque value, then tighten to two-thirds of torque value, then tighten to full value.

Maintenance Schedule

- See the Kubota Operation and Maintenance Manual provided with the TV30D for a detailed description of all maintenance and service procedures for the engine.
- For the TV30D, Harper Industries recommends the following:

Daily or Before Starting Engine

- ☐ Check for leaks, smell of fuel, loose or damaged parts.....Repair as needed.
- ☐ Check radiator and oil cooler.....Blow off debris as needed.
- ☐ Check air cleaner intake.....Clear debris as needed.
- ☐ Check engine coolant level.....50% antifreeze, 50% water
- ☐ Check engine oil level.....SAE10W30
- ☐ Check hydraulic oil level.....Terresolve EL 3068
- ☐ Fill fuel tank.....Clean #2 diesel fuel
- ☐ Visually inspecting fittings and hoses.....Tighten or replace as needed.
- ☐ Grease.....See Grease Locations.
- ☐ Check Tire Pressure.....Inflate to 30 PSI
- ☐ Check lights.....Replace as needed.
- ☐ Check hydraulic filter indicator (engine and fan running).....Replace filter (823004) when needle is in the red.

Every 50 hours

- ☐ Check of fuel pipes and clamp bands.....See Kubota Manual
- ☐ Draining water separator.....See Kubota Manual

100 Hour Maintenance – Perform these and all previous items:

- ☐ Check outer air cleaner element.....Harper part no. 502009
 - (Change if element appears dusty due to severe conditions.)
- ☐ Change engine oil.....SAE10W30
 - (Refer to Kubota manual for oil type and procedure.)
- ☐ Check battery.....Clean terminals if necessary.

250 Hour Maintenance

- ☐ Change outer air cleaner element.....Harper part no. 502009
- ☐ Check inner air cleaner element.....Harper part no. 502010
 - (Change if element appears dusty due to severe conditions.)
- ☐ Check battery electrolyte level
- ☐ Check fan belt tightness.....Tighten as needed.
- ☐ Check radiator hoses and clamp bands.....Tighten or replace as needed.
- ☐ Check intake air lines.....Clear debris as needed.

Annual or 500 Hour Maintenance – Perform these and all previous items:

- ☐ Change engine oil filter.....Harper part no. 302058
 - (Refer to Kubota manual for filter type and procedure.)
- ☐ Change fuel filter.....Harper part no. 302057
 - (Refer to Kubota manual for filter type and procedure.)
- ☐ Change mid-pressure filter.....Harper part no. 322009
- ☐ Check hydraulic oil condition.....19 gal. Terresolve EL 3068
- ☐ Change inner air cleaner element.....Harper part no. 502010
- ☐ Removal of sediment in fuel tank
- ☐ Cleaning of water jacket (radiator interior)
- ☐ Replacement of fan belt
- ☐ Cleaning of water separator

1000 Hour Maintenance – Perform these and all previous items:

- ☐ Change hydraulic oil.....19 gal. Terresolve EL 3068
- ☐ Check valve clearance

Every One or Two Months – Perform these and all previous items:

- ☐ Recharge battery

1500 Hour Maintenance– Perform these and all previous items:

- ☐ Check of fuel injection nozzle injection pressure

3000 Hour Maintenance – Perform these and all previous items:

- ☐ Check turbo charger
- ☐ Check injection pump
- ☐ Check fuel injection timer

Every Two Years Maintenance – Perform these and all previous items:

- ☐ Change radiator coolant (L.L.C.)
- ☐ Replacement of battery
- ☐ Replacement of radiator hoses and clamp bands
- ☐ Replacement of fuel pipes and clamp bands
- ☐ Replacement of fan belt (or every 500 hours)

Date of Maintenance:_____ **Hours:**_____ **Performed by:**_____

- *For warranty replacement or repair of diesel engine, contact Kubota Engine America Corporation directly. Refer to www.kubotaengine.com for a service location.*

Parts Section



TURBO VAC 30

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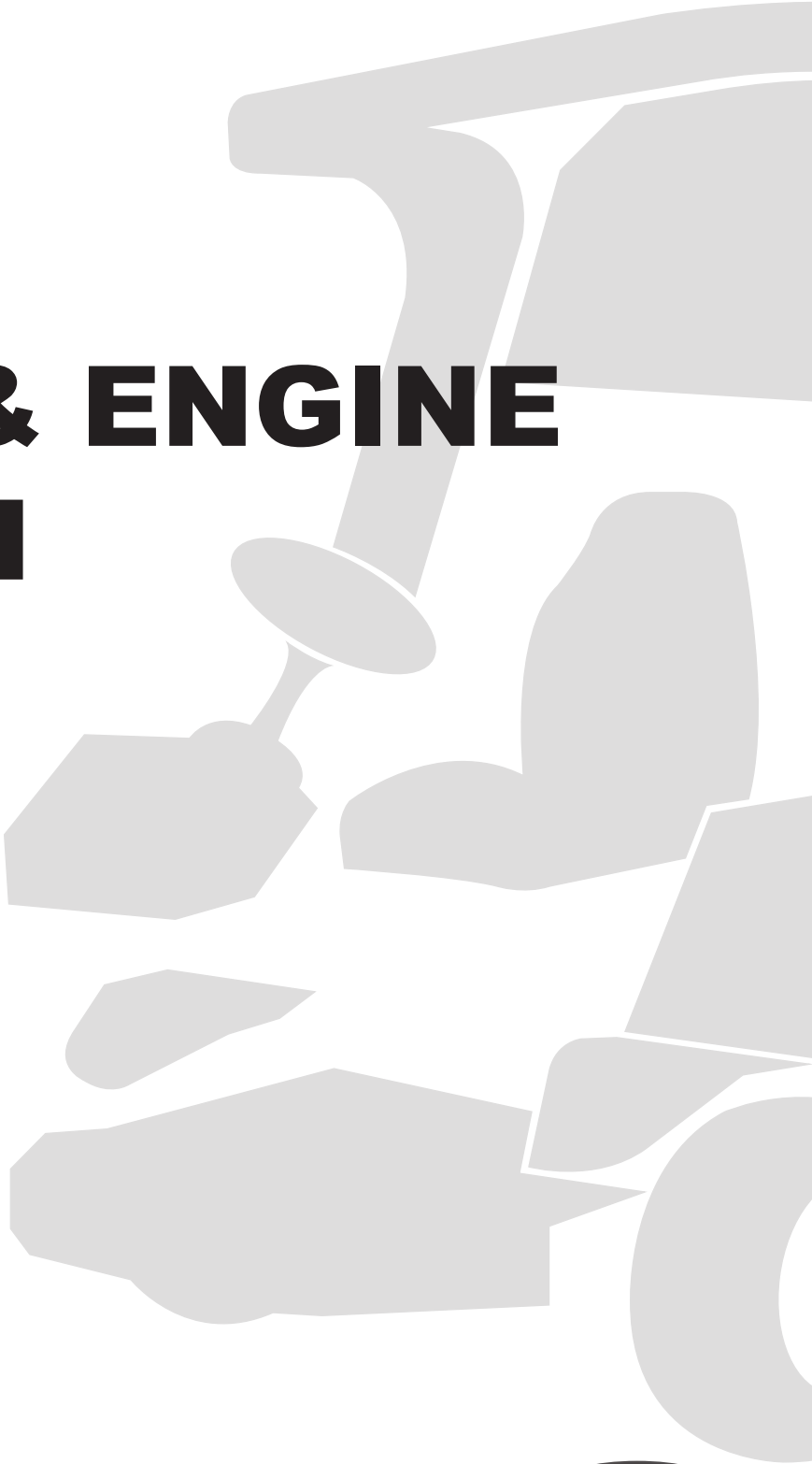
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PARTS

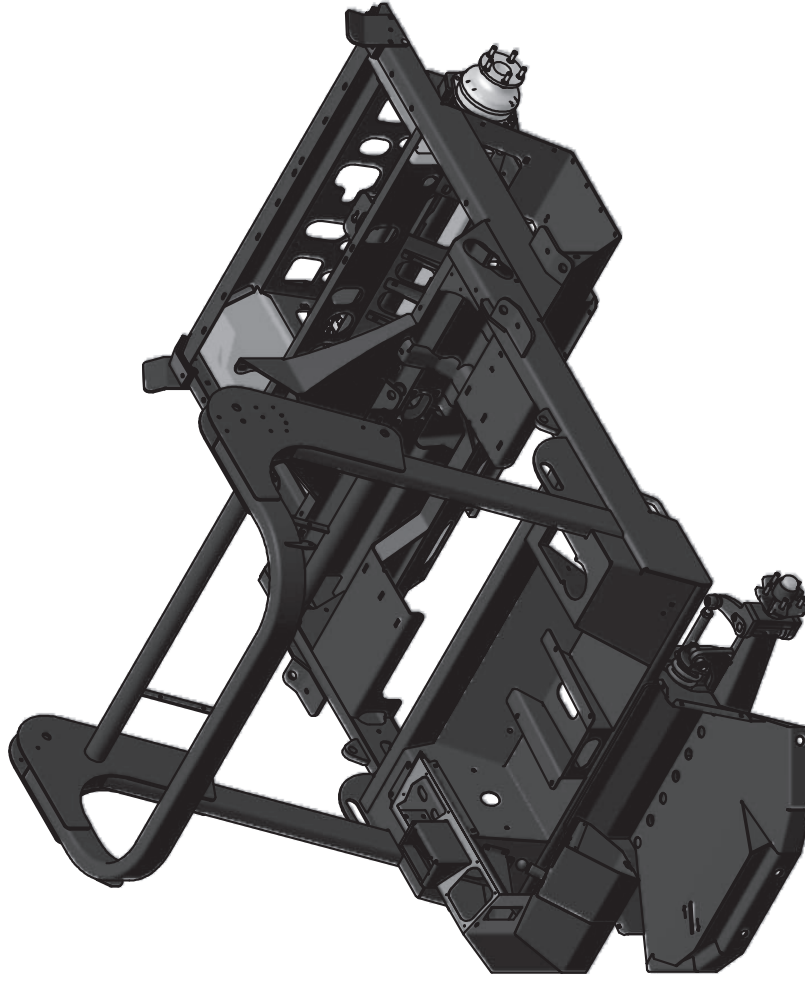
FRAME & ENGINE SECTION



TURBO
VAC 30

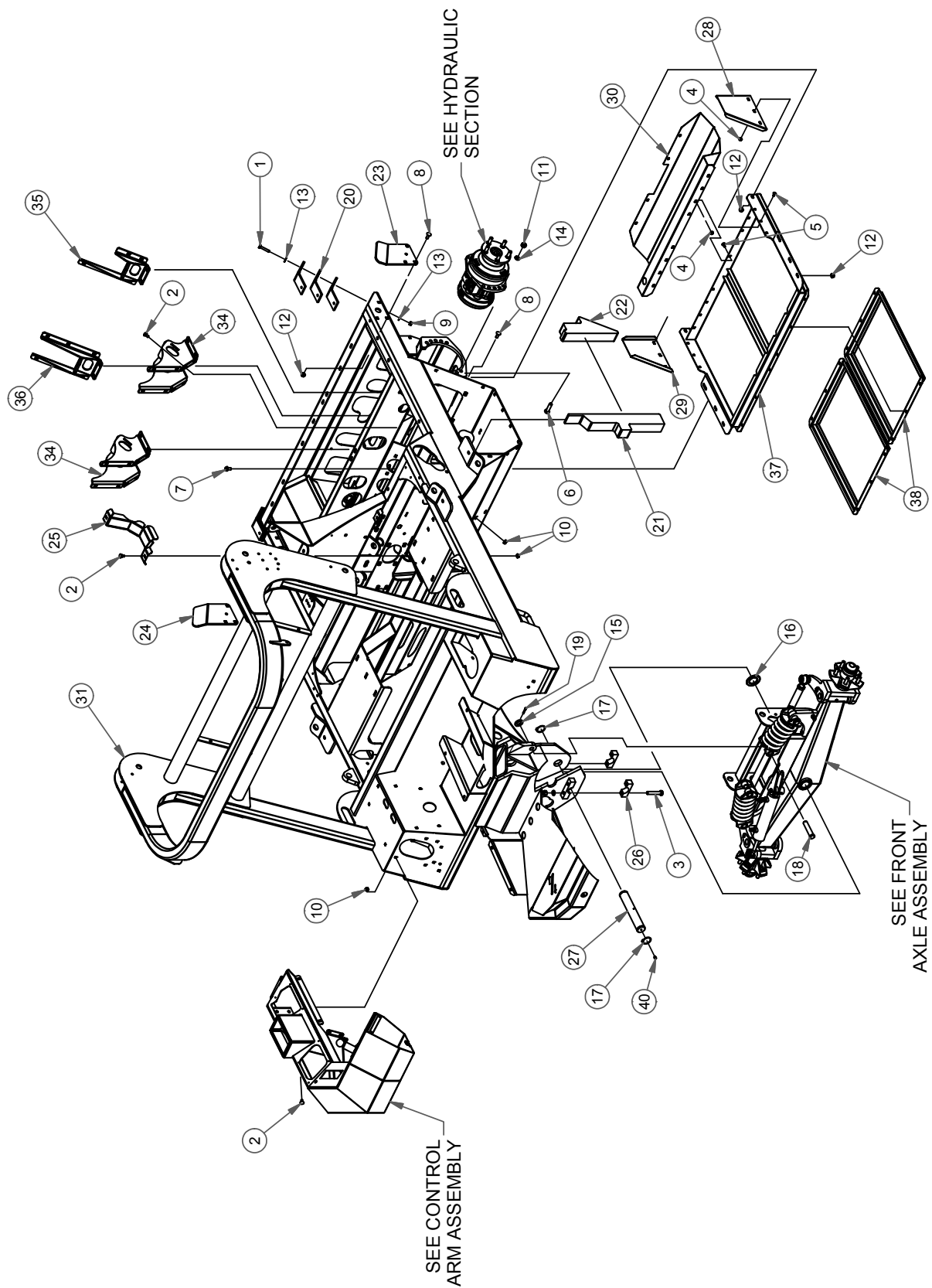
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	4	110017	BOLT, 5/16-18 X 1.75
2	53	110020	Bolt, 5/16-18 X 0.75 in Carriage
3	4	110129	BOLT, 1/2-13 X 2.75 HEX
4	16	110290	NUT, 1/4-20 WIZ FLANGE
5	16	110358	Bolt, 1/4-20 X 0.625 in Carriage
6	20	110419	BOLT, 1/2-13 X 1.75
7	2	110437	BOLT, 3/8-16 X 0.75, WIZ 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	2	110888	SNAP RING - EXT, 1-1/2
18	2	110889	CLEVIS PIN - 3/4 X 3.5
19	2	200029	COTTER PIN, 5/32 X 1
20	6	302019	PAD - LIFT ARM
21	1	302053	FILLER - FRONT RADIATOR
22	1	302054	FILLER - REAR RADIATOR
23	1	311189	GUIDE - LINKAGE, HOPPER, LH
24	1	311190	GUIDE - LINKAGE, HOPPER, RH
25	1	311363	BRACKET - SUPPORT, RETURN AIR
26	2	311459	KEEPER - AXLE PIVOT, LOWER
27	1	311462	PIN - FRONT AXLE, TV30
28	1	311521	SCREEN - SIDE, REAR BELLY, LH
29	1	311522	SCREEN - SIDE, REAR BELLY, RH
30	1	311569	SCREEN - REAR AXLE
31	1	315106	FRAME - WELDED, TV30
32	1	315110	ARM - CONTROL, ASSEMBLY
33	1	315117	AXLE - FRONT, ASSEMBLY
34	2	315180	MOUNT - ENGINE, FRONT, WELDMENT
35	1	315181	MOUNT - ENGINE, REAR, LH, WELDMENT
36	1	315182	MOUNT - ENGINE, REAR, RH, WELDMENT
37	1	315209	FRAME - BELLY INTAKE SCREEN, WLDMNT
38	2	315210	SCREEN - BELLY, INTAKE, WELDMENT
39	2	322004	MOTOR - WHEEL, HYDRAULIC, POCLAIN, RH
40	1	510174	GREASE ZERK, 1/4-28 ST

FRAME ASSEMBLY



6/7/2011

FRAME ASSEMBLY



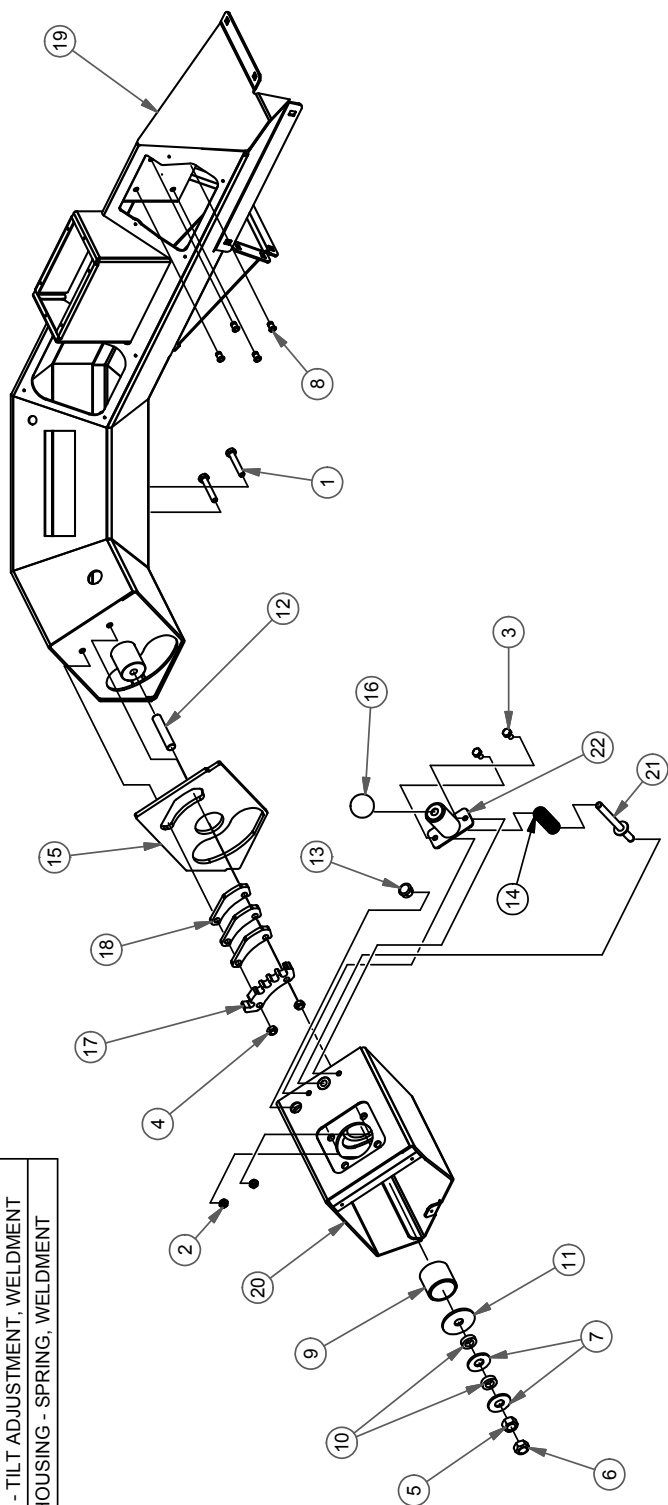
6/7/2011

CONTROL ARM ASSEMBLY

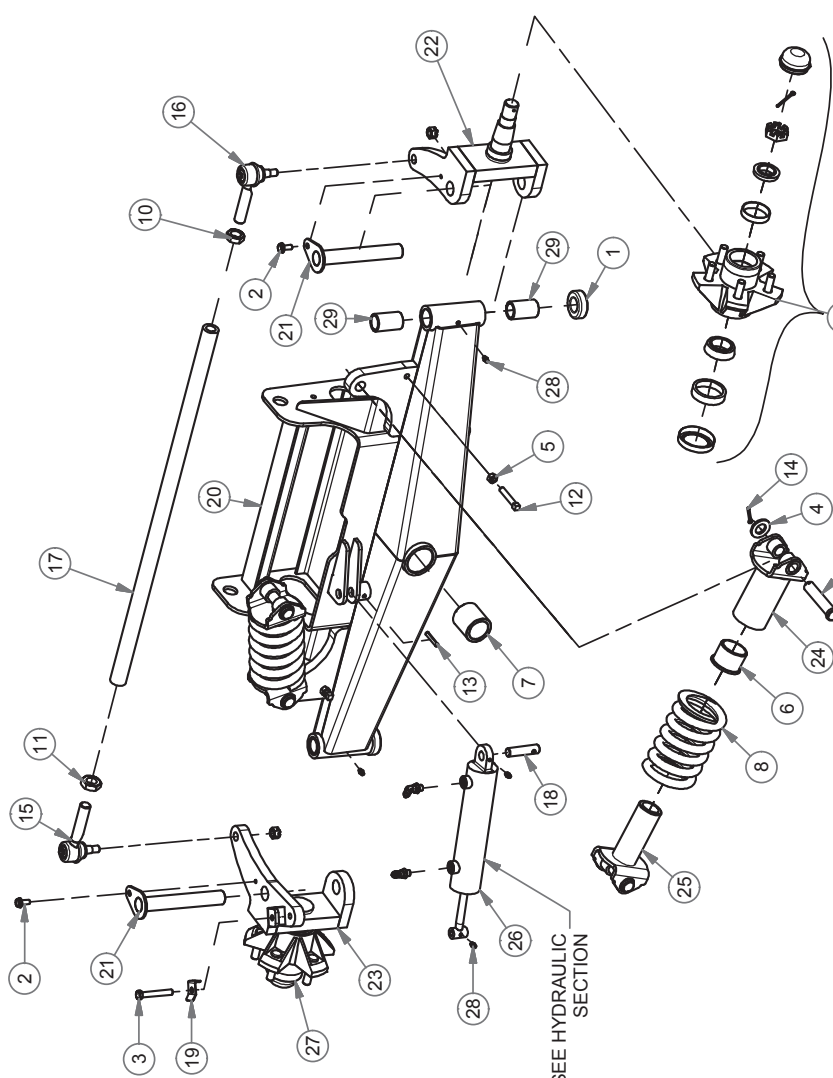
PARTS LIST		
ITEM	QTY	PART # DESCRIPTION
1	2	110017 BOLT, 5/16-18 X 1.75
2	2	110174 NUT, 1/4-20, UNITORQUE LOCK
3	2	110515 BOLT, 1/4-20 X .50
4	2	110600 NUT, 5/16-18, UNITORQUE LOCK
5	1	110610 NUT, 1/2-13
6	1	110615 NUT, 1/2-13, UNITORQUE LOCK
7	2	110658 WASHER, 1/2" FLAT STANDARD
8	4	110835 NUT, 10-24 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	302004 PLATE - THRUST, PIVOT, STEERING BOX
16	1	302014 KNOB - TILT ADJUSTMENT
17	1	311357 PLATE - NOTCHED, TILT ADJUSTMENT
18	3	311358 SPACER - TILT ADJUSTMENT
19	1	315110 ARM - CONTROL, WELDMENT
20	1	315111 STEERING BOX - MOUNT, WELDMENT
21	1	315126 PIN - TILT ADJUSTMENT, WELDMENT
22	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
- TORQUE ITEM No. 5, HARPER PRT No. 110610 TO XX Ft/Lbs
- SECURE ITEM No. 6, HARPER PRT No. 110615
- 1) AGAINST ITEM No. 5, HARPER PRT No. 110610
- 2) WITH LOCTITE BLUE



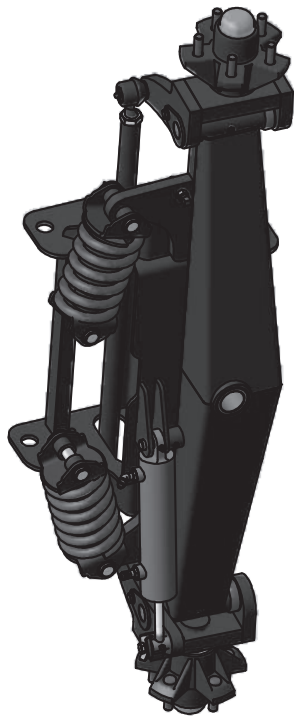
FRONT AXLE ASSEMBLY



SEE HYDRAULIC SECTION

HUB ASSEMBLY SERVICE PARTS	
QTY	PART # DESCRIPTION
1	310261 NUT - CROWN, 1-14
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 OUTER RACE
1	312006 OUTER BEARING
1	312007 INNER RACE
1	312008 INNER BEARING
1	510993 COTTER PIN, 5/32 X 2

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, W/2 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 MF2832-24
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	2 110921 SET SCREW - 3/8 X 2, SQU HD
13	1 200028 ROLL PIN, 1/4 X 1.5
14	4 200029 COTTER PIN, 5/32 X 1
15	1 311011 TIE ROD END - LH
16	1 311012 TIE ROD END - RH
17	1 311254 TIE ROD - TV30
18	1 311406 PIN - STEERING CYLINDER
19	1 311461 KEEPER - 3/8" HEX
20	1 315117 AXLE - FRONT, WELDMENT
21	2 315136 KINGPIN - TV30, WELDMENT
22	1 315137 SPINDLE - TV30, LH, WELDMENT
23	1 315138 SPINDLE - TV30, RH, WELDMENT
24	2 315139 MOUNT - SUSPENSION, LOWER, WELDMENT
25	2 315140 MOUNT - SUSPENSION, UPPER, WELDMENT
26	1 323010 CYLINDER - STEERING, 1-3/4 X 6
27	2 342004 HUB - 5 ON 4-1/2, 1750 Lbs
28	4 510174 GREASE ZERK, 1/4-28 ST
29	4 510821 BUSHING - 1-1/4 OD X 1.0 ID



Parts List

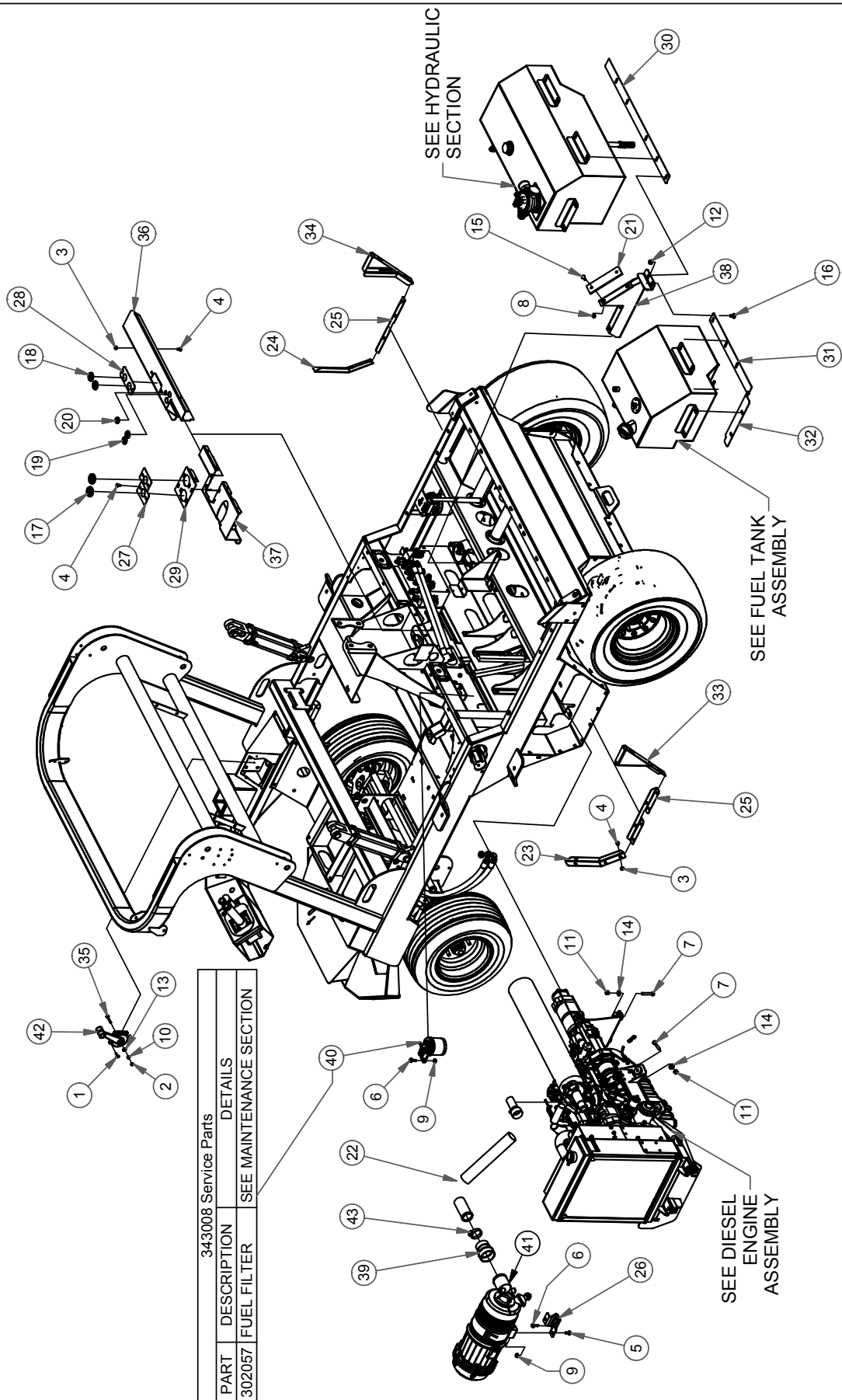
ITEM	QTY	PART #	DESCRIPTION
1	4	110082	SCREW, 10-24 X 0.75, HEX, FLG
2	1	110174	NUT, 1/4-20, UNITORQUE LOCK
3	21	110290	NUT, 1/4-20 WIZ FLANGE
4	21	110358	Bolt, 1/4-20 X 0.625 in Carriage
5	3	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
6	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
7	6	110493	BOLT, 3/8-16 X 2.25
8	2	110603	NUT, 5/16-18 LOCK (NYLON)
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	10	110645	NUT, 3/8-16 WIZ FLANGE
13	1	110673	WASHER, 1/4" FLAT STANDARD
14	6	110676	WASHER, 3/8" FLAT STANDARD
15	2	110871	Bolt, 5/16-18 X 1 in Carriage
16	10	110894	Bolt, 3/8-16 X 0.75 in Carriage
17	2	110939	GROMMET - 1.0 ID X 1-3/4 OD, 1/16 X 1-3/8
18	2	110940	GROMMET - 5/8 ID X 1-1/2 OD, 1/16 X 1-1/4
19	1	110942	GROMMET - 3/8 ID X 1-1/4 OD, 1/16 X 1
20	1	110943	GROMMET - 5/16 ID X 1.0 OD, 1/16 X 3/4
21	1	302019	PAD - LIFT ARM
22	1	302040	INTAKE TUBE ASSEMBLY
23	1	311319	STOP - SCREEN, FRONT, LH
24	1	311320	STOP - SCREEN, FRONT, RH
25	2	311325	STOP - SCREEN, LOWER
26	1	311476	MOUNT - AIR CLEANER
27	2	311533	ESCUTCHEON - RETURN OIL
28	1	311547	ESCUTCHEON - FAN MOTOR SUPPLY
29	1	311558	MOUNT - ESCUTCHEON
30	1	311584	FILLER - HYDRAULIC TANK REAR
31	1	311585	FILLER - REAR FUEL TANK
32	1	311586	FILLER - TANK SIDE
33	1	315165	STOP - SCREEN, REAR, LH
34	1	315166	STOP - SCREEN, REAR, RH WELDMENT
35	1	315218	BOLT - THROTTLE PIVOT, WELDMENT
36	1	315220	ENCLOSURE - FRONT ENGINE, RH
37	1	315221	ENCLOSURE - FRONT ENGINE, LH
38	1	315225	WELDMENT, TANK BRACKET
39	1	342036	REDUCER - SILICONE, 2-1/2 x 2
40	1	343008	FILTER - FUEL
41	1	343009	AIR CLEANER - 2-1/2", ENGINEAIRE
42	1	353001	CONTROL - PUSH, LEVER, THROTTLE
43	1	500107	CLAMP, HOSE #32 2.00"

ENGINE & TANK INSTALLATION



12/1/2011

ENGINE & TANK INSTALLATION

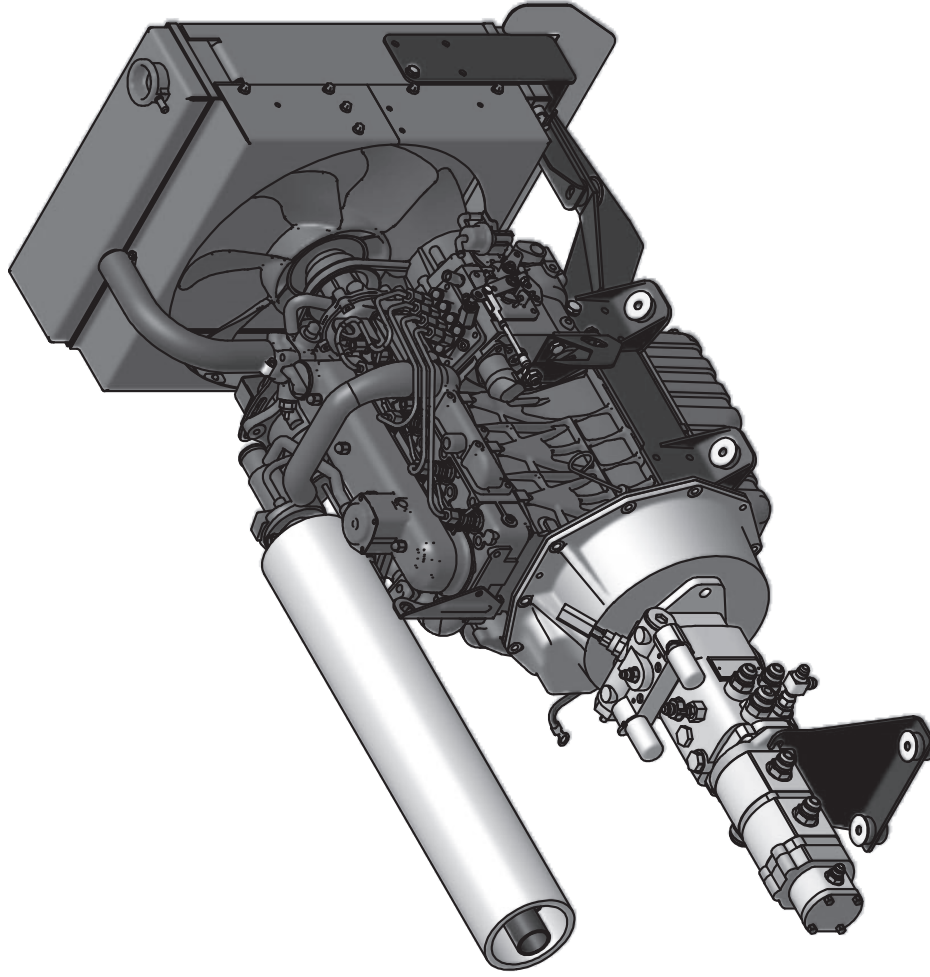


12/1/2011

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	1	302017	CLEVIS - THROTTLE
18	10	302041	ISOLATOR - MOUNT
19	1	302052	SLEEVE - EXHAUST, TV30
20	1	311376	SUPPORT - PUMP, HYDRAULIC
21	1	311474	BAFFLE - LOWER RADIATOR
22	1	315183	MOUNT - MOTOR, LH, WELDMENT
23	1	315184	MOUNT - MOTOR, RH, WELDMENT
24	1	315185	MOUNT - RADIATOR, WELDMENT
25	1	315186	MOUNT - KUBOTA THROTTLE, WELDMENT
26	1	332004	SENDER-WATER TEMP, 3/8 NPT,HGH RNG
27	1	342011	ADAPTER - PUMP, KUBOTA 1505, KIT
28	1	342012	MUFFLER - KUBOTA 1505
29	1	342034	HOSE - RADIATOR, LOWER, TV30
30	1	342035	HOSE - RADIATOR, UPPER, TV30
31	1	343002	ENGINE - DIESEL, KUBOTA, 1505
32	1	343005	RADIATOR - TV30 DIESEL
33	1	353001	CABLE - THROTTLE
34	1	530068	OIL PRESSURE SENDER
35	4	720107	CLAMP, HOSE #20 1.25"
36	1	832001	STARTER GROUND

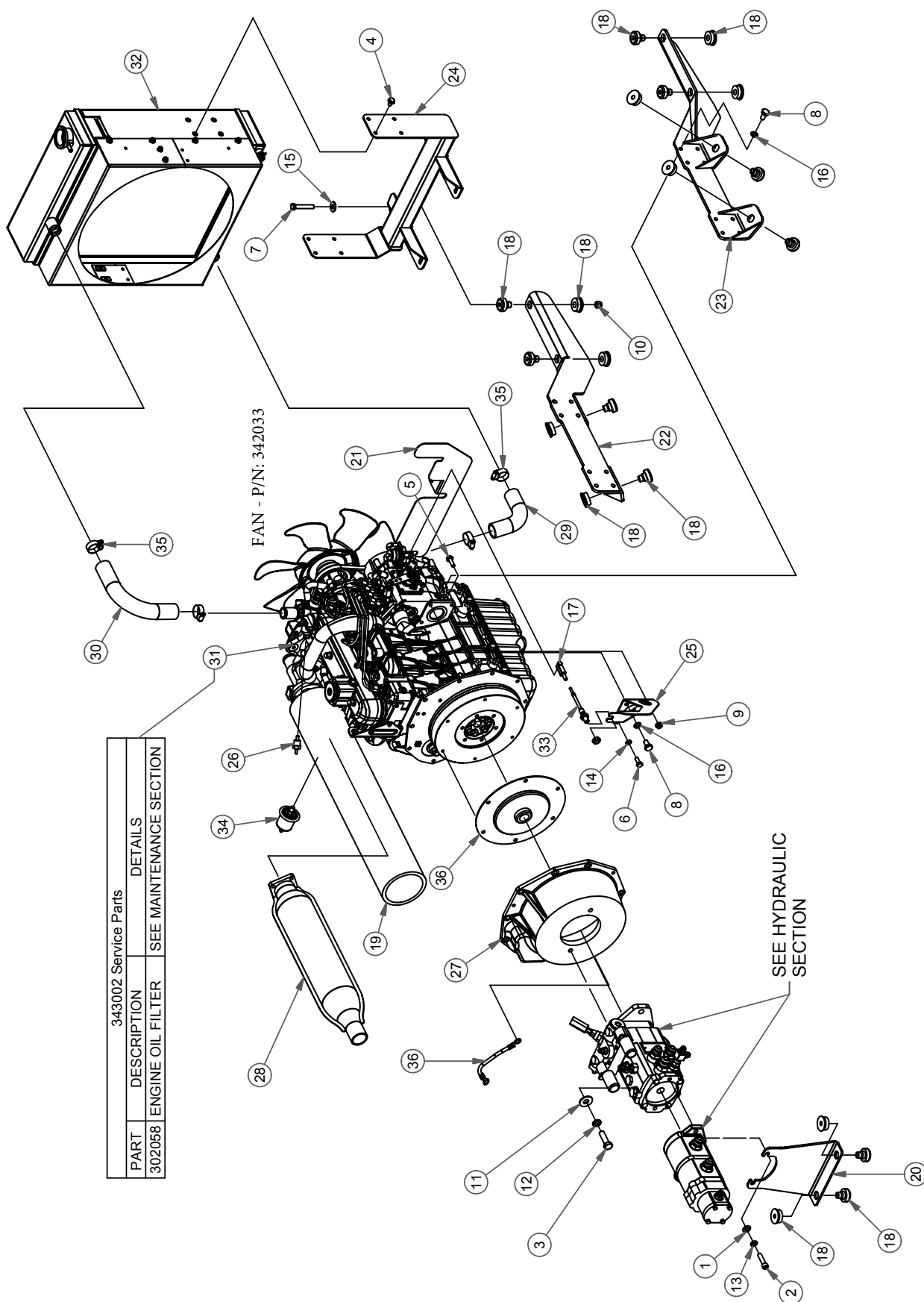
DIESEL ENGINE ASSEMBLY



6/6/2011

DIESEL ENGINE ASSEMBLY

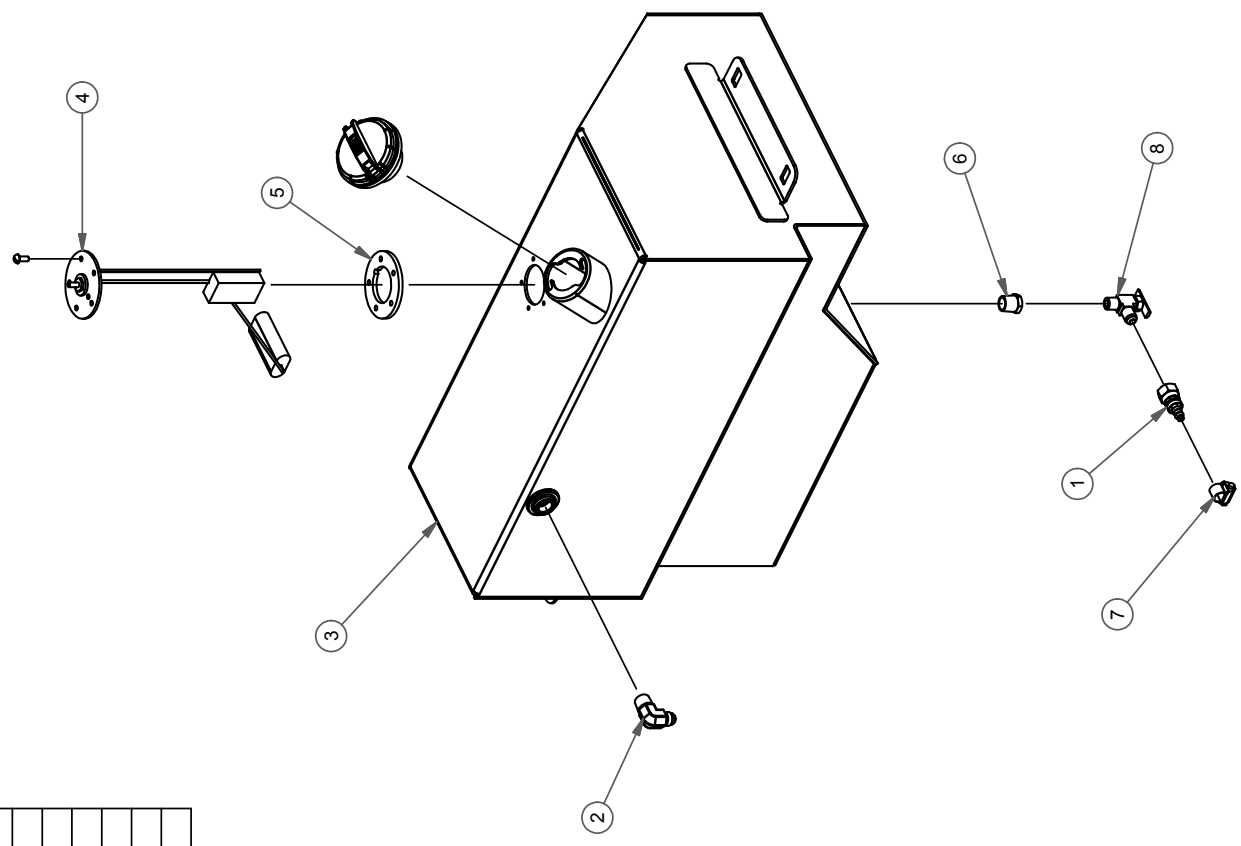
343002 Service Parts		
PART	DESCRIPTION	DETAILS
302058	ENGINE OIL FILTER	SEE MAINTENANCE SECTION



8/11/2011

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	120378	ADAPTER, 5HB-6FBX
2	1	120500	ADAPTER, 6MJ-6MP90
3	1	315141	TANK - FUEL, WELDMENT
4	1	332005	SENDER - FUEL LEVEL, ELECTRIC
5	1	500172	GASKET, FUEL SENDER
6	1	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

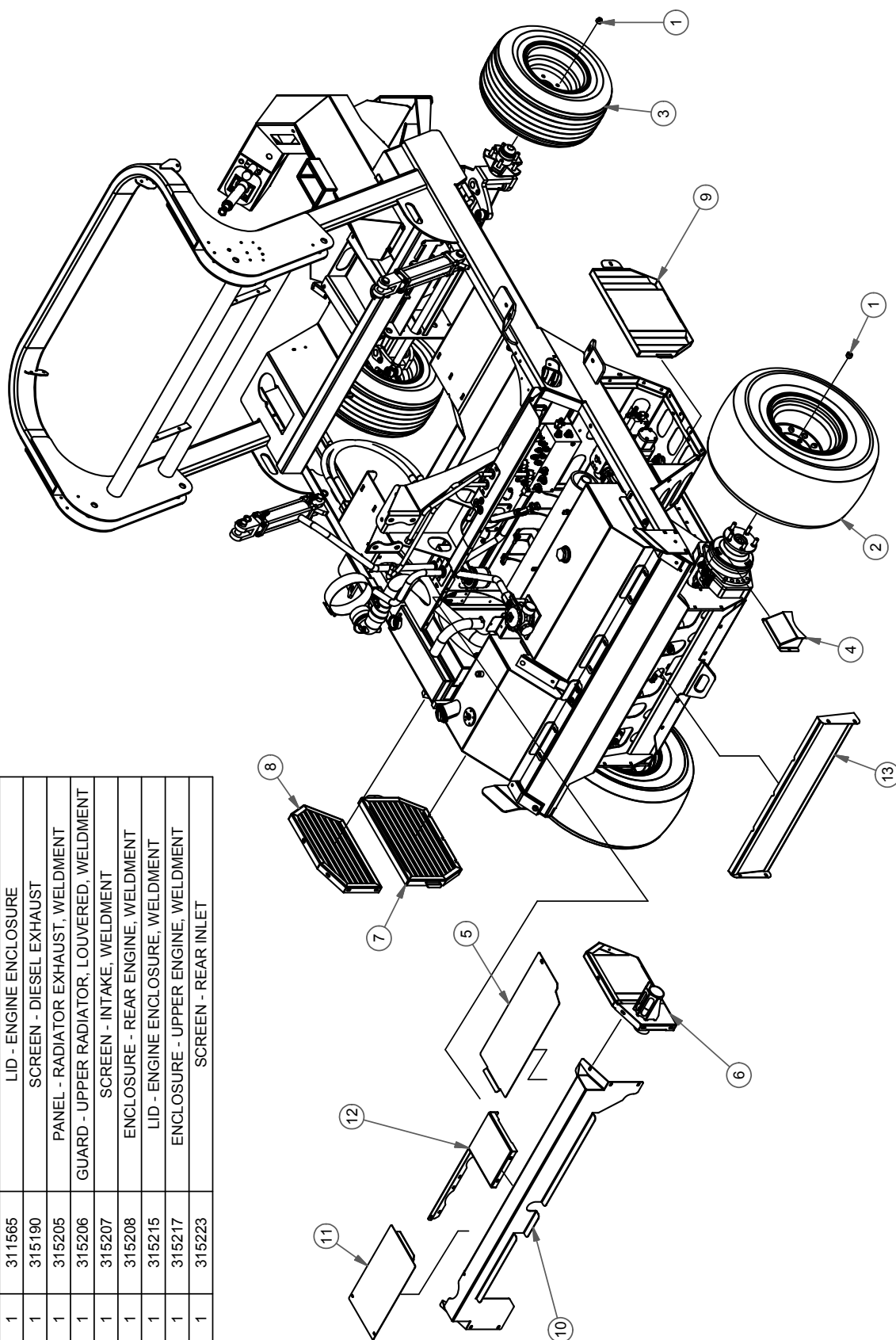
FUEL TANK ASSEMBLY



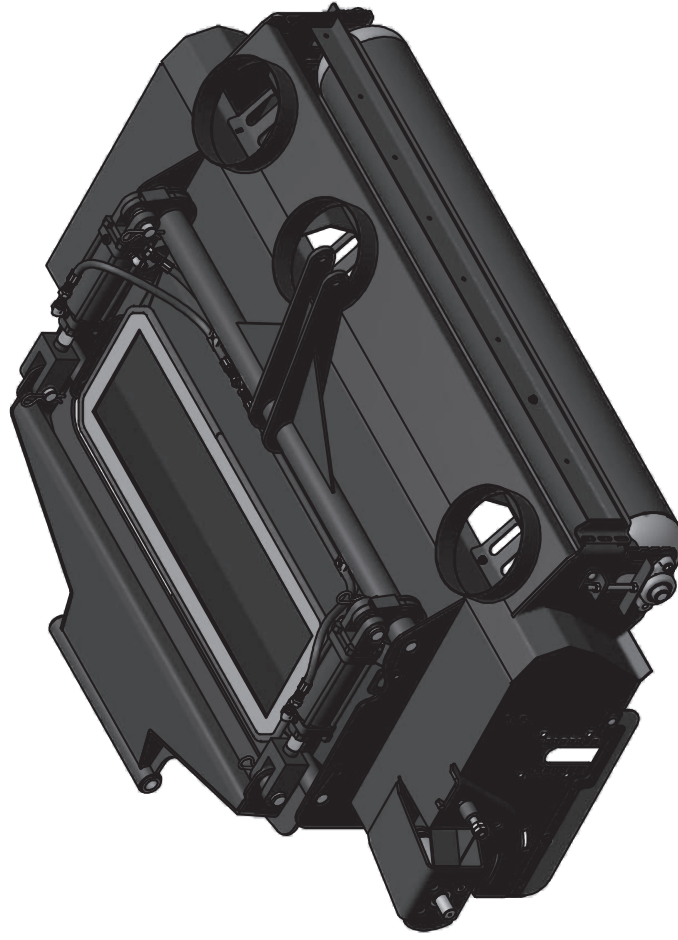
12/5/2011

ENGINE SHIELD ASSEMBLIES

PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	20	110617	NUT - LUG 1/2-20
2	2	302008	26" MULTI-TRACK TIRE & WHEEL
3	2	302011	10x20 TIRE & WHEEL ASSEM - FRONT
4	2	311561	COVER - WHEEL MOTOR
5	1	311565	LID - ENGINE ENCLOSURE
6	1	315190	SCREEN - DIESEL EXHAUST
7	1	315205	PANEL - RADIATOR EXHAUST, WELDMENT
8	1	315206	GUARD - UPPER RADIATOR, LOUVERED, WELDMENT
9	1	315207	SCREEN - INTAKE, WELDMENT
10	1	315208	ENCLOSURE - REAR ENGINE, WELDMENT
11	1	315215	LID - ENGINE ENCLOSURE, WELDMENT
12	1	315217	ENCLOSURE - UPPER ENGINE, WELDMENT
13	1	315223	SCREEN - REAR INLET



DECK ASSEMBLY

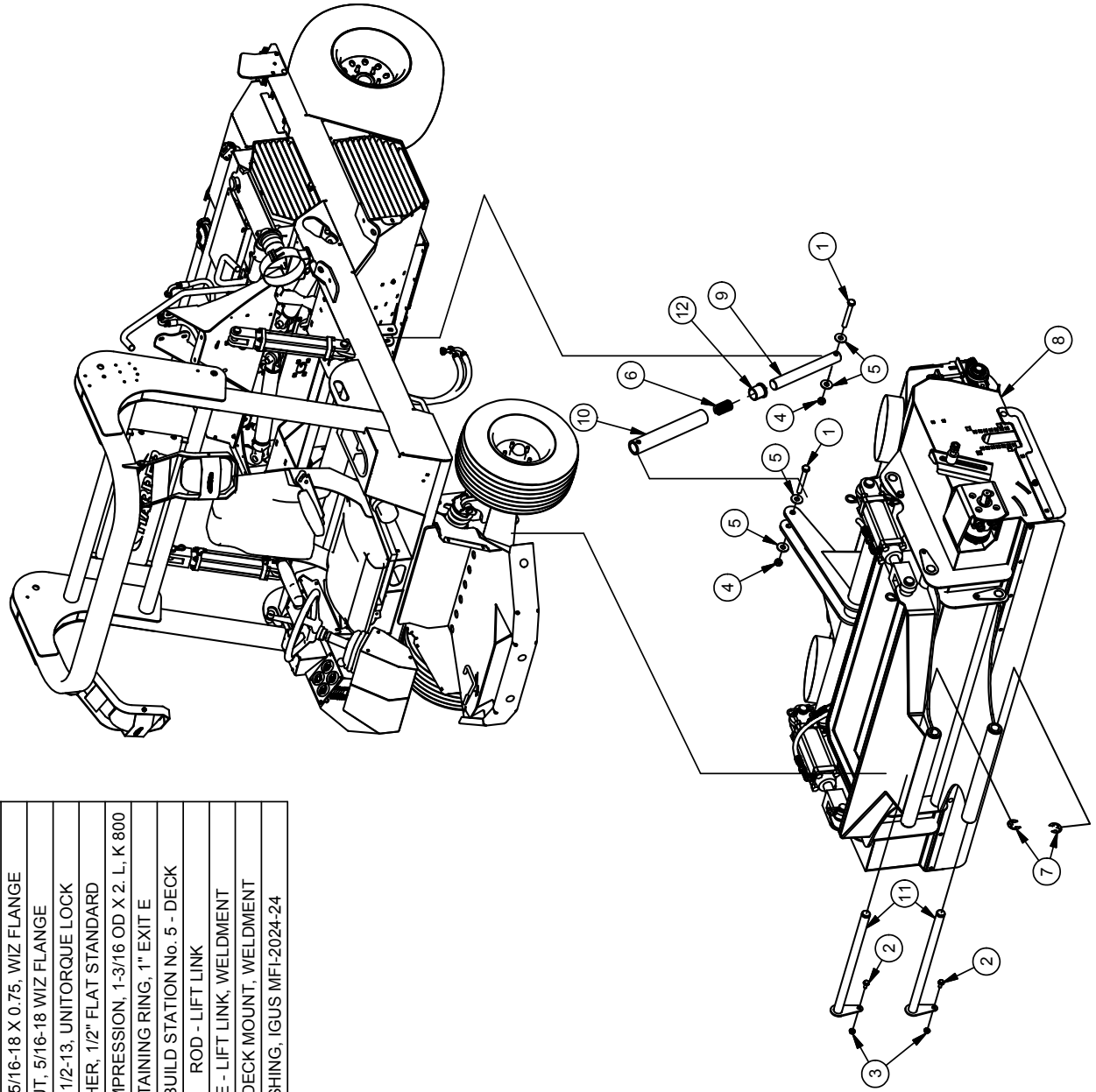


PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	8	110020	Bolt, 5/16-18 X 0.75 in Carriage
2	2	110039	NUT, 5/8-11 JAM
3	4	110126	BOLT, 3/8-16 X .75 FLT HD SKT HD
4	23	110154	Bolt, 1/4-20 X 0.75 in Carriage
5	23	110290	NUT, 1/4-20 WIZ FLANGE
6	12	110358	Bolt, 1/4-20 X 0.625 in Carriage
7	6	110444	BOLT, 5/16-18 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	4	110871	Bolt, 5/16-18 X 1 in Carriage
13	1	110895	Bolt, 5/8-11 X 3 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

12/2/2011

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

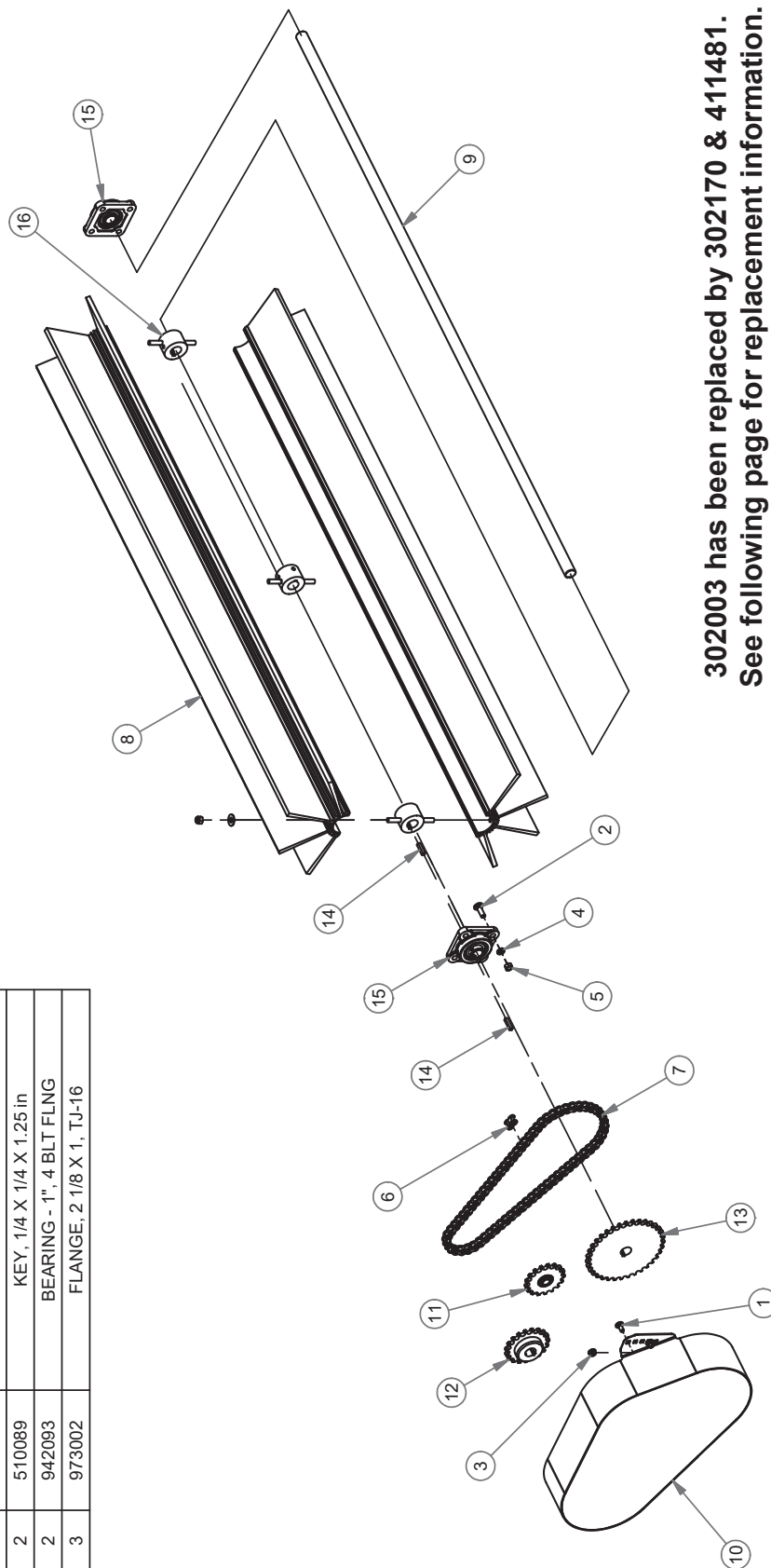
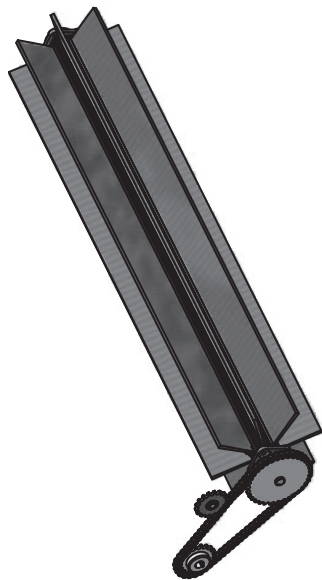
DECK INSTALLATION



Parts List			DESCRIPTION
ITEM	QTY	PART #	DESCRIPTION
1	4	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	140011	CONNECTING LINK, #50 CHAIN
7	1	142006	CHAIN - No 50 67 PIN W/O CONNECTOR
8	1	302003	BROOM, 60 in, TV30
9	1	311369	SHAFT - BROOM, DECK
10	1	315167	SHIELD - DECK BRUSH DRIVE, WELDMENT
11	1	342007	SPROCKET - IDLER, 5017
12	1	342016	SPROCKET - 50B19 X 1
13	1	342017	SPROCKET - 50B35 X 1
14	2	510089	KEY, 1/4 X 1/4 X 1.25 in
15	2	942093	BEARING - 1", 4 BLT FLNG
16	3	973002	FLANGE, 2 1/8 X 1, TJ-16

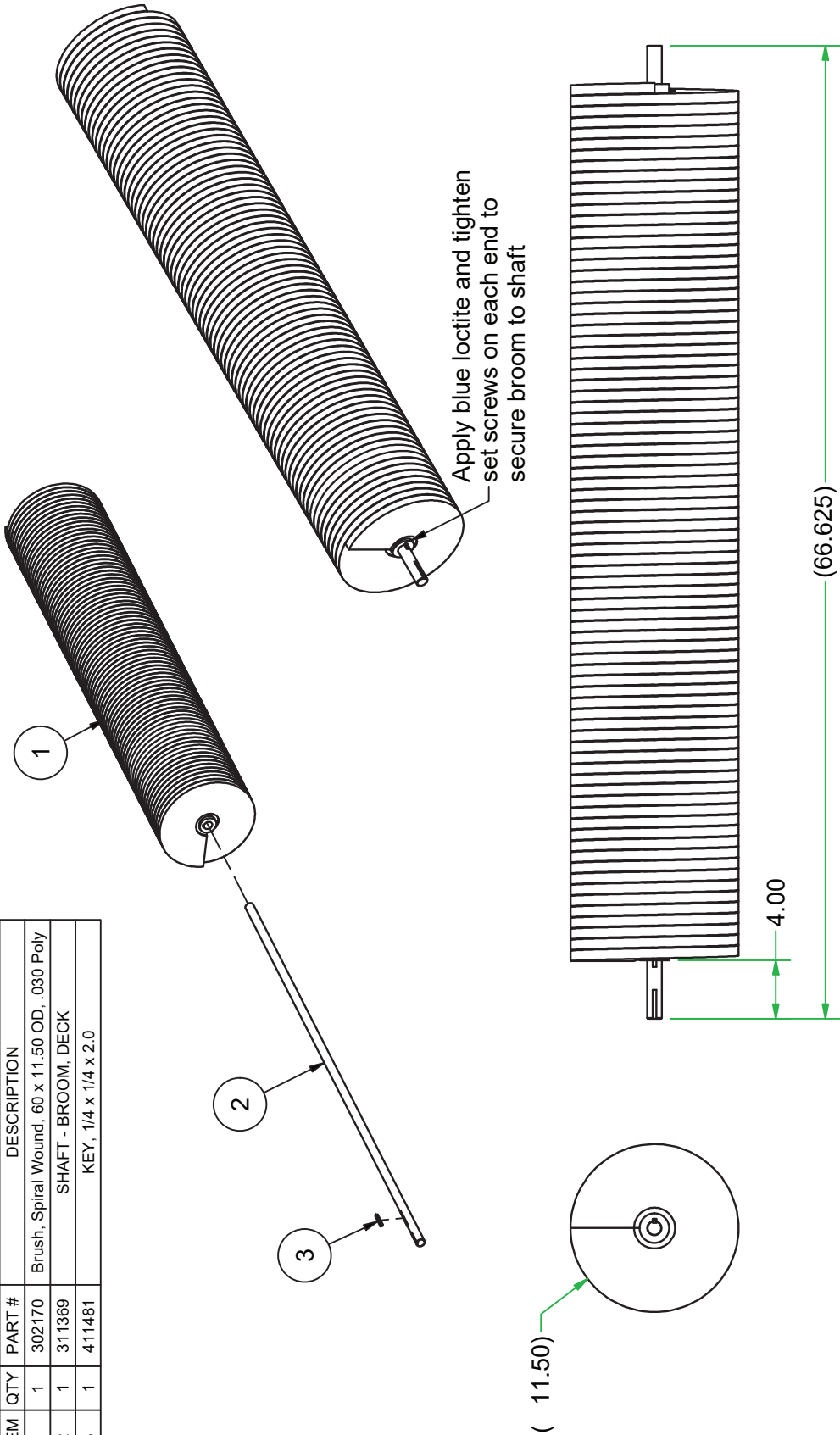
KIT - ROTOR, BROOM, TV30D

HARPER PRT No. 300044



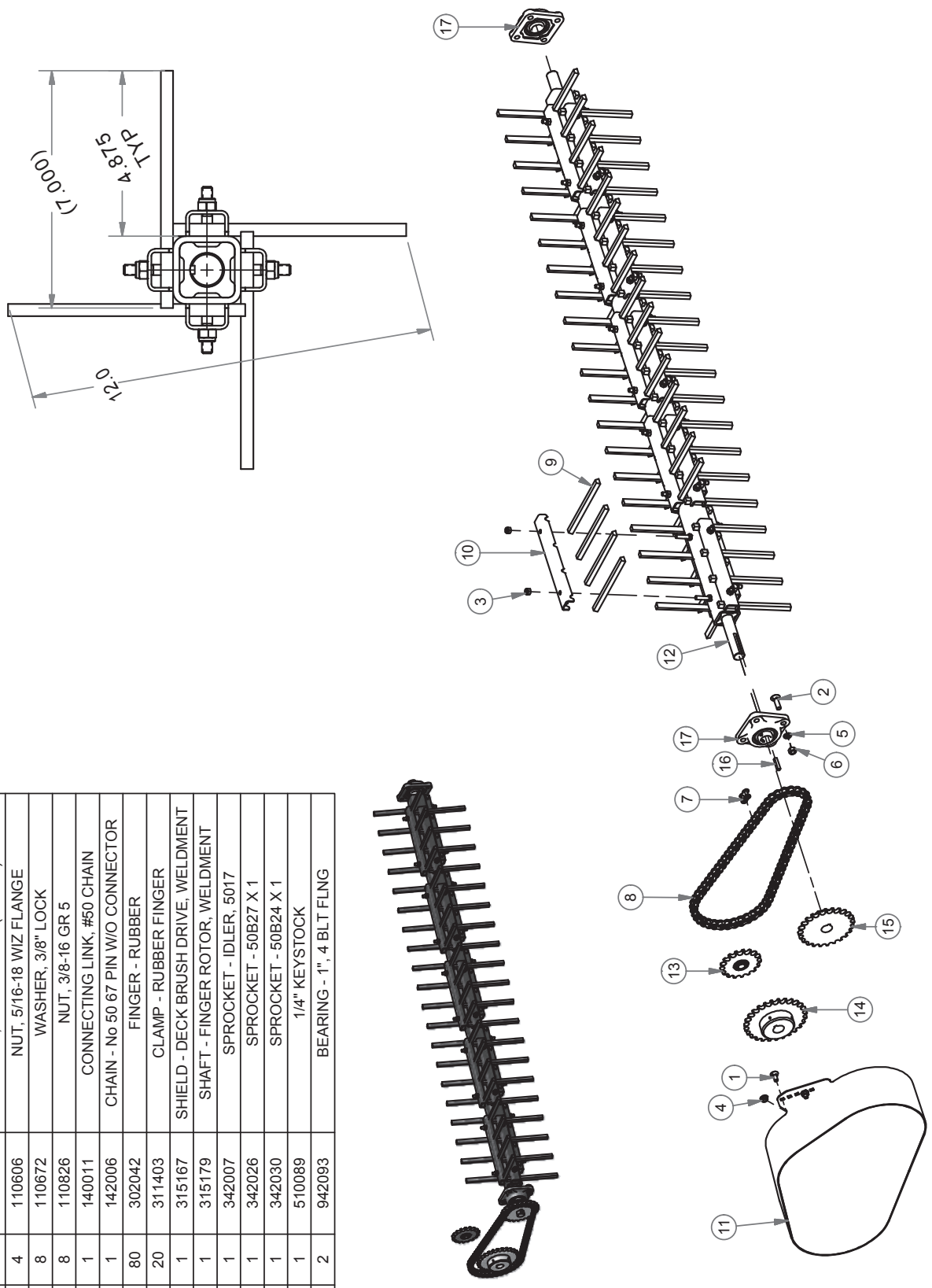
302003 has been replaced by 302170 & 411481.
See following page for replacement information.

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



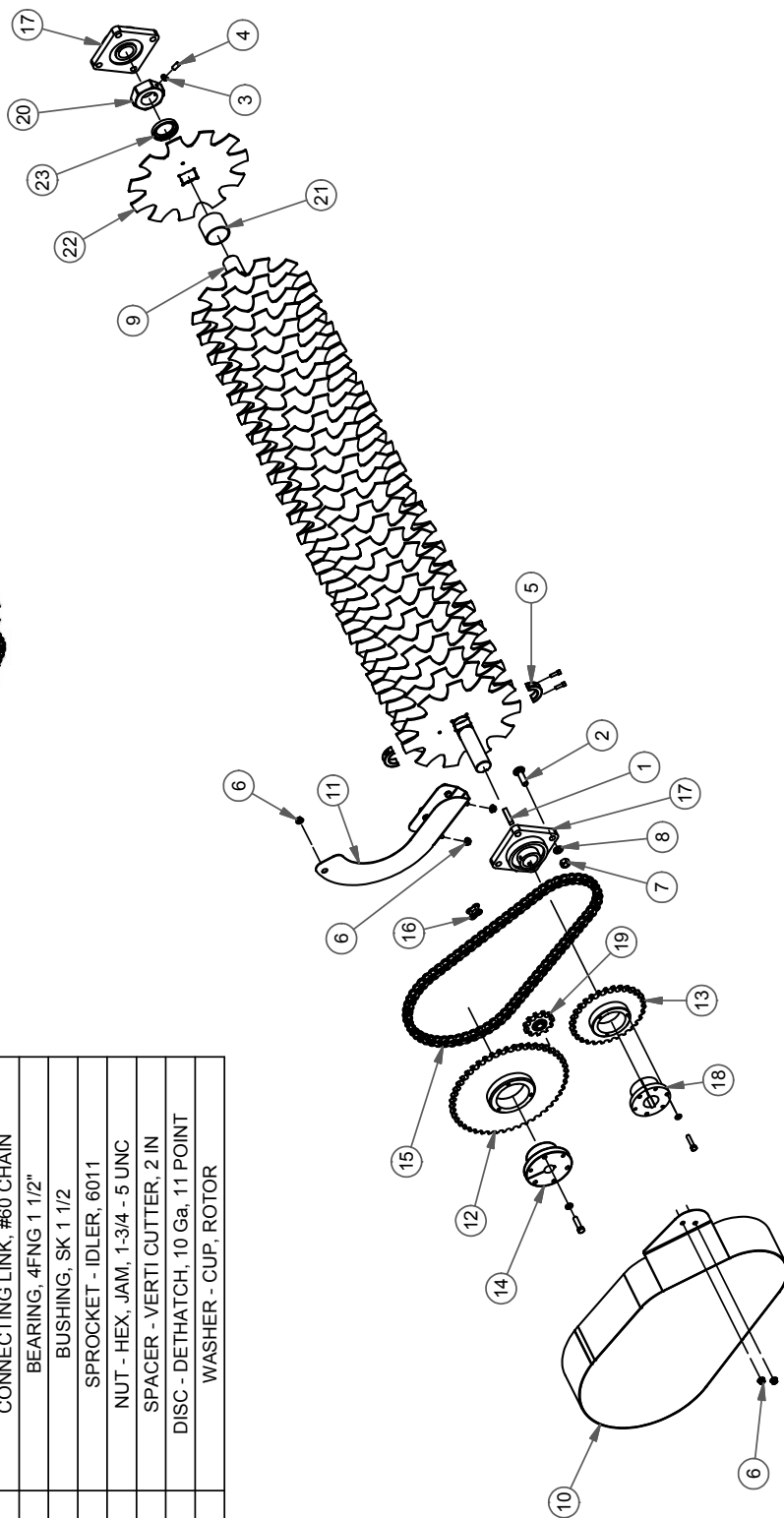
Parts List		
ITEM	QTY	PART # DESCRIPTION
1	4	110020 Bolt, 5/16-18 X 0.75 in Carriage
2	8	110402 Bolt, 3/8-16 X 1.25 in Carriage
3	40	110603 NUT, 5/16-18 LOCK (NYLON)
4	4	110606 NUT, 5/16-18 WIZ FLANGE
5	8	110672 WASHER, 3/8" LOCK
6	8	110826 NUT, 3/8-16 GR 5
7	1	140011 CONNECTING LINK, #50 CHAIN
8	1	142006 CHAIN - No 50 67 PIN W/O CONNECTOR
9	80	302042 FINGER - RUBBER
10	20	311403 CLAMP - RUBBER FINGER
11	1	315167 SHIELD - DECK BRUSH DRIVE, WELDMENT
12	1	315179 SHAFT - FINGER ROTOR, WELDMENT
13	1	342007 SPROCKET - IDLER, 5017
14	1	342026 SPROCKET - 50B27 X 1
15	1	342030 SPROCKET - 50B24 X 1
16	1	510089 1/4" KEYSTOCK
17	2	942093 BEARING - 1", 4 BLT FLNG

KIT - ROTOR, FINGER, TV30D
HARPER PRT No. 300040



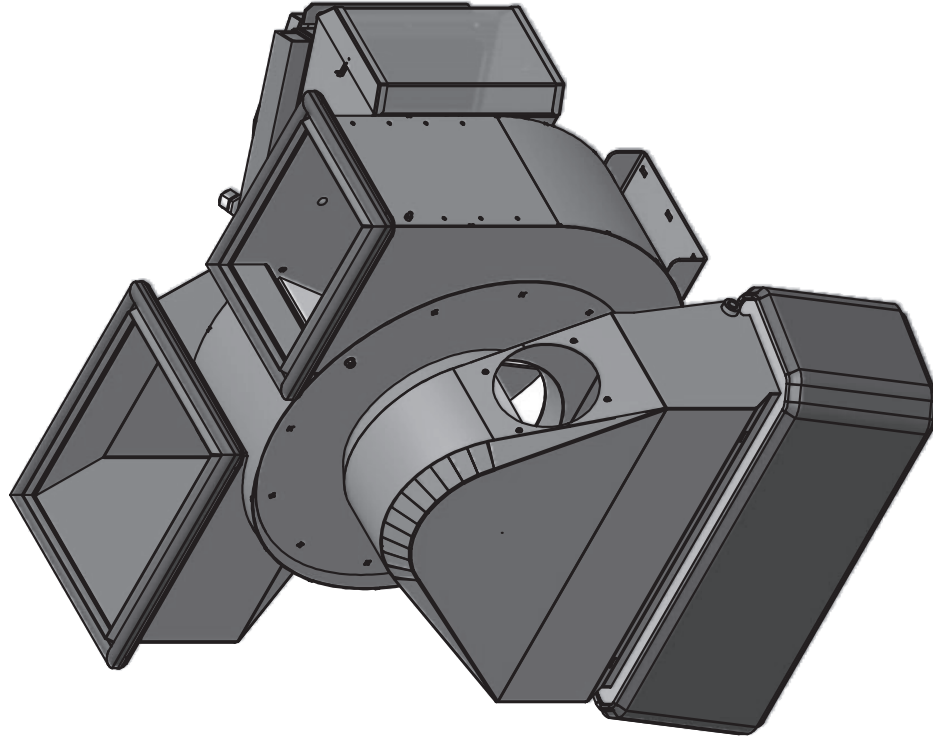
KIT - ROTOR, VERTICUT/DETHATCH, TV30D

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	1	315194 SHIELD - DETHATCH ROTOR DRIVE
11	1	315195 GUARD - SHIELD SUPPORT, WELDMENT
12	1	342022 SPROCKET - 60SF48
13	1	342023 SPROCKET - 60SK30
14	1	342024 BUSHING - QD, SF, 1
15	1	342040 ROLLER CHAIN - No. 60, 74 PIN W/O CNCTR
16	1	410442 CONNECTING LINK, #60 CHAIN
17	2	410851 BEARING, 4FNG 1 1/2"
18	1	942067 BUSHING, SK 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

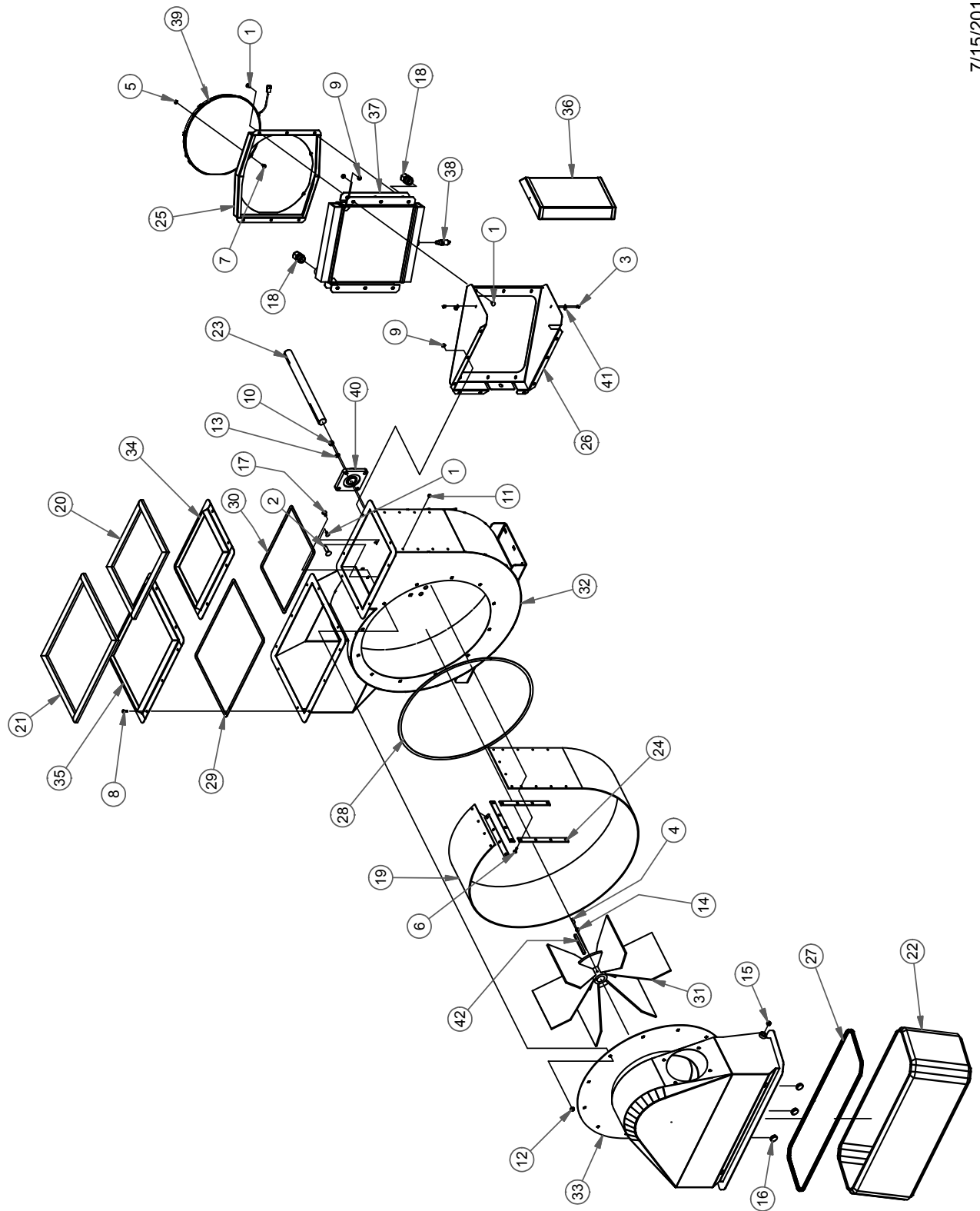
FAN HOUSING & HYDRAULIC COOLER ASSEMBLY



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	110063	POP RIVET, 1/8
4	4	110093	SetScrew, 3/8-16 X 1.25
5	4	110290	NUT, 1/4-20 WIZ FLANGE
6	16	110326	Bolt, 1/4-20 X 1 in Carriage
7	4	110468	BOLT, 1/4-20 X 0.75, WIZ FLANGE
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	12	110894	Bolt, 3/8-16 X 0.75 in Carriage
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	1	940113	KEY, 3/8 X 5

7/15/2011

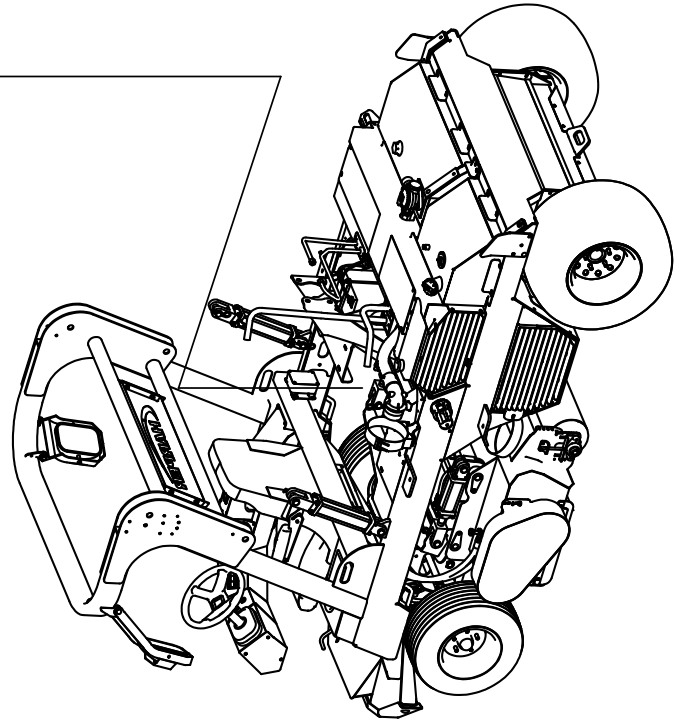
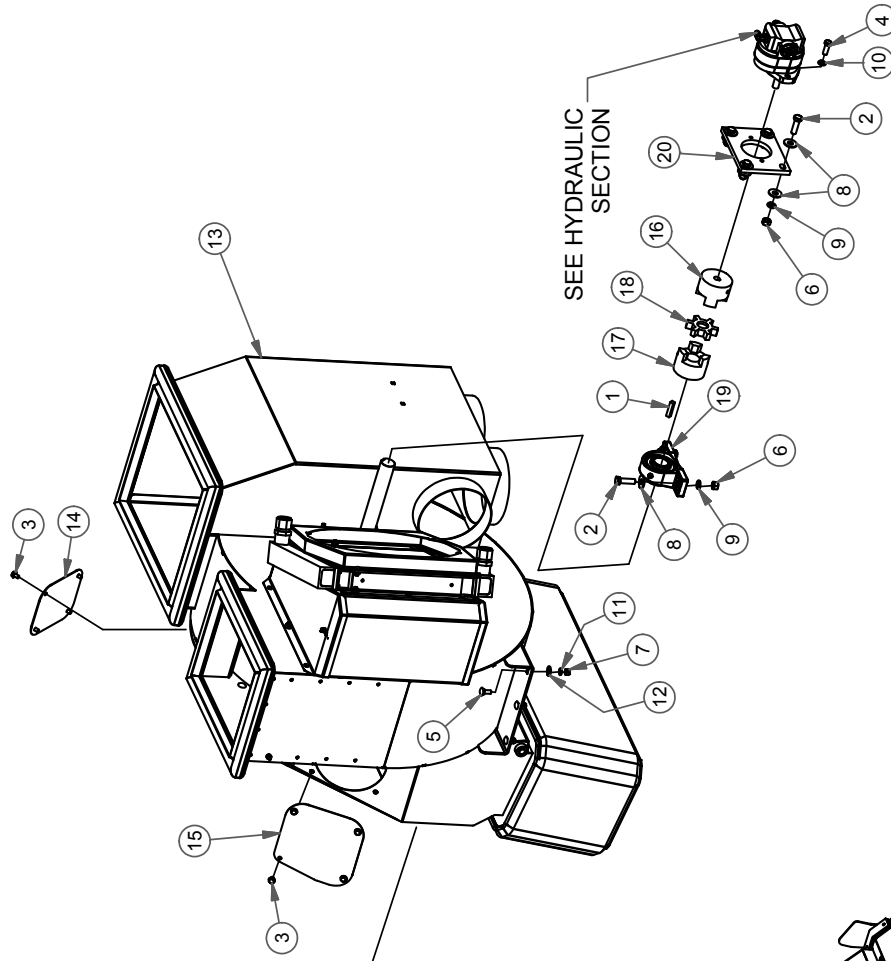
FAN HOUSING & HYDRAULIC COOLER ASSEMBLY



7/15/2011

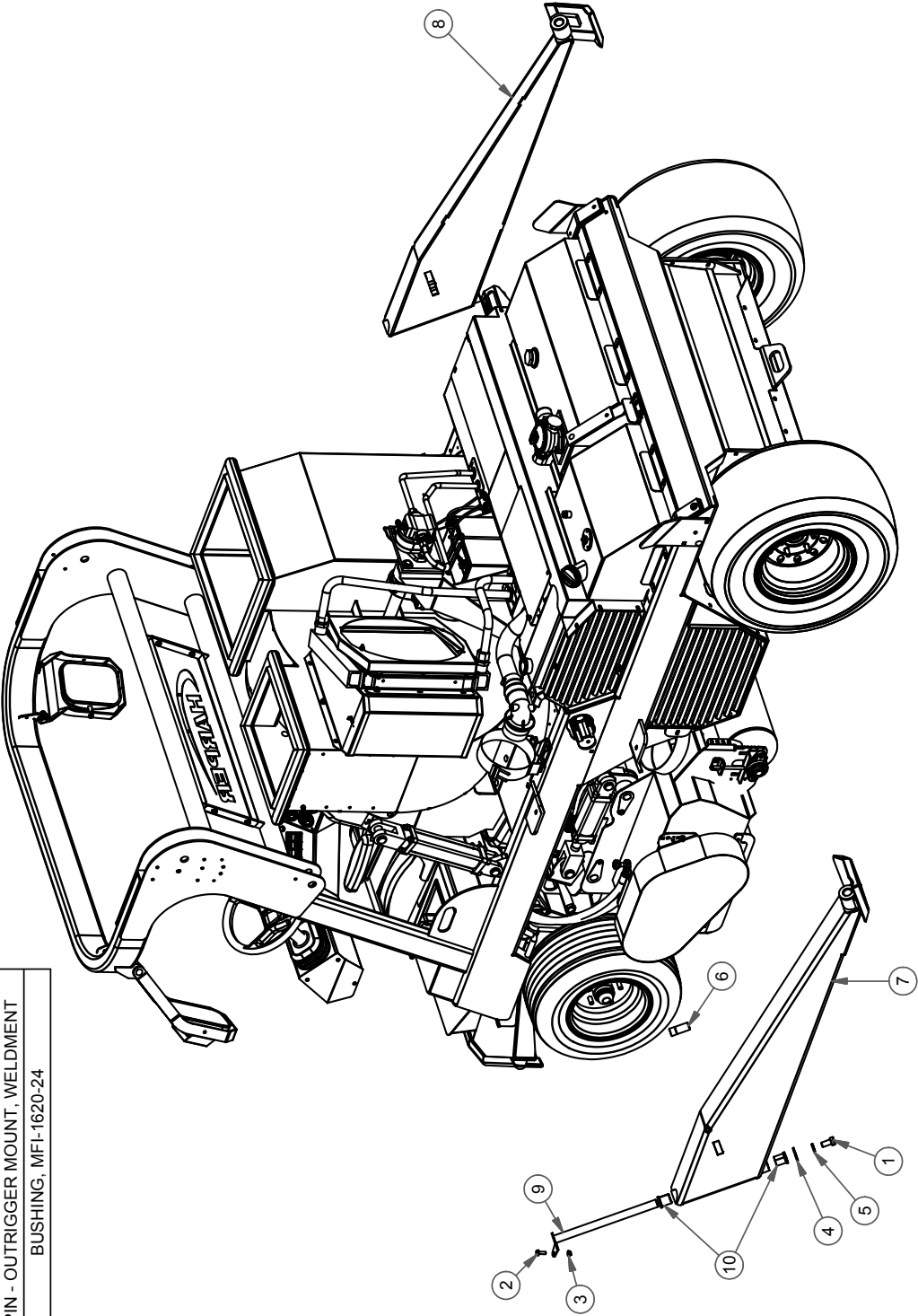
PARTS LIST			DESCRIPTION
ITEM	QTY	PART #	
1	1	100567	KEY, 3/8 X 3/8 X 1.75 in
2	6	110419	BOLT, 1/2-13 X 1.75
3	8	110426	BOLT, 5/16-18 X 0.5, WIZ FLANGE
4	2	110539	BOLT, 7/16-14 X 1.25
5	6	110556	Bolt, 3/8-16 X 1 in Carriage
6	6	110610	NUT, 1/2-13
7	6	110612	NUT, 3/8-16 GR 2
8	10	110658	WASHER, 1/2" FLAT STANDARD
9	6	110666	WASHER, 1/2" LOCK
10	2	110671	WASHER, 7/16" LOCK
11	6	110672	WASHER, 3/8" LOCK
12	6	110676	WASHER, 3/8" FLAT STANDARD
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

FAN HOUSING INSTALLATION



OUTRIGGER INSTALLATION

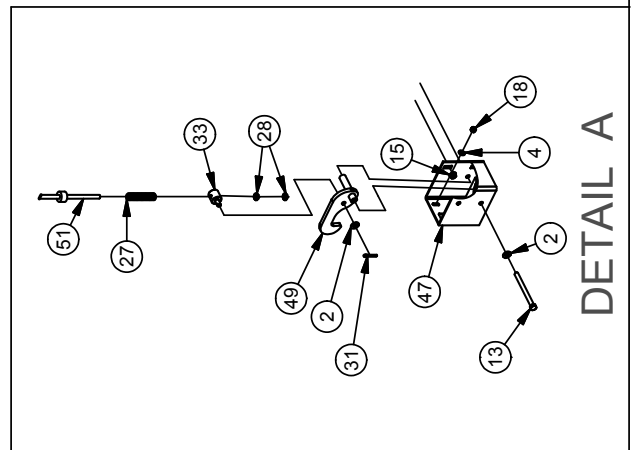
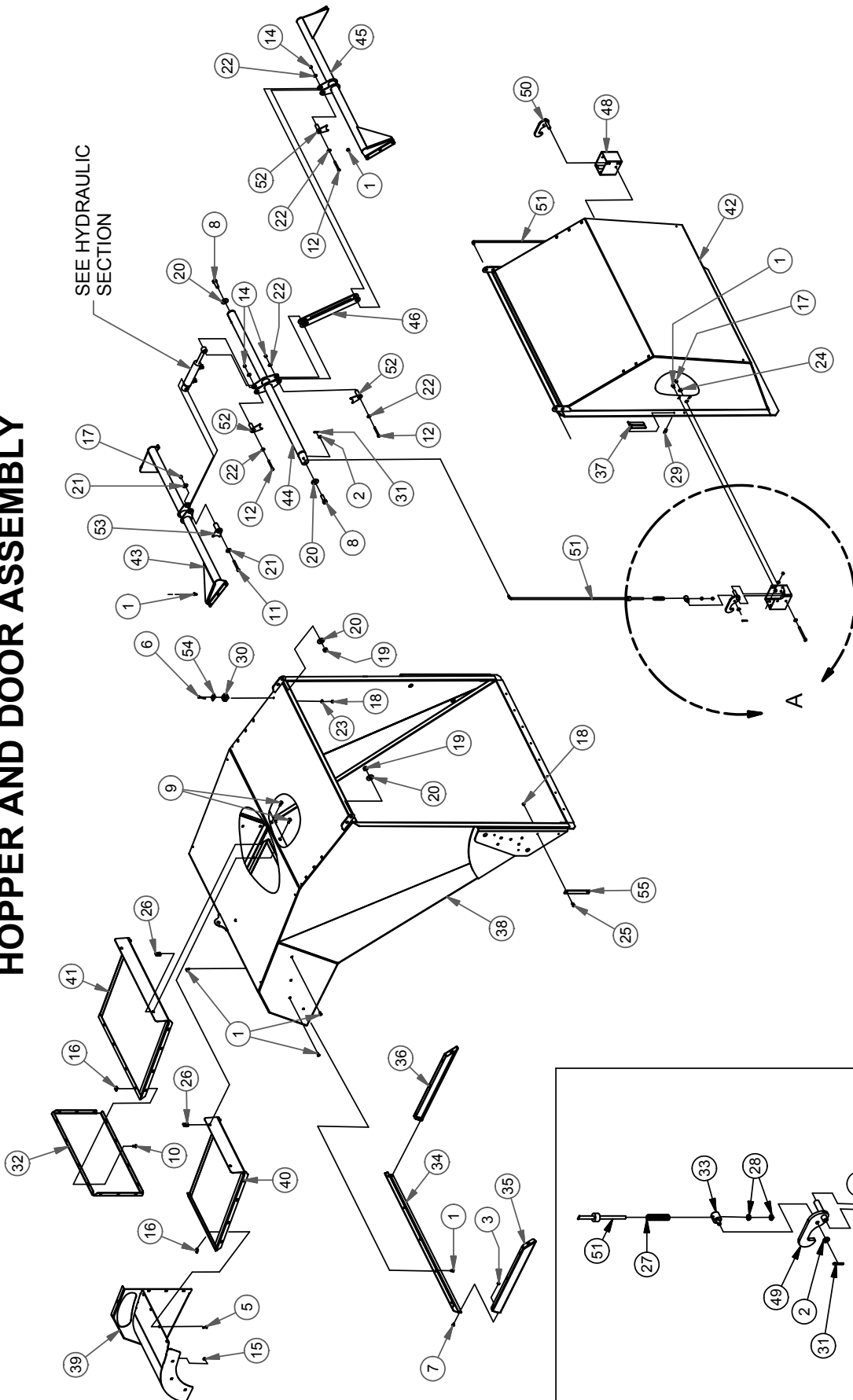
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	2	110026	BOLT, 5/8-11 X 1.25
2	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
3	2	110606	NUT, 5/16-18 WIZ FLANGE
4	2	110650	WASHER, 5/8" FLAT STANDARD
5	2	110655	WASHER, 5/8" LOCK
6	2	311334	PIN - CYLINDER, OUTRIGGER
7	1	315119	OUTRIGGER - LH, WELDMENT
8	1	315120	OUTRIGGER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



PARTS LIST				PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY	PART #	DESCRIPTION
1	53	110020	Bolt, 5/16-18 X 0.75 in Carriage	45	1	315145	CROSS TUBE - DOOR, WELDMENT
2	3	110155	WASHER, 3/8" FLAT SAE	46	1	315146	LIFT LINK - WELDMENT
3	17	110290	NUT, 1/4-20 WIZ FLANGE	47	1	315147	LATCH HOUSING - LH, WELDMENT
4	4	110298	WASHER, 1/4" FLAT SAE	48	1	315148	LATCH HOUSING - RH, WELDMENT
5	4	110328	BOLT, 5/16-18 X 1 FLT HD SKT	49	1	315149	LATCH - LH, WELDMENT
6	1	110354	BOLT, 1/4-20 X 2.0 HEX HEAD	50	1	315150	LATCH - RH, WELDMENT
7	2	110358	Bolt, 1/4-20 X 0.625 in Carriage	51	2	315151	LINK - LATCH, WELDMENT
8	2	110382	BOLT, 5/8-11 X 2.0	52	3	315152	PIN - CYLINDER, 3/4 IN, WELDMENT
9	6	110440	BOLT, 3/8-16 X 1, WIZ FLANGE	53	1	315153	PIN - CYLINDER, 1 IN, WELDMENT
10	4	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE	54	1	522105	DOUBLE COVERPLATE
11	1	110494	BOLT, 3/8-16 X 3.25	55	2	810278	PLASTIC BUMPER, MOTOR GUARD
12	3	110538	BOLT, 5/16-18 X 3.0				
13	2	110540	BOLT, 3/8-16 X 4.5				
14	7	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	4	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	2	110656	WASHER, 3/8" FLAT SPECIAL				
22	14	110665	WASHER, 5/16" FLAT STANDARD				
23	1	110673	WASHER, 1/4" FLAT STANDARD				
24	2	110676	WASHER, 3/8" FLAT STANDARD				
25	4	110766	SCREW, 1/4-20 X 1.0, FLAT HEAD TORX				
26	4	110804	NUT, 3/8-16 U-TYPE .75L				
27	2	110887	SPRING - COMPRESSION, 5/8 X 3.0				
28	4	110897	JamHexNut 3_8-24 UNF				
29	4	110984	SCREW, 1/4-20 X 1.25 FLAT HEAD TORX				
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	315125	HOPPER WELDMENT				
39	1	315131	DEFLECTOR - DEBRIS, HOPPER, WELDMENT				
40	1	315132	SCREEN - PRIMARY, WELDMENT				
41	1	315133	SCREEN - SECONDARY, WELDMENT				
42	1	315134	DOOR - TV30, WELDMENT				
43	1	315143	CROSS TUBE - HOPPER, WELDMENT				
44	1	315144	CROSS TUBE - PIVOT, WELDMENT				

HOPPER AND DOOR ASSEMBLY

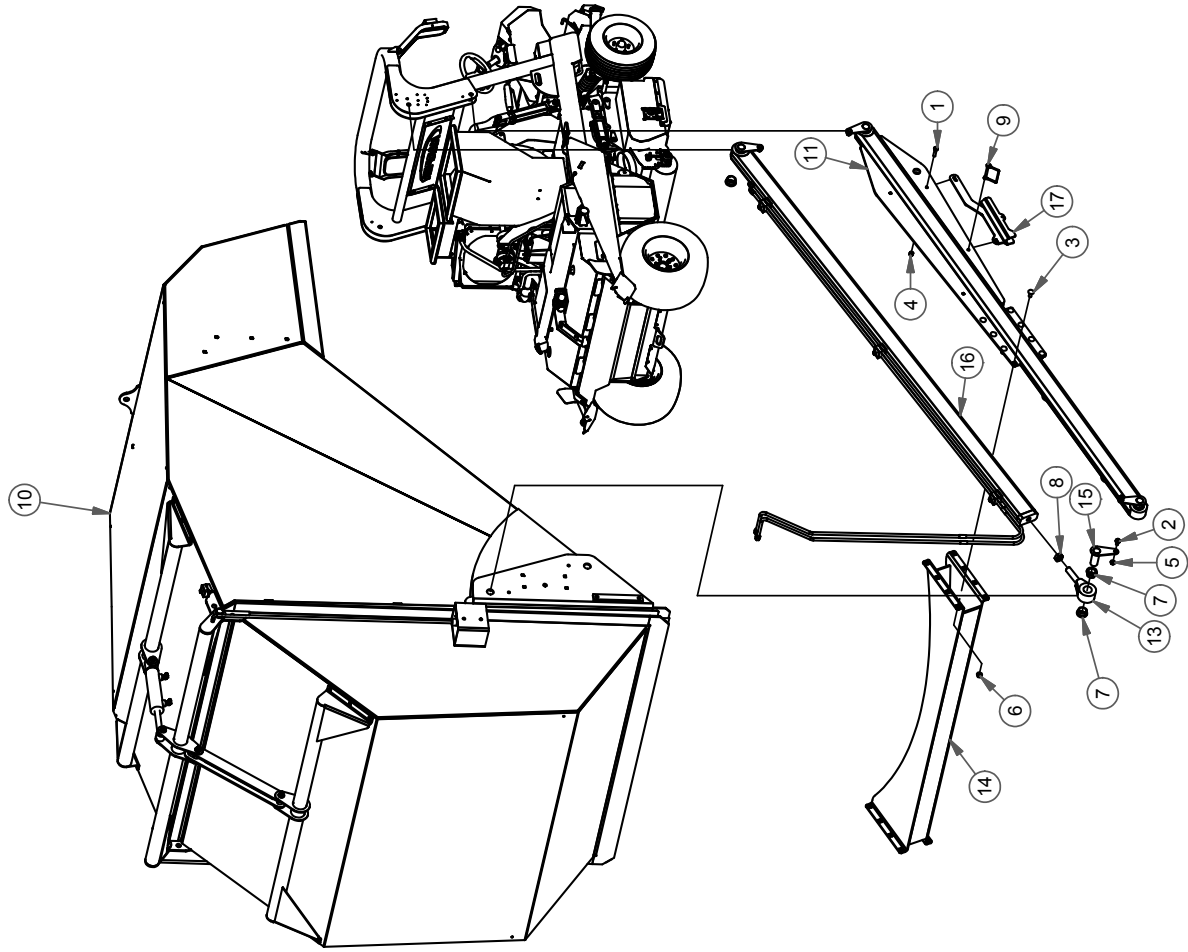
HOPPER AND DOOR ASSEMBLY



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

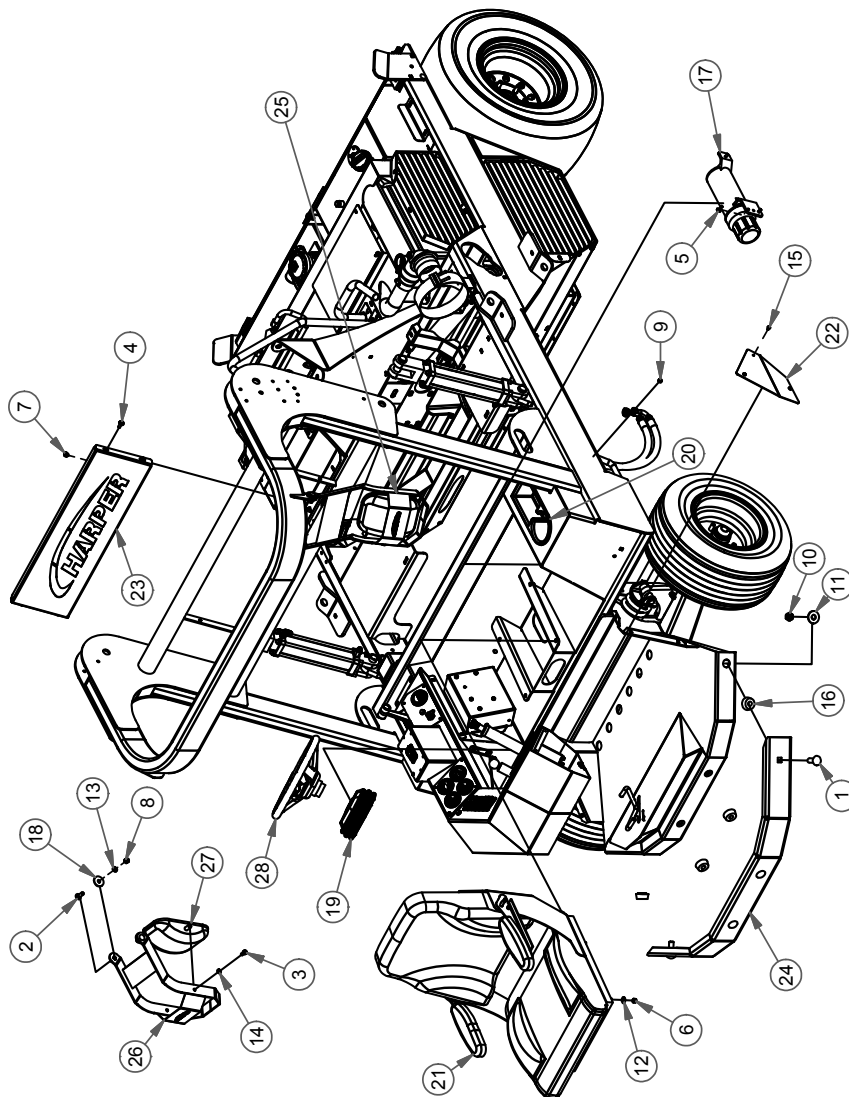
HOPPER INSTALLATION



7/15/2011

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

OPERATOR STATION



PARTS

HYDRAULIC SECTION

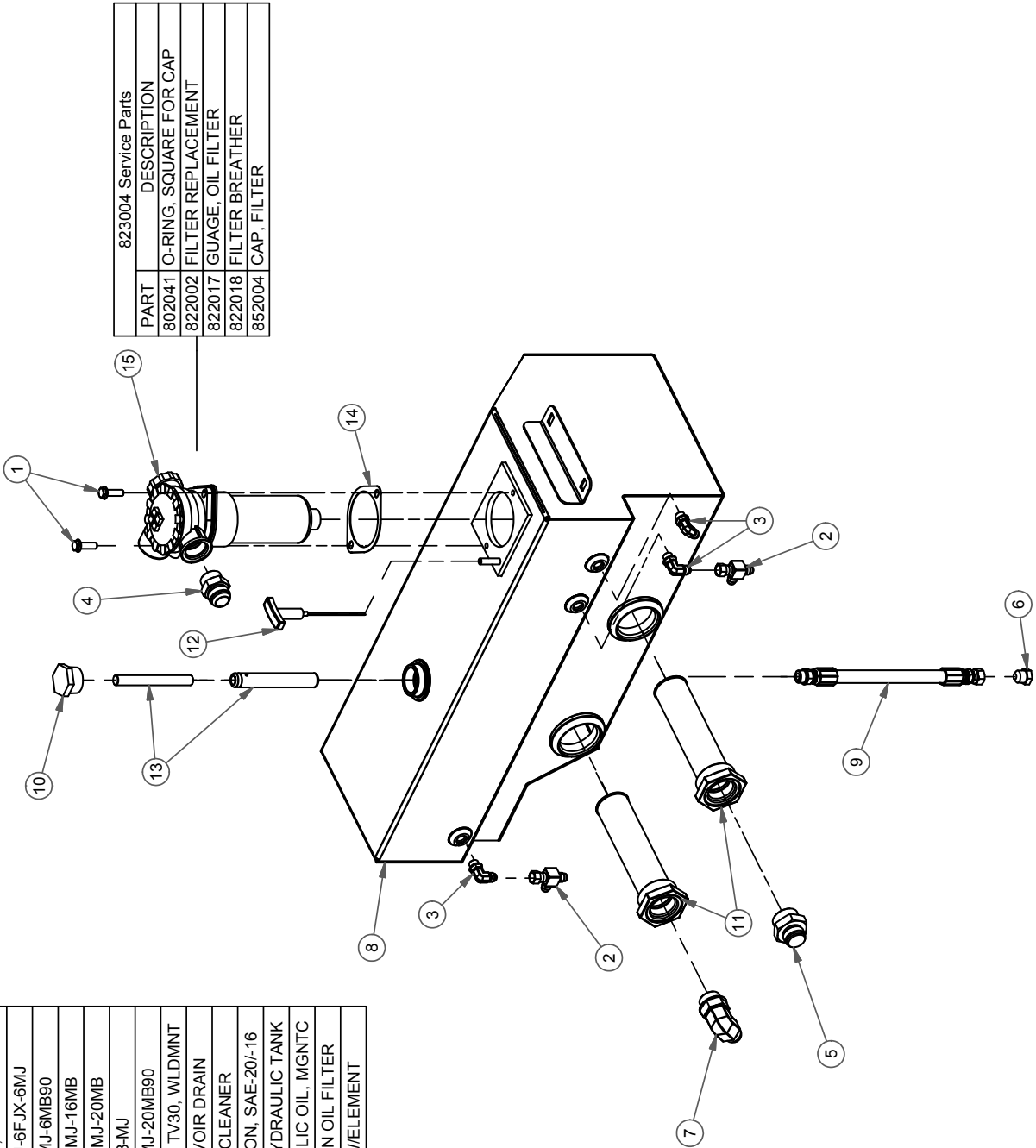


TURBO

VAC 30

PARTS LIST		
ITEM	QTY	DESCRIPTION
1	2	BOLT, 3/8-16 X 1.25, WIZ FLANGE
2	2	ADAPTER, 6MJ-6FJX-6MJ
3	3	ADAPTER, 6MJ-6MB90
4	1	ADAPTER, 16MJ-16MB
5	1	ADAPTER, 16MJ-20MB
6	1	PLUG - 8-MJ
7	1	ADAPTER, 12MJ-20MB90
8	1	TANK - HYDRAULIC, TV30, WLDMNT
9	1	HOSE - RESERVOIR DRAIN
10	1	PLUG - TANK CLEANER
11	2	STRAINER - SUCTION, SAE-20/-16
12	1	DIP STICK - TV30, HYDRAULIC TANK
13	1	CLEANER - HYDRAULIC OIL, MGNTC
14	1	GASKET - RETURN OIL FILTER
15	1	FILTER ASSY W/ELEMENT

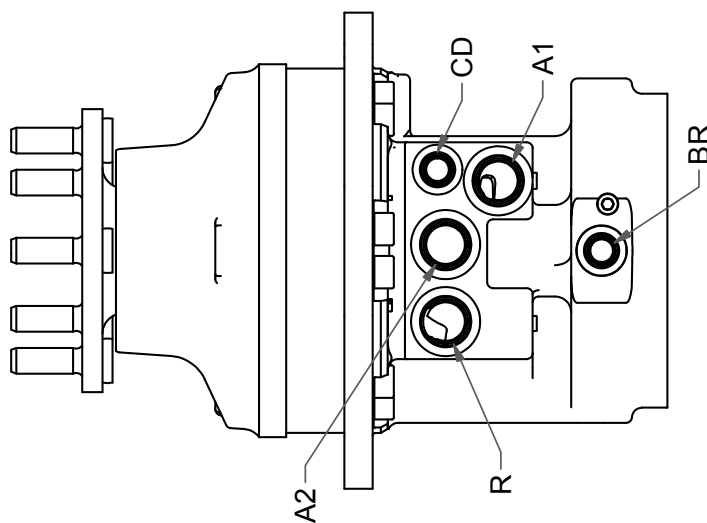
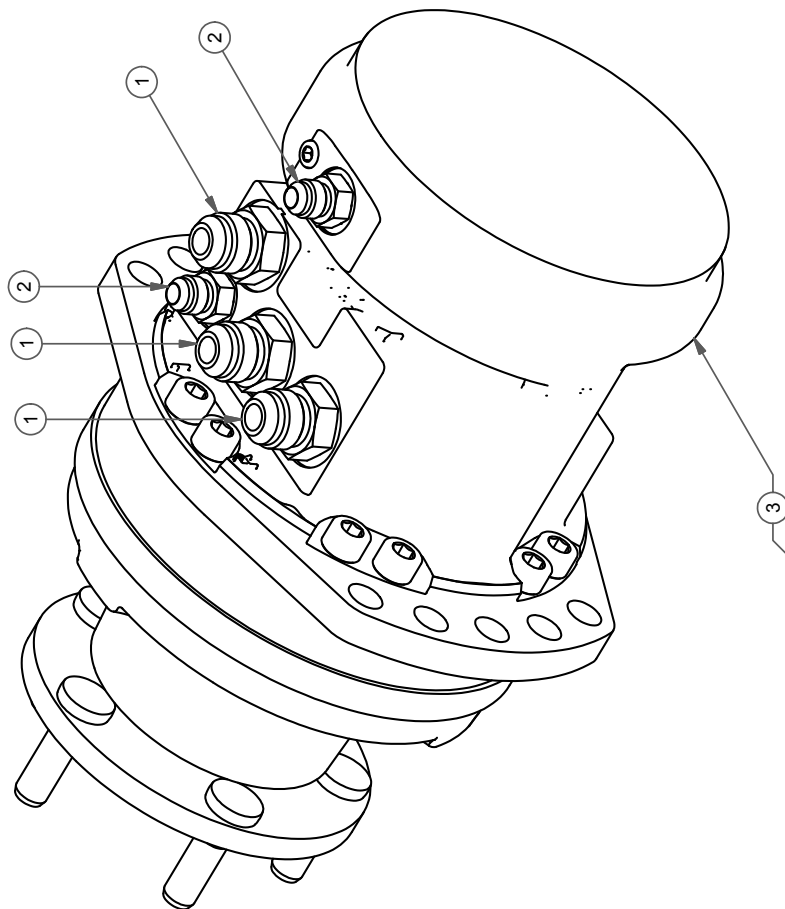
HYDRAULIC RESERVOIR ASSEMBLY



823004 Service Parts	
PART	DESCRIPTION
802041	O-RING, SQUARE FOR CAP
822002	FILTER REPLACEMENT
822017	GUAGE, OIL FILTER
822018	FILTER BREATHER
852004	CAP, FILTER

WHEEL MOTOR ASSEMBLY

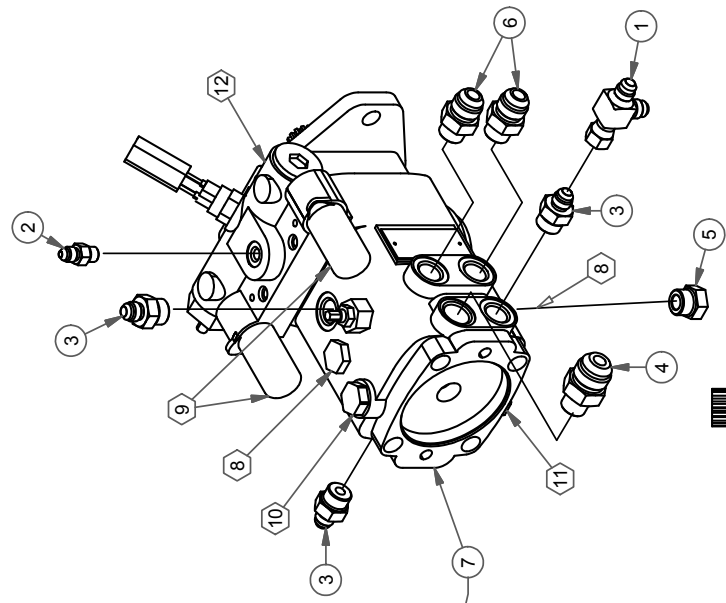
Parts List		
ITEM	QTY	PART # DESCRIPTION
1	3	120251 ADAPTER, 10MJ-10MB
2	2	120319 ADAPTER, 6MJ-6MB
3	1	322004 MOTOR - WHEEL, HYDRAULIC, POCLAIN



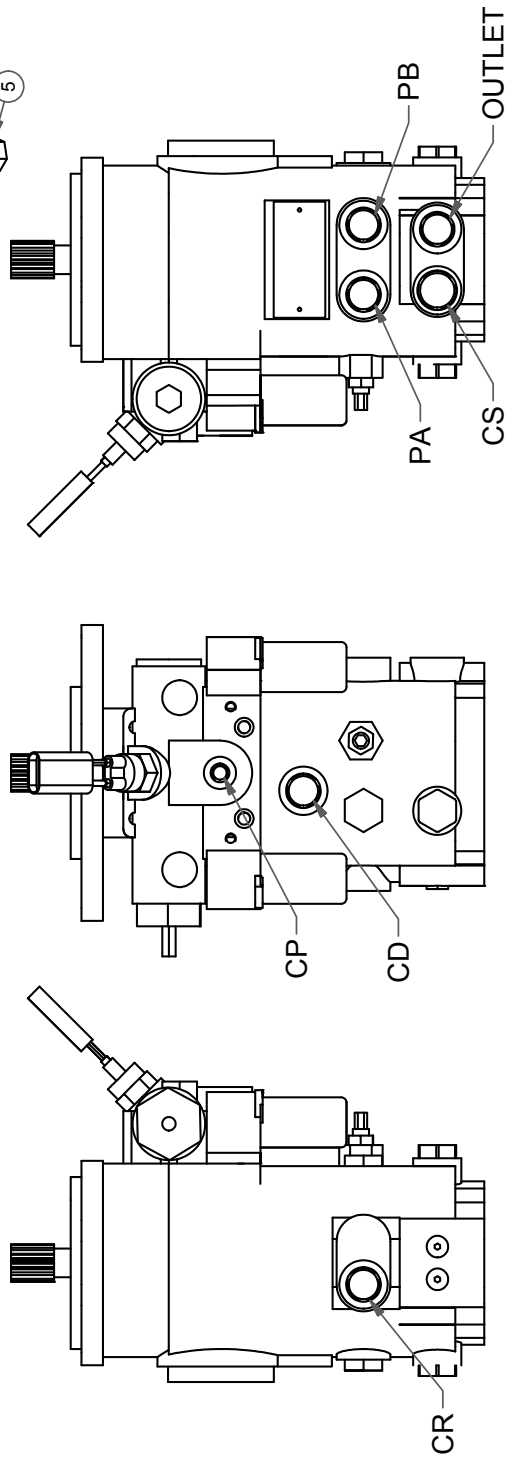
322004 Service Parts		
PART #	QTY	DISCRIPTION
322058	6	WHEEL MOTOR, STUD
110607	6	WHEEL MOTOR, NUT - LUG 1/2-20

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

PROPULSION PUMP ASSEMBLY

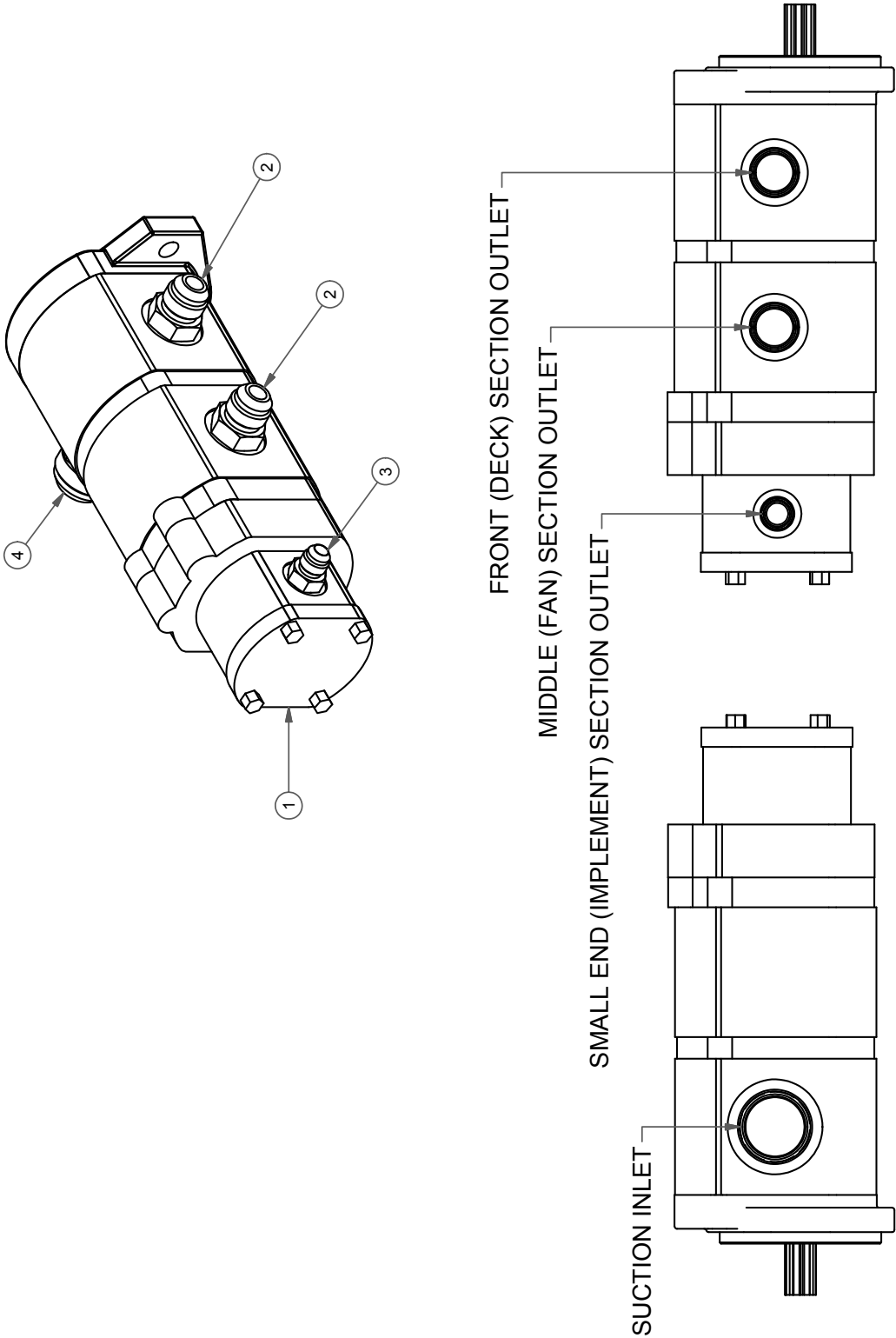


323001 Service Parts		
ITEM	PART #	DESCRIPTION
-	822021	PROPULSION PUMP SEAL KIT
8	822038	VALVE, PROPULSION PRESS RELIEF
9	322044	SOLONOID, PROPULSION PUMP
10	322045	VALVE, IMPELMENT PRESSURE RELIEF
11	322046	VALVE, CHARGE PRESSURE RELIEF
12	333001	ELECTRICAL PROPULSION PUMP CONTROLLER
822034 HOUSING, CA PROPULSION PUMP O-RING		
822039 SEAL KIT, CA HOUSING, PAPER		
822042 SEAL KIT, CA HOUSING, O-RING		



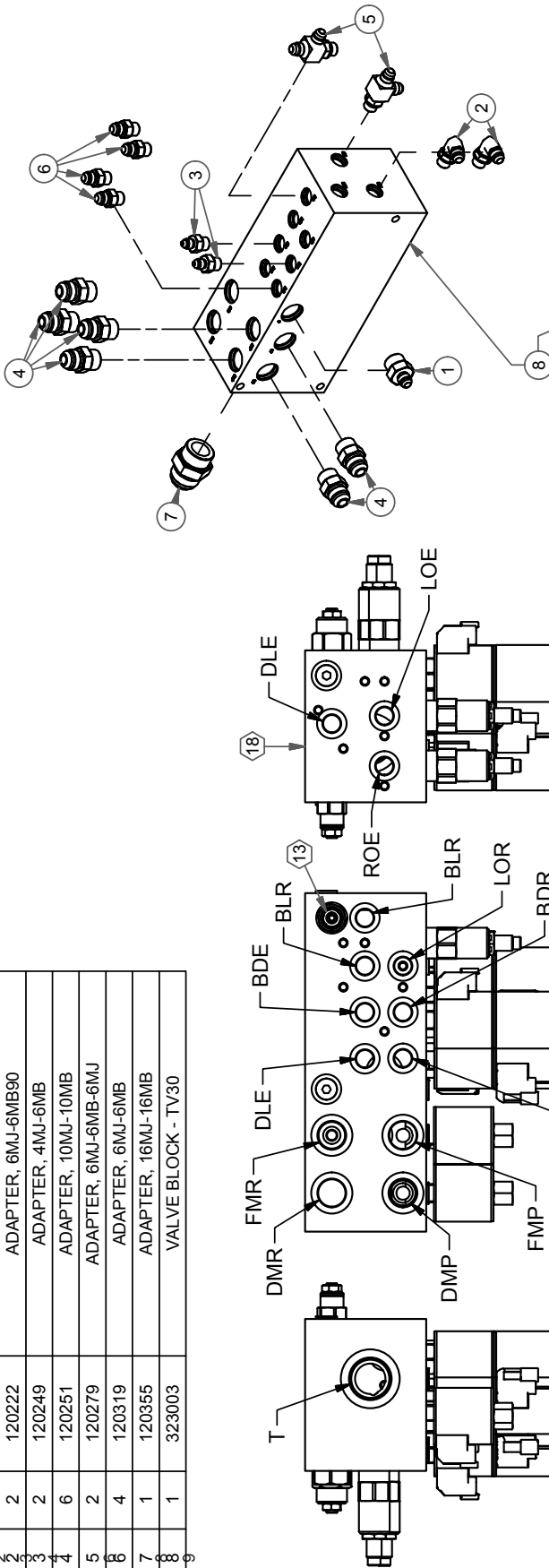
TRIPLE SECTION PUMP ASSEMBLY

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

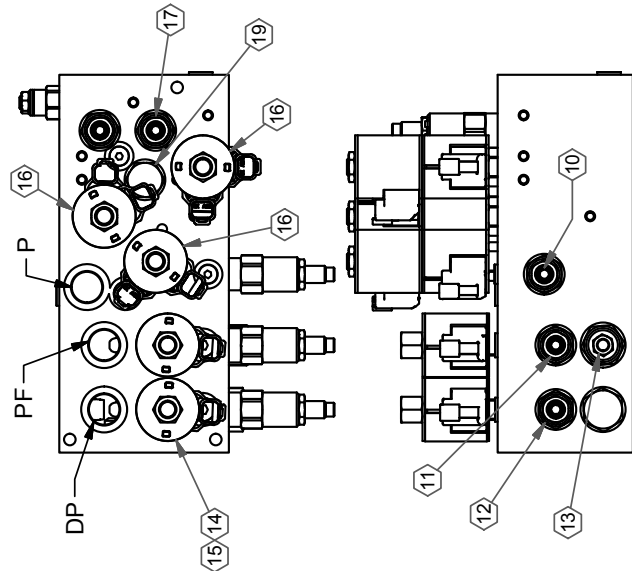


PARTS LIST		
ITEM	QTY	PART # DESCRIPTION
1	1	120144 ADAPTER, 6MJ-10MB
2	2	120222 ADAPTER, 6MJ-6MB90
3	2	120249 ADAPTER, 4MJ-6MB
4	6	120251 ADAPTER, 10MJ-10MB
5	2	120279 ADAPTER, 6MJ-6MB-6MJ
6	4	120319 ADAPTER, 6MJ-6MB
7	1	120355 ADAPTER, 16MJ-16MB
8	1	323003 VALVE BLOCK - TV30

MASTER VALVE ASSEMBLY



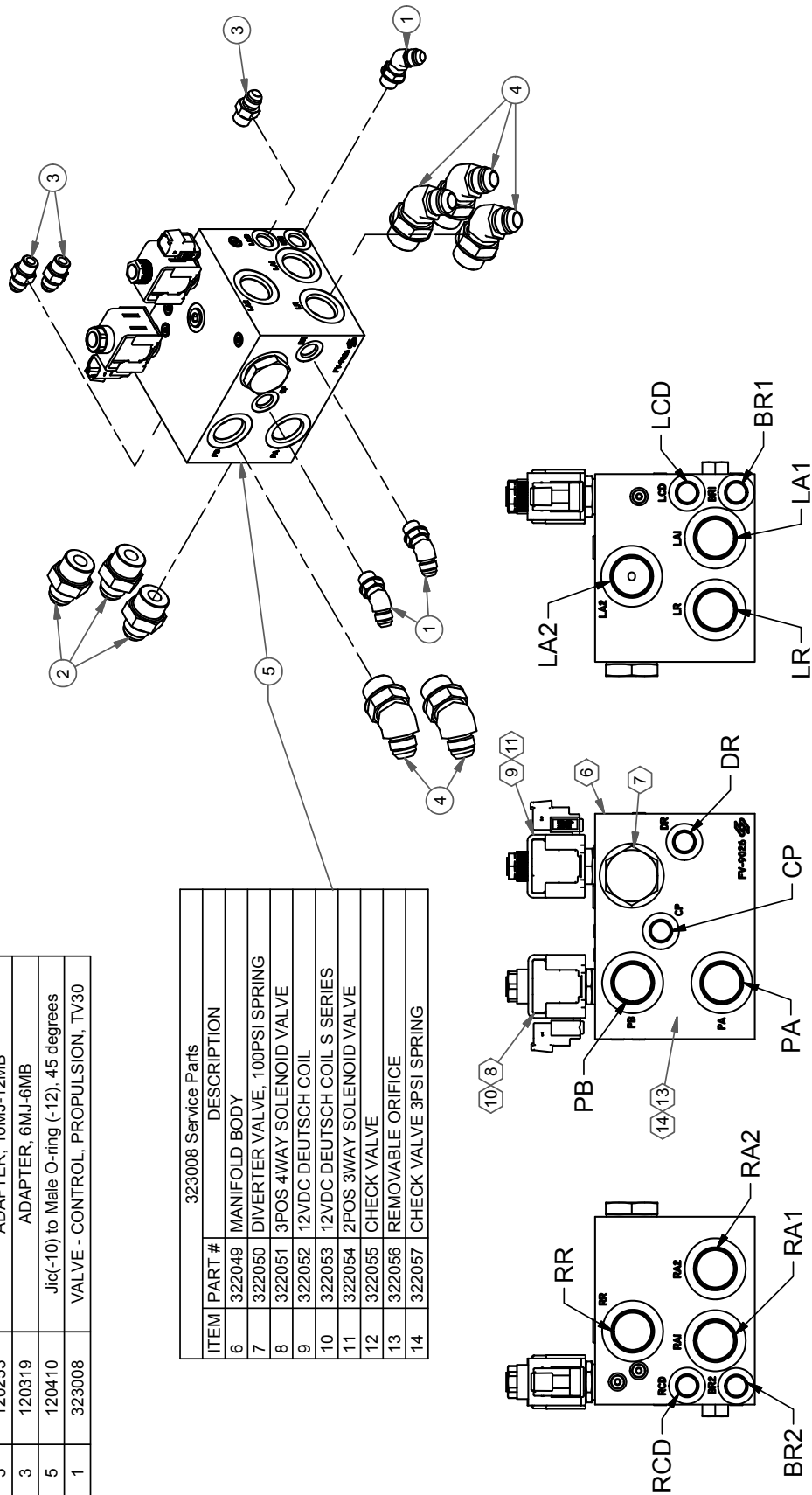
323003 Service Parts		
ITEM	PART #	DESCRIPTION
10	322032	25.0 RELIEF VALVE
11	322033	22.5 RELIEF VALVE
12	322034	27.0 RELIEF VALVE
13	322035	C/BALANCE VALVE
14	820232	N.O. SOL VALVE
15	522163	VDC ER COIL
16	322038	3P 4W SOL VALVE
17	322039	8.00 SEQ VALVE
18	322040	VALVE BODY
19	522160	PILOT CHECK VALVE



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

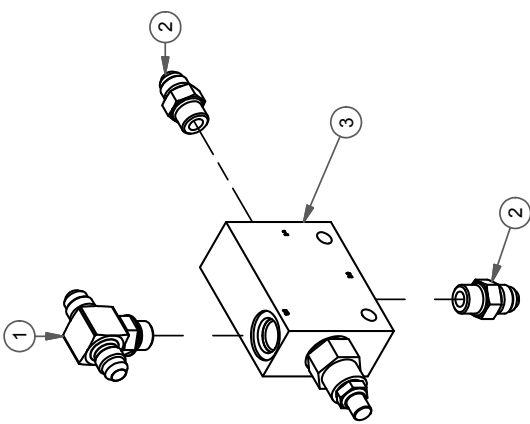
323008 Service Parts	
ITEM	PART # DESCRIPTION
6	322049 MANIFOLD BODY
7	322050 DIVERter VALVE, 100PSI SPRING
8	322051 3POS 4WAY SOLENOID VALVE
9	322052 12VDC DEUTSCH COIL
10	322053 12VDC DEUTSCH COIL S SERIES
11	322054 2POS 3WAY SOLENOID VALVE
12	322055 CHECK VALVE
13	322056 REMOVABLE ORIFICE
14	322057 CHECK VALVE 3PSI SPRING

PROPULSION VALVE ASSEMBLY



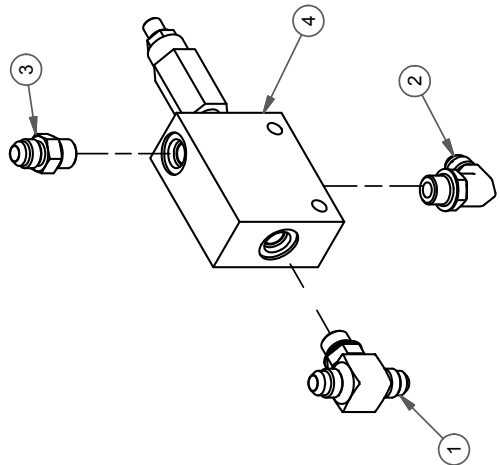
PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	120092	ADAPTER, 6MJ-6MJ-6MB
2	2	120319	ADAPTER, 6MJ-6MB
3	1	323007	VALVE - SEQUENCE, PROPULSION, TV30

SEQUENCE VALVE ASSEMBLY

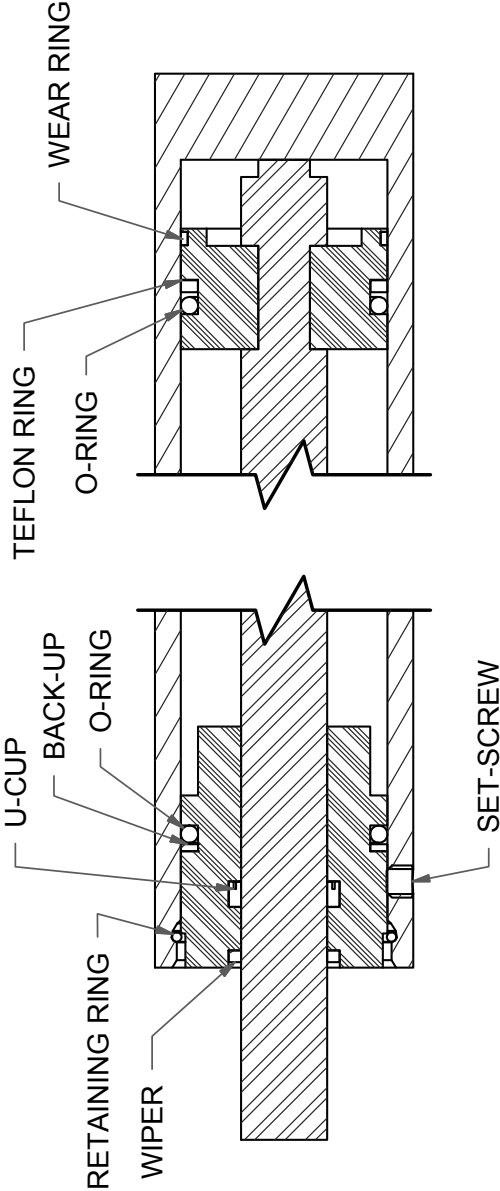


PARTS LIST			
ITEM	QTY	PART #	DESCRIPTION
1	1	120092	ADAPTER, 6MJ-6MJ-6MB
2	1	120222	ADAPTER, 6MJ-6MB90
3	1	120319	ADAPTER, 6MJ-6MB
4	1	323015	VALVE - PRESSURE REDUCING

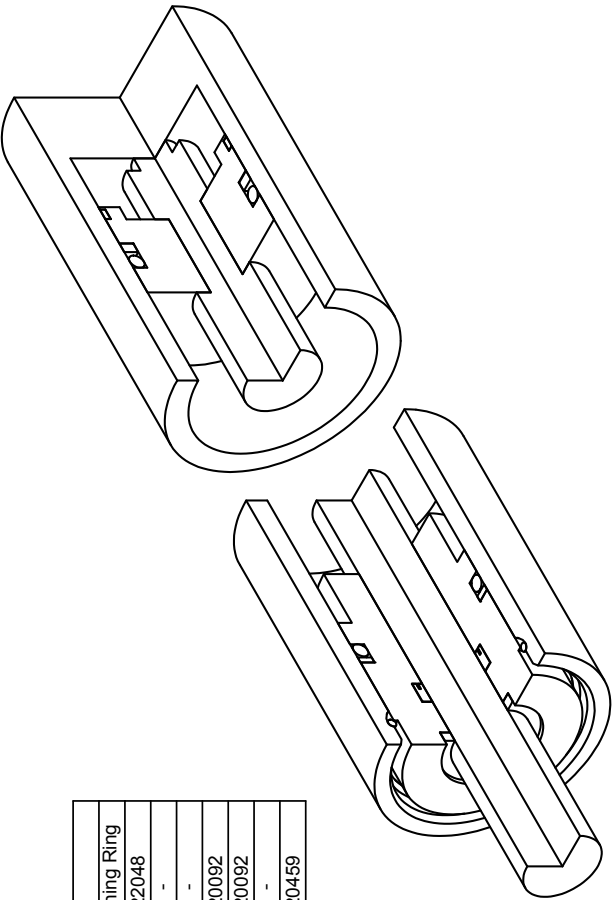
PRESSURE REDUCTION VALVE ASSEMBLY



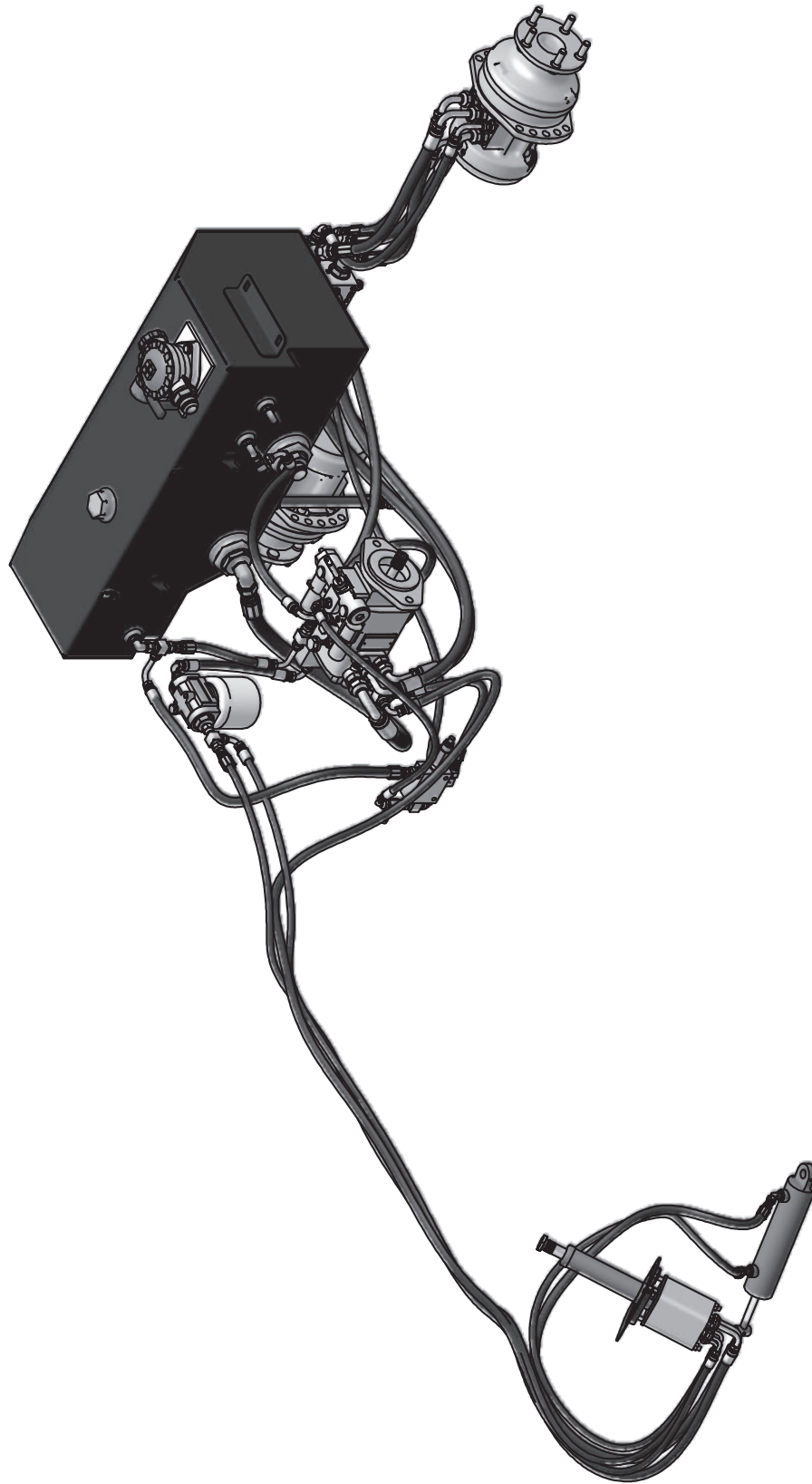
HYDRAULIC CYLINDER SERVICE PARTS



	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	922021	922076	520459

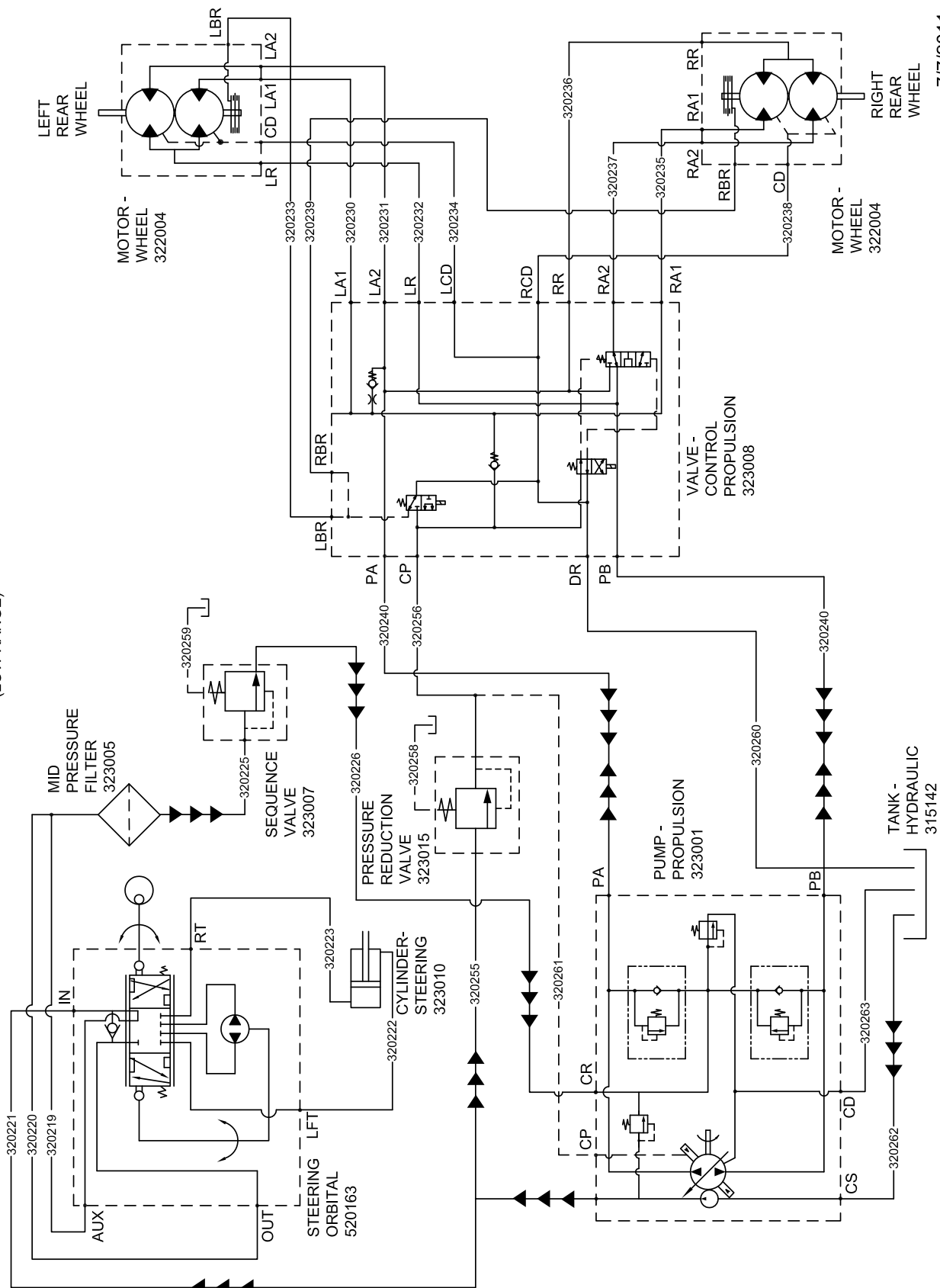


PROPULSION SYSTEM



7/7/2011

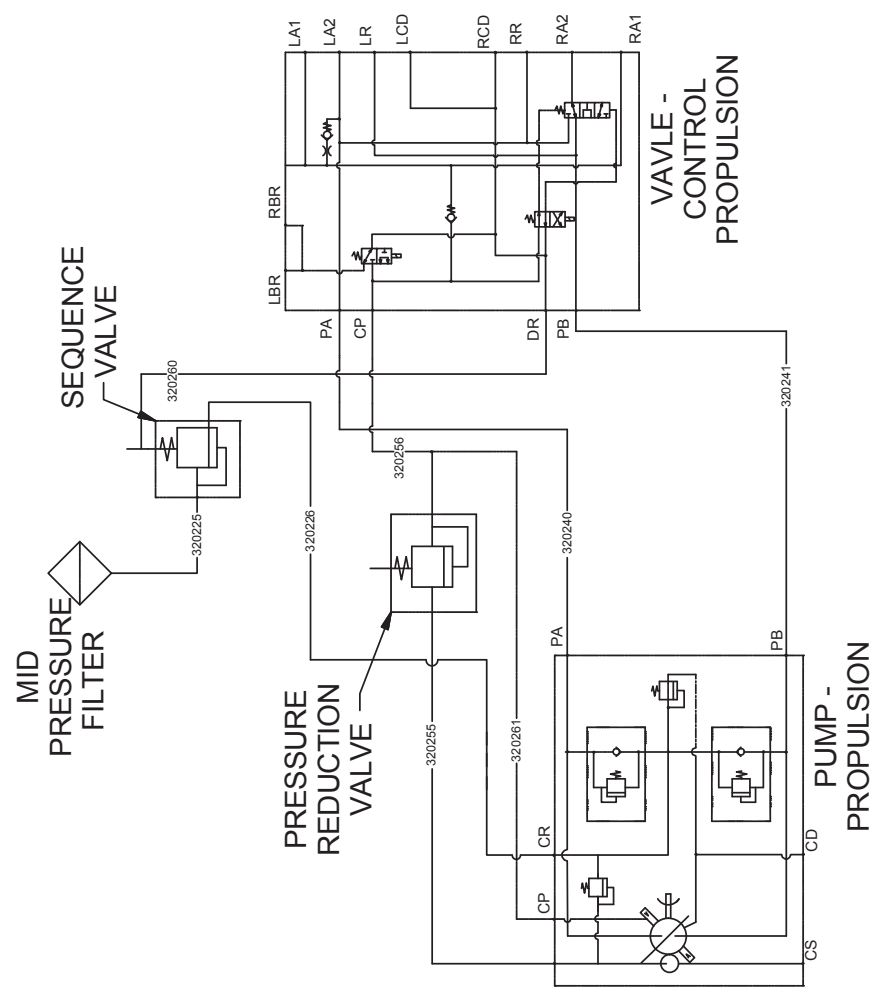
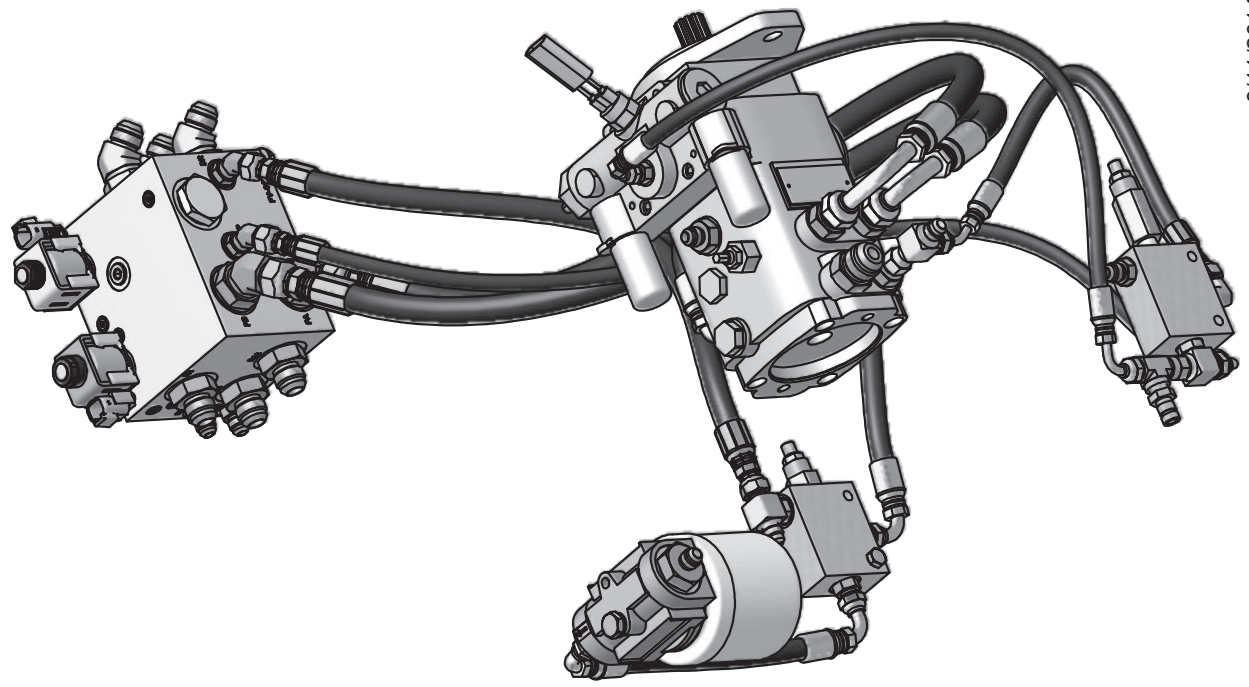
TV30 PROPULSION CIRCUIT (LOW RANGE)



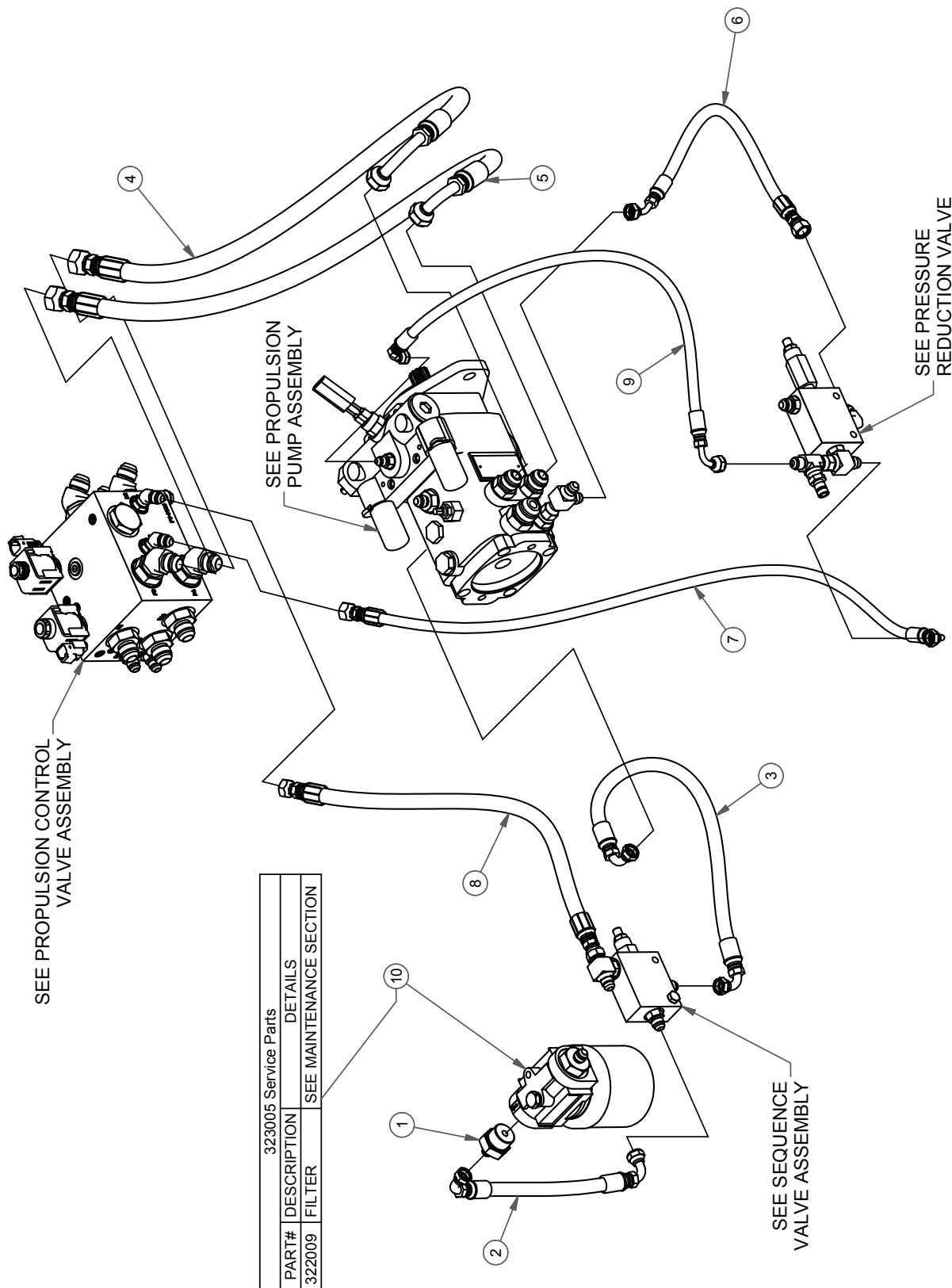
7/7/2011

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	120664	ADAPTER, 6MJ-12MB
2	1	320225	HOSE - SEQUENCE VALVE INLET
3	1	320226	HOSE - SEQUENCE VALVE OUTLET
4	1	320240	HOSE - PROPULSION "A" PRESSURE
5	1	320241	HOSE - PROPULSION "B" PRESSURE
6	1	320255	HOSE - PRESSURE REDUCTION VALVE SUPPLY
7	1	320256	HOSE - PROPULSION VALVE CHG PRESSURE SUPPLY
8	1	320260	HOSE - PROPULSION VALVE CASE DRAIN
9	1	320261	HOSE - PILOT CONTROL PRESSURE
10	1	323005	FILTER - MID-PRESSURE

PROPULSION PLUMBING

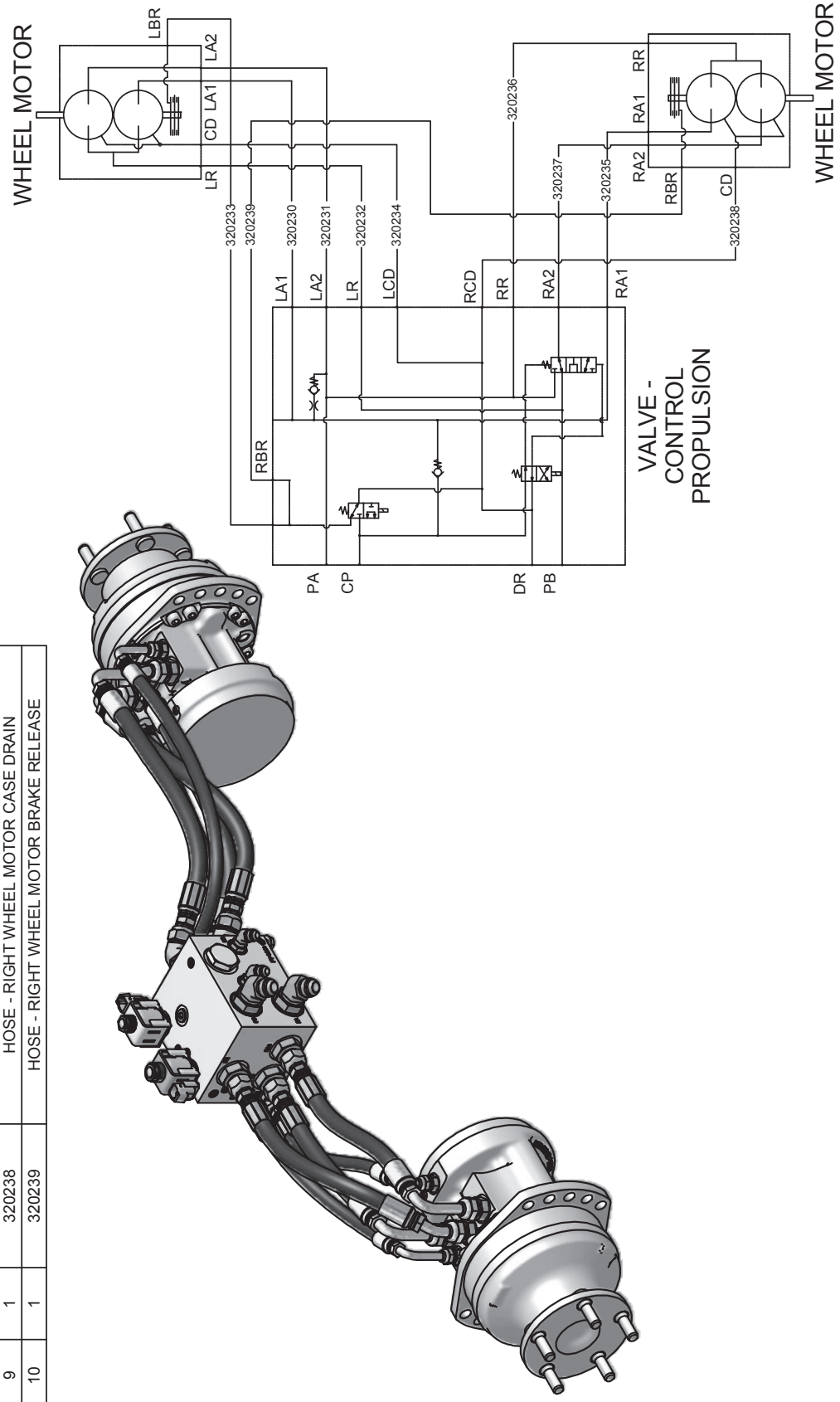


PROPULSION PLUMBING



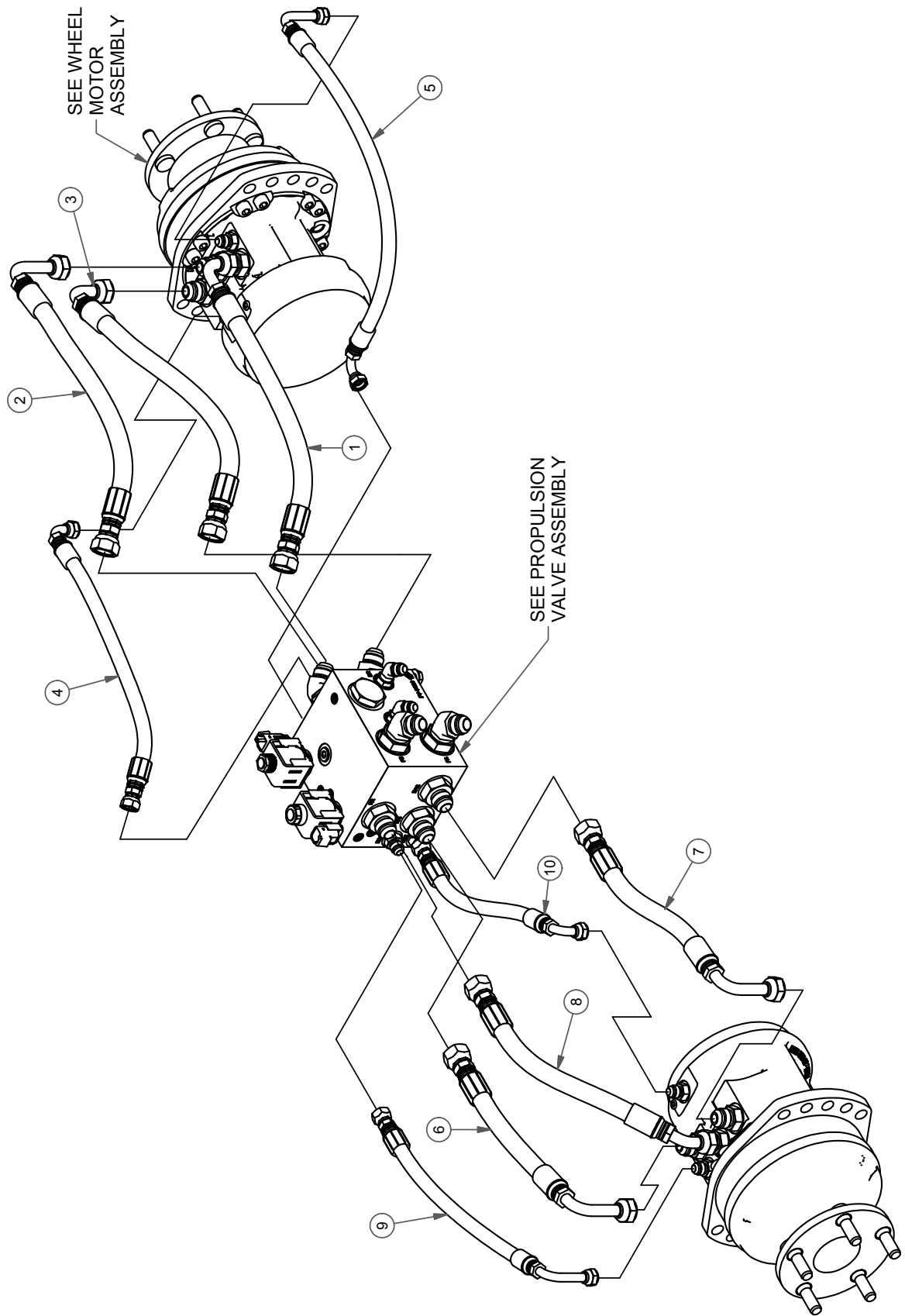
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	320230	HOSE - LEFT WHEEL MOTOR A1 PRESSURE
2	1	320231	HOSE - LEFT WHEEL MOTOR A2 PRESSURE
3	1	320232	HOSE - LEFT WHEEL MOTOR RETURN
4	1	320233	HOSE - LEFT WHEEL MOTOR BRAKE RELEASE
5	1	320234	HOSE - LEFT WHEEL MOTOR CASE DRAIN
6	1	320235	HOSE - RIGHT WHEEL MOTOR A1 PRESSURE
7	1	320236	HOSE - RIGHT WHEEL MOTOR RETURN
8	1	320237	HOSE - RIGHT WHEEL MOTOR A2 PRESSURE
9	1	320238	HOSE - RIGHT WHEEL MOTOR CASE DRAIN
10	1	320239	HOSE - RIGHT WHEEL MOTOR BRAKE RELEASE

WHEEL MOTOR PLUMBING



7/6/2011

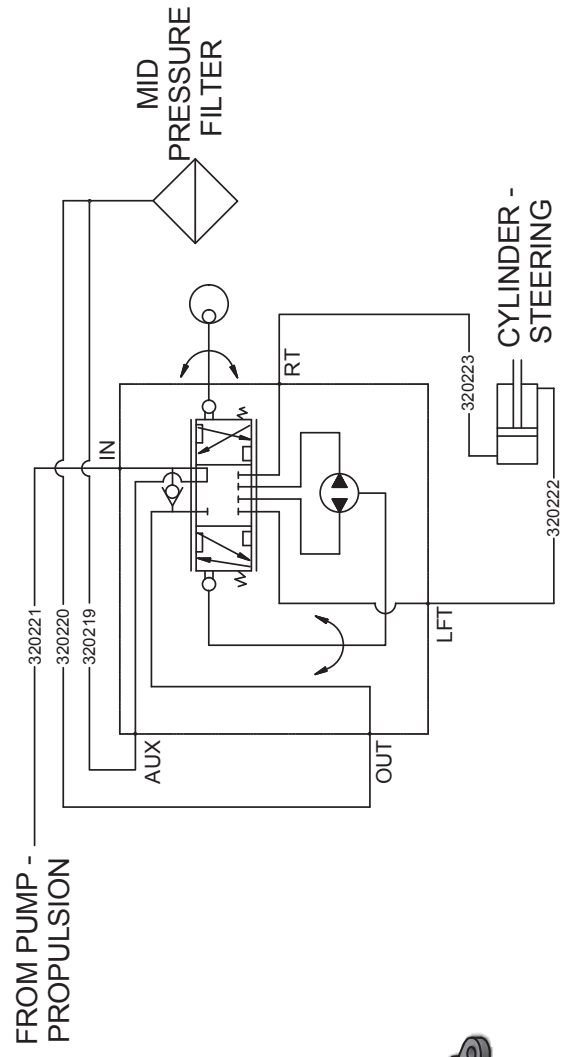
WHEEL MOTOR PLUMBING



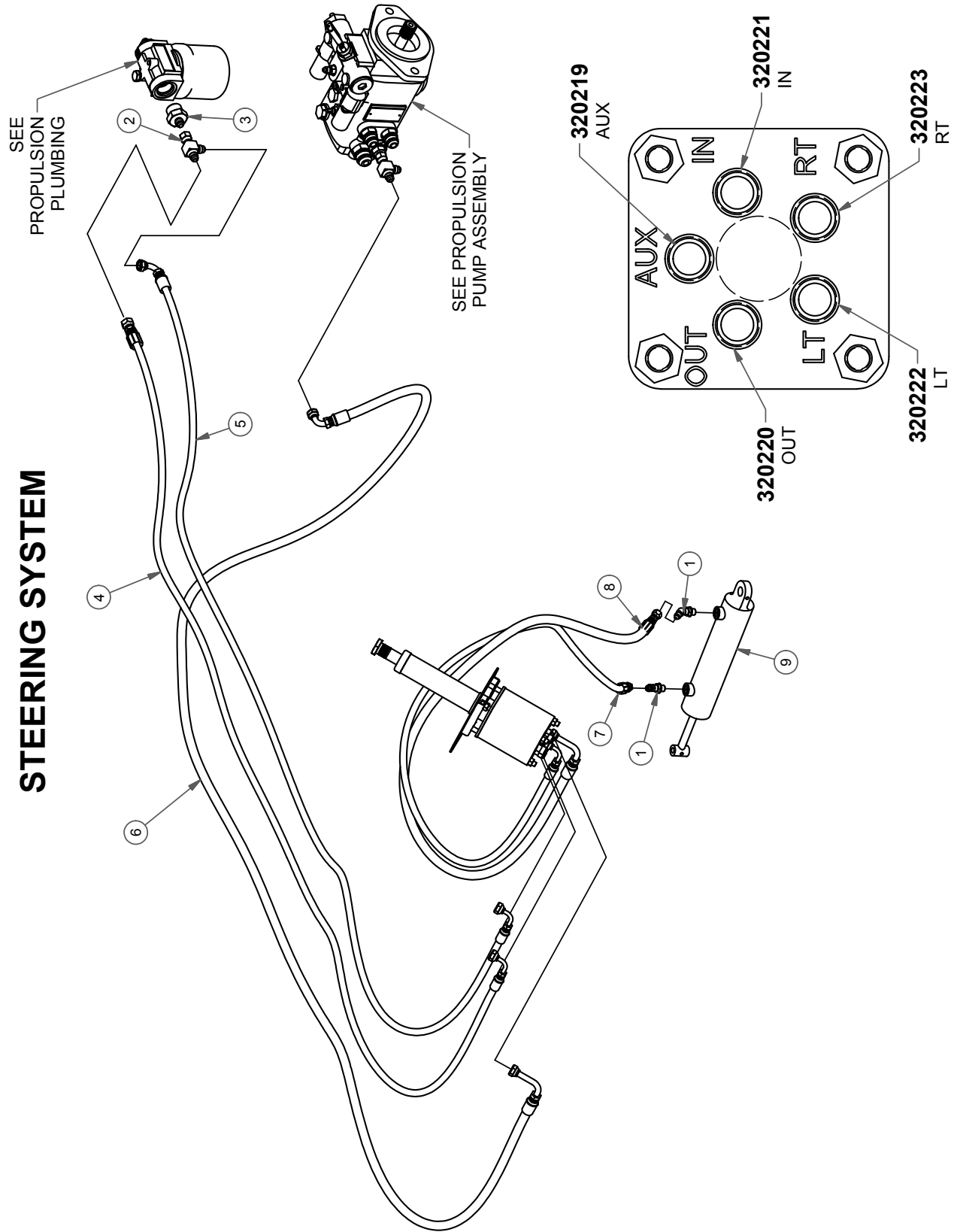
7/6/2011

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



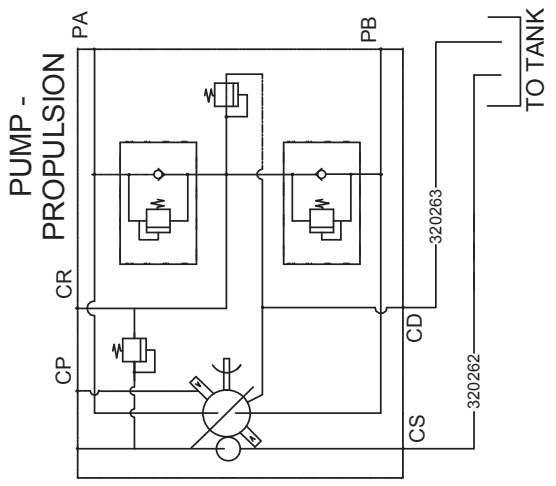
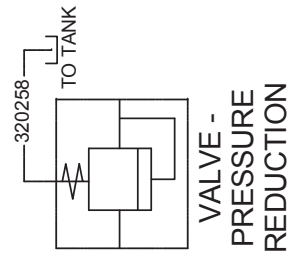
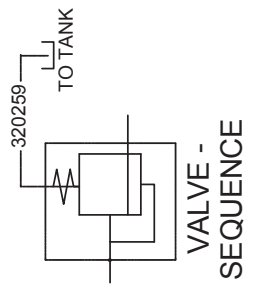
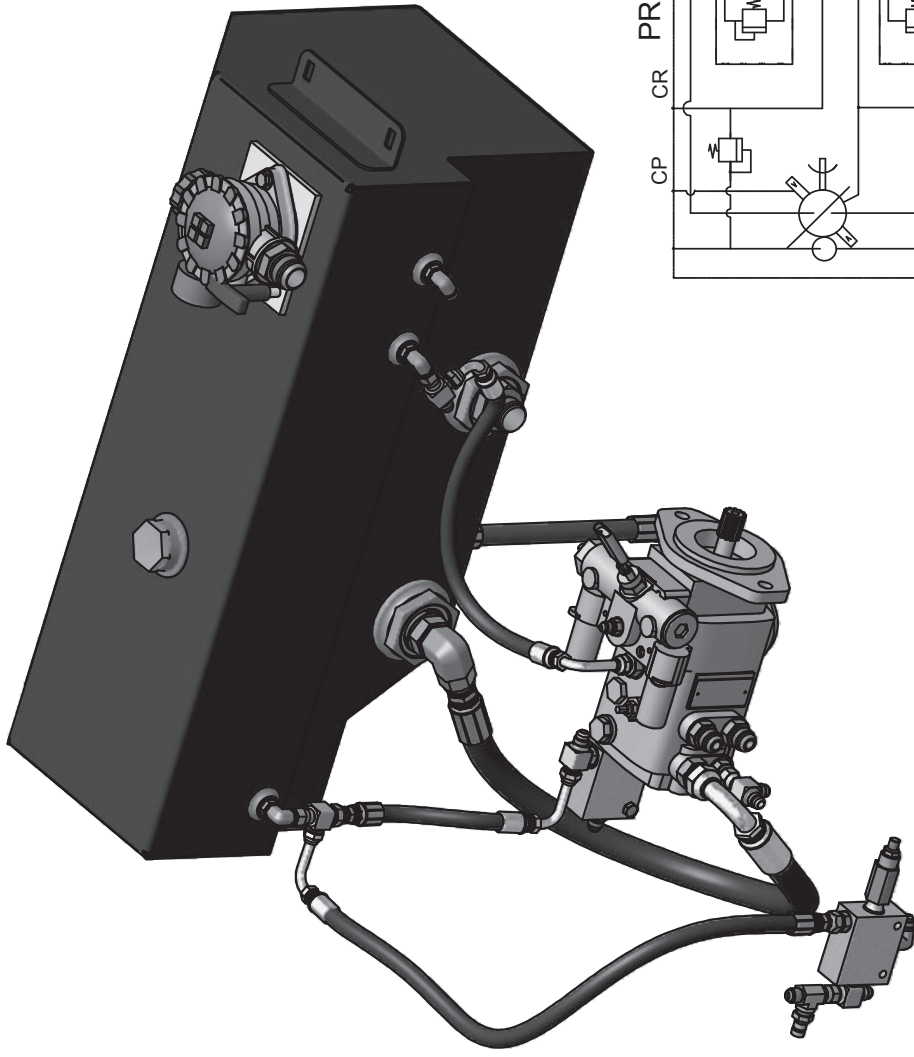
STEERING SYSTEM



8/11/2011

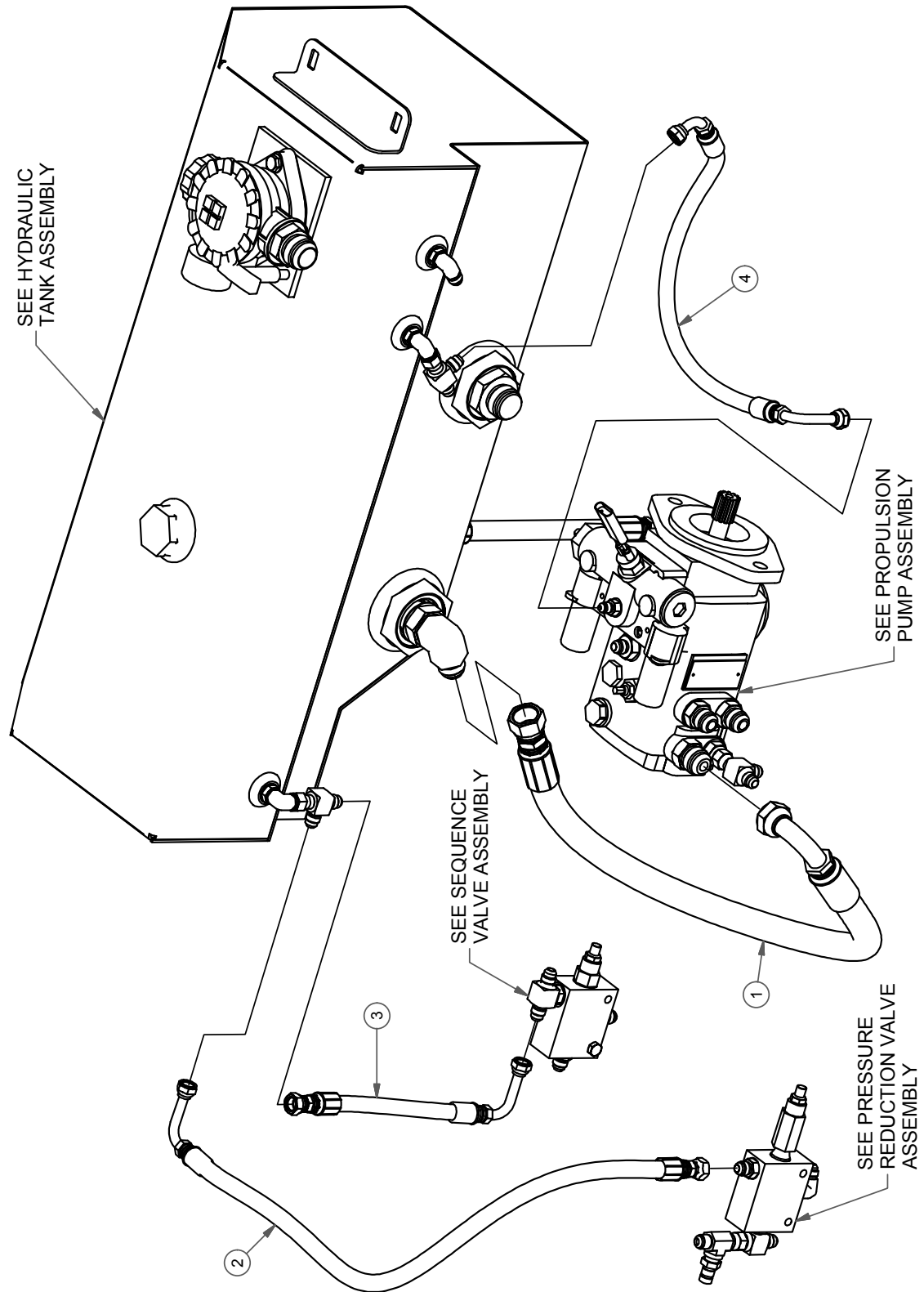
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	320229	HOSE - PROPULSION SUCTION HOSE
2	1	320258	HOSE - PRESSURE REDUCTION VALVE DRAIN
3	1	320259	HOSE - SEQUENCE VALVE DRAIN
4	1	320263	HOSE - PROPULSION PUMP CASE DRAIN

PROPULSION SUCTION & DRAIN PLUMBING



12/5/2011

PROPULSION SUCTION & DRAIN PLUMBING

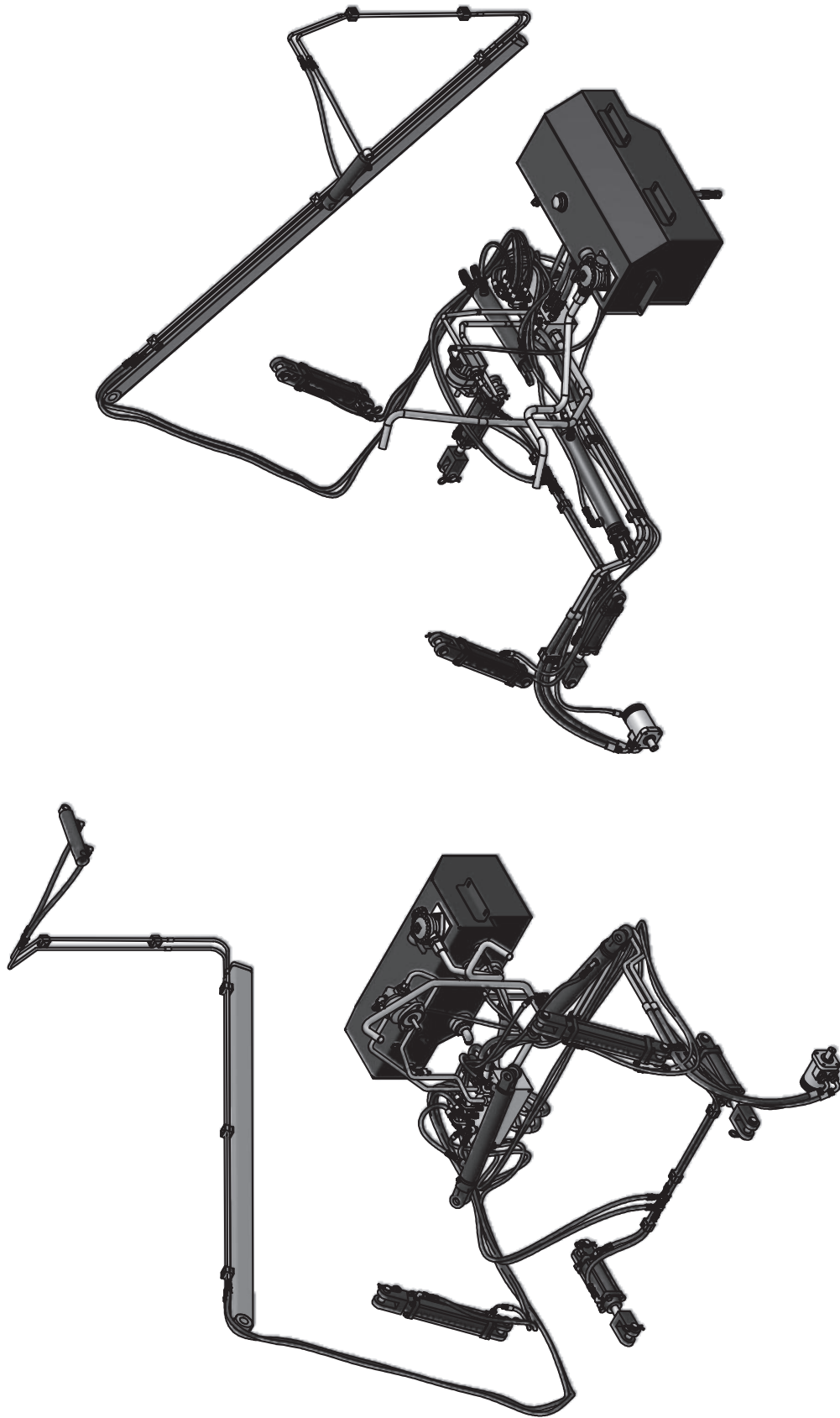


12/5/2011

MACHINE SYSTEM

FRONT LEFT

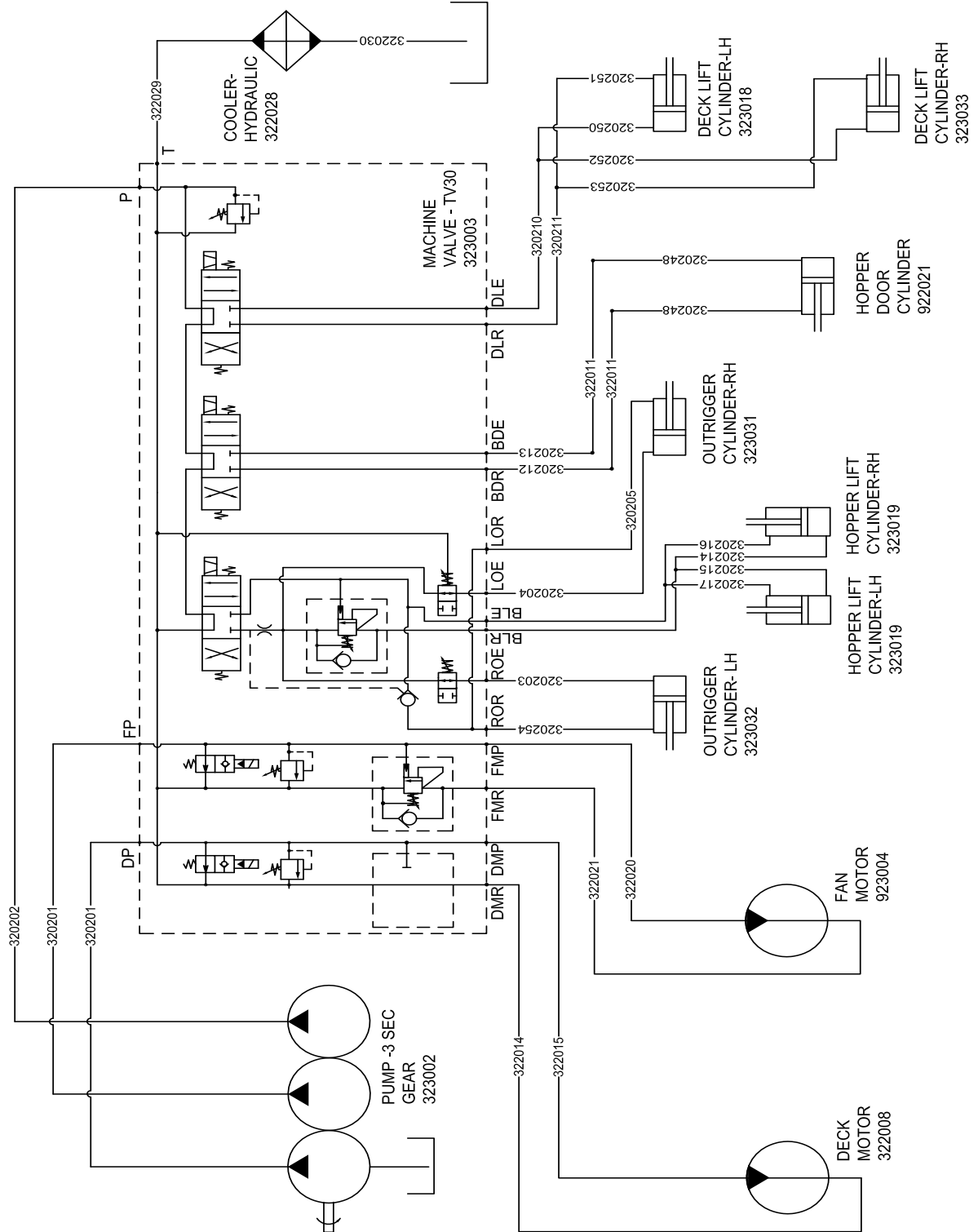
BACK LEFT



7/13/2011

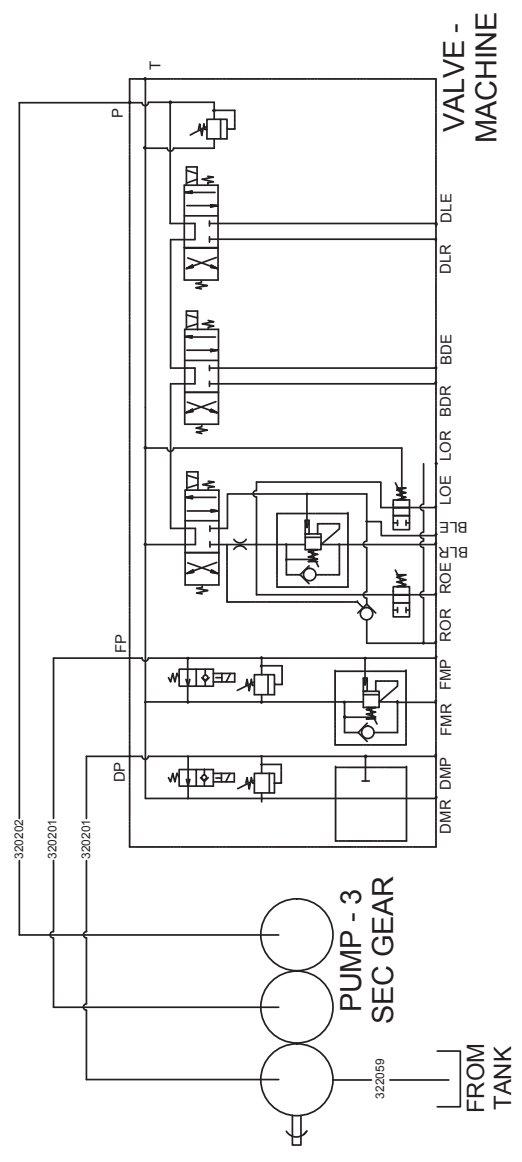
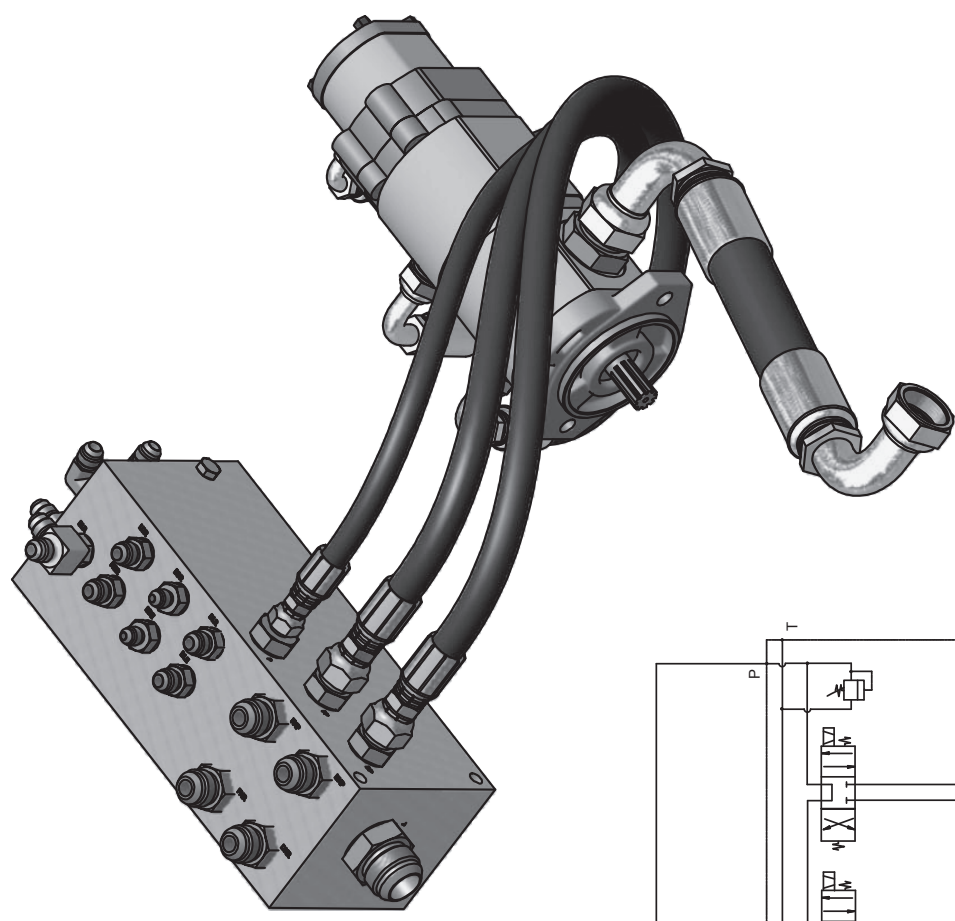
TV30 MACHINE CIRCUITS

(DECK & FAN DRIVES, CYLINDER FUNCTIONS)



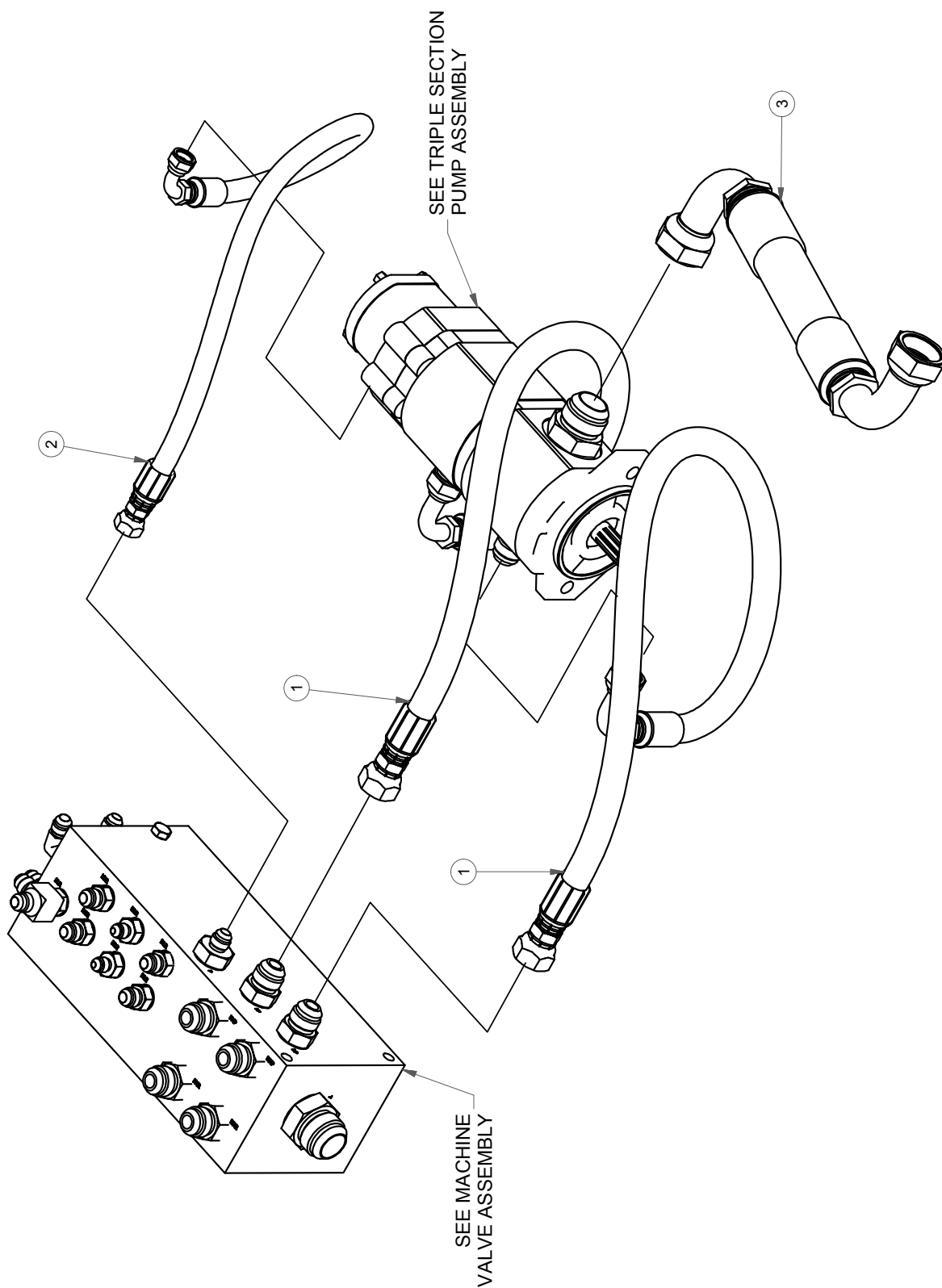
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	2	320201	HOSE - DECK & FAN PRESSURE SUPPLY
2	1	320202	HOSE - CYLINDER FCN'S SUPPLY
3	1	322059	HOSE ASSY, 1.0X14.25" 16FJX60M - 16FJX90M

TRIPLE SECTION (MACHINE) PUMP PLUMBING



12/2/2011

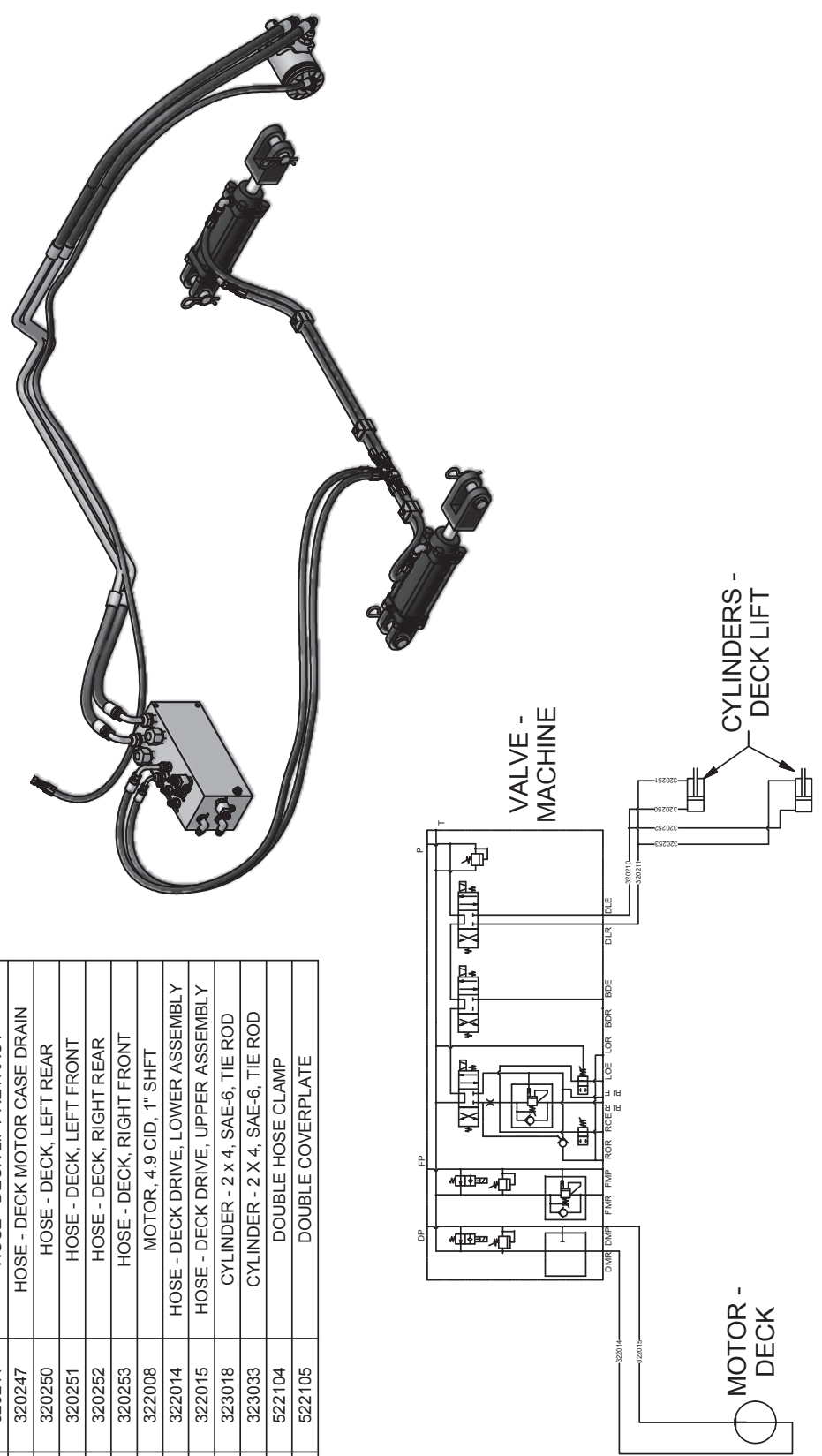
TRIPLE SECTION (MACHINE) PUMP PLUMBING



12/2/2011

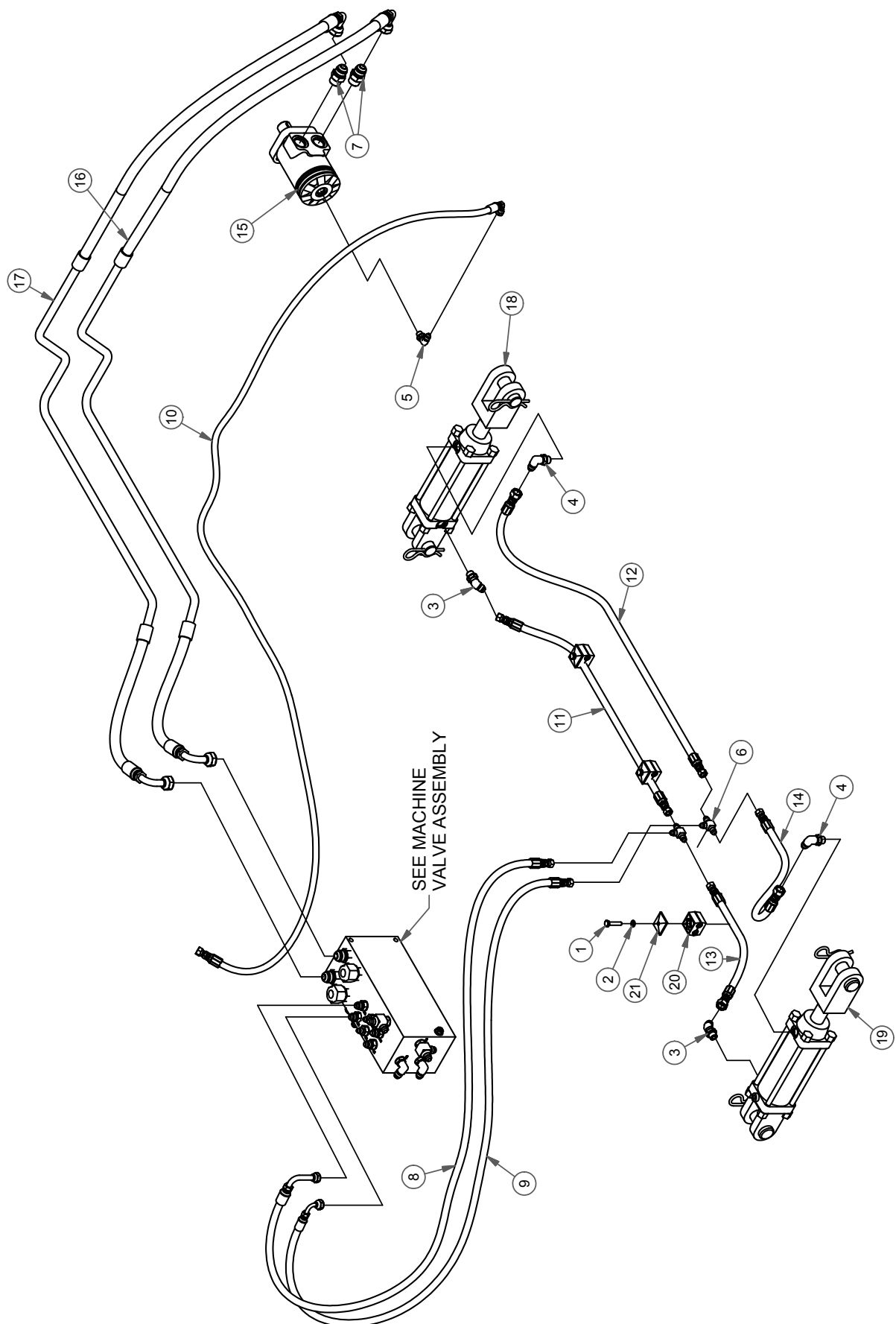
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	3	110430	BOLT, 1/4-20 X 1-1/4
2	3	110667	WASHER, 1/4" LOCK
3	2	120219	ADAPTER, 6MJ-6MB 45
4	2	120222	ADAPTER, 6MJ-6MB90
5	1	120235	ADAPTER, 4MJ-4MB90
6	2	120241	ADAPTER, 4MJ-4MJ-4MJ
7	2	120251	ADAPTER, 10MJ-10MB
8	1	320210	HOSE - DECK LIFT EXTEND
9	1	320211	HOSE - DECK LIFT RETRACT
10	1	320247	HOSE - DECK MOTOR CASE DRAIN
11	1	320250	HOSE - DECK, LEFT REAR
12	1	320251	HOSE - DECK, LEFT FRONT
13	1	320252	HOSE - DECK, RIGHT REAR
14	1	320253	HOSE - DECK, RIGHT FRONT
15	1	322008	MOTOR, 4.9 CID, 1" SHIFT
16	1	322014	HOSE - DECK DRIVE, LOWER ASSEMBLY
17	1	322015	HOSE - DECK DRIVE, UPPER ASSEMBLY
18	1	323018	CYLINDER - 2 x 4, SAE-6, TIE ROD
19	1	323033	CYLINDER - 2 X 4, SAE-6, TIE ROD
20	3	522104	DOUBLE HOSE CLAMP
21	3	522105	DOUBLE COVERPLATE

DECK PLUMBING



7/11/2011

DECK PLUMBING



7/11/2011

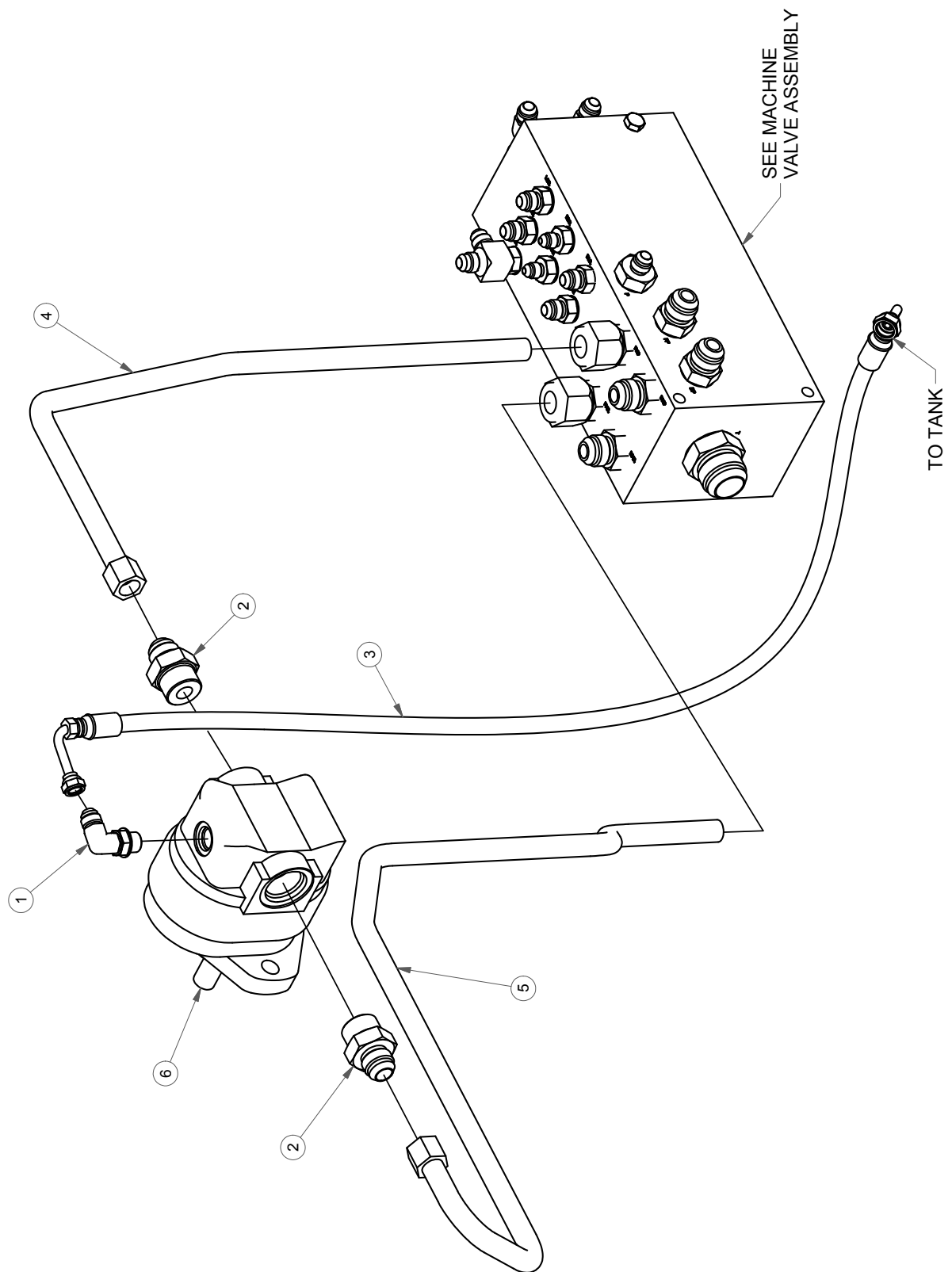
Parts List

Parts List



Parts List

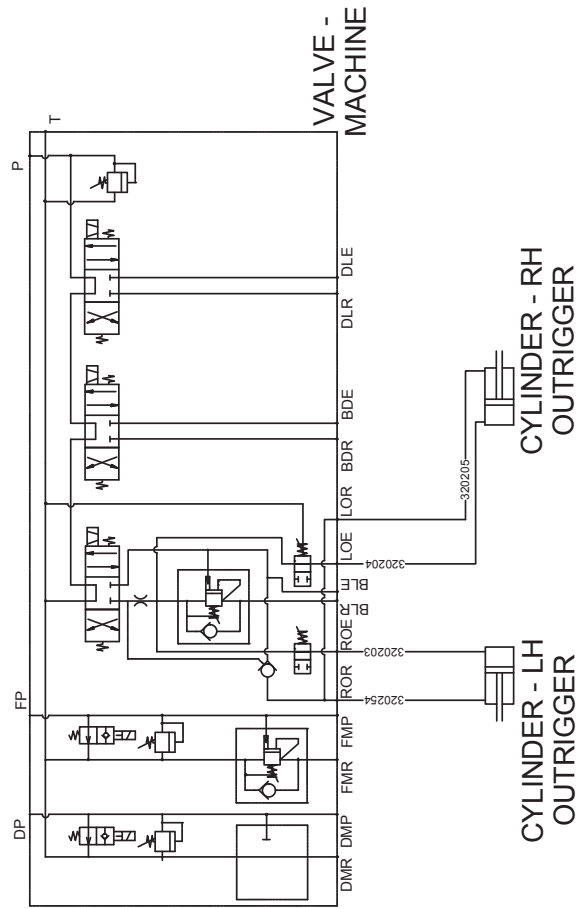
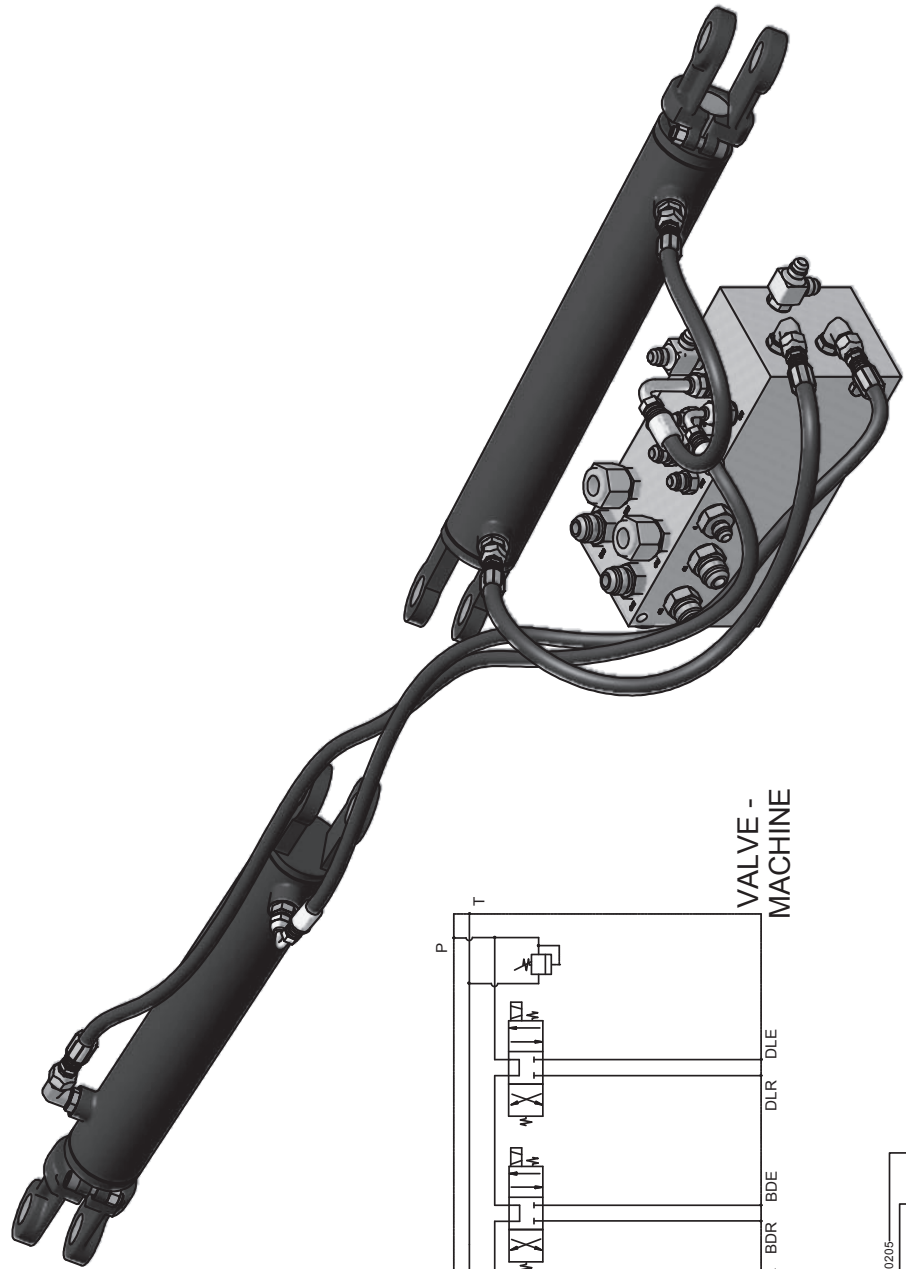
FAN MOTOR PLUMBING



7/12/2011

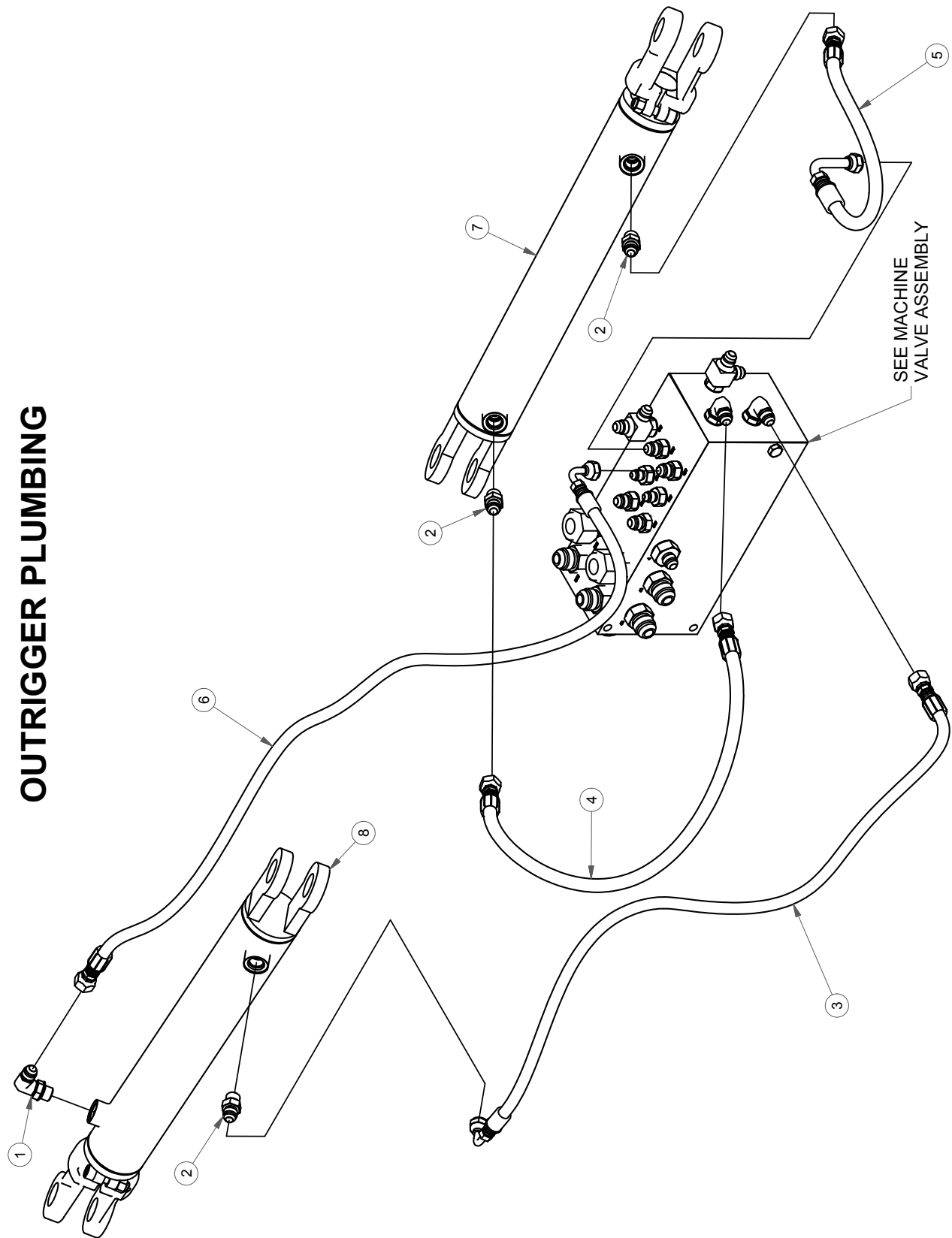
Parts List		
ITEM	QTY	PART # DESCRIPTION
1	1	120222 ADAPTER, 6MJ-6MB90
2	3	120319 ADAPTER, 6MJ-6MB
3	1	320203 HOSE - LH OUTRIGGER RETRACT
4	1	320204 HOSE - RH OUTRIGGER EXTEND
5	1	320205 HOSE - RH OUTRIGGER RETRACT
6	1	320254 HOSE - LH OUTRIGGER RETRACT
7	1	323031 CYLINDER - 2 X 12, SAE-6
8	1	323032 CYLINDER - 2 X 12, SAE -6

OUTRIGGER PLUMBING



7/12/2011

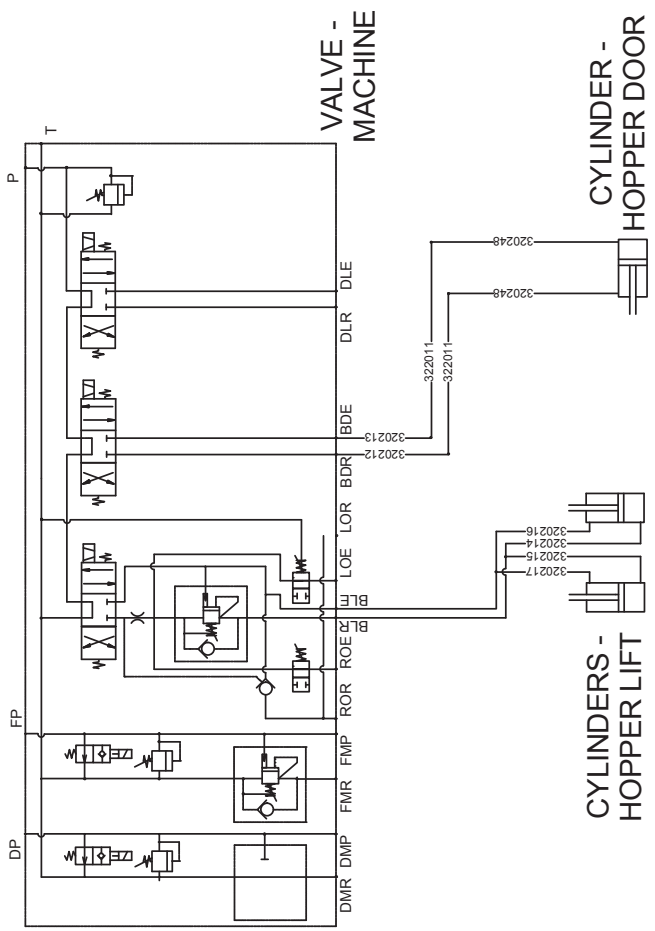
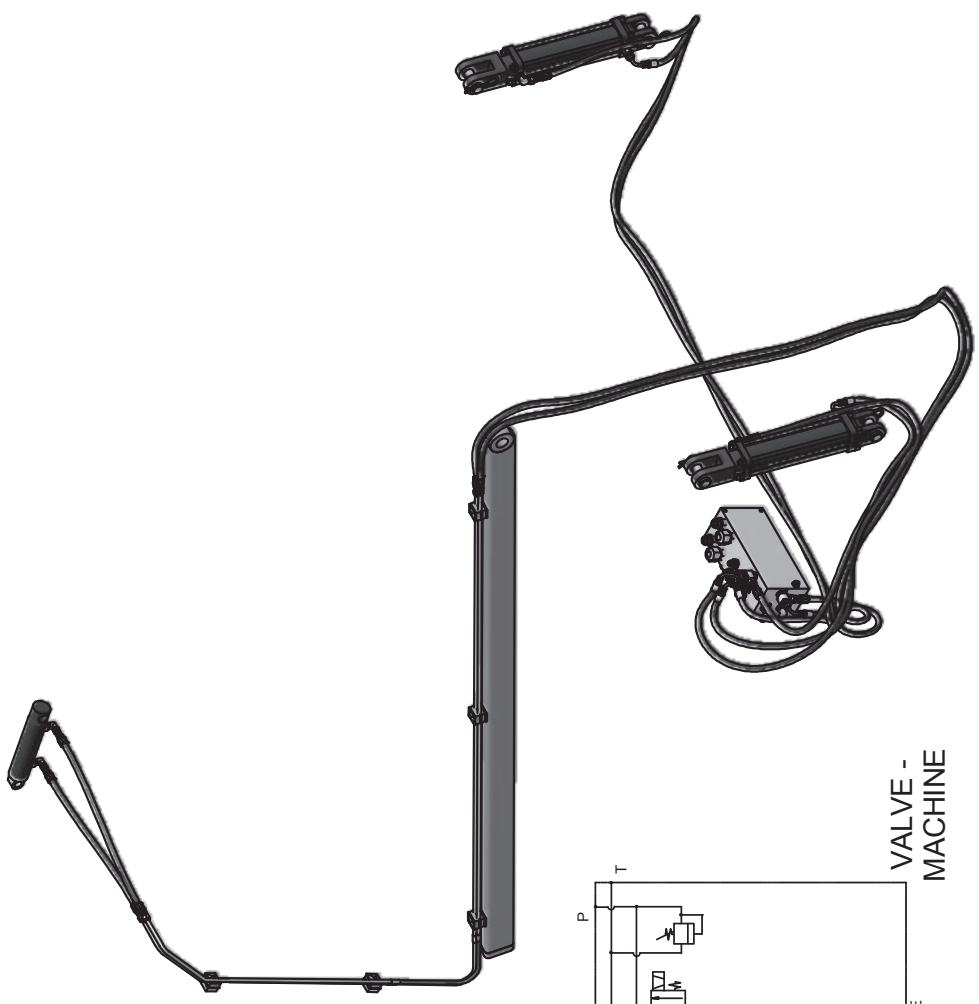
OUTRIGGER PLUMBING



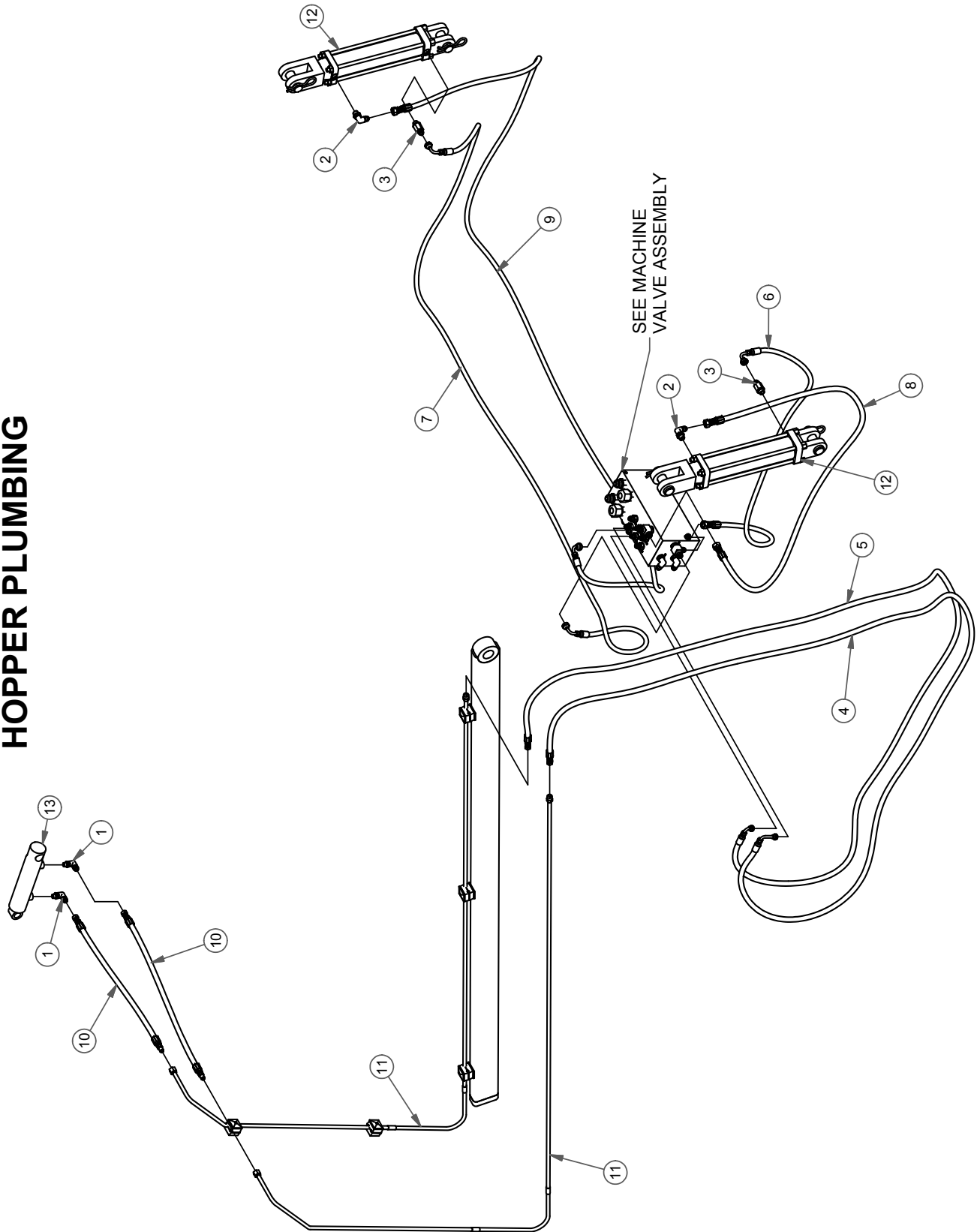
7/12/2011

HOPPER PLUMBING

Parts List		
ITEM	QTY	PART # DESCRIPTION
1	2	120179 ADAPTER, 6MJ-4MB90
2	9	120222 ADAPTER, 6MJ-6MB90
3	2	120538 ADAPTER - VELOCITY, 2 GPM, 6MP-6MJ
4	1	320212 HOSE - HOPPER DOOR EXTEND
5	1	320213 HOSE - HOPPER DOOR RETRACT
6	1	320214 HOSE - RH CYL HOPPER LIFT EXTEND
7	1	320215 HOSE - LH CYL HOPPER LIFT EXTEND
8	1	320216 HOSE - RH CYL HOPPER LIFT RETRACT
9	1	320217 HOSE - LH CYL HOPPER LIFT RETRACT
10	1	320248 HOSE - HOPPER DOOR, TOP
11	2	322011 HOSE - TV30 HOPPER DOOR, ASSEM
12	2	323019 CYLINDER - 2 X 8, SAE-6
13	1	922021 HYDRAULIC CYLINDER



HOPPER PLUMBING



7/13/2011

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

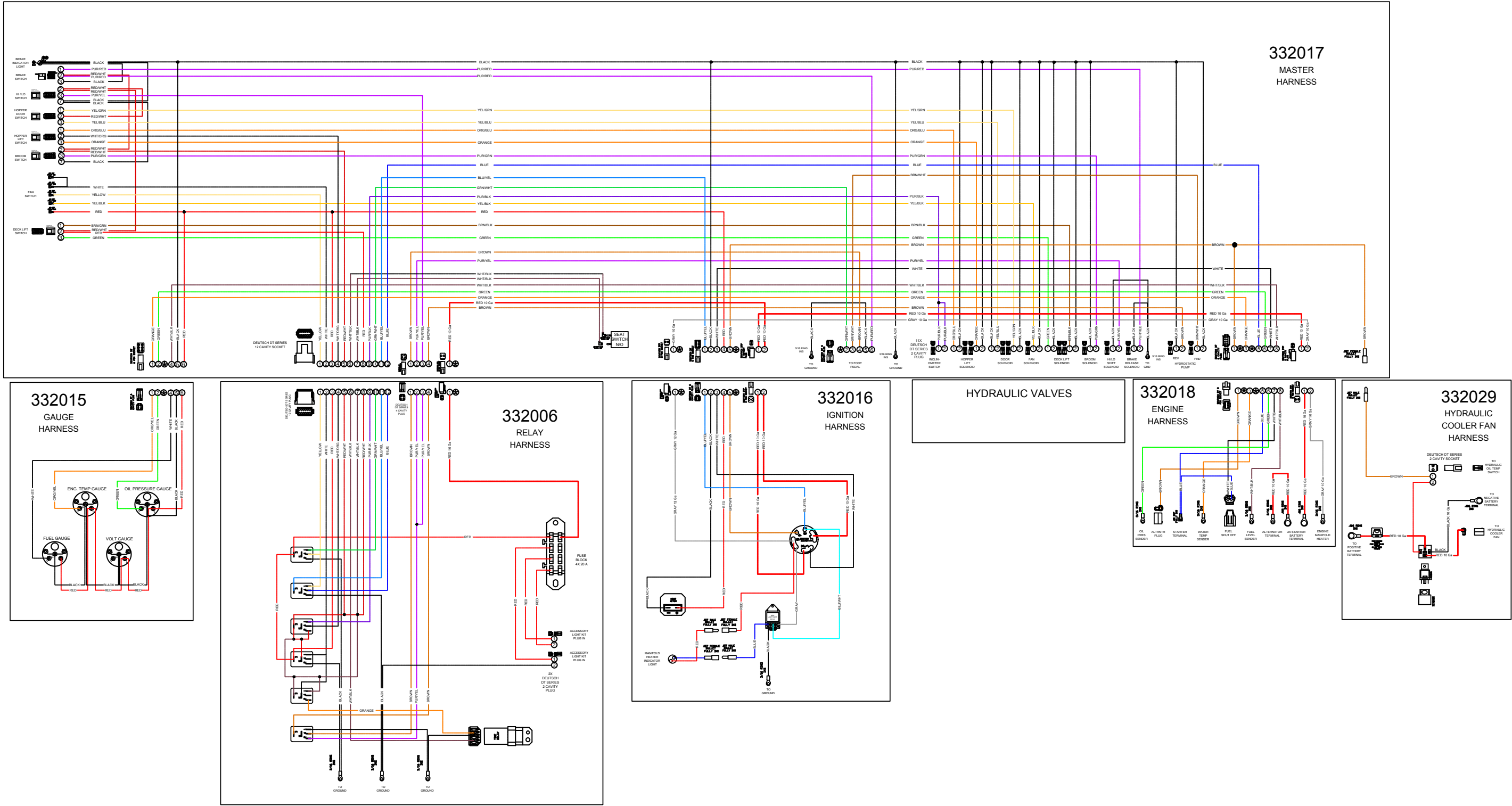
PARTS

**ELECTRICAL
SECTION**

TURBO
VAC 30

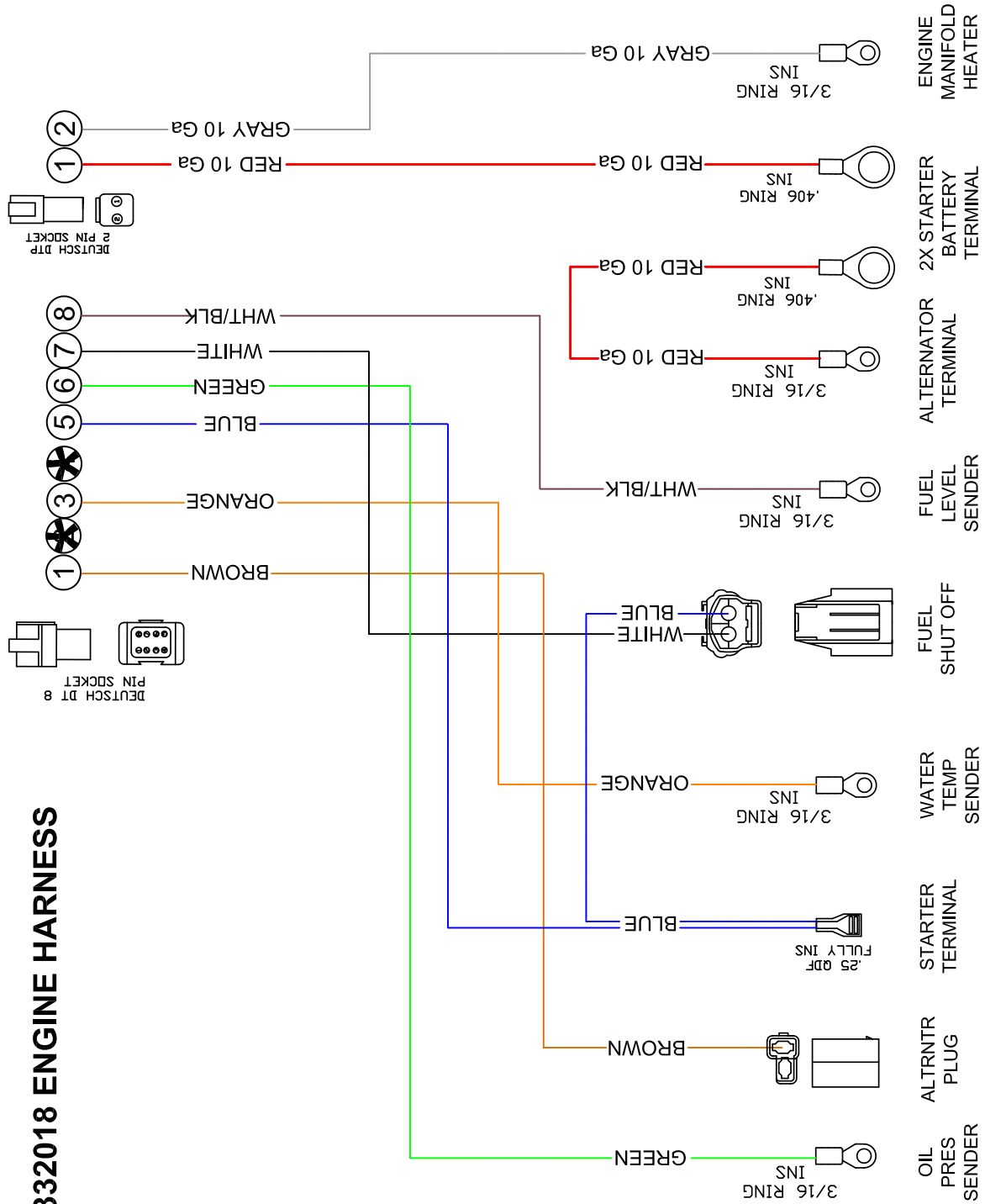


TV30 DIESEL WIRING SCHEMATIC DIAGRAM OVERVIEW

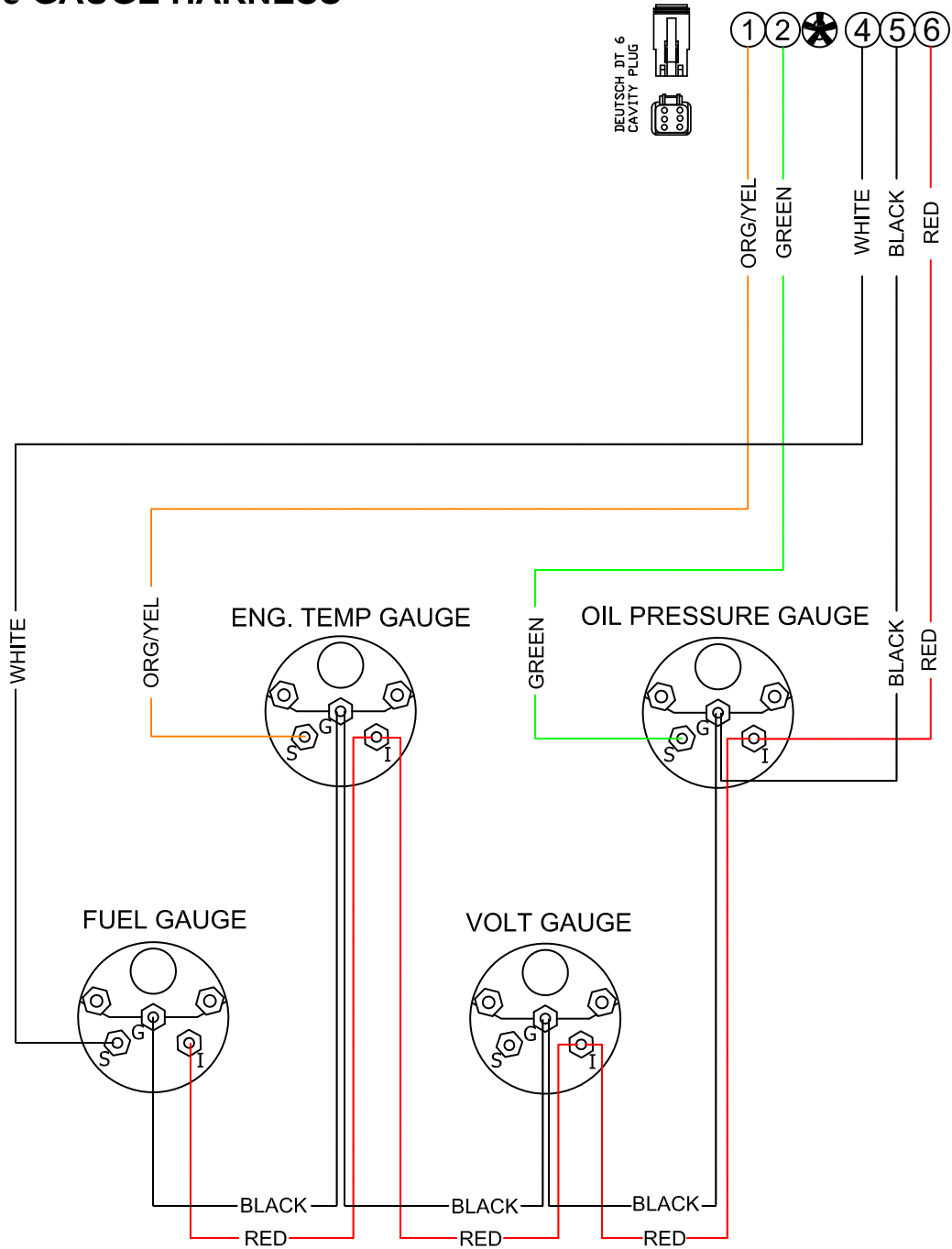


332017 MASTER HARNESS

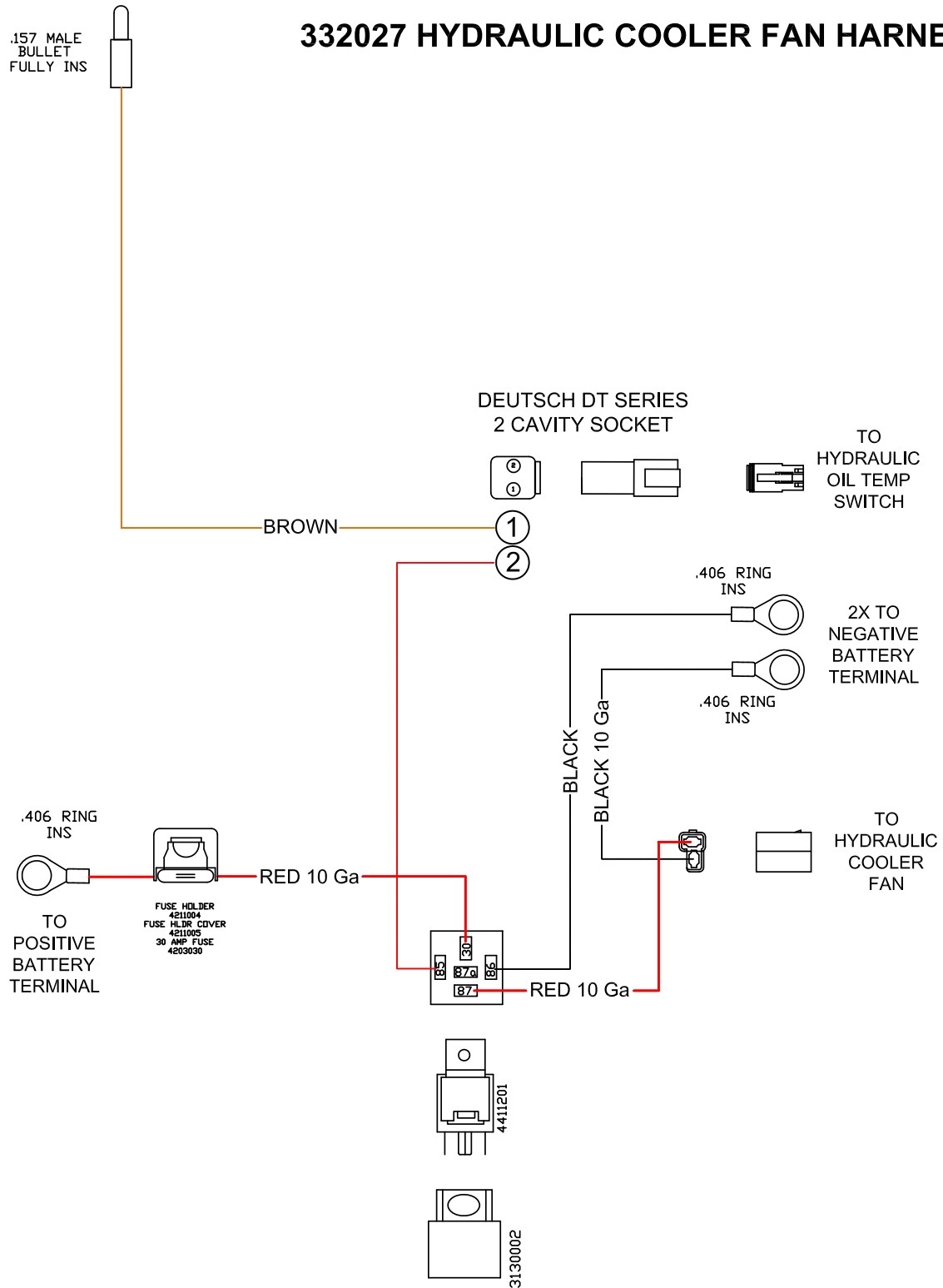
332018 ENGINE HARNESS



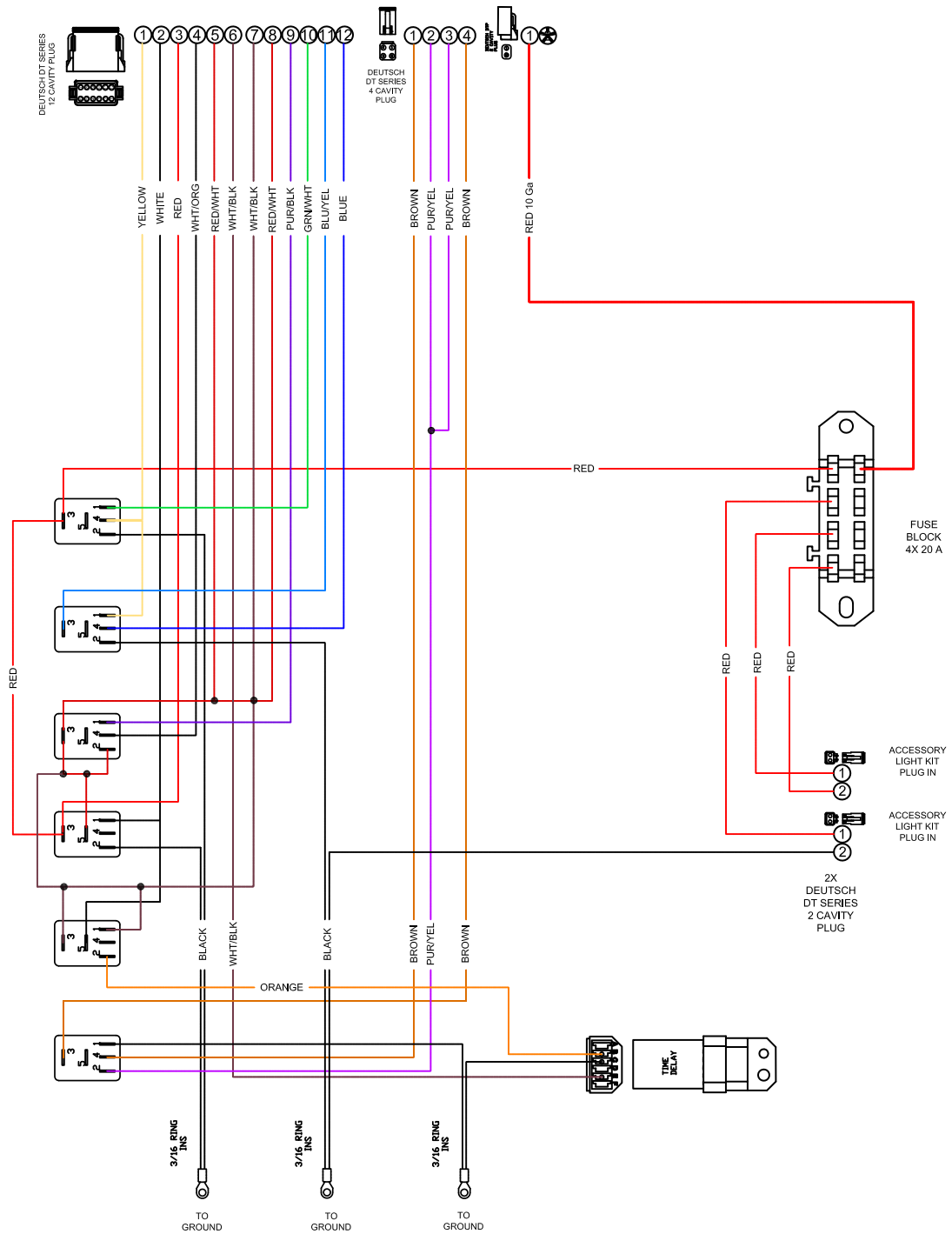
332015 GAUGE HARNESS



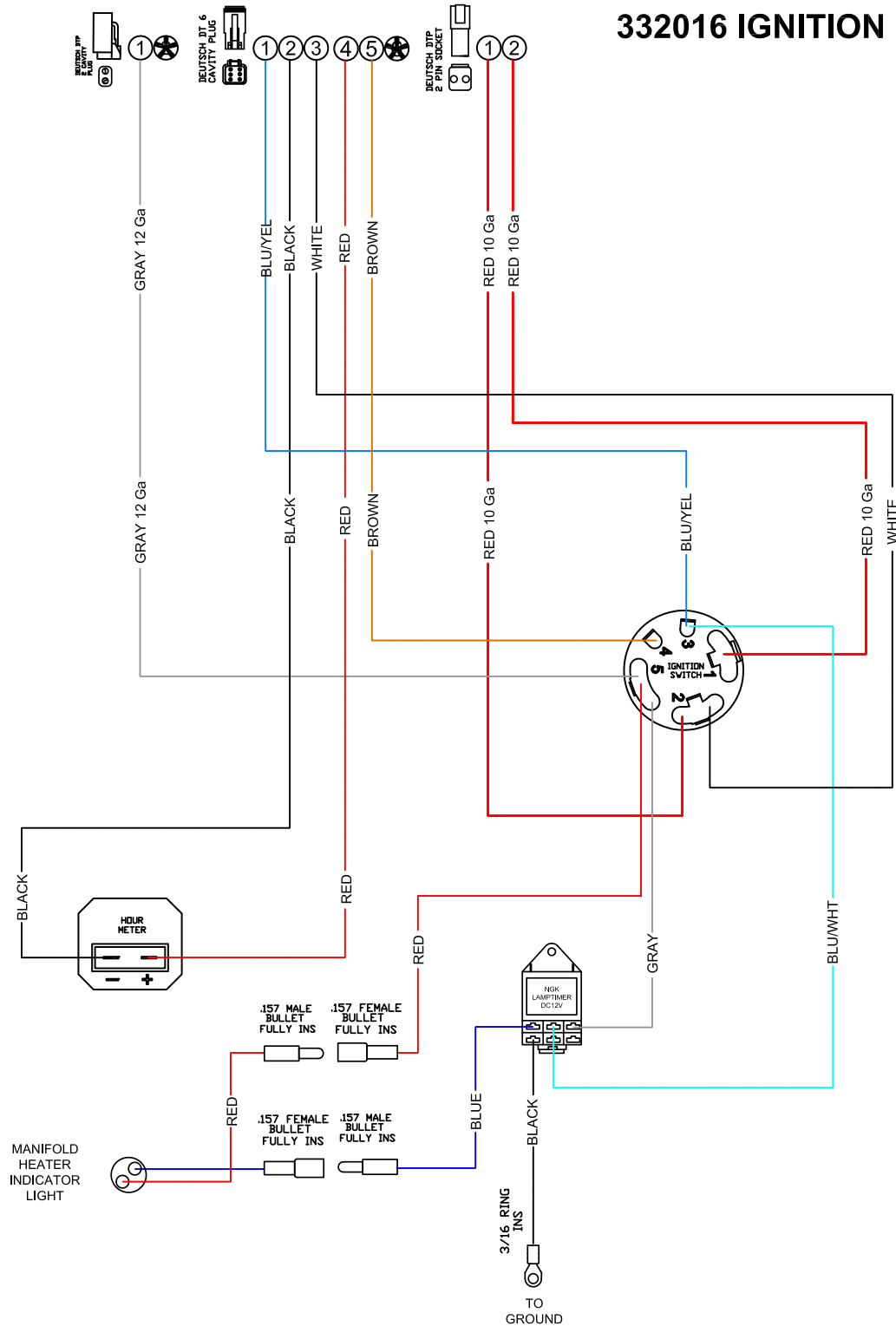
332027 HYDRAULIC COOLER FAN HARNESS



332006 RELAY HARNESS



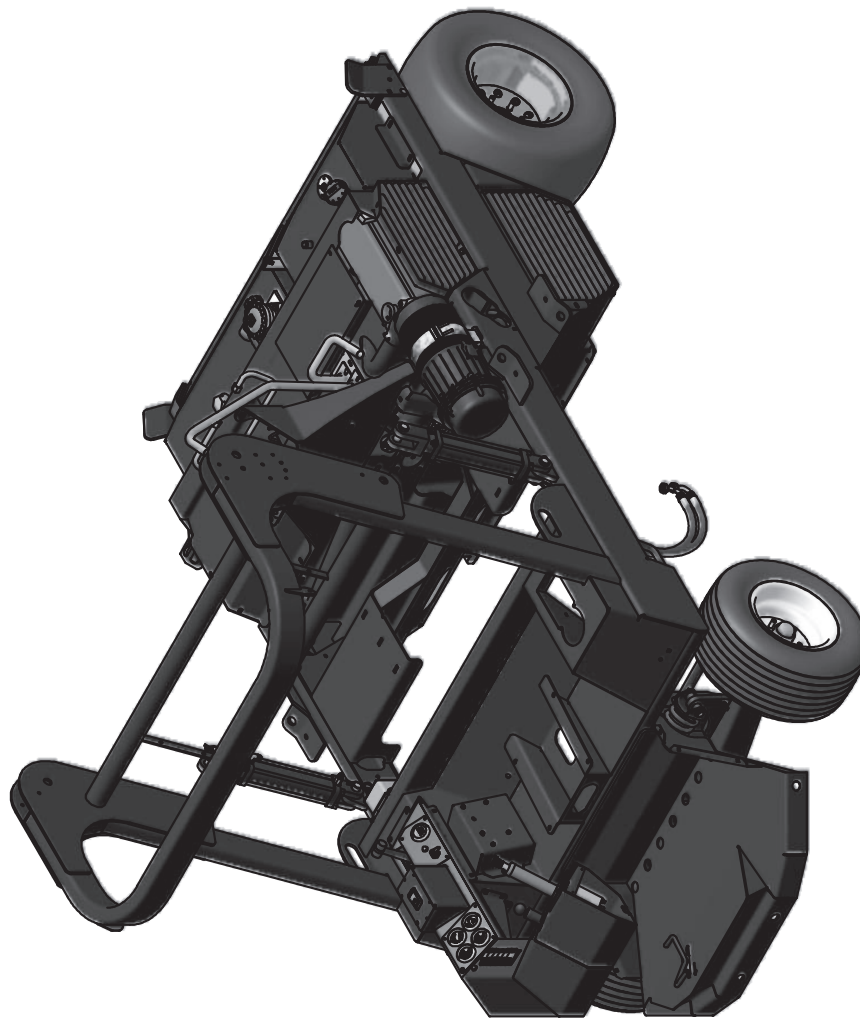
332016 IGNITION HARNESS



PARTS LIST			PARTS LIST		
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY
1	1	110020	Bolt, 5/16-18 X 0.75 in Carriage	44	4
2	4	110290	NUT, 1/4-20 WIZ FLANGE	45	1
3	4	110299	BOLT, 1/4-20 X .625 HEX GR 5	46	1
4	4	110441	BOLT, 5/16-18 X 4.0	47	1
5	2	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE		
6	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE		
49	2	110515	BOLT, 1/4-20 X .50		
7	4	110603	NUT, 5/16-18 LOCK (NYLON)		
8	3	110606	NUT, 5/16-18 WIZ FLANGE		
9	2	110609	NUT, 1/4-20		
10	6	110631	NUT, 10-24 LOCK NYLON INSERT		
11	5	110665	WASHER, 5/16" FLAT STANDARD		
12	1	110673	WASHER, 1/4" FLAT STANDARD		
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	1	311308	BRACKET - HOLD DOWN, BATTERY		
19	1	311309	BOLT - TIE DOWN, BATTERY		
20	1	311395	PLATE - MOUNT, GAUGE		
21	1	311396	PLATE - MOUNT, SWITCH AND HOUR MTR		
22	1	311397	PAD - SWITCH		
23	1	311454	COVER - RELAY, TV30		
24	1	332005	GASKET		
25	1	332005	SENDER - FUEL LEVEL, ELECTRIC		
26	1	333002	CONTROLLER - FOOT PEDAL, OEM		
27	4	510960	SCREW, 10-24 X 0.5, RHMS		
28	1	530009	HOUR METER		
29	1	530051	CABLE - BATTERY,		
30	1	530052	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		

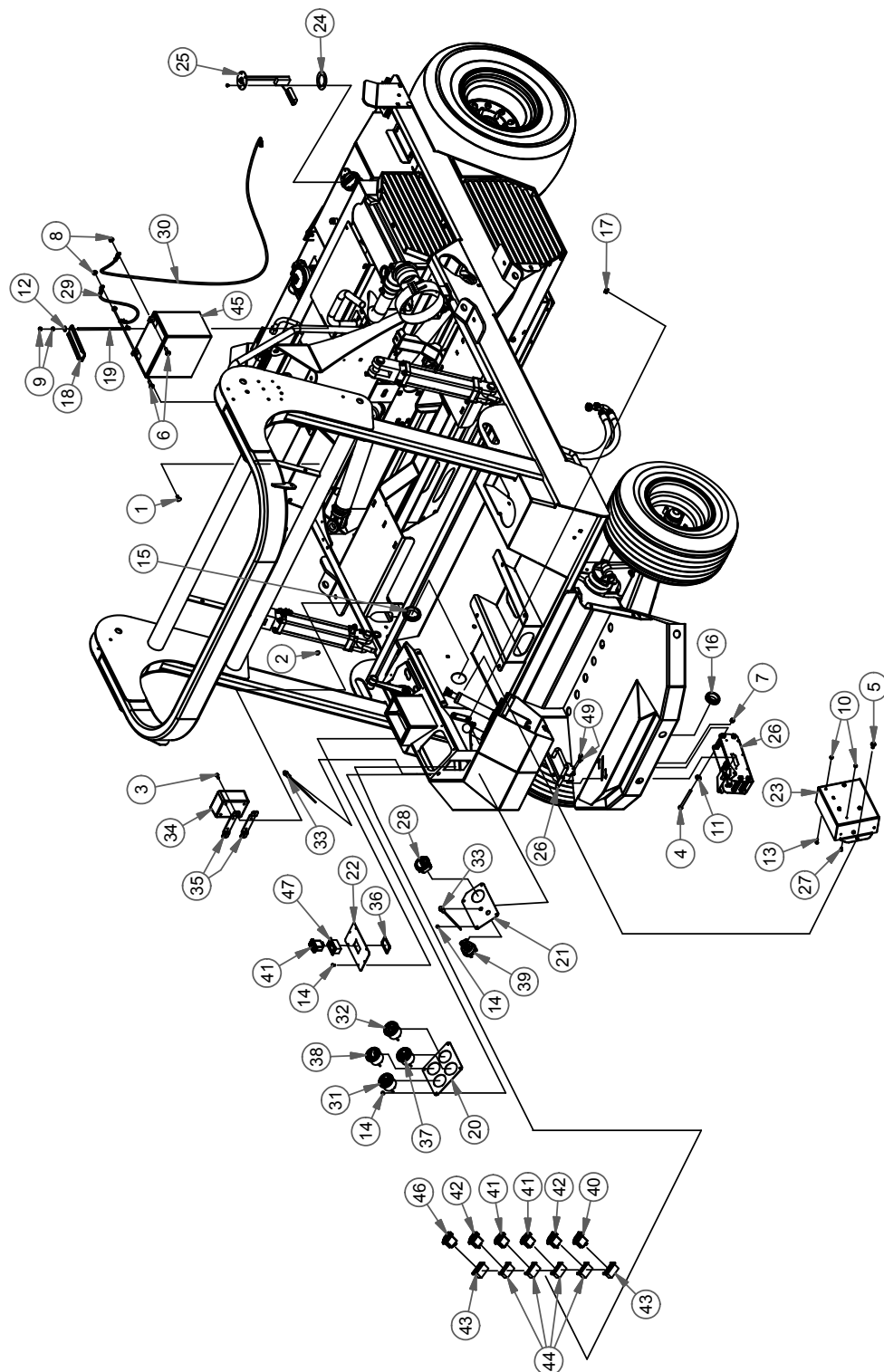
PARTS LIST			PARTS LIST		
ITEM	QTY	PART #	DESCRIPTION	ITEM	QTY
44	4	832008	SWITCH MOUNT, MIDDLE		
45	1	832011	BATTERY		
46	1	832018	SWITCH, SPDT, ON-ON		
47	1	832024	MOUNT, SWITCH (VMS)		

ELECTRICAL ASSEMBLIES



6/7/2011

ELECTRICAL ASSEMBLIES

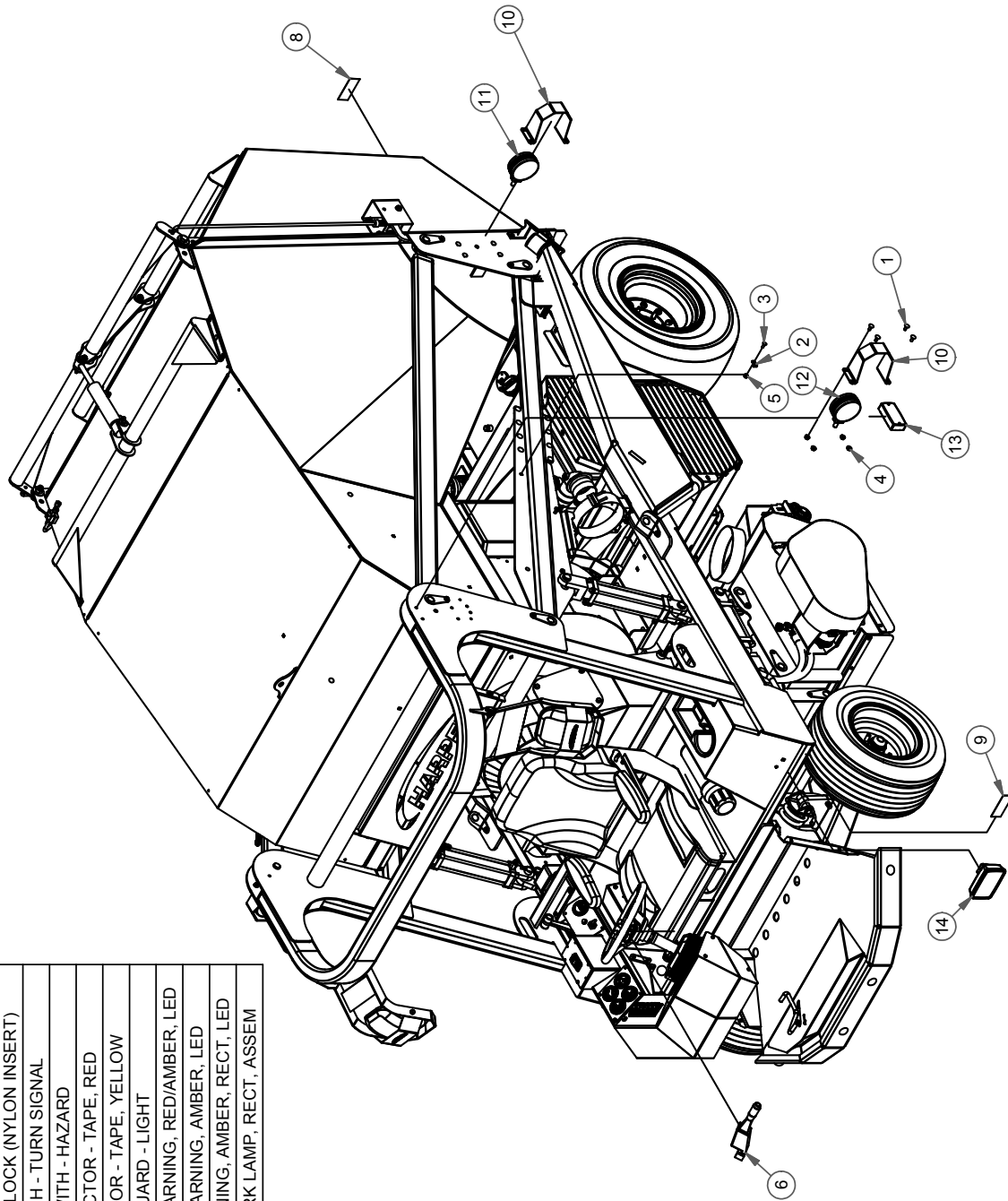


6/7/2011

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

OPTIONAL - LIGHT PACKAGE INSTALLATION



7/18/2011

NOTES

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TURBO VAC 30