

OPERATION & SERVICE MANUAL

6/94

DewEze

MFG., INC.
HARPER, KANSAS

FOR YOUR RECORDS

DATE OF PURCHASE _____ / _____ / _____

DEALER'S NAME _____

DEALER'S PHONE _____

SERIAL NUMBER OF MACHINE _____

SERIAL NUMBER OF ENGINE _____

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DEWEZE MANUFACTURING, INC.

WARRANTY POLICY

STATEMENT OF WARRANTY

DewEze Mfg., Inc. warrants to each purchaser of new DewEze equipment from an authorized dealer or representative, that such equipment to be free from manufacturing defects in normal service for a period of ONE YEAR, commencing with delivery to the original user.

The obligation of DewEze Mfg., Inc. under this warranty is expressly limited to our option, to replacement or repair at a service facility designated by DewEze or at the manufacturing plant in Harper, Kansas, of such part or parts as inspection shall disclose to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance), or to tires, belts, blades, lights, or other normal maintenance items while in the possession of the consumer.

DewEze Mfg., Inc., makes no warranty with respect to trade accessories. They are subject to the warranties of their respective manufacturers.

The engine is subject to the factory warranty as outlined in the engine OWNER'S MANUAL and must be serviced by an authorized engine service facility.

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

For information on warranty procedures please contact your nearest dealer.

SAFETY SECTION

!!! WARNING !!!

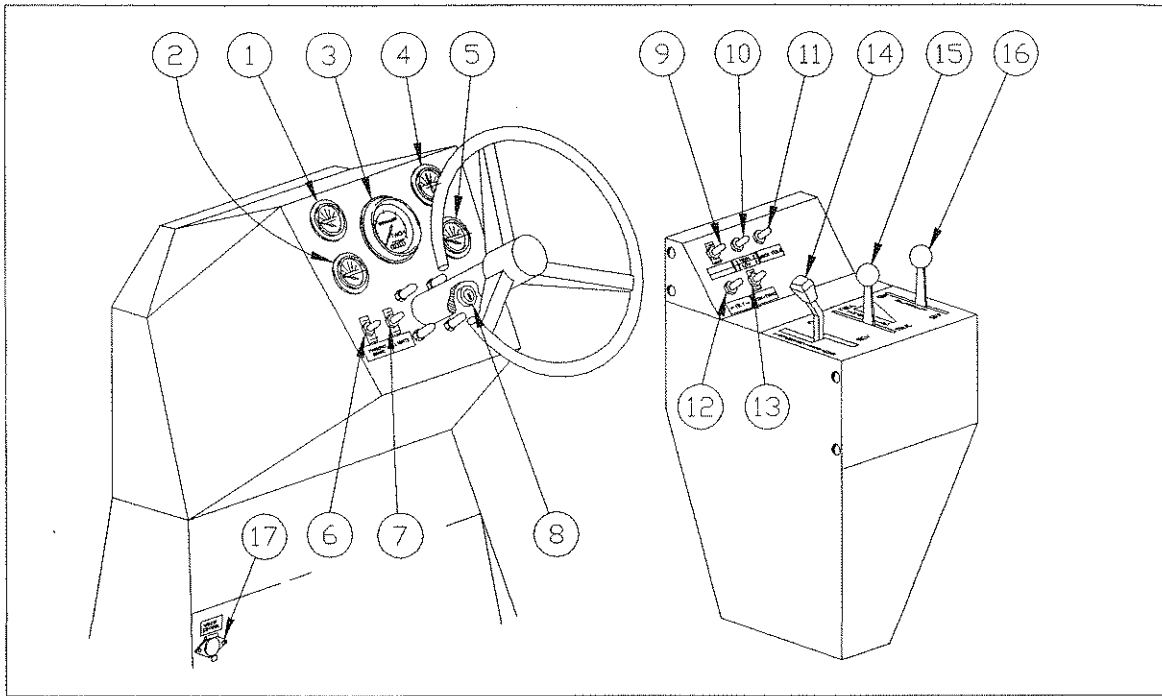
**DO NOT OPERATE THIS MACHINE
UNTIL YOU HAVE READ AND UNDER-
STOOD THIS OPERATOR'S MANUAL**

1. Never allow persons without proper instruction, or children to operate the machine.
2. Wear Seat Belt at all times when operating a machine with roll over protection.
3. Never carry passengers.
4. Never direct discharge of material from the mower deck toward bystanders.
5. If leveling system malfunctions, turn down hill, proceed slowly to level ground and stop machine.
6. Never drive on a hill that is steeper than 30 degrees.
7. Before making repairs, maintenance, or adjustment, turn blade clutch to OFF. Turn the engine OFF. Remove the ignition key.
8. Before dismounting, turn off blades. Put quadrastat hand control in neutral position and set parking brake. Stop engine and remove ignition key.
9. Relieve all pressure in the hydraulic system before disconnecting or working on hydraulic lines.
10. Keep all shields in place during machine operation.
11. Do not place hands or feet under deck.
12. Do not fill fuel tank while engine running, or hot.
13. Place block under deck for support before performing maintenance on mower blades with deck raised.
14. When driving or transporting with outer decks up, make certain the blades are completely under the decks.
15. Safety decals must be replaced on machine if missing or illegible. Safety decals are available free of charge from DewEze.

OPERATING TIPS

1. READ SAFETY DECALS.
2. ALWAYS CHECK ENGINE OIL AND COOLANT BEFORE STARTING.
3. CHECK HYDRAULIC OIL LEVEL BEFORE STARTING.
4. MAKE SURE YOU HAVE PLENTY OF FUEL.
5. VISUALLY CHECK TIRES.
6. CARRY SHEAR BOLTS AND WRENCHES IN TOOL BOX.
7. ADJUST SEAT TO COMFORTABLE POSITION.

OPERATING CONTROLS



1. FUEL GAUGE
2. WATER TEMPERATURE GAUGE
3. TACHOMETER
4. AMP GAUGE
5. ENGINE OIL PRESSURE GAUGE
6. PARKING BRAKE SWITCH - Turns parking brake on and off.

NOTE: Parking brake is automatically on when ignition switch is off.

NOTE: Ground drive and blade drive will not engage with parking brake on.
7. LIGHT SWITCH - Turns on head lights and strobe light.
8. IGNITION SWITCH - For starting engine.
9. AUTO LEVEL SWITCH - Turns on automatic leveling. The machine will not self level if this is turned off.

CAUTION: AUTO LEVEL WILL NOT WORK WHILE STEERING IS HELD AGAINST STOP DURING EXTREME RIGHT OR LEFT TURN.
10. HI / LO SWITCH - HI puts machine into high speed range for road speed. LO puts machine into low speed range for mowing.

11. **DECK FOLD SWITCH** - Position machine on level ground. Hold DECK FOLD switch in the UP position and move machine forward slowly. The outer decks will fold up and stabilizer wheels will pull in at the same time. Hold DECK FOLD switch in the DOWN position and move machine forward slowly to lower the outer decks and move the stabilizer wheels out to mowing position.

CAUTION: TO PREVENT DAMAGE TO MACHINE DO NOT FOLD DECK UNLESS MOWER IS ON LEVEL GROUND!

NOTE: A switch on each deck will prevent the blades from engaging, and the Auto Level will turn OFF as soon as the outer decks start folding up.

12. **TILT SWITCH** - Overrides the automatic leveling. Hold switch to the left to tilt machine to the left. Hold switch to the right to tilt machine to the right.

CAUTION: TO PREVENT DAMAGE TO SIDES OF TRACTOR, DO NOT TILT MACHINE WITH OUTER DECKS RAISED.

TO RAISE RIGHT DECK:

- a. Turn Auto Level switch OFF. Hold tilt switch to the left until tractor is leaning completely to the left. Release switch.

CAUTION: TURN PARK BRAKE ON BEFORE LEAVING OPERATORS SEAT.

- b. Close valve on left leveling cylinder by moving valve handle perpendicular to cylinder. (reference page 20 item 59)
c. Hold Tilt Switch to the right. The right deck will raise.

WARNING!! BEFORE WORKING UNDER MOWER DECK: STOP ENGINE. BLOCK DECK.

TO LOWER RIGHT DECK:

- a. SLOWLY open valve on left leveling cylinder. Right deck will lower to ground.
b. Start engine. Turn Auto Level switch ON; Tractor will level.

NOTE: To raise and lower left deck, use above procedure on opposite side.

13. **POSI-TRAC SWITCH** - Turn ON for better traction on sloping ground or muddy conditions. Turn OFF for general mowing on level ground.

NOTE: - POSI-TRAC does not operate in HI Range.

- Tires may mar the turf while making sharp turns with Posi-Trac ON.

14. **TRANSMISSION LEVER** - Push Quadrastat lever forward for forward travel; back for reverse travel. Move lever slowly to increase or decrease speed.

NOTE: Operate engine at full throttle when roading machine to prevent damage to transmission.

15. **THROTTLE LEVER** - Push forward for increased engine speed; back for idle.

16. **BLADE LEVER** - Push forward slowly to engage blades. Engine should be at less than 1/3 throttle when engaging blades.

NOTE: Blades will not engage if parking brake is ON, if operator is not sitting on seat, or if deck wings are not down.

17. **WINCH OUTLET** - To plug in the remote switch for winch operation. Switch is stored in tool box. See the separate Ramsey Winch manual for operation and service.

SPECIFICATIONS

ENGINE Cummins, Model 4B, 76 hp diesel
FUEL #2 Diesel
OIL 15W-40, API Classification CE/SF

BATTERY Group 24, 875 CCA

FILTERS, AIR

FILTER ELEMENT ... DewEze 500123, Donaldson P181054

FILTERS, ENGINE

OIL DewEze 500120, Fleetguard LF3345
FUEL, PRIMARY DewEze 500122, Fleetguard FF5038
FUEL, SECONDARY . DewEze 500121, Fleetguard FF5052

FILTERS, HYDRAULIC

SPIN-ON DewEze 520351, Lenz CP1002-10
CARTRIDGE DewEze 520349, Shroeder N10
SPIN-ON, SUCTION DewEze 520521, Donaldson P165879

HYDRAULIC SYSTEM

WHEEL DRIVE Sundstrand M46 Piston motors
DECK DRIVE Sundstrand M46 Fixed Displacement Motor
TORQUE-HUB 24 to 1 gear reduction
CHARGE PUMP Sundstrand TKP 4/26 - 14.3
PROPULSION PUMP .. Sundstrand Tandem M-46
STEERING Ross/TRW
MOTOR OIL 15W-40
HOSES 12,000 psi bursting pressure
BELT, DECK DRIVE .. Gates Hi-Power II Powerband 3/B56

SAFETY SWITCHES

OUTER DECK When outer deck begins folding up, PREVENTS BLADES FROM RUNNING, AND TURNS AUTO LEVEL OFF.

SEAT If operator is not sitting on seat, BLADES WILL NOT ENGAGE, WHEEL DRIVE MOTORS WILL NOT ENGAGE, and AUTO LEVEL IS OFF.

PARKING BRAKE ... Brakes are ON when ignition switch is OFF. With parking brake on, BLADES WILL NOT ENGAGE, WHEEL DRIVE MOTORS WILL NOT ENGAGE, and AUTO LEVEL IS OFF.

TIRES

DRIVE GOODYEAR 14L-16.1, 6 PLY. Filled with 90 oz. tire sealant.
Inflated to 16 psi.
STABILIZER GOODYEAR 27 X 8.50-15 NHS. Filled with 40 oz. tire sealant.
Inflated to 30 psi.
DECK CASTER 400 X 8 Segmented tires.
400 X 6 Segmented tires.

BRAKES Spring applied. Automatic ON with ignition OFF. Hydraulic released.

MAINTENANCE SCHEDULE					
	DAILY OR REFUELING	3 MONTHS OR 250 HOURS	6 MONTHS OR 500 HOURS	12 MONTHS OR 1000 HOURS	24 MONTHS OR 2000 HOURS
E N G I N E	CHANGE OR REPLACE				
		LUBE OIL LUBE FILTER	LUBE OIL LUBE FILTER FUEL FILTER	LUBE OIL LUBE FILTER FUEL FILTER	LUBE OIL LUBE FILTER FUEL FILTER ANTIFREEZE
	ADJUST				
				VALVE LASH CLEARANCE	VALVE LASH CLEARANCE
	CHECK / INSPECT				
	OIL LEVEL COOLANT LEVEL FAN DRIVE BELT FUEL WATER TRAP RADIATOR COWLING RADIATOR CORE	AIR CLEANER INTAKE SYSTEM	AIR CLEANER INTAKE SYSTEM ANTIFREEZE	AIR CLEANER INTAKE SYSTEM ANTIFREEZE FAN HUB BELT TENSION BELT TENSIONER BEARING	AIR CLEANER INTAKE SYSTEM ANTIFREEZE FAN HUB BELT TENSION BELT TENSIONER BEARING DAMPER
H Y D R A U L I C S	CHANGE OR REPLACE				
			RETURN FILTER* CHARGE FILTER*	SYSTEM OIL TORQUE HUB OIL*	
	CHECK / INSPECT				
	SYSTEM OIL LEVEL (MAINTAIN BETWEEN F & L ON DIPSTICK)				

ENGINE FLUIDS	
FUEL	#2 DIESEL
OIL	15W-40, API CLASSIFICATION CE/SF
ANTIFREEZE	HEAVY DUTY, MEETING CHEMICAL COMPOSITION OF GM-6038M
HYDRAULIC FLUIDS	
SYSTEM	15W-40 MOTOR OIL, SAE J183
TORQUE HUB	SAE 90 EP
DECK GEAR BOX FLUID	
GEAR BOX	SAE 90 EP
TIRE PRESSURE	
DRIVE TIRE	16 PSI FILLED WITH 90 OZ. OF TIRE SEALANT
STABILIZER TIRE	30 PSI FILLED WITH 40 OZ. OF TIRE SEALANT

*CHANGE AFTER FIRST 50 HOURS, THEN ANNUALLY

FILTERS AND BATTERY

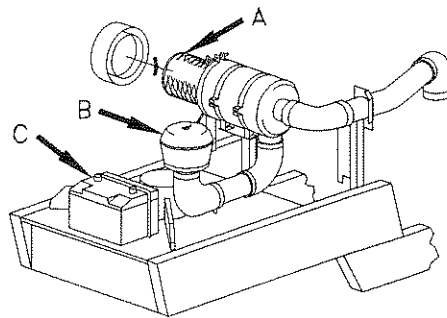


Figure 2

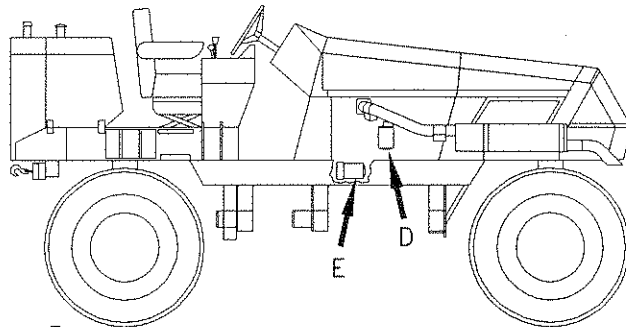


Figure 3

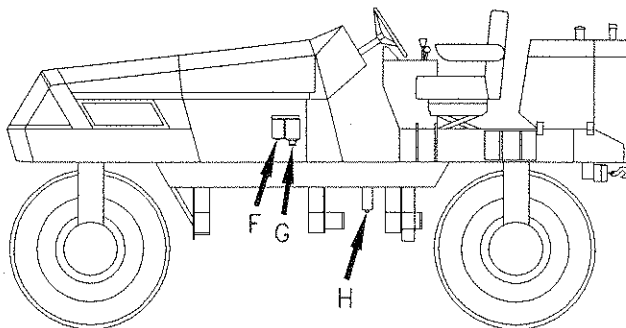


Figure 4

AIR CLEANER

Filter Element 500123 (Figure 2, Item A)

ENGINE OIL FILTER

Spin-on filter 500120 (Figure 3, Item D)

ENGINE FUEL FILTERS

Primary filter 500122 (Figure 4, Item G)

Secondary filter 500121 (Figure 4, Item F,)

HYDRAULIC FILTERS

Cartridge filter 520349 (Figure 4, Item H)

Spin-on filter 520351 (Figure 3, Item E)

BATTERY

Group 24, 875 CCA, Maintenance Free 530060 (Figure 2, Item C). To remove battery, first remove the left engine cowling and the air pre-cleaner bowl (Figure 2, Item B).

LUBRICATION

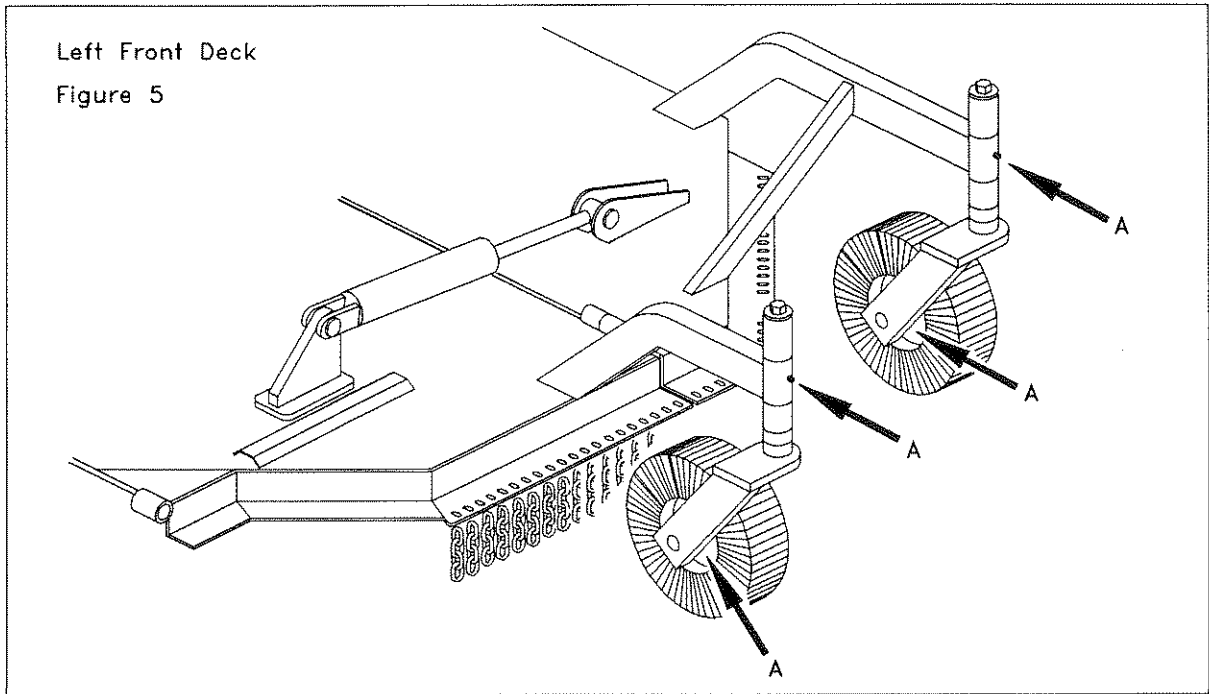


Figure 5 is for Left side. All grease points are duplicated on right side.
A. Grease Daily - Wheels and wheel pivots.

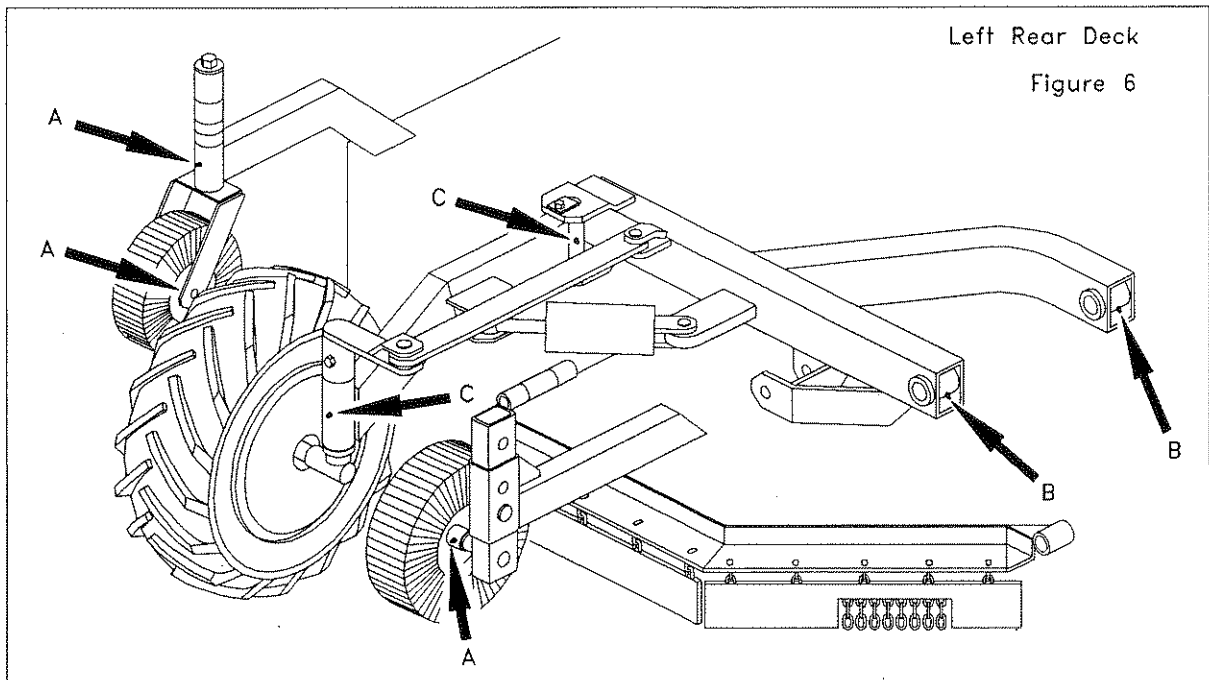
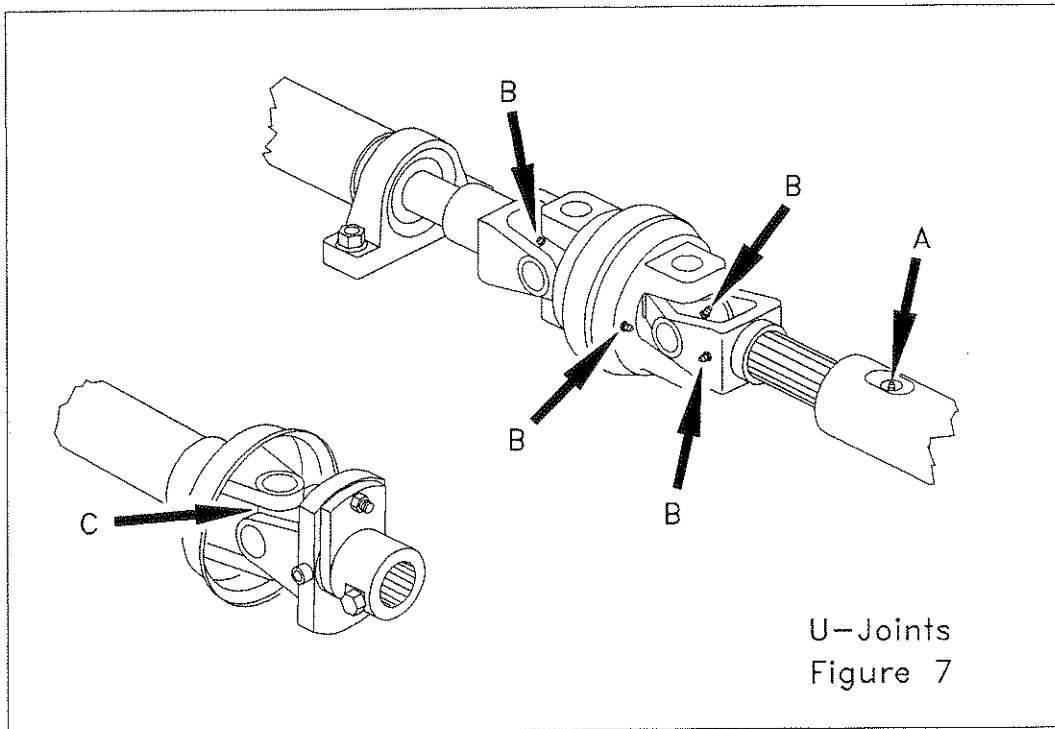
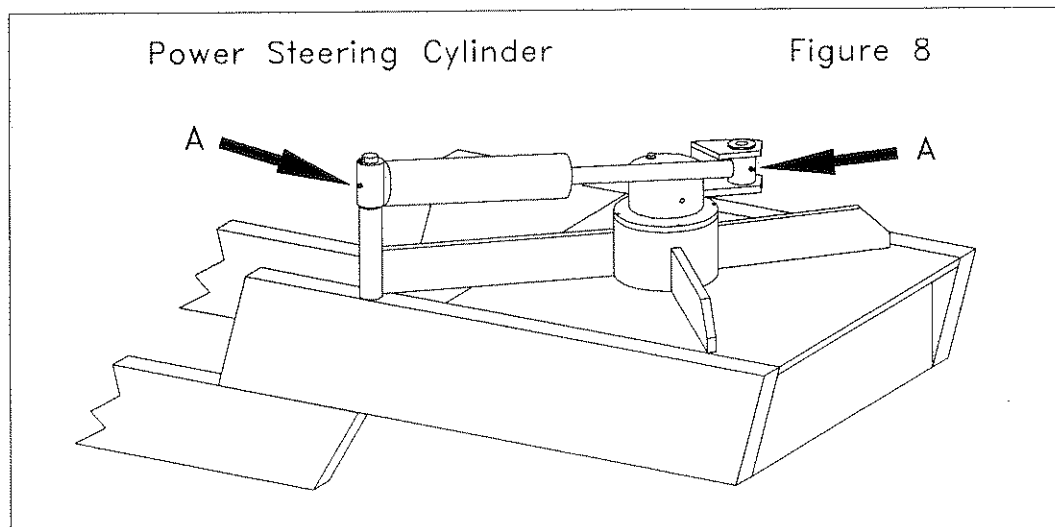


Figure 6 is for Left side. All grease points are duplicated on Right Side.
A. Grease Daily - Wheels and wheel pivot.
B. Grease Daily - Stabilizer pivots.
C. Grease Weekly - Stabilizer wheel pivots

LUBRICATION



- A. Grease Daily - Shaft Slide
- B. Grease Daily - Constant Velocity U-Joint
- C. Grease Daily - Outside U-Joints



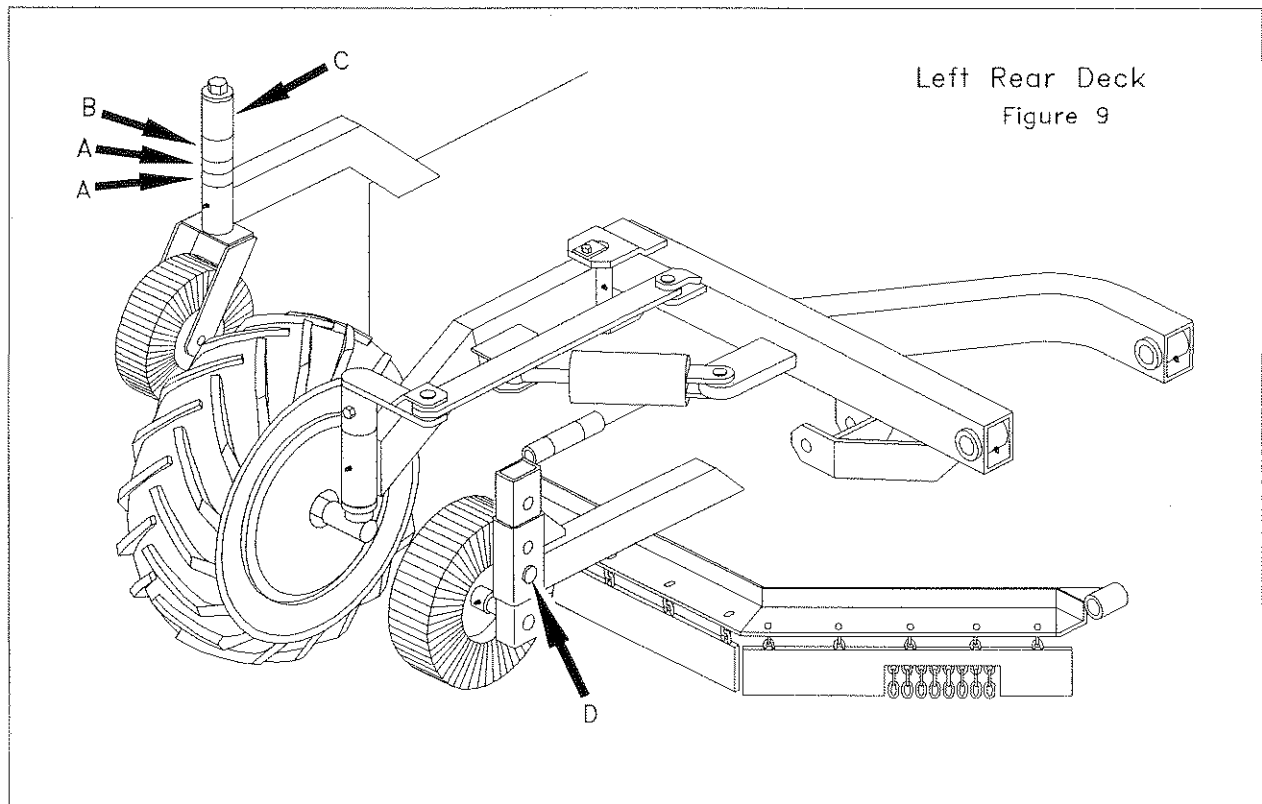
- A. Grease Daily - Steering cylinder bushings

DECK HEIGHT ADJUSTMENT

Note: The cutting height can be adjusted from 3" to 10". Maximum cutting height for slope mowing is 8". A higher setting may result in damage to the pto shafts when mowing on slopes.

TO ADJUST CUTTING HEIGHT:

1. Raise one deck at a time, high enough that all the caster wheels are off the ground. See instructions under TILT on page 4 to raise the decks.
2. Remove the two front, and outside rear, caster wheels. Replace the wheels, using the combination of 1" (A), 2" (B), and 3" (C) spacers below the bracket to get the desired cutting height.
3. Remove the height adjusting pin (D) from inside deck wheel. Adjust so wheel is same height as deck caster wheels. By alternating holes, you can adjust this wheel in 1" increments.
4. After adjusting the caster wheels on both decks, with both decks lowered and machine level, adjust the Acme Screw (A) located on left side of tractor, above center of the deck (see Figure 10, page 10), until the center of the decks is level with outer decks.



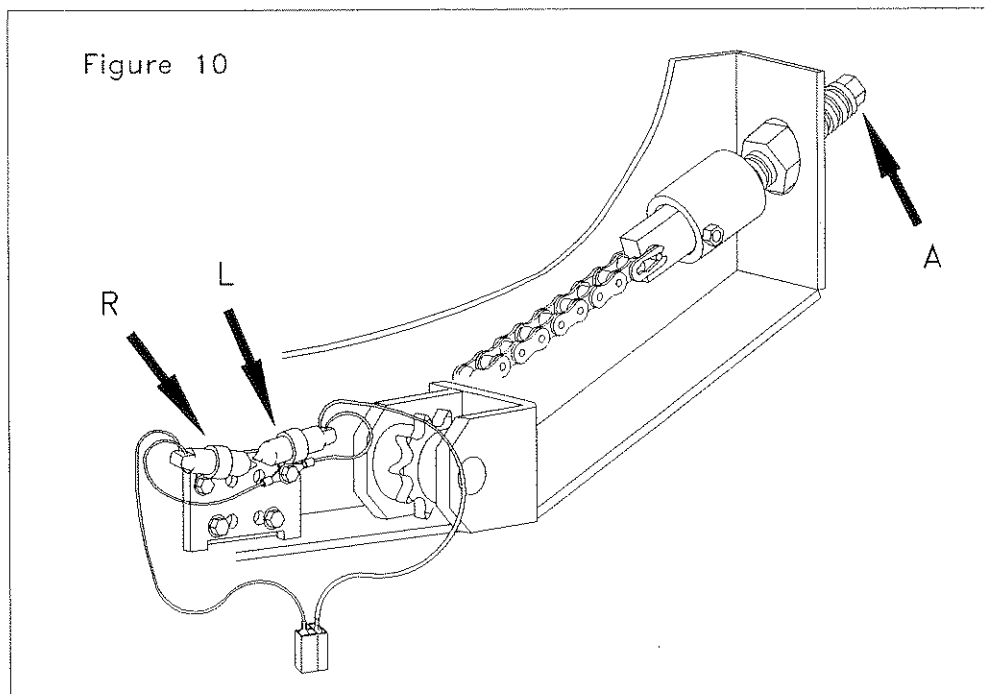
LEVELING ADJUSTMENT

The Mercury switches which control the automatic leveling are located on the under frame of the tractor, above center of the mower deck. (See drawing below.)

TO ADJUST MERCURY SWITCHES:

NOTE: Loosen mercury switches enough to move by hand when adjusting. They are made of glass and will break if hit with hard object.

1. Start engine and set at FULL THROTTLE.
2. With Auto Level ON and Operator on seat, hold TILT switch to the left until tractor is leaning to the left. Release switch.
3. If tractor does not return to upright, move outer end of the LEFT mercury switch (L) DOWN slightly. Repeat (2) and adjust until tractor returns to upright.
4. If tractor returns past upright, move outer end of the LEFT mercury switch UP slightly. Repeat (2) and adjust until tractor stops at upright.
5. Repeat the above procedure, tilting tractor to the RIGHT, and adjust the RIGHT mercury switch (R).
6. If tractor continues to move right and left after returning to upright, move the outer end of BOTH mercury switches up slightly and repeat adjusting procedure.



DECK DRIVE

SHEAR BOLT

The blade shear bolts (A) are located on the PTO shaft next to the gear boxes. Always replace with a **Grade 8 5/16" X 2"** bolt and lock nut.

IMPORTANT: Make sure blades are perpendicular to each other before replacing shear bolts.

PTO DRIVE COLLAR

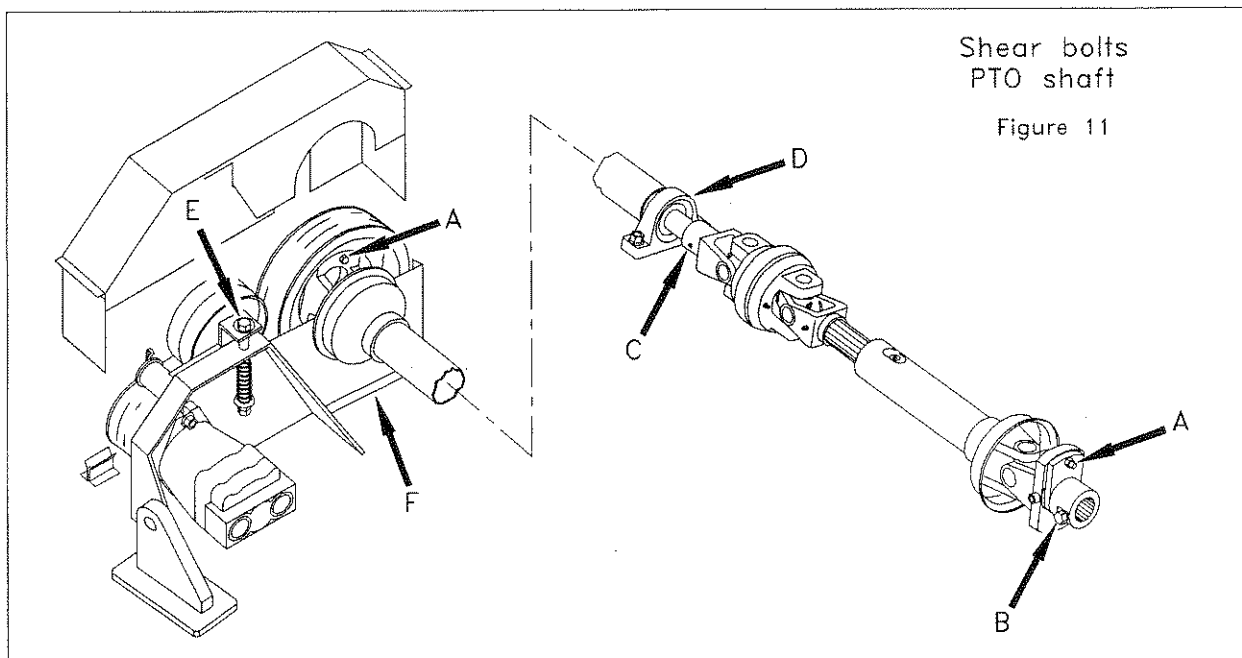
When replacing or installing the PTO Drive Collar, the Bolt (B) must be:

1. Grade 8, 7/16 X 2 1/2 NF Bolt
2. Torqued to 120 foot pounds

PTO DRIVE BELT

To remove or replace drive belt:

1. Loosen belt idler pulley Tightener Bolt (E).
2. Remove Guard (F).
3. Remove the two bolts from Pillow Block Bearing (D).
4. Loosen two set screws (C). Slide PTO Shaft apart.
5. Slip belt off over PTO Shaft.



TOWING

CAUTION
DO NOT TOW THIS MACHINE
WITHOUT FIRST DISENGAGING
THE TORQUE-HUB WHEEL UNITS

!!! WARNING !!!
MACHINE WILL ROLL FREELY WITH
TORQUE HUBS DISENGAGED EVEN
WITH BRAKES ON. SECURE MACHINE
BEFORE DISENGAGING TORQUE HUBS

TO DISENGAGE THE TORQUE-HUBS FOR TOWING:

1. Disengage the Torque-Hub on both front and rear wheel motors.
2. Remove the two bolts (1) holding disengagement cap (2) onto Torque-Hub.
3. Turn disengagement cap over and install onto hub with protruding center towards the inside. Tighten bolts.

NOTE: You may need to rock the wheel slightly for the cap to push in completely.

4. Reverse the above procedure after towing to put machine in driving mode.

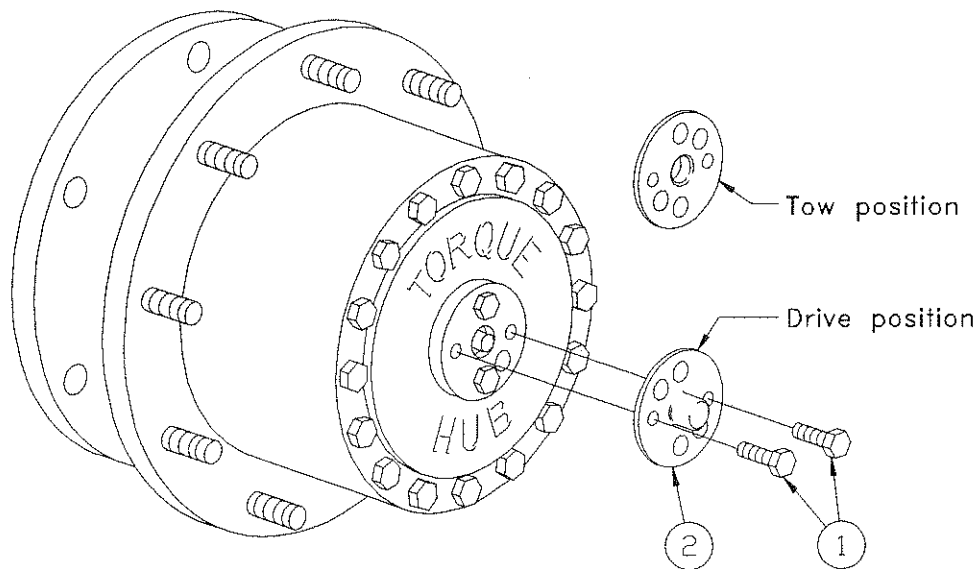


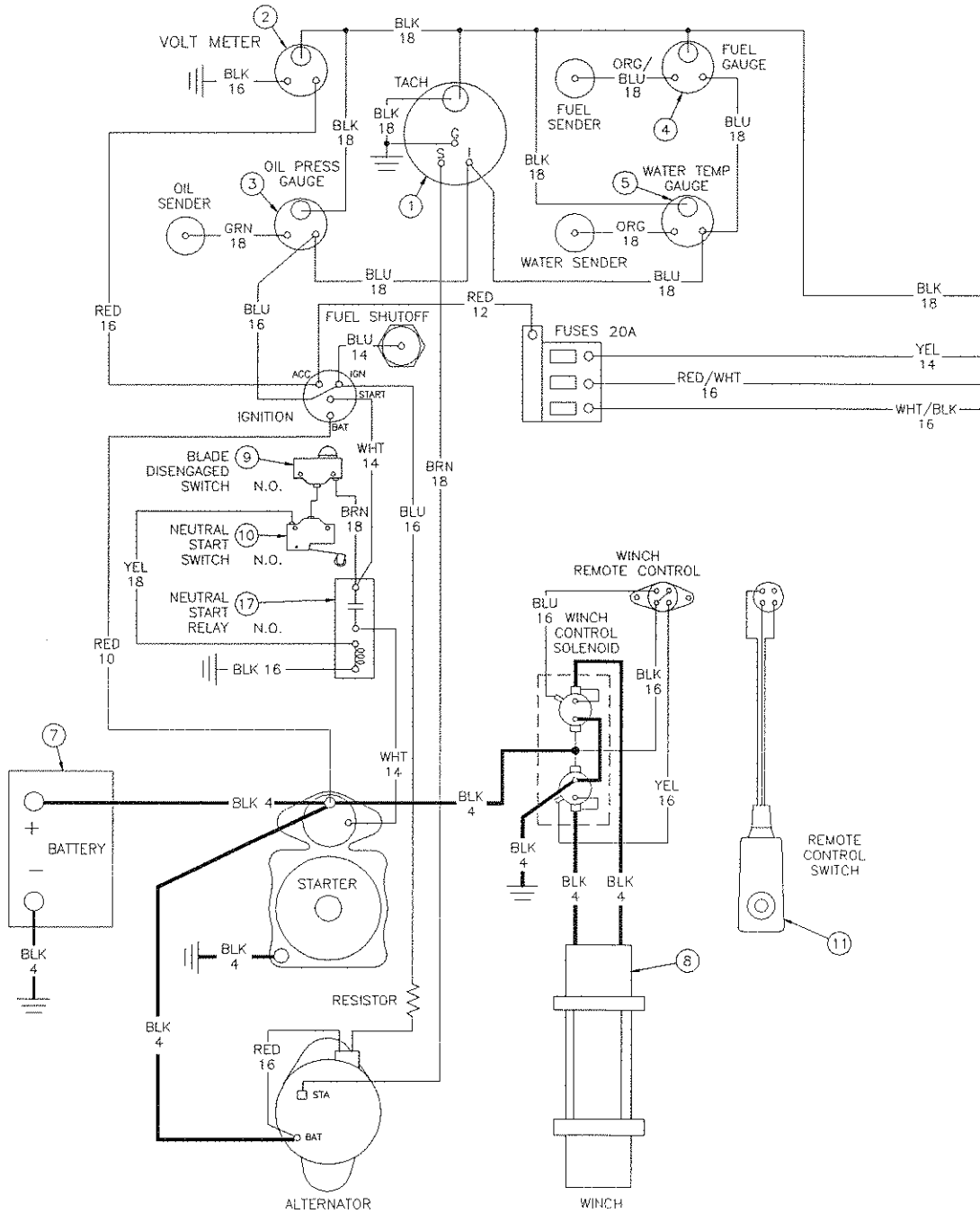
Figure 13

TROUBLE SHOOTING

SYMPTOMS	POSSIBLE CAUSE	REMEDY
Engine will not turn over.	Drive lever not in neutral. Blade drive not in neutral.	Put traction lever in neutral. Put blade lever in neutral.
Drive wheels won't turn.	Driver not on seat. Park brake ON. Fuse blown.	Driver must be sitting on seat. Park brake must be OFF. Check fuses in fuse panel.
Blade drive won't engage.	Driver not on seat. Park brakes ON. Outer decks not down. Malfunction of safety switches.	Driver must be sitting on seat. Turn park brakes OFF. Outer decks must be COMPLETELY DOWN. Check safety switches for proper function; seat safety switch is normally OPEN; deck safety switches are normally CLOSED.
Auto level will not work.	Driver not on seat. Park brake ON. Fuse blown. Steering held against stop, either complete left, or complete right turn.	Driver must be sitting on seat. Park brake must be OFF. Check fuses in fuse panel. Release turning pressure against steering wheel.
Parking brakes will not release.	Low oil pressure.	Check hydraulic system. Brakes are released by hydraulic oil pressure.
Posi-trac will not work.	Fuse Blown. Bad switch.	Check fuses in fuse panel. Check switch.
Decks won't raise for service mode.	Valve not closed.	Left valve must be closed to raise right deck. Right valve must be closed to raise right deck.
Blades stopping intermittently while mowing.	Seat safety switch not contacting. Outer deck safety switches not contacting.	Driver must remain seated. Make sure outer decks are completely down.

ELECTRIC SCHEMATIC

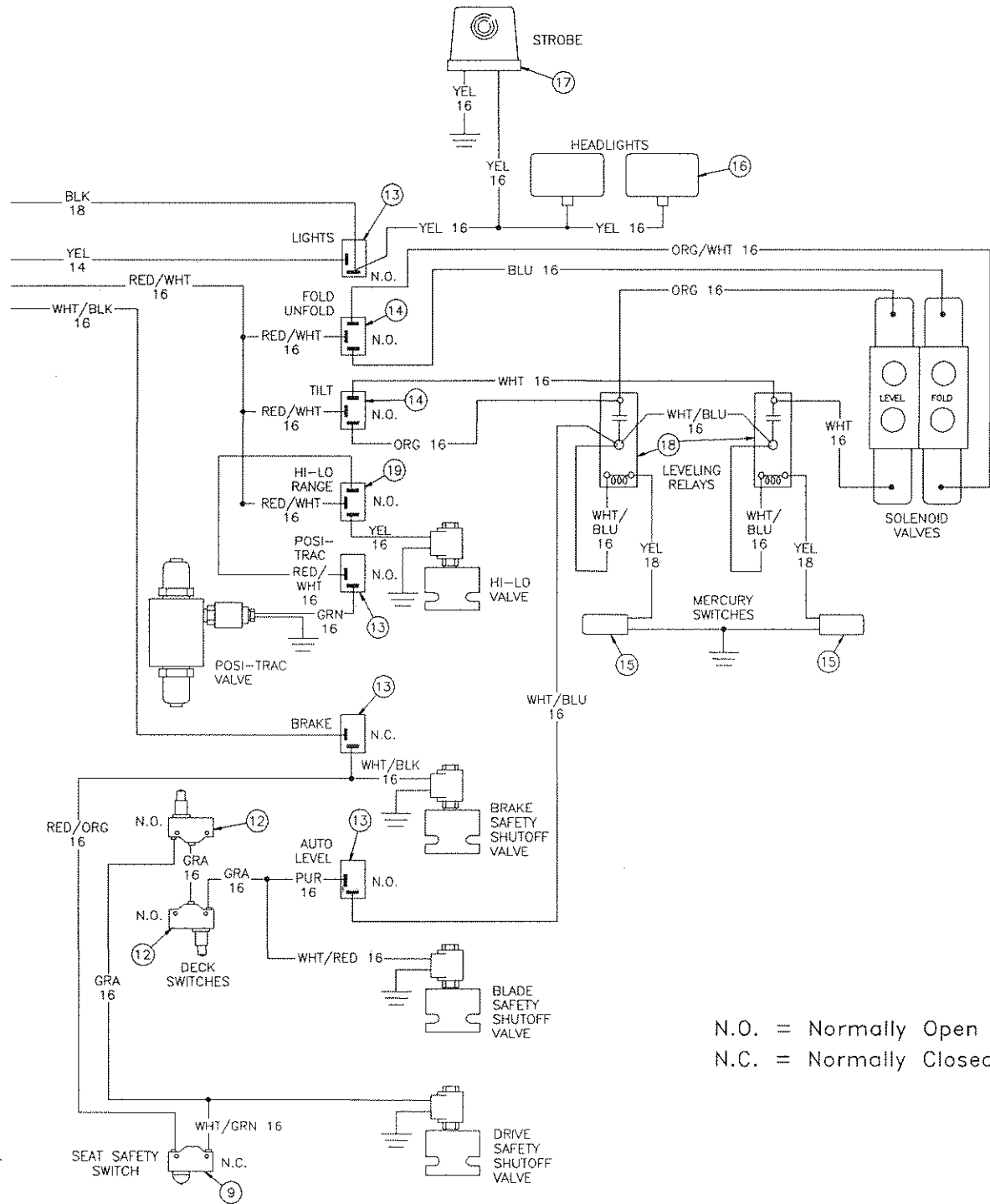
Figure 14



ITEM	PART NO.	DESCRIPTION
1	530061	Tachometer
2	830002	Volt meter
3	530064	Oil press. gauge
4	530065	Fuel gauge
5	530062	Water temp. gauge
6	530069	Ignition switch
7	530060	Battery
8	540135	Winch
9	530038	Switch, blade/seat
10	530058	Switch, neutral start
11	530093	Switch, winch remote

ELECTRIC SCHEMATIC

Figure 15



N.O. = Normally Open
N.C. = Normally Closed

ITEM	PART NO.	DESCRIPTION
15	530085	Mercury switch assy.
12	530059	Switch, deck
13	530059	Switch, deck
14	530007	Switch, SPST
14	530020	Switch, SPDT
16	530103	Headlight
17	530045	Strobe
18	530028	Relay
19	130021	Switch

ATM144 HYDRAULIC SCHEMATIC

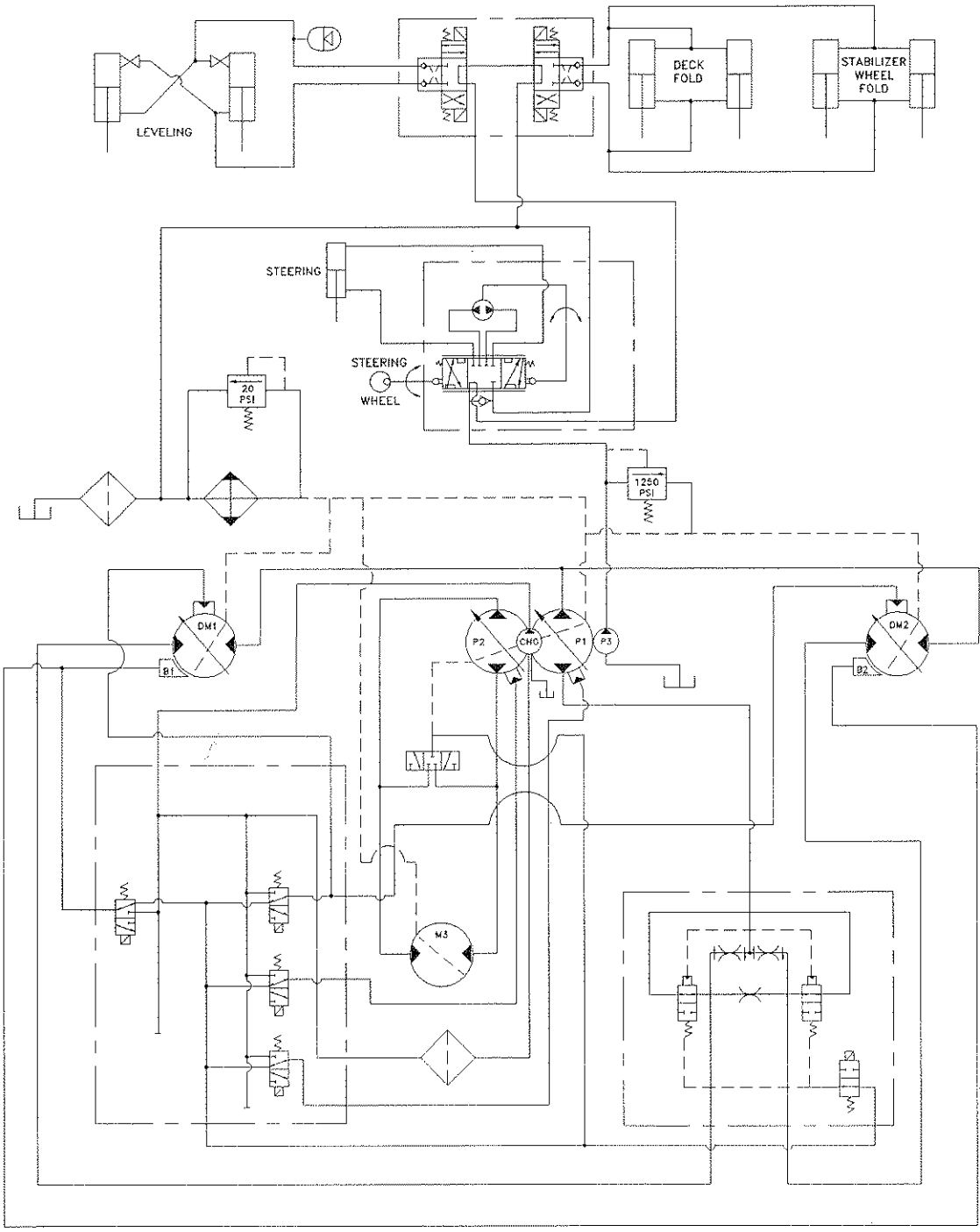
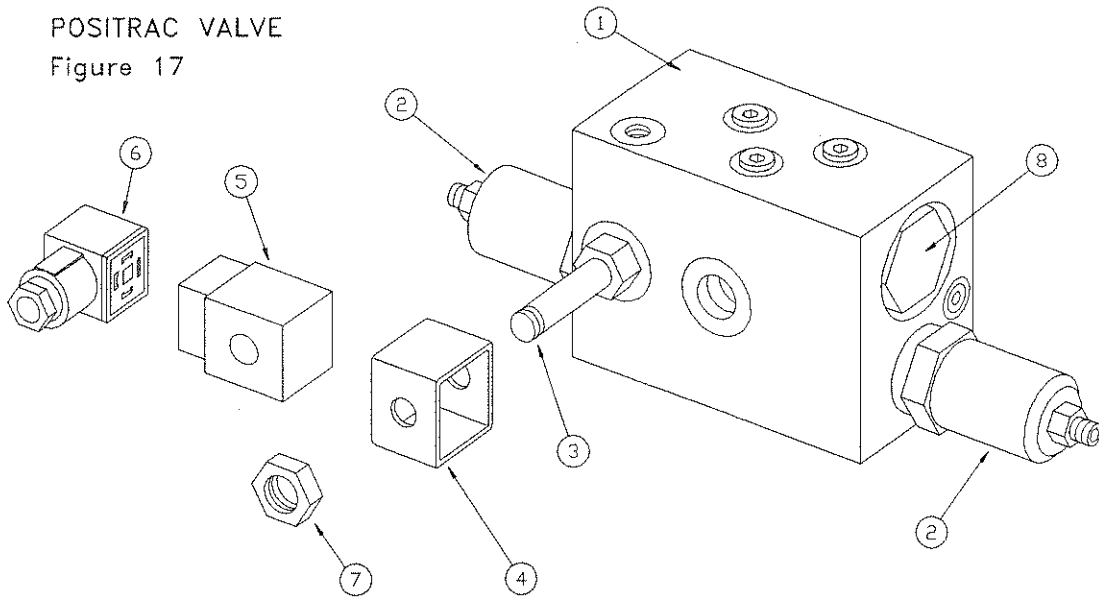


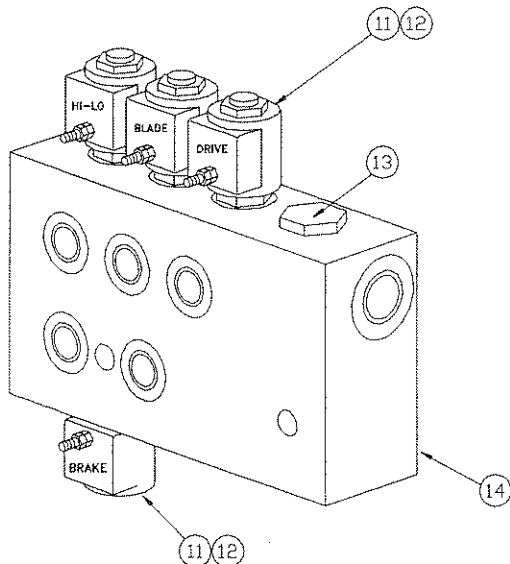
Figure 16

POSITRAC VALVE
Figure 17



ITEM	PART NO.	DESCRIPTION
1	520379	Valve body
2	520373	Relief valve
3	520378	Solenoid valve
4	520376	Solenoid bracket
5	520374	Coil
6	520375	Connector
7	520377	Nut
8	520372	Flow divider / combiner
9	520486	Complete valve assy (Items 1-8)
10	520465	Complete O-Ring kit

CONTROL BLOCK
Figure 18



ITEM	PART NO.	DESCRIPTION
11	520369	Solenoid valve
12	520370	Coil
13	520447	Plug
14	520381	Valve body
15	520164	Complete control block (Items 10-13)

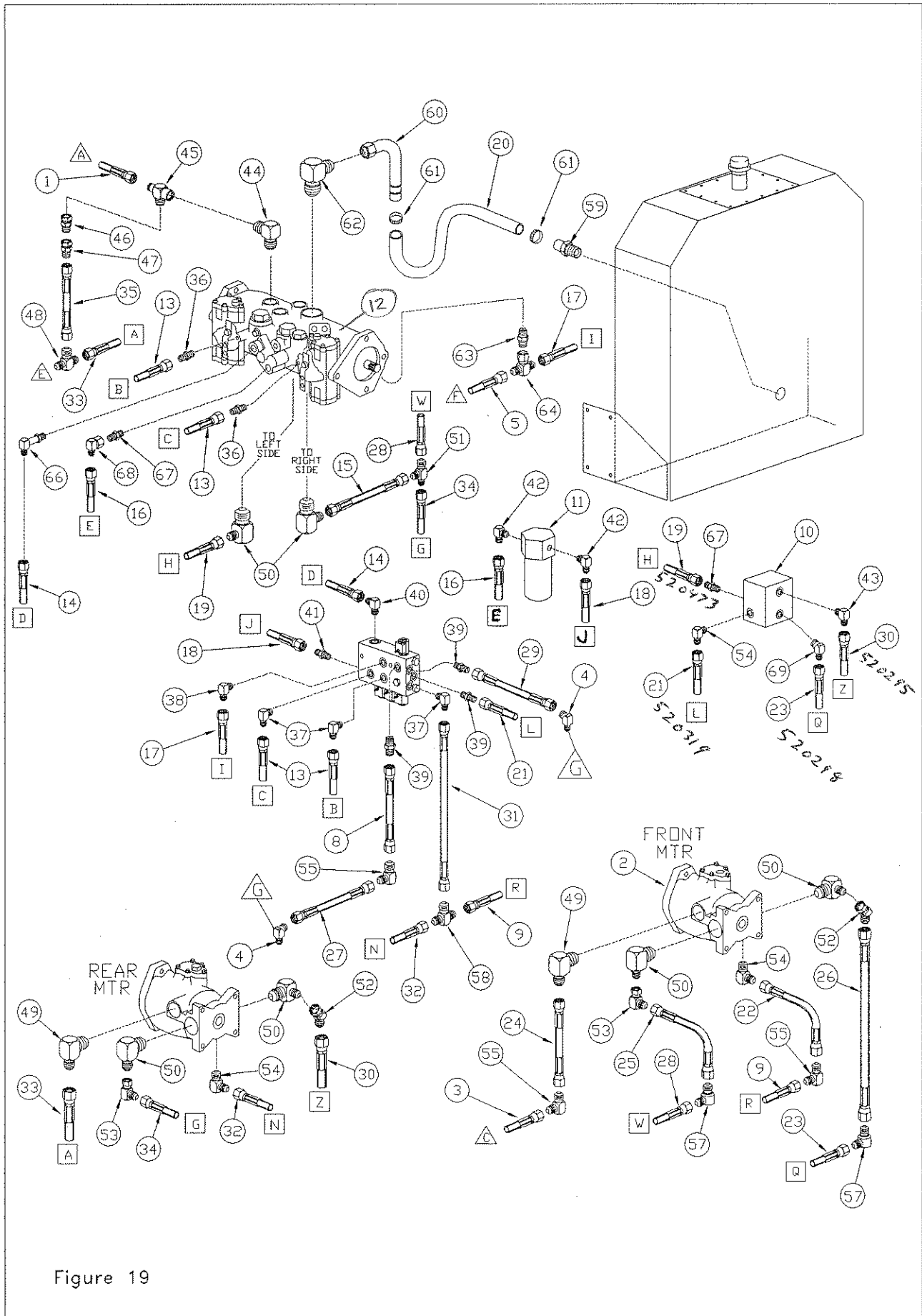


Figure 19

WHEEL DRIVE

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	520315	Hydraulic hose assembly	45.	520209	Adaptor, tee
2.	520158	Wheel motor	46.	520201	Adaptor
3.	520308	Hydraulic hose assembly	47.	520344	Adaptor
4.	120027	Adapter, 45 degree	48.	520198	Adaptor, tee
5.	520305	Hydraulic hose assembly	49.	520186	Adaptor, 90 degree (2)
6.	520164	Control block	50.	520187	Adaptor, 90 degree (6)
7.	510653	Oil reservoir	51.	520471	Adaptor, tee
8.	520306	Hydraulic hose assembly	52.	520205	Adaptor, 45 degree (2)
9.	520307	Hydraulic hose assembly	53.	520207	Adaptor, 90 degree (2)
10.	520345	Posi-trac valve	54.	520118	Adaptor, 90 degree (3)
11.	520348	Filter assembly	55.	520214	Adaptor, 90 degree bulkhead (3)
	520349	Filter, cartridge	56.	520116	Adaptor, (2)
12.	520156	Propulsion pump assembly	57.	520394	Adaptor, 90 degree swivel (2)
13.	520321	Hydraulic hose assembly (2)	58.	520180	Adaptor, tee
14.	520327	Hydraulic hose assembly	59.	520184	Hose barb
15.	520468	Hydraulic hose assembly	60.	520177	Hose barb, bent tube
16.	520316	Hydraulic hose assembly	61.	500107	Hose clamp (2)
17.	520322	Hydraulic hose assembly	62.	520188	Adaptor, 90 degree
18.	520328	Hydraulic hose assembly	63.	520192	Adaptor
19.	520473	Hydraulic hose assembly	64.	520210	Adaptor, tee
20.	520314	Hydraulic hose, suction	65.	520356	Cap, dipstick
21.	520319	Hydraulic hose assembly	66.	120025	Adaptor, 90 degree LL
22.	520325	Hydraulic hose assembly	67.	520191	Adaptor
23.	520298	Hydraulic hose assembly	68.	520019	Adapter, 90 degree
24.	520324	Hydraulic hose assembly	69.	520094	Adapter, 45 degree
25.	520300	Hydraulic hose assembly			
26.	520299	Hydraulic hose assembly			
27.	520323	Hydraulic hose assembly			
28.	520470	Hydraulic hose assembly			
29.	520320	Hydraulic hose assembly			
30.	520295	Hydraulic hose assembly			
31.	520318	Hydraulic hose assembly			
32.	520317	Hydraulic hose assembly			
33.	520294	Hydraulic hose assembly			
34.	520469	Hydraulic hose assembly			
35.	520293	Hydraulic hose assembly			
36.	520216	Adaptor (2)			
37.	520024	Adaptor, 90 degree (4)			
38.	520026	Adaptor, 90 degree			
39.	520189	Adaptor (2)			
40.	520197	Adaptor, 90 degree			
41.	520193	Adaptor			
42.	520202	Adaptor, 90 degree (2)			
43.	520029	Adaptor, 90 degree (2)			
44.	520343	Adaptor, 90 degree			

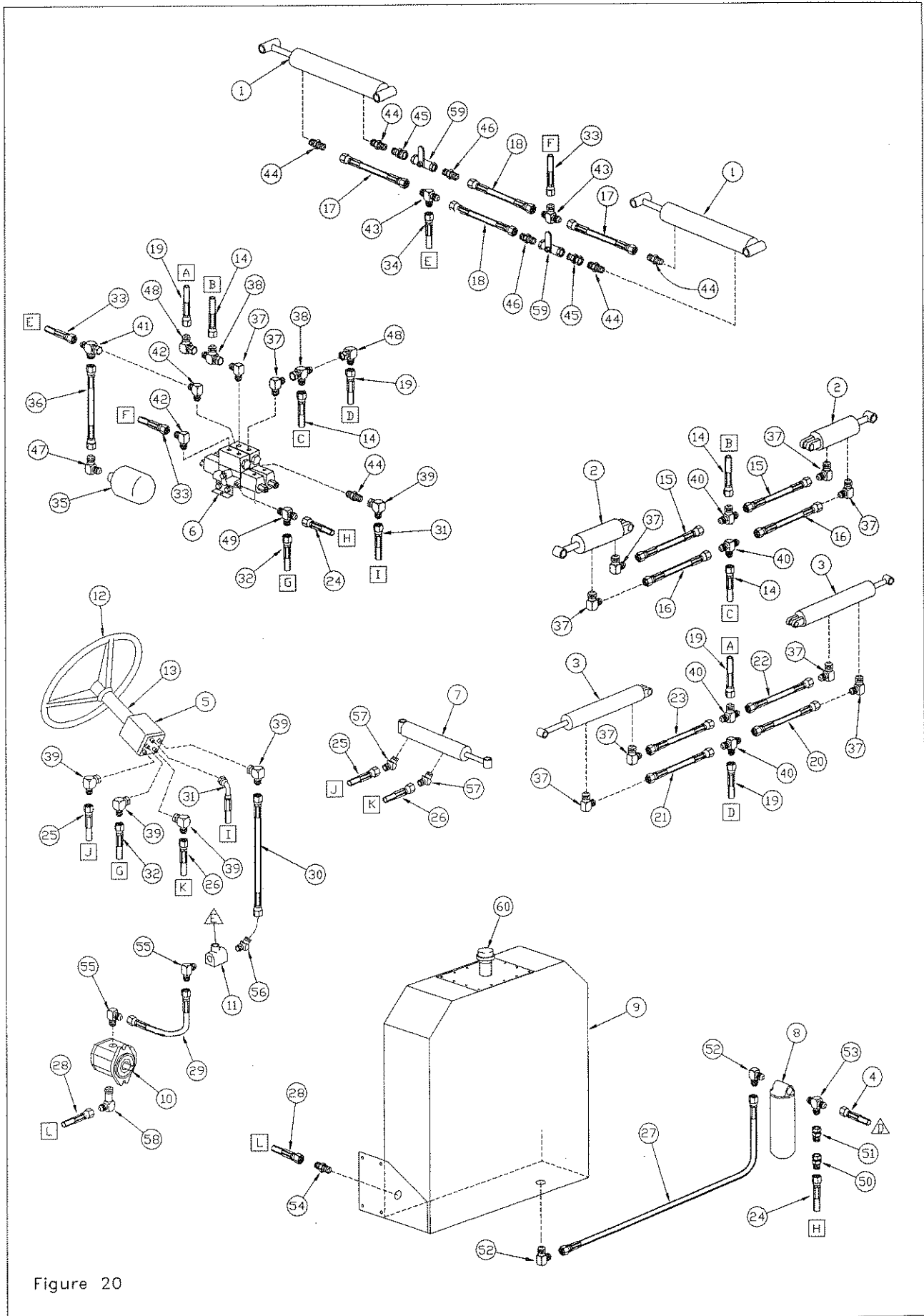


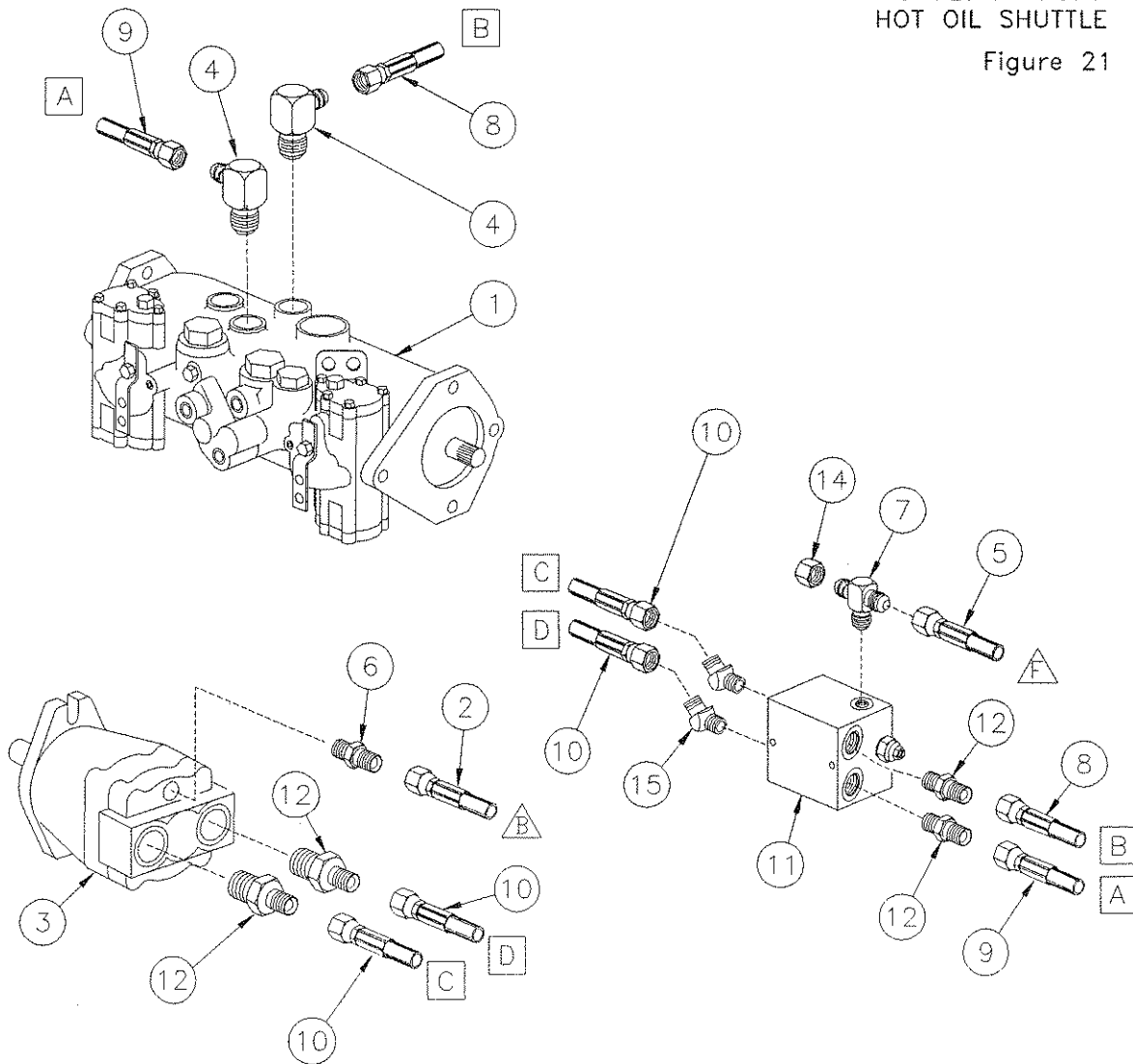
Figure 20

CHARGE PUMP, STEERING, & CYLINDERS

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	520464	Cylinder, leveling	44.	520093	Adaptor (5)
2.	520146	Cylinder, outrigger	45.	520396	Adaptor (2)
3.	520148	Cylinder, deck fold	46.	520182	Adaptor (2)
4.	520312	Hydraulic hose assembly	47.	520130	Adaptor, 90 degree
5.	520161	Steering pump	48.	520206	Adaptor, 90 degree (4)
6.	520217	Valve assembly, two bank	49.	520340	Adaptor, tee
	520009	Valve, single	50.	520200	Adaptor
	520010	Valve, single, w/A lock	51.	520201	Adaptor
	520008	Valve, A lock attachment	52.	520203	Adaptor, 90 degree (2)
7.	520221	Cylinder, steering	53.	520204	Adaptor, tee
8.	520350	Filter assembly	54.	520183	Adaptor
	520351	Filter	55.	520185	Adaptor, 90 degree (2)
9.	510653	Oil reservoir	56.	520094	Adaptor, 45 degree
10.	520157	Charge pump	57.	520021	Adaptor, 45 degree
11.	520352	Steering relief valve	58.	520341	Adaptor, extra long
12.	550004	Steering wheel	59.	520342	Ball valve
13.	520162	Steering column	60.	520356	Cap, dipstick
14.	520283	Hydraulic hose assembly (2)			
15.	520285	Hydraulic hose assembly (2)			
16.	520482	Hydraulic hose assembly (2)			
17.	520287	Hydraulic hose assembly (2)			
18.	520286	Hydraulic hose assembly (2)			
19.	520335	Hydraulic hose assembly (2)			
20.	520332	Hydraulic hose assembly			
21.	520329	Hydraulic hose assembly			
22.	520331	Hydraulic hose assembly			
23.	520330	Hydraulic hose assembly			
24.	520311	Hydraulic hose assembly			
25.	520310	Hydraulic hose assembly			
26.	520309	Hydraulic hose assembly			
27.	520313	Hydraulic hose assembly			
28.	520326	Hydraulic hose assembly			
29.	520292	Hydraulic hose assembly			
30.	520291	Hydraulic hose assembly			
31.	520280	Hydraulic hose assembly			
32.	520281	Hydraulic hose assembly			
33.	520289	Hydraulic hose assembly (2)			
34.	-----	-----			
35.	520220	Accumulator			
36.	520282	Hydraulic hose assembly			
37.	520024	Adaptor, 90 degree (10)			
38.	520017	Adaptor, tee (2)			
39.	520020	Adaptor, 90 degree (5)			
40.	520180	Adaptor, tee (4)			
41.	520018	Adaptor, tee			
42.	520026	Adaptor, 90 degree (2)			
43.	520016	Adaptor, tee (1)			

DECK DRIVE MOTOR
PROPULSION PUMP
HOT OIL SHUTTLE

Figure 21

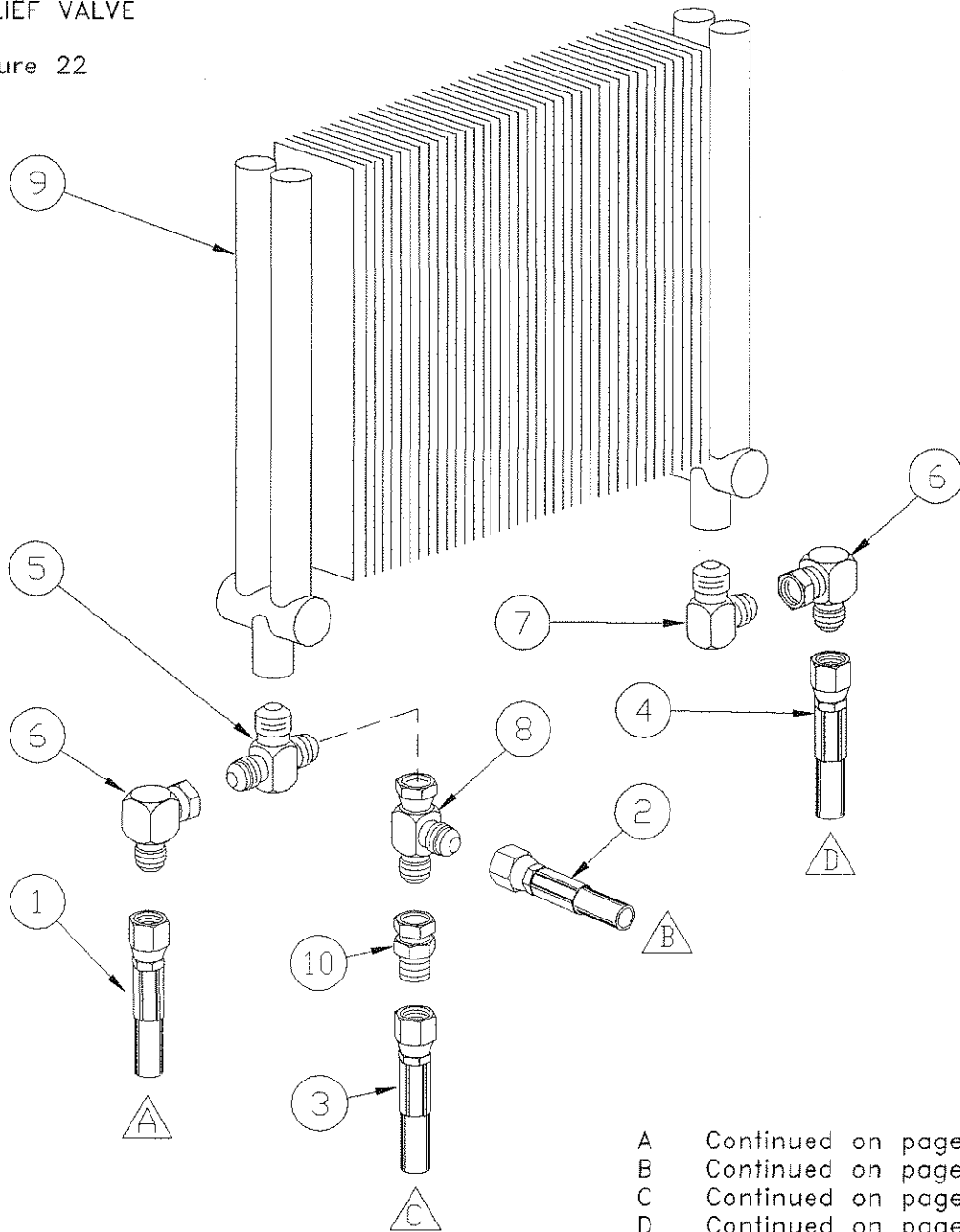


B Continued on page 23
F Continued on page 18

ITEM	PART NO.	DESCRIPTION
1.	520156	Hydraulic pump assembly
2.	520475	Hydraulic hose
3.	520159	Motor, deck drive
4.	520187	Adaptor, 90 degree
5.	520305	Hydraulic hose
6.	520224	Adaptor, straight
7.	520198	Adaptor, 90 degree
8.	520484	Hydraulic hose
9.	520480	Hydraulic hose
10.	520476	Hydraulic hose
11.	520338	Hot oil shuttle
12.	520195	Adaptor, straight
13.	-----	-----
14.	520485	Cap
15.	520474	Adapter, 45 degree

HEAT EXCHANGER
RELIEF VALVE

Figure 22



A Continued on page 18
 B Continued on page 22
 C Continued on page 18
 D Continued on page 20

ITEM	PART NO.	DESCRIPTION
1.	520315	Hydraulic hose
2.	520475	Hydraulic hose
3.	520308	Hydraulic hose
4.	520312	Hydraulic hose
5.	520199	Adaptor, tee
6.	520207	Adaptor, 90°
7.	520197	Adaptor, 90°
8.	520208	Adaptor, tee
9.	520386	Heat exchanger
10.	520200	Adaptor, straight

COWLING, CONSOLE & FLOOR

ITEM	PART NO.	DESCRIPTION
1	510758	Cowling
2	510698	Console
3	511125	Front lid
4	511124	Rear lid
5	510934	Rear floor plate
6	511066	Front floor plate
7	500307	Latch
8	---	---
9	510196	5/16 NC x 1/2 w/z bolt
10	510877	1/4 NC x 1/2 slotted screw
11	110096	Pop rivet

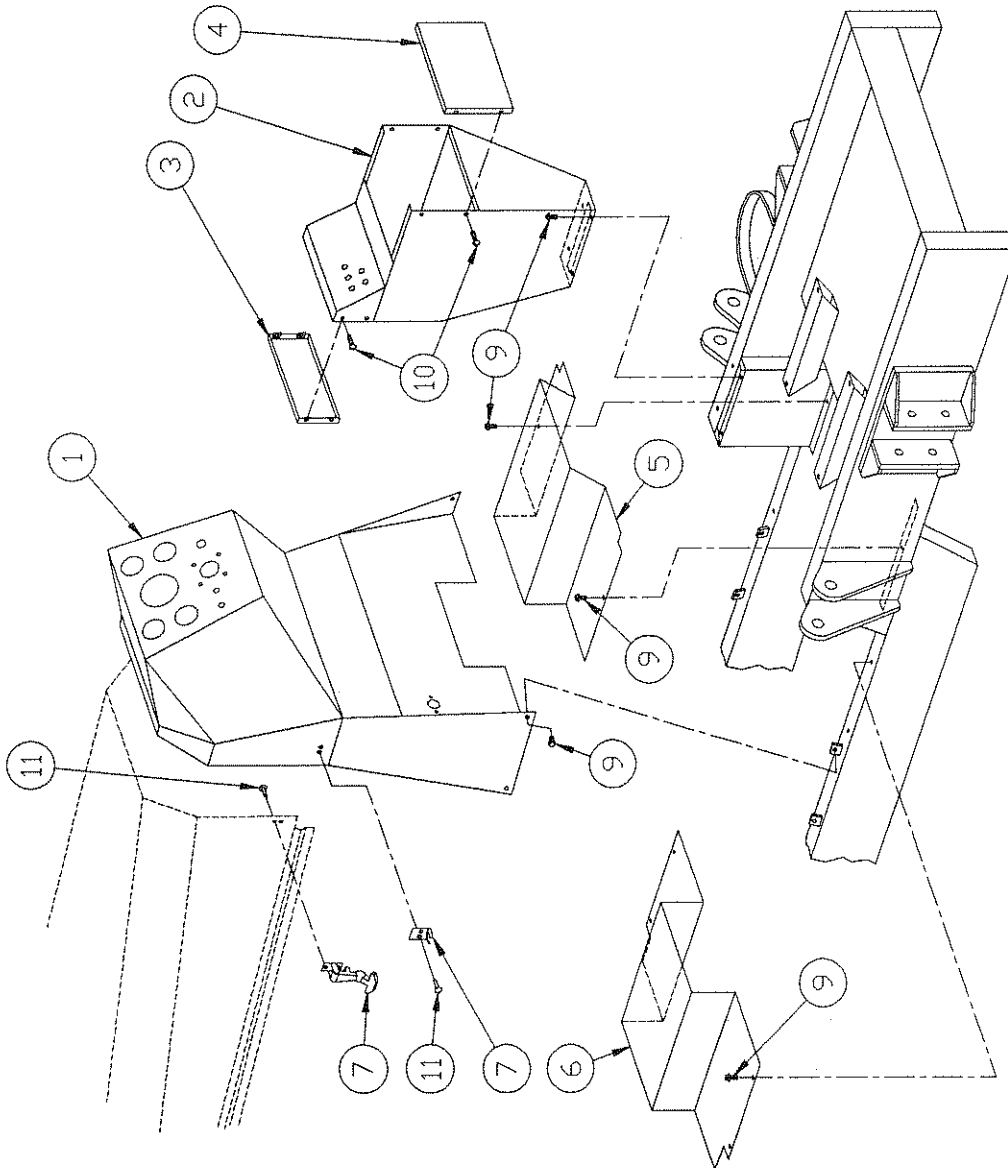


Figure 23

511162

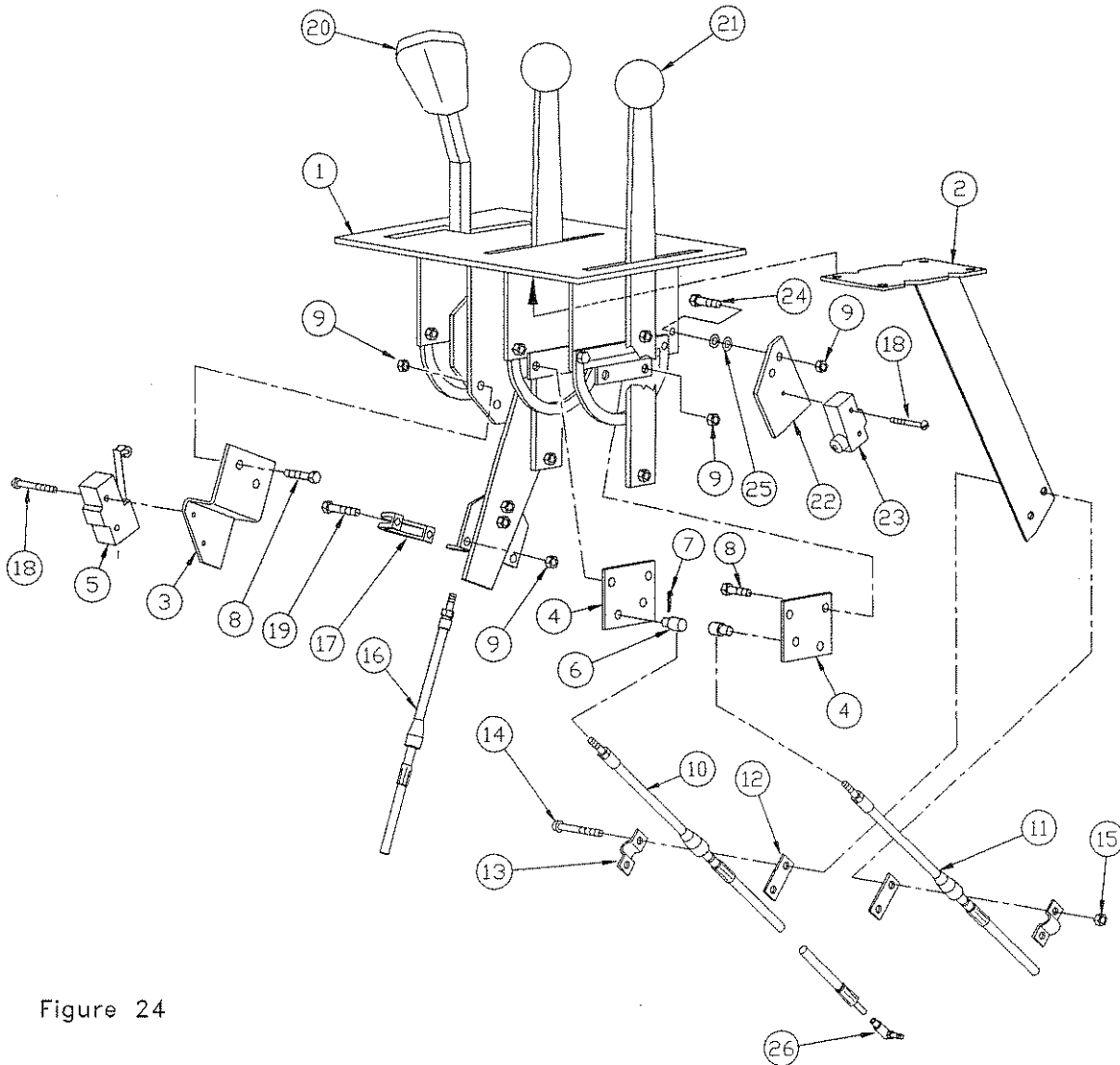
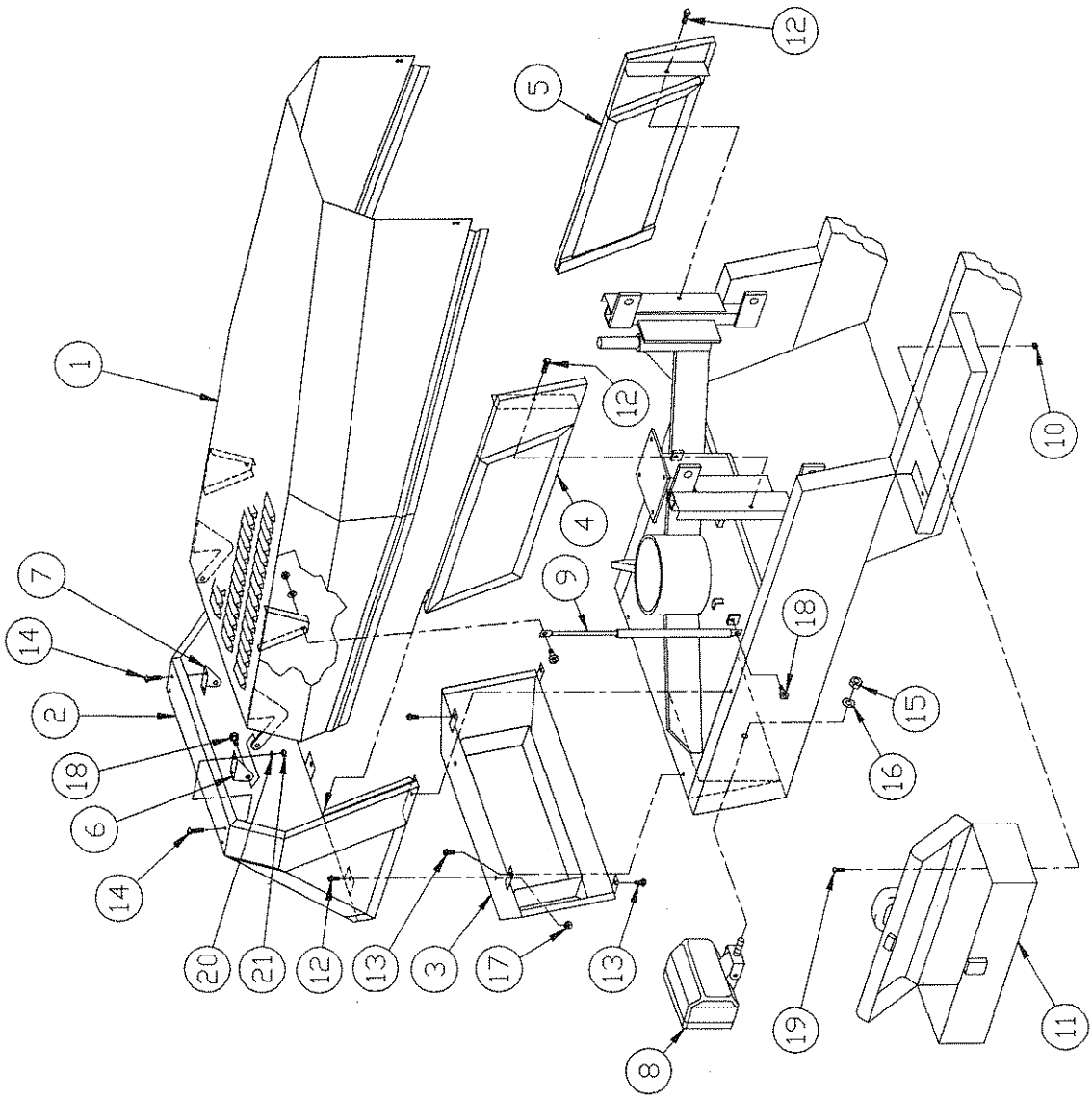


Figure 24

QUADRASAT

ITEM	PART NO.	DESCRIPTION
1	550055	QUAD ASSEMBLY
2	510919	CABLE CLAMP BRACKET
3	510820	SWITCH BRACKET
4	510899	CABLE END BRACKET
5	530058	NEUTRAL SWITCH
6	550061	PIVOT PIN
7	550066	COTTER PIN
8	710492	1/4 NC X .50 BOLT
9	540076	1/4 NC LOCK NUT
10	550057	THROTTLE CABLE
11	550056	BLADE CABLE
12	550059	SHIM
13	550060	CLAMP
14	510094	10-24 SCREW
15	210336	10-24 NUT
16	550058	QUAD CABLE
17	550068	CLAMP
18	540089	6-32 X 1 SCREW
19	510220	1/4 NC X 1.25 BOLT
20	550070	KNOB
21	550071	KNOB
22	510819	SWITCH BRACKET
23	530038	SAFETY SWITCH
24	540084	1/4 NC X .75 WIZ BOLT
25	510322	1/4 FLAT WASHER
26	550062	BALL JOINT

ITEM	PART NO.	DESCRIPTION
1	510904	Hood
2	510905	Front grille
3	510737	Headlight shroud
4	510906	Left side grille
5	510907	Right side grille
6	510799	Left hinge mount
7	510800	Right hinge mount
8	530103	Headlight
9	500078	Gas shock
10	540078	10-24 lock nut
11	500207	Tool box
12	510992	5/16 NC x 1 wiz bolt
13	510196	5/16 NC x 1/2 wiz bolt
14	510877	1/4 x 1/2 NC slotted screw
15	510225	1/2 NC nut
16	510219	1/2 lock washer
17	510208	5/16 nut
18	510429	3/8 x 3/8 shoulder screw
19	510960	10-24 x 1/2 slotted screw
20	510221	1/4 lock washer
21	510224	1/4 nut



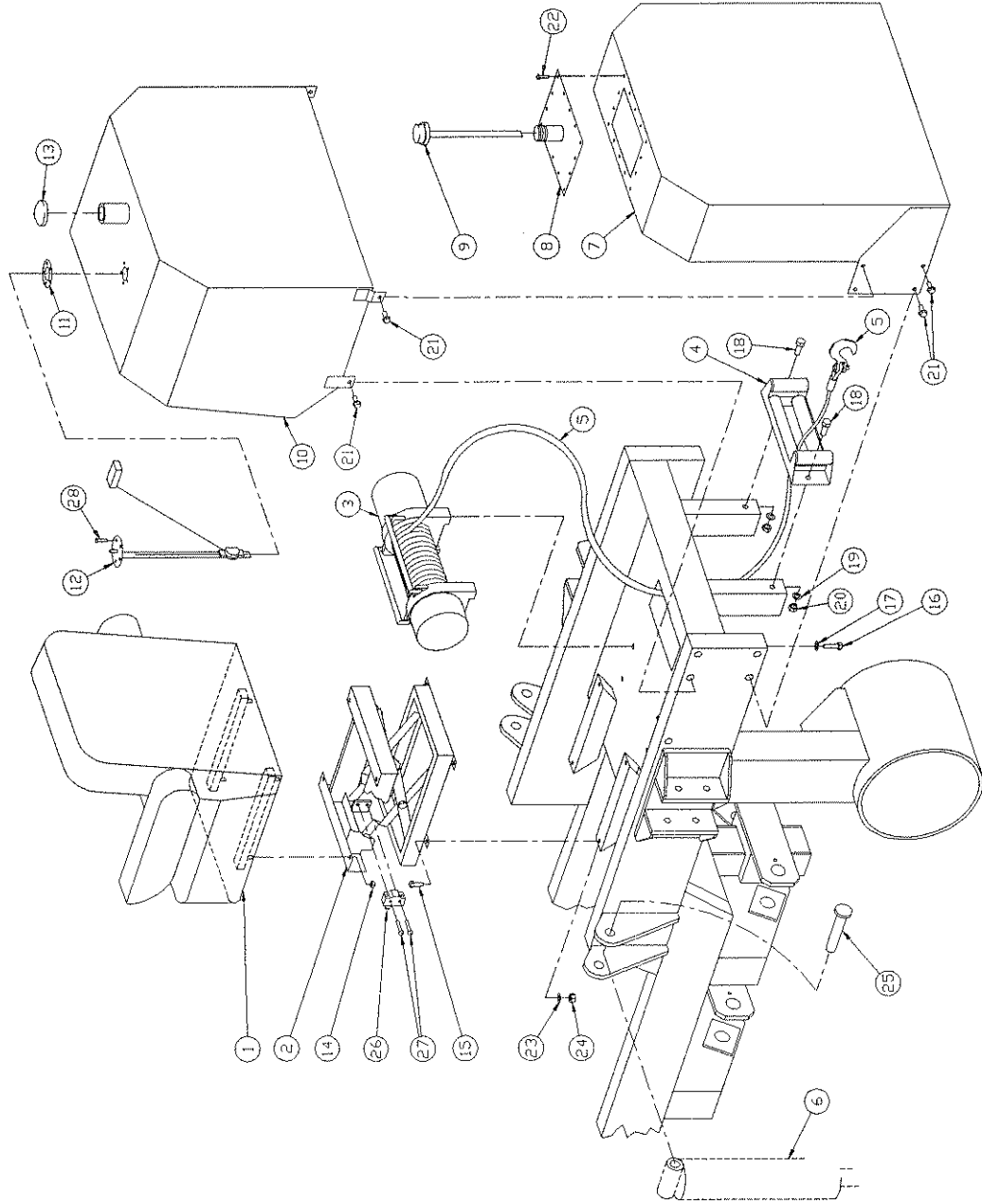
HOOD, GRILLE & LIGHT SHROUD

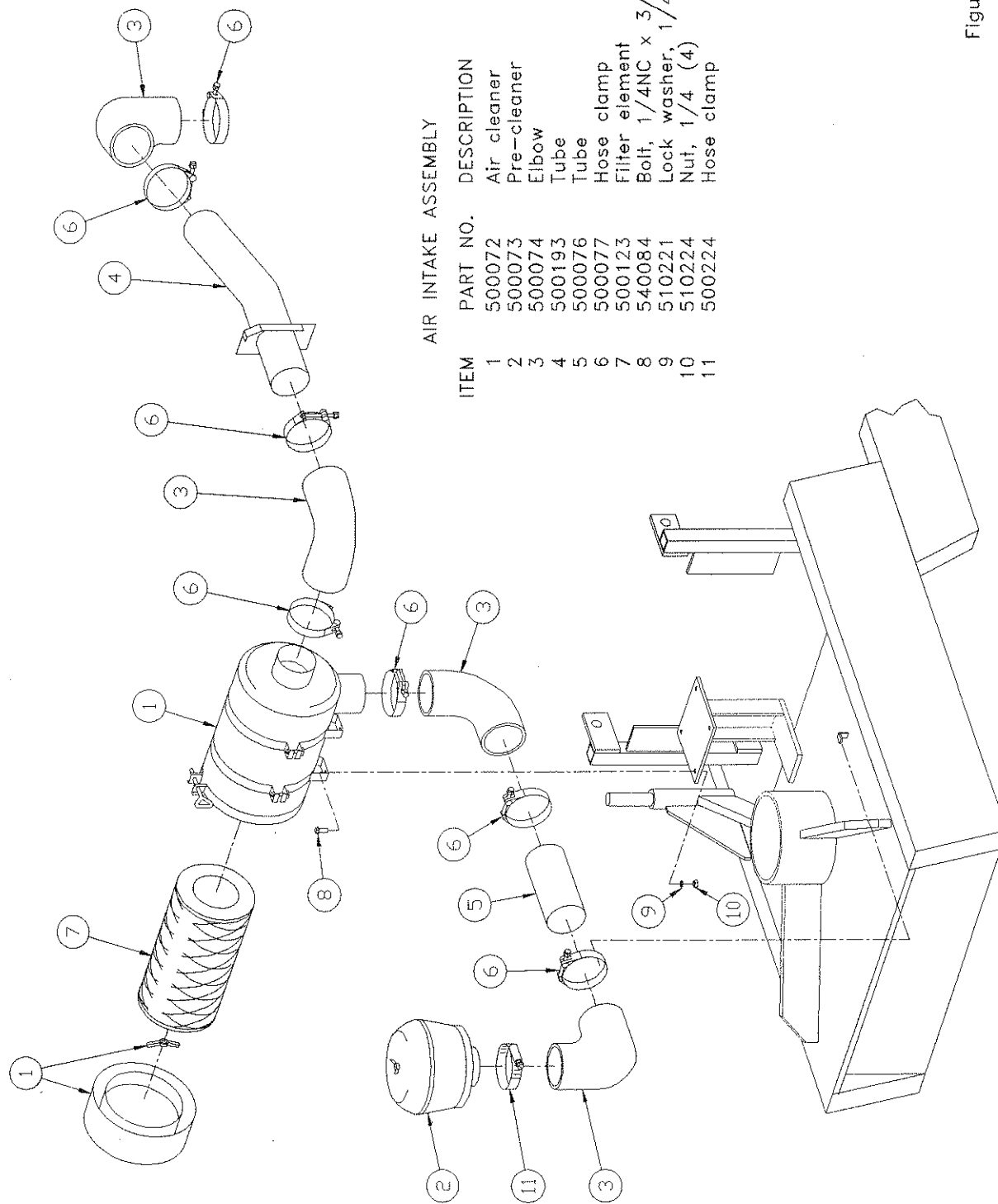
Figure 25

Figure 26

REAR TRACTOR ASSEMBLY

ITEM	PART NO.	DESCRIPTION
1	510790	Seat
2	511173	Suspension
3	540135	Winch
4	540136	Winch roller
5	540137	Cable and hook
6	520464	Leveling cylinder
7	510653	Hyd. reservoir
8	511081	Top plate
9	520356	Hyd. cap
10	510654	Fuel tank
11	500172	Gasket
12	500171	Fuel level sender
13	500069	Gas cap
14	510208	Nut, 5/16
15	510063	Bolt, 3/8NC x 1
16	510351	Bolt, 3/8NC x 1-1/2
17	510365	Flat washer, 3/8
18	110001	Bolt, 1/2NC x 1-1/4
19	510219	Lock washer, 1/2
20	510225	Nut, 1/2 NC
21	510401	Bolt, 3/8 x 3/4 w/iz
22	710611	1/4NC x 3/4 Bolt
23	510271	Lock washer, 5/8
24	510272	Nut, 3/8
25	511079	Pin, base
26	530038	Switch, seat
27	540089	Screw, 6-32 x 1
28	511005	Screw, 10-32 x 1/2





AIR INTAKE ASSEMBLY

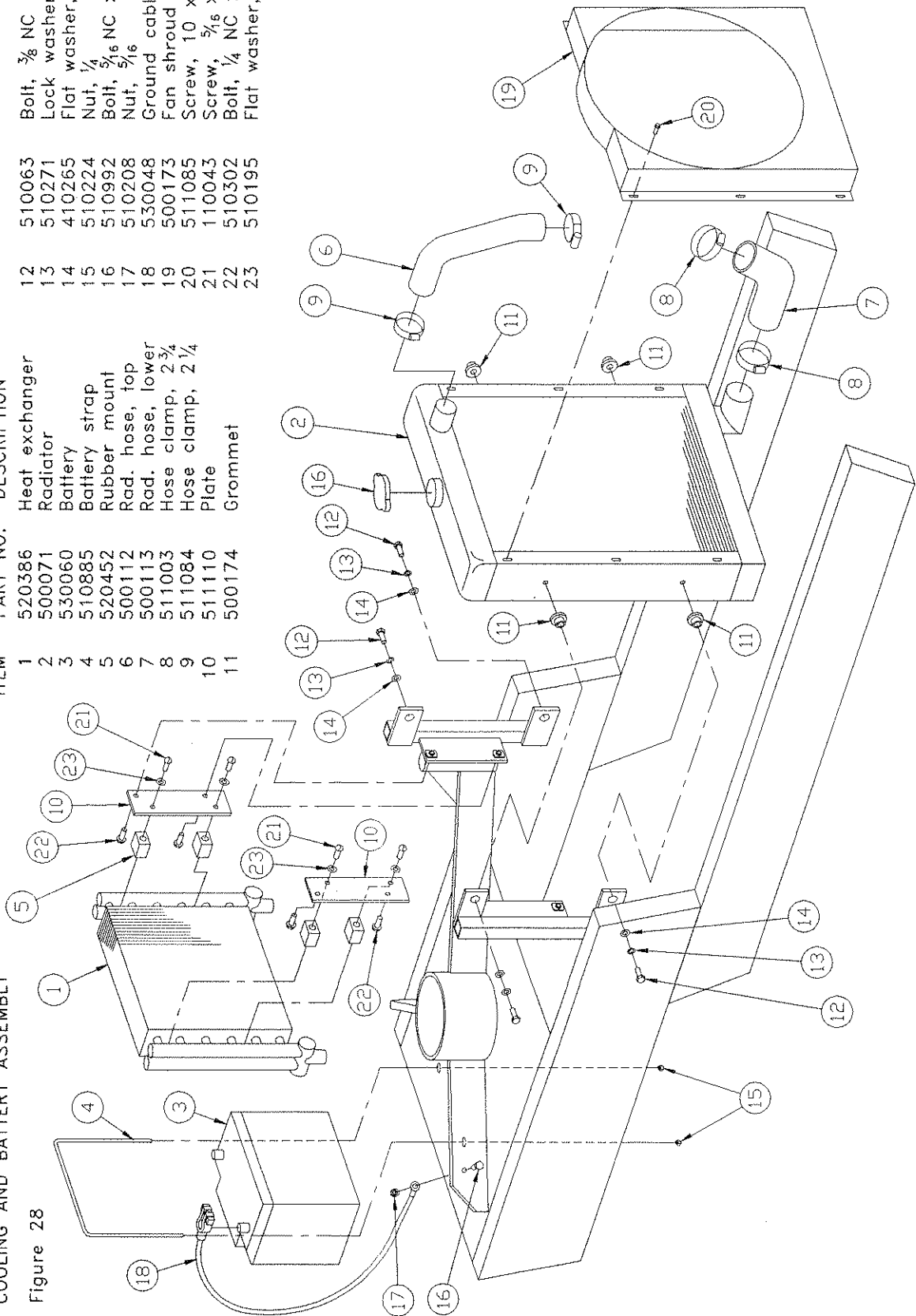
ITEM	PART NO.	DESCRIPTION
1	500072	Air cleaner
2	500073	Pre-cleaner
3	500074	Elbow
4	500193	Tube
5	500076	Tube
6	500077	Hose clamp
7	500123	Filter element
8	540084	Bolt, 1/4NC x 3/4 w/iz (4)
9	510221	Lock washer, 1/4 (4)
10	510224	Nut, 1/4 (4)
11	500224	Hose clamp

Figure 27

COOLING AND BATTERY ASSEMBLY

Figure 28

ITEM	PART NO.	DESCRIPTION
1	520386	Heat exchanger
2	500071	Radiator
3	530060	Battery
4	510885	Battery strap
5	520452	Rubber mount
6	500112	Rad. hose, top
7	500113	Rad. hose, lower
8	511003	Hose clamp, 2 3/4
9	511084	Hose clamp, 2 1/4
10	511110	Plate
11	500174	Grommet
12	510063	Bolt, 3/8 NC x 1
13	510271	Lock washer, 3/8
14	410265	Flat washer, 1/2
15	510224	Nut, 1/4
16	510992	Bolt, 5/16 NC x 1 w/iz
17	510208	Nut, 5/16
18	530048	Ground cable
19	500173	Fan shroud
20	511085	Screw, 10 x 1/2
21	110043	Screw, 5/16 x 1 1/2 w/iz
22	510302	Bolt, 1/4 NC x 1/2 w/iz
23	510195	Flat washer, 5/16



EXHAUST ASSEMBLY

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	511090	Muffler assy.	6	510749	Muffler strap
2	540112	Flex tube	7	530015	Bolt, 1/4NC x 1
3	510995	Exhaust tube	8	540076	Nut, 1/4NC Lock
4	500088	Muffler clamp	9	500226	Muffler guard
5	500087	Muffler clamp			

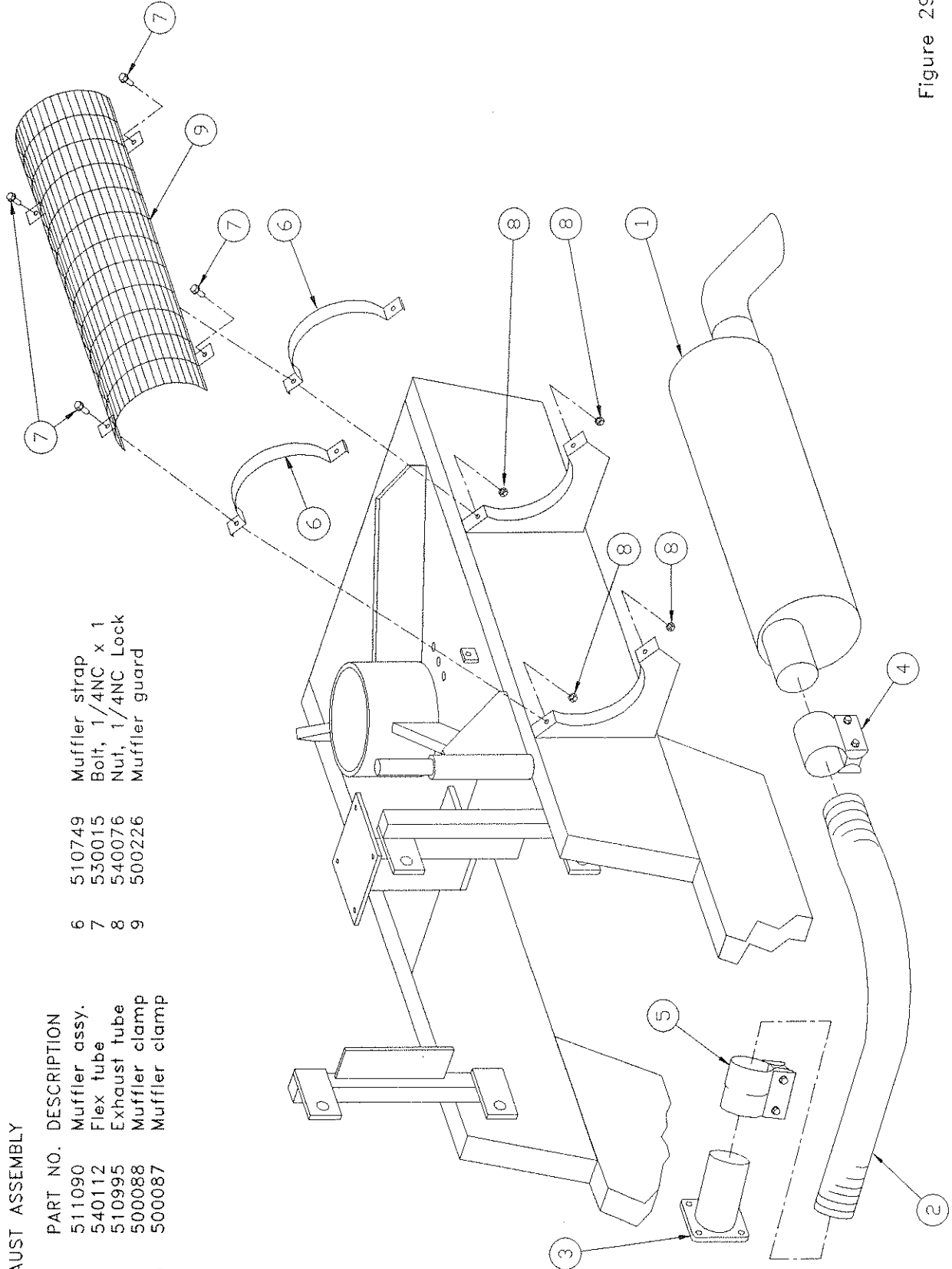
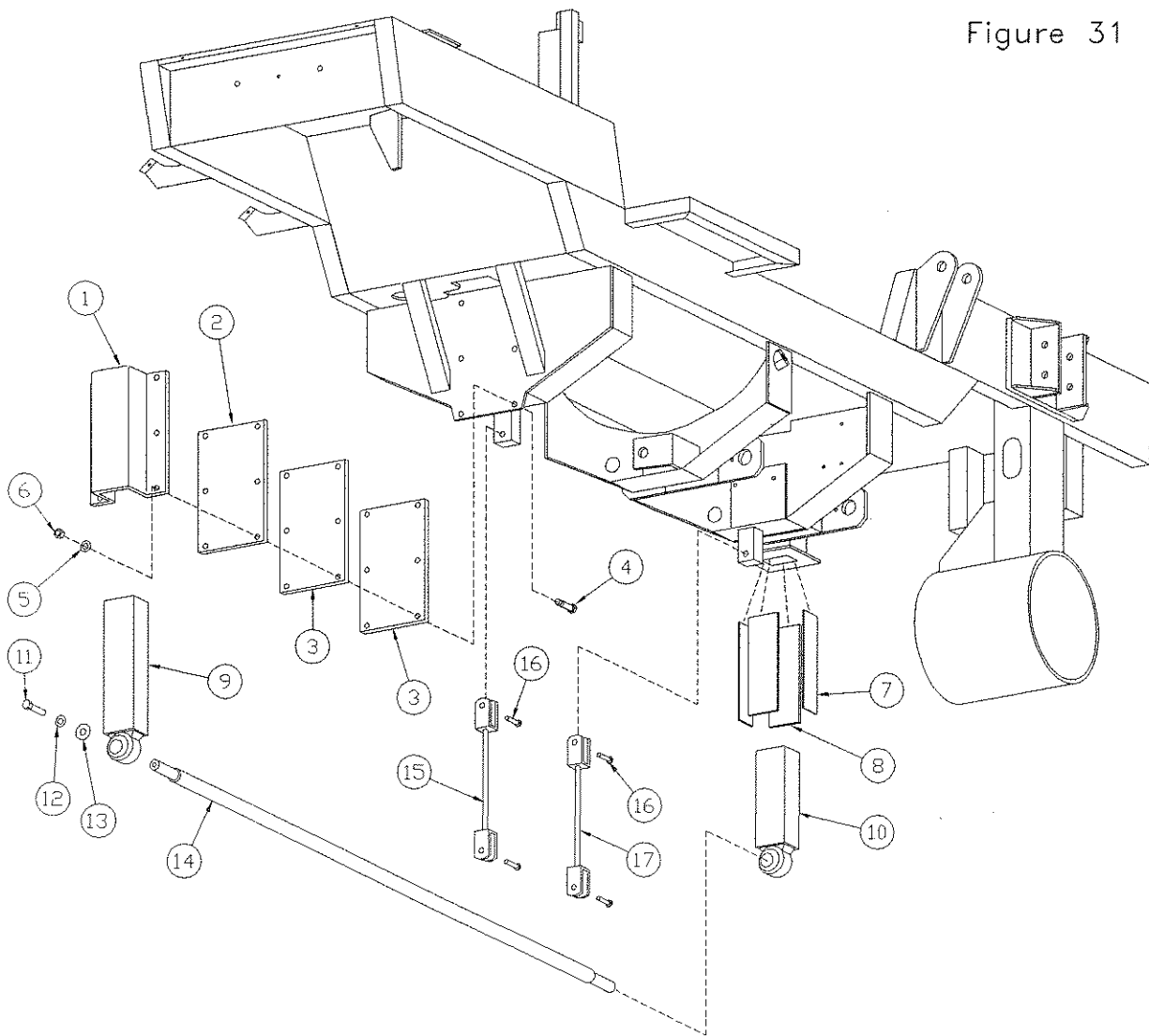


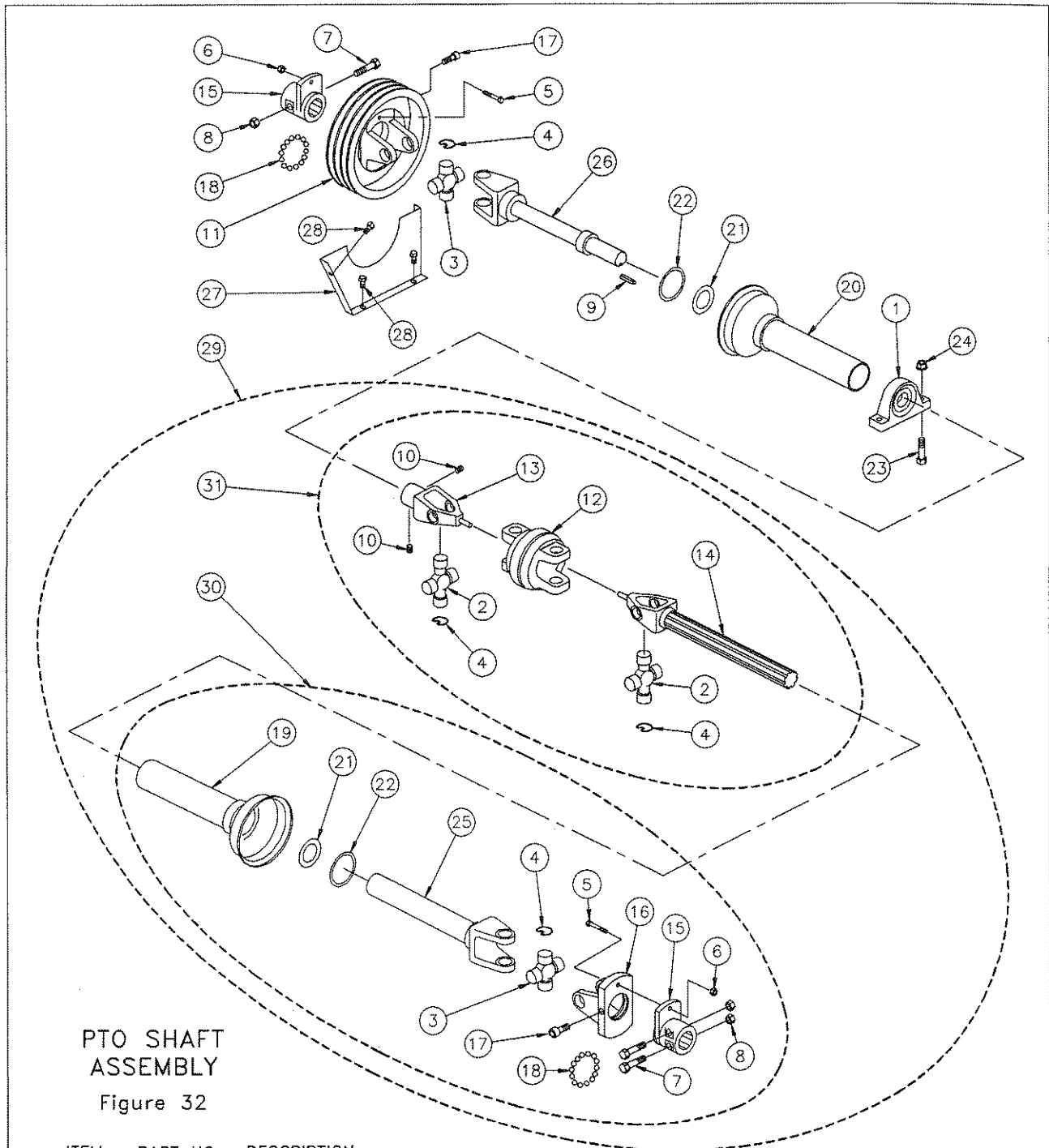
Figure 29

DECK SLIDE ASSEMBLY

Figure 31



ITEM	PART NO.	DESCRIPTION
1	511190	SLIDE BRACKET
2	511036	PLASTIC SPACER
3	511035	METAL SPACER
4	410273	1/2 NC X 2.5 BOLT
5	510219	1/2 LOCK WASHER
6	510225	1/2 NC NUT
7	511037	PLASTIC INSERT
8	511038	PLASTIC INSERT
9	511195	FRONT SLIDE
10	510970	REAR SLIDE TUBE
11	510473	1/2 NC X 1.25 BOLT
12	510219	1/2 LOCK WASHER
13	500128	1/2 FLAT WASHER X 3/16
14	510831	CENTER PIVOT SHAFT
15	500273	SAFETY CABLE / FRONT
16	500274	CLEVIS PIN
17	500277	SAFETY CABLE / REAR

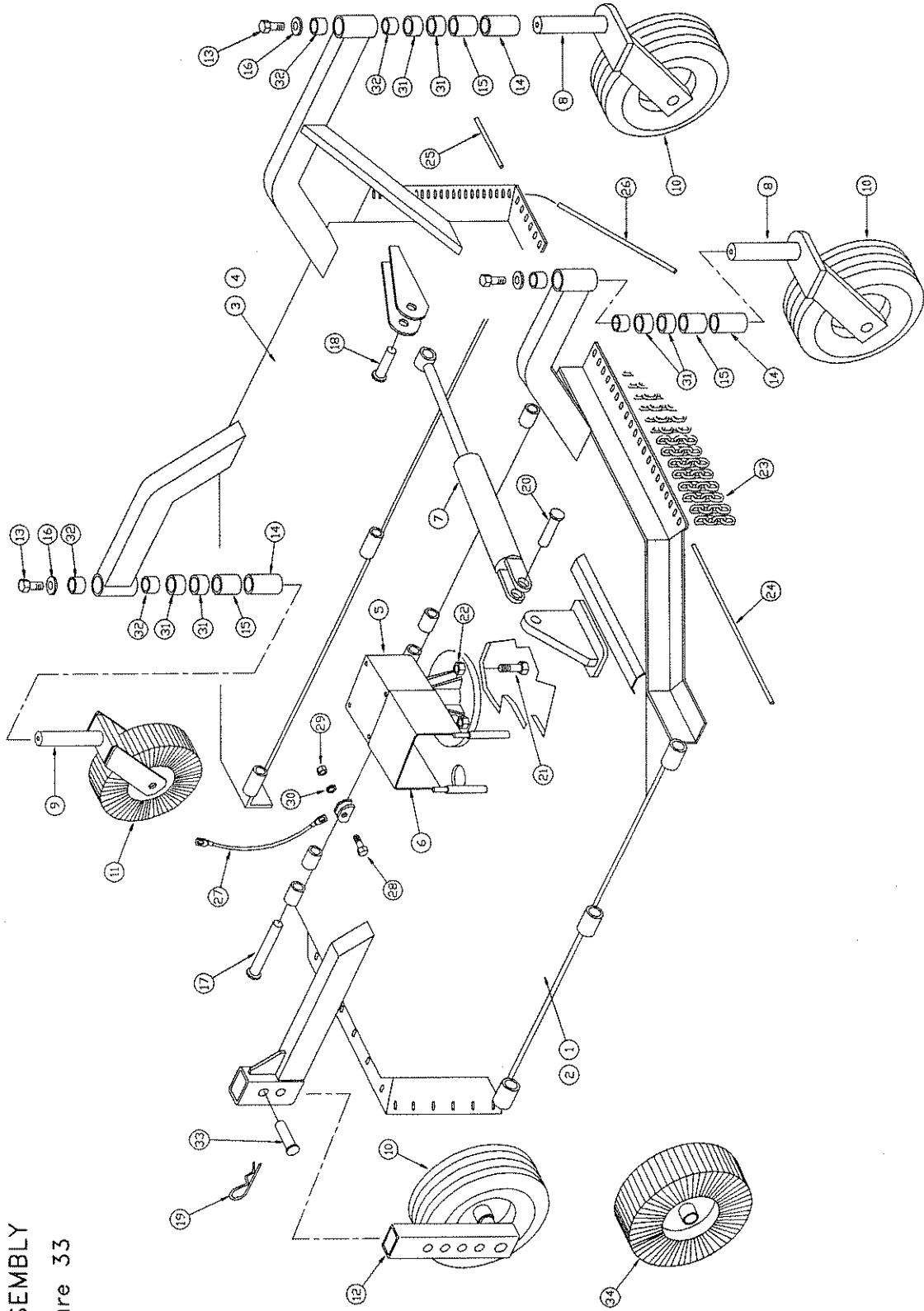


PTO SHAFT ASSEMBLY
Figure 32

ITEM	PART NO.	DESCRIPTION
1	540106	Block bearing
2	540118	Bearing cross
3	540119	Bearing cross
4	540120	Bearing clip
5	500137	5/16 NC x 2 GRD 8 Bolt
6	410222	5/16 NC Lock nut
7	540114	1/2 NF x 2.25 GRD 8 Bolt
8	540115	1/2 NF Lock nut
9	410389	5/16 x 1.25 x 1.25 Key
10	510161	3/8 NC x .50 Set screw
11	540117	Sheave & yoke assy
12	540128	Housing
13	540126	CV yoke
14	540309	CV yoke & shaft (left)
15	540122	Spline collar
16	540123	Shear device yoke
17	540134	3/8 NC x .375 Skt. head cap screw
18	540129	Ball bearings (31)
19	540130	Left PTO shield
20	540131	Right PTO shield
21	540132	Nylon bearing
22	540133	Bearing retainer
23	310030	1/2 NC x 2 Bolt
24	210350	1/2 NC Wizflange nut
25	540310	Yoke, tube & slipsleeve
26	540124	Yoke & shaft assy (right)
27	510915	Guard
28	510196	5/16 NC x .50 Wizflange bolt
29	540317	PTO shaft assy (left)
30	540318	Driveshaft with yoke (left)
31	540319	CV yoke and shaft assy (left)

LEFT MOWER DECK
ASSEMBLY

Figure 33



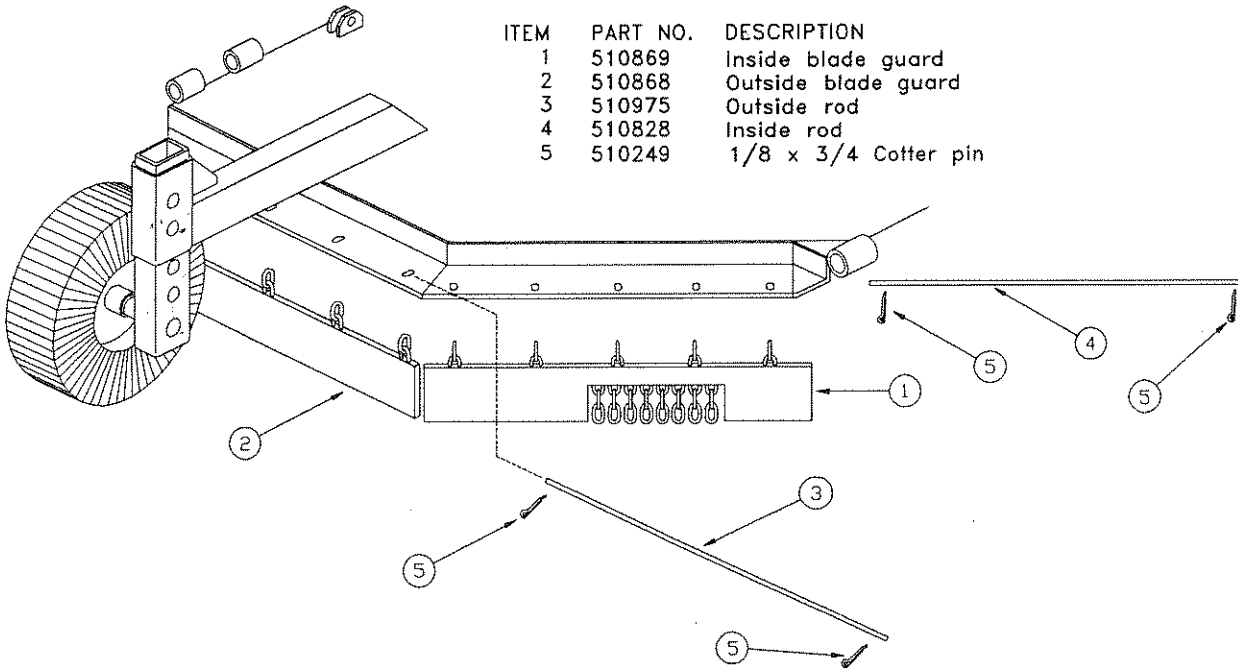
LEFT MOWER DECK ASSEMBLY

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	510563	Inside deck assy (left)	18.	510838	Adjustment pin
2.	510564	Inside deck assembly (right)	19.	210326	Hairpin clip
3.	510561	Outside deck assembly (left)	20.	510840	Cylinder pin
4.	510562	Outside deck assembly (right)	21.	510945	3/4 NC x 2.5 Bolt
5.	540098	Gearbox	22.	510944	3/4 NC Lock nut
6.	510847	PTO shield	23.	510834	Guard chain (47 required)
7.	520148	Fold cylinder	24.	510576	Inside chain rod
8.	510551	Front caster fork assembly	25.	510577	Middle chain rod
9.	510552	Rear caster fork assembly	26.	510575	Outside chain rod
10.	*500291	Large caster wheel pkg./foam-filled (std.)	27.	500170	Lift cable
11.	*500160	Small caster wheel pkg./segmented	28.	510351	3/8 NC x 1.5 Bolt
12.	511071	Rear caster slide tube	29.	510272	3/8 NC Nut
13.	110050	1/2 NC X .75 bolt	30.	510271	3/8 Lock washer
14.	510843	Spacer, 3"	31.	510841	Spacer, 1"
15.	510842	Spacer, 2"	32.	510574	Brass bushing
16.	110052	Custom flat washer	33.	511041	Adjustment pin
17.	510838	Pin	34.	*500159	Large caster wheel pkg./segmented (opt.)

* For breakdown of caster wheel pkgs. see p.41.

Figure 34

REAR BLADE GUARDS



ITEM	PART NO.	DESCRIPTION
1	510869	Inside blade guard
2	510868	Outside blade guard
3	510975	Outside rod
4	510828	Inside rod
5	510249	1/8 x 3/4 Cotter pin

Figure 35

BLADE ASSEMBLY

ITEM	PART NO.	DESCRIPTION
1	510455	Mower blade - left
	510456	Mower blade - right
2	510617	Shoulder bolt
3	510903	1 1/8 NF Lock nut
4	510687	Blade plate assy
5	500169	Castle jam nut
6	500168	Custom flat washer
7	500167	1/4 x 2.5 Cotter pin

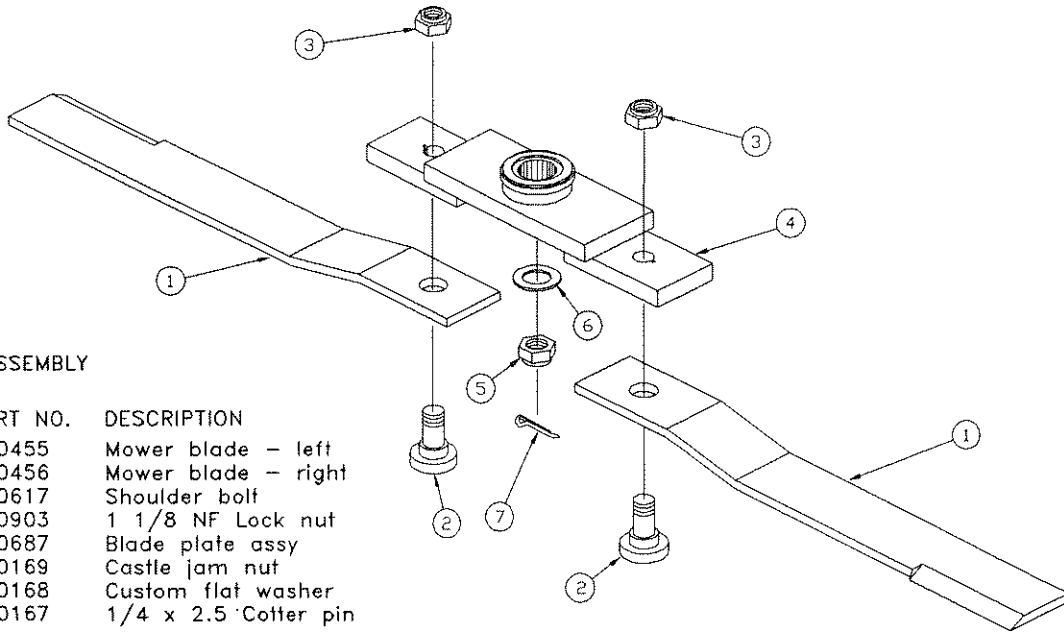
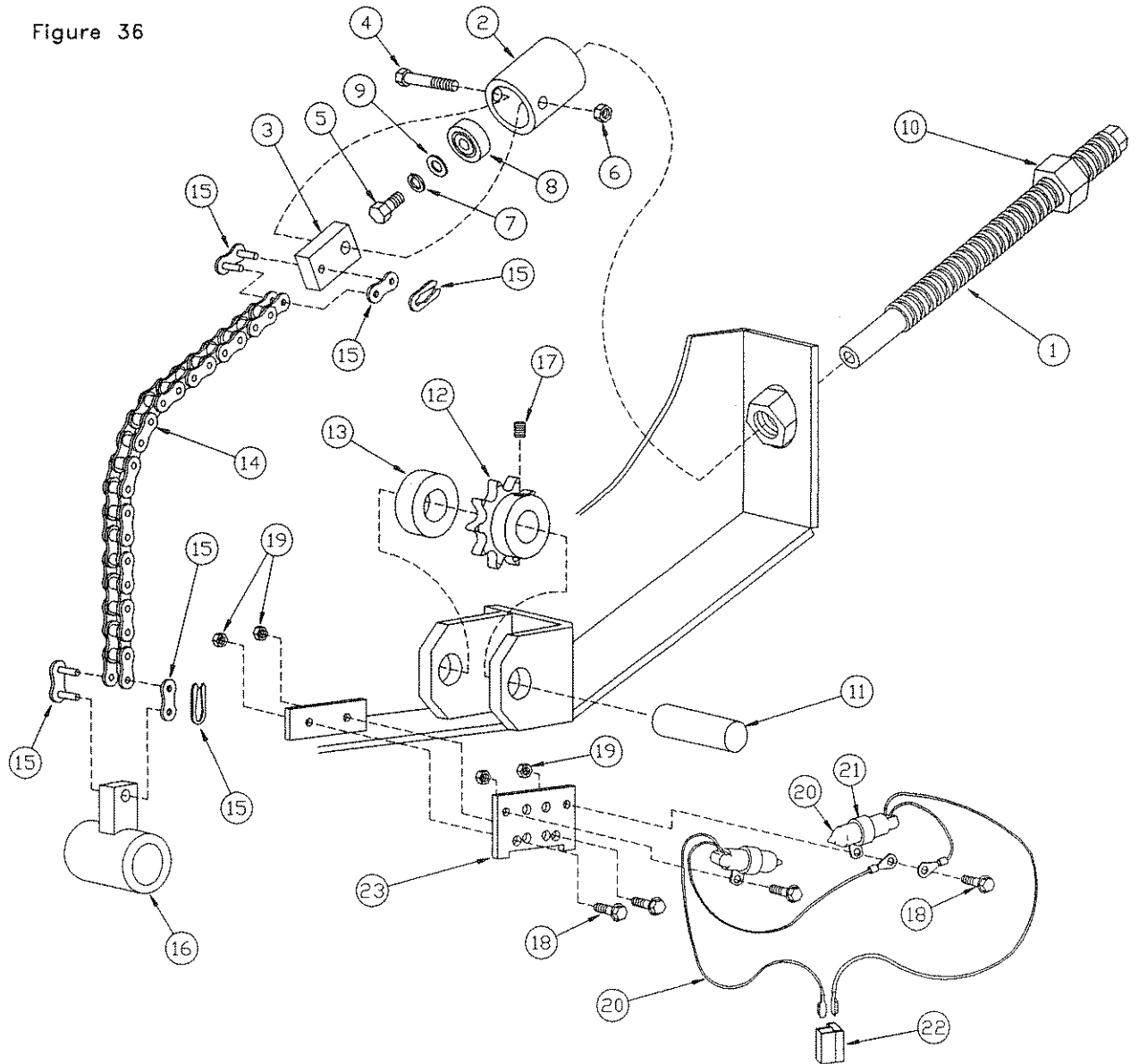


Figure 36



DECK HEIGHT ADJUSTMENT
AND LEVELING SWITCH ASSEMBLY

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	511075	Acme screw assy	13	511018	Spacer
2	511016	Sleeve assy	14	511020	Chain
3	510745	Chain lug	15	410442	Connecting link
4	510366	3/8 NC x 2.5 Bolt	16	511089	Bushing assy
5	510257	3/8 NC x .75 Bolt	17	500129	5/16 NC x .312 Set screw
6	510491	3/8 NC Lock nut	18	540084	1/4 NC x .75 Wiz bolt
7	510271	3/8 Lock washer	19	510224	1/4 NC nut
8	510397	Thrust bearing	20	530082	Mercury switch (2)
9	510365	3/8 Flat washer	21	200019	Clamp
10	510253	1 Acme nut	22	530083	Connector
11	511017	Sprocket shaft	23	511048	Mount bracket
12	410375	Sprocket	24	530085	Mercury switch assy (Items 18-23)

STABILIZER ARM

ITEM	PART NO.	DESCRIPTION
1	510622	Stab. arm, left
2	510623	Stab. arm, right (not shown)
3	510624	Swing arm, left
4	510625	Swing arm, right (not shown)
5	510693	Spindle
6	510627	Parallel linkage arm
7	520464	Leveling cylinder
8	520146	Outrigger cylinder
9	510840	Pin, outrig. cyl.
10	511028	Pin, parallel link.
11	510839	Pin, outrig. cyl.
12	510917	Pin, stab. arm
13	510690	Wheel
14	510196	Bolt, 5/16NC x 1/2 wiz
15	510626	Parallel linkage rod
16	510213	Bolt, 1/2NC x 3
17	500203	Nut, 1/2NC Lock
18	500138	Seal
19	500139	Inner bearing
20	500140	Inner race
21	500141	Hub
22	500142	Lug bolt
23	500143	Outer race
24	500144	Outer bearing
25	510461	Flat washer
26	510339	Castle nut
27	710522	Bolt, 7/16NC x 7
28	510574	Bushing, oil life
29	510787	Bar fire
30	510463	Cotter pin
31	500145	Cap
32	510462	Cotter pin
33	510184	Cotter pin
34	511078	Pin, leveling cyl.
35	510918	Pin, stab. arm
	510429	Shoulder screw, 3/8x3/8

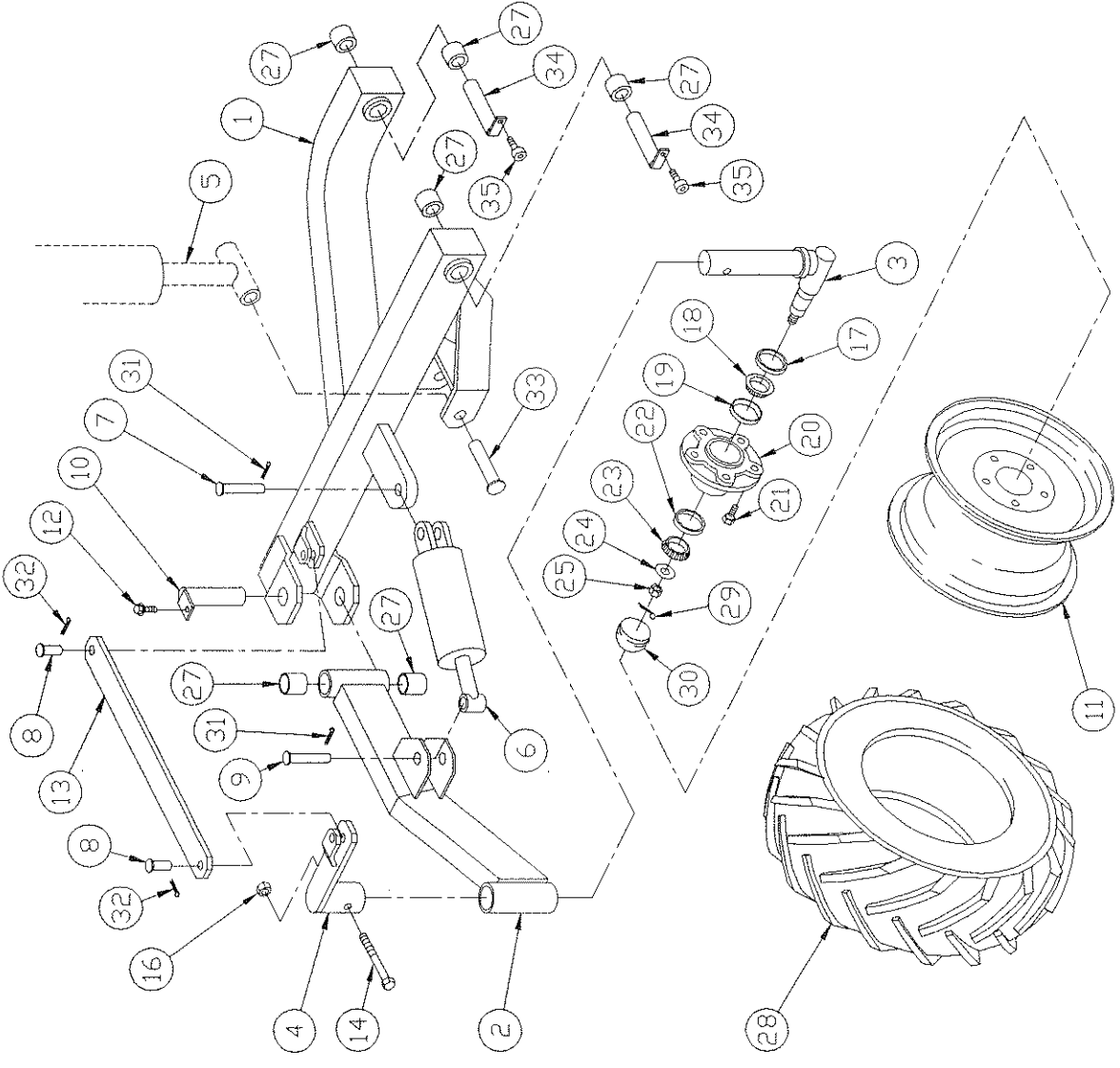
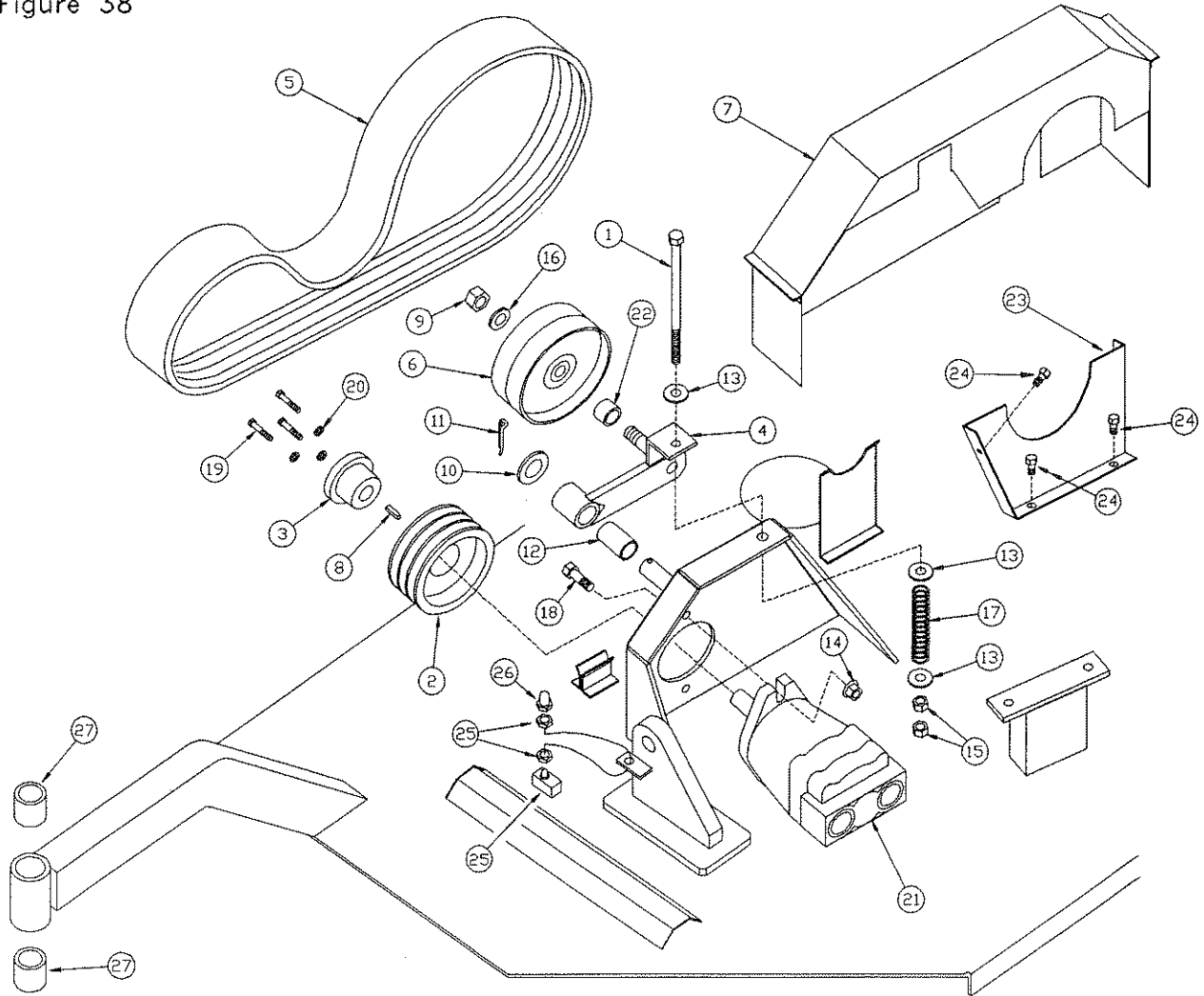


Figure 37

Figure 38



MOWER DECK DRIVE ASSEMBLY

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	710498	1/2 NC X 9.50 Bolt	15	510225	1/2 NC Nut
2	540103	Pulley	16	510370	3/4 Flat washer
3	540104	QD Bushing	17	540116	Spring
4	511076	Idler bracket	18	410273	1/2 NC x 2.5 Bolt
5	540105	Power band belt	19	500164	1/4 NC x 1.875 Bolt
6	540100	Idler pulley	20	510221	1/4 Lock washer
7	510914	Belt shield	21	520159	Deck drive motor
8	410389	5/16 x 1.25 x 1.25 Key	22	510912	Spacer
9	510944	3/4 NC Lock nut	23	510915	PTO Guard
10	510173	1 Flat washer	24	510196	5/16 NC x .50 Wiz bolt
11	510175	3/16 x 2 Cotter pin	25	530059	Safety switch (both decks)
12	510821	Brass bushing	26	530077	Switch boot
13	410265	1/2 Flat washer	27	510574	Brass bushing
14	210350	1/2 NC Wiz nut			

WHEEL MOUNT ASSEMBLY

ITEM	PART NO.	DESCRIPTION
1	510710	Cover
2	520383	Wheel motor
3	511087	Lug nut
4	510992	Bolt, 5/16NC x 1 w/iz
5	520491	Torque hub
6	710774	Bolt, 5/8NC x 1 1/2
7	310030	Bolt, 1/2NC x 2
8	500152	Wheel
9	500126	Tire
10	510219	Lock washer, 1/2
11	410206	Lock washer, 5/8

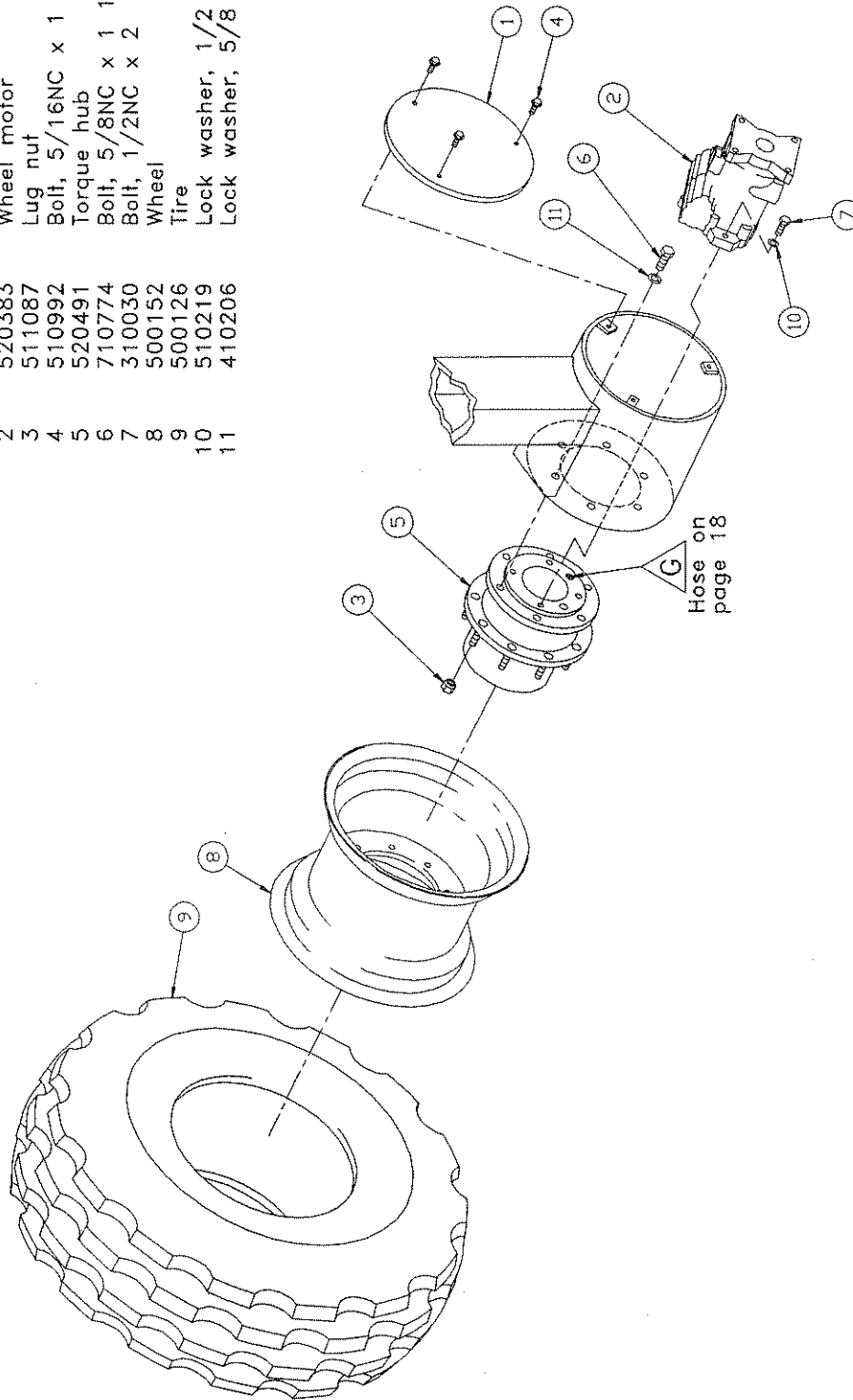


Figure 39

Figure 40

SMALL CASTER WHEEL ASSEMBLY

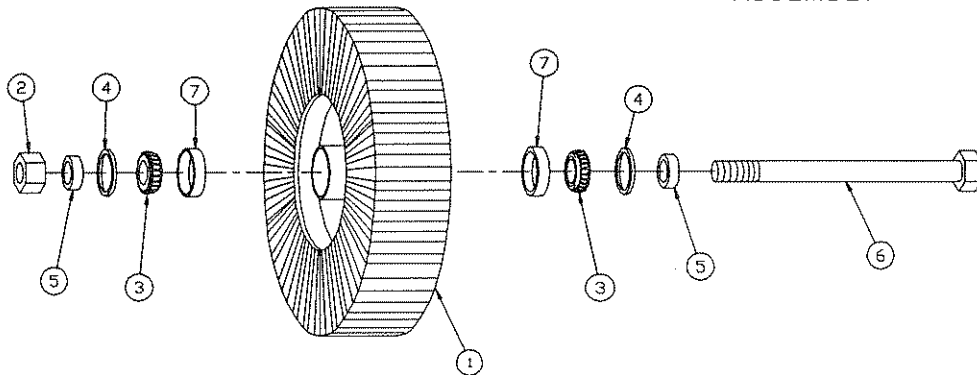
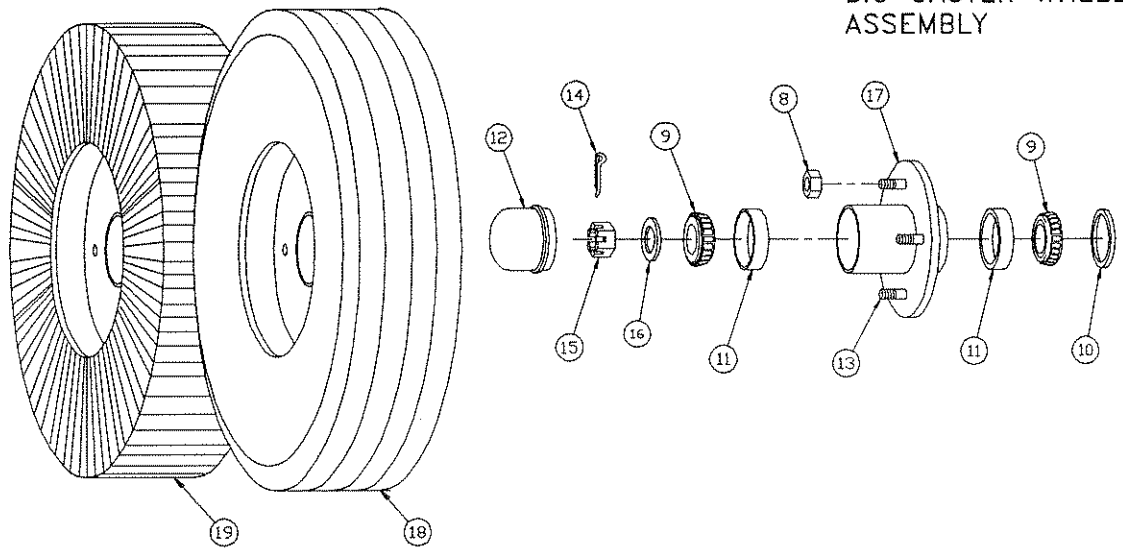


Figure 41

BIG CASTER WHEEL ASSEMBLY



ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	500133	Wheel & tire assy	12	510469	Dust cap
2	510944	3/4 NC Lock nut	13	511074	Stud
3	500157	Bearing	14	510176	1/8 x 1 Cotter pin
4	500158	Seal	15	510339	3/4 NC Castle nut
5	510967	Spacer	16	510338	3/4 Flat washer
6	510968	3/4 NC x 6.75 Bolt	17	511073	Hub assy (includes lug bolts and races)
7	500178	Race	18	511289	Wheel & tire assy\foam-fill
8	510464	Lug nut	19	500134	Wheel & tire assy\segment.
9	510466	Bearing			
10	510467	Seal			
11	510465	Race			

- 500160 Small segmented caster wheel pkg. (inc. items 1, 3, 4, 7) std.
- 500291 Large foam-filled caster wheel pkg. (inc. items 8-13, 17, 18) std.
- 500159 Large segmented caster wheel pkg. (inc. items 8-13, 17, 19) opt.

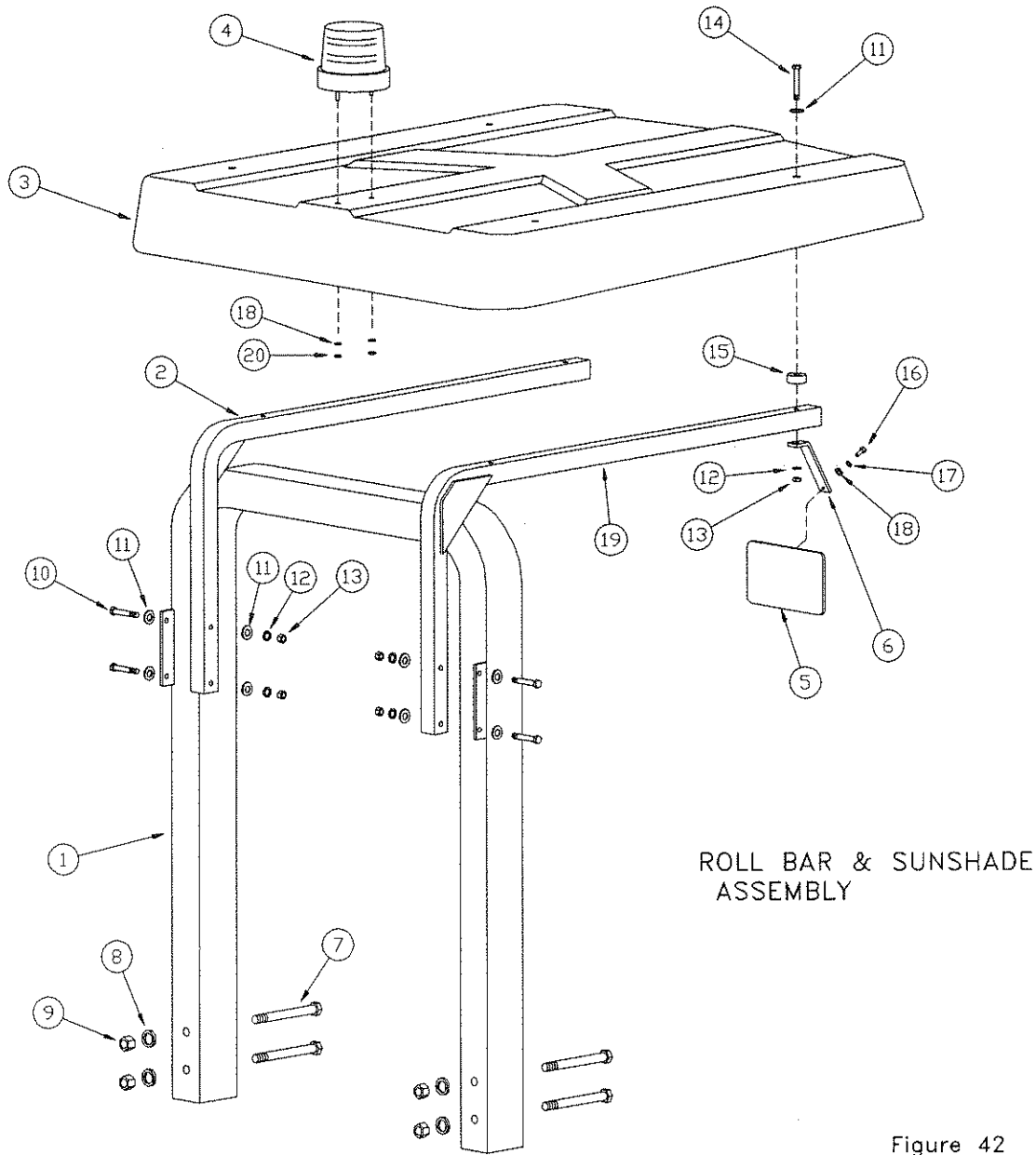
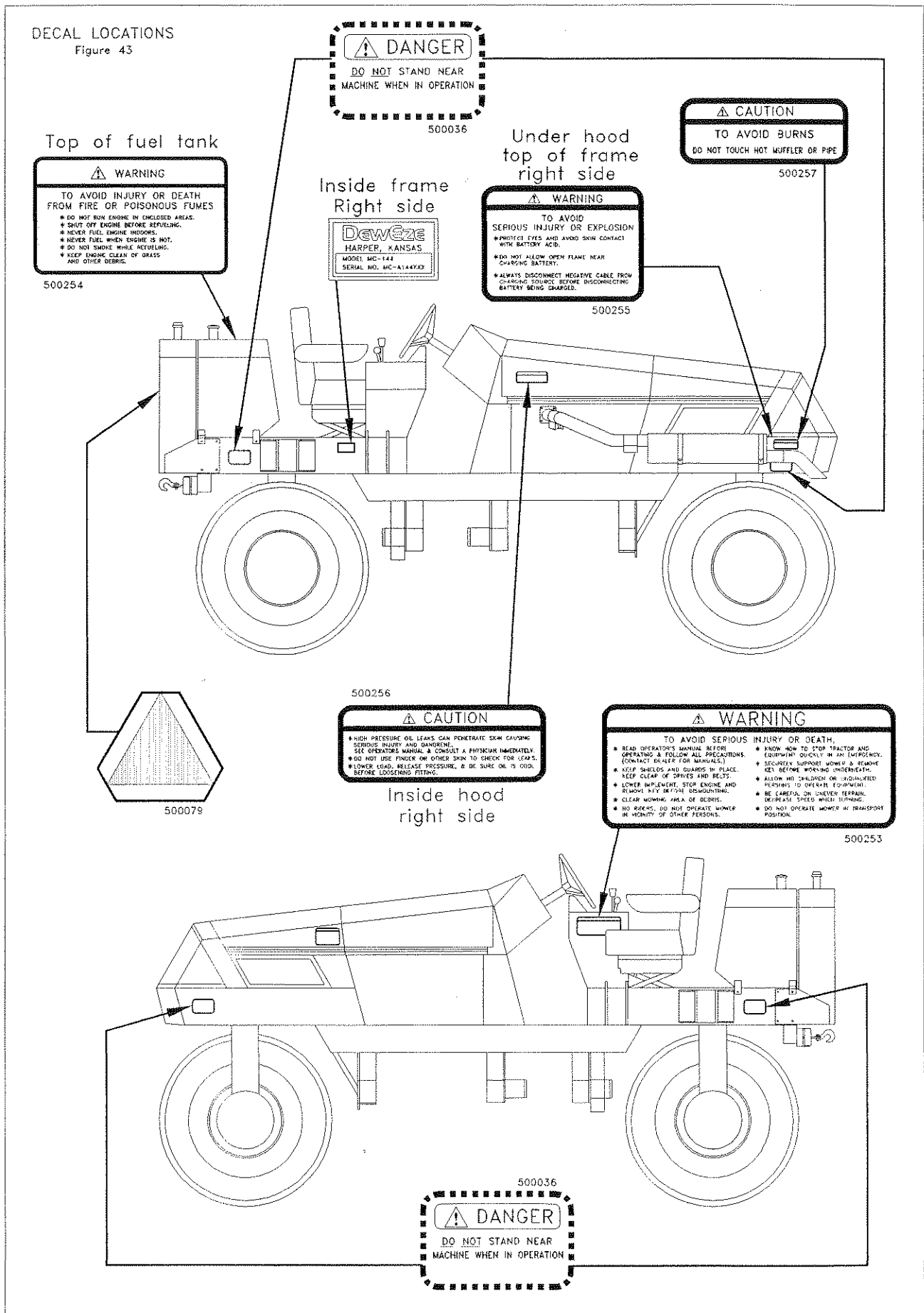


Figure 42

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	511029	Roll bar assy	12	510271	3/8 Lock washer
2	511093	Shade mount (left)	13	510272	3/8 NC Nut
3	500090	Sunshade	14	410217	3/8 NC x 3.5 Bolt
4	530045	Strobe	15	500197	Rubber grommet
5	500089	Rear view mirror	16	500198	1/4 NF x .625 Bolt
6	510961	Hanger	17	510221	1/4 Lock washer
7	500201	5/8 NC x 6.0 Bolt	18	510322	1/4 Flat washer
8	410206	5/8 Lockwasher	19	511095	Shade mount (right)
9	410205	5/8 NC Nut	20	210336	10-24 NC Nut
10	510366	3/8 NC x 2.5 Bolt			
11	510365	3/8 Flat washer			

DECAL LOCATIONS

Figure 43



DECAL LOCATIONS
Figure 44

