



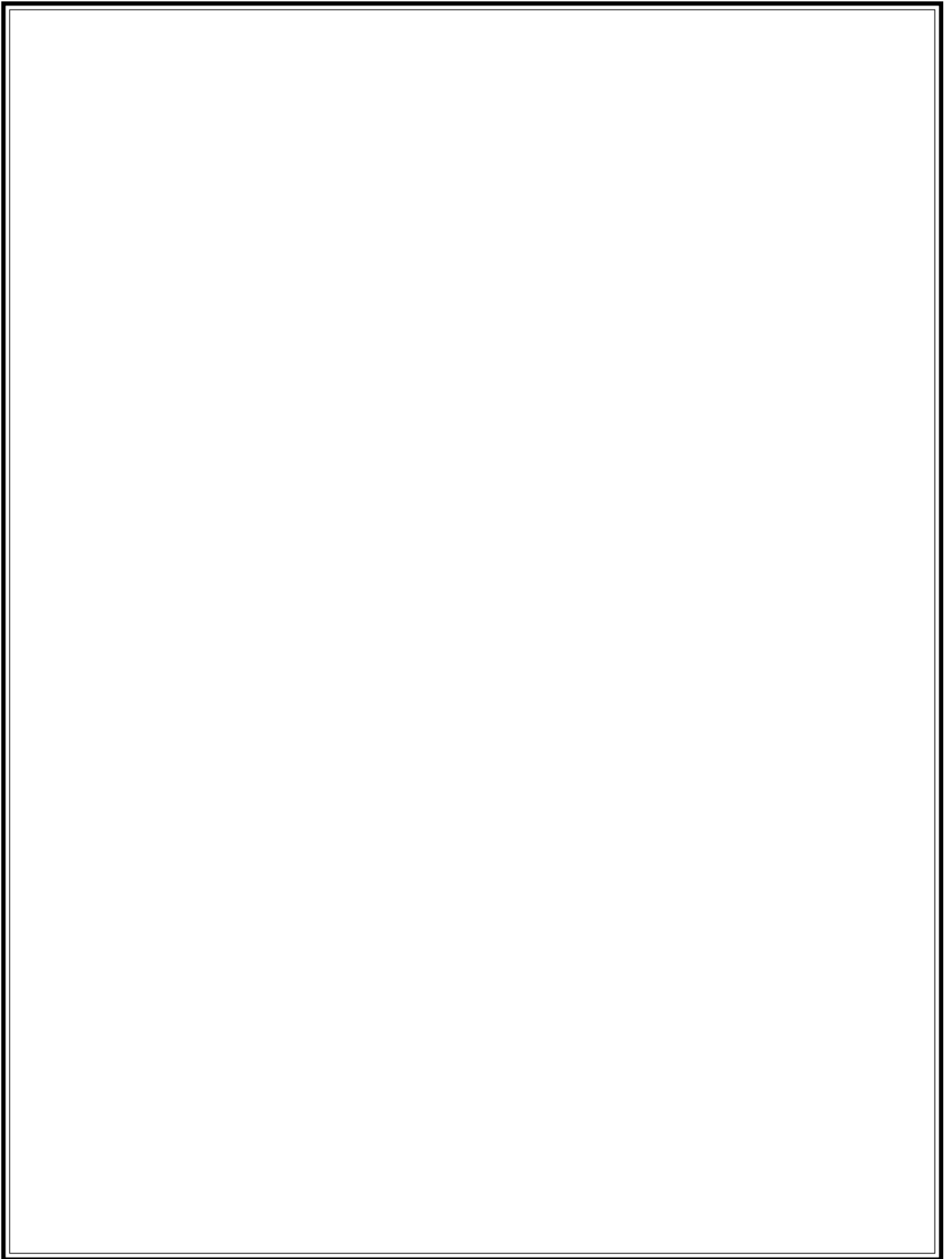
# SERVICE/PARTS MANUAL

## MODELS: LJ100



**Lift Jockey™**

A 100% employee-owned American manufacturer



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Lift Jockey™

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# User Information

## Foreword

These instructions include:

Safety regulations  
Operating instructions  
Maintenance instructions

**These instructions have been prepared for operation on the construction site and for the maintenance engineer.**

These instructions are intended to simplify operation of the machine and to avoid malfunctions through improper operation.

Observing the maintenance instructions will increase the reliability and service life of the machine when used on the construction site and reduce repair costs and downtimes.

**Always keep these instructions at the place of use of the machine.**

**Only operate the machine as instructed and follow these instructions.**

**Observe the safety regulations as well as the guidelines of the civil engineering trade association. Observe the safety rules for operation and the pertinent regulations for the prevention of accidents.**

Stone Construction Equipment, Inc. is not liable for the function of the machine when used in an improper manner or for other than the intended purpose.

Operating errors, improper maintenance and the use of incorrect operating materials are not covered by the warranty.

The above information does not extend the warranty and liability conditions of business of Stone Construction Equipment, Inc.

1. Machine Type: \_\_\_\_\_

Machine S/N: \_\_\_\_\_

2. Engine Type: \_\_\_\_\_

Engine S/N: \_\_\_\_\_

3. VIN: \_\_\_\_\_

4. Purchase Date: \_\_\_\_\_

5. Dealer/Distributor Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone #: \_\_\_\_\_

Fax #: \_\_\_\_\_

6. Battery  
Manufacturer: \_\_\_\_\_

Battery Type: \_\_\_\_\_

Battery S/N: \_\_\_\_\_

***Location of above information:***

1. Information on S/N tag.
2. Information on engine tag.
3. Information on S/N tag - if applicable.
4. Date you purchased machine.
5. Dealer machine was purchased from.
6. Information on battery and battery warranty card.

Stone Construction Equipment, Inc.  
P.O. Box 150, Honeoye, New York 14471  
Phone: (800) 888-9926  
Fax: (716) 229-2363

# L i m i t e d   W a r r a n t y

The Manufacturer warrants that products manufactured shall be free from defects in material and workmanship that develop under normal use for a period of 90 days for concrete vibrators and electric pumps, one year for Rhino®, Bulldog®, WolfPac Rollers™, trowels, Stompers®, saws, forward plates, engine powered pumps, Lift Jockey™, Mortar Lift™ and 6 months for all other products from the date of shipment. The foregoing shall be the exclusive remedy of the buyer and the exclusive liability of the Manufacturer. Our warranty excludes normal replaceable wear items, i.e. gaskets, wear plates, seals, O-rings, V-belts, drive chains, clutches, etc. Any equipment, part or product which is furnished by the Manufacturer but manufactured by another, bears only the warranty given by such other manufacturer. (The Manufacturer extends the warranty period to "Lifetime" for the drum bearings and seals for the mortar equipments, and agrees to furnish, free of charge, the bearings and seals only upon receipt of the defective parts. The warranty is two years for eccentric bearings on the forward plate compactors, mortar and plaster equipment drums, trowel gearboxes and five years on the Bulldog trench roller eccentric bearings.) A Warranty Evaluation Form must accompany all defective parts. Warranty is voided by product abuse, alterations, and use of equipment in applications for which it was not intended, use of non-manufacturer parts, or failure to follow documented service instructions. The foregoing warranty is exclusive of all other warranties whether written or oral, expressed or implied. No warranty of merchantability or fitness for a particular purpose shall apply. The agents, dealer and employees of Manufacturer are not authorized to make modification to this warranty, or additional warranties binding on Manufacturer. Therefore, additional statements, whether oral or written, do not constitute warranty and should not be relied upon.

The Manufacturer's sole responsibility for any breach of the foregoing provision of this contract, with respect to any product or part not conforming to the Warranty or the description herein contained, is at its option (a) to repair, replace or refund such product or parts upon the prepaid return thereof to location designated specifically by the Manufacturer. Product returns not shipped prepaid or on an economical transportation basis will be refused (b) as an alternative to the foregoing modes of settlement - the Manufacturer's dealer to repair defective units with reimbursement for expenses, except labor, and be reviewed with the Manufacturer prior to repair. A Warranty Evaluation Form must accompany all warranty claims.

Except as set forth hereinabove and without limitation of the above, there are no warranties or other affirmations which extends beyond the description of the products and the fact hereof, or as to operational efficiency, product reliability or maintainability or compatibility with products furnished by others. In no event whether as a result of breach of contract or warranty or alleged negligence, shall the Manufacturer be liable for special or consequential damages including but not limited to: Loss of profits or revenues, loss of use of the product or any associated product, cost of capital, cost of substitute products, facilities or services or claims of customers.

No claim will be allowed for products lost or damaged in transit. Such claims should be filed with the carrier within fifteen days.

Effective September 2001.



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Honeoye, NY 14471-0150

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www.stone-equip.com • e-mail: sceny@mcimail.com

# TECHNICAL DATA

## Specifications

### Stone Lift Jockey™ – Specifications

<b>Model</b>	LJ100
<b>Base Weight (Kg)</b>	750 (340)
<b>Mast Weight - 7'6" lbs (Kg)</b>	400 lbs (182)
- 8'6" lbs (Kg)	430 lbs (195)
- 9'6" lbs (Kg)	475 lbs (215)
<b>Length (cm)</b>	78" (198)
<b>Width (cm)</b>	53" (134,6)
<b>Mast (Lift Height) (m)</b>	7' 6" (2,3)
	8' 6" (2,6)
	9' 6" (2,9)
<b>Lowered Height (clearance) (m)</b>	5' 9" (1,8)
	6' 3" (1,9)
	6' 9" (2,1)
<b>Raised Height (clearance) (m)</b>	10' 9" (3,3)
	11' 9" (3,6)
	12' 9" (3,9)
<b>Mast Capacity at 12" load center</b>	
- 7'6" (Kg)	1,500 lbs (680)
- 8'6" (Kg)	1,500 lbs (680)
- 9'6" (Kg)	1,200 lbs (544)
<b>Mast Tilt Forward</b>	4°
<b>Mast Tilt Rear</b>	6°
<b>Wheelbase (cm)</b>	51 (129,5)
<b>Engine</b>	8 hp Honda
<b>RPM</b>	3400
<b>Speed (km/h)</b>	3 mph (4,8)
<b>Turning Radius (cm)</b>	58" (147)
<b>Fuel Tank (l)</b>	1.6 gal (6,1)
<b>Hydraulic Capacity (l)</b>	6 gal (22,7)
<b>Options</b>	Foam-filled Tires
- Pallet Forks	22, 28 1/4", 36"
- Block Forks	22"

# TECHNICAL DATA

## Machine Data

Engine Type	8 hp 4-Stroke, Overhead Valve, Single Cylinder
Engine Make	Honda
Engine Model	GX240
Max Torque @ 2500 RPM	12.3 ft lb (16.8 Nm)
Idle Speed Operating Speed	1400 RPM min 3400 RPM + 100
Battery	12 volt System Battery BCI Group U1-12 165 cca 5 amp Charge System
Fuel Type	Gasoline 86 Octane minimum
Fuel Tank Capacity	1.6 gal (6 l)
Fuel Consumption	1.14 gph
Spark Plug	NGK BPR6ES gap .028 -.031" (.7 - .8 mm)

### LUBRICATION SPECIFICATIONS

	Type	Quantity
Engine Crankcase	SAE 30	1.16 quart/1.1 liter
Hydraulic System	Mobil 424 Hydraulic Oil	6 gal/22.7 liter

# TECHNICAL DATA

## Machine Sound Level

### MACHINE SOUND LEVEL TEST

Machine Type:	Lift Jockey LJ100
Sound Level Meter Calibration Date:	February 15, 2000
Meter Type:	Simpson Model 886-2 Type 2
Test Date:	October 31, 2001
<b>Test Conditions</b>	
Temperature:	50 degrees Fahrenheit / 10 degree Celsius
Ambient Sound:	dba fast mode
Soil Condition:	Silts and clays
Moisture Limit:	Approximately equal to 50%
Engine speed:	3400 rpm / 56 Hz
Test Site:	Honeoye, New York USA
Sound Level at Operator Position:	95 dba

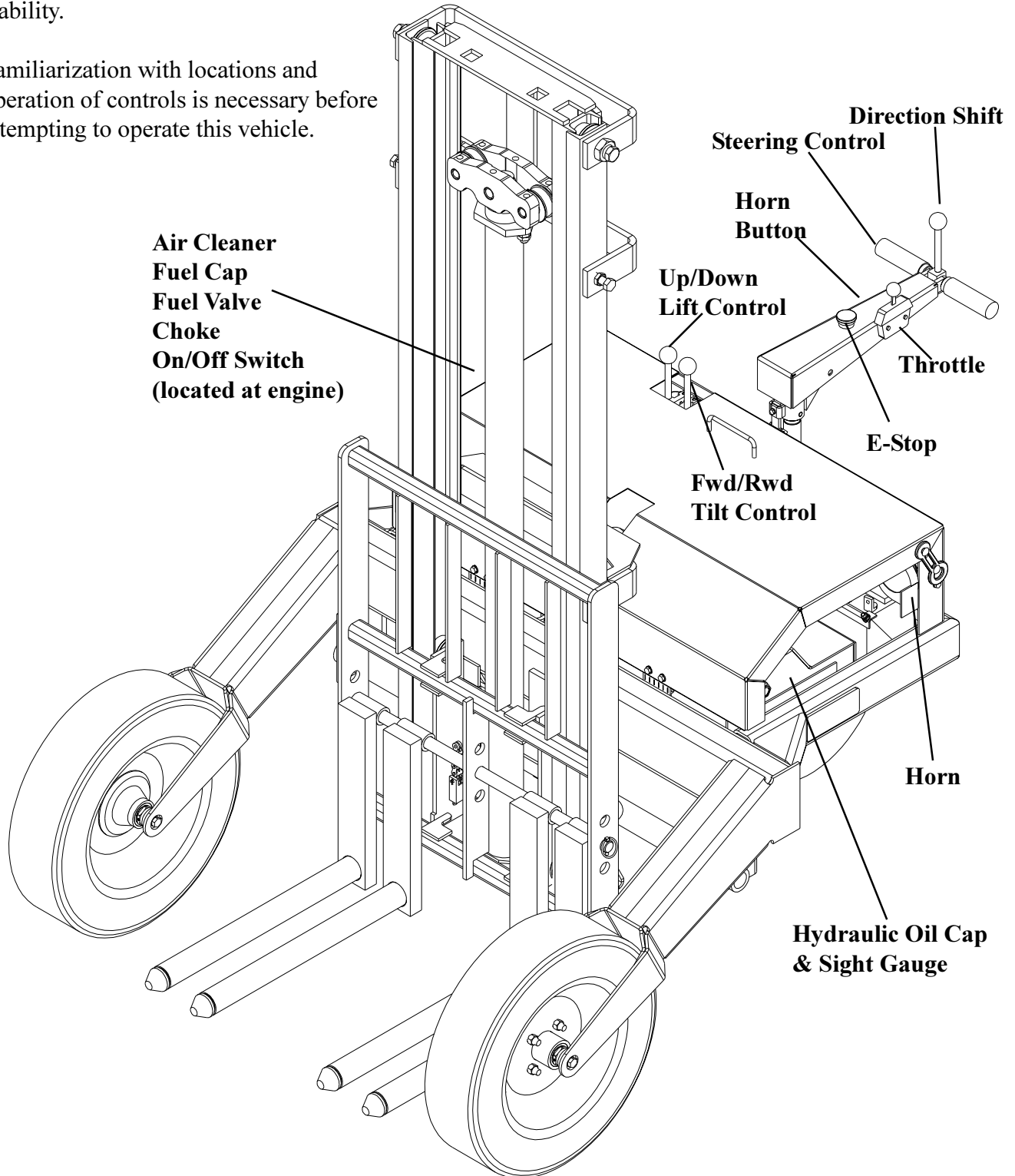


# TECHNICAL DATA

## Operator Controls

One-piece all welded steel frame provides low center of gravity for maximum stability.

Familiarization with locations and operation of controls is necessary before attempting to operate this vehicle.



# TECHNICAL DATA

## Imperial Torque Chart

SAE GRADE 5 Coarse Thread, Zinc-Plated		
SIZE	TORQUE	
	ft. lbs.	Nm
1/4 - 20 (.250)	6	8
5/16 - 18 (.3125)	13	18
3/8 - 16 (.375)	23	31
7/16 - 14 (.4375)	37	50
1/2 - 13 (.500)	57	77
9/16 - 12 (.5625)	82	111
5/8 - 11 (.625)	112	152
3/4 - 10 (.750)	200	271
7/8 - 9 (.875)	322	436.5
1 - 8 (1.000)	483	655

SAE GRADE 8 Coarse Thread, Zinc-Plated		
SIZE	TORQUE	
	ft. lbs.	Nm
1/4 - 20 (.250)	9	12
5/16 - 18 (.3125)	18	24
3/8 - 16 (.375)	33	45
7/16 - 14 (.4375)	52	70
1/2 - 13 (.500)	80	108
9/16 - 12 (.5625)	115	156
5/8 - 11 (.625)	159	215
3/4 - 10 (.750)	282	382
7/8 - 9 (.875)	454	615
1 - 8 (1.000)	682	925

SAE GRADE 5 Fine Thread, Zinc-Plated		
SIZE	TORQUE	
	ft. lbs.	Nm
1/4 - 28 (.250)	7	10
5/16 - 24 (.3125)	14	19
3/8 - 24 (.375)	26	35
7/16 - 20 (.4375)	41	56
1/2 - 20 (.500)	64	87
9/16 - 18 (.5625)	91	123
5/8 - 18 (.625)	128	173
3/4 - 16 (.750)	223	302
7/8 - 14 (.875)	355	481
1 - 12 (1.000)	529	717
1 - 14 (1.000)	541	733

SAE GRADE 8 Fine Thread, Zinc-Plated		
SIZE	TORQUE	
	ft. lbs.	Nm
1/4 - 28 (.250)	10	14
5/16 - 24 (.3125)	20	27
3/8 - 24 (.375)	37	50
7/16 - 20 (.4375)	58	79
1/2 - 20 (.500)	90	122
9/16 - 18 (.5625)	129	175
5/8 - 18 (.625)	180	244
3/4 - 16 (.750)	315	427
7/8 - 9 (.875)	501	679
1 - 12 (1.000)	746	1011
1 - 14 (1.000)	764	1036

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# TECHNICAL DATA

## Metric Torque Chart

### Property Class 8.8

ZINC-PLATED

SIZE	Coarse Thread		Fine Thread	
	Nm	ft. lbs.	Nm	ft. lbs.
M6	9.9	7	NA	NA
M8	24	18	25	18
M10	48	35	49	36
M12	83	61	88	65
M14	132	97	140	103
M16	200	148	210	155
M20	390	288	425	313
M24	675	498	720	531

### Property Class 10.9

ZINC-PLATED

SIZE	Coarse Thread		Fine Thread	
	Nm	ft. lbs.	Nm	ft. lbs.
M6	14	10	NA	NA
M8	34	25	35	26
M10	67	49	68	50
M12	117	86	125	92
M14	185	136	192	142
M16	285	210	295	218
M20	550	406	600	443
M24	950	701	1000	738

### Property Class 12.9

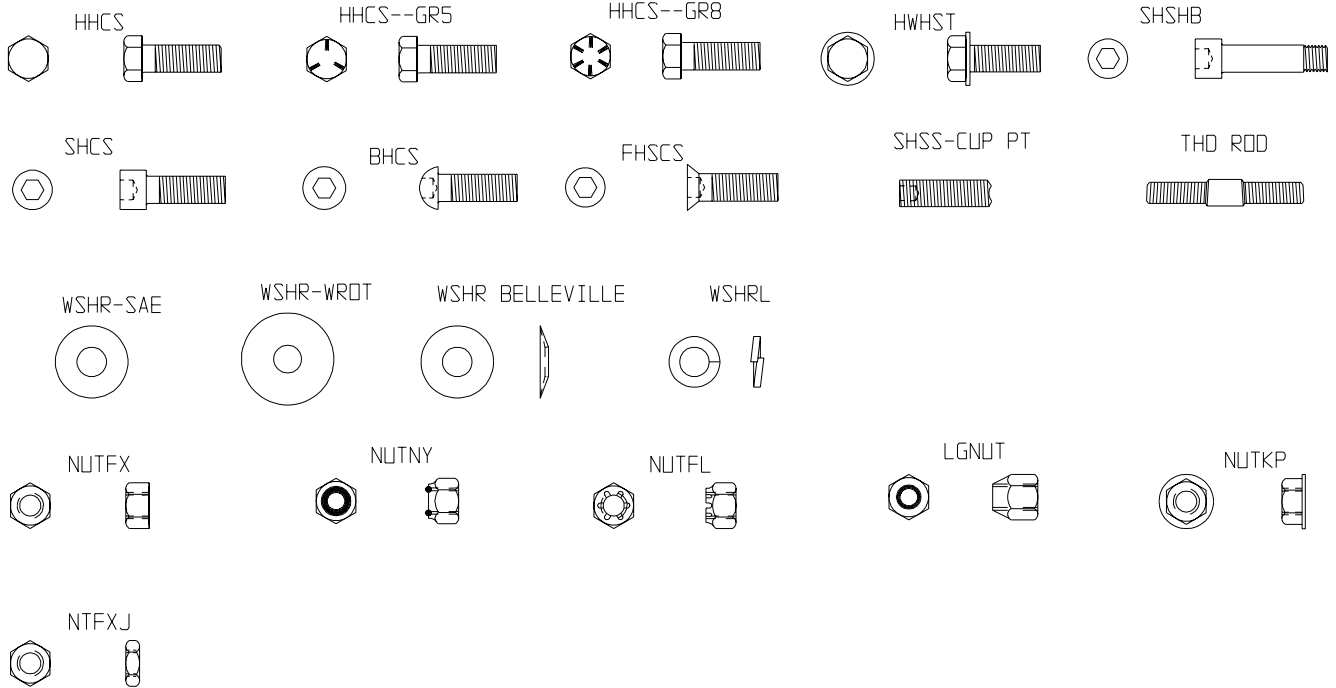
ZINC-PLATED

SIZE	Coarse Thread		Fine Thread	
	Nm	ft. lbs.	Nm	ft. lbs.
M6	16.5	12	NA	NA
M8	40	30	42	31
M10	81	60	82	60
M12	140	103	150	111
M14	220	162	235	173
M16	340	251	350	258
M20	660	487	720	531
M24	1140	841	1200	885

Conversion Factor: 1 ft. lb. = 1.3558 Nm

# TECHNICAL DATA

## Hardware



# HEALTH & SAFETY

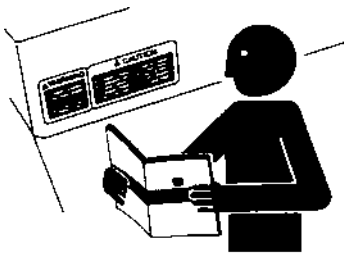
## Safety Precautions

Before using this equipment, study this entire manual to become familiar with its operation. Do not allow untrained or unauthorized personnel, especially children, to operate this equipment. Use only factory authorized parts for service.

When warning decals are destroyed or missing, contact the Manufacturer immediately at 1-800-888-9926 for replacement. For the safety of yourself and others, it is imperative that the following rules are observed. Failure to do so may result in serious injury or death.

---

### FOLLOW SAFETY INSTRUCTIONS



- Carefully read all safety messages and decals in this manual and on your machine safety signs. Keep decals in good condition. Replace missing or damaged decals. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs and decals are available through your dealer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.
- If you do not understand any part of this manual and need assistance, contact your dealer.



- This notation appears before warnings in the text. It means that the step which follows must be carried out to avoid the possibility of personal injury or death. These warnings are intended to help the technician avoid any potential hazards encountered in the normal service procedures. We strongly recommend that the reader takes advantage of the information provided to prevent personal injury or injury to others.

# HEALTH & SAFETY

## Safety Precautions

**▲ DANGER**

**▲ WARNING**

**▲ CAUTION**

### UNDERSTAND SIGNAL WORDS

- A signal word – DANGER, WARNING, or CAUTION – is used with the safety-alert symbol. DANGER identifies the most serious hazards.
- DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

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### USE COMMON SENSE WHEN HANDLING FUELS



- Transport and handle fuel only when contained in approved safety container.
- Do not smoke when refueling or during any other fuel handling operation.
- Do not refuel while the engine is running or while it is still hot.
- If fuel is spilled during refueling, wipe it off from the engine immediately and discard the rag in a safe place.
- Do not operate the equipment if fuel or oil leaks exist - repair immediately.
- Never operate this equipment in an explosive atmosphere.

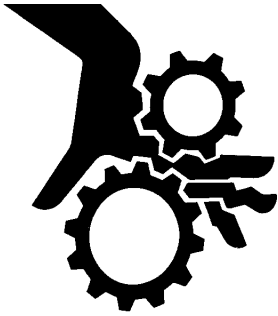


### HOT SURFACES

- Avoid contact with hot exhaust systems and engines.
- Allow all components in the engine compartment to cool before performing any service work.

# HEALTH & SAFETY

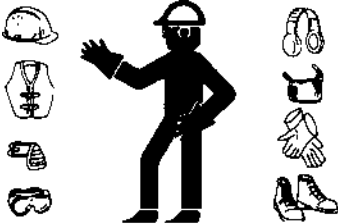
## Safety Precautions



- Never perform any work on the equipment while it is running.
- Before working on the equipment, stop the engine and disconnect the spark plug wire(s) to prevent accidental starting. On electric models, disconnect the electric cord at the equipment.
- Keep cowl closed and latched during the operation, close and latch cowl immediately after starting.
- Keep hands, clothing and jewelry away from all moving parts.
- Keep all guards in place.
- Never place your hands or any solid object into the drum while the equipment is in operation.

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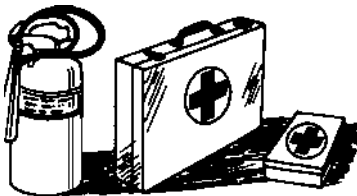
### WEAR PROTECTIVE CLOTHING



- Wear close fitting clothing and safety equipment appropriate to the job.
- Prolonged exposure to loud noise can cause impairment or loss of hearing.
- Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.
- Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

---

### PREPARE FOR EMERGENCIES



- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

# HEALTH & SAFETY

## Safety Precautions



### Warning-Eye Protection

- Always wear splash goggles when operating equipment.



- Starting fluid (ether) is highly flammable, do not use or an explosion or fire may result.



- Never operate unit in a poorly ventilated or enclosed area.
- Avoid prolonged breathing of exhaust gases.
- Engine exhaust fumes can cause sickness or death.

### PRACTICE SAFE MAINTENANCE

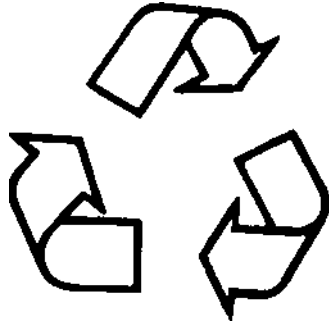


- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.
- Securely support any machine elements that must be raised for service work.
- Keep all parts in good condition and properly installed. Repair damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.
- Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



# HEALTH & SAFETY

## Safety Precautions



### DISPOSE OF WASTE PROPERLY

- Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.
- Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.
- Do not pour waste onto the ground, down a drain, or into any water source.
- Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.
- Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center.

---

### SAFETY DECALS - FOR THE SAFETY OF YOURSELF AND OTHERS REPLACE ANY DAMAGED OR MISSING SAFETY DECALS.

55269 H	Decal Fuel Shut Off	1
55398 H	Decal Warning Hot Surfaces	1
55422 H	Decal Hydraulic Fluid Mobil 424	1
55467 H	Decal Warning No Riders	1
55468 H	Decal Control Lift	1
55469 H	Decal Control Tilt	1
55470 H	Decal Control Forward / Reverse	1
55471 H	Decal Caution Instruction LJ100	1
55472 H	Decal Warning Instruction LJ100	1
55473 H	Decal Warning Load Low Carry	1
55474 H	Decal Warning Hands Clear	1
55479 H	Decal Horn E-Stop Throttle	1
55480 H	Decal Valve Counterbalance	1
55481 H	Decal Parking Latch	1



### **IMPORTANT**

The person attempting *any* of the following maintenance tasks must be authorized to do so and have read *and* understood *all* sections within this manual.

# MAINTENANCE

## Intro/Know Your Lift

### INTRODUCTION

Congratulations on your purchase of the LJ100 Lift Jockey! You've made an excellent choice. The Lift Jockey is specifically designed for lifting and transporting a wide variety of materials on your job site. Your new Lift Jockey comes standard with the following features:

**Mast Height** - Choice of three (3) interchangeable, rugged, high lift masts. Lift from heights of 7'6" to 9'6". Masts tilt forward and reverse for easy handling and discharging of loads.

**Load/Speed Capacity**- Lifts and moves up to 1,500 lbs. at speeds up to 3 mph for getting around any site faster.

**Controls**- Forward and reverse travel controlled by rotating handle grips on steering tiller. All controls-- E-stop and horn, throttle, tilt control and lift/lower are within operators reach. Power controls automatically return to neutral position when released.

**Hydrostatic Drive** - Clean, quiet with totally enclosed hydraulic drive circuit. Provides reliability, lower maintenance and longer life.

**Engine Cowl** - Allows easy access to all maintenance points for quick service. Provides optimum airflow for cooler running and longer life on components.

**Tires**- Choice of pneumatic or optional foam-filled drive and load tires. The optional foam-filled tires provide added toughness and reliability on a job site.

**Forks**- Four interchangeable, adjustable fork options provide efficient handling of all types of loads. Choose from round block forks or box forks for several different pallet sizes.

### KNOW YOUR LIFT

Read and understand the owner's manual before starting the unit. Make sure you understand the purpose of every control. When operating the unit, remember the capacity it can carry and adjust speed and load for changing conditions.

**Pre-Operation Checklist** – Upon receipt of your Lift Jockey, **CAREFULLY CHECK FOR ANY FREIGHT DAMAGE**. Any damage should be immediately reported to the carrier and a claim registered.

The Lift Jockey is manufactured to the strictest specifications and inspection procedures. After inspecting the quality of the workmanship of your machine, please complete and return the tag on the machine with the assembler's signature with your findings to Stone. We value our customer's input and welcome any and all comments on how the product may serve you better.

The following instructions were compiled to provide you information on how to obtain long and trouble-free use of the unit. Read and understand the owner's manual before starting the unit. Make sure you understand the purpose of every control. When operating the unit, know the capacity it can carry and adjust the speed and load for changing conditions.

# MAINTENANCE

## Fluids/Lubrication

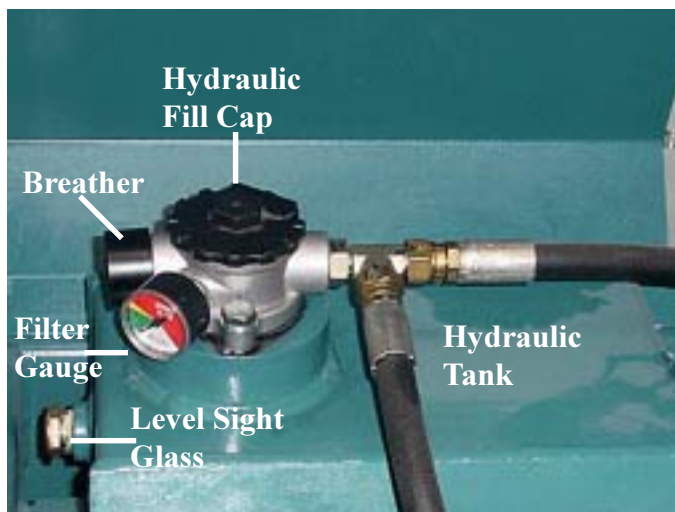
### FLUIDS AND LUBRICATION

**Hydraulic Oil**--Check the hydraulic fluid level. Use the sight gage located on the hydraulic tank. A 1/4-1/2" air bubble will be seen at the top of the gauge showing the fluid level.

For satisfactory operation, the following fluid conditions apply:

- Accurate level readings can be checked only when the fluid is cold.
- If the natural color of the fluid has become black or milky, it is possible that an overheating or water contaminant problem exists.
- Do not mix hydraulic fluids. Mobil 424 SUS 255/55CST ISO VG55 is recommended for the hydraulic system.

**CAUTION:** After a new unit has run 5 hours, the oil filter should be changed. This is to rid the system of any trapped contamination from the wear-in of the parts, see Maintenance.



**Engine Oil**--SAE 30 API SH or SJ (oil with "starburst" certification mark) is recommended for general, all temperature use. Check daily for proper oil level. **DO NOT OVERFILL.** See Engine Owner's Manual for specifications.



**ENGINE IS EQUIPPED WITH LOW OIL SHUTDOWN. UNIT WILL SHUT DOWN IF ENGINE OIL IS LOW**

**Gasoline Fuel**--Always use fresh, unleaded gasoline (86 octane min.). Fresh gasoline is blended for the season and reduces gum deposits that could clog the fuel system. Do not use gasoline left over from the previous season.

**Refer to the Engine Manual for break-in.**

**DO NOT MIX OIL WITH FUEL.** The engine has a separate oil reservoir in the crankcase. Unleaded gasoline is recommended for use in the engine since it leaves less combustion chamber deposits.



**FUEL IS BOTH TOXIC AND FLAMMABLE**

**DO NOT SMOKE WHILE WORKING WITH FUEL**

**DO NOT USE NEAR OPEN FLAME**

**ALWAYS STOP ENGINE BEFORE REFUELING**

# MAINTENANCE

## Fluids/Lubrication



**CLEAN UP SPILLED FUEL BEFORE STARTING**

**AVOID FIRES BY KEEPING ENGINE CLEAN OF ACCUMULATED GREASE AND DEBRIS**

**START, STORE AND REFUEL ON LEVEL GROUND TO PREVENT PERSONAL INJURY**

**DO NOT RUN UNIT IN AN ENCLOSED, NON-VENTILATED AREA**

**AVOID PROLONGED BREATHING OF VAPORS AND SKIN CONTACT--SERIOUS ILLNESS OR LOSS OF LIFE COULD RESULT**

**Fuel Tank**--Gasoline ONLY (see Engine Specifications Section for requirements).

Fill fuel tank at the end of each day's operation to prevent condensation in the tank.

Drain and flush fuel tank every 1,000 hours or 12 months.

Avoid storing fuel over long periods of time. If fuel is stored for more than a month prior to use or there is a slow turnover in fuel tank or supply tank, add a fuel conditioner to stabilize the fuel and prevent water condensation. Fuel conditioner also reduces fuel gelling and controls wax separation during cold weather.

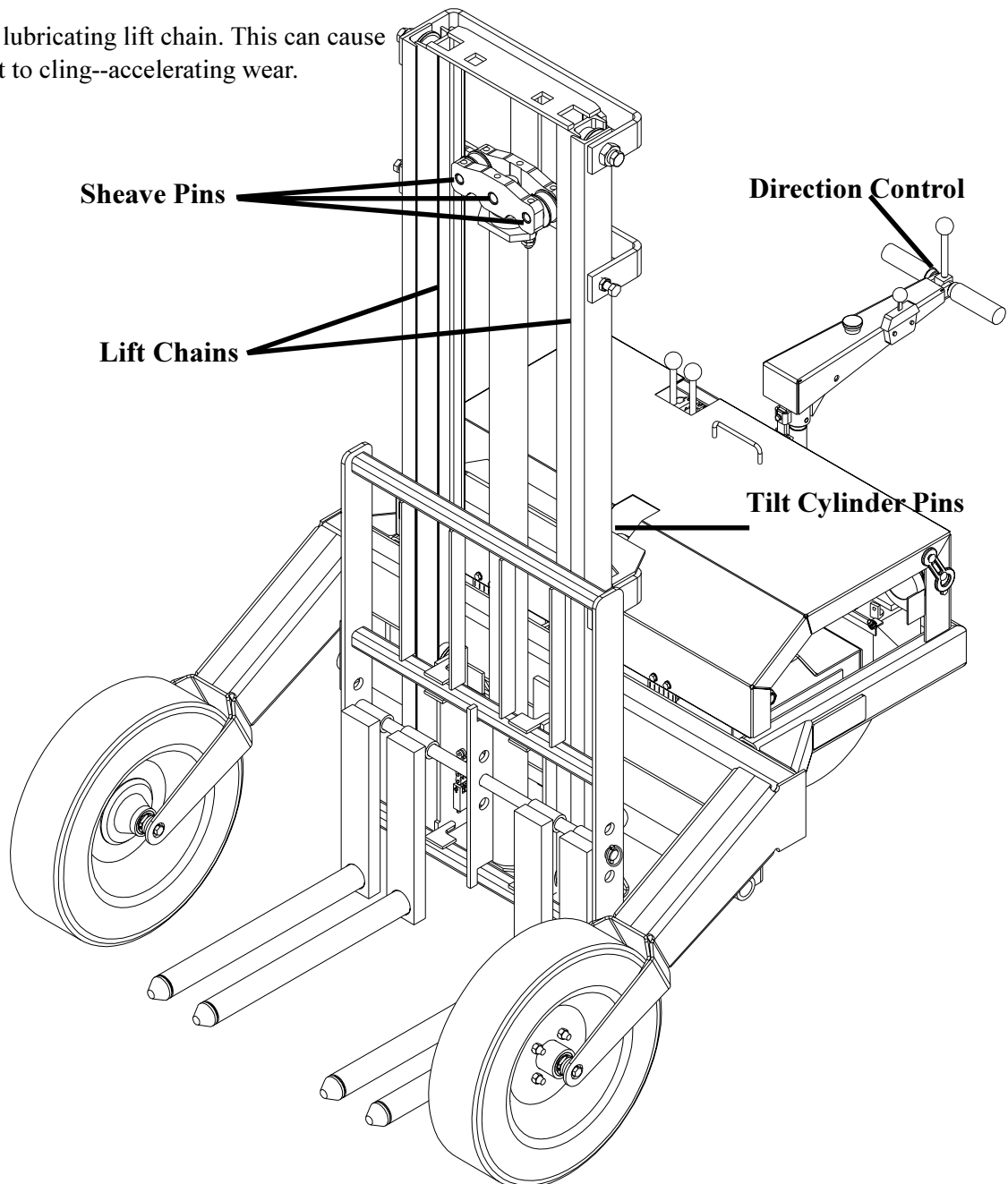
Proper fuel storage is critically important. Use clean storage and transfer tanks. Periodically drain water and sediment from the bottom of the tank. Store fuel in a convenient place away from buildings.

# MAINTENANCE

## Lubrication Points

**Lubrication Points**--Refer to diagram below.

- Lube grease fittings with Lithium based grease at steering column and drive axle every three (3) months or 50 hours.
- Use lube oil on the directional control pivots, sheave, pins, lift chains and tilt cylinder pins with engine oil every 3 (three) months or 50 hours.
- Avoid over lubricating lift chain. This can cause dust and dirt to cling--accelerating wear.



# MAINTENANCE

## Engine

### ENGINE

Refer to engine manual for specific engine information.

### ENGINE OIL AND FILTER

- Replace oil at 20 hours, then change oil every 100 hours. Change the oil filter every 200 hours.
- Remove the oil filler cap, drain bolt and oil filter when required). Drain oil into a suitable container.
- Clean and install the drain bolt, tighten securely. When required install new oil filter, lightly oil filter seal.
- Fill with the recommended oil, fill to the upper limit mark on the dipstick, and tighten the oil filler cap securely.
- Run engine for 2 – 3 minutes, stop engine and check oil level and check for leaks.

**NOTE:** Please dispose of used motor oil and filter in a manner that doesn't harm the environment.

Under heavy loads, change engine oil and filter more frequently.

### AIR CLEANER

Foam Pre-cleaner: Clean in warm soapy water, rinse and dry thoroughly. Apply oil to the foam and squeeze out excess oil. The engine will smoke if too much oil is left in the foam.

Paper Element: Tap the element lightly on a hard surface to remove excess dirt or blow pressurized air (30 psi max.) through the filter from the air cleaner cover side. Do not brush the dirt off.

Replace elements if damaged or excessively dirty.

### SPARK PLUG

Recommended spark plug:  
BPR6ES (NGK)  
W20EPR-U (NIPPONDENSO)

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

Clean and replace at scheduled maintenance. Clean engine before removing spark plug. Visually inspect the spark plug, discard if insulator or tip is damaged. Check that the spark plug washer is in good condition. If spark plug is to be reused, clean with a wire brush and set plug gap .028 - .031 in (.70 - .80mm). Thread the spark plug in by hand to prevent cross threading. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

- If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.
- If reinstalling a used spark plug, tighten 1/8 – 1/4 turn after the spark plug seats to compress the washer.

### NOTICE:

- The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may cause engine damage.
- Use only the recommended spark plug or equivalent. A spark plug that has an improper heat range may cause engine damage.

### ENGINE RPM

Start the engine and allow it to warm up to normal operating temperature, check the idle speed  $1,400 \pm 100$ , and adjust idle stop screw as required.

Check the full speed, Honda  $3,400 \pm 100$  and adjust full speed stop screw as required.

# MAINTENANCE

## Cooling System/Valve Clearance/Battery Policy

**Charging System**--Inspect battery connections daily for cleanliness and tightness. Replace worn or frayed wires.

- Once a month, check the charging system with the engine running at full speed for 13 - 14 volts with a voltmeter to ensure engine voltmeter readings are correct.

### COOLING SYSTEM

The machine should be cleaned at scheduled maintenance. This should include cleaning the air inlet screens and the engine cooling fins. Wash machine with warm soapy water, rinse off mud and dirt with water, and use pressurized air (30-psi max.) to blow dirt and debris from engine.

### VALVE CLEARANCE

Due to special tool requirements and training, an authorized engine dealer should perform this service unless the owner has the proper tools and proper shop manuals.

**Battery**--Battery replacement is a Crown U1-12 or equal 165 CCA battery. See Engine Specifications Section for battery requirements.

Battery vapors can explode. Keep sparks and flames away from batteries. Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

- Once a month check the battery condition. With engine off, check the battery for 12.5 volts with a voltmeter.
- Clean battery, posts, and terminals. Disconnect battery cables before charging to avoid damage to the electrical system.

- Keep batteries clean by wiping them with a damp cloth. Keep all connections clean and tight. Remove any corrosion and wash terminals with a solution of 1 part baking soda and 4 parts water. Tighten all connections and check that the battery is securely fastened with properly installed hold downs.

**NOTE:** Coat battery terminals and connectors with a mixture of petroleum jelly and baking soda to retard corrosion.

- Keep battery fully charged, especially during cold weather. If a battery charger is used, turn charger off before connecting charger to battery. Attach POSITIVE (+) battery charger lead to POSITIVE (+) battery post. Then attach NEGATIVE (-) battery charger lead to a good ground.

### Battery Policy

Battery warranty begins when equipment is sold from Stone Construction Equipment, Inc. or a Stone dealer to a customer.

Battery warranty claims must include the unit's purchase receipt with date. Claims without purchase receipt will be based on the battery identification numbers.

Battery returns and/or adjustments are made through battery distributors.

For nearest Crown distributor call: 1-800-237-6126.



# MAINTENANCE

## Hydraulic Oil/Hydraulic Oil Filter

### HYDRAULIC OIL

The hydraulic drive motor is extremely reliable and will ordinarily not need maintenance or repair. If a vibration is experienced with engine running, check the coupler between the engine and the hydraulic pump. *Do not* make this inspection while engine is running. It will be necessary to remove the inspection cover. After adjusting and tightening the coupler, replace the inspection cover and then start engine to see if the problem has been corrected. *Do not* run the engine or operate the Lift with the cover removed or not firmly attached.



**ESCAPING HYDRAULIC FLUID UNDER PRESSURE CAN HAVE SUFFICIENT FORCE TO PENETRATE THE SKIN, CAUSING SERIOUS PERSONAL INJURY.**

**HYDRAULIC FLUID ESCAPING UNDER PRESSURE FROM A VERY SMALL HOLE CAN BE ALMOST INVISIBLE. USE A PIECE OF CARDBOARD OR WOOD TO SEARCH FOR POSSIBLE LEAKS. NEVER USE YOUR HANDS TO DETECT PRESSURE LEAKS. IF YOU ARE INJURED BY ESCAPING HYDRAULIC FLUIDS, SEE A DOCTOR AT ONCE. SERIOUS INFECTION OR REACTION CAN DEVELOP IF PROPER MEDICAL TREATMENT IS NOT ADMINISTERED IMMEDIATELY.**

Mobil 424 SUS255/55CST ISO VG55 is recommended for the hydraulic system. Do not mix hydraulic oils. Check oil level daily, replace hydraulic oil every 800 hours.

- Remove return filter cap slowly.
- Remove drain plug and drain into suitable container.
- Clean drain plug, apply thread sealant to the plug, install and tighten.
- Add fresh hydraulic oil until level is visible in the sight gauge. A 1/4 – 1/2 air bubble will be seen at the top of the gauge.
- Install and tighten return filter cap.
- Idle engine 2-3 minutes, stop engine and check for proper hydraulic oil level and leaks.

**CAUTION:** If hoses, filter and/or hydraulic components were changed, start the engine and purge the air from the system prior to checking the oil level. To do this, idle the engine for three minutes with control lever in neutral position. Slowly engage forward to reverse. This allows fluid to replace air introduced with the filter change. If this procedure is not followed, partial or complete failure of the pump may result.

**NOTE:** When changing the hydraulic oil, it is recommended to also change the hydraulic oil filter.

### HYDRAULIC OIL FILTER

Replace every 100 hours or when clog indicator needle is between 2 and 5. Never let the filter be completely clogged. Use Stauff Filter P/N 36988.

**CAUTION:** Never overfill the hydraulic tank. Use the sight gage located on the hydraulic tank. A 1/4-1/2" air bubble will be seen at the top of the gauge showing the fluid level. Before disconnecting any hydraulic lines, be sure engine is shut off and

# MAINTENANCE

## Breather/Tires/Hardware Guideline/Hoses/Parking

relieve all pressure. Before applying pressure to system, be sure all connections are tight and lines, fittings and hoses are not damaged.

### HYDRAULIC BREATHER CAP

Replace every 800 hours or yearly. Use Stauff breather P/N 36988. To replace breather, pry it out with a flat head screw driver. To install breather, push it in with fingers.

**Moving Joints, Hinges, Throttle, Controls, Cables**--Lubricate with oil every 50 hours.

### Tires, Lugnuts and Hardware

DO NOT exceed rated pressure. To ensure long tire life and safe handling check tire pressure daily. Proper inflation pressure on pneumatic tire is 50 PSI.

1. Check the pressure in tires weekly using a pressure gauge. See Machine Specifications Section for tire pressure.
2. Check that all lugnuts are tight weekly using a torque of 390 in. lbs. (530 Nm). This is important on new machines or newly replaced wheels.
3. Inspect all hardware is tight weekly (see Torque Charts Section).

**NOTE:** When installing or replacing hardware, loctite 262 threadlocker is required to prevent loosening.

**Proper Care**--Inspect tires for cuts, slashes, or bulges. Tires with defects need to be replaced or repaired for proper handling and safety.

### Hardware Guidelines

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

### Hoses, Fittings and Leakage

Check weekly for loose hose fittings, damage, and leakage--it is important to check entire machine periodically.

## PARKING/TOWING MACHINE

### Parking

- When leaving the unit unattended it is recommended to set parking latch
- To park, turn handle 90 degrees to the left and engage parking latch



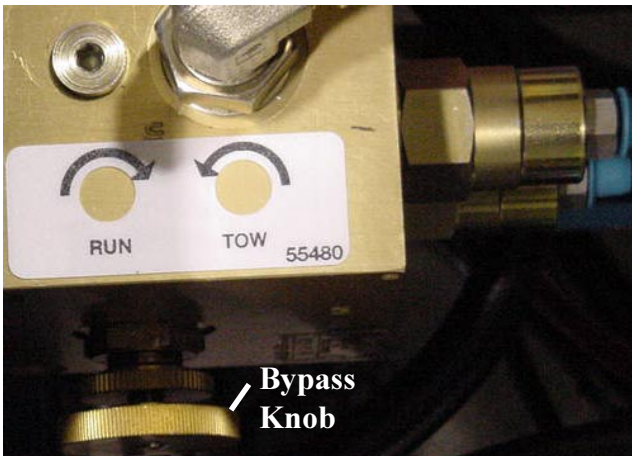
# MAINTENANCE

## Moving Without Power/ Cleaning and Storage

- Latch is located just above the drive wheel at steering column
- To lock handle, flip latch up to position against stop as indicated on decal
- When possible avoid parking machine on a grade as machine can creep
- If parking on grade is unavoidable, park with carry tires in-line to slope

### Moving machine without engine power

- This machine is towable in case power is no longer available to drive
- A bypass to the hydraulic system is located underneath engine cowl on counterbalance valve
- To tow turn knurled bypass knob clockwise until it stops, to re-engage hydraulics turn counter-clockwise until it stops



**Inspect Machinery**--A daily inspection of the unit is recommended to insure all systems are in proper working order.

**Check Travel Path**--Inspect the surface on which the unit is going to travel. Avoid soft soil, slippery spots, and water spots. Avoid anything that could make you lose control.

**Machine Cleanliness**--Keep unit clean of all debris.

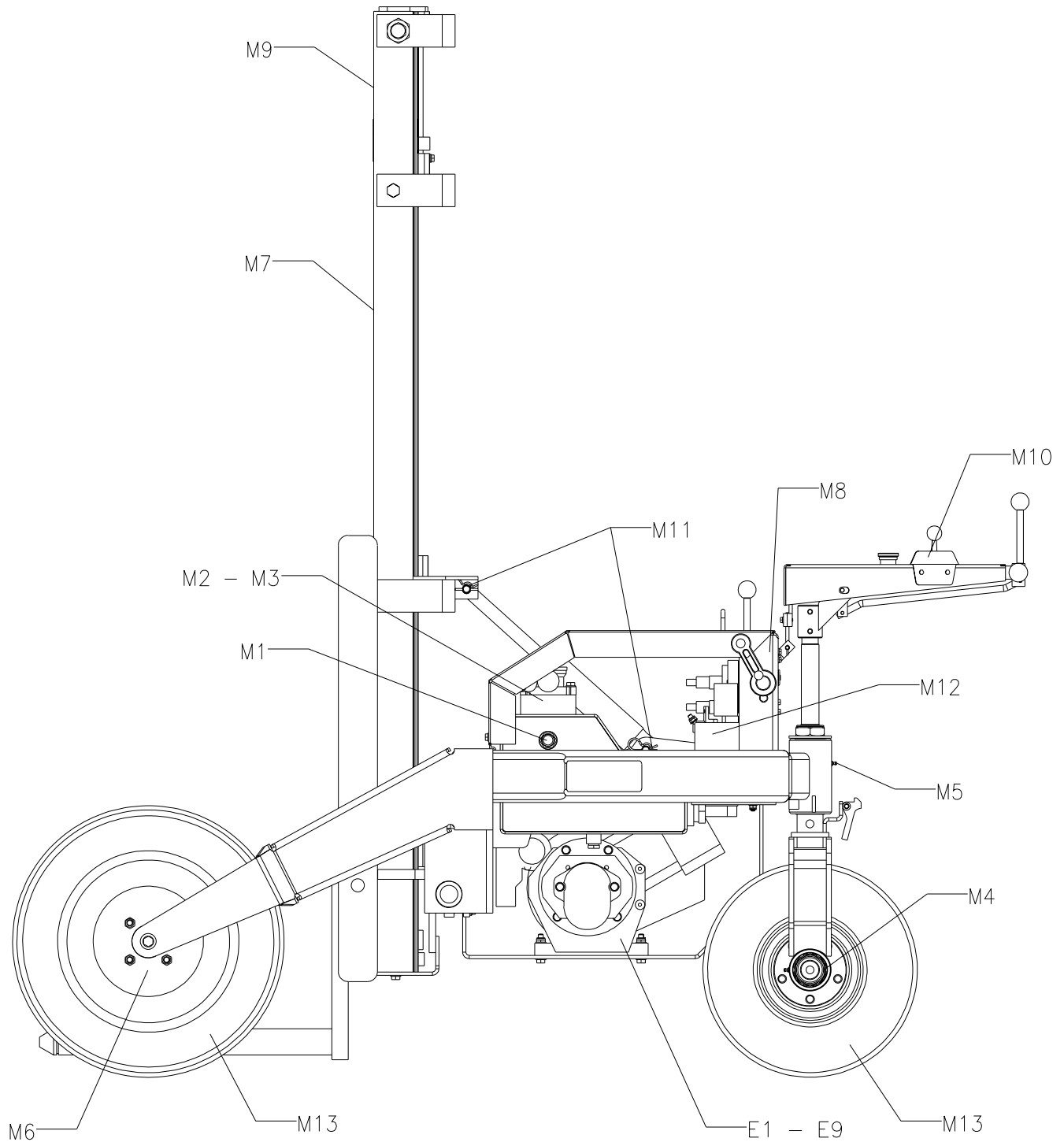
### CLEANING AND STORAGE

If equipment is taken out of operation for the Winter season or a prolonged period, follow below procedures to prevent machine or engine damage.

1. Completely clean the outside of the engine.
2. Operate the engine until it is warm. Stop the engine and drain the lubricating oil from the oil pan.
3. Drain the fuel system completely.
4. At the end of the storage period, engine oil must be drained and the lubricating oil pan must be filled to the correct level with normal lubricating oil .

# MAINTENANCE

## Periodic Maintenance Schedule



# MAINTENANCE

## Periodic Maintenance Schedule

<input checked="" type="checkbox"/> CHECK/ADJUST <input type="checkbox"/> CLEAN/REPLACE		DAILY	WEEKLY	OTHER	INSTRUCTIONS
	ENGINE #				READ EMISSION WARRANTY, OPERATOR & ENGINE MANUAL
E1	OIL LEVEL	<input checked="" type="checkbox"/>		<input type="checkbox"/>	HONDA REPLACE AT 20 HRS, THEN EVERY 100 HRS SAE 10W-30 SH OR SJ
E2	FUEL CAP & STRAINER	<input checked="" type="checkbox"/>		<input type="checkbox"/>	CHECK DAILY, CLEAN EVERY 6 MONTHS OR 100 HRS
E3	SEDIMENT CUP & FILTER			<input type="checkbox"/>	CLEAN EVERY 100 HRS, GX240 P/N 31258
E4	AIR FILTER & PRECLEANER	<input checked="" type="checkbox"/>		<input type="checkbox"/>	CLEAN EVERY 50 HRS, REPLACE EVERY 300 HRS, GX240 P/N 31257
E5	SPARK PLUG GX240			<input type="checkbox"/>	CLEAN EVERY 100 HRS GAP SETTING .028", REPLACE EVERY 300 HRS, P/N 31234 (NGK BPR6ES)
E6	ENGINE RPM IDLE/FULL #			<input checked="" type="checkbox"/>	CHECK IDLE & FULL SPEED RPM EVERY 300 HRS
E7	CLEAN COOLING SYS.		<input checked="" type="checkbox"/>	<input type="checkbox"/>	CLEAN/BLOW OUT AIR INLETS, ENGINE FINS (30 PSI MAX.)
E8	VALVE CLEARANCE ##			<input checked="" type="checkbox"/>	CHECK/ADJUST HONDA 300 HRS
E9	FUEL TANK			<input checked="" type="checkbox"/>	CLEAN EVERY YEAR OR 300 HRS
	MACHINE				IMPORTANT READ OPERATOR MANUAL, & ENGINE MANUAL
M1	HYDRAULIC OIL LEVEL	<input checked="" type="checkbox"/>		<input type="checkbox"/>	REPLACE EVERY 800 HRS MOBIL 424
M2	HYDRAULIC FILTER			<input type="checkbox"/>	REPLACE EVERY 100 HRS (P/N 36988)
M3	HYDRAULIC BREATHER			<input type="checkbox"/>	REPLACE EVERY 800 HRS (P/N 36989)
M4	REAR TIRE HUB		<input type="checkbox"/>		LUBE WEEKLY WITH LITHIUM BASE GREASE
M5	REAR STEERING COLUMN		<input type="checkbox"/>		LUBE WEEKLY WITH LITHIUM BASE GREASE
M6	FRONT WHEEL HUBS (2)			<input type="checkbox"/>	REPACK YEARLY WITH LITHIUM BASE GREASE
M7	LIFT CHAIN			<input type="checkbox"/>	CHECK/TENSION/LUBRICATE CHAIN WEEKLY WITH CHAIN LUBE
M8	DIRECT, CONTROL PIVOTS	<input checked="" type="checkbox"/>			CHECK OPERATION, LUBE PIVOTS EVERY 50 HRS, LIGHT OIL
M9	ROLLER CHAIN PINS	<input checked="" type="checkbox"/>			CHECK OPERATION, LUBE PINS EVERY 50 HRS, LIGHT OIL
M10	THROTTLE CABLE	<input checked="" type="checkbox"/>			CHECK OPERATION, LUBE CABLE EVERY 50 HRS, LIGHT OIL
M11	TILT CYLINDER PINS	<input checked="" type="checkbox"/>			CHECK OPERATION, LUBE PINS EVERY 50 HRS, LIGHT OIL
M12	BATTERY/CHARGE SYSTEM			<input type="checkbox"/>	CHECK/CLEAN MONTHLY/ CHECK FOR 13-14 VOLTS AT FULL RPM
M13	TIRES		<input checked="" type="checkbox"/>		CHECK PNEUMATIC AIR PRESSURE (65 PSI)
M14	LEAKS OIL & FUEL	<input checked="" type="checkbox"/>			CLEAN UNIT & INSPECT
M15	HARDWARE/ENGINE MOUNTS	<input checked="" type="checkbox"/>			CLEAN UNIT & CHECK TORQUE
# IMPORTANT READ ENGINE EMISSION WARRANTY STATEMENT, STONE MANUAL & ENGINE MANUAL ## SEE AUTHORIZED ENGINE SERVICE DEALER AND/OR REFER TO ENGINE SHOP MANUAL FOR PROCEDURES					

# MAINTENANCE

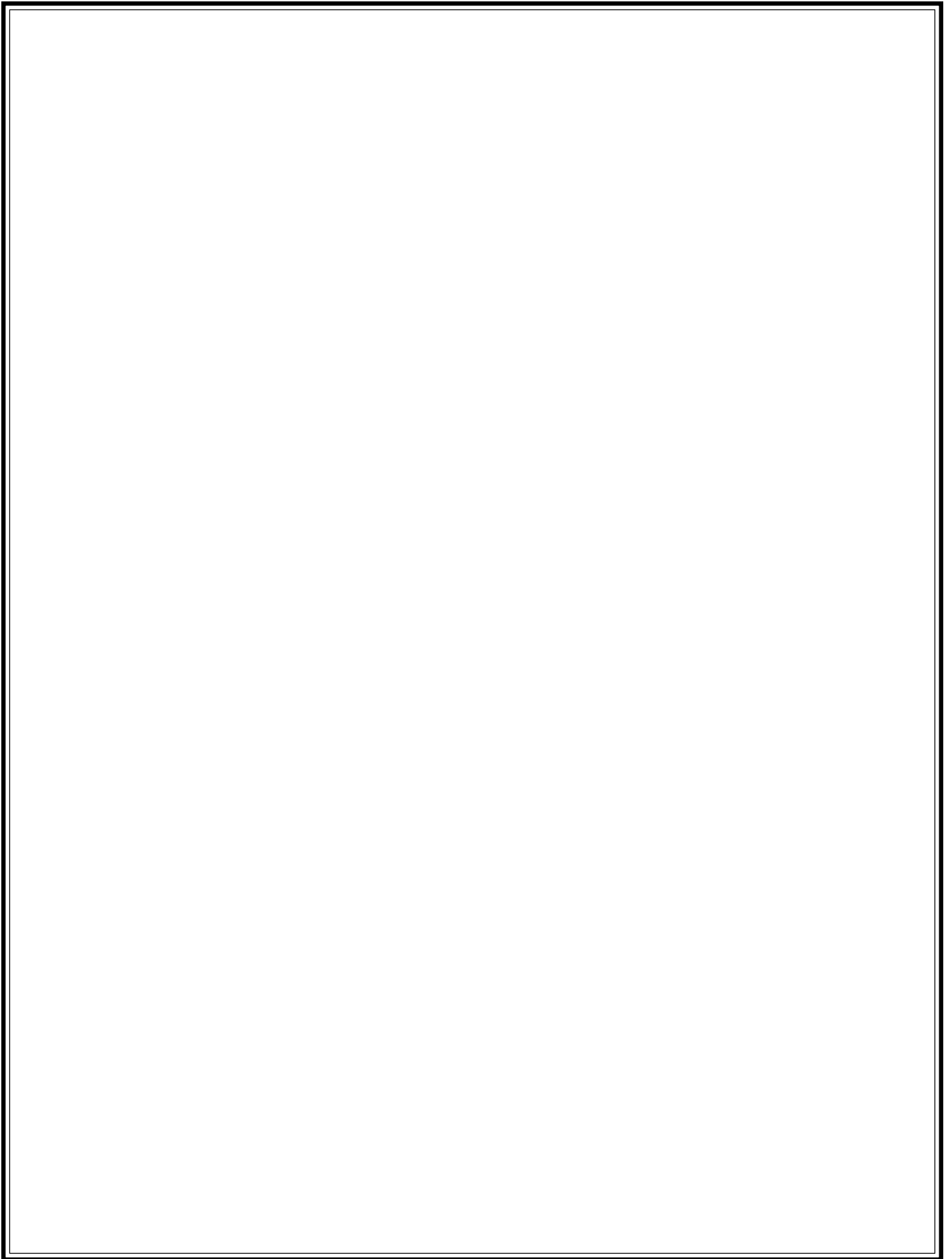
## Service Record

<b>Model No.</b>	<b>Serial No.</b>				
<b>Record Hours and Dates of Maintenance Below</b>					
<b>Engine Oil and Filter</b> (100 hours)					
<b>Air Cleaner</b> (300 hours)					
<b>Spark Plugs</b> (100 hours)					
<b>Valves</b> (300 hours)					
<b>Hydraulic Oil</b> (800 hours)					
<b>Hydraulic Filter</b> (100 hours)					
<b>Hydraulic Breather</b> (100 hours)					
<b>Battery</b> (monthly)					
<b>Grease Rear Tire Hub &amp; Steering Column</b> (weekly)					
<b>Grease Front Wheel Hubs</b> (yearly)					
<b>Lubricate Cables, Directional Control Pivots, Sheave and Tilt Cylinder Pin</b> (50 hours)					
<b>Lubricate Lift Chain</b> (weekly)					

# MAINTENANCE

## Troubleshooting

<b>Problem</b>	<b>Cause</b>	<b>Remedy</b>
Engine lacks power	Fuel line plugged Dirty fuel filter Air filter dirty Worn cylinder & piston rings Too much oil in crankcase	Clean or replace Clean or replace Clean or replace Replace Drain
Oil consumption	Worn valve guides Worn cylinder & piston rings Too much oil in crankcase Loose bolts	Clean or replace Replace Drain Re-torque
Does not start	Out of fuel Weak or dead battery Poor ground connection Loose wire connection	Fill tank Charge or replace Tighten/clean terminals Tighten
Lift Jockey will not move forward or reverse	Lever not fully engaged Control valve damaged Low hydraulic oil Faulty hydraulic pump  Faulty hydraulic drive	Check linkage Replace or repair Check level, add if required Replace pump if specified pressure not in range Replace drive motor if drive pressure is incorrect
Unit lacks power	Engine not properly warmed up  Low hydraulic oil level Plugged hydraulic filter/strainer Fuel restriction	Idle approximately five (5) minutes to achieve operating temperature Add fluid Replace Change filter
Forks will not extend up	Load over capacity No cylinder pressure Cylinder leaking	Remove partial load to capacity Check pump pressure/valve Replace or repair





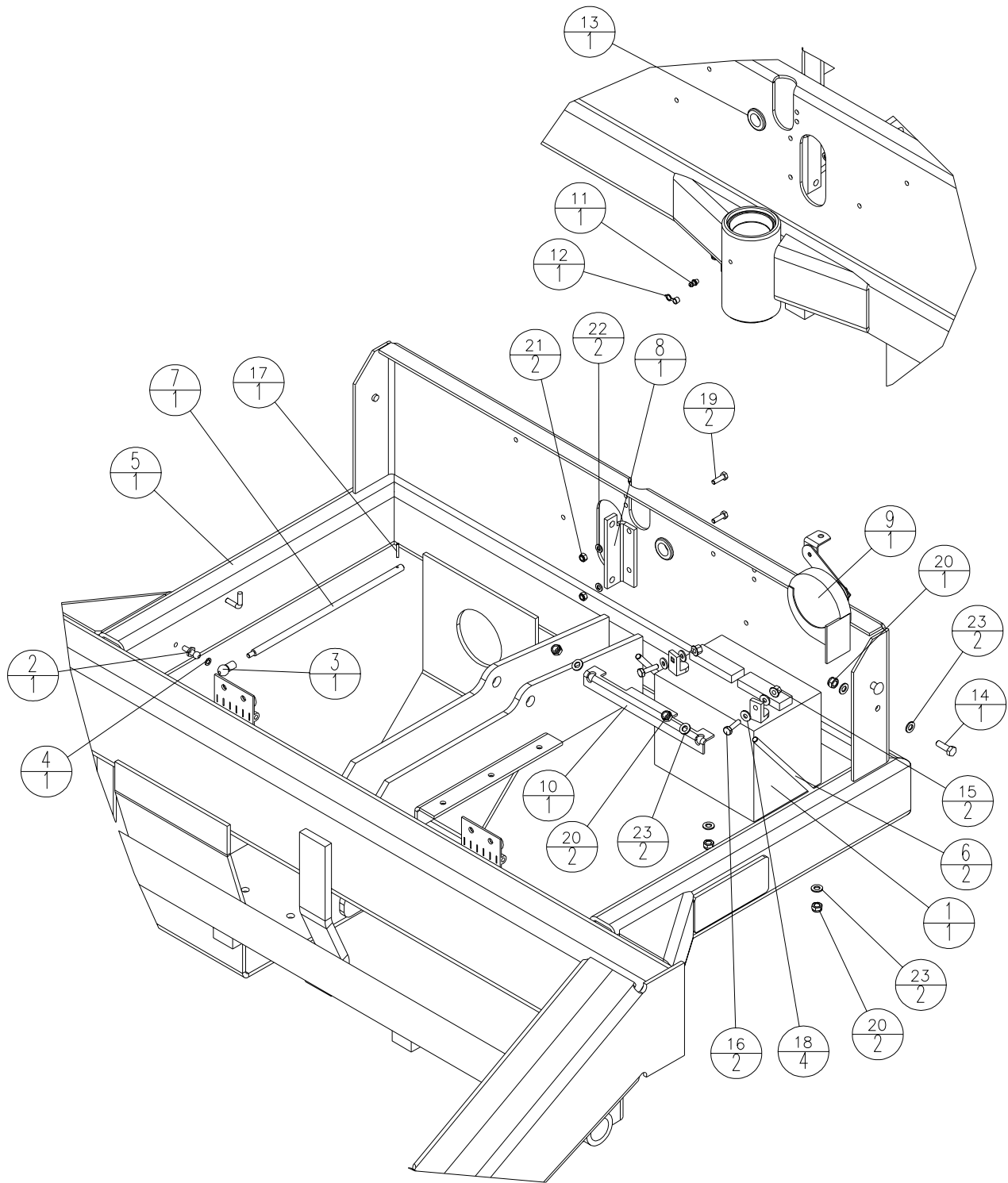
# PARTS LIST

## Exploded Views with Parts

Frame Assembly .....	34-35
Tilt Cylinder & Valve Assembly .....	36-37
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# PARTS LIST

## Frame Assembly



# PARTS LIST

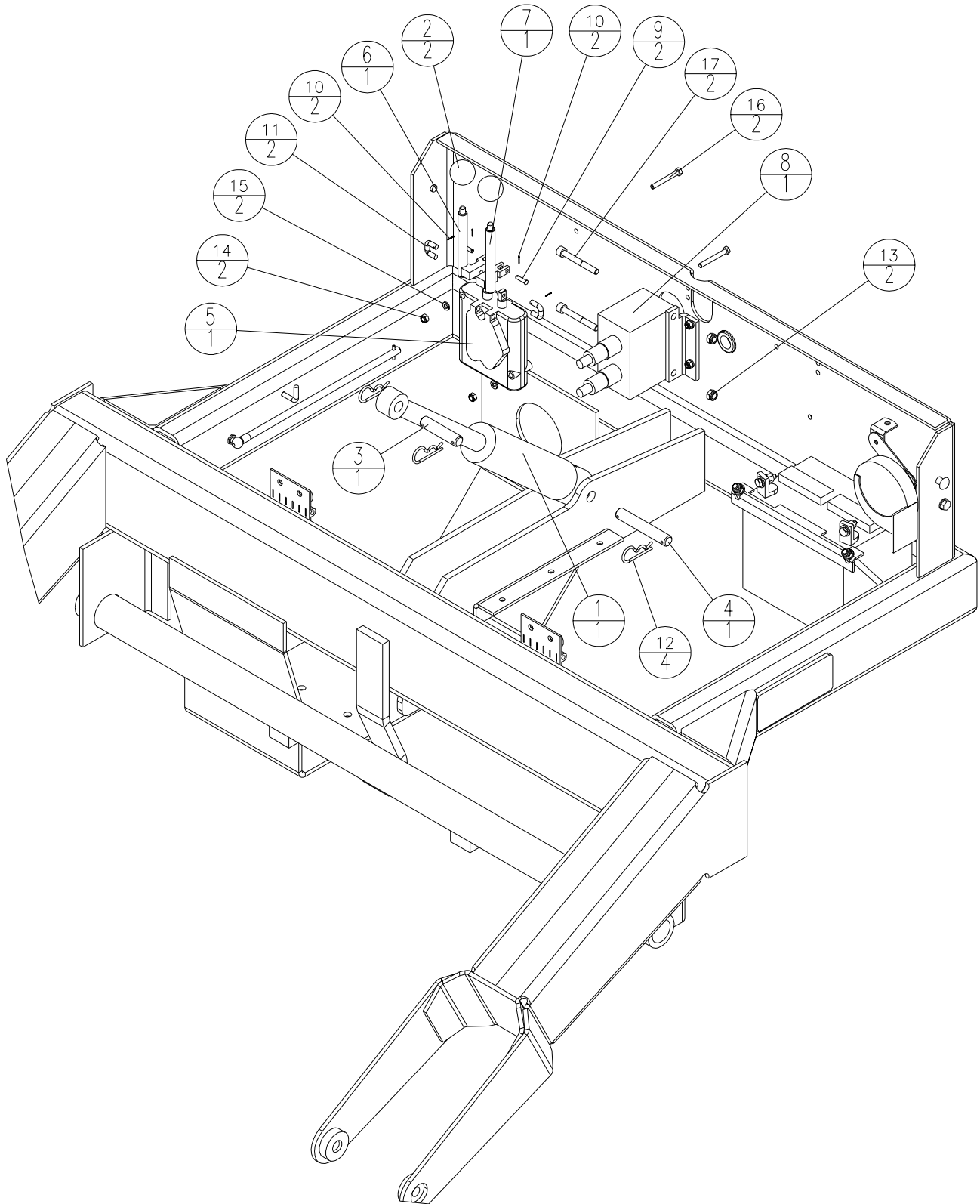
## Frame Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	35321	BATTERY 12 MONTH 165 CCA	1
2 *	36572	STUD BALL 10MM 5/16-18 THRD	1
3	36580	CONNECTOR END, GAS SPRING	1
4	36581	GAS SPRING RETAINING CLIP	1
5	36839-2	WELDMENT FRAME SECONDARY	1
6	36905	HOLD DOWN J-HOOK	2
7	36927-2	PROP ROD HOOD	1
8	36966-2	BRACKET COUNTERBALANCE VALVE	1
9	38667	HORN 12V 125 dB	1
10	45252-2	BRACKET HOLD DOWN BATTERY	1
11	46042	FITTING GREASE 1/4-28 ZN	1
12	47001	CAP GREASE FITTING	1
13	47257	GROMMET .69 ID X 1.00 GD	1
14	80087	HHCS M8-1.25 X 25 8.8 ZN	1
15	80236	NUTKP 1/4-20 ZN	2
16	80354	HHCS 1/4-20 X 1 GR5 ZN	2
17	80490	PINSP 1/8 X 7/8	1
18	80571	WSHR 1/4 SAE ZN	4
19	80758	HHCS M6-1 X 20 8.8 ZN	2
20	80817	NUTNY M8-1.25 ZN	5
21	80851	NUTNY M6-1 ZN	2
22	80856	WSHR FLAT M6 X 12 ZN	2
23	80857	WSHR FLAT M8 X 16 ZN	6

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# AS REQUIRED

# PARTS LIST

## Tilt Cylinder & Valve Assembly



# PARTS LIST

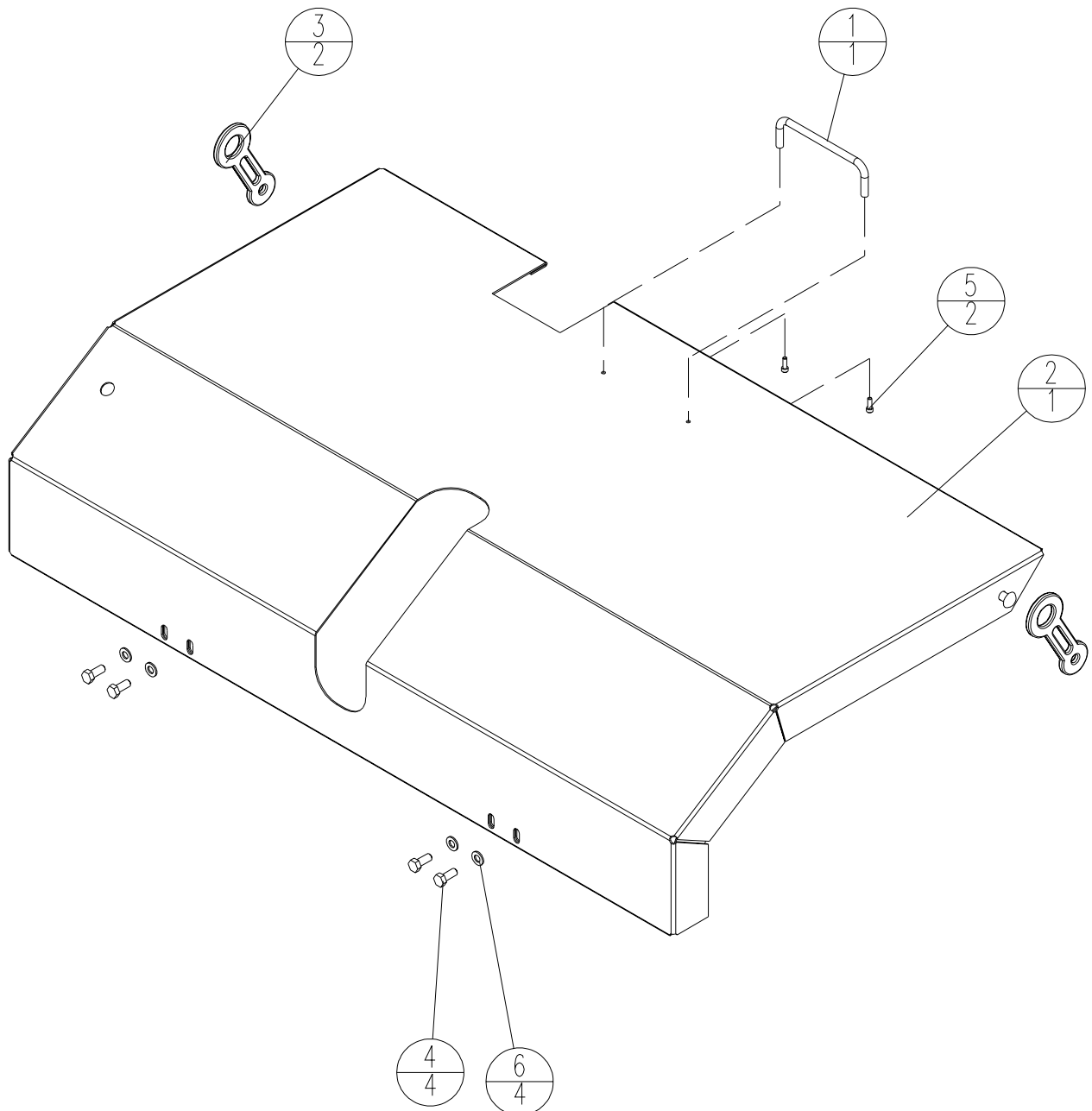
## Tilt Cylinder & Valve Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	36904	CYLINDER TILT MAST	1
2	36921	KNOB BALL 1 3/8 DIA	2
3	36928	PIN CLEVIS MAST	1
4	36929	PIN CLEVIS FRAME	1
5	36951	VALVE DIRECTIONAL CONTROL CYLINDER HYD	1
6	36972-2	WELDMENT VALVE ACTUATOR RIGHT	1
7	36973-2	WELDMENT VALVE ACTUATOR LEFT	1
8	36977	COUNTER BALANCE VALVE	1
9	36979	PIN CLEVIS 3/16 x 3/4	2
10	36981	PIN COTTER	4
11	36982	CLIP ACTUATOR	2
12	37072	HITCH PIN 1/8 x 5/8	4
13	80817	NUTNY M8-1.25 ZN	2
14	80851	NUTNY M6-1 ZN	2
15	80856	WSHR FLAT M6 X 12 ZN	2
16	80881	HHCS M6-1 X 50 8.8 ZN	2
17	81007	SHCS M8-1.25 X 65 8.8 ZN	2

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# AS REQUIRED

# PARTS LIST

## Cowl Assembly



# PARTS LIST

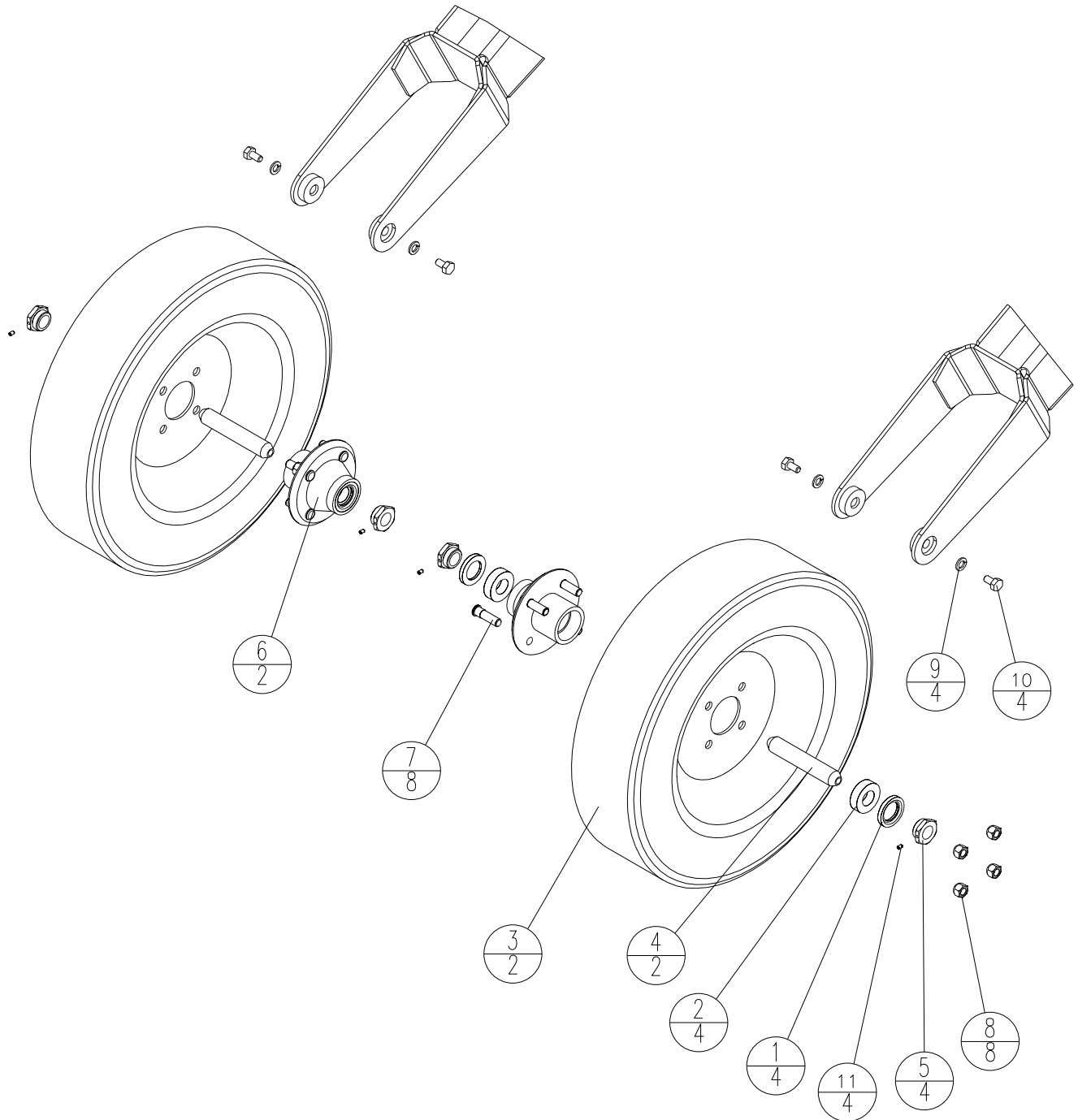
## Cowl Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	36925	HANDLE PULL	1
2	36976-2	WELDMENT COWL	1
3	47182	LATCH COWL	2
4	80406	HHCS M8-1.25 X 20 8.8 ZN	4
5 *	80612	SHCS 8-32 x 1/2 BLK	2
6	80857	WSHR FLAT M8 X 16 ZN	4

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\* LOCTITE  
# AS REQUIRED

# PARTS LIST

## Front Wheel Assembly





# PARTS LIST

## Front Wheel Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1 +	32052	SEAL WHEEL HUB	4
2 +	32233	BEARING RLR TAPER 1.000	4
3	32306	ASM TIRE RIM 4.8 x 12	2
4	36858	AXLE SHAFT FRONT	2
5	36859	AXLE BUSHING FRONT	4
6	37073	KIT HUB 4 BOLT	2
7 +	39190	LUG STUD 1/2-20 x 1 7/32 LG	8
8 +	80045	LUGNT 1/2-20 ZN	8
9	80805	WSHRL M12 SPLIT ZN	4
10*	80808	HHCS M12-1.75 x 20 8.8 ZN	4
11*	81106	SHSS M5-0.8 x 8 BLK	4
^	36958	ASM TIRE RIM FOAM 4.8 X 12	2

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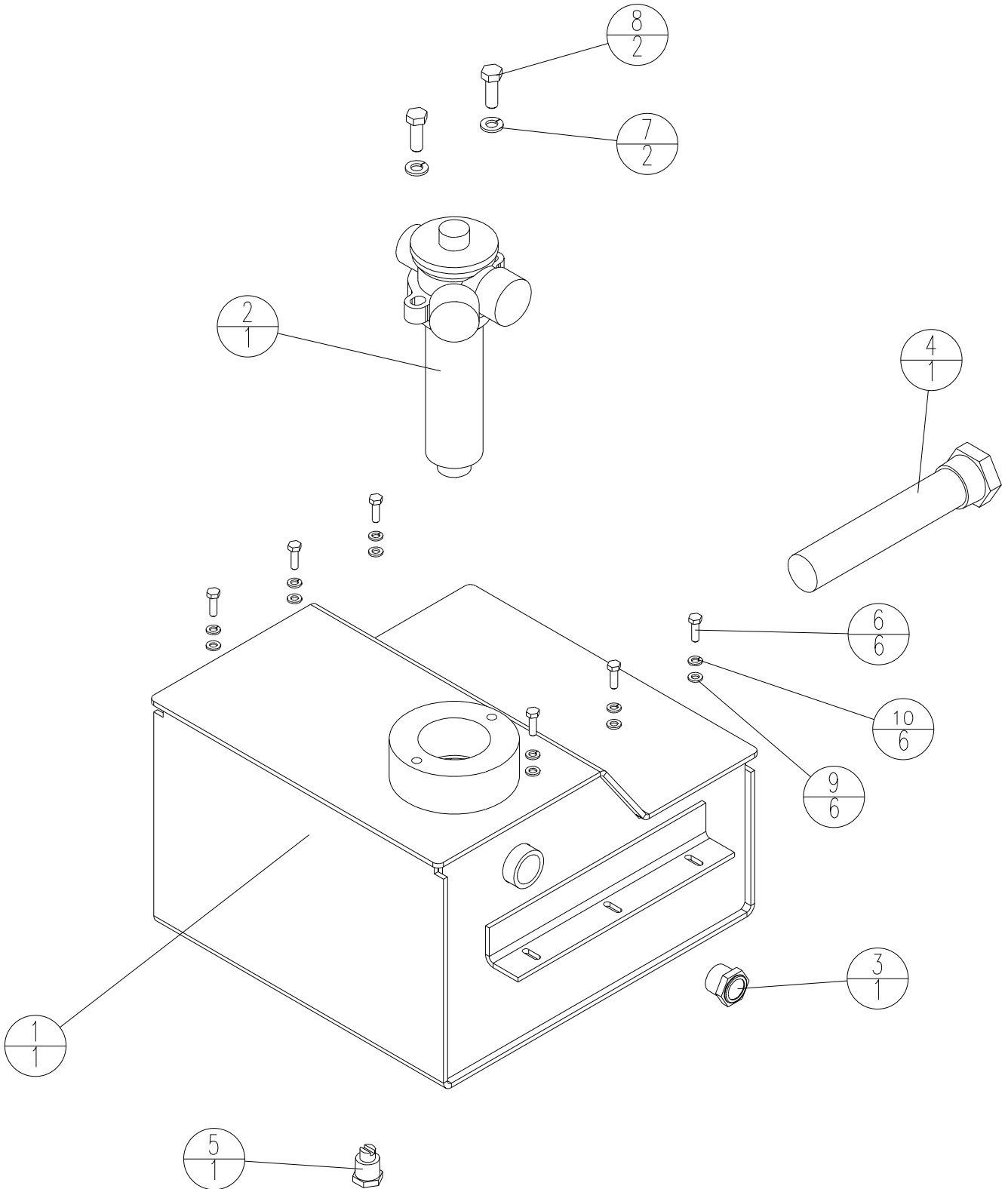
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# AS REQUIRED

+ INCLUDED IN 37073 KIT HUB 4 BOLT

# PARTS LIST

## Hydraulic Tank Assembly



# PARTS LIST

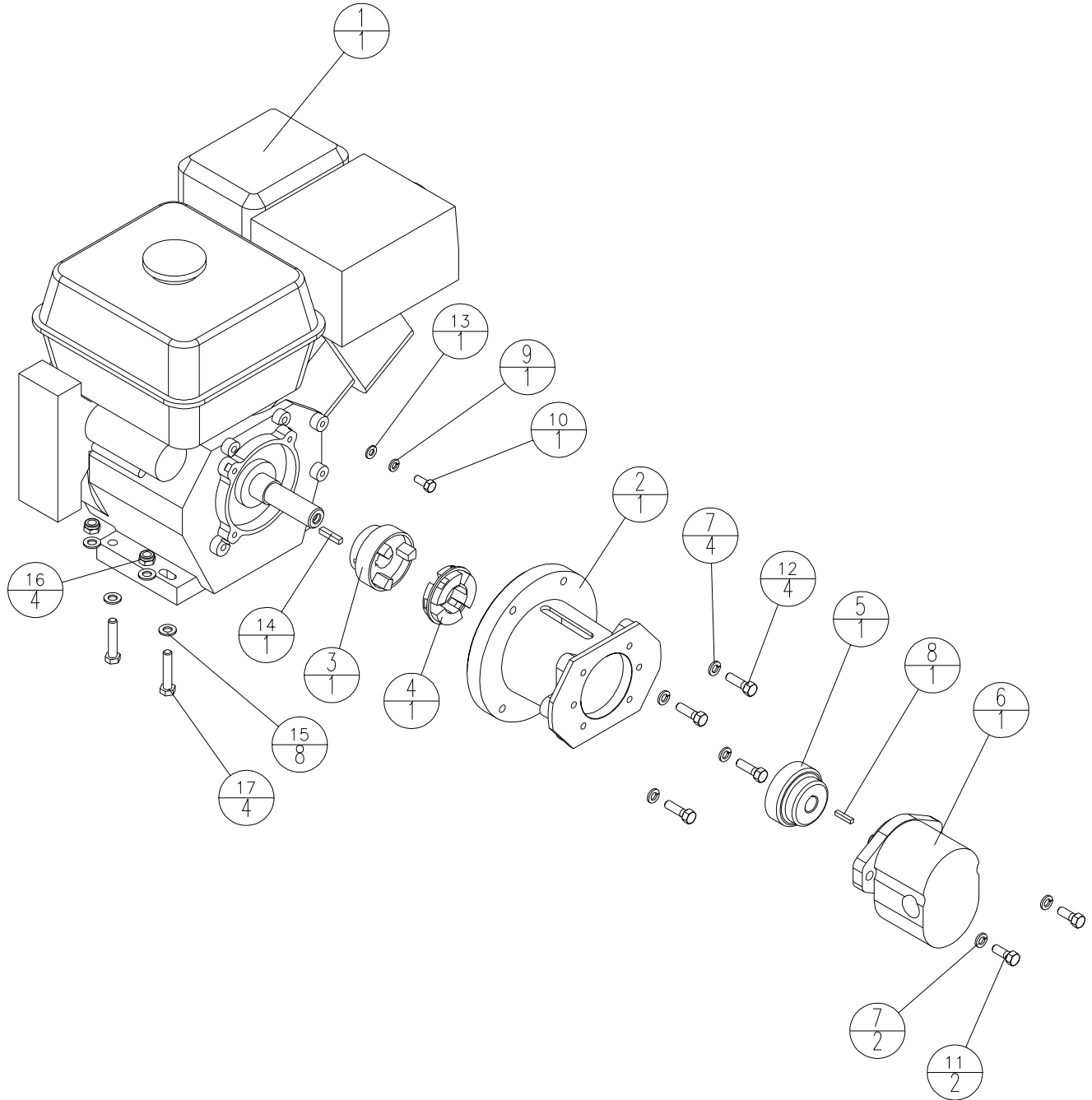
## Hydraulic Tank Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	36896-2	WELDMENT HYDRAULIC TANK	1
2	36931	FILTER HYD 10M 20G IN TANK	1
3	38534	SIGHT GLASS 3/4 NPT	1
4	39088	STRAINER 10 GPM	1
5	46108	PLUG MAGN. 1/2 HXHD	1
6 *	80758	HHCS M6-1 X 20 8.8 ZN	6
7	80804	WSHRL M10 SPLIT ZN	2
8	80815	HHCS M10-1.5 X 30 8.8 ZN	2
9	80856	WSHR FLAT M6 X 12 ZN	6
10	80860	WSHRL M6 SPLIT ZN	6
^	36987	INDICATOR GAUGE	1
^	36988	FILTER ELEMENT	1
^	36989	BREATHER ELEMENT	1
^	36995	KIT SEAL FILTER	1
^	36996	COVER FILTER	1
^	36997	BOWL FILTER	1
^	36998	HOUSING HEAD FILTER	1
^	36999	GAURD SPLASH FILTER	1

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\* LOCTITE  
# AS REQUIRED

# PARTS LIST

## Engine Assembly



# PARTS LIST

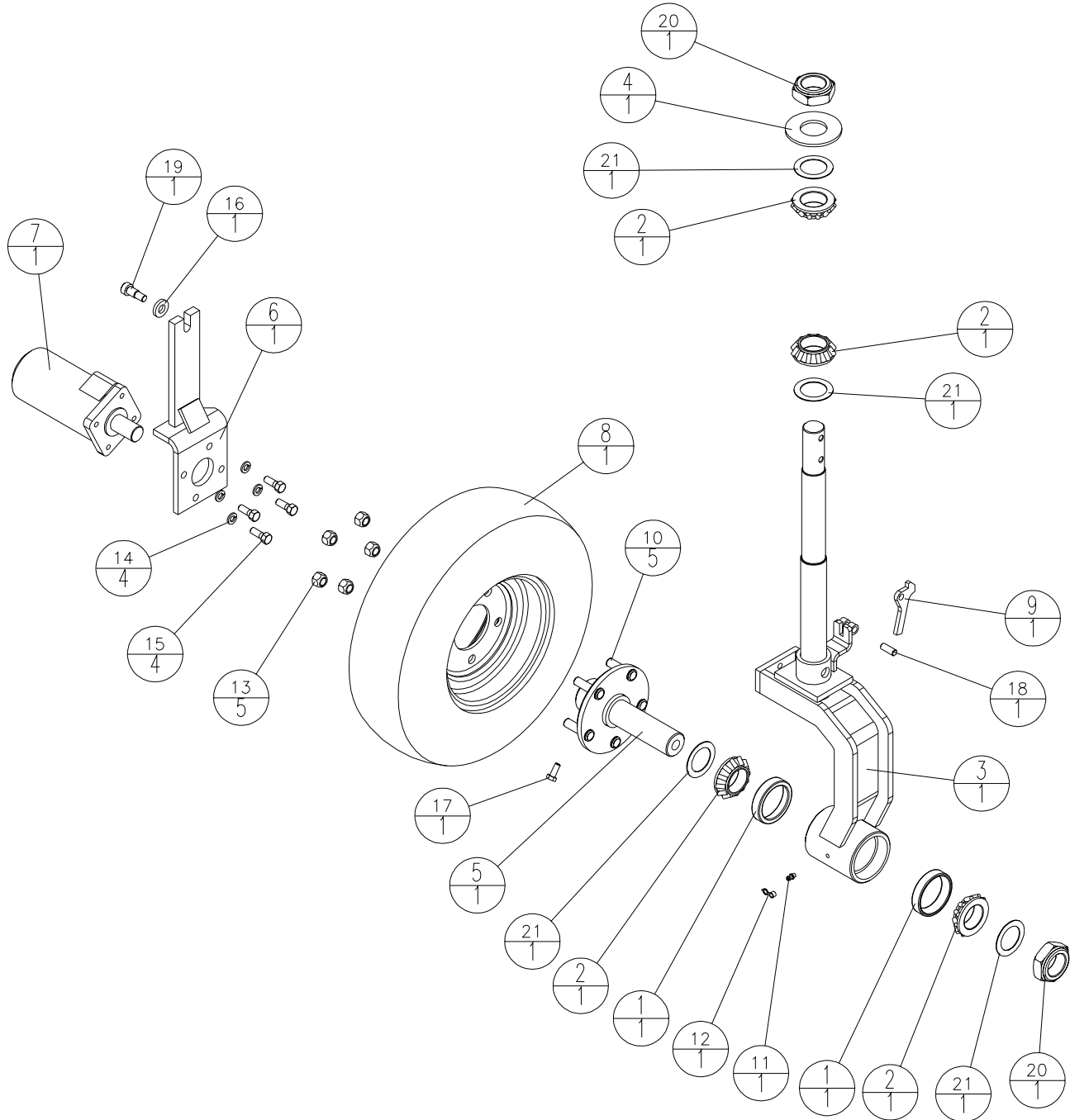
## Engine Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	30225	ENGINE 8hp HONDA ELECT START	1
2	39093	ADAPTOR PUMP/MOTOR	1
3	39094	COUPLING 1 ID X 1/4 KEY	1
4	39096	INSERT COUPLING	1
5	39646	COUPLING PUMP	1
6	39663	PUMP HYDRAULIC	1
7	80058	WSHRL 3/8 MED SPLIT ZN	6
8	80060	KEY SQ 3/16 x 1 PLN	1
9	80086	WSHRL 5/16 MED SPLIT ZN	1
10	80095	HHCS 5/16-24 x 3/4 GR 5 ZN	1
11*	80102	HHCS 3/8-16 x 1 PLN	2
12*	80145	HHCS 3/8-16 X 1-1/4 GR5 ZN	4
13	80348	WSHR WROT 5/16 ZN	1
14	80394	KEY SQUARE 1/4 x 1.25 PLN	1
15	80806	WSHR FLAT M10 X 20 ZN	8
16	80833	NUTNY M10-1.5 ZN	4
17*	80838	HHCS M10-1.5 X 50 8.8 ZN	4
^	22433	KIT MUFFLER DEFLECTOR	1

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\* LOCTITE  
# AS REQUIRED

# PARTS LIST

## Drive Axle and Steering Assembly



# PARTS LIST

## Drive Axle and Steering Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	32160	CUP BEARING	2
2	32161	CONE BEARING	4
3	36862-2	WELDMENT STEERING COLUMN	1
4	36934	PLATE COVER BEARING	1
5	36940-2	WELDMENT AXLE DRIVE	1
6	36944-2	WELDMENT MOTOR BRACKET	1
7	36949	MOTOR HYD GEROTOR 22.6 CIR 1250 PSI	1
8	36952	TIRE AND RIM	1
9	36994	LEVER PARKING	1
10 +	39190	LUG STUD 1/2-20 x 1 7/32 LG	5
11	46042	FITTING GREASE 1/4-28 ZN	1
12	47001	CAP GREASE FITTING	1
13	80045	LUGNT 1/2-20 ZN	5
14	80058	WSHRL 3/8 MED SPLIT ZN	4
15 *	80102	HHCS 3/8-16 x 1 PLN	4
16	80125	WSHR 17/32 X 1-1/16 X 3/16 ZN	1
17 *	80406	HHCS M8-1.25 X 20 8.8 ZN	1
18	80773	PINDL 3/8 OD X 1.00 LG	1
19 *	81107	SHSHBM 12MM DIA x M10 THD x 16MM LG	1
20	81108	NUTNY 1 1/2-12	2
21	81109	THRUST WASHER 1 1/2	4
^	36959	ASM TIRE RIM FOAM 4.80 - 4.00 X 8	1

^ NOT SHOWN

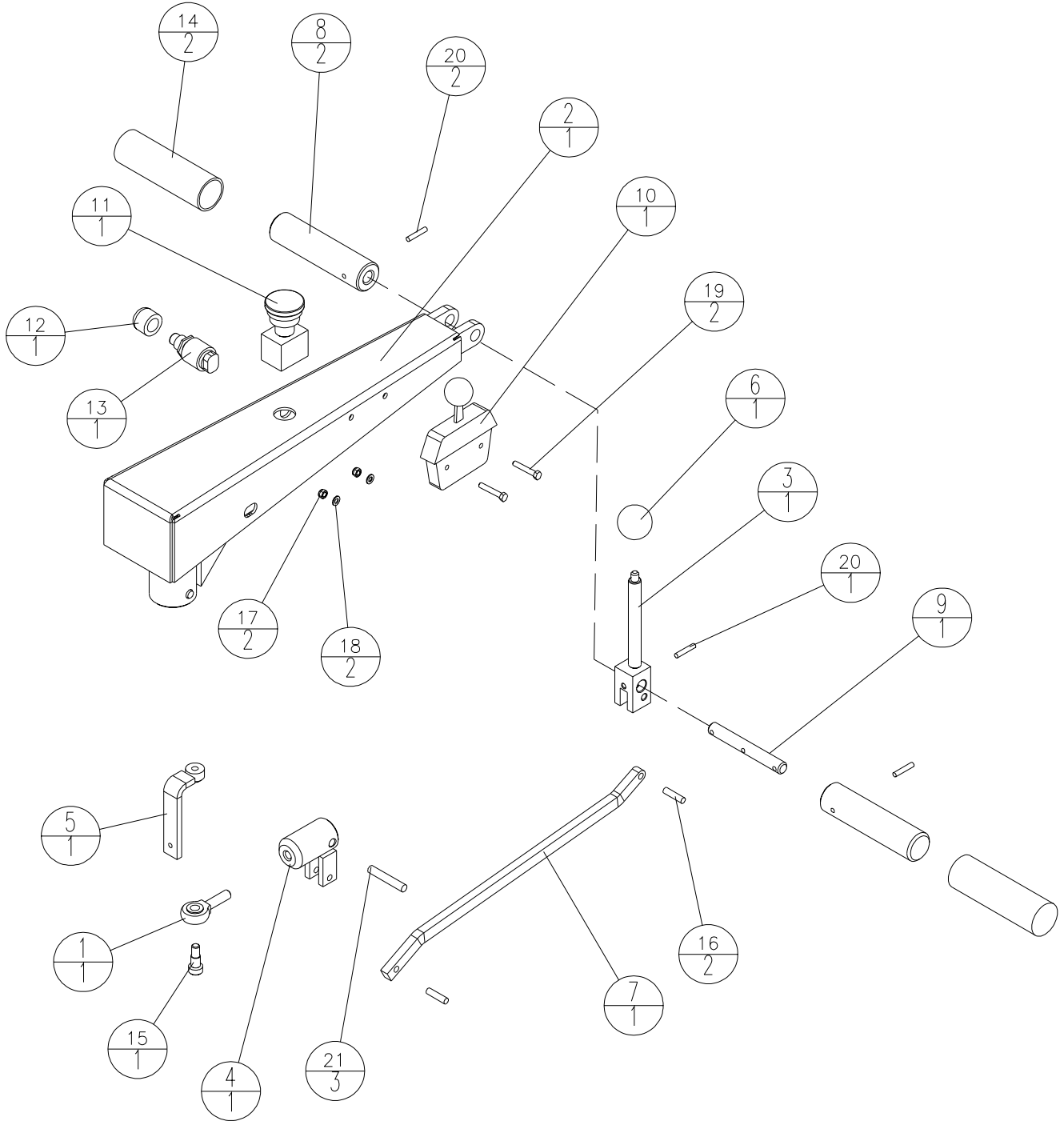
\* LOCTITE

# AS REQUIRED

+ INCLUDED IN 36940 WELDMENT AXLE DRIVE

# PARTS LIST

## Steering Handle Assembly





# PARTS LIST

## Steering Handle Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	32124	ROD END BEARING	1
2	36906-2	WELDMENT STEERING ARM	1
3	36912-2	WELDMENT CONTROL FWD/REV	1
4	36915-2	WELDMENT CONTROL PIVOT	1
5	36918-2	WELDMENT LINKAGE SWIVEL	1
6	36921	KNOB BALL 1 3/8 DIA	1
7	36922-2	LINKAGE CONTROL FWD/REV	1
8	36923-2	HANDLE CONTROL FWD/REV	2
9	36924	ROD CONTROL FWD/REV	1
10	36948	THROTTLE ASSEMBLY	1
11	36991	SWITCH E-STOP	1
12	37079	BUTTON SWITCH MOMENTARY	1
13	39612	SWITCH MOMENTARY PUSH	1
14	47023	GRIP HAND	2
15*	80285	SHSHB 3/8 x 1/2 BLK	1
16	80320	PINSP 1/4 X 1.00 ZN	2
17	80850	NUTNY M5-.8 ZN	2
18	80855	WSHR FLAT M5 X 10 ZN	2
19	80890	HHCS M5-.8 X 30 8.8 ZN	2
20	81100	PINSP 3/16 X 1.00 ZN	3
21	81101	PINSP 5/16 X 1-7/8 ZN	3

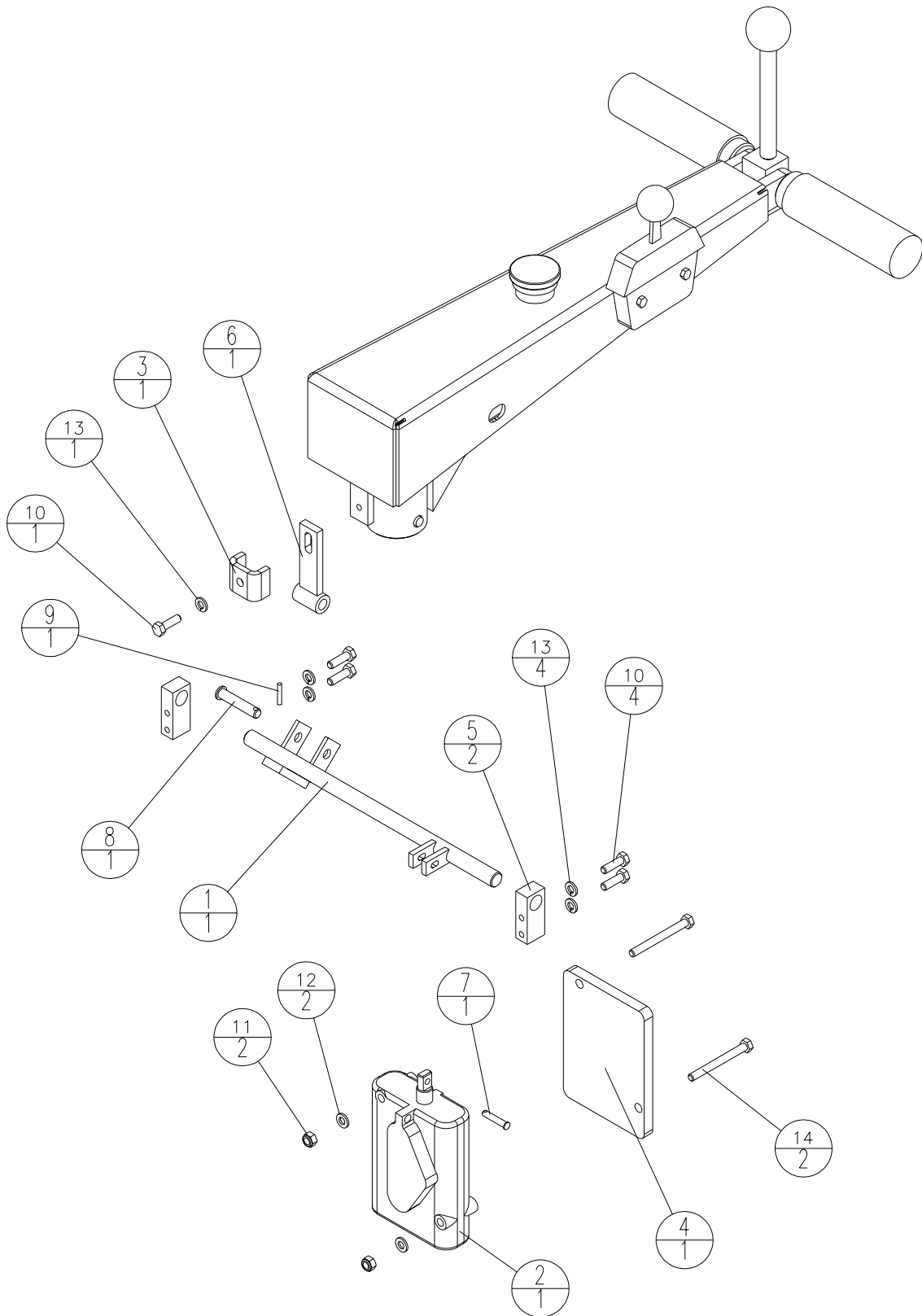
~ NOT SHOWN

\* LOCTITE

# AS REQUIRED

# PARTS LIST

## Control Linkage Assembly



# PARTS LIST

## Control Linkage Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	36937-2	WELDMENT PIVOT	1
2	36950	VALVE DIRECTIONAL CONTROL MOTOR HYD	1
3	36964-2	BRACKET CONNECTOR	1
4	36965-2	VALVE PLATE DRIVE	1
5	36967-2	PIVOT BLOCK	2
6	36970-2	WELDMENT CONNECTOR	1
7	36978	PIN CLEVIS 3/16 x 1	1
8	36980	PIN CLEVIS PIVOT	1
9	80424	PINCT 1/8 X 3/4 ZN	1
10 *	80758	HHCS M6-1 X 20 8.8 ZN	5
11	80851	NUTNY M6-1 ZN	2
12	80856	WSHR FLAT M6 X 12 ZN	2
13	80860	WSHRL M6 SPLIT ZN	5
14	81111	HHCS M6-1 X 60 8.8 ZN	2

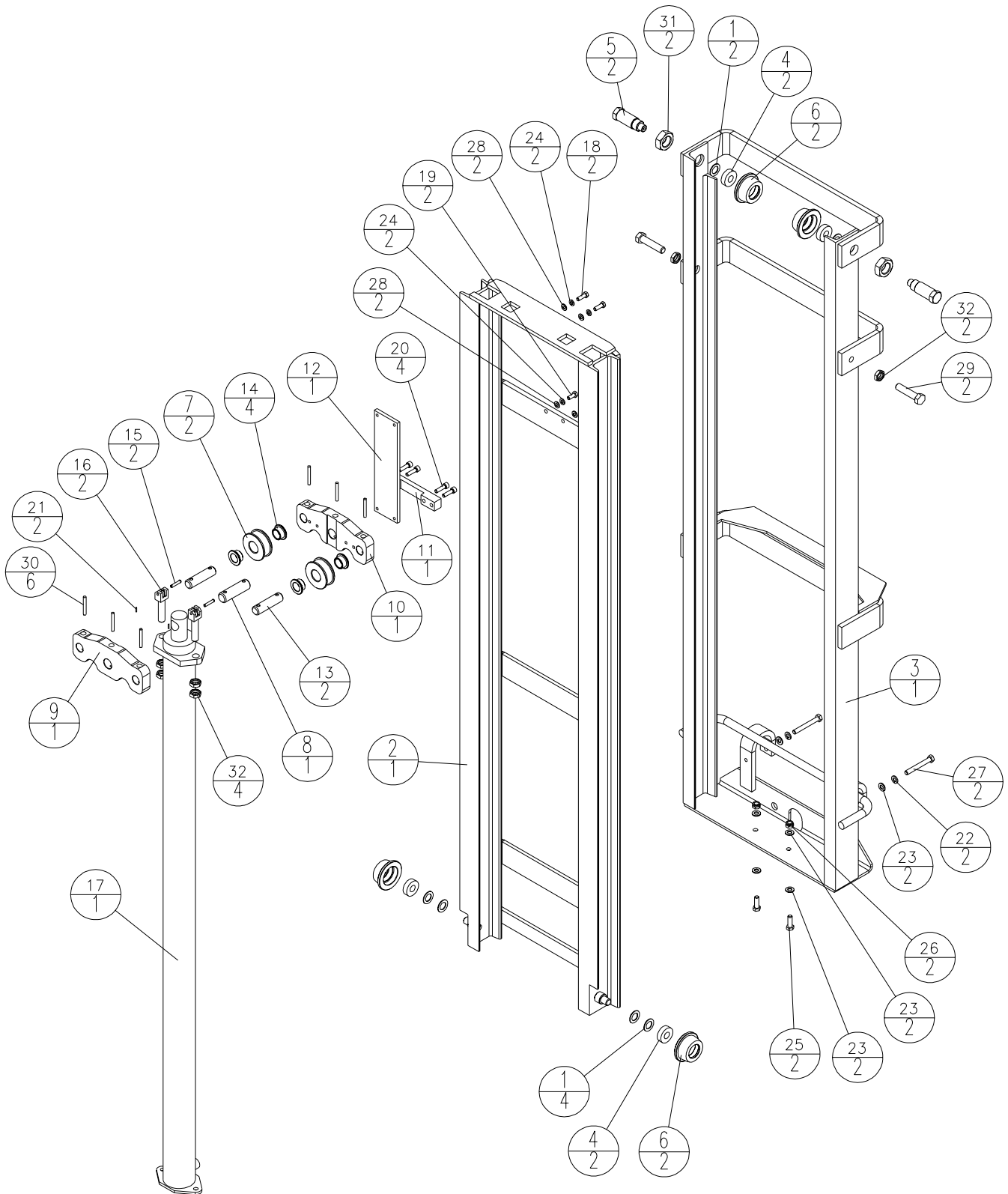
~ NOT SHOWN

\* LOCTITE

# AS REQUIRED

# PARTS LIST

## Mast Assembly



# PARTS LIST

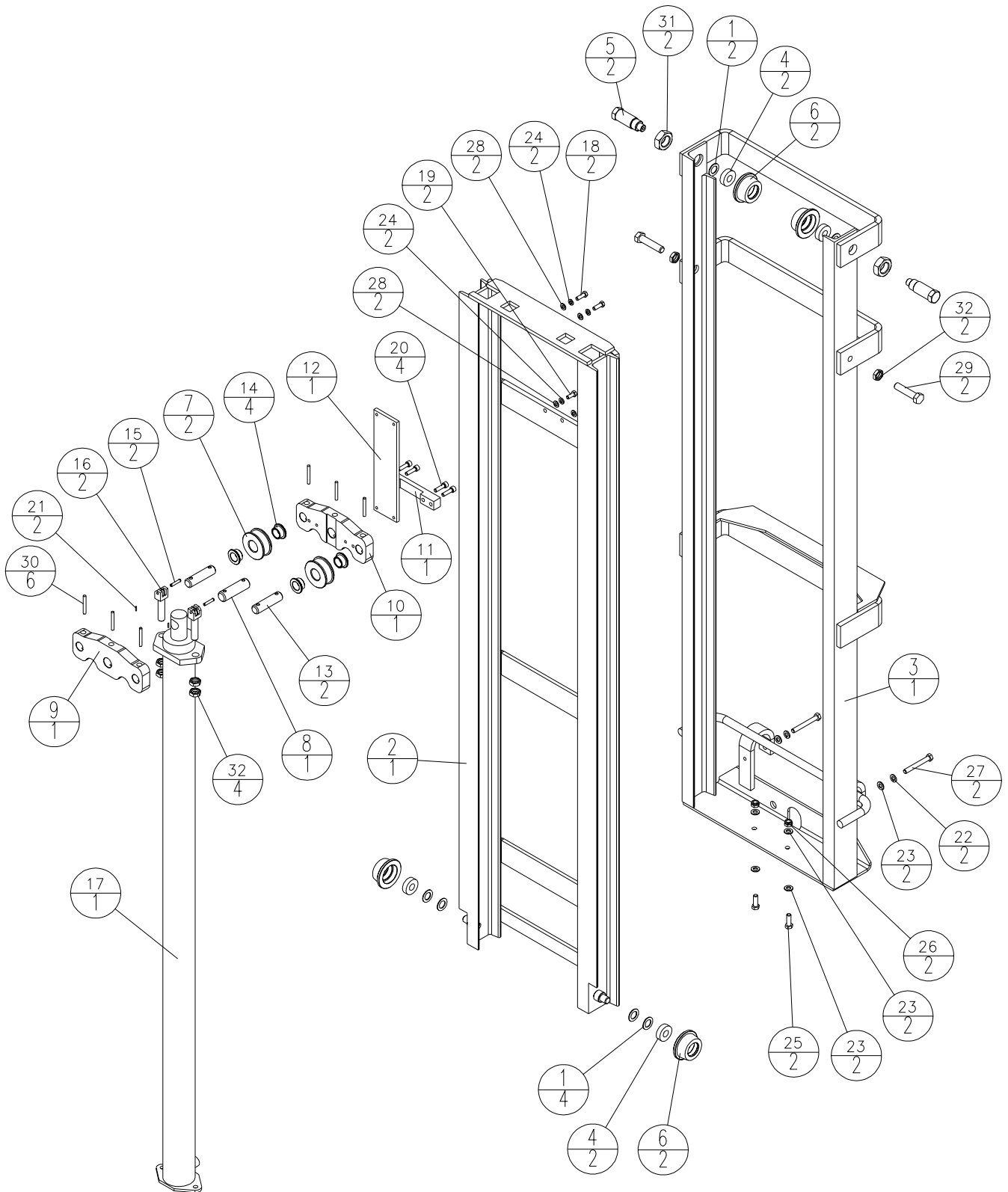
## Mast Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1 #	32323	WASHER THRUST 3/4 BORE	6
2	36791-2	WELDMENT COLUMN INNER	1
3	36800-2	WELDMENT COLUMN OUTER 9'6"	1
4	36826	BEARING BALL 17MM X 40MM	4
5	36827	SHAFT ADJUSTING ROLLER	2
6	36829	ROLLER GUIDE	4
7	36869	ROLLER CHAIN	2
8	36870	PIN CYLINDER	1
9	36871-2	PLATE CYLINDER	1
10	36872-2	PLATE CYLINDER GUIDE	1
11	36873-2	BRACKET GUIDE CYLINDER	1
12	36874	PLATE GUIDE CYLINDER	1
13	36875	PIN ROLLER CHAIN	2
14	36876	BUSHING ROLLER PIN	4
15	36877	PIN CHAIN LINK	2
16	36879	ANCHOR CHAIN ADJUSTABLE	2
17	36901	CYLINDER MAST 9'6"	1
18 *	80087	HHCS M8-1.25 X 25 8.8 ZN	2
19 *	80406	HHCS M8-1.25 X 20 8.8 ZN	2
20 *	80711	SHCS M8-1.25 X 30 12.9 BLK	4
21	80787	PINCT 5/64 X 1/2 ZN	2
22	80804	WSHRL M10 SPLIT ZN	2
23	80806	WSHR FLAT M10 X 20 ZN	6
24	80812	WSHRL M8 SPLIT ZN	4
25	80815	HHCS M10-1.5 X 30 8.8 ZN	2
26	80833	NUTNY M10-1.5 ZN	2
27 *	80840	HHCS M10-1.5 X 80 8.8 ZN	2
28	80857	WSHR FLAT M8 X 16 ZN	4
29	81057	HHCS M16-2 X 70 8.8 ZN	2
30	81103	PINSP 1/4 X 2 ZN	6
31	81104	NTFXJ 1-1/8 GR2 ZN	2
32	81105	NUTXJ M16-2 ZN	6

~ NOT SHOWN  
 \* LOCTITE  
 # AS REQUIRED

# PARTS LIST

## Mast Assembly



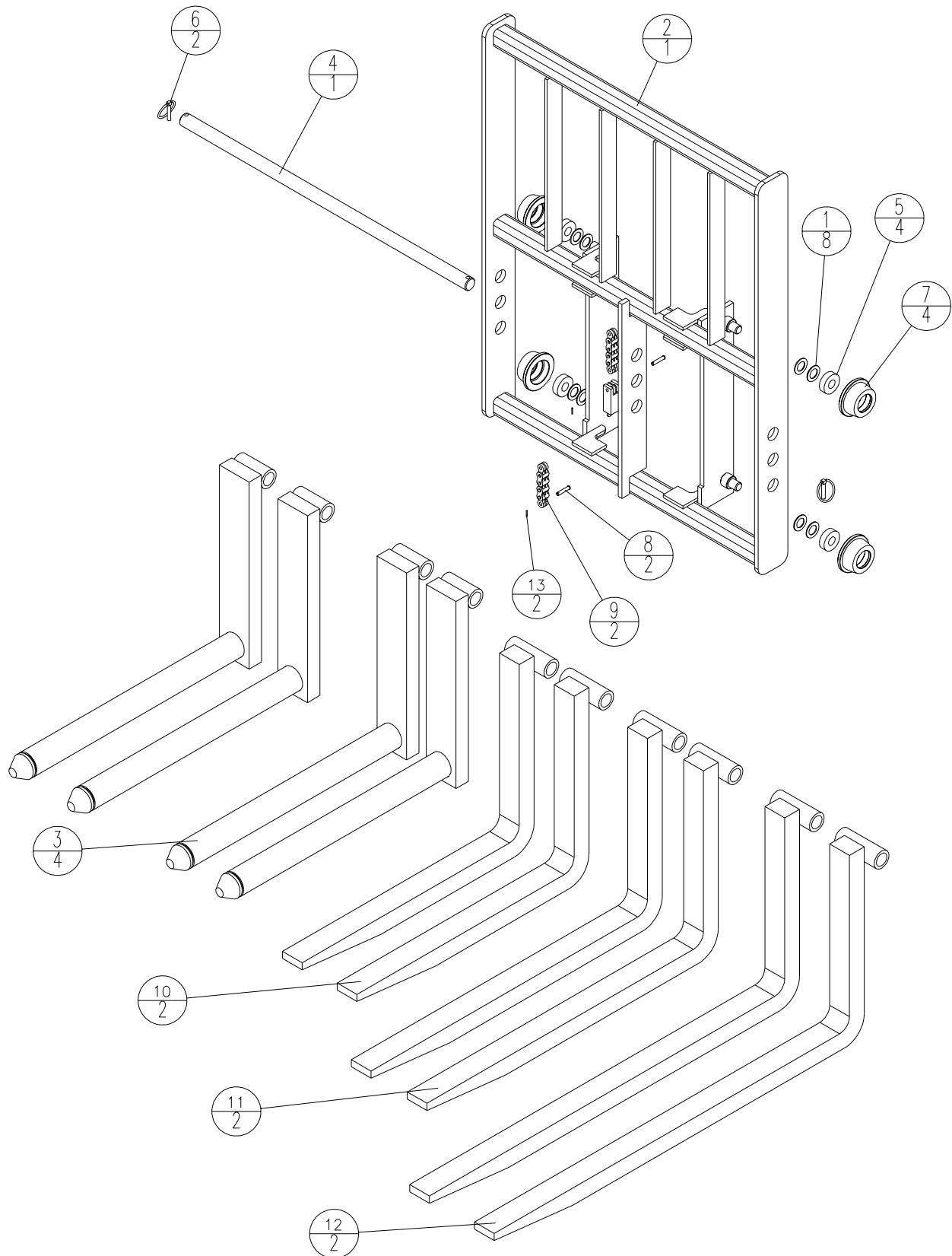
# PARTS LIST

## Mast Assembly

ITEM	PART NO.	DESCRIPTION	QTY
^	36882-2	WELDMENT COLUMN OUTER 8'6"	1
^	36885-2	WELDMENT COLUMN INNER 8'6"	1
^	36902	CYLINDER MAST 8'6"	1
^	36890-2	WELDMENT COLUMN OUTER 7'6"	1
^	36893-2	WELDMENT COLUMN INNER 7'6"	1
^	36903	CYLINDER MAST 7'6"	1

# PARTS LIST

## Lift Frame Assembly





# PARTS LIST

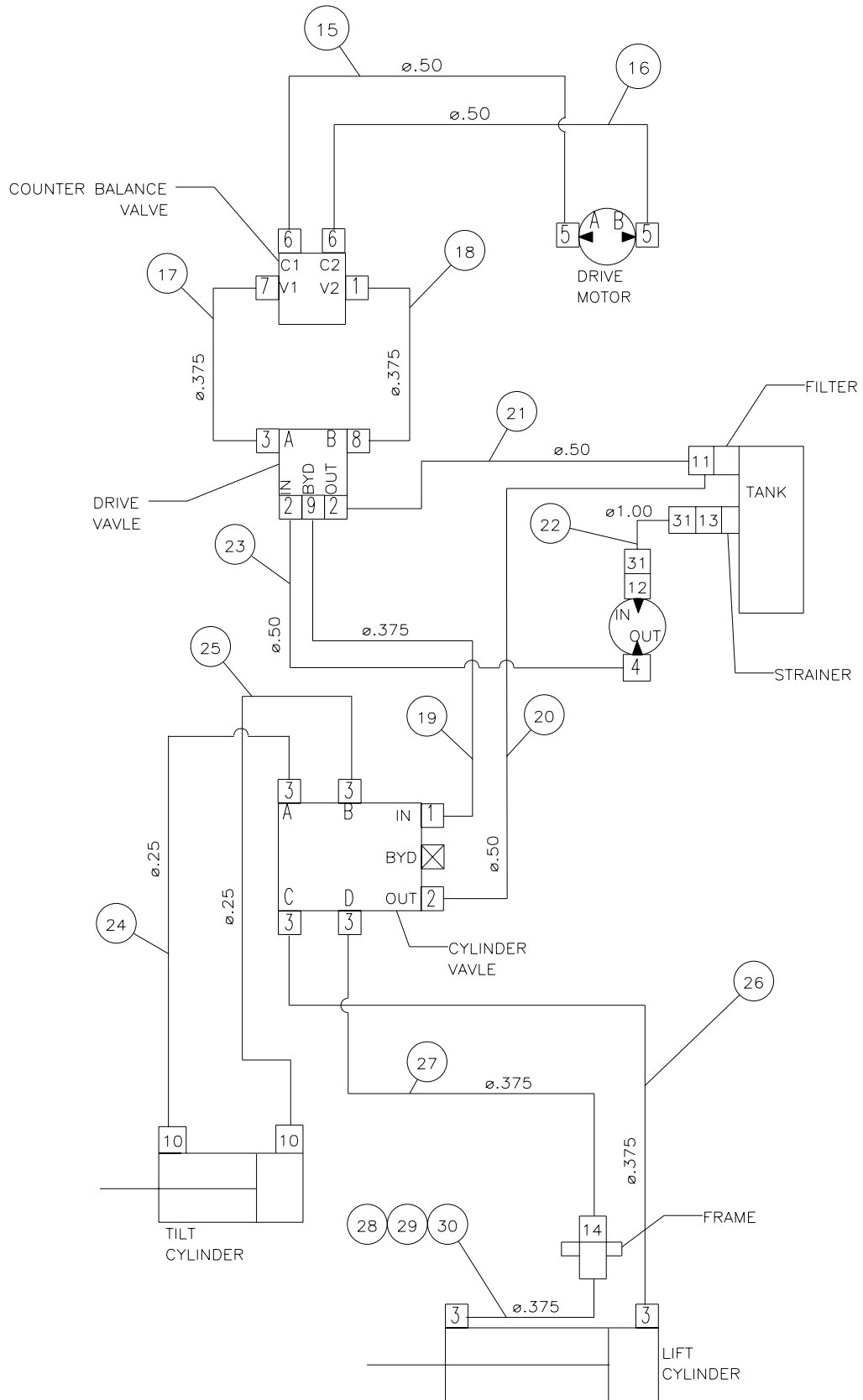
## Lift Frame Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1 #	32323	WASHER THRUST 3/4 BORE	8
2	36811-2	WELDMENT FRAME LIFT	1
3	36819-2	WELDMENT FORK ROUND	4
4	36825	SHAFT FORK	1
5	36826	BEARING BALL 17MM X 40MM	4
6	36828	PIN LINCH 1/4 DIA	2
7	36829	ROLLER GUIDE	4
8	36877	PIN CHAIN LINK	2
9	36878	CHAIN LIFT 9'6" MAST	2
10	36955	FORK SQUARE PALLET 22"	2
11	36956	FORK SQUARE PALLET 28"	2
12	36957	FORK SQUARE PALLET 36"	2
13	80787	PINCT 5/64 X 1/2 ZN	2
~	36881	CHAIN LIFT 8'6" MAST	1
~	36889	CHAIN LIFT 7'6" MAST	1

~ NOT SHOWN  
\* LOCTITE  
# AS REQUIRED

# PARTS LIST

# Hydraulic Piping Schematic



# PARTS LIST

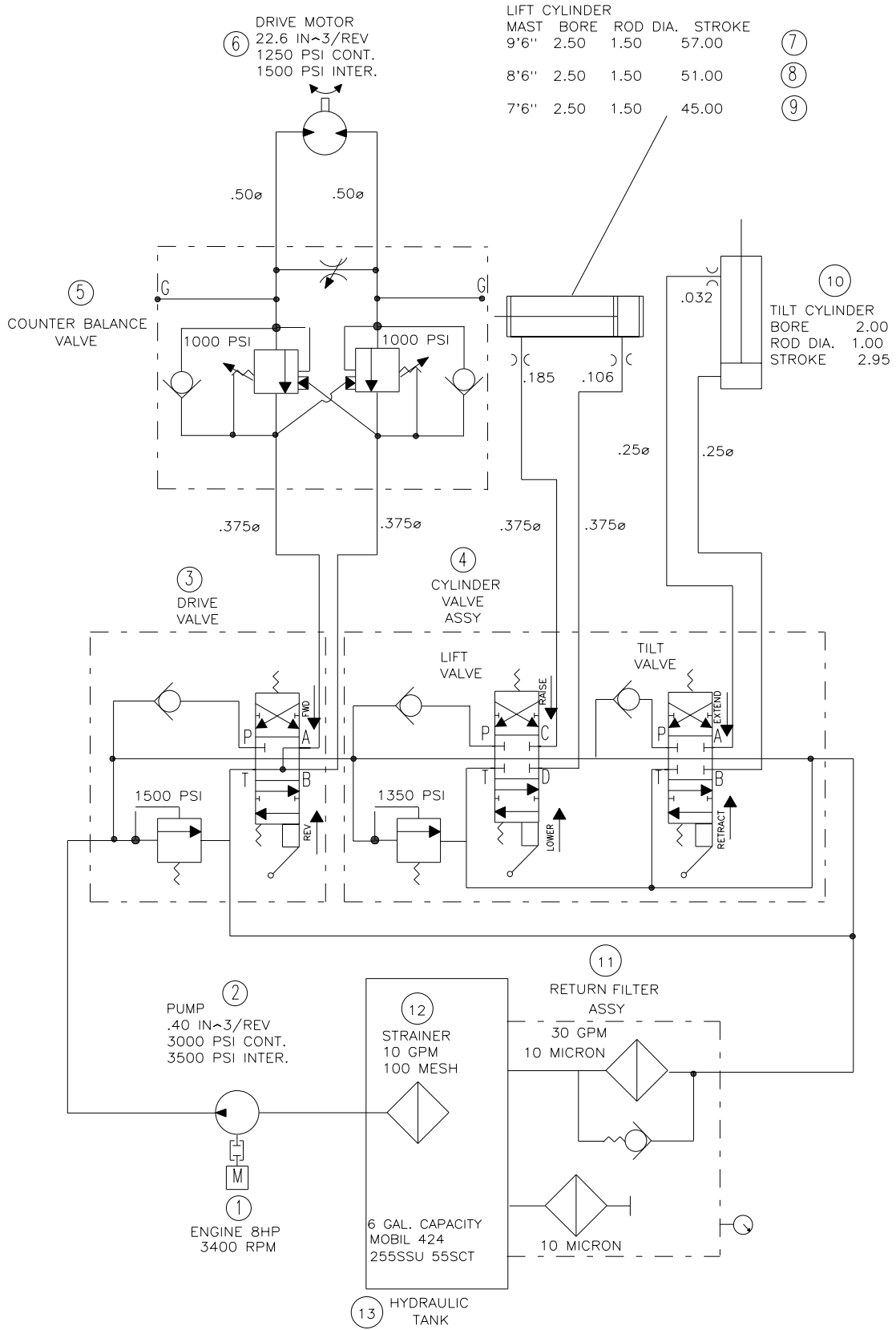
## Hydraulic Piping Schematic

ITEM	PART NO.	DESCRIPTION	QYT
1	45063	FTG HYD OFS ST 6 8	2
2	46579	FTG HYD OFS ST 8 8	3
3	46679	FTG HYD OFS 6 6	7
4	46582	FTG HYD OFS 90 8 10	1
5	46676	FTG HYD OFS 45 8 10	2
6	46580	FTG HYD OFS 45 8 8	2
7	45060	FTG HYD OFS 90 6 8	1
8	45009	FTG HYD OFS 90 6 6	1
9	45085	FTG HYD OFS 45 6 8	1
10	46686	FTG HYD OFS ST 4 6	2
11	45083	FTG HYD OFS T 8 8	1
12	46976	FTG HYD HB 45 1.0	1
13	46829	FTG HYD HB 90 1.0	1
14	45086	FTG HYD OFS BH 6 6	1
15	47549	HOSE HYD 8 ST8 ST8 29.00"	1
16	47550	HOSE HYD 8 ST8 ST8 25.00"	1
17	47551	HOSE HYD 6 ST6 EL456 12.25"	1
18	47552	HOSE HYD 6 ST6 ST6 20.50"	1
19	47553	HOSE HYD 6 ST6 EL906 11.50"	1
20	47554	HOSE HYD 8 ST8 EL908 31.50"	1
21	47555	HOSE HYD 8 ST8 EL908 17.50"	1
22	47556	HOSE HYD 16 11.50"	1
23	47557	HOSE HYD 8 ST8 EL458 31.00"	1
24	47558	HOSE HYD 4 ST6 EL454 16.50"	1
25	47559	HOSE HYD 4 ST6 EL904 21.00"	1
26	47560	HOSE HYD 6 ST6 EL456 38.00"	1
27	47561	HOSE HYD 6 ST6 EL456 37.50"	1
28	47562	HOSE HYD 6 ST6 EL906 57.50"	1
29	47567	HOSE HYD 6 ST6 EL906 45.50"	1
30	47568	HOSE HYD 6 ST6 EL906 51.50"	1
31	46595	CLAMP HOSE 1.00"	2

- 1) 47562 HOSE HYD 6 ST6 EL906 57.50" USED WITH 9'6" MAST OPTION  
 2) 47567 HOSE HYD 6 ST6 EL906 45.50" USED WITH 7'6" MAST OPTION  
 3) 47568 HOSE HYD 6 ST6 EL906 51.50" USED WITH 8'6" MAST OPTION

# PARTS LIST

## Hydraulic System Schematic



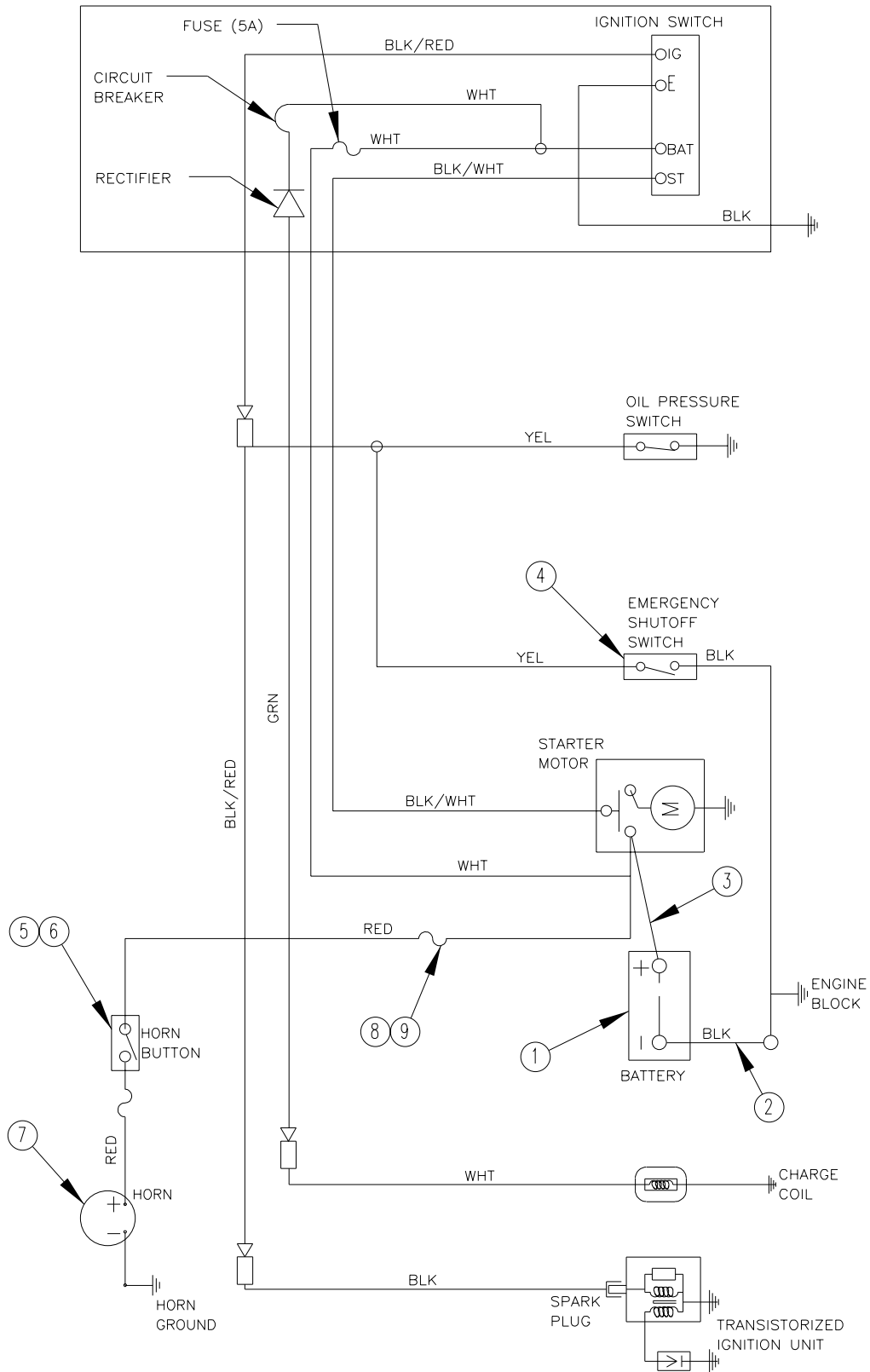
# PARTS LIST

## Hydraulic System Schematic

ITEM	PART NO.	DESCRIPTION	QTY
1	30225	ENGINE 8 HP	1
2	39663	PUMP GEAR HYD .4 CIR 3500 PSI	1
3	36950	VALVE HYD DIRECTIONAL MOTOR 3000 PSI	1
4	36951	VALVE HYD DIRECTIONAL CYLINDER 3000 PSI	1
5	36977	VALVE HYD COUNTER BALANCE ASM	1
	36985	VALVE HYD NEEDLE	-
	36986	VALVE HYD COUNTER BALANCE CARTRIDGE	-
6	36949	MOTOR HYD GEROTOR 22.6 CIR 1250 PSI	1
7	36901	CYLINDER HYD 2.50IN 57IN	1
8	36902	CYLINDER HYD 2.50IN 51IN	1
9	36903	CYLINDER HYD 2.50IN 45IN	1
10	36904	CYLINDER HYD 2.00IN 2.95IN	1
11	36931	FILTER HYD 10M 20G IN-TANK	1
	36987	GAGE HYD FILTER INDICATOR	-
	36988	FILTER HYD ELEMENT 10M	-
	36989	FILTER AIR ELEMENT 10M BREATHER	-
12	39088	FILTER HYD 100 MESH STRAINER	1
13	36896	WELD TANK HYDRAULIC	1

# PARTS LIST

# Electrical Wiring Schematic



# PARTS LIST

## Electrical Wiring Schematic

ITEM	PART NO.	DESCRIPTION	QTY
1	32321	BATTERY 12V 165 CCA	1
2	48331	CABLE BATTERY BLK	1
3	36960	CABLE BATTERY RED	1
4	36991	SWITCH E-STOP NO CONTACT	1
5	37079	BUTTON SWITCH MOMENTARY	1
6	39612	SWITCH MOMENTARY PUSH	1
7	38667	HORN 12V	1
8	37076	FUSE 10A	1
9	37077	HOLDER FUSE IN-LINE	1
^	36992	HARNESS WIRE	1

^ NOT SHOWN  
\* LOCTITE  
# AS REQUIRED

# PARTS LIST

# Decal Identification

**⚠ CAUTION**

When equipment is not in use turn the fuel valve to the OFF position

55269

**⚠ CAUTION**

**MOBIL 424**

**HYDRAULIC FLUID ONLY.**

Check when fluid is cold and unit is level.

55422

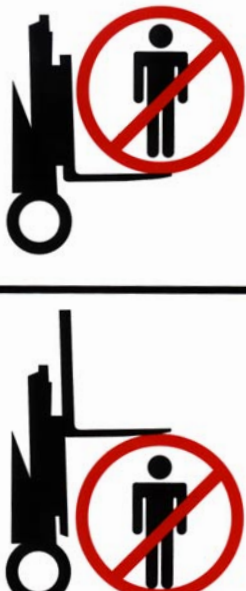
**⚠ CAUTION**

**HOT SURFACES**

MUFFLER, ENGINE, AND ENGINE SHROUD MAY BE HOT  
ALLOW ALL COMPONENTS IN THE ENGINE COMPARTMENT TO COOL BEFORE PERFORMING ANY SERVICE WORK


55398

**⚠ WARNING**




55467

LOWER




RAISE




55468

FORWARD




STOP




REVERSE

55470

TILT FWD



TILT RWD



55469



# PARTS LIST

## Decal Identification

Item No.	Part No.	Part Description	Qty	Decal Location
1	55269	Decal Fuel Shut Off	1	Top of Engine Fuel Tank
2	55398	Decal Warning Hot Surfaces	1	Rear Frame at Muffler
3	55422	Decal Hydraulic Fluid Mobil 424	1	Hydraulic Tank
4	55467	Decal Warning No Riders	1	Lift Cylinder Facing Forks
5	55468	Decal Control Lift	1	On Hood RHS Control Lever
6	55469	Decal Control Tilt	1	Hood LHS Control Lever
7	55470	Decal Control Forward / Reverse	1	Steering Arm Forward of Control Lever
8	55471	Decal Caution Instruction LJ100	1	Hood Opposite Control levers
9	55472	Decal Warning Instruction LJ100	1	Hood Centered Above Handle
10	55473	Decal Warning Load Low Carry	1	Top Brace of Mast Facing Operator
11	55474	Decal Warning Hands Clear	1	Top of Lift Gate Facing Forks
12	55479	Decal Horn E-Stop Throttle	1	Steering Arm Below E-Stop
13	55480	Decal Valve Counterbalance	1	Counterbalance Valve
14	55481	Decal Parking Latch	1	Rear Frame at Latching Position

# PARTS LIST

## Decal Identification

### CAUTION

1. Always follow the instructions in the operator manual.
2. Keep all guards and shields in place.
3. Wait for all movement to stop before servicing machine.
4. Keep hands, feet, and clothing away from power driven parts.
5. Keep off of equipment unless seat or platform for operation and observation is provided.
6. Keep all others off of equipment.
7. Make certain everyone is clear of machine before starting engine or operation.

55471

### WARNING

1. Look out for pedestrians, other vehicles or obstructions.
2. Transport load only in lowered position.
3. Travel or tilt with caution when load is raised.
4. Do not exceed rated operating capacity.

55472

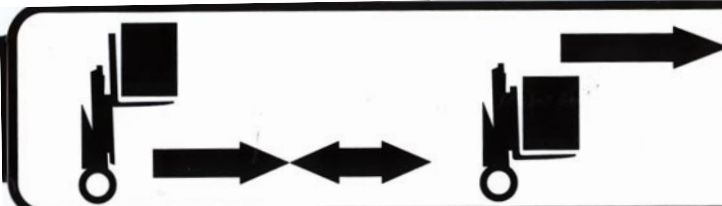


RUN



TOW

55480

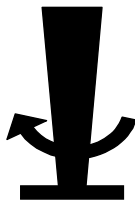


### WARNING

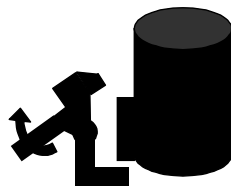
CARRY LOAD LOW

55473

#### PARKING LATCH PROCEDURE

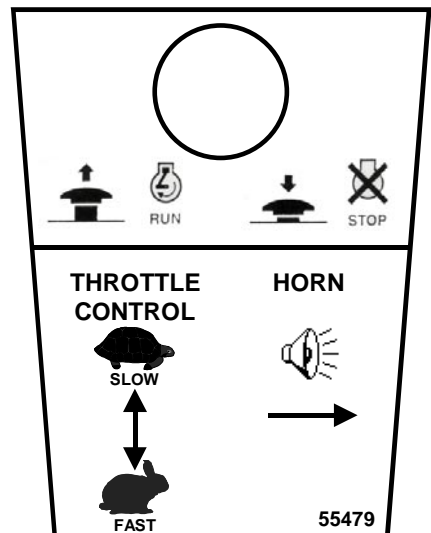


TURN STEERING  
ARM TO LEFT



FLIP LATCH  
TO LOCK ARM

55481



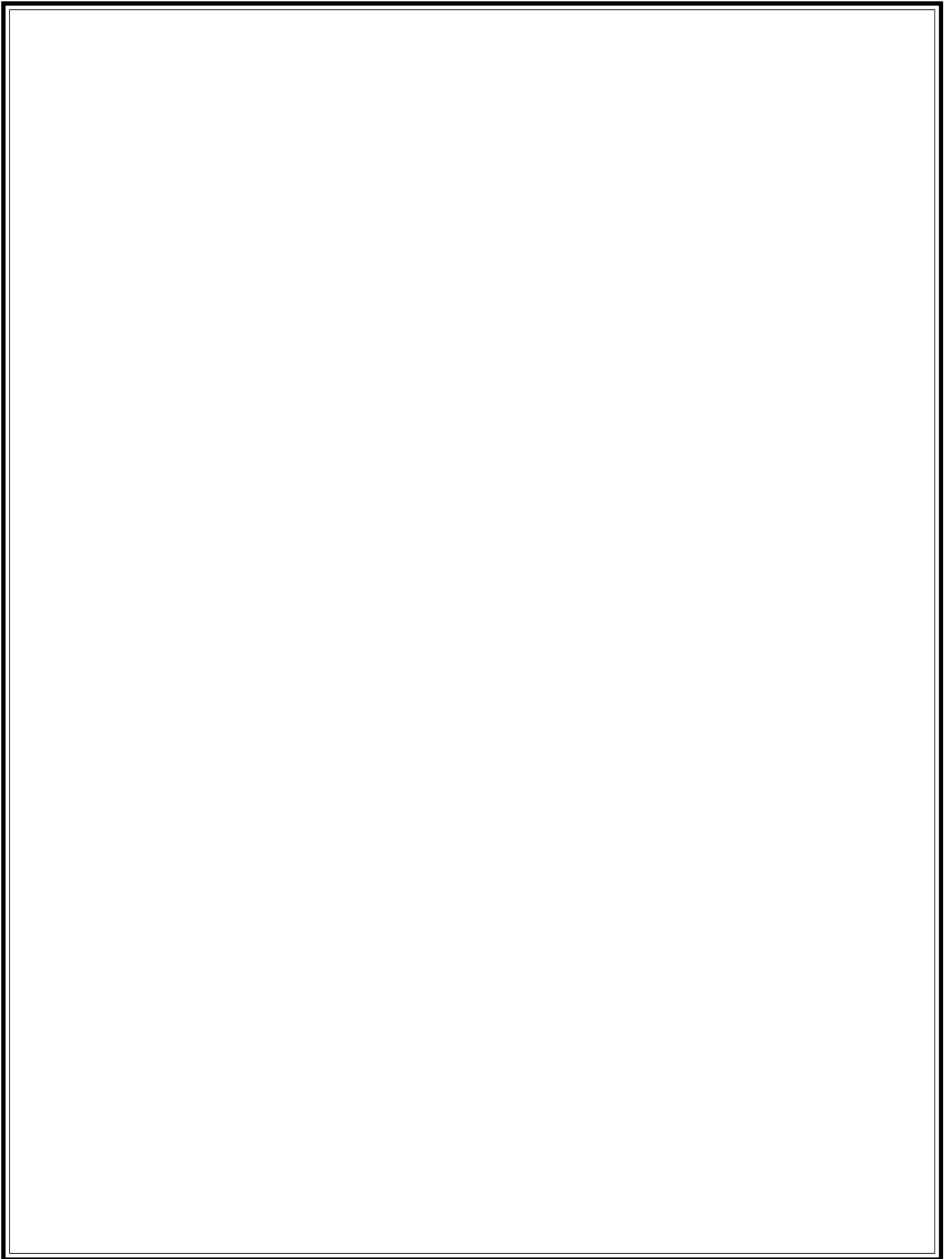
55479

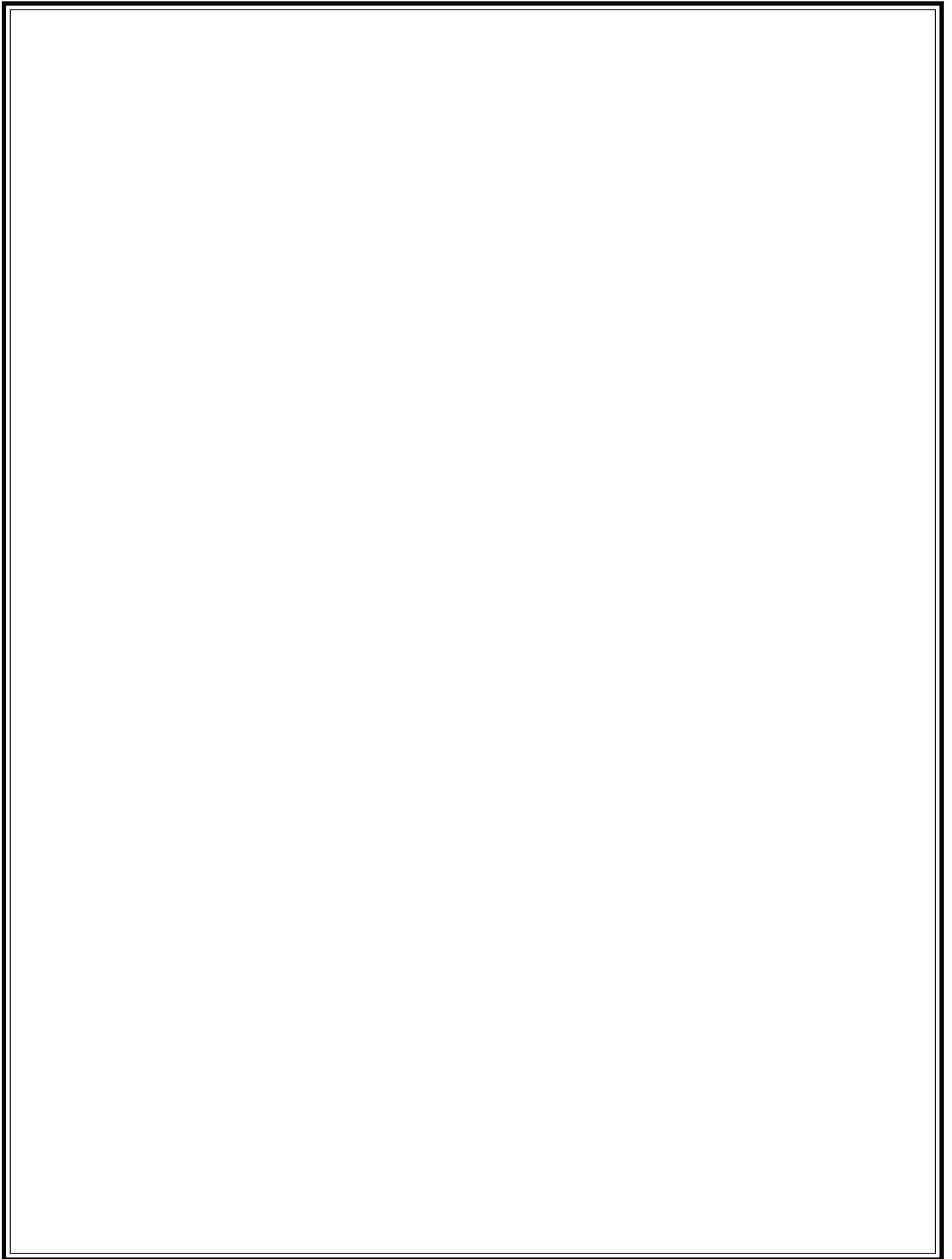
# PARTS LIST

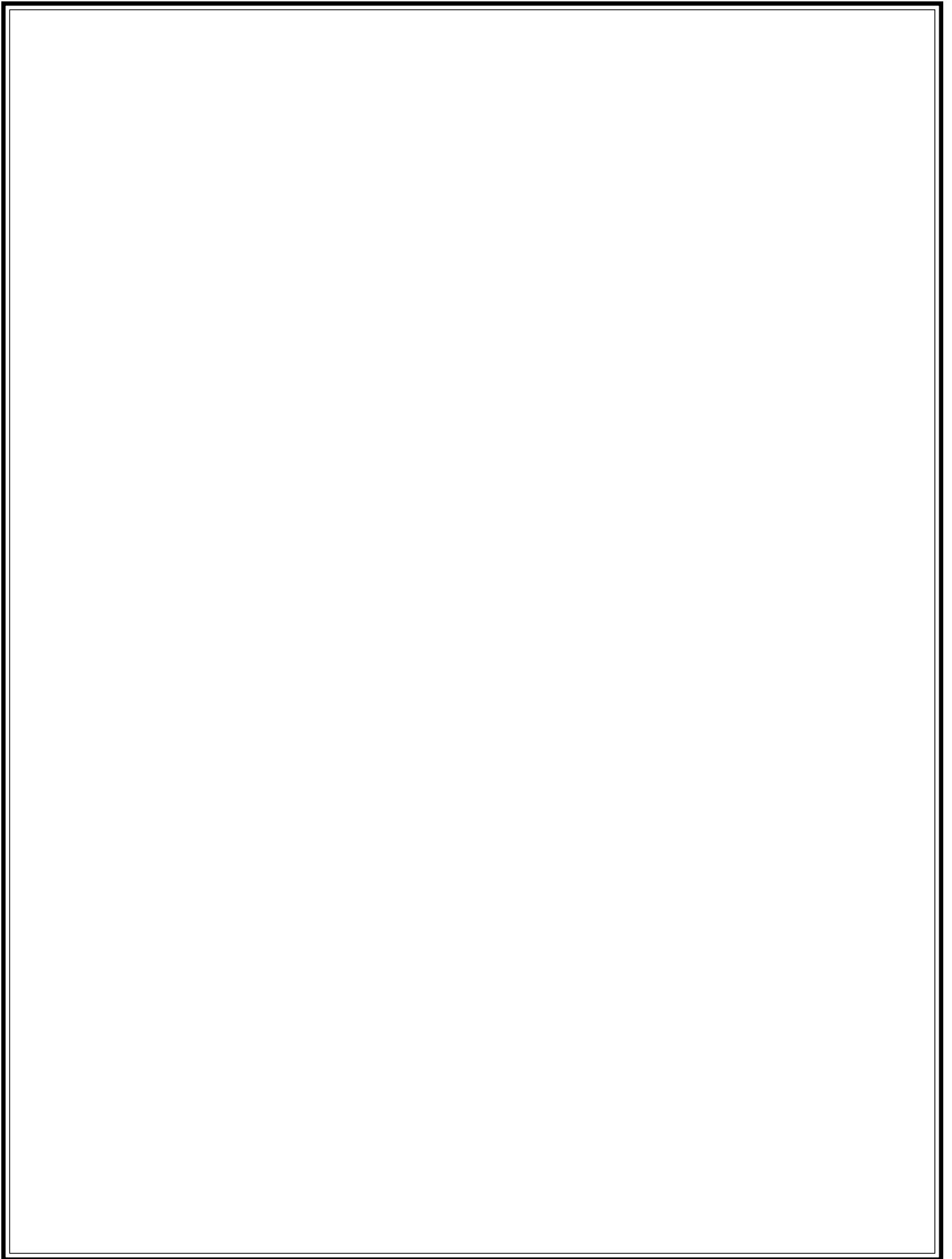
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**CALIFORNIA PROPOSITION 65 WARNING**  
Operation of this equipment and/or engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



*Bred Tough. Technology Born to Work.  
The Way It Ought To Be.*

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