



MMP4-5

*SPECIALTY HAULAGE SOLUTIONS FOR CONSTRUCTION AND MINING*

# Scheduled/Special Inspections & Recommended Support Parts



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# SECTION 1

## Definitions and Abbreviations

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### MANUAL USAGE

This technical manual only contains parts information required to service an MMP4 powered by a CAT 3054B diesel engine. See the appropriate Parts Manual for specific engine information and maintenance procedures. The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the MMP4 must become familiarized with all the safety messages.

If your system is not covered in this manual please contact MEGA Corp. Product Support Group at:

US toll free: 1-800-345-8889

Direct: 1-505-345-2661 or visit our website at [www.megacorpinc.com](http://www.megacorpinc.com) for more detailed contact information.

See the proper manufacture specific Operation & Maintenance, Safety Manuals and Service Manuals for detailed chassis specific system information and chassis specific maintenance procedures.

#### **WARNING**

Due to the nature of these processes, ensure that all safety information, warnings and instructions are read and understood before any operation or any maintenance procedures are performed. Some procedures take place with heavy components and at moderate heights, ensure proper safety procedures are maintained when performing these actions. Failure to use and maintain proper safety equipment and procedures will cause injury, death or damage to equipment.

### WARNING, CAUTION AND NOTES

The following definitions are found throughout the manual and apply as follows:

#### **WARNING**

Operating procedures and techniques, which could result in personal injury and/or loss of life if not carefully followed.

#### **CAUTION**

Operating procedures and techniques, which could result in damage to equipment if not carefully followed.

#### **NOTE**

Operating procedures and techniques that are considered essential to emphasize.

### USE OF SHALL, WILL, SHOULD AND MAY

**Shall** and **Will** – Used when application of a procedure is mandatory.

**Should** – Used when application of a procedure is recommended.

**May** - Used to indicate an acceptable or suggested means of accomplishment.

## SECTION 1

### Definitions and Abbreviations

#### SAFETY MESSAGES

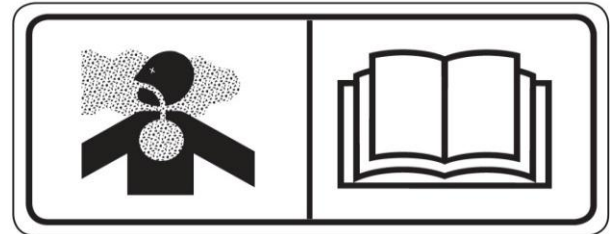
There are several specific safety messages on this machine. The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the machine must become familiarized with all the safety messages.

Make sure that all of the safety messages are legible. Clean the safety messages or replace the safety messages if you cannot read the words. Replace the illustrations if the illustrations are not legible. When you clean the safety messages, use a cloth, water and soap. Do not use solvent, gasoline or other harsh chemicals to clean the safety messages. Solvents, gasoline or harsh chemicals could loosen the adhesive that secures the safety messages. Loose adhesive will allow the safety messages to detach.

Replace any safety message that is damaged or missing. If a safety message is attached to a part that is replaced, install a new safety message on the replacement part.

#### Toxic Gas Hazard (1)

This safety label is located on the side of the tank and at all water fill entrances.

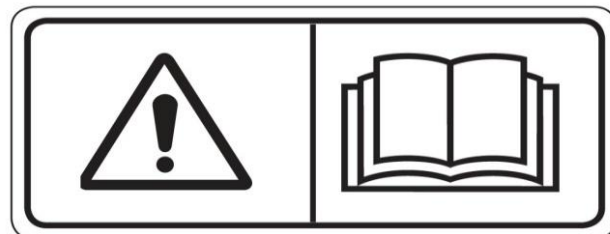


#### **⚠ WARNING**

**Cutting or welding operation on the inside of the tank can cause the accumulation of toxic gases. Read and understand instructions and warnings in the Maintenance Manual. Failure to provide proper ventilation or breathing apparatus while conducting these operations may result in serious injury or death.**

#### Do Not Operate (2)

This safety label is located on the outside of the front and rear control boxes. (If equipped)



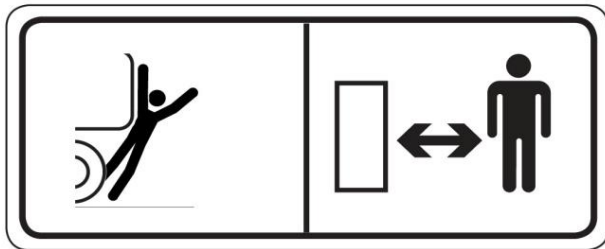
#### **⚠ WARNING**

**Do not open this control box unless you read and understand the instructions and warnings in the Operator and Maintenance Manual. Failure to follow instructions or heed the warnings could result in serious injury or death.**

## SECTION 1 Definitions and Abbreviations

### Backing Runover Hazard (3)

This safety label is located on the rear of the tank and inside the cab.

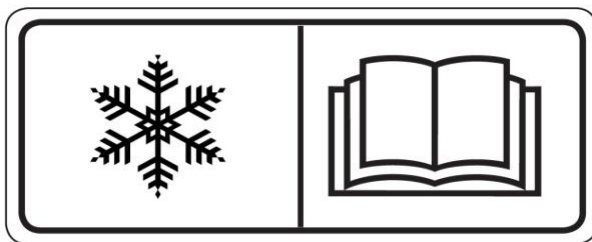


#### **⚠ WARNING**

The vehicle is equipped with a back-up alarm. Alarm must sound when operating this vehicle in reverse. Failure to maintain a clear view in the direction of travel could result in serious injury or death.

### Freezing (4)

This safety label is located on the side of the tank, at the sump drain, and on the pump.

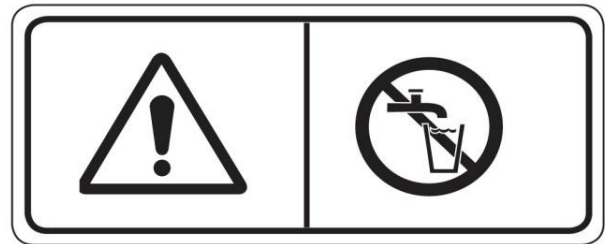


#### **⚠ WARNING**

Drain tank, fill pipe and valve in freezing weather. Refer to the Operator and Maintenance Manual for the procedure to follow.

### Non-Potable (5)

This safety label is located on the side of the tank and sump drain.



#### **⚠ WARNING**

Water held within tank is not potable. Do not use tank for transport of water intended for human or animal consumption or serious injury or death may result.

### Do Not Hoist While in Motion (6)

This safety label is located inside the cab.



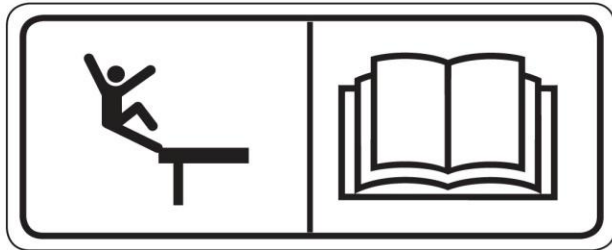
#### **⚠ WARNING**

Do not engage hoist cylinders while vehicle is in motion. Before engaging hoist STOP the vehicle. Do not engage hoisting cylinders unless you read and understand the instructions and warnings in the Operator or Maintenance Manual. Failure to follow instructions or heed the warnings will result in injury or death.

## SECTION 1 Definitions and Abbreviations

### Fall Hazard (7)

This safety label is located at the top of the front and rear of the tank.

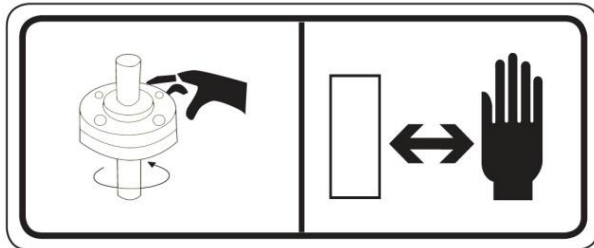


#### **⚠ WARNING**

Do not walk on the top of tank without fall arrest PPE. Serious injury or death could occur from a fall.

### Rotating Shaft (8)

This safety label is located on the pump.

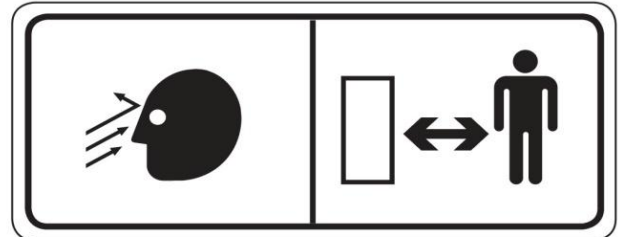


#### **⚠ WARNING**

Do not place your hand or tools within pump bell while pump is rotating and/or pressure held within the motor supply hose. Refer to the Operator and Maintenance Manual for the procedures to operate and maintain the pump. Failure to follow proper procedures could result in serious injury.

### High Pressure Sprayheads (9)

This safety label is located on the spraybar.

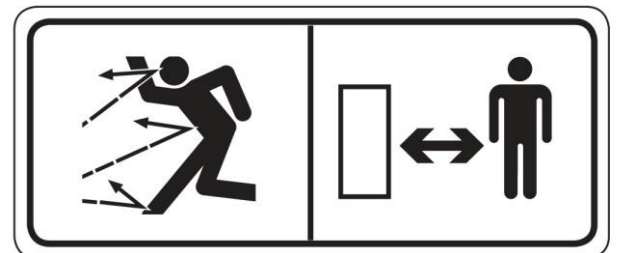


#### **⚠ WARNING**

Do not operate sprayheads until all personnel are a safe distance away from the vehicle.

### High Pressure Monitor (10)

This safety label is located on top of the cab control box.



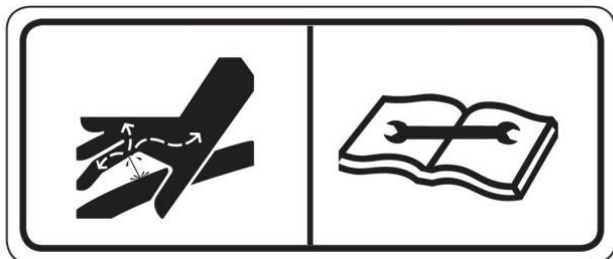
#### **⚠ WARNING**

Do not operate the monitor until all personnel are a safe distance away from the vehicle.

## SECTION 1 Definitions and Abbreviations

### High Pressure Motor (11)

This safety label is located on the hydraulic motor.

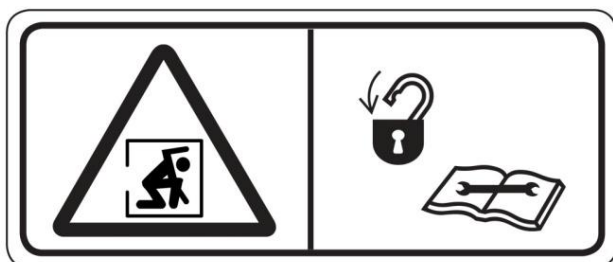


#### **⚠ WARNING**

**Hydraulic motor and supply lines contain oil under high pressure. Improper removal and repair procedures could cause severe injury. To remove or repair, instructions in the Maintenance Manual must be followed.**

### Confined Space (12)

This safety label is located near water tank access and fill ports.



#### **⚠ WARNING**

**Do not enter confined spaces without following established site specific procedures. Failure to follow proper safety procedures will result in serious injury or death.**

### ABBREVIATIONS

BFV – Butterfly Valve  
cc – Cubic Centimeters  
CCW – Counter Clockwise  
CW - Clockwise  
fl. oz. – Fluid Ounce  
FT - Feet  
FPM – Feet Per Minute  
GPM – Gallons Per Minute  
IN/SQ FT – Inches per Square Feet  
KM-H – Kilometers Per Hour  
Kg – kilograms  
Kpa - Kilopascals  
l – liters  
lpm – Liters per minute  
LT – Left as viewed from the operators position  
    facing forward  
m - meters  
MPH – Miles Per Hour  
MTT – Mega Truck Tank  
Nm – Newton meters of torque  
psi - pounds per square inch  
RPM – Revolutions Per Minute  
RT – Right as viewed from the operators position facing forward  
SQ FT – Square Feet  
VDC – Volts, Direct Current



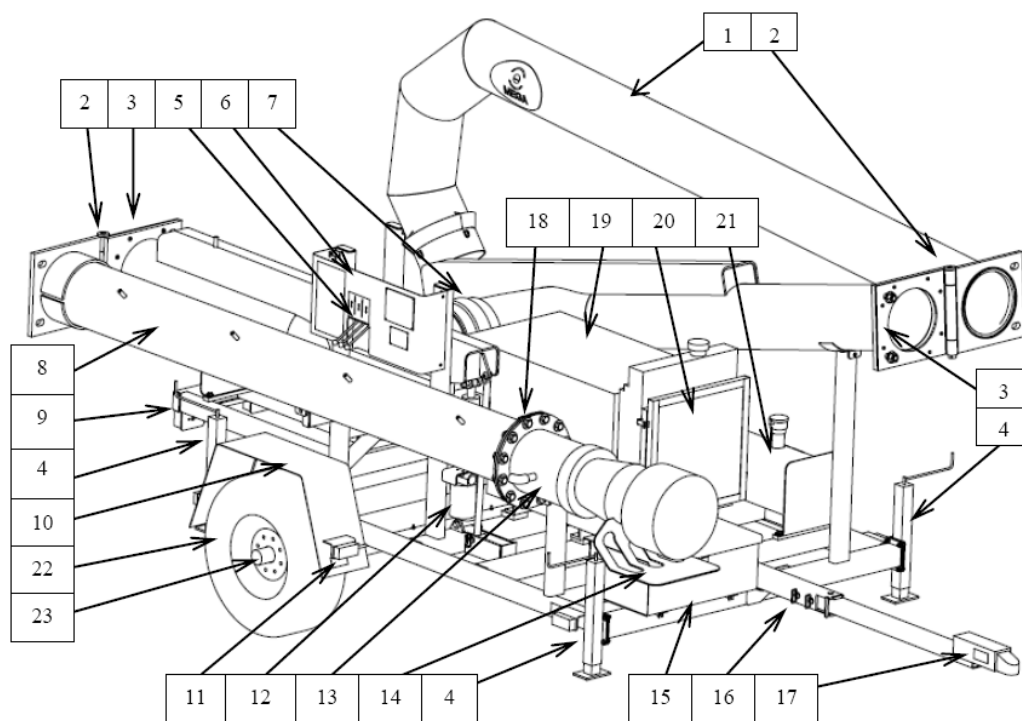
# **SECTION 1**

## **Definitions and Abbreviations**

## SECTION 1

### Definitions and Abbreviations

#### MMP 4 GENERAL OVERVIEW

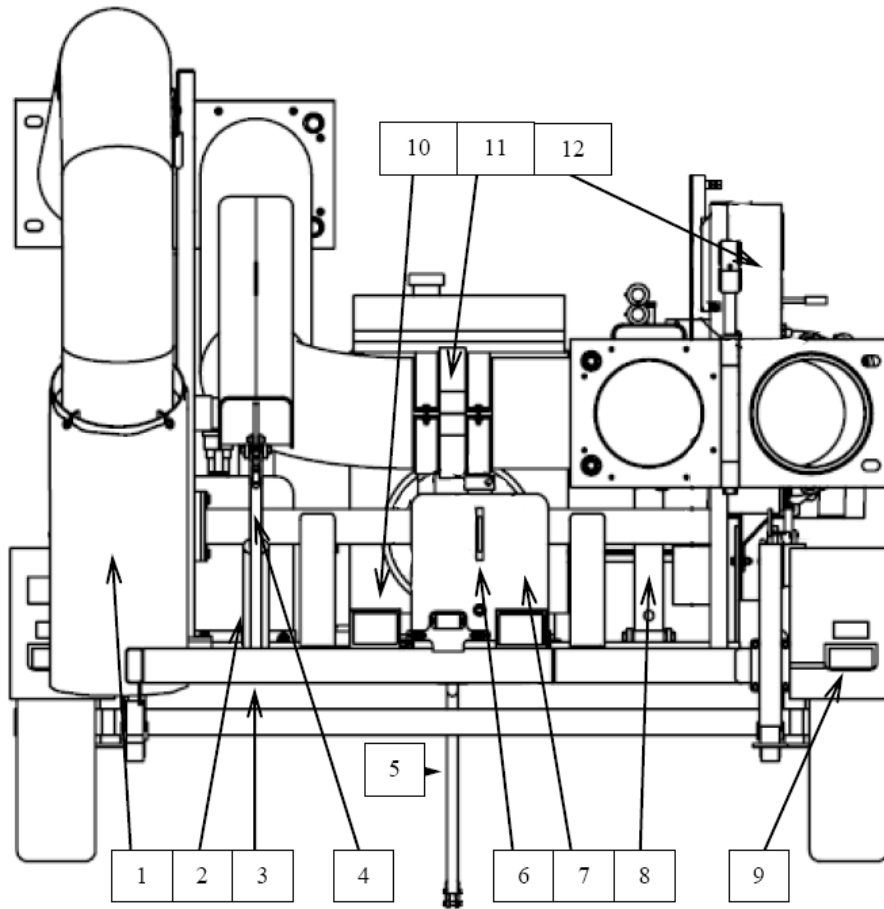


MMP 4 Basic View

1	Discharge Boom	13	Water Pump, Axial, 12"
2	Hinge Pin (2 required)	14	Intake Guard Plate
3	Flange Gasket (2 required)	15	Battery Box
4	Jack Stand (3 required)	16	Hitch Pins, 1" (2 required)
5	Hydraulic Control Valve with handles	17	Coupler, 2 5/16"
6	Control Valve mounting plate	18	Water Pump Gasket, 12"
7	Victaulic Coupling, 12"	19	CAT 3054 Engine assembly
8	Intake Boom	20	Guard, Radiator
9	Tail Light (2 required)	21	Fuel Tank Assembly
10	Fender (1 Right hand)(1 Left Hand)	22	Tire and Rim Assembly
11	Marker Light (2 Red)(4 Amber)	23	Axle Assembly
12	Filter, Hydraulic, 400 psi		

## SECTION 1

### Definitions and Abbreviations



MMP 4 Basic Rear View

1	Discharge sock, tapered	7	Hydraulic Tank Assembly
2	Cylinder, Discharge Boom	8	Cylinder, Inlet Boom
3	Hitch Pin, 1", Boom Lock (2 required)	9	Marker Light, (2 Red)(4 Amber)
4	Boom, Safety Chain (2 required)	10	Tail Light, (2 required)
5	Safety Chain, Hitch (2 required)	11	Victaulic Coupling, 12"
6	Hydraulic Oil Level Gauge	12	Hydraulic Control Valve with Handles

## SECTION 2 Scheduled Inspections

### Contents

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### DESCRIPTION

This section establishes scheduled maintenance inspections of a MMP4 powered by a CAT 3054B diesel engine at the designated frequencies. Performing these inspections will identify potential system discrepancies and allow preventative maintenance to be performed before a component or system is rendered totally inoperative.

**\*\* NOTE:** MMP4's operated in extremely low quality water environments may require more frequent inspections.

		FREQUENCY					
STEP	FRAME	DAILY	WEEKLY	250 HOURS OR SEMI ANNUALLY	500 HOURS OR ANNUALLY	1000 HOURS	2000 HOURS
1	Check Frame, Landing gears, Hitch Assembly and Fenders for cracks and security.	<b>X</b>					
2	Check Axle, Springs, U-Bolts, Spring mounting hardware for cracks, security and missing parts.	<b>X</b>					
3	Check Safety Chains and restraining hardware for security and missing parts.	<b>X</b>					
4	Check Lug nut torque (80 - 90 ft/lbs), Tire Pressure and Condition.	<b>BEFORE EVERY MOVEMENT OF MMP4 TRAILER</b>					
5	Check Lighting, Hitch assembly, Brakes, Wheel seals, Hitch Pins, Boom securing devices, Coupling device and safety Chains.	<b>BEFORE EVERY MOVEMENT OF MMP4 TRAILER</b>					
6	Replace Wheel Bearing Lube.				<b>X</b>		

STEP	CAT 3054 ENGINE	Refer to the Caterpillar <b>SEBU7276-01</b> 3054B Industrial Engine Manual for Caterpillar Engine specific maintenance guidelines and parts.					
1	Check Engine Oil Level, Engine Fuel Level and Coolant Level.	<b>X</b>					
2	Change Engine Oil and Filter			<b>X</b>			

## SECTION 2 Scheduled Inspections

		FREQUENCY					
STEP	HYDRAULIC SYSTEM	DAILY	WEEKLY	250 HOURS OR SEMI ANNUALLY	500 HOURS OR ANNUALLY	1000 HOURS	2000 HOURS
1	Check Hydraulic Oil Level.	<b>X</b>					
2	Change Hydraulic Oil Filter.					<b>X</b>	
3	Change Hydraulic Oil.						<b>X</b>
4	Check Water Pump Lube Reservoirs.			<b>X</b>			
5	Grease Suction Bowl Reservoir..			<b>X</b>			
6	Check Hydraulic Hoses and Fittings for Security and Leaks.	<b>X</b>					
7	Change Oil in Both water Pump Oil Reservoirs.				<b>X</b>		
8	Check For Hydraulic Oil Leaks	<b>X</b>					
9	Check For Water Leaks	<b>X</b>					
10	Check Hydraulic Pump for Security and Leaks.	<b>X</b>					

## SECTION 2 Scheduled Inspections

		FREQUENCY					
STEP	CONTROL SYSTEM	DAILY	WEEKLY	250 HOURS OR SEMI ANNUALLY	500 HOURS OR ANNUALLY	1000 HOURS	2000 HOURS
1	Check MURPHY Switch for proper Operation.	<b>X</b>					
2	Check Throttle control for Proper Engine RPM's.	<b>X</b>					
3	Check Hydraulic Control Valve For proper Operation and Leaks.	<b>X</b>					
4	Check Boom Safety Chains for Security and Function.	<b>X</b>					
5	Check Hydraulic Cylinders for Security, Operation and Leaks.	<b>X</b>					
6	Check Main Hydraulic Relief Pressure Setting. (2000 psi)				<b>X</b>		
7	Lube Boom Hinge Pins and Hydraulic Cylinder Pins.			<b>X</b>			
8	Inspect Boom Hinge Flange Gaskets for Leaks and Damage.	<b>X</b>					
9	Check Inlet and Discharge Tubing for Damage and leaks, to include Discharge Sock and Victaulic Coupling.	<b>X</b>					

## **SECTION 2**

### **Scheduled Inspections**

## SECTION 3 Special Inspections

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#### DESCRIPTION

This section contains special inspection requirements for a specific system after use, an unusual event or storage.

#### STORAGE/WINTERIZATION

##### Entering

1. Remove any exterior dirt, grease and grime that may trap moisture.
2. Flush all water suction and discharge tubes (e.g. water pump,).
3. Ensure all water is drained from the tubes and water pump.
4. Ensure all covers/caps for fluid reservoirs are in proper operating condition and are secured to the openings.
5. Fill Fuel tank to capacity, shut fuel shut off valves at bottom of fuel tank.
6. Check tires for proper inflation.
7. Check Boom retaining hardware, ensure it is operational and secure.
8. Lubricate all grease points (e.g. Hinge pins, cylinder pins water pump suction bowl).
9. Check battery fluid level and charge.
10. Disconnect battery cables from battery.
11. Service all engine systems per CAT SEBU7276-01 service manual.
12. If possible, shelter entire unit from the elements.

##### Removing

1. Remove all covers and seals from all fill/discharge openings and components.
2. Inspect piping for debris that may damage unit that water will be pumped into.
3. Check to ensure all water pump reservoirs are filled to the correct level and the fluid is not contaminated.
4. Remove any exterior dirt, grease and grime and treat any corrosion.
5. Service all Engine systems per CAT SEBU7276-01 service manual.
6. Check all fluid levels for condition and level, replace or adjust as necessary.
7. Check Braking system (if equipped) repair as necessary.
8. Check safety chains for damage.
9. Check lighting system for proper operation, repair as necessary.
10. Clean and connect battery cables to battery.
11. Perform 'Daily' maintenance checks, repair as necessary.
12. Perform a full functional check of all MMP control systems.



**MMP4-5**  
**13 Feb 2012**

# **SECTION 3**

## **Special Inspections**

## SECTION 4

### Recommended Support Parts

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### DESCRIPTION

This section contains a listing of recommended support parts that should be available in the supply warehouse. Once parts are issued from warehouse stock ensure depleted quantities are replenished to keep the recommended support parts package at 100%.

The tables are categorized by specific sub system of the MMP. DO NOT FORGET that all MMP's are not configured the same and there are some variations in systems due to changes in equipment and actual production dates. Ensure MMP serial numbers and actual component part numbers are checked before ordering any parts.

<b>A. AXIAL WATER PUMP GROUP, 303910</b>		
PART DESCRIPTION	PART NO.	QTY
1. Gasket, 12"	304174	2
2. Grommet	303910-03	2
3. Thrush Collar	303910-17	1
4. Lower Seal	303910-20	1
5. Upper Seal	303910-25	1
6. O-Ring, Bearing, (Lower)	303910-31	2
7. O-Ring, Hydraulic Motor, (Upper)	303910-35	2

<b>B. HYDRAULIC GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Cylinder, 12", Discharge Boom	303923	1
2. Cylinder, 20", Inlet Boom	303924	1
3. Filter, Hydraulic, 400 psi	304704	2
4. Cap, Hydraulic Tank	302624	1
5. Gauge, Hydraulic Oil Level	304094	1
6. Gasket, Hydraulic Oil Tank	304116	1
7. Oil, Hydraulic, Clarity (35 Gallon Capacity)	Call MEGA Corp Product Support for assistance	35 gal

## SECTION 4 Recommended Support Parts

<b>C. WATER PIPING (BOOM) GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Sock, Down spout, tapered	304196	2
2. Tie Down Strap, 2"	304291	1
3. Pin, Hinge pivot	037627-05	1
4. Neoprene gasket, Boom flange	304117	2
5. Pin, Hitch, 1"	303935	2
6. Chain, 3/8"	355028	6 ft
7. Shackle, 3/8"	355020	4

<b>D. FRAME AND SUSPENSION GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Wheel and Tire Assembly	303933	1
2. Hitch pin, 1"	303935	2
3. Chain, 3/8"	355028	4 ft
4. Shackle, 3/8"	355020	2
5. Bearing, Wheel, Inner	304157	2
6. Bearing, Wheel, Outer	304158	2
7. Seal, Wheel Bearing	304159	2
8. Jack stand	037708	1
9. Hitch, 2 5/16 Ball Coupler	304231	1

<b>E. CAT 3054B ENGINE SUPPORT PARTS GROUP</b>		
REFER TO SEBU7276-01 INDUSTRIAL ENGINE MANUAL FOR SPECIFIC PARTS AND SERVICE INFORMATION		
PART DESCRIPTION	PART NO.	QTY
1. Filter, Engine Oil	304192	1
2. Filter, Element, Fuel	304188	1
3. Filter, Element, Fuel/Water Separator	304190	1
4. Filter, Element, Air, Primary	304186	1
5. Filter, Element, Air, Secondary	304187	1
6. Seal, Filter, Fuel	304189	1
7. Seal, Filter, Water Separator Base	304191	1
8. Gauge, Fuel Tank	304515	1
9. Cap, Fuel Tank	304091	1
10. Petcock, 1/4"	300296	2

## SECTION 4

### Recommended Support Parts

## NOTES

<b>F. LIGHTING GROUP</b>		
<b>PART DESCRIPTION</b>	<b>PART NO.</b>	<b>QTY</b>
1. Light, Stop/Tail/Turn	302607	2
2. Light, Clearance, Amber	302974	2
3. Light, Clearance, Red	302975	2
4. Light, license plate	304124	1
5. Wiring Harness	304119	1

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**SECTION 4**  
**Recommended Support Parts**

**NOTES**