1-1. CAPACITIES.

- **Fuel Tank.**
  - 20 U.S. Gallons (75.7 l).
- **Hydraulic Oil Tank**

- **Engine - Diesel. (Air Cooled)**
  - Manufacturer/Model - Deutz F2L1011.
  - Oil Capacity.

Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

RECOMMENDED WRENCH SIZE	IN. LBS.	FT. LBS.
	10	—
	10	—
	25	—
	25	—
	25	—
	25	—
	50	—
	50	—
	100	—
	200	—
	200	—
	200	—
	300	25
	300	50
	600	50
	600	50
	1200	100
	1200	100
	1200	100
	1200	100
	1800	150
	1800	150
	2400	200
	2400	200
	3600	300
	3600	300
	7200	600
	7200	600
	7200	600
	7200	600
	—	Multi*
	—	Multi*
	—	—
	—	—
	—	Multi*
	—	Multi*

SAE Grade 8

Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

INDEX NO.	COMPONENT	NUMBER/TYPE LUBE POINTS	LUBE & METHOD	INTERVAL (HOURS)
1.	Upright Level Cylinder (Base Shaft)	1 Grease Fitting	MPG - Pressure Gun	100
2.	Upright Level Cylinder (Rod End)	1 Grease Fitting	MPG - Pressure Gun	100

Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

tion, then turn IGNITION SWITCH to OFF. If machine is equipped with hydraulic control valves, move control lever for applicable cylinder in each direction. This is done to relieve pressure in the hydraulic lines. Carefully remove hydraulic hoses from appropriate cylinder port block.

(3). There will be initial weeping of hydraulic fluid which can be caught in a suitable container. After the initial discharge, there should not be any further leakage from the ports. If leakage continues at a rate of 6-8 drops per minute or more, the counterbalance valve is defective and must be replaced.

(4). To check piston seals, carefully remove the counterbalance valve from the retract port. After initial discharge there should not be any further leakage from the ports. If leakage occurs at a rate of 6-8 drops per minute or more, the piston seals are defective and must be replaced.

(5). If no repairs are necessary or when repairs have been made, replace counterbalance valve and carefully connect hydraulic hoses to cylinder port block.

(6). If used, remove lifting device from upright or remove prop from below main boom, activate hydraulic system and run cylinder through one complete cycle to check for leaks.

2-8. CYLINDER REPAIR.

Note

The following are general procedures that apply to all of the cylinders on this machine. Procedures that apply to a specific cylinder will be so noted.

a. Disassembly.

⚠ IMPORTANT

DISASSEMBLY OF THE CYLINDER SHOULD BE PERFORMED ON A CLEAN WORK SURFACE IN A DIRT FREE WORK AREA.

(1). Connect a suitable auxiliary hydraulic power source to the cylinder port block fitting.

⚠ WARNING

DO NOT FULLY EXTEND CYLINDER TO THE END OF STROKE. RETRACT CYLINDER SLIGHTLY TO AVOID TRAPPING PRESSURE.

(2). Operate the hydraulic power source and extend the cylinder. Shut down and disconnect the power source. Adequately support the cylinder rod, if applicable.

(3). If applicable, remove the cartridge-type holding valve and fittings from the cylinder port block. Discard o-rings.

(4). Place the cylinder barrel into a suitable holding fixture. Tap around outside of cylinder head retainer with a suitable hammer to shatter loctite.

(5). Using a suitable chain wrench, loosen the cylinder head retainer, if applicable, and/or cylinder head gland, and remove from cylinder barrel.

(6). Attach a suitable pulling device to the cylinder rod port block end or cylinder rod end, as applicable.

⚠ IMPORTANT

EXTREME CARE SHOULD BE TAKEN WHEN REMOVING THE CYLINDER ROD, HEAD, AND PISTON. AVOID PULLING THE ROD OFF-CENTER, WHICH COULD CAUSE DAMAGE TO THE PISTON AND CYLINDER BARREL SURFACES.

(7). With the barrel clamped securely, apply pressure to the rod pulling device and carefully withdraw the complete rod assembly from the cylinder barrel.

⚠ CAUTION

ONCE THE HEAD GLAND HAS CLEARED THE CYLINDER CASE MOUTH, THE RODS MUST BE SUPPORTED CLOSE TO THE CYLINDER CASE PRIOR TO THE PISTON BEING PULLED PAST THE CYLINDER CASE THREADS, TO AVOID DAMAGE TO THE CYLINDER CASE THREADS, AND/OR THE PISTON AND PISTON SEALS.

(8). Using suitable protection, clamp the cylinder rod in a vise or similar holding fixture as close to the piston as possible.

(9). Remove the set screw(s), if applicable, and nut which attach the piston to the rod, and remove the piston. Discard nylon point set screws.

(10). Remove the piston rings.

(11). Remove and discard the piston o-rings, seal rings, and backup rings.

(12). Remove the set screw, if applicable, piston spacer, and wear ring, if applicable, from the rod.

(13). Remove the rod from the holding fixture. Remove the cylinder head gland and retainer, if applicable. Discard the o-rings, back-up rings, rod seals, and wiper seals.

PREVIEW - YOUFIXTHIS.COM

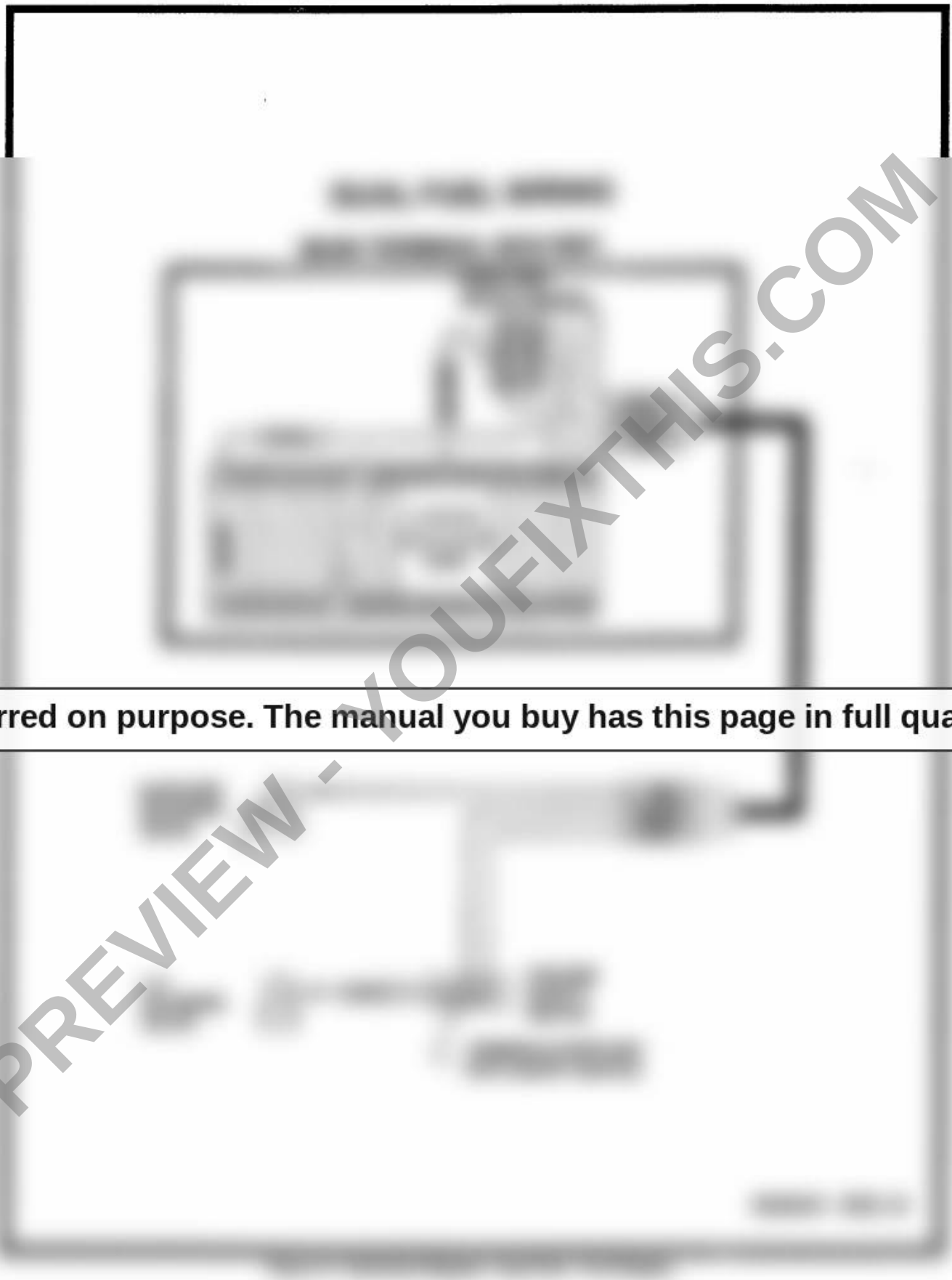
Download full manual at youfixthis.com

Table 3-1. Platform Assembly Troubleshooting.

TROUBLE	PROBABLE CAUSE	REMEDY
Platform Leveling System.		
Automatic leveling inoperative.	Hydraulic system oil low.	Replenish oil as necessary.
	Dual check valves dirty/inoperative.	Clean or replace as necessary.
	Restricted or broken hydraulic line or fitting on slave cylinder or main lift cylinder.	Clean, repair, or replace line or fitting.
	Worn seal(s) in slave level or main lift cylinder.	Replace seal(s).
	Counterbalance valve in slave cylinder defective.	Replace counterbalance valve.
	Slave level or main lift cylinder not functioning properly.	Repair or replace cylinder.
Platform will not maintain level attitude.	Counterbalance valve on slave leveling cylinder improperly adjusted or not functioning properly.	Replace valve.
	Worn seal(s) in slave level or main lift cylinder.	Replace seal(s).
	Damaged slave level or main lift cylinder.	Repair or replace cylinder.
No response to platform leveling controls.	Level control inoperative.	Repair or replace control lever.
	Hydraulic system oil low.	Replenish oil as necessary.
	System orifice plugged/dirty.	Clean orifice.
	Restricted or broken hydraulic line or fitting.	Clean, repair, or replace line or fitting.
	Control valve not functioning properly.	Repair or replace valve.
	No electric to dump or control valve.	See proper wiring diagram.
	Slave cylinder not functioning properly.	Repair or replace pump.
Platform will not adjust "up" to level.	Hydraulic pump not functioning properly.	Repair or replace pump.
	Restricted or broken hydraulic line or fitting.	Clean, repair, or replace line or fitting.
	Slave cylinder not functioning properly.	Repair or replace cylinder.
	Electrical failure.	See proper wiring diagram.
	Orifice plugged.	Clean orifice.
Platform will not adjust "down" to level.	See: Platform will not adjust "up" to level.	

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TABLE OF CONTENTS

SUBJECT - SECTION, PARAGRAPH **PAGE NO.**

FOREWORD . . . . . a
TABLE OF CONTENTS i
LIST OF ILLUSTRATIONS ii
LIST OF TABLES iii

SECTION 1 — SPECIFICATIONS

1-1. Capacities 1-1
1-2. Component Data 1-1
1-3. Performance Data 1-3
1-4. Torque Requirements 1-3
1-5. Lubrication 1-3
1-6. Pressure Settings 1-8
1-7. Cylinder Specifications 1-9
1-8. Major Component Weights 1-9
1-9. Critical Stability Weights 1-9
1-10. Serial Number Locations 1-10

SECTION 2 — PROCEDURES

2-1. General 2-1
2-2. Servicing and Maintenance Guidelines 2-1
2-3. Lubrication Information 2-2
2-4. Cylinder - Theory of Operation 2-3
2-5. Valves - Theory of Operation 2-3
2-6. Wear Pads 2-4
2-7. Cylinder Checking Procedures 2-4
2-8. Cylinder Repair 2-6
2-9. Cylinder Removal and Installation 2-10
2-10. Boom Maintenance 2-13
2-11. Tilt Alarm Switch 2-15
2-12. Main Boom Limit Switch Adjustment Procedures 2-15
2-13. Throttle Checks and Precision Governor Adjustments - Ford VGS411 Engine 2-16
2-14. Throttle Checks and Adjustments - Deutz F2L-1011/Kubota Engines 2-16
2-15. Pressure Setting Procedures 2-19
2-16. Swing Bearing 2-23
2-17. Drive Torque Hub 2-27
2-18. Drive Torque Hub/Brake - 4WD Front 2-32
2-19. Swing Brake - Ausco (Machines Built Prior to August 1991) 2-38
2-20. Swing Brake - Ausco (Machines Built Prior to November 1992) 2-40
2-21. Swing Brake - Sepac (Machines Built From November 1992 to Present) 2-42
2-22. Drive Brake - Ausco (Machines Built Prior to March 1992) 2-44
2-23. Drive Brake - Mico (Machines Built March 1992 To Present) 2-46
2-24. PQ Controllers 2-48
2-25. Oscillating Axle Bleeding Procedure and Lockout Test 2-49
2-26. Basket Rotator Brake 2-50
2-27. Dual Fuel System 2-50
2-28. Free Wheeling Option 2-51
2-29. Spark Arrestor Mufflers 2-51
2-30. Foot Switch Adjustment 2-51
2-31. Hydraulic Pump W/Hayes Pump Drive Coupling Lubrication 2-51
2-32. Boom Synchronizing Procedure 2-51
2-33. Preventive Maintenance and Inspection Schedule 2-52

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SECTION 3 — TROUBLESHOOTING

3-1. General 3-1
3-2. Troubleshooting Information 3-1
3-3. Hydraulic Circuit Checks 3-1

LIST OF ILLUSTRATIONS

FIGURE NO. TITLE PAGE NO.

1-1. Torque Chart 1-5
1-2. Lubrication Chart 1-6
1-3. Serial Number Locations 1-10
2-1. Boom Prop Configurations 2-7
2-2. Poly-Pak Seal Installation 2-8
2-3. Throttle Checks and Precision Governor Adjustment, Ford LSG-411 Engine 2-17
2-4. Throttle Checks and Adjustment, Deutz F2L-1011/Kubota Engine 2-18
2-5. Pressure Settings, Standard Bang-Bang Valves - Gas and Diesel 2-20
2-6. Pressure Settings, Proportional Valves - Gas and Diesel 2-21
2-7. Pressure Settings, Manual Hydraulic Valves - Gas and Diesel 2-22
2-8. Swing Bearing Tolerance Boom Placement 2-24
2-9. Swing Bearing Tolerance Boom Measuring Point 2-26
2-10. Swing Bearing Bolt Torquing Sequence 2-28
2-11. Drive Torque Hub Assembly 2-30
2-12. Torque Hub Carrier Timing 2-32
2-13. Drive Torque Hub/Brake - 4WD Front 2-34
2-14. Hub/Brake Assembly Cover Alignment 2-37
2-15. Swing Brake - Ausco (Machines Built Prior To August 1991) 2-39
2-16. Swing Brake - Ausco (Machines Built Prior To November 1992) 2-41
2-17. Swing Brake - Sepac (Machines Built From November 1992 To Present) 2-43
2-18. Drive Brake - Ausco (Machines Built Prior To March 1992) 2-45
2-19. Drive Brake - Mico (Machines Built From March 1992 To Present) 2-47
2-20. Basket Rotator Brake Torquing 2-51
3-1. Electrical Diagram - Dual Fuel (Ford Engine) 3-21
3-2. Electrical Diagram - Deutz Engine 3-22
3-3. Electrical Diagram - Ford Engine 3-23
3-4. Electrical Diagram - Kubota Engine 3-24
3-5. Electrical Diagram - Main Terminal Box - Deutz Engine - Hydraulic Controls 3-25
3-6. Electrical Diagram - Main Terminal Box - Deutz Engine - Standard Controls 3-26
3-7. Electrical Diagram - Main Terminal Box - Ford Engine - Hydraulic Controls 3-27
3-8. Electrical Diagram - Main Terminal Box - Ford Engine - Standard Controls 3-28
3-9. Electrical Diagram - Main Terminal Box - Kubota Engine - Proportional Controls . . 3-29
3-10. Electrical Diagram - Main Terminal Box - Kubota Engine - Standard Controls 3-30
3-11. Electrical Diagram - Platform - Hydraulic Controls 3-31
3-12. Electrical Diagram - Platform - Proportional Controls 3-32
3-13. Electrical Diagram - Platform - Standard Controls 3-33
3-14. Electrical Diagram - Valves 3-34

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

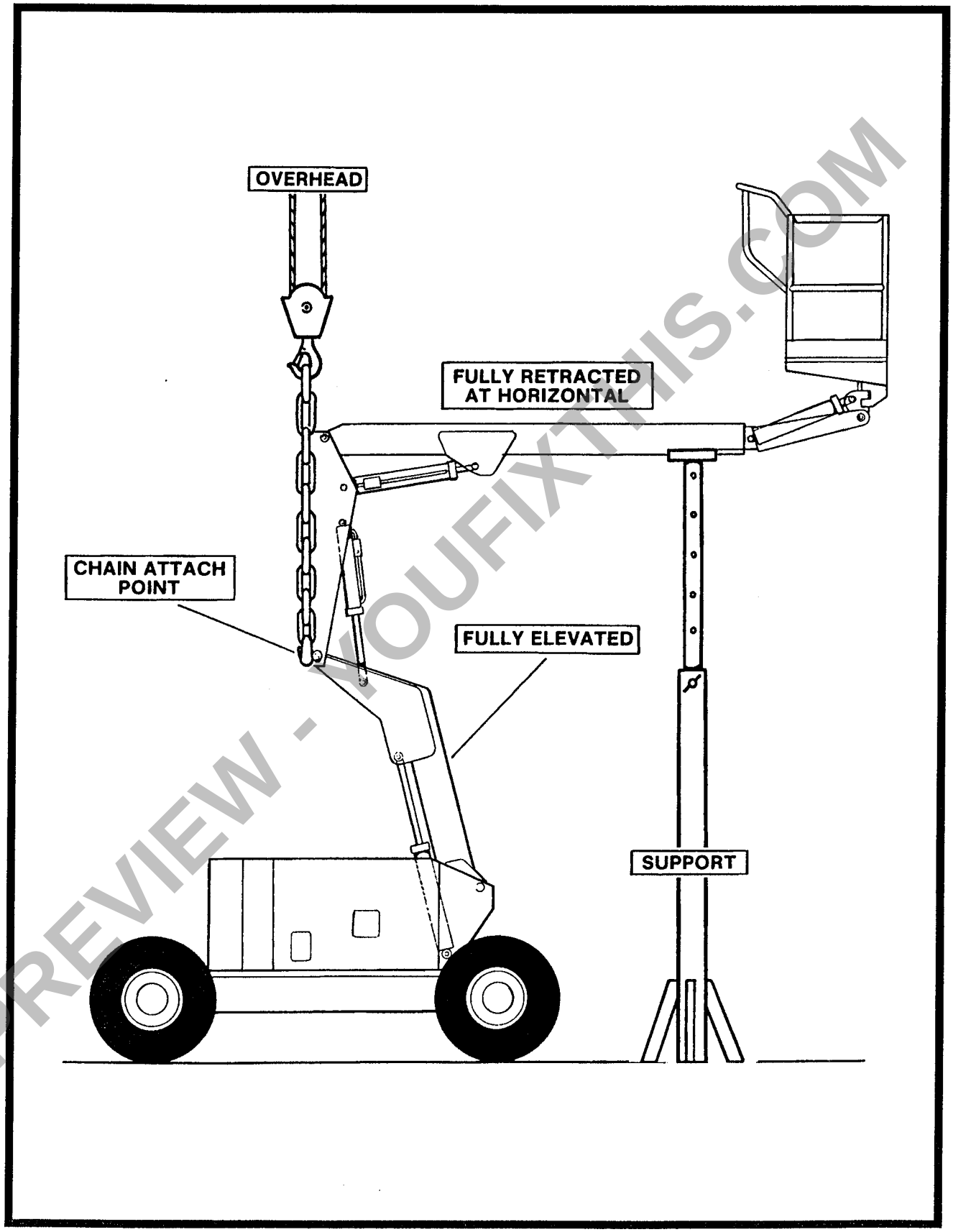


Figure 2-1. Boom Prop Configurations.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Note

Steps (w) and (x) apply to those machines equipped with a rotary coupling.

(w). Install the rotary coupling retaining

(3). Lift carrier assembly and top thrust washer (31) from hub. Thrust washer may stick inside cover.

(4). Pry ring gear (30) loose from hub and remove it. Remove o-ring seal (29) from

Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

(10). Install the power plate sub assembly. Use a shop press to evenly lower plate into position. There should be no gap at the O.D. when the power plate is properly seated against housing. If a shop press is not available, use the assembly bolts (21). Tighten sequentially one turn at a time until power plate is properly seated. Torque to 50-60 ft. lbs. (68-81 Nm).

(11). If replacement of pressure relief valve (22) is necessary, install 1/2 to 3/4 turns beyond finger tight.

(12). Install in place between motor and torque hub. After connecting hydraulic line to brake, bleed air from brake via bleeder screw.

2-23. DRIVE BRAKE - Mico (Machines Built From March 1992 To Present). (SEE FIGURE 2-19.)

a. Disassembly.

(1). With shaft protrusion downward, remove end cover (13) by removing capscrews (12).

⚠ CAUTION

END COVER IS UNDER SPRING TENSION OF APPROXIMATELY 2000 POUNDS (681 KG). THE FOUR CAPSCREWS SHOULD BE LOOSENED EVENLY TO RELIEVE THIS FORCE. IF A HYDRAULIC PRESS IS AVAILABLE (3000 LBS (1362 KG) MAXIMUM), THE COVER CAN BE HELD IN POSITION WHILE REMOVING THE CAPSCREWS AND LOCKWASHERS.

(2). Remove case seal (11) from housing (7) then remove bleeder screw (14) from end cover (13).

(3). Remove piston (24) from end cover (13).

(4). Remove o-ring (19), back-up ring (18), o-ring (21) and back-up ring (20) from piston (24).

(5). Remove separators (19) from housing (7).

(6). Remove stack assembly, consisting of discs (23), return plate (8) and friction discs (22) form housing (7).

(7). Remove dowel pins (17), springs (5 & 6) and spring retainer (16) from housing (7).

(8). Remove retaining ring (3) from housing (7).

(9). Remove shaft by pressing or using a soft mallet on male end of shaft (4).

(10). Remove retaining ring (15) and bearing (2) from shaft (4).

(11). Press rotary seal (1) from housing (7).

b. Inspection.

(1). Clean all parts thoroughly.

(2). Closely inspect all parts for excessive wear, cracks and chips. Replace parts as necessary.

(3). Discard seals and o-rings.

(4). Closely inspect bearings and bearing contact surfaces. Replace as necessary.

Note

Bearings may be reused if, after thorough inspection, they are inspection, they are found to be in good condition.

c. Assembly.

Note

Lubricate all seals and o-rings with clean hydraulic oil prior to assembly.

(1). Press new rotary seal (1) into housing (7). Note the direction of seal.

(2). Install new bearing (2) and retaining ring (15) on shaft (4).

(3). Install shaft assembly and retaining ring (3) into housing (7).

(4). Install dowel pins (17), spring retainer (16) and springs (5 & 6) into housing (7).

Note

Be sure to use the same number of springs and spring pattern as recorded during disassembly.

(5). Position new large diameter return plate (8) in housing with tabs guided by dowel pins (17) until disc rests on springs (5 & 6).

Note

Discs (8 & 23) and friction discs (22) should remain dry during installation. No oil contaminate disc surfaces.

(6). Place new disc (22) on shaft (4) until it contacts return plate (8).

(7). Add additional discs (23) as required to complete assembly.

(8). Insert separators (10) in holes of return plate (8).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Table 3-4. Chassis Assembly Troubleshooting.

TROUBLE	PROBABLE CAUSE	REMEDY
Front Frame Axle Area.		
One or both front wheels will not steer.	Steering link or tie rod broken or attaching hardware missing.	Replace steering link, tie rod or hardware as necessary.
One or both front wheels will not rotate or rotate erratically.	Wheel hub or bearings damaged or not lubricated.	Replace hub or bearings as necessary and repack bearings with approved grease.
	Hub attachment nut loose or missing.	Secure or replace hub attachment nut and cotter pin as necessary.
Rear Frame Axle Area.		
Difficulty encountered when moving machine.	Load capacity exceeded.	Reduce load. Apply loads only in accordance with load capacity indicator.
	Flow divider sticking.	Repair or replace flow divider.
	Machine being moved up too steep a grade.	Remove machine from grade and check that drive system operates correctly.
	Grade too steep.	See Caution Placard on platform for specified grades and sideslopes.
	Drive wheel tire treads worn smooth.	Replace tires as necessary and inflate to specified pressure.
	Drive brakes "dragging".	Re-adjust pressure.
	System pressure too low.	Re-adjust pressure.
	Drive hub(s) defective.	Repair or replace hub.
	Engine RPM's not set.	Correctly set engine RPM's.
	Drive motors worn.	Repair or replace drive motors.
	Counterbalance valve defective.	Replace counterbalance valve.
	Accessory valve not adjusted properly.	Correctly adjust accessory valve.
	Low amperage on controller.	Correctly adjust controller.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 12 of 105 pages

The full manual includes:

- All 105 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

JLG 40HA Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual