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Part No. 02984405

# ASSEMBLY MANUAL

## (STANDARD INSTRUCTIONS)



Tractors equipped with additional options, special equipment, tractor manufacturer modifications, new tractor models, or Customer alterations may prevent this Mount Kit from being properly mounted to the tractor. Alamo Group is not responsible for modifications to the MountKit to accommodate these differences.

**NOTE:** This manual is designed to be a basic assembly instruction manual and will show some illustration that are intended to be generic. Some illustrations may not reflect the type tractor the mower is being mounted on. It is intended to be used with the Assembly Instruction Drawings sent for the specific tractor type that the mount kit was designed to fit. It is important to keep these assembly drawing with this manual for future reference.

**ALAMO INDUSTRIAL**

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Seguin, Texas 78155  
830-379-1480

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# TO THE OWNER/OPERATOR/DEALER

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

**BEFORE YOU START!!** Read the safety messages on the implement and shown in your manual. Observe the rules of safety and common sense!

**DANGER**

FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.

<p><b>1.</b></p>	<p><b>2. NO RIDERS. NO CHILDREN OPERATORS.</b></p>	<p><b>3. USE SAFETY SHOES, HARD HAT, SAFETY GLASSES, SEAT BELTS, &amp; ROPS</b></p>	<p><b>4. BLOCK UP SECURELY BEFORE WORKING UNDER.</b></p>
<p>1. Study and understand operator's manual, safety signs, and instructional decals for tractor and implement to prevent misuse, abuse, and accidents.</p> <ul style="list-style-type: none"> <li>● Learn how to stop engine suddenly in an emergency. Be alert for passerby and especially children.</li> </ul> <p>2. Allow no children on or near implement or tractor. Allow no riders on tractor and implement. Falling off may cause serious injury or death from being run over by tractor or cutter or contact with rotating blades.</p> <p>3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly to prevent injury and possible death from falling off or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, and Ear Plugs are Recommended.</p> <p>4. Block up or support raised machine and all lifted components securely before putting hands or feet under or working underneath any lifted components to prevent crushing injury or death from sudden dropping or inadvertent operation of controls. Make certain area is clear before lowering or folding.</p> <p>5. Before transporting, put Lift Lever in detent or full-lift position. Secure the implement for transport by installing Cylinder Stops or Transport Pin on Pull-type implement center axle and Wing Transport Locks on folding implements.</p> <ul style="list-style-type: none"> <li>● Attach Safety Chain to cutter and towing unit securely. See Operator's Manual.</li> </ul> <p>6. Make certain that the SMV sign, Warning Lights, and Reflectors are clearly visible. Follow local traffic codes.</p> <p>7. Never operate with Cutting Head raised if passerby, bystanders, or traffic are in the area to reduce possibility of injury or death from Objects thrown by Blades under Guard or cutter structure.</p> <p>8. Before dismounting, secure implement in transport position or lower to ground.</p> <ul style="list-style-type: none"> <li>● Put tractor in park or set the brake, disengage PTO, stop engine, and remove key, and wait until noise of rotation has ceased to prevent entanglement in rotating parts which can cause injury or death.</li> <li>● Never mount or dismount a moving vehicle. Crushing from runover may cause injury or death.</li> </ul>			
<p><b>5. TRANSPORT SAFELY, LOCK UP.</b></p>	<p><b>6. USE SMV, LIGHTS, &amp; REFLECTORS.</b></p>	<p><b>7. DO NOT OPERATE WITH CUTTER OR WING RAISED.</b></p>	<p><b>8. DO NOT MOUNT OR DISMOUNT WHILE MOVING.</b></p>

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## WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it to within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain.

# NOTES

# INTRODUCTION

## ABOUT THIS MANUAL:

The intent of this publications to provide the competent technician with the information necessary to assemble the Alamo Industrial Product. This will, in turn provide for complete customer satisfaction. This manual is designed to be used as a basic component guide. The assembly drawings shipped with the unit will be used as to the assembly of components that are specific to a particular tractor model, these assembly drawings should always be kept with the other product manuals for future reference.

It is hoped that the information contained in this and other Manuals will provide enough detail to eliminate the need for contact of the Alamo Industrial Technical Service Dept. However, it should be understood that many instances may arrive where in correspondence with the Manufacturer is necessary.

## CONTACTING MANUFACTURER: (Please help us Help You! Before You Call! )

Alamo Industrial Service Staff Members are dedicated to helping you solve yours or your customer's service problem as quickly and efficiently as possible. Unfortunately, we receive entirely to many calls with only a minimum amount of information. In some cases, the correspondent has never gone out to look at the equipment and merely calls inquiring of the problems described to him by the operator or customer.

## PART NUMBERS:

Part numbers listed in this manual are subject to change without notice as designs are made to adapt to the tractor or for a design improvement. Before ordering parts ALWAYS Measure old part to make certain that is the one you will need. This manual is designed to be used along with the Parts and Operators Manual.

Most calls received by Alamo Industrial Service can be classified into approx. 6 general categories.

1. Hydraulic or Mechanical Trouble Shooting.
2. Request for Technical Information or Specifications.
3. Mounting or Fitting Problem.
4. Special Service Problem.
5. Equipment Application Problems.
6. Tractor Problem Inquiries.

## HOW YOU CAN HELP:

1. Make certain the call is necessary! Most of the calls received may not be necessary if the Dealer Service Technician would do the following.
2. Check the Service Information at your Dealership provided by Alamo Industrial, This would include, [Service Bulletins](#), [Information Bulletins](#), [Parts Manuals](#), [Operators Manuals](#) or [Service Manuals](#), many of these are available via the Alamo Industrial Internet site (Alamo - Industrial. Com). Attempt to diagnose or repair problem before calling.
3. If a call to Alamo Industrial is needed, Certain Information should be available and ready for the Alamo Industrial Service Staff. Such information as, [Machine Model](#), [Serial Number](#), [Your Dealer Name](#), [Your Account Number](#) and [Any other information that will be useful](#). This information is vital for the development of a prompt and correct solution to the problem. This will also help to develop a database of problems and related solutions, which will expedite a solution to future problems of a similar nature.
4. The technician may be asked to provide detailed information about the problem including the results of any required trouble shooting techniques. If the information is not available, The technician may be asked to get the information and call back. Most recommendations for repairs will be based on the procedures listed in the Service Manual/ Trouble Shooting Guide and the information as received from the dealer/ customers. These recommendations are based on the assumption that the proper testing and equipment inspections have been performed to determine the repair needed.

## CONTACT ALAMO INDUSTRIAL:

Alamo Industrial Inc.  
1502 E. Walnut St. Seguin TX. 78155,  
Technical Service Dept. PH: 830-379-1480

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# Section 1

# Axtreme Boom

## SAFETY SECTION

# Safety Section

Read these assembly instructions through completely and understand them before proceeding with the assembly of the equipment.



A safe and careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the Manual, who are responsible and trained, and who know how to do so safely and responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: **“ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!”** The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment..

**Practice all usual and customary safe working precautions and above all---remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.**

## CAUTION!

The lowest level of Safety Message; warns of possible injury. Decals located on the Equipment with this Signal Word are Black and Yellow.



## WARNING!

Serious injury or possible death! Decals are Black and Orange.



## DANGER!

Imminent death/critical injury. Decals are Red and White. (SG-1)



# Safety Section

**PELIGRO!** Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)



**¡LEA EL INSTRUCTIVO!**

**READ, UNDERSTAND, and FOLLOW** the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards.



(SG-2)

**PELIGRO!** Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)



**¡ LEA EL INSTRUCTIVO!**

**WARNING!** Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)



**WARNING!** Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)



**DANGER!** Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



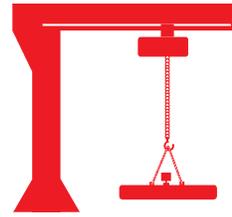
**WARNING!** Use caution and wear protective gloves when handling sharp objects such as blades, knives, and other cutting edges. Be alert to worn component surfaces which have sharp edges. Sharp surfaces can inflict severe laceration injuries if proper hand protection is not worn. (SG-37)



Axtreme Boom (Asy. Man.) 07/06

# Safety Section

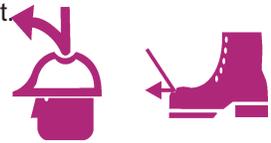
**WARNING!** Many of the parts are heavy and require lifting assistance. Do not try to lift the heavy parts by yourself. Get help from another employee or from an overhead crane.



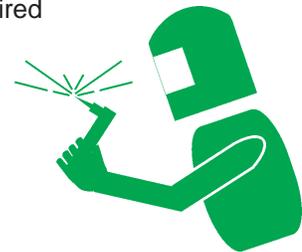
**WARNING!** The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items thrown by the equipment. (SG-16)



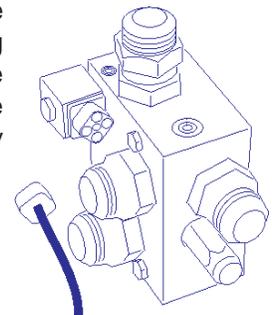
**WARNING!** Always wear safety shoes with steel toes when working on this equipment. It is recommended that the safety shoes have metatarsal guards.



**WARNING!** When welding use Welding hood with the appropriate OSHA required protective lens, welding apron, and welding gloves.



**DANGER!** Always disconnect the wire leads from the mower valve solenoid before performing service on the Tractor or Mower. Use caution when working on the Tractor or Mower. Tractor engine must be stopped before working on Mower or Tractor. The Mower Blades could inadvertently be turned on without warning and cause immediate dismemberment, injury or death. (SBM-12)



**DANGER!** Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.



(SG-23)

# Safety Section

## DANGER!



Before starting the mower make sure the area is clear and the floor has been swept. The mower blade can throw objects several hundred feet. Thrown objects could damage property or cause severe bodily injuries even death.

## WARNING!



Make certain that the "Slow Moving Vehicle" (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



## DANGER!



Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)



## DANGER!



Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



## WARNING!



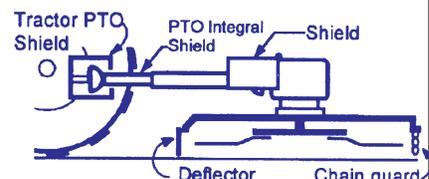
Always read carefully and comply fully with the manufacturers instructions when handling oil, solvents, cleansers, and any other chemical agent. (SG-22)



## DANGER!



All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



# Safety Section

## **DANGER!**



**NEVER use drugs or alcohol** immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



## **DANGER!**



Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

## **WARNING!**



Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. (SG-30)

## **WARNING!**



Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash Hands after handling. (SG-31)

## **WARNING!**



Use extreme caution when getting onto the Implement to perform repairs, maintenance and when removing accumulated material. Only stand on solid flat surfaces to ensure good footing. Use a ladder or raised stand to access high spots which cannot be reached from ground level. Slipping and falling can cause serious injury or death. (SG-33)

## **WARNING!**



Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34)

## **WARNING!**



Avoid contact with hot surfaces of the engine or muffler. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-38)

# Section 2

# Axtreme Boom

# Model Specifications

# SPECIFICATIONS - AXTREME BOOM

## READ THIS BEFORE BEGINNING ASSEMBLY:

**The Axtreme Boom has electronic components:** The electronic components can be damaged if care is not taken when performing repairs, testing and/or during assembly.

### **DO NOT**

1. **DO NOT** short any wires across or allow them to be shorted out.
2. **DO NOT** attempt to jump across any wires or supply them with alternate power source.
3. **DO NOT** install higher rated fuses than are recommended by manufacturer.
4. **DO NOT** do any welding on unit unless the computer modules are unplugged first, this is to prevent a power surge going into modules (THIS IS VERY IMPORTANT). This could also apply to the tractor components. Check Tractors repair guide for specific instruction about tractor model and type.
5. **DO NOT** attempt to repair or adjust a component that is not intended to be repaired, example sealed components as there are no serviceable components inside.
6. **DO NOT** let anyone attempt any testing or repairs unless they are an experienced and qualified technician. Technicians must have proper tools, gauges, meters etc. to perform proper diagnosis and/or repairs.
7. **DO NOT** perform any assembly or repairs with dirty tools or in dirty work area. When working on hydraulic components keeping system clean and free of contamination is important.
8. **DO NOT** start or engage system if the oil level is not at the proper level or condition. Never start or run unit low or out of oil.
9. **DO NOT** install / add any oil unless you know it is the correct type and the container is clean. Make certain the oil is not contaminated with dirt or any liquid.

## 1. Pump Specifications:

Body Construction.....	Cast Iron
Control Valve Type.....	Direct Acting, Pilot Operated
Control Valve Relief.....	3000 PSI
Driveshaft Type.....	1" X 15 Spline
Driveshaft Torque Rating.....	371 ft. lbs.
Pressure Rating (Maximum).....	3000 PSI
Pump Type.....	Gear
Pump Gear Width.....	2 inch
Pump Efficiency Flow Rate (Approx).....	85 % of G.P.M. is Acceptable
Speed Rating (Maximum).....	2400 RPM
Nominal Displacement (Per Revolution).....	5.1 Cu. In.
Output @ 1800 RPM.(Operating RPM).....	37.5 G.P.M.
Output @ 2400 RPM.(Maximum RPM).....	51 G.P.M.
Horsepower Rating (Maximum Conditions).....	90 HP
Rotation Direction (Viewed from Top of Deck).....	Clockwise
Motor Start / Stop Time.....	6 Seconds (Approx)
Tank Capacity Required.....	17.5Gallons
Oil Type.....	See Oil Chart
Oil Temperature (While Operating).....	70 Deg, (F) Above Ambient

# SPECIFICATIONS - AXTREME BOOM

## 2. Fifty Inch (50") Cutting Head Specifications:

Blade / Motor Rotation (Looking down from Top of Deck).....	Clockwise
Blade Tip Speed.....	18,850 FPM / 210 MPH
Blade carrier Type.....	Pan or 3 Leaf bar Option
Blade Pan Blade Qty.....	2 Blade or 3 Blade Option
Blade Bar Blade Qty.....	2 Blades
Blade Cutting Width (Overall).....	50 inches.
Deck Construction.....	Formed and Welded Steel
Deck Material.....	10 Gauge
Deck Weight.....	725 lbs.
Spindle .....	4.5" by 9" Heat Treated Alloy
Spindle Bearing.....	Tapered Roller Bearings
Spindle Lubrication.....	Grease (Pumped In)
Motor Type.....	Gear
Motor Gear Width.....	2-1/2"
Motor Speed (Maximum).....	2400 RPM
Motor Pressure (Maximum).....	3000 PSI
Motor Rated Pressure .....	3000 PSI
Motor Rated Flow.....	38 GPM
Motor Displacement.....	6.375 Cu. Inches

## 3. Sixty Inch (60") Rotary Mower Head:

Blade / Motor Rotation (Looking down from Top of Deck).....	Clockwise
Blade Tip Speed.....	18,000 FPM / 205 MPH
Blade Carrier Type.....	2 Leaf bar Option
Blade Bar Blade Qty.....	2 Blades
Blade Cutting Width (Overall).....	60 inches.
Deck Construction.....	Formed and Welded Steel
Deck Material.....	10 Gauge
Deck Weight.....	818 lbs.
Spindle .....	4.5" by 9" Heat Treated Alloy
Spindle Bearing.....	Tapered Roller Bearings
Spindle Lubrication.....	Grease (Pumped In)
Motor Type.....	Gear
Motor Gear Width.....	2.25"
Motor Speed (Maximum).....	2500 RPM
Motor Pressure (Maximum).....	3250 PSI
Motor Rated Pressure.....	3000 PSI
Motor Rated Flow.....	38 GPM
Motor Displacement.....	8.1 Cu. Inches

## 4. Rotary Head Torque Specification:

Motor to Spindle Housing.....	100 ft. lbs.
SPindle to Deck.....	425 ft. lbs.
Spindle Bearing Pre-Load.....	25 in. lbs. Rolling Torque
Blade Bar Leaf Bars. ( 1-1/4" Bolts).....	2000 ft. lbs.
Blade Bolts .....	400 ft. lbs.
Blade Bar to Spindle.....	400 ft. lbs.

# SPECIFICATIONS - AXTREME BOOM

## 5. Control Valve: 5 Spool used with Rotary Heads w/ Door

Valve Type.....	Open Center 5 Spool
Valve Control (Manual Standard).....	Remote Cable Control
Valve Control (Electronic Joystick Optional).....	Joystick Electronic Control
Pressure (Maximum).....	3500 PSI
Flow (Maximum).....	20 GPM
Main Relief.....	Direct Acting: 3000 PSI: Adjustable
FilterType.....	Return Side
Filter Size.....	10 Micron
Bushings.....	Greasable Steel

## 6. Valve Ports: ( See Figure 1 & 2)

"A" Port..... Valve Ports designated as "A" Ports connect to the Rod End of the Swing and Lift Cyl, to the Barrel End of the Dipper Cyl, to the Barrel End of Tilt Cyl and to Barrel End of the Door Cyl.

"B" Port..... Valve Ports designated as "B" Ports connect to the Barrel End of Swing and Lift Cyl, to the Rod End of the Dipper Cyl, to the Rod End of the Tilt Cyl and to the Rod End of the Door Cyl.

### Mechanical Remote Cable Controlled Valve (Standard)

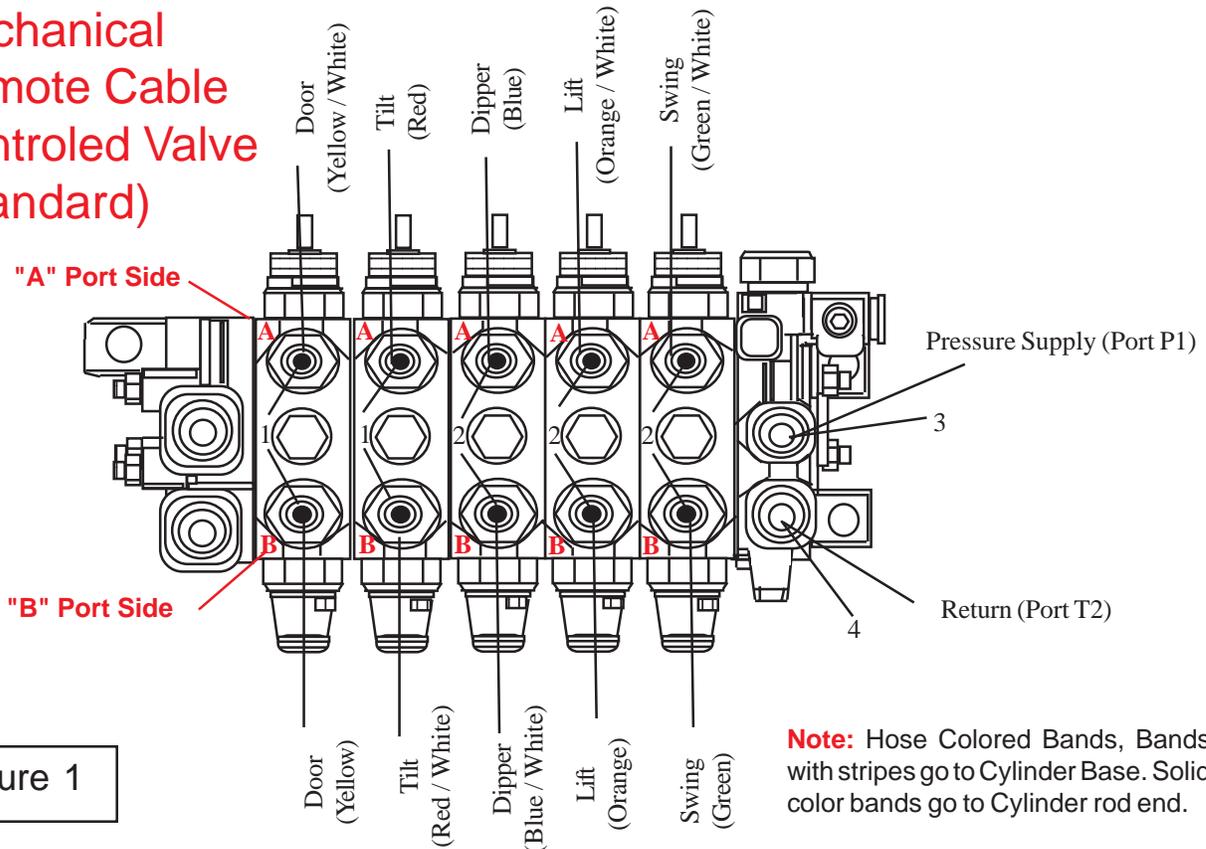


Figure 1

# SPECIFICATIONS - AXTREME BOOM

Joystick  
Electronic  
Controlled Valve  
(Optional)

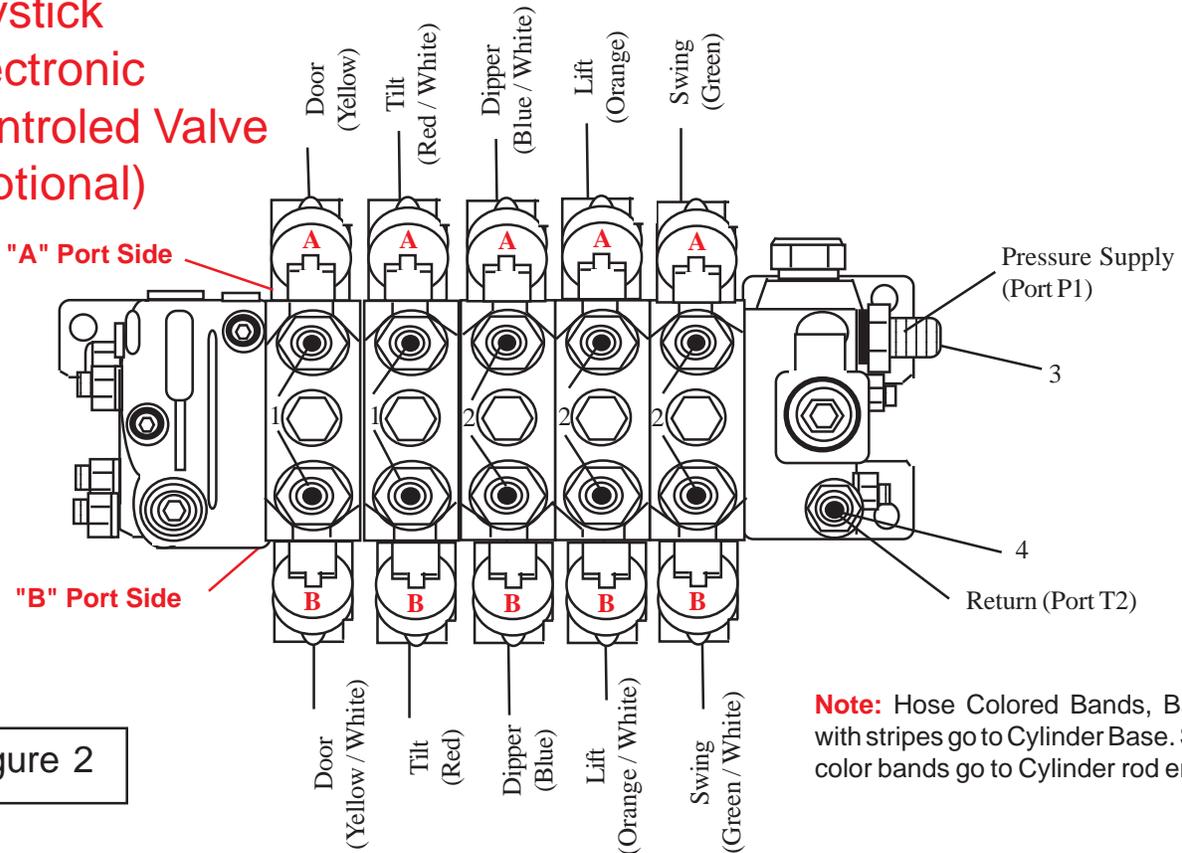


Figure 2

## 7. Valve Sections Function:

### Mechanical Control Vale (See Figure 1)

Spool	Cylinder	Function		Pressure	
		"B"	"A"	"A"	"B"
1	Swing	Back	Forward	2750 PSI	2750 PSI
2	Lift	Up	Down	2750 PSI	1160PSI
3	Dipper	Out	In	2750 PSI	1160PSI
4	Tilt	Up	Down	2750 PSI	Main Relief
5	Door	In-Open	Out-Closed	Main Relief	Main Relief

### Electronic Control Vale (See Figure 2)

Spool	Cylinder	Function		Pressure	
		"B"	"A"	"A"	"B"
1	Swing	Back	Forward	2750 PSI	2750 PSI
2	Lift	Up	Down	1160 PSI	2750 PSI
3	Dipper	Out	In	1160 PSI	2750 PSI
4	Tilt	Up	Down	2750 PSI	Main Relief
5	Door	In-Open	Out-Closed	2750 PSI	2750 PSI

# SPECIFICATIONS - AXXTREME BOOM

## 8. Hose End Fitting Torque Specification:

**Hose End Type:** 37 Degree Angle End Steel Hose End Fittings\*

Dash Size	Nominal Cyl. Size (in.)	Torque in. lbs.	Torque ft .lbs.
-4	1/4"	140	12
-6	3/8"	230	19
-8	1/2"	450	38
-10	5/8"	650	54
-12	3/4"	900	75
-16	1"	1200	100
-20	1-1/4"	1600	133
-24	1-1/2"	2000	167
-32	2"	2800	233

\* Straight Threads do not always seal better when higher torques are used. Too much torque causes distortion and may lead to leakage. DO NOT over torque fittings and DO NOT allow any contaminants to enter system through fittings when installing them.

## 9. TORQUE VALUES - BOLTS:

**Maximum Torque per Bolt Size and Grade, Ft lbs & (Nm)**

**IMPORTANT !** Listed below IS BOLT TORQUE and NOT APPLICATION TORQUE, Component Application Torque will vary depending on what is bolted down and the type material (Metal) that is being bolted together. Thread condition and lubrication will vary Torque settings.

Inche Sizes

Bolt Dia. inch	2 (B)	5 (D)	8 (F)
	 Plain Head	 3 Dashes	 6 Dashes
1/4	Not Used	10 (14)	14 (19)
5/16	Not Used	20 (27)	30 (41)
3/8	Not Used	35 (47)	50 (68)
7/16	35 (47)	55 (75)	80 (108)
1/2	55 (75)	85 (115)	120 (163)
9/16	75 (102)	130 (176)	175 (230)
5/8	105 (142)	170 (230)	240 (325)
3/4	185 (251)	300 (407)	425 (576)
7/8	160 (217)	445 (603)	685 (929)
1	250 (339)	670 (908)	1030 (1396)
1-1/8	330 (447)	910 (1234)	1460 (1979)
1-1/4	480 (651)	1250 (1695)	2060 (2793)

**ALWAYS  
CHECK  
MARKINGS  
ON  
TOP  
OF  
BOLT  
HEAD  
OR  
OTHER  
BOLT  
DESCRIP-  
TIONS**

Metric Sizes

Bolt Dia. mm	 4.8	 8.8	 10.8
	6	5	7
8	11	20	25
10	20	40	58
12	37	70	105
14	60	100	140
16	92	155	200
18	118	216	280
20	160	270	355
22	215	330	430
24	285	500	700
27	450	875	1000
30	600	1200	1700
33	800	1600	2300
36	900	2100	3000

# Section 3

## Axtreme Boom

### Tractor Preparations

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# General Information / Installation Requirements

## General Information:

The tools you will need at the assembly site are as follows:

1. Welding equipment (including correct head gear, eye shields, and protective clothing.)
2. Impact wrench or socket and ratchet set.
3. Rubber mallet.
4. Box-end, Allen, and crescent wrenches.
5. Alignment pins.
6. Phillips and plain-head screwdrivers.
7. Forklift or hydraulic floor jacks with rolling back boards.
8. Over head hoist and floor jacks
9. Jack Stands and/or other support devices that are strong enough to support tractor and components
10. Multidirectional Levels.
11. Paint Scraper.
12. Hydraulic Filter Buggy or Cart.
13. Safety shoes, safety glasses, and gloves.
14. A hard hat should be worn by anyone working under any raised component.

Remember to follow each step closely and cautiously. Be aware of all support personnel at all times. Keep the assembly area as clean as possible; clean up all spills when they occur. An uncluttered assembly area and a crew that is sensitive to the hazards involved in putting this implement together will help prevent accidents. Keep all unauthorized personnel from the area. Do not allow children near the assembly site nor allow them on or near the tractor after assembly. There is no safe place for anyone except the operator on the tractor and those assisting with the assembly.

To help you assemble your new Unit and mount it to your tractor, a detailed assembly instruction Manual is being provided with the mount kit to provide detailed instructions and part numbers. Please consult this document for specific information. When needed, you can get additional information or clarification from Your Dealer or Alamo Group Customer Service.

This publication provides general information and may not specifically be for your case or tractor, but, in connection with the assembly drawings that are sent with the mount kit, this publication offers you some valuable assistance - please read it thoroughly and use it with your assembly drawings and other publications. Other publications may include, operators manual, parts manual, service manual or any other publication sent by manufacturer. Keep all publications together for future reference.

These mount kits are made for selected tractors with standard configurations. Only the noted options and tire sizes listed in the Mounting Specifications will work with these mount kits. Other options, front axles, or different tire sizes may prevent the mount kit from fitting your nonstandard tractor. Alamo Group cannot take responsibility for these problems or any modifications made to the unit.

Throughout these instructions, references are made to right or left directions. Right and left are determined by sitting on the tractor seat and facing the direction of travel forward always.



**DANGER!**

This is the Safety-Alert symbol. When you see this symbol on your machine or in these instructions, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices.



**DANGER!**

A signal word - **DANGER**, **WARNING**, or **CAUTION** - is used with the Safety Alert symbol. **DANGER** identifies the most serious hazards.

## General Information / Installation Requirements

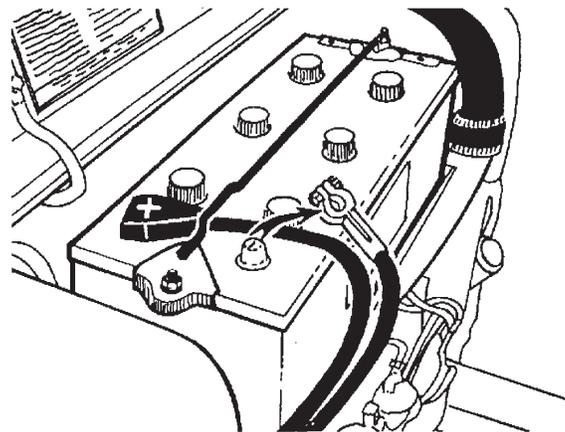
**WARNING!** Safety signs with signal word **WARNING** are typically used to point out more serious hazards.



**CAUTION!** General precautions are listed on **CAUTION** safety sign. **CAUTION** also calls attention to safety messages in these instructions.



**WARNING!** Disconnect the negative lead (ground) from the battery terminal to prevent any damage to the electrical system.



### **LEVELING TRACTOR:**

**TRACTOR MUST** be on level ground before assembly is begun. The tractor must be level, All tires must have the proper amount of air in them as per tire and/or Tractors manufactures recommendations.

**DO NOT** level tractor by over inflating tires. The tractor can be leveled by jacking it up and putting it on jack stands if needed. Tractor should be kept at ride/operation height when mounting unit, this will insure that the components are mounted at the correct height.

# General Information / Installation Requirements

## Replacement Oil Filter

Included in the packing box of this unit is a replacement filter element for filter assembly in the tank. This Mower unit's hydraulic components have been carefully cleaned and packaged at the factory to prevent contamination from entering the system. However, dust and dirt particles may enter into the sealed components through transportation, handling, rain, or just sitting in a dirty or harsh environment. Therefore to assure that the hydraulic system is properly clean, please prepare the area where the unit is to be assembled. The area should be on a hard concrete floor that has been swept clean of all dust and contaminants. Unpacked the Mower unit carefully so that the seals on the hydraulic components are not broken or pulled off.

### **WARNING!**



Before attempting to assemble the mower to the tractor, move the tractor to a clean solid surface, preferably a concrete shop surface with an over head crane. The crane should have a rated capacity to lift the heaviest component or assembly. A 5-ton crane is recommended for the assembly work. If a smaller crane is used, be sure not to exceed the rated capacity of the crane.

- Always follow all OSHA crane operating and inspection rules, regulations, inspection requirements, and recommended practices when using the crane.
- Never work under any component that is lifted by the crane.

### **WARNING!**



Wear personal protective equipment when assembling the mower. As a minimum that should include:

- Safety Glasses
- Safety Shoes
- Gloves
- Hard Hat
- Hearing Protection
- Welding Helmet

### **WARNING!**



Before attempting to assemble ensure that the tractor engine is off and the tractor transmission is in the park position with the parking brake engaged.

- Remove the engine key and keep it in your pocket to prevent inadvertent starting or movement of the tractor.
- Place wheel blocks in front and behind the tractor wheels to prevent the tractor from moving.
- Never attempt to start the tractor unless properly seated in the tractor seat with the seat belt fastened around you.
- Never attempt to operate the tractor and mower controls unless seated in the tractor seat with the seat belt fastened around you.

### **WARNING!**



Securely block up and support the tractor before attempting to loosen and move the tires. Failure to properly block up the tractor can result in the tractor to suddenly move or fall, crushing you or another worker.

- Never work under any raised component or any component that is not securely blocked up or supported.

### **WARNING!**



Many components of this mower are very heavy and must be handled by proper material handling equipment. Do not lift components that weight over 50lbs by yourself.

- Use an overhead crane, forklift, or other coworkers to lift heavy items. Ensure lifted components are securely supported.
- Never walk or work under a lifted component.

# General Information / Installation Requirements

## WARNING!



Use extreme care when moving, handling or adjusting the tractor tires. The tires are extremely heavy and could fall and crush you

- Use an overhead crane or forklift to move the tires.
- Properly fasten the tires to the material handling equipment to prevent the tire from falling.

## WARNING!



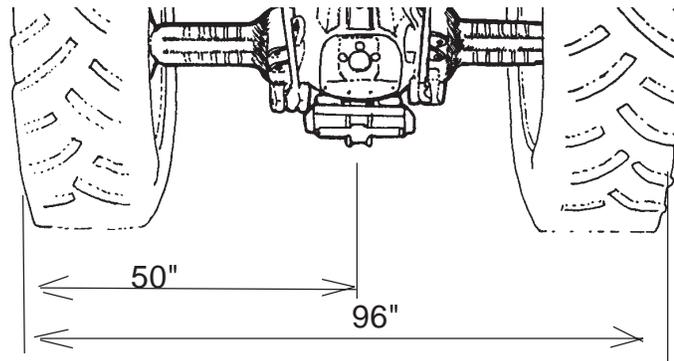
The hydraulic oil is under high pressure and a hydraulic leak can cause oil to be injected under the skin.

- Before starting the tractor ensure all hydraulic connections have been tightened
- Never check for leaks with your hands. Use a piece of wood or cardboard to check for the leak making sure your hands and face are kept away from the leak area.
- Repair any leaks before operating the equipment
- Clean up all oil that has leaked according to the requirements of the oil supplier. Oil residue on the ground can result in injury from slipping or falling.

## TRACTOR PREPARATION (FIGURE 1 & 2)

1. Temporarily remove ROPS and fenders from tractor axle. Move left rear tire out so that it is 50 inches from the outside of left rear tire to the center of tractor. Then move the right rear tire out so that it is 96 inches between the outside of the left and right rear tires. Refer to your tractor's Operator's Manual for instructions on Rear Wheel Adjustment for your particular tire. **FIGURE 1.** Hydraflate rear left tire as much as needed for stability but stay in factory-recommended limit.

FIGURE 1



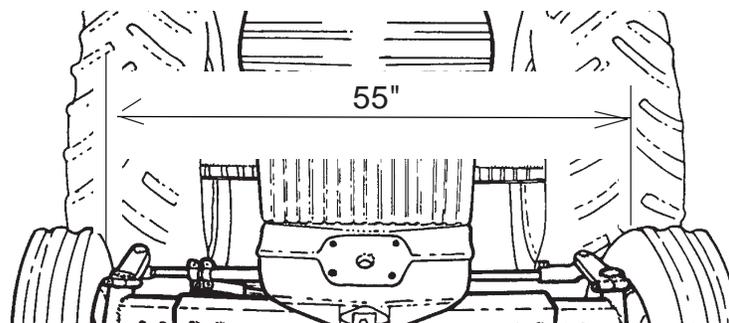
## WARNING:



Never operate the tractor with a loose wheel rim or disc. Always tighten nuts to the specified torque and at the recommended intervals.

2. Extend front wheels out so that it is 55 inches between the inside of the tires. This will allow no interference between tire and front mount bracket. **FIGURE 2.**

FIGURE 2



# General Information / Installation Requirements

## **Tractor, Area Cleanliness**

The Tractor, all tools and work area must be clean of dirt and debris when assembling any hydraulic components. DO NOT leave any hydraulic component open to the elements. DO not use any containers for fluids that are not clean and free of any other liquids. DO NOT use rags/cloth that has lint or fuzz on them when working on hydraulic components. Keep all hoses capped until you are ready to connect them.

## **Cleaning Boom and mower componets (electronics)**

The units Components are designed to be water resistant. But the sealing can be damaged by Pressure Washers, Steam Cleaners, Solvents or any other harsh chemical that would be used to clean the units components. It is important to keep all electrical connections and components sealed and dry. When washing and cleaning this unit it should be done with a non corrosive soap and low pressure spray of water. It is recommended that all exposed electronic components be covered and protected from excess moisture.

**Lay Out Components in Display.** It is helpful to lay out the component in as neat a display as possible. Lay out the Bolts according to size and length. Lay out the Nuts and washer by size. This will allow you to see how many of each part as you use them and help to identify any missing parts. (See figure 6) See Mount Kit Specification and Component Identification Section to help ID Components. **All the component that are received should be check and sorted as to what they are. Shown below is a general example of the components laid out, this is not a lay out of the components in this mount kit.**



# **WARNING**

## **DO NOT WELD On This Unit During or After Installation:**

**DO NOT WELD** any components or items on this unit after the installation of the maverick Boom has begun. The Maverick Boom uses electronic modules and components that could be damaged by welding. Before doing any welding **ALL ELECTRONIC MODULES AND DISPLAY COMPONENTS MUST BE UNPLUGGED**. Check the Tractors Operation, Repair, Service or any other manual from the tractor manufacturer of the tractor to find any special electronic or special procedures about the tractor electronics. Taking a few minutes to check could save you from a major damage to the electronics.

# NOTES

# Section 4

# Axtreme Boom

## Battery, Exhaust & Fuel Tank Modification With Main Frame Installation

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

Axtreme Boom (Asy. Man) 07/06

# Battery Holder Relocation

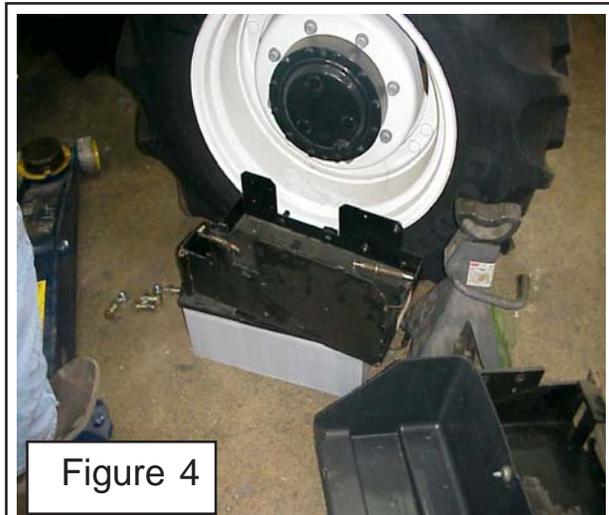
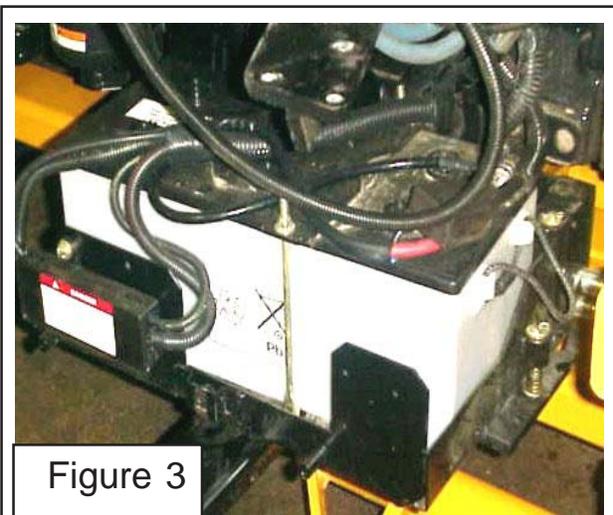
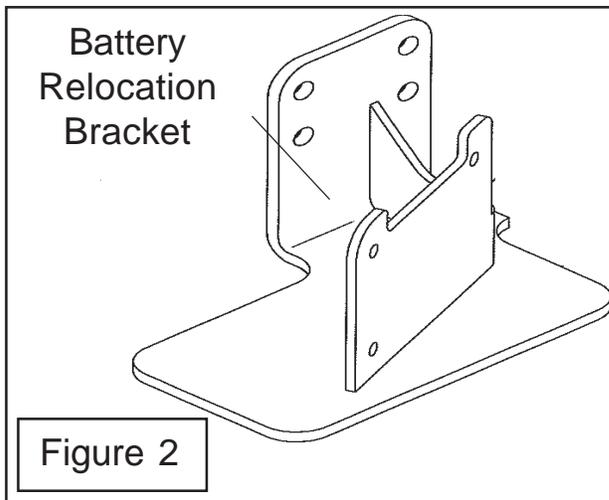
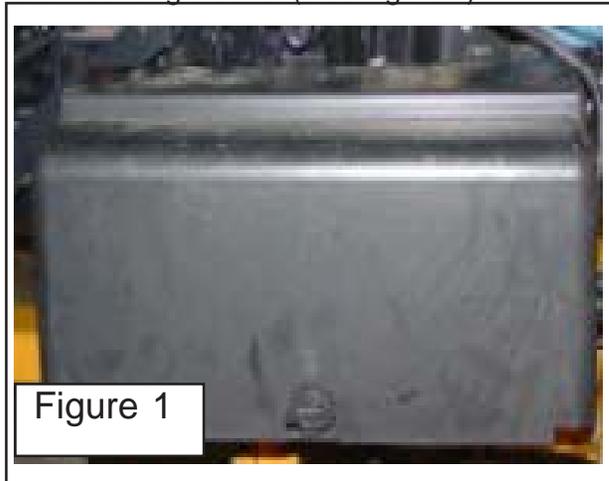
## Battery Holder Relocation:

1. The Battery Relocation ([If Required, See Assembly Drawings sent with unit](#)). The battery holder is located on the RH side of the tractor (See Figure 1) . It will have to be relocated. The mount kit will include a battery relocation kit. The battery relocation kit includes a mounting bracket (See Figure 2)

that will relocate the battery tray farther to the rear. This is done so the Boom Swing will not hit battery when in the transport position. The RH Step Will need to be removed to allow access to relocate battery.

2. Remove Factory Battery Cover, Battery, Battery Tray and Battery Tray mount. ([If Required, See Assembly Drawings sent with unit](#)) Remove the battery cover (See Figure 3), Remove the battery cables from the battery. Remove the battery from the battery tray. Unbolt the battery tray from the tractors factory mount bracket. Remove the factory mounting bracket from the tractor (See Figure 4).

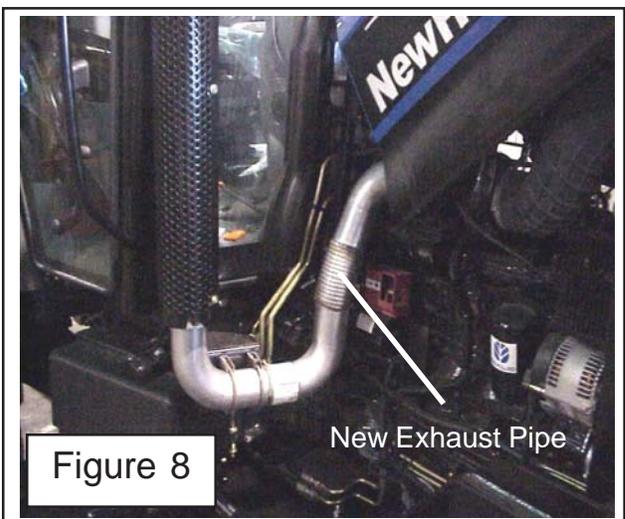
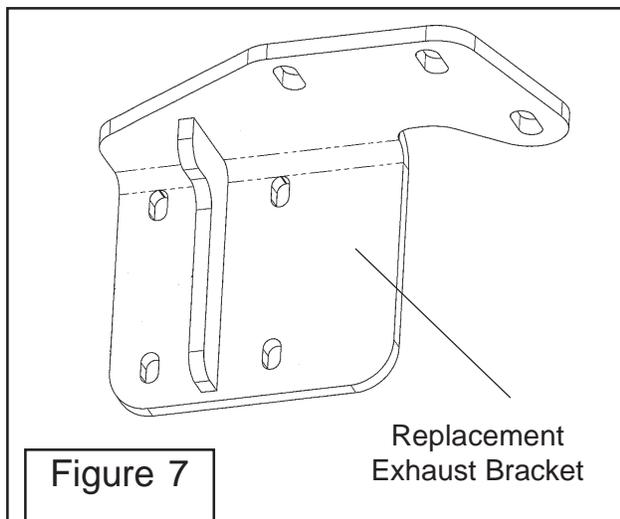
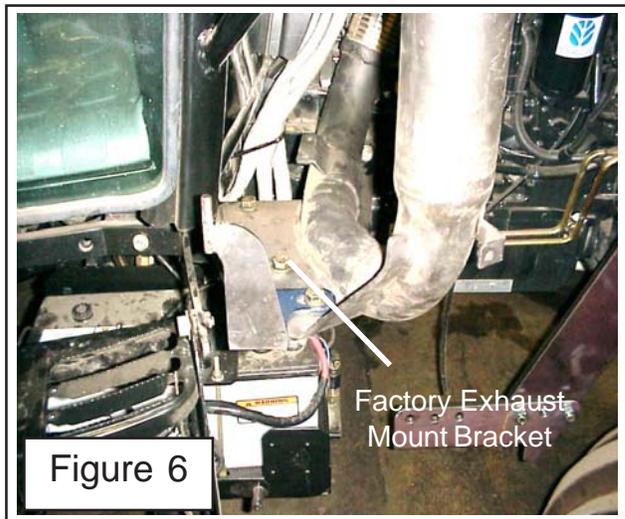
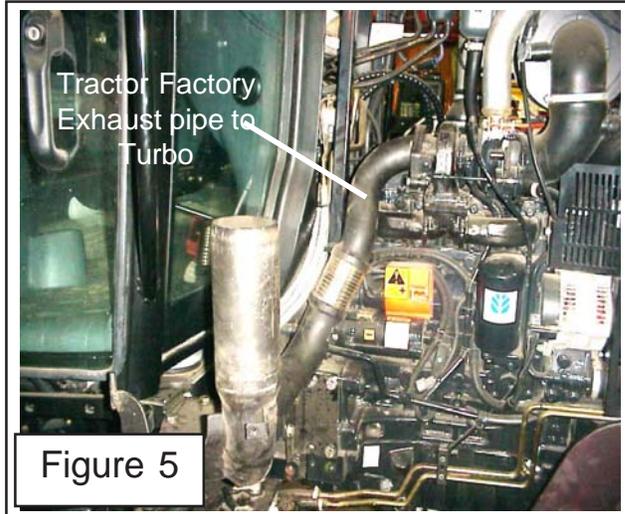
3. Install Replacement Battery Tray Bracket ([If Required, See Assembly Drawings sent with unit](#)). Install the replacement battery tray bracket (See Figure 2) using the same bolts and holes as the original bracket. This Bracket is designed to move battery further back. Install original battery tray using original hardware. Reinstall battery into batter tray (See Figure 3). DO NOT reconnect battery cables at this time, leave them off and make certain they do not make contact with the battery connections as you do not want the battery connected during installation. Replace the battery cover (See Figure 1) for now this will protect battery and cover.



# Exhaust / Muffler Relocation

## Exhaust/Muffler Relocation:

1. Remove The Exhaust (If Required, See Assembly Drawings sent with unit). The Exhaust relocation kit will include a new mounting bracket, Bolting hardware, replacement exhaust pipe from turbo to muffler. The Muffler needs to be removed first (See Figure 5). Remove the Exhaust pipe to turbo (See Figure 5). Remove the tractors factory Exhaust pipe mounting bracket (See Figure 6).
2. Install Exhaust Replacement Mounting Bracket (If Required, See Assembly Drawings sent with unit). The replacement exhaust mounting bracket will bolt in the place of the factory mounting bracket. The replacement bracket moves the exhaust inward towards the engine by about 5 to 6 inches. This is to give clearance of the boom and exhaust system (See Figure 7).
3. Install Replacement Exhaust Pipe. (If Required, See Assembly Drawings sent with unit) Install the replacement exhaust pipe using the new clamp furnished in kit. Fasten the new exhaust pipe to the new exhaust bracket using the two factory u-Bolts that were used on the original exhaust pipe (See Figure 8).
4. Reinstall the muffler (If Required, See Assembly Drawings sent with unit) to the exhaust pipe using the factory bolts and hardware. Check all the bolts and components to the exhaust for tightness and fit.



# Fuel Tank Replacement

## Fuel Tank Replacement:

1. Remove RH Rear Tire and Wheel (If Required, See Assembly Drawings sent with unit). Use proper Floor jack to lift the RH Rear Wheel, Support the tractor with proper jack stands rated appropriately for the tractors weight. The RH rear tire and wheel should be removed for this installation by using the over head hoist to support and lift the wheel and tire assembly. The tractors factory fuel tank is mounted behind the RH rear tire and wheel (See Figure 9).

2. Remove Tractors Factory Fuel Tank and Mounting Brackets (If Required, See Assembly Drawings sent with unit). The LH factory step will have to be removed from the tractor before attempting to remove the fuel tank, the step will not be reused. The factory fuel tank will need to be drained of fuel. Use an appropriate and safe method for pumping out tank and for the storage of the fuel removed. The Tank is removed by loosening and removing the retaining straps that you will see around the tank from the out side. DO NOT Attempt to remove tank with fuel in it.

Store the fuel tank in an appropriate safe place away from flames, extreme heat and or dusting dirty conditions. The Fuel Pickup and Gauge sending unit will need to be removed from the factory tank to be installed in the new replacement tank later (See Figure 10).

3. Install Replacement Fuel Tank Mounting Brackets. (If Required, See Assembly Drawings sent with unit) Remove the factory fuel tank mounting brackets, there are two new mounting brackets that will be supplied to mount the new tank. There is a front and a rear bracket (See Figure 11 & 12).

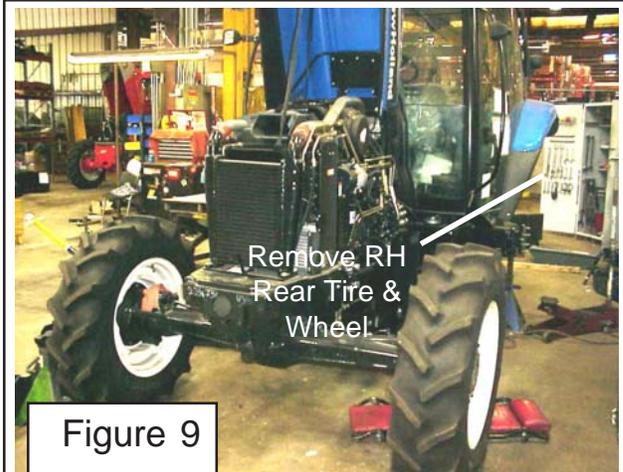


Figure 9

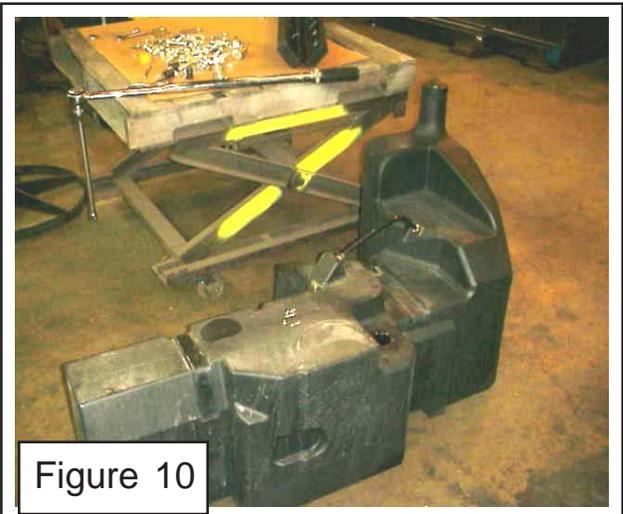


Figure 10

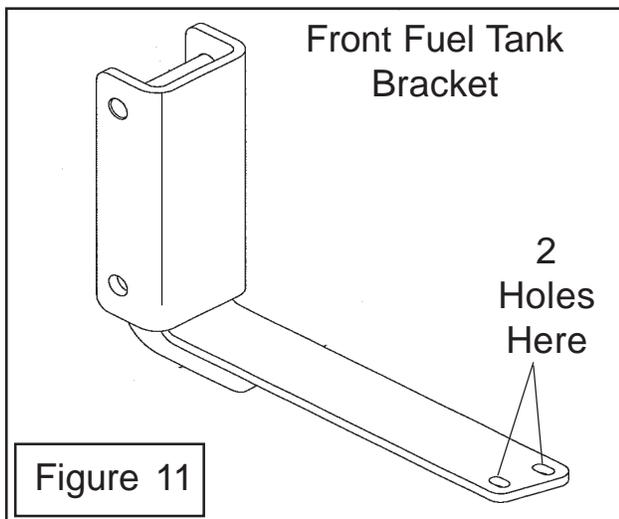


Figure 11

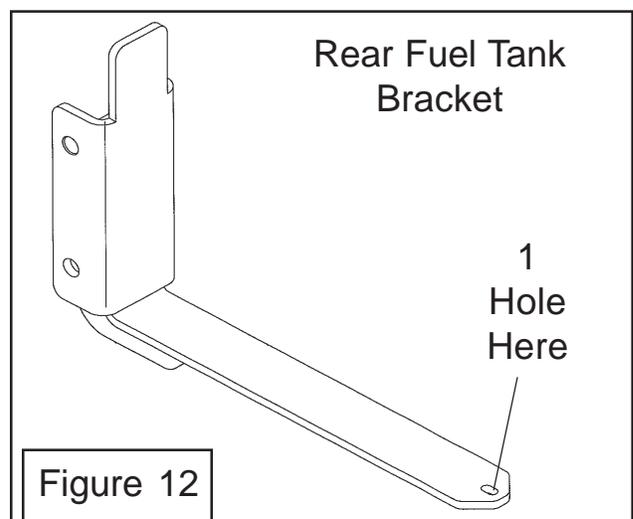


Figure 12

# Fuel Tank Replacement

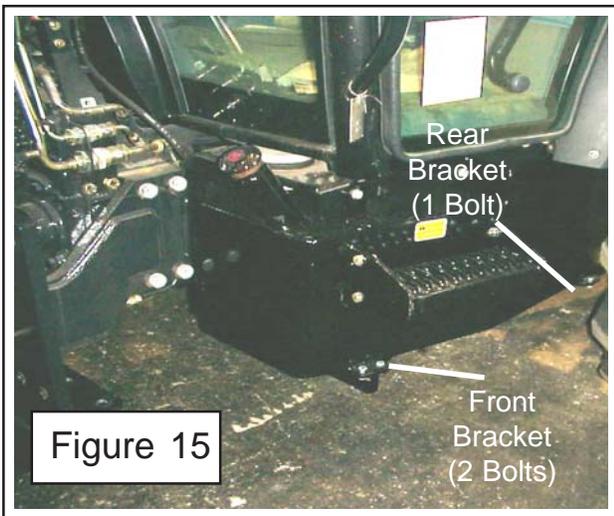
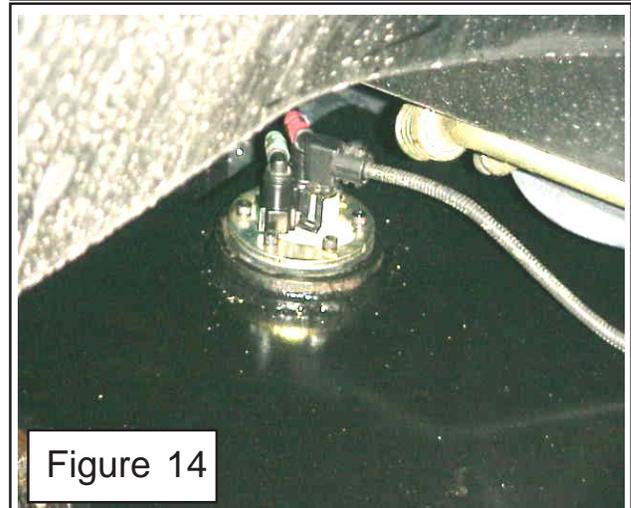
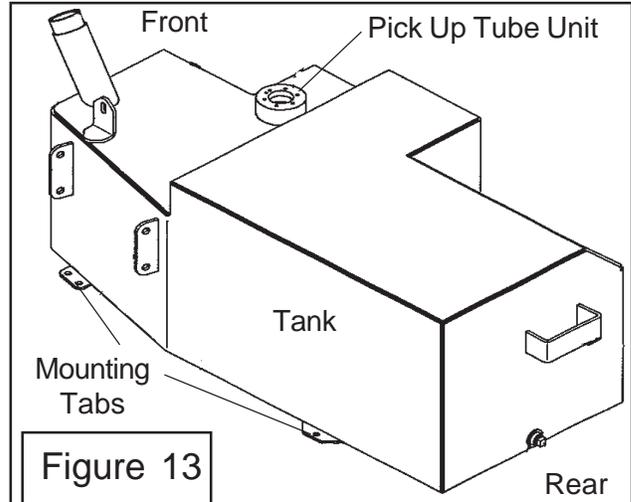
4. Install Pick Up Tube & Gauge Sending Unit in new Tank. (If Required, See Assembly Drawings sent with unit) The Pickup gauge sending unit from the factory tank will be installed into the new tank. This is recommended to be done before mounting the new tank to the tractor (See Figure 13). The new tank will have a fuel capacity of 51 gallons.

5. Install the new mount brackets to the tractor frame. (If Required, See Assembly Drawings sent with unit) The tank mounting brackets will bolt to the tractor the same as the factory brackets that were removed. Make certain that the brackets are installed correctly, the front bracket will have 2 outer holes (same as the tank see Figure 11 & 13). The rear bracket will have 1 hole in the outer end (same as the tank, See Figure 12 & 13)

6. Install The new Fuel tank onto Tractor if required.(If Required, See Assembly Drawings sent with unit) The new fuel tank with the gauge sending unit slide in on top of the new mounting brackets with the fuel cap to the front (See Figure 14). Connect lines to fuel pick up connections, connect wiring to fuel gauge sending unit. (See Figure 14)

7. Bolt Tank to the Mounting Brackets.(If Required, See Assembly Drawings sent with unit) Bolt the tank to the mounting brackets, there are two bolts in the front bracket and one bolt in the rear bracket. (See Figure 15)

8. Install New replacement Step.(If Required, See Assembly Drawings sent with unit) The new Replacement step is a bolt on weldment that will bolt to the new fuel tank with four bolts, note: below the step is painted yellow for clarity only (See Figure 16).

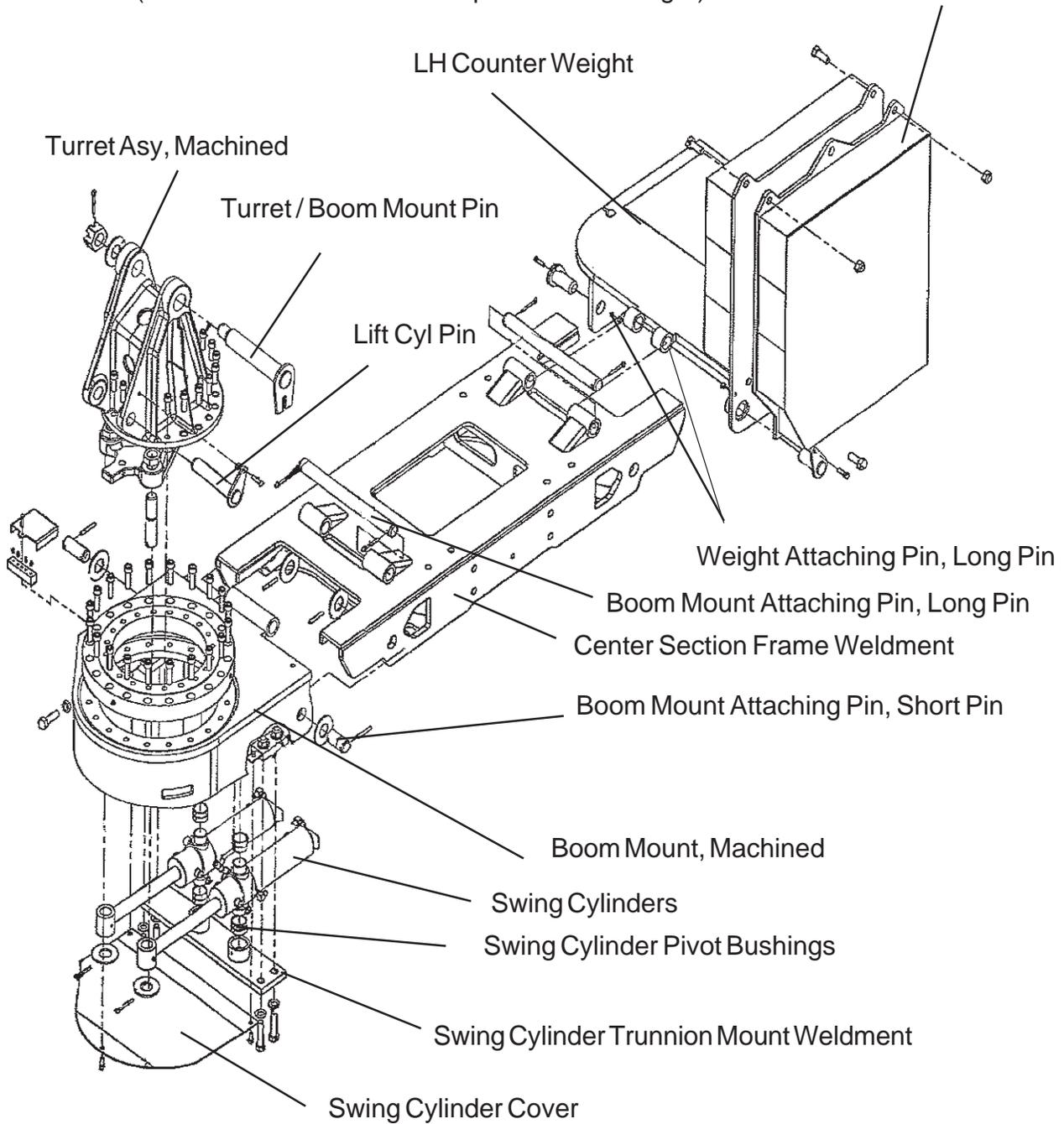


# Frame Installation

## Under Mount Frame Asy

(24 & 30 ft are the same except for the LH weight)

30 ft model only

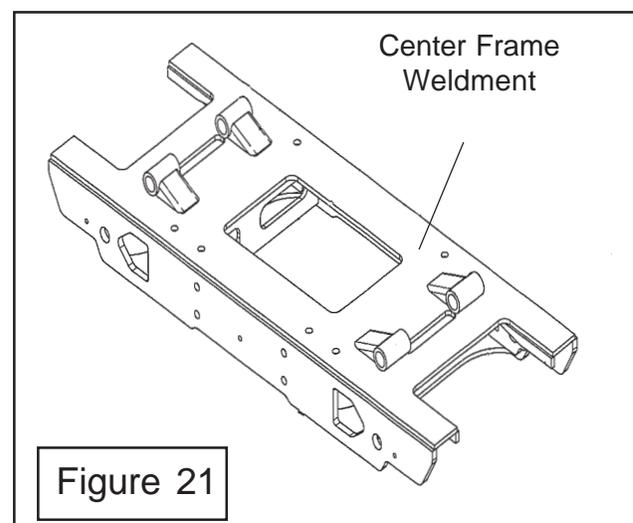
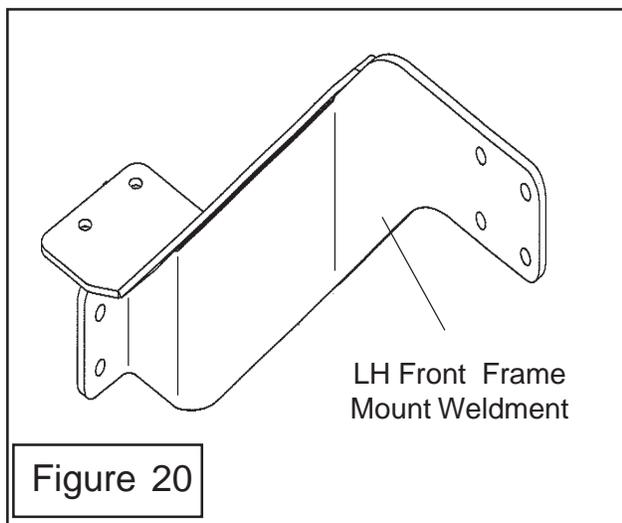
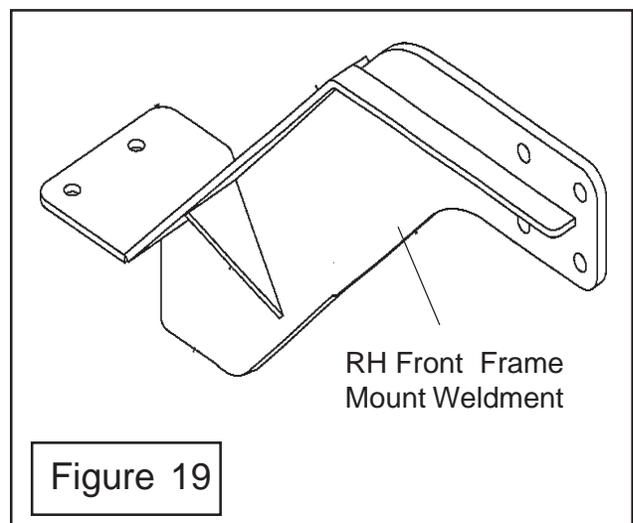
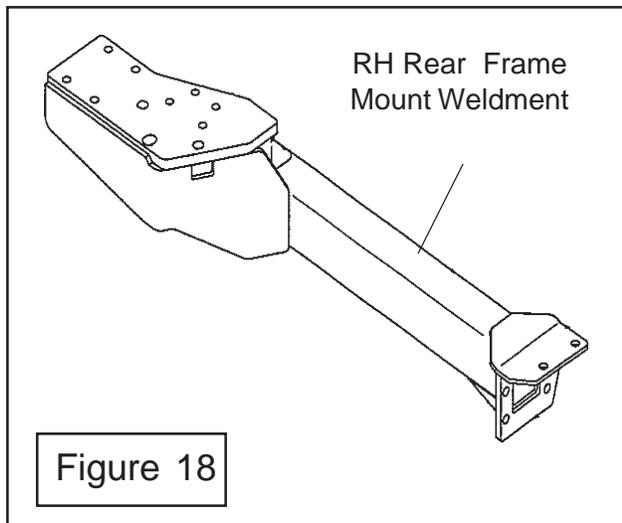
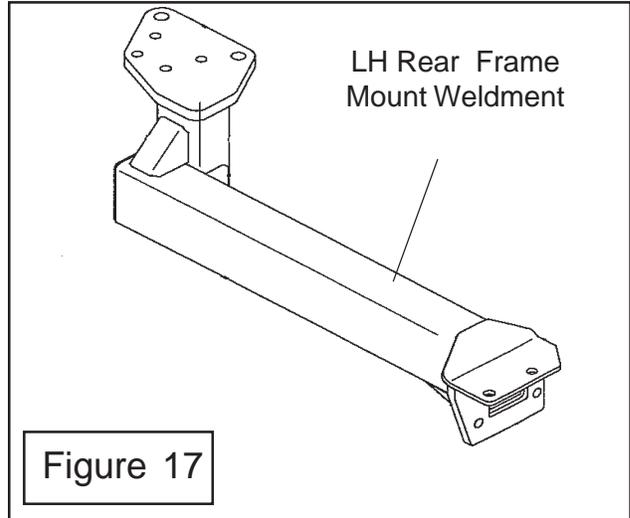


# Frame Installation

## Frame Installation:

1. Frame Components. The frame will include the rear axle mounts, a LH & RH Frame rail. Two front frame mounts, a LH & RH. One center frame weldment. (See Figure 17, 18, 19, 20 & 21)

2. Install Frame Components. The Frame components will only fit one way. The Frame components are a Bolt together assembly no welding will be required. The Frame components will bolt together and to the tractor using mostly 3/4" and/or 20 mm bolts. Each 3/4" & 20 mm bolt will use hardened flat washers, one on the head side when bolts go into the tractor castings. Two washers used when bolts use a nut and go through the frame. These hardened washers are important.



# Frame Installation

**3. Install Rear Frame Mount Rails.** Rear frame rails consist of a LH & RH. We have started with the Left Hand Rail. The three point lift stabilizer brackets will need to be unbolted on both sides. In the illustration for the LH side we installed the frame with the LH rear tire and wheel still removed, this was done for clarity not because the wheel needs to be removed. Using a floor jack to lift the rail up under the rear axle (Stabilizer brackets for three point have been unbolted). Install the bolts up and into the three point stabilizer bracket and the tractors rear axle housing and snug the bolts down. Support the frame rail with a jack stand (or leave the floor jack under it). (See Figure 17 & 22).

The RH Rear Frame Rail will basically install the same, bolts up under the tractor axle housing with the three point stabilizer bolt back up under frame rail (See Figure 18 & 23). The RH Rail looks different at the rear because the boom rest will bolt here later.

**4. Install Front Frame Mount Rails.** The Front Frame mount rails will consist of a RH & LH (See Figure 19, 20, 24 & 25) These will only fit one way as they have a gusset reinforcement on one side that will be showing to the outside when installed. These can be lifted by the technician installing them. The LH and RH will install the same way, Using 4 bolts each that screw into tractor casting on the side of the tractor (See Figure 24). Make certain that all 3/4" and 20 mm bolts have hardened flatwashers on them.

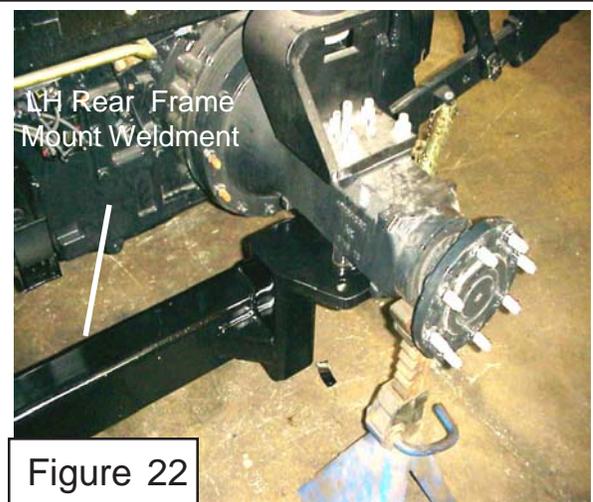


Figure 22

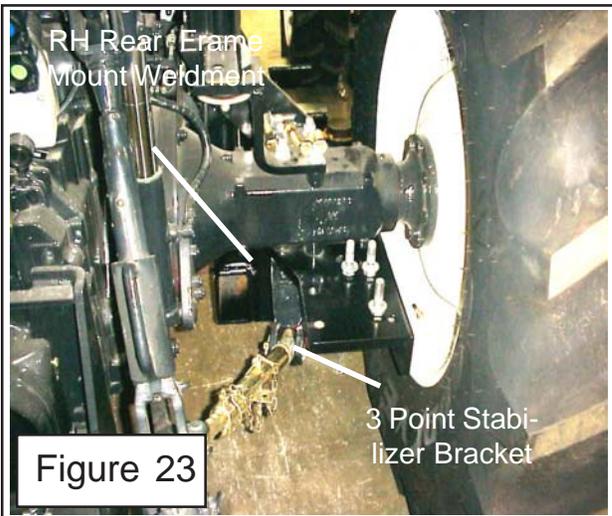


Figure 23

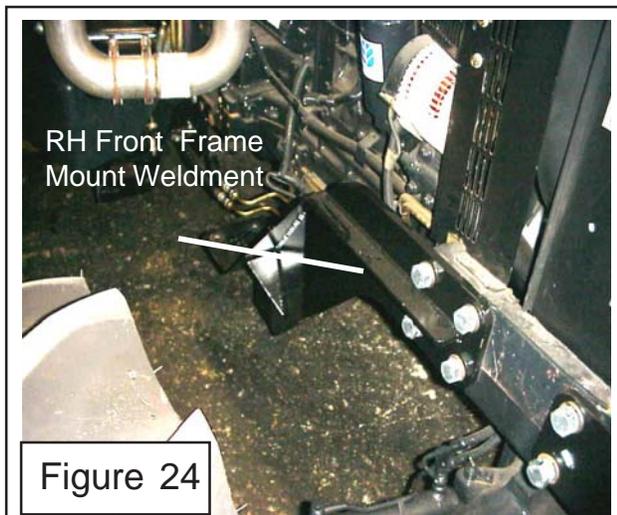


Figure 24

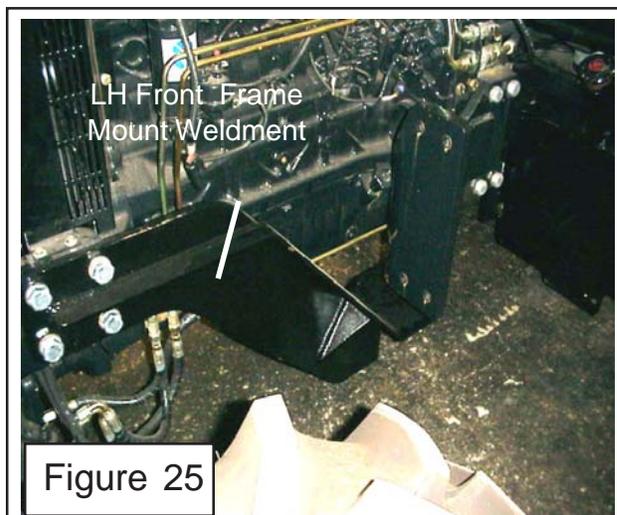


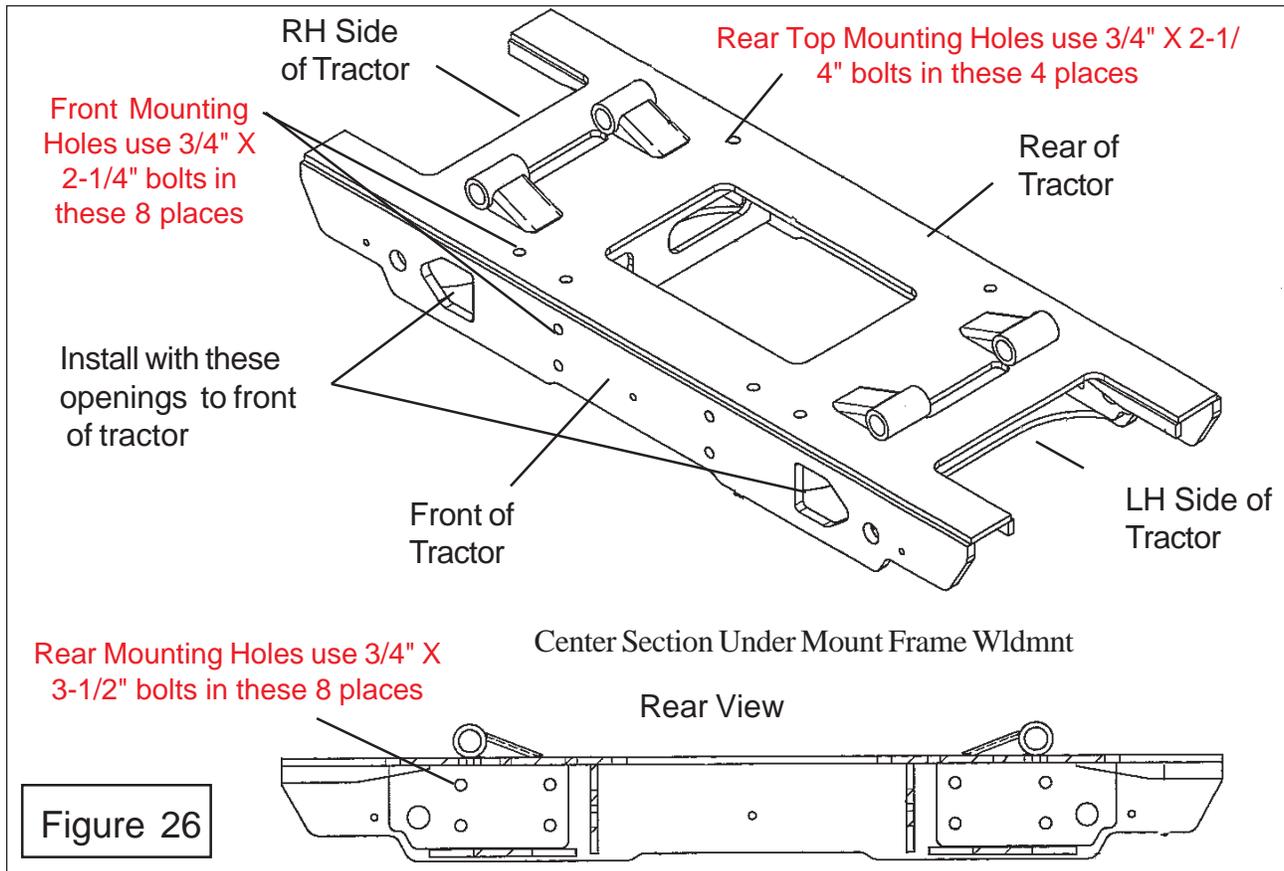
Figure 25

## Frame Installation

5. Install Center Frame Weldment. The Center Frame Weldment has a front and a back side (LH & RH side). The Center frame must be installed with the two openings (See Figure 26) toward the front of the tractor. These openings are to allow for the movement of the swing cylinders when moving the boom to the boom rest position.

**IMPORTANT NOTE:** When bolting the center frame up to the front and rear frame mounting rails the bolts on the RH turret side must have the bolts installed from the bottom with the bolt heads on bottom under center under frame and the nuts on top (See Figure 27 showing nuts on top). The reason the nuts must be on top is so the bolts will not hit the swing cylinders when the turret assembly has been mounted. The Bolts that are used to mount center frame are not the same length. The 8 bolts for the rear frame bracts (bolts that face the rear of the tractor) will be 3/4" X 3-1/2" long. The other twelve bolts will be 3/4" X 2-1/4" long. All 20 Bolts that are used to mount center frame **MUST** have hardened flat washers install on both sides, one under Bolt Head and one under Nut (See Figure 26 & 27)

Using floor jacks (or Fork lift) position the center frame weldment up under the tractor (See Figure 27). The center frame weldment will bolt to the front and rear mounting rails on both sides. Make Certain to use hardened flatwashers on all 3/4" and 20 mm bolts, when using nut on bolts it will need two hardened washers, one on each side (See Figure 27) . Double check the frame mounting bolt tightness.



6. Install Boom Rest Weldment. The boom rest weldment for the 24 foot boom and the 30 ft. boom are not the same (See Figure 29). The boom rest weldment bolts to the RH Side on the Rear Frame mount weldment behind the tractor axle weldment (See Figure 30). It is recommended that this be installed using an overhead hoist and supported by the hoist until boom rest and support brace (See Figure 28 & 30) are completely installed. The Boom Rest Support also serves as the top axle strap for the RH Axle mount (See Figure 30).

# Frame Installation

7. Install LH Axle Strap. The Axle Strap bolts down over the top of the Axle (LH Side) and bolts run through the Rear Frame rails. The RH Side the axle strap is part of the boom support brace weldment and also bolts down over the axle with the bolts through the rear frame rail (See Figure 30 & 31)

Make certain that all the bolts mounting the frame components and the boom rest are properly torqued, see the bolt torque chart.

8. Reinstall LH Rear Tire and Wheel. Reinstall the LH rear Tire and Wheel now if it has not already been done. Use a hoist to lift and secure the rear tires is recommended as they are very heavy.

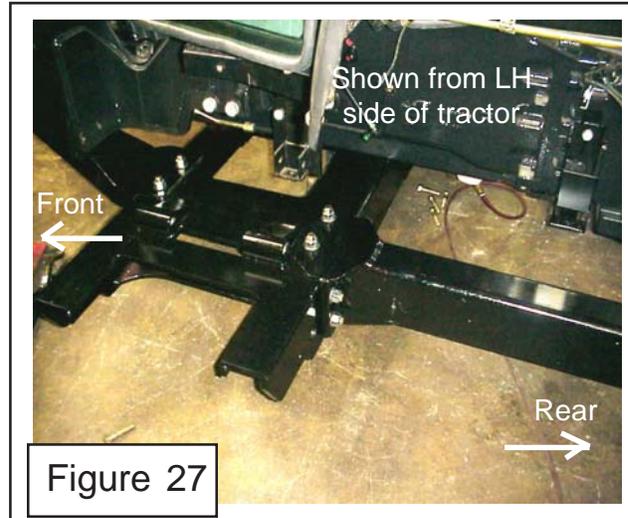


Figure 27

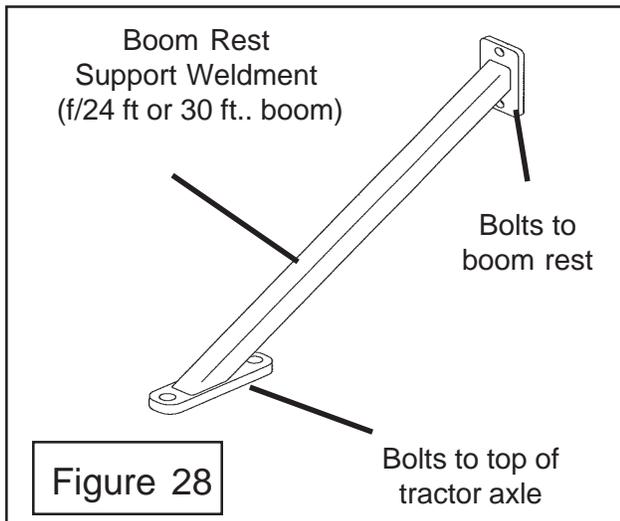


Figure 28

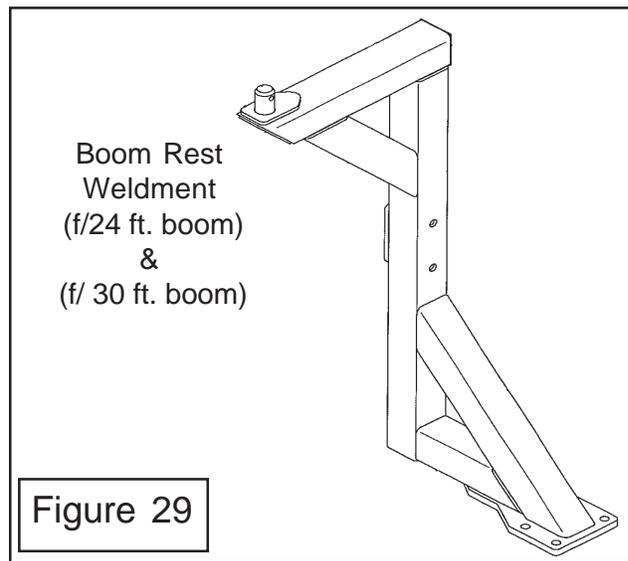


Figure 29

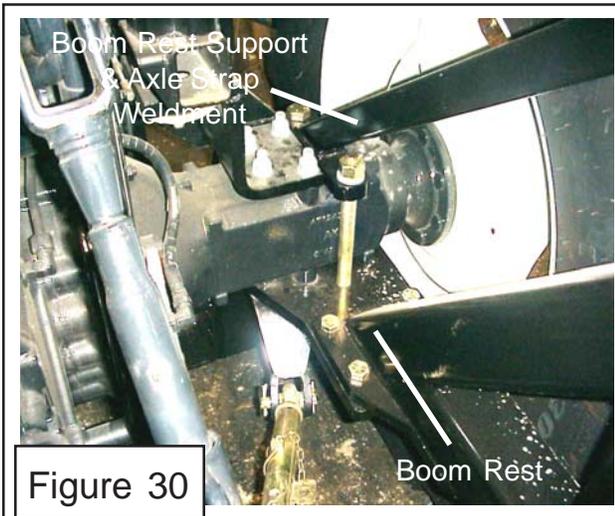


Figure 30

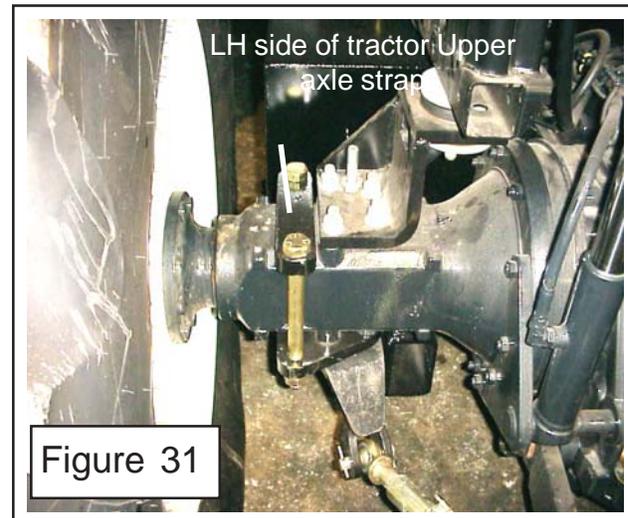
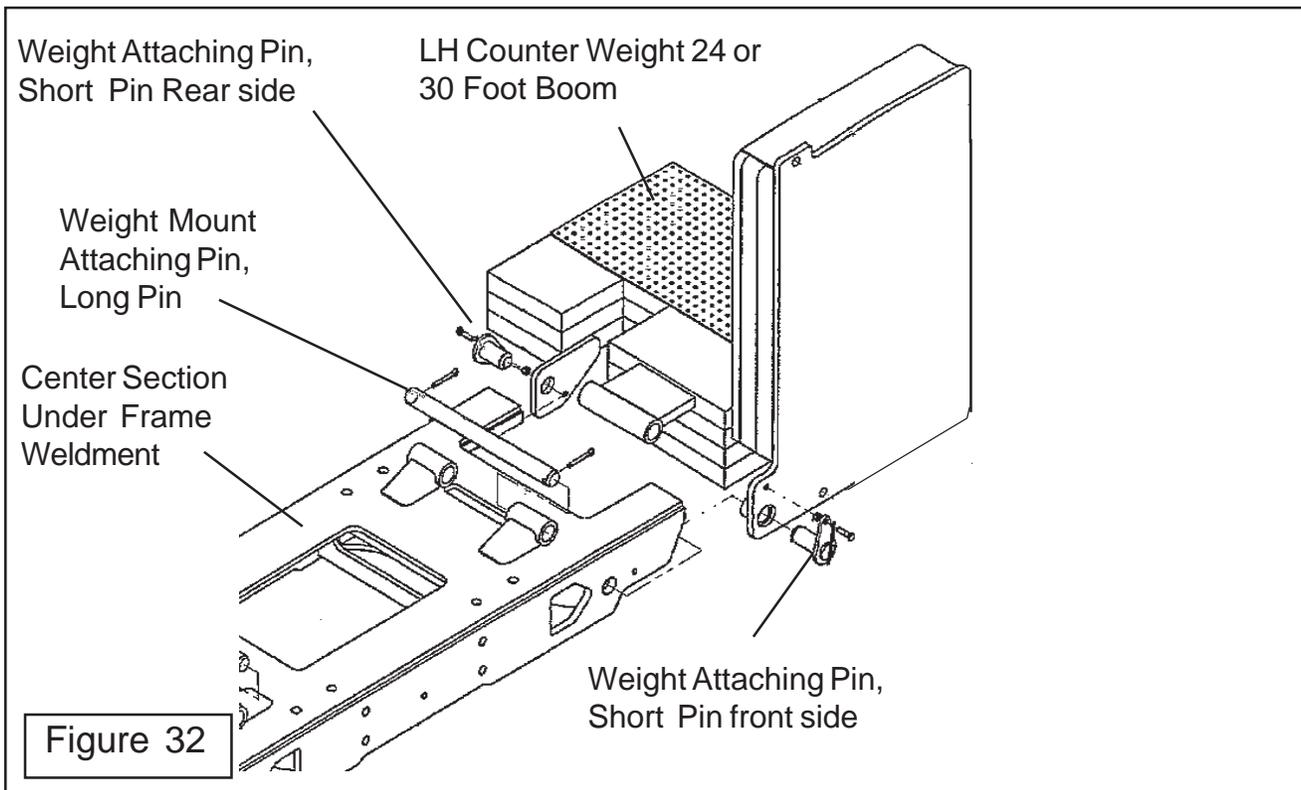


Figure 31

# Frame Installation

## Counter Weight Installation:

1. Counter Weight (CWT) Installation. The Counter weight (**See Figure 1**) mounts on the LH side Under Frame Weldment. Its is retained with three pins, the long pin on top, the short pin at the rear and a short pin at the front. Using a hoist or other sufficient lifting device align the weight with the frame. The Frame for the weight will slide over the under frame until the upper long pin is aligned with the mounting tube of the weight and the mounting tubes of the under frame. Install the long mounting pin. The front and rear pin holes should be aligned, install the short pins front and rear. The short pins are retained using a nut and bolt. The long pin uses two large cotter pins, install cotter pins and bend end of them to secure them. (See Figure 32 , 33 & 34)



3. Wheel Counter Weight (CWT) Installation: The Wheel counter weight is in addition to the frame mounted counter weight, they both must be used together, (See Figure 32). All these weight are in addition to adding liquid weight into the Left rear tire. The proper amount of counter weight is not complete until all these weight have been installed.

# Frame Installation

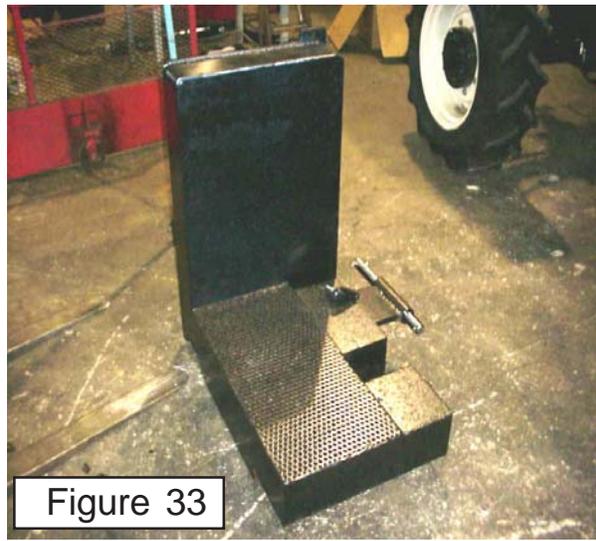


Figure 33

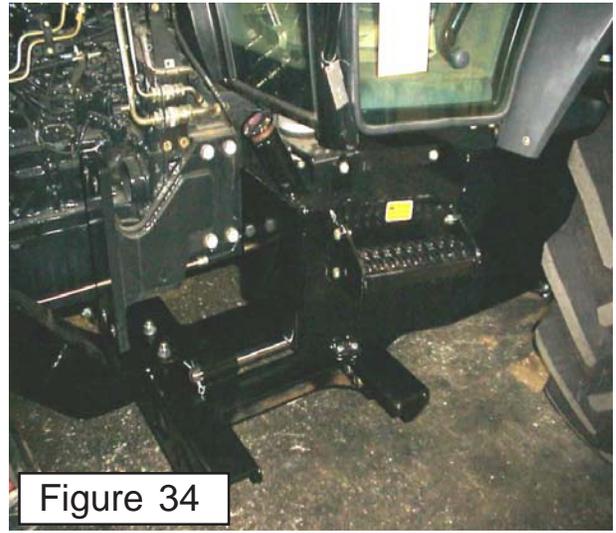


Figure 34

## Turret Assembly Installation:

1. Turret Assembly. The turret assembly is shipped assembled with the hydraulic swing cylinders, hoses, pivot bearing assembly, boom mount weldment and mounting pins installed (See Figure 35 & 36).

2. Under Frame Weldment. The Under frame weldment center section is designed for the turret assembly to mount on the RH side. Remove the one long mounting pin and the front and back short mounting pins (See Figure 36 & 37). Check to make certain the mounting bolts mounting the center under frame weldment are installed with the bolt heads under frame weldment and nuts are on top visible looking down, if they are in wrong the swing cylinders will hit the bolts causing damage to cylinders and bolts. (See Figure 37)

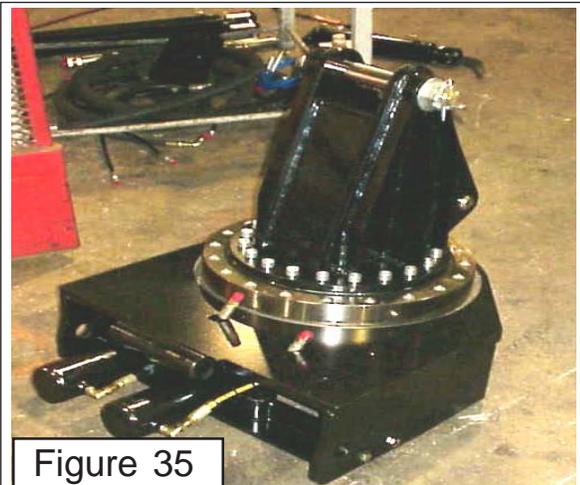
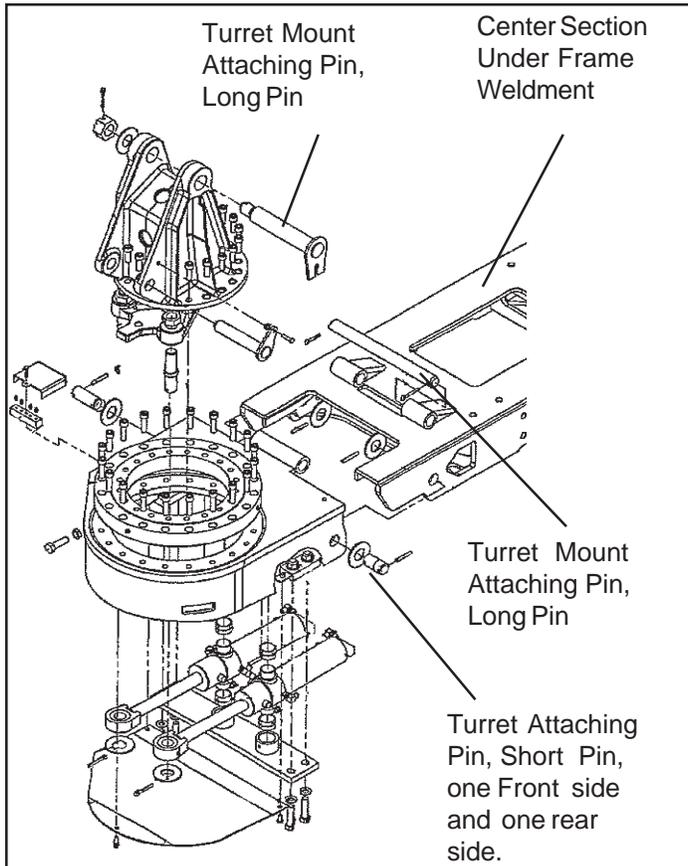


Figure 35



NOTE: Turret Assembly shown as disassembled for illustration only, Turret will be shipped as an assembly when shipped with mount kit.

Figure 36

## Frame Installation

**3. Turret Assembly Installation.** The turret assembly mounts on the RH side onto the center section under frame (See Figure 36 & 37) . Using a hoist (or other lifting device) lower the turret assembly until it is level with the underframe. Slide the turret assembly inward toward the under frame until the retaining pin tube on under frame and turret assembly align. Install the long upper retaining pin and then the two small front and rear pins. The long upper pin is retained with two cotter pins that need to be bent over on the ends. The short pins are retained with nuts and bolts (See Figure 36 & 38).

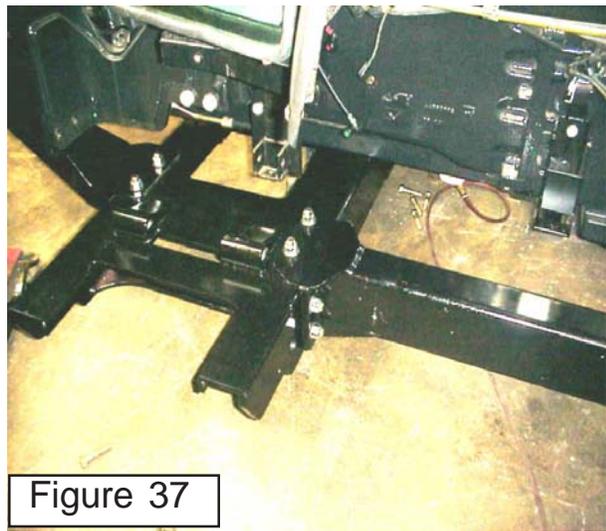


Figure 37

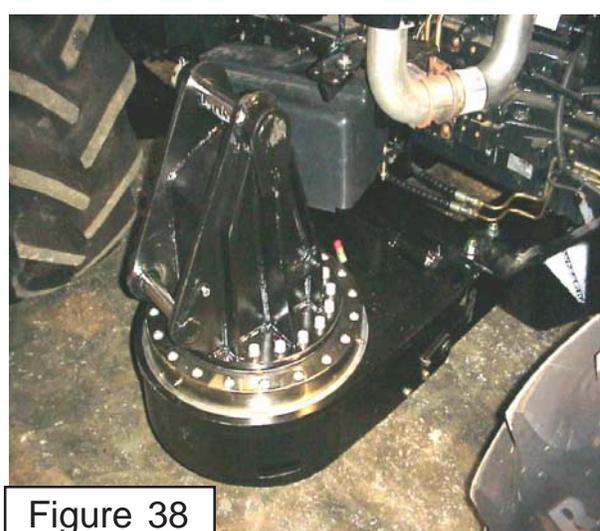


Figure 38

**4. Turret Assembly Grease Fittings.** The turret assembly has three grease fittings around the OD of it. The grease fittings are 120° apart, this is to make certain that the bearing will be greased all the way around because of the large diameter of the bearing. This bearing must be greased before unit is put into service. It is easier to get to grease fittings now than after boom has been installed. On the under side of the turret assembly are the grease fittings for the swing cylinder pivot mounts, these need to be greased before operating the unit. Also there is a bolt on cover on the under side of turret that will be installed (See Figure 40) at a later time. Greasing the cylinder pivots will need to be done before the cover is installed (See Figure 39) and the boom swing stop will need to be adjusted, but this cannot be done until a later time making it best to leave this cover off until then. After greasing components at assembly of unit operator should consult the operators manual for maintenance requirements.

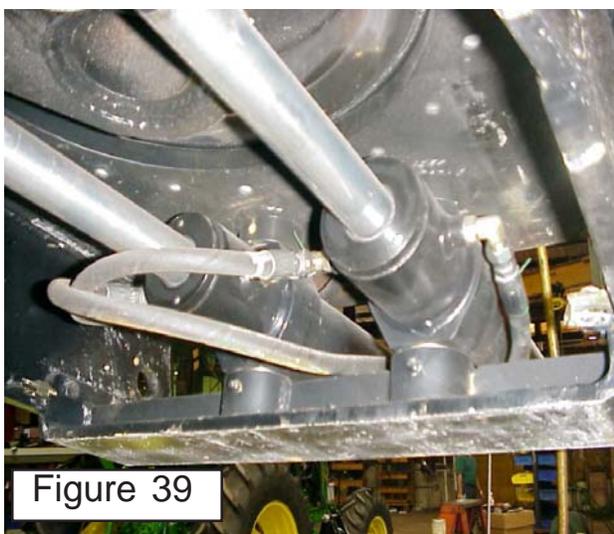


Figure 39

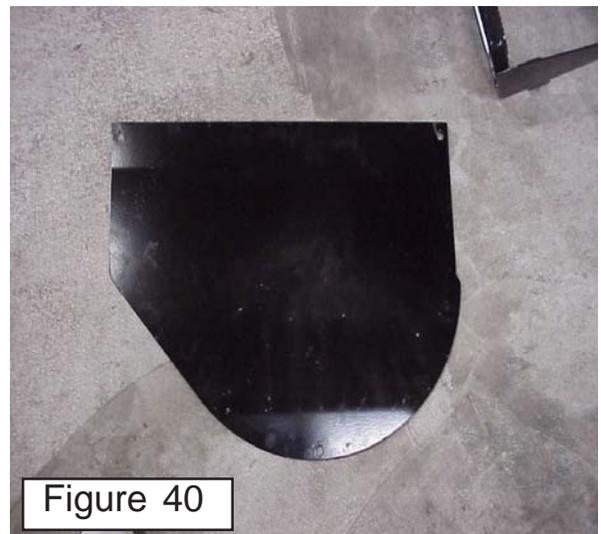


Figure 40

# Adjust Boom Swing Stop

**CAUTION!** You MUST READ and UNDERSTAND this section as it is critical BEFORE attempting to put boom rest position the first time. FAILURE TO PERFORM THIS ADJUSTMENT could cause damage to the cab of the tractor.

## Boom Swing Adjustment:

1. Boom Swing Stop Location. The boom Stop adjustment cannot be seen from the top of the turret assembly (See Figure 41). If the bottom cover plate (See Item 42) is not already removed it will need to be, it is bolted on from the under side of the turret assembly. From the under side you will see the swing cylinders and cylinder pivot mounts (See Figure 43).

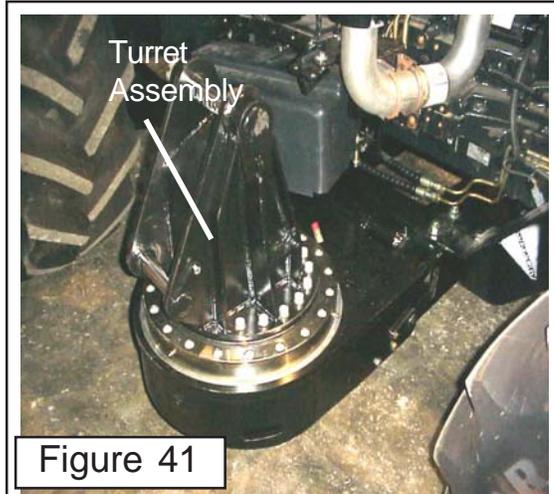


Figure 41

2. The Swing Stop Lug which is part of the Turret Cylinder Link Weldment (See Figure 45). On the side toward the rear there will be a lug with a bolt and locking nut in it (See Figure 45). Loosen the bolt and locking nut, turn the bolt outward.

3. Swinging Boom, DO NOT Swing Boom until the boom has been run with it sticking out away from tractor and all electronic control adjustments have been done. The boom must be working smoothly. Slowly (with low engine RPM) with some one guiding you swing boom inward toward cab until the boom rest lug is aligned with the boom rest pin (See Figure 44). Set boom securely down over pin.



Figure 42

4. Final Swing Stop Adjustment. Unscrew the stop bolt (See Figure 45) until the head is against the swing stop lug of the turret cylinder link weldment (See Figure 45). Hold the bolt so it won't turn tighten the locking nut down against the turret stop swing lug. Recheck to make certain the boom will not hit the cab of the tractor. It will stop at the turret stop lug when properly adjusted. This may have to be

adjusted more than once, NEVER allow unit to be run if Boom will hit the cab, this will damage cab.

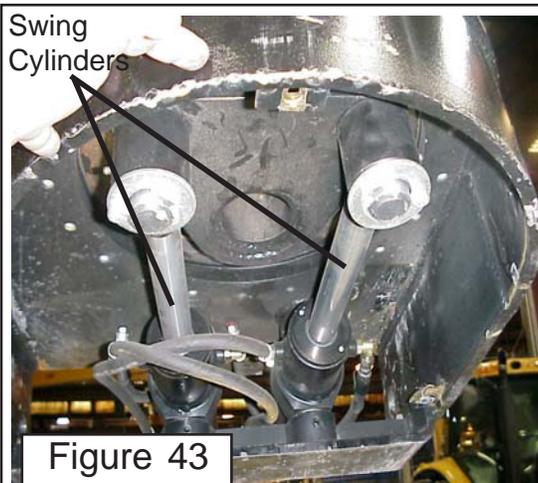


Figure 43

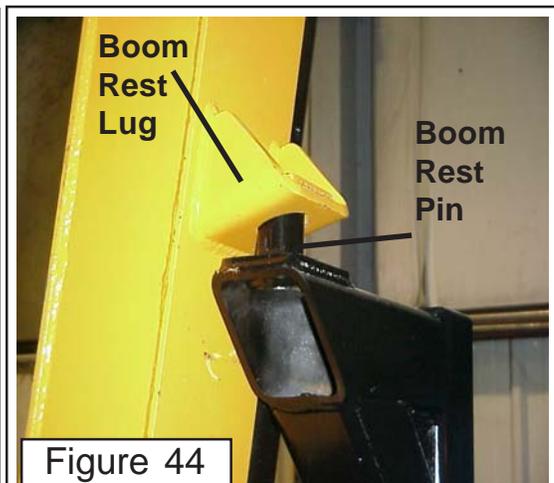


Figure 44

# Adjust Boom Swing Stop

## Turret Assembly as seen from the bottom

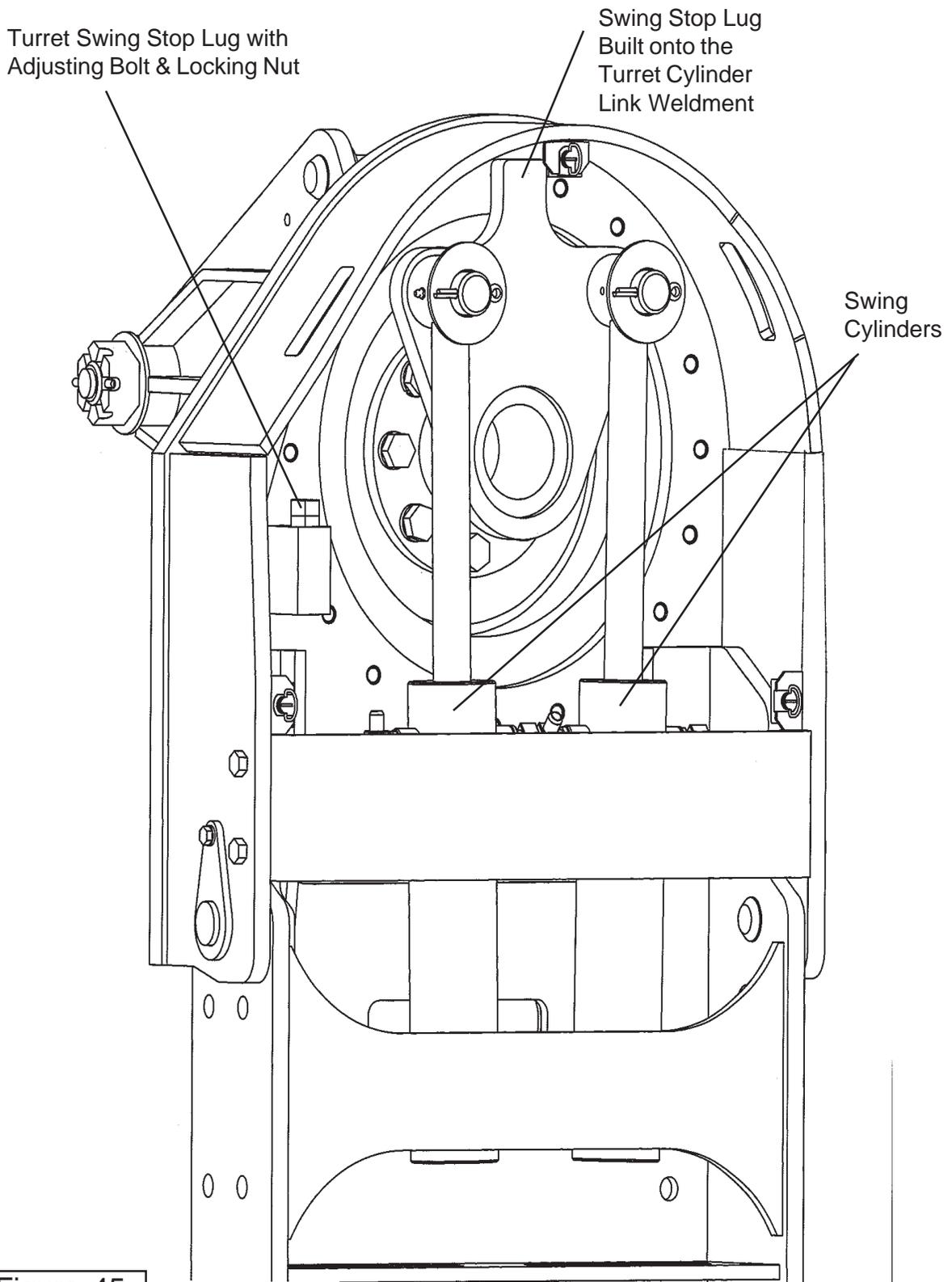


Figure 45

# NOTES

# Section 5

## Axtreme Boom

### Wheel Weight Installation

This section show the secondary weight that can be added to the LH rear wheel.

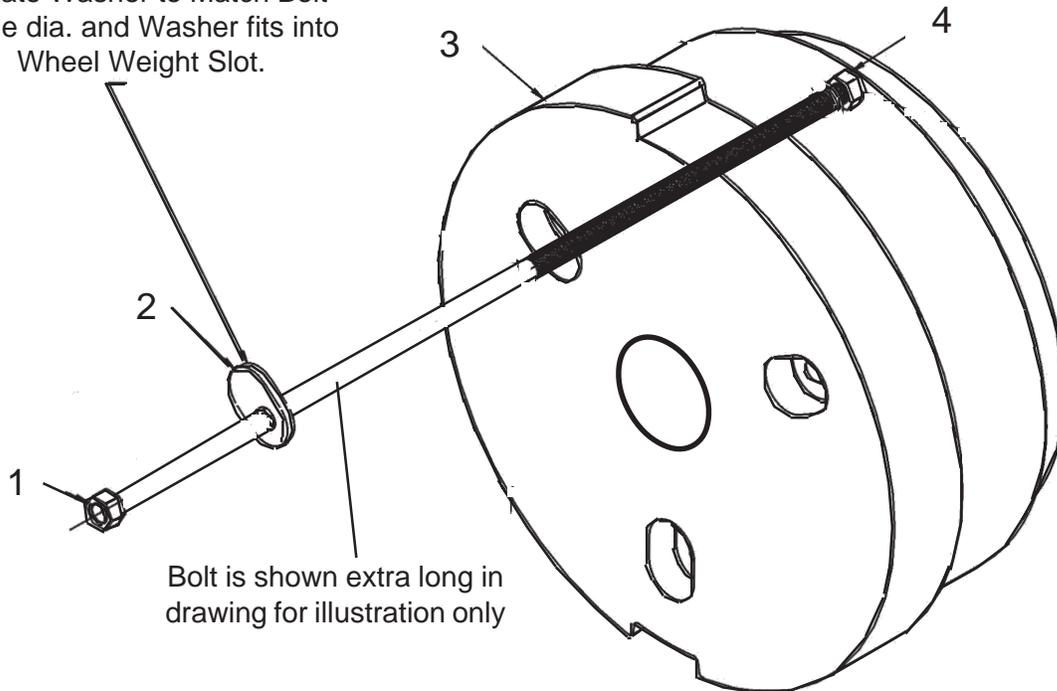
NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVER-RIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# Rear Wheel Counter Weight

## Fill Left Rear Wheel with Liquid:

The Left Rear Wheel must be filled with liquid. Alamo Industrial recommends a Calcium Chloride Water Mixture. The recommended Ratio of a 30 / 70 mix (30% Calcium Chloride and 70% Water), this mixture will add weight at about 10.5 lbs per gallon. Follow the Mixture procedures furnished by the Manufacturer of the Brand of Calcium Chloride that you are using. It is also recommended that a trained person installs the calcium Chloride. Calcium Chloride must be added in addition to the Steel Wheel Weight and the Counter Weight that hangs on the Left Side. It is Not recommended to use straight Water in the Wheel as this would not provide protection against freezing. A 30/70 Calcium Chloride Water mixture provides antifreeze to approx -50 deg. F. below 0.

Rotate Washer to Match Bolt Circle dia. and Washer fits into Wheel Weight Slot.



Item	Part No.	Qty	Description
1	02979603	3	Hex Head Bolt, 7/8" NC X 16"
2	02971569	3	Wheel Weight Washer, Special
3	02970758	1	Wheel Weight Casting, 1400 lbs.
4	5JRC1490	3	Locknut, Top Lock 7/8" NC

Note: some Older Units used a All Thread Rod with Hex Nuts Lock Nuts, with Flat Washer and Lock washer. This was replaced with the Bolt Type shown above. These Bolt and Nut combinations will replace the old All Thread type.

**Figure 1**

## Rear Wheel Counter Weight

### Installing Wheel Weight

1. This Wheel Weight is 1400 lbs. Always use caution when working with it.

2. Locate the three Holes in LH Rear Wheel. Make sure these holes are 15/16" dia. if not, they must be reamed out.

3. Lift Left Rear Tractor Wheel till it just clears the ground. This will allow the Wheel to be rotated when aligning mounting holes for Weight.

4. Using a forklift, lift Wheel Weight into Wheel. When Wheel Weight is centered in Wheel Secure Forklift and Set Parking Brake on Forklift. Insert one of the three bolts through Weight and Wheel (Rotate Wheel to align holes if needed). Install a Hex Lock Nut on inside. Insert the other two Bolts through Weight and Wheel and start the other two Locknuts. Do not tighten yet. (See Figure 2)

5. Looking at the outside make sure the three special Washers (Figure 1 Item 2) are aligned with the Slots in the Wheel Weight. Tighten the three Bolts now. You will need an assistant to hold the other Side while you are tightening the Bolts. While tightening Bolts, check to make sure the three special washers are seated correctly. If these Bolts are tightened and washer are not seated into the recess on Wheel Weight, damage will occur. (See Figure 3)

6. Remove forklift away from Wheel and Weight. Recheck tightness of Wheel Weight retaining Bolts. Bolts should torque to 500 ft. lbs.



Figure 2

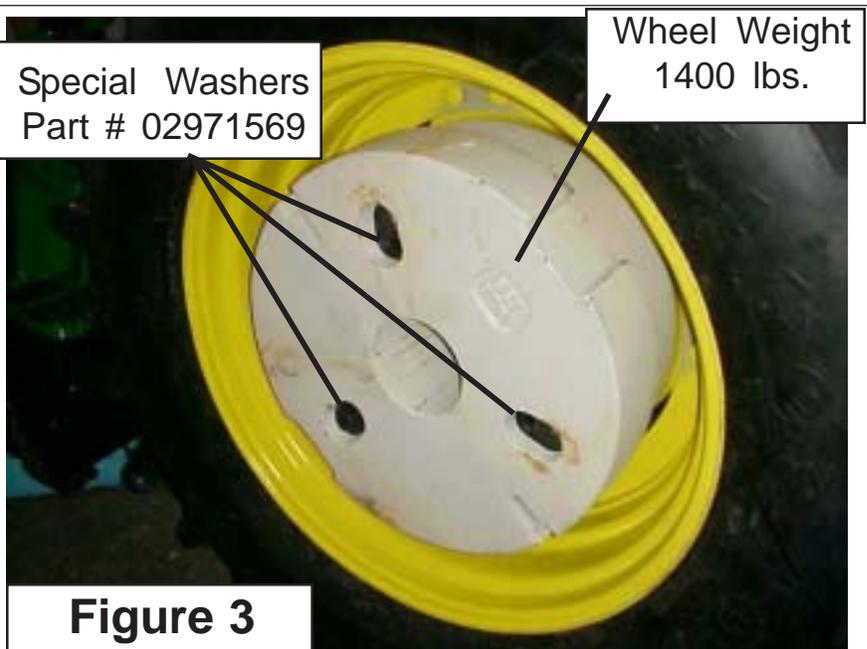


Figure 3

# NOTES

# Section 6

# Axtreme Boom

## Typical Pump - Driveline - Hyd Assembly instructions

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# Pump - Driveline - Hose Removal

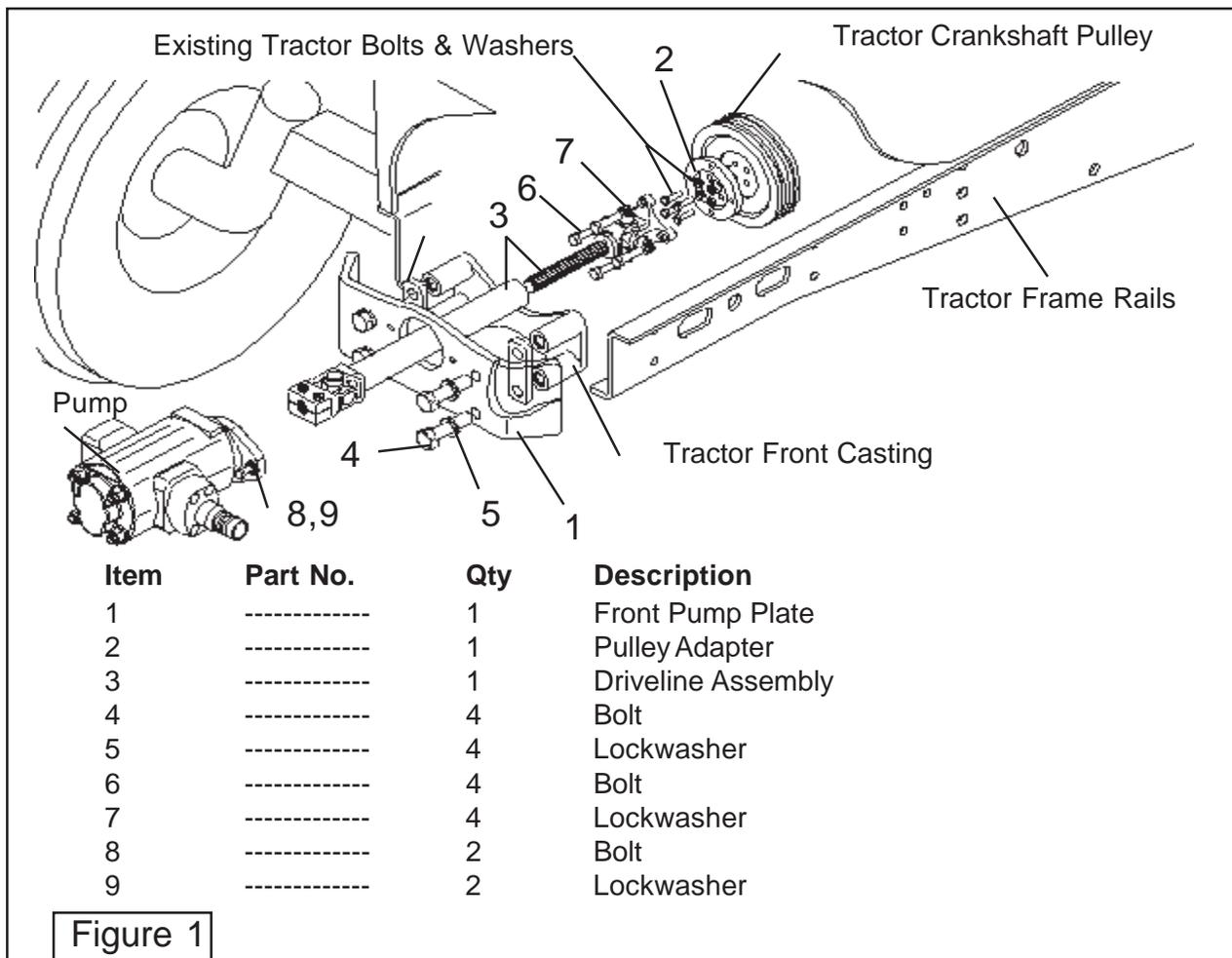
## Pump - Driveline - Hose Information:

This Section covers the Pump and Driveline Components. Some precautions must be followed during the assembly Process before unit is ever started for the first time. (See Hyd Schematic in this section for hyd routing).

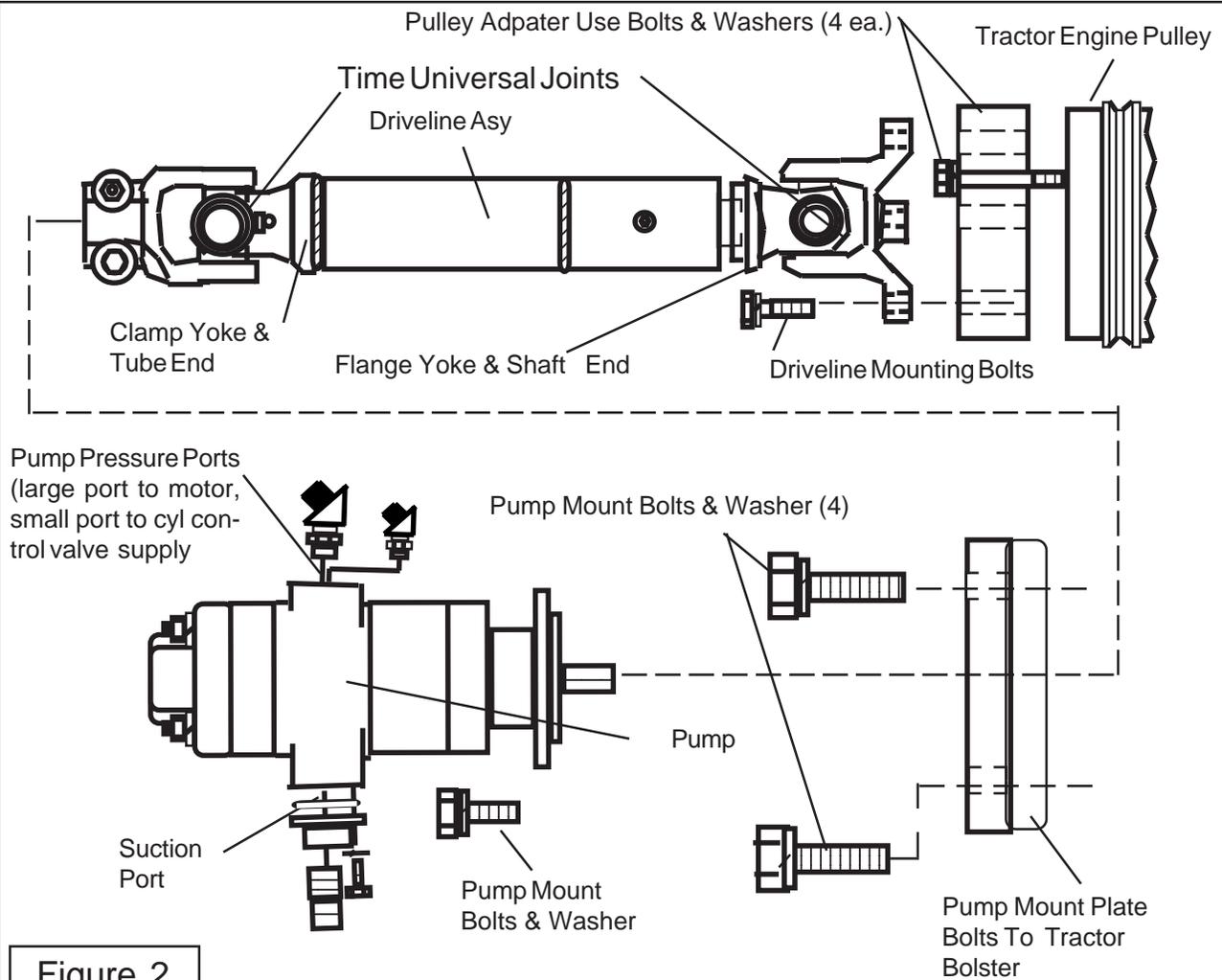
- A. Tractor must be disabled to prevent accidental engine start and prevent damage to components.
- B. All Fittings, Hose, Cylinders, Tank must be kept plugged at all times, No part of the Hydraulic System can be left open at any time
- C. All Tools, Work Area, Components and Workers Hands must remain Clean when working on any part of the Hydraulic System.
- D. All components should be rechecked for tightness at least twice, Hose routing also double checked.

Componets shown here are a general illustration of the pump driveshaft configuration. The actual configuration used on a specific tractor may vary. See the assembly drawings shipped with the unit when shipped from the factory. Keep these drawings with the assembly, parts, service, operators manuals for future reference.

**CAUTION:** Shown in Figure 1 is a basic pump driveline configuration, BUT NOT the only configuration. Components will vary with the type tractor that the Xtreme Boom is mounted on. See the Assembly Drawings and/or Parts manual that is for the unit mounted to your tractor. Some models may require modifications to the tractor that are not listed in this manual, see the assembly drawing shipped with the unit.



# Pump - Driveline - Hose Removal



## Pump - Driveline - Hose Installation:

1. **Install Pulley Adapter.** The Pulley adapter is a round plate with 4 threaded holes and four non-threaded holes in it. The Non-threaded holes are used to mount the Adapter to the Pulley using 4 bolts & Lockwasher. Do not use longer bolts to mount Pulley Adapter to Pulley than is supplied with mounting kit. (See Figure 2)
2. **Driveshaft Assembly.** Some tractor models may have to have a hole cut in the front for the driveshaft to go into. If this is needed most tractors will have a (dimple) mark in the front to indicated the center point of the engine crankshaft. A hole of sufficient size will need to be cut, in most cases a 1-1/2" to 2" dia. hole will work. The drive shaft is a two piece Assembly, an inner and outer shaft assembly (See Figure 2 & 3). The Shaft End has a four bolt flange yokes on it that connect to the Crankshaft Pulley Adapter. The Tube end has a splined clamp yoke on it that connects to the Pump. This Drive Shaft connects to the Pulley Adapter. Note that the Universals of the Driveshaft are in time. When installed in tractor they should be in time as shown, both Yokes the same direction (See Figure 2 & 3).
3. **Install Shaft End of Driveshaft / Engine end.** Install the Shaft 1/2 Assembly w/ Flanged Yoke into the Engine compartment of Tractor, install it from the LH front Side down and under radiator. (See Figure 4). This needs to be installed this way because the Flange Yoke will not go through the Crankshaft access hole in the front of the Tractor. Bolt the Flange Yoke to the Pulley Adapter using the four Bolts and Lock Washers, put Lockite on the threads of the Bolts when installing them into Pulley Adapter. To Tighten these four Bolts, use a long extension and go through the front Crankshaft Pulley access hole in front of Tractor if you cannot tighten them from the side. Do Not use bolts longer than the mount kit calls for, longer bolts will damage Crankshaft Pulley if they go completely through the adapter.

# Pump - Driveline - Hose Installation

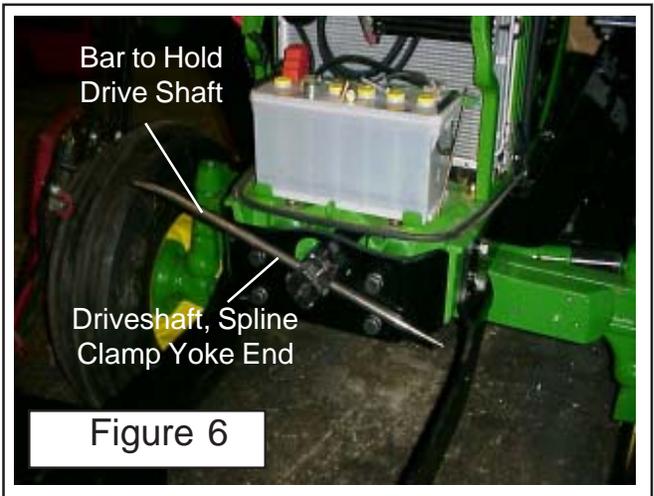
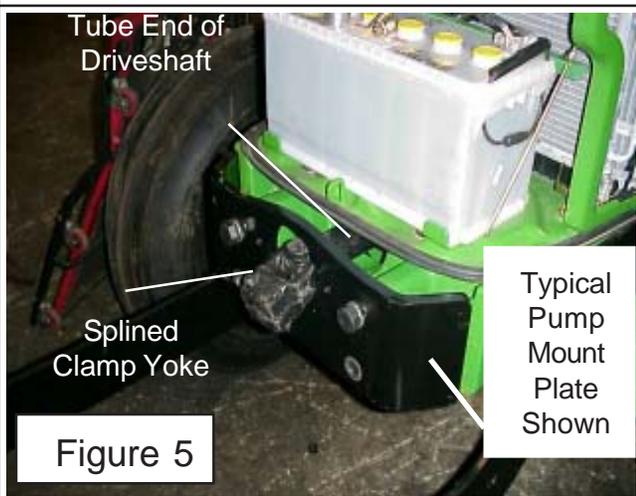
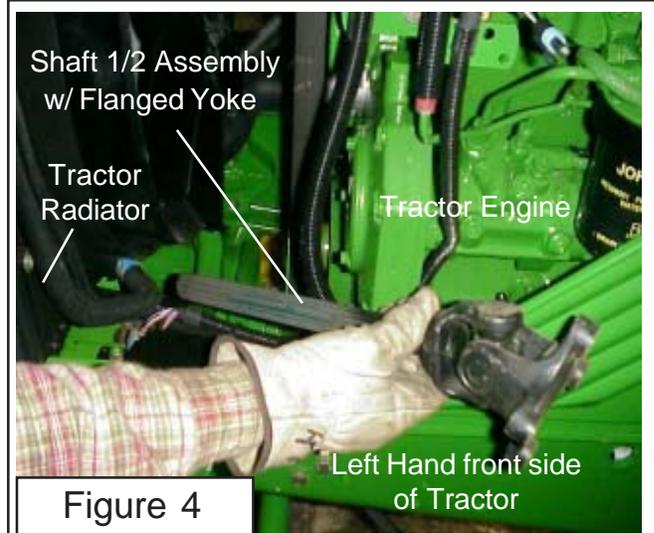
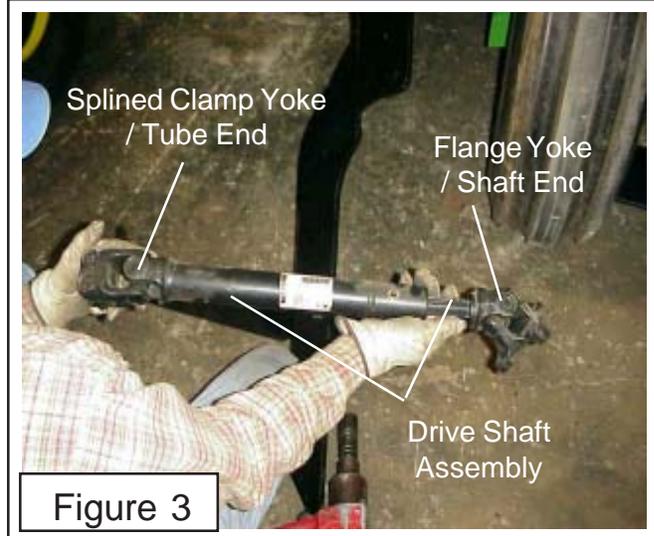
4. Driveline timing means the universal joints are both the same position when driveline half is slid together. If they are not timed, it will decrease the life of the universal joint and in some cases could cause a vibration. (See Figure 2 & 3), **Driveline timing is critical to smooth operation.**

5. Install Tube End of Driveline / Pump End. Slide the Tube half of driveshaft through Pump Mount Plate and Tractor Crankshaft Access Hole (See Figure 8). You will have to align the Universals when doing this (time the Driveshaft). Slide the two together where the Universal are in time (See Figure 2, 3 & 5) this will help the driveshaft to operate smoothly.

6. Loosen Splined Clamp Yoke. Insert a bar through the Yoke to hold Driveshaft up and to help loosen the Bolts in the clamp Yoke (See Figure 6). This can be loosened with a hand Wrench or a Socket whichever is easier (See Figure 6). Sometimes it is easier to test fit the Tube End of Driveshaft to the Pump while the Pump is on the bench, But this make timing the driveline yokes more difficult.

7. Install Pump into Splined Clamp Yoke. Coat the Pump Splined Shaft with Anti-Sieze Compound. Slide the Pump Splined Shaft into the Spline Clamp Yoke (See Figure 8). Leave the Bar stuck in through the Yoke as shown, this helps to stabilize the Yoke as you slide Pump Shaft into the Yoke. Once Pump is slid into the Splined Yoke, keep the Pump supported; DO NOT let the Pump hang on the Yoke unsupported.

8. Pump / Driveshaft Yoke Gap Adjustment. After sliding Pump Shaft into Splined Clamp Yoke, the Pump and Yoke must be slid apart far enough to allow for a 1/16" to 1/8" Gap between them. The Yoke edge cannot touch the Pump Housing; it will damage the Housing and the Yoke if it does. This is a very critical adjustment (See Figure 9).

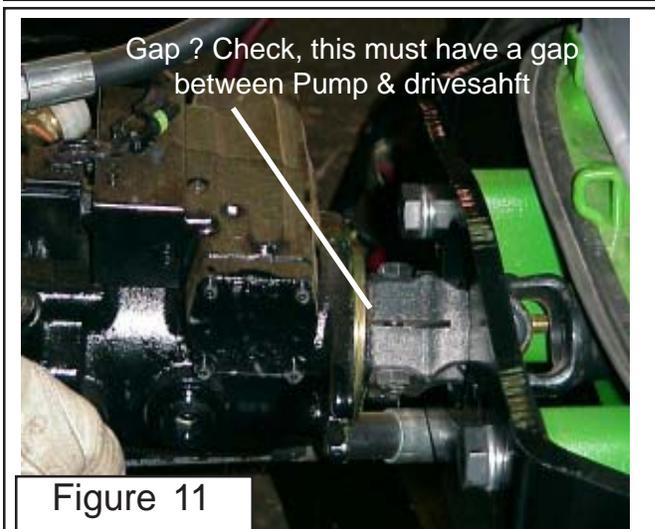
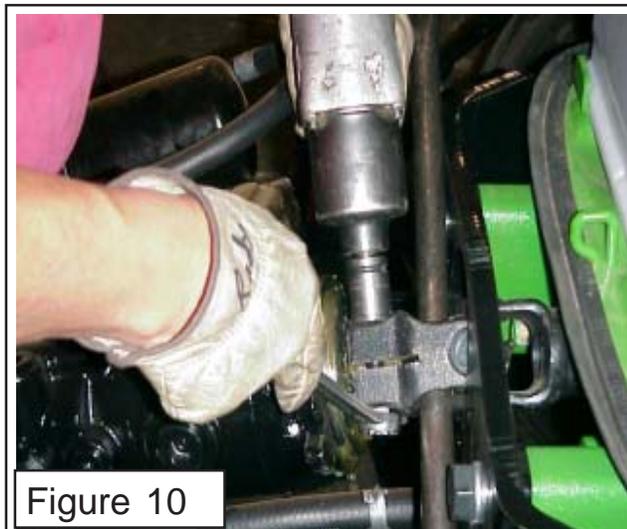
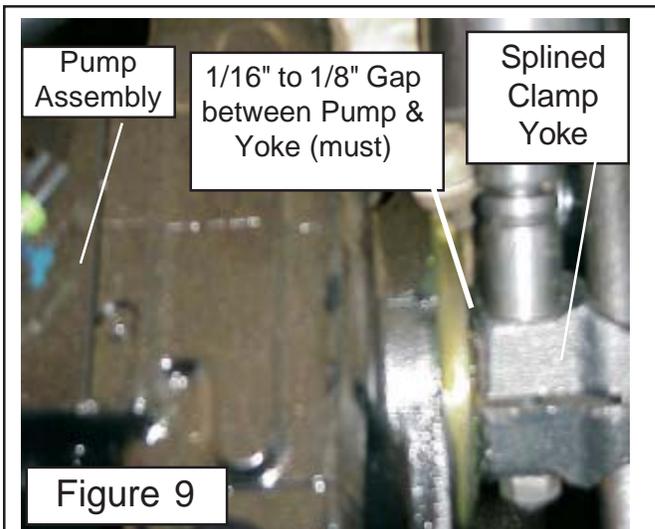
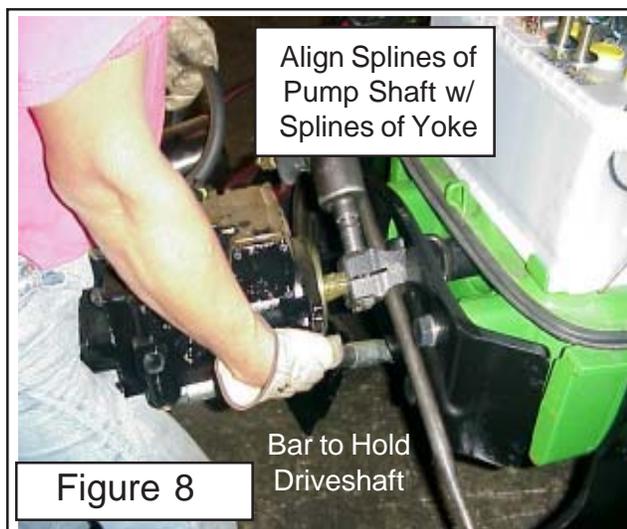
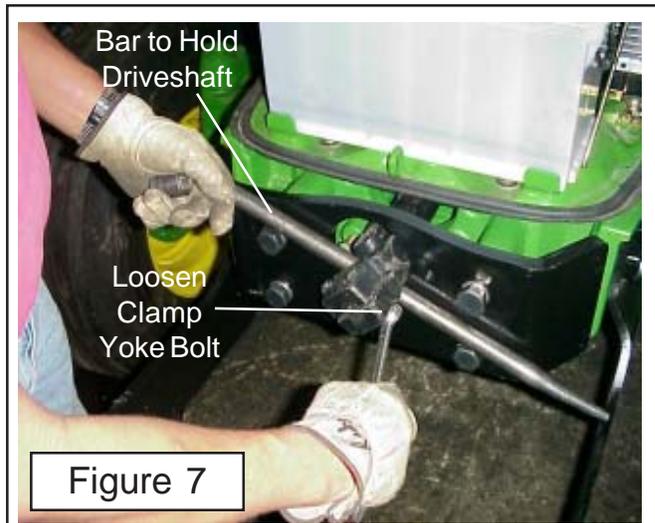


# Pump - Driveline - Hose Installation

9. Tighten Clamp Yoke. After Gap between Yoke and Pump has been adjusted tighten the Bolts & Nuts on the Clamp Yoke (See Figure 9 & 10). Check Pump to Yoke Gap once more. Keep Pump Supported do not let it hang on Yoke.

10. Mount Pump to Pump Plate. Remove the Bar that is slid through the Driveshaft Yoke and push the Pump inward (See Figure 11). This will make the two piece Driveshaft slide together allowing the Pump to be pushed towards the tractor. Do this until the Pump is against the Pump Plate (See Figure 12).

11. Install Pump Mounting Bolts. While holding in on the Pump (See Figure 12) start the two Pump Retaining Bolts. Make sure both Bolts are started well before you stop supporting pump. The Bolts should be snugged until pump sits level before you stop supporting it (See Figure 12). Let go of the Pump, it may slide back some and leave a slight gap between Pump and Mounting Plate (See Figure 16).



# Pump - Driveline - Hose Installation

12. Tightening Pump Mounting Bolts. There is a shoulder on Pump Flange that must line up through hole in Pump Mounting Plate (See Figure 14), if the Pump is slid back as in figure 11 try to push it inward until it is against Pump Mount Plate as shown (See Figure 12). Slowly and alternating from Left to the Right side, tighten the Pump mounting bolts until they are tight. **DO NOT FORCE** Pump through Pump Mount Plate, if it will not freely slide in check for a problem of some kind. Excess force could damage Pump Housing. (See Figure 12). Do Not remove any Plastic caps from Pump inlet or outlet at this time, keep all openings plugged and sealed to keep them clean.

## Hose Installation:

1. Connect Pump Hoses to Cutter control valve. The hoses should be connected after bolting pump to front pump mount plate. **THE STEPS BELOW! ARE STEPS THAT MUST BE FOLLOWED WHEN INSTALLING PUMP HOSES.** (See [hydraulic schematic at the end of this section for hose connections](#))

**A. Clean all Hoses and Pump Fitting** The tractor must be clean at the pump, hoses and hydraulic tank before beginning any installation. **Never start tractor before pump has been completely installed with hoses connect and system filled of oil.**

**B. The Pressure Hoses** run down the right side of the tractor and connect to the control valve block which is bolted to the pump on the right hand side (See Figure 13, 14 & 15). The small hose is the pressure to cylinder control valve, the larger hose is the pressure hose for the mower motor circuit. These hoses should be connected first. (See Figure 13). Bolt the hose rings to the right side of tractor.

**C. The Suction Hose At Tank:** The suction hose is connected to the pump next. Make certain that suction hose is fastened tightly at the Tank (See Figure 14).

**D. The Suction Hose At Hydraulic Pump** Fill the hose with clean new hydraulic oil (recommended type only). This is so when pump is started it will not start up dry. Install suction hose to hydraulic pump and tighten hose fitting (See Figure 14).

**E. Tractor Operation.** **DO NOT ALLOW** tractor to be started as it could damage the pump and other components if the assembly is not complete, completely inspect all installation made to make certain they have been completed and components have been tightened.

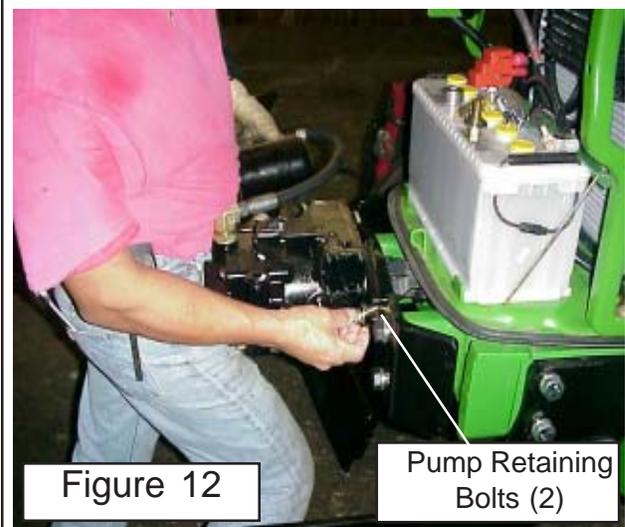


Figure 12

Pump Retaining Bolts (2)

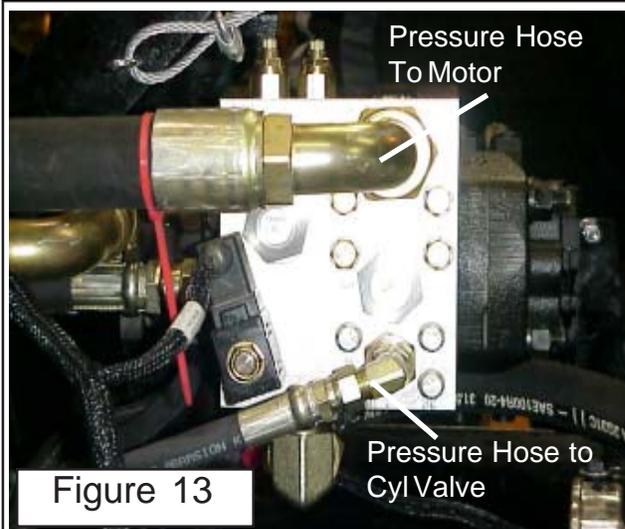


Figure 13

Pressure Hose To Motor

Pressure Hose to Cyl Valve

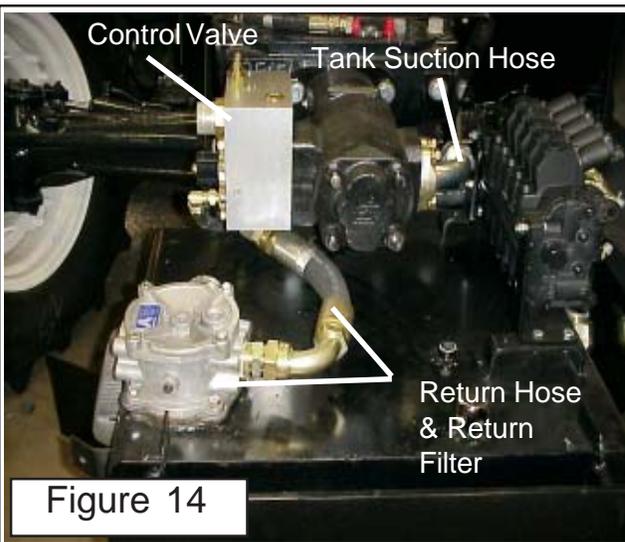


Figure 14

Control Valve

Tank Suction Hose

Return Hose & Return Filter

# Pump - Driveline - Hose Installation

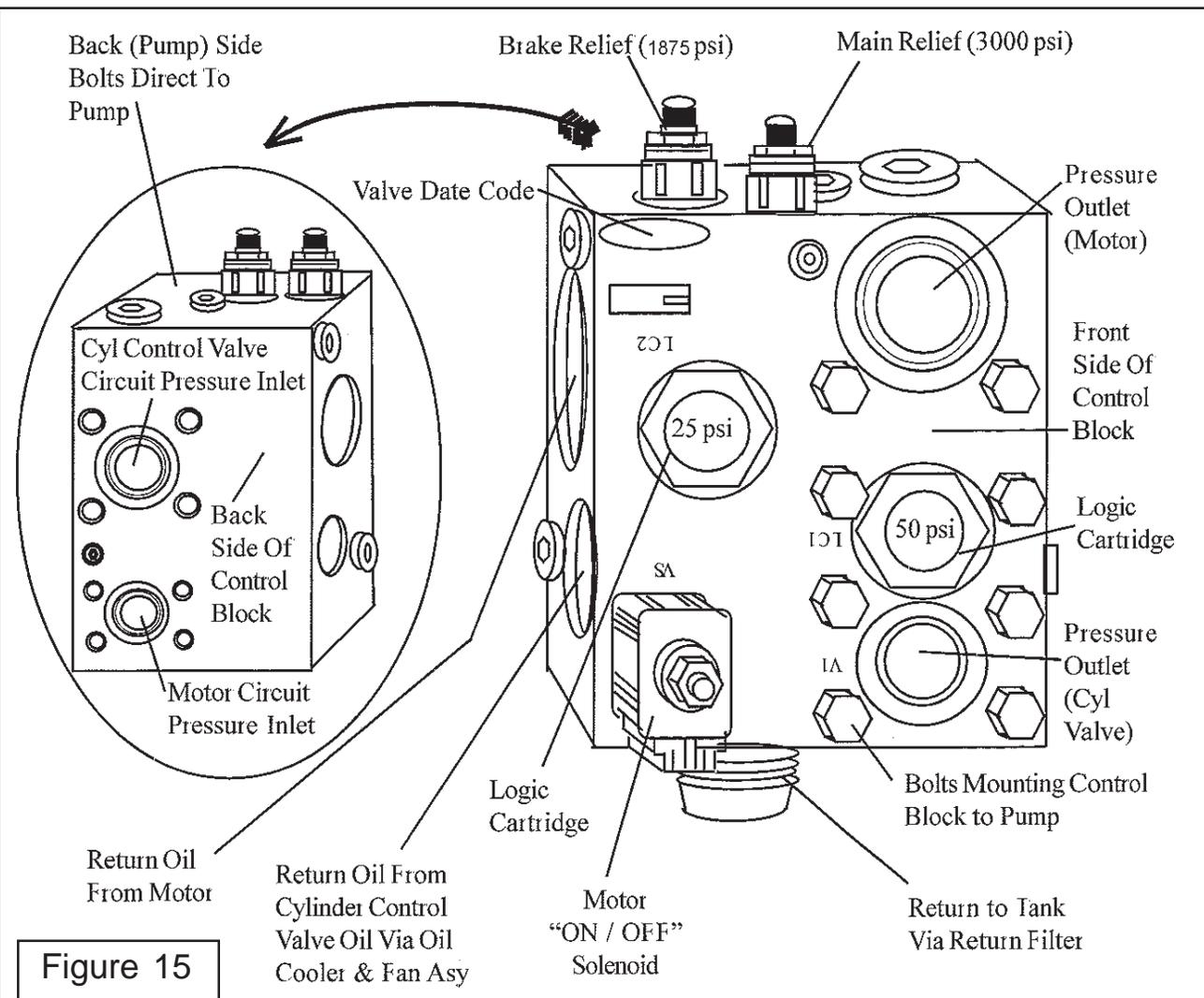


Figure 15

## Motor Control Valve Block

The pump / motor control valve block, this bolts to the right hand side of the pump (See Figure 13, 14, 15 & 16). The pressure and return hoses are connected to this valve block.

The Motor Control Valve Block is used to control the on - off function of the mower head. The control block diverts the hydraulic pressure through a bypass by using an electric solenoid. The Brake relief should be pre-set at 1875 psi and is located on top of the control block, this is a brake to stop the motor from turning when mower is shut down. If the mower head does not stop check this pressure setting.

The motor control block has the main relief on it, this relief is set to 3000 psi (Max 3000 psi) and should not be exceeded. If a problem in the system, this pressure should be tested using an appropriate pressure / flow meter. DO NOT do any adjusting or modifications to the control block without the proper testing.

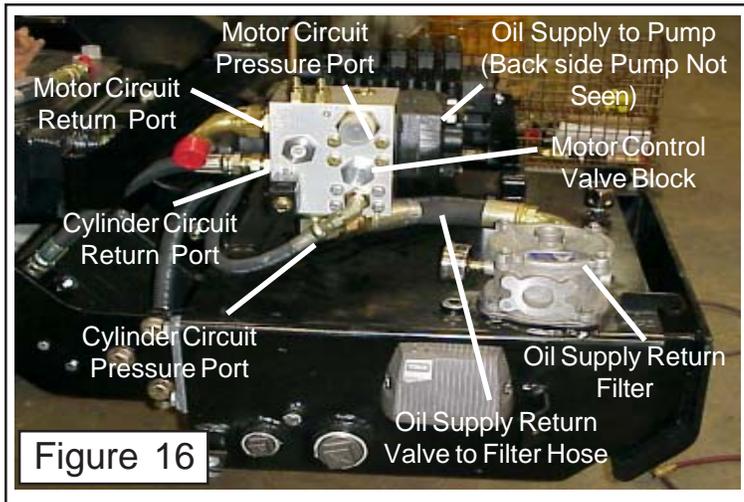


Figure 16

# Pump - Driveline - Hose Installation

## Used with Swivel Head Option Only

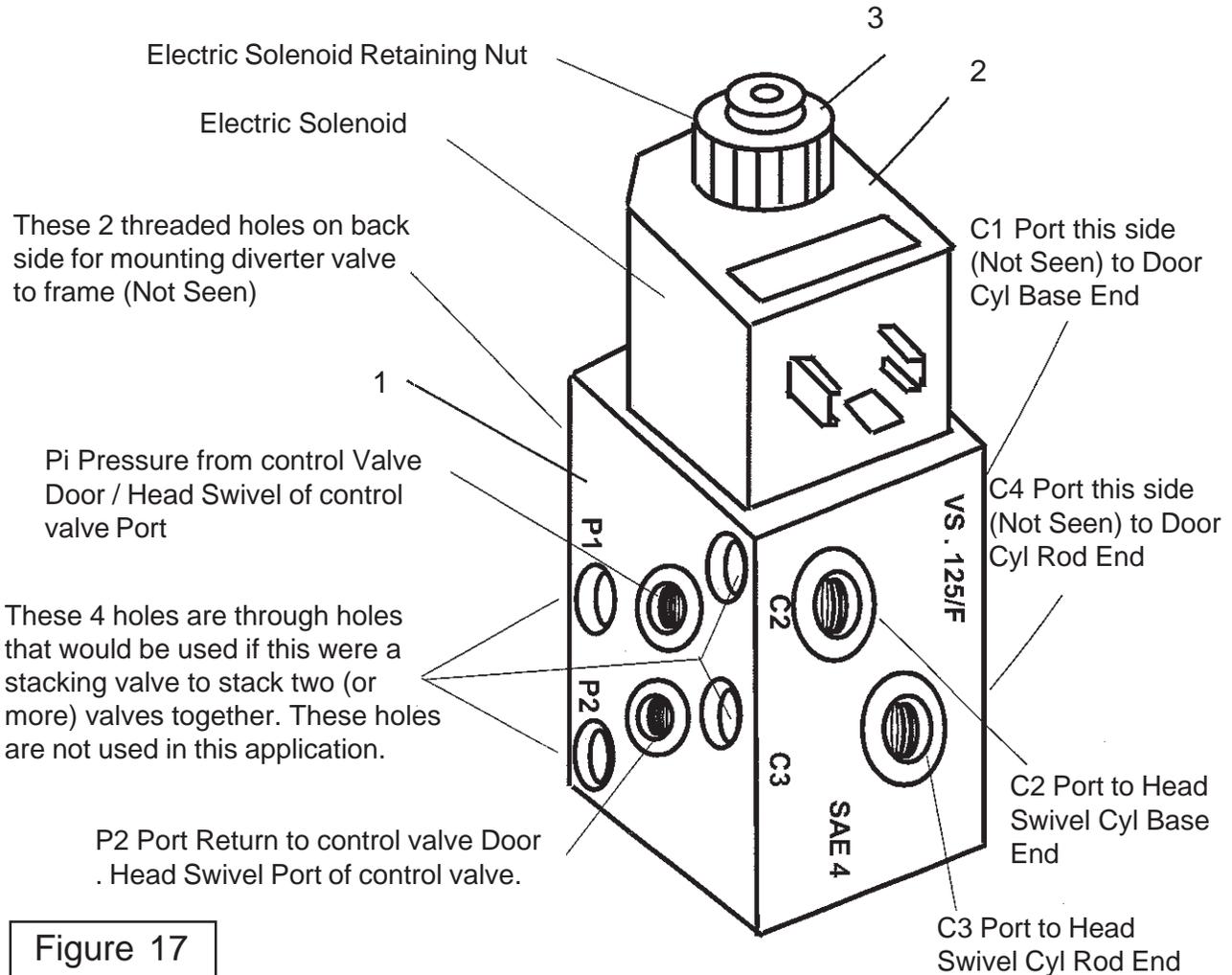


Figure 17

## Cylinder Diverter Valve Block

The Cylinder Diverter Valve Block is used to control the hydraulic head swivel option if used. The control block diverts the hydraulic pressure through a bypass by using an electric solenoid so the pressure can be used to operate two functions (one at a time) as needed. This block is bolted to the mainframe on the LH side back from left front wheel and is connected to the door cylinder and the optional head swivel option cylinder.

Through a toggle switch operation it can be decided which cylinder will function when on the cable control valve system and through button trigger combination on the joystick (electronic valve control) option. If the head swivel option is not used this diverter valve will not be used. (See Figure 17, 18 & 19)



# Pump - Driveline - Hose Installation



FIGURE 19

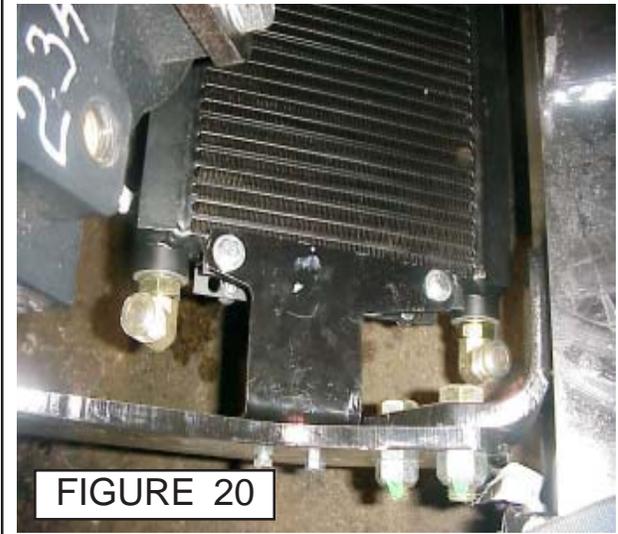


FIGURE 20

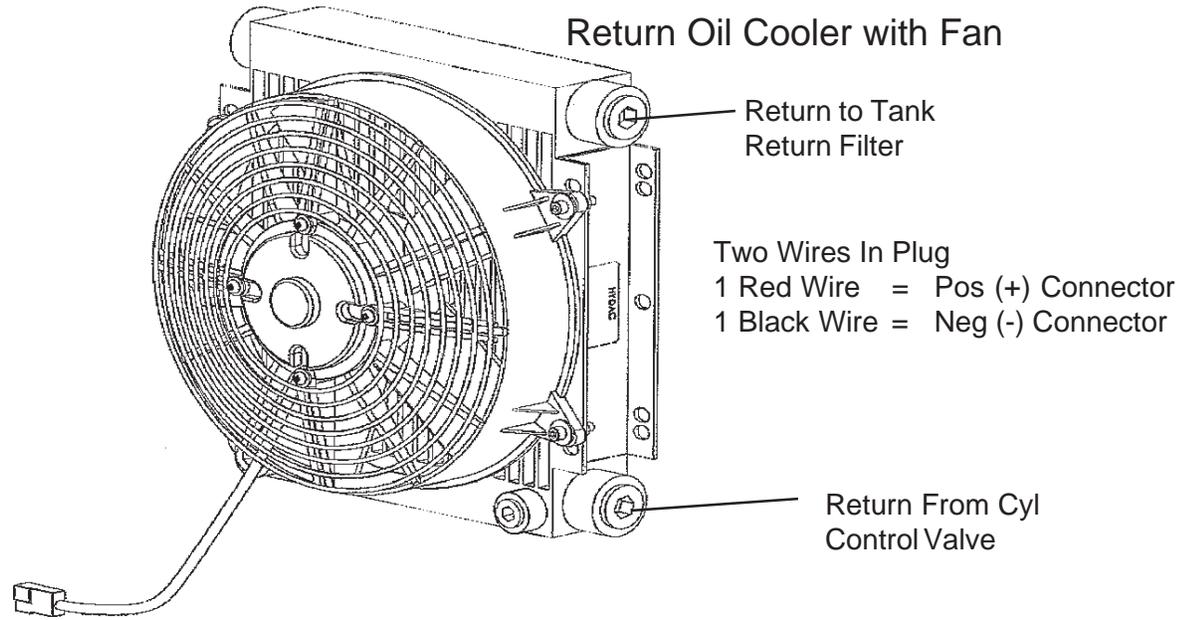
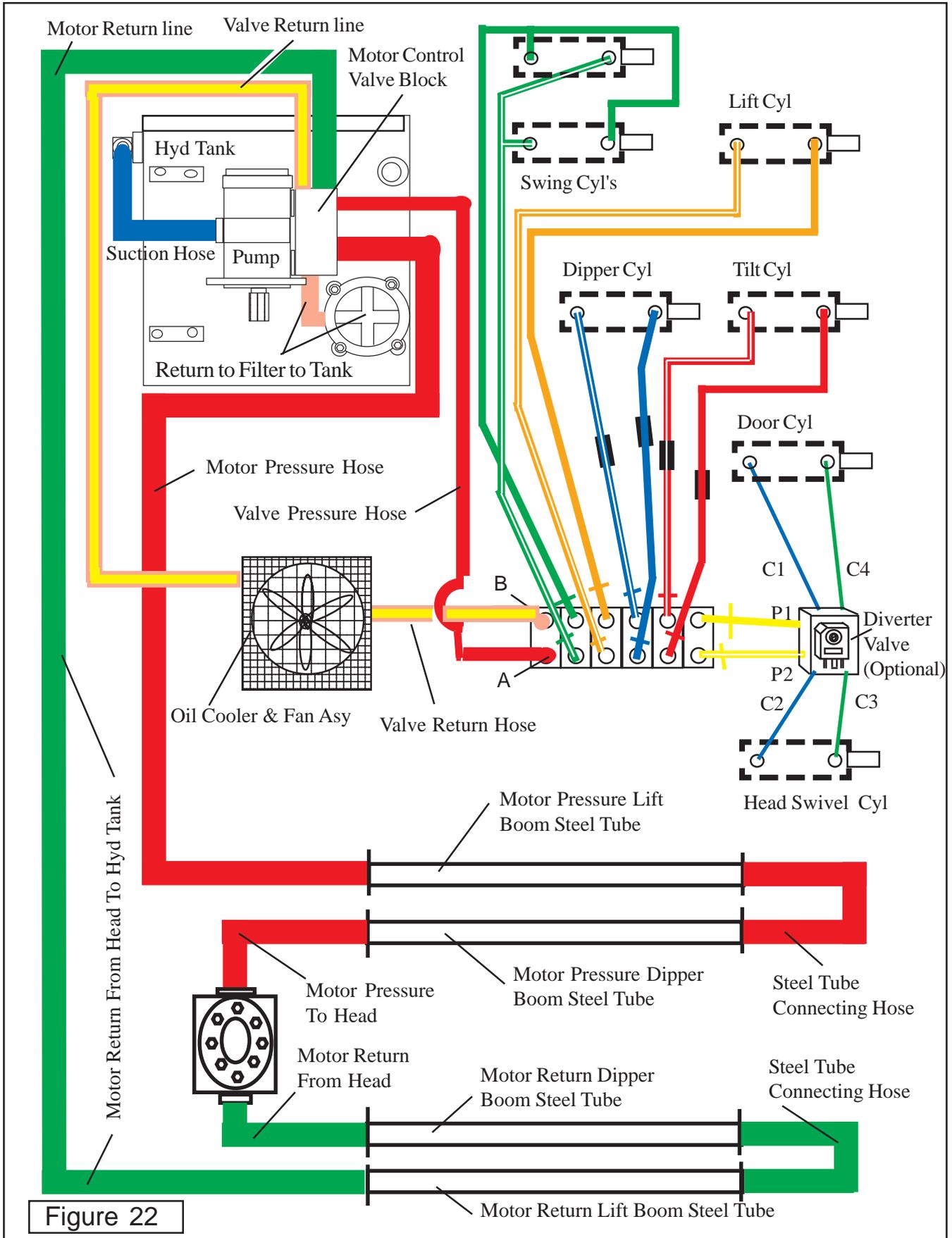


Figure 21

The return oil cooler with fan is in the cylinder control valve circuit. The return oil from the cylinder control valve is going through the cooler as it is being returned to the cutter control valve block. (See Figure 20 & 21).

# Hyd Schematic - Mechanical Operated (Std)



# Hyd Schematic - Electrically Controlled (Opt)

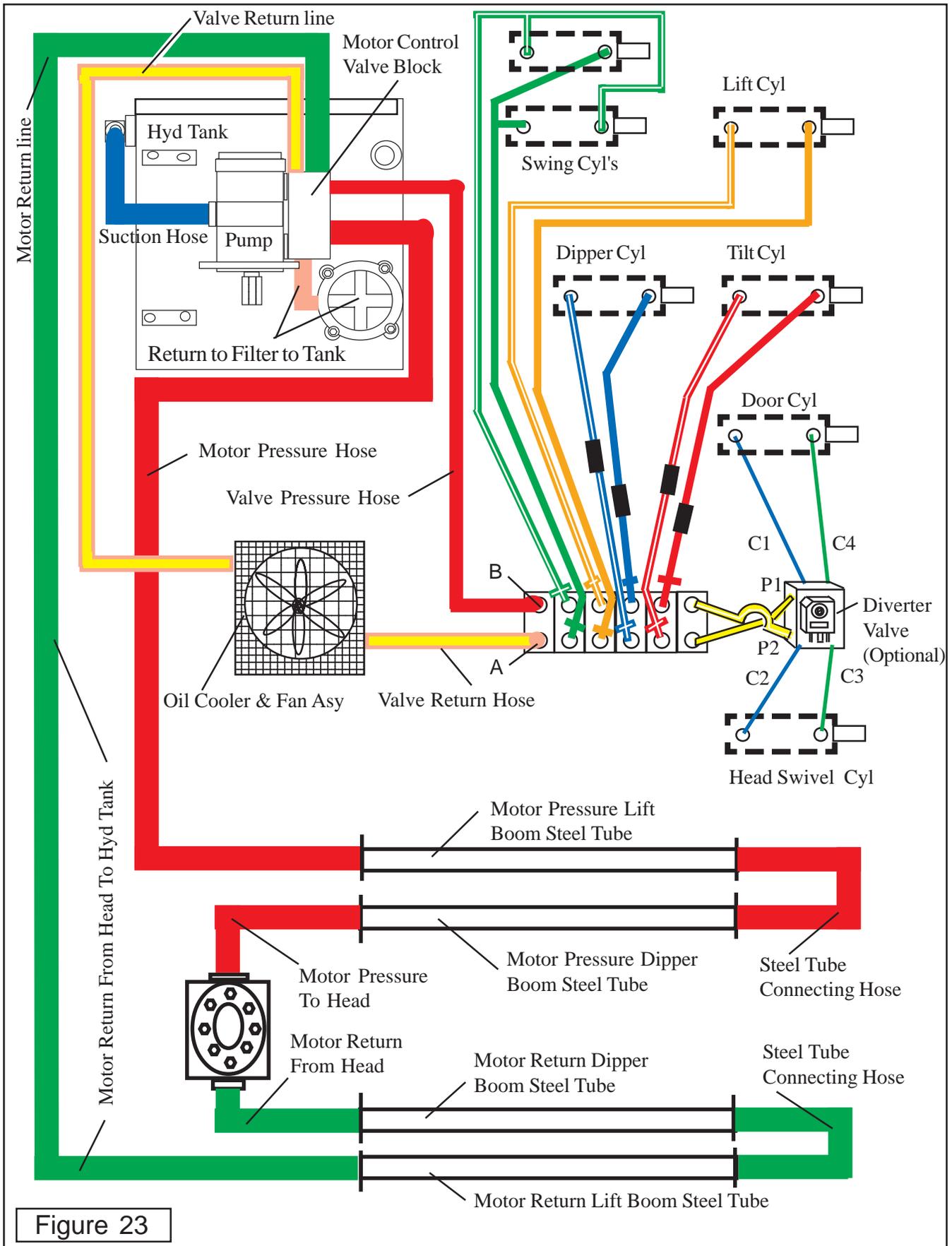


Figure 23

# NOTES

# Section 7

## Axtreme Boom

### Boom & Head Installation With Hyd Connections

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# Boom / Head Installation

## Boom Installation / Boom Hoses:

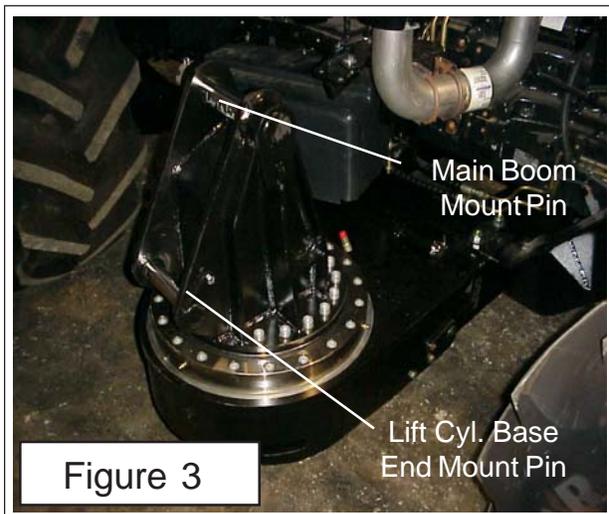
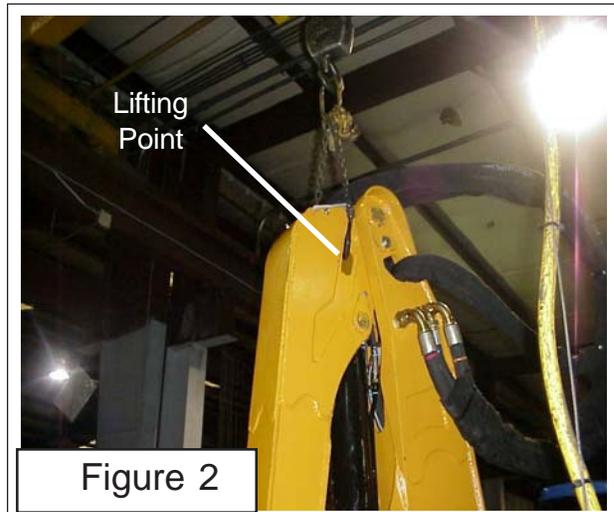
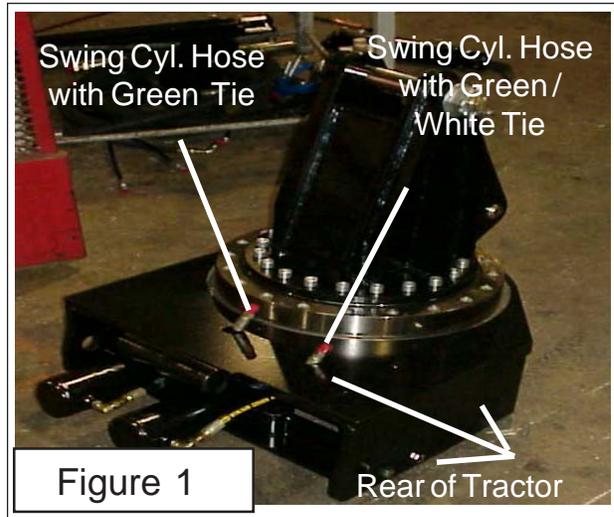
1. Turret Assembly, The turret assembly has the cylinders connected and the hoses are connected to the cylinders. The end of the hoses will be sticking up through the turret mount weldment between turret and tractor. The hoses will need to be connected there and routed to the hydraulic control valve. One hose will have a Green Tie and one a green and white tie where they come up through the turret mount weldment. (See Figure 3).

2. Booms Are received from the factory with the Sections of Boom Assembled to together. The Boom Sections are assembled with the hydraulic lines and cylinder connected. The hose will be connected to the boom that are routed to the control valve and diverter valve and bundled together. (See Figure 4). The Boom Hoses are protruding out the turret mount end of the boom. The Hose connections on the head end will be shipped with metal caps on them, these are to protect the lines from contamination and should not be removed until the hoses are being installed (See Figure 4). The hose that attaches to the boom are sent installed on the head assembly and the hose will also have plugs in them.

3. Boom Lift Cylinder. The boom lift cylinder will be connected to the boom at the rod end of the cylinder (See Figure 2 & 4) when it is shipped from factory. The hoses will also be connected to the cylinder. The retaining pin for the lift cylinder will be located in the turret assembly. The Lift Cylinder will be fastened to boom with tie wire. It will not be required to remove this tie wire before mounting boom on turret assembly. -

4. Booms & Lift Cylinder Mounting Pins. The Boom and lift cylinder mounting pins are shipped installed in the turret assembly. Remove both pins in preparation to mounting the boom. (See Figure 3)

5. Lower Boom onto Turret Assembly. Using an over head hoist lift the boom by placing a lift strap at the boom hinge point (See Figure 2), the boom assembly will be shipped with the two boom end tie wired together (See Figure 3A). The wire tie will need to be removed as it is tied through the boom hinge pin hole. Lift the boom above the turret assembly and lower it back down onto the turret assembly aligning the boom with the mounting pin hole. Install the Mount Pin through the turret and into the boom. Make certain the pin is installed correctly as one side of the pin is self locking in design. Tighten the pin retaining nut and install cotter pin. (See Figure 3C)



## Boom / Head Installation

**6. Connect lower end of Lift Cylinder.** The Base end (lower end) of lift cylinder will mount into the turret under the boom mount. The Cylinder will have to be extended to connect, If cylinder has to be extended the best way is to unplug the ends of the lift cylinder hoses where they come out of the boom, these will be the # 6 hose with the Orange Tie and the # 6 hose with the orange / White Tie. When pulling (extending or collapsing cylinder) always put the opened end of the hoses into a clean drain pan as oil will run out of the cylinder when extended or collapsed. After installing the cylinder lower mounting pin re-plug the hoses that were in the drain pan until ready to connect hoses.

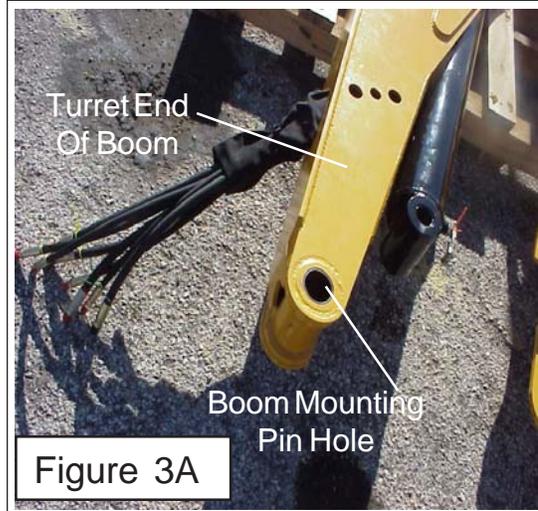


Figure 3A

**7. Connect Head to Boom.** The mounting pins to install the head onto the boom will be shipped installed in the mount weldment. Remove the mounting pins. Use the hoist to lower boom down over head to connect head, Align the upper head mount pin. The lower mount pin is the connect the lift link. (See Figure 4). The Door Cylinder and the Swivel Cylinder are shipped installed on the head with the hoses connected to the cylinder.

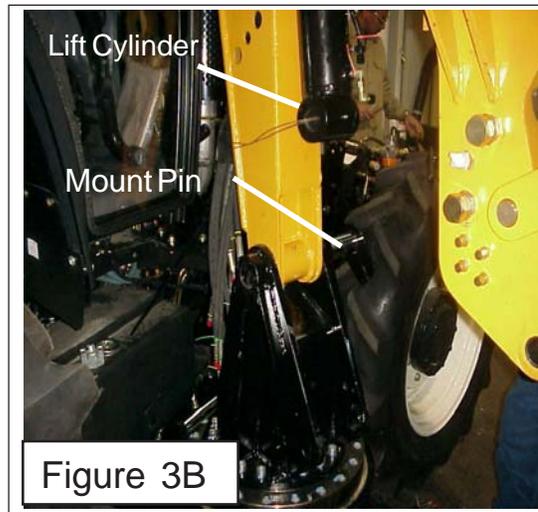


Figure 3B

**8. Heads Are received from the Factory with the Cylinder and Head hoses Attached to Head.** The head will be received with the door cylinder, swivel cylinder and Motor attached to the head. The Hoses for the cylinders and the motor will connect to the boom. There is a decal that is installed on the side of the boom that shows where the hoses connect to the fitting that have the metal caps on them. The fittings for the head are located on the side of the main Boom. The hoses must be connected in the correct order to make certain of correct operation (See Figure 4, 5, 6, 7 & 8).

**9. Two Head Options.** There are two heads available, 60" (See Figure 4 & 5) which has the head Swivel attachment on it. The 50" Head which will not have the swivel attachment (See Figure 6 & 7) If using the 50" head leave the ports for swivel cylinder on boom capped (See Figure 8) More types of heads are to be made available at a later date.

**10. Connect Hose From Boom to Control Valve.** The cylinder hoses will connect to the control valve mounted on the front of the tractor with the exception of the Door and Swivel Cylinder hoses they will connect to the diverter valve and then there are two hoses that connect to the diverter valve to the 6 spool control valve (See Figure 11). The hoses for door and swivel will be routed under the tractor along the center under frame weldment to the diverted valve which will be mounted on the LH side of the tractor on the front frame mount bracket.

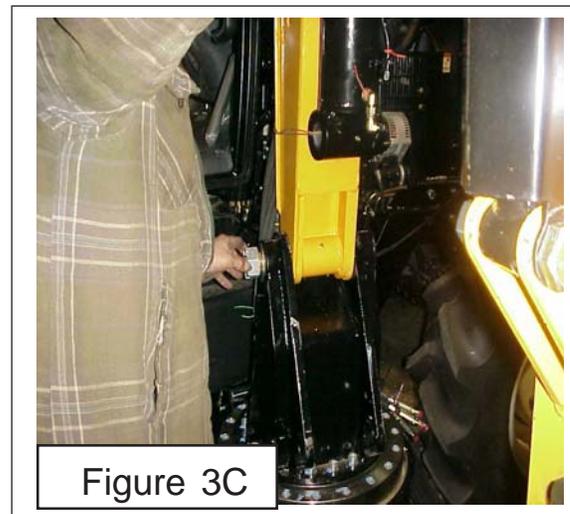


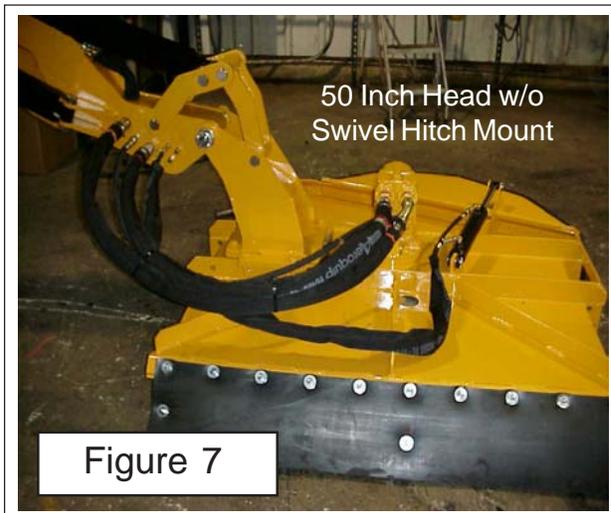
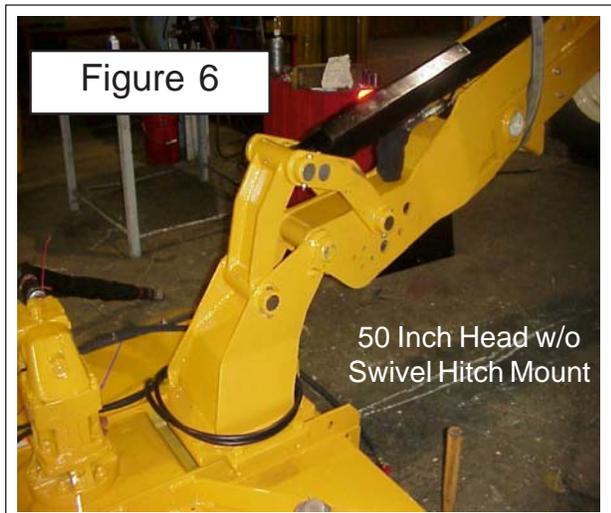
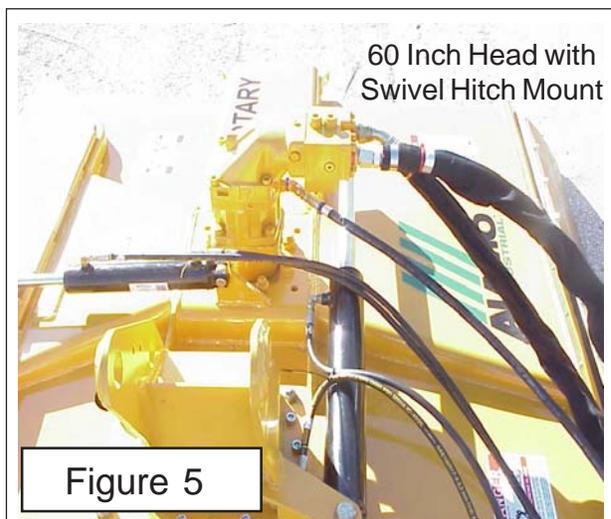
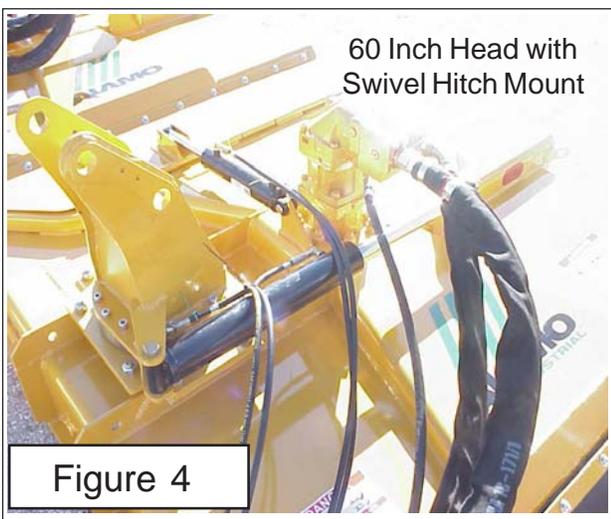
Figure 3C

## Boom / Head Installation

**11. Routing Cylinder Hoses from Boom to Valve** The Hose from the boom to the valve will be split, the four hoses to the door cylinder and swivel cylinder will run together through a section of sleeving material to the RH side of the tractor (See Figure 9). On the Right hand side of the tractor the four hoses will connect to the diverter valve in the coded locations (See Hose Codes on next pages). Tie the hoses to the frame under the tractor (See Figure 10). The two hoses from the diverter valve will continue along the LH side of tractor with sleeving material over them (See Figure 10) to the front of the tractor. They will have hose support brackets on them that bolt to the side of the tractor (See Figure 10) where they will be connected to the valve at the Door / Swivel Ports in the correct order (See Figure 13 & 14).

The other cylinder hoses from the boom will be inserted into sleeving material and also be routed under the tractor to the LH side (See Figure 11). They will continue up the LH side to the front of the tractor where they will connect to the valves ports. The hoses will be held to the frame with metal hose holders bolted to the tractor frame (See Figure 12).

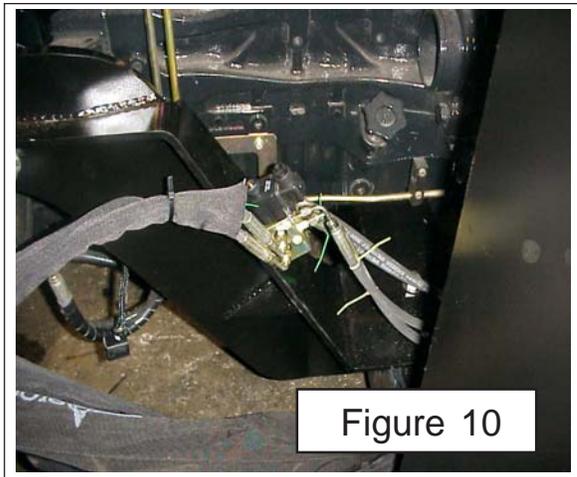
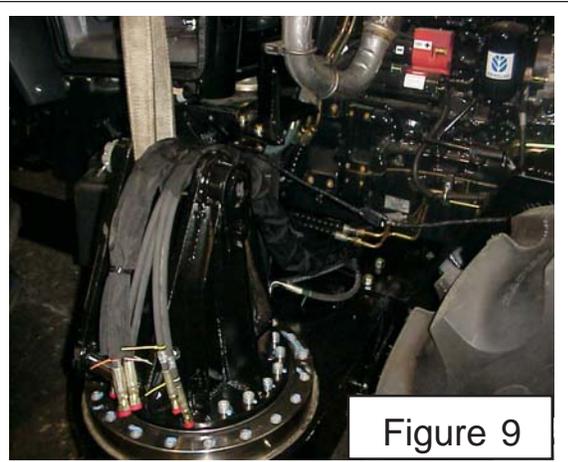
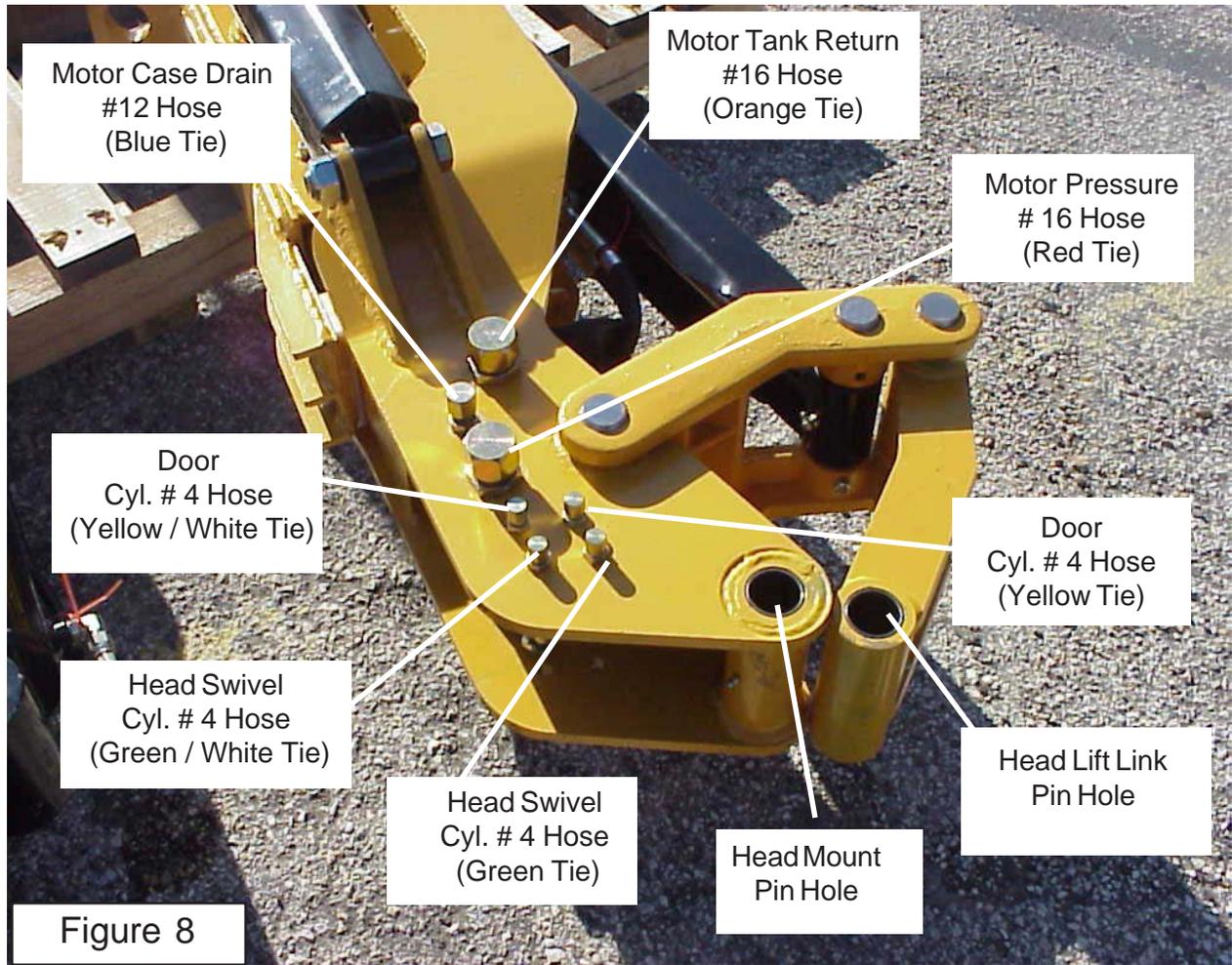
**NOTE:** the hoses must be run through the sleeving material. On the LH side there is a hole in the center frame weldment the hoses can be run through it if wanted. Connect the hoses to the valve as shown (See Figure 11)



**Motor Circuit Hoses to Boom Connections: (Listed as reference)**

Color	Tie	(Code)	Hose Size	Hyd. Function
Red	R		SAE # 16	Pressure Flow to Motor
Orange	OR		SAE # 16	Return Flow From Motor
Blue	B		SAE # 8	Case Flow From Motor to Boom
Blue	B		SAE # 12	Case Flow at Boom to Tank

# Boom / Head Installation



# Boom / Head Installation

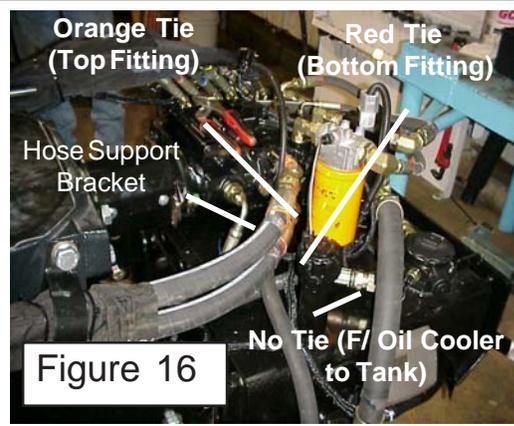
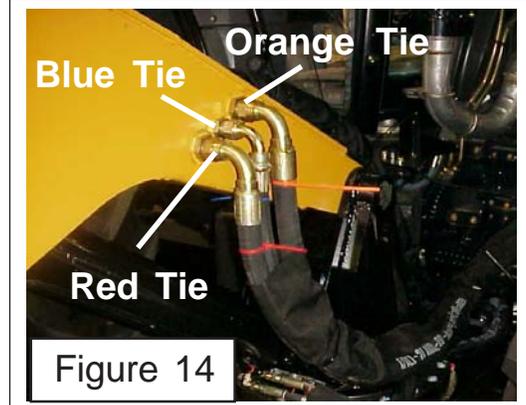
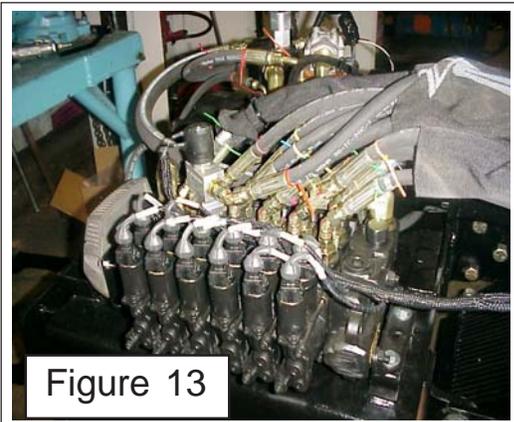
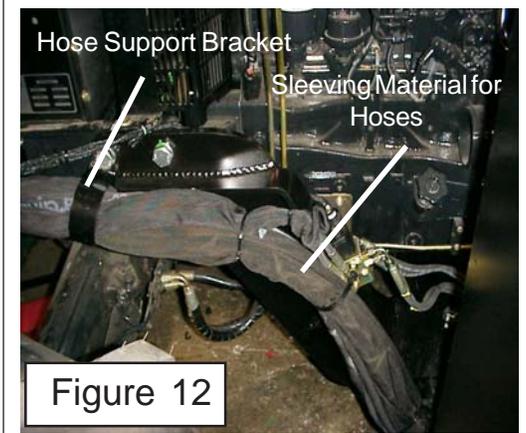
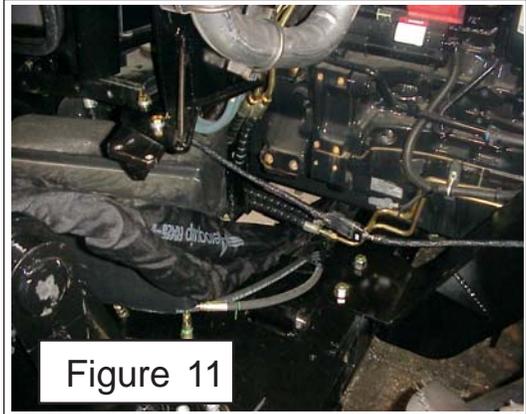
**12. Routing Boom Hoses to Pump** Boom hose to pump will be routed on RH Side of tractor, They are run through sleeving material and hose support bracket (See Figure 15). The Pump hoses must be connected correctly to boom and pump. There are 2 Pump to motor hoses and 1 motor case drain return hose for a total of 3. (Note Motor Case Drain hose will be run through the Oil Cooler and then return to tank).

First is the hose with the red plastic tie the lower connection at Boom, (See Figure 14), this is the pressure supply from pump, lower connection at pump (See Figure 14) to the motor connection at the boom.

Second is hose with orange plastic tie, upper connection at boom (See Figure 14). This is the Return hose from the motor upper connection at pump (See Figure 14).

Third is Hose with blue plastic tie, middle connection at boom (See Figure 14) which is case drain from motor. Hose connects to the Oil Cooler / Fan Asy mounted under tractor bolster behind hyd tank. There is short hose which will not have plastic tie that will connect to oil cooler, then goes to tank return (See Figure 16).

**13. Pump Hose Routing at Tank.** Hose routing at tank is shown as reference to Pump hose routing which most will already be connected when tank and pump asy is shipped from factory. All hoses you must disconnect and reconnect during pump and/or tank asy, refer to this figure for the correct location of hose (See Figure 15).



# Hydraulic Hose Connections

## Hyd Hose Codes at Control Valve & Head Swivel Diverter Valve Option

**Hydraulic Hose Band Mark Color Codes:** Hose's and/or fittings are marked with a Color Coded Plastic Band around it. Some Bands are a solid Color and some are Colored with a Stripe. The purpose of the colored bands are to provide a quick reference for hose and port connection. A metal band is also attached to the hose, on that band is an Alamo Industrial Part Number for reference if needing a replacement hose. **Always Check Hose Size, Color Code & Part No. when ordering parts.**

## Boom Cylinder Circuit Hoses: Mechanical Cable Controlled Valve (Std)

Color Tie	(Code)	Hose Size	Port	Diverter	Hyd. Function
Green	G	SAE # 6	A	---	Swing, Back (Rod End)
Green / White	G/W	SAE # 6	B	---	Swing, Forward (Base End)
Orange	OR	SAE # 6	A	---	Lift, Down (Rod End)
Orange / White	OR/W	SAE # 6	B	---	Lift, Up (Base End)
Blue	B	SAE # 6	A	---	Dipper, In (Rod End)
Blue / White	B/W	SAE # 6	B	---	Dipper, Out (Base End)
Red	R	SAE # 6	B	---	Head Tilt, Up (Rod End)
Red / White	R/W	SAE # 6	A	---	Head Tilt, Down (Base End)
Yellow	Y	SAE# 4	B	---	*Door, Open, (Rod End) (* See Option)
Yellow/White	Y/W	SAE# 4	A	---	*Door, Closed, (Base End (* See Option)

## \* Connections w/ Swivel Head / Diverter Valve Option (Connects to Door Valve section)

Green	G	SAE # 4	A	P2	Control Valve for Diverter valve
Green / White	G/W	SAE # 4	B	P1	Control Valve to Diverter Valve
Green	G	SAE # 4	---	C4	Swivel, CW (Rod End)
Green / White	G/W	SAE # 4	---	C1	Swivel, CCW (Base End)
Yellow	Y	SAE # 4	---	C3	Door, Open (Rod End)
Yellow / White	Y/W	SAE # 4	-	C2	Door, Closed (Base End)
Orange	OR	SAE#12	T	---	Valve Return To Tank
Red	R	SAE#12	P	-	Pressure to Valve.

## Boom Cylinder Circuit Hoses: Electrical Joystick Controlled Valve (Option)

Color Tie	(Code)	Hose Size	Port	Diverter	Hyd. Function
Green	G	SAE # 6	A	---	Swing, Back (Rod End)
Green / White	G/W	SAE # 6	B	---	Swing, Forward (Base End)
Orange	OR	SAE # 6	A	---	Lift, Down (Rod End)
Orange / White	OR/W	SAE # 6	B	---	Lift, Up (Base End)
Blue	B	SAE # 6	B	---	Dipper, In (Rod End)
Blue / White	B/W	SAE # 6	A	---	Dipper, Out (Base End)
Red	R	SAE # 6	B	---	Head Tilt, Up (Rod End)
Red / White	R/W	SAE # 6	A	---	Head Tilt, Down (Base End)
Yellow	Y	SAE# 4	A	---	*Door, Open, (Rod End) (* See Option)
Yellow/White	Y/W	SAE# 4	B	---	*Door, Closed, (Base End (* See Option)

## \* Connections w/ Swivel Head / Diverter Valve Option (Connects to Door Valve section)

Green	G	SAE # 4	A	P1	Control Valve to Diverter Valve
Green / White	G/W	SAE # 4	B	P2	Control Valve to Diverter Valve
Green	G	SAE # 4	---	C4	Swivel, CW (Rod End)
Green / White	G/W	SAE # 4	---	C1	Swivel, CCW (Base End)
Yellow	Y	SAE # 4	---	C3	Door, Open (Rod End)
Yellow / White	Y/W	SAE # 4	-	C2	Door, Closed (Base End)
Orange	OR	SAE#12	T	---	Valve Return To Tank
Red	R	SAE#12	P	-	Pressure to Valve.

# Hydraulic Hose Connections

## Diverter Valve.:

The Diverter Valve bolts onto the front frame mount bracket on the LH side of the tractor, the holes are in the bracket. The Diverter valve is a electrical operated valve that allows the hydraulic pressure to be shared to operate two (or more if valves are stacked) functions with a single pressure supply. This valve is strictly a diverter valve and is designed to direct the pressure, not regulate the flow or pressure. This valve is only used when the swivel head option is installed and share pressure from the door port of the control valve,

The Port openings on this diverter valve are marked with letter number codes which show which port is connected to which hose and where that hose connect on other end (See Above)

## Diverter Valve

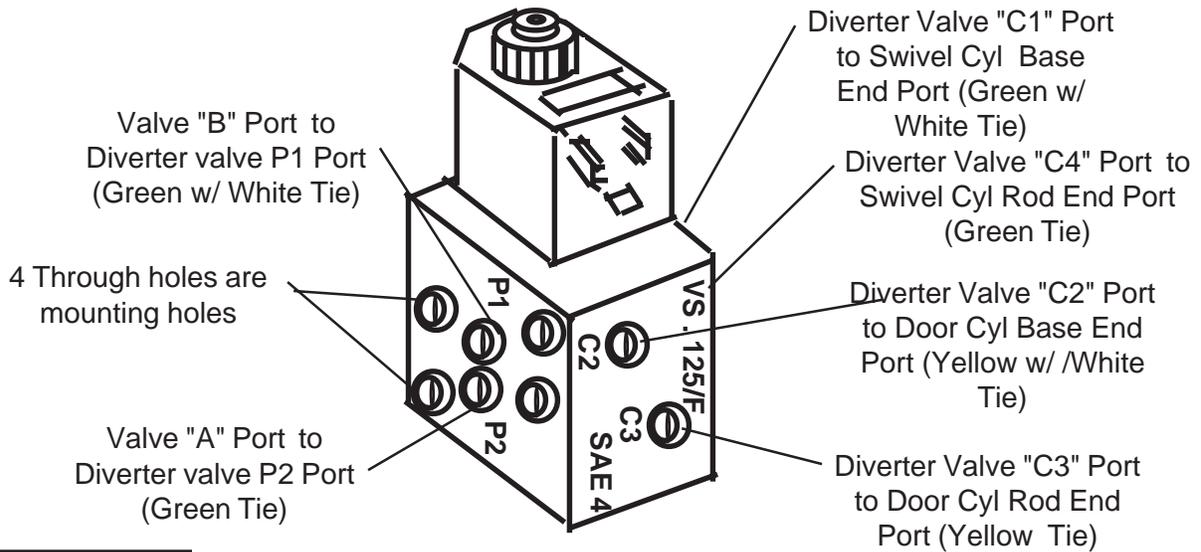


FIGURE 17

## Valve Sections Function:

### Mechanical Control Vale (See Figure 18)

Spool	Cylinder	Function		Pressure	
		"B"	"A"	"A"	"B"
1	Swing	Back	Forward	2750 PSI	2750 PSI
2	Lift	Up	Down	2750 PSI	1160PSI
3	Dipper	Out	In	2750 PSI	1160PSI
4	Tilt	Up	Down	2750 PSI	Main Relief
5	Door	In-Open	Out-Closed	Main Relief	Main Relief

### Electronic Control Vale (See Figure 17)

Spool	Cylinder	Function		Pressure	
		"B"	"A"	"A"	"B"
1	Swing	Back	Forward	2750 PSI	2750 PSI
2	Lift	Up	Down	1160 PSI	2750 PSI
3	Dipper	Out	In	1160 PSI	2750 PSI
4	Tilt	Up	Down	2750 PSI	Main Relief
5	Door	In-Open	Out-Closed	2750 PSI	2750 PSI

# Hydraulic Hose Connections

## Joystick Electronic Controlled Valve (Optional)

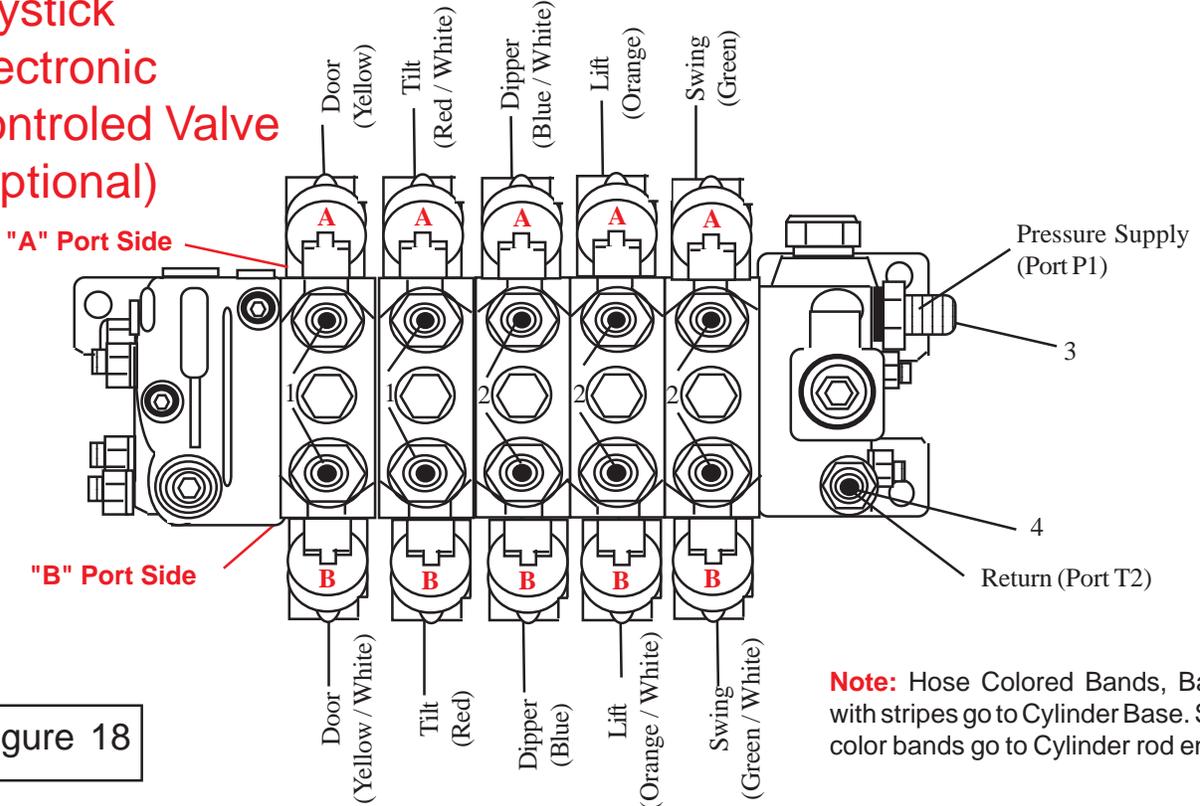


Figure 18

**Note:** Hose Colored Bands, Bands with stripes go to Cylinder Base. Solid color bands go to Cylinder rod end.

## Mechanical Remote Cable Controlled Valve (Standard)

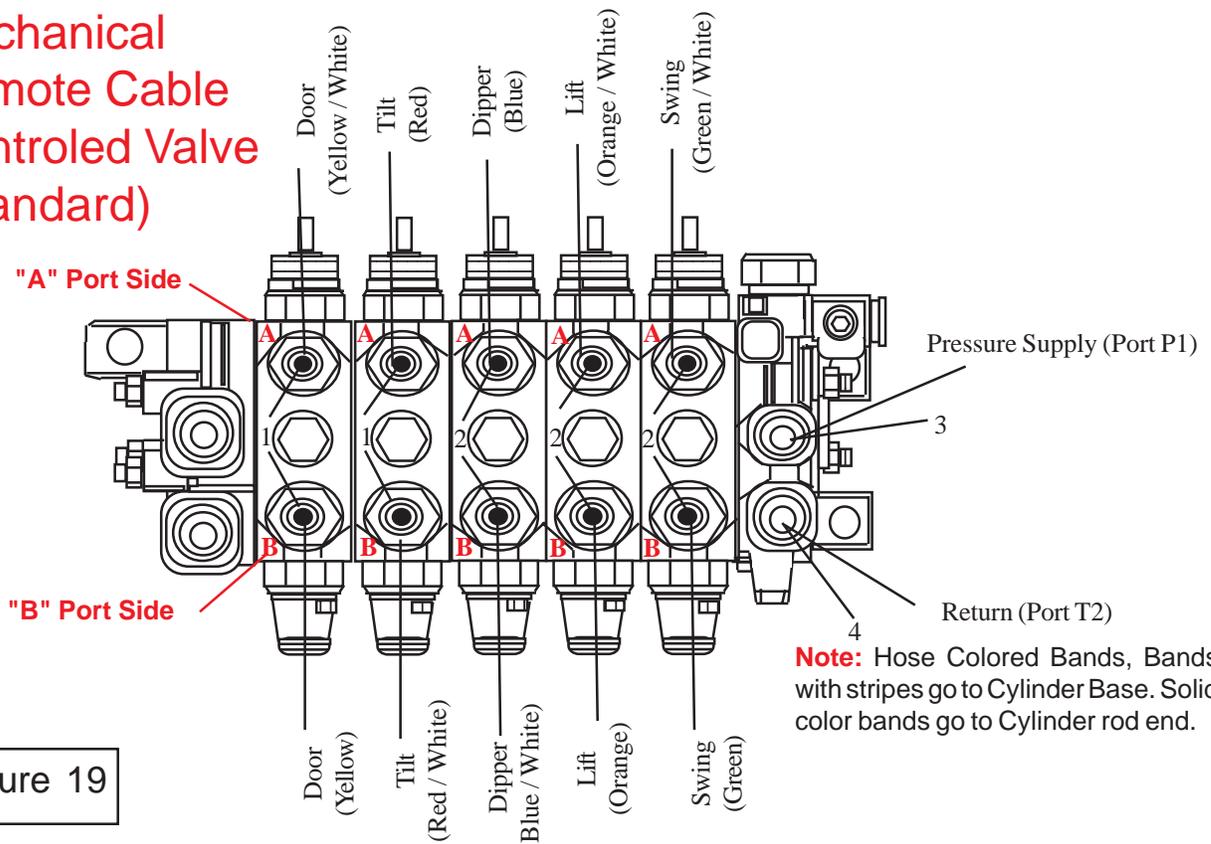


Figure 19

**Note:** Hose Colored Bands, Bands with stripes go to Cylinder Base. Solid color bands go to Cylinder rod end.



# Hyd Schematic - Electrically Controlled (Opt)

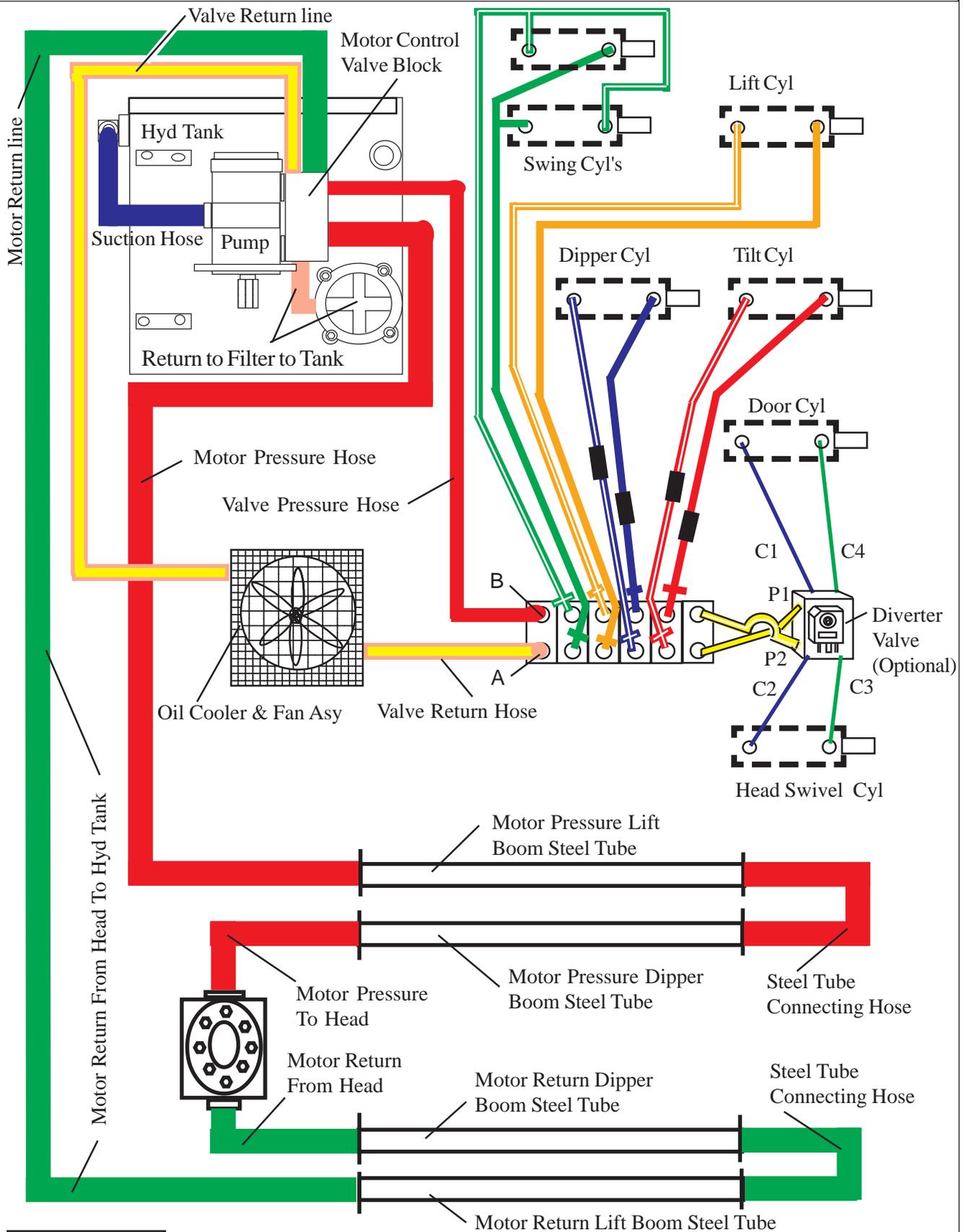


Figure 21

# NOTES

# Section 8

## Axtreme Boom

### Remote Valve Cable Installation

This Control valve is the Standard 5 Spool that is remote cable controlled, with the 5 Th. Spool operating the Door or the Swivel Head Mount Option through a diverter valve. The Standard Pump System is used to supply the cylinder valve control circuit.

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# "ON - OFF" Switch Installation

## **Wire Harness: (Standard Mechanical Valve)**

1. Starter Safety Switch Schematic, Mechanical Cable Operated Valve Type, NOT correct for Optional Joystick (Electronic) Controls.
2. Figure 1 illustrates a common wire harness connection for Boom mowers with mechanical cable controls, If the Joystick Optional controls are used the Wiring will be different than shown.
3. Individual installations may vary and are dependent on the electrical and safety system designs of the tractor to which the mower is mounted.
4. Consult the specific mounting instructions to determine the correct wire routing for each specific unit.

## **Common Problems:**

1. The tractor won't start: The mower on/off switch, if left in the "on" position will not allow the tractor to restart. Be sure to push the switch into the "off" position and account for all the tractor safety interlocks to enable the tractor to start. Failure of the tractor starter safety lock system is normally attributed to a failure of the mower on/off switch. Check continuity at the switch. Check for loose connections.
2. Cutter motor won't start: Normal causes of this type of malfunction include failure of the push/pull switch, failure of the solenoid coil, loose connections, loss of ground, or a blown fuse. If the mower won't start, check continuity of the system with a test light to find an electrical problem. Problems may also exist in the cutter valve and other systems.
3. The problem may not be in the electrical system, but because there are so many connections that could be malfunctioning it is the best place to start checking. If the electrical connections are OK, go on to the Tractor connections and/or the Tractor components to check for the malfunction. Some times the service technician thinks the best way to eliminate the Mower electrical connection problem is to bypass them; this should never be done, eliminating the starter safety system is dangerous and hard on the Hydraulic System, The Hydraulic System will be trying to start at a low RPM which is not good.

# Wire Harness - Cable Controlled Valve

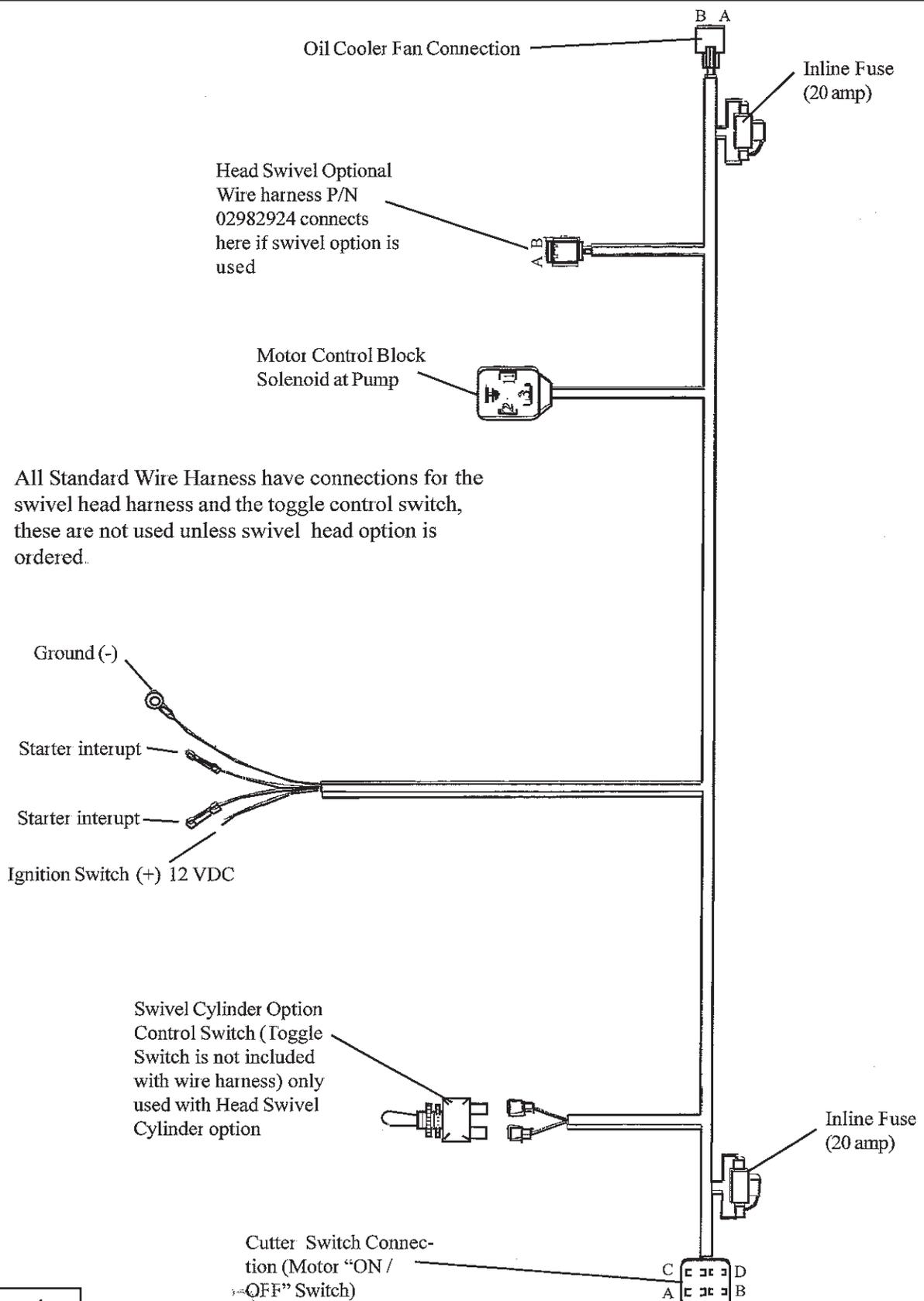
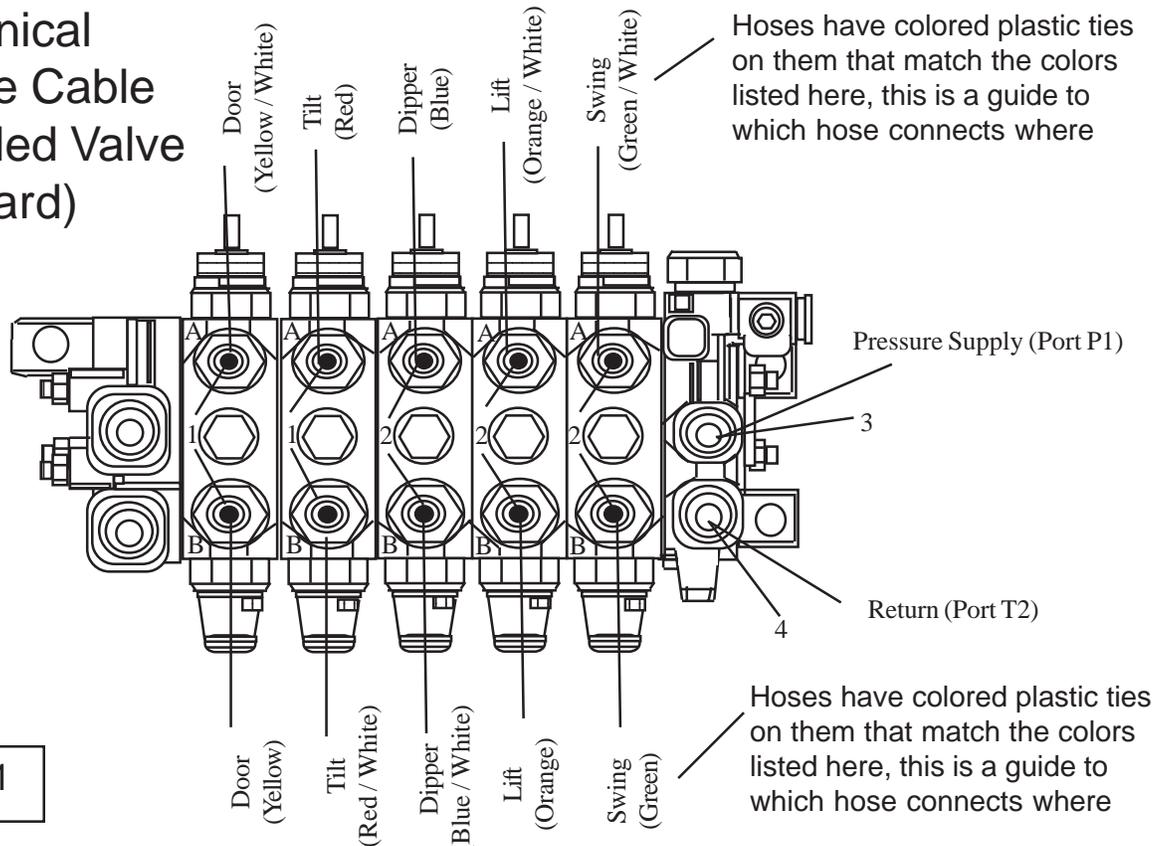


Figure 1

# Valve Remote Cable Controls

## Mechanical Remote Cable Controlled Valve (Standard)



## Cylinder Control Valve Cables To Valve Spools:

The Remote Control Cables Connection to the valve and the Control Handle assembly. See Figure 2 for listing of items (1 thru 8) listed in assembly steps.

1. Remove the phillips head screws that are in the valve body next to the spool end (8). There are bolts in kit that will be used to replace these screws when needed (See Figure 2).
2. Slide the Bolt flange (8)
3. Thread .750-16 NF jam nut entire length of threaded hub and onto the cable (7).
4. Place flange on sleeve and thread flange / sleeve assembly entire length of threaded hub and onto cable (2 & 6).
5. Thread .250-28 NF jam nut onto cable threaded rod until it bottoms (3).
6. Place connector onto threaded rod and against jam nut. Align connector so it will mate with spool terminal and secure jam nut against connector (4).
7. Slide the connector onto spool and align the holes. Insert pin through connector and spool holes (5). The control cables will need to inserted through the floor of the tractor cab and the Control Levers will need to be assembled to the cables before continuing with the next assembly steps.
8. With cable attached to the valve and control levers, turn the flange / sleeve assembly onto the threaded hub until it is flush with the valve face. When turning the flange / sleeve assembly make certain that the control levers remains in the neutral position.
9. Tighten the .750-16 NF jam nut against the sleeve to lock in position (6).
10. Bring flange into position and bolt assembly to valve housing. Tighten screws sufficiently to flatten lockwashers / secure flange (8). Caution, overtightening flange bolts will distort flange.

# Valve Remote Cable Controls

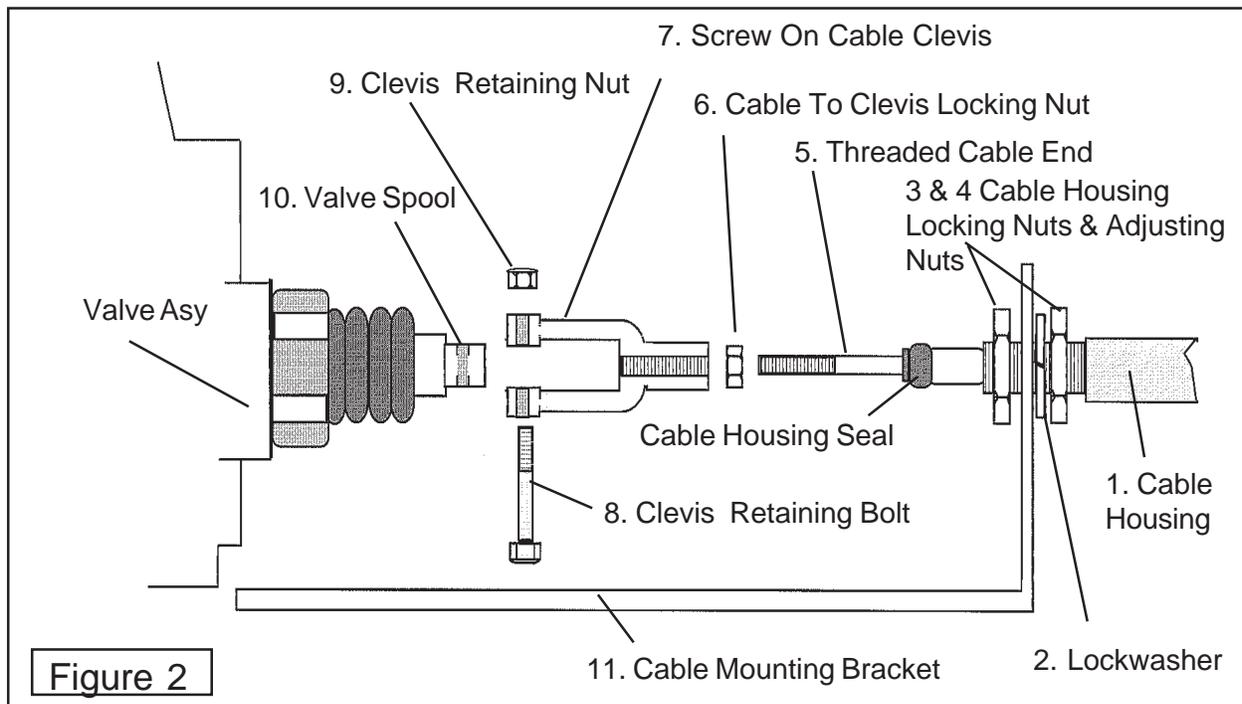


Figure 2

## REMOTE CABLE OPERATION AND INSTALLATION:

- 1. Remote operation of the boom movement control valve** can be achieved with the use of cables and remote actuator handles. The remote operation system is standard equipment on cab tractor and ROPS tractors as well (See Figure 2). Cable lengths will vary based on the length required to reach from the valve to the Operator's location with out binding or kinking. This cable length is determined by which model tractor the boom is mounted on. See the tractor mounting instruction for the type tractor being used. The Cable lengths are limited to 48,60,72 and 102 inches.
- 2. To install the cables to the valve**, each valve section will require a cable installation kit (5 kits for a 5-spool valve). Each individual valve connection kit can be ordered separately. The set of five will be shipped with a mount kit when using remote cable controls.
- 3. Install Valve Cable Mounting Bracket**, The valve cable mounting bracket will have 5 holes to mount 5 cables (See Figure 2). The cable will be shipped with the components on them or in a separate package.
- 4. Install cable to valve cable mounting bracket**. Locate the cable & housing assembly, one end the cable housing is threaded (See Item 1). Install inner locking / adjusting nut (See Item 3) on to the cable housing, screw it on until it is about 3/4" the way on. Slide the lockwasher (See Item 2) on to the cable housing until it is seated against the inner locking nut. Install the other locking / adjusting nut (See Item 4) on the cable housing and screw it on until the nut is touching the valve mounting plate, but do not tighten the nuts at this time. Repeat this procedure with the other four cables.
- 5. Install Locking nut to Cable**. Install the locking nut to the threaded end of the cable (See Item 5 & 6). Screw the locking nut onto the threads of the cable to about 3/4 of the way.

# Valve Remote Cable Controls

**6. Cable Clevis Installation.** Screw the cable clevis (item 7) onto the threaded cable (item 5) until the threads are fully engaged into the clevis. If the locking nut (item 6) needs to be run further onto cable, this is OK.

**7. Connect Cable Clevis to Valve Spool.** The cable clevis (item 7) is retained to the valve spool (item 10) with a bolt & locknut (item 8 & 9). The valve spool will have a hole in it and two flat side for the clevis to slide onto. Slide the clevis onto valve spool until the holes in clevis align with the hole in the valve spool. Install the clevis retaining bolt & locknut, but do not tighten them at this time. Continue this with the other four cables.

**8. Mark Cables For Identification.** The cable will be run up through the floor of the tractor (See Figure 4 as an Example, actual routing may vary). It is recommended that the ends of the cables be marked before this is done to track which cable is which control function. Cable need to be marked as shown from left to right (See Figure 5).

**9. Remote Cable Control Handle.** The remote control cable handle is a stackable type where they can be bolted together. All five of the handles used are the same (See Figure 6). Remove the Cable Housing Retaining screw & Nut (See Figure 6). Set the screw and nut aside for now, it will be reinstalled later.

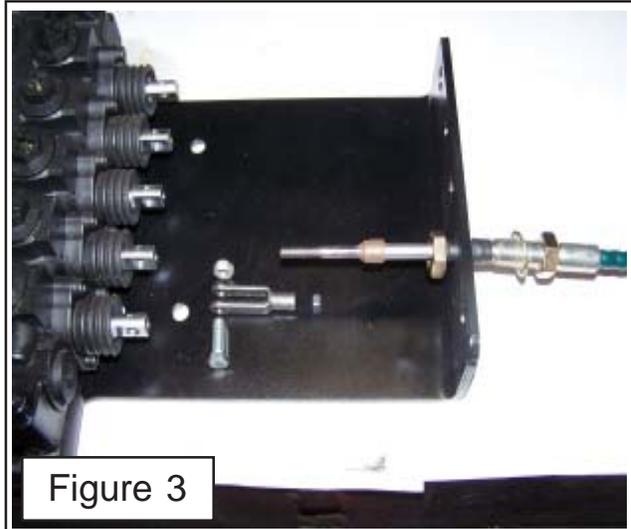


Figure 3



Figure 4

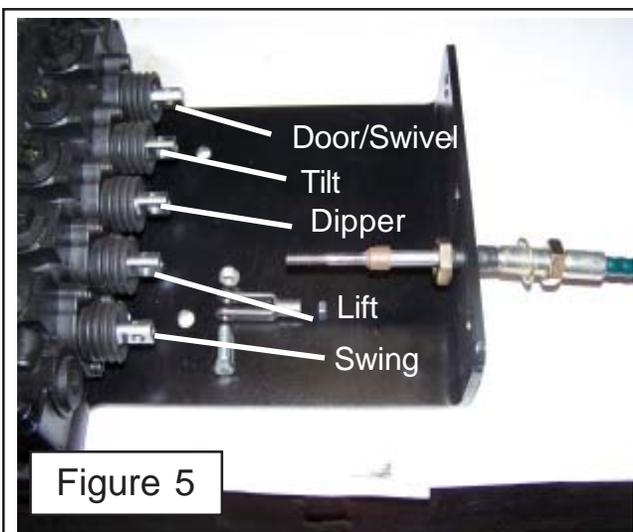


Figure 5

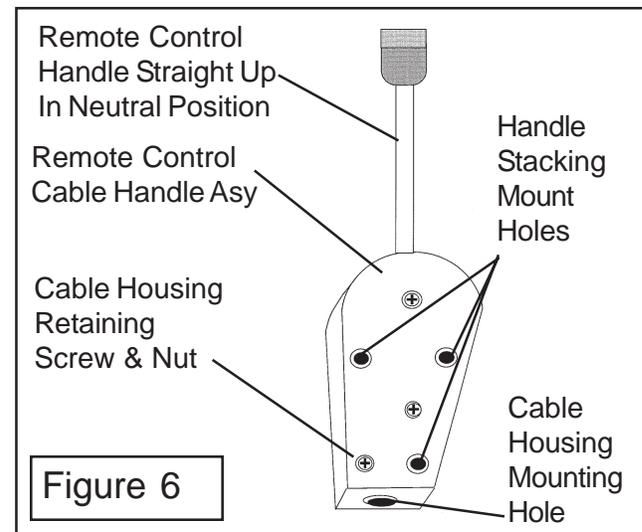


Figure 6

# Valve Remote Cable Controls

**10. Connect Cable to Control Handle.** Install the cable locking nut onto the threaded cable (See Figure 7), screw the nut on leaving enough threads to fully screw the control handle to the cable. Push the handle of the control assembly all the way to one side and the threaded shaft of the handle will be visible at the bottom (See Figure 8). After the handle is screwed onto the cable, tighten the cable locking nut against the handle control. Push the control handle to the straight position (See Figure 9), while pushing the cable into the handle assembly until the groove in the cable housing is aligned with the retaining screw hole of handle housing assembly insert the retaining screw and nut (See Figure 9)

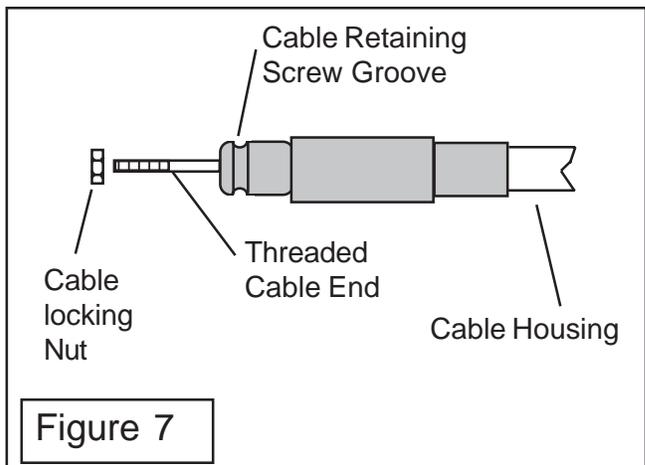


Figure 7

**11. Stack Control Handles.** Each cable control handle will attach to the cable in the same way. The control handles will be stacked together in the proper order (See Figure 5 & 10). These control handles will be stacked with the mounting brackets and electrical switch brackets between them. Where the brackets are located in the group can vary. Shown in figure 10 is the recommended placement of these brackets. The bracket that mounts the control handles is slotted to allow for the adjustment of the angle of the control handle assemblies.

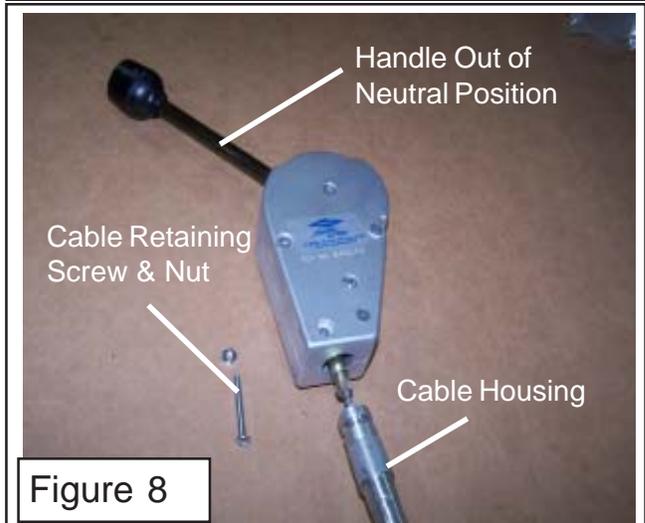


Figure 8

**12. The "ON" / "OFF" Switch** is bolted to the Control Handles. This is a good place but can be mounted somewhere else is desired. If Mounted somewhere else keep in mind it must be accessible quickly by the operator in case of emergency needs. (See Figure 10)

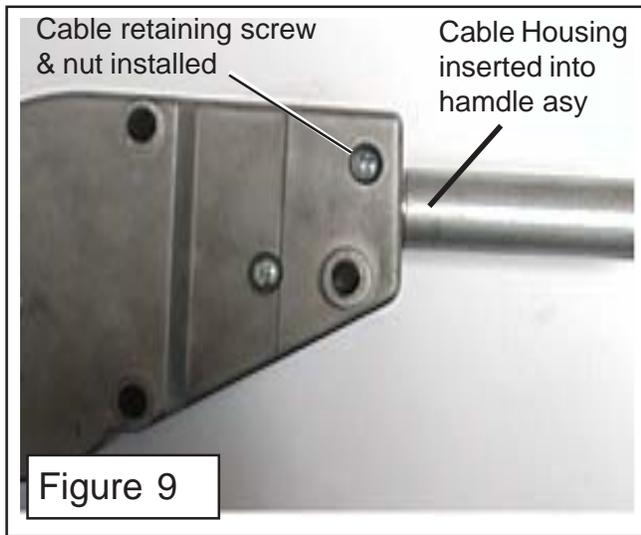


Figure 9

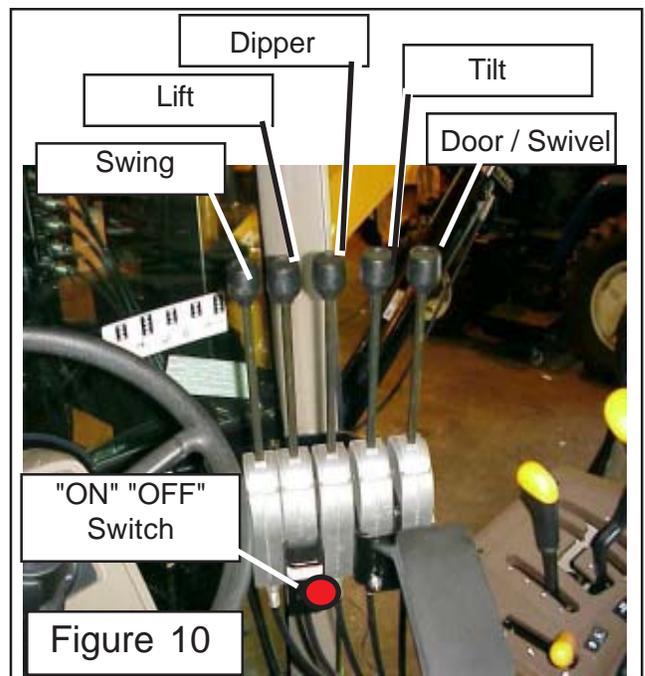


Figure 10

# Valve Remote Cable Controls

13. The Arm Rest is bolted to the Control Handles. This has some options as to where it is bolted and can be bent to adjust to individual preference. (See Figure 11).

14. Control Handle Stand is bolted to the floor of the Cab under the Floor Mat on the right hand side or to the cab support post with a fabricated bracket.. There is a rubber plug in floor under floor mat here. Remove and/or cut the rubber plug to run the cables and wire harness through it. The opening around cables through rubber plug can be sealed using silicone sealer. Floor mat will lay back down around cables and leave a small area of floor mat opening. (See Figure 11)



Figure 11

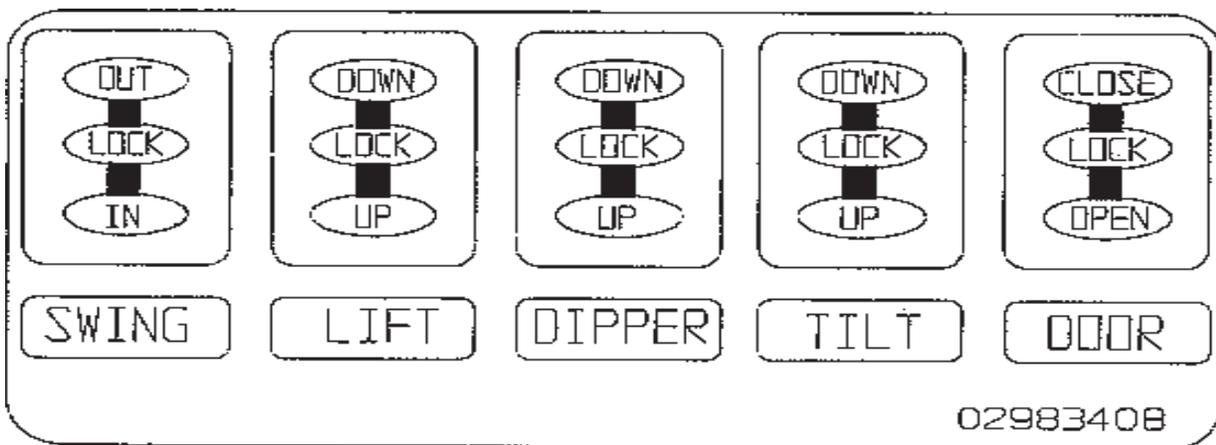


Figure 12

15. Cable Handle Control Instructional Decal. There will be a decal showing the operation of the spools of the valve that will show you how the handles should be placed.

13. Control Handle Adjusted to neutral position. Adjust the cable control handle to the neutral position. Using the two locking nuts on the cable housing to adjust the handle to the neutral position. Loosen one nut and tighten the other the cable can be moved back and forth in the valve mounting bracket. This must be done before operating the mover.

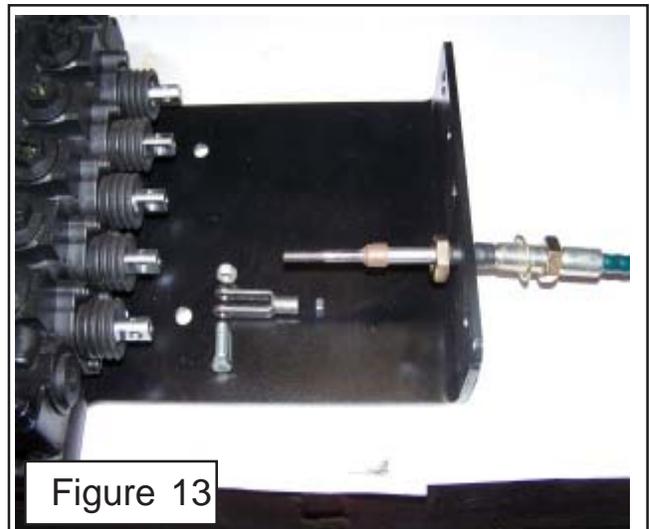


Figure 13

# "ON - OFF" Switch Installation

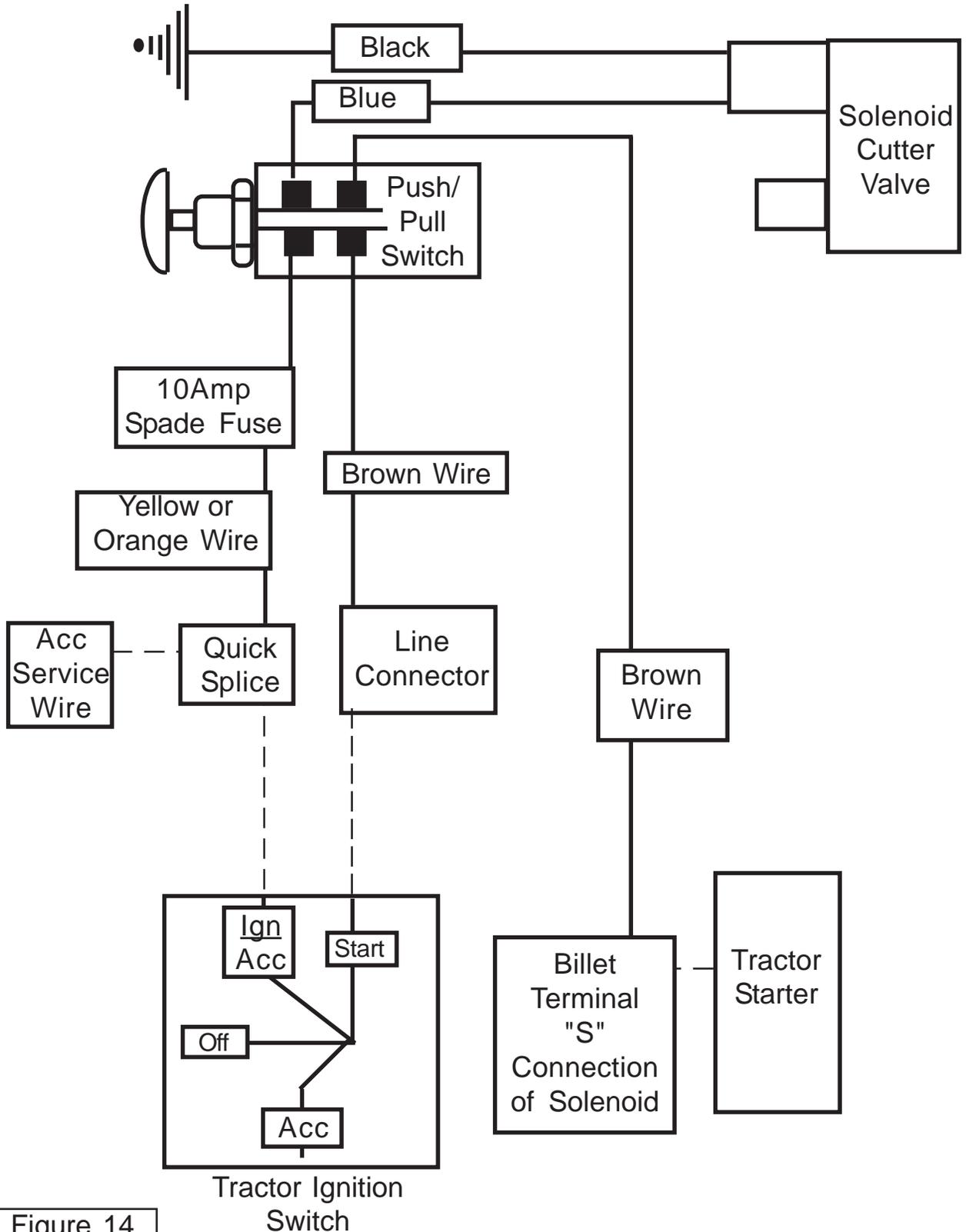


Figure 14

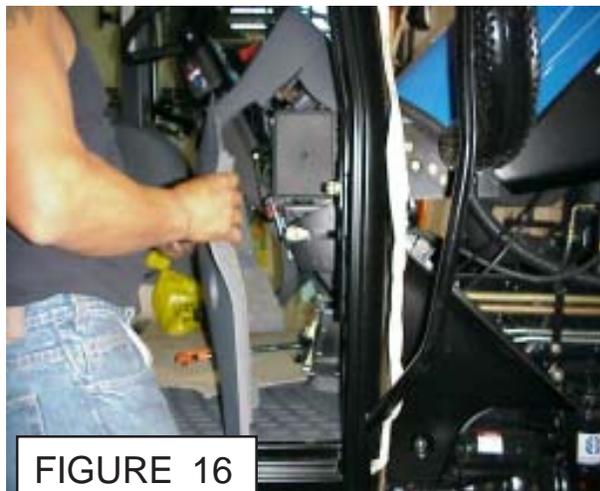
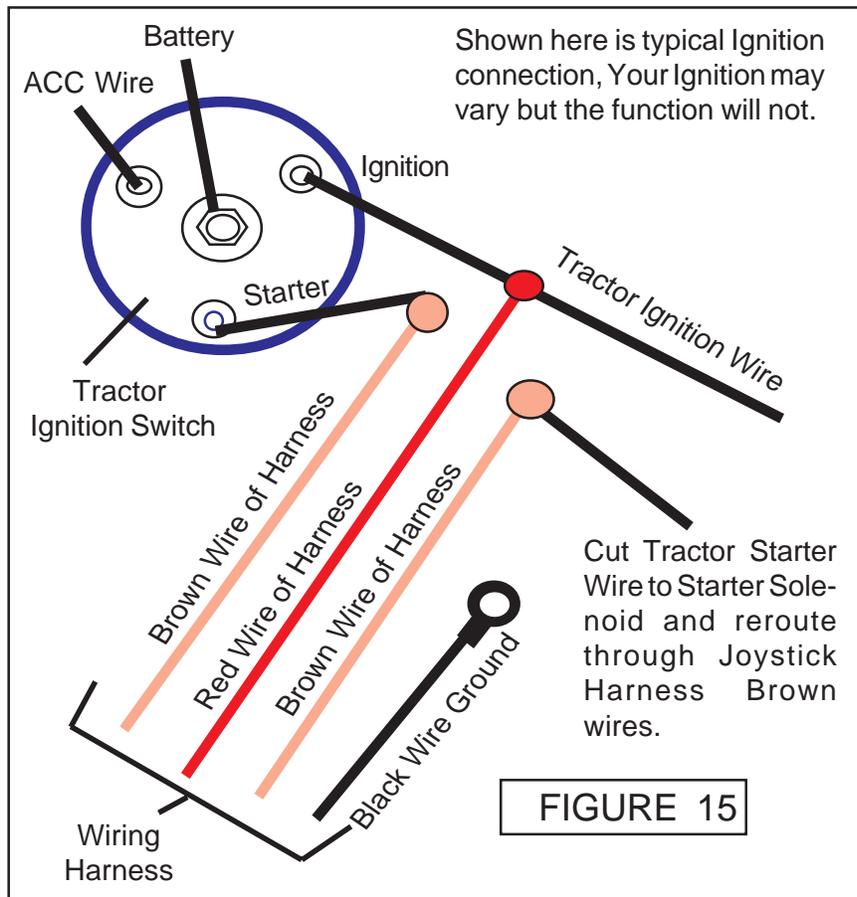
# "ON - OFF" Switch Installation

## Wiring Tractor with Remote Cable Cylinder Control Valve:

1. Connecting Harness Wires. There are 4 wires that must be connected inside Tractor. 1. Red Wire (power supply), 1 Black Wire (Ground) and 2 Brown Wires (Neutral Safety Switch). These will have to be spliced into Tractor circuits. (See Figure 15).

2. Ground Wire. The Black wire at the harness (See Figure 15) can be connected inside the cab floor, or it can be run down through the floor and connected to the frame below the cab. If grounding to the Cab floor connect ground now.

3. Reinstall Dash Panel. Reinstall the dash panel after the wires have been connected to the tractors wiring system (See Figure 16 & 17). The dash panel is attached with screw on fasteners. Note: All wires for the tractor connection with wire harnes should all be under floor mat of tractor and not visible. this is a typical installation and will vaey from type tractor to tractor model.



# Hyd Schematic - Mechanical Operated (Std)

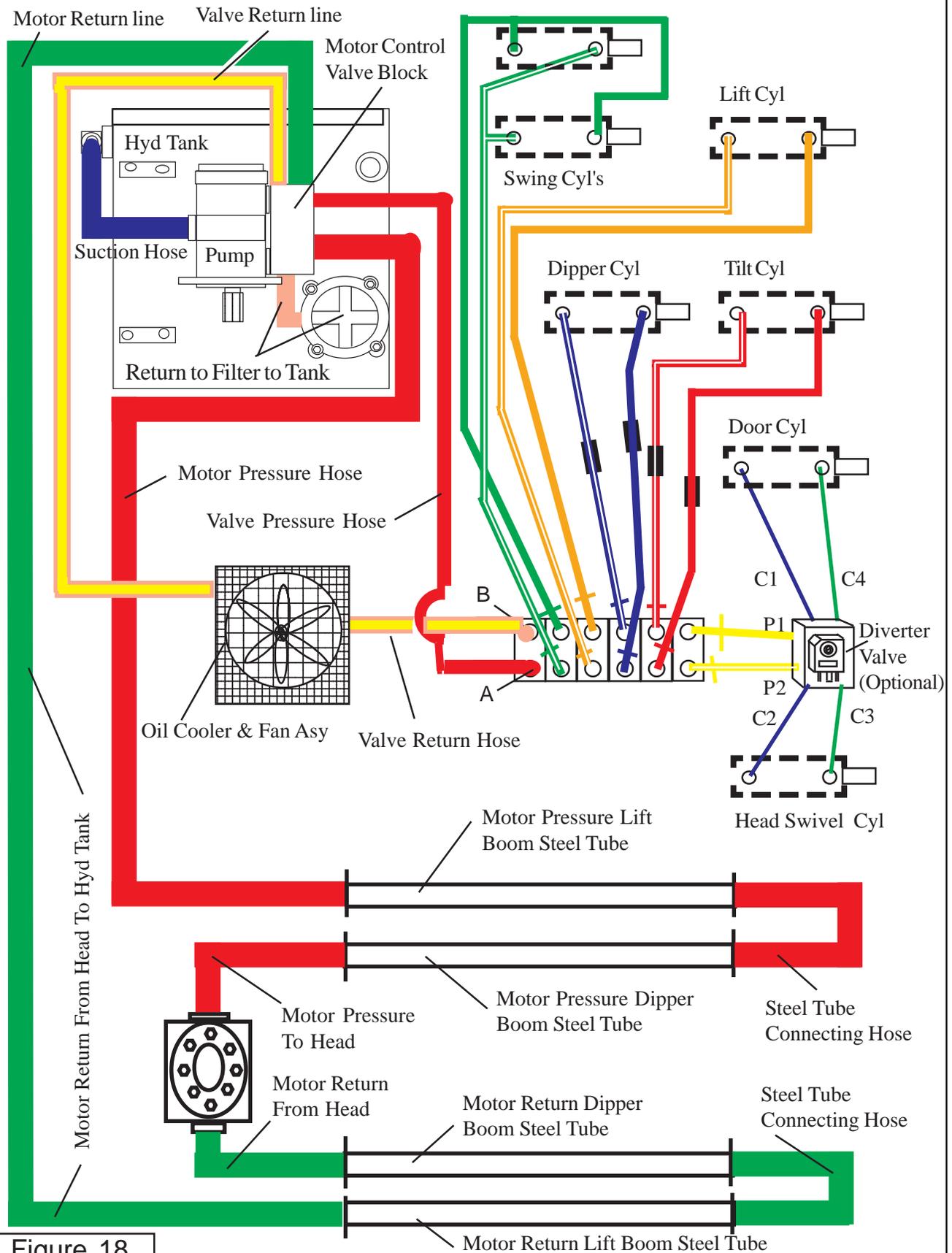


Figure 18

# Hyd Schematic - Mechanical Operated (Std)

## Mechanical Remote Cable Controlled Valve (Standard)

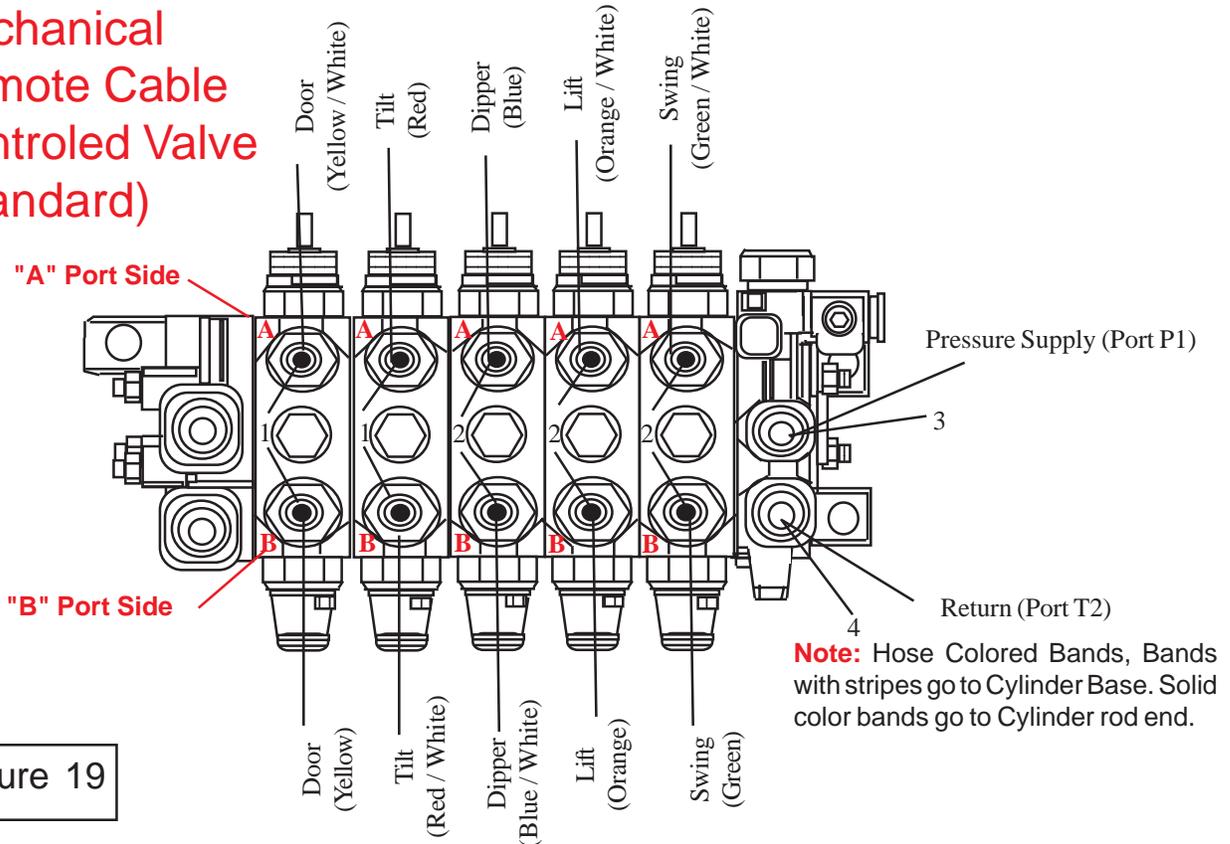


Figure 19

## Hyd Hose Codes at Control Valve & Head Swivel Divertor Valve Option

**Hose Bands Mark Color Codes:** Hose fittings are marked with Color Coded Plastic Band. Some Bands are solid Color, some are Colored with Stripe. Purpose of colored bands is provide quick reference for hose and port connection. Metal band is also attached to hose, that band has Alamo Industrial Part Number for reference.

### Boom Cylinder Circuit Hoses: Mechanical Cable Controlled Valve (Std)

Color Tie	(Code)	Hose Size	Port	Divertor	Hyd. Function
Green	G	SAE # 6	A	--	Swing, Back (Rod End)
Green / White	G/W	SAE # 6	B	--	Swing, Forward (Base End)
Orange	OR	SAE # 6	A	--	Lift, Down (Rod End)
Orange / White	OR/W	SAE # 6	B	--	Lift, Up (Base End)
Blue	B	SAE # 6	A	--	Dipper, In (Rod End)
Blue / White	B/W	SAE # 6	B	--	Dipper, Out (Base End)
Red	R	SAE # 6	B	--	Head Tilt, Up (Rod End)
Red / White	R/W	SAE # 6	A	--	Head Tilt, Down (Base End)
Yellow	Y	SAE# 4	B	--	*Door, Open, (Rod End) (* See Option)
Yellow/White	Y/W	SAE# 4	A	--	*Door, Closed, (Base End) (* See Option)

### \* Connections w/ Swivel Head / Divertor Valve Option (Connects to Door Valve section)

Green	G	SAE # 4	A	P2	Control Valve to Divertor valve
Green / White	G/W	SAE # 4	B	P1	Control Valve to Divertor Valve
Green	G	SAE # 4	--	C4	Swivel, CW (Rod End)
Green / White	G/W	SAE # 4	--	C1	Swivel, CCW (Base End)
Yellow	Y	SAE # 4	--	C3	Door, Open (Rod End)
Yellow / White	Y/W	SAE # 4	-	C2	Door, Closed (Base End)
Orange	OR	SAE#12	T	--	Valve Return To Tank
Red	R	SAE#12	P	-	Pressure to Valve.

# Section 9

# Axtreme Boom

## Optional Electric / Hydraulic Joystick Cylinder Control Valve Installation

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# Joystick Mounting

## Joystick Optional :

The joystick is an option and allows the mower & boom to be operated with electronic control. The joystick will be mounted in different ways depending on the type tractor you have. Some models bolt to a stand on the floor that is sent with the mower. Another style is an arm rest mount that is designed to allow the joystick to be mounted to the tractor seat or a stand that bolts to the floor. Check which you have before ordering parts, check the assembly list for your mount kit.

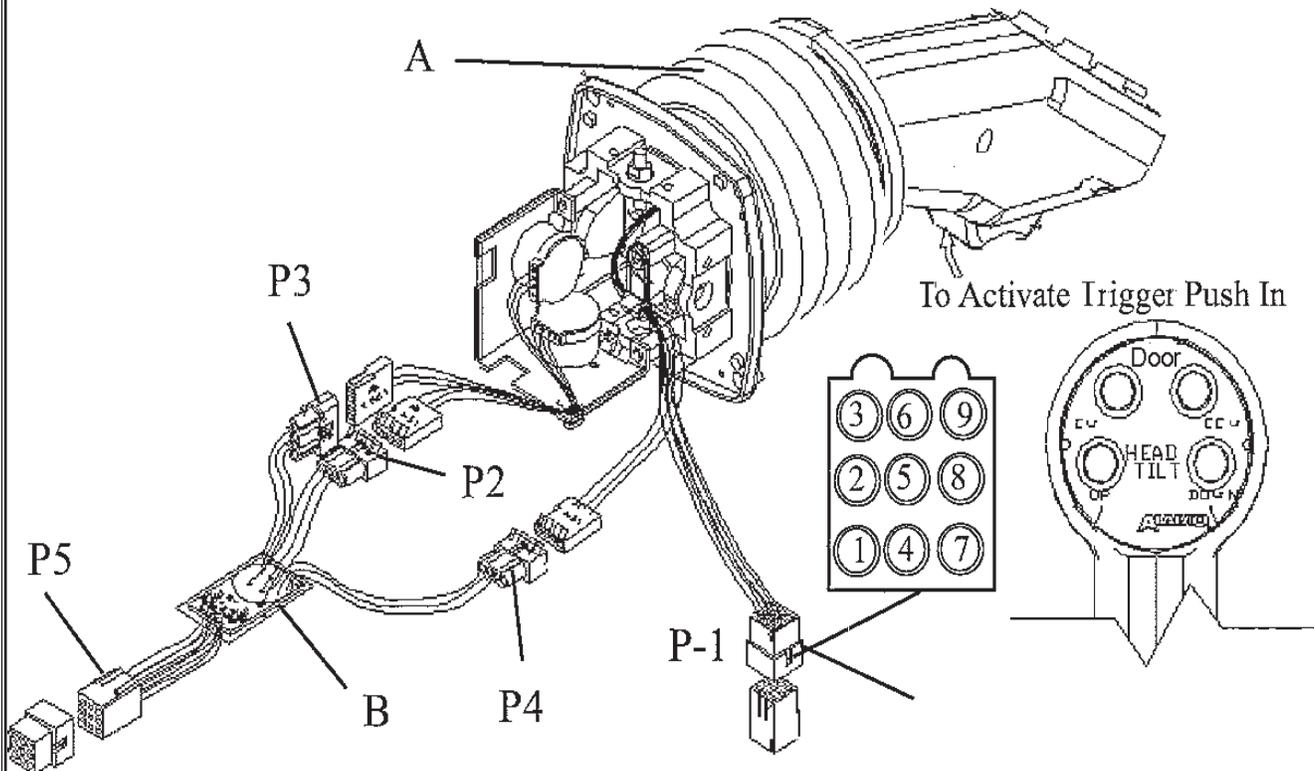


FIGURE 1

## Swivel Head Option Wiring Harness (Used Only with Swivel Head Mount Asy.)

This Wire Harness only used with the Swivel Head Option

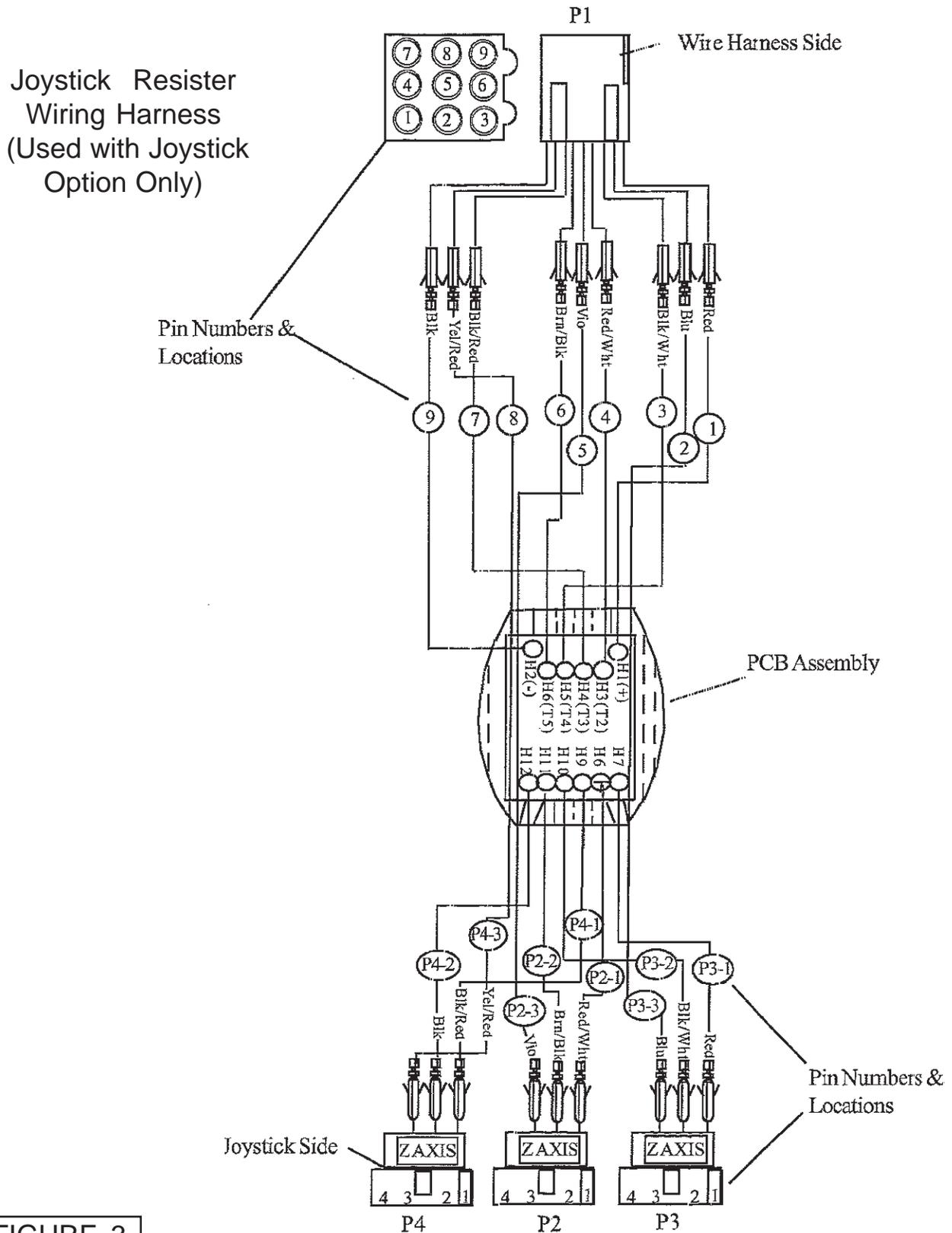
Main Wire Harness Connection

Diverter Valve Solenoid Connection



FIGURE 2

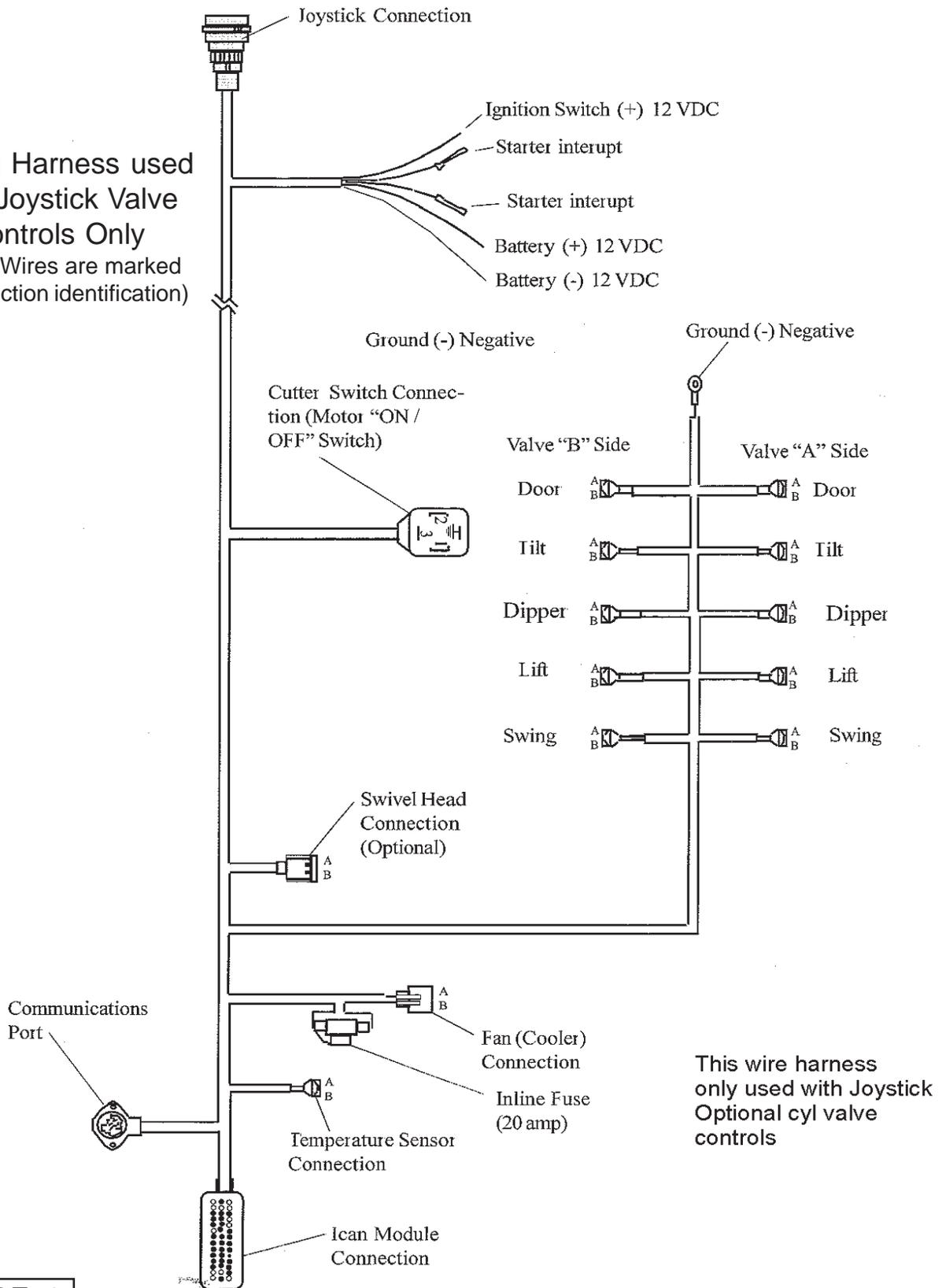
# Joystick Mounting



**FIGURE 3**

# Joystick Mounting

Wiring Harness used with Joystick Valve Controls Only  
 (Note: Wires are marked with function identification)



This wire harness only used with Joystick Optional cyl valve controls

**FIGURE 4**

# Joystick Mounting

## Joystick Installation :

1. Cab Floor Access Hole. Raise the floor mat on the RH side of the cap and inspect the floor for an access hole to the under side of cab. A 2" diameter hole is needed to run the cables or the wire harness through. If there is no hole one will need to be cut with a hole saw. Check the under side of the cab floor to make certain you do not hit a brace or any other object under the floor (See Figure 5) . DO NOT cut the floor mat it will not be required. Run the wire harness up through the floor from the bottom and to the left of the floor mat (See Figure 6) .

2. Remove Tractor Dash Panel . Remove the plastic panel on the RH side of the dash from the floor up (See Figure 7) . This will give access to the tractor ignition switch plug for connecting the wire harness to the tractor starter wires (See Wire Schematic). See the New Holland Manual for the location of the wires to the switch on the tractor.

3. Locate the Seat Panel Bolts. The Joystick mounting bracket will bolt the lower seat panel (See Figure 8, 9 & 10). If the controls on the RH Fender interfere with the joystick (See Figure 11). Loosen the black knob on top of the shift selector. This knob allows the shift lever to be moved Left or Right. This will help it clear the Joystick when it is mounted, once the desired location of the shifter is reached tighten the black knob back down to secure the tractor shifter lever in position you want it. (See Figure 11). NOTE: Shift Lever is a tractor Function, any reference to the operation of it or the nomenclature should be referenced to the New Holland Manual or authorized dealer.

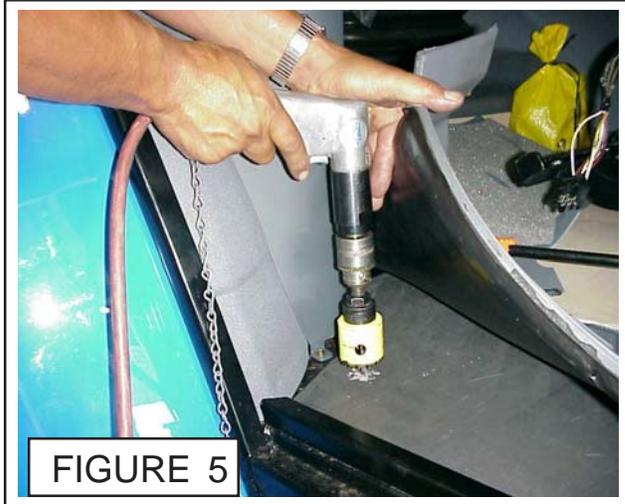
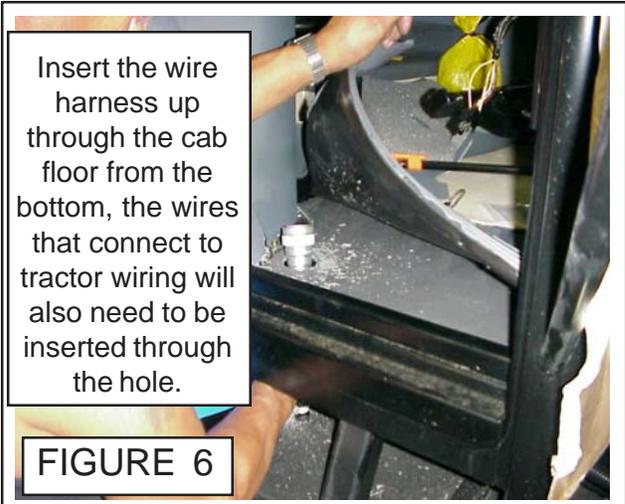


FIGURE 5



Insert the wire harness up through the cab floor from the bottom, the wires that connect to tractor wiring will also need to be inserted through the hole.

FIGURE 6

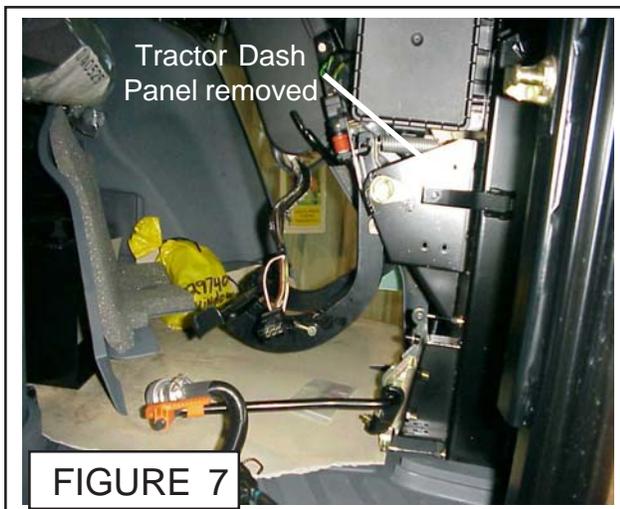


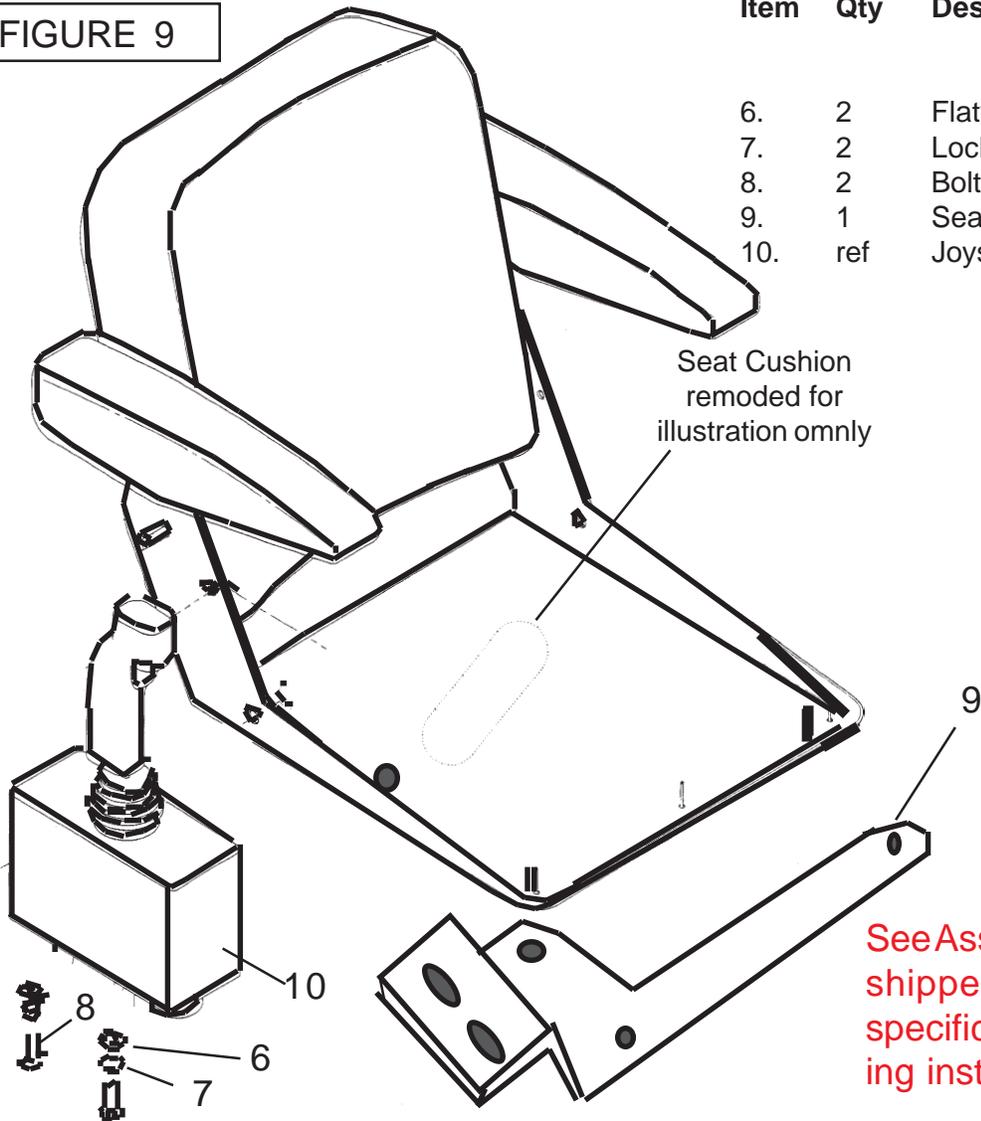
FIGURE 7



FIGURE 8

# Joystick Mounting

FIGURE 9



Item	Qty	Description
6.	2	Flatwasher
7.	2	Lockwasher
8.	2	Bolt
9.	1	Seat Mounting bracket
10.	ref	Joystick

Seat Cushion  
remoded for  
illustration omny

See Assembly drawings  
shipped with unit for  
specific joystick mount-  
ing instructions



FIGURE 10

Joystick Mount  
Bracket



FIGURE 11

Joystick Mount  
Bracket

# Joystick Mounting

**4. Install Joystick Console Controller.** Set the Joystick Controller down on top of the mounting bracket and insert the two mounting bolts (with flat washer and lockwashers) from the bottom side of the console. DO NOT use excessive long bolts to mount the joystick. The joystick will have some adjustment through the mounting bolts as to where it will sit on bracket. Tighten the two mounting bolts for the joystick from the bottom (See Figure 12 & 13)

**5. Attach Wire Harness to the Joystick.** DO NOT CUT floor mat it is not required. The wire harness will fit between the floor mat and the RH side panel (See Figure 14) The Wire harness connects to the joystick through a plug at the bottom of the joystick console. This plug will only fit on one way, there are three notches (of different width) that must be aligned before the plug will fit. (See Wire Schematic and Figure 15).

**6.** Connect the wire harness to Tractor Connections. See the wire schematic for the wire connections to the tractor wiring. Make certain that the battery cables are disconnected before attempting to connect any wires. (See Figure 16)



FIGURE 12



FIGURE 13



FIGURE 14



FIGURE 15

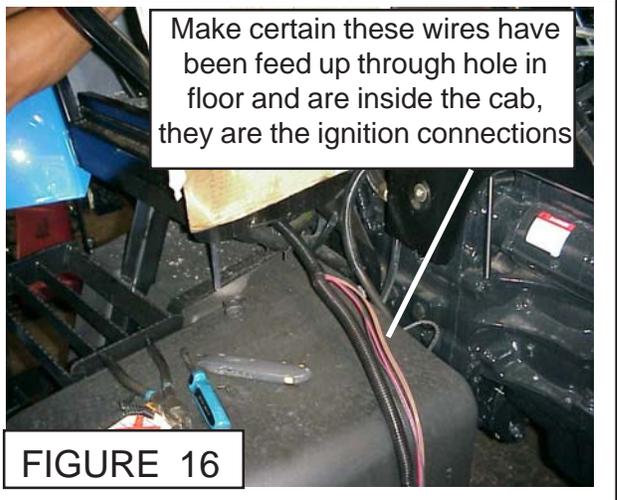
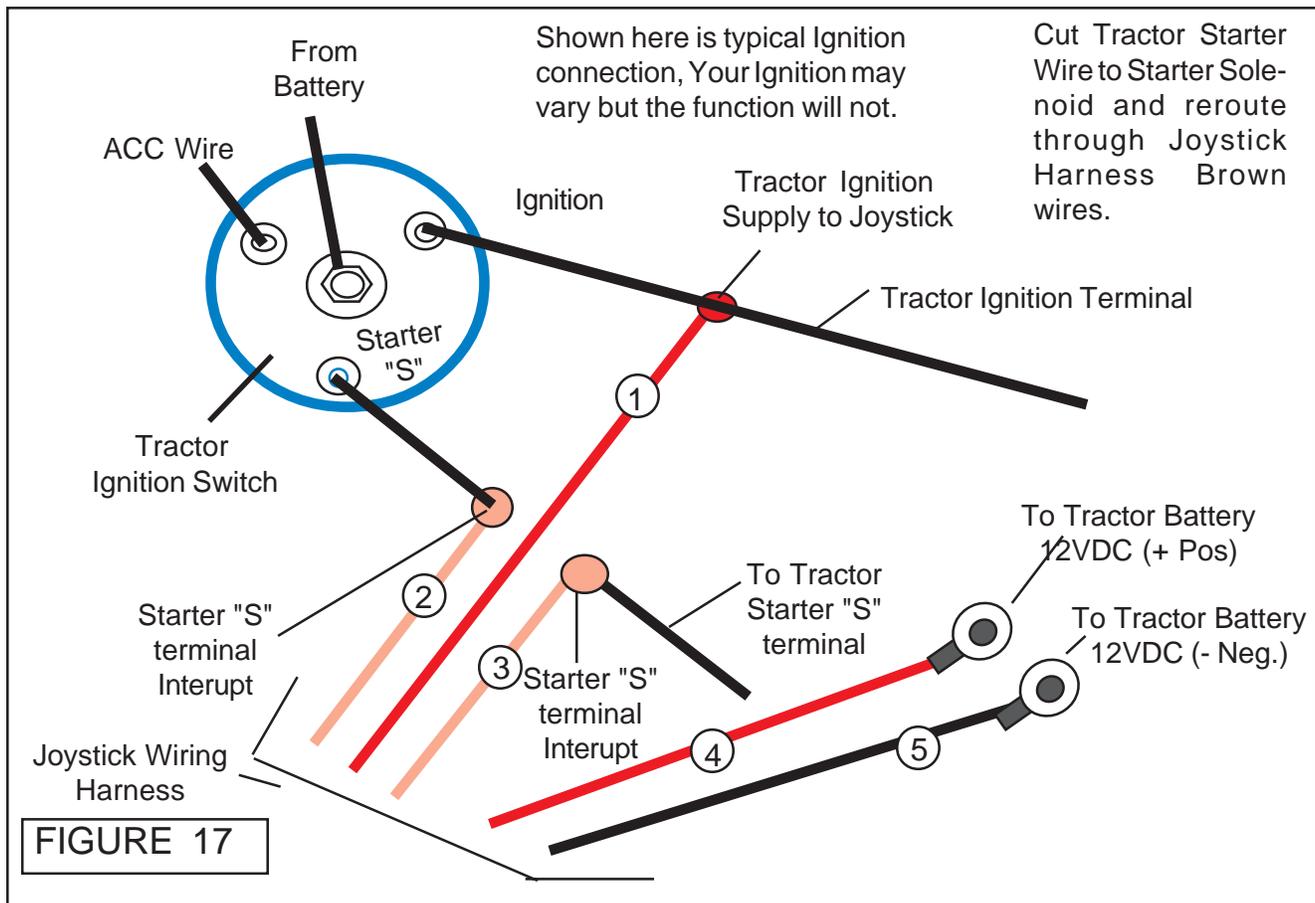


FIGURE 16

# Joystick Mounting



**7. Connecting Harness Wires.** There are 5 wires that must be connected to Tractor wiring, these wires will be marked with the description of what they are from the factory.

1. Power supply to joystick, this wire will be connected to the tractors ignition switch wire, as close to the ignition switch as possible. It is recommended to be not more that 3" away from ignition switch.
2. This is the tractor starter interrupt switch. It connects to the wire to the tractors starter solenoid marked "S", this prevents the tractor from being started when the mower is in the on position.
3. This is the return for the tractor starter interrupt switch. It is connect back into the other end of the cut starter solenoid wire.
4. Battery 12 VDC + connection which connects direct to the battery terminal. This wire will power a relay that will operate the electric cooling fan for the hydraulic oil.
5. Ground wire, This connect direct to the negative Battery terminal of the battery. It will serve as a ground for the system.

**8. Reinstall Dash Panel.** Reinstall any dash panels after the wires have been connected to the tractors wiring system if they were removed . Dash panels will vary with the type and model tractor used, the type fasteners will vary. Consult tractors manufacturer service repair and/or parts manual for removing any fasteners fro the tractor components. Note: All wires for the tractor connection with wire harness should all be under floor mat of tractor and not visible with the exception of the harness running up to the bottom of the joystick this will prevent damage to the wiring. (See Figure 18 & 19)

# Joystick Mounting

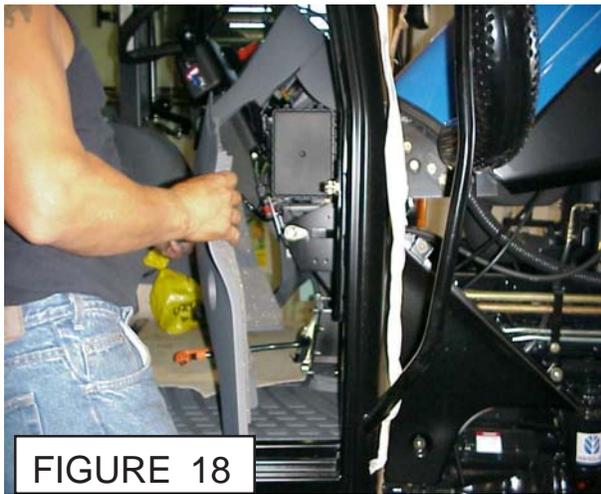


FIGURE 18



FIGURE 19

## Installing Wire Harness To Valve:

1. Wire Harness From Cab to Front. The wire harness runs out the bottom of the Cab on the right hand side. Run harness along under RH cab of Tractor to the control valve (See Figure 21). Note the wire harness runs bottom of cab and near the exhaust from the Tractor to the Stack Valve to the front of the tractor. Make certain to tie the Harness or Hoses to the Tractor for protection.
2. Gaskets on Valve Terminals. There are 5 wire terminals on Valve,
3. Wire Harness Terminal Identification. The Wire Harness Terminal Plugs are marked in writing on the plug. Swing, Lift, Dipper, Tilt and Door terminal plugs (5 Total). The Valve terminals are in this same order starting at the input cap end and going toward the blank end.
4. Wire Harness Terminal Installation. You will need to feed wire harness under the fitting of hoses to valve. (See Figure 20 & 21) lay the Plugs out in the Order they are to be installed starting at the far end terminal.

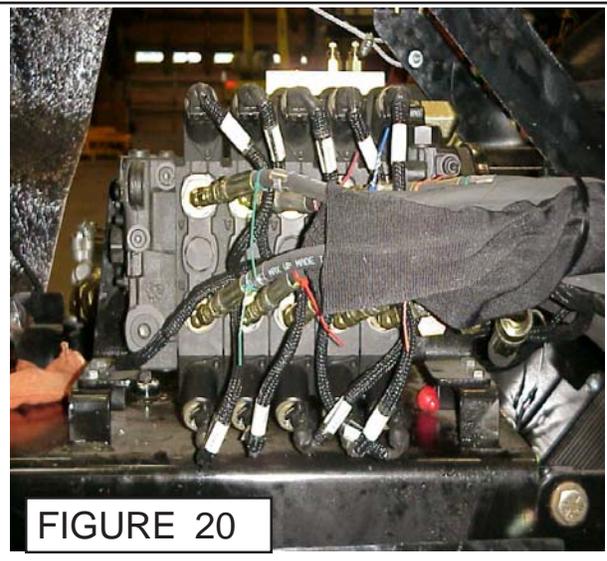


FIGURE 20

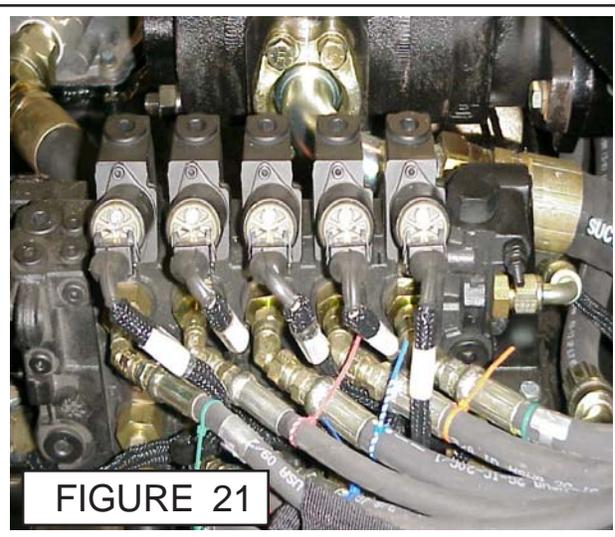


FIGURE 21

# Joystick Mounting

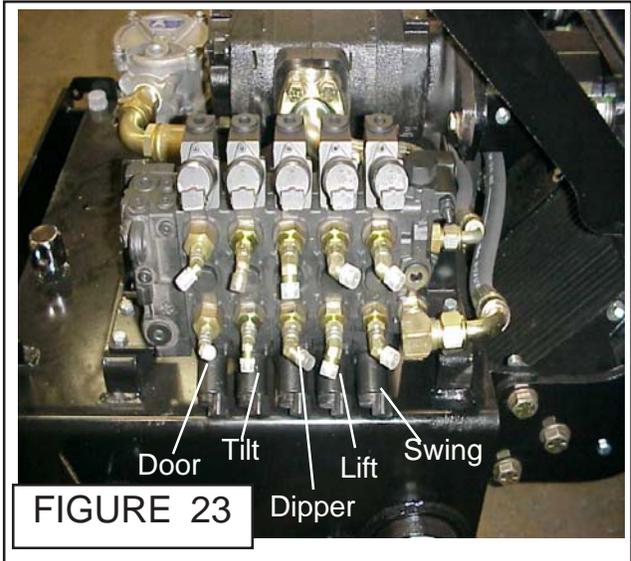
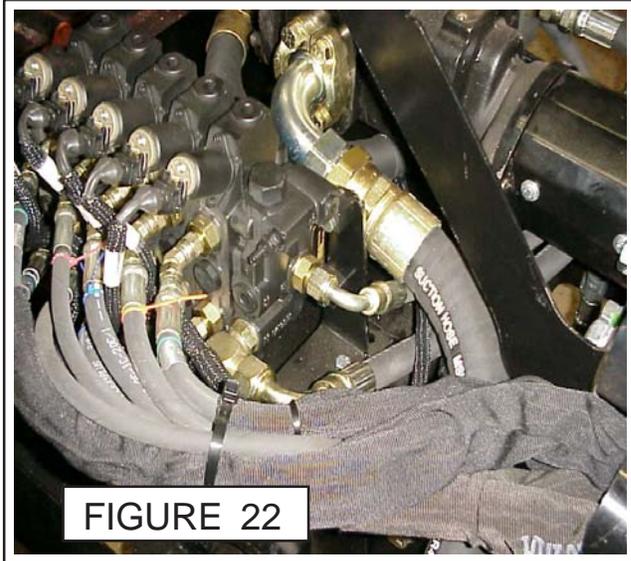
## Installing Wire Harness To Valve: (Continued)

5. Terminal Connections. The Valve is mounted on the left hand side of the hydraulic tank.

	PLUG	FUNCTION
1	1 st Plug	Swing Terminal
2	2 nd Plug	Lift Terminal
3	3 rd Plug	Dipper Terminal
4	4 th Plug	Tilt Terminal
5	5 th Plug	Door Terminal

Always check to make certain that the plugs are securely mounted to the valve.

6. Wire Harness Completed. Pull the Wire harness back toward Cab to remove any excess slack, only enough to remove slack not to make Wire Harness tight. Tie wire harness or hoses to Tractor Frame Rails to prevent them from rubbing or getting caught on something. The Wiring Schematic is shown in this book as a reference only, the wire harness will come to you assembled and ready to mount. The only wires that will have to be altered are the wires inside that connect to the existing Tractor Wires. These inside wires are intentionally left long so they can be cut as needed. None of the wires with the factory plugs will have to be cut.



# Hyd Schematic - Electrically Controlled (Opt)

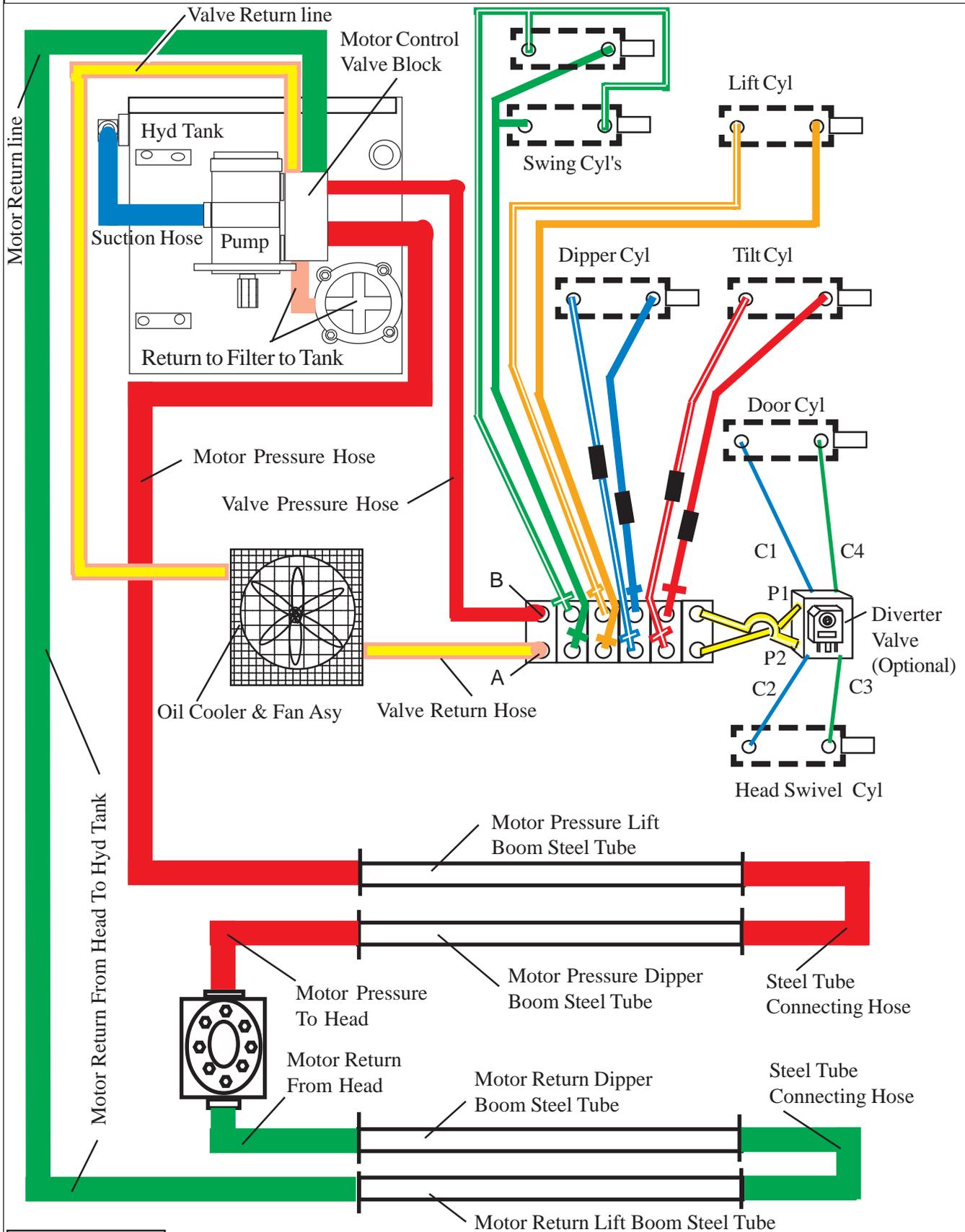


Figure 26

Axtreme Boom (Asy Man) 07/06

# Hyd Schematic - Electrically Controlled (Opt)

Joystick  
Electronic  
Controlled Valve  
(Optional)

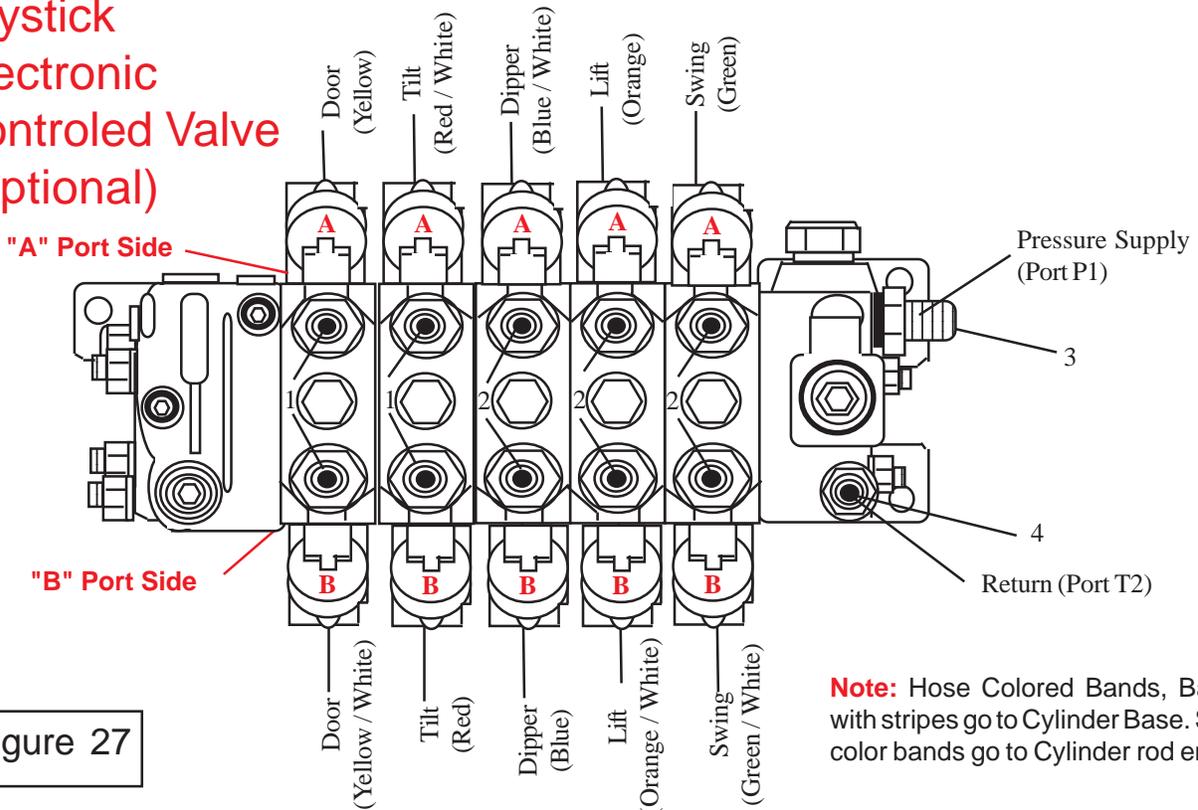


Figure 27

## Hyd Hose Codes at Control Valve & Head Swivel Divertor Valve Option

**Hose Bands Mark Color Codes:** Hose fittings are marked with Color Coded Plastic Band. Some Bands are solid Color, some are Colored with Stripe. Purpose of colored bands is provide quick reference for hose and port connection. Metal band is also attached to hose, that band has Alamo Industrial Part Number for reference.

### Boom Cylinder Circuit Hoses: Electrical Joystick Controlled Valve (Option)

Color Tie	(Code)	Hose Size	Port	Divertor	Hyd. Function
Green	G	SAE # 6	A	--	Swing, Back (Rod End)
Green / White	G/W	SAE # 6	B	--	Swing, Forward (Base End)
Orange	OR	SAE # 6	A	--	Lift, Down (Rod End)
Orange / White	OR/W	SAE # 6	B	--	Lift, Up (Base End)
Blue	B	SAE # 6	B	--	Dipper, In (Rod End)
Blue / White	B/W	SAE # 6	A	--	Dipper, Out (Base End)
Red	R	SAE # 6	B	--	Head Tilt, Up (Rod End)
Red / White	R/W	SAE # 6	A	--	Head Tilt, Down (Base End)
Yellow	Y	SAE# 4	A	--	*Door, Open, (Rod End) (* See Option)
Yellow/White	Y/W	SAE# 4	B	--	*Door, Closed, (Base End) (* See Option)

### \* Connections w/ Swivel Head / Divertor Valve Option (Connects to Door Valve section)

Green	G	SAE # 4	A	P1	Control Valve to Divertor Valve
Green / White	G/W	SAE # 4	B	P2	Control Valve to Divertor Valve
Green	G	SAE # 4	--	C4	Swivel, CW (Rod End)
Green / White	G/W	SAE # 4	--	C1	Swivel, CCW (Base End)
Yellow	Y	SAE # 4	--	C3	Door, Open (Rod End)
Yellow / White	Y/W	SAE # 4	-	C2	Door, Closed (Base End)
Orange	OR	SAE#12	T	--	Valve Return To Tank
Red	R	SAE#12	P	-	Pressure to Valve.

# Section 10

## Axtreme Boom

### Fill Hydraulic Tank & Start Up Instructions

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# Fill Hydraulic Tank

## Fill Hydraulic Tank with Oil:

1. **DO NOT START TRACTOR** until you have filled Hydraulic Oil Tank to a level as shown in Sight Glass gauge and fill the Suction Hose to Pump with Oil.

2. **Remove Filler Cap.** Remove Filler cap only when ready to fill hydraulic Tank with Oil. Do Not leave the Cap off and the system Open, always keep system closed when possible. Avoid any oil contamination. (See Figure 1)

3. **Avoid Hydraulic Contamination** by filtering the Hydraulic Oil while filling the Hydraulic Tank. Filter buggies or carts are commercially available for Hydraulic system cleanup and Oil transfer. These consist of high capacity filter, a Circulating Pump, a Drive Motor and hoses for connecting to the units hydraulic system. When adding Oil always use Clean new Oil from a sealed container, If you suspect the Oil of being contaminated don't use it. (See Figure 2 & 3). It is best to always use a filter system when adding even new oil.

4. **When adding Oil in the field** keeping it clean is critical, do not use dirty funnels or hoses. Do Not open Hydraulic tank or any containers unless the openings have been cleaned first. The outside of the containers must be clean. If a windy dusty day do not fill and allow dirt to blow into oil. Always add Oil using a pump system with at least a 10 Micron filter system. (See Figure 4)

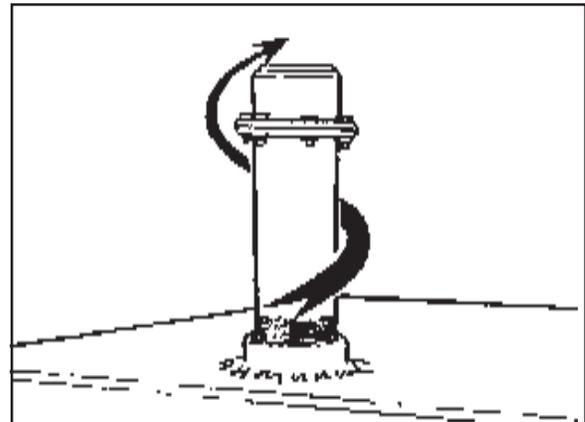


FIGURE 1

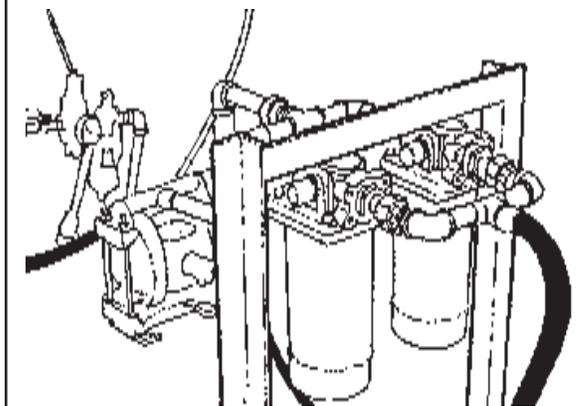


FIGURE 2

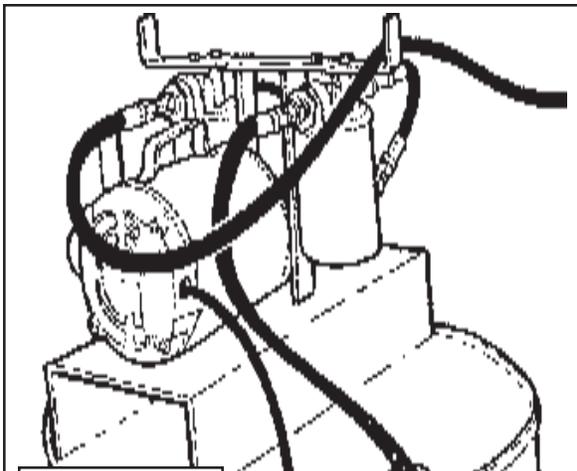


FIGURE 3

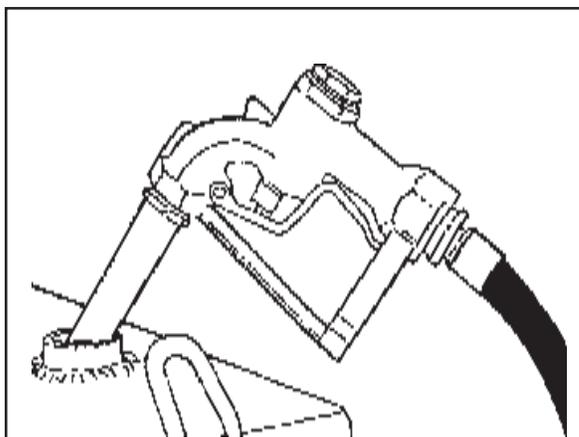


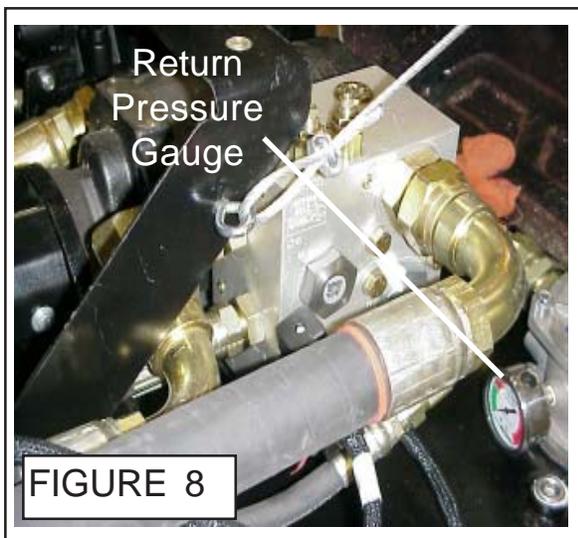
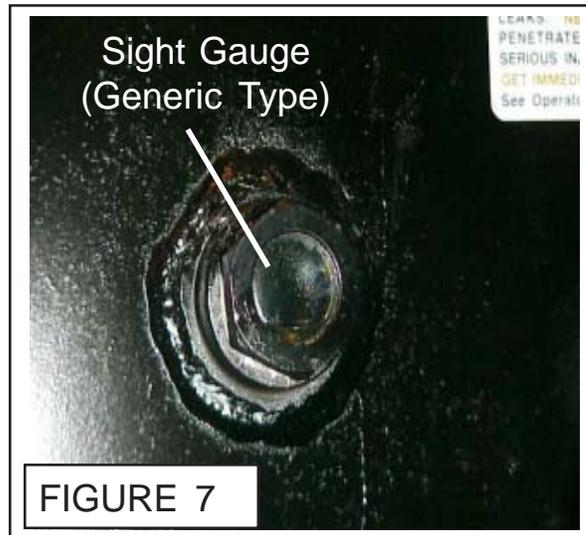
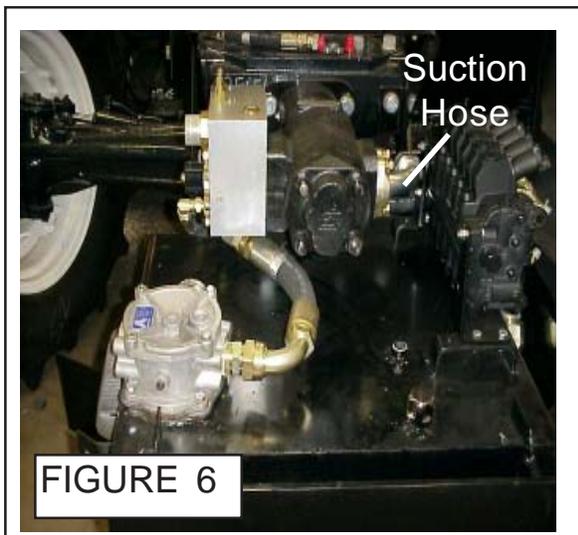
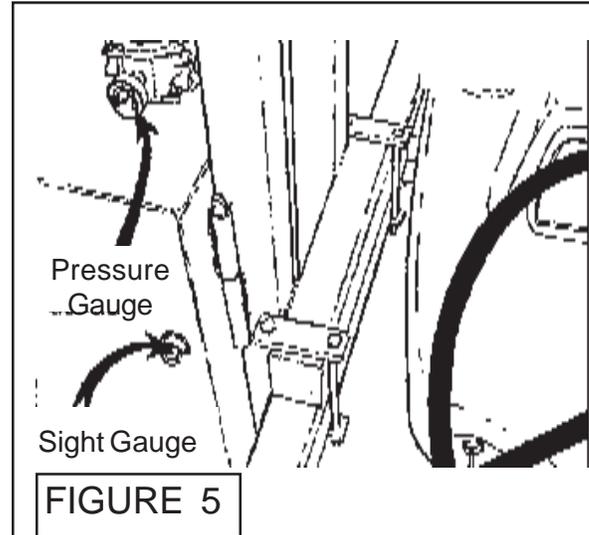
FIGURE 4

# Fill Hydraulic Tank

## Fill Hydraulic Tank with Oil:

5. **Fill Tank.** Fill the Hydraulic Tank (See Figure 4) Fill tank till the Oil is visible in the sight Gauge (See Figure 5 & 7). This will fill tank for the start but it will have to filled again later. Read Step 6 a must.

6. **Fill Suction Hose with Oil.**  
*This is an important step that must be done.* Remove the Suction Hose at the pump (See Figure 6) and fill the hose with clean oil, also oil can be put into the pump, This will prevent Dry start up of Pump. Dry start up of PUMP will damage the Pump. After filling suction Hose reinstall it and tighten down Hose fittings. (See Figure 6)



# NOTES

# Section 11

## Axtreme Boom

### PRE-DELIVERY INSPECTION CHECKLIST

NOTE: This shows a basic mount for the frame installation and may not be the same for your tractor model. The way the frame mounts to the tractor components can vary with tractor model. See the installation drawings shipped with the unit for the specific tractor type mount and hardware components. **IN SOME CASES THE MANUAL INSTRUCTION MAY VARY FROM THE INSTALLATION DRAWING INSTRUCTION, THE INSTALLATION DRAWING INSTRUCTIONS WILL OVERRIDE THE ASSEMBLY MANUAL INSTRUCTIONS WHICH ARE BASIC. THE INSTALLATION DRAWINGS ARE FOR A SPECIFIED TRACTOR.**

# PRE-DELIVERY INSPECTION CHECKLIST

**Pre-Operation Inspection:** Check the following items before operating the unit to assure that they are properly assembled. (See previous pages for component location)

## Safety Equipment:

- Operators Manual is with Unit.
- The Safety Decals are installed as listed in the Assembly Manual.
- Valve operation plate is installed.
- Operators cage or Tractor Cab is in place.
- Deflectors are installed on the Mower Head.
- Tractor Rops or Cab with seatbelts installed properly.

## Frame and Boom:

- Axle Plate Bolts are torqued.
- Boom Rest Axle Plate Bolts are torqued.
- Front Rail Bolts are torqued .
- Front Support Bolts at tractor are torqued.
- Rear Rail Bolts torque .
- Rotator bolts torque to.
- All Welds inspected to insure proper welds and locations.

## Hydraulic System:

- Oil Level in Hydraulic Tank is within the sight gauge.
- Hose connections are tight.
- Hoses do not have any kinks or twist in them.
- Front Pump Shaft adapter bolts are tight..
- Front Pump Shaft Coupler / Drive Shaft is lubricated and has an anti-seize compound on the Splines of Pump and Shafts.
- The Pump Drive Shaft has correct alignment.
- Suction Hose has no leaks or kinks.

## Rotary Mower Head:

- Skid Shoe Bolts are torqued to 120 ft. lbs.
- Spindle Housing Bolts are torqued to 400 ft. lbs.
- The Spindle Housing is properly lubricated.
- Motor Bolts are torqued to 120 ft. lbs.
- Blade Carrier (Bar) Bolts torque to 400 ft. lbs.
- Blade Bolts are torqued and the retainings Pins are in place.
- Blades Swing freely.

## Boom:

- All Hoses tightened and no leaks.
- All hoses secured to where they will not rub, get pinched or hanging down where they may catch on something.
- All Decals installed
- Pump Primed and Pressure adjusted if needed (only applies to Pump for Cylinder control.

# PRE-DELIVERY INSPECTION CHECKLIST

**Pre-Operation Inspection:** Check the following items before operating the unit to assure that they are properly assembled.

## Flail Mower Head:

- \_\_\_ Skid Shoe Bolts are torqued to 120 ft-lbs.
- \_\_\_ Motor Bolts are torqued to 120 ft-lbs
- \_\_\_ Belt Alignment & tension adjustment is correct
- \_\_\_ Cutter shaft bearings are properly lubricated
- \_\_\_ Roller bearings are properly lubricated
- \_\_\_ Blades swing freely

## Tractor Mower Operation Inspection:

Using all Safety precautions, operate the Tractor and Mower unit for 30 minutes and while the unit is running check the following items: **Note!** Only make adjustments after the mower has been turned off and all motion has stopped and all hydraulic pressure has been relieved.

- \_\_\_ Check for Hydraulic oil leaks at the hose connections
- \_\_\_ Operate the boom and mower head throughout its full range of motion and check for hose's rubbing, pinching, or kinking.
- \_\_\_ Make sure the Return Filter Gauge is reading in the Green after Oil is warm.
- \_\_\_ Check the function of the Mower Head On-Off Valve and switch for proper function
- \_\_\_ Make sure that the tractor will not start with the mower on-off switch in the on position.
- \_\_\_ Check the Blade Rotation for the Rotary Mower Head to make sure it is turning Clockwise looking from the top of the mower deck.
- \_\_\_ Make sure the control valve boom movements agree with the valve operation decal.
- \_\_\_ Make Sure Boom Movement operates as expected and is smooth and under control (no air in the control system)
- \_\_\_ Look for any unusual or excessive noise or vibrations.
- \_\_\_ Make sure the left rear wheel of the tractor stays on the ground when the boom is fully extended horizontally with 200 lbs. placed on the outside of the mower head.

## Post-Operation Inspection:

- \_\_\_ Check that the oil in the hydraulic tank has not turned milky in color or has foam on top.
- \_\_\_ Check that there are no loose fasteners or hardware.

# NOTES





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