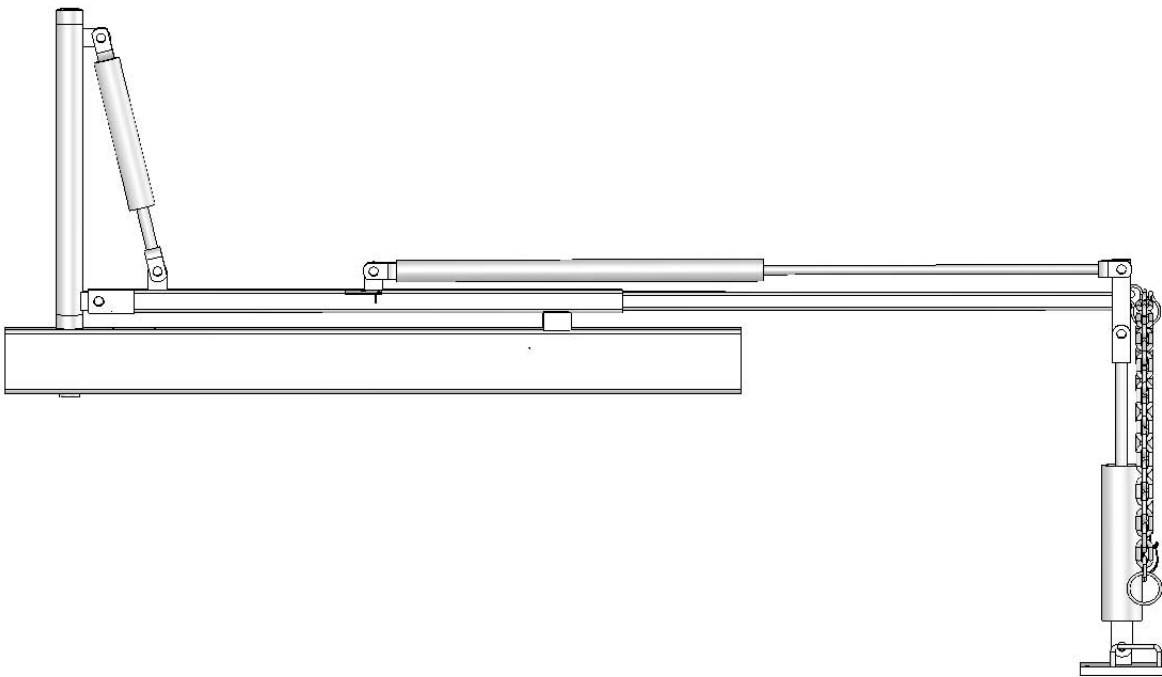


OPERATION, MAINTENANCE AND PARTS MANUAL

DIVERSIFIED

• P R O D U C T •

DEVELOPMENT



30,000 lb. HEAVY DUTY

PPF 195

POST PULLER



Read and understand all of the instructions and safety information in this manual before operating or servicing this piece of equipment.

Introduction

This manual has been compiled to assist you in properly operating and maintaining your Diversified Post Puller.

Before placing the post puller in service, all operators and persons working around the equipment must thoroughly read and understand the contents of the manual pertaining to **Safety, Operation and Maintenance**. Before moving the puller, information relating to transporting the post puller must be read and observed.

The manual must be retained with the post puller for use by subsequent operating personnel.

Information in this manual does not replace federal, state or local regulations, safety codes or insurance requirements.

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Description

The Diversified Post Puller is a simple, compact and convenient way to remove and reuse most types of posts. The post puller is mounted to the front end of your truck (3/4 ton or larger) for a one man operation. It is to be used in accordance with the instructional and warning decals that are fixed to the puller and are published in this manual and in accordance with the other publications listed in this manual.

Safety

Safety is essential in the use and maintenance of this Diversified equipment. This manual and any markings on this piece of equipment provide information for avoiding hazards and unsafe practices related to the use of this equipment. Observe all of the safety information provided.

Purpose of this Manual

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following Diversified piece of equipment:

Heavy Duty PPF 195 Post Puller

Keep this manual available.

Replacement manuals are available for download.

Other Publications

SAE Standard J1273 (Hose and Hose Assemblies)

All specifications are nominal and may change as design improvements occur. Diversified Product Development shall not be liable for damages resulting from misapplication or misuse of its products.

KEEP THIS MANUAL

IMPORTANT SAFETY INFORMATION

TO OPERATE POST PULLER

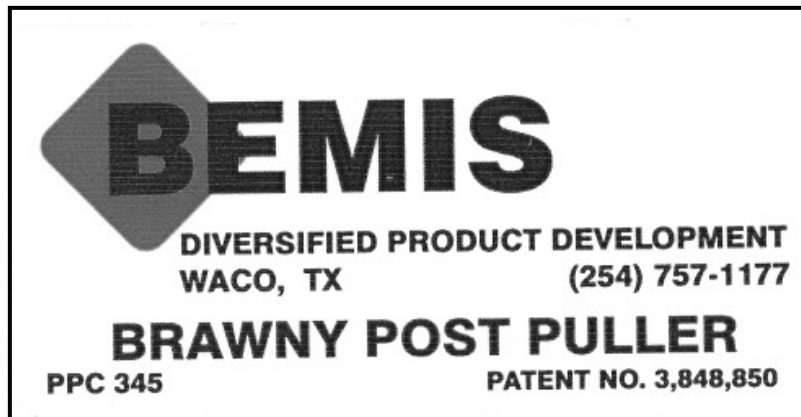
1. Push Lift Control Lever (Orange Lever) To Raise Boom From Cradle.
2. Manually Rotate Boom To Desired Position, Extending Boom As Required. Boom Is Extended By Pulling Out On Boom Extension Lever (Green) And Retracted By Pushing In On Same Lever.
3. Pull Back On Lift Control Lever (Orange) To Lower Pulling Cylinder Foot To Ground.
4. Connect Puller Jaws Around Post To Be Pulled, And Hook Chain Over Hook On End Of Boom.
5. Pull Orange Lift Control Lever Out Until It Locks In The Detent Position. This Will Float The Lift Cylinder To Enable A Post To Be Pulled Without Damage To The Unit.
6. Push "In" On Pull Control Lever (Black) To Pull Post.

TO PREPARE UNIT FOR TRAVELING

1. Disconnect Puller Jaws From Boom Hook.
2. Push Orange Lift Control Lever In To The Center Position.
3. Fully Retract Pull Cylinder By Pulling Back On Pull Control Lever (Black).
4. Fully Raise Boom By Pushing "In" On Lift Control Valve Lever (Orange).
5. Fully Retract Boom By Pushing "In" On Extension Valve Lever (Green).
6. Manually Swing Boom To A Position Over Cradle.
7. Pull Back On Lift Control Lever (Orange) To Lower Into Cradle.

CAUTION: This Unit Designed for 2500 lbs. per sq. in. max. pressure.

PPC100



Specifications

Model Number PPF 195

Puller Assembly Weight..... 374.07 lbs (169.67 kg)

Stowed

 Length.....90.52" (229.92 cm)

 Height..... 42" (106.68 cm)

Extended

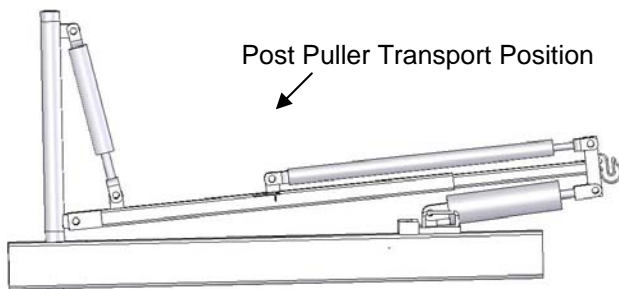
 Length..... 124" (314.95 cm)

 Height.....72.30" (183.64 cm)

Transport

To Prepare Unit for Travel:

1. Disconnect puller jaws from boom hook.
2. Push boom lift control lever (orange) to center position.
3. Fully retract post pull cylinder by pulling out on post pull control lever (black).
4. Fully raise boom by pushing in on boom lift control lever (orange).
5. Fully retract boom by pushing in on boom extension control lever (green).
6. Manually swing boom to a position over cradle.
7. Pull out on boom lift control lever (orange) to lower boom into cradle.



Installation

General Information

Your BRAVNY POST PULLER comes partially assembled and is ready for your installation, hydraulic assembly connection, electrical assembly connection and operational testing. Each of these steps is described in enough detail to enable a qualified mechanic and welder to install the unit. Before beginning however, they should thoroughly familiarize themselves with the unit and follow all the instructions. However, each installation is unique and an amount of ingenuity on your part may be required. We have supplied installation instructions to fit most normal applications, but due to various optional equipment and modifications found on vehicles, we cannot guarantee the installation instructions will fit your vehicle without modification. If you have difficulty, we will assist you with any installation information we may have available.

PUMP SIZE:

The hydraulic pump capacity supplying unit must be rated at four gallons (minimum) to six gallons at the unit. DO NOT EXCEED 6 GPM.

FITTINGS:

Quick disconnect type fittings are not recommended. Use as few fittings as possible. Do not use fittings or hose or unit angles, which restrict or otherwise affect the unit's performance. Use teflon tape on all fittings and do not over tighten.

TANK:

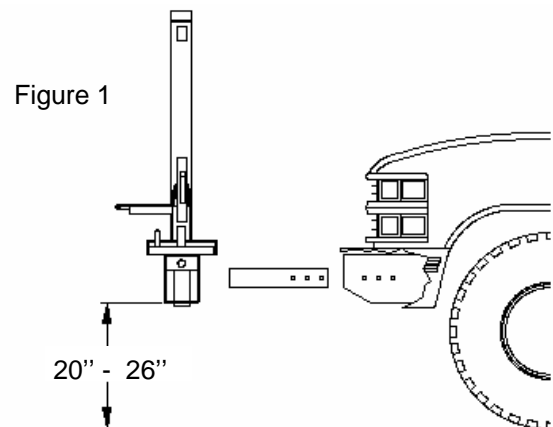
Hydraulic fluid type tank. Five gallon capacity (minimum).

TRUCK WEIGHT CAPACITY:

20,000 lb. GVW or larger with Heavy-Duty suspension.

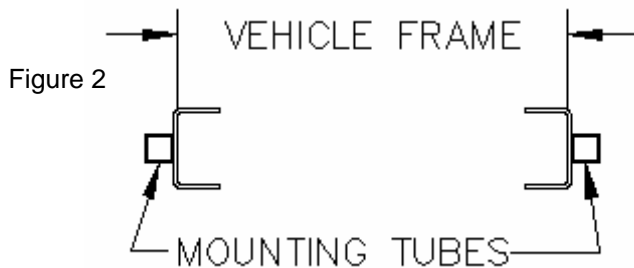
MOUNTING HEIGHT:

Bottom of unit must be no more than 26 inches or less than 20 inches from the ground. See Figure 1.

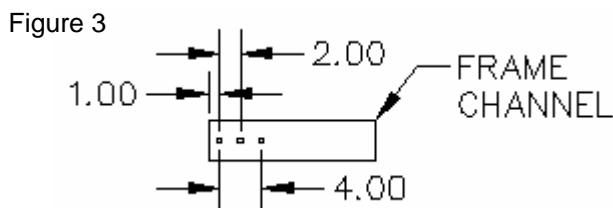


Vehicle Mounting Instructions

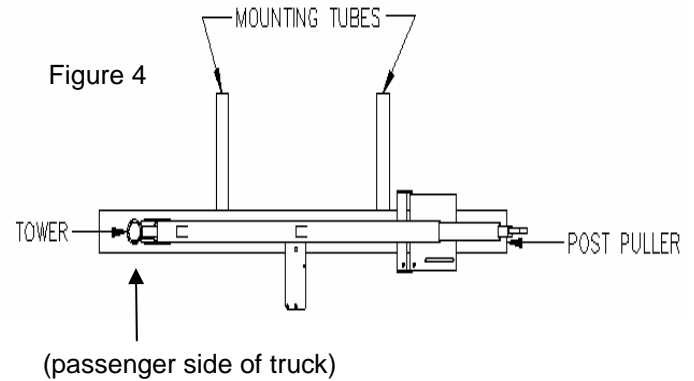
1. Park the truck on a level surface.
2. May be required to remove the vehicle's front bumper and bumper mounting brackets on some installations.
3. Clamp the mounting tubes (customer supplied 1/4" x 2 1/2" x 2 1/2" steel bars minimum) on the truck frame as illustrated in the Figure 2.



4. Align the mounting tubes so that:
 - A. The front surfaces are parallel.
 - B. They are vertically centered on the frame channels.
 - C. The front surfaces are far enough beyond the front of the truck so the post puller will clear the truck and the bumper.
 - D. The front surfaces are perpendicular to the ground.
5. Drill three holes per mount tube to accommodate 1/2" bolts. The bolts should be at least grade five. NOTE: It is easier to use a smaller drill bit first then graduate to a 1/2" bit. See Figure 3.



6. Measure the distance between the mounting tubes, remove them from the frame, and center them on the post puller body. (See Figure 4). NOTE: The tower goes on the passenger side of the truck.



7. Weld the mounting tubes to the post puller. Be certain that the tubes (Figure 2) remain parallel and the proper distance apart.
8. Place the bumper mounting brackets and bumper back on the vehicle. Some modifications to the bumper may be required.
9. Now with the post puller mounting bars welded to the post puller, carefully insert the mounting bars through the holes in front of the bumper and bolt the post puller to the frame.
10. The unit is now ready for hydraulic hook-up.

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Hydraulic Connection, Installation and Testing Instructions

1. Select and install pump and tank. (See general information for pump and tank selection guidelines). This unit is designed to be used with PTO driven pump. Therefore, select pump and PTO unit, which are compatible with each other and your vehicle.
2. Connect a 3/8" ID hydraulic hose from tank outlet port (normally the lower port), to suction "in" side of pump.
3. Connect a 3/8" ID hydraulic hose from tank inlet port (normally the upper port), to the "out" port of the directional control valve.
4. Connect a 3/8" ID hydraulic hose from pump pressure port to the "in" port of directional control valve. Note: Hoses selected for steps 2-4 should be rated for 3000 PSI. Use as few fittings as possible and do not over tighten fittings or connections. Do not make sharp bends in hose, which might cause restrictions. Route hoses away from exhaust systems, hot engine components and sharp body parts that could cause damage. Keep hoses as short as possible, but long enough to prevent tension on the hose at any time.
5. Fill tank with clean hydraulic oil suitable for your climate.
6. Start engine and engage PTO. Let engine run at idle speed.
7. Check system for leaks and/or unusual noises. Eliminate before proceeding to next step.
8. Push in (orange) valve handle and hold until boom lifts to its highest position. This may take several seconds due to the air in the system.
9. Use caution as the boom may suddenly jump up because of the air in the system. NOTE: The needle valve between the control valve and the boom lift cylinder has been adjusted for use in ambient temperature of 50°F and above. If the unit is to be used in colder temperatures than this, some adjustment of this valve may be necessary to obtain proper downward movement of the boom. This adjustment should be made only by a qualified mechanic due to the safety factor involved.
10. Pull out on the (green) valve lever to extend boom extension cylinder. This may take some time due to air in system. Extend and retract this cylinder several times until it operates smoothly. Smooth operation indicates that all air is out of the cylinder.
11. Using the (green) handle fully retract boom extension cylinder. Extend and retract post-pulling cylinder several times until it operates smoothly using (black) valve.
12. Install a suitable (3000-PSI) pressure gauge between the "in" port and the pressure hose connected to the port. Follow operating instructions as if you were going to pull a post but do not hook up to a post. Using the fully extended post pulling cylinder (BLACK lever), read pressure gauge and increase engine speed just enough to get maximum reading on gauge, (2500 PSI ± 10%). This is the speed the engine should be run to obtain maximum results from the unit. Remove pressure gauge. Be sure you do not exceed the flow rate of 6 GPM in the system.

Your unit is now ready for normal use.

Operation

1. Flip pump switch to on position.
2. Push in on the boom lift control lever (orange) and hold until the boom lifts to its highest position. This may take several seconds due to air in the system. Use caution as the boom may suddenly jump up because of the air in the system. Note: The flow control valve between the control valve and the boom lift cylinder has been adjusted for use in ambient temperatures of 50°F, some adjustment of this valve may be necessary to obtain proper downward movement of the boom. Only a qualified mechanic should make this adjustment.
3. Pull out on the green valve handle to extend the boom. This also may take several seconds due to air in the system. Extend and retract the boom several times until it operates smoothly. Smooth operation indicates that all air is out of the cylinder.
4. Pull out boom lift control lever (orange) to lower pulling cylinder foot to ground.
5. Connect puller jaws around post, to be pulled with "T" side up, and hook chain over hook on any one of the three hooks on the hook plate. NOTE: The Heavy Duty PPF 195 Post Puller does not come with the chain and jaws. The chain and jaws can be purchased separately however please keep in mind that they are only rated up to 10,000 lbs.
6. Pull out on boom lift control lever (orange) until it locks in the detent position. This will float the boom lift cylinder to enable a post to be pulled without damage to the unit. Bent components, due to misuse or overloading, will not be covered by warranty.
7. Extend and retract post-pulling (black lever) several times until it operates smoothly. NOTE: Check tanks oil level after each step 2-4 and add oil if necessary. If oil level becomes too low, the pump will induce air into the system and steps 2-4 must be repeated.
8. Install a 3,000-PSI pressure gauge between the directional control valve inlet port and the hose connected to it. Follow the operating instructions as if you were going to pull posts but do not hook up to the post. Fully extend the post-pulling cylinder by pulling out on BLACK lever. Hold the lever out while making the pressure test. The gauge should read between 2200 to 2500 psi. Adjust the pressure relief valve on the control valve inlet section as required. Remove the pressure gauge and connect the pressure hose back to the valve. Your unit is now ready for normal operation.

CAUTION: Do not exceed the flow rate of 6 GPM or the pressure rating of 2500 PSI in the system.

During all operation and testing, the vehicle engine must be running at a fast idle and the battery charged to peak condition.

Special Hints:

IMPORTANT: PLEASE READ THE FOLLOWING BEFORE ATTEMPTING TO PULL POSTS WITH YOUR NEW DIVERSIFIED POST PULLER.

- Your Diversified Post Puller is capable of producing up to 15.7 tons of force. This force, when properly used, can save time and money. Misuse results in costly damage and injury. USE WITH CAUTION.
- Use only AW 32 (10 weight) hydraulic oil.... Use of any other kind of oil or fluid may cause the unit to fail and VOID the warranty.
- Fill the oil reservoir with all cylinders in the DOWN or COLLAPSED position.
- Hoses should not be allowed to rest on the exhaust manifold or firewall. If a hose rests against these, the pulsation or vibration will transmit a distinct noise into the passenger area.
- Clean and flush the oil reservoir at least once a year.
- Pull posts only with the pulling cylinder next to the post and in a vertical position. Pulling posts from a side angle will cause irreparable damage to the post puller and void the warranty.

Troubleshooting

To properly troubleshoot the unit, a 3000 PSI pressure gauge along with a few fittings and hand tools are required.

1. If the unit will not function at all or has lost its power, check the following.
 - a. Check condition of suction line between pump and tank. Check for tightness of fittings. If a leak exists, air will be sucked into the system and the unit will not operate properly.
2. If any section of the unit will not operate properly, check the following:
 - a. Check for mechanical damage.
 - b. Check oil level in tank.
 - c. Check hoses leading to the affected area.
 - d. Check pressure at cylinder port (must be 2200 to 2500 PSI) with cylinder fully extended and valve handle held in the extended position.

November 15, 2007

SERVICE BULLETIN:

Installation of any of our Post Puller products on the new 2008 Ford trucks may obscure the headlights because of the new design of the truck.

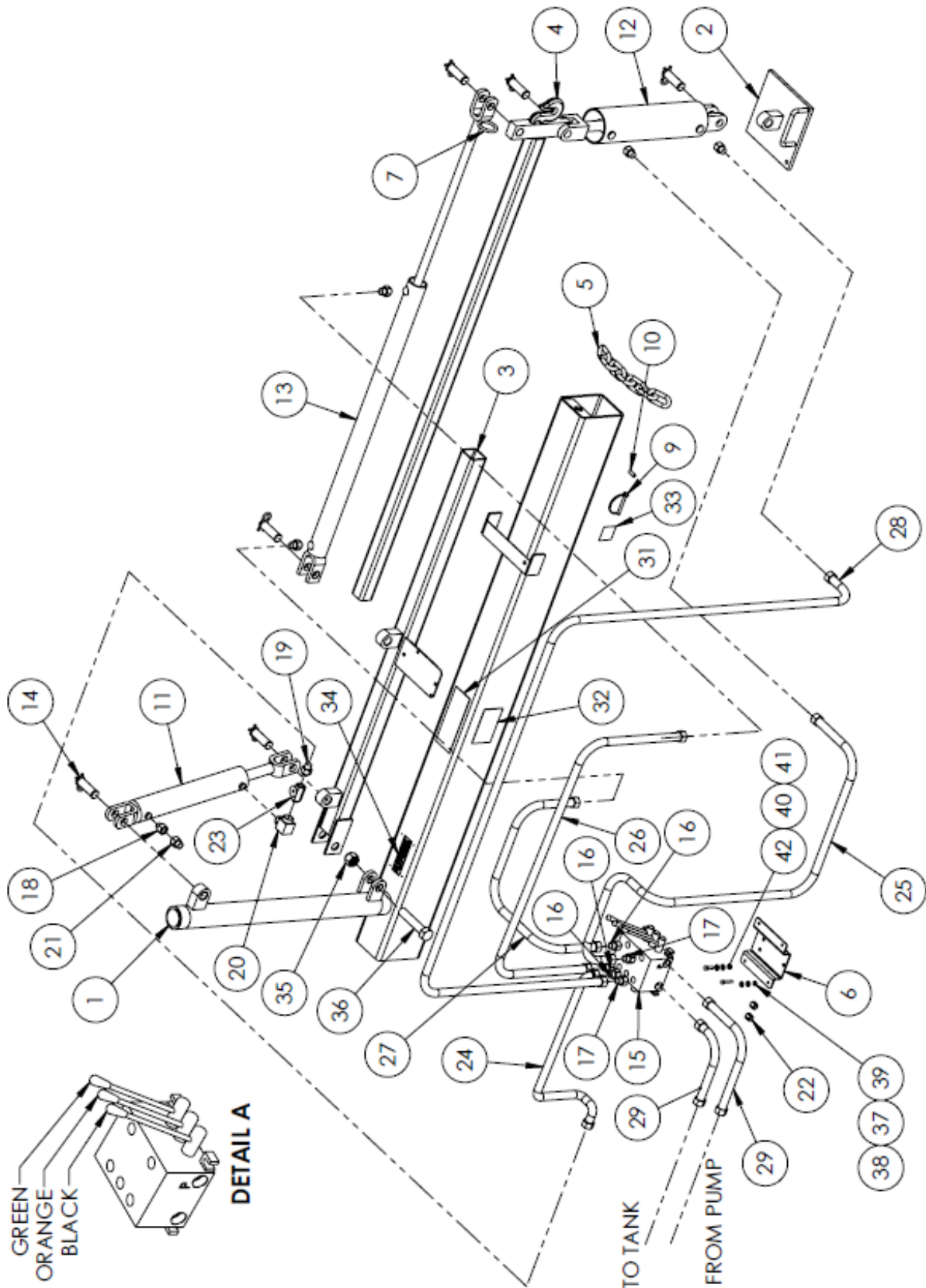
Therefore, the installation of additional headlights may be required. Please take that issue into consideration when quoting these products.

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Replacement Parts

42		NUT, HEX, 5/16-18	2
41		HHCS, 5/16-18 UNC 1" LG	2
40	-	FW, 5/16 SAE	4
39		NUT, HEX, 1/4-20 UNC	4
38	-	HHCS 1/4-20 UNC X 1.5 L	4
37	-	1/4" FLAT WASHER	8
36	-	HHCS 1-8 UNC X 5" L	1
35	-	NUT, NYLOC, 1-8UNC	1
34	PPC178	ID PLATE	1
33	PPC103	DECAL, OIL	1
32	PPC345	DECAL, LOGO	1
31	PPC100	DECAL, OPENING INSTRUCTIONS	1
30	PPA201	KIT, HD HOSE	1
29	PPA336	HOSE ASSEMBLY	2
28	PPA390	HOSE ASSEMBLY	1
27	PPA315	HOSE ASSEMBLY	1
26	PPA380	HOSE ASSEMBLY	1
25	PPA385	HOSE ASSEMBLY	1
24	PPA375	HOSE ASSEMBLY	1
23	PPC300	FLOW CONTROL, ADJUSTABLE	1
22	PPC500	CAP	2
21	PPC290	MP04 BREATHER BLUG	1
20	PPC495	ADAPTER, MO06-FP04-90	1
19	PPC305	ADAPTER, MP04-MJ04	1
18	PPC285	ADAPTER, MO06-FP04	1
17	PPC280	ADAPTER, MO06-MJ06	6
16	PPC275	ADAPTER MO06-MJ04	5
15	PPD068	VALVE, CONTROL - V040	1
14	PPC270	PIN AND KEEPER	6
13	PPC161	HYDRAULIC CYLINDER, 2" X 36"	1
12	PPC149	HYDRAULIC CYLINDER, 4" X 12"	1
11	PPC155	HYDRAULIC CYLINDER, 2 1/2" X 12"	1
10	PPC893	PIN, HITCH	1
9	PPC600	LINCH PIN 5/16" DIA X 2-1/2", MCM 98416A130	1
8	PPS210	PLATE, POST PULLER MOUNT	1
7	PPC148	RING	1
6	PPK101	PLATE, VALVE ADAPTER	1
5	PPA496	CHAIN, PULLING, HEAVY DUTY	1
4	PPA490	BOOM EXTENSION	1
3	PPA495	BOOM	1
2	PPA395	LUG PLATE, CYLINDER	1
1	PPA430	BODY, TOWER ASSEMBLY	1
ITEM NO.	PART NUMBER	DESCRIPTION	-/QTY.

Replacement Parts



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DEVELOPMENT

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