



# **BRADCO**

**BY PALADIN**

# **INSTALLATION INSTRUCTIONS**

**FOR**

# **BRADCO**

## **2-WAY BOOM HYDRAULIC KIT**

**#107450 & #107451 (509/511/509B/511B)**

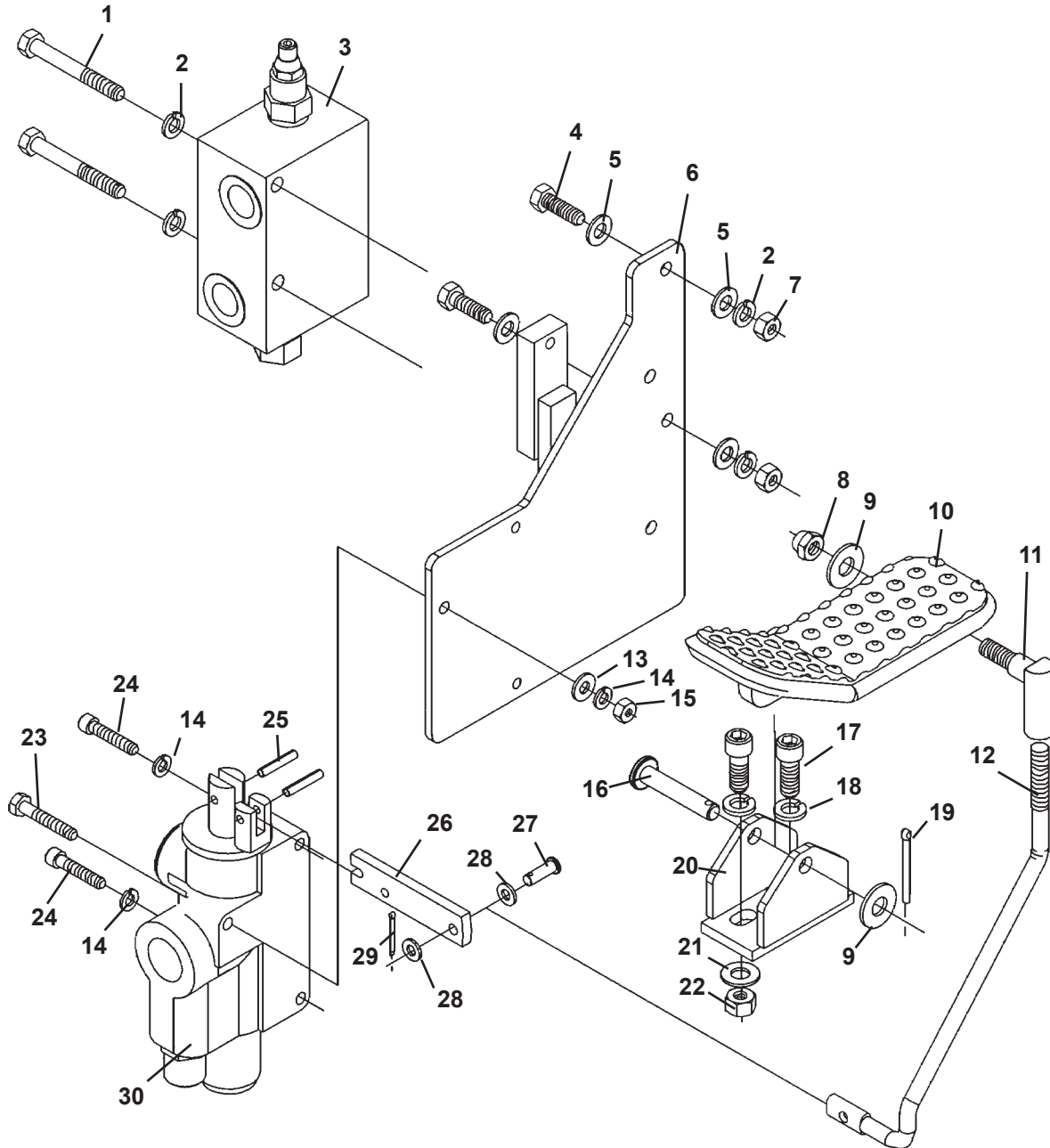
**#118459 & #118460 (611B)**

**INSTRUCTIONS NUMBER: 76289**

**Complete operator's and parts manuals  
are supplied with the backhoes.**

# TWO WAY BOOM HYDRAULIC KIT

HYDRAULIC KIT (DEALER INSTALLED) #107450 & #118459  
HYDRAULIC KIT (FACTORY INSTALLED) #107451 & #118460



## TWO WAY BOOM HYDRAULIC KIT

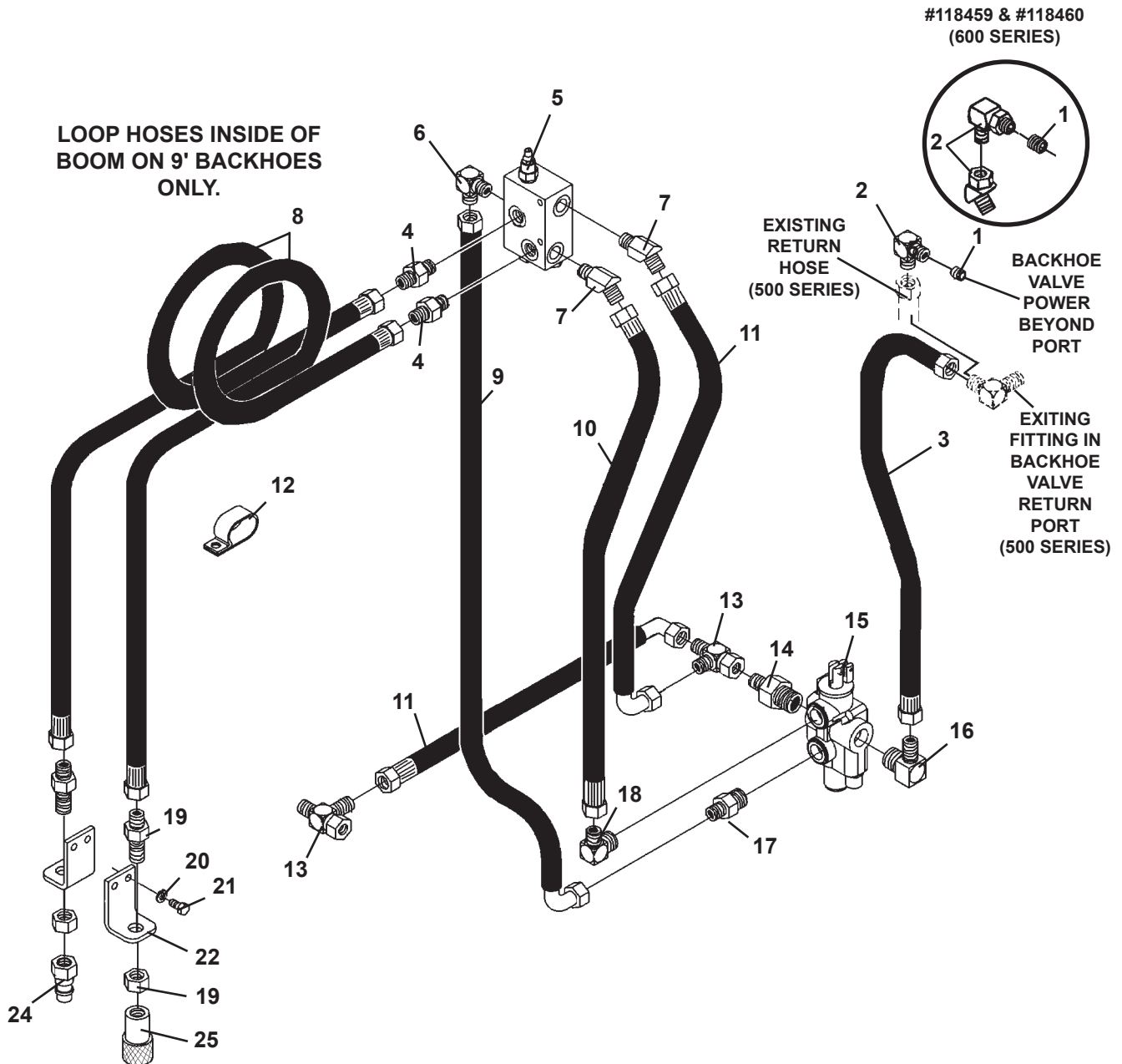
HYDRAULIC KIT (DEALER INSTALLED) #107450 & #118459  
HYDRAULIC KIT (FACTORY INSTALLED) #107451 & #118460

<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	1028	.31" UNC X 2.50" Hex Capscrew
2	4	1502	.31" Lock Washer
3	1	16965	Valve
4	2	1022	.31" UNC X 1.00" Hex Capscrew
5	4	1513	.31" Flat Washer
6	1	17826	Mounting Plate
7	2	1225	.31" UNC Hex Nut
8	1	1592	.38" UNF Lock Nut
9	3	1525	.38" SAE Flat Washer
10	1	15827	Valve Pedal
11	1	5545	Ball Joint
12	1	15828	Control Rod
13	1	1512	.25" Flat Washer
14	3	1501	.25" Lock Washer
15	1	1224	.25" UNC Hex Nut
16	1	54418	Clevis Pin .38" x 2.00"
17	2	1708	.38" UNC X 1.00" Socket Head Capscrew
18	4	1503	.38" Lock Washer
19	1	1614	Cotter Pin .16" X 2.00"
20	1	15823	Pedal Mounting Base
21	1	1514	.38" Flat Washer
22	1	1226	.38" UNC Hex Nut
23	1	1005	.25" UNC X 1.50" Hex Capscrew
24	2	10064	.25" UNC x 1.25" Socket Head Capscrew
25	2	1777	Spring Pin .19" X 1.00"
26	1	15829	Control Rod Linkage Plate
27	1	15831	Clevis Pin .25" x .75"
28	2	1523	.25" SAE Flat Washer
29	1	1639	Cotter Pin .09" X 1.00"
30	1	15834	4-Way Valve

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<u>ITEM</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	45938	Power Beyond Plug (#107450 & #107451)
	1	46261	Power Beyond Plug (#118459 & #118460)
2	1	3104	90° Elbow 8MBo-8MJ (#107450 & #107451)
	1	3283	90° Elbow 10MBo-8MJ (#118459 & #118460)
	1	30015	45° Elbow 8MJ-8FJX (#118459 & #118460)
3	1	38455	Hose Assembly .38" X 30" 8FJX-8FJX
4	2	3103	Straight Connector 8MBo-8MJ
5	1	16965	Valve
6	1	3104	90° Elbow 8MBo-8MJ
7	2	3272	45° Elbow 8MBo-8MJ
8	2	37604	Hose Assembly .38" X 145" 8FJX-8FJX
9	1	38059	Hose Assembly .38" X 12" 8FJX-8FJX 90°
10	1	38060	Hose Assembly .38" X 13" 8FJX-8FJX
11	2	38062	Hose Assembly .38" X 15" 8FJX-8FJX 90°
12	2	82859	Double Hose Clamp
13	2	3278	Tee 8MJ-8iMJ-8FJX
14	1	3102	Straight Connector 12MBo-8MJ
15	1	15834	4-Way Valve
16	1	3316	90° Elbow 12MBo-8MJ
17	1	3270	Straight Connector 10MBo-8MJ
18	1	3283	90° Elbow 10MBo-8MJ
19	2	30195	Straight Bulkhead Connector 8MBo-8MJ (Includes Nut)
20	2	1503	.38" Lock Washer
21	2	1042	.38" UNC X .75" Hex Capscrew
22	2	88957	Coupler Mounting Bracket
23	1	14175	Female Coupler
24	1	14176	Male Coupler

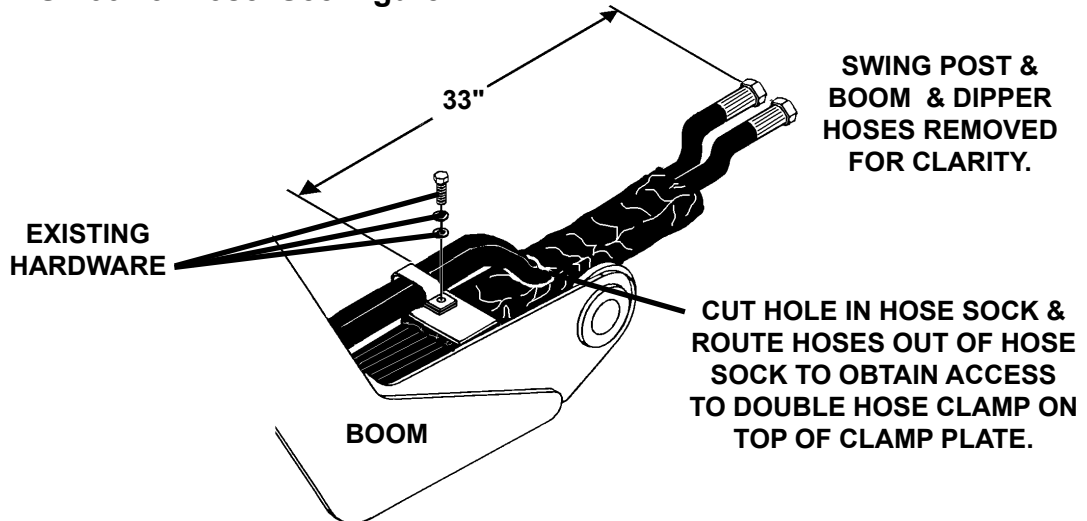
# INSTALLATION INSTRUCTIONS

## INSTALLATION INSTRUCTIONS

1. Cut a hole in the existing hose sock before the clamp plate. Thread the power and return hoses into the hose sock, through the swing post, out the hole in the sock, up the boom (loop the hoses inside the boom on the 9' backhoe only) and exit at the end of the boom.

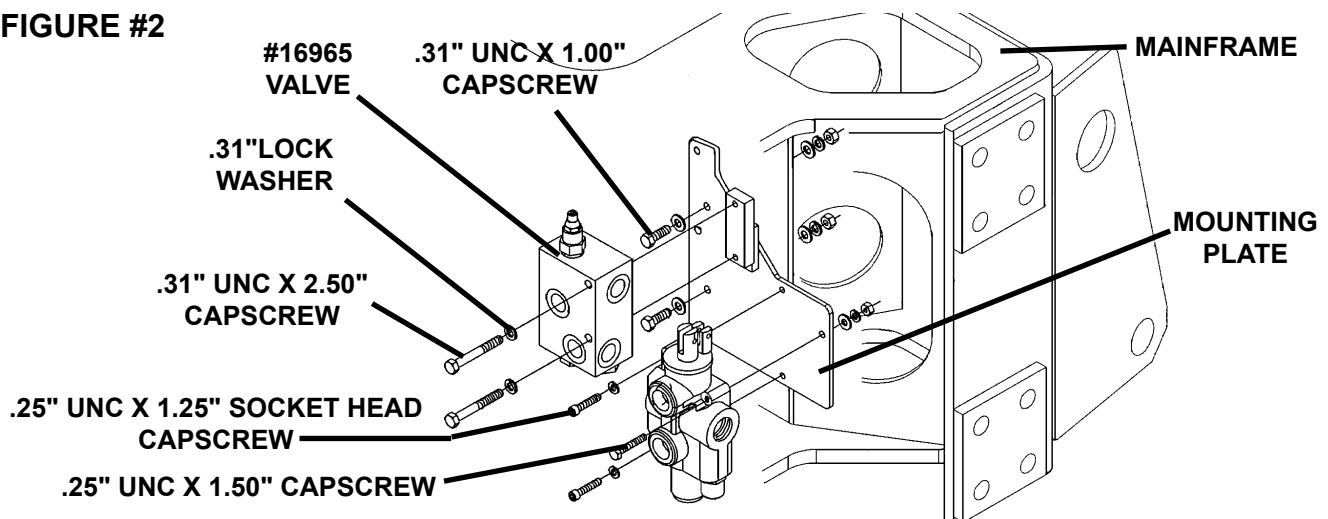
**NOTE: Measure the distance from the boom clamp plate to the end of the hoses. There must be AT LEAST 33" of hose. See Figure #1**

**FIGURE #1**



2. Remove the hardware on the boom hose clamp plate and install (1) double hose clamp in the same location with existing hardware and route hoses through clamp. See Figure #1
3. Install the valve mounting plate in the existing holes located on the inside (right) of the mainframe using (2) .31" UNC X 1.00" capscrows, flat washers, lock washers and hex nuts provided. (Use the outside set of holes when mounting onto a 500 Series backhoe and the inside set of holes when mounting onto a 600 Series backhoe. Slide the plate up as far as possible.) See Figure #2

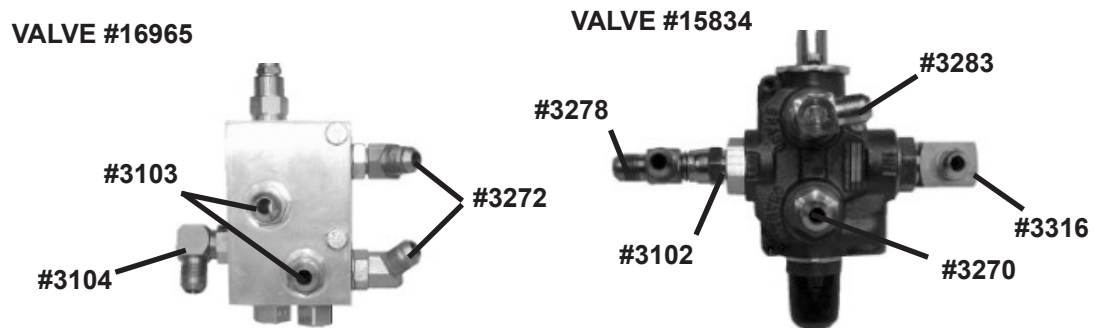
**FIGURE #2**



**NOTE: MOUNTING PLATE IS SHOWN INSTALLED IN THE 600 SERIES HOLE LOCATION AND THE FITTINGS HAVE BEEN REMOVED FROM THE VALVES FOR CLARITY.**

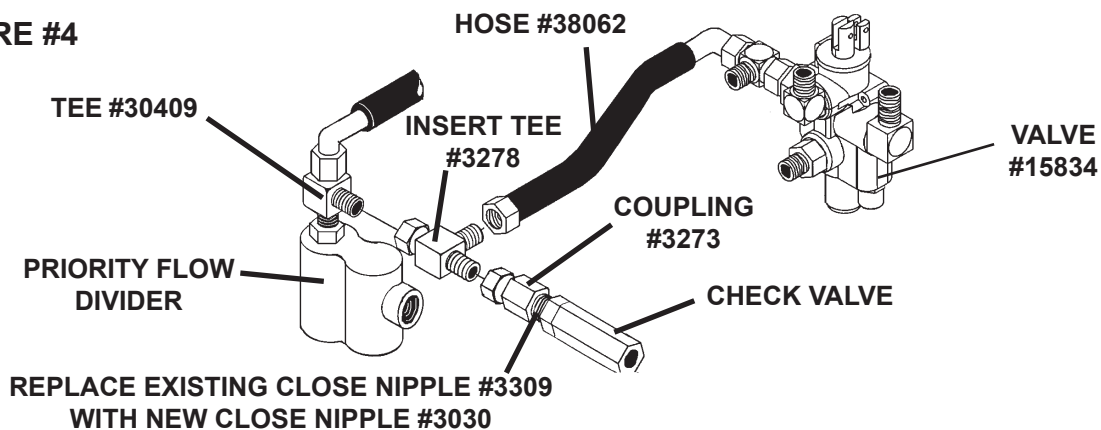
# INSTALLATION INSTRUCTIONS

**FIGURE #3**



4. Install the fittings into the valves as shown in the Hydraulic Kit diagram page and Figure #3
5. Install the valves onto the mounting plate using the hardware supplied. See Figure #2
6. Disconnect the #3273 coupling from the #30409 tee at the top of the priority flow divider on the inside (left) of the mainframe and install the tee #3278 provided between the coupling and the tee. Then disconnect the coupling from the check valve and replace existing nipple #3309 with the nipple #3030 provided. Reconnect coupling to check valve. See Figure #4

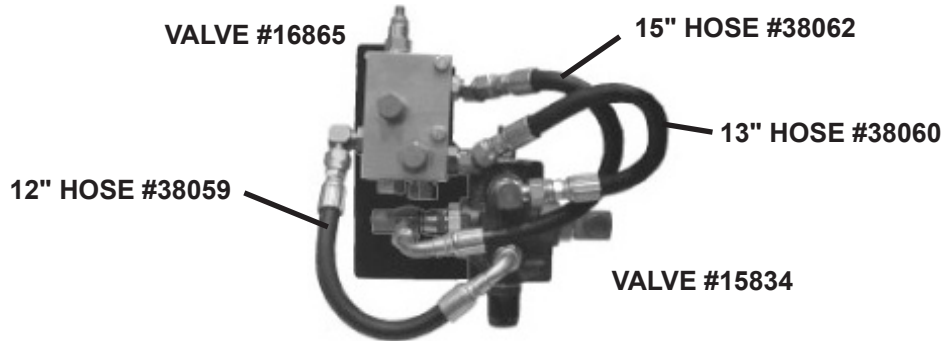
**FIGURE #4**



7. Connect hose #38062 to the tee on the valve and the tee #3278 on the priority flow divider. See Figure #4
8. Connect the three hoses between the valves. See Figure #5

# INSTALLATION INSTRUCTIONS

**FIGURE #5**



9. Remove plug from the power beyond port of the control valve and install the power beyond plug and 90° elbow for your application. See Figure #6
10. 600 Series: Install 45° elbow 30015 to 90° elbow followed by hose #38455. (Existing return hose remains in its original location.) See Figure #6  
500 Series: Move the existing return hose on the backhoe valve to the 90° elbow installed in Step #9 and install hose #38455 to the return hose location. See Figure #6

**FIGURE #6 (500 Series Shown)**

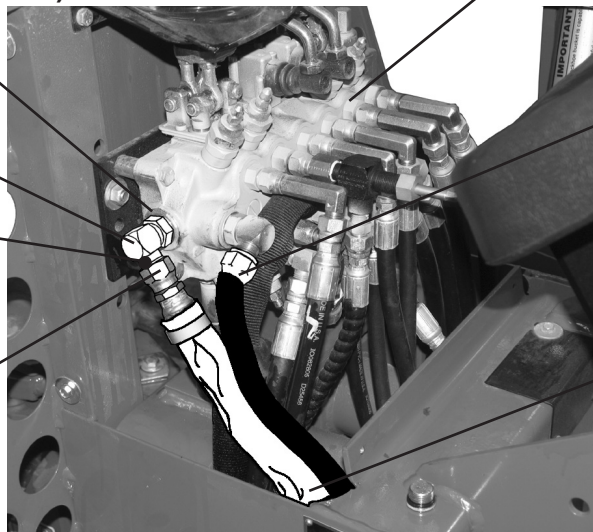
**INSTALL POWER BEYOND PLUG**

**90° ELBOW**

**600 SERIES BACKHOE:  
INSERT 45° ELBOW BETWEEN  
90° ELBOW AND HOSE #38455**

**500 SERIES BACKHOE:  
EXISTING RETURN HOSE  
MOVED TO 90° ELBOW**

**BACKHOE VALVE**

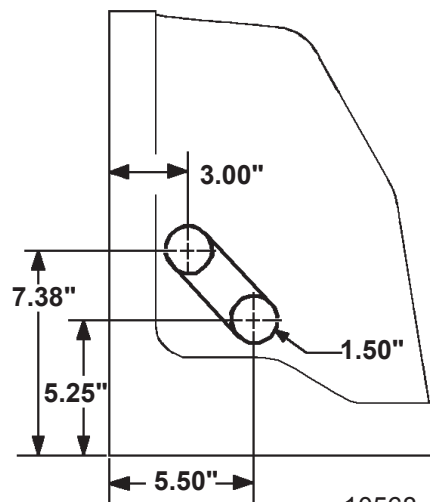


**500 SERIES BACKHOE:  
HOSE #38455  
(THIS NOW BECOMES  
THE POWER BEYOND  
CIRCUIT.)**

**600 SERIES BACKHOE:  
HOSE #38455  
(THIS NOW BECOMES  
THE POWER BEYOND  
CIRCUIT.)**

**600 SERIES BACKHOES ONLY:** Remove the plastic console cover and drill or punch two 1.50" diameter holes at the locations shown in the diagram and then cut a slot into the cover between the holes as indicated.

**DRILL OR PUNCH TWO 1.50"  
DIAMETER HOLES**

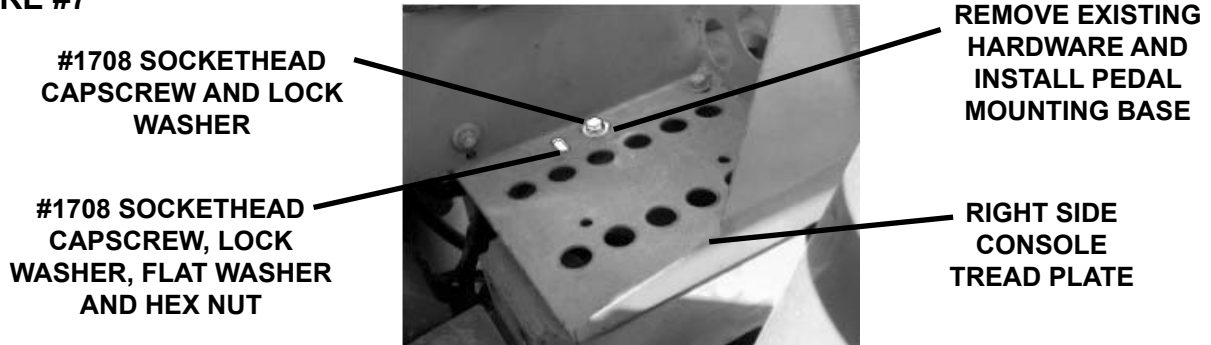




## INSTALLATION INSTRUCTIONS

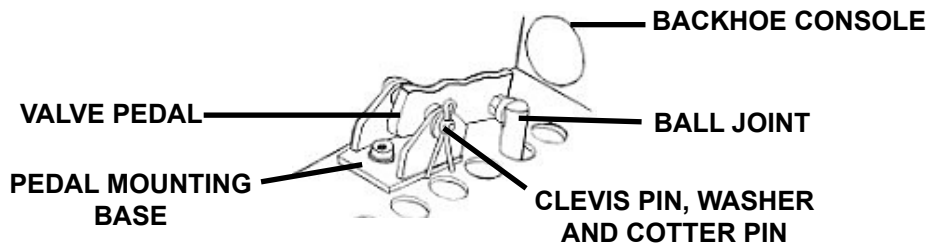
11. Connect auxiliary boom power and return hoses to the valve. Check to make sure there is 33" of hose between the valve and hose clamp to accommodate backhoe swing and reach (refer to Figure #1).
12. Adjust fittings on the valve block and tighten. (Routing hoses in such a fashion to prevent pinching and chafing.)
13. Remove bolt on the right side of the console tread plate (shown) and install the pedal mounting base using the hardware provided. See Figure #7

**FIGURE #7**



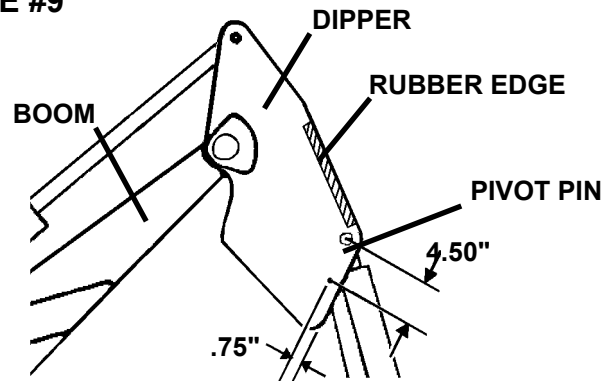
14. Install valve pedal to pedal mounting plate base using clevis pin, washer and cotter pin provided.
15. Install the control rod linkage plate to the 4-way valve with the spring pins provided. Install the control rod through the console cover tread plate and to the linkage plate with the clevis pin, washers and cotter pin supplied. Install the ball joint to the control rod and position through the valve pedal as shown. **(NOTE: The pedal has been removed from the diagram for clarity.)** See Figure #8

**FIGURE #8**



16. Drill two holes .31" (5/16) and tap to .38" (3/8) UNC in both sides of the dipper as shown. (Down four and a half inches (4.50") from the pivot pin and in three fourths inch (.75") from the edge.) See Figure #9. Install the angle brackets on the outside of the dipper with the .38" UNC X .75" capscrews and lock washers provided. Install the rubber edging on the sides to protect the hoses from chafing.

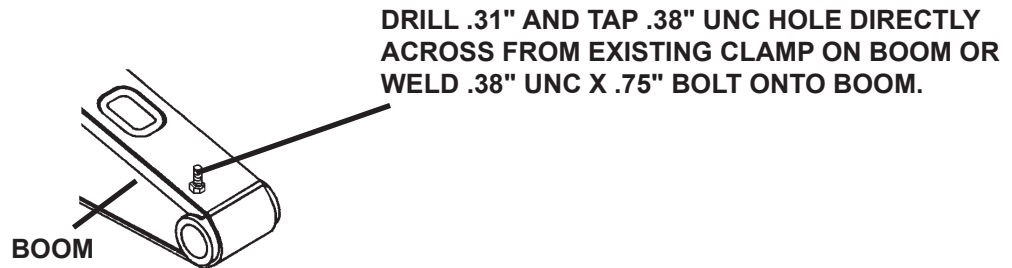
**FIGURE #9**



## INSTALLATION INSTRUCTIONS

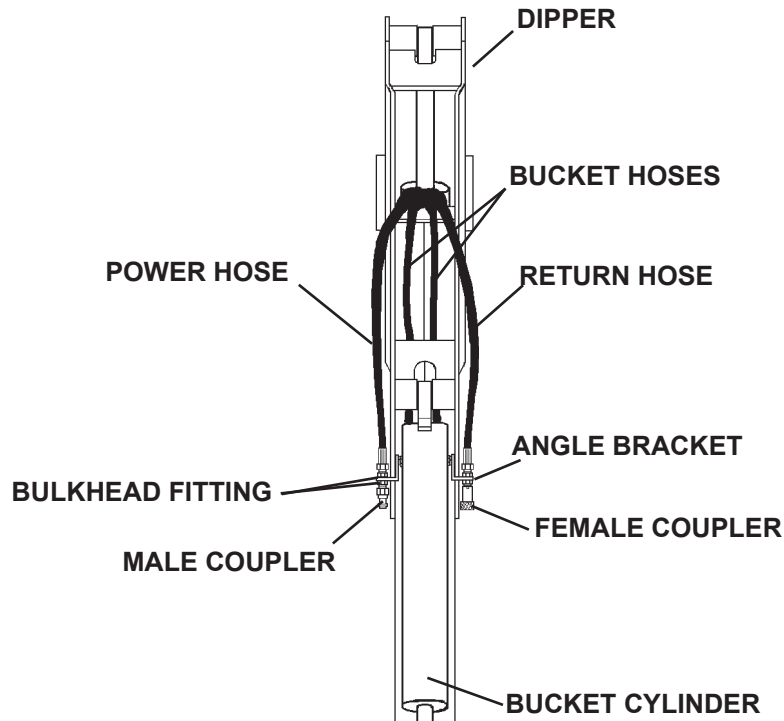
17. Drill one hole .31" (5/16) and tap to .38" (3/8) UNC in the boom directly across from the hose clamp for the bucket cylinder hoses OR weld bolt #1042 onto the end of the boom as shown. See Figure #10. Install double hose clamp with the hardware provided.

**FIGURE #10**



18. Install bulkhead fittings #30195 through the hole in the angle brackets located on the dipper. Route hoses through hose clamp and connect to bulkhead fittings. Install couplers to the bulkhead fittings. See Figure #11

**FIGURE #11**



**IMPORTANT: MAKE SURE THE MALE COUPLER IS CONNECTED TO THE POWER HOSE.**

**IMPORTANT: DO NOT OPERATE FOOT PEDAL WITHOUT ATTACHMENT CONNECTED.**

19. Check system for leaks.

Two-Way boom hydraulic kit installation is now complete. Check attachment manual for any adjustments required.