



## Powergrip Trouble Shooting Guide

### For 19, 26, 28, 29, 32 and 33 Powerblocks

#### PROBLEM:

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- (8) After hauling the net, and after the net is dried up, and when the main Power Block Control Valve is put into the center (hold and stop) position, the net drops and falls back rapidly. The Power Block Does Not Hold The Load.....See Page 4
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- (10) During net hauling the corks hang up on the Powergrip wheel and do not pass smoothly through the Power Block.....See Page 5
- (11) The Powergrip tire doesn't 'Reach' into the sheave far enough to make good contact on a small net.....See Page 5
- (12) No matter what I try to adjust on the Powergrip Control, NOTHING WORKS.....See Page 6

**PROBLEM:**

Tire fails to turn, but Power Block Sheave turns.

**MOST PROBABLE CAUSE/SOLUTION:**

Check to determine that any quick-disconnect couplers are completely installed and seated-together. As the Powergrip hydraulic motor is plumbed "In Parallel" with the main Power Block Motor, should an obstruction occur in one (or both) of the Powergrip Motor hose lines, the Powergrip motor will not turn.

**PROBLEM:**

Tire doesn't have much "Power", or "I can stop the tire with my hand, even though the Power Block sheave is revolving".

**MOST PROBABLE CAUSE/SOLUTION:**

This may not be a problem at all. The Power Block Sheave "must" have a load on it before the vessels hydraulic system can produce 'pressure'. With System Circulation Pressure of approximately 100 to 200 P.S.I., you will be able to stop the tire with your hand. However as system pressure increases, as it will when you haul the net through the sheave, the tire torque increases accordingly.

**PROBLEM:**

Tire speed is "too slow".

**MOST PROBABLE CAUSE/SOLUTION:**

Adjustment of the Powergrip Flow Control Valve will increase tire speed.

Note: Adjustment must be made while Power Block Sheave is in a 'loaded condition', to force hydraulic oil through the Powergrip circuit. See Page 6, Steps 5 through 10, for help developing a 'loaded condition' on the Power Block.

Note: The Powergrip Flow Control Valve is located on the Power Block, usually mounted on/near the Powergrip yoke. Consult Powergrip Instruction Manual for location and accessibility.

Note: Powergrip will perform better with tire speeds adjusted where tire tread speed is slightly faster than net corkline speed.

Adjustment from the MARCO factory is Preset to the following specifications. Adjustment might be required depending upon the style and size of net being hauled.:

- B9919B/E Yoke Grip = 45 R.P.M.
- B9926A/B Yoke Grip = 75 R.P.M.
- B9928H/J Yoke Grip = 65 R.P.M.
- B9929A/C Yoke Grip = 70 R.P.M.
- B9933A/B Yoke Grip = 70 R.P.M.
- B9935E/G Yoke Grip = 50 R.P.M.
- B9938A/C Yoke Grip = 50 R.P.M.

**PROBLEM:**

Tire speed is "too fast".

**MOST PROBABLE CAUSE/SOLUTION:**

Adjustment of the Powergrip Flow Control Valve will decrease tire speed.

Note: Adjustment must be made while Power Block Sheave is in a 'loaded condition' to force hydraulic oil through the Powergrip circuit. See Page 6, Steps 5 through 10, for help developing a 'loaded condition' on the Power Block.

Note: The Powergrip Flow Control Valve is located on the Power Block, usually mounted on/near the Powergrip yoke. Consult Powergrip Instruction Manual for location and accessibility.

Note: Powergrip will perform better with tire speeds adjusted where tire tread speed is slightly faster than net corkline speed. If Powergrip Speed Too Excessive, Power Block Sheave Speed will be reduced.

Adjustment from the MARCO factory is Preset to the following specifications. Adjustment might be required depending upon the style and size of net being hauled.:

- B9919B/E Yoke Grip = 45 R.P.M.
- B9926A/B Yoke Grip = 75 R.P.M.
- B9928H/J Yoke Grip = 65 R.P.M.
- B9929A/C Yoke Grip = 70 R.P.M.
- B9933A/B Yoke Grip = 70 R.P.M.
- B9935E/G Yoke Grip = 50 R.P.M.
- B9938A/C Yoke Grip = 50 R.P.M.

**PROBLEM:**

Powergrip arm won't go up.

**MOST PROBABLE CAUSE/SOLUTION:**

This may not be a problem at all. The Power Block Sheave "must" be in a 'loaded condition' before the vessels hydraulic system can produce 'pressure'. With System Circulation Pressure of approximately 100 to 200 P.S.I., you may not be able to raise the Powergrip tire, arm, and motor assembly. It takes approximately 200-300 P.S.I. to raise the Powergrip. However as system pressure increases, as it will when you haul the net through the sheave, the system pressure increases more than enough to raise the arm and tire arrangement.

To test Powergrip Lifting Cylinder, see Page 6, Steps 5 through 10, for help developing a 'loaded condition' on the Power Block.

**PROBLEM:**

Powergrip arm won't stay up when Power Block Control Valve is put into Neutral or Stop Position.

**MOST PROBABLE CAUSE/SOLUTION:**

Insure that the "A" port from the Powergrip control panel is connected to the "lifting" port of the grip arm cylinder.

(Other symptrom of the lift cylinder not being connected correctly is that during net hauling the corks will not be able to lift the grip arm as they pass through the block causing a stall like condition) .

Powergrip Load Check Valve needs to be cleaned, or replaced.

Note: Early Powergrips did not have Powergrip Load Check Valves. Consult MARCO if you require this feature to be added to your existing Powergrip.

**PROBLEM:**

Powergrip arm won't come down.

**MOST PROBABLE CAUSE/SOLUTION:**

Powergrip Load Check Valve needs to be cleaned, or replaced.

Note: Early Powergrips did not have Powergrip Load Check Valves. Consult MARCO if you require this feature to be added to your existing Powergrip.

**PROBLEM:**

After hauling the net, and after the net is dried up, and when the main Power Block Control Valve is put into the center (hold and stop) position, the net drops and falls back rapidly. The Power Block does not hold the load.

**MOST PROBABLE CAUSE/SOLUTION:**

The Powergrip Cylinder requires "Maintained" hydraulic system pressure in order for the Powergrip tire to stay engaged onto the net. On some Powergrip circuits, the pressure to operate the Powergrip Cylinder came from the inlet side of the Power Block Control Valve. On those circuits, system pressure is reduced when the control valve is put into the centered/stopped position as the path of hydraulic oil passes through the Power Block control valve unrestricted. Customer should remove this pressure source and Re-plumb to current MARCO Drawings which display taking the pressure from either the "A" or "B" working ports on the Power Block Control Valve, depending upon 'haul-in' sheave direction.

Note: Always have the Powergrip engaged and the Powergrip tire down on the net when holding a load.

**PROBLEM:**

Operator can't get more than 300 P.S.I. on the Powergrip Control Gauge, even when the Power Block is in it's 'loaded condition'.

**MOST PROBABLE CAUSE/SOLUTION:**

The Inlet Filter to the Powergrip Control Package is probably plugged with dirt and foreign particles, so that oil won't flow freely. Replace Inlet Filter with a known good (clean) filter.

If Inlet Filter determined to be O.K., problem with Powergrip Adjustable Pressure Control Valve exists. Replace Cartridge in Powergrip Adjustable Pressure Control Valve, to restore Powergrip Cylinder Pressure.

Note: Most common cause of failure of Powergrip Adjustable Pressure Control Valves: Dirty and contaminated hydraulic oil.

**PROBLEM:**

During net hauling the corks hang up on the Powergrip wheel and do not pass smoothly through the Power Block.

**MOST PROBABLE CAUSE/SOLUTION:**

Insure that the "A" port from the Powergrip control panel is connected to the "lifting" port of the grip arm cylinder. See Installation diagram B 67616 for proper connections.  
(Other symptom of the lift cylinder not being connected correctly is that Powergrip arm won't stay up when Power Block Control Valve is put into Neutral or Stop Position.)

**PROBLEM:**

The Powergrip tire doesn't 'Reach' into the sheave far enough to make good contact on a small net.

**MOST PROBABLE CAUSE/SOLUTION:**

MARCO designed the Powergrip so that the tire would run on top of the net, when the net is about mid-way into the sheave, to or near the outer circumference. The Arm of the Powergrip is adjusted at the factory, to provide approximately 1/2" clearance between the Arm and the Sideshell. If your net doesn't fill the sheave, and as you are hauling the net, you experience very little 'squeeze' from the tire, please consult MARCO. There are several different-sized tire and wheel assemblies available so that additional 'Reach' is accomplished.

Also, check the Powergrip Hydraulic Cylinder and determine that full stroke of the cylinder rod is being accomplished. If not, replace cylinder with a known good one.

## **PROBLEM:**

No matter what I try to adjust on the Powergrip Control, NOTHING WORKS.

## **MOST PROBABLE CAUSE/SOLUTION:**

Do the following, IN THE FOLLOWING ORDER:

- 1) Turn Hydraulic System on, and make sure Clutch is engaged to drive main hydraulic pump.
- 2) Move Power Block Control Valve lever to rotate Power Block sheave (Haul-in Direction).
- 3) If Power Block Sheave does not rotate, Check hydraulic pump, relief valve, piping/fittings/hoses/connections... Restore hydraulic power to Power Block before proceeding.
- 4) Does Power Block sheave rotate? If NO, go back to step 1 above. If YES, Proceed to step 5 Below..
- 5) Place Power Block Control Valve lever into center/stopped position.
- 6) Lower the boom and Power Block to deck level.
- 7) With a strong rope (such as a 1" diameter braided line), wrap the line several times around the sheave and secure the line to either the block or deck, to prevent the sheave from turning in the haul-in direction.
- 8) Move the Power Block Control Valve lever SLOWLY to rotate the Power Block sheave in the HAUL-IN DIRECTION!! DO NOT SHIFT THE VALVE SPOOL FULL TRAVEL. (Only a little will work just fine). We wish to prevent the sheave from turning and simulate a load on the Power Block.
- 9) Continue to rotate sheave until all slack is taken-up by the rope, and to the point where "good" resistance is achieved. You have now developed some system pressure due to the resistance on the Power Block sheave.

**CAUTION:** As you are Pulling at the 'small diameter' of the Power Block Sheave, it is possible to overload the boom and rigging if the line is tied to the deck. Use extreme caution and haul to only 600 P.S.I. on your Main Hydraulic System. This pressure is more than adequate to diagnose Powergrip problems.

- 10) Look at Powergrip Gauge. Does it read a pressure? Note the pressure reading.
- 11) Try to either lower or raise the Powergrip by moving the Powergrip Selector Valve lever. The pressure you read on the Powergrip gauge is the pressure in the cylinder lines.

Note: It takes approximately 200 to 300 P.S.I. to raise (or to lower) the Powergrip Arm and Tire arrangement.

- 12) Try to adjust the black knurled knob that adjusts the Powergrip Adjustable Pressure Control Valve (that regulates the Powergrip Lift cylinder). Does the Pressure go up as you turn the black knurled knob clockwise? It should... And if it doesn't, the Power Source to the Powergrip Control Package is probably plumbed incorrectly to the RETURN PORT of the Power Block Control Valve. This port will show Return Line Pressure and is insufficient to power the Powergrip. Re-plumb to correct "haul-in" pressure port of the control valve.

\*If pressure is not adjustable above Return Line Pressure (usually around 250 P.S.I. for most circuits), proceed to Step 13 Below.

\*If pressure is adjustable above 500 P.S.I., skip Step 13 and proceed to Step 14.

13) Re-plumb the Power Source to the correct Pressure Port (either 'A' or 'B' Work Port depending on whichever port is under pressure while the Power Block Sheave is in the haul-in direction). Retry Step 12 again. If adequate pressure is still not attainable, then either the inlet filter or the pressure reducing cartridge (or BOTH) need to be replaced. Consult MARCO for Price and Availability.

14) If pressure was adjustable by turning in the black knurled knob, increase pressure to about 500 P.S.I. Move the Powergrip selector lever. Does the Arm elevate? If not, the Powergrip Selector valve or the Powergrip Cylinder (or BOTH) need to be replaced. Consult MARCO for Price and Availability.

NOTE: The black knurled knob that adjusts the Powergrip Pressure Valve is adjustable from 0 to 800 P.S.I. Once you adjust the pressure for your own preference and operation (usually around 500 P.S.I.), secure the setting by locking the lock knob to the adjustment knob.

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