

M-232-04
All units thru 1999



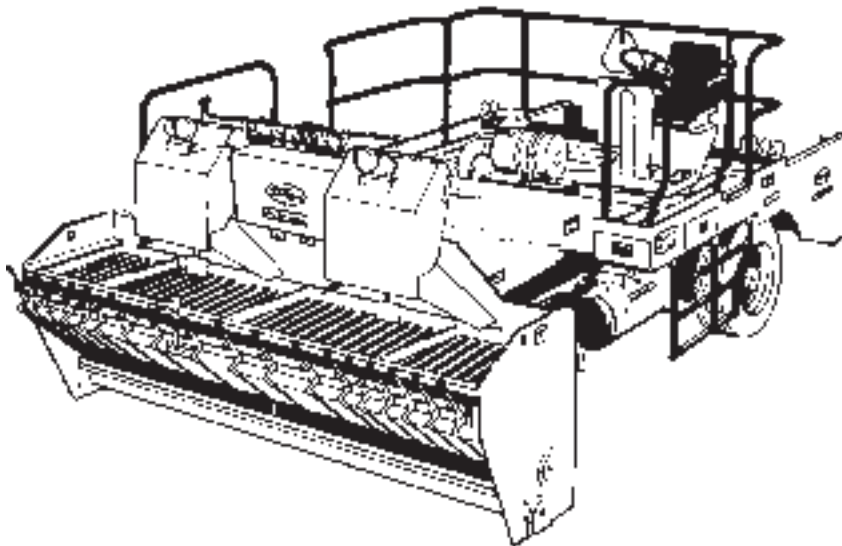
ChipSpreader

For Hydrostatic Drive Units

Standard Hopper & Variable Width Spread Hopper,
2WD and 4WD

for Digital – Computer – Manual Controlled Models

Updates & Service Material



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Updates & Service Material

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PRESSURE SETTINGS

1. Charge pressure for main drive pump 460-470 PSI with engine at full RPM and unit in neutral. Set this right at charge pump. This is on top side of pump on a standard hopper machine and on the bottom of pump on a variable hopper. Charge pressure should drop 30 PSI to 430-440 with pump on stroke, engine at full RPM set this at shuttle valve.
2. Control plate pilot pressure - set at 250 PSI with engine running at idle, set at control plate. (Same pressure used for front brakes.)
3. Control plate main pressure - set at 1800-1900 PSI with engine speed around 1,000 RPM while setting this pressure, have pilot pressure gauge still in to see that pilot pressure does not drop below 150 PSI while setting main control pressure. If it does you can either lower main pressure some which may make the steering wheel turn harder, or raise relief pressure at four section pump at front of unit. Do not raise pressure at four section pump above 2300 PSI.
4. Hitch release pressure - set at 15-20 PSI above the lowest pressure you see at gauge while adjusting relief/reducing valve for hitch release. Turn valve out until pressure will not go any lower then go up 15-20 PSI. Should be around 110 PSI.
5. Gate valve pressure - standard hopper or variable hopper set 900-1000 PSI on standard hopper if unit has a powered seat, gate and seat valve are on same block. Set main relief valve for this block first at 1800 PSI before setting gates or seat valves. On variable hopper both gate valves are on the same block. Set the main relief valve for this block before setting the relief valves for each gate, set main relief valve at 1200-1300 PSI.
6. Powered Seat - set at 1250 PSI and check seat speed both left & right. If seat is slow or too fast you can adjust pressure some to get the right speed. On standard hoppers units this is in the same block as the gate valve. Set the main relief in this block at 1800 PSI first.
7. Conveyor Valves - set both at 2100 PSI
8. Rear Main Drive Pump Relief - set at shuttle valve 5000 PSI forward & reverse.
9. Hopper in and out valve, variable hopper only. Set main relief valve for this block first at 2200-2300 PSI, then set each side to 2000 PSI. Check in and out speed to see if the two hoppers are the same. If not, adjust *Hopper In* lower relief valve pressure on the side that is too fast until the speed of the two sides is the same. To adjust hopper out speed, if needed, adjust flow control valve in block until speeds match.
10. Auger & Spread rolls, variable hopper only. Set both reliefs on both blocks at 2000 PSI.
11. Case drain pressure should be around 10 PSI with engine at idle and oil warm. Full throttle pressure should be 30-50 PSI.

NEW GATE POT SETTINGS

Set gate pot at gate cylinder to 0 volts + or - .05 volts using blue test box. If no test box available, use voltmeter set to check OHMS.

Set pot at 250-270 OHMS across the green wire and black wire on pot for a standard hopper and the green wire and orange wire on pot for a variable hopper. Check this with gates fully closed.

SETTING AIR GATES

Make sure all gates are straight and hit along the spreadroll in a straight line. Fix any gates that need to be straightened. Gates cannot vary more than a 1/16" of an inch from one end of the gate to the other end

Check that all gates move freely and fix any that seem to hang-up.

Get spreadroll turned, if you can, so the high side is up.

Back off adjusting screws on buss bar, these are the **gate open** stops, so they are not touching any of the gates.

Set spacing on each gate to 1/32" of an inch at it's closest point from the spreadroll using adjusting screws on gates, these are the **gate closed** stops, then be sure to tighten all jam nuts once screws are set

Make sure hydraulic cylinder on buss bar is fully extended and nothing is keeping it from going any further.

Turn gate open adjusting screw on buss bar for #1 gate down until it just touches gate.

Open buss bar all the way. You may have to back out **main buss bar open stop** to get buss bar to go all the way up.

With buss bar up open #1 gate and check opening between gate and spreadroll. If you have **at least 3 7/8"** of opening then gate is OK to start to set. If you have less than 3 7/8", and cylinder will not retract any further, you need to get gate to open further by cutting top hydraulic cylinder support just enough to get it to move far enough to get enough gate opening. You need to have something above 3 7/8" and less than 4 1/4".

Weld support back in place and for now preset full gate opening, using **main buss bar open stop**, to your maximum gate opening, or 4 1/16", **which ever is less**. Remember max. gate opening needs to be **at least 3 7/8"**. If possible 4 1/16" is the ideal setting to start with. Tighten jam nuts on main buss bar stops.

Once both hydraulic cylinders are set to allow enough travel, gates can be set. But first check these settings: Gate hydraulic pressure set to 1,100 PSI Air pressure into air tank set to 110 PSI. Air pressure out to gates set to 80 PSI Air pressure at big inside gate set to 30 PSI

Open side junction box and remove wires coming **into** box from #7, #8, #9, and #10 screws. Make sure wires going out to valves are still hooked up on these screws.

Hook-up switch assembly with 2 white wires going to screws #8 and #10. Red wire goes to #22 with other red wires already there. Turn switch to the on position.

Start-up unit and both gate cylinders should fully extend and both gate valves should be energized in the down position.

Turn on all air gates switches and be sure all gates are pulling up against the buss bar. Check that air pressure readings are all still correct.

This will cause buss bar to bow up some and gates will be up off of their **gate closed stops**. Starting on the big inner gate, adjust **gate open stops** on buss to push gates back down until **gate closed stops** are again just touching on lip of hopper and gate is back to being fully closed. Work out like this until you get to outer gate.

When you get to the outer gate there may be enough force along buss bar to have caused other gates to be pulled back up off of their closed stops. If they have, start again with inner gate and push gates back down using **gate open stops** on buss until all gates are down. It is important not to try to push gate any further down once **gate closed stops** are touching hopper. This will cause excess force on buss bar and might start to lift up hydraulic cylinder. When setting gates don't forget inner open stop on inner big gate, and when done tighten all jam nuts. Now gates are ready to calibrate.

Take out switch assembly from side box and hook wires back where they were.

Be sure all air gates switches are on' start unit and start gate calibration. Measure full gate openings on both gates and, if possible, set gates to the same dimension using **main buss bar open stop**. You need at least 3 7/8" with 4 1/16" being the best place to be. Be sure to retighten jam nuts on **main buss bar open stop** if you had to adjust stop.

If you had to adjust **main buss bar open stop** after starting gate calibration you have to close gate and re-calibrate gates being sure **all air gate switches are still on**. While gates are closed, before you calibrate gates again, tighten jam nuts on **main buss bar open stops**. Go thru and calibrate gates, get measurements on both gates and put those numbers in the computer, save this and exit setup.

Turn off unit and restart in service screen. Set gates to maximum opening and check measurement of gates. While checking this see if gates look straight all the way across hopper. If gates do not look straight, measure gates that look off. **At maximum setting gates should not vary more than 3/16"**.

Check gates at 3", 2", 1". At 1" check all gates. They should be within 1/16" on both sides. While measuring this watch for any movement in gates. If they move at all it should not be by more than 1/16", except when they are first opened and might move a bit more at first then stop. Also, if oil is cold it may cause gates to jump more often.

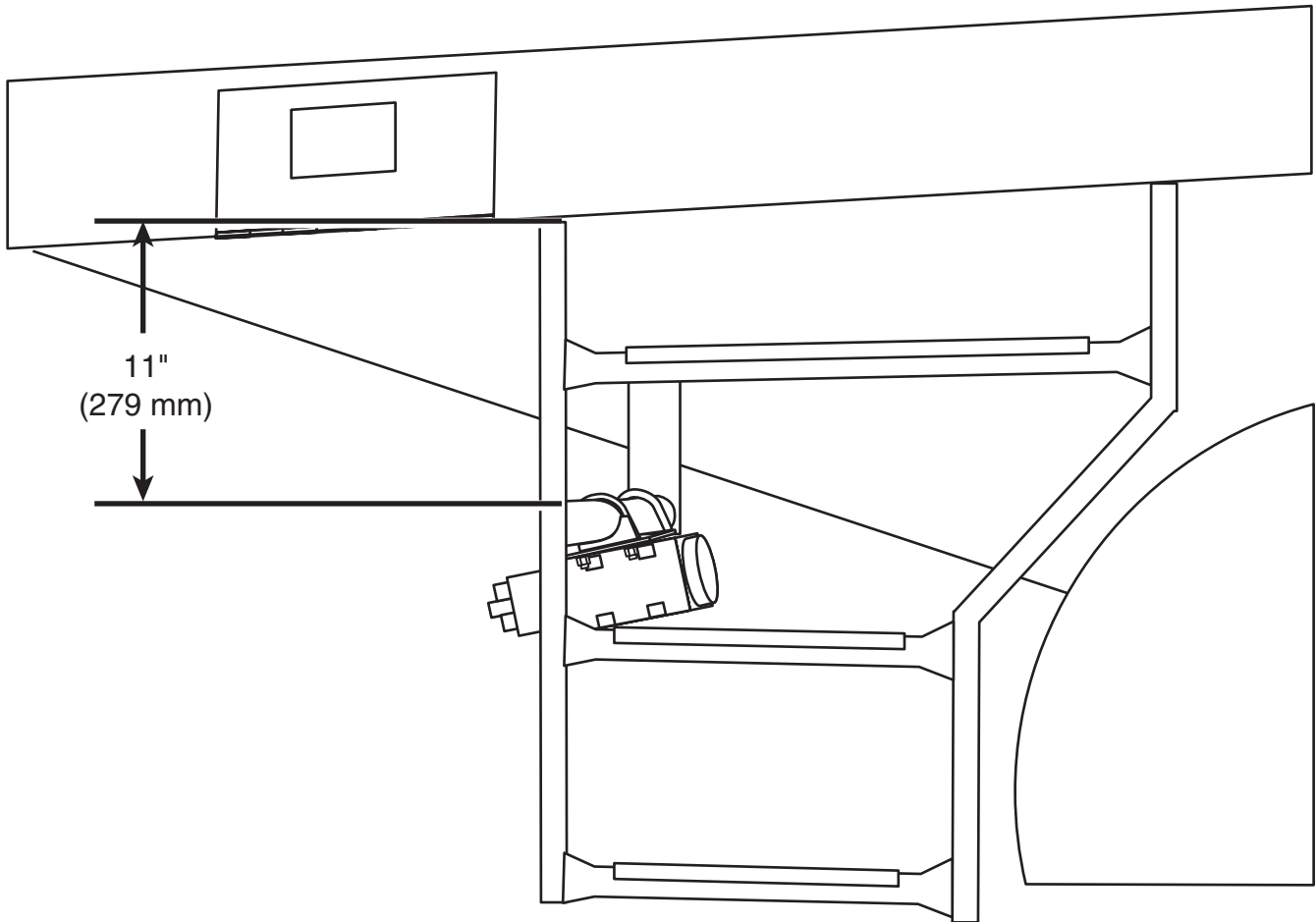
Watch in service screen to see if gates lock-on set point Numbers should not vary from set point by more than + or -7.

If there is a difference of gate measurements from side to side, or one or both sides do not match gate setting on display, you can fix this some by changing the number you put in the computer for either side as your **actual** gate opening during calibration. If your **actual** gate measurements are higher than what is set at the display, go back and lower the number put in at calibration. If your **actual** measurements are lower, raise the number put in at calibration.

Example: if you set opening at 406 during calibration, and then opened the gates at 1", 2", 3", and max. setting and they are mostly high Go back and calibrate gates and put in a lower number, maybe 400, and recheck gate measurements.

Do not go to far with this or you may throw things way off. It is more important to have your lower numbers right than your higher numbers. You should be able to get your lower numbers within 1/16" and the higher numbers within 1/8".

Moving Radar to read off of tire



Angle radar 9° up from horizontal aimed at tire.

Recalibrate as per page 7 of manual supplement M-215-1-95.

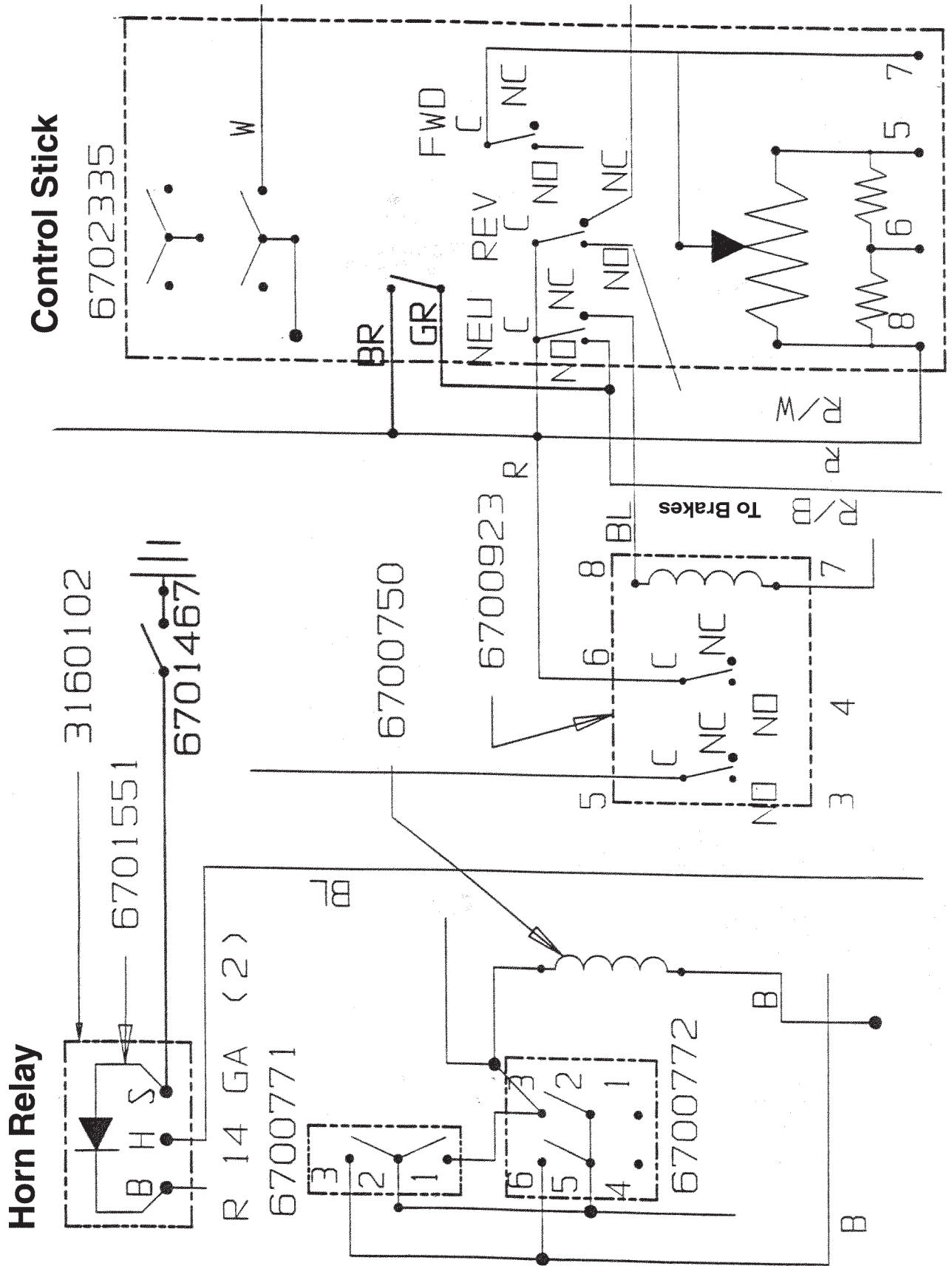
3120487 Plate

3101798 Pipe

Remove old ladder brace.

Install pipe and plate.

Horn Relay / Control Stick

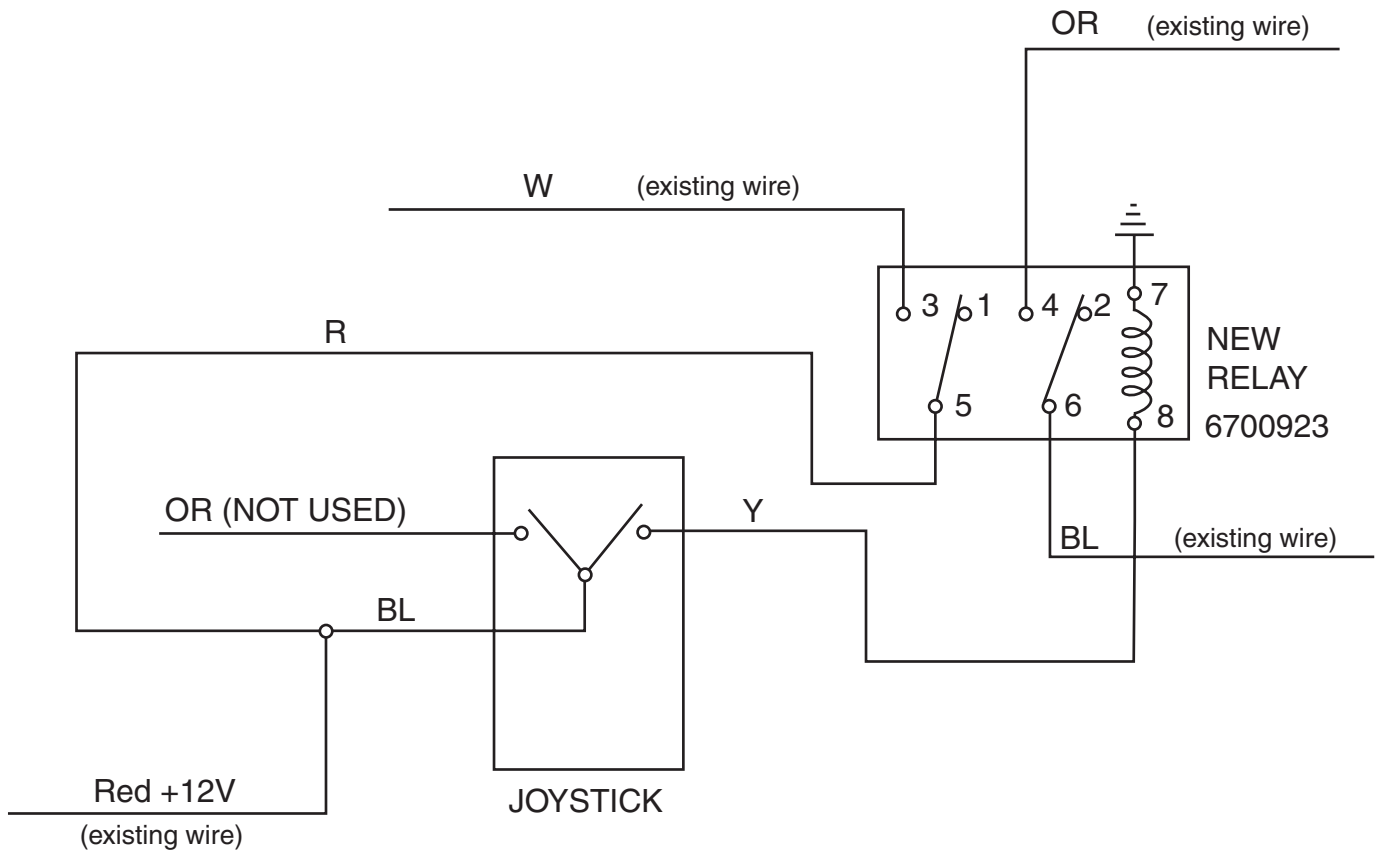


New Joystick Wiring

Standard Hopper

(No Computer)

Potentiometers, position switches and brake release pushbutton are wired same as before.

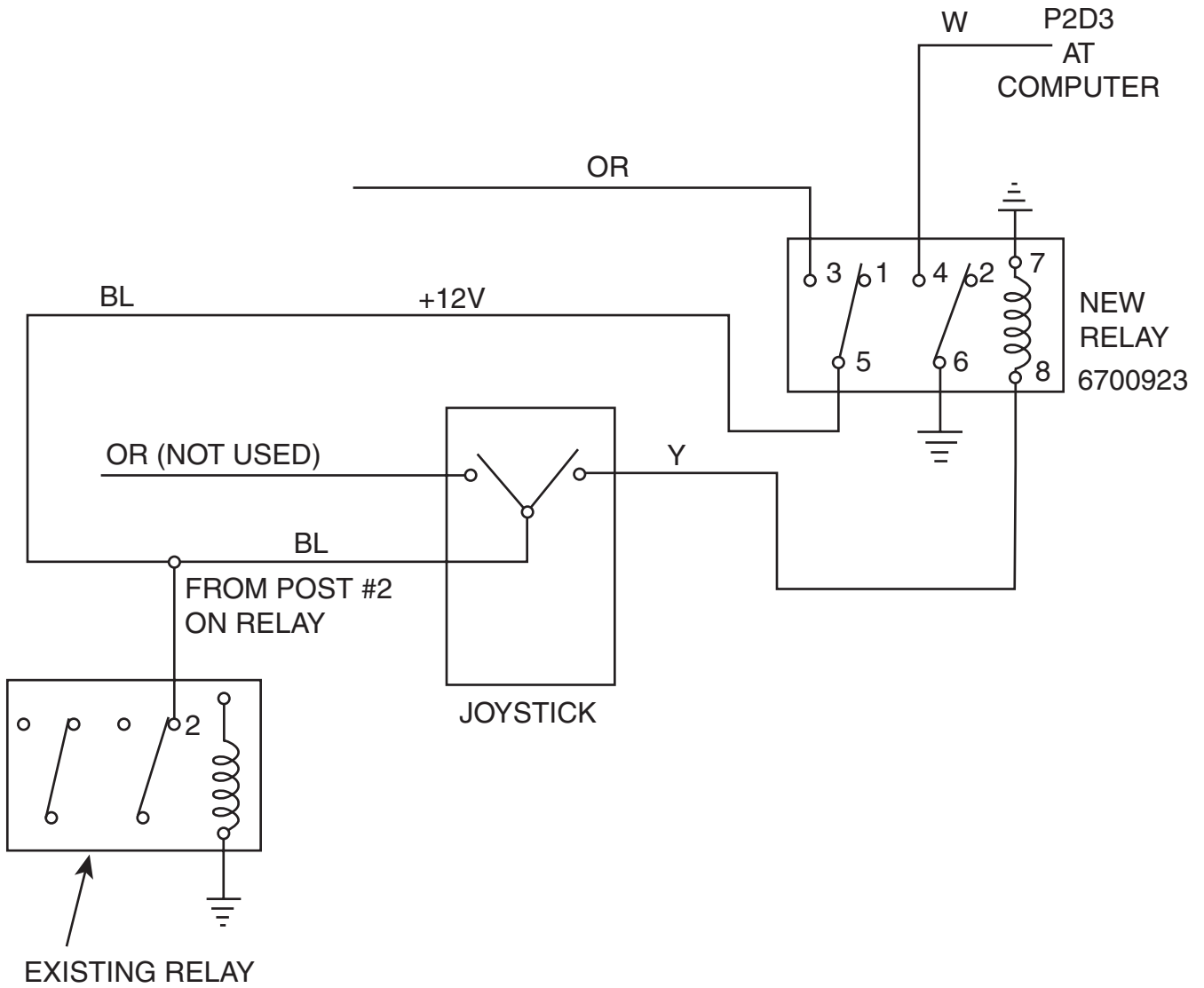


New Joystick Wiring

Standard Hopper

(with Computer)

Potentiometers, position switches and brake release pushbutton are wired same as before.

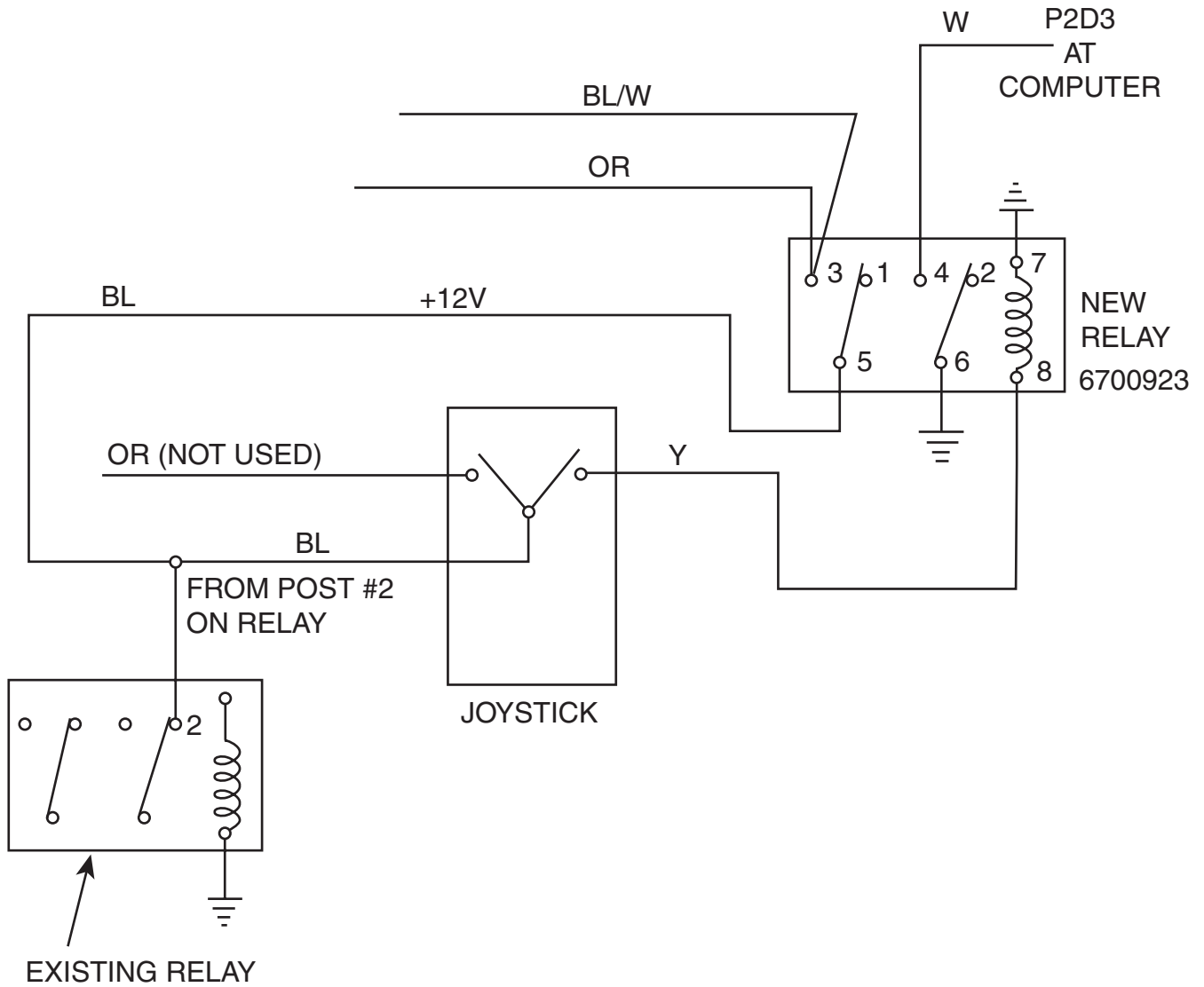


New Joystick Wiring

Variable Hopper

(with Computer)

Potentiometers, position switches and brake release pushbutton are wired same as before.



Trim Pot Installation for Oil Pressure Circuit

Trim Post is part number 6702102

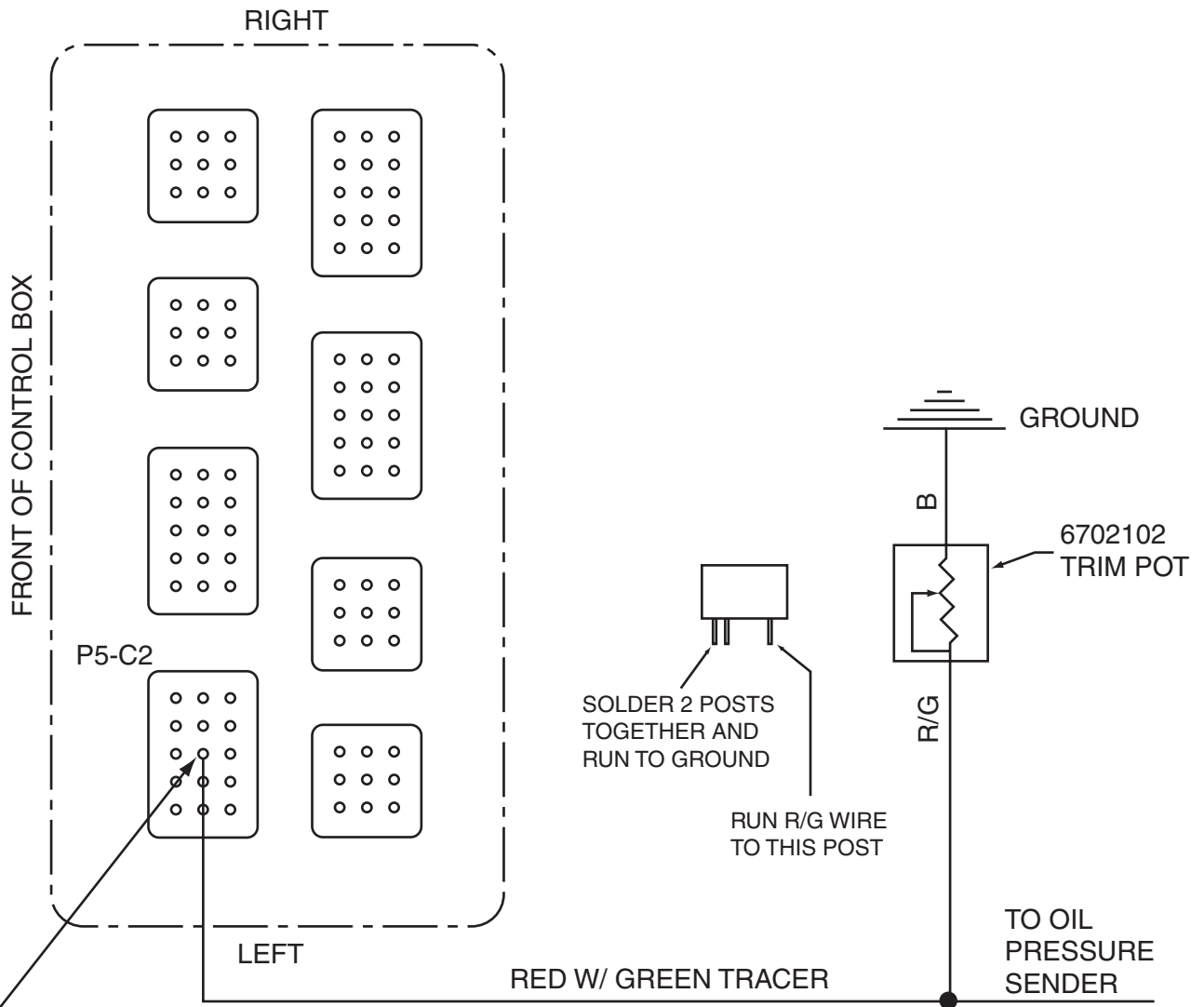
Ø - 5K Ω

Splice into oil pressure signal wire that goes to pin C2 in plug P5.

Run trim pot to Ground as shown.

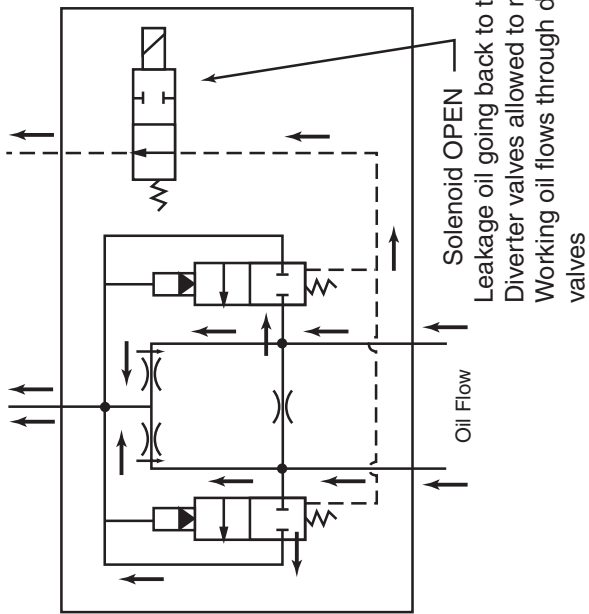
Adjust trim pot so reading on display matches actual engine oil pressure.
≈25 PSI at idle.

TOP VIEW OF DC2 COMPUTER

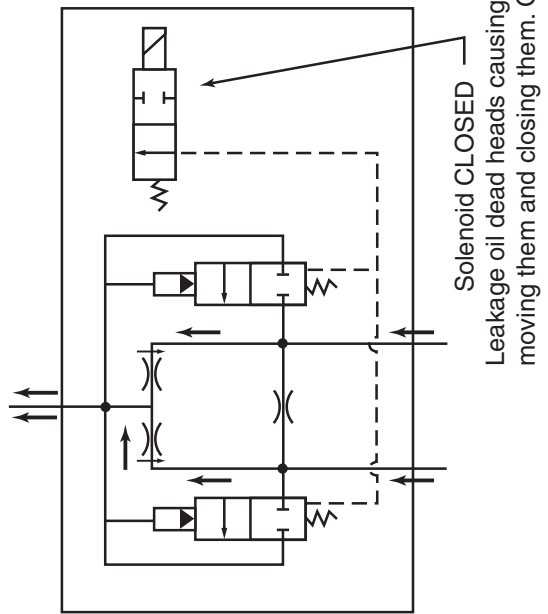


TERMINAL IN COMPUTER FOR
PRESSURE SENDER LINE

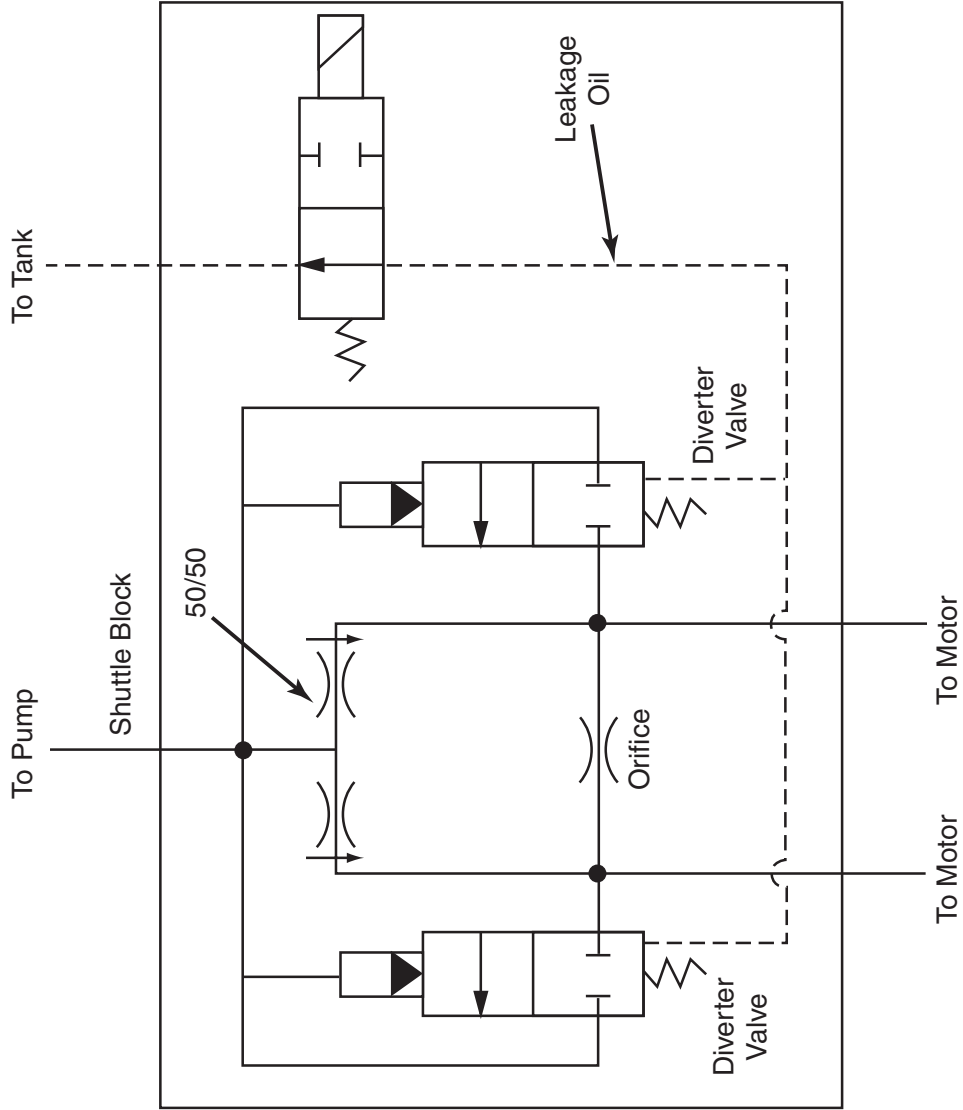
With Flow Divider OFF



With Flow Divider ON



Flow Divider



Leakage oil dead heads causing pressure on Diverter Valve, moving them and closing them. Oil now goes into 50/50.