



-LASER-TECH-Model 312

OPERATING MANUAL

OVERVIEW ❖❖❖❖

The 312 Machine Control System is a powerful addition to land leveling and earth moving machinery, yet is easy to use. Some of the unique features are listed below:

- ◆ AUTOMATED CONTROL OF “ON/OFF” AND “PROPORTIONAL” VALVES
- ◆ ADJUSTMENTS FOR BLADE UP AND DOWN SPEED
- ◆ PRESSURE LOAD SENSE PUMP ACTIVATION OUTPUT
- ◆ SENSOR “CENTER SENSITIVITY” ADJUSTMENT
- ◆ 12 OR 24 VOLT OPERATION (SEE NOTE)
- ◆ COMPACT SIZE FOR EASY MOUNTING

FRONT PANEL SWITCHES ❖❖❖❖

POWER:

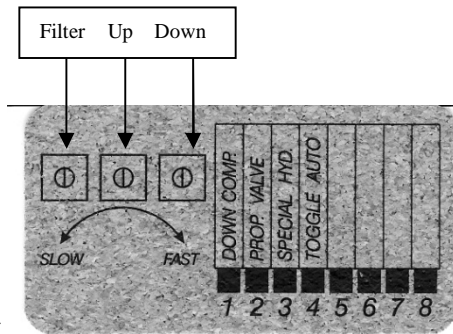
TOGGLES POWER ON AND OFF

AUTO:

ACTIVATES THE AUTOMATIC MODE - THE BLADE ELEVATION IS CONTROLLED BY THE LASER/MACHINE CONTROL SYSTEM.

UP / DOWN:

MANUAL BLADE ELEVATION CONTROL - TOGGLING SWITCH # 4 DOWN DISENGAGES THE AUTOMATIC MODE.



POT ADJUSTABLE ITEMS ❖❖❖❖

Legend underside of cover

SENSITIVITY

THE FIRST POTENTIOMETER SETS THE SENSOR “CENTER” CHANNEL SENSITIVITY. CLOCKWISE ROTATION MAKES A FASTER RESPONDING NARROWER CENTER. (DEFAULT=MIDWAY)

VALVE SPEED, UP

THE SECOND POTENTIOMETER SETS THE “NEAR CENTER” BLADE UP SPEED. THE OVERALL SPEED IS SET WITH HYDRAULIC FLOW CONTROLS. (DEFAULT=MIDWAY)

VALVE SPEED, DOWN

THE THIRD POTENTIOMETER SETS THE “NEAR CENTER” BLADE DOWN SPEED. THE OVERALL SPEED IS SET WITH HYDRAULIC FLOW CONTROLS. (DEFAULT=MIDWAY)

SWITCH ITEMS (Default up)

1. LOAD SENSE

SWITCH UP NO PUMP ACTIVATION. SWITCH DOWN ACTIVATES PUMP.

2. VALVE TYPE

SWITCH UP ON / OFF VALVE. SWITCH DOWN PROPORTIONAL VALVE

**3. SPECIAL HYD
NOT USED**

4. TOGGLE AUTO

DOWN SETS AUTO BLADE SWITCH TO TOGGLE ON AND OFF (Auto switch only)

5. NOT USED

6. NOT USED

7. NOT USED

8. NOT USED

OTHER FEATURES ❖❖❖❖❖

360° SENSOR DISPLAY:

THE 7 SENSOR CHANNELS ARE DISPLAYED WITH BRIGHT LED'S FOR DAY OR NIGHT OPERATION. THEY INDICATE "OFF SENSOR" AND SHOW THE DIRECTION THE SENSOR LAST RECEIVED THE LASER SIGNAL

SOLENOID DRIVE OUTPUTS:

ALL POWER OUTPUTS HAVE RESETTING FUSE LINKS. IF A SHORT CIRCUIT OCCURS IN ONE OF THE FUNCTIONS, ONLY THAT FUNCTION WOULD BE DISABLED. WHEN THE PROBLEM IS CORRECTED, THE 312 PANEL WILL AUTOMATICALLY RESTORE POWER. OUTPUTS ARE NORMALLY LOW, DRIVEN TO 12 (OR 24)VDC ON ACTIVATION.

OUTPUT CABLE CONNECTIONS ❖❖❖❖❖

POWER INPUT

A	BLACK	CHASSIS GROUND
B	RED	12 OR 24 VDC INPUT (SEE NOTE)

OUTPUT

5-Pin Sensor

- A. NOT USED
- B. GROUND
- C. HIGH
- D. LOW
- E. POWER

4-Pin Hydraulics

- A. LOAD SENSE
- B. GROUND
- C. DOWN
- D. UP

SPECIFICATIONS ❖❖❖❖❖

INPUT POWER:

12 OR 24 VDC OPERATION. (SEE NOTE)
NEGATIVE GROUND
NOMINAL 10 AMP MINIMUM CURRENT

REQUIREMENT.

10 AMP MAX

OUTPUT POWER:

5 AMP MAXIMUM PER VALVE SOLENOID.

2.5 AMP MAXIMUM IF SIGNAL DURATION EXCEEDS TWO MINUTES.

1 AMP MAXIMUM OUTPUT DURING SHORT CIRCUIT CONDITION.

TEMPERATURE:

-20 TO 70 DEGREES C

NOTE: 12VDC SOLENOID VALVE COILS ARE STANDARD. SPECIFY 24VDC IF REQUIRED