CONCRETE CONTROLS CORPORATION
1311 N. CONGRESS DRIVE
CHANDLER AZ 85226
1-800-345-6654 FAX 1-480-821-1138

INSTALLATION INSTRUCTIONS FOR DIAL-A-MATIC & SEMI-MATIC HYDRA-SLUMP TECHNICAL INFORMATION SHEET, DHS-94

A. INSTALL

1. PARTS: Check to see that all these parts are present: control unit, solenoid valve, needle valve, flow control, two hydraulic hose fittings, control unit cable, and in-line fuse holder.

2. LOCATION: Select a location in the cab that will provide easy view and reach for the driver. Take great care not to obstruct drivers vision.

3. MOUNTING: Fabricate a metal bracket (see Figure 1 and template "A") and mount control unit. For easy opening dashboards, two large sheet metal screws will suspend unit under dash easily. Also mount needle valve to the back of the control unit now.

4. PLUMBING: The solenoid and flow control are installed to bypass the manual water add valve. (See Fig. #2). The solenoid should be mounted horizontally to facilitate drainage. **Note direction of flow stamped on valve body.** Install the flow control up stream of the valve. **Note flow direction stamped on the flow control.** A hand valve to shut off the bypass system is recommended. Finally, a piece of rubber or plastic hose placed somewhere in the circuit is recommended to relieve any strain.

5. HYDRAULIC: Using the O'ring fitting supplied, connect a hydraulic hose of appropriate burst strength to the test port of the hydraulic motor which is pressurized in the mix direction. To determine which test port to use; loosen each test port plug, engage drum in mix direction taking note of which port leaks. Save the test port plug in case of hose failure. Find or make as appropriate opening in the cab wall or floor, taking care to route the hose away from extreme sources of heat and abrasion, and pass the hose into the cab. With the remaining hydraulic fitting, connect the hose to the needle valve making sure that the needle valve is fully closed.

6. ELECTRICAL: Using a customer supplied two wire cable, extend the solenoid wires to the yellow control unit cable as shown in Fig. #3. Connect the white control cable wire to a +12 volt source. Note: IN POSITIVE GROUND VEHICLES, THE "HOT"WIRE IS NOT THE +12 VOLT SOURCE. Also Note: THE IN-LINE FUSE MUST BE INSTALLED IN THIS LINE. connect the green wire to any -12 volt source and either of the solenoid wires. The other solenoid wire must be connected to the black control wire.

CHECK -

1. CONTROL UNIT NEEDLE VALVE IN PLACE AND COMPLETELY OFF.
2. SOLENOID VALVE AND FLOW CONTROL DIRECTION OF FLOW PROPER.
3. ALL HYDRAULIC FITTINGS TIGHT.
4. FUSE IN-LINE HOLDER, 3-5 AMPS.

TEST -

1. Turn Power to unit ON.
2. Water tank not pressurized.
3. Station one man at solenoid valve.
4. Turn timer to at least 3 minutes.
5. Turn function switch to MANUAL. (ON on SHS model)
6. NOTE if light activates and the solenoid actuates.
7. Turn function switch to OFF.
8. Start engine and engage drum in mix direction.
9. Open needle valve JUST ENOUGH for a 100 psi/sec. rise.

Steps 10 - 13 for DHS MODELS ONLY

10. Turn timer to at least three minutes.
11. Turn function switch to AUTO.
12. Turn set hand to a reading lower than black hand.
13. Note if light activates and the solenoid actuates.
14. Turn function switch to OFF.
15. Pressurize water system and check for leaks.

SERVICE INFORMATION

Pack your meters CAREFULLY, protecting faces, enclose a note as to the malfunction and ship by UNITED PARCEL SERVICE to:

SOUTHWEST SLUMPMETER SERVICE
2017 W. SILVERGATE DRIVE
CHANDLER, AZ. 85224
1-480-820-1314

SERVICE BULLETIN - #DHS-1

E F F E C T I V E I M M E D I A T E L Y

TO: SERVICE MANAGER

RE: NEEDLE VALVE SETTINGS

THIS SERVICE BULLETIN IS NECESSARY DUE TO THE NUMBER OF INDICATOR FAILURES ON THE CONCRETE CONTROLS CORPORATION HYDRAULIC DIAL-A-MATIC ELECTRIC TRUCK TEL-A-SLUMP OR THE DIAL-A-MATIC HYDRA SLUMP.
IT HAS BEEN OUR EXPERIENCE THAT HYDRAULIC GAUGE NEEDLE FAILURES ARE DUE TO **IMPROPER NEEDLE VALVE SETTINGS.**

THE PURPOSE OF THE NEEDLE VALVE IS TO REMOVE ALL RAPID HYDRAULIC OSCILLATIONS.

THE FOLLOWING PROCEDURE SHOULD BE PERFORMED AS SOON AS POSSIBLE TO INSURE A LONG LIFE FOR THE HYDRAULIC GAUGE AND GAUGE INDICATOR NEEDLE.

1. WITH ENGINE OFF, CLOSE NEEDLE VALVE FULLY.

2. START ENGINE AND ENGAGE DRUM IN MIX DIRECTION.

3. OPEN NEEDLE VALVE TO GET A **100 PSI PER SECOND** RISE ON GAUGE NEEDLE.

4. HAVE DRIVER OBSERVE INDICATOR NEEDLE DURING MIXING. IF ANY OSCILLATIONS ARE OBSERVED, THE NEEDLE VALVE CAN BE FURTHER CLOSED TO REMOVE THE UNWANTED OSCILLATION.

FOR DRIVER

LEAVE IN CAB!!

Hydra-Slump Instructions:

THE MANUAL TIMER **MUST NOT BE TURNED ON UNTIL** THE HYDRAULIC PRESSURE HAS STOPPED FALLING WHICH INDICATES THE CONCRETE IN THE DRUM IS THOROUGHLY MIXED!!

1. Upon taking charge of materials **OBSERVE** hydraulic pressure reading.

2. While driving to job, continue to observe hydraulic pressure until pressure stops falling, which indicates that necessary mixing is now complete.

3. Turn MANUAL TIMER SWITCH to enough time for controller to adjust the slump.

4. RED LIGHT “ON” means water is flowing into mixer.

5. Light will go out when water is off.

SLUMP CHART									
			INCHES OF SLUMP						
			HYDRAULIC PRESSURE						

To: DRIVERS OF READYMIX TRUCKS WITH THE HYDRA-SLUMP

Learning to use this system is a two-step process. The first is calibration, and the second is actually controlling the slump. The calibration step involves learning to translate the hydraulic pressure gauge reading into inches of slump. The gauge tell how much effort is being used to turn the drum. The drier the load, the more effort is needed to turn the drum, and the higher the gauge reading will be. Since you see hundreds of loads every year, you will quickly see the relationship between the slump and the hydraulic pressure reading. Here are some guidelines to follow as you learn the relationship between a specific slump and a hydraulic pressure.

1) Observe the gauge after the load is completely mixed. When the gauge reading stops falling and holds steady, the load is completely mixed.

2) After the load is mixed, observe the gauge on the way to the job with the drum speed set about 5 RPM and your road speed about 30 MPH.

3) If your company requires your load to be thoroughly mixed before you leave the yard, observe the gauge with the engine and drum speeds the same each load.

4) If your gauge needle vibrates excessively, close the needle valve on the back of the instrument until the gauge reading is smooth.

5) Load size is not significant. See the note at the bottom of the page for an explanation.

One can still get good readings without uniform engine and drum RPM's, but the more uniform these factors are the more accurate the results of your observations. Quality control engineers will most likely want uniformity in these factors if they are assisting you in the calibration process. If you are making slump cone tests do not take your sample from the first discharge revolution.

After observing the pressure readings on several different loads of different slumps begin to pencil in your readings on the slump chart. If slump tests are made check your figures and make any adjustments. You might also work with your batchman to hold back water so you can observe a wider range of pressure readings. You will quickly become familiar with the system and be able to produce the slump desired by the customer and your supervisor

LOAD SIZE IS NOT A MAJOR FACTOR

Load size makes surprisingly less difference in the power requirement than most people think it should be. Several factors contribute to this seemingly paradoxical situation.

Power requirements are mostly proportional to lifting action. With a full drum lifting action is minimal. Lifting action, or room to lift, goes up as the size of the load goes down. Simultaneously, the center of gravity of the load moves away from the center of the drum.

As the load size goes down the length of the lever arm is increased so that when one yard of concrete is in the drum the distance between the axis of the drum and the center of gravity of that load may be three feet or more while the center of gravity of 7 yards of concrete may be only a few inches away from the axis.

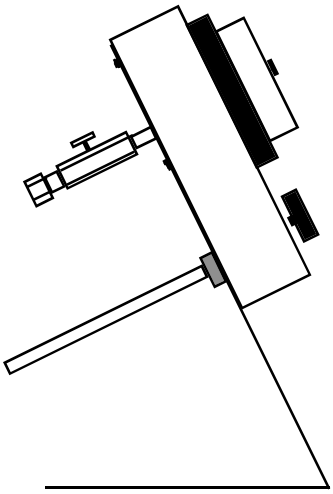

FIG. #1

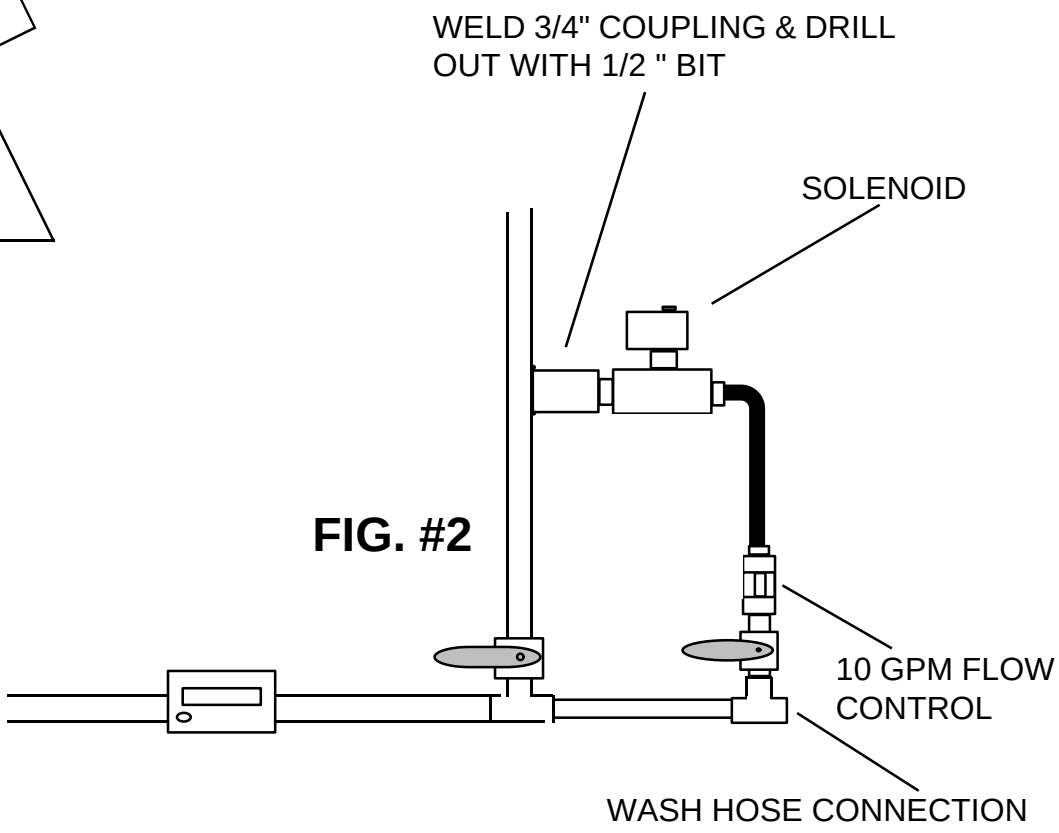

FIG. #2

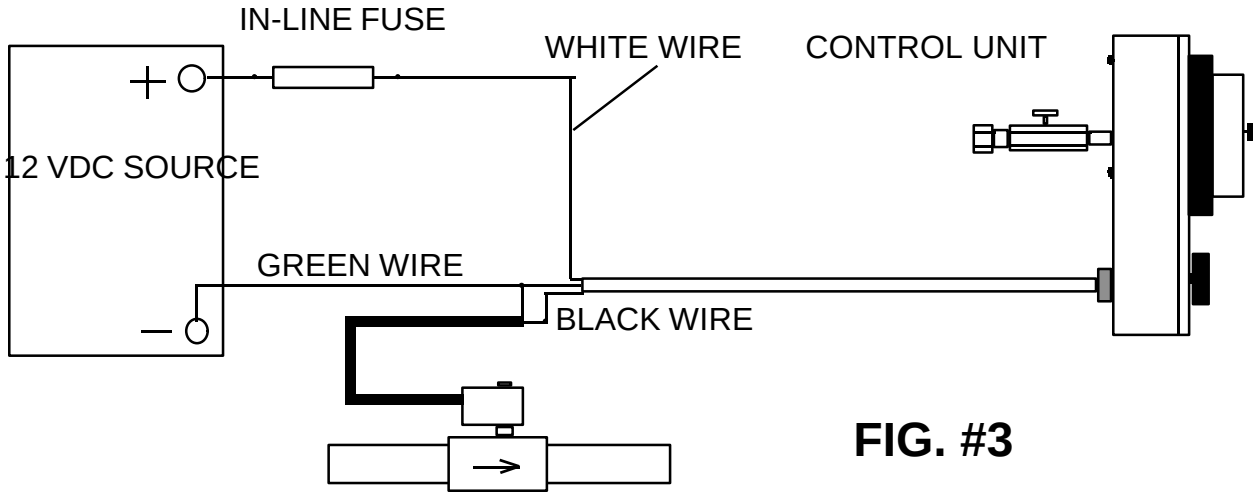

FIG. #3