

OWNER'S MANUAL

DMC

COMBINE CALC-U-DRI II With Averaging

PNEG-1138

Date: 9-21-06



PNEG-1138

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!!CAUTION!! BE A SAFE OPERATOR



1. Read and understand this Owner's Manual
2. Stop the combine threshing unit and engine before sampling, adjusting or servicing.

Use caution when obtaining a sample from the grain hopper. Follow combine manufacturer's recommendations when climbing in and out of the hopper.
3. Disconnect all electrical power before servicing or opening control box.
4. Ground all electrical equipment properly.
5. Only knowledgeable and trained personnel should operate this equipment.

Failure to follow these instructions may result in personal injury or property damage.

COMBINE CALC-U-DRI II INTRODUCTION

Congratulations on the purchase of your new Combine Calc-U-Dri II from DMC. The Calc-U-Dri utilizes DMC's years of experience with grain moisture monitors and controls in the grain drying industry. Your new Combine Calc-U-Dri was designed by DMC's engineers who also farm and utilize this equipment in their farming operations. Since the Combine Calc-U-Dri was designed *by farmers for farmers*, you can rest assured that it was designed specifically for your needs.

The DMC Combine Calc-U-Dri II will monitor grain moisture as it enters the combine hopper and provide the operator with long and short averages of the grain moisture. A short average could be just a hopper full of grain. A long average could be an entire truck load or even a whole field of grain. It will also signal when the moisture content is at or higher than a preset level as set by the operator. The digital display can be mounted in any location desired. Many operators mount the display on the steering column for convenience. The display will constantly show grain moisture content. It will also show grain temperature on demand.

The Combine Calc-U-Dri can easily be calibrated for use on various models of combines and for different grains by using the moisture offset feature. If you ever have any questions on the function, design or operation of DMC's Combine Calc-U-Dri, contact your nearest DMC Sales and Distribution Center or DMC's factory in Mason City, Iowa (*See the listings on page 15.*)

OPERATION

1. The Combine Calc-U-Dri II control box is designed to be mounted to the ceiling of a combine cab. Always refer to the owners manual for installation and operating information. **See Photo A.**



Photo A

2. Turn the combine ignition switch to the "on" or "accessory" position. Switch the Combine Calc-U-Dri II power switch "ON". The digital display should read approximately 2.0% if the offset is set at zero and there is no grain on the sensor and ambient temperature is at 80 degrees F. Or, it will read the moisture content of any grain that is left on the sensor.
3. Push the "temperature" switch up during harvesting and the digital display will show the temperature of the grain on the sensor. Normally this will be close to the ambient temperature.
4. Push the "Moisture Limit Display" switch down and the digital display will read the moisture limit. Turn the "Limit Adjustment" knob **clockwise to increase** or **counter-clockwise to decrease** the moisture limit.

OPERATION (continued)

5. Switch the power switch to “ON WITH ALARM”. An audible alarm will sound and the red indicator will light when the moisture content of the grain reaches the moisture limit setting. The alarm will last about one-half second and will sound each time the moisture limit is reached. If the power switch is in the “ON” position, the audible alarm will not sound and only the light on the digital display will come on to alert the operator when the moisture limit is reached.
6. Push the “MOISTURE OFFSET DISPLAY” switch down to read the setting for the moisture offset. It should be set to 0.0% initially before calibration. This can be adjusted to a plus value or a negative value by turning the “OFFSET ADJUSTMENT” knob.
7. The Combine Calc-U-Dri unit needs to be calibrated for different grains and auger configurations. This is done by comparing the reading on the digital display with the moisture content reading from a reliable moisture tester.

Note: It is important to take samples when the readings are steady and not changing rapidly and to use the average of several samples when calibrating the unit to insure accuracy. **See *sampling procedure on page 10.***

8. Adjust the offset to account for the difference between those readings. Adjust the offset to a minus value if the Calc-U-Dri readings were higher than the moisture tester’s readings. If the Calc-U-Dri moisture readings were lower than the moisture tester’s readings, adjust the offset to a plus value equal to the difference.
9. The Combine Calc-U-Dri II computes two different moisture averages. The short average can be used for a hopper of grain or just one round in the field. The long average can show the moisture in a truck load or for one or more fields. To read an average, push either the “SHORT” or “LONG AVERAGE DISPLAY” switch down.

To reset an average, push the respective switch up and hold until you hear four (4) beeps. At the end of the fourth beep, the old average will be cleared. A new average will automatically begin if the “AVG ON” indicator is on.

10. The averaging switch, located in the path of the clean grain, signals the Combine Calc-U-Dri II when switch is covered with grain and valid data is present to be used for averaging. After a delay of approximately six (6) seconds, the “AVG ON” light will turn on. This light indicates that the Combine Calc-U-Dri II moisture reading is being used to update both the short and long averages. If sufficient grain is not present to keep the average switch covered, the “AVG ON” light will turn off after approximately two (2) seconds. The two averages will remain in memory for up to three weeks without power to the Combine Calc-U-Dri II.

CONTROL BOX INSTALLATION

1. The Combine Calc-U-Dri II control box is designed to be mounted to the ceiling of the combine cab or any convenient location. Select a location in the cab and check the area above for any hoses, tubes or electrical wiring that could be damaged by the control box mounting screws.
2. Open the Calc-U-Dri box by loosening the screws on the front bottom corners. **See Photo B.**

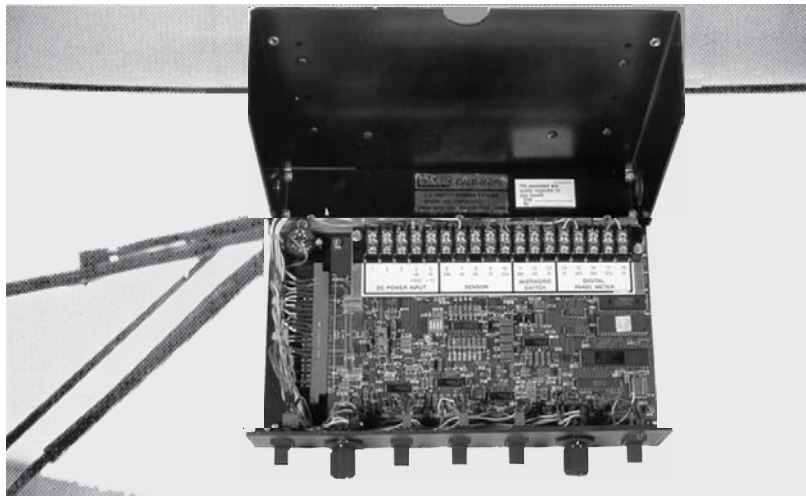


Photo B

3. Hold the box up to the chosen location and mark the mounting holes through the top of the box. **See Photo B & Diagram 1.** (Note: Six mounting holes are provided in the Combine Calc-U-Dri box. Use two or four of the holes to mount the Calc-U-Dri to the combine ceiling, depending on the obstructions in the ceiling and/or the sturdiness of the material from which the ceiling is made.

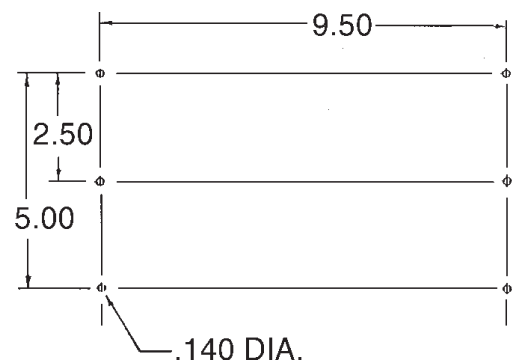


Diagram 1

Pilot holes (9/64" diameter) can be drilled or the self tapping screws that are provided can be used to secure the box to the ceiling. Double check to make sure that no components can be damaged in the cab roof area by the mounting screws.

CONTROL BOX INSTALLATION (continued)

4. For installations where the control box is to be mounted to a flexible surface, it may be desirable to use a back-up plate or brackets to stiffen the mounting surface. Use the cover of the control box as a template to mark the location of the six (6) mounting holes on the back-up plate or brackets. Drill 0.140 diameter (9/64") holes in the back-up plate as pilot holes for the self-tapping screws that are provided for mounting the box.

When the control box is mounted to a surface or panel that is held in place with spring clips or other quick-latch devices, make sure that the control box will not cause the panel to fall. It may be necessary to use additional mounting screws for the panel or to attach a safety chain to insure that if the panel does become loose it will not obstruct operation of the combine.

5. Select a location for the digital display such as the back side of the steering column. Clean off the mounting surface with wood alcohol to remove any oil or dust before sticking the display to the surface. **See Diagram 2.**

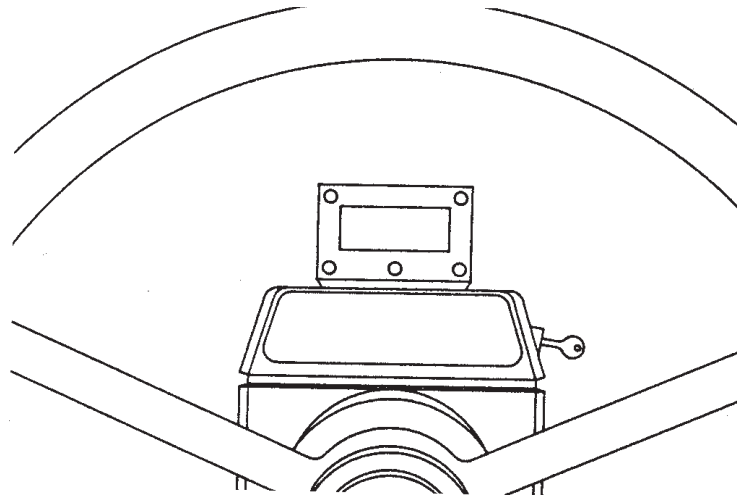


Diagram 2

6. Use the stick-on clips to route the cable from the digital display to the Calc-U-Dri II control box.
7. Feed the cable through the grommet on either side of the box and, leaving about 10 inches for connections. Cut off any excess cable.
8. Separate the individual wires in the cable. Remove one-quarter inch of insulation on each wire and connect them to the terminal block posts as marked by the decal (i.e., white to 18, green to 17, black to 16, brown to 15 and red to 14).

CONTROL BOX INSTALLATION (continued)

9. Feed the power supply wires through the same grommet and route them to a convenient power source in the cab.

Make sure that one end of the red wire is connected to the positive (+) side of a power source and the other end to terminal number five. Likewise, one end of the white wire should be connected to the ground (-) side of a power source and the other end to terminal number four.

Pick up power from a source that is controlled by the ignition switch such as the radio circuit. Use stick-on clips to route the power supply wires. **See Photo C.**



12V DC Power
Red wire to Terminal 5
White wire to Terminal 4

Black wire to Terminal 11
Yellow wire to Terminal 12
Red wire to Terminal 13



Photo C

SENSOR INSTALLATION

(For optional Combine Elevator Side Mount
See Pages 16-20)

1. The sensor should be mounted in the clean grain auger tube in the combine grain hopper. Use the template provided to mark a 5-1/16" x 1-11/16" rectangle on the bottom of the tube about 12 inches from the end of the tube to the center of the hole. The template may then be discarded. Cut this rectangle out carefully to make sure that the sensor block fits tight. **Do not torch cut!** **See Photo D.**



Photo D

SENSOR INSTALLATION (continued)

2. Mark the flighting that sweeps over the sensor hole and disassemble the auger tube from the flighting.
3. Locate the marks made on the flighting above the sensor hole and weld the flighting to the auger shaft starting 3/8" beyond each end of the marks.
4. Cut approximately six and one-half inches (6-1/2") of flighting out between the welds and smooth out any rough edges on the flighting ends and on the auger shaft. **See Photo E. Notice that the flighting is removed all the way to the shaft.**

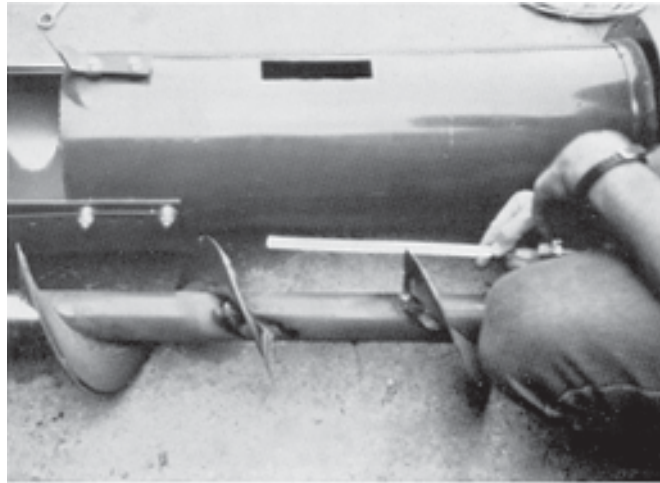


Photo E

OPTIONAL: The flighting cut out may be used to double the flighting thickness on each side of the sensor opening. This is optional and not required.

5. Reassemble the auger tube and check to make sure that the flighting will not hit the sensor blade, inserting the sensor gauge into the sensor hole and rotating the flighting. The flighting should clear the gauge. If not, cut out additional flighting.

6. Insert the sensor into the tube and secure in place with the hose clamp provided. **See Photo F.** (Only one hose clamp is now used.)

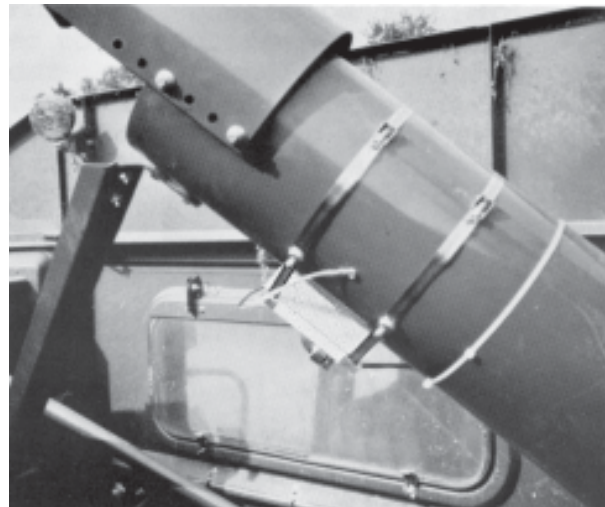


Photo F

(New sensors have one clamp)

SENSOR INSTALLATION (continued)

7. Use a self drilling screw to attach the ground strap to the auger tube 90 degrees up from the sensor. **See Photo F.**
8. Make sure that the sensor is oriented properly in the tube. Note the direction of the grain flowing over the sensor blade.
9. Route the sensor cable out of the hopper and to the cab. Use hose clamps to secure the cable to the auger tube if necessary. Use stick-on clips and ties to route the sensor wire from the hopper to the cab. **See Photo G.** A clip-on grommet is provided to seal the cab if a hole must be drilled for entry into the cab. Use a 15/32 inch diameter drill bit for drilling the hole for the grommet.

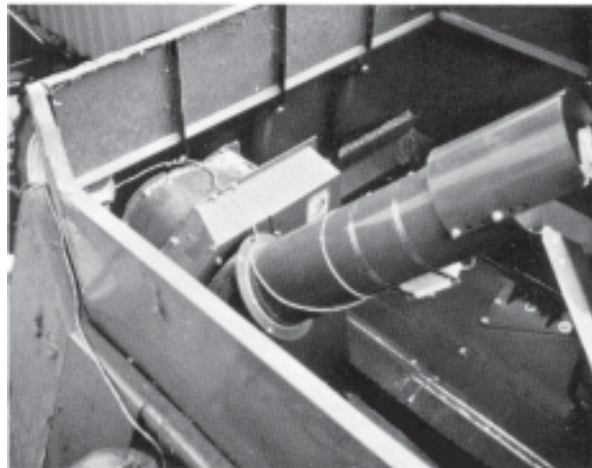


Photo G
(New sensors have one clamp)

NOTE: It is important when routing cable that it is attached securely against something so that the grain being drawn out of the hopper does not pull on the cable, causing loose or broken connections. **See Photo G.**

10. Route sensor cable about ten inches through the grommet in the Calc-U-Dri box and cut off excess cable. **See Photo H.**
11. Remove about three inches of cable housing and shield and connect the individual wires to the terminal block posts according to the decal. (i.e., black to six, white to seven, blue to eight, red to nine and green to ten.) **See Photo H.**

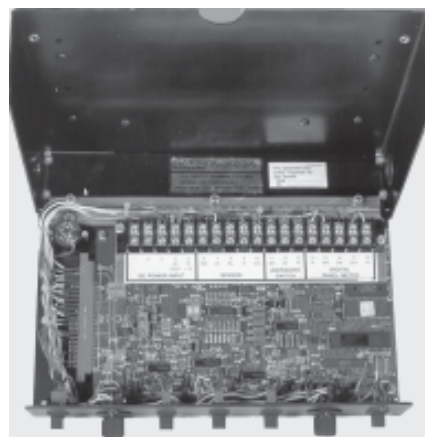
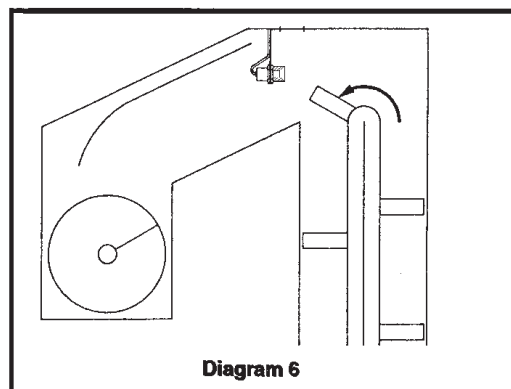
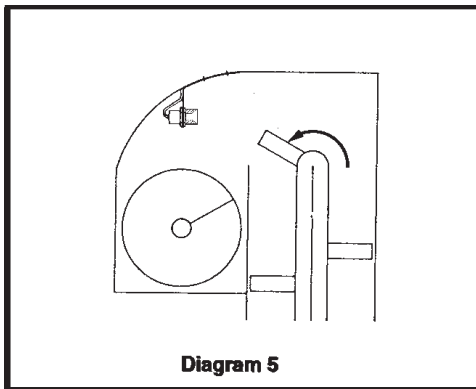
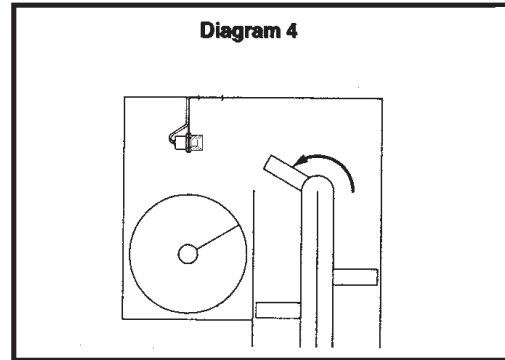
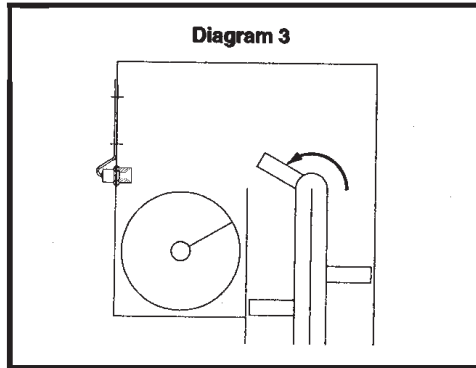


Photo H

NOTE: The cable shield should not be attached in the control box. Prevent shield from shorting out by taping any exposed shield.

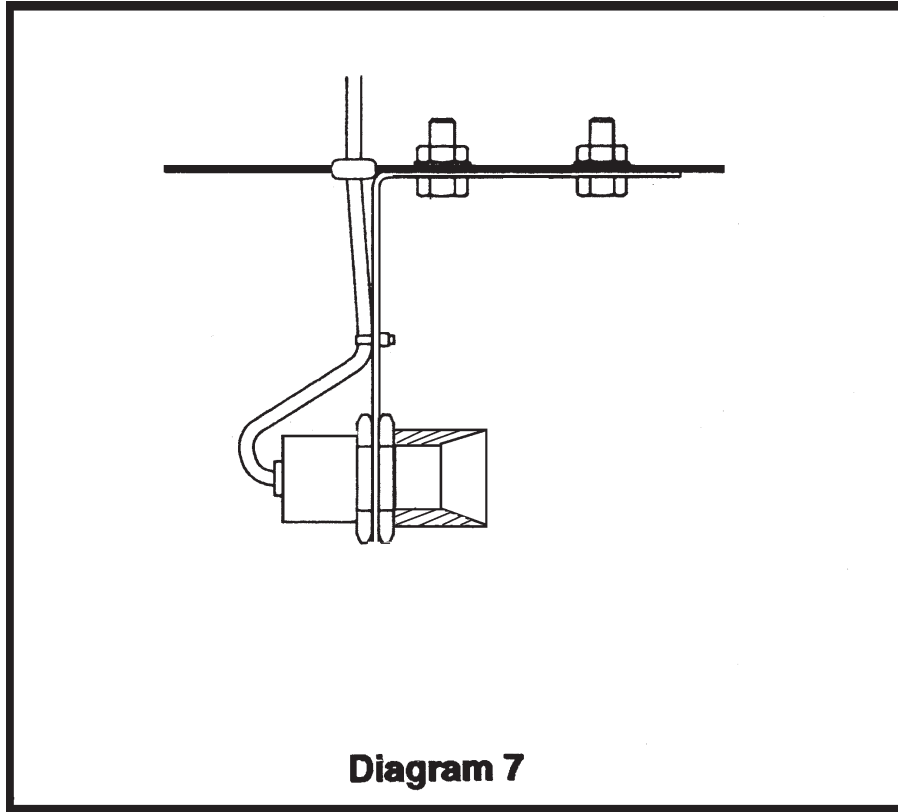
AVERAGING SWITCH INSTALLATION

1. The averaging switch should be mounted in the boot housing of the clean grain auger, so that grain being thrown hits and accumulates on the yellow face of the switch. **See Diagrams 3 - 6.** The switch must be horizontal and facing oncoming grain. Allow clearance for both the auger and elevator, making sure that there will be nothing on the sensor when the elevator empties. The point at which grain hits the boot housing can be determined on used combines by finding where the paint is worn.



2. Position the bracket to locate the mounting holes. **See Diagram 3.** Drill a $3/8$ " diameter hole and a $1-1/8$ " diameter hole $2-3/4$ " apart. Attach bracket to the boot housing with $5/16$ " x $3/4$ " bolt, lock washer and nut. If bracket is too long to fit in housing, cut off excess length. Put switch through the larger hole and fasten with two nuts supplied. Thread the averaging cup over the switch as shown in **Diagram 7.**
3. When mounting the bracket to the top of the boot housing, it must be bent so that the switch is horizontal. **See Diagrams 4 - 6.** Position the bracket to locate the mounting holes and drill two $3/8$ " diameter holes two inches apart. Attach the bracket to the top of the boot housing using two $5/16$ " x $3/4$ " bolts, lock washers and nuts. Put the switch through the larger hole and fasten with the two nuts and average cup supplied. **See Diagram 7.**


AVERAGING SWITCH INSTALLATION (continued)



4. Drill a 15/32" hole through the housing next to the bracket and insert a grommet. Run the cable from the switch through this grommet. Secure the cable to the bracket using a plastic wire tie ran through the two small holes. Make sure the cable is protected from oncoming grain by placing the cable and grommet directly behind the bracket.
5. Route the cable out of the hopper and to the cab using stick-on clips and ties. Use a grommet if a hole must be drilled for entry into the cab. Route the sensor cable about ten inches through the grommet into the Calc-U-Dri box and cut off excess cable. Remove about three inches of cable housing and connect the individual wires to the terminal block according to the decal (i.e., black to 11, yellow to 12 and red to 13.) **See Photo H.**
6. Close the Calc-U-Dri box and tighten the screws in the front corners. Your Combine Calc-U-Dri is now ready for use.

SAMPLING PROCEDURE

!!CAUTION!!



***Always stop the combine (travel, thresher and unload auger) before getting a sample. Ideally, stop the combine engine! *Be careful when climbing into the grain hopper. Follow the combine manufacturer's recommendations.**

The following procedure should be done prior to the hopper auger being covered with grain and should be done when the moisture of the grain is at the level of which you are most concerned:

1. If the meter is changing rapidly, it is possible to have a sample that is either wetter or drier than the meter reading. Waiting for the meter to stay steady will assure you of a more accurate sample.

When readings have been steady and not changing rapidly for a short period of time, stop the combine. Remember the cautions above.

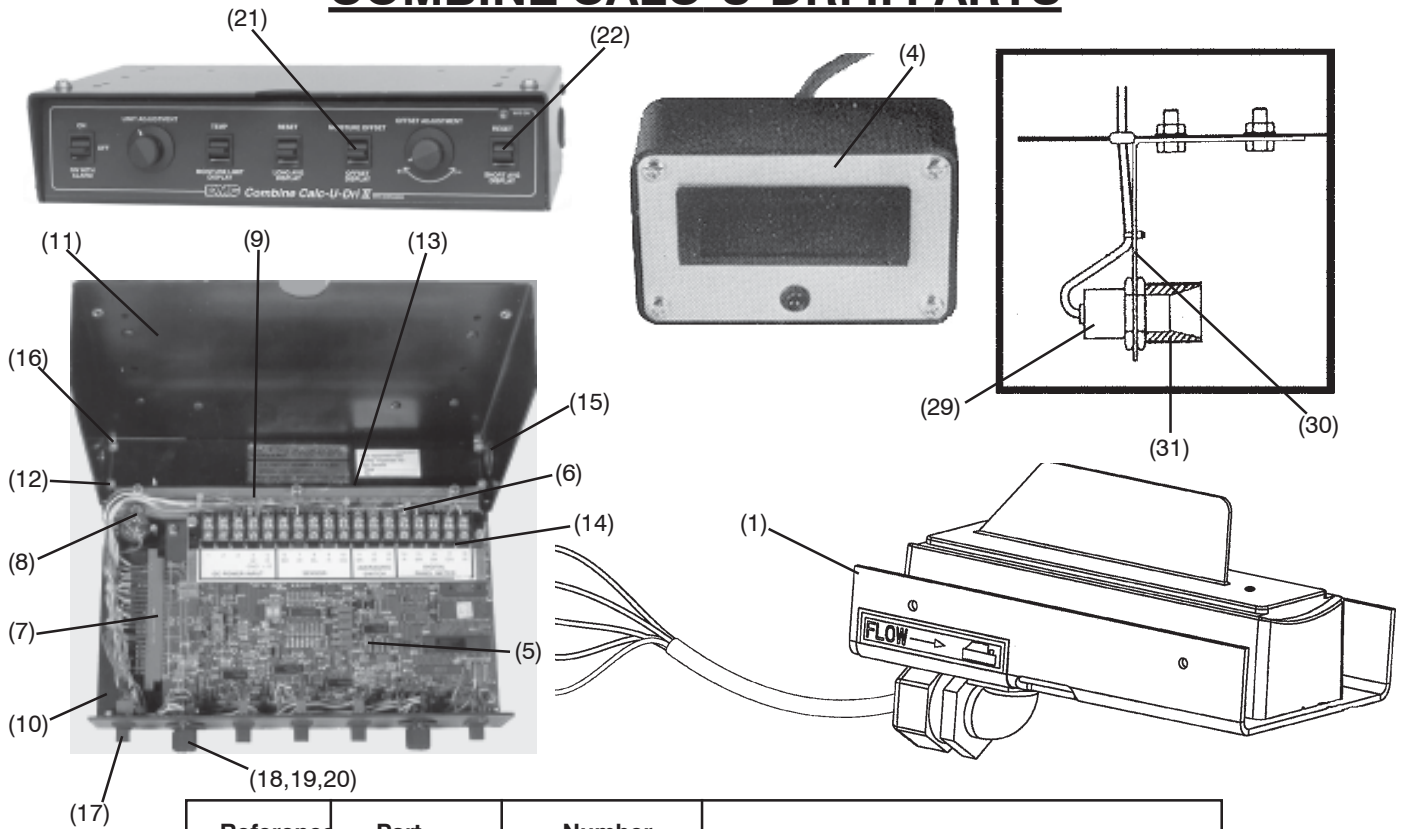
2. Collect a sample of grain from the very top layer of grain. (The grain that was being augered into the hopper when the digital panel meter was being read.) A clean plastic bag works well to transport this sample to a reliable moisture tester for comparison. Write the Calc-U-Dri reading on each sample bag.
3. Take several samples and take their average.
4. Set the offset using that average.

In the example below, the unit had a -2.50 offset before sampling. Based on the sampling example, you would now change that to a -2.20.

SOYBEAN SAMPLING EXAMPLE	
Combine Calc-U-Dri Digital Display	Reliable Tester*
13.2%	13.9%
13.4%	13.1%
13.0%	13.2%
<u>12.9%</u>	<u>13.5%</u>
Total: 52.5	53.7
Avg. 13.1%	13.4%

*The type of tester used at grain elevators or terminals. Hand held units can be used, but under certain ambient conditions, may not be very accurate.

COMBINE CALC-U-DRI II PARTS



Reference Number	Part Number	Number Required	Description
1.	602E382	1	Calc-U-Dri Sensor, Complete
2.	602E091	1	Sensor Clearance Gauge (not shown)
3.	MS0309	As Req'd	Worm Gear Clamp 38" Long (not shown)
4.	602E209	1	Digital Display, Complete
5.	602E359	1	DMC "10" Circuit Board
6.	1EL0901	1	Terminal Block, 18 Post
7.	602E389	1	Harness
8.	1EL1477	1	Alarm, Audible
9.	602E456	1	Filter, EMI
10.	602E388	1	Box Bottom
11.	602E201	1	Box Top
12.	602E202	1	Box End
13.	602E203	1	Box Hinge
14.	602E309	1	Bracket - Terminal Block
15.	1EL2046	1	Grommet
16.	MS0138	1	Plug
17.	2EL0651	1	Switch DPDT 3-Pos
18.	1EL0921	2	Knob
19.	2EL0672	2	Potentiometer
20.	PT0863	2	"O" Ring
21.	2EL0650	4	Switch SPDT 3-pos momentary
22.	2EL1163	1	LED
25.	602E206	1	Power Harness & Fuse Holder (not shown)
26.	1EL0719	1	Fuse 2 Amp
27.	1EL2022	As Req'd	"J" Clip
28.	1EL2112	As Req'd	Nylon Tie, 4" Long
29.	602E393	1	Averaging Switch
30.	602E392	1	Bracket, Averaging Switch
31.	602E461	1	Cup, Averaging Switch

TROUBLE SHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	SOLUTION
Digital readout dead	<ol style="list-style-type: none"> 1. Ignition switch is off 2. Power switch is off 3. Control fuse (2 Amp) is blown 4. Bad circuit board 5. Bad digital readout 	<ol style="list-style-type: none"> 1. Turn on 2. Turn on 3. Replace 4. Replace circuit board 5. Replace digital readout
Moisture readings are very high but grain checks dry	<ol style="list-style-type: none"> 1. Moisture on sensor blade 2. Foreign object jammed on sensor 3. Offset accidentally set too high. 4. Sensor not grounded 5. Bad circuit board 6. High negative temperature 	<ol style="list-style-type: none"> 1. Dry off the sensor 2. Remove 3. Readjust 4. Secure ground to the tube strap 5. Replace circuit board 6. Bad sensor - Replace
Moisture readings do not change, temperature readings are high negative value. (28% moisture with -113° temperature)	<ol style="list-style-type: none"> 1. Sensor cable is broken or not hooked onto the terminal making a good connection. 2. Bad sensor 	<ol style="list-style-type: none"> 1. Tighten terminal screws 2. Replace sensor

TROUBLE SHOOTING GUIDE (continued)

PROBLEM	PROBABLE CAUSE	SOLUTION
Moisture readings are intermittently high then low	<ol style="list-style-type: none"> 1. Check for the sensor ground strap not hooked up 2. Sensor cable is damaged. 3. Loose terminal leads 	<ol style="list-style-type: none"> 1. Hook up strap 2. Replace sensor and cable 3. Tighten where sensor leads are hooked to screws.
Moisture readings are consistently high or low	<ol style="list-style-type: none"> 1. Correct by offset adjustment, refer to control box operation 	<ol style="list-style-type: none"> 1. Adjust
Moisture reading, temperature reading and moisture limit are all reading the same value.	<ol style="list-style-type: none"> 1. Control board not functioning correctly 	<ol style="list-style-type: none"> 1. Replace control board
Digital display does not have the green backlight. All digits work okay.	<ol style="list-style-type: none"> 1. Broken wire or bad LCD 	<ol style="list-style-type: none"> 1. Replace the complete digital display.
Parts of the numbers of one digit missing on the digital display	<ol style="list-style-type: none"> 1. Bad LCD 	<ol style="list-style-type: none"> 1. Replace the complete digital display
Buzzer does not work	<ol style="list-style-type: none"> 1. Power switch in the wrong position 2. Defective buzzer 	<ol style="list-style-type: none"> 1. Power switch must be down for the buzzer to work 2. Replace buzzer.

TROUBLE SHOOTING GUIDE (continued)

PROBLEM	PROBABLE CAUSE	SOLUTION
Red LED indicator does not come on at moisture limit setting	1. Wiring error	1. Check the 5 wire connections on the terminal for the digital panel meter
“AVG ON” LED does not work	1. Averaging switch wired incorrectly 2. Averaging switch not in flow of grain 3. Averaging switch bad	1. Check wiring 2. Relocate switch 3. Replace switch
“AVG ON” LED stays on when out of grain	1. Object jammed on averaging switch	1. Remove object
Blowing the control fuse (2 Amp AGC)	1. DC power wires are crossed 2. Sensor wires damaged and shorted to ground 3. Control board failure	1. The red wire must be hooked to positive 12 volts. White is hooked to ground. 2. Replace the sensor and cable. 3. Replace the control board

1. Never unplug or plug in the circuit board with power on.
2. Do not make field adjustments on the circuit board. This is a factory adjustment only.
3. On combines where the sensor is mounted in a horizontal tube, the sensor should be removed from the auger tube and the grain cleaned out before storing the combine between seasons.
4. Contact your dealer or DMC if you have any questions on the operation or service of your combine Calc-U-Dri Moisture Monitor.

TAKE TIME FOR PROPER INSTALLATION --- IT SAVES SERVICE CALLS!

COMBINE CALC-U-DRI OFFSET RECOMMENDATIONS

The Combine Calc-U-Dri can be used with various grains by calibrating the moisture offset. After determining an offset value for a particular grain and grain condition, log the offset value on the following chart for future reference. A few grains and approximate offset values are already listed to assist with your initial calibration.

GRAIN TYPE	OFFSET	NOTES	YOUR CALIBRATION
Corn	+0.0%	18-28% Moisture	_____
Soybeans	-2.5%	10-15% Moisture	_____
Wheat	-1.5%	9-15% Moisture	_____
Milo	-1.0%	12-18% Moisture	_____
Barley	-0.5%	10-18% Moisture	_____
Oats	-0.5%	10-18% Moisture	_____
Other			

Installation of The Combine Elevator Side Mount Grain Sampler Model 5049042 (R.H.) for most U.S. combines and Model 5049043 (L.H.) for New Holland and imported combines

NOTE: An additional kit (5049051) must be used with 5049042 for installation on Case 2188 & 2388 combines.

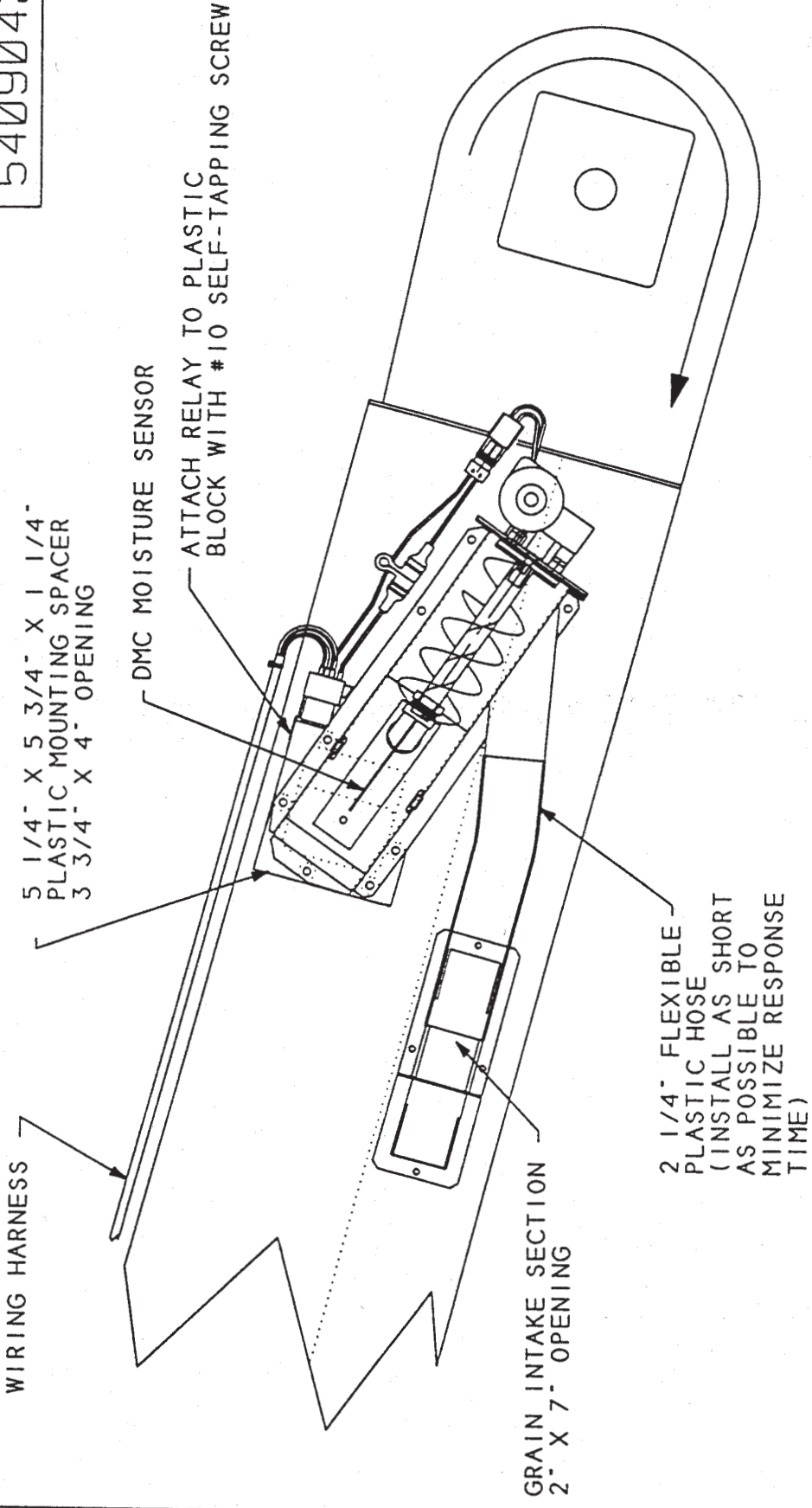
The grain sampler is designed to fit on the side of the clean grain elevator of most combines and provide an accessible location for the Calc-U-Dri moisture sensor. The intake housing will fit on the “up” side of the elevator and the auger housing will empty back into the “down” side of the elevator. (The auger housing should be mounted at an angle of 30° or more from vertical so that the grain does not have to be pushed up a steep angle). A piece of 2-1/4” diameter flexible hose, 15 inches long is provided, but this hose should be cut as short as possible during the installation. (A shorter hose will provide a quicker response to changing grain moisture levels.)

1. Locate an area of the elevator that the intake and auger housing will fit and determine the length of 2-1/4” hose needed. Cut the hose to this length and slip it onto both the intake and auger housing.
2. Use the metal spacer as a template to mark the 4 mounting holes and the 2” x 7” hole to be cut in the “up” side of the elevator. Use the black plastic spacer to mark the mounting holes and the 3-3/4” x 4” hole in the “down” side of the elevator.
3. Use a saw to cut the 2” x 7” and 3-3/4” x 4” holes in the elevator. Be careful not to cut into the elevator paddles.
4. Drill the mounting holes for the intake housing 3/16” diameter and install (4) #8 x 3/4 screws and nuts as studs in the “up” elevator side. Place the steel plate spacer over the #8 screws & nuts and assemble the intake housing to the elevator with #8 nuts.
5. Drill the mounting holes for the auger housing 9/32” diameter and install (5) 1/4 x 2 screws and nuts as studs in the “down” elevator side. Place the plastic spacer over the screws and nuts and assemble the auger housing to the elevator with 1/4” nuts.
6. Attach the relay in the wiring harness assembly to the plastic spacer block with a #10 self-tapping screw and connect the wiring harness to the auger drive motor wires. Route the harness to the combine cab being careful to avoid pinch points and moving parts that could cut into the wires. The white wire should go to a chassis ground (negative) and the red wire should go to 12 volts (positive) power. The best source would be a circuit capable of 20 amps that is switched “on” when the ignition switch is either “on” or in the “accessory” position. Note: The auger motor in the combine sampler is protected with 15 amp AGC fuse.
7. The white with red striped wire provides a low current (.13 amp) positive 12 volt signal to the relay in the wiring harness. It should be connected to a +12 volt power supply that can be switched “on” or “off” to control the auger motor in the combine sampler.
8. The sensor housing is designed for a DMC Calc-U-Dri moisture sensor which is held in place with 2 latches. The sensor ground wire should be attached to the flange of the housing with a #10 self-tapping screw. Note: When the left-hand model #5049043 is used on New Holland combines, some shielding may have to be modified to provide clearance for the Calc-U-Dri sensor.

Combine Elevator Grain Sampler Parts List

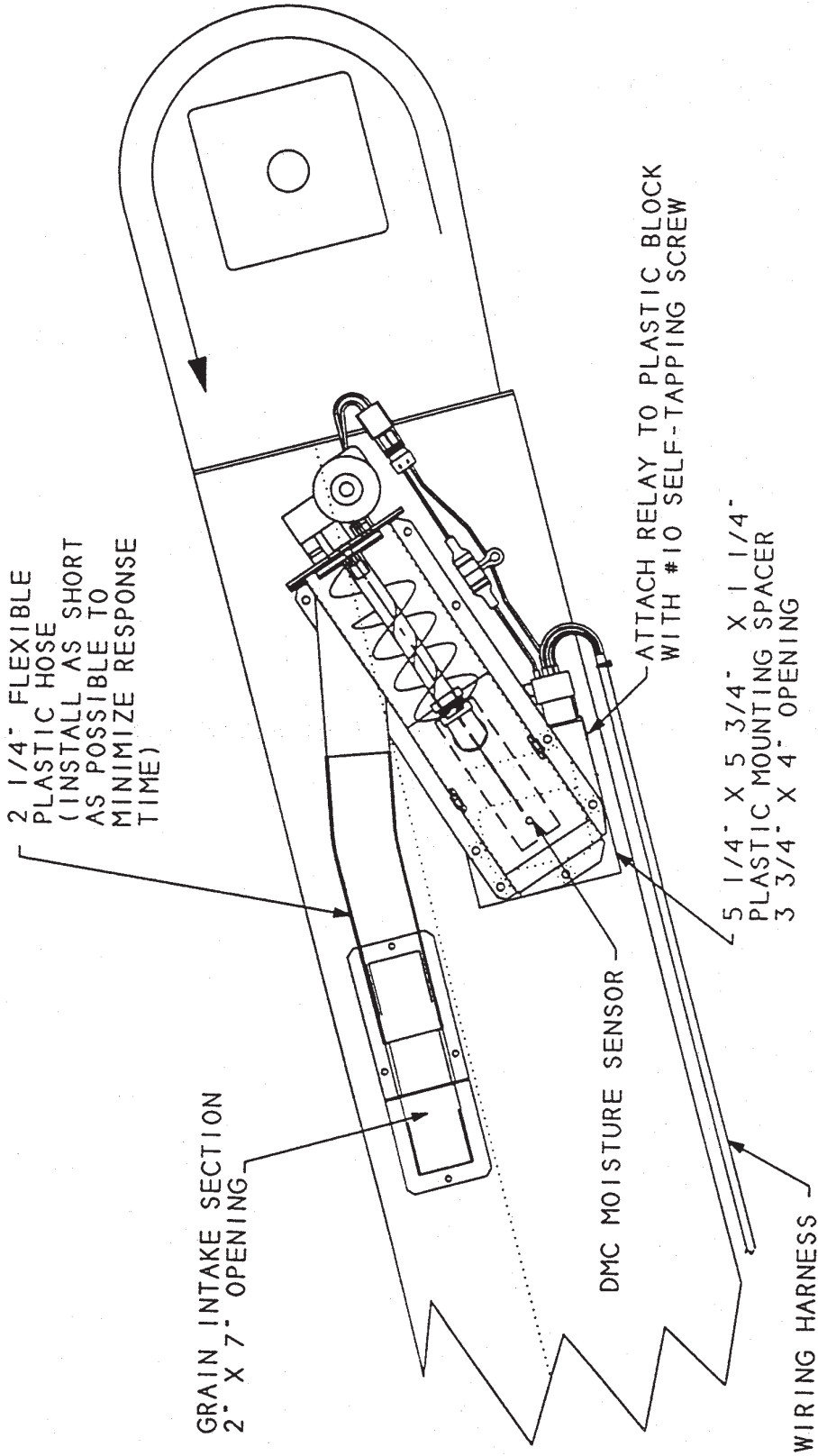
1. 1EL0709 Fuse, 15 Amp AGC 32 volt
2. 405L004 Decal, "Disconnect power before servicing"
3. 5041332 Auger motor with wiring connector
4. 5041333 Intake housing
5. 5041338 Intake housing spacer
6. 5041339 Auger/sensor housing, R.H.
7. 5041340 Auger/sensor housing, L.H.
8. 5041344 Auger motor mounting plate
9. 5041345 Wiring harness assembly
10. 5041346 Auger motor mounting spacer
11. 5041348 Auger/sensor housing bottom, R.H.
12. 5041349 Auger/sensor housing bottom, L.H.
13. 5041353 Auger/sensor housing plastic spacer, R.H.
14. 5041354 Metering auger
15. 5041356 Slide gate
16. 5041357 2-1/4" flexible hose 15" long
17. 5041358 Metering auger drive plate
18. 5041359 Auger/sensor housing plastic spacer, L.H.
19. 5041391 Auger/sensor housing plastic spacer
(used for Case 2188 & 2388 combines)
20. 5041399 Sampler shield (used for Case 2188 & 2388 combines)

5409042



DMC COMBINE SAMPLER R.H. ASSEMBLY		TOL: ±.031 UNLESS SPECIFIED	
		DAVID MFG CO MASON CITY, IA	
REF	EXPLANATION	ECO NO	DATE
JFJ OR BY	10-15-97 DATE	5049042	

5049043



TOL: ±.031 UNLESS SPECIFIED

DMC DAVID MFG CO
MASON CITY, IA

JFJ 10-15-97
DR BY DATE

5049043

DMC COMBINE SAMPLER
L.H. ASSEMBLY

REF	EXPLANATION	ECO NO	BY	DATE

5047048

5 3/4" X 5 1/4" X 1 1/4"
PLASTIC MOUNTING SPACERS
CUT 3 3/4" X 4" HOLE IN ELEVATOR

TWO 1 1/4" THICK SPACERS ARE NEEDED TO
POSITION THE SENSOR HOUSING AWAY FROM
THE BOTTOM ELEVATOR SHAFT BEARING. THE
SPACER WITH THE 3 3/4" X 4" OPENING
SHOULD BE PLACED NEXT TO THE ELEVATOR
SIDE. THE SPACER WITH THE 2 1/2" X 3 3/4"
OPENING SHOULD BE PLACED NEXT TO THE
SENSOR HOUSING.

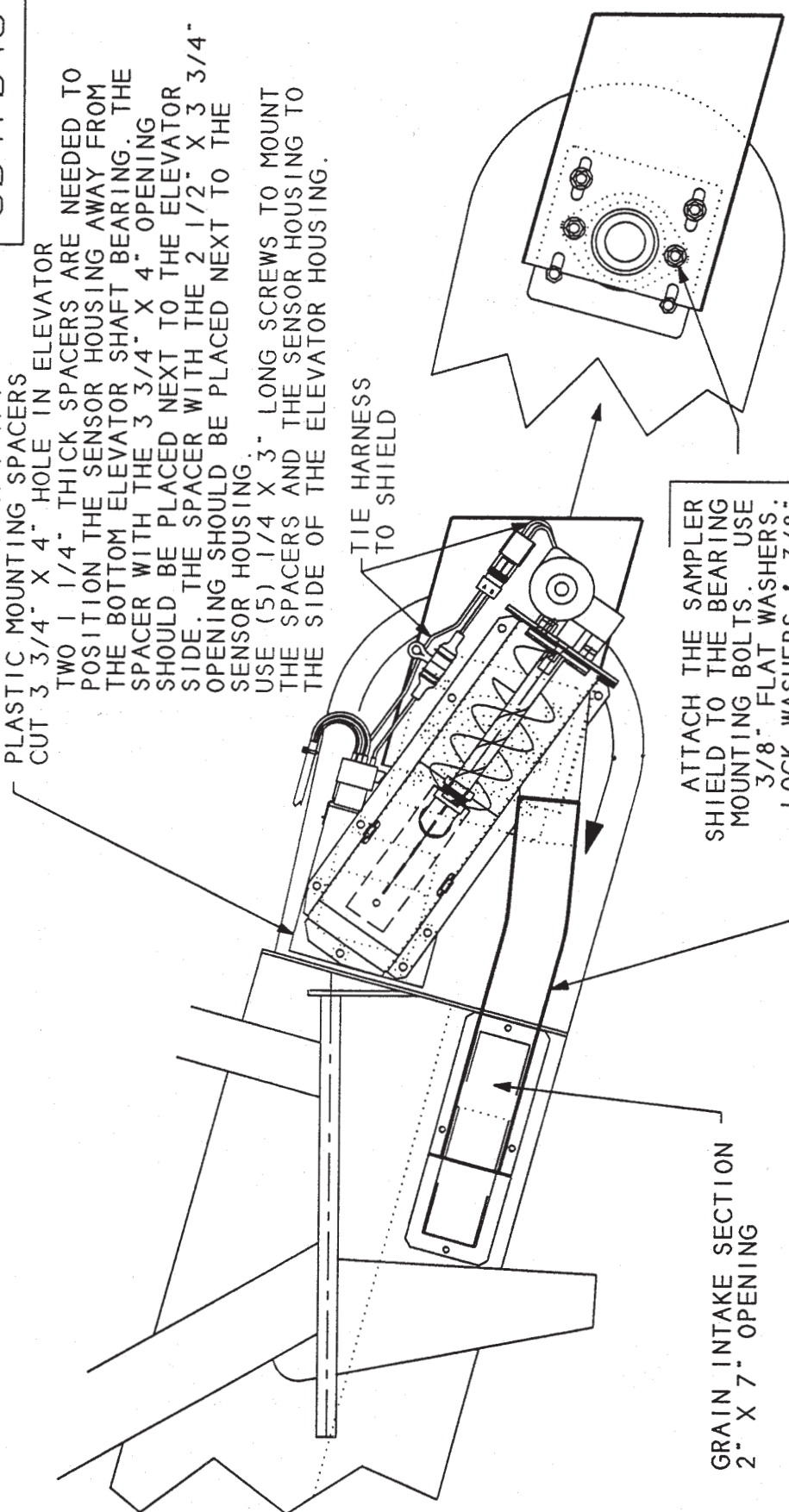
USE (5) 1/4 X 3" LONG SCREWS TO MOUNT
THE SPACERS AND THE SENSOR HOUSING TO
THE SIDE OF THE ELEVATOR HOUSING.

TIE HARNESS
TO SHIELD

ATTACH THE SAMPLER
SHIELD TO THE BEARING
MOUNTING BOLTS. USE
3/8" FLAT WASHERS,
LOCK WASHERS & 3/8"
OR M10 NUTS.

GRAIN INTAKE SECTION
2" X 7" OPENING

2 1/4" FLEXIBLE HOSE
15" LONG



TOL: ± .031 UNLESS SPECIFIED



DAVID MFG CO
MASON CITY, IA

INSTALLATION OF
ELEVATOR GRAIN
SAMPLER ON CASE 2188
OR 2388 COMBINE

JFJ 10-15-97
DR BY DATE

REF

EXPLANATION

ECO NO

BY

DATE

5047048

The GSI Group, Inc. Warranty

THE GSI GROUP, INC. ("GSI") WARRANTS ALL PRODUCTS WHICH IT MANUFACTURES TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USAGE AND CONDITIONS FOR A PERIOD OF 12 MONTHS AFTER RETAIL SALE TO THE ORIGINAL END USER. THE PURCHASER'S SOLE REMEDY AND GSI'S ONLY OBLIGATION SHALL BE TO REPAIR OR REPLACE, AT GSI'S OPTION AND EXPENSE, PRODUCTS THAT, IN GSI'S SOLE JUDGMENT, CONTAIN A MATERIAL DEFECT DUE TO MATERIALS OR WORKMANSHIP. ALL DELIVERY AND SHIPMENT CHARGES TO AND FROM GSI'S FACTORY WILL BE PURCHASER'S RESPONSIBILITY. EXPENSES INCURRED BY OR ON BEHALF OF THE PURCHASER WITHOUT PRIOR WRITTEN AUTHORIZATION FROM AN AUTHORIZED EMPLOYEE OF GSI SHALL BE THE SOLE RESPONSIBILITY OF THE PURCHASER.

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This Equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installation occurs.

For more information, contact the DMC Distribution Center closest to you.

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