Quick Setup Guide for IntelliAg Model NTA607HD

DICKEY-john CORPORATION

The Quick Setup Guide assumes the Virtual Terminal, Working Set Master Module, Working Set Member Module, and all sensors have been connected and properly installed. Quick Setup Guide assumes channel 1 (front bin) to be seed and channel 2 (rear bin) to be fertilizer. Reference the Operator's manual for installation instructions.

STEP 1: Pre-Programming Preparation:

1. Power on vehicle via ignition switch to activate Virtual Terminal (VT). Main menu will display pre-programmed default settings.
2. If errors are detected (e.g., failed sensors, incorrect configuration) an alarm and code will display. Alarms are silenced by pressing the Alarm Cancel button . Refer to Operator's manual for troubleshooting assistance.
3. The system has three user levels. The system loads in user level 1 (operator level) at every power cycle. Access to user level 2 and 3 screens to setup constants (system configuration) requires a password available through an authorized Great Plains dealer.

STEP 2: Auto Configuration (identifies sensors connected to each module)

Auto config is performed at the factory, but may need to be done in the field as changes are made to the system or if options are added to the base system.

1. Verify Auto Config results are correct. Check that the correct number of rows are assigned to the correct module and number of hoppers and pressure sensors are assigned accurately.

To Run Auto Config:

1. Press Next Page until Module Configuration button appears.
2. Press Module Configuration button .
3. Press AUTO CONFIG button .
4. Hour glass will indicate system is detecting the presence of seed, pressure, or hopper sensors connected to each module and automatically assigns to the appropriate module.
5. When Auto Config completes, press the Row Assign button to display the Row Assignment screen to verify correct Row # is assigned to the correct module based on serial number.
6. Enter # of rows assigned to each module.

Row Assignment for 80 Drop System

Module Configuration Screen

	SERIAL NUMBER	MODULE TYPE	MODULE ADDR.
✔	10001	WSMB-18R	1
✔	10002	WSMB-POM	2
✔	10003	WSMR-18R	3
✔	10004	WSMT-ACCGP	4
✔	10005	WSMB-18R	5
✔	10006	WSMB-18R	6
✔	10007	WSMB-18R	7

Row Assignment/ Seed Sensor Configuration Screen

MODULE ADDR.	MODULE TYPE	# OF ROWS	Drop #'s
1	WSMB-18R	16	1-16
3	WSMB-18R	16	17-32
5	WSMB-18R	16	33-48
6	WSMB-18R	16	49-64
7	WSMB-18R	16	65-80

Row Assignment #'s change for 32, 40, and 64 row configurations.

STEP 3: Row Status/Row Width Setup

1. Press Row I/O button .
2. Enter desired values using **Table A** as reference.
3. Press Work Screen button to return to the Main Work screen.

STEP 4A: Material Configuration Setup (Granular Seed Monitor)

16 different materials can be configured as seeding and fertilizer controls. Material defaults on the Control Setup screen are Seed 1-4 (Granular Seed Control) Seed 5-8 (Granular Seed Monitor) Fert 1-4 (Granular Fertilizer Control) Fert 5-8 (Granular Fertilizer Monitor). Reference the System Configuration section in the Operator's Manual for additional setup instructions.

1. Press the Control Setup button .
2. At the Control Setup screen, select one of the 16 material buttons to edit (labeled Seed 1-8 and Fert 1-8).
3. Enter desired values from **Table B**.
4. Press the Control Setup button to return to the Control Setup screen.
5. Repeat steps 2-4 for additional materials.
6. Press the Channel Setup button to enter channel setup constants.

TABLE A: Row Status/Row Width Setup	Default Value/ Value to Enter	Instructions/Definitions
Row Width (40 row) 20 ft/6 m	6 in 15 cm	Enter row width distance to calculate seed rate data (360). inches/cm
Row Width (32 row) 20 ft/6 m	7.5 in 19 cm	Enter row width distance to calculate seed rate data (400). inches/cm
Auto Update Width	Disabled	When enabled, implement width will automatically calculate. If disabled, manually enter implement width.
Implement Width (40 row) 80 drop	245 in 622 cm	Manually enter implement width in inches/cm.
Implement Width (32 row) 64 drop	242 in 615 cm	
Implement Width (40 row)	245 in 622 cm	
Implement Width (32 row)	242 in 615 cm	
Implement Width	240 in 610 cm	Limited Flex All Row Spacings
Pop/Block Pattern	Every row blockage	Determines which sensors are used to calculate population and those used only for blockage detection. Select pre-defined Every Row Blockage. For other pre-defined patterns, reference Operator's manual.

TABLE B: Material Setup	Default Value/ Value to Enter	Instructions/Definitions
Matrl Label	Seed 1	Material Name can be customized to accurately define the material's type. Creating a name allows for quick identification at the Control Setup screen.
Type	Gran Seed Monitor	Desired type of application control channel being used for a specific material. The Material Type must correctly match the Control Type to be able to select material from the Control Setup screen and operate properly.
Display Units	Lbs/Ac Kg/ha	Displays primary and secondary readout units in Lbs/Ac or Kg/ha.
Target Rate	60 lbs 67.3 Kg	Desired rate of application in lbs/Ac or Kg/ha.
Density	60 lbs/bu 0.77 Kg/L	Establishes the density of material. Density units can be entered in lbs/bu or lbs/ft^3.
# Outlets Used Per Meter Box	4	Establishes the number of towers for that channel.
Calibration Constant	85831 Pul/Ft^3 3031 Pul/L	Number of pulses to drop 1 cubic foot/liter of material.
Variable Cal Constant	Disabled	Adjusts the accuracy of the seed amount dispensed based on the seed type. A selection of 25 pre-defined seed types are available.
Low Shaft RPM	10	Set to desired min seed meter RPM.
High Shaft RPM	75	Set to desired max seed meter RPM.
Prod Level Alarm	0	Sets the weight to trigger alarm indicating low seed levels in lbs.
Seeds per Pound/Kg	3000 Lb 6614 Kg	Converts the current application rate from Lb/ac to KS/Ac to determine population and population alarms.
High Pop Alarm	20%	This is the percentage above the target population of the seeder channel if rows are assigned to the seeder channel. If rows are not assigned to a seeder, this is the percentage above average seeder population for all unassigned rows.
Low Pop Alarm	20%	This is the percentage below the target population of the seeder channel if rows are assigned to the seeder channel. If rows are not assigned to a seeder channel, this is the percentage below average seeder population for all unassigned rows.
On/Off Pattern	Every Row On	On/Off Pattern indicates specific row patterns to be on or off. Select pre-defined seeder All Row On pattern. For other pre-defined seeder patterns or individual row settings, reference Operator's manual.
Row Fail Rate	2/1	Sets the threshold for row failure alarms. Entered in seeds per second. 2/1 is a row failure threshold of 2 seeds in 1 second.

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STEP 4B: Material Configuration Setup (Granular Fertilizer Monitor)

16 different materials can be configured as seeding and fertilizer controls. Material defaults on the Control Setup screen are Seed 1-4 (Granular Seed Control) Seed 5-8 (Granular Seed Monitor) Fert 1-4 (Granular Fertilizer Control) Fert 5-8 (Granular Fertilizer Monitor). Reference the System Configuration section in the Operator's manual for additional setup instructions.

1. Press the Control Setup button  .
2. At the Control Setup screen, select one of the 16 material buttons to edit (labeled Seed 1-8 and Fert 1-8).
3. Enter desired values from **Table B**.
4. Press the Control Setup button  to return to the Control Setup screen.
5. Repeat steps 2-4 for additional materials.
6. Press the Channel Setup button  to enter channel setup constants.

STEP 5A: Channel Setup (Granular Seed Monitor)

Channel 1 is generally used for granular seed monitor setup.

1. At the Channel Setup screen, verify that channel 1 is set to granular seed monitor.
2. Enter desired values using **Table C** as reference.
3. To set up additional control channels (granular fert monitor, granular fert control, granular seed control. RPM Control), press the Next Channel button  .
4. When channel setup is complete, press the Work Screen button  to return to the Main Work screen.

   Once a control channel has been established as granular seed monitor, any new materials established as granular seed monitor on the Material Setup screen will automatically be added as optional materials for granular seed monitor channels on the Control Setup screen.

STEP 5B: Channel Setup (Granular Fertilizer Monitor)

Channel 2 is generally used for granular fertilizer monitor setup.

1. At the Channel Setup screen, press the Next Channel button  to setup additional control channels.
2. Set channel 2 as granular fertilizer monitor.
3. Enter desired values using **Table D** as reference.
4. Continue to set up control channels 3 and 4, if required.
5. Press the Work Screen Button  when channel configurations are complete to return to the Main Work screen.

Once a Control Channel has been established as Granular Fertilizer Monitor, any new materials established as granular fertilizer monitor on the Material Setup screen will automatically be added as optional materials for granular fertilizer monitor channels on the Control Setup screen.

TABLE B: Material Setup Gran Fert Mon	Default Value/ Value to Enter	Instructions/Definitions
Matrl Label	Fert 1	Material Name can be customized to accurately define the material's type. Creating a name allows for quick identification at the Material Summary screen.
Type	Gran Fert Mon	Desired type of application control channel being used for a specific material. The Material Type must correctly match the Control Type to be able to select material from the Control Setup screen and operate properly.
Units	Lbs/Ac Kg/ha	Displays primary and secondary readout units in Lbs/ac or Kg/ha.
Target Rate	50 lbs/Ac 56 Kg/ha	Desired rate of application in lbs/Ac or Kg/ha.
Density	60 lbs/ft^3 0.96 Kg/L	Establishes the density of material in lbs/ft^3 or Kg/L.
# Outlets Used Per Meter Box	4	Establishes the number of towers for that channel.
Calibration Constant	82996 Pul/ft^3 2931 Pul/L	Number of pulses to drop 1 cubic foot/liter of material.
Variable Cal Constant	Disabled	Adjusts the accuracy of the seed amount dispensed based on the seed type. A selection of 25 pre-defined seed types are available.
Low Shaft RPM	10	Set to desired min fert meter RPM.
High Shaft RPM	75	Set to desired max fert meter RPM.
Prod Level Alarm	0	Sets the weight to trigger alarm indicating low fertilizer levels in lbs.
Row Fail Rate	2/1 (2 seeds every 1 second)	Set to desired number of seeds per second to trigger seed sensor failure alarm.

TABLE C: Channel Setup Gran Seed Mon	Default Value/ Value to Enter	Instructions/Definitions
Type	Gran Seed Mon	Set desired Channel Type as Gran Seed Monitor.
Material Name	Seed 1	Displays only materials that have been configured for the channel type.
Input Filter	50	Feedback frequency filter for the control channel. DO NOT CHANGE.
Sensor Constant	360	Sensor Constant establishes the number of pulses for one revolution of the feedback sensor. If a DICKEY-john application rate sensor is used, the value should be set to 360.0.
Gear Ratio	1.0	Specifies the actual ratio from the feedback sensor to the seed meter shaft RPM. Number of revolutions the feedback sensor turns in relation to one revolution the seed meter turns.
# of Seed Rows (6 in/15 cm)	80 Double Shoot	Entry of a specific number of seed rows to the control channel. Row assignment is given a priority based on the channel and will be assigned sequentially thereaffer. Channel 1 is always assigned to the first set of rows, Channel 2 next set of rows, and so on.
# of Seed Rows (7.5 in/19.1 cm)	64 Double Shoot	
# of Seed Rows (6 in/15.0 cm)	40 Single Shoot	
# of Seed Rows (7.5 in/19.1 cm)	32 Single Shoot	
Channel Width (40 rows) 80 drops	245 in/622 cm	Manual entry of the channel width for rows assigned to a specific channel. Width calculation can be determined by # of seeder rows assigned to the channel multiplied by the row spacing.
Channel Width (32 rows) 64 drops	242 in/615 cm	
Channel Width (40 rows)	245 in/622 cm	
Channel Width (32 rows)	242 in/615 cm	
Channel Width	240 in/610 cm	All Limited Flex Drills

TABLE D: Channel Setup Gran Fert Mon	Default Value/ Value to Enter	Instructions/Definitions
Type	Gran Fert Mon	Set desired Channel Type as Gran Fert Monitor.
Material Name	Fert 1	Displays only materials that have been configured for the channel type.
Input Filter	50	Feedback frequency filter for the Control Channel. DO NOT CHANGE.
Sensor Constant	360	Sensor Constant establishes the number of pulses for one revolution of the feedback sensor. If a DICKEY-john application rate sensor is used, the value should be set to 360.0.
Gear Ratio	1.0	Specifys the actual ratio from the feedback sensor to the seed meter shaft RPM. Number of revolutions the feedback sensor turns in relation to one revolution the seed meter turns.
Channel Width (40 rows) 80 drops	245 in/622 cm	Manual entry of the channel width for rows assigned to a specific channel. Width calculation can be determined by # of seed rows assigned to the channel multipled by the row spacing.
Channel Width (32 rows) 64 drops	242 in/615 cm	
Channel Width (40 rows)	245 in/622 cm	
Channel Width (32 rows)	242 in/615 cm	
Channel Width	240 in/610 cm	All Limited Flex Drills

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STEP 6: Ground Speed Calibration Setup

1. Press the Speed Set button .
2. Enter desired values using **Table E** as reference.
3. Press the Work Screen button when Ground Speed Calibration configurations are complete to return to the Main Work screen.

STEP 7: Accessory Sensor Setup

Hopper Setup

1. Press the Module Configuration button .
2. Press the Hopper Assign button .
3. Verify # of hoppers is correct or enter # of hoppers assigned.
4. Press the Hopper Set button .
5. Enter desired values using **Table F** as reference.

RPM Sensor Setup

6. Press the RPM Module button .
7. Enter # of RPM sensors, if required.
8. Press the RPM Setup button .
9. Enter desired values using **Table F** as reference.

Pressure Sensor Setup

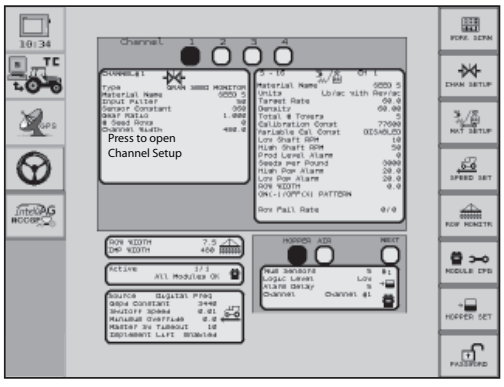
9. At the Module Configuration screen, press the PSI Module button .
10. Verify # of pressure sensors or enter the # of pressure sensors assigned.
11. Press the Pressure button .
12. Enter desired values using **Table F** as reference.

For additional information regarding hopper level, RPM, and pressure sensor setup, reference the Operator's manual.

STEP 8: Summary Screen

The Summary screen provides an overview of setup constants for active control channels.

1. At the Main Work screen, press the Next Page button .
2. Press the Summary button .
3. To view specific control channel configurations, press the respective control channel box 1-4.
4. Press inside a yellow highlighted box to open a specific screen for editing.
5. Press the Work Screen button to return to the Main Work screen.



Summary Screen

TABLE E: Ground Speed Setup	Default Value or Value to Enter	Instructions/Definitions
Source	Digital Frequency	Select CAN Ground if radar is connected to ISO tractor cab harness. Select Digital Frequency if radar or hall-effect is connected to WSMT actuator harness.
Gspd Constant	12,192 PUL 10,000 PUL 100 m	Input based on pulse count produced by the ground speed sensor over 400' distance. See Operator's manual for calibration instructions.
Shutoff Speed	0.01 mph 0.02 kph	Indicates the minium ground speed allowed before the system shuts off all control channels.
Min Override	0.0 mph 0.0 kph	Minimum Override takes over when actual ground speed is below the designated value. The control operates at this speed until actual ground speed rises above the minimum override speed or the actual speed drops below the shutoff speed.
Master Switch Timeout	5 sec	Determines the length of time before the system disables the operate function after ground speed is 0 if the master switch remains in the ON position.
Ground Speed Failure Alarm Delay	5 sec	Set to desired number of seconds alarm sounds after the ground speed is zero and seed flow continues. (monitor only)
Implement Lift	Enabled	Implement lift switch must be in the down position to operate.

TABLE F: Accessory Setup	Default Value or Value to Enter	Instructions/Definitions
# of Hoppers	2	# of hopper sensors connected to each module. # of hopper data items for each listed module and the Hopp #'s value will automatically populate if Auto Config is used to configure installed sensors.
Hopper Logic Level	Active Lo	Sets the active state to low signifying that an alarm is generated if the sensor's output is in a low state. Use this setting if the connected sensor outputs a low condition when empty similar to the DICKEY-john hopper sensor.
Hopper Alarm Delay	5 sec	Controls the delay time between the detection of a high/low hopper alarm condition and the generation of the resulting alarm. The value is entered in seconds.
Channel (Hopper #1)	1	Assigns hopper sensor 1 to channel 1.
Channel (Hopper #2)	2	Assigns hopper sensor 2 to channel 2.
# of RPMs	1	Number of RPM sensors connected to each module to monitor a shaft/fan.
High Alarm	4600 RPM	Sets the RPM value at which a high RPM warning error is generated.
Low Alarm	2000 RPM	Sets the RPM value at which a low RPM warning error is generated.
High Alarm Delay	5 sec	Establishes the delay between the detection of a high RPM alarm condition and the resulting alarm display (entered in seconds).
Low Alarm Delay	5 sec	Establishes the delay between the detection of a low RPM alarm condition and the resulting alarm display (entered in seconds).
RPM Constant	3 pul	Number of pulses per sensor revolution.
RPM Filter	50%	Filters the signal out of the RPM sensor.
Disable Control on Low Alarm	Disabled	Allows for disabling of all control channels if the RPM value of the selected sensor falls below the low alarm level setting.
# of Pressure Sensors	2	Number of pressure sensors connected to each module to monitor pressure.
High Alarm	20 oz/in^2 8.6 Kpa	Sets the pressure value at which a high pressure warning error is generated (oz/in^2/Kpa).
Low Alarm	3 oz/in^2 1.3 Kpa	Sets the pressure value at which a low pressure warning error is generated (oz/in^2/Kpa).
High Alarm Delay	5 sec	Establishes the delay between the detection of a high pressure alarm condition and the resulting alarm display (entered in seconds).
Low Alarm Delay	5 sec	Establishes the delay between the detection of a low pressure alarm condition and the resulting alarm display (entered in seconds).
Pressure Filter	50	Filters the signal out of the pressure sensor.

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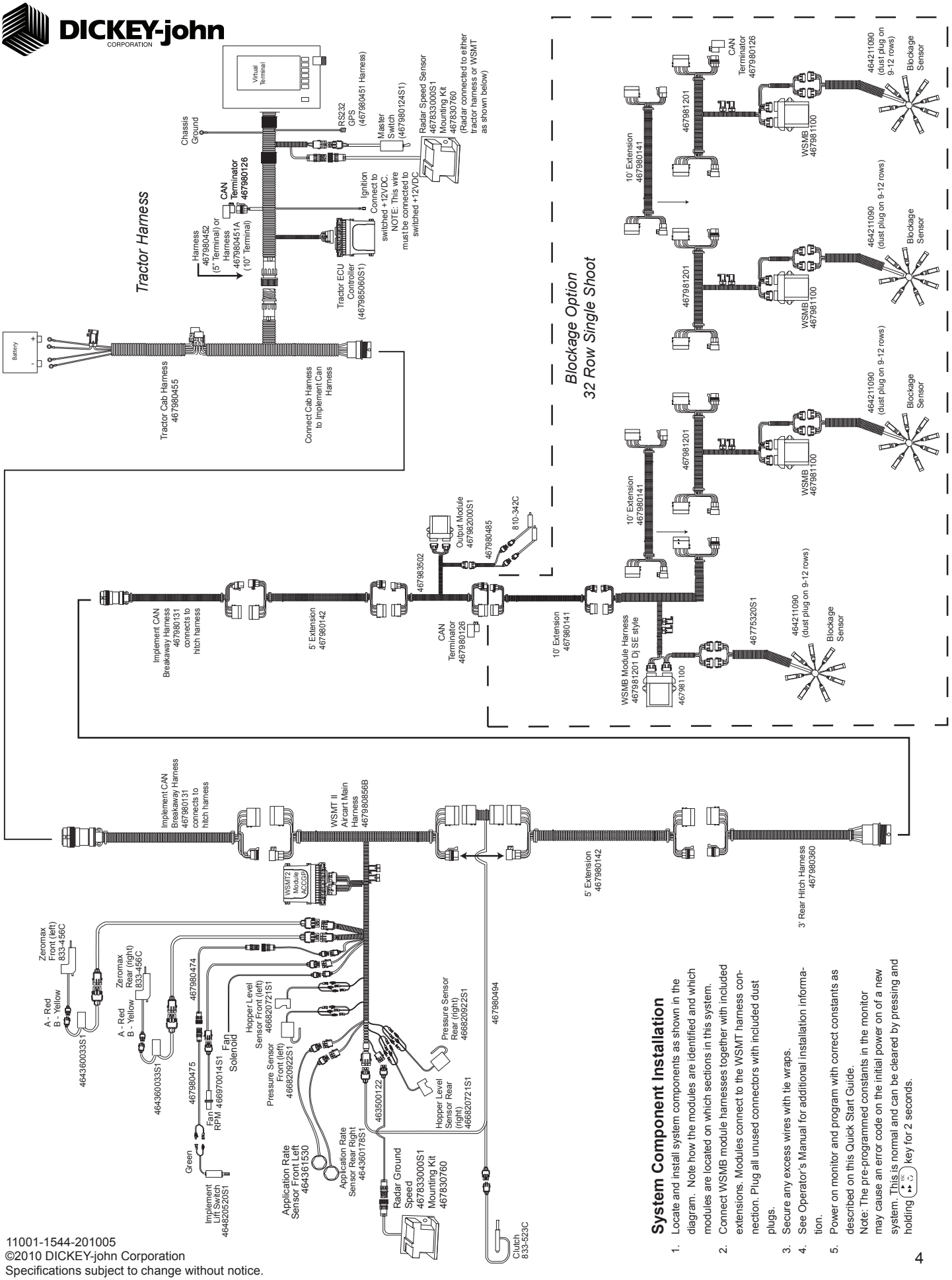

System Component Installation

1. Locate and install system components as shown in the diagram. Note how the modules are identified and which modules are located on which sections in this system.
2. Connect WSMB module harnesses together with included extensions. Modules connect to the WSMT harness connection. Plug all unused connectors with included dust plugs.
3. Secure any excess wires with tie wraps.
4. See Operator's Manual for additional installation information.
5. Power on monitor and program with correct constants as described on this Quick Start Guide.
   Note: The pre-programmed constants in the monitor may cause an error code on the initial power on of a new system. This is normal and can be cleared by pressing and holding ESC key for 2 seconds.

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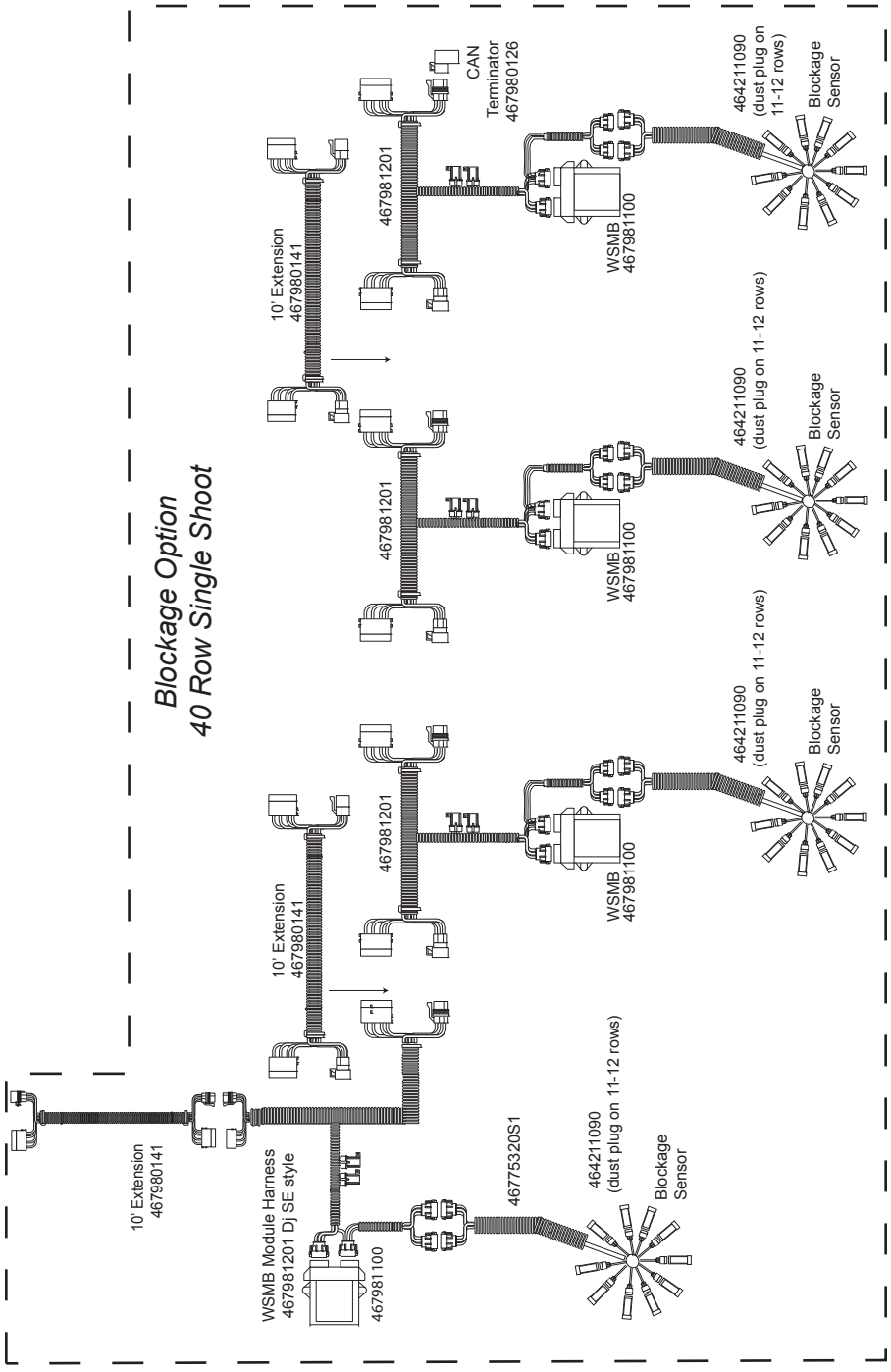

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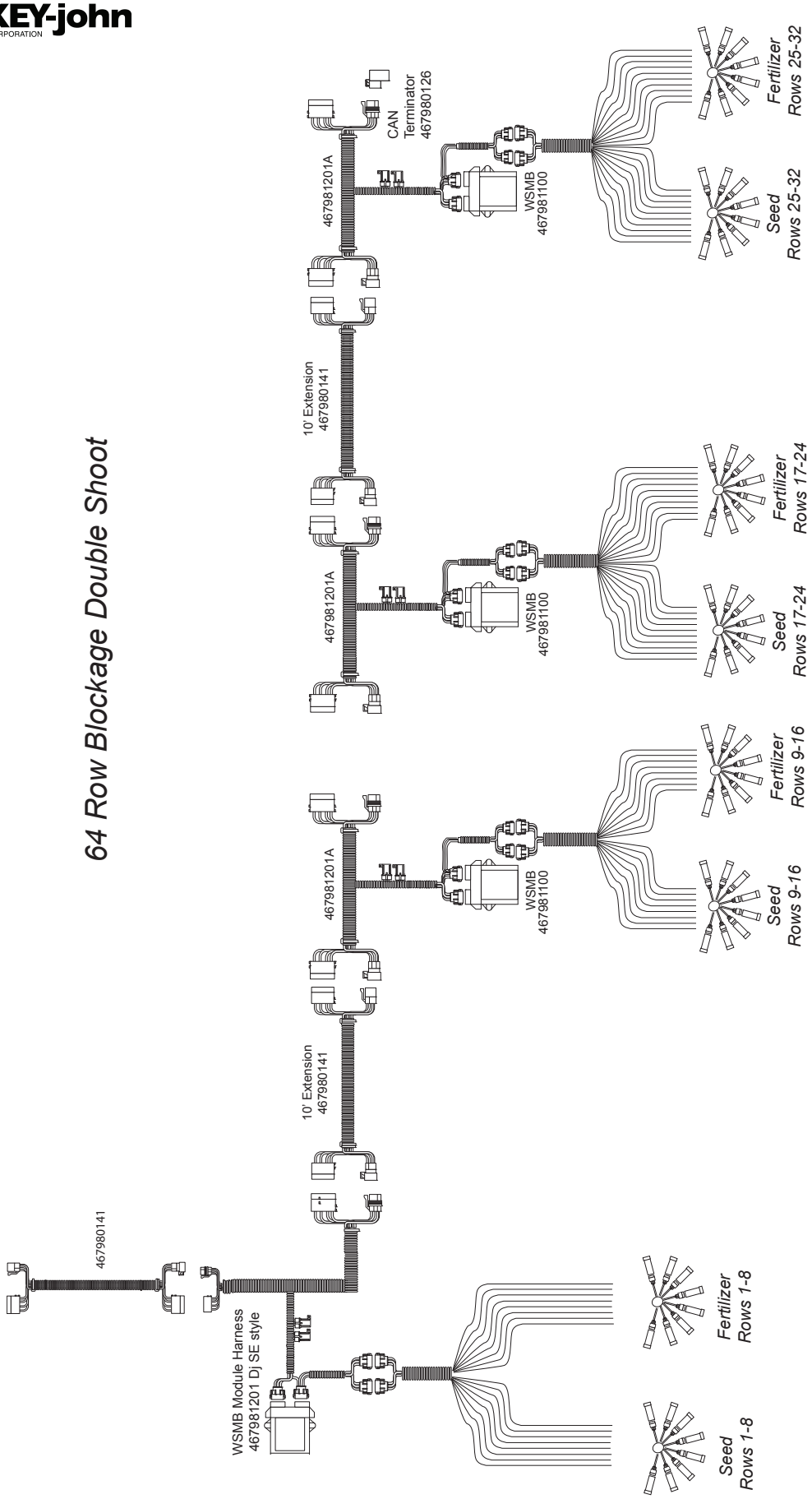

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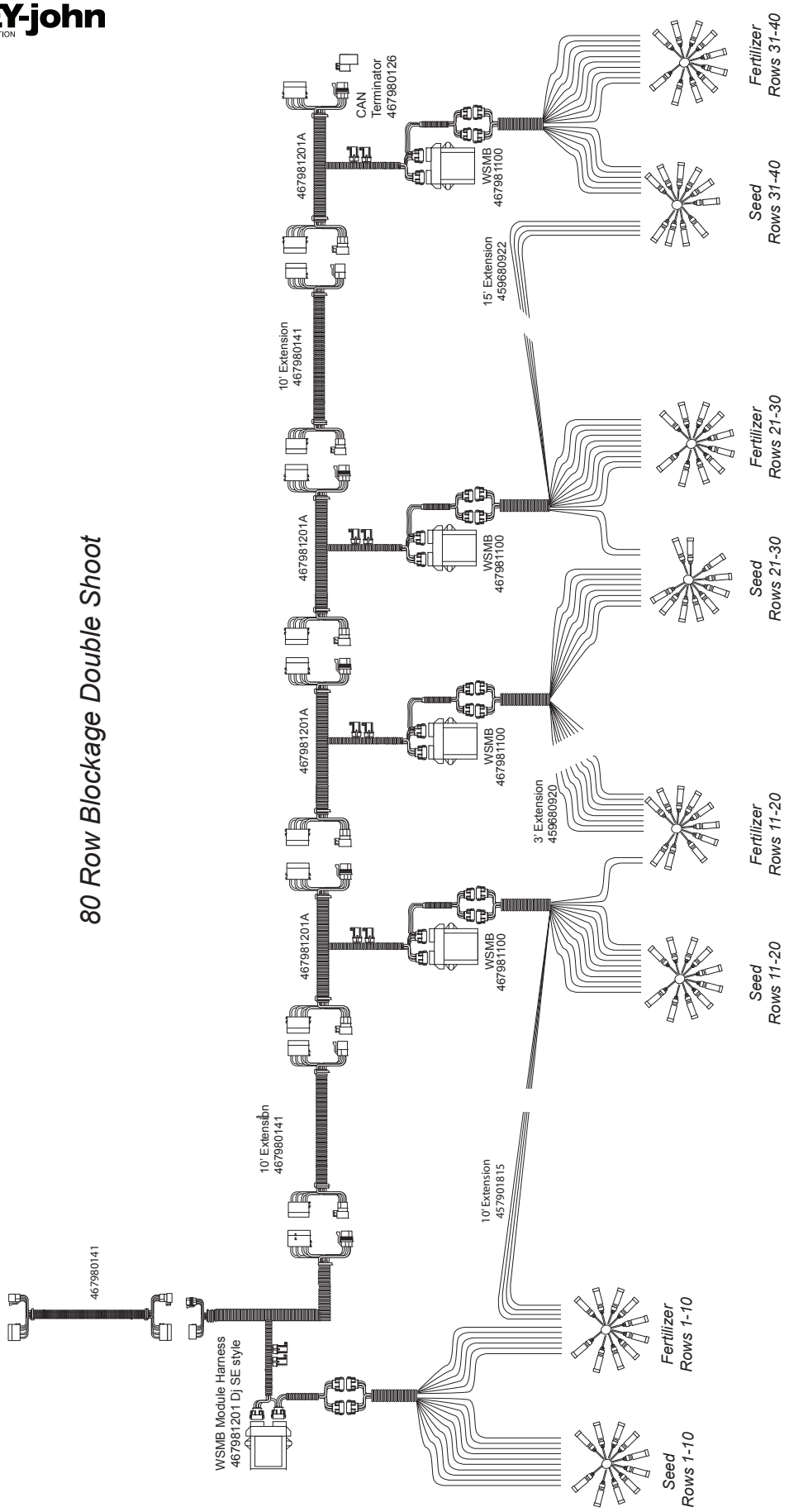

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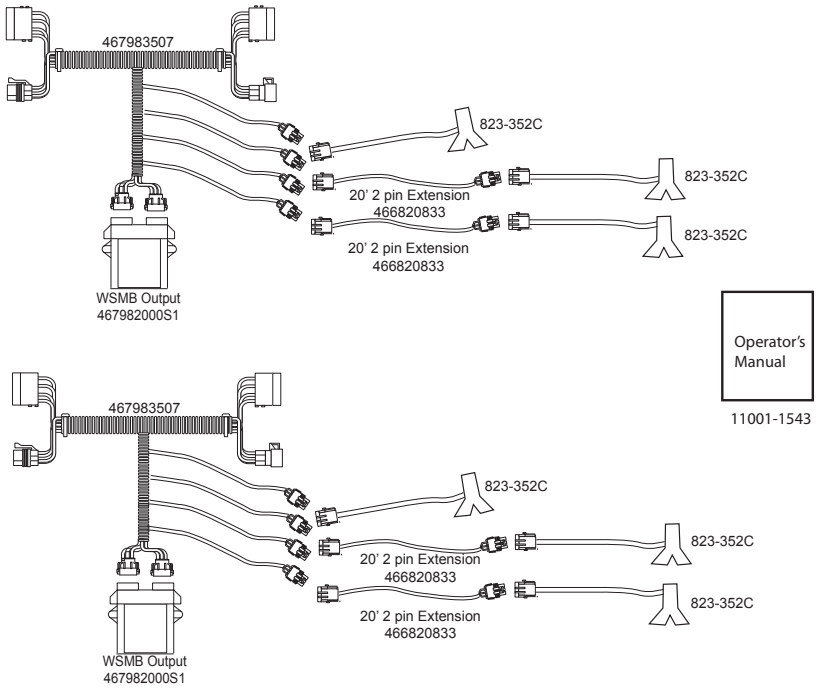
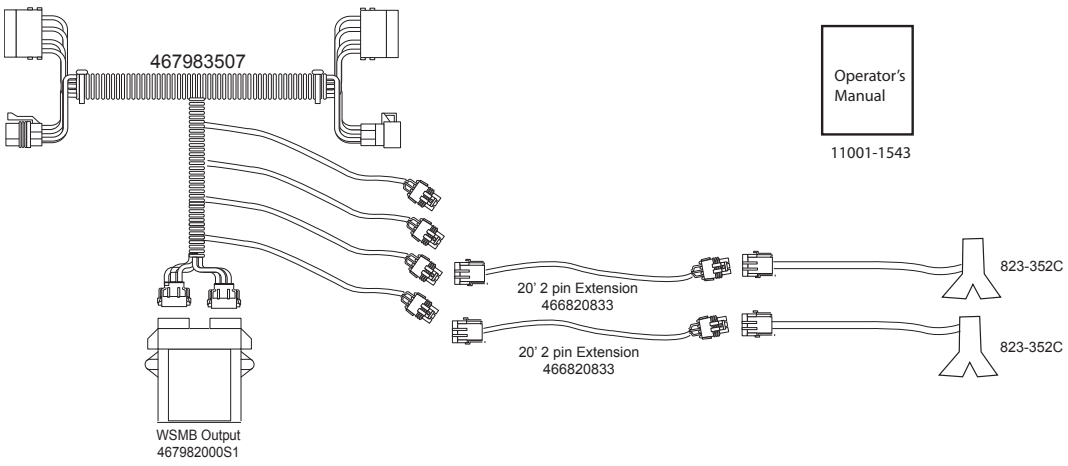
823-317C IntelliAg 6 Row Tramline Kit



823-319C IntelliAg 2 Row Tramline Kit



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