

## Sensor Installation

The installation procedure is required to configure the monitor to the sensors attached to it.

The operator may have to redo the installation if:

- 1) An extra tank is added to the Air Cart.
- 2) Replacing or adding sensors.
- 3) Replacing monitor with a new monitor.

## Installation Precautions

- 1) During installation the monitor has a predetermined order in which it wants the sensors attached. The installer must be sure that the proper sensor is plugged in the proper sequence.
  - i.e. If during installation the installer plugs in the Front Shaft and Ground Speed sensors in the wrong order, the monitor would not know this. The monitor would interpret Front Shaft rpm from the Ground Speed shaft and vice versa.
- 2) There may be occasions when the operator will not have use of all the sensors.
  - i) During sensor installation when the monitor prompts for an unused sensor to be plugged in, the operator can press the SELECT key to skip over the sensor. **The sensor will be assigned a disabled status.** A sensor disabled by this method can only be enabled by repeating the installation procedure.
  - ii) During operation the operator can disable shaft sensors by setting the pulses per revolution to zero. When pulses are set to zero alarms for that sensor and corresponding Bin Level sensor are ignored and no monitoring occurs.
- 3) Blockage modules attached to the harness are handled differently than the sensors attached to the harness. See Assembly Section "*Blockage Module*".

**Optical Sensors** - the blockage modules **have to be unplugged from the harness** before sensor installation can be performed and are connected like the other sensors requested by the monitor during sensor installation.

**Note:** Each monitor is unique to the sensors installed. If monitor is moved to another Air Cart it has to be reprogrammed to match the sensors.

Sensor Installation Order
Speed (Ground)
Fan 1
Fan 2
Shaft 1
Shaft 2
Shaft 3
Shaft 4
Tank 1
Tank 2
Tank 3
Tank 4
VarCon (Variable Rate) (Unit calls for installation only if var controller is installed)
Optical Blockage Modules
Rate Calibration



# Monitor

## Sensor Installation - Continued

### Installation Procedure

1. **Disconnect** all the sensors (3 pin connector) from the harness before turning monitor on.

Turn monitor on. With no sensors found, the monitor proceeds to the "Startup menu" screen.

Use the Up/Down keys to select "Learn New System". Press the soft key below SELECT to enter the "Install New System" mode.

2. The monitor will ask if you want to proceed or exit.

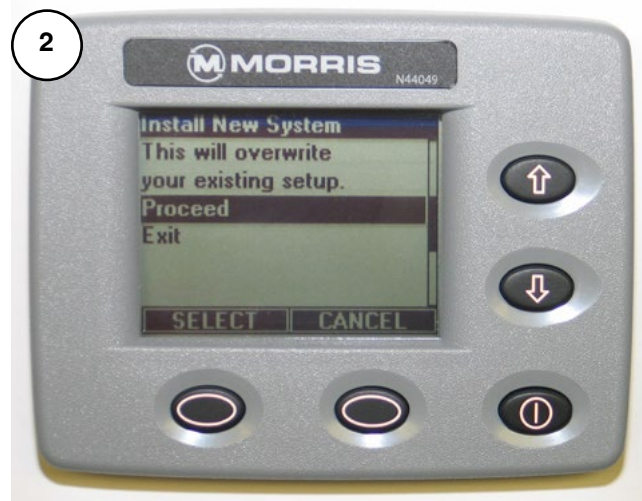
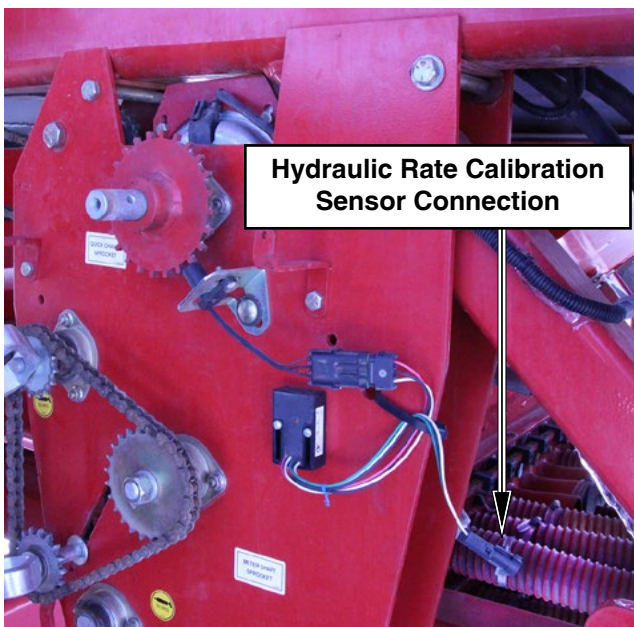
With "Proceed" highlighted, press the SELECT key to enter the "Install New System" mode.

3. The display will indicate to install the speed sensor indicating that the ground speed sensor may now be connected. Connect the ground speed sensor.

The monitor will give a double beep when it acknowledges the sensor.

Continued on next page.

**Note:** Disconnect Hydraulic Rate Calibration at sensor connection indicated below.



## Sensor Installation - Continued

### Installation Procedure - Continued

- The display will indicate to install the fan sensor indicating that the fan sensor may now be connected. Connect the fan sensor.

The process is the same for rest of the sensors in the sequence.

- When the monitor requests a sensor that **will not be used** in the configuration, use the Up/Down keys to select “Skip this Sensor” and press the soft key below SELECT and the monitor will skip the sensor and advance to the next one in the sequence.

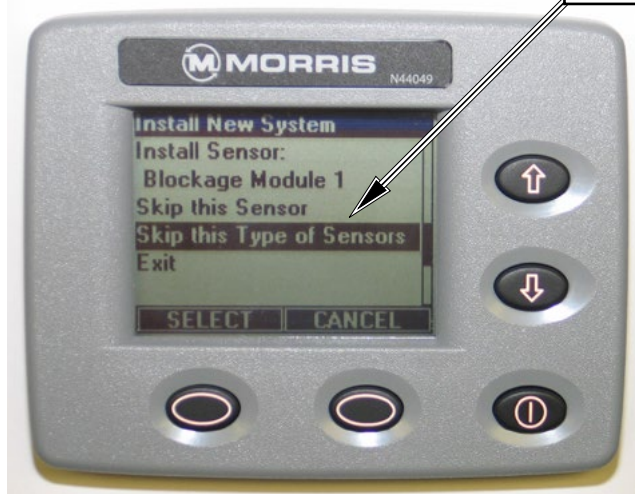
**Note:** There are **12 Blockage Modules**. To skip past the blockage modules use the Up/Down keys to select “Skip this Type of Sensors” and press the SELECT key, the monitor will skip all of the blockage modules and advance to the next type of sensor in the sequence.

- When all sensors in the list have either been learned or skipped, the monitor will display “Installation Complete”. Use the Up/Down keys to select “Exit” press the SELECT key to return to the main “Startup Menu”.

To verify the installation, turn the monitor off, then turn it on again. The monitor will now proceed to the “Operating” screen.



OR



## Rate Calibration

The practice of doing a rate calibration is strongly recommended as it will confirm the **actual** amounts of product being metered.

The following procedure should be followed for every change of product.

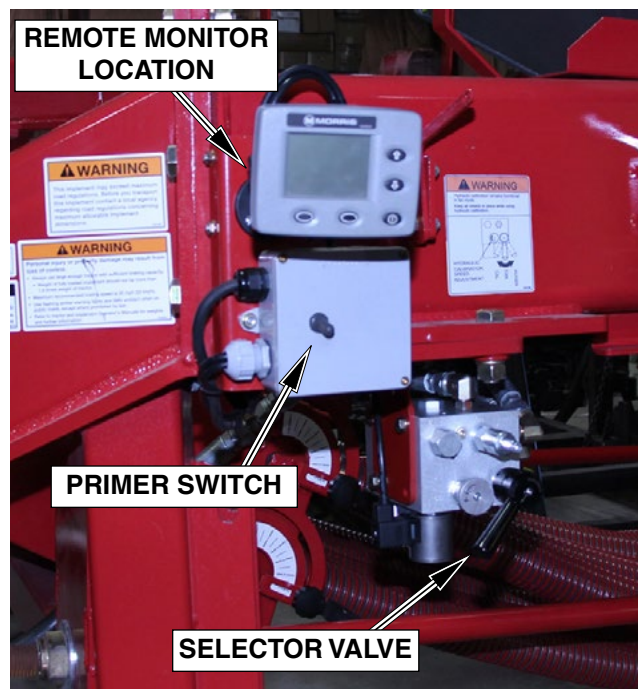
- Ensure correct seed plates are installed.
- Fill tank 1/2 full and drive 600 - 1000 feet to compact product in the tanks.
- Select and install meter rate sprocket per Rate Chart.
- Set Flapper Valves to the “**Calibration**” position.
- Remove the metering chain from the transmissions that are **not** being checked.
- Open lower collector door at the bottom of the collector body.
- Hook the Rate Calibration Insert on collector bottom and rotate up into position. Secure in place with slide lock.
- Slide rate check box on the collector body.
- Engage hydraulic lever to run air cart.
- **Turn off fan** by switching selector valve (located in the fan supply line) to calibration position.
- **Prime metering wheels first** by using the primer switch to start and stop the meter drive. Allow the drive to run until material begins to fall through the collector body.

**Note:** *Ensure the fan is not running.*

- Empty material from rate check box and reinstall it on the same collector.
- The monitor can be relocated to the remote monitor location for ease of calibration. The 10 pin plug connects to the monitor.

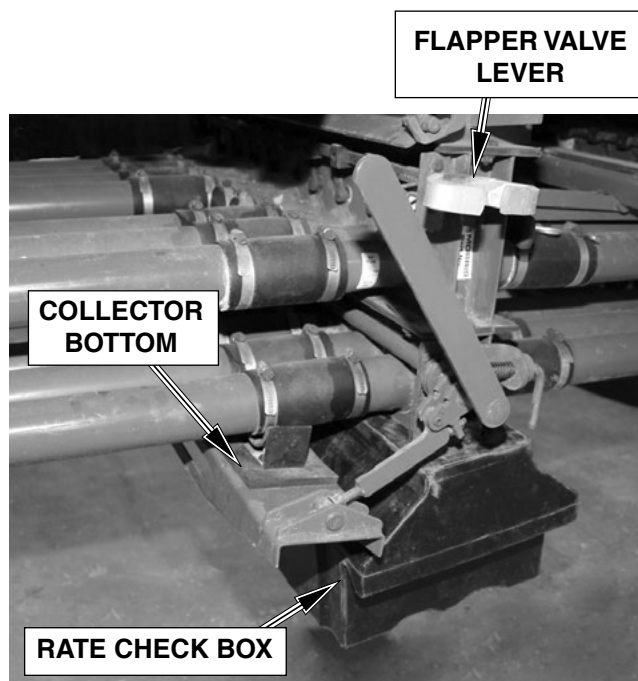
## Actual Sample

- See following page.



## Important

Flapper Valves must be set to “**CALIBRATION**”



Double Shoot Shown

# Monitor

## Rate Calibration - Continued

### Actual Sample

Example: Calibrate Shaft 1.

1. From the "Operating Screen" press the MENU key to enter the "Settings Menu".

Use the Up/Down keys to select "Rate Calibration" press the SELECT key to enter function.

2. Under "Rate Calibration" use the Up/Down keys to select "Shaft 1 Settings" press the SELECT key to enter function.

3. Engage Hydraulic Calibration Motor by holding switch in on position to begin Area count.

4. Release switch when desired Area count is reach on the monitor.

5. Remove the rate check box from the collector body.

Weigh the sample by using tarp straps to hook rate check box to spring scale.

**Note: Remember to subtract the weight of the rate check box from the total sample weight. Accuracy of sample is critical for actual application rate accuracy.**

6. Press the SELECT key to enter "Weight". Use the Up/Down keys to change the value to the sample weight. The Monitor automatically displays application rate under Area.

**Note: The monitor only displays 2 decimal places but calculates area to 4 decimal places. This is why in the illustration with an Area of 0.50 acres (the actual area count was 0.5032) with a weight of 20 lbs. the actual rate per acre is 39.75 lb/ac.**

- 7 Use the Up/Down keys to select "Exit" press the SELECT key to return to "Settings Menu".

8. Replace the bottom of the collector. Place rate check box into storage bracket.

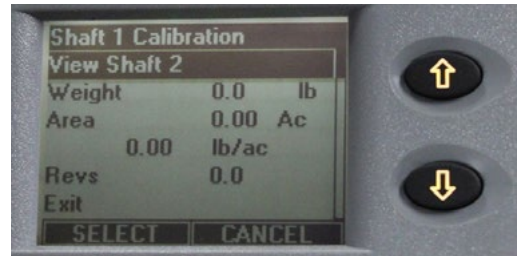
Follow the above procedure to check the rate of the other tanks.

**Note: Exit and re-enter the Rate Calibration program between each calibration test. Exiting the program Zeros the Area counter.**

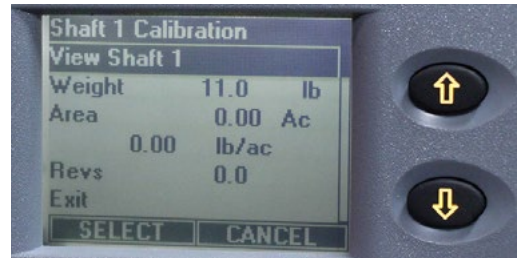
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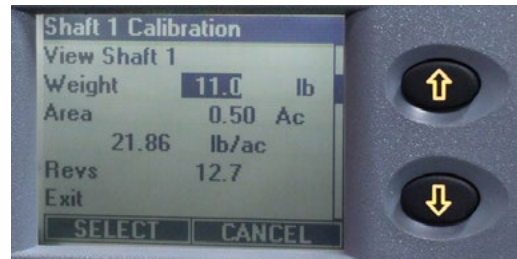
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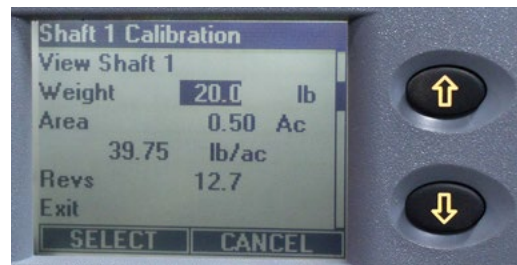
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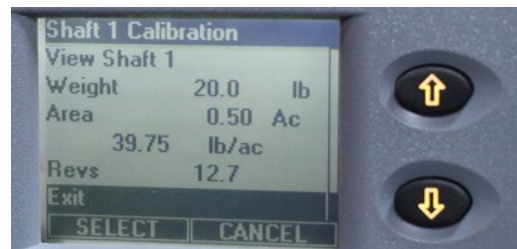
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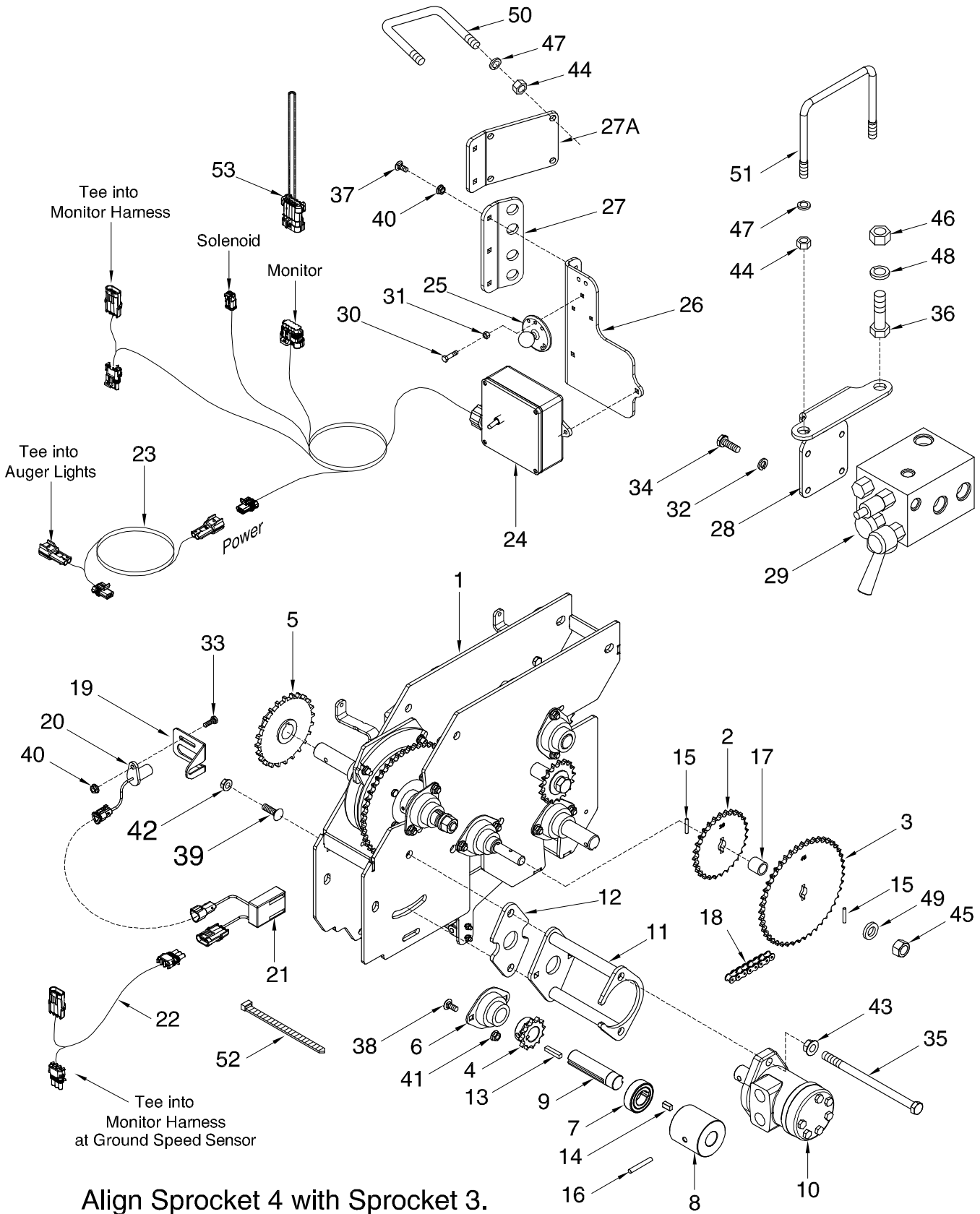
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# Transmission Calibration Hydraulic - Optional

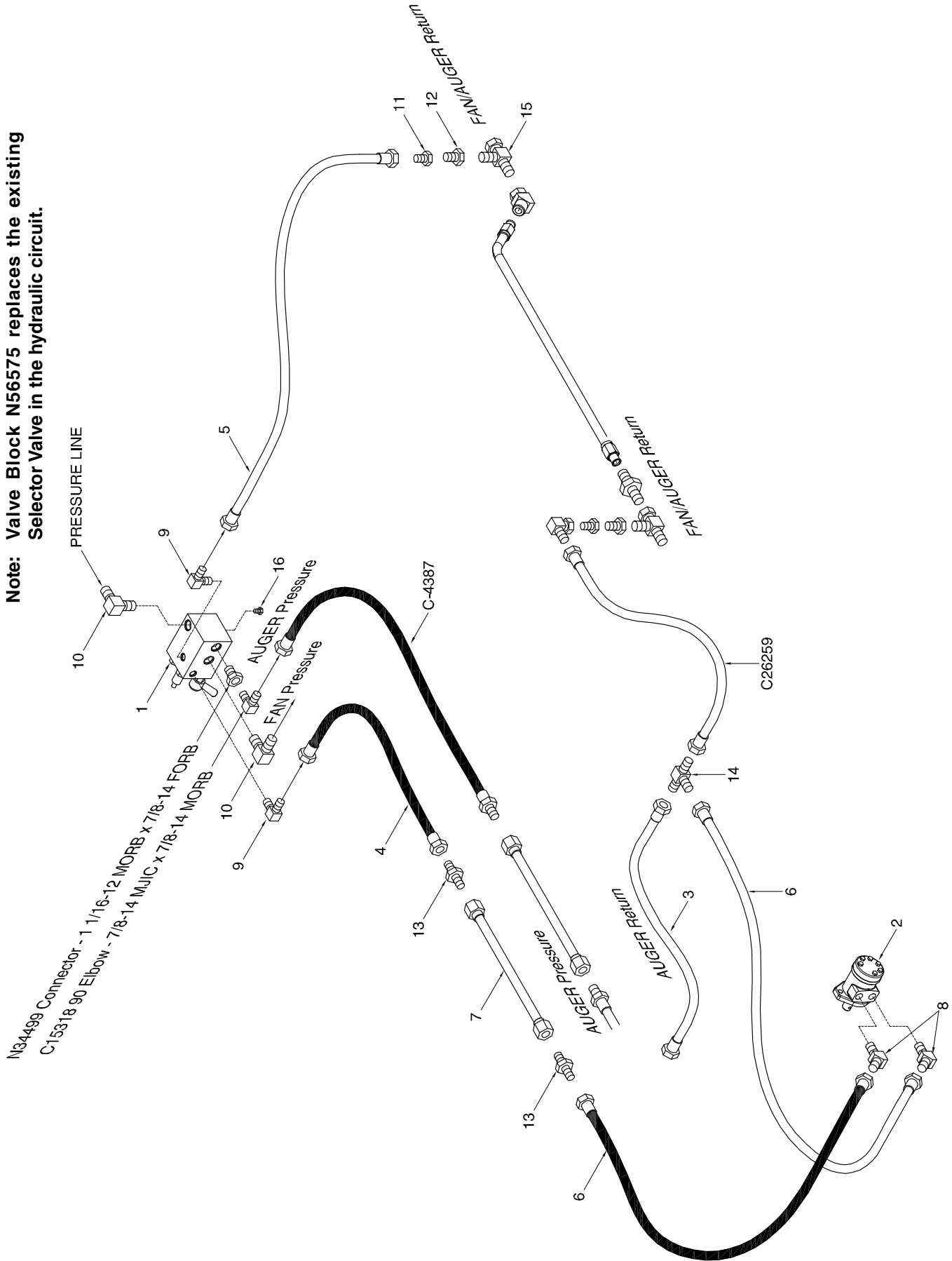


## Metering - Calibration Hydraulic - Optional

Item	Part No.	Description	Qty
1	*****	Rear Transmission .....	1
2	*****	Tire Sprocket .....	1
3	N27445	Sprocket - 40A45 (P-Drive) .....	1
4	D17946	Sprocket - 40B12 w/1.002" Bore .....	1
5	N53013	Feedback Wheel .....	1
6	N27411	Flangette Bearing .....	1
7	N55485	Bearing - One-Way .....	1
8	N53941	Hub - 1-Way Bearing Mount .....	1
9	N53942	Shaft - Sprocket Mount .....	1
10	N29319	Motor .....	1
11	N53940	Motor Mount Bracket .....	1
12	N55773	Hydraulic Spacer Plate .....	1
13	S10730	Key - 1/4 Square x 1 1/4 Lg .....	1
14	N55486	Key - 1/4 x 5/16 x 5/8 Lg .....	1
15	N27395	Pin-Drive - 3/16 x 1 Lg (Groove) .....	2
16	N29375	Pin-Drive - 5/16 x 1 1/2 Lg (Groove) .....	1
17	N19577	Bushing Spacer - 0.657 ID x 7/8 OD x 7/8 Lg .....	1
18	N56573	Chain - #40-54 Link - 9365, 9450 and 9535 .....	1
	N37414	Chain - #40-65 Lnk W/Conn+Offset - 9445, 9550 and 9650 .....	1
	N16904	Chain - #40-68Link W/Conn - 9800 .....	1
19	N45199	Sensor Bracket .....	1
20	N56511	Hall Effect Sensor .....	1
21	N53300	Sensor - Hall Effect Adaptor .....	1
22	N56574	Wiring Harness - Sensor Tee - 24 Lg .....	1
23	N56471	Extension Harness - 160 Lg - 9365, 9450 and 9535 .....	1
	N56472	Extension Harness - 192 Lg - 9445, 9550, 9650 and 9800 .....	1
24	N56470	Switch Box - Hydraulic Calibration .....	1
25	N55469	Mounting Ball - Monitor Mount - 1 Diameter Ball .....	1
26	N55772	Mounting Plate - Switch .....	1
27	N55771	Mounting Plate - Hydraulic Calibration - 9365, 9450 and 9535 .....	1
27A	N56891	Mount Bracket - Hydraulic Calibration - 9445, 9550, 9650 and 9800 .....	1
28	N55780	Plate-Valve Block Mount - 9365, 9450 and 9535 .....	1
	N56892	Plate - Valve Mount Hydraulic Calibration - 9445, 9550, 9650 and 9800 .....	1
29	N56575	Valve Block - Hydraulic Calibration .....	1
30	N16716	Screw - #10-24 x 1 Lg - Machine .....	3
31	N37787	Locknut - #10-24 UNC Nylon Insert .....	3
32	W-523	Lockwasher - 3/8 .....	3
33	W-469	Hex Bolt - 1/4 x 3/4 .....	1
34	W-475	Hex Bolt - 3/8 x 1Lg .....	3
35	W-3687	Hex Bolt - 1/2 x 8 Lg .....	2
36	D-5254	Hex Bolt - 3/4 x 2 3/4 Lg - 9365, 9450 and 9535 .....	2
37	D-5258	Carriage Bolt - 1/4 x 3/4 Lg .....	5
38	D-5259	Carriage Bolt - 5/16 x 3/4 Lg .....	2
39	D-5260	Carriage Bolt - 3/8 x 1 1/4 Lg .....	1
40	D-5277	Locknut - 1/4 Serrated .....	6
41	D-5278	Locknut - 5/16 Serrated .....	2
42	D-5279	Locknut - 3/8 Serrated .....	1
43	D14565	Locknut - 1/2 Serrated .....	2
44	W-514	Hex Nut - 3/8 - 9445, 9550, 9650 and 9800 .....	6
45	W-517	Hex Nut - 5/8 .....	1
46	W-518	Hex Nut - 3/4 - 9365, 9450 and 9535 .....	2
47	W-523	Lockwasher - 3/8 - 9445, 9550, 9650 and 9800 .....	6
48	W-527	Lockwasher - 3/4 - 9365, 9450 and 9535 .....	2
49	W-793	Washer - 5/8 ID x 1 1/8 OD x 3/16 .....	1
50	N15098	U-Bolt - 3/8 x 4 x 5 UL - 9445, 9550, and 9650 .....	2
51	N19723	U-Bolt - 3/8 x 4 x 6 15/16 UL - 9445, 9550, and 9650 .....	1
	N25457	U-Bolt - 3/8 x 4 x 8 15/16 UL - 9800 and 91000 .....	1
52	D-4838	Nylon Tie Strap-Black - 14 1/2 Lg .....	2
	N29355	Decal - "Warning-Moving Parts" (Not Shown) .....	3
	N55786	Decal - Hydraulic Block Operation (Not Shown) .....	1
53	N56473	Plug - Monitor Connector .....	1

# Transmission Calibration Hydraulic - 9365, 9450 , 9535 Tow Behind

**Note:** Valve Block N56575 replaces the existing Selector Valve in the hydraulic circuit.

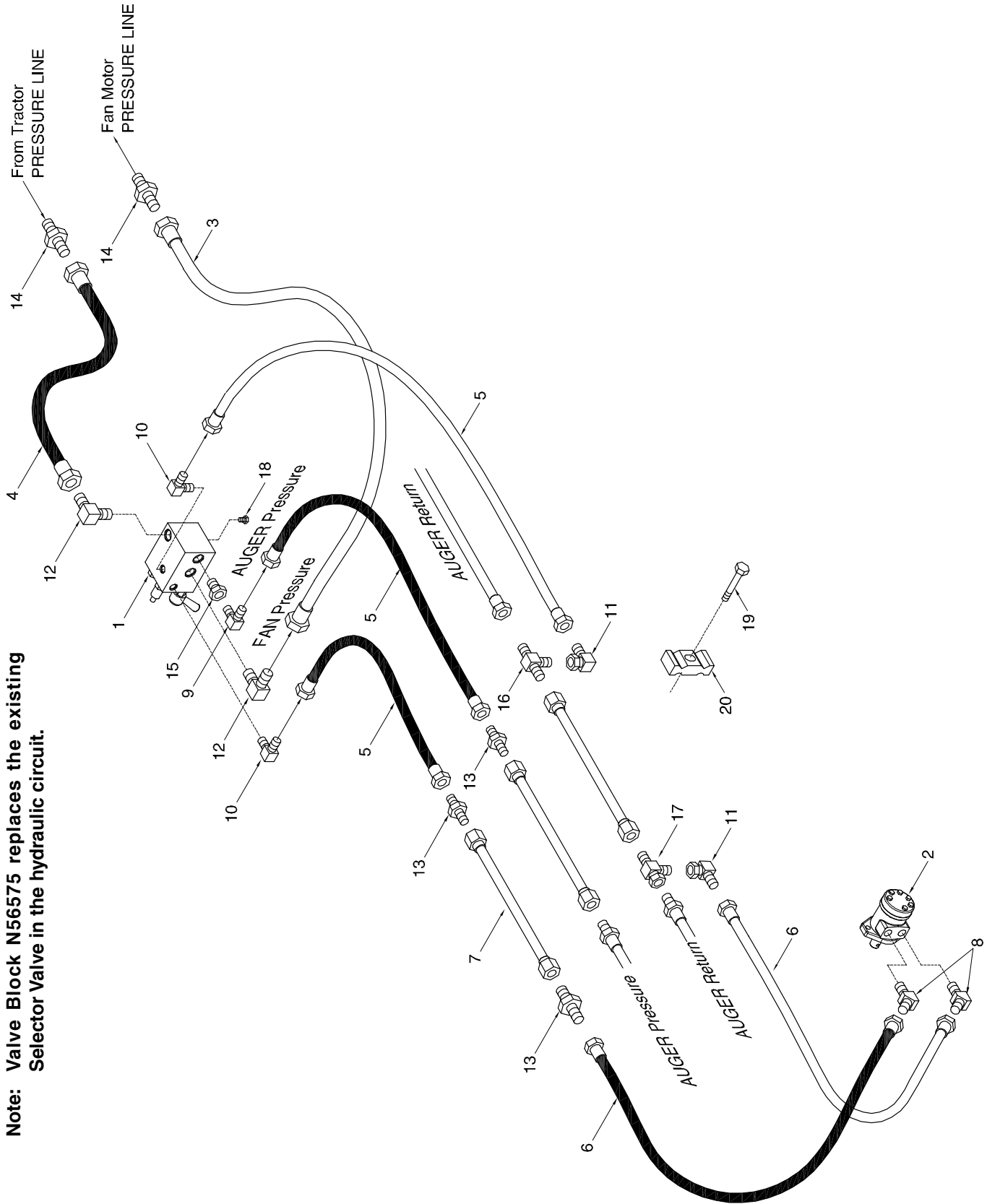




**Calibration Hydraulic - 9365, 9450 , 9535 Tow Behind**

<b>Item</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
1	N56575	Valve Block - Hydraulic Calibration.....	1
2	N29319	Motor.....	1
3	C-4468	Hyd Hose - 1/2 x 24 Lg w/7/8-14 FJIC.....	1
4	K-5685	Hyd Hose - 1/2 x 48 Lg w/7/8-14 FJIC.....	1
5	F-4565	Hyd Hose - 1/2 x 60 Lg w/7/8-14 FJIC.....	1
6	C18779	Hyd Hose - 1/2 x 72 Lg w/7/8-14 FJIC.....	2
7	<b>C-4368</b>	<b>Oil Line - 5/8 x 88 Lg w/ 7/8-14 FJIC .....</b>	<b>1</b>
8	N49599	45 Elbow - 7/8-14 MJIC x 7/8-14 MORB .....	2
9	S39505	90 Elbow - 7/8-14 MJIC x 9/16-18 MORB .....	2
10	N16359	90 Elbow - 1 1/16-12 MJIC x 1 1/16-12 MORB .....	2
11	N19337	Connector - 7/8-14 MJIC x 1 1/16-12 FJIC .....	1
12	N19338	Connector - 1 1/16-12 MJIC x 1 5/16-12 FJIC .....	1
13	C-4469	Connector - 7/8-14 MJIC.....	2
14	C-4394	Tee - (3) 7/8-14 MJIC .....	1
15	N19336	Tee - Swivel - (1) 1 5/16-12 FJIC x (2) 1 5/16-12 MJIC .....	1
16	N51953	Plug - 7/16-20 MORB.....	1

# Transmission Calibration Hydraulic - 9365, 9450 Tow Between



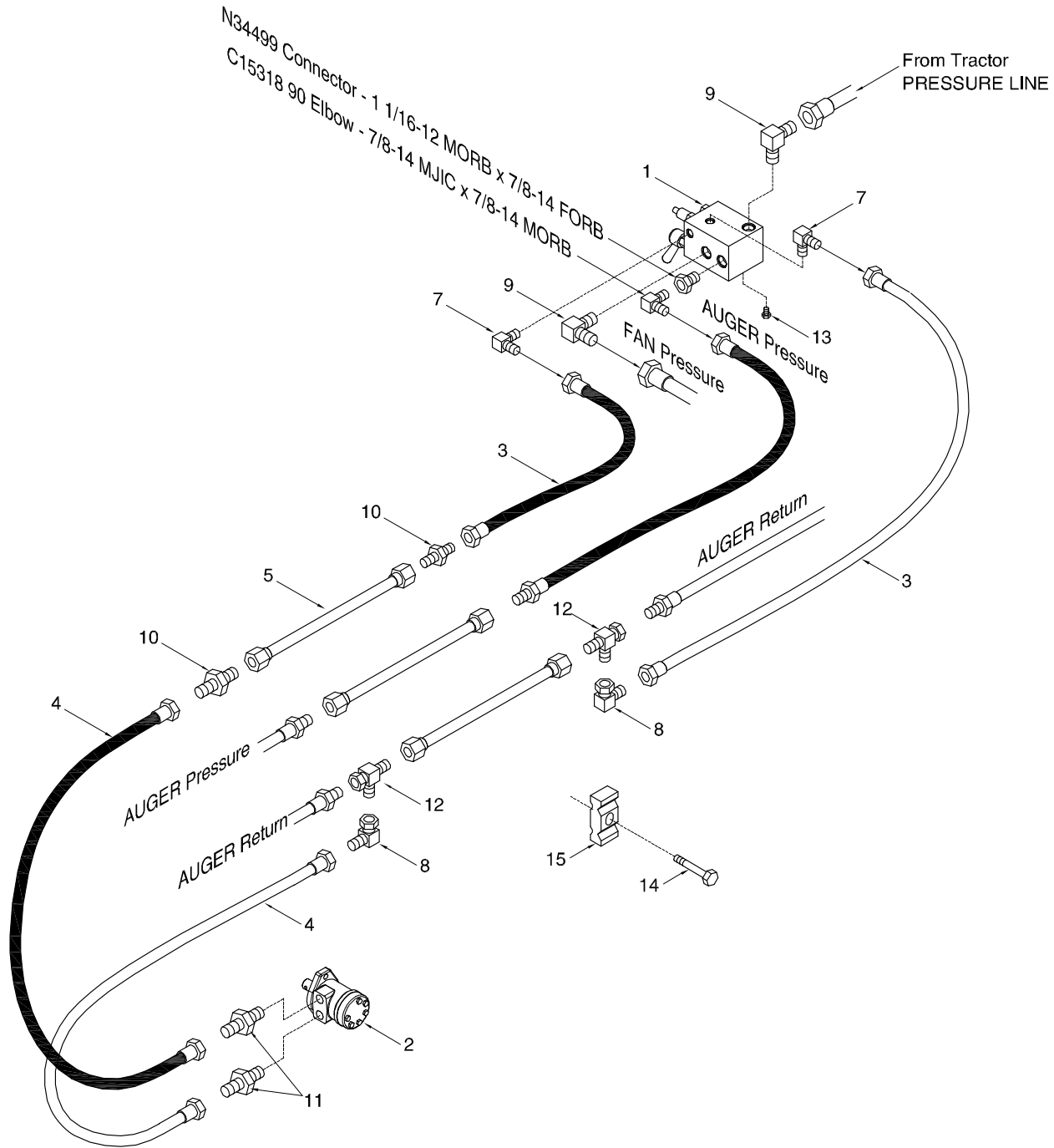
**Note:** Valve Block N56575 replaces the existing Selector Valve in the hydraulic circuit.

**Calibration Hydraulic - 9365, 9450 Tow Between**

<b>Item</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
1	N56575	Valve Block - Hydraulic Calibration.....	1
2	N29319	Motor.....	1
3	N37900	Hyd Hose - 3/4 x 18 Lg w/1 1/16-12 FJIC .....	1
4	N56572	Hyd Hose - 3/4 x 72 Lg - 1 1/16-12 FJIC .....	1
5	K-5685	Hyd Hose - 1/2 x 48 Lg w/7/8-14 FJIC.....	3
6	C18779	Hyd Hose - 1/2 x 72 Lg w/7/8-14 FJIC.....	2
7	<b>C-4368</b>	<b>Oil Line - 5/8 x 88 Lg w/ 7/8-14 FJIC .....</b>	<b>1</b>
8	<b>N49599</b>	<b>45 Elbow - 7/8-14 MJIC x 7/8-14 MORB .....</b>	<b>2</b>
9	C15318	90 Elbow - 7/8-14 MJIC x 7/8-14 MORB .....	1
10	S39505	90 Elbow - 7/8-14 MJIC x 9/16-18 MORB .....	2
11	K-5806	90 Elbow - Swivel - 7/8-14 MJIC x 7/8-14 FJIC .....	2
12	N16359	90 Elbow - 1 1/16-12 MJIC x 1 1/16-12 MORB .....	1
13	C-4469	Connector - 7/8-14 MJIC.....	3
14	N19348	Connector - 1 1/16-12 MJIC.....	2
15	N34499	Connector - 1 1/16-12 MORB x 7/8-14 FORB.....	1
16	C-4394	Tee - (3) 7/8-14 MJIC .....	1
17	H18746	Tee - Swivel - (2) 7/8-14 MJIC x (1) 7/8-14 FJIC .....	1
18	N51953	Plug - 7/16-20 MORB.....	1
19	<b>W-1854</b>	<b>Hex Bolt - 3/8 x 3 Lg .....</b>	<b>3</b>
20	<b>C-4698</b>	<b>Nylon Clamp - Oil Line.....</b>	<b>3</b>

# Transmission Calibration Hydraulic - 9800

**Note: Valve Block N56575 replaces the existing  
Selector Valve in the hydraulic circuit.**



**Calibration Hydraulic - 9800**

<b>Item</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
1	N56575	Valve Block - Hydraulic Calibration.....	1
2	N29319	Motor.....	1
3	C-4468	Hyd Hose - 1/2 x 24 Lg w/7/8-14 FJIC.....	2
4	C18779	Hyd Hose - 1/2 x 72 Lg w/7/8-14 FJIC.....	2
5	C-4370	<b>Oil Line - 5/8 x 128 Lg w/ 7/8-14 FJIC .....</b>	<b>1</b>
6	<b>C15318</b>	<b>90 Elbow - 7/8-14 MJIC x 7/8-14 MORB.....</b>	<b>1</b>
7	<b>S39505</b>	<b>90 Elbow - 7/8-14 MJIC x 9/16-18 MORB.....</b>	<b>2</b>
8	<b>K-5806</b>	<b>90 Elbow - Swivel - 7/8-14 MJIC x 7/8-14 FJIC .....</b>	<b>2</b>
9	<b>N16359</b>	<b>90 Elbow - 1 1/16-12 MJIC x 1 1/16-12 MORB.....</b>	<b>2</b>
10	<b>C-4469</b>	<b>Connector - 7/8-14 MJIC .....</b>	<b>2</b>
11	N34505	Connector - 7/8-14 MORB x 7/8-14 MJIC .....	2
12	<b>H18746</b>	<b>Tee - Swivel - (2) 7/8-14 MJIC x (1) 7/8-14 FJIC .....</b>	<b>2</b>
13	N51953	Plug - 7/16-20 MORB.....	1
14	<b>W-1854</b>	<b>Hex Bolt - 3/8 x 3 Lg .....</b>	<b>3</b>
15	<b>C-4698</b>	<b>Nylon Clamp - Oil Line.....</b>	<b>3</b>