Trouble Shooting VRT & ICT Electronics

The X30 or X35 will give a warning when there is a voltage issue or a short in a sensor or harness

The voltage warning will state which ECU is affected CM40 / EM24 (ICT) or older units IB1/MDECU

1. A power cycle of the monitor will need to be preformed to clear the urgent warning after any changes have been made.

2. check all battery /power connections for resistance. Test batteries and clean battery connections.

Unplug all the channels / drives. Up to 4 plugs on the CM40 – perform a power cycle of the monitor.

Channel 1 = tank 1

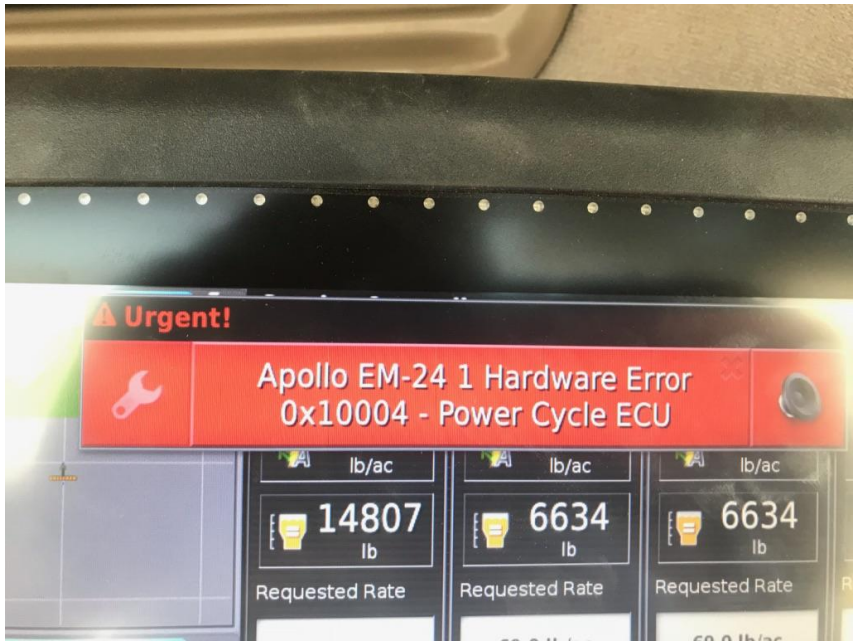
Channel 2 = tank 2

Channel 3 = tank 3

Channel 4 = tank 4

EM24 – see pg. 6 - have up to 40 channels on the first 3 ports,

The tanks can be isolated at the plugs that T off the ICT harness shown on pg. 5



The base for all carts is the CM40 driving the transmissions and monitoring shafts and product rate

Connect one drive at a time and check if voltage warning appears. When the voltage warning appears, it will apply to the harness that was just plugged in.

Fan sensors need to be checked also.

Disconnect all the sensors on the affected tank-

CM40 encoder sensor, meter drive shaft & bin level sensor.

EM24 – see pg. 5 - Monitors the ICT meter shafts, actuates the ICT hydraulic block

Unplug the 3 drive ports – if the warnings go away the EM24 is good.

Reconnect the channel plugs one at a time verifying the status of the warning on the monitor.

ICT meter shafts sensor – 1 sensor on every metering body , ICT valve actuators

Plug in one at a time and checking the monitor for when the voltage warning comes back.

When the voltage warning comes back you just found the sensor with a short… the bad sensor usually has been chewed by a sprocket or a broken wire.

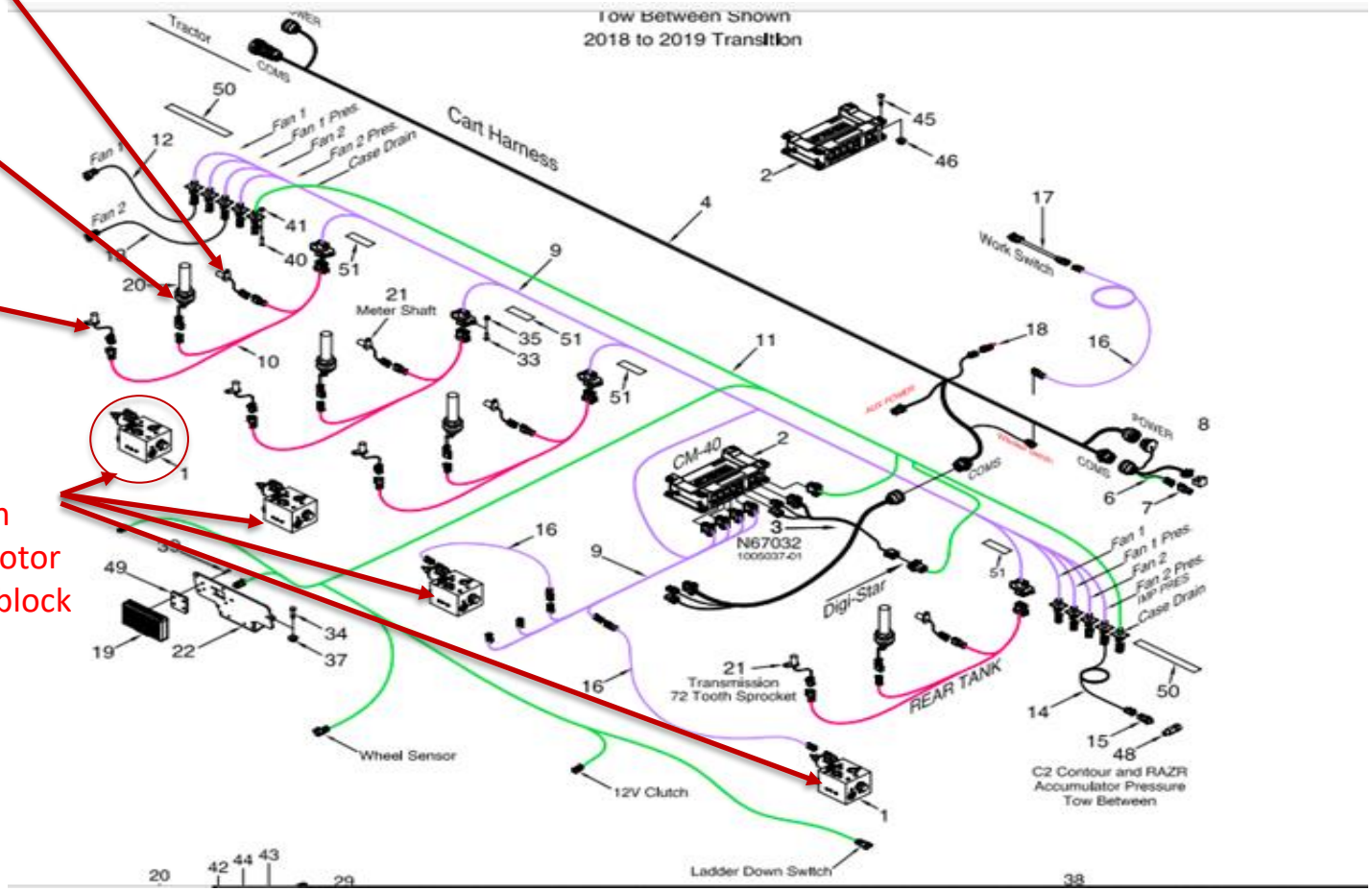
VRT transmission / metering body drive monitoring system

Meter body driveshaft speed sensor

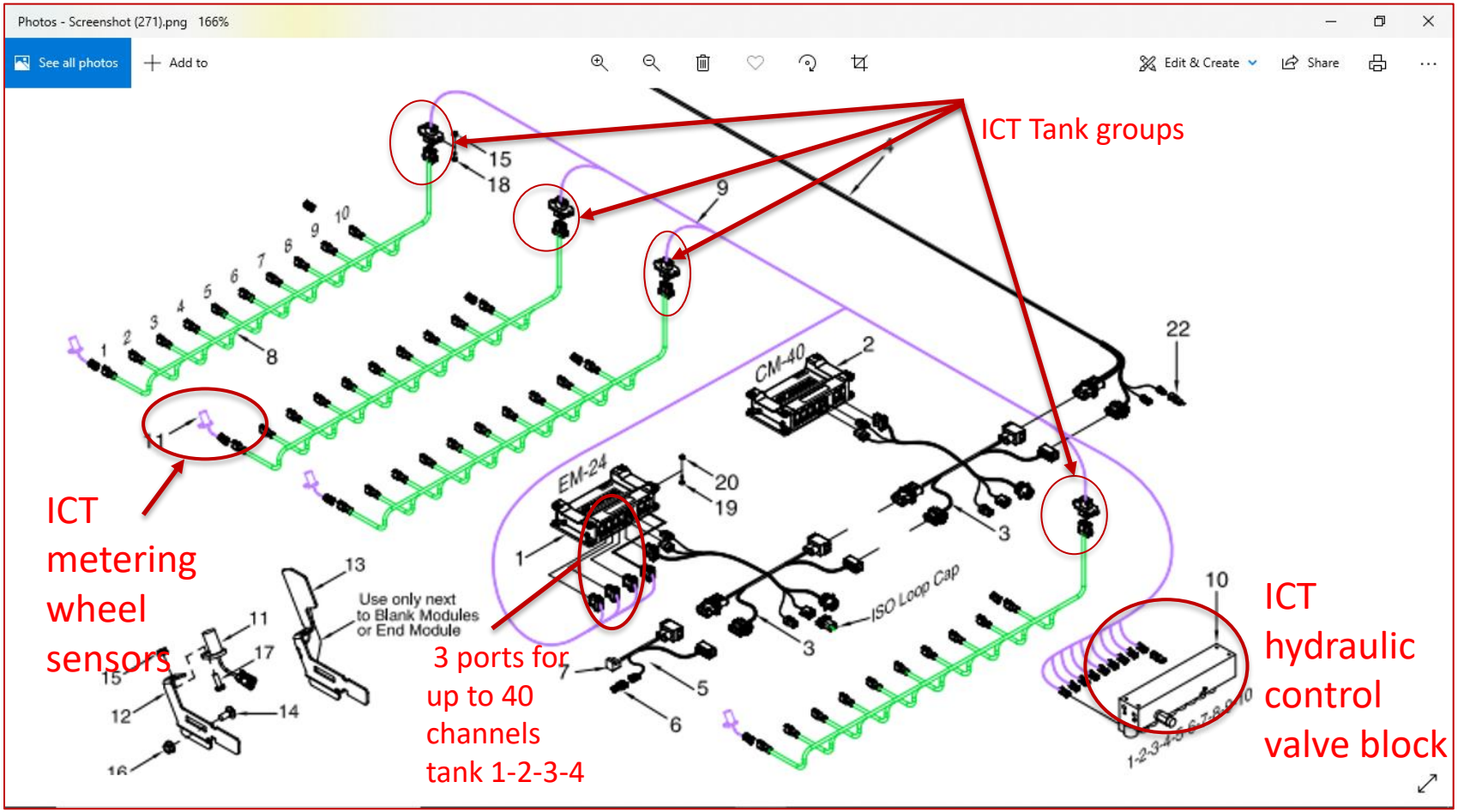
Low bin sensor

Hydraulic motor speed sensor

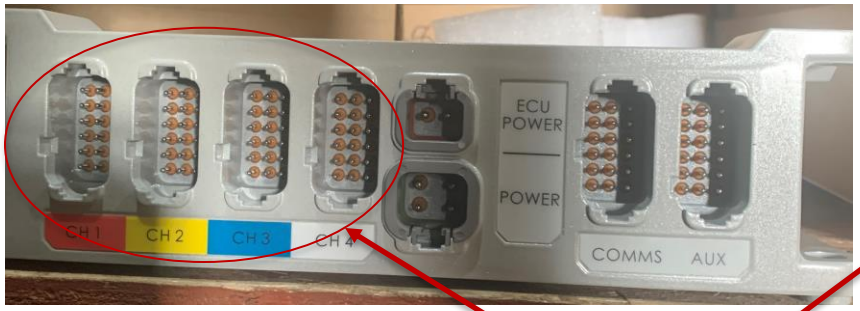
Transmission hydraulic motor PWM valve block



ICT control system



CM40 EM24

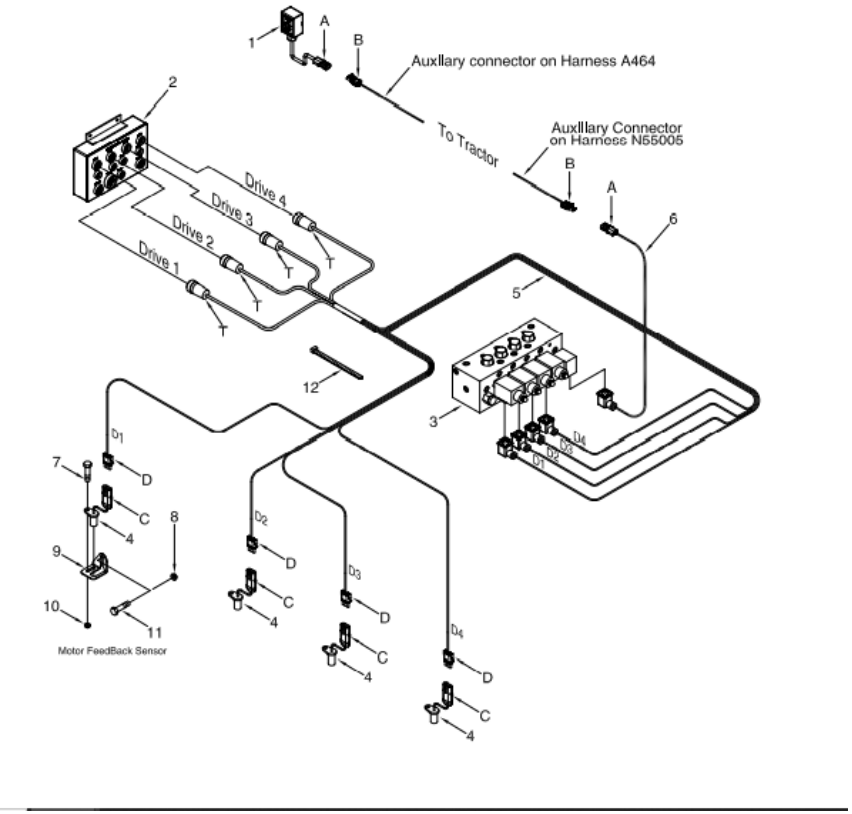


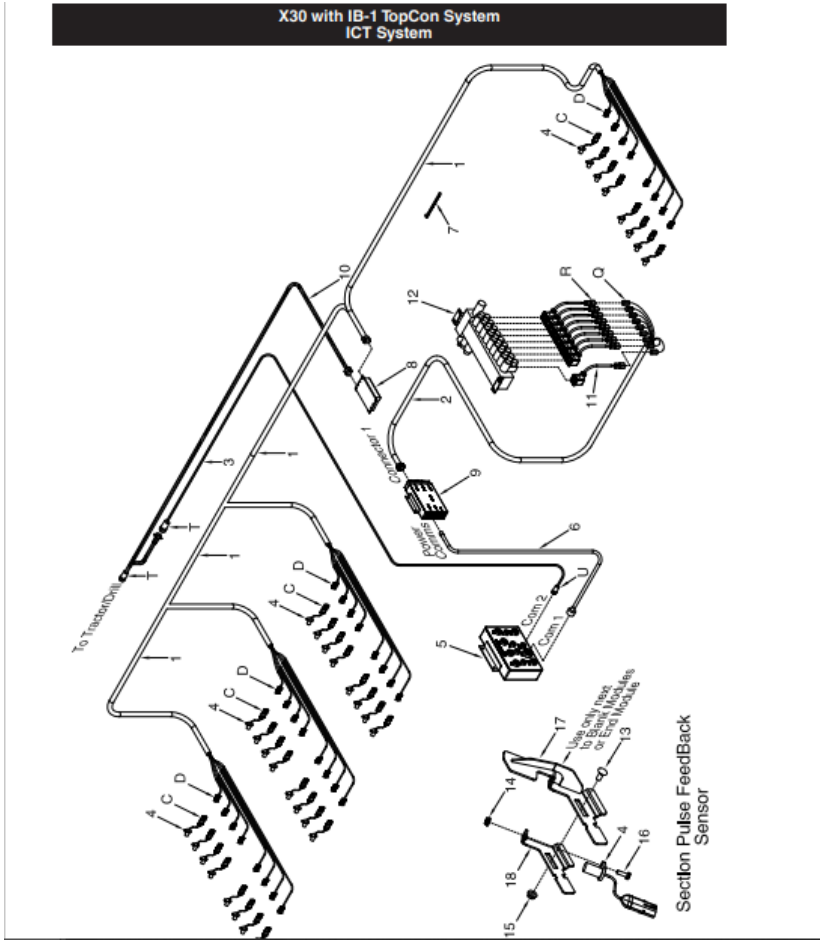
Channels CM40 & EM24

Note the channels 1-40 are within the first 3 ports cover monitoring the ICT sensors across 3 or 4 tanks

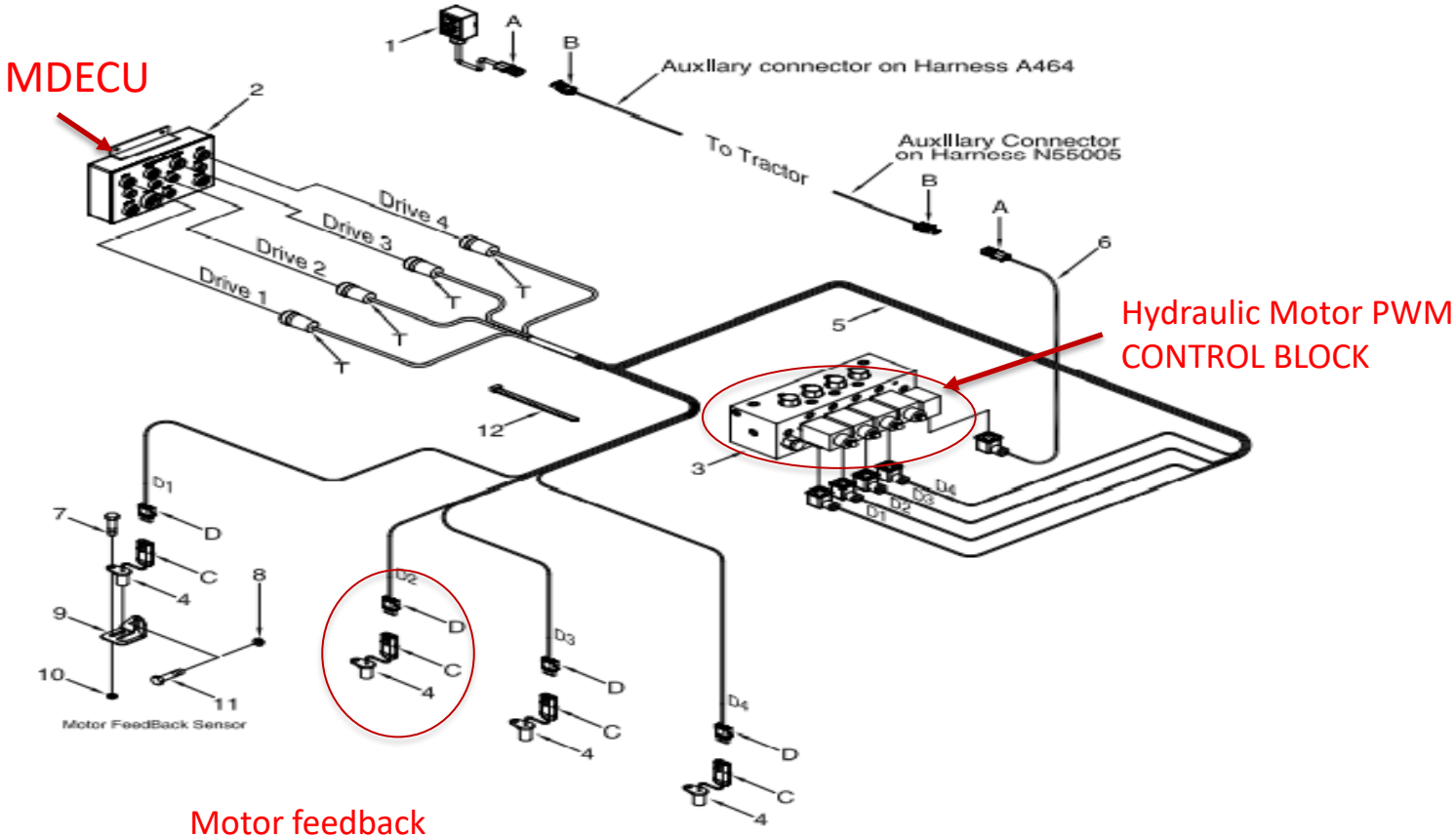
Comms

2015 & Prior Electronic layout

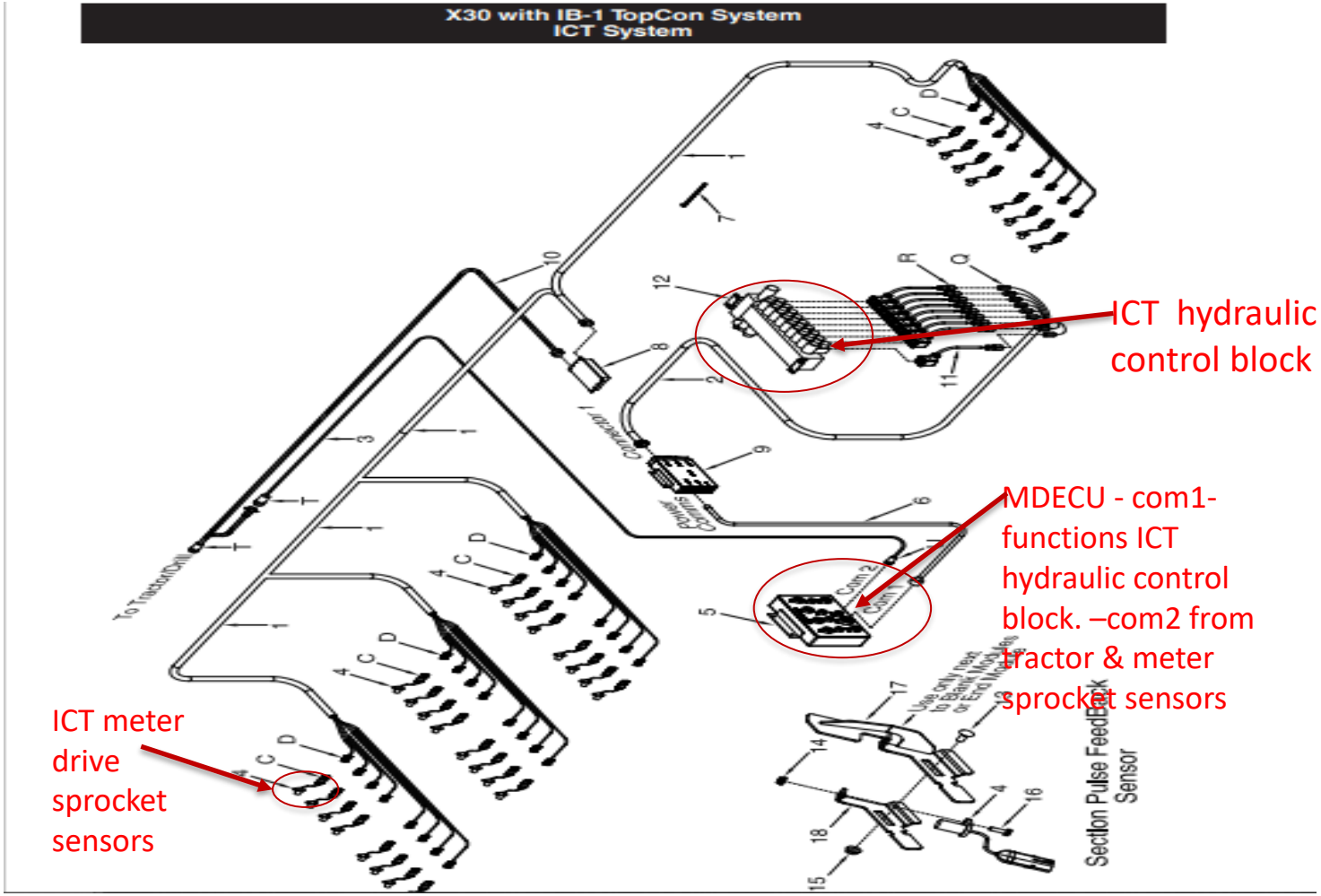
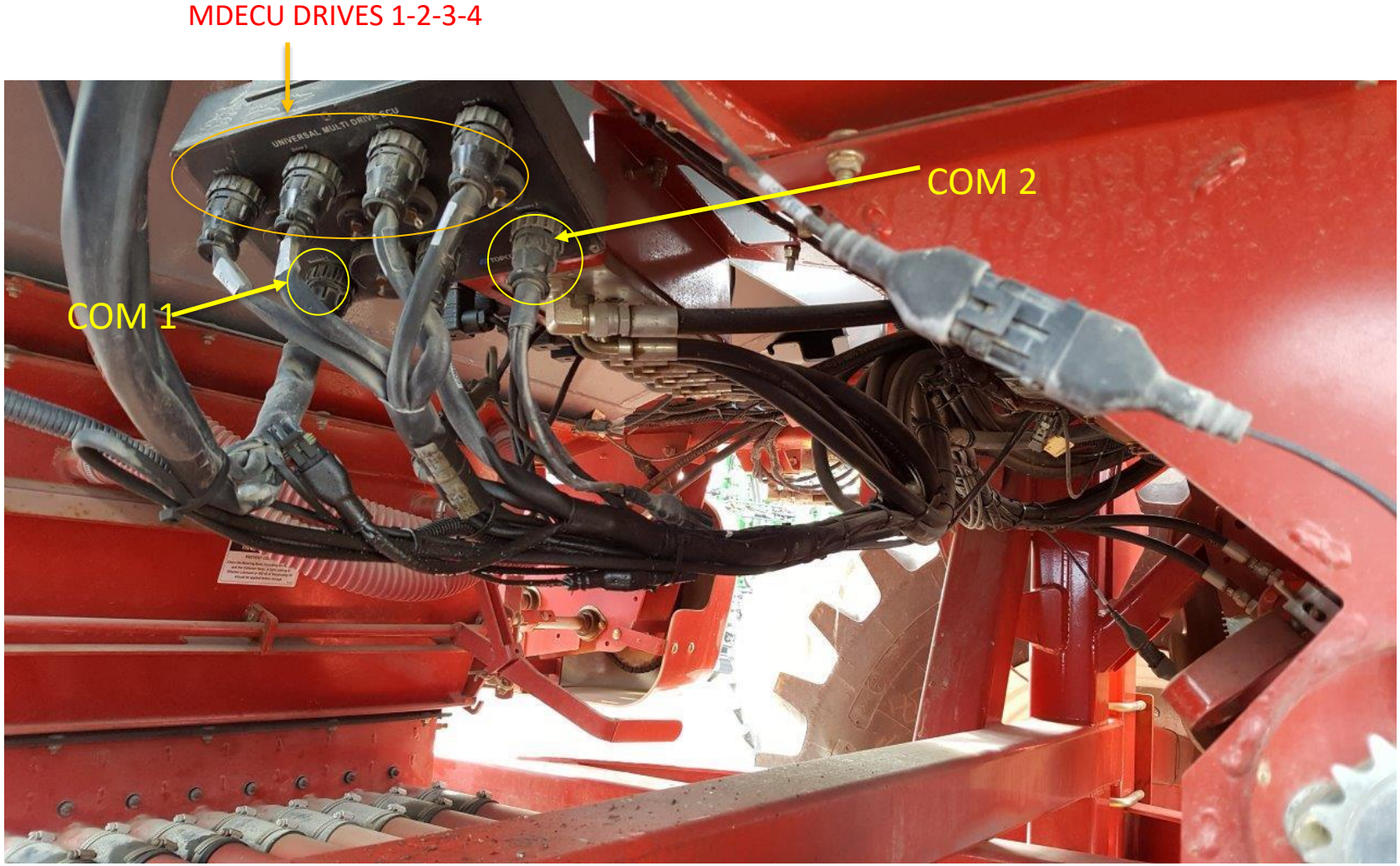




VRT hydraulic motor drive



ICT control system



MDECU