T-630 with John Deere Electronic Engines
Troubleshooting

The T-630 is equipped with a digital readout located in the "Gray Box" on the right side of the engine compartment. This diagnostic gauge gives hours, temperature, RPM, and a number of other items of regular information. In the event of a shut down or failure to start, service codes will be displayed. Before turning the key off, read the displays service codes which can be looked up in the John Deere manual received in the T-630 owner's manual.

The "Gray Box" serves as the junction box between John Deere and the shut down devices external to the John Deere installed on the T-630 as well as the key on/off and engine start signal.

The battery lead to the ECU on the John Deere is fused. Fuses are located in the Deere wiring harness on the right side of the engine down in the engine compartment. Within the Gray Box, terminal B should have 12v power at all times. Check fuses if not.

The fault code received if a T-630 sensor shuts down the engine is: SPN 970 – FMI 31 – Auxiliary Engine Shutdown Switch Active. Three functions on the T-630 will give this code:

1) The E-Stop
2) Low water (radiator) level sensor
3) Low Hydraulic level sensor

All other codes are originated from John Deere and your nearest John Dealer is the best resource for trouble shooting.

In the event of an ECU shut down, re-set the ECU by turning the key off for 20 seconds after recording fault codes or the engine will not re-start.

Frequently asked questions:

Symptom:	**Check:**
Diagnostic Gauge lights do not come on when switch is turned on	Check in-line fuses in John Deere Wiring Harness. (right side of engine, low in compartment)
No power on terminal B of Gray Box	Check in-line fuses in John Deere Wiring Harness. (right side of engine, low in compartment)
Engine Diagnostic lights, but engine does not even try to start (starter does not engage at all)	Refer to flow chart
Engine starts and runs for about 30 seconds, but then quits.	Refer to flow chart
Engine tries to shut down when turning left	Water low in radiator or overflow bottle is empty. Must be water in overflow bottle.
Engine tries to shut down going straight over bumpy surface	Probably low Hydraulic level.
Engine start and runs for 30 seconds with E-Stop in.	This is normal.

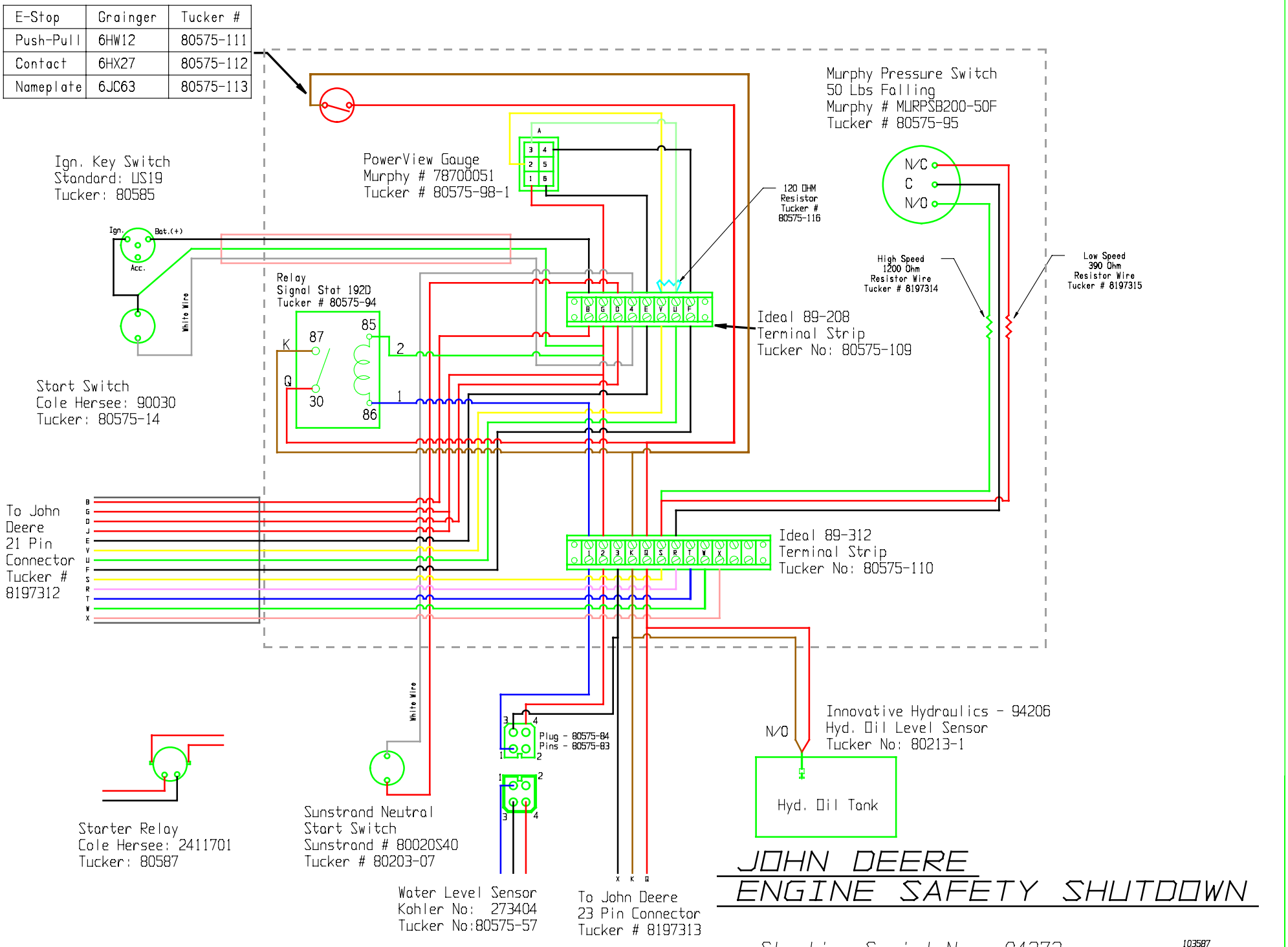
Tuckerbilt T-630 Electronic Engine Controls wiring: Gray junction box to John Deere Harness.

23 Pin Connector (lower of the 2 connectors from the Gray Box to JD harness)					
Pin	Circuit No.	Color	Wire Gauge	Description	Comments
A	n/a			Not used	
B	n/a			Not used	
C	n/a			Not used	
D	n/a			Not used	
E	n/a			Not used	
F	n/a			Not used	
G	n/a			Not used	
H	n/a			Not used	
J	n/a			Not used	
K	941	Brown	16	External shutdown input	Input from T-630 Auxiliary functions to the John Deere ECU to shut down. 3 functions on the T-630 complete this circuit. Low Water Level – is water in the overflow bottle? This can be unplugged to test. Low Hydraulic Level – disconnect K or Q of the oil sensor leads on the bottom terminal strip to test. The E-Stop – disconnect either wire on the E-Stop Contact to test. All T-630 Auxiliary signals can be removed from the circuit temporarily for testing by disconnecting the 23 pin connector. (it is the lower of the two connectors)
L	n/a			Not used	
M	n/a			Not used	
N	n/a			Not used	
O	n/a			Not used	
P	n/a			Not used	
Q	012	Red	16	Switched Power (12v)	Only active when switch is on. Power connection for the External Shutdown (Pin K) circuits.
R	n/a			Not used	
S	n/a			Not used	
T	n/a			Not used	
U	n/a			Not used	
V	n/a			Not used	
W	n/a			Not used	
X	050	Black	16	System Ground	General system ground. Not for sensor return.

Tuckerbilt T-630 Electronic Engine Controls wiring: Gray junction box to John Deere Harness.

21 Pin Connector (upper of the 2 connectors from the Gray Box to JD harness)						
Pin	Circuit No.		Color	Wire Gauge	Description	Comments
	Std.	Ext.				
A	n/a				Not used	
B	022	032	Red	12	Fused Un-switched Battery Power	To “B” terminal of gray box. In-Line Fuse in JD harness hanging low.
C	n/a				Not used	
D	422	422	Red	12	Starter Relay	To “Start Button”. When start button pushed, 12v must flow through terminal 4, through Neutral Start on Pump to Terminal D into ECU harness.
E	050	050	Black	18	Ground	Grounded on the engine side of the battery.
F	020	020	Black	18	CAN Shield	To any CAN connectors including the diagnostic gauge.
G	012	012	Red	12	Battery Power to ECU (Switched)	Wired to the “Ignition” terminal of the Key Switch.
H	n/a				Not used	
J	412	412	Red	18	Alternator ignition	Under terminal “G” (Switched Power)
K	n/a				Not used	
L	n/a				Not used	
M	n/a				Not used	
N	n/a				Not used	
O	n/a				Not used	
P	n/a				Not used	
R	947	947	Violet	18	Throttle Switch	Throttle common
S	914	914	Yellow	18	Sensor Return	Throttle Sensor Return
T	Plug	936	Blue	18	Bump Speed Down	Not currently used
U	905	905	Green	18	CAN Low	Diagnostic Gauge
V	904	904	Yellow	18	CAN High	Diagnostic Gauge
W	Plug	955	Green	18	Bump Speed Up	Not currently used
X	Plug	923	Orange	18	Bump Enable	Not currently used

E-Stop	Grainger	Tucker #
Push-Pull	6HW12	80575-111
Contact	6HX27	80575-112
Nameplate	6JC63	80575-113

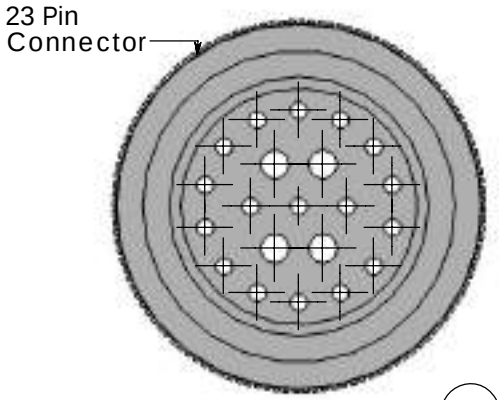


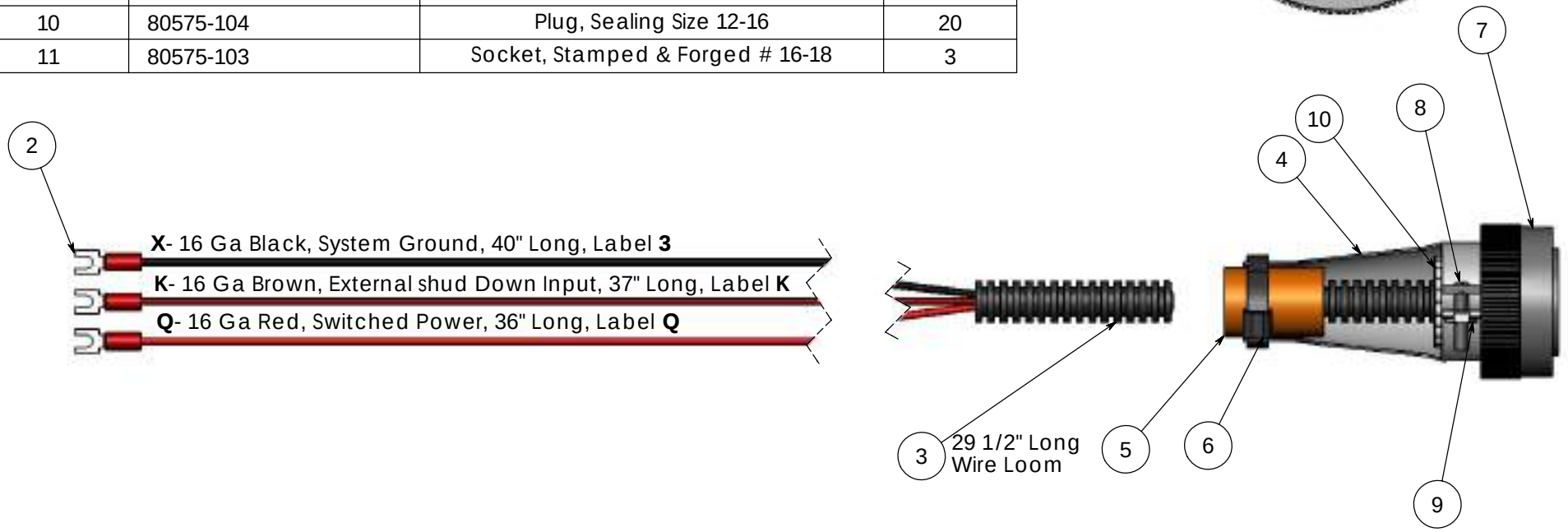
JOHN DEERE
ENGINE SAFETY SHUTDOWN

Starting Serial No: 04272

103587
PowerView Layout

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	8197313	Wire, T-630 JD4045T 23 Pin ECU	1
2	E122	Terminal Vi Spade (8-st) 22-16	3
3	E784	Loom Wire 13/32	1
4	80575-114	Ladd Strain Relief Shell Size 24	1
5	38RH	38" Red Rubber hose	1
6	TY-570	Tie Wrap	1
7	80575-101	Plastic Plug, 23 Pin	1
8	832-34RHMS	Screw Rh Mach. 8-32x 3/4	1
9	832SLN	Nut Self-lock 8-32	1
10	80575-104	Plug, Sealing Size 12-16	20
11	80575-103	Socket, Stamped & Forged # 16-18	3

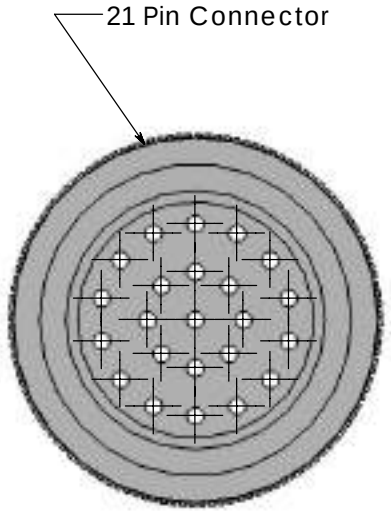


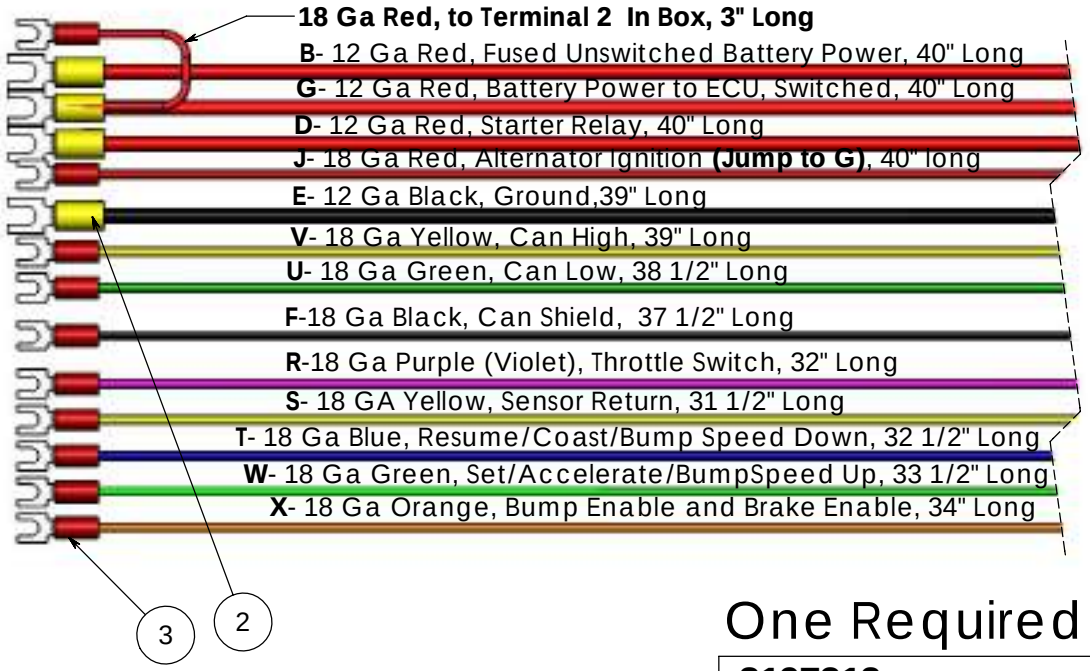


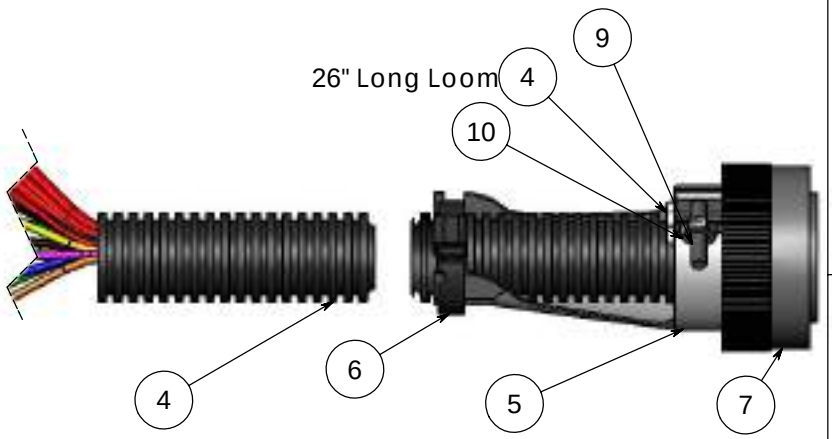
One Required Per Unit

8197313	DR. BY few
T-630	DATE 5/4/2006
MACHINE & STEEL SERVICE INC. P.O. BOX 492810 LEESBURG, FLA. 34749-2810	SCALE: HALF
Wire, T-630 JD4045T 23 Pin ECU	**8197313**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	8197312	Wire, T-630 JD4045T 21 Pin ECU	1
2	E153	Terminal Vi Spade 10 Stud 10-12	4
3	E122	Terminal Vi Spade (8-st) 22-16	10
4	E785	Loom Wire 3/4	1
5	80575-114	Ladd Strain Relief Shell Size 24	1
6	TY-570	Tie Wrap	1
7	80575-100	Plastic Plug, 21 Pin	1
8	80575-104	Plug, Sealing Size 12-16	9
9	832-34RHMS	Screw Rh Mach. 8-32x 3/4	1
10	832SLN	Nut Self-lock 8-32	1
11	80575-102	Socket, Stamped & Forged # 12	3
12	80575-103	Socket, Stamped & Forged # 16-18	9



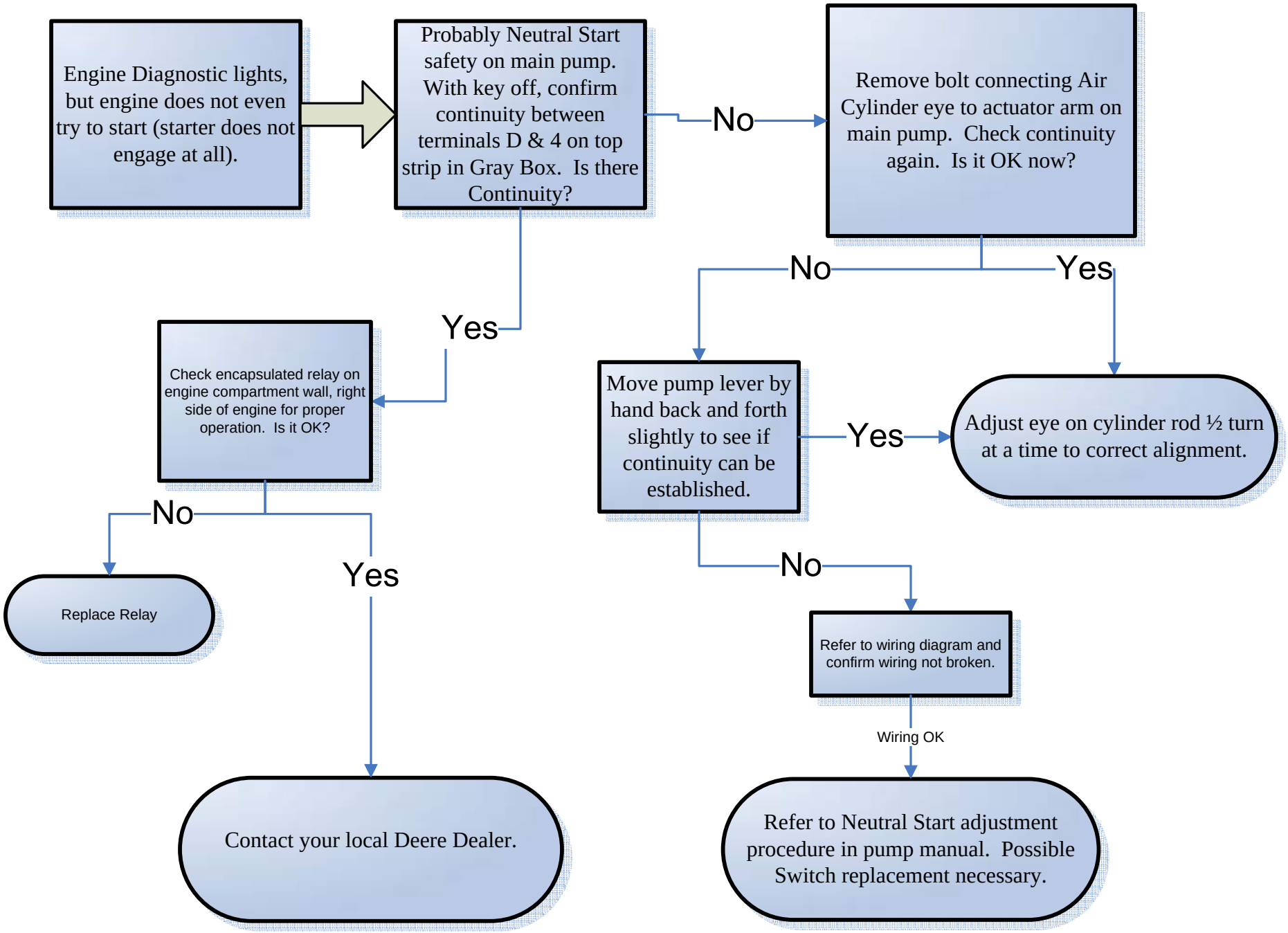




One Required Per Unit

8197312	DR. BY few
T-630	DATE 5/4/2006
MACHINE & STEEL SERVICE INC. P.O. BOX 492810 LEESBURG, FLA. 34749-2810	SCALE: HALF
Wire, T-630 JD4045T 21 Pin ECU	**8197312**

T-630 John Deere Engine with ECU Trouble Shooting



T-630 John Deere Engine with ECU Trouble Shooting