



COLDWATER, OHIO, U.S.A. 45828

## QUALITY FARM EQUIPMENT SINCE 1899

January 14, 1976

TO ALL AVCO NEW IDEA LAWN & GARDEN DEALERS

SUBJECT: Supplements to Lawn & Garden Service Manual

Accompanying this letter are revisions and additions to your Lawn & Garden Service Manual.

The new battery pro-rata sheets for the Warranty Section, pages 7, 8, 9 and 10, must be used in computing battery cost when the battery is over one year old on 12-volt batteries and two years old on 6-volt batteries.

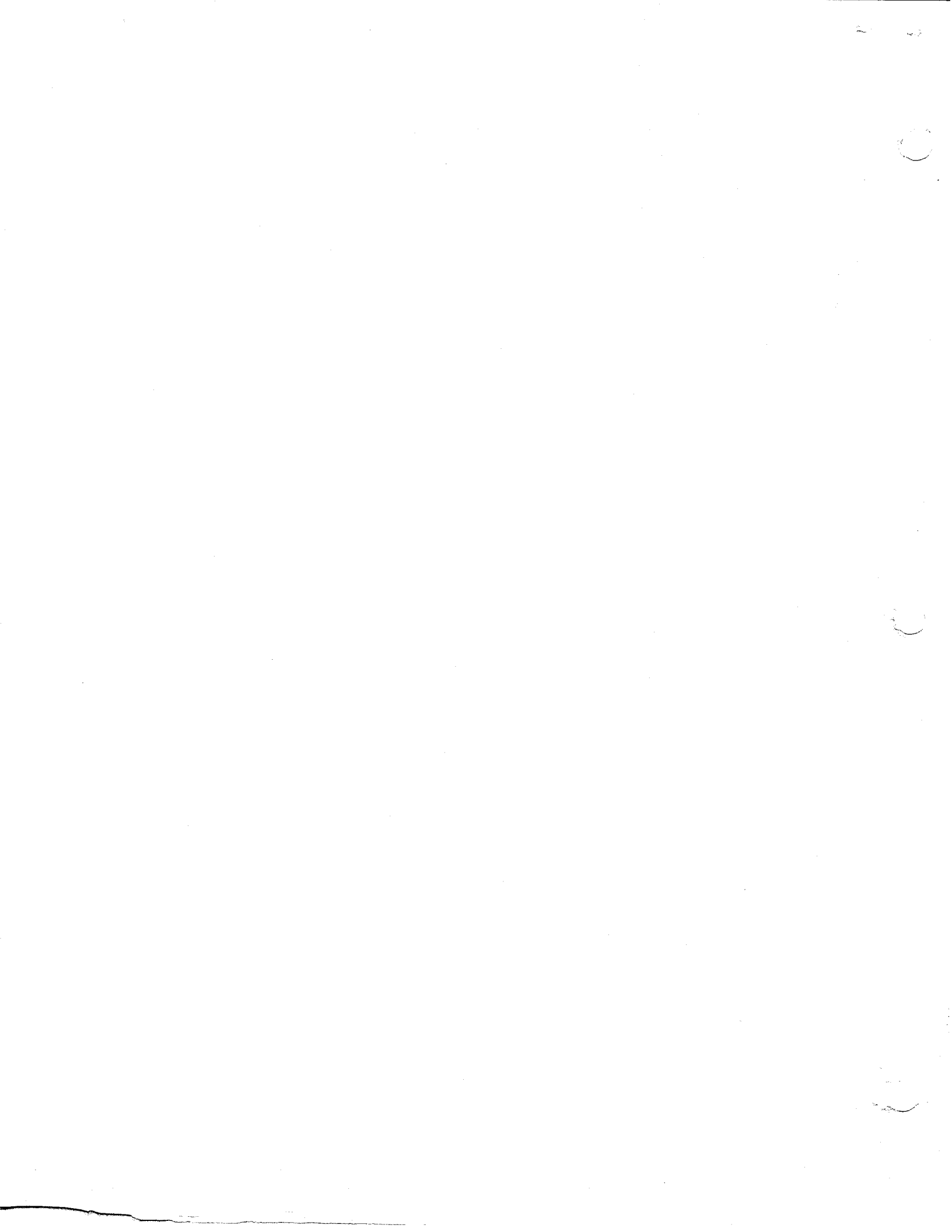
Please remove and destroy the following pages and insert the revised and additional pages in your present Lawn & Garden Service Manual.

<u>SECTION</u>	<u>DESCRIPTION</u>	<u>PAGE</u>	<u>NEW OR REVISED</u>
Warranty	Battery Pro-Rata	6-7-8-9-10	New
Tractor Preparation	R-36 Pre-Delivery	5	New
Mechanical Service	R-36 Adjustments	8A-B-C-D	New
Mechanical Service	R-36 Transaxle Service	12A-B	New
Circuitry	1st speed forward	25-26	Revised
	Theory of Operation (200)	45-46	Revised
	R-36 Schematic	52-53	New
Troubleshooting	RTN diagram	17-18	Revised

Sincerely,

Ralph Ording  
Service Supervisor  
Lawn & Garden Equipment

RO:mjc  
Attachments





COLDWATER, OHIO U.S.A. 45828

# DEALER WARRANTY CLAIM

S A M P L E

WARRANTY CLAIM DATE 12-1-75  
 DEALER NO. NEED  
 TM NO. NEED

DEALER NAME J & H Farm Store  
 DEALER ADDRESS Ridgeville, Ohio 45672

MODEL NO. EGT-80	LOT NO. LT-1	SERIAL NO. 1042	ENGINE SERIAL NO.	TRANS. SERIAL NO.	WHEEL ENDS SER. NO.	(HOURS ACRES LOADS)	USAGE 120
PURCHASED BY John Smith			PURCHASER'S ADDRESS Ridgeville, Ohio 45672			USED WITH TRACTOR MODEL:	
DELIVERY DATE AS SHOWN ON WARRANTY REGISTRATION 12-6-73		DATE OF FAILURE 11-15-75		DATE MACHINE REPAIRED 11-26-75		WARRANTY CLAIM No. 22526	

DESCRIPTION OF DEFECT(S) Low range - one cell bad

QTY.	PART NO. CLAIMED TO BE DEFECTIVE	REPLACEMENT PART NO. (ENTER ONLY IF DIFFERENT THAN DEFECTIVE PART NO.)	PART DESCRIPTION	UNIT PRICE OF REPLACEMENT PART	EXTENDED AMOUNT
1	120094		Battery - 12 volt		
			24 month pro rata		3 72
DETAILED DESCRIPTION OF DEALER'S WORK PERFORMED TO REPLACE OR REPAIR DEFECTIVE PARTS				LABOR HOURS	
1. Charged battery pack and ran battery discharge test. Found B-2 battery to have a bad cell. Voltage 7.2 in 22 minutes.				1.0	
Replaced B-2 battery				NET PARTS \$	3 72
See SE-13 Battery Registration form for details.				+ 5% ABOVE NET	19
REFER TO INSTRUCTIONS ON COVER FOR HANDLING AND DISPOSITION OF DEFECTIVE PARTS AND BUNDLES.				TOTAL PARTS CREDIT	3 91
				ALLOWED LABOR HRS. 1.0	
				LABOR RATE 9.00	
				LABOR CREDIT	9 00
				TOTAL CREDIT	12 91
DEALER'S SIGNATURE			PARTS RETURNED TO REG. OFFICE <input type="checkbox"/> Yes <input type="checkbox"/> No	REG. SERV. MGR.	H.O. SERV. MGR.

WARRANTY CLAIMS, TO BE HONORED, MUST BE RECEIVED BY THE COMPANY WITHIN THIRTY (30) DAYS AFTER DATE THE DEFECTIVE PART WAS REPLACED OR REPAIRED.



POWER PACK WARRANTY - EGT 80  
 12 VOLT STD. BATTERY  
 3 YEAR WARRANTY - PRO-RATA

Part No. - 120094

Suggested List Price: \$38.65

Months of Service:	<u>0-12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>
Customer Cost:	00.00	13.91	14.98	16.05	17.12	18.19	19.26	20.33
Dealer Credit:	29.40	15.49	14.42	13.35	12.28	11.21	10.14	9.07
Months of Service:	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>
Customer Cost:	21.40	22.47	23.54	24.61	25.68	26.75	27.82	28.89
Dealer Credit:	8.00	6.93	5.86	4.79	3.72	2.65	1.58	.51
Months of Service:	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>
Customer Cost:	29.96	31.03	32.10	33.17	34.24	35.31	36.38	37.45
Dealer Credit:	---	---	---	---	---	---	---	---

Months of Service:	<u>36</u>
Customer Cost:	38.65
Dealer Credit:	---

POWER PACK WARRANTY - EGT 100  
 6 VOLT STD. BATTERY  
 5 YEAR WARRANTY - PRO-RATA

Part No. - 120095

Suggested List Price: \$37.65

Months of Service:	<u>0-24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>
Customer Cost:	00.00	15.75	16.38	17.01	17.64	18.27	18.90	19.53
Dealer Credit:	28.65	12.90	12.27	11.64	11.01	10.38	9.75	9.12
Months of Service:	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>	<u>36</u>	<u>37</u>	<u>38</u>	<u>39</u>
Customer Cost:	20.16	20.79	21.42	22.05	22.68	23.31	23.94	24.57
Dealer Credit:	8.49	7.86	7.23	6.60	5.97	5.34	4.71	4.08
Months of Service:	<u>40</u>	<u>41</u>	<u>42</u>	<u>43</u>	<u>44</u>	<u>45</u>	<u>46</u>	<u>47</u>
Customer Cost:	25.20	25.83	26.46	27.09	27.72	28.35	28.98	29.61
Dealer Credit:	3.45	2.82	2.19	1.56	.93	.30	---	---
Months of Service:	<u>48</u>	<u>49</u>	<u>50</u>	<u>51</u>	<u>52</u>	<u>53</u>	<u>54</u>	<u>55</u>
Customer Cost:	30.24	30.87	31.50	32.13	32.76	33.39	34.02	34.65
Dealer Credit:	---	---	---	---	---	---	---	---
Months of Service:	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>			
Customer Cost:	35.28	35.91	36.54	37.17	37.80			
Dealer Credit:	---	---	---	---	---			

Warranty

POWER PACK WARRANTY - EGT 120-150-200  
 6 VOLT H.D. BATTERY  
 5 YEAR WARRANTY - PRO-RATA

Part No. - 120096

Suggested List Price: \$46.65

	0-24	25	26	27	28	29	30	31
Months of Service:								
Customer Cost:	00.00	19.50	20.28	21.06	21.84	22.62	23.40	24.18
Dealer Credit:	35.40	15.90	15.12	14.34	13.56	12.78	12.00	11.22
Months of Service:								
Customer Cost:	24.96	25.74	26.52	27.30	28.08	28.86	29.64	30.42
Dealer Credit:	10.44	9.66	8.88	8.10	7.32	6.54	5.76	4.98
Months of Service:								
Customer Cost:	31.20	31.98	32.76	33.54	34.32	35.10	35.88	36.66
Dealer Credit:	4.20	3.42	2.64	1.86	1.08	.30	---	---
Months of Service:								
Customer Cost:	37.44	38.22	39.00	39.78	40.56	41.35	42.12	42.80
Dealer Credit:	---	---	---	---	---	---	---	---
Months of Service:								
Customer Cost:	43.58	44.36	45.14	45.92	46.65	---	---	---
Dealer Credit:	---	---	---	---	---	---	---	---

Warranty



POWER PACK WARRANTY - R-36  
 12 VOLT DRI-NAMIC BATTERY  
 3 YEAR WARRANTY - PRO-RATA

Part No. - 121176

Suggested List Price: \$49.96

	<u>0-12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>
Months of Service								
Customer Cost:	00.00	18.07	19.46	20.85	22.24	23.63	25.02	26.41
Dealer Credit:	37.88	19.81	18.42	17.03	15.64	14.25	12.86	11.47
Months of Service:	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>
Customer Cost:	27.80	29.19	30.58	31.97	33.36	34.75	36.14	37.53
Dealer Credit:	10.08	8.69	7.30	5.91	4.52	3.13	1.74	.35
Months of Service:	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>
Customer Cost:	38.92	40.31	41.70	43.09	44.48	45.87	47.26	48.65
Dealer Credit:	---	---	---	---	---	---	---	---
Months of Service:	<u>36</u>							
Customer Cost:	49.96							
Dealer Credit:	---							



ELECTRIC RIDER-MOWER  
DEALER SET UP AND DELIVERY CHECK LIST  
FOR R-36 RIDER

1. Check wiring for loose connections
  - A. Control panel
  - B. Drive motor
  - C. Charger
  - D. Fuse panel
2. Power Pack
  - A. Add electrolyte to batteries and maintain a level of 1/4 to 3/8 above the perforated plates.
  - B. Battery terminal bolts are tight
  - C. Protective grease on battery terminals
  - D. Battery clamp installed and tight
3. Check speed range, 5 forward and 1 in reverse
4. Switches
  - A. Key switch
  - B. P.T.O. switch
  - C. R.T.N. switch
5. Check charger
6. Check following
  - A. Brake adjustment
  - B. Chain tension
  - C. Belt drive
  - D. Tire pressure
    - Front tires 15 PSI
    - Rear tires 12 PSI
7. Lubrication
  - A. Drive chain (oil)
  - B. Grease wheel bearings
  - C. Grease spindles and pivot pins
  - D. Oil brake pedal shaft
8. CHARGE BATTERIES UPON SET UP AND BEFORE DELIVERY

NOTE: GIVE OPERATOR'S MANUAL TO RIDER OWNER

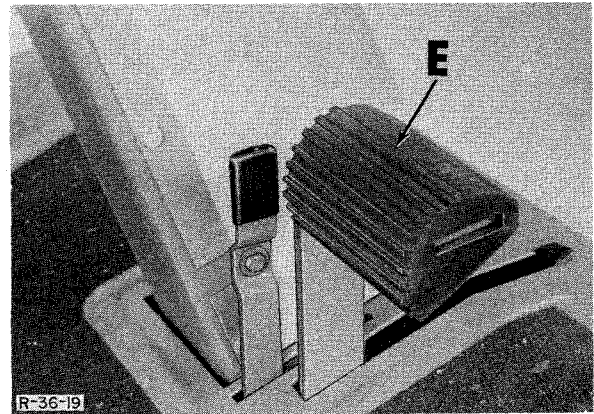


Clutch/Brake Adjustment  
R-36 Rider

Clutch/Brake Pedal

The clutch/brake pedal provides multiple functions. It is designed to permit smooth starting and "creeping" ability for maneuvering. As the pedal approaches full depression, the motor fully disengages and braking action begins.

The rider is started by turning the key switch to "On" with the gear selector in neutral and then depressing the clutch/brake pedal to shift. Move the gear selector to the desired position and slowly release the clutch/brake pedal. When motion occurs, fully release the pedal.

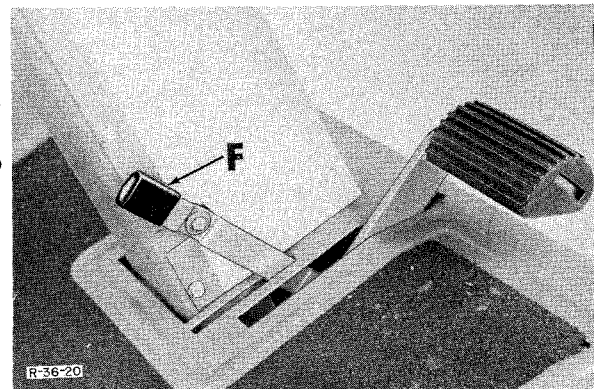


NOTE:

THE CLUTCH MAY BE USED FOR SPEED CONTROL FOR SHORT PERIODS BUT TO PROLONG THE LIFE OF THE DRIVE BELT, FULLY RELEASE THE CLUTCH/BRAKE PEDAL WHENEVER POSSIBLE. IF THE TRACTOR SPEED IS EXCESSIVE, MOVE RANGE SELECTOR TO A LOWER GEAR.

Parking Brake

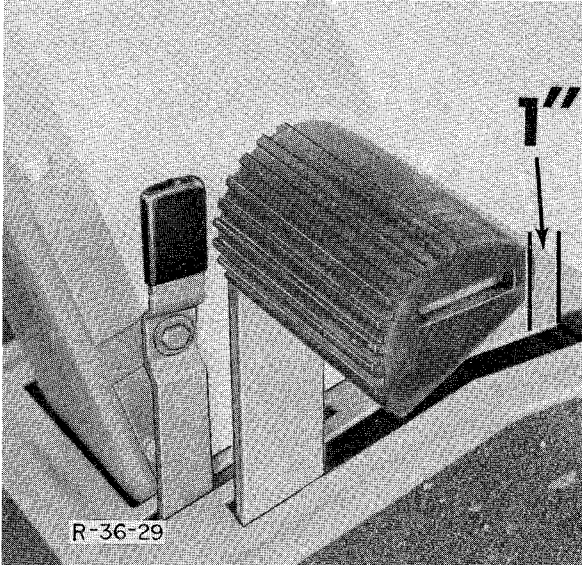
The parking brake lever is mounted next to the clutch/brake pedal. This brake operates in conjunction with the clutch/brake pedal, therefore, to engage the parking brake, it is necessary to fully depress the clutch/brake pedal and pull back the parking brake lever. When foot pressure is removed from the pedal it should remain in the depressed position.



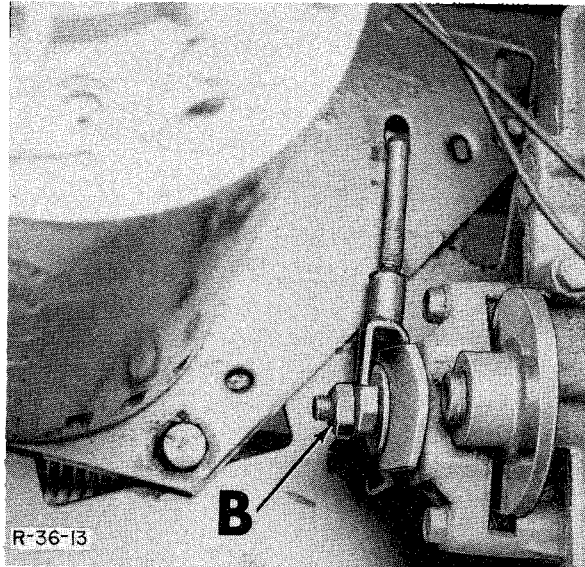
The parking brake is released by reapplying pressure on the clutch/brake pedal and pushing the parking brake lever forward.

Brake Adjustment  
R-36 Rider

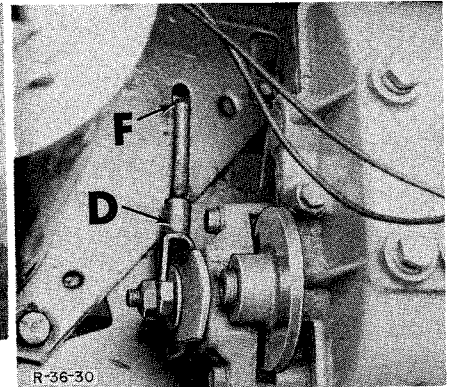
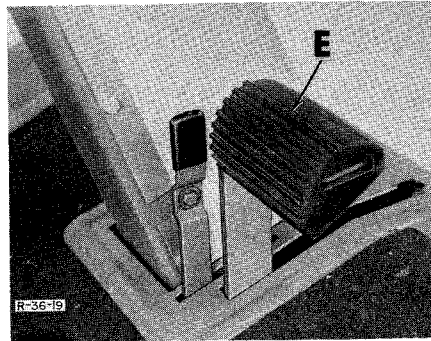
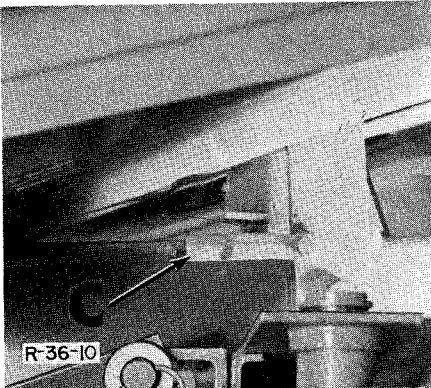
A fully depressed brake pedal or an engaged parking brake should prevent the tractor from rolling on average hillsides. If the brake does not perform satisfactorily, it should be adjusted as follows:



Normal Adjustment



1. Depress the clutch/brake pedal to within 1 inch of full depression (to be measured at the opening in front of the pedal).
2. Turn the brake adjustment nut "B" until the brake disc firmly holds the wheels.
3. Check the operation of the clutch/brake action. Make certain that the traction motor is declutched before brake engagement begins.
4. Lock the brake adjustment nut with the outer locknut.



### Major Adjustment

The following adjustment was made at the factory. If it should be required due to extreme belt wear, or if the belt is being replaced, proceed as follows:

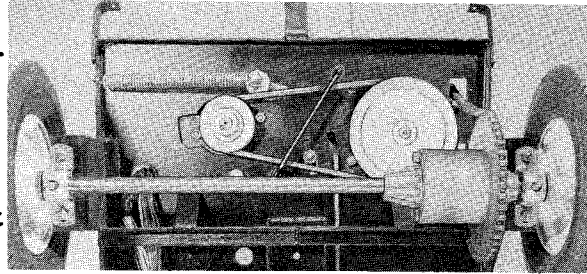
1. Adjust the clutch/brake rod "C" by removing the pedal clevis pin and adjusting the clevis so that the pedal shaft "E" is vertical, or in the extreme rear of the slot. Replace the clevis pin and secure with a cotter pin.
2. Remove the clevis pin "D" from the transmission brake lever and adjust the clevis so that the brake lever rod length lies from the rear edge of the motor plate slot "F" to the transmission brake lever hole when the lever is vertical. Replace the clevis and secure with a cotter pin.

#### NOTE:

IT WILL BE NECESSARY TO LOOSEN THE BRAKE ADJUSTMENT NUT TO FREE THE LEVER FOR CLEVIS PIN INSTALLATION. RESET THE BRAKE ADJUSTMENT NUT AS INDICATED IN STEP 2 OF THE "NORMAL ADJUSTMENT".

Drive Belt  
R-36 Rider

Power is transmitted from the drive motor to the transmission through a heavy duty direct-coupled belt. The belt should be kept free of grease, oil, electrolyte and dressings, and checked occasionally for tightness to assure best performance.



If the belt become contaminated, it should be wiped with a clean cloth. If slippage occurs, it is usually due to moisture on the belt. If the belt becomes wet and slips, temporarily select a lower speed range (higher torque) until the belt dries, and then resume normal operation.

Belt tension is controlled by spring tension. No belt tension adjustments are provided. If the belt becomes stretched or worn so that it slips, it must be replaced.

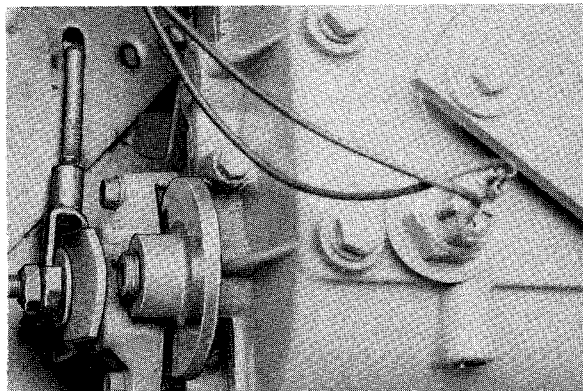
To change the belt, place the rider on a level area, set the gear selector in neutral, remove the key and set the parking brake. This will release the tension on the belt and free it from the pulley. Slide the belt under the belt keeper "B" and off the second pulley. Install the new belt reversing this procedure. Check set screws in pulleys for tightness.

Drive Chain

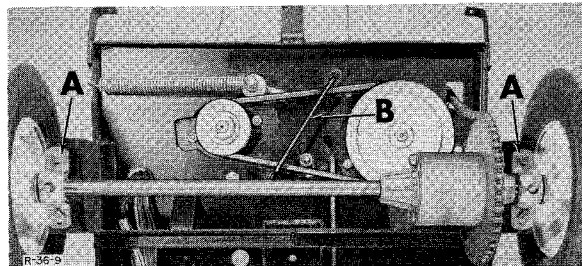
Chain adjustment is made by loosening the four bolts at "A" holding the rear wheel bearings in place and sliding the axle assembly forward or backward. Retighten the four bolts after tightness is achieved. Make sure the chain is squarely aligned on each sprocket.

Transmission & Differential Maintenance  
R-36 Rider

The transmission and differential assemblies on the R-36 Rider are factory packed with E.P. Lithium grease; therefore, it is not necessary to repack these assemblies except in case of repair.

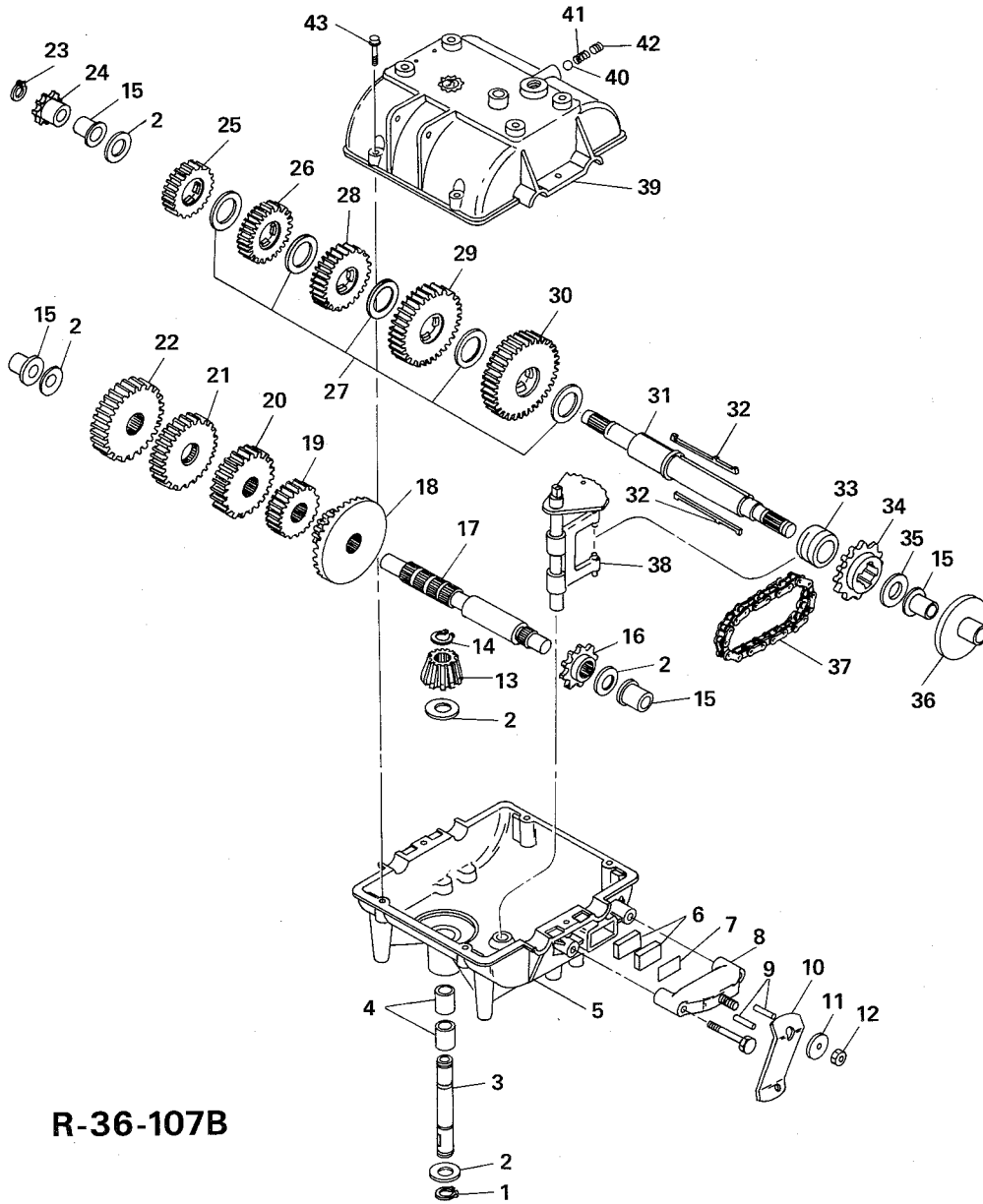


For Transmission and Differential Repair, refer to TRANSAXLE SHOP MANUAL.



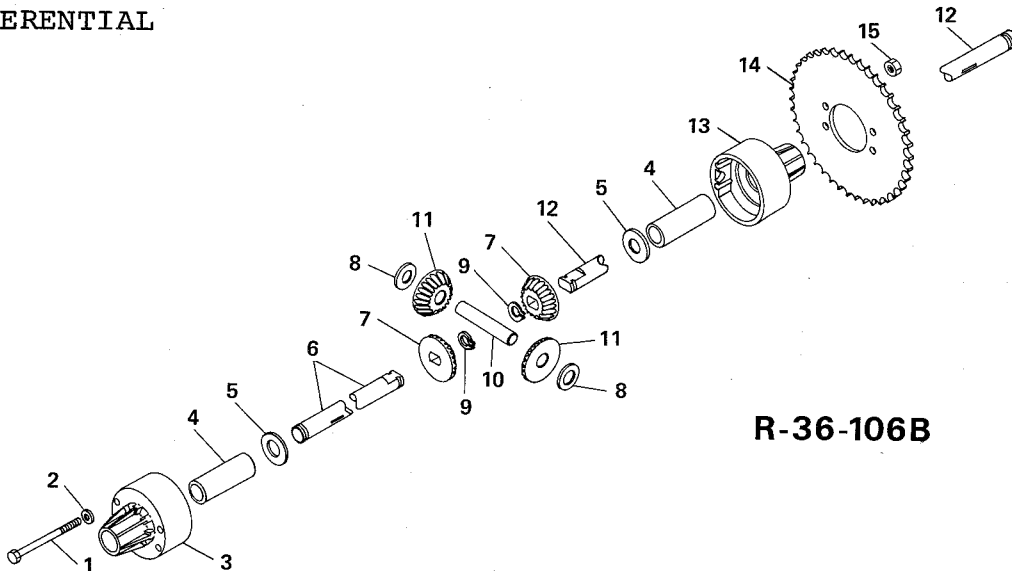
TRANSMISSION

Mechanical Service



R-36-107B

DIFFERENTIAL



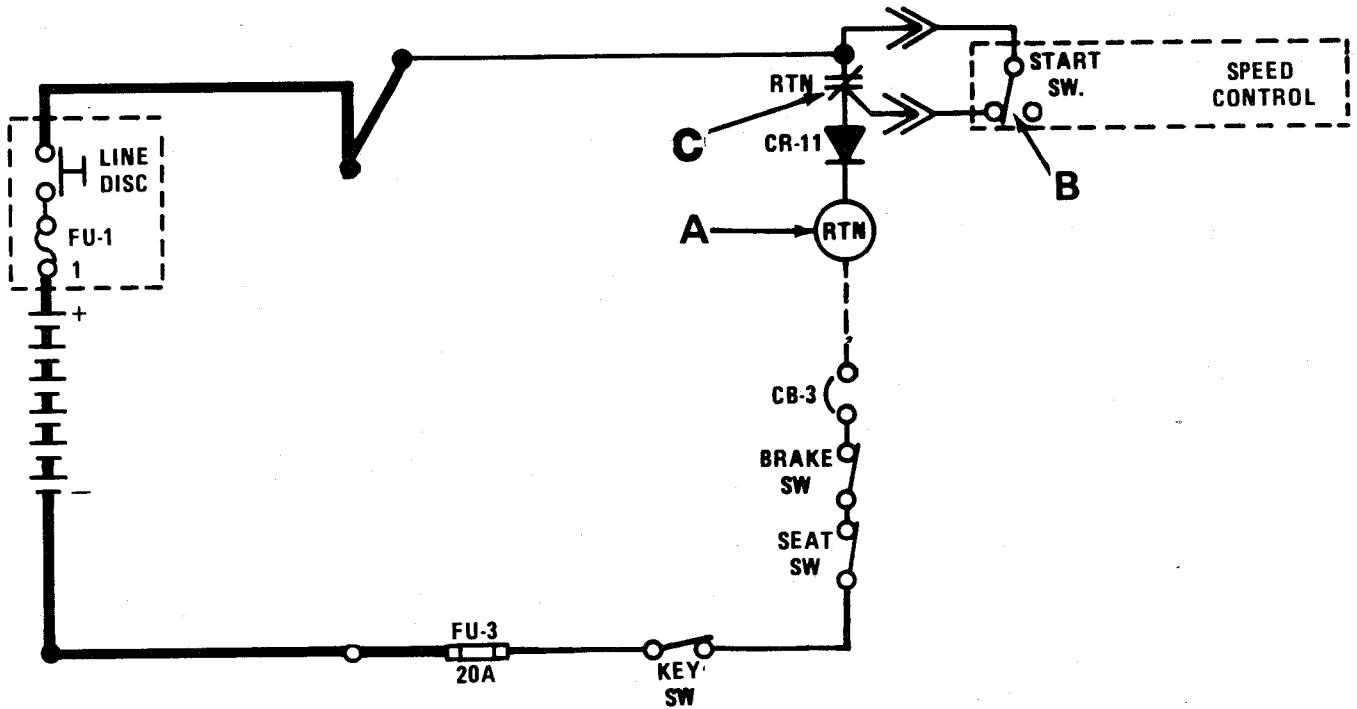
R-36-106B

RTN (Return to Neutral) Circuit

The RTN relay coil "A" is energized when the key switch, seat switch, brake switch and start switch "B" are in the closed position.

When the RTN coil "A" is energized, contacts "C" (normally-open) are closed, locking in the RTN circuit for use in subsequent operating circuits.

EGT 120 150 & 200  
RTN CIRCUIT



1st Speed Forward

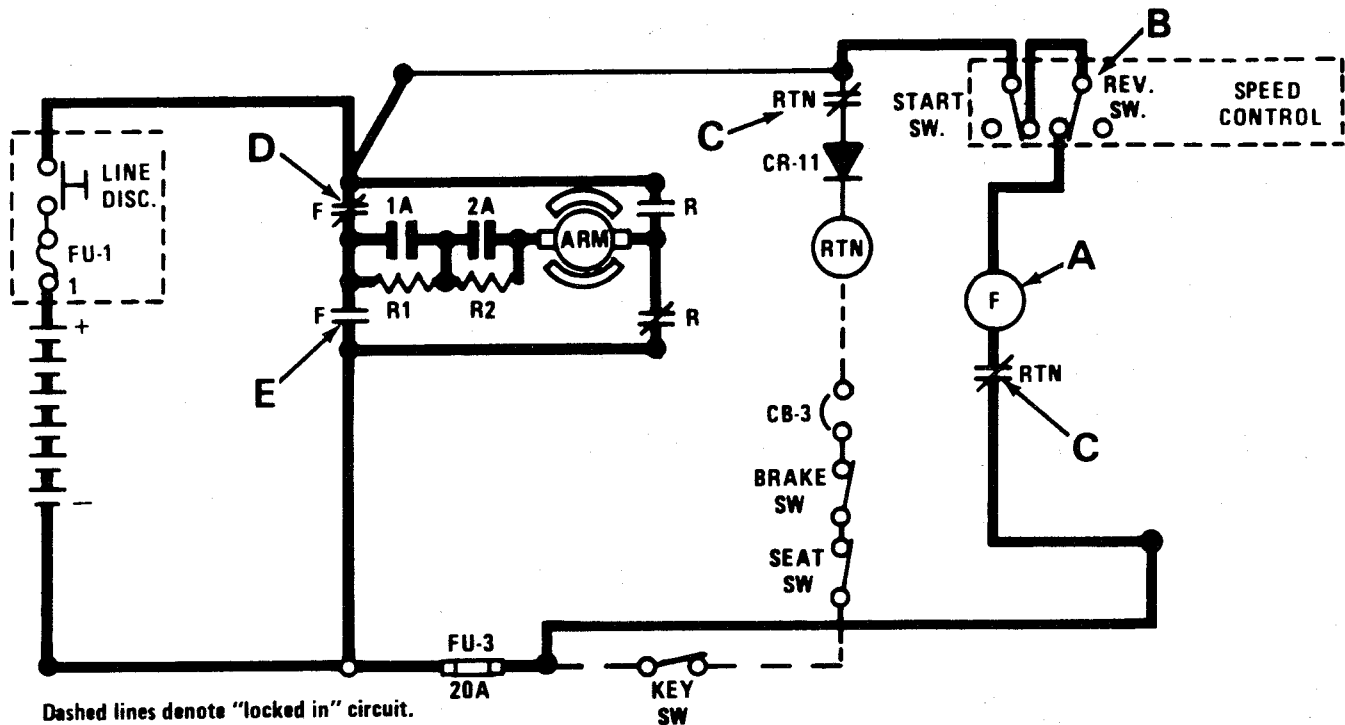
All Large Frame Tractors

With the RTN circuit locked in, RTN contacts "C" are closed allowing negative voltage to the forward (F) coil "A".

Moving the speed control lever to the forward start (1st speed) position closes micro start switch "B", providing positive voltage to the forward (F) coil "A", completing the circuit and energizing the coil. With coil "A" energized, contacts "D" close and contacts "E" open. (Contacts "D" and contacts "E" are internal components of the forward (F) contactor.)

With contacts "D" closed, positive voltage flows through R1 and R2 resistors, the motor armature and the normally-closed R contacts to the negative side of the power pack. R1 and R2 resistors reduce motor armature voltage from 36 Volts to 28 Volts.

EGT 120 150 & 200  
1ST SPEED FWD



## THEORY OF OPERATION

### EGT 200

Operation of the EGT 200 is similar to that of the EGT 150, but with these exceptions.

Two RTN (return to neutral) relays are used: one for forward operation; the other for reverse.

The operator, by actuating a Forward-Reverse toggle switch, selects direction of travel before the "Start" switch is actuated. A control panel red indicator light glows when the tractor is in the reverse mode.

The Power Pulse button (EGT 150) is referred to as the Cruise Control button. By depressing the button, the operator can lock the tractor into cruise control.

When in the cruise control mode, fast or slow speed control ranges can be obtained by actuating a Fast-Slow toggle switch. A glowing green light on the control panel indicates that cruise control can be used.

#### Cruise Control

For cruise control, the tractor must be operating in 3rd or higher forward speed, and the green indicator light glowing, at the time the cruise control button is depressed.

If the Fast-Slow toggle switch is in the slow position when the cruise control button is depressed, the cruise control relay locks the drive motor into 3rd speed by by-passing the four field weakening switches (FWS-1, 2, 3 and 4). The 2AH relay and the 2A contactor remain energized, providing 3rd speed (36 volts) to the armature and field of the drive motor.

If the Fast-Slow toggle switch is in the fast position when the cruise control button is depressed, FWS-1 is opened, providing 22 volts to the drive motor field and locking it into 4th speed.

The cruise control mode can be released by depressing the speed control foot pedal.

### Speed Control

The speed control is operated by a foot pedal and is a mechanical device for actuating switches in an orderly sequence. As the foot pedal is depressed, switches are actuated by a cam (wedge plate) sliding across the switch buttons. When the pedal is released, the spring loaded cam returns to its neutral (up) position.

The speed control contains three types of micro switches:  
Start: single-pole, double-throw with two current carrying positions.  
1A, 2A: single-pole, double-throw; normally open (3A normally closed).  
FW1, FW2, FW3 and FW4: single-pole, single-throw; normally closed.

In the following schematic drawings these switches are shown in their unactuated (closed) position.

As the speed control pedal is depressed, the switches are opened in the following order:

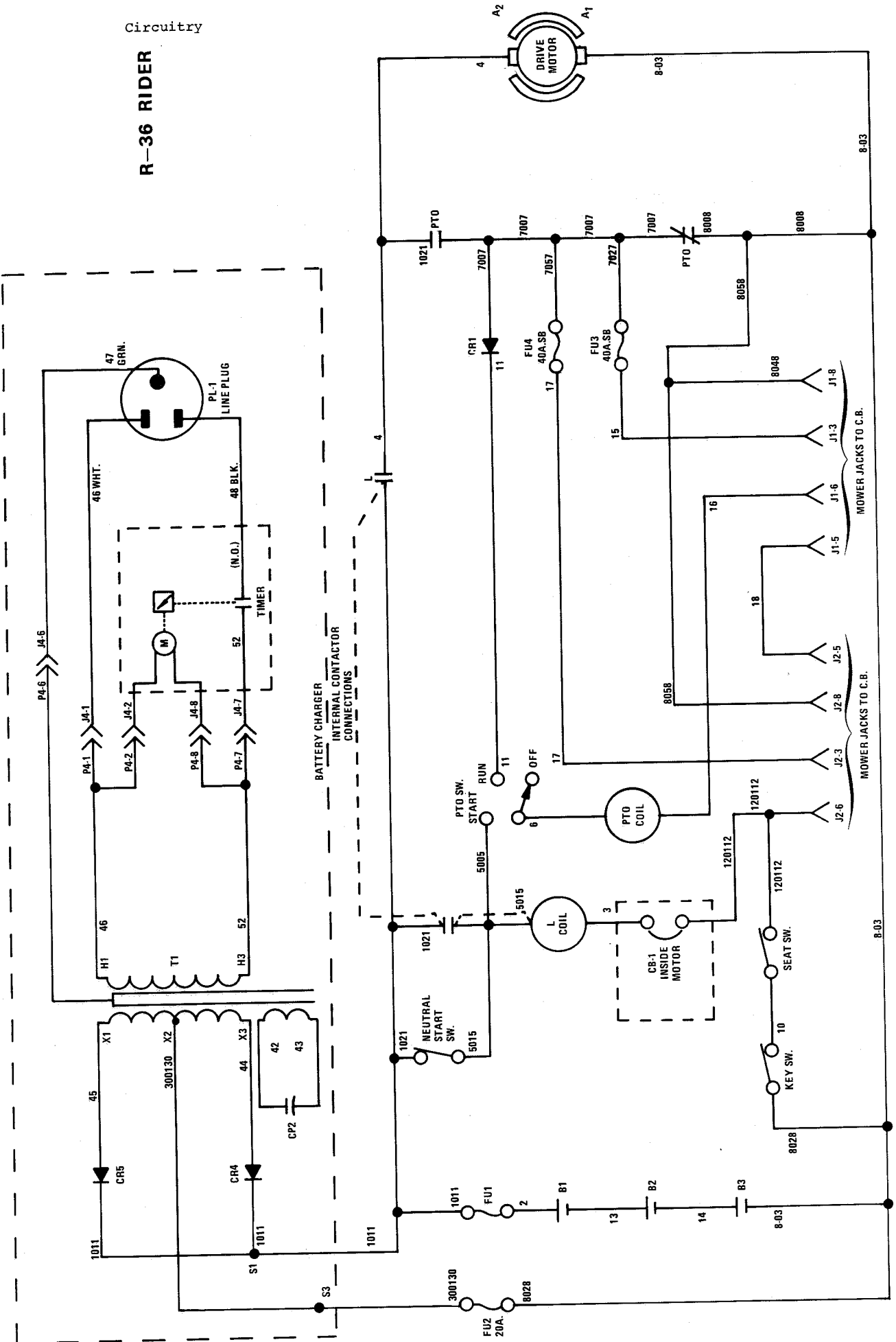
- |                 |   |                 |
|-----------------|---|-----------------|
| Normally open   | { | 1. Start Switch |
|                 |   | 2. 1A Switch    |
|                 |   | 3. 2A Switch    |
| Normally closed |   | 4. 3A Switch    |
| Normally open   | { | 5. FW1 Switch   |
|                 |   | 6. FW2 Switch   |
|                 |   | 7. FW3 Switch   |
|                 |   | 8. FW4 Switch   |

NOTE: See Page 34 for armature and field voltage in any selector speed range.

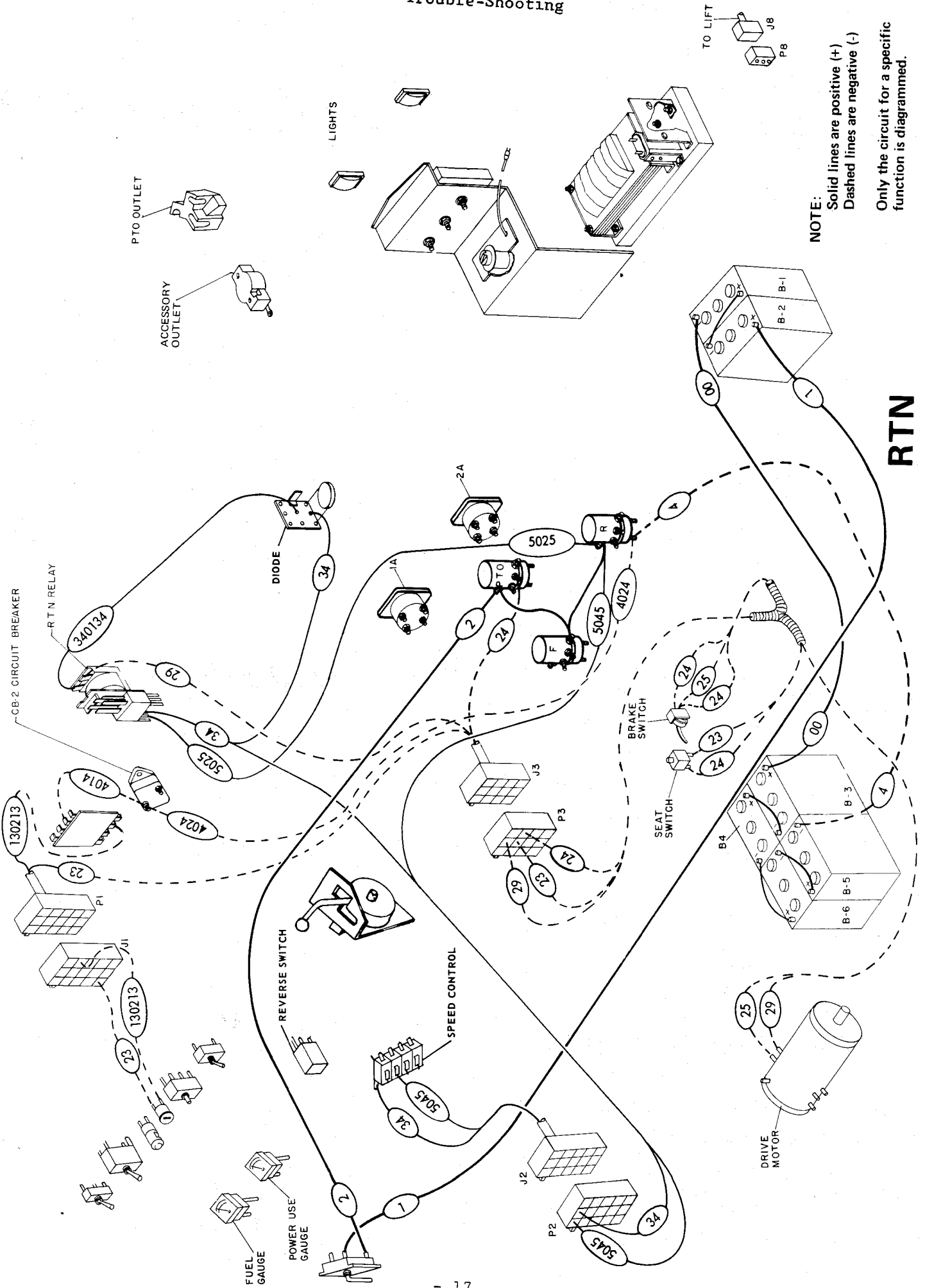
Once any switch is opened, it is held opened in all the succeeding speed control positions. As the pedal is released the switches are released in the reverse sequence of their actuation. For example: if the tractor were being operated in the 4th forward speed, the Start, 1A, 2A and 3A switches would all be opened.



# R-36 RIDER



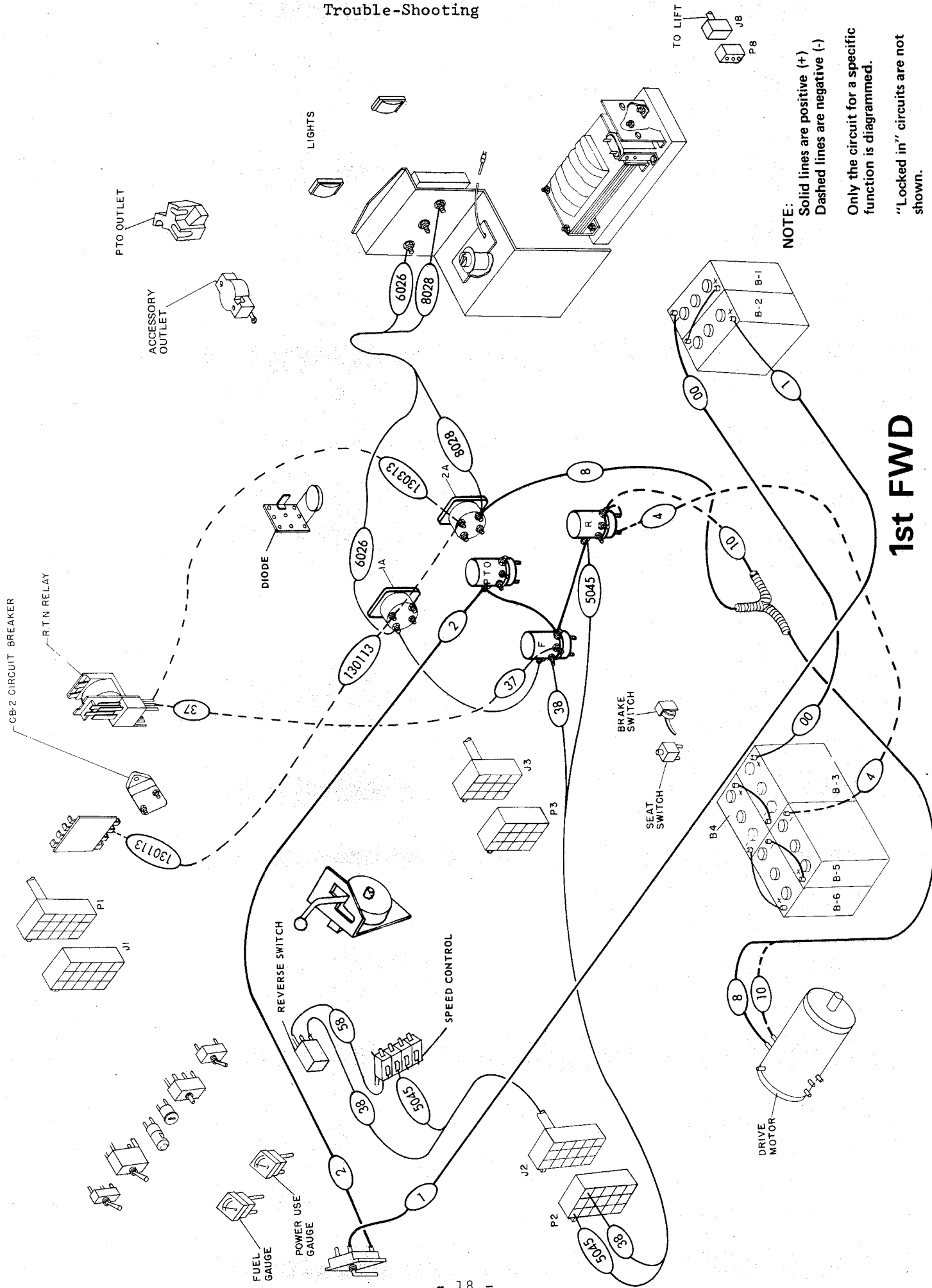
Revised  
Trouble-Shooting



NOTE:  
Solid lines are positive (+)  
Dashed lines are negative (-)  
Only the circuit for a specific  
function is diagrammed.  
"Locked in" circuits are not  
shown.

**RTN**  
**EGT 120**

Revised  
Trouble-Shooting



**NOTE:**  
Solid lines are positive (+)  
Dashed lines are negative (-)  
Only the circuit for a specific function is diagrammed.  
"Locked in" circuits are not shown.

**1st FWD  
EGT 120**