SERVICE MANUAL

TJ 280, 330, 380, 430, 480, and 530 Series
T9010, 9020, 9030, 9040, 9050, and 9060 Series
T9020, 9030, 9040, 9050, and 9060 Series After S/N Z7F204001

Part number 84257310
English
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NEW HOLLAND AGRICULTURE

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THIS MANUAL, 84257310, COVERS THE FOLLOWING TRACTORS:

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NOTE: *Engine repair information is not contained within this tractor Service Manual. For engine repair, refer to appropriate engine service manual as follows:*

87515682 - *For 8.3 & 9.0L 6 Cylinder, 24 Valve CNH Engine with High Pressure Common Rail Fuel System.*

87523643 - *For 12.9L 6 Cylinder, Engine.*

87737594 - *For 12.9L 6 Cylinder, Turbo Compound Engine.*

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HOW TO READ SYMBOLS IN A HYDRAULIC SCHEMATIC

Introduction

Accurate diagrams of hydraulic circuits are essential to the man who must repair them. The diagram shows how the components will interact. It shows the field technician how it works, what each component should be doing and where the oil should be going so that he can diagnose and repair the system.

The purpose of this section is to show you how to find your way around schematic circuit diagrams.

Circuit Diagrams

There are two types of circuit diagrams.

1. Cutaway Circuit Diagrams show the internal construction of the components as well as the flow paths. By using colors, shades or various patterns in the lines and passages, they are able to show many different conditions of flow and pressure. Cutaway diagrams take considerably longer to produce because of their complexity.

2. Schematic Circuit Diagrams the "shorthand" system of the industry, are usually preferred for troubleshooting. A schematic diagram is made up of simple geometric symbols for the components and their controls and connections.

Symbol Systems

There are several systems of symbols used when making schematic diagrams. They are as follows:

I. S. O. = International Standards Organization

A. N. S. I. = American National Standards Institute

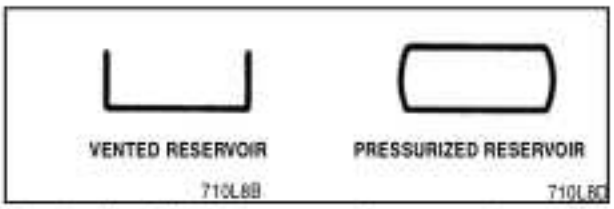
A. S. A. = American Standards Association

J. I. C. = Joint Industry Conference

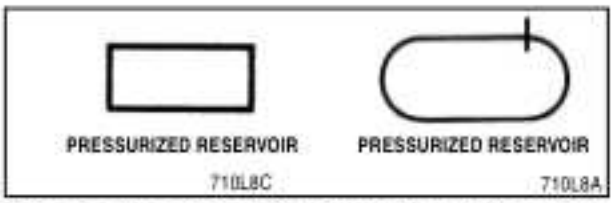
A combination of these symbols are shown in this section. There are differences between the symbols but there is enough similarity so that if you understand the symbols in this section you will be able to interpret other symbols as well.

Using Schematic Symbols

Reservoirs



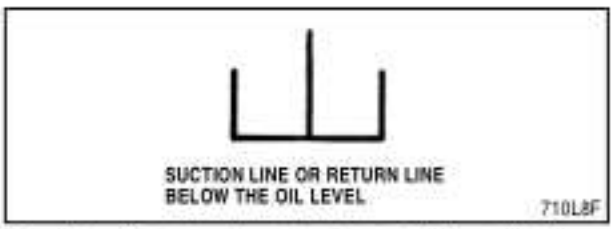
A rectangle with the top removed represents a vented reservoir. A rectangle with the top in place represents a pressurized reservoir.



There are other schematic diagrams that show a slightly different version of a pressurized reservoir, but the symbols are similar and easily recognized. An oval with a short line on top or a rectangle with curved sides represents a reservoir that is pressurized.



Lines connected to the reservoir usually are drawn from the top, regardless of where the actual connection is.



If the hydraulic line terminates below the fluid level, it is drawn all the way to the bottom of the symbol.

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FAULT CODE AUX 51129
Invalid Software Instruction Execution

Cause:
Invalid software instruction executed: AUX 3 type 9th instance.

Possible failure modes:
1. Software problem.
2. Hardware problem.

Solution:
Check the controller software version. Check the power supply and ground to the remote hydraulic controller.

1. Check the software in the remote hydraulic controller.
   Using the service tool PROGRAMMING window, click on the SET UP CONTROLLERS FOR DOWNLOADING button and follow instructions. Select AUX Remote Hydraulic Controller in the controller selection table and click on the View Controller Information button. Find and record the software ID. Close the window and click on the Browse button to see a listing of the software available for this remote hydraulic controller hardware. If the software version in the remote hydraulic controller is the latest in the list, you have the correct software. Go to Step 2. If it is not, install the latest version in the list.
2. Verify system voltage at cavities 1 and 12 of connector C053. The voltage should be from 9.8 to 14.5 volts.
3. Check the controller ground at cavities 2 and 11 of connector C053. There should be a good connection from both of the cavities to clean ground.
4. Clear the fault code. Cycle the key switch to OFF, then to ON. If the fault code occurs again, replace the remote hydraulic controller. Mark the fault code on the controller and contact the appropriate technical service representative.

NOTE: *See schematic sections 52 and 53 of the poster schematic.*

FAULT CODE AUX 51131
Invalid Software Instruction Execution

Cause:
Invalid software instruction executed: AUX 4 type 1st instance.

Possible failure modes:
1. Software problem.
2. Hardware problem.

Solution:
Check the controller software version. Check the power supply and ground to the remote hydraulic controller.

1. Check the software in the remote hydraulic controller.
   Using the service tool PROGRAMMING window, click on the SET UP CONTROLLERS FOR DOWNLOADING button and follow instructions. Select AUX Remote Hydraulic Controller in the controller selection table and click on the View Controller Information button. Find and record the software ID. Close the window and click on the Browse button to see a listing of the software available for this remote hydraulic controller hardware. If the software version in the remote hydraulic controller is the latest in the list, you have the correct software. Go to Step 2. If it is not, install the latest version in the list.
2. Verify system voltage at cavities 1 and 12 of connector C053. The voltage should be from 9.8 to 14.5 volts.
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4. Clear the fault code. Cycle the key switch to OFF, then to ON. If the fault code occurs again, replace the remote hydraulic controller. Mark the fault code on the controller and contact the appropriate technical service representative.

NOTE: *See schematic sections 52 and 53 of the poster schematic.*

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CAPACITY (LOAD) TEST

The capacity of a battery is the ability to give current and maintain voltage. If the battery passes the capacity test, the battery is in satisfactory condition. However, the battery may need additional charging.

When a battery is cold, below 80° F (27° C), the battery can have a lower discharge capacity. If a cold battery fails the capacity test, let the battery stand until the temperature reaches 80° F (27° C). Then test the battery again.

Procedure

1. Turn the load control knob on the tester to the OFF position.

2. Turn the voltage switch on the tester to 16 volts for a 12 volt battery.

3. Connect the tester wires as shown:
   Red clips to battery positive post.
   Black clips to battery negative post.

NOTE: *The wire clips from the volt meter side of the tester must contact the battery posts.*

4. Turn the load control knob clockwise until the ampere hour rating of the battery is reached. If the tester is not equipped with an ampere hour rating scale, set the load control at three times the ampere hour rating of the battery.

EXAMPLE: 180 amperes for a 60 ampere hour battery.

NOTE: *If the battery being tested has been made for use in high temperature climates, set the load control at two and a half times the ampere hour rating of the battery.*

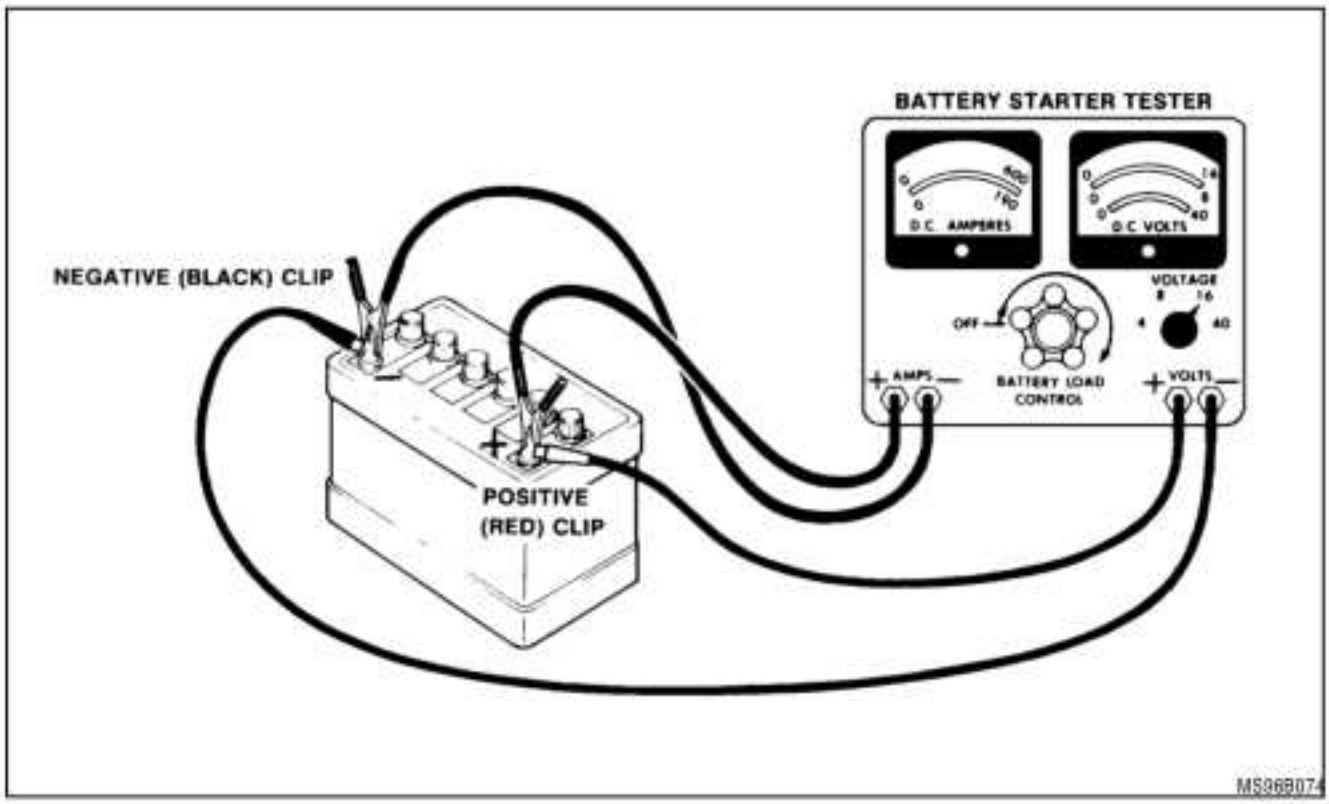
5. Only apply the load on the battery for 15 seconds. Check volt meter figure and turn load control counterclockwise to the OFF position.

If the volt meter reading was in the green band or at least 9.6 volts for a 12 volt battery, the battery has good output capacity. Test the specific gravity of the battery and charge if necessary before putting in service.

If the volt meter reading varied by more than 0.1 volts, the battery has one or more defective cells.

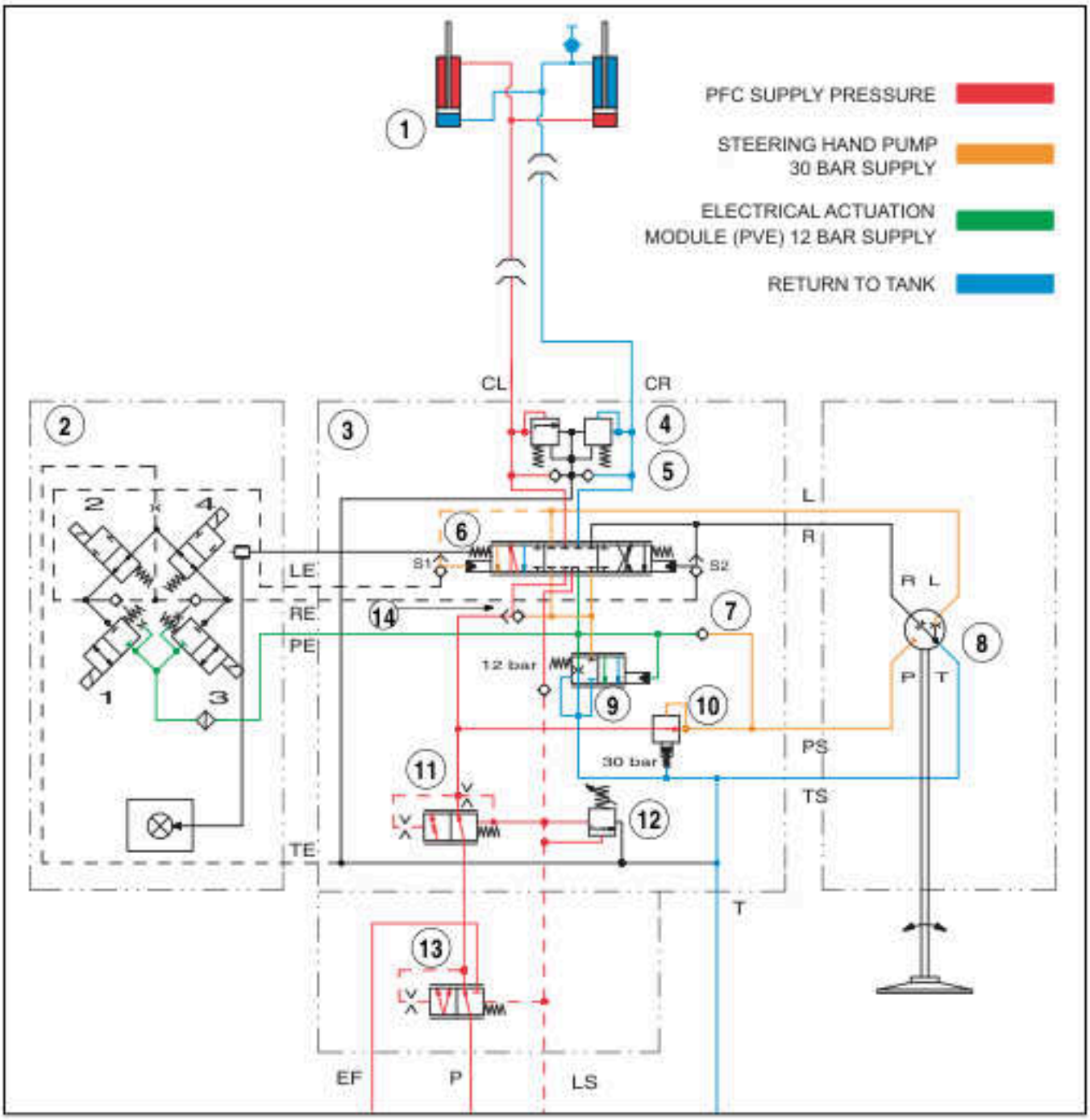
If the volt meter reading was below 9.6 volts for a 12 volt battery, do the Three Minute Charge Test to see if the battery is discharged or defective.

CAPACITY (LOAD) TEST HOOK UP



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EHPS STEERING SYSTEM


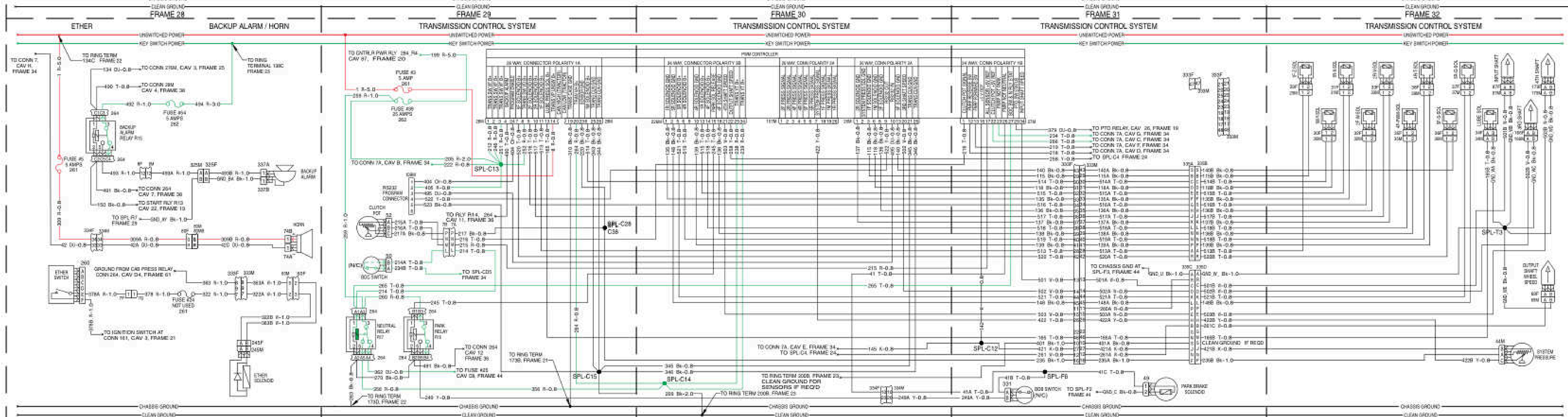
Engine Running turning left

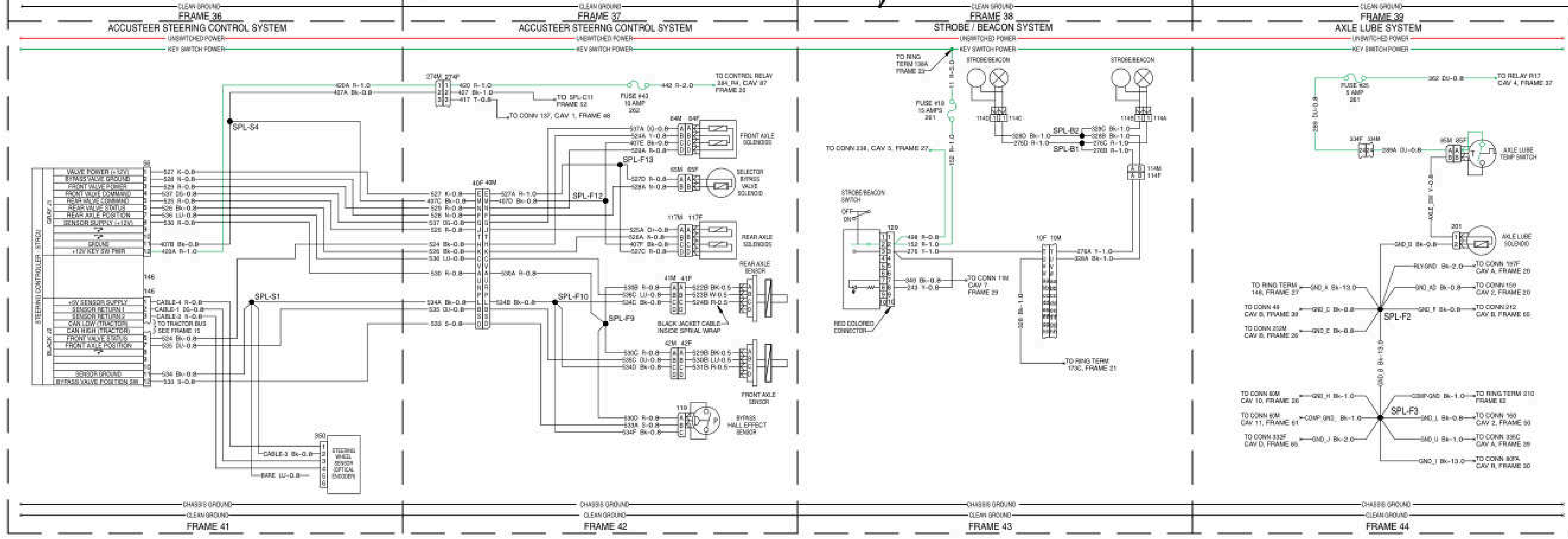
R105D084

1. STEERING CYLINDERS
2. ELECTRICAL ACTUATION MODULE
3. STEERING VALVE BLOCK
4. SHOCK VALVES
5. SUCTION CHECK VALVES
6. STEERING DIRECTIONAL SPOOL
7. MANUAL CHECK VALVE
8. STEERING HAND PUMP
9. METERING SPOOL
10. PRESSURE REDUCING VALVE
11. DYNAMIC LOAD SENSE SPOOL
12. RELIEF VALVE
13. PRIORITY VALVE SPOOL
14. EMERGENCY STEER CHECK VALVE

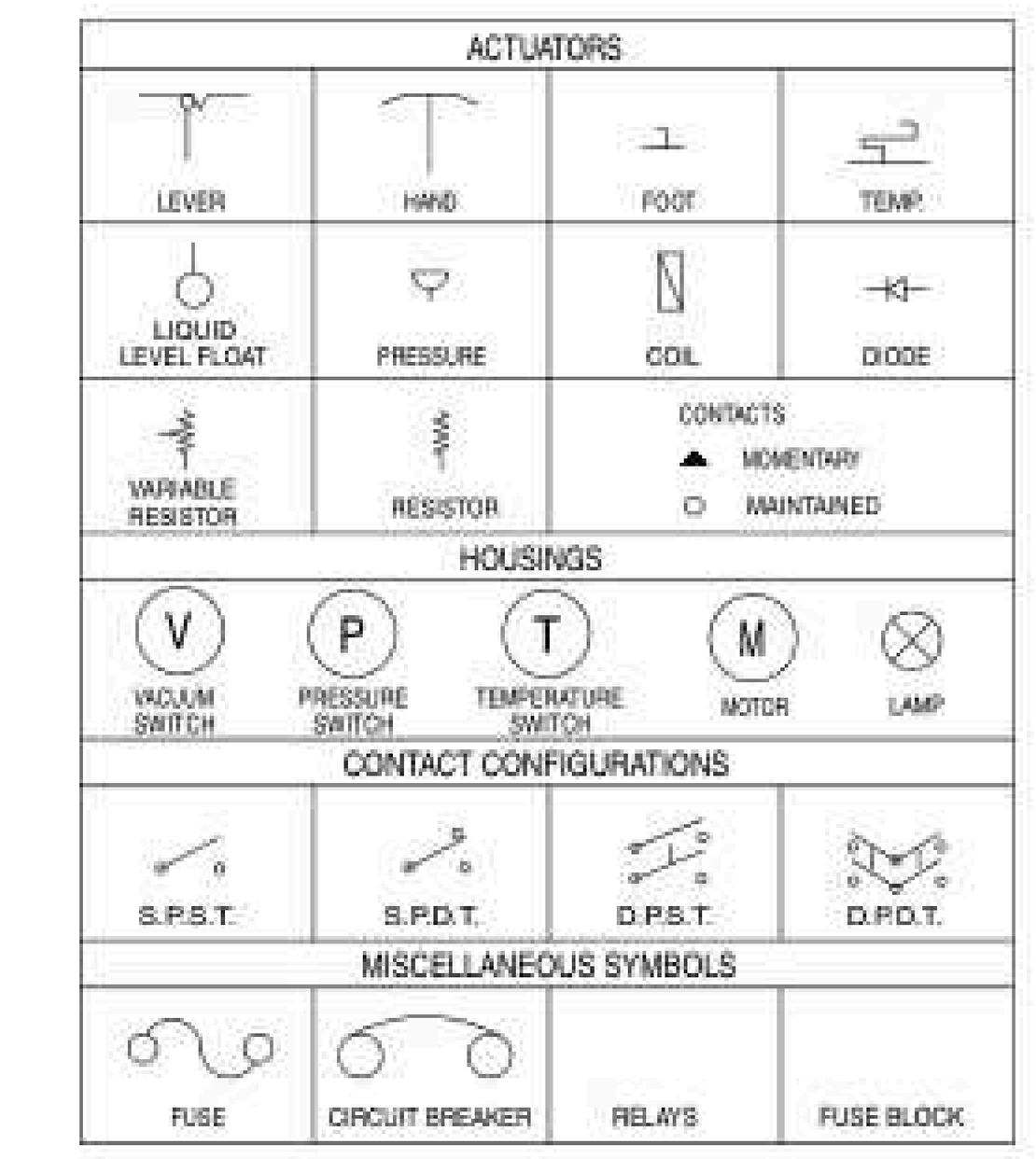
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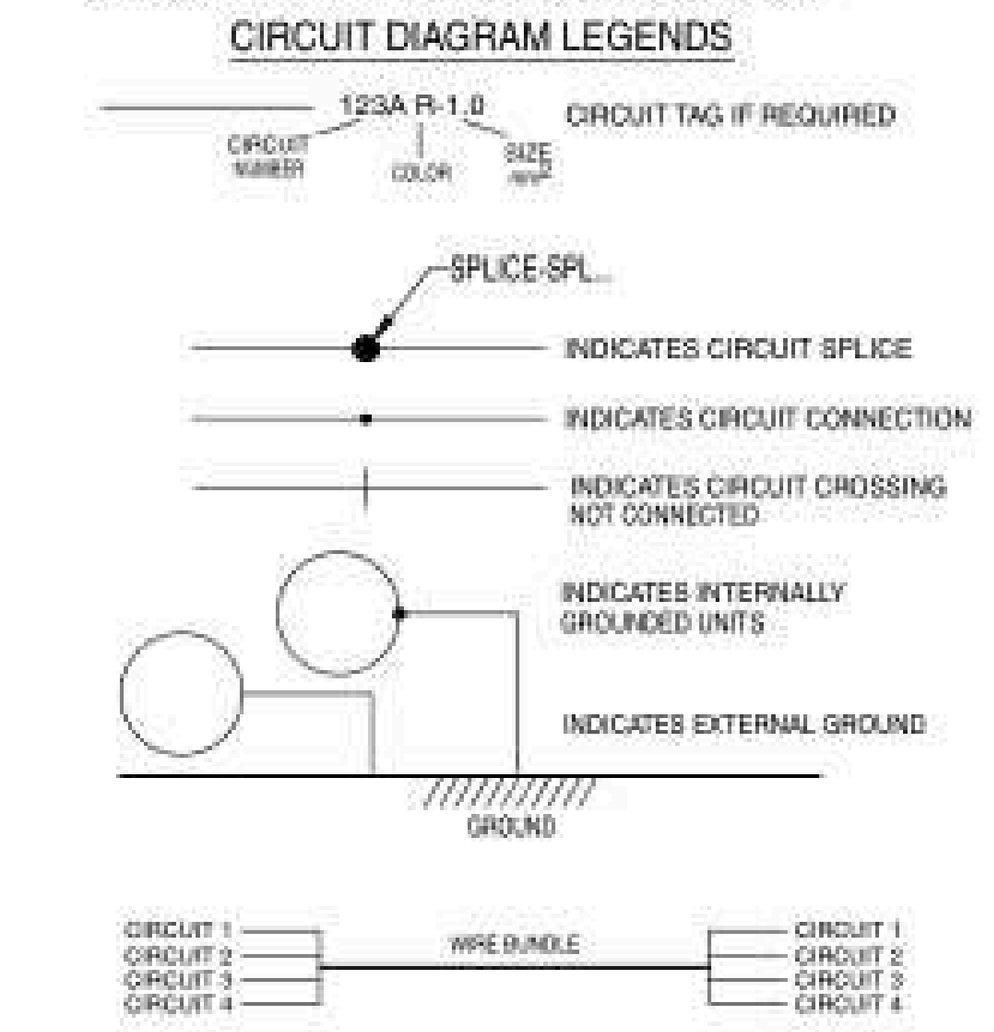
NOTE: THE CONNECTOR GENDER ON THIS DIAGRAM IS IDENTIFIED BY THE GENDER OF THE CONNECTOR BODY AND NOT THE TERMINALS USED.

COLOR ABBREVIATIONS

ABBREVIATION	COLOR	ABBREVIATION	COLOR
R	RED	OR	ORANGE
T	TAN	K	PINK
W	WHITE	V	VIOLET (PURPLE)
Y	YELLOW	DU	DARK BLUE
BK	BLACK	LU	LIGHT BLUE
N	BROWN	DG	DARK GREEN
S	GREY	LG	LIGHT GREEN

NOTES
1. FOR ELECTRICAL SYSTEM INSTRUCTIONS SEE ES-A7384
2. DIAGRAM SHOWN WITH VEHICLE PARKED & POWER OFF.

CIRCUIT DIAGRAM LEGENDS



TJ 280, 330, 380, 430, 480, 530 SERIES TRACTORS FOR POWERSHIFT TRANSMISSIONS

NAO ELECTRICAL SCHEMATIC

87517739

LEGEND

INDICATES CONSTANT POWER (red)

INDICATES POWER WHEN KEY SWITCH IS ON (green)

TRANSMISSION CONTROL IN PARK
MFD IS OFF

RI06A053

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