Service and Maintenance Manual

Model
450A
450AJ

3120749
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ANSI

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SECTION 1. SPECIFICATIONS

1.1 CAPACITIES

Fuel Tank - 16.5 gallons (62.5 liters)

Hydraulic Oil Tank - 28 gallons (106 liters)

Hydraulic System -

Torque Hub - 17 ounces (0.5 liters)

NOTE: *Torque hubs should be one half full of lubricant.*

Engine Crankcase (Ford LRG425) - 5 qts. (4.5 L)

Engine Crankcase (Deutz F3M1011F) - 6.3 qts. (6 L)

1.2 COMPONENT DATA

Engine - Ford LRG-425

Fuel - Gasoline

No. of Cylinders - 4

BHP at Max. RPM - 66

RPM Setting (No Load) - Mid - 1500

Engine - Deutz F3M1011F

Fuel - Diesel

No. of Cylinders - 3

BHP at Max. RPM - 48

RPM Setting (No Load) - Mid - 1500

Engine - Isuzu 4LE1

Fuel - Diesel

No. of Cylinders - 4

BHP at Max. RPM - 45

RPM Setting (No Load) - Mid - 1500

1.3 TIRES

12x16.5

- Pneumatic - 90 psi (6 Bar)
- Weight: 128 lbs. (58 kg)

12x16.5

- Foam-Filled
- Weight: 328 lbs. (149 kg)

33/1550x16.5

- Pneumatic - 90 psi (6 Bar)
- Weight: 135 lbs. (61 kg)

33/1550x16.5

- Foam-Filled
- Weight: 395 lbs. (179 kg)

33/16LL x 16.1

- Pneumatic - 40 lbs. (3 bar)
- Weight: 91.5 lbs. (41.5 kg)

33/16LL x 16.1

- Foam-Filled
- Weight: 426 lbs. (193 kg)

1.4 SPECIFICATIONS AND PERFORMANCE DATA

Max. Platform Height - 45ft. (13.8 M)

Max. Horizontal Reach - 24ft. (7.3 M)

Unrestricted Rated Capacity - 500lb. (230kg)

Maximum Capacity - 500lb. (230 kg)

Maximum Tire Load (450A) - 7120 lbs. (3230 kg)

Maximum Tire Load (450AJ) - 7400 lbs. (3357 kg)

Overall Width - 6ft. 6in. (1.98 m)

Tailswing - Zero

Stowed Height - 7ft. 4in. (2.24 m)

Stowed Length - 20ft. 2in. (6.15 m)

Wheelbase - 6ft. 6in. (1.98 m)

Ground Clearance - 11in. (28 cm)

Platforms - 30" x 48" (0.76m x 1.22M)
30" x 60" (0.76m x 1.52M)
30" x 72" (0.76m x 1.83M

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SECTION 3. TROUBLESHOOTING

3.1 GENERAL

This section contains troubleshooting information to be used for locating and correcting most of the operating problems which may develop. If a problem should develop which is not presented in this section or which is not corrected by listed corrective actions, technically qualified guidance should be obtained before proceeding with any maintenance.

3.2 TROUBLESHOOTING.

The troubleshooting procedures applicable to the aerial platform are listed and defined in Tables 3-1 through 3-6. As an aid to table use, the aerial platform is divided into four major groups, each covered separately within this section. These groups are as follows: elevation system, chassis assembly, hydraulic system and electrical system.

Each malfunction within an individual group or system is followed by a listing of probable causes which will enable determination of the applicable remedial action. The probable causes and the remedial action should, where possible, be checked in the order listed in the tables.

It should be noted that there is no substitute for a thorough knowledge of the equipment and related systems.

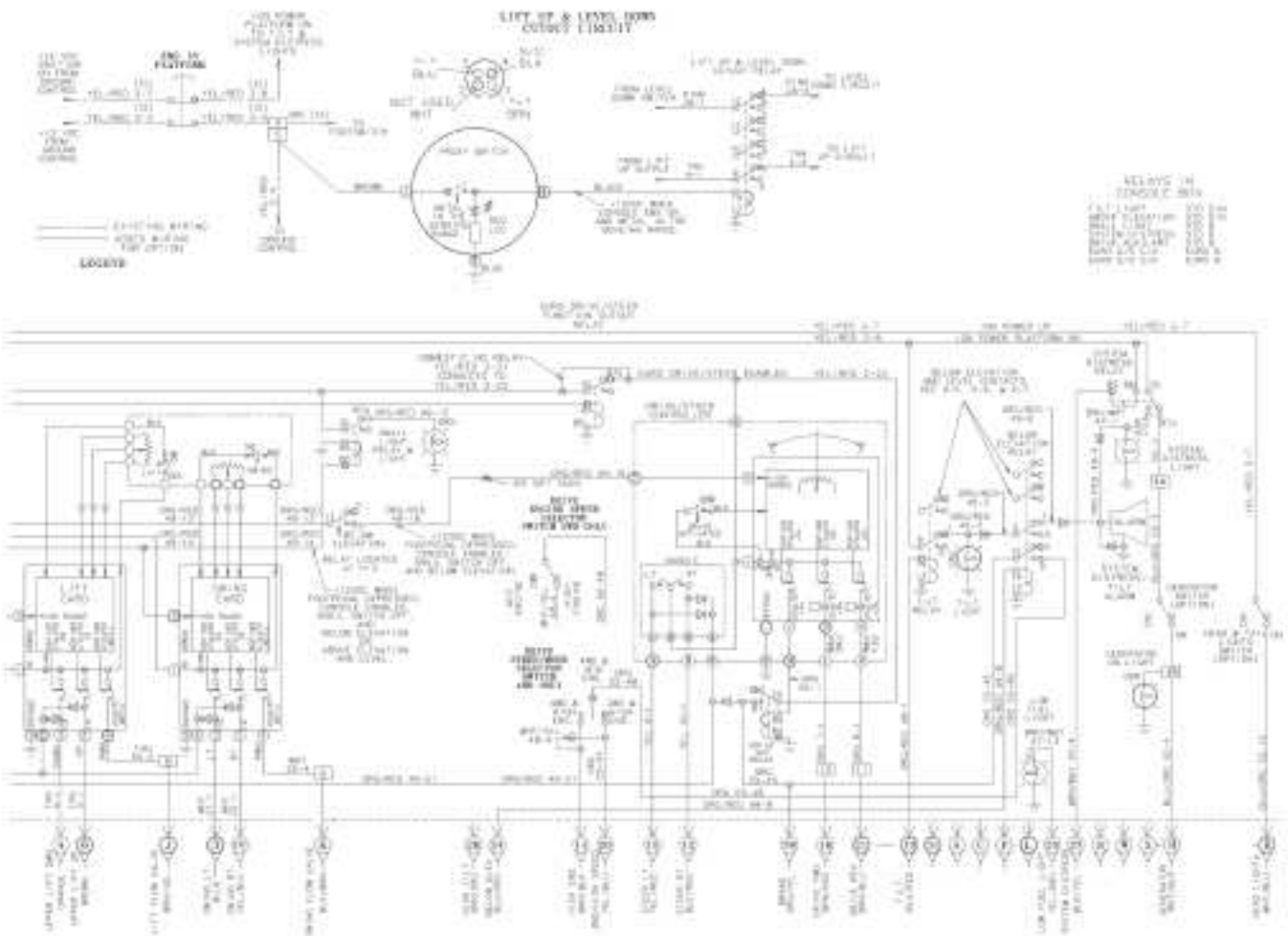
It should be recognized that the majority of the problems arising in the machine will be centered in the hydraulic and electrical systems. For this reason, every effort has been made to ensure that all likely problems in these areas are given the fullest possible treatment. In the remaining machine groups, only those problems which are symptomatic of greater problems which have more that one probable cause and remedy are included. This means that problems for which the probable cause and remedy may be immediately obvious are not listed in this section.

The first rule for troubleshooting any circuit that is hydraulically operated and electrically controlled is to determine if the circuit is lacking hydraulic oil and electrical control power. This can be ascertained by overriding the bypass valve (mechanically or electrically) so that oil is available to the function valve, then overriding the function valve mechanically. If the function performs satisfactorily, the problem exists with the control circuit.

3.3 HYDRAULIC CIRCUIT CHECKS.

The reference for improper function of a hydraulic system, where the cause is not immediately apparent, should be the Troubleshooting Chart. The best place to begin the problem analysis is at the power source (pump). Once it is determined that the pump is serviceable, then a systematic check of the circuit components, beginning with the control, would follow. For aid in troubleshooting, refer to the Illustrated Parts Manual for hydraulic diagrams of the various circuits

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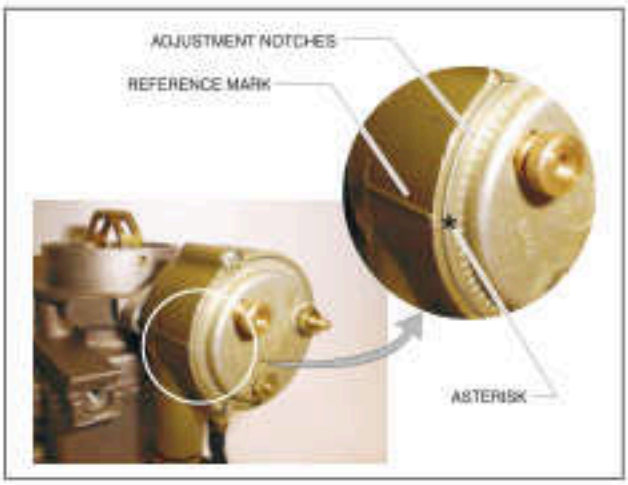
Figure 3-16. Electrical Schematic - Platform - Isuzu - Sheet 2

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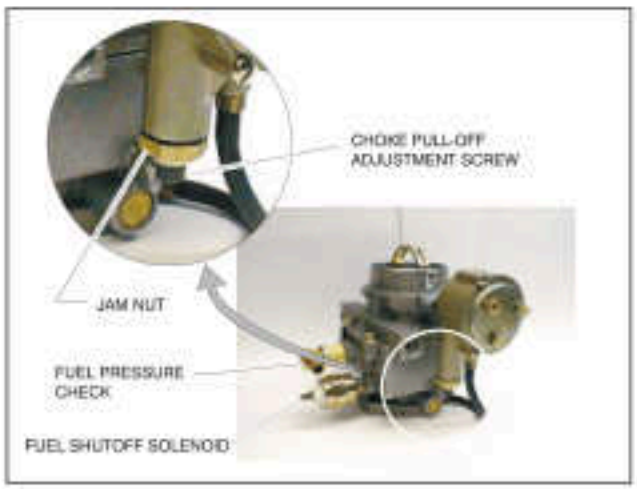
Checking the Carburetor

After cranking the engine for a period of time there may be white smoke noticed coming out of the exhaust tube. This is an indication the engine is receiving fuel and is in a "flooded" condition.

NOTE: *Make sure the choke is adjusted using the asterisk (*). There is also a zero (0) stamped on the choke. The zero (0) is used for assembly purposes and is not to be used as an adjustment reference.*



1. Check the choke for ambient temperature setting. The default ambient temperature setting is 70° F (21° C), which aligns the asterisk (*) on the choke face with the reference mark on the side of the choke housing. The choke should be set at one notch "clockwise" past the (*) asterisk for every 5 degrees below 70° F (one notch "clockwise" past the (*) asterisk for every 2.8 degrees below 21° C). This adjustment will "richen" the fuel mixture.
2. Check if the choke "butterfly" is stuck by manually opening and closing by hand.
3. Check the choke pull-off (butterfly stop) screw for proper adjustment as follows:



   a. Loosen jam nut
   b. Screw the adjustment screw all the way in, then back out 1/2 turn.
   c. Tighten jam nut.

Try to start the engine.

NOTE: *If EMS switch is pulled on for an extended period of time, i.e. 1 to 2 minutes, without attempting to start the engine, the choke will start to open due to electrical heating.*

Checking the Ignition

If the engine tries to start but spits and sputters:

1. Check the Oil Pressure Switch:
   a. Check for voltage from N.C. (normally closed) terminal to common ground while cranking the engine. (what should the voltage be?)
   b. Jump all three posts at the oil pressure switch, then see if the engine will start.
   c. If the engine starts after jumping the posts, replace oil pressure switch (JLG p/n: 4360405)
2. Check the Spark Plugs for presence of spark. If there is no spark at the plugs during cranking:
   a. Overspeed relay not activating.
   b. Check the ignition module red/green wire for 12 volts.
   c. Check the white/black wire coming from the 8-pin connector (pin-H) that runs to the overspeed relay on terminal 85 for proper ground.
3. Ignition module may have failed.

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