An Oshkosh Corporation Company

Service and Maintenance Manual

Model
12SP
15SP

3120775

March 17, 2008

ANSI

ISO9001 REGISTERED COMPANY

UKAS QUALITY MANAGEMENT 015

An Oshkosh Corporation Company

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SECTION 1. SPECIFICATIONS

1.1 CAPACITIES

Hydraulic Oil Reservoir

DC Models - 5 qts. U.S. (4.7 ltr.)

1.2 COMPONENT DATA

Hydraulic Pump/Electric Motor Assembly

DC MODELS - 12 VOLT DC MOTOR/PUMP

Motor - 12v - DC Standard Duty

Pump Displacement - .098 cu. in./rev.(AFC 1.6 cc/rev.)

Pump Output - 1.42 GPM @ 800 PSI @ 11.7v-DC @ 135 AMPS @ 45 Centistrokes (200 SSU)

Pressure Relief - Adjustable Range 1500 to 5000 PSI. Set to 2800 PSI (193 bar) at factory

Batteries

WET (Standard)

12 Volt - 165 Amp (min.) - Deep Cycle Marine - RV

DRY (Option)

12 Volt - 165 Amp (min.) - Deep Cycle Marine - RV

AGM (Absorption Gas Mat) (Option)

12Volt - 100 O.A.H. - M2 Marine Combination

Battery Charger

110/240 Volts AC, 50/60 Hz - input

12 Volt DC, 10 Amp - output

Automatic SCR Charger

Selectable Voltage

NOTE: *A high output - 12Volt DC, 20 Amp output - SCR charger is supplied with the AGM battery option.*

1.3 PERFORMANCE DATA

Platform Capacity *(Max. Rated Load)*

12SP & 15SP - 500 lb.* (227kg) - ANSI-U.S.A./ Latin America

12SP & 15SP - 400 lb.* (181kg) - CSA - Canada

** Evenly distributed on platform floor.*

** Extendible Platform - Max. 250 lb. on rear/250 lb. on front, when extended. Not Available for CSA.*

Machine Speeds

12SP - Lift up - 25 seconds *
Lift down - 13 to 20 seconds *

15SP - Lift up - 30 seconds *
Lift down - 18 to 25 seconds *

** Timed with maximum rated load: 500 lb.*

Machine Weight *(With Standard Platform)*

12SP - 1,180 lbs. (535 kg)

15SP - 1,240 lbs. (563 kg)

Machine Height *(Platform Stowed)*

12SP & 15SP - 78 in. (1.9 m)

Maximum Platform Height *(Mast Fully Extended)*

12SP - 11 ft. 7 in. (3.53 m)

15SP - 15 ft. 2 in. (4.62 m)

Maximum Working Height *(Average Person)*

12SP - 18 ft. (5.4 m)

15SP - 21 ft. (6.4 m)

Machine Overall Width And Length *(Stowed)*

12SP - 34 in.(W) x 73 in.(L) (86 cm x 185 cm)

15SP - 34 in.(W) x 75.5 in.(L) (86 cm x 192 cm)

(Length includes platform and battery pack, end to end.)

1.4 TORQUE REQUIREMENTS

When maintenance becomes necessary or a fastener has loosened, refer to the Torque Chart, Table 1-2. to determine proper torque value.

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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 in the aerial platform. 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 INFORMATION

The troubleshooting procedures applicable to the aerial platform are listed and defined in Table 3-1., DC Unit - Troubleshooting.

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 than 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 first reference for improper function of a hydraulic system, where the cause is not immediately apparent, should be the Hydraulic Diagram Circuit. 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, would follow.

NOTE: *For aid in troubleshooting, refer to Figure 3-5. for HYDRAULIC DIAGRAM circuit.*

3.4 ELECTRICAL SYSTEM - MULTIMETER BASICS

A wide variety of multimeters or Volt Ohm Meters (VOM) can be used for troubleshooting your equipment. A digital meter with reasonable accuracy (within 7%) is recommended for the measurements in these procedures. This section shows diagrams of a common, digital VOM configured for several different circuit measurements. Instructions for your VOM may vary. Please consult the meter operator's manual for more information.

Grounding

"Grounding the meter" means to take the black lead (which is connected to the COM (common) or negative port) and touch it to a good path to the negative side of the voltage source.

Backprobing

To "backprobe" means to take the measurement by accessing a connector's contact on the same side as the wires, the back of the connector. Readings can be done while maintaining circuit continuity this way. If the connector is the sealed type, great care must be taken to avoid damaging the seal around the wire. It is best to use probes or probe tips specifically designed for this technique, especially on sealed connectors. Whenever possible insert probes into the side of the connector such that the test also checks both terminals of the connection. It is possible to inspect a connection within a closed connector by backprobing both sides of a connector terminal and measuring resistance. Do this after giving each wire a gentle pull to ensure the wires are still attached to the contact and contacts are seated in the connector.

Min/Max

Use of the "Min/Max" recording feature of some meters can help when taking measurements of intermittent conditions while alone. For example, you can read the voltage applied to a solenoid when it is only operational while a switch, far from the solenoid and meter, is held down.

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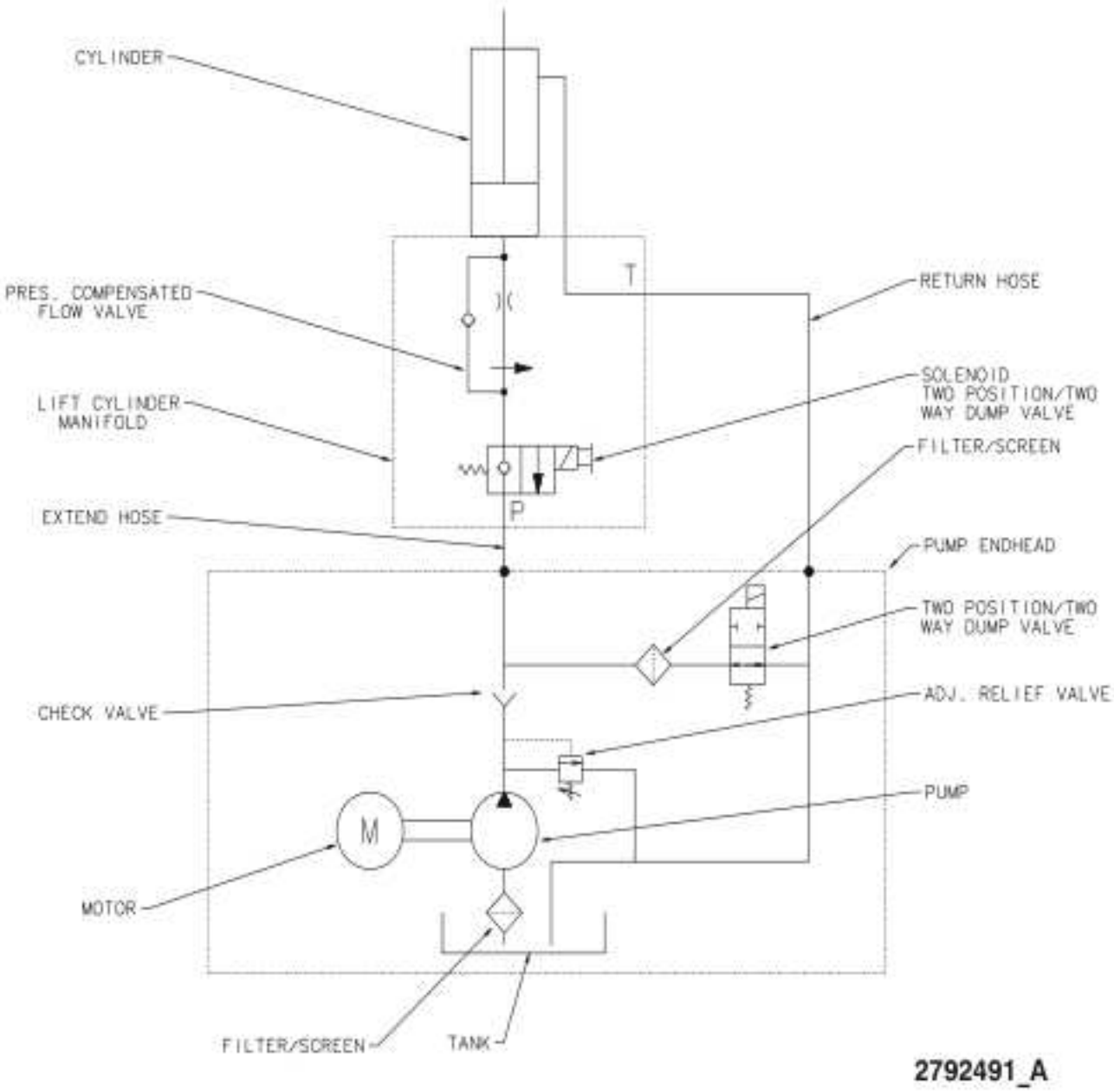


Figure 3-5. Hydraulic Schematic. (SP Series)

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Voltage Measurement

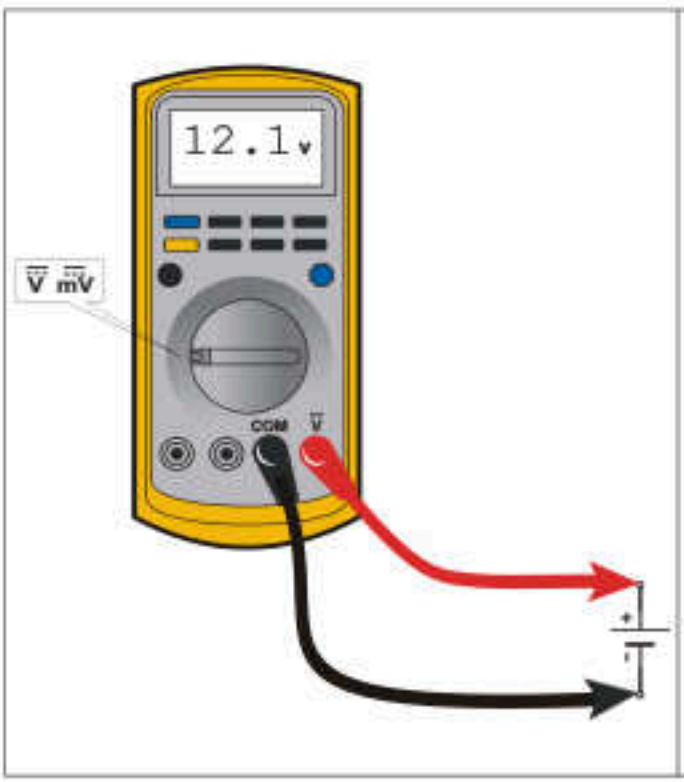


Figure 3-1. Voltage Measurement (DC)

- If meter is not auto ranging, set it to the correct range (See multimeter's operation manual)
- Use firm contact with meter leads

Resistance Measurement

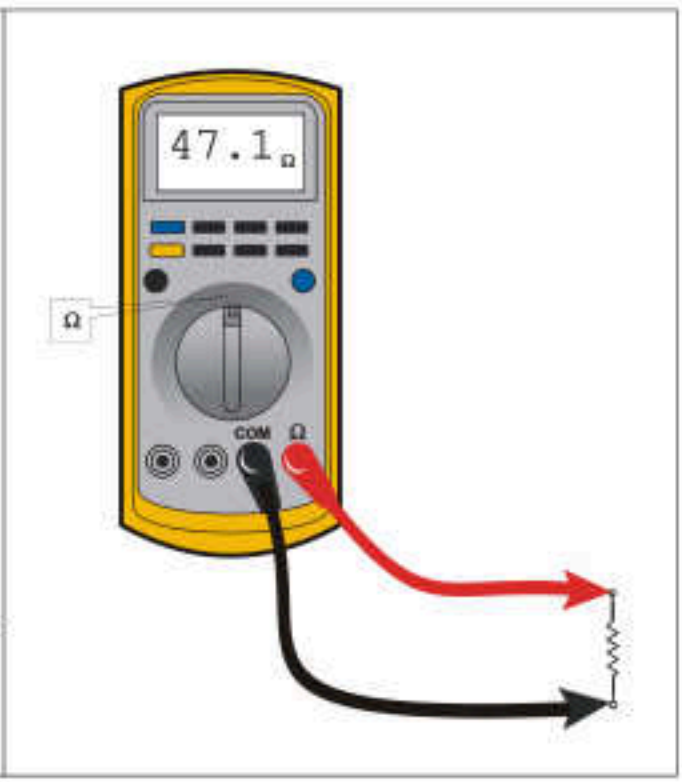


Figure 3-2. Resistance Measurement

- First test meter and leads by touching leads together. Resistance should read a short circuit (very low resistance)
- Circuit power must be turned OFF before testing resistance
- Disconnect component from circuit before testing
- If meter is not auto ranging, set it to the correct range (See multimeter's operation manual)
- Use firm contact with meter leads

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